

Ground Control Survey Reports for Rhode Island

T-0027

A combination of the following reports:

Survey Report of Supplemental Ground Control – 228 Pages

USVI RI Topographic Mapping – 14 Pages

June 10, 2011

Survey Report of Supplemental Ground Control

For

US Geological Survey
National Geospatial Technical Operations Center
1400 Independence Road
Rolla, MO 65401

G11PD00413 – Rhode Island Statewide
Ortho

Contract #G10PC00026

PSI NO. 7505-063

presented by



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700

Contents of Report

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GPS Project Summary

Map of Control Points

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(NAD83 UTM Zone 19 Meters & NAD83 Rhode Island State Plane USFeet)

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Control Survey Report
Rhode Island Ortho TO #17

US Geological Survey
National Geospatial Technical Operations Center
1400 Independence Road
Rolla, MO 65401

For
Supplemental Ground Control

Photo Science, Inc. was tasked by US Geological Survey (USGS) to provide eighty-eight Horizontal and Vertical Ground Control points in support of Ortho production for the TO#17 Rhode Island Statewide Ortho project. These ground control points consist of Photo Identifiable points (PID's) distributed throughout the project area.

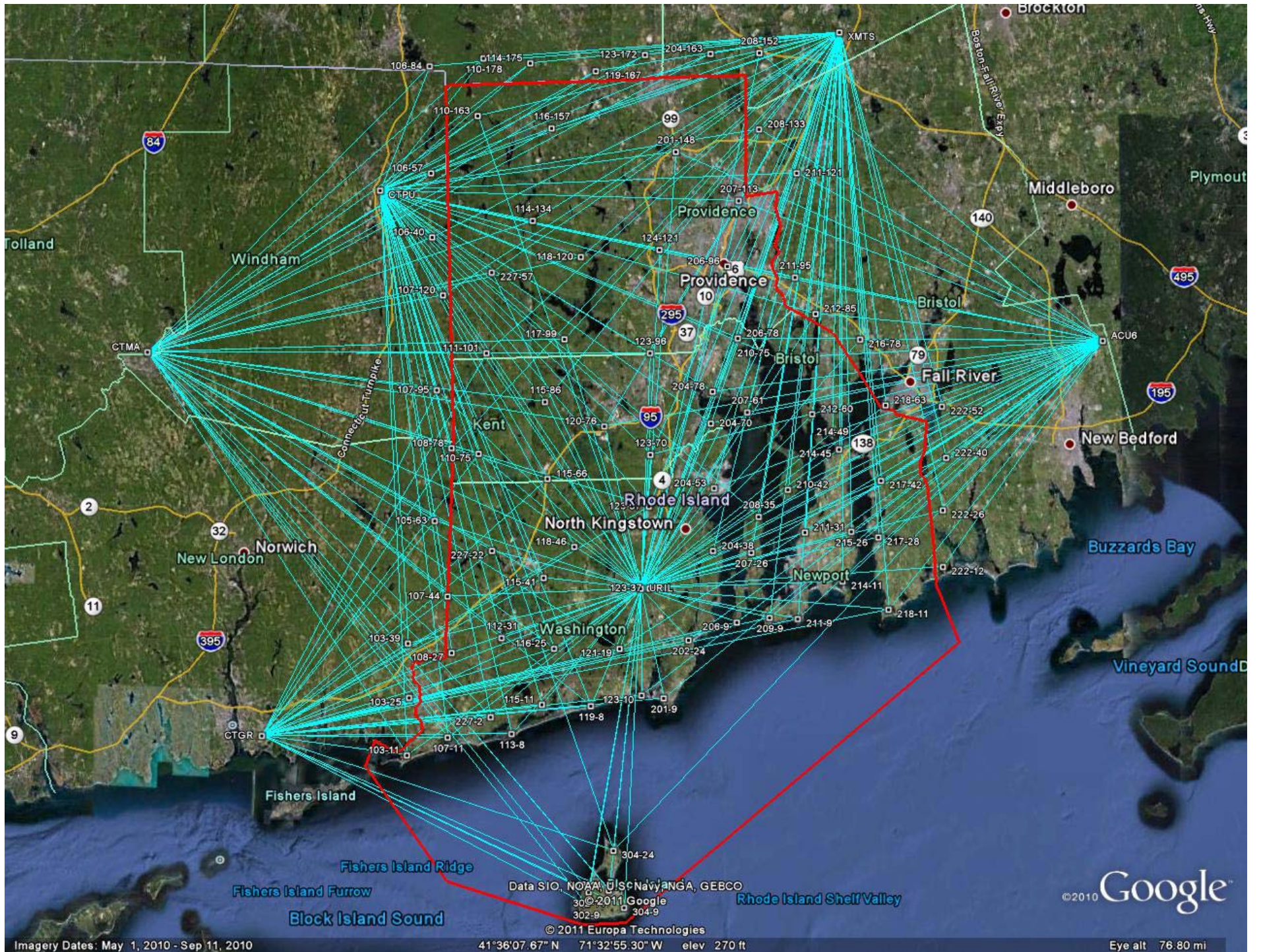
A three person GPS Survey Crew was mobilized to the site in late – May 2011, with dual-frequency Trimble R7 GNSS, R8 GNSS and 5700 GPS receivers to establish horizontal and vertical control for the project. Each PID point was occupied a minimum of fifty minutes for GPS control ties to Continuously Operating Reference Stations (CORS). A data log sheet which includes two photographs, equipment used, time and date was generated for each occupation.

The GPS data was post processed utilizing Trimble's Business Center Version 2.4 software and excellent closure results were achieved as indicated in the Network Adjustment Report contained within this report. Continuously Operating Reference Stations ACU6, CTGR, CTMA, CTPU, URIL, and XMTS located within and near the project site serve as the basis from which the PID points were established.

No major problems were encountered in the field. The Horizontal coordinates are Universal Transverse Mercator (UTM) coordinate system North American Datum of 1983 (NAD83) and UTM N Zone 19. All vertical data is North American Vertical Datum of 1988 (NAVD 88).

GPS Project Summary

Project	Rhode Island Ortho
Location	Rhode Island, USA
Item Number	TO# 17
Photo Science Project Number	7505-063
Date	6/10/2011
Person Responsible for GPS Calculations	Grover Bevins
Coordinate Projection	NAD83 UTM Zone 19
Applicable Datum	NAD 83 (2007)
Units (USF, Feet, Meters)	Meters
Geoid Model Employed	GEOID 09
GPS Hardware Used	Trimble R8/R7 GNSS and 5700
Single or Dual Frequency	Dual
Crew Size for GPS Operations	3 - person
Observation Methodology	Static
GPS Software Employed	Trimble Business Center V2.40
Ephemerides - Broadcast or Precise	Precise
Number of Network Points (Known & Unknown)	94
Number of Known Horizontal Points Held in Final Soln	6
Number of Known Vertical Points Held in Final Soln	6
Number of Independent Baselines	310
Ratio -- Independent Baselines to Network Points	3.30
Horizontal Control Points Employed	Accuracy of Control
ACU6	Special (CORS)
CTGR	Special (CORS)
CTMA	Special (CORS)
CTPU	Special (CORS)
URIL	Special (CORS)
XMTS	Special (CORS)
Vertical Control Points Employed	
ACU6	GPS OBS
CTGR	GPS OBS
CTMA	GPS OBS
CTPU	GPS OBS
URIL	GPS OBS
XMTS	GPS OBS



Imagery Dates: May 1, 2010 - Sep 11, 2010

41°36'07.67" N 71°32'55.30" W elev 270 ft

Eye alt 76.80 mi

Coordinates Summary

NAD83 UTM Zone 19 Meters
&
NAD83 Rhode Island State Plane USFeet
NAVD88

Photo Science, Inc.		Phone: 859-277-8900	
2670 Wilhite Drive		Fax: 859-277-8901	
Lexington, KY 40503		photoscience.com	
USA			
Project information		Coordinate System	
Name:	E:\Trimble_Business_Center\7505-063\7505-063.vce	Name:	UTM
Size:	4 MB	Datum:	NAD 1983 (Conus)
Modified:	6/3/2011 2:49:40 PM (UTC:-4)	Zone:	19 North (69W)
Reference number:	7505-063	Geoid:	GEOID09 (Conus)
Description:	TO #17 Rhode Island Statewide Ortho	Vertical datum:	NAVD88

Point List

ID	Northing (m)	Easting (m)	Elevation (m)	Feature Code
103-11	4577753.548	261486.081	6.745	
103-25	4584363.266	261954.049	22.640	
103-39	4590613.419	262028.186	32.581	
105-63	4604574.195	265523.520	153.378	
106-40	4637115.038	266179.686	196.101	
106-57	4644472.874	266267.154	132.162	
106-84	4656785.436	266466.130	155.047	
107-11	4579667.275	266250.646	2.904	
107-120	4630431.887	267247.767	157.910	
107-44	4595871.457	266735.387	98.770	
107-95	4619566.115	266204.250	104.668	
108-27	4589373.605	267006.276	18.213	
108-78	4612859.002	267699.586	103.748	
110-163	4650896.510	271841.289	170.785	
110-178	4657503.375	272679.091	179.364	
110-75	4612126.817	270800.791	147.962	
111-101	4623632.377	272044.733	147.578	

Point List

ID	Northing (m)	Easting (m)	Elevation (m)	Feature Code
112-31	4590919.862	272809.203	16.920	
113-8	4579866.782	273623.114	4.216	
114-134	4638665.257	277814.019	179.172	
114-175	4656782.432	278067.268	172.590	
115-11	4583125.574	277228.816	6.483	
115-41	4597677.321	277849.332	43.386	
115-66	4609027.012	278631.585	139.939	
115-86	4617848.478	278618.003	147.055	
116-157	4649223.266	280299.080	123.987	
116-25	4589526.233	278819.181	53.037	
117-99	4624971.029	281077.904	149.526	
118-120	4634333.300	283246.047	96.723	
118-46	4601136.119	281496.527	76.654	
119-167	4655653.096	285589.413	108.426	
119-8	4582803.391	282859.190	6.215	
120-76	4614852.789	285366.644	101.471	
121-19	4589289.252	286361.042	31.814	
123-10	4583855.161	288735.853	2.125	
123-172	4657357.412	291319.621	65.685	
123-37	4596112.547	290037.253	62.543	
123-57	4605510.216	290215.648	67.497	
123-70	4611427.385	290563.216	67.470	
123-96	4623074.465	290864.139	83.266	
124-121	4634889.358	292310.810	80.309	
201-148	4646093.744	294525.267	98.463	
201-9	4583450.207	291268.989	2.000	
202-24	4590028.878	294329.742	11.849	
204-163	4657254.532	298853.116	92.867	
204-38	4600187.875	297457.681	43.523	

Point List

ID	Northing (m)	Easting (m)	Elevation (m)	Feature Code
204-53	4607376.604	297789.313	6.375	
204-70	4614819.787	297640.154	8.099	
204-78	4618462.546	297947.644	9.388	
206-78	4624484.233	301024.456	6.141	
206-9	4591903.575	299947.664	13.366	
206-96	4632788.045	300073.845	1.957	
207-113	4640268.268	301593.595	26.241	
207-26	4599859.397	301848.975	8.460	
207-61	4615972.125	301868.797	19.382	
208-133	4648407.935	304184.748	80.055	
208-152	4657190.750	304499.306	88.386	
208-35	4603951.848	302825.779	15.388	
209-9	4592333.517	303735.435	6.819	
210-42	4606950.441	306281.799	28.660	
210-75	4622070.273	305517.630	11.147	
211-121	4643263.510	308379.178	28.373	
211-31	4601992.956	308100.670	28.819	
211-9	4592086.024	306980.717	3.816	
211-95	4631288.911	307821.744	20.431	
212-60	4615551.155	309341.250	8.279	
212-85	4627041.856	310071.546	1.671	
214-11	4596253.180	312274.538	13.815	
214-45	4611403.127	312312.114	26.992	
214-49	4613395.286	311570.606	29.667	
215-26	4601920.619	313440.936	16.342	
216-78	4623941.480	315106.067	25.185	
217-28	4601185.606	316547.978	29.807	
217-42	4607669.538	317041.204	9.124	
218-11	4592852.341	317482.786	5.441	

Point List

ID	Northing (m)	Easting (m)	Elevation (m)	Feature Code
218-63	4616304.988	317815.418	19.713	
222-12	4597573.863	323905.600	14.548	
222-26	4604064.563	324073.952	42.363	
222-40	4610077.031	324623.309	56.508	
222-52	4615971.496	324313.942	48.642	
227-2	4581858.687	271282.249	49.971	
227-22	4600952.757	272010.946	36.446	
227-57	4632863.724	272928.291	149.783	
302-14	4561403.933	281979.388	25.641	
302-9	4560002.313	281615.249	18.405	
303-14	4561540.463	284298.617	7.483	
304-24	4566097.516	284960.197	12.001	
304-9	4559502.927	285998.612	37.130	
ACU6	4622989.341	343127.401	35.207	
CTGR	4580466.244	244802.965	12.296	
CTMA	4624934.134	232957.633	85.051	
CTPU	4642676.248	260342.069	86.698	
URIL	4596120.224	288985.390	75.914	
XMTS	4659320.873	313803.532	96.645	
6/8/2011 09:47:47 AM	E:\Trimble_Business_Center\7505-063\7505-063.vce		Trimble Business Center	

Photo Science, Inc.	Phone: 859-277-8900
2670 Wilhite Drive	Fax: 859-277-8901
Lexington, KY 40503	photoscience.com
USA	

Project information		Coordinate System	
Name:	E:\Trimble_Business_Center\7505-063\7505-063.vce	Name:	US State Plane 1983
Size:	4 MB	Datum:	NAD 1983 (Conus)
Modified:	6/14/2011 3:20:06 PM (UTC:-4)	Zone:	Rhode Island 3800
Reference number:	7505-063	Geoid:	GEOID09 (Conus)
Description:	TO #17 Rhode Island Statewide Ortho	Vertical datum:	NAVD88

Point List

ID	Northing (USFt)	Easting (USFt)	Elevation (USFt)	Feature Code
103-11	84964.54	232065.80	22.13	
103-25	106678.79	232974.91	74.28	
103-39	127176.96	232626.17	106.89	
105-63	173279.35	242761.46	503.21	
106-40	280028.83	241813.27	643.38	
106-57	304160.25	241396.76	433.60	
106-84	344546.68	240870.22	508.68	
107-11	91689.21	247505.70	9.53	
107-120	258219.65	245953.06	518.08	
107-44	144861.83	247560.55	324.05	
107-95	222496.00	243567.53	343.40	
108-27	123583.74	249064.52	59.75	
108-78	200648.53	249108.42	340.38	
110-163	325754.21	259057.37	560.32	
110-178	347496.08	261171.23	588.47	

Point List

ID	Northing (USFt)	Easting (USFt)	Elevation (USFt)	Feature Code
110-75	198542.93	259345.72	485.44	
111-101	236384.07	262328.83	484.18	
112-31	129203.09	267943.73	55.51	
113-8	93040.45	271658.52	13.83	
114-134	286222.97	279810.10	587.83	
114-175	345648.83	278906.56	566.24	
115-11	104066.23	283172.41	21.27	
115-41	151836.79	283828.28	142.34	
115-66	189124.12	285315.35	459.12	
115-86	218046.42	284431.63	482.46	
116-157	321077.89	286948.26	406.78	
116-25	125203.12	287780.89	174.00	
117-99	241634.11	291818.61	490.57	
118-120	272538.22	298034.38	317.33	
118-46	163523.59	295458.48	251.49	
119-167	342666.94	303678.47	355.73	
119-8	103542.58	301663.83	20.39	
120-76	208866.40	306844.40	332.91	
121-19	125140.51	312531.98	104.38	
123-10	107547.32	320833.34	6.97	
123-172	348804.52	322303.99	215.50	
123-37	147862.17	323939.33	205.19	
123-57	178693.81	323632.23	221.45	
123-70	198129.09	324209.46	221.36	
123-96	236348.22	324087.39	273.18	
124-121	275227.07	327703.90	263.48	

Point List

ID	Northing (USFt)	Easting (USFt)	Elevation (USFt)	Feature Code
201-148	312178.04	333894.09	323.04	
201-9	106459.21	329177.77	6.56	
202-24	128320.64	338591.14	38.87	
204-163	349189.43	347016.40	304.68	
204-38	161929.36	347884.51	142.79	
204-53	185533.40	348289.20	20.92	
204-70	209926.12	347092.26	26.57	
204-78	221900.35	347753.78	30.80	
206-78	241939.32	357269.31	20.15	
206-9	135000.31	356835.20	43.85	
206-96	269077.96	353359.98	6.42	
207-113	293751.80	357628.88	86.09	
207-26	161269.03	362315.33	27.76	
207-61	214107.24	360848.84	63.59	
208-133	320690.99	365347.07	262.65	
208-152	349521.60	365537.15	289.98	
208-35	174781.65	365129.88	50.49	
209-9	136769.18	369215.21	22.37	
210-42	184943.03	376178.01	94.03	
210-75	234451.74	372233.31	36.57	
211-121	304222.62	379593.78	93.09	
211-31	168858.93	382613.49	94.55	
211-9	136265.20	379880.71	12.52	
211-95	264901.58	378909.91	67.03	
212-60	213438.02	385392.78	27.16	
212-85	251188.97	386692.84	5.48	

Point List

ID	Northing (USFt)	Easting (USFt)	Elevation (USFt)	Feature Code
214-11	150432.53	396845.63	45.33	
214-45	200118.00	395529.84	88.56	
214-49	206580.42	392908.68	97.33	
215-26	169128.78	400132.80	53.62	
216-78	241501.82	403498.35	82.63	
217-28	167013.40	410391.79	97.79	
217-42	188323.79	411393.33	29.93	
218-11	139773.74	414248.02	17.85	
218-63	216716.76	413110.87	64.68	
222-12	155867.10	434863.77	47.73	
222-26	177169.61	434799.66	138.99	
222-40	196939.99	436029.84	185.39	
222-52	216241.71	434454.43	159.59	
227-2	99349.88	263795.17	163.95	
227-22	162022.01	264375.05	119.57	
227-57	266734.82	264345.28	491.41	
302-14	33293.74	300799.93	84.12	
302-9	28663.72	299738.07	60.38	
303-14	33960.00	308391.53	24.55	
304-24	48964.50	310131.07	39.37	
304-9	27439.32	314157.67	121.82	
ACU6	241050.27	495488.34	115.51	
CTGR	92280.50	177116.10	40.34	
CTMA	236926.63	134064.34	279.04	
CTPU	297703.40	222143.16	284.44	
URIL	147787.58	320489.58	249.06	

Point List

ID	Northing (USFt)	Easting (USFt)	Elevation (USFt)	Feature Code
XMTS	357399.07	395843.89	317.08	
6/14/2011 03:20:35 PM	E:\Trimble_Business_Center\7505-063\7505-063.vce		Trimble Business Center	

Network Summary

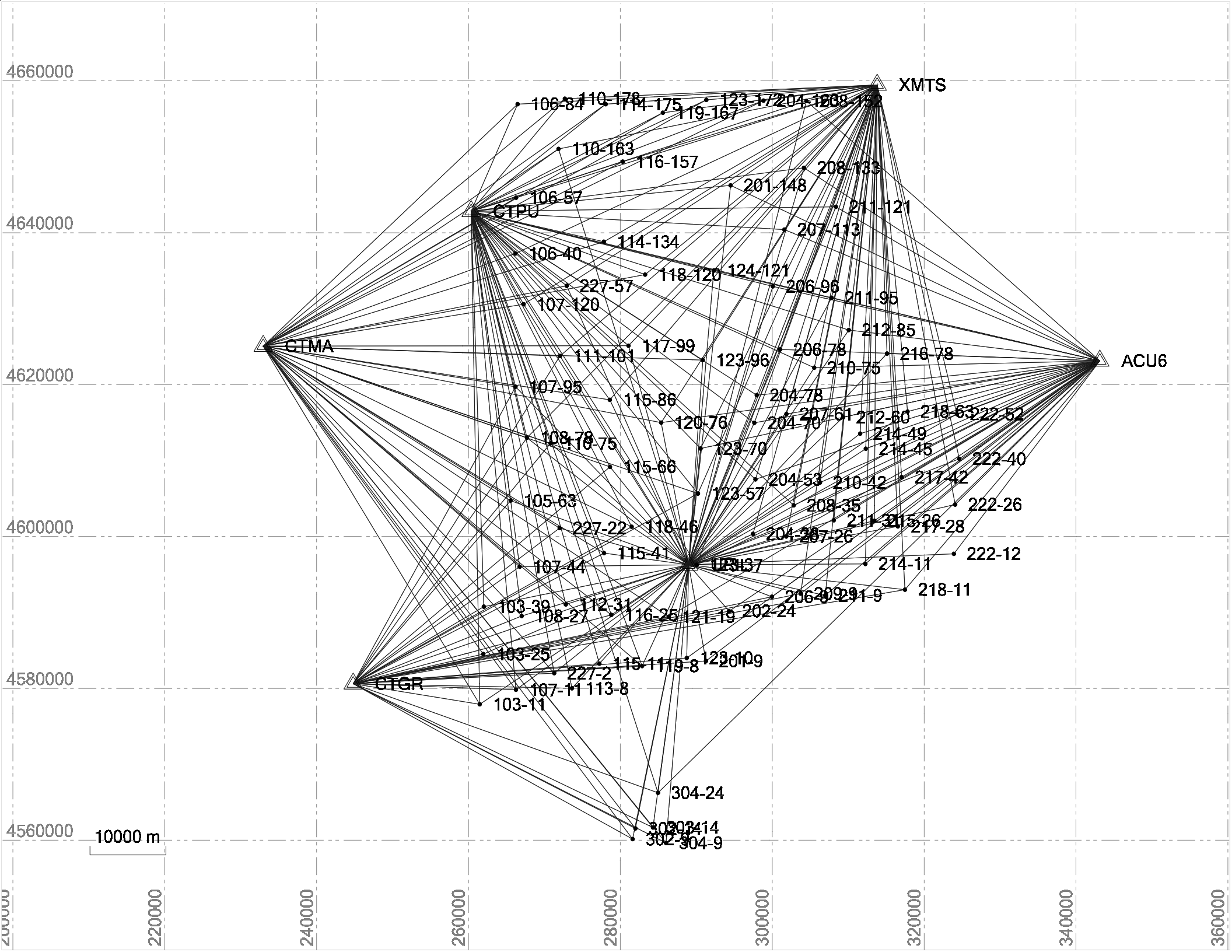


Photo Science, Inc.	Phone: 859-277-8900
2670 Wilhite Drive	Fax: 859-277-8901
	photoscience.com
Lexington, KY 40503	
USA	

Project information		Coordinate System	
Name:	E:\Trimble_Business_Center\7505-063\7505-063.vce	Name:	UTM
Size:	4 MB	Datum:	NAD 1983 (Conus)
Modified:	6/1/2011 5:12:09 PM (UTC:-4)	Zone:	19 North (69W)
Time zone:	Eastern Standard Time	Geoid:	GEOID09 (Conus)
Reference number:	7505-063	Vertical datum:	NAVD88
Description:	Rhode Island Statewide		

Baseline Processing Report

Processing Summary

Observation	From	To	Solution Type	H. Prec. (Meter)	V. Prec. (Meter)
ACU6 --- 123-37 (B241)	ACU6	123-37	Fixed	0.007	0.011
URIL --- 123-37 (B664)	URIL	123-37	Fixed	0.004	0.006
CTGR --- 123-37 (B379)	CTGR	123-37	Fixed	0.008	0.013
CTPU --- 123-37 (B123)	CTPU	123-37	Fixed	0.007	0.010
XMTS --- 123-37 (B811)	XMTS	123-37	Fixed	0.008	0.012
CTMA --- 304-9 (B506)	CTMA	304-9	Fixed	0.006	0.011
URIL --- 302-9 (B647)	302-9	URIL	Fixed	0.014	0.013
CTGR --- 302-9 (B362)	302-9	CTGR	Fixed	0.013	0.012
URIL --- 103-11 (B660)	URIL	103-11	Fixed	0.007	0.010
URIL --- 304-9 (B650)	URIL	304-9	Fixed	0.007	0.012
CTGR --- 304-9 (B365)	CTGR	304-9	Fixed	0.020	0.015
CTMA --- 302-14 (B507)	CTMA	302-14	Fixed	0.006	0.011
URIL --- 302-14 (B651)	URIL	302-14	Fixed	0.007	0.012

CTGR --- 302-14 (B366)	CTGR	302-14	Fixed	0.007	0.012
CTGR --- 103-11 (B375)	CTGR	103-11	Fixed	0.011	0.018
URIL --- 303-14 (B648)	URIL	303-14	Fixed	0.009	0.018
CTGR --- 303-14 (B363)	CTGR	303-14	Fixed	0.036	0.018
CTMA --- 303-14 (B504)	303-14	CTMA	Fixed	0.028	0.016
ACU6 --- 304-24 (B226)	ACU6	304-24	Fixed	0.006	0.009
URIL --- 304-24 (B649)	URIL	304-24	Fixed	0.007	0.010
CTGR --- 304-24 (B364)	CTGR	304-24	Fixed	0.007	0.010
CTPU --- 304-24 (B68)	CTPU	304-24	Fixed	0.007	0.009
CTMA --- 302-9 (B503)	302-9	CTMA	Fixed	0.008	0.013
CTMA --- 103-11 (B516)	CTMA	103-11	Fixed	0.006	0.010
CTPU --- 103-11 (B119)	CTPU	103-11	Fixed	0.006	0.010
CTGR --- 107-11 (B368)	CTGR	107-11	Fixed	0.007	0.012
URIL --- 107-11 (B653)	URIL	107-11	Fixed	0.006	0.011
CTMA --- 107-11 (B509)	CTMA	107-11	Fixed	0.006	0.012
CTPU --- 107-11 (B112)	CTPU	107-11	Fixed	0.006	0.012
CTGR --- 113-8 (B370)	CTGR	113-8	Fixed	0.007	0.011
URIL --- 113-8 (B655)	URIL	113-8	Fixed	0.006	0.010
CTPU --- 113-8 (B114)	CTPU	113-8	Fixed	0.006	0.009
CTGR --- 103-25 (B371)	CTGR	103-25	Fixed	0.009	0.014
URIL --- 103-25 (B656)	URIL	103-25	Fixed	0.006	0.011
CTMA --- 103-25 (B512)	CTMA	103-25	Fixed	0.006	0.012
CTGR --- 227-2 (B374)	CTGR	227-2	Fixed	0.008	0.010
URIL --- 227-2 (B659)	URIL	227-2	Fixed	0.007	0.011
CTMA --- 227-2 (B515)	CTMA	227-2	Fixed	0.006	0.010
CTPU --- 227-2 (B118)	CTPU	227-2	Fixed	0.007	0.019
CTGR --- 115-11 (B378)	CTGR	115-11	Fixed	0.006	0.010
URIL --- 115-11 (B663)	URIL	115-11	Fixed	0.007	0.011
CTPU --- 115-11 (B122)	CTPU	115-11	Fixed	0.009	0.011
CTGR --- 119-8 (B367)	CTGR	119-8	Fixed	0.008	0.017
URIL --- 119-8 (B652)	URIL	119-8	Fixed	0.009	0.018
CTPU --- 119-8 (B111)	CTPU	119-8	Fixed	0.008	0.021
CTMA --- 119-8 (B508)	CTMA	119-8	Fixed	0.007	0.014
ACU6 --- 123-10 (B239)	ACU6	123-10	Fixed	0.007	0.017
URIL --- 123-10 (B662)	URIL	123-10	Fixed	0.008	0.015
CTGR --- 123-10 (B377)	CTGR	123-10	Fixed	0.006	0.012
ACU6 --- 201-9 (B904)	ACU6	201-9	Fixed	0.007	0.009
URIL --- 201-9 (B925)	URIL	201-9	Fixed	0.008	0.011
CTGR --- 201-9 (B970)	CTGR	201-9	Fixed	0.006	0.009
ACU6 --- 121-19 (B242)	ACU6	121-19	Fixed	0.006	0.015

URIL --- 121-19 (B665)	URIL	121-19	Fixed	0.015	0.027
CTGR --- 121-19 (B380)	CTGR	121-19	Fixed	0.006	0.012
CTMA --- 121-19 (B521)	CTMA	121-19	Fixed	0.006	0.015
CTGR --- 116-25 (B369)	CTGR	116-25	Fixed	0.006	0.017
URIL --- 116-25 (B654)	URIL	116-25	Fixed	0.007	0.021
CTPU --- 116-25 (B113)	CTPU	116-25	Fixed	0.006	0.016
CTMA --- 116-25 (B510)	CTMA	116-25	Fixed	0.006	0.016
URIL --- 112-31 (B658)	URIL	112-31	Fixed	0.008	0.014
CTMA --- 112-31 (B514)	CTMA	112-31	Fixed	0.007	0.013
CTPU --- 112-31 (B117)	CTPU	112-31	Fixed	0.014	0.024
CTGR --- 108-27 (B382)	CTGR	108-27	Fixed	0.013	0.015
URIL --- 108-27 (B667)	URIL	108-27	Fixed	0.009	0.012
CTMA --- 108-27 (B523)	CTMA	108-27	Fixed	0.008	0.010
CTPU --- 108-27 (B126)	CTPU	108-27	Fixed	0.008	0.010
CTGR --- 103-39 (B376)	CTGR	103-39	Fixed	0.008	0.013
URIL --- 103-39 (B661)	URIL	103-39	Fixed	0.007	0.012
CTPU --- 103-39 (B120)	CTPU	103-39	Fixed	0.007	0.013
URIL --- 107-44 (B657)	URIL	107-44	Fixed	0.025	0.027
CTGR --- 107-44 (B372)	CTGR	107-44	Fixed	0.024	0.026
CTPU --- 107-44 (B116)	CTPU	107-44	Fixed	0.021	0.023
CTMA --- 107-44 (B513)	CTMA	107-44	Fixed	0.021	0.023
CTGR --- 115-41 (B381)	CTGR	115-41	Fixed	0.010	0.010
URIL --- 115-41 (B666)	URIL	115-41	Fixed	0.009	0.013
CTPU --- 115-41 (B125)	CTPU	115-41	Fixed	0.007	0.010
CTMA --- 115-41 (B522)	CTMA	115-41	Fixed	0.007	0.010
ACU6 --- 202-24 (B917)	ACU6	202-24	Fixed	0.006	0.009
URIL --- 202-24 (B938)	URIL	202-24	Fixed	0.007	0.011
CTGR --- 202-24 (B983)	CTGR	202-24	Fixed	0.005	0.009
ACU6 --- 206-9 (B905)	ACU6	206-9	Fixed	0.006	0.008
URIL --- 206-9 (B926)	URIL	206-9	Fixed	0.008	0.011
CTGR --- 206-9 (B971)	CTGR	206-9	Fixed	0.006	0.009
ACU6 --- 209-9 (B906)	ACU6	209-9	Fixed	0.008	0.010
URIL --- 209-9 (B927)	URIL	209-9	Fixed	0.009	0.013
CTGR --- 209-9 (B972)	CTGR	209-9	Fixed	0.014	0.012
XMTS --- 209-9 (B1021)	XMTS	209-9	Fixed	0.011	0.012
ACU6 --- 211-9 (B909)	ACU6	211-9	Fixed	0.005	0.009
URIL --- 211-9 (B930)	URIL	211-9	Fixed	0.006	0.011
CTGR --- 211-9 (B975)	CTGR	211-9	Fixed	0.006	0.009
XMTS --- 218-11 (B843)	XMTS	218-11	Fixed	0.018	0.019
URIL --- 218-11 (B696)	URIL	218-11	Fixed	0.013	0.016

ACU6 --- 218-11 (B273)	ACU6	218-11	Fixed	0.034	0.034
CTGR --- 218-11 (B411)	CTGR	218-11	Fixed	0.022	0.016
XMTS --- 211-9 (B1024)	XMTS	211-9	Fixed	0.005	0.009
ACU6 --- 222-12 (B261)	ACU6	222-12	Fixed	0.014	0.021
URIL --- 222-12 (B684)	URIL	222-12	Fixed	0.006	0.010
ACU6 --- 214-11 (B268)	ACU6	214-11	Fixed	0.006	0.009
URIL --- 214-11 (B691)	URIL	214-11	Fixed	0.006	0.010
XMTS --- 214-11 (B838)	XMTS	214-11	Fixed	0.005	0.009
ACU6 --- 217-28 (B283)	ACU6	217-28	Fixed	0.020	0.043
URIL --- 217-28 (B706)	URIL	217-28	Fixed	0.006	0.012
XMTS --- 217-28 (B853)	XMTS	217-28	Fixed	0.017	0.038
ACU6 --- 215-26 (B282)	ACU6	215-26	Fixed	0.010	0.029
URIL --- 215-26 (B705)	URIL	215-26	Fixed	0.006	0.015
XMTS --- 215-26 (B852)	XMTS	215-26	Fixed	0.006	0.018
ACU6 --- 222-26 (B247)	ACU6	222-26	Fixed	0.007	0.010
URIL --- 222-26 (B670)	URIL	222-26	Fixed	0.018	0.021
XMTS --- 222-26 (B817)	XMTS	222-26	Fixed	0.008	0.011
ACU6 --- 211-31 (B916)	211-31	ACU6	Fixed	0.007	0.010
URIL --- 211-31 (B937)	URIL	211-31	Fixed	0.008	0.011
XMTS --- 211-31 (B1031)	211-31	XMTS	Fixed	0.006	0.010
ACU6 --- 207-26 (B907)	ACU6	207-26	Fixed	0.006	0.009
URIL --- 207-26 (B928)	URIL	207-26	Fixed	0.009	0.013
XMTS --- 207-26 (B1022)	207-26	XMTS	Fixed	0.007	0.009
ACU6 --- 208-35 (B910)	ACU6	208-35	Fixed	0.007	0.016
XMTS --- 208-35 (B1025)	XMTS	208-35	Fixed	0.007	0.015
CTPU --- 208-35 (B1000)	CTPU	208-35	Fixed	0.006	0.028
ACU6 --- 204-38 (B908)	ACU6	204-38	Fixed	0.008	0.013
URIL --- 204-38 (B929)	URIL	204-38	Fixed	0.010	0.016
XMTS --- 204-38 (B1023)	XMTS	204-38	Fixed	0.007	0.013
CTGR --- 118-46 (B412)	CTGR	118-46	Fixed	0.006	0.009
URIL --- 118-46 (B697)	URIL	118-46	Fixed	0.006	0.012
CTPU --- 118-46 (B145)	CTPU	118-46	Fixed	0.005	0.010
CTMA --- 118-46 (B553)	CTMA	118-46	Fixed	0.005	0.009
CTGR --- 227-22 (B383)	227-22	CTGR	Fixed	0.006	0.012
URIL --- 227-22 (B668)	227-22	URIL	Fixed	0.007	0.013
CTMA --- 227-22 (B524)	227-22	CTMA	Fixed	0.006	0.011
CTGR --- 105-63 (B416)	CTGR	105-63	Fixed	0.014	0.030
URIL --- 105-63 (B701)	URIL	105-63	Fixed	0.013	0.027
CTMA --- 105-63 (B557)	CTMA	105-63	Fixed	0.008	0.018
CTPU --- 105-63 (B147)	CTPU	105-63	Fixed	0.018	0.031

CTGR --- 108-78 (B424)	CTGR	108-78	Fixed	0.007	0.010
URIL --- 108-78 (B709)	URIL	108-78	Fixed	0.007	0.011
CTPU --- 108-78 (B151)	CTPU	108-78	Fixed	0.007	0.011
CTMA --- 108-78 (B565)	CTMA	108-78	Fixed	0.007	0.010
XMTS --- 108-78 (B856)	XMTS	108-78	Fixed	0.007	0.010
CTGR --- 110-75 (B413)	CTGR	110-75	Fixed	0.006	0.017
URIL --- 110-75 (B698)	URIL	110-75	Fixed	0.007	0.018
CTPU --- 110-75 (B146)	CTPU	110-75	Fixed	0.006	0.017
CTMA --- 110-75 (B554)	CTMA	110-75	Fixed	0.006	0.017
CTGR --- 115-66 (B425)	CTGR	115-66	Fixed	0.008	0.014
URIL --- 115-66 (B710)	URIL	115-66	Fixed	0.007	0.012
CTPU --- 115-66 (B152)	CTPU	115-66	Fixed	0.006	0.010
CTMA --- 115-66 (B566)	CTMA	115-66	Fixed	0.006	0.010
CTGR --- 123-57 (B979)	CTGR	123-57	Fixed	0.005	0.013
CTPU --- 123-57 (B1003)	CTPU	123-57	Fixed	0.005	0.013
XMTS --- 123-57 (B1028)	XMTS	123-57	Fixed	0.005	0.013
CTMA --- 123-57 (B956)	CTMA	123-57	Fixed	0.005	0.012
ACU6 --- 204-53 (B914)	ACU6	204-53	Fixed	0.006	0.010
URIL --- 204-53 (B935)	URIL	204-53	Fixed	0.008	0.012
CTPU --- 204-53 (B1004)	CTPU	204-53	Fixed	0.006	0.010
XMTS --- 204-53 (B1029)	XMTS	204-53	Fixed	0.006	0.010
ACU6 --- 210-42 (B280)	ACU6	210-42	Fixed	0.006	0.009
URIL --- 210-42 (B703)	URIL	210-42	Fixed	0.007	0.010
XMTS --- 210-42 (B850)	XMTS	210-42	Fixed	0.006	0.009
ACU6 --- 217-42 (B269)	217-42	ACU6	Fixed	0.007	0.015
URIL --- 217-42 (B692)	217-42	URIL	Fixed	0.007	0.015
XMTS --- 217-42 (B839)	217-42	XMTS	Fixed	0.007	0.014
ACU6 --- 222-40 (B262)	ACU6	222-40	Fixed	0.007	0.016
URIL --- 222-40 (B685)	URIL	222-40	Fixed	0.006	0.015
XMTS --- 222-40 (B832)	XMTS	222-40	Fixed	0.006	0.014
ACU6 --- 222-52 (B248)	ACU6	222-52	Fixed	0.008	0.012
URIL --- 222-52 (B671)	URIL	222-52	Fixed	0.007	0.010
XMTS --- 222-52 (B818)	XMTS	222-52	Fixed	0.007	0.010
ACU6 --- 218-63 (B266)	ACU6	218-63	Fixed	0.007	0.011
URIL --- 218-63 (B689)	URIL	218-63	Fixed	0.006	0.011
XMTS --- 218-63 (B836)	XMTS	218-63	Fixed	0.006	0.010
ACU6 --- 214-45 (B281)	ACU6	214-45	Fixed	0.005	0.010
URIL --- 214-45 (B704)	URIL	214-45	Fixed	0.005	0.010
XMTS --- 214-45 (B851)	XMTS	214-45	Fixed	0.005	0.010
ACU6 --- 214-49 (B277)	ACU6	214-49	Fixed	0.007	0.011

URIL --- 214-49 (B700)	URIL	214-49	Fixed	0.007	0.011
XMTS --- 214-49 (B847)	XMTS	214-49	Fixed	0.006	0.010
ACU6 --- 212-60 (B279)	ACU6	212-60	Fixed	0.006	0.010
URIL --- 212-60 (B702)	URIL	212-60	Fixed	0.006	0.010
XMTS --- 212-60 (B849)	XMTS	212-60	Fixed	0.006	0.010
ACU6 --- 204-70 (B919)	ACU6	204-70	Fixed	0.005	0.010
URIL --- 204-70 (B940)	URIL	204-70	Fixed	0.006	0.011
CTPU --- 204-70 (B1009)	CTPU	204-70	Fixed	0.005	0.010
XMTS --- 204-70 (B1034)	XMTS	204-70	Fixed	0.005	0.010
ACU6 --- 207-61 (B915)	ACU6	207-61	Fixed	0.007	0.012
URIL --- 207-61 (B936)	URIL	207-61	Fixed	0.008	0.013
XMTS --- 207-61 (B1030)	XMTS	207-61	Fixed	0.017	0.017
ACU6 --- 123-70 (B921)	ACU6	123-70	Fixed	0.007	0.009
URIL --- 123-70 (B942)	URIL	123-70	Fixed	0.008	0.012
CTPU --- 123-70 (B1011)	CTPU	123-70	Fixed	0.007	0.009
XMTS --- 123-70 (B1036)	XMTS	123-70	Fixed	0.007	0.009
ACU6 --- 120-76 (B288)	ACU6	120-76	Fixed	0.006	0.009
URIL --- 120-76 (B711)	URIL	120-76	Fixed	0.008	0.013
CTPU --- 120-76 (B153)	CTPU	120-76	Fixed	0.006	0.010
XMTS --- 120-76 (B858)	XMTS	120-76	Fixed	0.006	0.009
CTMA --- 120-76 (B567)	CTMA	120-76	Fixed	0.006	0.009
CTMA --- 115-86 (B550)	CTMA	115-86	Fixed	0.006	0.010
URIL --- 115-86 (B694)	URIL	115-86	Fixed	0.008	0.012
CTPU --- 115-86 (B143)	CTPU	115-86	Fixed	0.006	0.011
XMTS --- 115-86 (B841)	XMTS	115-86	Fixed	0.006	0.010
CTGR --- 107-95 (B422)	CTGR	107-95	Fixed	0.008	0.010
CTPU --- 107-95 (B149)	CTPU	107-95	Fixed	0.016	0.016
URIL --- 107-95 (B707)	URIL	107-95	Fixed	0.015	0.015
CTMA --- 107-95 (B563)	CTMA	107-95	Fixed	0.015	0.015
CTGR --- 111-101 (B410)	CTGR	111-101	Fixed	0.009	0.016
CTPU --- 111-101 (B144)	CTPU	111-101	Fixed	0.007	0.013
URIL --- 111-101 (B695)	URIL	111-101	Fixed	0.006	0.012
CTMA --- 111-101 (B551)	CTMA	111-101	Fixed	0.007	0.014
XMTS --- 111-101 (B842)	XMTS	111-101	Fixed	0.006	0.012
CTMA --- 117-99 (B564)	CTMA	117-99	Fixed	0.008	0.010
CTPU --- 117-99 (B150)	CTPU	117-99	Fixed	0.009	0.012
URIL --- 117-99 (B708)	URIL	117-99	Fixed	0.009	0.012
XMTS --- 117-99 (B855)	XMTS	117-99	Fixed	0.008	0.011
CTMA --- 123-96 (B965)	CTMA	123-96	Fixed	0.006	0.010
URIL --- 123-96 (B943)	URIL	123-96	Fixed	0.007	0.011

CTPU --- 123-96 (B1012)	CTPU	123-96	Fixed	0.007	0.011
XMTS --- 123-96 (B1037)	XMTS	123-96	Fixed	0.006	0.011
ACU6 --- 204-78 (B911)	204-78	ACU6	Fixed	0.006	0.019
URIL --- 204-78 (B932)	204-78	URIL	Fixed	0.006	0.021
XMTS --- 204-78 (B1026)	204-78	XMTS	Fixed	0.006	0.019
CTPU --- 204-78 (B1001)	204-78	CTPU	Fixed	0.006	0.019
ACU6 --- 210-75 (B276)	ACU6	210-75	Fixed	0.012	0.028
URIL --- 210-75 (B699)	URIL	210-75	Fixed	0.006	0.011
XMTS --- 210-75 (B846)	XMTS	210-75	Fixed	0.006	0.010
CTPU --- 210-75 (B82)	CTPU	210-75	Fixed	0.006	0.014
ACU6 --- 216-78 (B249)	ACU6	216-78	Fixed	0.007	0.011
XMTS --- 216-78 (B819)	XMTS	216-78	Fixed	0.007	0.010
URIL --- 216-78 (B672)	URIL	216-78	Fixed	0.007	0.011
ACU6 --- 212-85 (B264)	212-85	ACU6	Fixed	0.006	0.011
XMTS --- 212-85 (B834)	212-85	XMTS	Fixed	0.006	0.011
URIL --- 212-85 (B687)	212-85	URIL	Fixed	0.006	0.011
CTPU --- 212-85 (B138)	212-85	CTPU	Fixed	0.006	0.011
ACU6 --- 206-78 (B912)	ACU6	206-78	Fixed	0.006	0.011
URIL --- 206-78 (B933)	URIL	206-78	Fixed	0.006	0.012
XMTS --- 206-78 (B1027)	XMTS	206-78	Fixed	0.006	0.011
CTPU --- 206-78 (B1002)	CTPU	206-78	Fixed	0.006	0.011
ACU6 --- 211-95 (B250)	ACU6	211-95	Fixed	0.008	0.014
XMTS --- 211-95 (B820)	XMTS	211-95	Fixed	0.007	0.013
URIL --- 211-95 (B673)	URIL	211-95	Fixed	0.006	0.012
CTPU --- 211-95 (B130)	CTPU	211-95	Fixed	0.006	0.011
ACU6 --- 206-96 (B263)	ACU6	206-96	Fixed	0.006	0.008
XMTS --- 206-96 (B833)	XMTS	206-96	Fixed	0.007	0.009
URIL --- 206-96 (B686)	URIL	206-96	Fixed	0.006	0.009
CTPU --- 206-96 (B137)	CTPU	206-96	Fixed	0.006	0.009
ACU6 --- 124-121 (B246)	ACU6	124-121	Fixed	0.007	0.010
XMTS --- 124-121 (B816)	XMTS	124-121	Fixed	0.007	0.009
CTPU --- 124-121 (B71)	CTPU	124-121	Fixed	0.007	0.009
URIL --- 124-121 (B669)	URIL	124-121	Fixed	0.006	0.009
CTMA --- 118-120 (B961)	CTMA	118-120	Fixed	0.006	0.013
CTPU --- 118-120 (B1008)	CTPU	118-120	Fixed	0.006	0.013
XMTS --- 118-120 (B1033)	XMTS	118-120	Fixed	0.006	0.012
CTMA --- 227-57 (B963)	CTMA	227-57	Fixed	0.007	0.011
CTPU --- 227-57 (B1010)	CTPU	227-57	Fixed	0.008	0.013
URIL --- 227-57 (B941)	URIL	227-57	Fixed	0.007	0.011
XMTS --- 227-57 (B1035)	XMTS	227-57	Fixed	0.007	0.012

CTMA --- 107-120 (B549)	CTMA	107-120	Fixed	0.006	0.010
CTPU --- 107-120 (B142)	CTPU	107-120	Fixed	0.007	0.012
URIL --- 107-120 (B693)	URIL	107-120	Fixed	0.006	0.010
XMTS --- 107-120 (B840)	XMTS	107-120	Fixed	0.006	0.010
CTMA --- 106-40 (B536)	CTMA	106-40	Fixed	0.007	0.012
CTPU --- 106-40 (B75)	CTPU	106-40	Fixed	0.008	0.015
XMTS --- 106-40 (B827)	XMTS	106-40	Fixed	0.006	0.012
CTMA --- 106-57 (B534)	CTMA	106-57	Fixed	0.015	0.017
CTPU --- 106-57 (B73)	CTPU	106-57	Fixed	0.007	0.012
XMTS --- 106-57 (B825)	XMTS	106-57	Fixed	0.010	0.014
CTMA --- 114-134 (B966)	CTMA	114-134	Fixed	0.006	0.011
CTPU --- 114-134 (B1013)	CTPU	114-134	Fixed	0.007	0.013
XMTS --- 114-134 (B1038)	XMTS	114-134	Fixed	0.006	0.012
CTMA --- 116-157 (B535)	CTMA	116-157	Fixed	0.007	0.012
CTPU --- 116-157 (B74)	CTPU	116-157	Fixed	0.008	0.014
XMTS --- 116-157 (B826)	XMTS	116-157	Fixed	0.008	0.013
CTMA --- 110-163 (B538)	110-163	CTMA	Fixed	0.008	0.017
CTPU --- 110-163 (B76)	110-163	CTPU	Fixed	0.011	0.021
XMTS --- 110-163 (B829)	110-163	XMTS	Fixed	0.009	0.017
URIL --- 110-163 (B682)	110-163	URIL	Fixed	0.008	0.016
CTMA --- 106-84 (B878)	CTMA	106-84	Fixed	0.006	0.014
CTPU --- 106-84 (B881)	CTPU	106-84	Fixed	0.007	0.012
XMTS --- 106-84 (B876)	XMTS	106-84	Fixed	0.007	0.018
CTMA --- 110-178 (B861)	CTMA	110-178	Fixed	0.006	0.011
CTPU --- 110-178 (B864)	CTPU	110-178	Fixed	0.007	0.013
XMTS --- 110-178 (B859)	XMTS	110-178	Fixed	0.006	0.011
CTMA --- 114-175 (B869)	CTMA	114-175	Fixed	0.006	0.009
CTPU --- 114-175 (B872)	CTPU	114-175	Fixed	0.007	0.010
XMTS --- 114-175 (B867)	XMTS	114-175	Fixed	0.006	0.009
CTMA --- 119-167 (B533)	CTMA	119-167	Fixed	0.007	0.014
CTPU --- 119-167 (B134)	CTPU	119-167	Fixed	0.007	0.013
XMTS --- 119-167 (B824)	XMTS	119-167	Fixed	0.007	0.014
CTMA --- 123-172 (B544)	CTMA	123-172	Fixed	0.010	0.011
XMTS --- 123-172 (B835)	XMTS	123-172	Fixed	0.008	0.018
CTPU --- 123-172 (B139)	CTPU	123-172	Fixed	0.007	0.011
CTMA --- 204-163 (B532)	CTMA	204-163	Fixed	0.015	0.031
XMTS --- 204-163 (B823)	XMTS	204-163	Fixed	0.019	0.040
CTPU --- 204-163 (B133)	CTPU	204-163	Fixed	0.015	0.032
ACU6 --- 208-152 (B258)	ACU6	208-152	Fixed	0.006	0.011
XMTS --- 208-152 (B828)	XMTS	208-152	Fixed	0.008	0.014

CTPU --- 208-152 (B135)	CTPU	208-152	Fixed	0.007	0.013
URIL --- 208-152 (B681)	URIL	208-152	Fixed	0.006	0.010
ACU6 --- 208-133 (B252)	ACU6	208-133	Fixed	0.006	0.016
XMTS --- 208-133 (B822)	XMTS	208-133	Fixed	0.008	0.019
CTPU --- 208-133 (B132)	CTPU	208-133	Fixed	0.006	0.016
URIL --- 208-133 (B675)	URIL	208-133	Fixed	0.006	0.013
ACU6 --- 211-121 (B267)	ACU6	211-121	Fixed	0.006	0.009
XMTS --- 211-121 (B837)	XMTS	211-121	Fixed	0.008	0.010
CTPU --- 211-121 (B141)	CTPU	211-121	Fixed	0.006	0.009
URIL --- 211-121 (B690)	URIL	211-121	Fixed	0.006	0.009
ACU6 --- 207-113 (B251)	ACU6	207-113	Fixed	0.006	0.014
XMTS --- 207-113 (B821)	XMTS	207-113	Fixed	0.006	0.016
CTPU --- 207-113 (B131)	CTPU	207-113	Fixed	0.006	0.015
ACU6 --- 201-148 (B260)	ACU6	201-148	Fixed	0.006	0.011
XMTS --- 201-148 (B830)	XMTS	201-148	Fixed	0.006	0.012
CTPU --- 201-148 (B77)	CTPU	201-148	Fixed	0.006	0.011
URIL --- 201-148 (B683)	URIL	201-148	Fixed	0.006	0.011

Acceptance Summary



Processed	Passed	Flag 	Fail 
310	310	0	0

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Project Information	Coordinate System
Name: E:\Trimble_Business_Center\7505-063 7505-063.vce	Name: UTM
Size: 4 MB	Datum: NAD 1983 (Conus)
Modified: 5/24/2011 12:50:08 PM (UTC:-4)	Zone: 19 North (69W)
Time zone: Eastern Standard Time	Geoid: GEOID09 (Conus)
Reference number:	Vertical datum:
Description:	

Network Adjustment Report

Adjustment Settings

Set-Up Errors

GNSS

Error in Height of Antenna: 0.006 m

Centering Error: 0.006 m

Covariance Display

Horizontal:

Propagated Linear Error [E]: U.S.

Constant Term [C]: 0.000 m

Scale on Linear Error [S]: 1.960

Three-Dimensional

Propagated Linear Error [E]: U.S.

Constant Term [C]: 0.000 m

Scale on Linear Error [S]: 1.960

Adjustment Statistics

Number of Iterations for Successful Adjustment: 2
Network Reference Factor: 1.00
Chi Square Test (95%): Passed
Precision Confidence Level: 95%
Degrees of Freedom: 662

Post Processed Vector Statistics

Reference Factor: 1.00
Redundancy Number: 662.00
A Priori Scalar: 1.62

Control Point Constraints

Point ID	Type	North σ (Meter)	East σ (Meter)	Height σ (Meter)	Elevation σ (Meter)
ACU6	Local	Fixed	Fixed	Fixed	
CTGR	Local	Fixed	Fixed	Fixed	
CTMA	Local	Fixed	Fixed	Fixed	
CTPU	Local	Fixed	Fixed	Fixed	
URIL	Local	Fixed	Fixed	Fixed	
XMTS	Local	Fixed	Fixed	Fixed	
Fixed = 0.000001(Meter)					

Adjusted Grid Coordinates

Point ID	Northing (Meter)	Northing Error (Meter)	Easting (Meter)	Easting Error (Meter)	Elevation (Meter)	Elevation Error (Meter)	Const
103-11	4577753.548	0.015	261486.081	0.014	6.745	0.017	
103-25	4584363.266	0.017	261954.049	0.016	22.640	0.020	
103-39	4590613.419	0.017	262028.186	0.016	32.581	0.020	
105-63	4604574.195	0.015	265523.520	0.015	153.378	0.025	
106-40	4637115.038	0.017	266179.686	0.016	196.101	0.020	

106-57	4644472.874	0.017	266267.154	0.017	132.162	0.021	
106-84	4656785.436	0.017	266466.130	0.016	155.047	0.021	
107-11	4579667.275	0.014	266250.646	0.014	2.904	0.017	
107-120	4630431.887	0.014	267247.767	0.014	157.910	0.016	
107-44	4595871.457	0.020	266735.387	0.015	98.770	0.024	
107-95	4619566.115	0.016	266204.250	0.014	104.668	0.018	
108-27	4589373.605	0.015	267006.276	0.014	18.213	0.017	
108-78	4612859.002	0.013	267699.586	0.013	103.748	0.014	
110-163	4650896.510	0.015	271841.289	0.014	170.785	0.020	
110-178	4657503.375	0.016	272679.091	0.016	179.364	0.019	
110-75	4612126.817	0.014	270800.791	0.014	147.962	0.020	
111-101	4623632.377	0.013	272044.733	0.013	147.578	0.016	
112-31	4590919.862	0.017	272809.203	0.016	16.920	0.022	
113-8	4579866.782	0.017	273623.114	0.016	4.216	0.019	
114-134	4638665.257	0.016	277814.019	0.016	179.172	0.019	
114-175	4656782.432	0.017	278067.268	0.016	172.590	0.018	
115-11	4583125.574	0.016	277228.816	0.016	6.483	0.019	
115-41	4597677.321	0.014	277849.332	0.014	43.386	0.016	
115-66	4609027.012	0.014	278631.585	0.014	139.939	0.017	
115-86	4617848.478	0.014	278618.003	0.014	147.055	0.016	
116-157	4649223.266	0.017	280299.080	0.016	123.987	0.020	

116-25	4589526.233	0.014	278819.181	0.014	53.037	0.020	
117-99	4624971.029	0.015	281077.904	0.014	149.526	0.016	
118-120	4634333.300	0.016	283246.047	0.016	96.723	0.020	
118-46	4601136.119	0.014	281496.527	0.014	76.654	0.016	
119-167	4655653.096	0.017	285589.413	0.016	108.426	0.020	
119-8	4582803.391	0.014	282859.190	0.014	6.215	0.020	
120-76	4614852.789	0.013	285366.644	0.013	101.471	0.014	
121-19	4589289.252	0.015	286361.042	0.014	31.814	0.019	
123-10	4583855.161	0.016	288735.853	0.016	2.125	0.021	
123-172	4657357.412	0.017	291319.621	0.016	65.685	0.020	
123-37	4596112.547	0.013	290037.253	0.013	62.543	0.014	
123-57	4605510.216	0.014	290215.648	0.014	67.497	0.017	
123-70	4611427.385	0.014	290563.216	0.014	67.470	0.016	
123-96	4623074.465	0.014	290864.139	0.014	83.266	0.016	
124-121	4634889.358	0.014	292310.810	0.014	80.309	0.016	
201-148	4646093.744	0.014	294525.267	0.014	98.463	0.016	
201-9	4583450.207	0.016	291268.989	0.016	2.000	0.018	
202-24	4590028.878	0.016	294329.742	0.016	11.849	0.018	
204-163	4657254.532	0.020	298853.116	0.019	92.867	0.035	
204-38	4600187.875	0.017	297457.681	0.016	43.523	0.021	
204-53	4607376.604	0.014	297789.313	0.014	6.375	0.016	
204-70	4614819.787	0.014	297640.154	0.014	8.099	0.016	

204-78	4618462.546	0.014	297947.644	0.014	9.388	0.021	
206-78	4624484.233	0.014	301024.456	0.014	6.141	0.016	
206-9	4591903.575	0.017	299947.664	0.016	13.366	0.018	
206-96	4632788.045	0.014	300073.845	0.014	1.957	0.015	
207-113	4640268.268	0.016	301593.595	0.016	26.241	0.021	
207-26	4599859.397	0.017	301848.975	0.016	8.460	0.019	
207-61	4615972.125	0.018	301868.797	0.016	19.382	0.020	
208-133	4648407.935	0.014	304184.748	0.014	80.055	0.019	
208-152	4657190.750	0.014	304499.306	0.014	88.386	0.017	
208-35	4603951.848	0.017	302825.779	0.016	15.388	0.023	
209-9	4592333.517	0.015	303735.435	0.014	6.819	0.017	
210-42	4606950.441	0.016	306281.799	0.016	28.660	0.018	
210-75	4622070.273	0.014	305517.630	0.014	11.147	0.018	
211-121	4643263.510	0.014	308379.178	0.014	28.373	0.015	
211-31	4601992.956	0.017	308100.670	0.016	28.819	0.019	
211-9	4592086.024	0.014	306980.717	0.014	3.816	0.016	
211-95	4631288.911	0.014	307821.744	0.014	20.431	0.017	
212-60	4615551.155	0.016	309341.250	0.016	8.279	0.018	
212-85	4627041.856	0.014	310071.546	0.014	1.671	0.016	
214-11	4596253.180	0.016	312274.538	0.016	13.815	0.018	
214-45	4611403.127	0.016	312312.114	0.016	26.992	0.018	

214-49	4613395.286	0.016	311570.606	0.016	29.667	0.019	
215-26	4601920.619	0.016	313440.936	0.017	16.342	0.024	
216-78	4623941.480	0.017	315106.067	0.016	25.185	0.019	
217-28	4601185.606	0.017	316547.978	0.018	29.807	0.027	
217-42	4607669.538	0.017	317041.204	0.017	9.124	0.021	
218-11	4592852.341	0.019	317482.786	0.014	5.441	0.021	
218-63	4616304.988	0.016	317815.418	0.016	19.713	0.019	
222-12	4597573.863	0.021	323905.600	0.021	14.548	0.026	
222-26	4604064.563	0.017	324073.952	0.016	42.363	0.020	
222-40	4610077.031	0.016	324623.309	0.016	56.508	0.021	
222-52	4615971.496	0.016	324313.942	0.016	48.642	0.019	
227-2	4581858.687	0.014	271282.249	0.014	49.971	0.017	
227-22	4600952.757	0.016	272010.946	0.016	36.446	0.019	
227-57	4632863.724	0.014	272928.291	0.014	149.783	0.017	
302-14	4561403.933	0.017	281979.388	0.017	25.641	0.020	
302-9	4560002.313	0.018	281615.249	0.017	18.405	0.020	
303-14	4561540.463	0.018	284298.617	0.021	7.483	0.023	
304-24	4566097.516	0.014	284960.197	0.014	12.001	0.016	
304-9	4559502.927	0.017	285998.612	0.017	37.130	0.020	
ACU6	4622989.341	?	343127.401	?	35.207	?	LLk
CTGR	4580466.244	?	244802.965	?	12.296	?	LLk
CTMA	4624934.134	?	232957.633	?	85.051	?	LLk

CTPU	4642676.248	?	260342.069	?	86.698	?	LLh
URIL	4596120.224	?	288985.390	?	75.914	?	LLh
XMTS	4659320.873	?	313803.532	?	96.645	?	LLh

Adjusted Geodetic Coordinates

Point ID	Latitude	Longitude	Height (Meter)	Height Error (Meter)	Constraint
103-11	N41°18'57.56854"	W71°50'58.28593"	-23.929	0.017	
103-25	N41°22'32.13935"	W71°50'47.50941"	-7.928	0.020	
103-39	N41°25'54.64365"	W71°50'53.16399"	2.098	0.020	
105-63	N41°33'30.50218"	W71°48'42.29151"	123.072	0.025	
106-40	N41°51'05.08081"	W71°48'59.92605"	166.373	0.020	
106-57	N41°55'03.46017"	W71°49'06.61293"	102.595	0.021	
106-84	N42°01'42.41252"	W71°49'15.57900"	125.760	0.021	
107-11	N41°20'04.57321"	W71°47'36.25067"	-27.717	0.017	
107-120	N41°47'29.77213"	W71°48'04.21584"	128.066	0.016	
107-44	N41°28'49.91293"	W71°47'37.89605"	68.373	0.024	
107-95	N41°41'36.76498"	W71°48'34.01147"	74.596	0.018	
108-27	N41°25'19.73998"	W71°47'17.20692"	-12.262	0.017	
108-78	N41°38'01.11487"	W71°47'20.01207"	73.564	0.014	
110-163	N41°58'37.36797"	W71°45'13.86244"	141.340	0.020	
110-178	N42°02'12.21375"	W71°44'46.70464"	150.058	0.019	
110-75	N41°37'40.62942"	W71°45'05.11867"	117.795	0.020	
111-101	N41°43'54.56233"	W71°44'27.23130"	117.634	0.016	
112-31	N41°26'15.80487"	W71°43'09.58584"	-13.510	0.022	
113-8	N41°20'18.60966"	W71°42'19.68812"	-26.356	0.019	
114-134	N41°52'07.35297"	W71°40'38.02867"	149.523	0.019	
114-175	N42°01'54.40261"	W71°40'51.62950"	143.269	0.018	
115-11	N41°22'07.78675"	W71°39'49.02280"	-24.018	0.019	
115-41	N41°29'59.76731"	W71°39'41.58987"	13.065	0.016	
115-66	N41°36'08.18203"	W71°39'22.93429"	109.787	0.017	
115-86	N41°40'53.90520"	W71°39'35.27169"	117.047	0.016	

116-157	N41°57'51.82221"	W71°39'04.49620"	94.508	0.020	
116-25	N41°25'36.70012"	W71°38'49.05131"	22.627	0.020	
117-99	N41°44'47.06211"	W71°37'58.40110"	119.656	0.016	
118-120	N41°49'52.46007"	W71°36'36.92614"	67.038	0.020	
118-46	N41°31'55.41675"	W71°37'08.96052"	46.413	0.016	
119-167	N42°01'25.33198"	W71°35'23.34205"	79.119	0.020	
119-8	N41°22'02.88689"	W71°35'46.49406"	-24.240	0.020	
120-76	N41°39'23.51620"	W71°34'39.79231"	71.454	0.014	
121-19	N41°25'36.36913"	W71°33'24.14276"	1.473	0.019	
123-10	N41°22'42.58791"	W71°31'35.10029"	-28.258	0.021	
123-172	N42°02'26.08405"	W71°31'16.59131"	36.492	0.020	
123-37	N41°29'20.90357"	W71°30'54.45052"	32.328	0.014	
123-57	N41°34'25.51260"	W71°30'58.56197"	37.408	0.017	
123-70	N41°37'37.52745"	W71°30'51.00949"	37.448	0.016	
123-96	N41°43'55.11384"	W71°30'52.70241"	53.431	0.016	
124-121	N41°50'19.21438"	W71°30'05.01264"	50.746	0.016	
201-148	N41°56'24.25161"	W71°28'43.11345"	69.154	0.016	
201-9	N41°22'31.84796"	W71°29'45.64462"	-28.363	0.018	
202-24	N41°26'07.81603"	W71°27'42.04539"	-18.398	0.018	
204-163	N42°02'29.81739"	W71°25'49.08384"	63.834	0.035	
204-38	N41°31'39.80652"	W71°25'39.66606"	13.461	0.021	
204-53	N41°35'33.00436"	W71°25'34.07997"	-23.598	0.016	
204-70	N41°39'34.00461"	W71°25'49.57354"	-21.807	0.016	
204-78	N41°41'32.29875"	W71°25'40.72664"	-20.460	0.021	
206-78	N41°44'50.17485"	W71°23'34.97596"	-23.541	0.016	
206-9	N41°27'13.66146"	W71°23'42.41730"	-16.776	0.018	
206-96	N41°49'18.33100"	W71°24'26.16196"	-27.529	0.015	
207-113	N41°53'22.03936"	W71°23'29.36933"	-3.037	0.021	
207-26	N41°31'33.11986"	W71°22'29.95128"	-21.535	0.019	
207-61	N41°40'15.16267"	W71°22'48.26578"	-10.443	0.020	
208-133	N41°57'48.06428"	W71°21'46.75601"	50.986	0.019	
208-152	N42°02'32.87694"	W71°21'43.62536"	59.469	0.017	
208-35	N41°33'46.57892"	W71°21'52.67006"	-14.535	0.023	
209-9	N41°27'30.95751"	W71°20'59.79750"	-23.268	0.017	
210-42	N41°35'26.77314"	W71°19'27.06537"	-1.176	0.018	
210-75	N41°43'35.97131"	W71°20'17.75565"	-18.516	0.018	
211-121	N41°55'05.10504"	W71°18'38.66046"	-0.729	0.015	
211-31	N41°32'47.72974"	W71°18'02.86218"	-1.059	0.019	

	N41°27'25.77184"	W71°18'39.73808"	-26.240	0.016	
211-95	N41°48'36.66152"	W71°18'48.83554"	-8.980	0.017	
212-60	N41°40'08.08733"	W71°17'24.88617"	-21.414	0.018	
212-85	N41°46'21.01155"	W71°17'06.51527"	-27.804	0.016	
214-11	N41°29'45.31602"	W71°14'56.39745"	-16.105	0.018	
214-45	N41°37'56.22718"	W71°15'11.82270"	-2.706	0.018	
214-49	N41°39'00.14526"	W71°15'46.10544"	-0.017	0.019	
215-26	N41°32'49.93258"	W71°14'12.45315"	-13.470	0.024	
216-78	N41°44'44.83544"	W71°13'25.14149"	-4.267	0.019	
217-28	N41°32'28.70256"	W71°11'57.63214"	0.022	0.027	
217-42	N41°35'59.20534"	W71°11'43.47342"	-20.561	0.021	
218-11	N41°27'59.44806"	W71°11'08.22534"	-24.479	0.021	
218-63	N41°40'39.65156"	W71°11'19.51872"	-9.833	0.019	
222-12	N41°30'37.61567"	W71°06'36.48968"	-15.190	0.026	
222-26	N41°34'08.07736"	W71°06'36.06852"	12.735	0.020	
222-40	N41°37'23.34213"	W71°06'18.69516"	26.981	0.021	
222-52	N41°40'34.10118"	W71°06'38.29004"	19.188	0.019	
227-2	N41°21'20.75006"	W71°44'02.99341"	19.415	0.017	
227-22	N41°31'39.95648"	W71°43'57.59835"	6.126	0.019	
227-57	N41°48'54.46065"	W71°44'01.72499"	120.016	0.017	
302-14	N41°10'28.80418"	W71°35'56.77292"	-5.107	0.020	
302-9	N41°09'43.04563"	W71°36'10.58683"	-12.364	0.020	
303-14	N41°10'35.46065"	W71°34'17.50828"	-23.250	0.023	
304-24	N41°13'03.72373"	W71°33'54.90761"	-18.662	0.016	
304-9	N41°09'31.07365"	W71°33'02.05533"	6.374	0.020	
ACU6	N41°44'35.67626"	W70°53'11.72051"	6.260	?	LLh
CTGR	N41°20'07.03566"	W72°02'58.96958"	-18.346	?	LLh
CTMA	N41°43'52.91709"	W72°12'38.87753"	55.182	?	LLh
CTPU	N41°53'58.88883"	W71°53'20.88992"	57.100	?	LLh
URIL	N41°29'20.15819"	W71°31'39.77855"	45.687	?	LLh
XMTS	N42°03'50.01897"	W71°15'01.66916"	67.939	?	LLh

Adjusted ECEF Coordinates

Point ID	X (Meter)	X Error (Meter)	Y (Meter)	Y Error (Meter)	Z (Meter)	Z Error (Meter)	3D Error (Meter)	Constraint

103-11	1494479.768	0.015	4558762.556	0.015	4188828.826	0.016	0.026	
103-25	1493359.259	0.016	4554540.669	0.018	4193808.918	0.018	0.030	
103-39	1491949.547	0.017	4550662.622	0.018	4198501.487	0.018	0.031	
105-63	1491956.324	0.015	4540948.659	0.020	4209115.600	0.021	0.033	
106-40	1484823.205	0.017	4520541.399	0.019	4233435.660	0.017	0.031	
106-57	1483129.668	0.017	4515879.227	0.020	4238868.736	0.017	0.032	
106-84	1480370.392	0.017	4508138.722	0.019	4248035.705	0.018	0.031	
107-11	1498516.968	0.015	4555997.200	0.016	4190378.653	0.015	0.026	
107-120	1487418.637	0.014	4524321.143	0.015	4228459.571	0.015	0.026	
107-44	1495153.972	0.015	4545894.737	0.020	4202597.872	0.024	0.035	
107-95	1489016.291	0.014	4531386.899	0.016	4220297.531	0.018	0.028	
108-27	1496932.532	0.014	4549764.635	0.016	4197684.603	0.015	0.026	
108-78	1492023.844	0.013	4535052.957	0.014	4215326.435	0.013	0.023	
110-163	1486852.191	0.014	4510040.274	0.019	4243803.381	0.016	0.028	
110-178	1486058.485	0.016	4505637.635	0.018	4248734.948	0.018	0.030	

110-75	1495131.197	0.014	4534506.381	0.017	4214883.421	0.017	0.028	
111-101	1493560.424	0.013	4526946.238	0.014	4223499.805	0.014	0.024	
112-31	1502034.156	0.016	4546876.656	0.019	4198980.596	0.020	0.032	
113-8	1505418.008	0.016	4553421.426	0.018	4190704.685	0.017	0.030	
114-134	1495411.476	0.017	4515686.011	0.018	4234855.375	0.018	0.030	
114-175	1491306.558	0.016	4504285.617	0.017	4248322.223	0.017	0.029	
115-11	1508044.107	0.016	4550209.904	0.018	4193234.496	0.017	0.030	
115-41	1505185.105	0.015	4541035.467	0.016	4204175.539	0.015	0.026	
115-66	1503245.940	0.015	4533812.063	0.015	4212745.731	0.015	0.026	
115-86	1501133.355	0.014	4528347.170	0.015	4219338.272	0.015	0.026	
116-157	1495210.984	0.016	4508229.431	0.019	4242727.260	0.018	0.031	
116-25	1508036.047	0.014	4545759.229	0.018	4198100.020	0.017	0.028	
117-99	1501752.206	0.014	4523100.705	0.016	4224709.797	0.015	0.026	
118-120	1501545.452	0.016	4516511.587	0.018	4231700.163	0.018	0.030	
118-46	1507807.051	0.014	4537699.860	0.015	4206869.202	0.015	0.026	

119-167	1498648.208	0.017	4502430.932	0.019	4247612.997	0.018	0.031	
119-8	1513424.745	0.014	4548528.216	0.019	4193120.906	0.016	0.028	
120-76	1508193.920	0.013	4527918.803	0.013	4217224.799	0.013	0.023	
121-19	1515191.778	0.015	4543369.493	0.016	4198078.367	0.017	0.028	
123-10	1518709.857	0.016	4545909.614	0.019	4194037.356	0.019	0.031	
123-172	1503625.487	0.016	4499414.548	0.018	4248976.743	0.019	0.031	
123-37	1517041.884	0.013	4537941.012	0.014	4203290.237	0.013	0.023	
123-57	1514977.220	0.014	4532065.389	0.016	4210328.568	0.016	0.026	
123-70	1513896.097	0.014	4528279.761	0.015	4214758.512	0.015	0.026	
123-96	1511406.623	0.014	4520956.783	0.015	4223469.767	0.015	0.026	
124-121	1509945.800	0.014	4513116.793	0.015	4232304.316	0.015	0.025	
201-148	1509353.217	0.015	4505399.393	0.015	4240700.909	0.015	0.026	
201-9	1521191.441	0.016	4545310.676	0.018	4193788.664	0.017	0.029	
202-24	1522516.183	0.016	4540227.462	0.017	4198792.593	0.017	0.029	
204-163	1510749.665	0.019	4496967.547	0.031	4249080.600	0.026	0.045	

204-38	1523056.502	0.016	4532915.043	0.019	4206486.827	0.019	0.031	
204-53	1521650.152	0.014	4528323.266	0.015	4211845.565	0.015	0.026	
204-70	1519737.586	0.014	4523756.988	0.015	4217404.570	0.015	0.025	
204-78	1519159.047	0.014	4521392.455	0.018	4220131.413	0.017	0.029	
206-78	1520618.215	0.014	4516612.899	0.015	4224686.102	0.015	0.026	
206-9	1527361.183	0.016	4537182.476	0.017	4200316.374	0.017	0.029	
206-96	1517738.718	0.014	4511762.278	0.015	4230852.452	0.015	0.025	
207-113	1517385.768	0.016	4506606.639	0.019	4236469.232	0.019	0.031	
207-26	1527260.378	0.016	4531617.049	0.018	4206309.187	0.017	0.030	
207-61	1523446.591	0.016	4521627.480	0.019	4218360.720	0.019	0.031	
208-133	1517887.782	0.014	4500692.639	0.017	4242611.944	0.016	0.028	
208-152	1516078.819	0.014	4495103.573	0.016	4249147.783	0.015	0.026	
208-35	1527208.532	0.017	4528758.422	0.020	4209395.438	0.020	0.033	
209-9	1530823.311	0.014	4535637.565	0.016	4200711.985	0.016	0.027	
210-42	1529751.385	0.016	4525745.351	0.018	4211716.672	0.017	0.029	

210-75	1525424.946	0.014	4516604.360	0.016	4222981.121	0.016	0.027	
211-121	1523055.864	0.014	4502453.382	0.015	4238837.472	0.015	0.025	
211-31	1532642.596	0.016	4528204.401	0.018	4208045.746	0.017	0.030	
211-9	1533936.005	0.014	4534695.273	0.015	4200590.120	0.015	0.025	
211-95	1525394.298	0.015	4510099.210	0.015	4229906.666	0.015	0.026	
212-60	1530577.595	0.016	4519363.176	0.017	4218190.368	0.017	0.029	
212-85	1528521.793	0.014	4511970.264	0.015	4226773.780	0.015	0.026	
214-11	1537931.086	0.016	4530338.926	0.017	4203822.289	0.017	0.029	
214-45	1534366.157	0.016	4520948.266	0.017	4215163.058	0.017	0.029	
214-49	1533194.458	0.017	4519964.263	0.017	4216638.550	0.018	0.030	
215-26	1537682.404	0.016	4526438.058	0.022	4208088.376	0.020	0.033	
216-78	1534005.124	0.016	4512214.828	0.018	4224576.029	0.017	0.030	
217-28	1540783.937	0.017	4525852.774	0.023	4207607.115	0.023	0.036	
217-42	1539700.596	0.017	4521653.202	0.019	4212452.091	0.018	0.031	
218-11	1543637.325	0.014	4530676.737	0.017	4201369.860	0.022	0.031	

218-63	1538374.582	0.016	4516040.197	0.018	4218925.458	0.017	0.030	
222-12	1548560.452	0.021	4525587.294	0.024	4205031.270	0.022	0.039	
222-26	1547182.463	0.016	4521530.052	0.018	4209909.775	0.020	0.031	
222-40	1546271.638	0.016	4517625.970	0.019	4214424.418	0.019	0.031	
222-52	1544574.357	0.017	4514066.766	0.018	4218816.854	0.017	0.030	
227-2	1502751.128	0.014	4553004.833	0.016	4192174.085	0.016	0.026	
227-22	1498903.986	0.016	4540949.777	0.018	4206485.427	0.018	0.030	
227-57	1492188.742	0.014	4520909.724	0.015	4230401.969	0.016	0.026	
302-14	1517661.045	0.017	4562019.112	0.018	4177040.153	0.018	0.031	
302-9	1517647.056	0.017	4562997.295	0.019	4175972.743	0.019	0.031	
303-14	1519809.280	0.021	4561146.995	0.021	4177182.771	0.020	0.036	
304-24	1519357.492	0.014	4558125.762	0.015	4180627.346	0.015	0.026	
304-9	1521898.513	0.017	4561852.187	0.018	4175707.022	0.019	0.031	
ACU6	1560587.202	?	4503297.704	?	4224372.197	?	?	LLh
CTGR	1478107.642	?	4562614.121	?	4190441.882	?	?	LLh

CTMA	1456379.704	?	4539030.837	?	4223420.354	?	?	LLh
CTPU	1477964.641	?	4518936.762	?	4237355.689	?	?	LLh
URIL	1516052.603	?	4538298.223	?	4203281.861	?	?	LLh
XMTS	1524325.286	?	4490636.877	?	4250920.783	?	?	LLh

Error Ellipse Components

Point ID	Semi-major axis (Meter)	Semi-minor axis (Meter)	Azimuth
103-11	0.018	0.018	19°
103-25	0.021	0.020	161°
103-39	0.021	0.020	25°
105-63	0.020	0.018	125°
106-40	0.021	0.020	29°
106-57	0.021	0.021	17°
106-84	0.021	0.020	26°
107-11	0.018	0.018	158°
107-120	0.018	0.017	167°
107-44	0.025	0.018	173°
107-95	0.020	0.017	9°
108-27	0.019	0.018	18°
108-78	0.016	0.016	42°
110-163	0.019	0.018	13°
110-178	0.020	0.020	168°
110-75	0.018	0.017	140°
111-101	0.016	0.016	147°
112-31	0.022	0.020	149°
113-8	0.021	0.020	3°
114-134	0.021	0.020	28°
114-175	0.021	0.020	174°

115-11	0.021	0.021	85°
115-41	0.018	0.018	46°
115-66	0.018	0.018	30°
115-86	0.018	0.017	165°
116-157	0.021	0.020	11°
116-25	0.018	0.018	55°
117-99	0.018	0.018	27°
118-120	0.020	0.020	171°
118-46	0.018	0.018	162°
119-167	0.021	0.020	144°
119-8	0.018	0.018	49°
120-76	0.016	0.016	23°
121-19	0.018	0.018	20°
123-10	0.021	0.020	146°
123-172	0.021	0.020	5°
123-37	0.016	0.016	4°
123-57	0.018	0.017	177°
123-70	0.018	0.017	8°
123-96	0.018	0.018	25°
124-121	0.018	0.017	166°
201-148	0.018	0.018	141°
201-9	0.021	0.020	36°
202-24	0.020	0.020	179°
204-163	0.025	0.023	168°
204-38	0.021	0.020	149°
204-53	0.018	0.018	9°
204-70	0.018	0.017	170°
204-78	0.018	0.018	32°
206-78	0.018	0.017	155°
206-9	0.021	0.020	172°
206-96	0.018	0.017	170°
207-113	0.020	0.020	9°
207-26	0.021	0.020	15°
207-61	0.022	0.020	8°
208-133	0.018	0.018	46°
208-152	0.018	0.018	18°
208-35	0.021	0.020	17°
209-9	0.019	0.017	16°

	0.021	0.020	29°
210-75	0.018	0.018	21°
211-121	0.018	0.017	178°
211-31	0.021	0.020	14°
211-9	0.018	0.018	162°
211-95	0.018	0.018	88°
212-60	0.020	0.020	167°
212-85	0.018	0.017	170°
214-11	0.020	0.020	151°
214-45	0.020	0.020	174°
214-49	0.021	0.020	21°
215-26	0.021	0.020	72°
216-78	0.021	0.020	179°
217-28	0.022	0.021	112°
217-42	0.021	0.021	10°
218-11	0.023	0.018	10°
218-63	0.021	0.020	157°
222-12	0.027	0.026	15°
222-26	0.022	0.020	153°
222-40	0.021	0.020	135°
222-52	0.021	0.020	42°
227-2	0.018	0.018	6°
227-22	0.021	0.020	25°
227-57	0.018	0.017	158°
302-14	0.021	0.021	48°
302-9	0.023	0.020	18°
303-14	0.028	0.021	67°
304-24	0.018	0.018	168°
304-9	0.022	0.021	48°

Adjusted GPS Observations

Transformation Parameters

Deflection in Latitude: -0.109 sec (**95%**) 0.014 sec
Deflection in Longitude: -0.008 sec (**95%**) 0.018 sec
Azimuth Rotation: -0.037 sec (**95%**) 0.009 sec

Scale Factor:

1.00000002 (95%) 0.00000004

Observation ID		Observation	A-posteriori Error	Residual	Standardized Residual
URIL --> 207-26 (PV928)	Az.	72°06'58"	0.257 sec	-0.074 sec	-0.392
	ΔHt.	-67.220 m	0.019 m	0.065 m	4.302
	Ellip Dist.	13394.471 m	0.016 m	0.008 m	0.680
URIL --> 222-52 (PV671)	Az.	58°59'25"	0.083 sec	0.017 sec	0.292
	ΔHt.	-26.489 m	0.019 m	-0.054 m	-4.053
	Ellip Dist.	40521.328 m	0.017 m	0.005 m	0.435
URIL --> 210-42 (PV703)	Az.	56°16'13"	0.165 sec	0.044 sec	0.370
	ΔHt.	-46.858 m	0.018 m	-0.052 m	-3.968
	Ellip Dist.	20405.207 m	0.017 m	-0.007 m	-0.557
URIL --> 211-31 (PV937)	Az.	71°14'44"	0.171 sec	-0.032 sec	-0.257
	ΔHt.	-46.743 m	0.019 m	0.054 m	3.858
	Ellip Dist.	19995.075 m	0.016 m	0.010 m	0.845
ACU6 --> 207-26 (PV907)	Az.	239°28'58"	0.072 sec	0.003 sec	0.066
	ΔHt.	-27.806 m	0.019 m	-0.048 m	-3.844
	Ellip Dist.	47317.540 m	0.017 m	-0.005 m	-0.407
ACU6 --> 208-133 (PV252)	Az.	301°52'26"	0.064 sec	0.007 sec	0.127
	ΔHt.	44.740 m	0.019 m	0.058 m	3.489
	Ellip Dist.	46504.874 m	0.014 m	0.004 m	0.290
URIL --> 103-25 (PV656)	Az.	244°49'14"	0.117 sec	-0.047 sec	-0.577
	ΔHt.	-53.620 m	0.020 m	-0.045 m	-3.387
	Ellip Dist.	29470.919 m	0.016 m	-0.005 m	-0.422
CTGR --> 227-2 (PV374)	Az.	84°58'27"	0.112 sec	0.044 sec	0.448

	ΔHt.	37.761 m	0.017 m	0.047 m	3.385
	Ellip Dist.	26507.354 m	0.014 m	-0.006 m	-0.509
URIL --> 208-133 (PV675)	Az.	14°31'32"	0.054 sec	0.024 sec	0.520
	ΔHt.	5.326 m	0.019 m	-0.050 m	-3.321
	Ellip Dist.	54446.085 m	0.014 m	-0.005 m	-0.432
CTMA --> 118-46 (PV553)	Az.	113°59'02"	0.054 sec	-0.027 sec	-0.566
	ΔHt.	-8.783 m	0.016 m	-0.044 m	-3.278
	Ellip Dist.	54041.233 m	0.014 m	0.001 m	0.055
CTMA --> 227-2 (PV515)	Az.	136°12'34"	0.051 sec	-0.024 sec	-0.539
	ΔHt.	-35.791 m	0.017 m	-0.044 m	-3.147
	Ellip Dist.	57635.867 m	0.014 m	-0.006 m	-0.475
CTMA --> 123-172 (PV544)	Az.	58°48'05"	0.052 sec	-0.018 sec	-0.485
	ΔHt.	-18.675 m	0.020 m	0.041 m	3.139
	Ellip Dist.	66743.684 m	0.017 m	-0.003 m	-0.211
211-31 --> ACU6 (PV916)	Az.	57°31'51"	0.083 sec	0.013 sec	0.228
	ΔHt.	7.329 m	0.019 m	0.040 m	3.097
	Ellip Dist.	40838.729 m	0.016 m	-0.004 m	-0.350
CTPU --> 113-8 (PV114)	Az.	166°08'27"	0.052 sec	-0.012 sec	-0.332
	ΔHt.	-83.489 m	0.019 m	-0.039 m	-3.097
	Ellip Dist.	64181.021 m	0.017 m	-0.010 m	-0.818
227-22 --> CTGR (PV383)	Az.	231°12'46"	0.098 sec	-0.044 sec	-0.627
	ΔHt.	-24.482 m	0.019 m	-0.041 m	-3.016
	Ellip Dist.	34047.487 m	0.016 m	-0.009 m	-0.774

CTGR --> 103-39 (PV376)	Az.	57°28'52"	0.171 sec	-0.101 sec	-0.819
	ΔHt.	20.449 m	0.020 m	0.044 m	2.999
	Ellip Dist.	19984.865 m	0.017 m	0.012 m	1.019
ACU6 --> 210-42 (PV280)	Az.	245°13'19"	0.084 sec	0.026 sec	0.441
	ΔHt.	-7.444 m	0.018 m	0.038 m	2.967
	Ellip Dist.	40185.952 m	0.016 m	-0.011 m	-0.915
CTGR --> 107-95 (PV422)	Az.	26°40'19"	0.066 sec	-0.025 sec	-0.430
	ΔHt.	92.962 m	0.018 m	0.040 m	2.934
	Ellip Dist.	44558.721 m	0.016 m	-0.010 m	-0.833
CTGR --> 118-46 (PV412)	Az.	58°35'17"	0.069 sec	-0.002 sec	-0.035
	ΔHt.	64.768 m	0.016 m	0.040 m	2.923
	Ellip Dist.	42102.571 m	0.014 m	0.001 m	0.071
CTGR --> 123-37 (PV379)	Az.	68°54'06"	0.056 sec	-0.039 sec	-0.677
	ΔHt.	50.681 m	0.015 m	0.046 m	2.918
	Ellip Dist.	47851.027 m	0.013 m	-0.001 m	-0.066
URIL --> 208-152 (PV681)	Az.	12°34'10"	0.047 sec	0.017 sec	0.431
	ΔHt.	13.814 m	0.017 m	-0.040 m	-2.894
	Ellip Dist.	63003.395 m	0.014 m	-0.009 m	-0.725
CTGR --> 113-8 (PV370)	Az.	89°10'35"	0.118 sec	-0.007 sec	-0.079
	ΔHt.	-8.011 m	0.019 m	0.040 m	2.875
	Ellip Dist.	28817.320 m	0.016 m	-0.010 m	-0.830
URIL --> 222-40 (PV685)	Az.	66°56'10"	0.089 sec	0.016 sec	0.257
	ΔHt.	-18.700 m	0.021 m	-0.043 m	-2.870
	Ellip	38271.086 m	0.016 m	0.005 m	0.454

	Dist.				
212-85 --> ACU6 (PV264)	Az.	95°28'02"	0.089 sec	0.020 sec	0.253
	ΔHt.	34.061 m	0.017 m	-0.041 m	-2.845
	Ellip Dist.	33304.300 m	0.014 m	-0.004 m	-0.349
CTGR --> 115-41 (PV381)	Az.	60°28'14"	0.078 sec	-0.028 sec	-0.415
	ΔHt.	31.420 m	0.016 m	0.040 m	2.836
	Ellip Dist.	37248.419 m	0.015 m	0.010 m	0.713
212-85 --> CTPU (PV138)	Az.	285°55'39"	0.057 sec	-0.034 sec	-0.691
	ΔHt.	84.914 m	0.017 m	0.040 m	2.814
	Ellip Dist.	52120.339 m	0.014 m	-0.002 m	-0.159
URIL --> 211-9 (PV930)	Az.	100°57'40"	0.157 sec	0.019 sec	0.135
	ΔHt.	-71.930 m	0.016 m	-0.041 m	-2.795
	Ellip Dist.	18440.086 m	0.014 m	0.002 m	0.199
XMTS --> 114-134 (PV1038)	Az.	238°38'30"	0.082 sec	-0.027 sec	-0.466
	ΔHt.	81.574 m	0.020 m	-0.038 m	-2.791
	Ellip Dist.	41491.030 m	0.017 m	0.009 m	0.796
XMTS --> 227-57 (PV1035)	Az.	235°34'55"	0.062 sec	-0.038 sec	-0.710
	ΔHt.	52.065 m	0.017 m	-0.040 m	-2.767
	Ellip Dist.	48684.323 m	0.014 m	0.013 m	1.017
URIL --> 218-63 (PV689)	Az.	53°19'30"	0.097 sec	0.092 sec	1.328
	ΔHt.	-55.510 m	0.019 m	-0.037 m	-2.762
	Ellip Dist.	35190.988 m	0.016 m	-0.004 m	-0.341
XMTS --> 123-57 (PV1028)	Az.	202°10'10"	0.050 sec	0.000 sec	-0.009
	ΔHt.	-30.559 m	0.017 m	-0.041 m	-2.743

	Ellip Dist.	58748.636 m	0.014 m	0.011 m	0.920
XMTS --> 106-57 (PV825)	Az.	251°08'52"	0.071 sec	-0.015 sec	-0.295
	ΔHt.	34.650 m	0.021 m	0.041 m	2.741
	Ellip Dist.	49794.097 m	0.017 m	0.001 m	0.050
CTGR --> 111-101 (PV410)	Az.	30°13'58"	0.052 sec	-0.042 sec	-0.760
	ΔHt.	136.002 m	0.016 m	0.047 m	2.718
	Ellip Dist.	51027.124 m	0.013 m	0.001 m	0.043
URIL --> 123-10 (PV662)	Az.	179°29'32"	0.274 sec	-0.079 sec	-0.393
	ΔHt.	-73.951 m	0.021 m	-0.041 m	-2.717
	Ellip Dist.	12265.778 m	0.016 m	0.015 m	1.293
URIL --> 204-70 (PV940)	Az.	23°09'30"	0.141 sec	0.016 sec	0.132
	ΔHt.	-67.485 m	0.016 m	-0.039 m	-2.677
	Ellip Dist.	20602.712 m	0.014 m	0.002 m	0.174
302-9 --> URIL (PV647)	Az.	9°48'50"	0.091 sec	-0.035 sec	-0.534
	ΔHt.	58.070 m	0.020 m	-0.038 m	-2.656
	Ellip Dist.	36856.039 m	0.018 m	-0.005 m	-0.331
URIL --> 108-78 (PV709)	Az.	306°30'11"	0.099 sec	-0.061 sec	-0.603
	ΔHt.	27.887 m	0.015 m	-0.039 m	-2.646
	Ellip Dist.	27073.444 m	0.013 m	-0.006 m	-0.431
CTPU --> 123-172 (PV139)	Az.	62°42'35"	0.101 sec	-0.037 sec	-0.527
	ΔHt.	-20.601 m	0.020 m	-0.034 m	-2.637
	Ellip Dist.	34272.873 m	0.016 m	0.015 m	1.283

CTMA --> 106-57 (PV534)	Az.	57°27'46"	0.091 sec	-0.016 sec	-0.247
	ΔHt.	47.423 m	0.021 m	-0.044 m	-2.635
	Ellip Dist.	38602.792 m	0.017 m	0.009 m	0.632
XMTS --> 114-175 (PV867)	Az.	264°25'45"	0.096 sec	-0.062 sec	-0.917
	ΔHt.	75.330 m	0.018 m	-0.033 m	-2.615
	Ellip Dist.	35822.231 m	0.016 m	0.005 m	0.421
CTPU --> 204-53 (PV1004)	Az.	131°23'04"	0.058 sec	0.012 sec	0.231
	ΔHt.	-80.718 m	0.016 m	0.035 m	2.575
	Ellip Dist.	51451.827 m	0.014 m	-0.002 m	-0.174
XMTS --> 108-78 (PV856)	Az.	223°16'37"	0.040 sec	0.014 sec	0.340
	ΔHt.	5.602 m	0.015 m	0.037 m	2.574
	Ellip Dist.	65445.177 m	0.013 m	0.013 m	1.037
ACU6 --> 218-63 (PV266)	Az.	253°57'06"	0.130 sec	0.103 sec	1.103
	ΔHt.	-16.095 m	0.019 m	0.035 m	2.565
	Ellip Dist.	26180.903 m	0.016 m	-0.004 m	-0.301
204-78 --> CTPU (PV1001)	Az.	301°09'28"	0.066 sec	-0.018 sec	-0.311
	ΔHt.	77.574 m	0.021 m	-0.045 m	-2.515
	Ellip Dist.	44717.735 m	0.014 m	0.001 m	0.058
XMTS --> 106-84 (PV876)	Az.	265°25'35"	0.072 sec	-0.035 sec	-0.683
	ΔHt.	57.821 m	0.021 m	0.042 m	2.464
	Ellip Dist.	47398.415 m	0.017 m	0.008 m	0.645
302-9 --> CTMA (PV503)	Az.	321°25'43"	0.045 sec	-0.007 sec	-0.248
	ΔHt.	67.582 m	0.020 m	0.035 m	2.464
	Ellip	81113.470 m	0.017 m	0.000 m	0.018

	Dist.				
URIL --> 204-38 (PV929)	Az.	62°40'41"	0.374 sec	0.107 sec	0.389
	ΔHt.	-32.224 m	0.021 m	-0.039 m	-2.456
	Ellip Dist.	9396.978 m	0.016 m	0.012 m	1.015
URIL --> 303-14 (PV648)	Az.	186°02'55"	0.124 sec	-0.017 sec	-0.286
	ΔHt.	-68.955 m	0.022 m	0.042 m	2.454
	Ellip Dist.	34890.334 m	0.018 m	0.013 m	1.058
CTMA --> 105-63 (PV557)	Az.	119°52'43"	0.079 sec	-0.007 sec	-0.097
	ΔHt.	67.878 m	0.025 m	-0.039 m	-2.436
	Ellip Dist.	38392.168 m	0.016 m	0.000 m	-0.035
URIL --> 123-70 (PV942)	Az.	4°12'28"	0.188 sec	0.061 sec	0.368
	ΔHt.	-8.231 m	0.016 m	-0.036 m	-2.434
	Ellip Dist.	15386.051 m	0.015 m	0.002 m	0.117
URIL --> 111-101 (PV695)	Az.	326°41'52"	0.081 sec	0.019 sec	0.239
	ΔHt.	71.962 m	0.016 m	-0.036 m	-2.400
	Ellip Dist.	32303.269 m	0.013 m	-0.007 m	-0.517
URIL --> 103-39 (PV661)	Az.	256°46'49"	0.125 sec	-0.083 sec	-0.930
	ΔHt.	-43.591 m	0.020 m	-0.033 m	-2.386
	Ellip Dist.	27507.839 m	0.017 m	0.006 m	0.513
217-42 --> URIL (PV692)	Az.	246°10'08"	0.113 sec	0.047 sec	0.578
	ΔHt.	66.243 m	0.021 m	0.036 m	2.367
	Ellip Dist.	30337.619 m	0.017 m	-0.011 m	-0.879
ACU6 --> 217-28 (PV283)	Az.	229°23'00"	0.105 sec	-0.213 sec	-2.234
	ΔHt.	-6.249 m	0.027 m	-0.065 m	-1.817

	Ellip Dist.	34379.791 m	0.017 m	-0.031 m	-2.344
217-42 --> ACU6 (PV269)	Az.	58°06'56"	0.113 sec	-0.011 sec	-0.136
	ΔHt.	26.829 m	0.021 m	-0.004 m	-0.249
	Ellip Dist.	30253.373 m	0.017 m	-0.028 m	-2.343
URIL --> 115-41 (PV666)	Az.	276°17'04"	0.266 sec	-0.247 sec	-1.035
	ΔHt.	-32.620 m	0.016 m	-0.036 m	-2.337
	Ellip Dist.	11242.397 m	0.014 m	0.001 m	0.063
204-78 --> URIL (PV932)	Az.	200°14'42"	0.122 sec	0.091 sec	0.845
	ΔHt.	66.135 m	0.021 m	0.045 m	2.321
	Ellip Dist.	24069.824 m	0.014 m	0.002 m	0.167
CTMA --> 114-134 (PV966)	Az.	70°50'21"	0.072 sec	-0.019 sec	-0.362
	ΔHt.	94.347 m	0.019 m	0.031 m	2.305
	Ellip Dist.	46895.098 m	0.016 m	0.004 m	0.338
URIL --> 206-78 (PV933)	Az.	21°19'10"	0.095 sec	-0.002 sec	-0.020
	ΔHt.	-69.213 m	0.017 m	-0.033 m	-2.293
	Ellip Dist.	30809.631 m	0.014 m	0.000 m	-0.007
URIL --> 206-96 (PV686)	Az.	15°08'42"	0.076 sec	0.024 sec	0.355
	ΔHt.	-73.197 m	0.016 m	-0.031 m	-2.275
	Ellip Dist.	38303.155 m	0.014 m	-0.011 m	-0.840
ACU6 --> 208-152 (PV258)	Az.	310°15'41"	0.058 sec	0.078 sec	1.549
	ΔHt.	53.228 m	0.017 m	0.032 m	2.260
	Ellip Dist.	51594.125 m	0.014 m	0.002 m	0.187
XMTS --> 118-120 (PV1033)	Az.	229°13'18"	0.086 sec	-0.012 sec	-0.198

	ΔHt.	-0.913 m	0.020 m	-0.030 m	-2.208
	Ellip Dist.	39469.300 m	0.016 m	0.009 m	0.805
CTGR --> 103-25 (PV371)	Az.	75°10'58"	0.195 sec	-0.066 sec	-0.449
	ΔHt.	10.420 m	0.020 m	0.033 m	2.169
	Ellip Dist.	17582.113 m	0.016 m	-0.003 m	-0.279
XMTS --> 106-40 (PV827)	Az.	243°29'47"	0.065 sec	-0.031 sec	-0.674
	ΔHt.	98.424 m	0.020 m	0.029 m	2.160
	Ellip Dist.	52538.832 m	0.017 m	0.005 m	0.395
CTPU --> 114-175 (PV872)	Az.	49°33'13"	0.149 sec	-0.047 sec	-0.435
	ΔHt.	86.176 m	0.018 m	0.029 m	2.152
	Ellip Dist.	22647.398 m	0.016 m	0.008 m	0.639
ACU6 --> 222-52 (PV248)	Az.	248°17'16"	0.167 sec	0.048 sec	0.393
	ΔHt.	12.925 m	0.019 m	0.029 m	2.105
	Ellip Dist.	20080.943 m	0.017 m	-0.001 m	-0.051
217-42 --> XMTS (PV839)	Az.	354°56'55"	0.066 sec	0.073 sec	1.546
	ΔHt.	88.528 m	0.021 m	-0.030 m	-2.100
	Ellip Dist.	51751.712 m	0.017 m	0.001 m	0.103
CTPU --> 117-99 (PV150)	Az.	128°33'53"	0.112 sec	-0.013 sec	-0.131
	ΔHt.	62.546 m	0.016 m	0.031 m	2.093
	Ellip Dist.	27259.527 m	0.014 m	-0.002 m	-0.168
110-163 --> URIL (PV682)	Az.	160°47'12"	0.052 sec	-0.004 sec	-0.083
	ΔHt.	-95.683 m	0.020 m	-0.034 m	-2.085
	Ellip Dist.	57385.413 m	0.015 m	-0.012 m	-0.935

URIL --> 202-24 (PV938)	Az.	137°03'47"	0.415 sec	0.020 sec	0.066
	ΔHt.	-64.088 m	0.018 m	-0.029 m	-2.074
	Ellip Dist.	8102.405 m	0.016 m	0.012 m	0.998
URIL --> 304-24 (PV649)	Az.	185°57'56"	0.096 sec	-0.036 sec	-0.425
	ΔHt.	-64.364 m	0.016 m	-0.028 m	-2.039
	Ellip Dist.	30286.536 m	0.014 m	0.009 m	0.717
CTGR --> 110-75 (PV413)	Az.	37°22'12"	0.072 sec	-0.040 sec	-0.628
	ΔHt.	136.157 m	0.020 m	0.034 m	2.031
	Ellip Dist.	40953.587 m	0.014 m	0.006 m	0.498
204-78 --> ACU6 (PV911)	Az.	82°39'44"	0.065 sec	0.036 sec	0.634
	ΔHt.	26.721 m	0.021 m	0.036 m	2.024
	Ellip Dist.	45406.043 m	0.014 m	0.000 m	-0.037
URIL --> 209-9 (PV927)	Az.	102°43'25"	0.207 sec	0.051 sec	0.290
	ΔHt.	-68.957 m	0.017 m	-0.031 m	-2.016
	Ellip Dist.	15226.677 m	0.014 m	0.006 m	0.478
URIL --> 207-61 (PV936)	Az.	31°18'16"	0.144 sec	0.029 sec	0.283
	ΔHt.	-56.120 m	0.020 m	-0.028 m	-1.998
	Ellip Dist.	23663.286 m	0.017 m	-0.002 m	-0.144
227-22 --> CTMA (PV524)	Az.	299°44'10"	0.074 sec	-0.020 sec	-0.370
	ΔHt.	49.070 m	0.020 m	0.027 m	1.990
	Ellip Dist.	45812.389 m	0.016 m	-0.004 m	-0.348
XMTS --> 222-52 (PV818)	Az.	164°52'07"	0.077 sec	0.027 sec	0.501
	ΔHt.	-48.774 m	0.019 m	0.026 m	1.968
	Ellip Dist.	44605.216 m	0.016 m	0.003 m	0.243

CTPU --> 118-120 (PV1008)	Az.	108°05'08"	0.138 sec	-0.032 sec	-0.325
	ΔHt.	9.933 m	0.020 m	0.028 m	1.968
	Ellip Dist.	24370.272 m	0.016 m	0.003 m	0.227
XMTS --> 117-99 (PV855)	Az.	222°06'34"	0.062 sec	0.001 sec	0.022
	ΔHt.	51.700 m	0.017 m	-0.028 m	-1.962
	Ellip Dist.	47438.395 m	0.015 m	-0.002 m	-0.133
ACU6 --> 209-9 (PV906)	Az.	230°51'23"	0.060 sec	0.010 sec	0.187
	ΔHt.	-29.543 m	0.017 m	0.027 m	1.927
	Ellip Dist.	49915.728 m	0.015 m	-0.009 m	-0.688
CTPU --> 119-167 (PV134)	Az.	60°51'54"	0.121 sec	0.008 sec	0.089
	ΔHt.	22.025 m	0.020 m	-0.028 m	-1.915
	Ellip Dist.	28380.422 m	0.016 m	-0.003 m	-0.211
CTGR --> 206-9 (PV971)	Az.	76°15'56"	0.061 sec	-0.022 sec	-0.509
	ΔHt.	1.575 m	0.018 m	0.024 m	1.904
	Ellip Dist.	56304.736 m	0.016 m	-0.004 m	-0.381
URIL --> 211-95 (PV673)	Az.	26°29'36"	0.074 sec	-0.006 sec	-0.087
	ΔHt.	-54.649 m	0.017 m	-0.027 m	-1.877
	Ellip Dist.	39891.413 m	0.014 m	-0.011 m	-0.899
ACU6 --> 211-95 (PV250)	Az.	281°58'17"	0.081 sec	0.061 sec	0.861
	ΔHt.	-15.234 m	0.017 m	0.030 m	1.855
	Ellip Dist.	36268.927 m	0.014 m	-0.006 m	-0.497
URIL --> 201-9 (PV925)	Az.	168°06'35"	0.264 sec	-0.065 sec	-0.335
	ΔHt.	-74.057 m	0.018 m	-0.026 m	-1.852
	Ellip Dist.	12872.337 m	0.016 m	0.011 m	0.875

CTPU --> 115-11 (PV122)	Az.	162°14'52"	0.055 sec	-0.017 sec	-0.418
	ΔHt.	-81.150 m	0.019 m	0.025 m	1.824
	Ellip Dist.	61882.687 m	0.016 m	-0.007 m	-0.605
XMTS --> 208-133 (PV822)	Az.	219°53'12"	0.201 sec	0.050 sec	0.278
	ΔHt.	-16.959 m	0.019 m	0.034 m	1.814
	Ellip Dist.	14546.218 m	0.014 m	0.008 m	0.601
CTPU --> 103-11 (PV119)	Az.	177°04'16"	0.045 sec	0.002 sec	0.064
	ΔHt.	-81.063 m	0.017 m	0.025 m	1.810
	Ellip Dist.	64913.077 m	0.014 m	-0.004 m	-0.355
CTMA --> 120-76 (PV567)	Az.	98°45'06"	0.050 sec	-0.008 sec	-0.170
	ΔHt.	16.265 m	0.015 m	0.025 m	1.795
	Ellip Dist.	53352.927 m	0.013 m	-0.003 m	-0.250
XMTS --> 211-95 (PV820)	Az.	190°32'29"	0.103 sec	-0.024 sec	-0.261
	ΔHt.	-76.933 m	0.017 m	0.026 m	1.749
	Ellip Dist.	28661.928 m	0.014 m	-0.001 m	-0.041
204-78 --> XMTS (PV1026)	Az.	19°35'19"	0.067 sec	0.037 sec	0.637
	ΔHt.	88.420 m	0.021 m	-0.031 m	-1.747
	Ellip Dist.	43824.265 m	0.014 m	0.013 m	1.020
CTPU --> 304-24 (PV68)	Az.	160°15'39"	0.036 sec	0.005 sec	0.161
	ΔHt.	-75.803 m	0.016 m	0.024 m	1.738
	Ellip Dist.	80419.473 m	0.014 m	-0.002 m	-0.153
CTPU --> 107-95 (PV149)	Az.	163°50'24"	0.125 sec	-0.085 sec	-0.764
	ΔHt.	17.484 m	0.018 m	-0.029 m	-1.737
	Ellip Dist.	23835.147 m	0.016 m	-0.006 m	-0.389

CTMA --> 112-31 (PV514)	Az.	128°20'57"	0.064 sec	-0.031 sec	-0.673
	ΔHt.	-68.711 m	0.022 m	-0.023 m	-1.705
	Ellip Dist.	52375.378 m	0.017 m	-0.003 m	-0.217
CTPU --> 106-84 (PV881)	Az.	21°31'49"	0.219 sec	0.083 sec	0.531
	ΔHt.	68.668 m	0.021 m	-0.022 m	-1.691
	Ellip Dist.	15376.497 m	0.017 m	0.006 m	0.510
CTMA --> 107-11 (PV509)	Az.	141°32'09"	0.052 sec	-0.024 sec	-0.529
	ΔHt.	-82.924 m	0.017 m	-0.025 m	-1.686
	Ellip Dist.	56170.814 m	0.014 m	-0.002 m	-0.196
303-14 --> CTMA (PV504)	Az.	319°17'34"	0.055 sec	0.006 sec	0.120
	ΔHt.	78.467 m	0.022 m	0.026 m	1.674
	Ellip Dist.	81549.988 m	0.017 m	-0.005 m	-0.399
CTPU --> 208-133 (PV132)	Az.	80°37'14"	0.066 sec	-0.028 sec	-0.484
	ΔHt.	-6.113 m	0.019 m	-0.028 m	-1.671
	Ellip Dist.	44207.556 m	0.014 m	0.002 m	0.196
ACU6 --> 123-10 (PV239)	Az.	233°00'50"	0.052 sec	0.009 sec	0.246
	ΔHt.	-34.537 m	0.021 m	0.027 m	1.626
	Ellip Dist.	67005.559 m	0.016 m	-0.002 m	-0.178
ACU6 --> 222-40 (PV262)	Az.	233°50'15"	0.151 sec	0.029 sec	0.261
	ΔHt.	20.714 m	0.021 m	0.026 m	1.615
	Ellip Dist.	22565.246 m	0.016 m	-0.004 m	-0.341
ACU6 --> 204-70 (PV919)	Az.	258°33'46"	0.064 sec	0.007 sec	0.128
	ΔHt.	-28.070 m	0.016 m	0.022 m	1.612
	Ellip Dist.	46215.094 m	0.014 m	-0.006 m	-0.452

ACU6 --> 207-61 (PV915)	Az.	259°05'31"	0.086 sec	0.033 sec	0.564
	ΔHt.	-16.705 m	0.020 m	0.022 m	1.606
	Ellip Dist.	41851.530 m	0.016 m	-0.005 m	-0.450
ACU6 --> 211-9 (PV909)	Az.	228°13'08"	0.062 sec	-0.005 sec	-0.089
	ΔHt.	-32.515 m	0.016 m	0.022 m	1.595
	Ellip Dist.	47557.305 m	0.014 m	-0.006 m	-0.509
URIL --> 123-37 (PV664)	Az.	88°44'35"	2.528 sec	0.902 sec	0.367
	ΔHt.	-13.359 m	0.014 m	-0.020 m	-1.588
	Ellip Dist.	1051.739 m	0.013 m	0.006 m	0.464
CTMA --> 227-57 (PV963)	Az.	76°38'21"	0.074 sec	-0.046 sec	-0.714
	ΔHt.	64.838 m	0.017 m	0.022 m	1.582
	Ellip Dist.	40735.252 m	0.014 m	0.000 m	0.011
CTGR --> 105-63 (PV416)	Az.	38°39'33"	0.102 sec	-0.011 sec	-0.117
	ΔHt.	141.430 m	0.025 m	0.040 m	1.582
	Ellip Dist.	31778.160 m	0.015 m	0.015 m	1.158
CTGR --> 302-14 (PV366)	Az.	115°08'04"	0.081 sec	-0.006 sec	-0.106
	ΔHt.	13.227 m	0.019 m	0.022 m	1.566
	Ellip Dist.	41766.547 m	0.016 m	-0.005 m	-0.425
XMTS --> 216-78 (PV819)	Az.	176°23'17"	0.094 sec	0.057 sec	0.850
	ΔHt.	-72.224 m	0.019 m	-0.021 m	-1.563
	Ellip Dist.	35402.525 m	0.017 m	0.001 m	0.043
CTPU --> 211-95 (PV130)	Az.	101°33'30"	0.060 sec	-0.001 sec	-0.010
	ΔHt.	-66.087 m	0.017 m	-0.022 m	-1.554
	Ellip	48817.536 m	0.014 m	-0.003 m	-0.256

	Dist.				
ACU6 --> 216-78 (PV249)	Az.	270°41'23"	0.123 sec	0.026 sec	0.296
	ΔHt.	-10.525 m	0.019 m	0.021 m	1.547
	Ellip Dist.	28038.623 m	0.016 m	-0.003 m	-0.296
URIL --> 112-31 (PV658)	Az.	250°30'14"	0.209 sec	-0.141 sec	-0.966
	ΔHt.	-59.199 m	0.022 m	0.022 m	1.535
	Ellip Dist.	16988.304 m	0.016 m	0.005 m	0.416
CTGR --> 201-9 (PV970)	Az.	84°18'35"	0.073 sec	-0.033 sec	-0.647
	ΔHt.	-10.017 m	0.018 m	0.019 m	1.528
	Ellip Dist.	46549.427 m	0.017 m	-0.006 m	-0.505
CTPU --> 123-57 (PV1003)	Az.	139°17'02"	0.061 sec	-0.017 sec	-0.326
	ΔHt.	-19.713 m	0.017 m	0.023 m	1.521
	Ellip Dist.	47673.196 m	0.014 m	0.002 m	0.188
URIL --> 123-96 (PV943)	Az.	2°18'29"	0.109 sec	-0.003 sec	-0.028
	ΔHt.	7.758 m	0.016 m	-0.022 m	-1.519
	Ellip Dist.	27015.771 m	0.014 m	-0.006 m	-0.497
CTGR --> 108-27 (PV382)	Az.	66°07'26"	0.126 sec	-0.007 sec	-0.059
	ΔHt.	6.088 m	0.017 m	0.025 m	1.514
	Ellip Dist.	23915.395 m	0.014 m	-0.007 m	-0.528
ACU6 --> 121-19 (PV242)	Az.	238°03'06"	0.046 sec	0.007 sec	0.172
	ΔHt.	-4.803 m	0.019 m	-0.023 m	-1.502
	Ellip Dist.	66014.330 m	0.015 m	-0.005 m	-0.434
XMTS --> 120-76 (PV858)	Az.	211°05'47"	0.049 sec	0.021 sec	0.428
	ΔHt.	3.493 m	0.014 m	-0.021 m	-1.487

	Ellip Dist.	52778.189 m	0.013 m	0.013 m	1.022
212-85 --> XMTS (PV834)	Az.	5°04'05"	0.089 sec	0.035 sec	0.446
	ΔHt.	95.760 m	0.017 m	-0.021 m	-1.486
	Ellip Dist.	32492.895 m	0.014 m	0.009 m	0.722
212-85 --> URIL (PV687)	Az.	212°46'21"	0.078 sec	0.012 sec	0.177
	ΔHt.	73.475 m	0.017 m	0.021 m	1.486
	Ellip Dist.	37423.349 m	0.014 m	-0.002 m	-0.185
XMTS --> 119-167 (PV824)	Az.	261°05'08"	0.121 sec	-0.052 sec	-0.603
	ΔHt.	11.179 m	0.021 m	0.022 m	1.478
	Ellip Dist.	28448.832 m	0.017 m	0.001 m	0.052
CTPU --> 123-70 (PV1011)	Az.	134°01'57"	0.068 sec	-0.005 sec	-0.087
	ΔHt.	-19.669 m	0.016 m	0.020 m	1.467
	Ellip Dist.	43462.310 m	0.014 m	-0.004 m	-0.297
110-163 --> CTMA (PV538)	Az.	234°25'51"	0.064 sec	-0.011 sec	-0.190
	ΔHt.	-86.171 m	0.020 m	0.024 m	1.466
	Ellip Dist.	46737.864 m	0.015 m	0.004 m	0.319
URIL --> 107-95 (PV707)	Az.	314°08'42"	0.098 sec	-0.016 sec	-0.182
	ΔHt.	28.922 m	0.018 m	-0.024 m	-1.465
	Ellip Dist.	32683.985 m	0.015 m	-0.009 m	-0.683
CTGR --> 107-11 (PV368)	Az.	90°07'06"	0.137 sec	-0.055 sec	-0.451
	ΔHt.	-9.372 m	0.017 m	0.021 m	1.411
	Ellip Dist.	21455.346 m	0.014 m	0.004 m	0.330
				-0.001	

CTMA --> 119-8 (PV508)	Az.	128°02'33"	0.046 sec	sec	-0.034
	ΔHt.	-79.445 m	0.020 m	-0.021 m	-1.405
	Ellip Dist.	65287.085 m	0.014 m	0.000 m	-0.025
CTPU --> 115-66 (PV152)	Az.	149°32'58"	0.078 sec	-0.004 sec	-0.061
	ΔHt.	52.669 m	0.017 m	0.019 m	1.388
	Ellip Dist.	38288.796 m	0.014 m	0.000 m	0.007
CTPU --> 106-40 (PV75)	Az.	131°40'53"	0.426 sec	-0.101 sec	-0.322
	ΔHt.	109.270 m	0.020 m	-0.021 m	-1.367
	Ellip Dist.	8060.221 m	0.016 m	-0.001 m	-0.076
CTMA --> 103-25 (PV512)	Az.	142°18'54"	0.068 sec	0.014 sec	0.289
	ΔHt.	-63.132 m	0.020 m	0.019 m	1.330
	Ellip Dist.	49848.467 m	0.017 m	-0.001 m	-0.114
CTMA --> 108-78 (PV565)	Az.	107°01'46"	0.072 sec	-0.097 sec	-1.329
	ΔHt.	18.375 m	0.015 m	-0.001 m	-0.043
	Ellip Dist.	36767.049 m	0.013 m	0.010 m	0.796
CTPU --> 123-96 (PV1012)	Az.	120°46'55"	0.081 sec	0.005 sec	0.066
	ΔHt.	-3.680 m	0.016 m	0.019 m	1.327
	Ellip Dist.	36266.323 m	0.014 m	-0.003 m	-0.205
URIL --> 124-121 (PV669)	Az.	3°13'18"	0.074 sec	0.038 sec	0.577
	ΔHt.	5.079 m	0.016 m	-0.018 m	-1.318
	Ellip Dist.	38906.067 m	0.014 m	-0.003 m	-0.242
CTPU --> 227-2 (PV118)	Az.	167°52'56"	0.047 sec	-0.010 sec	-0.240
	ΔHt.	-37.717 m	0.017 m	-0.025 m	-1.309
	Ellip Dist.	61776.721 m	0.014 m	-0.002 m	-0.149

CTGR --> 218-11 (PV411)	Az.	78°18'40"	0.051 sec	-0.035 sec	-0.769
	ΔHt.	-6.129 m	0.021 m	0.021 m	1.288
	Ellip Dist.	73713.317 m	0.015 m	-0.006 m	-0.435
CTMA --> 304-9 (PV506)	Az.	138°50'37"	0.043 sec	-0.014 sec	-0.526
	ΔHt.	-48.844 m	0.020 m	-0.017 m	-1.283
	Ellip Dist.	84202.864 m	0.017 m	-0.003 m	-0.221
CTGR --> 103-11 (PV375)	Az.	97°13'15"	0.177 sec	0.018 sec	0.108
	ΔHt.	-5.585 m	0.017 m	-0.023 m	-1.279
	Ellip Dist.	16896.302 m	0.014 m	0.000 m	-0.013
XMTS --> 222-40 (PV832)	Az.	166°06'22"	0.067 sec	0.034 sec	0.720
	ΔHt.	-40.985 m	0.021 m	0.019 m	1.276
	Ellip Dist.	50418.367 m	0.016 m	0.002 m	0.174
XMTS --> 204-38 (PV1023)	Az.	193°57'07"	0.056 sec	0.035 sec	0.892
	ΔHt.	-54.509 m	0.021 m	0.018 m	1.273
	Ellip Dist.	61346.618 m	0.017 m	0.008 m	0.717
CTGR --> 304-9 (PV365)	Az.	114°57'31"	0.077 sec	0.022 sec	0.310
	ΔHt.	24.708 m	0.020 m	0.020 m	1.271
	Ellip Dist.	46209.844 m	0.017 m	-0.007 m	-0.510
XMTS --> 214-45 (PV851)	Az.	180°16'51"	0.070 sec	0.030 sec	0.597
	ΔHt.	-70.671 m	0.019 m	-0.016 m	-1.250
	Ellip Dist.	47939.509 m	0.016 m	0.003 m	0.258
URIL --> 113-8 (PV655)	Az.	221°42'46"	0.150 sec	-0.133 sec	-1.225
	ΔHt.	-72.051 m	0.019 m	0.004 m	0.315
	Ellip Dist.	22360.345 m	0.016 m	0.004 m	0.347

URIL --> 115-11 (PV663)	Az.	220°27'48"	0.194 sec	-0.117 sec	-0.844
	ΔHt.	-69.712 m	0.019 m	-0.017 m	-1.222
	Ellip Dist.	17520.501 m	0.016 m	0.013 m	1.076
CTPU --> 115-86 (PV143)	Az.	141°43'00"	0.094 sec	-0.019 sec	-0.224
	ΔHt.	59.934 m	0.016 m	0.017 m	1.219
	Ellip Dist.	30821.173 m	0.014 m	-0.002 m	-0.180
227-22 --> URIL (PV668)	Az.	104°04'47"	0.193 sec	-0.026 sec	-0.189
	ΔHt.	39.558 m	0.020 m	0.015 m	1.042
	Ellip Dist.	17645.531 m	0.016 m	-0.014 m	-1.209
URIL --> 218-11 (PV696)	Az.	94°52'01"	0.133 sec	0.117 sec	1.200
	ΔHt.	-70.169 m	0.021 m	0.008 m	0.490
	Ellip Dist.	28681.935 m	0.014 m	0.004 m	0.345
ACU6 --> 206-96 (PV263)	Az.	281°33'51"	0.067 sec	0.069 sec	1.190
	ΔHt.	-33.783 m	0.016 m	0.015 m	1.093
	Ellip Dist.	44154.823 m	0.014 m	-0.003 m	-0.210
XMTS --> 204-53 (PV1029)	Az.	195°37'59"	0.054 sec	0.005 sec	0.105
	ΔHt.	-91.564 m	0.016 m	-0.016 m	-1.190
	Ellip Dist.	54353.306 m	0.014 m	0.004 m	0.302
URIL --> 120-76 (PV711)	Az.	347°23'18"	0.137 sec	0.089 sec	0.625
	ΔHt.	25.777 m	0.015 m	0.019 m	1.175
	Ellip Dist.	19075.893 m	0.013 m	-0.009 m	-0.670
ACU6 --> 218-11 (PV273)	Az.	219°08'34"	0.080 sec	-0.054 sec	-0.612
	ΔHt.	-30.754 m	0.021 m	-0.034 m	-1.165
	Ellip Dist.	39573.044 m	0.018 m	-0.001 m	-0.060

XMTS --> 217-28 (PV853)	Az.	175°47'48"	0.062 sec	0.062 sec	1.161
	ΔHt.	-67.948 m	0.027 m	-0.002 m	-0.065
	Ellip Dist.	58198.824 m	0.017 m	-0.006 m	-0.447
CTMA --> 110-75 (PV554)	Az.	106°33'40"	0.073 sec	-0.028 sec	-0.430
	ΔHt.	62.605 m	0.020 m	-0.020 m	-1.156
	Ellip Dist.	39937.277 m	0.014 m	0.004 m	0.289
CTMA --> 302-14 (PV507)	Az.	140°13'04"	0.043 sec	-0.002 sec	-0.062
	ΔHt.	-60.325 m	0.019 m	-0.015 m	-1.146
	Ellip Dist.	80218.559 m	0.016 m	-0.003 m	-0.227
URIL --> 121-19 (PV665)	Az.	199°20'30"	0.401 sec	-0.439 sec	-1.131
	ΔHt.	-44.217 m	0.019 m	-0.003 m	-0.118
	Ellip Dist.	7316.612 m	0.015 m	0.007 m	0.445
URIL --> 105-63 (PV701)	Az.	288°08'21"	0.122 sec	-0.120 sec	-1.119
	ΔHt.	77.390 m	0.025 m	0.017 m	0.751
	Ellip Dist.	24933.237 m	0.016 m	0.001 m	0.107
CTGR --> 123-10 (PV377)	Az.	83°34'23"	0.078 sec	-0.046 sec	-0.854
	ΔHt.	-9.911 m	0.021 m	0.014 m	1.103
	Ellip Dist.	44051.442 m	0.016 m	-0.002 m	-0.153
ACU6 --> 206-9 (PV905)	Az.	232°59'48"	0.064 sec	0.006 sec	0.133
	ΔHt.	-23.051 m	0.018 m	-0.014 m	-1.095
	Ellip Dist.	53205.725 m	0.016 m	-0.005 m	-0.466
CTPU --> 111-101 (PV144)	Az.	146°30'06"	0.116 sec	0.005 sec	0.043
	ΔHt.	60.523 m	0.016 m	-0.017 m	-1.086
	Ellip	22346.114 m	0.013 m	-0.002 m	-0.140

	Dist.				
ACU6 --> 202-24 (PV917)	Az.	234°42'38"	0.058 sec	0.008 sec	0.188
	ΔHt.	-24.674 m	0.019 m	0.014 m	1.075
	Ellip Dist.	58885.959 m	0.016 m	-0.001 m	-0.088
XMTS --> 123-172 (PV835)	Az.	263°30'05"	0.156 sec	-0.118 sec	-1.067
	ΔHt.	-31.448 m	0.020 m	-0.010 m	-0.558
	Ellip Dist.	22567.669 m	0.016 m	0.006 m	0.526
ACU6 --> 204-38 (PV908)	Az.	242°12'54"	0.069 sec	0.016 sec	0.318
	ΔHt.	7.190 m	0.021 m	0.015 m	1.059
	Ellip Dist.	51045.395 m	0.016 m	-0.002 m	-0.201
URIL --> 217-28 (PV706)	Az.	77°54'38"	0.124 sec	0.023 sec	0.267
	ΔHt.	-45.663 m	0.027 m	0.010 m	1.058
	Ellip Dist.	28021.946 m	0.017 m	-0.010 m	-0.908
CTGR --> 116-25 (PV369)	Az.	73°04'08"	0.083 sec	-0.045 sec	-0.625
	ΔHt.	40.977 m	0.020 m	0.018 m	1.055
	Ellip Dist.	35191.540 m	0.014 m	0.002 m	0.182
CTPU --> 206-96 (PV137)	Az.	102°02'48"	0.072 sec	0.005 sec	0.086
	ΔHt.	-84.636 m	0.016 m	0.014 m	1.052
	Ellip Dist.	40935.721 m	0.014 m	-0.002 m	-0.155
ACU6 --> 206-78 (PV912)	Az.	270°46'37"	0.070 sec	0.016 sec	0.259
	ΔHt.	-29.799 m	0.017 m	0.015 m	1.046
	Ellip Dist.	42129.837 m	0.014 m	-0.006 m	-0.487
ACU6 --> 123-70 (PV921)	Az.	256°20'24"	0.056 sec	0.010 sec	0.207
	ΔHt.	31.183 m	0.016 m	0.014 m	1.040
	Ellip Dist.	53819.900 m	0.014 m	-0.003 m	-0.233

CTMA --> 115-41 (PV522)	Az.	119°07'52"	0.058 sec	-0.050 sec	-1.010
	ΔHt.	-42.132 m	0.016 m	-0.007 m	-0.523
	Ellip Dist.	52500.788 m	0.014 m	-0.001 m	-0.091
XMTS --> 124-121 (PV816)	Az.	219°50'01"	0.090 sec	0.008 sec	0.096
	ΔHt.	-17.206 m	0.016 m	0.001 m	0.089
	Ellip Dist.	32537.230 m	0.014 m	0.012 m	0.990
ACU6 --> 214-45 (PV281)	Az.	248°08'21"	0.102 sec	0.019 sec	0.263
	ΔHt.	-8.972 m	0.018 m	0.013 m	0.987
	Ellip Dist.	32922.568 m	0.016 m	-0.008 m	-0.676
XMTS --> 214-11 (PV838)	Az.	179°53'20"	0.053 sec	0.037 sec	0.975
	ΔHt.	-84.077 m	0.018 m	0.004 m	0.322
	Ellip Dist.	63084.322 m	0.016 m	0.000 m	-0.002
211-31 --> XMTS (PV1031)	Az.	4°08'49"	0.058 sec	0.034 sec	0.826
	ΔHt.	69.028 m	0.019 m	0.009 m	0.684
	Ellip Dist.	57608.578 m	0.017 m	0.011 m	0.971
CTGR --> 202-24 (PV983)	Az.	77°03'18"	0.068 sec	-0.033 sec	-0.697
	ΔHt.	-0.048 m	0.018 m	0.012 m	0.964
	Ellip Dist.	50428.594 m	0.016 m	-0.005 m	-0.449
XMTS --> 210-42 (PV850)	Az.	186°40'19"	0.063 sec	0.016 sec	0.348
	ΔHt.	-69.143 m	0.018 m	0.012 m	0.959
	Ellip Dist.	52905.498 m	0.016 m	0.002 m	0.155
XMTS --> 208-35 (PV1025)	Az.	189°42'49"	0.059 sec	0.006 sec	0.143
	ΔHt.	-82.503 m	0.023 m	-0.013 m	-0.952
	Ellip Dist.	56443.837 m	0.016 m	0.009 m	0.783
207-26 --> XMTS (PV1022)	Az.	9°47'04"	0.055 sec	0.032 sec	0.805

	ΔHt.	89.505 m	0.019 m	0.003 m	0.205
	Ellip Dist.	60647.973 m	0.017 m	0.011 m	0.951
CTGR --> 115-66 (PV425)	Az.	47°48'22"	0.066 sec	-0.030 sec	-0.513
	ΔHt.	128.148 m	0.017 m	-0.015 m	-0.947
	Ellip Dist.	44259.660 m	0.014 m	0.003 m	0.247
URIL --> 107-120 (PV693)	Az.	325°57'50"	0.071 sec	0.029 sec	0.463
	ΔHt.	82.397 m	0.016 m	-0.013 m	-0.944
	Ellip Dist.	40609.527 m	0.014 m	-0.001 m	-0.072
URIL --> 214-11 (PV691)	Az.	87°59'52"	0.145 sec	0.040 sec	0.379
	ΔHt.	-61.792 m	0.018 m	-0.003 m	-0.211
	Ellip Dist.	23287.437 m	0.016 m	0.011 m	0.943
URIL --> 110-75 (PV698)	Az.	309°40'39"	0.120 sec	-0.084 sec	-0.791
	ΔHt.	72.117 m	0.020 m	-0.017 m	-0.942
	Ellip Dist.	24221.064 m	0.014 m	-0.008 m	-0.669
CTPU --> 115-41 (PV125)	Az.	156°49'05"	0.063 sec	0.050 sec	0.932
	ΔHt.	-44.059 m	0.016 m	-0.001 m	-0.084
	Ellip Dist.	48272.272 m	0.014 m	0.003 m	0.275
URIL --> 117-99 (PV708)	Az.	342°59'35"	0.100 sec	-0.035 sec	-0.391
	ΔHt.	73.985 m	0.017 m	-0.013 m	-0.914
	Ellip Dist.	29909.785 m	0.015 m	-0.010 m	-0.762
CTGR --> 123-57 (PV979)	Az.	59°06'17"	0.057 sec	-0.026 sec	-0.536
	ΔHt.	55.766 m	0.017 m	0.014 m	0.906
	Ellip Dist.	51846.645 m	0.014 m	0.002 m	0.169
XMTS --> 210-75 (PV846)	Az.	191°02'14"	0.077 sec	0.030 sec	0.455

	ΔHt.	-86.474 m	0.018 m	-0.002 m	-0.142
	Ellip Dist.	38159.267 m	0.015 m	0.011 m	0.903
URIL --> 227-57 (PV941)	Az.	334°42'49"	0.073 sec	0.031 sec	0.488
	ΔHt.	74.349 m	0.017 m	0.013 m	0.893
	Ellip Dist.	40091.170 m	0.015 m	-0.001 m	-0.080
CTPU --> 208-152 (PV135)	Az.	69°52'18"	0.064 sec	0.012 sec	0.210
	ΔHt.	2.376 m	0.017 m	0.003 m	0.176
	Ellip Dist.	46472.949 m	0.014 m	-0.011 m	-0.891
URIL --> 227-2 (PV659)	Az.	229°28'20"	0.130 sec	-0.049 sec	-0.430
	ΔHt.	-26.279 m	0.017 m	0.012 m	0.891
	Ellip Dist.	22728.635 m	0.014 m	0.003 m	0.257
ACU6 --> 215-26 (PV282)	Az.	233°22'57"	0.092 sec	0.043 sec	0.648
	ΔHt.	-19.740 m	0.024 m	-0.022 m	-0.889
	Ellip Dist.	36404.302 m	0.017 m	-0.006 m	-0.470
CTPU --> 124-121 (PV71)	Az.	101°45'37"	0.090 sec	-0.027 sec	-0.347
	ΔHt.	-6.359 m	0.016 m	0.012 m	0.889
	Ellip Dist.	32896.306 m	0.014 m	-0.002 m	-0.173
XMTS --> 222-26 (PV817)	Az.	167°58'11"	0.060 sec	0.037 sec	0.875
	ΔHt.	-55.233 m	0.020 m	0.009 m	0.687
	Ellip Dist.	56202.481 m	0.018 m	0.004 m	0.371
URIL --> 115-86 (PV694)	Az.	332°48'50"	0.120 sec	0.009 sec	0.088
	ΔHt.	71.372 m	0.017 m	-0.013 m	-0.873
	Ellip Dist.	24070.657 m	0.014 m	-0.005 m	-0.405
CTMA --> 106-40 (PV536)	Az.	67°43'26"	0.096 sec	-0.037 sec	-0.542

	ΔHt.	111.197 m	0.020 m	-0.012 m	-0.857
	Ellip Dist.	35371.539 m	0.017 m	0.001 m	0.091
CTPU --> 110-178 (PV864)	Az.	37°49'46"	0.174 sec	0.017 sec	0.131
	ΔHt.	92.965 m	0.019 m	-0.003 m	-0.222
	Ellip Dist.	19283.261 m	0.016 m	0.010 m	0.847
URIL --> 116-25 (PV654)	Az.	235°21'27"	0.242 sec	-0.181 sec	-0.839
	ΔHt.	-23.063 m	0.020 m	-0.016 m	-0.809
	Ellip Dist.	12115.329 m	0.014 m	0.011 m	0.827
XMTS --> 212-60 (PV849)	Az.	184°19'08"	0.076 sec	0.045 sec	0.838
	ΔHt.	-89.376 m	0.018 m	0.001 m	0.050
	Ellip Dist.	43994.968 m	0.016 m	0.007 m	0.581
CTGR --> 121-19 (PV380)	Az.	75°59'49"	0.071 sec	-0.017 sec	-0.292
	ΔHt.	19.822 m	0.019 m	0.011 m	0.832
	Ellip Dist.	42472.528 m	0.015 m	-0.008 m	-0.670
URIL --> 118-46 (PV697)	Az.	302°08'15"	0.323 sec	-0.131 sec	-0.456
	ΔHt.	0.729 m	0.016 m	0.012 m	0.812
	Ellip Dist.	9011.938 m	0.014 m	-0.004 m	-0.343
XMTS --> 207-113 (PV821)	Az.	211°08'54"	0.147 sec	0.021 sec	0.200
	ΔHt.	-70.986 m	0.021 m	-0.005 m	-0.343
	Ellip Dist.	22628.031 m	0.016 m	0.010 m	0.812
CTPU --> 105-63 (PV147)	Az.	170°19'55"	0.082 sec	0.070 sec	0.806
	ΔHt.	65.951 m	0.025 m	0.018 m	0.677
	Ellip Dist.	38441.536 m	0.015 m	-0.008 m	-0.584
CTMA --> 117-99 (PV564)	Az.	87°49'03"	0.063 sec	-0.027 sec	-0.494

	ΔHt.	64.473 m	0.017 m	0.011 m	0.801
	Ellip Dist.	48104.459 m	0.014 m	0.002 m	0.143
URIL --> 206-9 (PV926)	Az.	109°21'53"	0.289 sec	0.143 sec	0.672
	ΔHt.	-62.465 m	0.018 m	-0.011 m	-0.799
	Ellip Dist.	11743.870 m	0.016 m	0.005 m	0.442
CTGR --> 108-78 (PV424)	Az.	33°14'00"	0.066 sec	0.011 sec	0.164
	ΔHt.	91.927 m	0.015 m	0.012 m	0.798
	Ellip Dist.	39654.790 m	0.013 m	0.006 m	0.482
XMTS --> 201-148 (PV830)	Az.	234°02'20"	0.126 sec	-0.040 sec	-0.358
	ΔHt.	1.208 m	0.017 m	-0.004 m	-0.283
	Ellip Dist.	23377.968 m	0.014 m	0.010 m	0.788
CTMA --> 121-19 (PV521)	Az.	121°35'22"	0.048 sec	0.002 sec	0.057
	ΔHt.	-53.729 m	0.019 m	0.012 m	0.783
	Ellip Dist.	64186.411 m	0.014 m	-0.006 m	-0.507
URIL --> 119-8 (PV652)	Az.	203°01'51"	0.201 sec	-0.085 sec	-0.476
	ΔHt.	-69.934 m	0.020 m	0.008 m	0.456
	Ellip Dist.	14655.984 m	0.015 m	0.010 m	0.772
CTGR --> 303-14 (PV363)	Az.	113°35'28"	0.093 sec	0.019 sec	0.203
	ΔHt.	-4.916 m	0.022 m	-0.013 m	-0.766
	Ellip Dist.	43783.593 m	0.019 m	-0.014 m	-0.695
CTGR --> 119-8 (PV367)	Az.	84°28'12"	0.077 sec	-0.052 sec	-0.766
	ΔHt.	-5.894 m	0.020 m	0.006 m	0.358
	Ellip Dist.	38116.946 m	0.015 m	0.000 m	-0.017
URIL --> 204-53 (PV935)	Az.	36°21'11"	0.205 sec	0.049 sec	0.267

	ΔHt.	-69.280 m	0.016 m	-0.011 m	-0.757
	Ellip Dist.	14288.594 m	0.014 m	0.001 m	0.083
XMTS --> 107-120 (PV840)	Az.	236°40'31"	0.054 sec	-0.007 sec	-0.157
	ΔHt.	60.113 m	0.016 m	0.004 m	0.269
	Ellip Dist.	54782.836 m	0.014 m	0.009 m	0.749
XMTS --> 211-121 (PV837)	Az.	197°09'34"	0.172 sec	0.081 sec	0.523
	ΔHt.	-68.676 m	0.016 m	-0.003 m	-0.196
	Ellip Dist.	16948.157 m	0.014 m	0.010 m	0.747
CTPU --> 108-78 (PV151)	Az.	164°12'49"	0.086 sec	0.050 sec	0.570
	ΔHt.	16.448 m	0.014 m	-0.011 m	-0.742
	Ellip Dist.	30702.819 m	0.013 m	-0.001 m	-0.105
URIL --> 222-26 (PV670)	Az.	75°34'00"	0.101 sec	0.036 sec	0.394
	ΔHt.	-32.948 m	0.020 m	-0.015 m	-0.739
	Ellip Dist.	35974.427 m	0.016 m	0.006 m	0.535
XMTS --> 123-37 (PV811)	Az.	199°06'24"	0.039 sec	0.016 sec	0.404
	ΔHt.	-35.644 m	0.015 m	-0.003 m	-0.217
	Ellip Dist.	67523.090 m	0.013 m	0.010 m	0.732
URIL --> 107-11 (PV653)	Az.	232°26'04"	0.105 sec	-0.037 sec	-0.402
	ΔHt.	-73.412 m	0.017 m	0.003 m	0.181
	Ellip Dist.	28057.774 m	0.014 m	0.009 m	0.728
ACU6 --> 120-76 (PV288)	Az.	260°43'35"	0.046 sec	0.015 sec	0.333
	ΔHt.	65.192 m	0.015 m	-0.010 m	-0.727
	Ellip Dist.	58329.390 m	0.013 m	-0.001 m	-0.118
CTPU --> 204-70 (PV1009)	Az.	124°49'43"	0.063 sec	-0.002 sec	-0.028

	ΔHt.	-78.923 m	0.016 m	0.010 m	0.726
	Ellip Dist.	46543.012 m	0.014 m	-0.003 m	-0.229
CTPU --> 119-8 (PV111)	Az.	157°28'09"	0.047 sec	0.003 sec	0.080
	ΔHt.	-81.372 m	0.020 m	0.014 m	0.721
	Ellip Dist.	63951.510 m	0.014 m	0.000 m	-0.038
XMTS --> 123-70 (PV1036)	Az.	204°23'00"	0.054 sec	0.006 sec	0.120
	ΔHt.	-30.516 m	0.016 m	-0.002 m	-0.163
	Ellip Dist.	53230.002 m	0.014 m	0.009 m	0.695
XMTS --> 111-101 (PV842)	Az.	227°58'43"	0.049 sec	-0.026 sec	-0.537
	ΔHt.	49.677 m	0.016 m	0.010 m	0.689
	Ellip Dist.	54924.355 m	0.013 m	0.005 m	0.407
CTPU --> 208-35 (PV1000)	Az.	130°25'31"	0.059 sec	-0.014 sec	-0.332
	ΔHt.	-71.657 m	0.024 m	0.016 m	0.686
	Ellip Dist.	57473.441 m	0.016 m	-0.003 m	-0.285
CTGR --> 211-9 (PV975)	Az.	77°23'51"	0.047 sec	-0.019 sec	-0.468
	ΔHt.	-7.890 m	0.016 m	0.009 m	0.686
	Ellip Dist.	63240.140 m	0.014 m	-0.001 m	-0.118
CTGR --> 115-11 (PV378)	Az.	83°17'45"	0.104 sec	-0.051 sec	-0.680
	ΔHt.	-5.672 m	0.019 m	-0.008 m	-0.612
	Ellip Dist.	32524.829 m	0.017 m	-0.003 m	-0.262
CTGR --> 107-44 (PV372)	Az.	52°53'53"	0.146 sec	-0.034 sec	-0.258
	ΔHt.	86.727 m	0.024 m	0.015 m	0.670
	Ellip Dist.	26793.118 m	0.016 m	-0.002 m	-0.170

CTPU --> 120-76 (PV153)	Az.	136°06'21"	0.070 sec	-0.045 sec	-0.640
	ΔHt.	14.339 m	0.014 m	-0.010 m	-0.666
	Ellip Dist.	37412.760 m	0.013 m	-0.003 m	-0.241
CTMA --> 115-66 (PV566)	Az.	107°03'59"	0.062 sec	0.002 sec	0.044
	ΔHt.	54.596 m	0.017 m	-0.009 m	-0.661
	Ellip Dist.	48348.474 m	0.014 m	0.002 m	0.141
CTMA --> 106-84 (PV878)	Az.	44°18'29"	0.073 sec	-0.006 sec	-0.117
	ΔHt.	70.594 m	0.021 m	-0.010 m	-0.660
	Ellip Dist.	46214.014 m	0.017 m	0.005 m	0.389
ACU6 --> 204-53 (PV914)	Az.	249°44'38"	0.062 sec	0.017 sec	0.318
	ΔHt.	-29.865 m	0.016 m	-0.009 m	-0.647
	Ellip Dist.	47951.071 m	0.014 m	-0.004 m	-0.318
CTPU --> 108-27 (PV126)	Az.	170°57'07"	0.055 sec	-0.023 sec	-0.479
	ΔHt.	-69.390 m	0.017 m	-0.009 m	-0.639
	Ellip Dist.	53702.193 m	0.015 m	-0.004 m	-0.312
ACU6 --> 124-121 (PV246)	Az.	281°55'19"	0.057 sec	0.031 sec	0.635
	ΔHt.	44.493 m	0.016 m	0.005 m	0.359
	Ellip Dist.	52190.741 m	0.014 m	-0.001 m	-0.110
URIL --> 214-49 (PV700)	Az.	50°54'38"	0.119 sec	0.019 sec	0.219
	ΔHt.	-45.696 m	0.019 m	-0.009 m	-0.633
	Ellip Dist.	28431.881 m	0.017 m	0.006 m	0.492
XMTS --> 208-152 (PV828)	Az.	255°35'49"	0.310 sec	0.021 sec	0.077
	ΔHt.	-8.471 m	0.017 m	0.010 m	0.632
	Ellip Dist.	9544.487 m	0.014 m	0.004 m	0.291

ACU6 --> 222-26 (PV247)	Az.	223°56'24"	0.134 sec	0.013 sec	0.149
	ΔHt.	6.466 m	0.020 m	-0.002 m	-0.137
	Ellip Dist.	26856.397 m	0.016 m	-0.007 m	-0.628
XMTS --> 215-26 (PV852)	Az.	178°51'41"	0.060 sec	0.000 sec	-0.008
	ΔHt.	-81.439 m	0.024 m	0.010 m	0.627
	Ellip Dist.	57399.822 m	0.016 m	0.005 m	0.416
CTPU --> 206-78 (PV1002)	Az.	112°09'55"	0.066 sec	-0.007 sec	-0.130
	ΔHt.	-80.652 m	0.017 m	0.009 m	0.622
	Ellip Dist.	44556.000 m	0.014 m	-0.002 m	-0.184
XMTS --> 209-9 (PV1021)	Az.	187°02'54"	0.043 sec	0.011 sec	0.301
	ΔHt.	-91.242 m	0.017 m	0.002 m	0.145
	Ellip Dist.	67736.344 m	0.015 m	0.008 m	0.618
ACU6 --> 123-37 (PV241)	Az.	241°53'46"	0.045 sec	0.000 sec	0.003
	ΔHt.	26.055 m	0.015 m	-0.009 m	-0.615
	Ellip Dist.	59504.672 m	0.013 m	-0.003 m	-0.240
XMTS --> 204-163 (PV823)	Az.	260°37'23"	0.274 sec	-0.120 sec	-0.553
	ΔHt.	-4.106 m	0.035 m	0.015 m	0.492
	Ellip Dist.	15091.605 m	0.019 m	0.009 m	0.614
XMTS --> 206-78 (PV1027)	Az.	198°38'28"	0.079 sec	0.013 sec	0.192
	ΔHt.	-91.498 m	0.017 m	0.009 m	0.609
	Ellip Dist.	37104.454 m	0.014 m	0.007 m	0.528
XMTS --> 204-70 (PV1034)	Az.	198°27'34"	0.061 sec	0.013 sec	0.241
	ΔHt.	-89.769 m	0.016 m	0.004 m	0.276
	Ellip Dist.	47342.489 m	0.014 m	0.007 m	0.599
URIL --> 107-44 (PV657)	Az.	267°41'03"	0.186 sec	0.002 sec	0.013

	ΔHt.	22.687 m	0.024 m	-0.008 m	-0.329
	Ellip Dist.	22246.770 m	0.015 m	-0.008 m	-0.598
XMTS --> 110-178 (PV859)	Az.	265°57'42"	0.083 sec	-0.035 sec	-0.596
	ΔHt.	82.119 m	0.019 m	-0.002 m	-0.165
	Ellip Dist.	41159.324 m	0.016 m	0.005 m	0.446
XMTS --> 116-157 (PV826)	Az.	251°43'17"	0.099 sec	-0.038 sec	-0.539
	ΔHt.	26.565 m	0.020 m	-0.001 m	-0.056
	Ellip Dist.	34989.219 m	0.016 m	0.007 m	0.591
CTMA --> 108-27 (PV523)	Az.	134°06'44"	0.062 sec	0.006 sec	0.122
	ΔHt.	-67.464 m	0.017 m	-0.008 m	-0.588
	Ellip Dist.	49214.492 m	0.014 m	-0.002 m	-0.131
ACU6 --> 201-148 (PV260)	Az.	294°09'58"	0.054 sec	0.028 sec	0.584
	ΔHt.	62.907 m	0.017 m	0.000 m	0.024
	Ellip Dist.	53813.976 m	0.014 m	0.000 m	-0.007
CTMA --> 119-167 (PV533)	Az.	57°35'09"	0.057 sec	-0.023 sec	-0.581
	ΔHt.	23.952 m	0.020 m	0.007 m	0.455
	Ellip Dist.	60921.366 m	0.017 m	0.006 m	0.505
CTPU --> 103-39 (PV120)	Az.	176°13'24"	0.066 sec	0.007 sec	0.139
	ΔHt.	-55.029 m	0.020 m	-0.008 m	-0.577
	Ellip Dist.	52074.404 m	0.017 m	0.002 m	0.179
CTMA --> 103-11 (PV516)	Az.	146°42'37"	0.054 sec	0.004 sec	0.096
	ΔHt.	-79.137 m	0.017 m	-0.008 m	-0.571
	Ellip Dist.	55113.764 m	0.014 m	0.001 m	0.115
CTMA --> 204-163 (PV532)	Az.	61°43'44"	0.056 sec	-0.004 sec	-0.108

	ΔHt.	8.667 m	0.035 m	-0.010 m	-0.458
	Ellip Dist.	73374.518 m	0.019 m	0.007 m	0.570
URIL --> 222-12 (PV684)	Az.	85°56'27"	0.127 sec	0.006 sec	0.110
	ΔHt.	-60.877 m	0.026 m	-0.006 m	-0.569
	Ellip Dist.	34948.274 m	0.021 m	0.002 m	0.157
CTGR --> 209-9 (PV972)	Az.	76°35'50"	0.052 sec	-0.027 sec	-0.567
	ΔHt.	-4.917 m	0.017 m	-0.002 m	-0.146
	Ellip Dist.	60101.592 m	0.015 m	-0.003 m	-0.230
URIL --> 216-78 (PV672)	Az.	41°30'55"	0.089 sec	0.036 sec	0.562
	ΔHt.	-49.940 m	0.019 m	0.000 m	0.035
	Ellip Dist.	38158.491 m	0.017 m	0.002 m	0.196
XMTS --> 211-9 (PV1024)	Az.	184°17'43"	0.043 sec	0.013 sec	0.353
	ΔHt.	-94.214 m	0.016 m	0.006 m	0.446
	Ellip Dist.	67577.272 m	0.014 m	0.007 m	0.556
ACU6 --> 222-12 (PV261)	Az.	215°50'49"	0.135 sec	0.009 sec	0.123
	ΔHt.	-21.463 m	0.026 m	0.010 m	0.554
	Ellip Dist.	31867.586 m	0.021 m	0.001 m	0.079
ACU6 --> 212-60 (PV279)	Az.	256°19'43"	0.098 sec	0.039 sec	0.550
	ΔHt.	-27.677 m	0.018 m	0.001 m	0.052
	Ellip Dist.	34596.182 m	0.016 m	-0.004 m	-0.347
ACU6 --> 214-49 (PV277)	Az.	251°50'03"	0.103 sec	0.030 sec	0.405
	ΔHt.	-6.281 m	0.019 m	0.007 m	0.550
	Ellip Dist.	32984.044 m	0.016 m	0.000 m	0.013
CTGR --> 304-24 (PV364)	Az.	107°40'30"	0.070 sec	-0.016 sec	-0.257
	ΔHt.	-0.324 m	0.016 m	0.005 m	0.366

	Ellip Dist.	42638.455 m	0.014 m	-0.007 m	-0.547
URIL --> 212-60 (PV702)	Az.	44°39'13"	0.120 sec	0.047 sec	0.547
	ΔHt.	-67.092 m	0.018 m	-0.001 m	-0.108
	Ellip Dist.	28138.385 m	0.016 m	0.005 m	0.406
302-9 --> CTGR (PV362)	Az.	297°21'09"	0.088 sec	0.016 sec	0.245
	ΔHt.	-5.970 m	0.020 m	0.002 m	0.151
	Ellip Dist.	42105.616 m	0.016 m	-0.006 m	-0.544
CTPU --> 210-75 (PV82)	Az.	112°35'32"	0.061 sec	-0.028 sec	-0.540
	ΔHt.	-75.628 m	0.018 m	0.004 m	0.269
	Ellip Dist.	49644.139 m	0.014 m	0.003 m	0.222
CTMA --> 111-101 (PV551)	Az.	89°46'09"	0.068 sec	-0.037 sec	-0.536
	ΔHt.	62.450 m	0.016 m	0.005 m	0.277
	Ellip Dist.	39094.875 m	0.013 m	0.002 m	0.167
110-163 --> XMTS (PV829)	Az.	76°48'15"	0.072 sec	0.006 sec	0.105
	ΔHt.	-73.398 m	0.020 m	0.006 m	0.343
	Ellip Dist.	42793.966 m	0.014 m	0.007 m	0.534
URIL --> 304-9 (PV650)	Az.	182°59'36"	0.096 sec	-0.034 sec	-0.533
	ΔHt.	-39.332 m	0.020 m	-0.002 m	-0.153
	Ellip Dist.	36733.183 m	0.017 m	0.004 m	0.307
XMTS --> 214-49 (PV847)	Az.	181°16'53"	0.073 sec	0.020 sec	0.373
	ΔHt.	-67.980 m	0.019 m	0.001 m	0.077
	Ellip Dist.	45978.377 m	0.017 m	0.006 m	0.527
110-163 --> CTPU (PV76)	Az.	232°35'58"	0.211 sec	-0.083 sec	-0.436
	ΔHt.	-84.244 m	0.020 m	0.007 m	0.337

	Ellip Dist.	14131.367 m	0.015 m	0.007 m	0.515
CTPU --> 112-31 (PV117)	Az.	164°32'05"	0.063 sec	0.007 sec	0.152
	ΔHt.	-70.638 m	0.022 m	0.008 m	0.375
	Ellip Dist.	53222.354 m	0.017 m	-0.007 m	-0.513
URIL --> 302-14 (PV651)	Az.	189°44'22"	0.096 sec	-0.035 sec	-0.506
	ΔHt.	-50.813 m	0.019 m	-0.006 m	-0.400
	Ellip Dist.	35410.274 m	0.017 m	0.005 m	0.391
CTPU --> 116-157 (PV74)	Az.	69°54'22"	0.163 sec	-0.012 sec	-0.098
	ΔHt.	37.411 m	0.020 m	0.008 m	0.506
	Ellip Dist.	20998.228 m	0.016 m	0.005 m	0.441
ACU6 --> 210-75 (PV276)	Az.	267°20'38"	0.080 sec	0.039 sec	0.504
	ΔHt.	-24.775 m	0.018 m	0.010 m	0.400
	Ellip Dist.	37621.703 m	0.014 m	0.001 m	0.070
CTMA --> 116-25 (PV510)	Az.	125°32'17"	0.051 sec	-0.022 sec	-0.500
	ΔHt.	-32.575 m	0.020 m	-0.002 m	-0.128
	Ellip Dist.	57920.197 m	0.014 m	0.001 m	0.106
XMTS --> 218-11 (PV843)	Az.	175°19'56"	0.045 sec	0.017 sec	0.435
	ΔHt.	-92.454 m	0.021 m	-0.009 m	-0.500
	Ellip Dist.	66569.067 m	0.018 m	0.002 m	0.104
URIL --> 108-27 (PV667)	Az.	251°15'42"	0.131 sec	-0.057 sec	-0.498
	ΔHt.	-57.952 m	0.017 m	-0.002 m	-0.149
	Ellip Dist.	22986.506 m	0.014 m	0.000 m	0.020
XMTS --> 218-63 (PV836)	Az.	173°10'09"	0.077 sec	0.027 sec	0.485
	ΔHt.	-77.794 m	0.019 m	0.003 m	0.204

	Ellip Dist.	43201.808 m	0.016 m	-0.002 m	-0.175
CTPU --> 107-120 (PV142)	Az.	148°38'57"	0.205 sec	-0.087 sec	-0.478
	ΔHt.	70.959 m	0.016 m	0.003 m	0.207
	Ellip Dist.	14053.462 m	0.014 m	-0.002 m	-0.122
CTPU --> 114-134 (PV1013)	Az.	100°59'58"	0.190 sec	-0.058 sec	-0.416
	ΔHt.	92.420 m	0.019 m	0.007 m	0.474
	Ellip Dist.	17921.837 m	0.016 m	0.002 m	0.202
URIL --> 211-121 (PV690)	Az.	20°40'45"	0.057 sec	0.023 sec	0.470
	ΔHt.	-46.392 m	0.016 m	-0.002 m	-0.154
	Ellip Dist.	50971.493 m	0.014 m	0.003 m	0.260
CTMA --> 107-120 (PV549)	Az.	78°45'06"	0.085 sec	-0.003 sec	-0.041
	ΔHt.	72.885 m	0.016 m	0.007 m	0.467
	Ellip Dist.	34715.230 m	0.014 m	-0.003 m	-0.232
CTMA --> 114-175 (PV869)	Az.	52°37'59"	0.062 sec	-0.004 sec	-0.095
	ΔHt.	88.103 m	0.018 m	0.006 m	0.462
	Ellip Dist.	55200.859 m	0.016 m	0.003 m	0.233
ACU6 --> 208-35 (PV910)	Az.	243°27'40"	0.076 sec	0.006 sec	0.112
	ΔHt.	-20.804 m	0.023 m	0.006 m	0.390
	Ellip Dist.	44572.382 m	0.016 m	-0.005 m	-0.456
CTMA --> 116-157 (PV535)	Az.	60°41'48"	0.064 sec	-0.018 sec	-0.398
	ΔHt.	39.338 m	0.020 m	-0.006 m	-0.443
	Ellip Dist.	53191.164 m	0.017 m	0.003 m	0.222
ACU6 --> 304-24 (PV226)	Az.	224°23'09"	0.037 sec	0.001 sec	0.028

	ΔHt.	-24.950 m	0.016 m	0.000 m	-0.027
	Ellip Dist.	81361.654 m	0.014 m	-0.005 m	-0.420
CTPU --> 118-46 (PV145)	Az.	151°05'20"	0.062 sec	0.018 sec	0.329
	ΔHt.	-10.710 m	0.016 m	-0.006 m	-0.402
	Ellip Dist.	46604.971 m	0.014 m	-0.002 m	-0.163
URIL --> 115-66 (PV710)	Az.	319°35'11"	0.180 sec	-0.064 sec	-0.401
	ΔHt.	64.108 m	0.017 m	0.003 m	0.204
	Ellip Dist.	16543.592 m	0.014 m	-0.005 m	-0.383
XMTS --> 115-86 (PV841)	Az.	218°48'33"	0.054 sec	0.003 sec	0.071
	ΔHt.	49.088 m	0.016 m	-0.004 m	-0.269
	Ellip Dist.	54381.214 m	0.014 m	0.005 m	0.400
ACU6 --> 207-113 (PV251)	Az.	291°19'48"	0.075 sec	0.021 sec	0.398
	ΔHt.	-9.286 m	0.021 m	0.003 m	0.231
	Ellip Dist.	44985.091 m	0.016 m	-0.002 m	-0.210
CTMA --> 118-120 (PV961)	Az.	77°16'23"	0.066 sec	-0.018 sec	-0.391
	ΔHt.	11.860 m	0.020 m	0.003 m	0.237
	Ellip Dist.	51142.745 m	0.016 m	0.003 m	0.229
XMTS --> 207-61 (PV1030)	Az.	193°53'27"	0.074 sec	0.020 sec	0.378
	ΔHt.	-78.404 m	0.020 m	0.004 m	0.261
	Ellip Dist.	44959.217 m	0.018 m	0.006 m	0.390
CTPU --> 201-148 (PV77)	Az.	82°21'35"	0.086 sec	-0.028 sec	-0.380
	ΔHt.	12.054 m	0.017 m	0.004 m	0.268
	Ellip Dist.	34346.366 m	0.014 m	0.001 m	0.068
CTMA --> 110-178 (PV861)	Az.	48°30'21"	0.066 sec	-0.009 sec	-0.185

	ΔHt.	94.892 m	0.019 m	0.005 m	0.373
	Ellip Dist.	51348.660 m	0.016 m	-0.002 m	-0.142
URIL --> 215-26 (PV705)	Az.	74°58'52"	0.134 sec	0.036 sec	0.369
	ΔHt.	-59.155 m	0.024 m	0.001 m	0.100
	Ellip Dist.	25131.822 m	0.017 m	0.001 m	0.080
CTMA --> 107-95 (PV563)	Az.	97°02'04"	0.099 sec	0.002 sec	0.024
	ΔHt.	19.410 m	0.018 m	0.003 m	0.167
	Ellip Dist.	33664.637 m	0.014 m	-0.004 m	-0.352
URIL --> 210-75 (PV699)	Az.	30°49'17"	0.095 sec	0.025 sec	0.310
	ΔHt.	-64.190 m	0.018 m	-0.005 m	-0.351
	Ellip Dist.	30765.549 m	0.015 m	0.002 m	0.122
CTMA --> 107-44 (PV513)	Az.	128°34'33"	0.081 sec	0.020 sec	0.285
	ΔHt.	13.175 m	0.024 m	-0.007 m	-0.347
	Ellip Dist.	44543.261 m	0.018 m	-0.002 m	-0.144
CTPU --> 107-11 (PV112)	Az.	172°43'23"	0.046 sec	0.014 sec	0.345
	ΔHt.	-84.851 m	0.017 m	0.001 m	0.084
	Ellip Dist.	63267.079 m	0.014 m	0.001 m	0.088
CTMA --> 123-96 (PV965)	Az.	89°42'04"	0.051 sec	-0.013 sec	-0.301
	ΔHt.	-1.753 m	0.016 m	0.005 m	0.335
	Ellip Dist.	57918.922 m	0.014 m	0.000 m	-0.034
XMTS --> 206-96 (PV833)	Az.	205°51'19"	0.098 sec	0.024 sec	0.274
	ΔHt.	-95.482 m	0.016 m	0.002 m	0.137
	Ellip Dist.	29872.901 m	0.014 m	0.004 m	0.322
CTPU --> 227-57 (PV1010)	Az.	126°00'44"	0.183 sec	-0.052 sec	-0.315
	ΔHt.	62.911 m	0.017 m	0.004 m	0.256

	Ellip Dist.	15954.966 m	0.014 m	-0.001 m	-0.115
CTMA --> 115-86 (PV550)	Az.	96°41'01"	0.064 sec	-0.017 sec	-0.312
	ΔHt.	61.860 m	0.016 m	-0.001 m	-0.100
	Ellip Dist.	46191.355 m	0.014 m	-0.001 m	-0.060
ACU6 --> 211-121 (PV267)	Az.	299°00'11"	0.073 sec	0.011 sec	0.168
	ΔHt.	-6.977 m	0.016 m	0.004 m	0.311
	Ellip Dist.	40231.359 m	0.014 m	0.001 m	0.061
ACU6 --> 201-9 (PV904)	Az.	231°25'30"	0.052 sec	0.006 sec	0.152
	ΔHt.	-34.643 m	0.018 m	0.004 m	0.307
	Ellip Dist.	65211.339 m	0.017 m	-0.002 m	-0.181
CTPU --> 211-121 (PV141)	Az.	87°22'09"	0.062 sec	-0.016 sec	-0.304
	ΔHt.	-57.830 m	0.016 m	0.000 m	0.034
	Ellip Dist.	48032.311 m	0.014 m	0.002 m	0.175
CTPU --> 207-113 (PV131)	Az.	91°24'39"	0.082 sec	-0.018 sec	-0.300
	ΔHt.	-60.139 m	0.021 m	0.002 m	0.104
	Ellip Dist.	41313.809 m	0.016 m	0.003 m	0.249
CTMA --> 123-57 (PV956)	Az.	106°36'13"	0.048 sec	-0.010 sec	-0.243
	ΔHt.	-17.786 m	0.017 m	0.004 m	0.273
	Ellip Dist.	60444.645 m	0.014 m	0.000 m	0.017
URIL --> 214-45 (PV704)	Az.	55°05'28"	0.121 sec	0.021 sec	0.247
	ΔHt.	-48.386 m	0.019 m	0.004 m	0.272
	Ellip Dist.	27884.830 m	0.016 m	-0.001 m	-0.080
XMTS --> 123-96 (PV1037)	Az.	210°49'32"	0.068 sec	-0.010 sec	-0.165

	ΔHt.	-14.526 m	0.016 m	-0.002 m	-0.162
	Ellip Dist.	42891.939 m	0.014 m	-0.003 m	-0.264
CTPU --> 123-37 (PV123)	Az.	145°33'01"	0.048 sec	-0.012 sec	-0.258
	ΔHt.	-24.797 m	0.015 m	-0.003 m	-0.226
	Ellip Dist.	55214.337 m	0.013 m	-0.003 m	-0.211
ACU6 --> 214-11 (PV268)	Az.	227°50'08"	0.083 sec	0.014 sec	0.236
	ΔHt.	-22.378 m	0.018 m	-0.002 m	-0.118
	Ellip Dist.	40826.875 m	0.016 m	-0.003 m	-0.256
CTPU --> 110-75 (PV146)	Az.	159°10'33"	0.090 sec	0.018 sec	0.221
	ΔHt.	60.679 m	0.020 m	0.001 m	0.036
	Ellip Dist.	32281.208 m	0.014 m	0.000 m	-0.005
CTPU --> 106-57 (PV73)	Az.	71°12'03"	0.568 sec	0.016 sec	0.041
	ΔHt.	45.496 m	0.021 m	-0.003 m	-0.210
	Ellip Dist.	6189.694 m	0.017 m	0.002 m	0.211
CTPU --> 116-25 (PV113)	Az.	158°54'32"	0.052 sec	0.003 sec	0.070
	ΔHt.	-34.501 m	0.020 m	-0.003 m	-0.161
	Ellip Dist.	56255.857 m	0.014 m	-0.003 m	-0.208
URIL --> 103-11 (PV660)	Az.	234°35'20"	0.089 sec	-0.014 sec	-0.186
	ΔHt.	-69.625 m	0.017 m	-0.002 m	-0.123
	Ellip Dist.	33061.461 m	0.014 m	0.002 m	0.199
URIL --> 201-148 (PV683)	Az.	4°38'36"	0.058 sec	0.009 sec	0.171
	ΔHt.	23.493 m	0.017 m	0.000 m	-0.015
	Ellip Dist.	50272.924 m	0.014 m	-0.002 m	-0.149
CTPU --> 204-163 (PV133)	Az.	67°20'00"	0.100 sec	-0.012 sec	-0.171

	ΔHt.	6.741 m	0.035 m	0.000 m	-0.007
	Ellip Dist.	41169.787 m	0.019 m	0.002 m	0.149
CTPU --> 107-44 (PV116)	Az.	170°17'57"	0.065 sec	-0.005 sec	-0.096
	ΔHt.	11.248 m	0.024 m	0.000 m	0.002
	Ellip Dist.	47225.813 m	0.020 m	0.001 m	0.040

Covariance Terms

From Point	To Point		Components	A-posteriori Error	Horiz. Precision (Ratio)	3D Precision (Ratio)
103-11	CTGR	Az.	277°21'10"	0.178 sec	1 : 1188811	1 : 1188491
		ΔHt.	5.583 m	0.017 m		
		ΔElev.	5.551 m	0.017 m		
		Ellip Dist.	16896.302 m	0.014 m		
103-11	CTMA	Az.	326°56'59"	0.054 sec	1 : 3840274	1 : 3843405
		ΔHt.	79.111 m	0.017 m		
		ΔElev.	78.306 m	0.017 m		
		Ellip Dist.	55113.765 m	0.014 m		
103-11	CTPU	Az.	357°05'51"	0.045 sec	1 : 4470868	1 : 4472981
		ΔHt.	81.029 m	0.017 m		
		ΔElev.	79.953 m	0.017 m		
		Ellip Dist.	64913.078 m	0.015 m		
103-11	URIL	Az.	54°22'34"	0.089 sec	1 : 2291360	1 : 2289059
		ΔHt.	69.616 m	0.017 m		
		ΔElev.	69.169 m	0.017 m		
		Ellip Dist.	33061.462 m	0.014 m		
103-25	CTGR	Az.	255°19'01"	0.195 sec	1 : 1082174	1 : 1082355
		ΔHt.	-10.418 m	0.020 m		

		ΔElev.	-10.343 m	0.020 m		
		Ellip Dist.	17582.114 m	0.016 m		
103-25	CTMA	Az.	322°33'24"	0.067 sec	1 : 2998659	1 : 2999961
		ΔHt.	63.110 m	0.020 m		
		ΔElev.	62.411 m	0.020 m		
		Ellip Dist.	49848.468 m	0.017 m		
103-25	URIL	Az.	64°36'35"	0.117 sec	1 : 1814136	1 : 1813917
		ΔHt.	53.615 m	0.020 m		
		ΔElev.	53.274 m	0.020 m		
		Ellip Dist.	29470.920 m	0.016 m		
103-39	CTGR	Az.	237°36'52"	0.170 sec	1 : 1201586	1 : 1200667
		ΔHt.	-20.444 m	0.020 m		
		ΔElev.	-20.284 m	0.020 m		
		Ellip Dist.	19984.865 m	0.017 m		
103-39	CTPU	Az.	356°15'03"	0.065 sec	1 : 3123010	1 : 3124802
		ΔHt.	55.002 m	0.020 m		
		ΔElev.	54.117 m	0.020 m		
		Ellip Dist.	52074.405 m	0.017 m		
103-39	URIL	Az.	76°34'05"	0.125 sec	1 : 1665776	1 : 1664318
		ΔHt.	43.589 m	0.020 m		
		ΔElev.	43.333 m	0.020 m		
		Ellip Dist.	27507.840 m	0.017 m		
105-63	CTGR	Az.	218°49'00"	0.102 sec	1 : 2178428	1 : 2180584
		ΔHt.	-141.418 m	0.025 m		
		ΔElev.	-141.082 m	0.025 m		
		Ellip Dist.	31778.160 m	0.015 m		
105-63	CTMA	Az.	300°08'37"	0.078 sec	1 : 2442101	1 : 2444663
		ΔHt.	-67.890 m	0.025 m		
		ΔElev.	-68.327 m	0.025 m		
		Ellip	38392.168 m	0.016 m		

		Dist.				
105-63	CTPU	Az.	350°23'00"	0.082 sec	1 : 2545075	1 : 2539956
		ΔHt.	-65.972 m	0.025 m		
		ΔElev.	-66.681 m	0.025 m		
		Ellip Dist.	38441.536 m	0.015 m		
105-63	URIL	Az.	107°57'03"	0.121 sec	1 : 1593009	1 : 1592749
		ΔHt.	-77.385 m	0.025 m		
		ΔElev.	-77.465 m	0.025 m		
		Ellip Dist.	24933.238 m	0.016 m		
106-40	CTMA	Az.	247°59'11"	0.096 sec	1 : 2143687	1 : 2142379
		ΔHt.	-111.191 m	0.020 m		
		ΔElev.	-111.050 m	0.020 m		
		Ellip Dist.	35371.539 m	0.017 m		
106-40	CTPU	Az.	311°43'48"	0.425 sec	1 : 493558	1 : 493192
		ΔHt.	-109.273 m	0.020 m		
		ΔElev.	-109.404 m	0.020 m		
		Ellip Dist.	8060.221 m	0.016 m		
106-40	XMTS	Az.	63°07'05"	0.064 sec	1 : 3178756	1 : 3176627
		ΔHt.	-98.434 m	0.020 m		
		ΔElev.	-99.456 m	0.020 m		
		Ellip Dist.	52538.833 m	0.017 m		
106-57	CTMA	Az.	237°43'28"	0.091 sec	1 : 2271237	1 : 2269713
		ΔHt.	-47.413 m	0.021 m		
		ΔElev.	-47.111 m	0.021 m		
		Ellip Dist.	38602.792 m	0.017 m		
106-57	CTPU	Az.	251°14'53"	0.568 sec	1 : 366273	1 : 366204
		ΔHt.	-45.495 m	0.021 m		
		ΔElev.	-45.465 m	0.021 m		
		Ellip Dist.	6189.694 m	0.017 m		
106-57	XMTS	Az.	70°46'04"	0.071 sec	1 : 2945981	1 : 2943546

		ΔHt.	-34.656 m	0.021 m		
		ΔElev.	-35.517 m	0.021 m		
		Ellip Dist.	49794.097 m	0.017 m		
107-11	CTGR	Az.	270°17'15"	0.137 sec	1 : 1514267	1 : 1514609
		ΔHt.	9.371 m	0.017 m		
		ΔElev.	9.393 m	0.017 m		
		Ellip Dist.	21455.346 m	0.014 m		
107-11	CTMA	Az.	321°48'45"	0.052 sec	1 : 3937538	1 : 3938494
		ΔHt.	82.899 m	0.017 m		
		ΔElev.	82.147 m	0.017 m		
		Ellip Dist.	56170.815 m	0.014 m		
107-11	CTPU	Az.	352°47'12"	0.046 sec	1 : 4435825	1 : 4435513
		ΔHt.	84.817 m	0.017 m		
		ΔElev.	83.794 m	0.017 m		
		Ellip Dist.	63267.080 m	0.014 m		
107-11	URIL	Az.	52°15'31"	0.105 sec	1 : 1982198	1 : 1981925
		ΔHt.	73.404 m	0.017 m		
		ΔElev.	73.010 m	0.017 m		
		Ellip Dist.	28057.775 m	0.014 m		
107-120	CTMA	Az.	259°01'29"	0.085 sec	1 : 2495231	1 : 2495602
		ΔHt.	-72.884 m	0.016 m		
		ΔElev.	-72.859 m	0.016 m		
		Ellip Dist.	34715.230 m	0.014 m		
107-120	CTPU	Az.	328°42'28"	0.204 sec	1 : 988562	1 : 988999
		ΔHt.	-70.966 m	0.016 m		
		ΔElev.	-71.213 m	0.016 m		
		Ellip Dist.	14053.462 m	0.014 m		
107-120	URIL	Az.	145°46'56"	0.071 sec	1 : 2858529	1 : 2859883
		ΔHt.	-82.379 m	0.016 m		
		ΔElev.	-81.997 m	0.016 m		

		Ellip Dist.	40609.527 m	0.014 m		
107-120	XMTS	Az.	56°18'27"	0.053 sec	1 : 3928683	1 : 3926643
		ΔHt.	-60.127 m	0.016 m		
		ΔElev.	-61.266 m	0.016 m		
		Ellip Dist.	54782.837 m	0.014 m		
107-44	CTGR	Az.	233°04'02"	0.146 sec	1 : 1667586	1 : 1651327
		ΔHt.	-86.719 m	0.024 m		
		ΔElev.	-86.474 m	0.024 m		
		Ellip Dist.	26793.118 m	0.016 m		
107-44	CTMA	Az.	308°51'09"	0.080 sec	1 : 2489956	1 : 2513572
		ΔHt.	-13.191 m	0.024 m		
		ΔElev.	-13.719 m	0.024 m		
		Ellip Dist.	44543.262 m	0.018 m		
107-44	CTPU	Az.	350°21'46"	0.065 sec	1 : 2355513	1 : 2356472
		ΔHt.	-11.273 m	0.024 m		
		ΔElev.	-12.073 m	0.024 m		
		Ellip Dist.	47225.814 m	0.020 m		
107-44	URIL	Az.	87°30'29"	0.185 sec	1 : 1496662	1 : 1500422
		ΔHt.	-22.686 m	0.024 m		
		ΔElev.	-22.856 m	0.024 m		
		Ellip Dist.	22246.770 m	0.015 m		
107-95	CTGR	Az.	206°49'52"	0.066 sec	1 : 2793983	1 : 2785866
		ΔHt.	-92.942 m	0.018 m		
		ΔElev.	-92.372 m	0.018 m		
		Ellip Dist.	44558.722 m	0.016 m		
107-95	CTMA	Az.	277°18'05"	0.099 sec	1 : 2408309	1 : 2407983
		ΔHt.	-19.414 m	0.018 m		
		ΔElev.	-19.618 m	0.018 m		
		Ellip Dist.	33664.638 m	0.014 m		

107-95	CTPU	Az.	343°53'35"	0.124 sec	1 : 1502686	1 : 1507737
		ΔHt.	-17.496 m	0.018 m		
		ΔElev.	-17.971 m	0.018 m		
		Ellip Dist.	23835.147 m	0.016 m		
107-95	URIL	Az.	133°57'29"	0.097 sec	1 : 2206923	1 : 2217102
		ΔHt.	-28.909 m	0.018 m		
		ΔElev.	-28.755 m	0.018 m		
		Ellip Dist.	32683.986 m	0.015 m		
108-27	CTGR	Az.	246°17'48"	0.126 sec	1 : 1661450	1 : 1658111
		ΔHt.	-6.084 m	0.017 m		
		ΔElev.	-5.916 m	0.017 m		
		Ellip Dist.	23915.396 m	0.014 m		
108-27	CTMA	Az.	314°23'34"	0.062 sec	1 : 3457708	1 : 3463808
		ΔHt.	67.444 m	0.017 m		
		ΔElev.	66.838 m	0.017 m		
		Ellip Dist.	49214.492 m	0.014 m		
108-27	CTPU	Az.	351°01'09"	0.054 sec	1 : 3634298	1 : 3640101
		ΔHt.	69.362 m	0.017 m		
		ΔElev.	68.485 m	0.017 m		
		Ellip Dist.	53702.194 m	0.015 m		
108-27	URIL	Az.	71°05'21"	0.131 sec	1 : 1605185	1 : 1602244
		ΔHt.	57.949 m	0.017 m		
		ΔElev.	57.701 m	0.017 m		
		Ellip Dist.	22986.506 m	0.014 m		
108-78	CTGR	Az.	213°24'22"	0.065 sec	1 : 3078241	1 : 3079208
		ΔHt.	-91.910 m	0.014 m		
		ΔElev.	-91.451 m	0.014 m		
		Ellip Dist.	39654.791 m	0.013 m		
108-78	CTMA	Az.	287°18'36"	0.072 sec	1 : 2931228	1 : 2928906
		ΔHt.	-18.382 m	0.014 m		

		ΔElev.	-18.697 m	0.014 m		
		Ellip Dist.	36767.049 m	0.013 m		
108-78	CTPU	Az.	344°16'49"	0.086 sec	1 : 2434505	1 : 2436802
		ΔHt.	-16.464 m	0.014 m		
		ΔElev.	-17.050 m	0.014 m		
		Ellip Dist.	30702.820 m	0.013 m		
108-78	URIL	Az.	126°19'48"	0.098 sec	1 : 2168750	1 : 2168458
		ΔHt.	-27.877 m	0.014 m		
		ΔElev.	-27.834 m	0.014 m		
		Ellip Dist.	27073.444 m	0.012 m		
108-78	XMTS	Az.	42°55'04"	0.039 sec	1 : 5078518	1 : 5078166
		ΔHt.	-5.625 m	0.014 m		
		ΔElev.	-7.103 m	0.014 m		
		Ellip Dist.	65445.178 m	0.013 m		
110-163	CTMA	Az.	234°25'51"	0.064 sec	1 : 3216152	1 : 3211739
		ΔHt.	-86.158 m	0.020 m		
		ΔElev.	-85.734 m	0.020 m		
		Ellip Dist.	46737.865 m	0.015 m		
110-163	CTPU	Az.	232°35'58"	0.211 sec	1 : 970694	1 : 970289
		ΔHt.	-84.240 m	0.020 m		
		ΔElev.	-84.087 m	0.020 m		
		Ellip Dist.	14131.367 m	0.015 m		
110-163	URIL	Az.	160°47'12"	0.051 sec	1 : 3902428	1 : 3909808
		ΔHt.	-95.653 m	0.020 m		
		ΔElev.	-94.871 m	0.020 m		
		Ellip Dist.	57385.414 m	0.015 m		
110-163	XMTS	Az.	76°48'15"	0.071 sec	1 : 3005855	1 : 3000726
		ΔHt.	-73.401 m	0.020 m		
		ΔElev.	-74.140 m	0.020 m		
		Ellip				

		Dist.	42793.966 m	0.014 m		
110-75	CTGR	Az.	217°34'03"	0.072 sec	1 : 2920132	1 : 2920295
		ΔHt.	-136.141 m	0.020 m		
		ΔElev.	-135.666 m	0.020 m		
		Ellip Dist.	40953.588 m	0.014 m		
110-75	CTMA	Az.	286°52'00"	0.073 sec	1 : 2815724	1 : 2817522
		ΔHt.	-62.613 m	0.020 m		
		ΔElev.	-62.911 m	0.020 m		
		Ellip Dist.	39937.278 m	0.014 m		
110-75	CTPU	Az.	339°16'03"	0.090 sec	1 : 2270439	1 : 2269824
		ΔHt.	-60.695 m	0.020 m		
		ΔElev.	-61.265 m	0.020 m		
		Ellip Dist.	32281.208 m	0.014 m		
110-75	URIL	Az.	129°31'45"	0.119 sec	1 : 1700774	1 : 1700656
		ΔHt.	-72.108 m	0.020 m		
		ΔElev.	-72.048 m	0.020 m		
		Ellip Dist.	24221.065 m	0.014 m		
111-101	CTGR	Az.	210°26'15"	0.052 sec	1 : 4050576	1 : 4047989
		ΔHt.	-135.980 m	0.016 m		
		ΔElev.	-135.281 m	0.016 m		
		Ellip Dist.	51027.125 m	0.013 m		
111-101	CTMA	Az.	270°04'55"	0.067 sec	1 : 3091022	1 : 3093265
		ΔHt.	-62.452 m	0.016 m		
		ΔElev.	-62.527 m	0.016 m		
		Ellip Dist.	39094.876 m	0.013 m		
111-101	CTPU	Az.	326°36'02"	0.116 sec	1 : 1737351	1 : 1737245
		ΔHt.	-60.534 m	0.016 m		
		ΔElev.	-60.880 m	0.016 m		
		Ellip Dist.	22346.114 m	0.013 m		
111-101	URIL	Az.	146°33'23"	0.080 sec	1 : 2511491	1 : 2511548

		ΔHt.	-71.947 m	0.016 m		
		ΔElev.	-71.664 m	0.016 m		
		Ellip Dist.	32303.270 m	0.013 m		
111-101	XMTS	Az.	47°39'04"	0.048 sec	1 : 4377653	1 : 4376650
		ΔHt.	-49.695 m	0.016 m		
		ΔElev.	-50.933 m	0.016 m		
		Ellip Dist.	54924.356 m	0.013 m		
112-31	CTMA	Az.	308°40'31"	0.064 sec	1 : 3050434	1 : 3053426
		ΔHt.	68.692 m	0.022 m		
		ΔElev.	68.131 m	0.022 m		
		Ellip Dist.	52375.379 m	0.017 m		
112-31	CTPU	Az.	344°38'52"	0.063 sec	1 : 3099306	1 : 3095123
		ΔHt.	70.610 m	0.022 m		
		ΔElev.	69.778 m	0.022 m		
		Ellip Dist.	53222.355 m	0.017 m		
112-31	URIL	Az.	70°22'37"	0.209 sec	1 : 1047510	1 : 1048825
		ΔHt.	59.197 m	0.022 m		
		ΔElev.	58.994 m	0.022 m		
		Ellip Dist.	16988.304 m	0.016 m		
113-8	CTGR	Az.	269°24'13"	0.118 sec	1 : 1784348	1 : 1784229
		ΔHt.	8.010 m	0.019 m		
		ΔElev.	8.081 m	0.019 m		
		Ellip Dist.	28817.321 m	0.016 m		
113-8	CTPU	Az.	346°15'46"	0.052 sec	1 : 3889900	1 : 3891528
		ΔHt.	83.456 m	0.019 m		
		ΔElev.	82.482 m	0.019 m		
		Ellip Dist.	64181.022 m	0.016 m		
113-8	URIL	Az.	41°35'42"	0.150 sec	1 : 1366151	1 : 1365316
		ΔHt.	72.043 m	0.019 m		
		ΔElev.	71.698 m	0.019 m		

		Ellip Dist.	22360.345 m	0.016 m		
115-11	CTGR	Az.	263°33'03"	0.104 sec	1 : 1972043	1 : 1972025
		ΔHt.	5.672 m	0.019 m		
		ΔElev.	5.813 m	0.019 m		
		Ellip Dist.	32524.829 m	0.016 m		
115-11	CTPU	Az.	342°23'51"	0.055 sec	1 : 3757509	1 : 3757563
		ΔHt.	81.118 m	0.019 m		
		ΔElev.	80.215 m	0.019 m		
		Ellip Dist.	61882.688 m	0.016 m		
115-11	URIL	Az.	40°22'24"	0.194 sec	1 : 1063043	1 : 1063387
		ΔHt.	69.705 m	0.019 m		
		ΔElev.	69.431 m	0.019 m		
		Ellip Dist.	17520.502 m	0.016 m		
115-41	CTGR	Az.	240°43'38"	0.078 sec	1 : 2533235	1 : 2531280
		ΔHt.	-31.411 m	0.016 m		
		ΔElev.	-31.090 m	0.016 m		
		Ellip Dist.	37248.419 m	0.015 m		
115-41	CTMA	Az.	299°29'45"	0.058 sec	1 : 3722941	1 : 3720077
		ΔHt.	42.117 m	0.016 m		
		ΔElev.	41.664 m	0.016 m		
		Ellip Dist.	52500.789 m	0.014 m		
115-41	CTPU	Az.	336°58'10"	0.063 sec	1 : 3407979	1 : 3411807
		ΔHt.	44.035 m	0.016 m		
		ΔElev.	43.311 m	0.016 m		
		Ellip Dist.	48272.272 m	0.014 m		
115-41	URIL	Az.	96°11'44"	0.266 sec	1 : 784748	1 : 783484
		ΔHt.	32.622 m	0.016 m		
		ΔElev.	32.527 m	0.016 m		
		Ellip Dist.	11242.397 m	0.014 m		

115-66	CTGR	Az.	228°04'00"	0.066 sec	1 : 3073684	1 : 3071785
		ΔHt.	-128.133 m	0.017 m		
		ΔElev.	-127.643 m	0.017 m		
		Ellip Dist.	44259.661 m	0.014 m		
115-66	CTMA	Az.	287°26'06"	0.062 sec	1 : 3421395	1 : 3420130
		ΔHt.	-54.605 m	0.017 m		
		ΔElev.	-54.888 m	0.017 m		
		Ellip Dist.	48348.475 m	0.014 m		
115-66	CTPU	Az.	329°42'16"	0.077 sec	1 : 2694904	1 : 2696393
		ΔHt.	-52.687 m	0.017 m		
		ΔElev.	-53.242 m	0.017 m		
		Ellip Dist.	38288.796 m	0.014 m		
115-66	URIL	Az.	139°30'04"	0.179 sec	1 : 1168099	1 : 1168881
		ΔHt.	-64.100 m	0.017 m		
		ΔElev.	-64.026 m	0.017 m		
		Ellip Dist.	16543.593 m	0.014 m		
115-86	CTMA	Az.	277°03'01"	0.064 sec	1 : 3300103	1 : 3302221
		ΔHt.	-61.865 m	0.016 m		
		ΔElev.	-62.004 m	0.016 m		
		Ellip Dist.	46191.356 m	0.014 m		
115-86	CTPU	Az.	321°52'10"	0.094 sec	1 : 2159723	1 : 2160986
		ΔHt.	-59.947 m	0.016 m		
		ΔElev.	-60.357 m	0.016 m		
		Ellip Dist.	30821.173 m	0.014 m		
115-86	URIL	Az.	152°43'35"	0.119 sec	1 : 1682162	1 : 1682746
		ΔHt.	-71.360 m	0.016 m		
		ΔElev.	-71.141 m	0.016 m		
		Ellip Dist.	24070.657 m	0.014 m		
115-86	XMTS	Az.	38°32'09"	0.054 sec	1 : 3867457	1 : 3864220
		ΔHt.	-49.108 m	0.016 m		

		ΔElev.	-50.410 m	0.016 m		
		Ellip Dist.	54381.215 m	0.014 m		
116-157	CTMA	Az.	241°04'11"	0.064 sec	1 : 3243756	1 : 3240164
		ΔHt.	-39.326 m	0.020 m		
		ΔElev.	-38.936 m	0.020 m		
		Ellip Dist.	53191.165 m	0.016 m		
116-157	CTPU	Az.	250°03'55"	0.163 sec	1 : 1287608	1 : 1286394
		ΔHt.	-37.408 m	0.020 m		
		ΔElev.	-37.289 m	0.020 m		
		Ellip Dist.	20998.228 m	0.016 m		
116-157	XMTS	Az.	71°27'11"	0.098 sec	1 : 2147208	1 : 2144987
		ΔHt.	-26.569 m	0.020 m		
		ΔElev.	-27.342 m	0.020 m		
		Ellip Dist.	34989.220 m	0.016 m		
116-25	CTGR	Az.	253°20'07"	0.083 sec	1 : 2466702	1 : 2466764
		ΔHt.	-40.973 m	0.020 m		
		ΔElev.	-40.740 m	0.020 m		
		Ellip Dist.	35191.540 m	0.014 m		
116-25	CTMA	Az.	305°54'44"	0.051 sec	1 : 4084926	1 : 4084170
		ΔHt.	32.555 m	0.020 m		
		ΔElev.	32.014 m	0.020 m		
		Ellip Dist.	57920.198 m	0.014 m		
116-25	CTPU	Az.	339°04'11"	0.052 sec	1 : 3968212	1 : 3968702
		ΔHt.	34.473 m	0.020 m		
		ΔElev.	33.661 m	0.020 m		
		Ellip Dist.	56255.857 m	0.014 m		
116-25	URIL	Az.	55°16'43"	0.241 sec	1 : 848468	1 : 848697
		ΔHt.	23.060 m	0.020 m		
		ΔElev.	22.877 m	0.020 m		
		Ellip				

		Dist.	12115.329 m	0.014 m		
117-99	CTMA	Az.	268°12'08"	0.063 sec	1 : 3383301	1 : 3378915
		ΔHt.	-64.474 m	0.016 m		
		ΔElev.	-64.475 m	0.016 m		
		Ellip Dist.	48104.460 m	0.014 m		
117-99	CTPU	Az.	308°44'08"	0.111 sec	1 : 1930703	1 : 1931682
		ΔHt.	-62.556 m	0.016 m		
		ΔElev.	-62.829 m	0.016 m		
		Ellip Dist.	27259.528 m	0.014 m		
117-99	URIL	Az.	162°55'24"	0.099 sec	1 : 2068860	1 : 2072003
		ΔHt.	-73.969 m	0.016 m		
		ΔElev.	-73.613 m	0.016 m		
		Ellip Dist.	29909.786 m	0.014 m		
117-99	XMTS	Az.	41°51'15"	0.061 sec	1 : 3227299	1 : 3225018
		ΔHt.	-51.717 m	0.016 m		
		ΔElev.	-52.881 m	0.016 m		
		Ellip Dist.	47438.396 m	0.015 m		
118-46	CTGR	Az.	238°52'23"	0.069 sec	1 : 2996231	1 : 2995948
		ΔHt.	-64.759 m	0.016 m		
		ΔElev.	-64.357 m	0.016 m		
		Ellip Dist.	42102.572 m	0.014 m		
118-46	CTMA	Az.	294°22'37"	0.054 sec	1 : 3830780	1 : 3831773
		ΔHt.	8.769 m	0.016 m		
		ΔElev.	8.397 m	0.016 m		
		Ellip Dist.	54041.234 m	0.014 m		
118-46	CTPU	Az.	331°16'07"	0.062 sec	1 : 3290003	1 : 3290276
		ΔHt.	10.687 m	0.016 m		
		ΔElev.	10.044 m	0.016 m		
		Ellip Dist.	46604.972 m	0.014 m		
118-46	URIL	Az.	122°04'37"	0.323 sec	1 : 638096	1 : 638257

		ΔHt.	-0.726 m	0.016 m		
		ΔElev.	-0.740 m	0.016 m		
		Ellip Dist.	9011.938 m	0.014 m		
119-167	CTMA	Az.	238°00'01"	0.056 sec	1 : 3711810	1 : 3712074
		ΔHt.	-23.937 m	0.020 m		
		ΔElev.	-23.375 m	0.020 m		
		Ellip Dist.	60921.367 m	0.016 m		
119-167	CTPU	Az.	241°03'54"	0.121 sec	1 : 1728813	1 : 1728994
		ΔHt.	-22.019 m	0.020 m		
		ΔElev.	-21.728 m	0.020 m		
		Ellip Dist.	28380.423 m	0.016 m		
119-167	XMTS	Az.	80°51'30"	0.120 sec	1 : 1727888	1 : 1728531
		ΔHt.	-11.180 m	0.020 m		
		ΔElev.	-11.781 m	0.020 m		
		Ellip Dist.	28448.833 m	0.016 m		
119-8	CTGR	Az.	264°46'11"	0.078 sec	1 : 2625829	1 : 2622576
		ΔHt.	5.894 m	0.020 m		
		ΔElev.	6.082 m	0.020 m		
		Ellip Dist.	38116.946 m	0.015 m		
119-8	CTMA	Az.	308°27'01"	0.047 sec	1 : 4617471	1 : 4615352
		ΔHt.	79.422 m	0.020 m		
		ΔElev.	78.836 m	0.020 m		
		Ellip Dist.	65287.086 m	0.014 m		
119-8	CTPU	Az.	337°39'49"	0.047 sec	1 : 4502767	1 : 4507051
		ΔHt.	81.340 m	0.020 m		
		ΔElev.	80.483 m	0.020 m		
		Ellip Dist.	63951.511 m	0.014 m		
119-8	URIL	Az.	22°59'08"	0.200 sec	1 : 1000910	1 : 1002700
		ΔHt.	69.927 m	0.020 m		
		ΔElev.	69.699 m	0.020 m		

		Ellip Dist.	14655.985 m	0.015 m		
120-76	ACU6	Az.	80°16'00"	0.045 sec	1 : 4647727	1 : 4644770
		ΔHt.	-65.194 m	0.014 m		
		ΔElev.	-66.265 m	0.014 m		
		Ellip Dist.	58329.391 m	0.013 m		
120-76	CTMA	Az.	279°10'22"	0.049 sec	1 : 4274164	1 : 4272781
		ΔHt.	-16.272 m	0.014 m		
		ΔElev.	-16.420 m	0.014 m		
		Ellip Dist.	53352.928 m	0.012 m		
120-76	CTPU	Az.	316°18'48"	0.070 sec	1 : 2987655	1 : 2989267
		ΔHt.	-14.354 m	0.014 m		
		ΔElev.	-14.774 m	0.014 m		
		Ellip Dist.	37412.760 m	0.013 m		
120-76	URIL	Az.	167°21'19"	0.136 sec	1 : 1504961	1 : 1505939
		ΔHt.	-25.767 m	0.014 m		
		ΔElev.	-25.558 m	0.014 m		
		Ellip Dist.	19075.893 m	0.013 m		
120-76	XMTS	Az.	30°52'41"	0.049 sec	1 : 4135914	1 : 4135068
		ΔHt.	-3.515 m	0.014 m		
		ΔElev.	-4.826 m	0.014 m		
		Ellip Dist.	52778.189 m	0.013 m		
121-19	ACU6	Az.	57°36'25"	0.045 sec	1 : 4543479	1 : 4538919
		ΔHt.	4.787 m	0.019 m		
		ΔElev.	3.393 m	0.019 m		
		Ellip Dist.	66014.331 m	0.015 m		
121-19	CTGR	Az.	256°19'22"	0.071 sec	1 : 2956095	1 : 2953196
		ΔHt.	-19.819 m	0.019 m		
		ΔElev.	-19.518 m	0.019 m		
		Ellip Dist.	42472.529 m	0.014 m		

121-19	CTMA	Az.	302°01'25"	0.047 sec	1 : 4504367	1 : 4506362
		ΔHt.	53.709 m	0.019 m		
		ΔElev.	53.237 m	0.019 m		
		Ellip Dist.	64186.412 m	0.014 m		
121-19	URIL	Az.	19°19'21"	0.401 sec	1 : 496767	1 : 496520
		ΔHt.	44.214 m	0.019 m		
		ΔElev.	44.100 m	0.019 m		
		Ellip Dist.	7316.612 m	0.015 m		
123-10	ACU6	Az.	52°35'22"	0.051 sec	1 : 4165667	1 : 4165481
		ΔHt.	34.518 m	0.021 m		
		ΔElev.	33.082 m	0.021 m		
		Ellip Dist.	67005.560 m	0.016 m		
123-10	CTGR	Az.	263°55'08"	0.077 sec	1 : 2717356	1 : 2719405
		ΔHt.	9.912 m	0.021 m		
		ΔElev.	10.172 m	0.021 m		
		Ellip Dist.	44051.443 m	0.016 m		
123-10	URIL	Az.	359°29'35"	0.273 sec	1 : 747255	1 : 746585
		ΔHt.	73.945 m	0.021 m		
		ΔElev.	73.789 m	0.021 m		
		Ellip Dist.	12265.778 m	0.016 m		
123-172	CTMA	Az.	239°15'42"	0.052 sec	1 : 4058163	1 : 4052678
		ΔHt.	18.690 m	0.020 m		
		ΔElev.	19.366 m	0.020 m		
		Ellip Dist.	66743.686 m	0.016 m		
123-172	CTPU	Az.	242°57'20"	0.101 sec	1 : 2089872	1 : 2087183
		ΔHt.	20.608 m	0.020 m		
		ΔElev.	21.013 m	0.020 m		
		Ellip Dist.	34272.874 m	0.016 m		
123-172	XMTS	Az.	83°19'12"	0.155 sec	1 : 1391960	1 : 1391173
		ΔHt.	31.447 m	0.020 m		

		ΔElev.	30.960 m	0.020 m		
		Ellip Dist.	22567.670 m	0.016 m		
123-37	ACU6	Az.	61°28'44"	0.044 sec	1 : 4685221	1 : 4682341
		ΔHt.	-26.068 m	0.014 m		
		ΔElev.	-27.336 m	0.014 m		
		Ellip Dist.	59504.673 m	0.013 m		
123-37	CTGR	Az.	249°15'20"	0.055 sec	1 : 3777010	1 : 3775393
		ΔHt.	-50.674 m	0.014 m		
		ΔElev.	-50.246 m	0.014 m		
		Ellip Dist.	47851.028 m	0.013 m		
123-37	CTPU	Az.	325°47'56"	0.048 sec	1 : 4310448	1 : 4313134
		ΔHt.	24.772 m	0.014 m		
		ΔElev.	24.155 m	0.014 m		
		Ellip Dist.	55214.338 m	0.013 m		
123-37	URIL	Az.	268°45'05"	2.531 sec	1 : 83302	1 : 83241
		ΔHt.	13.359 m	0.014 m		
		ΔElev.	13.371 m	0.014 m		
		Ellip Dist.	1051.739 m	0.013 m		
123-37	XMTS	Az.	18°55'49"	0.039 sec	1 : 5239512	1 : 5237864
		ΔHt.	35.611 m	0.014 m		
		ΔElev.	34.102 m	0.014 m		
		Ellip Dist.	67523.091 m	0.013 m		
124-121	ACU6	Az.	101°30'44"	0.056 sec	1 : 3734454	1 : 3737220
		ΔHt.	-44.486 m	0.016 m		
		ΔElev.	-45.102 m	0.016 m		
		Ellip Dist.	52190.741 m	0.014 m		
124-121	CTPU	Az.	282°01'09"	0.089 sec	1 : 2353319	1 : 2355073
		ΔHt.	6.354 m	0.016 m		
		ΔElev.	6.389 m	0.016 m		
		Ellip				

		Dist.	32896.306 m	0.014 m		
124-121	URIL	Az.	183°14'21"	0.074 sec	1 : 2723967	1 : 2722579
		ΔHt.	-5.059 m	0.016 m		
		ΔElev.	-4.395 m	0.016 m		
		Ellip Dist.	38906.068 m	0.014 m		
124-121	XMTS	Az.	39°39'57"	0.090 sec	1 : 2318787	1 : 2316778
		ΔHt.	17.193 m	0.016 m		
		ΔElev.	16.336 m	0.016 m		
		Ellip Dist.	32537.231 m	0.014 m		
201-148	ACU6	Az.	113°46'17"	0.054 sec	1 : 3794618	1 : 3795823
		ΔHt.	-62.894 m	0.016 m		
		ΔElev.	-63.256 m	0.016 m		
		Ellip Dist.	53813.977 m	0.014 m		
201-148	CTPU	Az.	262°38'03"	0.085 sec	1 : 2433495	1 : 2434030
		ΔHt.	-12.054 m	0.016 m		
		ΔElev.	-11.765 m	0.016 m		
		Ellip Dist.	34346.367 m	0.014 m		
201-148	URIL	Az.	184°40'33"	0.058 sec	1 : 3555160	1 : 3554275
		ΔHt.	-23.467 m	0.016 m		
		ΔElev.	-22.549 m	0.016 m		
		Ellip Dist.	50272.925 m	0.014 m		
201-148	XMTS	Az.	53°53'11"	0.125 sec	1 : 1660898	1 : 1660955
		ΔHt.	-1.215 m	0.016 m		
		ΔElev.	-1.818 m	0.016 m		
		Ellip Dist.	23377.968 m	0.014 m		
204-163	CTMA	Az.	242°15'00"	0.056 sec	1 : 3904344	1 : 3900774
		ΔHt.	-8.652 m	0.035 m		
		ΔElev.	-7.816 m	0.035 m		
		Ellip Dist.	73374.519 m	0.019 m		
204-163	CTPU	Az.	247°38'24"	0.100 sec	1 : 2196164	1 : 2194938

		ΔHt.	-6.734 m	0.035 m		
		ΔElev.	-6.169 m	0.035 m		
		Ellip Dist.	41169.788 m	0.019 m		
204-163	XMTS	Az.	80°30'09"	0.273 sec	1 : 805918	1 : 806214
		ΔHt.	4.105 m	0.035 m		
		ΔElev.	3.778 m	0.035 m		
		Ellip Dist.	15091.605 m	0.019 m		
206-96	ACU6	Az.	101°13'02"	0.066 sec	1 : 3161512	1 : 3163087
		ΔHt.	33.789 m	0.015 m		
		ΔElev.	33.250 m	0.015 m		
		Ellip Dist.	44154.823 m	0.014 m		
206-96	CTPU	Az.	282°22'06"	0.072 sec	1 : 2929865	1 : 2931681
		ΔHt.	84.629 m	0.015 m		
		ΔElev.	84.741 m	0.015 m		
		Ellip Dist.	40935.721 m	0.014 m		
206-96	URIL	Az.	195°13'30"	0.075 sec	1 : 2695818	1 : 2694191
		ΔHt.	73.216 m	0.015 m		
		ΔElev.	73.957 m	0.015 m		
		Ellip Dist.	38303.156 m	0.014 m		
206-96	XMTS	Az.	25°45'01"	0.097 sec	1 : 2111556	1 : 2110145
		ΔHt.	95.468 m	0.015 m		
		ΔElev.	94.688 m	0.015 m		
		Ellip Dist.	29872.901 m	0.014 m		
207-113	ACU6	Az.	110°59'36"	0.075 sec	1 : 2792671	1 : 2793285
		ΔHt.	9.297 m	0.021 m		
		ΔElev.	8.966 m	0.021 m		
		Ellip Dist.	44985.092 m	0.016 m		
207-113	CTPU	Az.	271°44'35"	0.082 sec	1 : 2566793	1 : 2566361
		ΔHt.	60.137 m	0.021 m		
		ΔElev.	60.456 m	0.021 m		

		Ellip Dist.	41313.809 m	0.016 m		
207-113	XMTS	Az.	31°03'14"	0.147 sec	1 : 1385959	1 : 1385448
		ΔHt.	70.976 m	0.021 m		
		ΔElev.	70.404 m	0.021 m		
		Ellip Dist.	22628.031 m	0.016 m		
208-133	ACU6	Az.	121°33'22"	0.063 sec	1 : 3300633	1 : 3299788
		ΔHt.	-44.726 m	0.019 m		
		ΔElev.	-44.848 m	0.019 m		
		Ellip Dist.	46504.875 m	0.014 m		
208-133	CTPU	Az.	260°58'20"	0.066 sec	1 : 3107876	1 : 3106557
		ΔHt.	6.114 m	0.019 m		
		ΔElev.	6.643 m	0.019 m		
		Ellip Dist.	44207.556 m	0.014 m		
208-133	URIL	Az.	194°38'07"	0.054 sec	1 : 3822113	1 : 3823606
		ΔHt.	-5.299 m	0.019 m		
		ΔElev.	-4.141 m	0.019 m		
		Ellip Dist.	54446.086 m	0.014 m		
208-133	XMTS	Az.	39°48'41"	0.200 sec	1 : 1017229	1 : 1017474
		ΔHt.	16.953 m	0.019 m		
		ΔElev.	16.590 m	0.019 m		
		Ellip Dist.	14546.218 m	0.014 m		
208-152	ACU6	Az.	129°56'38"	0.057 sec	1 : 3637962	1 : 3639560
		ΔHt.	-53.209 m	0.017 m		
		ΔElev.	-53.179 m	0.017 m		
		Ellip Dist.	51594.126 m	0.014 m		
208-152	CTPU	Az.	250°13'27"	0.064 sec	1 : 3266156	1 : 3264551
		ΔHt.	-2.369 m	0.017 m		
		ΔElev.	-1.688 m	0.017 m		
		Ellip Dist.	46472.949 m	0.014 m		

208-152	URIL	Az.	192°40'47"	0.046 sec	1 : 4374776	1 : 4375133
		ΔHt.	-13.782 m	0.017 m		
		ΔElev.	-12.472 m	0.017 m		
		Ellip Dist.	63003.396 m	0.014 m		
208-152	XMTS	Az.	75°31'20"	0.310 sec	1 : 671852	1 : 671537
		ΔHt.	8.470 m	0.017 m		
		ΔElev.	8.259 m	0.017 m		
		Ellip Dist.	9544.488 m	0.014 m		
210-42	ACU6	Az.	64°55'52"	0.084 sec	1 : 2453849	1 : 2452470
		ΔHt.	7.436 m	0.018 m		
		ΔElev.	6.547 m	0.018 m		
		Ellip Dist.	40185.953 m	0.016 m		
210-42	URIL	Az.	236°24'19"	0.164 sec	1 : 1242304	1 : 1241638
		ΔHt.	46.863 m	0.018 m		
		ΔElev.	47.254 m	0.018 m		
		Ellip Dist.	20405.208 m	0.016 m		
210-42	XMTS	Az.	6°37'22"	0.063 sec	1 : 3213987	1 : 3215480
		ΔHt.	69.115 m	0.018 m		
		ΔElev.	67.985 m	0.018 m		
		Ellip Dist.	52905.499 m	0.016 m		
210-75	ACU6	Az.	87°02'36"	0.079 sec	1 : 2654697	1 : 2653142
		ΔHt.	24.776 m	0.018 m		
		ΔElev.	24.060 m	0.018 m		
		Ellip Dist.	37621.704 m	0.014 m		
210-75	CTPU	Az.	292°57'34"	0.060 sec	1 : 3517123	1 : 3517532
		ΔHt.	75.616 m	0.018 m		
		ΔElev.	75.551 m	0.018 m		
		Ellip Dist.	49644.140 m	0.014 m		
210-75	URIL	Az.	210°56'50"	0.095 sec	1 : 2121680	1 : 2121262
		ΔHt.	64.203 m	0.018 m		

		ΔElev.	64.767 m	0.018 m		
		Ellip Dist.	30765.550 m	0.015 m		
210-75	XMTS	Az.	10°58'43"	0.076 sec	1 : 2630116	1 : 2630555
		ΔHt.	86.455 m	0.018 m		
		ΔElev.	85.498 m	0.018 m		
		Ellip Dist.	38159.268 m	0.015 m		
211-121	ACU6	Az.	118°43'13"	0.073 sec	1 : 2858177	1 : 2859587
		ΔHt.	6.989 m	0.015 m		
		ΔElev.	6.833 m	0.015 m		
		Ellip Dist.	40231.360 m	0.014 m		
211-121	CTPU	Az.	267°45'20"	0.061 sec	1 : 3432872	1 : 3432938
		ΔHt.	57.829 m	0.015 m		
		ΔElev.	58.324 m	0.015 m		
		Ellip Dist.	48032.312 m	0.014 m		
211-121	URIL	Az.	200°49'25"	0.057 sec	1 : 3581548	1 : 3579975
		ΔHt.	46.416 m	0.015 m		
		ΔElev.	47.540 m	0.015 m		
		Ellip Dist.	50971.494 m	0.014 m		
211-121	XMTS	Az.	17°07'09"	0.171 sec	1 : 1189769	1 : 1189569
		ΔHt.	68.668 m	0.015 m		
		ΔElev.	68.271 m	0.015 m		
		Ellip Dist.	16948.157 m	0.014 m		
211-95	ACU6	Az.	101°41'13"	0.080 sec	1 : 2542844	1 : 2542399
		ΔHt.	15.240 m	0.017 m		
		ΔElev.	14.776 m	0.017 m		
		Ellip Dist.	36268.928 m	0.014 m		
211-95	CTPU	Az.	281°56'32"	0.060 sec	1 : 3422711	1 : 3422889
		ΔHt.	66.080 m	0.017 m		
		ΔElev.	66.267 m	0.017 m		
		Ellip				

		Dist.	48817.537 m	0.014 m		
211-95	URIL	Az.	206°38'08"	0.074 sec	1 : 2815239	1 : 2815990
		ΔHt.	54.667 m	0.017 m		
		ΔElev.	55.483 m	0.017 m		
		Ellip Dist.	39891.414 m	0.014 m		
211-95	XMTS	Az.	10°29'57"	0.103 sec	1 : 2026487	1 : 2026736
		ΔHt.	76.919 m	0.017 m		
		ΔElev.	76.214 m	0.017 m		
		Ellip Dist.	28661.929 m	0.014 m		
212-60	ACU6	Az.	76°03'36"	0.098 sec	1 : 2156792	1 : 2156814
		ΔHt.	27.674 m	0.018 m		
		ΔElev.	26.928 m	0.018 m		
		Ellip Dist.	34596.183 m	0.016 m		
212-60	URIL	Az.	224°48'41"	0.120 sec	1 : 1743550	1 : 1742502
		ΔHt.	67.101 m	0.018 m		
		ΔElev.	67.635 m	0.018 m		
		Ellip Dist.	28138.386 m	0.016 m		
212-60	XMTS	Az.	4°17'32"	0.075 sec	1 : 2687127	1 : 2686286
		ΔHt.	89.353 m	0.018 m		
		ΔElev.	88.366 m	0.018 m		
		Ellip Dist.	43994.969 m	0.016 m		
212-85	ACU6	Az.	95°28'02"	0.088 sec	1 : 2381200	1 : 2381852
		ΔHt.	34.064 m	0.016 m		
		ΔElev.	33.535 m	0.016 m		
		Ellip Dist.	33304.301 m	0.014 m		
212-85	CTPU	Az.	285°55'39"	0.056 sec	1 : 3717716	1 : 3719127
		ΔHt.	84.904 m	0.016 m		
		ΔElev.	85.026 m	0.016 m		
		Ellip Dist.	52120.340 m	0.014 m		
212-85	URIL	Az.	212°46'21"	0.078 sec	1 : 2653971	1 : 2652713

		ΔHt.	73.491 m	0.016 m		
		ΔElev.	74.242 m	0.016 m		
		Ellip Dist.	37423.350 m	0.014 m		
212-85	XMTS	Az.	5°04'05"	0.089 sec	1 : 2287260	1 : 2286603
		ΔHt.	95.743 m	0.016 m		
		ΔElev.	94.973 m	0.016 m		
		Ellip Dist.	32492.896 m	0.014 m		
214-11	ACU6	Az.	47°35'42"	0.083 sec	1 : 2537378	1 : 2536824
		ΔHt.	22.365 m	0.018 m		
		ΔElev.	21.392 m	0.018 m		
		Ellip Dist.	40826.876 m	0.016 m		
214-11	URIL	Az.	268°10'57"	0.145 sec	1 : 1441880	1 : 1442402
		ΔHt.	61.792 m	0.018 m		
		ΔElev.	62.099 m	0.018 m		
		Ellip Dist.	23287.438 m	0.016 m		
214-11	XMTS	Az.	359°53'24"	0.053 sec	1 : 3865993	1 : 3864249
		ΔHt.	84.044 m	0.018 m		
		ΔElev.	82.830 m	0.018 m		
		Ellip Dist.	63084.323 m	0.016 m		
214-45	ACU6	Az.	67°53'44"	0.102 sec	1 : 2035134	1 : 2034930
		ΔHt.	8.966 m	0.018 m		
		ΔElev.	8.215 m	0.018 m		
		Ellip Dist.	32922.568 m	0.016 m		
214-45	URIL	Az.	235°16'24"	0.120 sec	1 : 1721879	1 : 1721600
		ΔHt.	48.393 m	0.018 m		
		ΔElev.	48.922 m	0.018 m		
		Ellip Dist.	27884.830 m	0.016 m		
214-45	XMTS	Az.	0°16'44"	0.070 sec	1 : 2943974	1 : 2943973
		ΔHt.	70.645 m	0.018 m		
		ΔElev.	69.653 m	0.018 m		

		Ellip Dist.	47939.510 m	0.016 m		
214-49	ACU6	Az.	71°35'02"	0.103 sec	1 : 2019951	1 : 2018919
		ΔHt.	6.277 m	0.019 m		
		ΔElev.	5.540 m	0.019 m		
		Ellip Dist.	32984.045 m	0.016 m		
214-49	URIL	Az.	231°05'11"	0.118 sec	1 : 1729631	1 : 1729103
		ΔHt.	45.704 m	0.019 m		
		ΔElev.	46.247 m	0.019 m		
		Ellip Dist.	28431.882 m	0.016 m		
214-49	XMTS	Az.	1°16'24"	0.073 sec	1 : 2788134	1 : 2788873
		ΔHt.	67.956 m	0.019 m		
		ΔElev.	66.978 m	0.019 m		
		Ellip Dist.	45978.378 m	0.016 m		
215-26	ACU6	Az.	53°08'59"	0.092 sec	1 : 2198798	1 : 2199675
		ΔHt.	19.730 m	0.024 m		
		ΔElev.	18.865 m	0.024 m		
		Ellip Dist.	36404.303 m	0.017 m		
215-26	URIL	Az.	255°10'26"	0.134 sec	1 : 1515612	1 : 1514686
		ΔHt.	59.157 m	0.024 m		
		ΔElev.	59.572 m	0.024 m		
		Ellip Dist.	25131.823 m	0.017 m		
215-26	XMTS	Az.	358°52'14"	0.059 sec	1 : 3519332	1 : 3520591
		ΔHt.	81.409 m	0.024 m		
		ΔElev.	80.303 m	0.024 m		
		Ellip Dist.	57399.823 m	0.016 m		
216-78	ACU6	Az.	90°27'55"	0.123 sec	1 : 1742405	1 : 1742533
		ΔHt.	10.527 m	0.019 m		
		ΔElev.	10.022 m	0.019 m		
		Ellip Dist.	28038.624 m	0.016 m		

216-78	URIL	Az.	221°43'02"	0.089 sec	1 : 2327307	1 : 2325036
		ΔHt.	49.954 m	0.019 m		
		ΔElev.	50.729 m	0.019 m		
		Ellip Dist.	38158.492 m	0.016 m		
216-78	XMTS	Az.	356°24'21"	0.094 sec	1 : 2121805	1 : 2122201
		ΔHt.	72.206 m	0.019 m		
		ΔElev.	71.460 m	0.019 m		
		Ellip Dist.	35402.525 m	0.017 m		
217-28	ACU6	Az.	49°10'32"	0.105 sec	1 : 2050411	1 : 2053977
		ΔHt.	6.238 m	0.027 m		
		ΔElev.	5.400 m	0.027 m		
		Ellip Dist.	34379.792 m	0.017 m		
217-28	URIL	Az.	258°07'42"	0.124 sec	1 : 1610167	1 : 1611922
		ΔHt.	45.665 m	0.027 m		
		ΔElev.	46.107 m	0.027 m		
		Ellip Dist.	28021.947 m	0.017 m		
217-28	XMTS	Az.	355°49'51"	0.062 sec	1 : 3486588	1 : 3480265
		ΔHt.	67.917 m	0.027 m		
		ΔElev.	66.838 m	0.027 m		
		Ellip Dist.	58198.825 m	0.017 m		
217-42	ACU6	Az.	58°06'56"	0.113 sec	1 : 1825399	1 : 1824839
		ΔHt.	26.821 m	0.021 m		
		ΔElev.	26.083 m	0.021 m		
		Ellip Dist.	30253.373 m	0.017 m		
217-42	URIL	Az.	246°10'08"	0.113 sec	1 : 1833199	1 : 1832939
		ΔHt.	66.248 m	0.021 m		
		ΔElev.	66.790 m	0.021 m		
		Ellip Dist.	30337.619 m	0.017 m		
217-42	XMTS	Az.	354°56'55"	0.066 sec	1 : 3104502	1 : 3105584
		ΔHt.	88.500 m	0.021 m		

		ΔElev.	87.521 m	0.021 m		
		Ellip Dist.	51751.713 m	0.017 m		
218-11	ACU6	Az.	38°56'39"	0.080 sec	1 : 2244812	1 : 2232774
		ΔHt.	30.739 m	0.021 m		
		ΔElev.	29.766 m	0.021 m		
		Ellip Dist.	39573.044 m	0.018 m		
218-11	CTGR	Az.	258°52'58"	0.051 sec	1 : 5007460	1 : 4978915
		ΔHt.	6.133 m	0.021 m		
		ΔElev.	6.855 m	0.021 m		
		Ellip Dist.	73713.318 m	0.015 m		
218-11	URIL	Az.	275°05'37"	0.134 sec	1 : 2029299	1 : 2026238
		ΔHt.	70.166 m	0.021 m		
		ΔElev.	70.473 m	0.021 m		
		Ellip Dist.	28681.935 m	0.014 m		
218-11	XMTS	Az.	355°22'32"	0.045 sec	1 : 3612743	1 : 3620736
		ΔHt.	92.418 m	0.021 m		
		ΔElev.	91.204 m	0.021 m		
		Ellip Dist.	66569.068 m	0.018 m		
218-63	ACU6	Az.	73°45'02"	0.130 sec	1 : 1627876	1 : 1628174
		ΔHt.	16.093 m	0.019 m		
		ΔElev.	15.494 m	0.019 m		
		Ellip Dist.	26180.903 m	0.016 m		
218-63	URIL	Az.	233°33'00"	0.096 sec	1 : 2187113	1 : 2186491
		ΔHt.	55.520 m	0.019 m		
		ΔElev.	56.200 m	0.019 m		
		Ellip Dist.	35190.988 m	0.016 m		
218-63	XMTS	Az.	353°12'37"	0.077 sec	1 : 2629364	1 : 2628422
		ΔHt.	77.772 m	0.019 m		
		ΔElev.	76.932 m	0.019 m		
		Ellip				

		Dist.	43201.809 m	0.016 m		
222-12	ACU6	Az.	35°41'54"	0.135 sec	1 : 1487937	1 : 1487015
		ΔHt.	21.450 m	0.026 m		
		ΔElev.	20.659 m	0.026 m		
		Ellip Dist.	31867.586 m	0.021 m		
222-12	URIL	Az.	266°13'03"	0.127 sec	1 : 1684923	1 : 1683967
		ΔHt.	60.877 m	0.026 m		
		ΔElev.	61.366 m	0.026 m		
		Ellip Dist.	34948.275 m	0.021 m		
222-26	ACU6	Az.	43°47'29"	0.134 sec	1 : 1651724	1 : 1649328
		ΔHt.	-6.475 m	0.020 m		
		ΔElev.	-7.156 m	0.020 m		
		Ellip Dist.	26856.397 m	0.016 m		
222-26	URIL	Az.	255°50'37"	0.101 sec	1 : 2221529	1 : 2223761
		ΔHt.	32.952 m	0.020 m		
		ΔElev.	33.551 m	0.020 m		
		Ellip Dist.	35974.428 m	0.016 m		
222-26	XMTS	Az.	348°03'48"	0.060 sec	1 : 3207627	1 : 3203661
		ΔHt.	55.204 m	0.020 m		
		ΔElev.	54.282 m	0.020 m		
		Ellip Dist.	56202.482 m	0.018 m		
222-40	ACU6	Az.	53°41'32"	0.151 sec	1 : 1395475	1 : 1395585
		ΔHt.	-20.721 m	0.021 m		
		ΔElev.	-21.302 m	0.021 m		
		Ellip Dist.	22565.246 m	0.016 m		
222-40	URIL	Az.	247°12'59"	0.089 sec	1 : 2360667	1 : 2361366
		ΔHt.	18.706 m	0.021 m		
		ΔElev.	19.405 m	0.021 m		
		Ellip Dist.	38271.086 m	0.016 m		
222-40	XMTS	Az.	346°12'11"	0.066 sec	1 : 3075950	1 : 3074458

		ΔHt.	40.958 m	0.021 m		
		ΔElev.	40.137 m	0.021 m		
		Ellip Dist.	50418.368 m	0.016 m		
222-52	ACU6	Az.	68°08'19"	0.167 sec	1 : 1212944	1 : 1212183
		ΔHt.	-12.928 m	0.019 m		
		ΔElev.	-13.435 m	0.019 m		
		Ellip Dist.	20080.943 m	0.017 m		
222-52	URIL	Az.	239°16'01"	0.082 sec	1 : 2439005	1 : 2437878
		ΔHt.	26.499 m	0.019 m		
		ΔElev.	27.272 m	0.019 m		
		Ellip Dist.	40521.329 m	0.017 m		
222-52	XMTS	Az.	344°57'43"	0.076 sec	1 : 2733503	1 : 2735650
		ΔHt.	48.751 m	0.019 m		
		ΔElev.	48.003 m	0.019 m		
		Ellip Dist.	44605.216 m	0.016 m		
227-2	CTGR	Az.	265°10'58"	0.113 sec	1 : 1877790	1 : 1877221
		ΔHt.	-37.761 m	0.017 m		
		ΔElev.	-37.675 m	0.017 m		
		Ellip Dist.	26507.354 m	0.014 m		
227-2	CTMA	Az.	316°31'32"	0.051 sec	1 : 4036265	1 : 4039626
		ΔHt.	35.767 m	0.017 m		
		ΔElev.	35.080 m	0.017 m		
		Ellip Dist.	57635.868 m	0.014 m		
227-2	CTPU	Az.	347°59'06"	0.047 sec	1 : 4273663	1 : 4275613
		ΔHt.	37.685 m	0.017 m		
		ΔElev.	36.727 m	0.017 m		
		Ellip Dist.	61776.722 m	0.014 m		
227-2	URIL	Az.	49°20'09"	0.130 sec	1 : 1589908	1 : 1588563
		ΔHt.	26.272 m	0.017 m		
		ΔElev.	25.943 m	0.017 m		

		Ellip Dist.	22728.636 m	0.014 m		
227-22	CTGR	Az.	231°12'46"	0.098 sec	1 : 2074240	1 : 2073074
		ΔHt.	-24.472 m	0.019 m		
		ΔElev.	-24.149 m	0.019 m		
		Ellip Dist.	34047.488 m	0.016 m		
227-22	CTMA	Az.	299°44'10"	0.074 sec	1 : 2836126	1 : 2836586
		ΔHt.	49.056 m	0.019 m		
		ΔElev.	48.605 m	0.019 m		
		Ellip Dist.	45812.389 m	0.016 m		
227-22	URIL	Az.	104°04'47"	0.193 sec	1 : 1092166	1 : 1091848
		ΔHt.	39.561 m	0.019 m		
		ΔElev.	39.468 m	0.019 m		
		Ellip Dist.	17645.531 m	0.016 m		
302-14	CTGR	Az.	295°25'54"	0.082 sec	1 : 2523559	1 : 2523242
		ΔHt.	-13.239 m	0.020 m		
		ΔElev.	-13.345 m	0.020 m		
		Ellip Dist.	41766.548 m	0.017 m		
302-14	CTMA	Az.	320°37'22"	0.043 sec	1 : 4849527	1 : 4849886
		ΔHt.	60.289 m	0.020 m		
		ΔElev.	59.410 m	0.020 m		
		Ellip Dist.	80218.560 m	0.017 m		
302-14	URIL	Az.	9°41'33"	0.096 sec	1 : 2134394	1 : 2134668
		ΔHt.	50.794 m	0.020 m		
		ΔElev.	50.273 m	0.020 m		
		Ellip Dist.	35410.275 m	0.017 m		
302-9	CTGR	Az.	297°21'09"	0.088 sec	1 : 2569167	1 : 2572071
		ΔHt.	-5.982 m	0.020 m		
		ΔElev.	-6.108 m	0.020 m		
		Ellip Dist.	42105.617 m	0.016 m		

302-9	CTMA	Az.	321°25'44"	0.045 sec	1 : 4795534	1 : 4809675
		ΔHt.	67.546 m	0.020 m		
		ΔElev.	66.646 m	0.020 m		
		Ellip Dist.	81113.472 m	0.017 m		
302-9	URIL	Az.	9°48'50"	0.092 sec	1 : 2041561	1 : 2043129
		ΔHt.	58.051 m	0.020 m		
		ΔElev.	57.509 m	0.020 m		
		Ellip Dist.	36856.040 m	0.018 m		
303-14	CTGR	Az.	293°54'23"	0.094 sec	1 : 2273499	1 : 2254895
		ΔHt.	4.904 m	0.023 m		
		ΔElev.	4.813 m	0.023 m		
		Ellip Dist.	43783.594 m	0.019 m		
303-14	CTMA	Az.	319°17'34"	0.055 sec	1 : 4741964	1 : 4715305
		ΔHt.	78.432 m	0.023 m		
		ΔElev.	77.568 m	0.023 m		
		Ellip Dist.	81549.989 m	0.017 m		
303-14	URIL	Az.	6°01'11"	0.123 sec	1 : 1904875	1 : 1920326
		ΔHt.	68.937 m	0.023 m		
		ΔElev.	68.430 m	0.023 m		
		Ellip Dist.	34890.335 m	0.018 m		
304-24	ACU6	Az.	43°56'11"	0.036 sec	1 : 5731628	1 : 5726708
		ΔHt.	24.922 m	0.016 m		
		ΔElev.	23.206 m	0.016 m		
		Ellip Dist.	81361.655 m	0.014 m		
304-24	CTGR	Az.	287°59'40"	0.070 sec	1 : 3003509	1 : 3006013
		ΔHt.	0.316 m	0.016 m		
		ΔElev.	0.296 m	0.016 m		
		Ellip Dist.	42638.456 m	0.014 m		
304-24	CTPU	Az.	340°28'33"	0.036 sec	1 : 5541529	1 : 5542716
		ΔHt.	75.762 m	0.016 m		

		ΔElev.	74.697 m	0.016 m		
		Ellip Dist.	80419.474 m	0.015 m		
304-24	URIL	Az.	5°56'27"	0.096 sec	1 : 2093899	1 : 2092770
		ΔHt.	64.349 m	0.016 m		
		ΔElev.	63.913 m	0.016 m		
		Ellip Dist.	30286.537 m	0.014 m		
304-9	CTGR	Az.	295°17'15"	0.078 sec	1 : 2760129	1 : 2756591
		ΔHt.	-24.720 m	0.020 m		
		ΔElev.	-24.833 m	0.020 m		
		Ellip Dist.	46209.844 m	0.017 m		
304-9	CTMA	Az.	319°16'50"	0.043 sec	1 : 5070720	1 : 5071239
		ΔHt.	48.808 m	0.020 m		
		ΔElev.	47.921 m	0.020 m		
		Ellip Dist.	84202.866 m	0.017 m		
304-9	URIL	Az.	2°58'42"	0.096 sec	1 : 2142612	1 : 2146172
		ΔHt.	39.313 m	0.020 m		
		ΔElev.	38.784 m	0.020 m		
		Ellip Dist.	36733.184 m	0.017 m		
ACU6	123-70	Az.	256°20'24"	0.055 sec	1 : 3849448	1 : 3847143
		ΔHt.	31.188 m	0.016 m		
		ΔElev.	32.263 m	0.016 m		
		Ellip Dist.	53819.901 m	0.014 m		
ACU6	201-9	Az.	231°25'30"	0.051 sec	1 : 3940434	1 : 3938640
		ΔHt.	-34.623 m	0.018 m		
		ΔElev.	-33.206 m	0.018 m		
		Ellip Dist.	65211.340 m	0.017 m		
ACU6	202-24	Az.	234°42'38"	0.057 sec	1 : 3634614	1 : 3633307
		ΔHt.	-24.658 m	0.018 m		
		ΔElev.	-23.358 m	0.018 m		
		Ellip				

		Dist.	58885.960 m	0.016 m		
ACU6	204-38	Az.	242°12'54"	0.069 sec	1 : 3161958	1 : 3162189
		ΔHt.	7.201 m	0.021 m		
		ΔElev.	8.316 m	0.021 m		
		Ellip Dist.	51045.396 m	0.016 m		
ACU6	204-53	Az.	249°44'38"	0.062 sec	1 : 3402285	1 : 3400390
		ΔHt.	-29.858 m	0.016 m		
		ΔElev.	-28.832 m	0.016 m		
		Ellip Dist.	47951.072 m	0.014 m		
ACU6	204-70	Az.	258°33'46"	0.063 sec	1 : 3321001	1 : 3320977
		ΔHt.	-28.067 m	0.016 m		
		ΔElev.	-27.108 m	0.016 m		
		Ellip Dist.	46215.094 m	0.014 m		
ACU6	204-78	Az.	263°01'21"	0.064 sec	1 : 3214776	1 : 3214746
		ΔHt.	-26.720 m	0.021 m		
		ΔElev.	-25.819 m	0.021 m		
		Ellip Dist.	45406.043 m	0.014 m		
ACU6	206-78	Az.	270°46'37"	0.069 sec	1 : 3002154	1 : 3002659
		ΔHt.	-29.801 m	0.016 m		
		ΔElev.	-29.066 m	0.016 m		
		Ellip Dist.	42129.838 m	0.014 m		
ACU6	206-9	Az.	232°59'48"	0.064 sec	1 : 3291336	1 : 3289432
		ΔHt.	-23.036 m	0.018 m		
		ΔElev.	-21.840 m	0.018 m		
		Ellip Dist.	53205.726 m	0.016 m		
ACU6	207-26	Az.	239°28'58"	0.072 sec	1 : 2870997	1 : 2868610
		ΔHt.	-27.795 m	0.019 m		
		ΔElev.	-26.747 m	0.019 m		
		Ellip Dist.	47317.541 m	0.016 m		
ACU6	207-61	Az.	259°05'31"	0.086 sec	1 : 2574853	1 : 2571786

		ΔHt.	-16.703 m	0.020 m		
		ΔElev.	-15.824 m	0.020 m		
		Ellip Dist.	41851.531 m	0.016 m		
ACU6	208-35	Az.	243°27'40"	0.076 sec	1 : 2724238	1 : 2723006
		ΔHt.	-20.795 m	0.023 m		
		ΔElev.	-19.819 m	0.023 m		
		Ellip Dist.	44572.383 m	0.016 m		
ACU6	209-9	Az.	230°51'23"	0.060 sec	1 : 3370955	1 : 3364797
		ΔHt.	-29.528 m	0.017 m		
		ΔElev.	-28.388 m	0.017 m		
		Ellip Dist.	49915.729 m	0.015 m		
ACU6	211-31	Az.	237°48'22"	0.083 sec	1 : 2491797	1 : 2490354
		ΔHt.	-7.319 m	0.019 m		
		ΔElev.	-6.388 m	0.019 m		
		Ellip Dist.	40838.730 m	0.016 m		
ACU6	211-9	Az.	228°13'08"	0.061 sec	1 : 3396083	1 : 3395392
		ΔHt.	-32.500 m	0.016 m		
		ΔElev.	-31.391 m	0.016 m		
		Ellip Dist.	47557.306 m	0.014 m		
CTGR	123-57	Az.	59°06'17"	0.056 sec	1 : 3685933	1 : 3684926
		ΔHt.	55.754 m	0.017 m		
		ΔElev.	55.201 m	0.017 m		
		Ellip Dist.	51846.646 m	0.014 m		
CTGR	201-9	Az.	84°18'35"	0.073 sec	1 : 2844839	1 : 2841824
		ΔHt.	-10.017 m	0.018 m		
		ΔElev.	-10.296 m	0.018 m		
		Ellip Dist.	46549.428 m	0.016 m		
CTGR	202-24	Az.	77°03'18"	0.067 sec	1 : 3108803	1 : 3108334
		ΔHt.	-0.052 m	0.018 m		
		ΔElev.	-0.448 m	0.018 m		

		Ellip Dist.	50428.595 m	0.016 m		
CTGR	206-9	Az.	76°15'56"	0.061 sec	1 : 3485988	1 : 3485594
		ΔHt.	1.570 m	0.018 m		
		ΔElev.	1.070 m	0.018 m		
		Ellip Dist.	56304.737 m	0.016 m		
CTGR	209-9	Az.	76°35'50"	0.052 sec	1 : 4200511	1 : 4189394
		ΔHt.	-4.922 m	0.017 m		
		ΔElev.	-5.477 m	0.017 m		
		Ellip Dist.	60101.593 m	0.014 m		
CTGR	211-9	Az.	77°23'51"	0.046 sec	1 : 4500338	1 : 4500725
		ΔHt.	-7.894 m	0.016 m		
		ΔElev.	-8.480 m	0.016 m		
		Ellip Dist.	63240.141 m	0.014 m		
CTMA	106-84	Az.	44°18'29"	0.073 sec	1 : 2791748	1 : 2791261
		ΔHt.	70.578 m	0.021 m		
		ΔElev.	69.996 m	0.021 m		
		Ellip Dist.	46214.015 m	0.017 m		
CTMA	110-178	Az.	48°30'21"	0.066 sec	1 : 3167118	1 : 3165869
		ΔHt.	94.876 m	0.019 m		
		ΔElev.	94.314 m	0.019 m		
		Ellip Dist.	51348.661 m	0.016 m		
CTMA	114-134	Az.	70°50'21"	0.072 sec	1 : 2862898	1 : 2860745
		ΔHt.	94.341 m	0.019 m		
		ΔElev.	94.121 m	0.019 m		
		Ellip Dist.	46895.099 m	0.016 m		
CTMA	114-175	Az.	52°37'59"	0.061 sec	1 : 3393426	1 : 3391267
		ΔHt.	88.087 m	0.018 m		
		ΔElev.	87.540 m	0.018 m		
		Ellip Dist.	55200.860 m	0.016 m		

CTMA	118-120	Az.	77°16'23"	0.066 sec	1 : 3169188	1 : 3169114
		ΔHt.	11.856 m	0.020 m		
		ΔElev.	11.672 m	0.020 m		
		Ellip Dist.	51142.746 m	0.016 m		
CTMA	123-57	Az.	106°36'13"	0.048 sec	1 : 4321445	1 : 4323212
		ΔHt.	-17.774 m	0.017 m		
		ΔElev.	-17.554 m	0.017 m		
		Ellip Dist.	60444.646 m	0.014 m		
CTMA	123-96	Az.	89°42'05"	0.051 sec	1 : 4104095	1 : 4102153
		ΔHt.	-1.751 m	0.016 m		
		ΔElev.	-1.785 m	0.016 m		
		Ellip Dist.	57918.923 m	0.014 m		
CTMA	227-57	Az.	76°38'21"	0.073 sec	1 : 2905819	1 : 2907366
		ΔHt.	64.834 m	0.017 m		
		ΔElev.	64.732 m	0.017 m		
		Ellip Dist.	40735.253 m	0.014 m		
CTPU	106-84	Az.	21°31'49"	0.219 sec	1 : 929339	1 : 929496
		ΔHt.	68.660 m	0.021 m		
		ΔElev.	68.349 m	0.021 m		
		Ellip Dist.	15376.497 m	0.017 m		
CTPU	110-178	Az.	37°49'46"	0.174 sec	1 : 1187641	1 : 1187082
		ΔHt.	92.958 m	0.019 m		
		ΔElev.	92.667 m	0.019 m		
		Ellip Dist.	19283.261 m	0.016 m		
CTPU	114-134	Az.	100°59'58"	0.190 sec	1 : 1106484	1 : 1105882
		ΔHt.	92.423 m	0.019 m		
		ΔElev.	92.474 m	0.019 m		
		Ellip Dist.	17921.837 m	0.016 m		
CTPU	114-175	Az.	49°33'13"	0.149 sec	1 : 1393141	1 : 1392112
		ΔHt.	86.169 m	0.018 m		

		ΔElev.	85.893 m	0.018 m		
		Ellip Dist.	22647.398 m	0.016 m		
CTPU	118-120	Az.	108°05'08"	0.138 sec	1 : 1507752	1 : 1508543
		ΔHt.	9.938 m	0.020 m		
		ΔElev.	10.025 m	0.020 m		
		Ellip Dist.	24370.272 m	0.016 m		
CTPU	123-57	Az.	139°17'02"	0.061 sec	1 : 3381545	1 : 3383620
		ΔHt.	-19.692 m	0.017 m		
		ΔElev.	-19.200 m	0.017 m		
		Ellip Dist.	47673.196 m	0.014 m		
CTPU	123-70	Az.	134°01'57"	0.068 sec	1 : 3076028	1 : 3080461
		ΔHt.	-19.652 m	0.016 m		
		ΔElev.	-19.228 m	0.016 m		
		Ellip Dist.	43462.310 m	0.014 m		
CTPU	123-96	Az.	120°46'55"	0.081 sec	1 : 2580601	1 : 2581174
		ΔHt.	-3.669 m	0.016 m		
		ΔElev.	-3.432 m	0.016 m		
		Ellip Dist.	36266.323 m	0.014 m		
CTPU	204-53	Az.	131°23'04"	0.057 sec	1 : 3643981	1 : 3647643
		ΔHt.	-80.698 m	0.016 m		
		ΔElev.	-80.322 m	0.016 m		
		Ellip Dist.	51451.828 m	0.014 m		
CTPU	204-70	Az.	124°49'43"	0.062 sec	1 : 3319071	1 : 3321106
		ΔHt.	-78.907 m	0.016 m		
		ΔElev.	-78.599 m	0.016 m		
		Ellip Dist.	46543.013 m	0.014 m		
CTPU	204-78	Az.	120°51'02"	0.065 sec	1 : 3175699	1 : 3175663
		ΔHt.	-77.560 m	0.021 m		
		ΔElev.	-77.310 m	0.021 m		
		Ellip				

		Dist.	44717.736 m	0.014 m		
CTPU	206-78	Az.	112°09'55"	0.065 sec	1 : 3168580	1 : 3170256
		ΔHt.	-80.641 m	0.016 m		
		ΔElev.	-80.557 m	0.016 m		
		Ellip Dist.	44556.001 m	0.014 m		
CTPU	208-35	Az.	130°25'31"	0.059 sec	1 : 3532092	1 : 3534354
		ΔHt.	-71.635 m	0.023 m		
		ΔElev.	-71.309 m	0.023 m		
		Ellip Dist.	57473.442 m	0.016 m		
CTPU	227-57	Az.	126°00'44"	0.182 sec	1 : 1113053	1 : 1114491
		ΔHt.	62.916 m	0.017 m		
		ΔElev.	63.085 m	0.017 m		
		Ellip Dist.	15954.966 m	0.014 m		
URIL	123-70	Az.	4°12'28"	0.187 sec	1 : 1061368	1 : 1061466
		ΔHt.	-8.239 m	0.016 m		
		ΔElev.	-8.444 m	0.016 m		
		Ellip Dist.	15386.052 m	0.014 m		
URIL	123-96	Az.	2°18'29"	0.108 sec	1 : 1891328	1 : 1891994
		ΔHt.	7.744 m	0.016 m		
		ΔElev.	7.352 m	0.016 m		
		Ellip Dist.	27015.771 m	0.014 m		
URIL	201-9	Az.	168°06'35"	0.262 sec	1 : 785177	1 : 786113
		ΔHt.	-74.050 m	0.018 m		
		ΔElev.	-73.913 m	0.018 m		
		Ellip Dist.	12872.337 m	0.016 m		
URIL	202-24	Az.	137°03'47"	0.414 sec	1 : 496850	1 : 497102
		ΔHt.	-64.085 m	0.018 m		
		ΔElev.	-64.065 m	0.018 m		
		Ellip Dist.	8102.405 m	0.016 m		
URIL	204-38	Az.	62°40'41"	0.373 sec	1 : 580166	1 : 580203

		ΔHt.	-32.226 m	0.021 m		
		ΔElev.	-32.391 m	0.021 m		
		Ellip Dist.	9396.978 m	0.016 m		
URIL	204-53	Az.	36°21'11"	0.204 sec	1 : 997110	1 : 996814
		ΔHt.	-69.285 m	0.016 m		
		ΔElev.	-69.538 m	0.016 m		
		Ellip Dist.	14288.594 m	0.014 m		
URIL	204-70	Az.	23°09'30"	0.141 sec	1 : 1461920	1 : 1461431
		ΔHt.	-67.494 m	0.016 m		
		ΔElev.	-67.815 m	0.016 m		
		Ellip Dist.	20602.712 m	0.014 m		
URIL	204-78	Az.	20°10'44"	0.121 sec	1 : 1697926	1 : 1697484
		ΔHt.	-66.147 m	0.021 m		
		ΔElev.	-66.526 m	0.021 m		
		Ellip Dist.	24069.824 m	0.014 m		
URIL	206-78	Az.	21°19'10"	0.095 sec	1 : 2187987	1 : 2187286
		ΔHt.	-69.228 m	0.016 m		
		ΔElev.	-69.773 m	0.016 m		
		Ellip Dist.	30809.631 m	0.014 m		
URIL	206-9	Az.	109°21'53"	0.289 sec	1 : 724129	1 : 724773
		ΔHt.	-62.463 m	0.018 m		
		ΔElev.	-62.547 m	0.018 m		
		Ellip Dist.	11743.870 m	0.016 m		
URIL	207-26	Az.	72°06'59"	0.257 sec	1 : 816569	1 : 815810
		ΔHt.	-67.222 m	0.019 m		
		ΔElev.	-67.454 m	0.019 m		
		Ellip Dist.	13394.472 m	0.016 m		
URIL	207-61	Az.	31°18'16"	0.143 sec	1 : 1365111	1 : 1362931
		ΔHt.	-56.130 m	0.020 m		
		ΔElev.	-56.531 m	0.020 m		

		Ellip Dist.	23663.286 m	0.017 m		
URIL	209-9	Az.	102°43'25"	0.207 sec	1 : 1087836	1 : 1087521
		ΔHt.	-68.955 m	0.017 m		
		ΔElev.	-69.095 m	0.017 m		
		Ellip Dist.	15226.677 m	0.014 m		
URIL	211-31	Az.	71°14'44"	0.170 sec	1 : 1223244	1 : 1222357
		ΔHt.	-46.746 m	0.019 m		
		ΔElev.	-47.095 m	0.019 m		
		Ellip Dist.	19995.076 m	0.016 m		
URIL	211-9	Az.	100°57'40"	0.158 sec	1 : 1312881	1 : 1313118
		ΔHt.	-71.927 m	0.016 m		
		ΔElev.	-72.097 m	0.016 m		
		Ellip Dist.	18440.087 m	0.014 m		
URIL	227-57	Az.	334°42'49"	0.072 sec	1 : 2769634	1 : 2769258
		ΔHt.	74.329 m	0.017 m		
		ΔElev.	73.869 m	0.017 m		
		Ellip Dist.	40091.171 m	0.014 m		
XMTS	106-84	Az.	265°25'35"	0.072 sec	1 : 2895862	1 : 2895328
		ΔHt.	57.821 m	0.021 m		
		ΔElev.	58.402 m	0.021 m		
		Ellip Dist.	47398.415 m	0.016 m		
XMTS	110-178	Az.	265°57'42"	0.082 sec	1 : 2556646	1 : 2556818
		ΔHt.	82.119 m	0.019 m		
		ΔElev.	82.720 m	0.019 m		
		Ellip Dist.	41159.325 m	0.016 m		
XMTS	114-134	Az.	238°38'30"	0.081 sec	1 : 2532543	1 : 2531228
		ΔHt.	81.584 m	0.019 m		
		ΔElev.	82.527 m	0.019 m		
		Ellip Dist.	41491.030 m	0.016 m		

XMTS	114-175	Az.	264°25'45"	0.095 sec	1 : 2222511	1 : 2222762
		ΔHt.	75.330 m	0.018 m		
		ΔElev.	75.946 m	0.018 m		
		Ellip Dist.	35822.232 m	0.016 m		
XMTS	118-120	Az.	229°13'18"	0.085 sec	1 : 2444139	1 : 2442939
		ΔHt.	-0.901 m	0.020 m		
		ΔElev.	0.078 m	0.020 m		
		Ellip Dist.	39469.300 m	0.016 m		
XMTS	123-57	Az.	202°10'10"	0.049 sec	1 : 4156210	1 : 4154361
		ΔHt.	-30.531 m	0.017 m		
		ΔElev.	-29.148 m	0.017 m		
		Ellip Dist.	58748.637 m	0.014 m		
XMTS	123-70	Az.	204°23'00"	0.054 sec	1 : 3690271	1 : 3687719
		ΔHt.	-30.491 m	0.016 m		
		ΔElev.	-29.175 m	0.016 m		
		Ellip Dist.	53230.003 m	0.014 m		
XMTS	123-96	Az.	210°49'32"	0.067 sec	1 : 3001673	1 : 3000989
		ΔHt.	-14.508 m	0.016 m		
		ΔElev.	-13.379 m	0.016 m		
		Ellip Dist.	42891.940 m	0.014 m		
XMTS	204-38	Az.	193°57'07"	0.055 sec	1 : 3699709	1 : 3694318
		ΔHt.	-54.478 m	0.021 m		
		ΔElev.	-53.122 m	0.021 m		
		Ellip Dist.	61346.618 m	0.017 m		
XMTS	204-53	Az.	195°37'59"	0.053 sec	1 : 3777403	1 : 3776189
		ΔHt.	-91.537 m	0.016 m		
		ΔElev.	-90.270 m	0.016 m		
		Ellip Dist.	54353.306 m	0.014 m		
XMTS	204-70	Az.	198°27'34"	0.061 sec	1 : 3359010	1 : 3357362
		ΔHt.	-89.746 m	0.016 m		

		ΔElev.	-88.546 m	0.016 m		
		Ellip Dist.	47342.489 m	0.014 m		
XMTS	204-78	Az.	199°42'26"	0.066 sec	1 : 3095200	1 : 3095852
		ΔHt.	-88.399 m	0.021 m		
		ΔElev.	-87.257 m	0.021 m		
		Ellip Dist.	43824.266 m	0.014 m		
XMTS	206-78	Az.	198°38'28"	0.078 sec	1 : 2636625	1 : 2635882
		ΔHt.	-91.480 m	0.016 m		
		ΔElev.	-90.504 m	0.016 m		
		Ellip Dist.	37104.454 m	0.014 m		
XMTS	207-26	Az.	189°52'03"	0.055 sec	1 : 3607821	1 : 3608143
		ΔHt.	-89.474 m	0.019 m		
		ΔElev.	-88.185 m	0.019 m		
		Ellip Dist.	60647.974 m	0.017 m		
XMTS	207-61	Az.	193°53'27"	0.074 sec	1 : 2563145	1 : 2561503
		ΔHt.	-78.382 m	0.020 m		
		ΔElev.	-77.263 m	0.020 m		
		Ellip Dist.	44959.218 m	0.018 m		
XMTS	208-35	Az.	189°42'49"	0.059 sec	1 : 3408027	1 : 3408152
		ΔHt.	-82.474 m	0.023 m		
		ΔElev.	-81.257 m	0.023 m		
		Ellip Dist.	56443.838 m	0.017 m		
XMTS	209-9	Az.	187°02'54"	0.042 sec	1 : 4442587	1 : 4444918
		ΔHt.	-91.207 m	0.017 m		
		ΔElev.	-89.826 m	0.017 m		
		Ellip Dist.	67736.345 m	0.015 m		
XMTS	211-31	Az.	184°10'50"	0.058 sec	1 : 3468196	1 : 3468999
		ΔHt.	-68.998 m	0.019 m		
		ΔElev.	-67.826 m	0.019 m		
		Ellip				

		Dist.	57608.579 m	0.017 m		
XMTS	211-9	Az.	184°17'43"	0.042 sec	1 : 4790034	1 : 4789224
		ΔHt.	-94.179 m	0.016 m		
		ΔElev.	-92.829 m	0.016 m		
		Ellip Dist.	67577.273 m	0.014 m		
XMTS	227-57	Az.	235°34'55"	0.061 sec	1 : 3486875	1 : 3485202
		ΔHt.	52.077 m	0.017 m		
		ΔElev.	53.138 m	0.017 m		
		Ellip Dist.	48684.324 m	0.014 m		

Date: 6/1/2011 4:19:02 PM	Project: E:\Trimble_Business_Center\7505-063\7505-063.vce	Trimble Business Center
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Monument Description Sheets

2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **103-11**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Watch Hill**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4577753.548	ELEVATION (m)	ELLIPSOID (m)
EASTING (M)	261486.081	6.745	-23.929

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: 06901382	DATE: 05/18/11	START TIME: 10:51	U.T.C.
	DAY OF YEAR: 138	END TIME: 11:41	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **5106461161**
Antenna Type: **TRMR8** Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner of Stop Bar

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



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **103-25**
Proj. No.: **7505-063**

STATE **CT** COUNTY **New London** QUAD: **Ashaway**

OPERATOR **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4584363.266	ELEVATION (m)	ELLIPSOID (m)
EASTING (M)	261954.049	22.64	-7.928

RECEIVER MODEL **Trimble R8**
RECEIVER S/N **5106461161**

SESSION **06901373** DATE: **05/17/11**
DAY OF YEAR **137**

START TIME **12:45** U.T.C.
END TIME **13:35** LOCAL

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

ANTENNA
RADIUS (M)
Antenna Serial # **5106461161**
Antenna Type **TRMR8** Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
MTRS/FT **2.000 Meters**
MEASURED **X** FIXED HGT

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

Sidewalk Corner

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



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **103-39**
Proj. No.: **7505-063**

STATE **CT** COUNTY **New London** QUAD: **Ashaway**

OPERATOR **K Roberts**
RECEIVER MODEL **Trimble R8**
RECEIVER S/N **5106461161**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4590613.419	ELEVATION (m)	ELLIPSOID (m)
EASTING (M)	262028.186	32.581	2.098

SESSION	DATE: 05/17/11	START TIME	11:20	U.T.C.
06901372	DAY OF YEAR 137	END TIME	12:10	X LOCAL

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

ANTENNA
RADIUS (M)
Antenna Serial # **5106461161**
Antenna Type **TRMR8** Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
MTRS/FT **2.000 Meters**
MEASURED **X** FIXED HGT

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

Corner of Stop Bar

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



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **105-63**
Proj. No.: **7505-063**

STATE **CT** COUNTY **New London** QUAD: **Voluntown**

OPERATOR **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4604574.195	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	265523.520	153.378	123.072

RECEIVER MODEL **Trimble R7**
RECEIVER S/N **5106K20890**

SESSION	DATE: 05/17/11	START TIME	15:20	U.T.C.
08901374	DAY OF YEAR 137	END TIME	16:10	X LOCAL

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

ANTENNA
RADIUS (M)
Antenna Serial # **1441053320**
Antenna Type **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT **2.000 Meters**
MEASURED **X** FIXED HGT

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

Edge of Road at Edge of Paved Entrance Apron

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



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **106-40**
Proj. No.: **7505-063**

STATE **CT** COUNTY **Windham** QUAD: **East Killingly**

OPERATOR **J.SAMONS**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4637115.038	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	266179.686	196.101	166.373

RECEIVER MODEL **Trimble R 7**
RECEIVER S/N **5106K20886**

FILE NAME	DATE: 05/19/11	START TIME	16:59	U.T.C.
08861397	DAY OF YEAR 139	END TIME	17:50	X LOCAL

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

ANTENNA
RADIUS (M)
Antenna Serial # **1441107660**
Antenna Type **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT **2.000 Meters**
MEASURED **X** FIXED HGT

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

MAG HUB w/WASHER @ SOUTH CORNER OF SIDEWALK AT ROAD EDGE.

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

SKETCH: PHOTO:



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **106-57**
Proj. No.: **7505-063**

STATE **CT** COUNTY **Windham** QUAD: **Thompson**

OPERATOR **J.SAMONS**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4644472.874	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	266267.154	132.162	102.595

RECEIVER MODEL **Trimble R 7**
RECEIVER S/N **5106K20886**

FILE NAME	DATE: 05/19/11	START TIME	15:48	U.T.C.
08861396	DAY OF YEAR 139	END TIME	16:39	X LOCAL

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

ANTENNA
RADIUS (M)
Antenna Serial # **1441107660**
Antenna Type **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT **2.000 Meters**
MEASURED **X** FIXED HGT

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

NORTHEAST CORNER OF CATCH BASIN GRATE.

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

SKETCH: PHOTO:



2670 Wilhite Drive
Lexington, KY 40503
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JOB REFERENCE
Rhode Island

POINT ID: **106-84**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Worcester** QUAD: **Oxford**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4656785.436	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	266466.130	155.047	125.760

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861370	DATE: 05/17/11	START TIME: 08:11	U.T.C.
	DAY OF YEAR: 137	END TIME: 09:01	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

MAG HUB w/WASHER @ EDGE OF SIDEWALK AT PAVEMENT SEPERATION.

<input type="checkbox"/> AERIAL TARGET	<input checked="" type="checkbox"/> PHOTO I.D.
<input type="checkbox"/> PUB. BENCH MARK	<input type="checkbox"/> NEW CONTROL
<input type="checkbox"/> PUB. CONTROL	<input type="checkbox"/> BASE STATION

SKETCH:



PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **107-11**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Watch Hill**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4579667.275	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	266250.646	2.904	-27.717

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: **06901383** DATE: **05/18/11**
DAY OF YEAR: **138**

START TIME: **12:02** U.T.C.
END TIME: **12:52** LOCAL

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

ANTENNA
RADIUS (M)
Antenna Serial #: **5106461161**
Antenna Type: **TRMR8** Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

Edge of Road @ Edge of Driveway

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



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JOB REFERENCE
Rhode Island

POINT ID: **107-44**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Ashaway**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4595871.457	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	266735.387	98.770	68.373

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: 06901371	DATE: 05/17/11	START TIME: 10:04	U.T.C.
	DAY OF YEAR: 137	END TIME: 10:54	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	5106461161		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Top of ground @ Asphalt Curb at Intersection of Road and Driveway

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



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JOB REFERENCE
Rhode Island

POINT ID: **107-95**
Proj. No.: **7505-063**

STATE **CT** COUNTY **Windham** QUAD: **Oneco**

OPERATOR **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4619566.115	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	266204.250	104.668	74.596

RECEIVER MODEL **Trimble R7**
RECEIVER S/N **5106K20890**

SESSION **08901373** DATE: **05/17/11**
DAY OF YEAR **137**

START TIME **13:30** U.T.C.
END TIME **14:20** LOCAL **X**

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

ANTENNA
RADIUS (M)
Antenna Serial # **1441053320**
Antenna Type **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT **2.000 Meters**
MEASURED **X** FIXED HGT

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

Corner of Sidewalk @ Edge of Driveway

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



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JOB REFERENCE
Rhode Island

POINT ID: **107-120**
Proj. No.: **7505-063**

STATE **CT** COUNTY **Windham** QUAD: **East Killingly**

OPERATOR **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4630431.887	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	267247.767	157.910	128.066

RECEIVER MODEL **Trimble R7**
RECEIVER S/N **5106K20890**

SESSION	DATE: 05/17/11	START TIME	09:45	U.T.C.
08901370	DAY OF YEAR 137	END TIME	10:35	X LOCAL

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

ANTENNA
RADIUS (M)
Antenna Serial # **1441053320**
Antenna Type **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT **2.000 Meters**
MEASURED **X** FIXED HGT

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

Corner of a Concrete Curb Box Inlet

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



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JOB REFERENCE
Rhode Island

POINT ID: **108-27**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Ashaway**

OPERATOR: **K Roberts**
RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4589373.605	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	267006.276	18.213	-12.262

SESSION: 06901374	DATE: 05/17/11	START TIME: 14:04	U.T.C.
	DAY OF YEAR: 137	END TIME: 14:54	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	5106461161		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of a Stop Bar

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



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JOB REFERENCE
Rhode Island

POINT ID: **110-75**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Kent** QUAD: **Oneco**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4612126.817	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	270800.791	147.962	117.795

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901376	DATE: 05/17/11	START TIME: 17:59	U.T.C.
	DAY OF YEAR: 137	END TIME: 18:49	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Moved across the street from where the point was picked for better SV. Edge of road at the edge of a driveway.

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



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JOB REFERENCE
Rhode Island

POINT ID: **108-78**
Proj. No.: **7505-063**

STATE: **CT** COUNTY: **New London** QUAD: **Oneco**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4612859.002	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	267699.586	103.748	73.564

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: **08901375** DATE: **05/17/11**
DAY OF YEAR: **137**

START TIME: **16:54** U.T.C.
END TIME: **17:44** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED: FIXED HGT:

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

Corner of a Concrete Drop Box Inlet

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



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JOB REFERENCE
Rhode Island

POINT ID: **110-163**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Providence** QUAD: **Thompson**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4650896.510	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	271841.289	170.785	141.340

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861395	DATE: 05/19/11	START TIME: 14:36	U.T.C.
	DAY OF YEAR: 139	END TIME: 15:26	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

MAG NAIL w/WASHER, WEST INSIDE CORNER OF WHITE PAINTED LINES @ STOP BAR.

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

SKETCH: PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **110-178**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Worcester** QUAD: **Uxbridge**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4657503.375	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	272679.091	179.364	150.058

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861371** DATE: **05/17/11**
DAY OF YEAR: **137**

START TIME: **09:31** U.T.C.
END TIME: **10:21** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

MAG NAIL w/WASHER @ CORNER OF CATCH BASIN.

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

SKETCH: PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **111-101**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Providence** QUAD: **Coventry Center**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4623632.377	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	272044.733	147.578	117.634

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901372	DATE: 05/17/11	START TIME: 12:24	U.T.C.
	DAY OF YEAR: 137	END TIME: 13:14	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

east corner of driveway

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



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JOB REFERENCE
Rhode Island

POINT ID: **112-31**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Carolina**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4590919.862	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	272809.203	16.920	-13.510

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: 06901375	DATE: 05/17/11	START TIME: 15:15	U.T.C.
	DAY OF YEAR: 137	END TIME: 16:05	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	5106461161		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner Catch Basin

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



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JOB REFERENCE
Rhode Island

POINT ID: 113-8
Proj. No.: 7505-063

STATE RI **COUNTY** Washington **QUAD:** Quonochontaug

OPERATOR K Roberts

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4579866.782	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	273623.114	4.216	-26.356

RECEIVER MODEL Trimble R8
RECEIVER S/N 5106461161

SESSION 06901385 **DATE:** 05/18/11
DAY OF YEAR 138

START TIME 14:32 **U.T.C.**
END TIME 15:22 **X LOCAL**

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

ANTENNA
RADIUS (M) **Antenna Serial #** 5106461161
Antenna Type TRMR8 Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
MTRS/FT 2.000 Meters
MEASURED **X** **FIXED HGT**

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

Corner of Stripe

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



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JOB REFERENCE
Rhode Island

POINT ID: **114-134**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Providence** QUAD: **Clayville**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4638665.257	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	277814.019	179.172	149.523

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861401	DATE: 05/20/11	START TIME: 08:02	U.T.C.
	DAY OF YEAR: 140	END TIME: 08:53	X LOCAL

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

ANTENNA
RADIUS (M): _____
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED _____ **X** FIXED HGT _____

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

SOUTHEAST CORNER OF PAINTED STOP BAR.

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

SKETCH: PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **114-175**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Worcester** QUAD: **Uxbridge**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4656782.432	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	278067.268	172.590	143.269

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861372	DATE: 05/17/11	START TIME: 10:41	U.T.C.
	DAY OF YEAR: 137	END TIME: 11:31	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

MAG HUB w/WASHER @ CORNER OF PARKING LOT.

<input type="checkbox"/> AERIAL TARGET	<input checked="" type="checkbox"/> X	PHOTO I.D.
<input type="checkbox"/> PUB. BENCH MARK		NEW CONTROL
<input type="checkbox"/> PUB. CONTROL		BASE STATION



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JOB REFERENCE
Rhode Island

POINT ID: **115-11**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Quonochontaug**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4583125.574	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	277228.816	6.483	-24.018

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: 06901386	DATE: 05/18/11	START TIME: 15:49	U.T.C.
	DAY OF YEAR: 138	END TIME: 16:39	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **5106461161**
Antenna Type: **TRMR8** Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Moved to SE Corner of Concrete Pad

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



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JOB REFERENCE
Rhode Island

POINT ID: 115-41
Proj. No.: 7505-063

STATE RI **COUNTY** Washington **QUAD:** Carolina

OPERATOR K Roberts

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4597677.321	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	277849.332	43.386	13.065

RECEIVER MODEL Trimble R8
RECEIVER S/N 5106461161

SESSION 06901376 **DATE:** 05/17/11
DAY OF YEAR 137

START TIME 16:30 **U.T.C.**
END TIME 17:20 **X LOCAL**

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

ANTENNA
RADIUS (M) **Antenna Serial #** 5106461161
Antenna Type TRMR8 Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
MTRS/FT 2.000 Meters
MEASURED **X** **FIXED HGT**

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

Corner Concrete Curb Box Inlet

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



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JOB REFERENCE
Rhode Island

POINT ID: **115-66**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Kent** QUAD: **Hope Valley**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4609027.012	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	278631.585	139.939	109.787

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 089013282	DATE: 05/17/11	START TIME: 11:12	U.T.C.
	DAY OF YEAR: 137	END TIME: 12:02	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner of a Drop Box Inlet

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



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JOB REFERENCE
Rhode Island

POINT ID: **115-86**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Kent** QUAD: **Coventry Center**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4617848.478	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	278618.003	147.055	117.047

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901381	DATE: 05/18/11	START TIME: 09:46	U.T.C.
	DAY OF YEAR: 138	END TIME: 10:36	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner of Sidewalks

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



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JOB REFERENCE
Rhode Island

POINT ID: **116-25**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Carolina**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4589526.233	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	278819.181	53.037	22.627

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: 06901377	DATE: 05/17/11	START TIME: 17:36	U.T.C.
	DAY OF YEAR: 137	END TIME: 18:26	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	5106461161		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of Stripe

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



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JOB REFERENCE
Rhode Island

POINT ID: **116-157**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Providence** QUAD: **Chepachet**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4649223.266	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	280299.080	123.987	94.508

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861394	DATE: 05/19/11	START TIME: 13:13	U.T.C.
	DAY OF YEAR: 139	END TIME: 14:03	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

NORTHEAST CORNER OF CATCH BASIN.

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

SKETCH: PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **117-99**
Proj. No.: **7505-063**

STATE **Rhode Island** COUNTY **Providence** QUAD: **Coventry Center**

OPERATOR **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4624971.029	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	281077.904	149.526	119.656

RECEIVER MODEL **Trimble R7**
RECEIVER S/N **5106K20890**

SESSION **08901371** DATE: **05/17/11**
DAY OF YEAR **137**

START TIME **11:06** U.T.C.
END TIME **11:56** LOCAL **X**

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

ANTENNA
RADIUS (M)
Antenna Serial # **1441053320**
Antenna Type **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT **2.000 Meters**
MEASURED **X** FIXED HGT

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

Edge of Driveway @ Top of Curb @ Back of Curb

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



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JOB REFERENCE
Rhode Island

POINT ID: **118-46**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Slocom**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4601136.119	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	281496.527	76.654	46.413

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901383	DATE: 05/18/11	START TIME: 12:29	U.T.C.
	DAY OF YEAR: 138	END TIME: 13:18	X LOCAL

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

ANTENNA
RADIUS (M): _____
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED _____ **X** FIXED HGT _____

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

Corner of Driveway @ Edge of Street

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



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JOB REFERENCE
Rhode Island

POINT ID: **118-120**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Providence** QUAD: **North Scituate**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4634333.300	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	283246.047	96.723	67.038

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861402** DATE: **05/20/11**
DAY OF YEAR: **140**

START TIME: **09:13** U.T.C.
END TIME: **10:03** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED: FIXED HGT:

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

MAG HUB w/WASHER, OUTER CORNER OF PARKING LOT.

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

SKETCH:

PHOTO:



05.20.2011 09:19

05.20.2011 09:19

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JOB REFERENCE
Rhode Island

POINT ID: **119-8**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Kingston OE S**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4582803.391	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	282859.190	6.215	-24.240

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: 06901387	DATE: 05/18/11	START TIME: 17:08	U.T.C.
	DAY OF YEAR: 138	END TIME: 17:58	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)		
Antenna Serial #	5106461161	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
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TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of a Stop Bar

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



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JOB REFERENCE
Rhode Island

POINT ID: **119-167**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Worcester** QUAD: **Blackstone**

OPERATOR: **J.SAMONS**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4655653.096	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	285589.413	108.426	79.119

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861373** DATE: **05/17/11**
DAY OF YEAR: **137**

START TIME: **12:23** U.T.C.
END TIME: **13:14** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

CENTER MANHOLE COVER.

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

SKETCH:



PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **120-76**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Kent** QUAD: **Crompton**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4614852.789	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	285366.644	101.471	71.454

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: **08901380** DATE: **5/182011**
DAY OF YEAR: **138**

START TIME: **08:25** U.T.C.
END TIME: **09:15** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED: FIXED HGT:

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

**moved to a different location (No trespassing on PID picked)
South corner of parking space on top of curb @ back of curb**

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



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JOB REFERENCE
Rhode Island

POINT ID: **121-19**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Kingston**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4589289.252	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	286361.042	31.814	1.473

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: 06901381	DATE: 05/18/11	START TIME: 08:50	U.T.C.
	DAY OF YEAR: 138	END TIME: 09:40	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **5106461161**
Antenna Type: **TRMR8** Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner Concrete

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



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JOB REFERENCE
Rhode Island

POINT ID: **123-10**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Kingston**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4583855.161	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	288735.853	2.125	-28.258

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: 06901388	DATE: 05/18/11	START TIME: 18:24	U.T.C.
	DAY OF YEAR: 138	END TIME: 19:14	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)		
Antenna Serial #	5106461161	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
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TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of Stripe

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



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JOB REFERENCE
Rhode Island

POINT ID: **123-37**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Kingston**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4596112.547	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	290037.253	62.543	32.328

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: 06901380	DATE: 05/18/11	START TIME: 07:30	U.T.C.
	DAY OF YEAR: 138	END TIME: 08:20	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	5106461161		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner Catch Basin

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



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JOB REFERENCE
Rhode Island

POINT ID: **123-57**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Slocum**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4605510.216	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	290215.648	67.497	37.408

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901401	DATE: 05/20/11	START TIME: 09:01	U.T.C.
	DAY OF YEAR: 140	END TIME: 09:51	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner of a yellow stripe

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



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JOB REFERENCE
Rhode Island

POINT ID: **123-70**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Kent** QUAD: **Crompton**

OPERATOR: **J.SAMONS**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4611427.385	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	290563.216	67.470	37.448

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861405	DATE: 05/20/11	START TIME: 13:59	U.T.C.
	DAY OF YEAR: 140	END TIME: 14:50	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

SOUTHEAST CORNER OF CATCH BASIN.

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



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JOB REFERENCE
Rhode Island

POINT ID: 123-96
Proj. No.: 7505-063

STATE RI **COUNTY** Providence **QUAD:** Crompton

OPERATOR J.SAMONS

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4611427.385	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	290563.216	67.470	37.448

RECEIVER MODEL Trimble R 7
RECEIVER S/N 5106K20886

FILE NAME 8861403 **DATE:** 05/20/11
DAY OF YEAR 140

START TIME 11:02 **U.T.C.**
END TIME 11:52 **LOCAL** X

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

ANTENNA
RADIUS (M) **Antenna Serial #** 1441107660
Antenna Type ZEPHYR GEODETIC 2

ANTENNA HEIGHT (ARP)
MTRS/FT 2.000 Meters
MEASURED X **FIXED HGT**

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

CENTER OF MANHOLE COVER.

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

SKETCH:

PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **123-172**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Worcester** QUAD: **Blackstone**

OPERATOR: **J.SAMONS**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4657357.412	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	291319.621	65.685	36.492

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **8861374** DATE: **05/17/11**
DAY OF YEAR: **137**

START TIME: **13:29** U.T.C.
END TIME: **14:20** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

MAG HUB w/WASHER.CORNER OF SIDEWALK.

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

SKETCH: PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **124-121**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Providence** QUAD: **North Scituate**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4634889.358	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	292310.810	80.309	50.746

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861392** DATE: **05/19/11**
DAY OF YEAR: **139**

START TIME: **10:02** U.T.C.
END TIME: **10:53** LOCAL

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

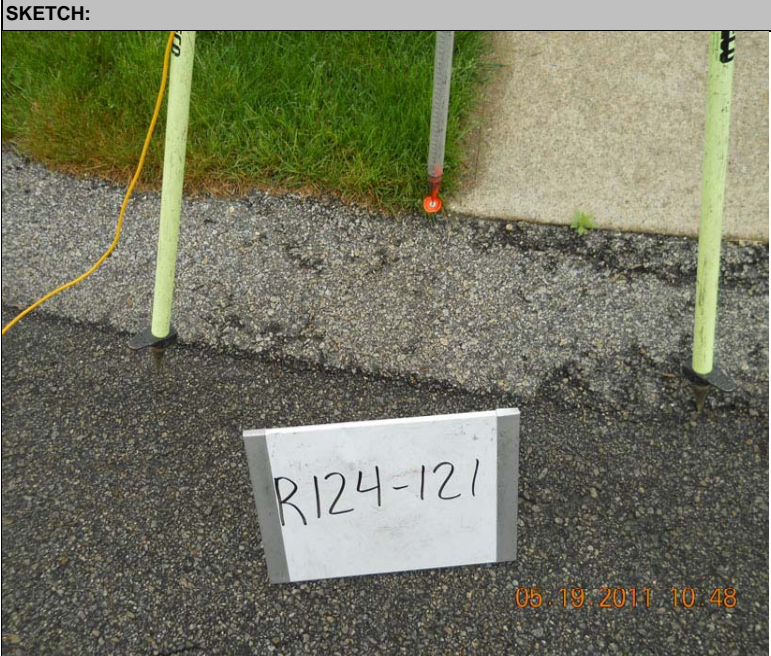
ANTENNA
RADIUS (M): **1441107660**
Antenna Serial #
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

MAG HUB w/WASHER,EAST CORNER SIDEWALK@EDGE OF ROAD.

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



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JOB REFERENCE
Rhode Island

POINT ID: **201-9**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Narragansett Pier**

OPERATOR: **K Roberts**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4583450.207	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	291268.989	2.000	-28.363

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: 19961406	DATE: 05/20/11	START TIME: 16:20	U.T.C.
	DAY OF YEAR: 140	END TIME: 17:10	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **60180796**
Antenna Type: **ZEPHYR GEODETIC**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED **X** FIXED HGT

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

Center Manhole

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



**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
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JOB REFERENCE
Rhode Island

POINT ID: **201-148**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Providence** QUAD: **Pawtucket**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4646093.744	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	294525.267	98.463	69.154

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861393	DATE: 05/19/11	START TIME: 11:50	U.T.C.
	DAY OF YEAR: 139	END TIME: 12:40	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	1441107660		
Antenna Type	ZEPHYR GEODETIC 2		

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

MAG NAIL w/WASHER,INSIDE CORNER OF PARKING STRIPES.

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



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JOB REFERENCE
Rhode Island

POINT ID: 202-24
Proj. No.: 7505-063

STATE RI **COUNTY** Washington **QUAD:** Narragansett Pier

OPERATOR J.SAMONS

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4590028.878	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	294329.742	11.849	-18.398

RECEIVER MODEL Trimble R 7
RECEIVER S/N 5106K20886

FILE NAME 08861406 **DATE:** 05/20/11
DAY OF YEAR 140

START TIME 15:42 **U.T.C.**
END TIME 16:33 **X LOCAL**

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

ANTENNA
RADIUS (M) **Antenna Serial #** 1441107660
Antenna Type ZEPHYR GEODETIC 2

ANTENNA HEIGHT (ARP)
MTRS/FT 2.000 Meters
MEASURED **X** **FIXED HGT**

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

CENTER OF MANHOLE COVER.

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



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JOB REFERENCE
Rhode Island

POINT ID: **204-38**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Wickford**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4600187.875	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	297457.681	43.523	13.461

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: 19961405	DATE: 05/20/11	START TIME: 14:54	U.T.C.
	DAY OF YEAR: 140	END TIME: 15:44	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **60180796**
Antenna Type: **ZEPHYR GEODETIC**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner Concrete Pavement

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



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JOB REFERENCE
Rhode Island

POINT ID: **204-53**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Wickford**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4607376.604	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	297789.313	6.375	-23.598

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901402	DATE: 05/20/11	START TIME: 10:39	U.T.C.
	DAY OF YEAR: 140	END TIME: 11:29	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	1441053320		
Antenna Type	ZEPHYR GEODETIC 2		

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Moved point out of industrial plant parking lot to a sidewalk corner @ back of curb outside of industrial plant.

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



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JOB REFERENCE
Rhode Island

POINT ID: **204-70**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Kent** QUAD: **East Greenwich**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4614819.787	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	297640.154	8.099	-21.807

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861404** DATE: **01/00/00**
DAY OF YEAR: **140**

START TIME: **12:38** U.T.C.
END TIME: **13:35** LOCAL

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

ANTENNA
RADIUS (M): **1441107660**
Antenna Serial #
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

SOUTHWEST CORNER OF PAINTED STOP BAR.NOTE:THIS PID HAS BEEN MOVED FROM IT'S ORIGINAL LOCATION.

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



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JOB REFERENCE
Rhode Island

POINT ID: **204-78**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Kent** QUAD: **East Greenwich**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4618462.546	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	297947.644	9.388	-20.460

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220379009**

SESSION: 90091400	DATE: 05/20/11	START TIME: 17:29	U.T.C.
	DAY OF YEAR: 140	END TIME: 18:19	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **60178128**
Antenna Type: **ZEPHYR GEODETIC**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner of driveway @ edge of street.

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



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JOB REFERENCE
Rhode Island

POINT ID: **204-163**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Norfolk** QUAD: **Franklin**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4657254.532	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	298853.116	92.867	63.834

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861375	DATE: 05/17/11	START TIME: 14:46	U.T.C.
	DAY OF YEAR: 137	END TIME: 15:37	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	1441107660		
Antenna Type	ZEPHYR GEODETIC 2		

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

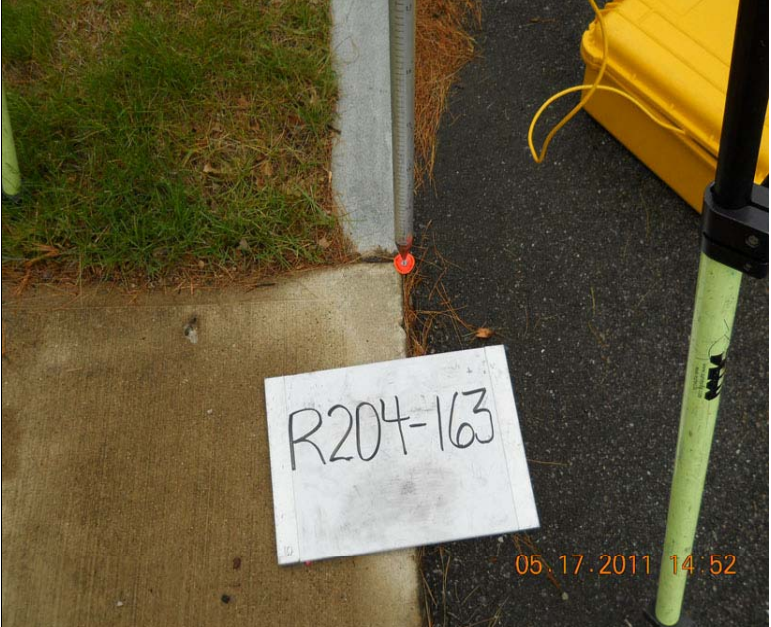
TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

MAG NAIL w/WASHER, SIDEWALK @ PAVEMENT.MOVED TO OTHER SIDE OF WALK.

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

SKETCH: PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **206-9**
Proj. No.: **7505-063**

STATE **RI**

COUNTY **Newport**

QUAD: **Narragansett Pier**

OPERATOR **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4591903.575	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	299947.664	13.366	-16.776

RECEIVER MODEL **Trimble 5700**

RECEIVER S/N **0220371996**

SESSION	DATE: 05/20/11
19961402	DAY OF YEAR 140

START TIME	10:24		U.T.C.
END TIME	11:14	X	LOCAL

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

ANTENNA			
RADIUS (M)			
Antenna Serial #	60180796		
Antenna Type	ZEPHYR GEODETIC		

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	FIXED HGT
		X	

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

Corner of a Stop Bar

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



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JOB REFERENCE
Rhode Island

POINT ID: **206-78**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Kent** QUAD: **East Greenwich**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4624484.233	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	301024.456	6.141	-23.541

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: **08901403** DATE: **05/20/11**
DAY OF YEAR: **140**

START TIME: **12:05** U.T.C.
END TIME: **12:55** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED: FIXED HGT:

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

moved across the street to asphalt driveway corner

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



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JOB REFERENCE
Rhode Island

POINT ID: **206-96**
Proj. No.: **7505-063**

STATE **RI**

COUNTY **Providence**

QUAD: **Providence**

OPERATOR **J.SAMONS**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4632788.045	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	300073.845	1.957	-27.529

RECEIVER MODEL **Trimble R 7**
RECEIVER S/N **5106K20886**

FILE NAME **08861382**
DATE: **05/18/11**
DAY OF YEAR **138**

START TIME **10:29**
END TIME **11:19**
U.T.C.
LOCAL

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

ANTENNA
RADIUS (M)
Antenna Serial # **1441107660**
Antenna Type **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT **2.000 Meters**
MEASURED X FIXED HGT

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

MAG NAIL w/WASHER @ OUTSIDE TIP AT END OF STRIPE.

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



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JOB REFERENCE
Rhode Island

POINT ID: **207-26**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Prudence Island**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4599859.397	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	301848.975	8.460	-21.535

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: 19961400	DATE: 05/20/11	START TIME: 07:25	U.T.C.
	DAY OF YEAR: 140	END TIME: 08:15	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **60180796**
Antenna Type: **ZEPHYR GEODETIC**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner Catch Basin

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



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JOB REFERENCE
Rhode Island

POINT ID: **207-61**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Kent** QUAD: **East Greenwich**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4615972.125	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	301868.797	19.382	-10.443

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901404	DATE: 05/20/11	START TIME: 13:16	U.T.C.
	DAY OF YEAR: 140	END TIME: 14:06	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	1441053320		
Antenna Type	ZEPHYR GEODETIC 2		

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Moved to the corner of the driveway of same house picked.

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



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JOB REFERENCE
Rhode Island

POINT ID: **207-113**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Providence** QUAD: **Pawtucket**

OPERATOR: **J.SAMONS**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4640268.268	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	301593.595	26.241	-3.037

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861381	DATE: 05/18/11	START TIME: 08:57	U.T.C.
	DAY OF YEAR: 138	END TIME: 09:50	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

MAG HUB w/WASHER.MOVED TO CORNER OF PARKING LOT.

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



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JOB REFERENCE
Rhode Island

POINT ID: **208-35**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Prudence Island**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4603951.848	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	302825.779	15.388	-14.535

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: 19961401	DATE: 05/20/11	START TIME: 08:59	U.T.C.
	DAY OF YEAR: 140	END TIME: 09:49	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	60180796		
Antenna Type	ZEPHYR GEODETIC		

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner B-top Ditch & Dr.Way

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



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JOB REFERENCE
Rhode Island

POINT ID: **208-133**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Bristol** QUAD: **Attleboro**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4648407.935	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	304184.748	80.055	50.986

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861377** DATE: **05/17/11**
DAY OF YEAR: **137**

START TIME: **17:29** U.T.C.
END TIME: **18:19** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

MAG NAIL w/WASHER @ CORNER OF CATCH BASIN.

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



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JOB REFERENCE
Rhode Island

POINT ID: 208-152
Proj. No.: 7505-063

STATE MA

COUNTY Norfolk

QUAD: Franklin

OPERATOR J.SAMONS

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4657190.750	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	304499.306	88.386	59.469

RECEIVER MODEL Trimble R 7
RECEIVER S/N 5106K20886

FILE NAME 08861376
DATE: 05/17/11
DAY OF YEAR 137

START TIME 16:01
END TIME 16:52
U.T.C.
X LOCAL

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

ANTENNA
RADIUS (M)
Antenna Serial # 1441107660
Antenna Type ZEPHYR GEODETIC 2

ANTENNA HEIGHT (ARP)
MTRS/FT 2.000 Meters
MEASURED X FIXED HGT

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

MAG HUB w/WASHER @ SIDEWALK AND DRIVEWAY CORNER.

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

SKETCH: **PHOTO:**



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JOB REFERENCE
Rhode Island

POINT ID: **209-9**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Newport**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4592333.517	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	303735.435	6.819	-23.268

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: **19961404** DATE: **05/20/11**
DAY OF YEAR: **140**

START TIME: **13:29** U.T.C.
END TIME: **14:19** LOCAL

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

ANTENNA
RADIUS (M): **60180796**
Antenna Serial #
Antenna Type: **ZEPHYR GEODETIC**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

Moved North to next Painted Marks

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



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JOB REFERENCE
Rhode Island

POINT ID: **210-42**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Prudence**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4606950.441	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	306281.799	28.660	-1.176

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: **08901384** DATE: **05/18/11**
DAY OF YEAR: **138**

START TIME: **16:16** U.T.C.
END TIME: **17:06** LOCAL

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

ANTENNA
RADIUS (M): **FLUSH**
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

Corner of top of sidewalk @ front face of curb.

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



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JOB REFERENCE
Rhode Island

POINT ID: **210-75**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Bristol** QUAD: **Bristol**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4622070.273	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	305517.630	11.147	-18.516

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901390	DATE: 05/19/11	START TIME: 08:21	U.T.C.
	DAY OF YEAR: 139	END TIME: 09:11	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	1441053320		
Antenna Type	ZEPHYR GEODETIC 2		

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of driveway @ edge of street.

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



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JOB REFERENCE
Rhode Island

POINT ID: **211-9**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Newport**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4592086.024	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	306980.717	3.816	-26.240

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: 19961403	DATE: 05/20/11	START TIME: 12:20	U.T.C.
	DAY OF YEAR: 140	END TIME: 13:10	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	60180796		
Antenna Type	ZEPHYR GEODETIC		

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Moved across street to a Corner Concrete Drain

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



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JOB REFERENCE
Rhode Island

POINT ID: **211-31**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Prudence Island**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4601992.956	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	308100.670	28.819	-1.059

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901400	DATE: 05/20/11	START TIME: 07:29	U.T.C.
	DAY OF YEAR: 140	END TIME: 08:19	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

moved to the driveway south of the manhole picked. North side of driveway @ back of curb @ top.

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



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JOB REFERENCE
Rhode Island

POINT ID: **211-95**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Bristol** QUAD: **East Providence**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4631288.911	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	307821.744	20.431	-8.980

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861383	DATE: 05/18/11	START TIME: 11:45	U.T.C.
	DAY OF YEAR: 138	END TIME: 12:36	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

MAG NAIL @ CORNER OF CATCH BASIN.

<input type="checkbox"/> AERIAL TARGET	<input checked="" type="checkbox"/> X	PHOTO I.D.
<input type="checkbox"/> PUB. BENCH MARK		NEW CONTROL
<input type="checkbox"/> PUB. CONTROL		BASE STATION



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JOB REFERENCE
Rhode Island

POINT ID: **211-121**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Bristol** QUAD: **Attleboro**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4643263.510	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	308379.178	28.373	-0.729

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861380	DATE: 05/18/11	START TIME: 07:31	U.T.C.
	DAY OF YEAR: 138	END TIME: 08:21	X LOCAL

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

ANTENNA
RADIUS (M): _____
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED _____ **X** FIXED HGT _____

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

MAG HUB w/WASHER @ CORNER OF SIDEWALK.

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



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JOB REFERENCE
Rhode Island

POINT ID: **212-60**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Bristol** QUAD: **Bristol**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4615551.155	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	309341.250	8.279	-21.414

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901391	DATE: 05/19/11	START TIME: 09:39	U.T.C.
	DAY OF YEAR: 139	END TIME: 10:29	X LOCAL

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

ANTENNA
RADIUS (M): _____
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED _____ **X** _____ FIXED HGT _____

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

Center of painted X

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



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JOB REFERENCE
Rhode Island

POINT ID: **212-85**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Bristol** QUAD: **East Providence**

OPERATOR: **J.SAMONS**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4627041.856	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	310071.546	1.671	-27.804

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861384** DATE: **05/18/11**
DAY OF YEAR: **138**

START TIME: **12:58** U.T.C.
END TIME: **13:48** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

CENTER OF CATCH BASIN.

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

SKETCH:



PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **214-11**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Sakonnet Point**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4596253.180	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	312274.538	13.815	-16.105

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901398	DATE: 05/19/11	START TIME: 18:42	U.T.C.
	DAY OF YEAR: 139	END TIME: 19:32	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	1441053320		
Antenna Type	ZEPHYR GEODETIC 2		

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of drop box inlet grate

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



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JOB REFERENCE
Rhode Island

POINT ID: **214-45**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Bristol**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4611403.127	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	312312.114	26.992	-2.706

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: **08901393** DATE: **05/19/11**
DAY OF YEAR: **139**

START TIME: **12:07** U.T.C.
END TIME: **12:57** LOCAL

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

RADIUS (M): }
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Center of a manhole.

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



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JOB REFERENCE
Rhode Island

POINT ID: **214-49**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Bristol** QUAD: **Bristol**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4613395.286	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	311570.606	29.667	-0.017

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: **08910392** DATE: **05/19/11**
DAY OF YEAR: **139**

START TIME: **10:54** U.T.C.
END TIME: **11:44** LOCAL

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

ANTENNA
RADIUS (M): **1441053320**
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

Corner of a sidewalk @ the back of a curb.

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



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JOB REFERENCE
Rhode Island

POINT ID: **215-26**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Triverton**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4601920.619	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	313440.936	16.342	-13.470

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: **08901397** DATE: **05/19/11**
DAY OF YEAR: **139**

START TIME: **17:33** U.T.C.
END TIME: **18:33** LOCAL

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

ANTENNA
RADIUS (M): **1441053320**
Antenna Serial #
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

Edge of driveway @ back of the curb.

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



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JOB REFERENCE
Rhode Island

POINT ID: **216-78**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Bristol** QUAD: **Fall River**

OPERATOR: **J.SAMONS**

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4623941.480	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	315106.067	25.185	-4.267

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861385	DATE: 05/18/11	START TIME: 14:15	U.T.C.
	DAY OF YEAR: 138	END TIME: 15:05	X LOCAL

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

ANTENNA
RADIUS (M): _____
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED _____ **X** FIXED HGT _____

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

MAG NAIL, @ CENTER OF THE END OF STRIPE @ EDGE OF PAVEMENT.

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

SKETCH: PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **217-28**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Triverton**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4601185.606	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	316547.978	29.807	0.022

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: **08901395** DATE: **05/19/11**
DAY OF YEAR: **139**

START TIME: **14:58** U.T.C.
END TIME: **15:48** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED: FIXED HGT:

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

Corner of a stop bar.

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



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JOB REFERENCE
Rhode Island

POINT ID: **217-42**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Triverton**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4607669.538	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	317041.204	9.124	-20.561

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901396	DATE: 05/19/11	START TIME: 16:04	U.T.C.
	DAY OF YEAR: 139	END TIME: 16:54	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Edge of driveway @ the edge of the sreet.

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



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JOB REFERENCE
Rhode Island

POINT ID: **218-11**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Sakonnet Point**

OPERATOR: **D. Mullins**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4592852.341	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	317482.786	5.441	-24.479

RECEIVER MODEL: **Trimble R7**
RECEIVER S/N: **5106K20890**

SESSION: 08901394	DATE: 05/19/11	START TIME: 13:31	U.T.C.
	DAY OF YEAR: 139	END TIME: 14:21	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441053320**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner of a the sidewalks.

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



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JOB REFERENCE
Rhode Island

POINT ID: 218-63
Proj. No.: 7505-063

STATE MA **COUNTY** Bristol **QUAD:** Fall River

OPERATOR J.SAMONS
RECEIVER MODEL Trimble R 7
RECEIVER S/N 5106K20886

	NAD83 UTM 19 NORTH	NAVD88	GEOID 09
NORTHING (m)	4616304.988	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	317815.418	19.713	-9.833

FILE NAME	DATE: 05/18/11	START TIME 15:31	U.T.C.
08861386	DAY OF YEAR 138	END TIME 16:21	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
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ANTENNA

RADIUS (M)			
Antenna Serial #	1441107660		
Antenna Type	ZEPHYR GEODETIC 2		

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

CENTER MANHOLE COVER.

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

SKETCH: **PHOTO:**



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JOB REFERENCE
Rhode Island

POINT ID: **222-12**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Bristol** QUAD: **Head of Westport**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4597573.863	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	323905.600	14.548	-15.190

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: 08861391	DATE: 05/19/11	START TIME: 08:00	U.T.C.
	DAY OF YEAR: 139	END TIME: 08:51	X LOCAL

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

ANTENNA
RADIUS (M): _____
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED _____ **X** FIXED HGT _____

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

NORTHEAST CORNER OF WHITE PAINTED LINE.

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

SKETCH:

PHOTO:



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JOB REFERENCE
Rhode Island

POINT ID: **222-26**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Bristol** QUAD: **Head of Westport**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4604064.563	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	324073.952	42.363	12.735

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861390** DATE: **05/19/11**
DAY OF YEAR: **139**

START TIME: **06:51** U.T.C.
END TIME: **07:41** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

S.E. CORNER OF CATCH BASIN.

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

SKETCH:

PHOTO:



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **222-40**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Bristol** QUAD: **Head of Westport**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4610077.031	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	324623.309	56.508	26.981

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861388** DATE: **05/18/11**
DAY OF YEAR: **138**

START TIME: **18:00** U.T.C.
END TIME: **18:50** LOCAL

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

ANTENNA
RADIUS (M): **1441107660**
Antenna Serial #
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

MAG NAIL w/WASHER CORNER OF CATCH BASIN.

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



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **222-52**
Proj. No.: **7505-063**

STATE: **MA** COUNTY: **Bristol** QUAD: **Fall River East**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4615971.496	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	324313.942	48.642	19.188

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861387** DATE: **05/18/11**
DAY OF YEAR: **138**

START TIME: **16:54** U.T.C.
END TIME: **17:44** LOCAL

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

ANTENNA
RADIUS (M): **1441107660**
Antenna Serial #
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

**MAG NAIL w/WASHER @ THE CENTER OF THE INTERSECTION
OF STRIPES**

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

SKETCH: PHOTO:



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **227-2**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Quonochontaug**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4581858.687	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	271282.249	49.971	19.415

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: 06901384	DATE: 05/18/11	START TIME: 13:19	U.T.C.
	DAY OF YEAR: 138	END TIME: 14:09	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **5106461161**
Antenna Type: **TRMR8** Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner Concrete Drop Box Inlet

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



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **227-22**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Washington** QUAD: **Hope Valley**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4600952.757	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	272010.946	36.446	6.126

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5106461161**

SESSION: **06901370** DATE: **05/17/11**
DAY OF YEAR: **137**

START TIME: **08:33** U.T.C.
END TIME: **09:23** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **5106461161**
Antenna Type: **TRMR8** Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

Corner Driveway at Edge of Road

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

Photo:



PHOTO:



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **227-57**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Providence** QUAD: **Clayville**

OPERATOR: **J.SAMONS**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4632863.724	ELEVATION (m)	ELLIPSOID (m)
EASTING (M)	272928.291	149.783	120.016

RECEIVER MODEL: **Trimble R 7**
RECEIVER S/N: **5106K20886**

FILE NAME: **08861400** DATE: **05/20/11**
DAY OF YEAR: **140**

START TIME: **06:48** U.T.C.
END TIME: **07:38** LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **1441107660**
Antenna Type: **ZEPHYR GEODETIC 2**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

MAG HUB w/WASHER @ CORNER OF SIDEWALK.

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



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Lexington, KY 40503
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JOB REFERENCE
Rhode Island

POINT ID: **302-9**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Block Island**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4560002.313	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	281615.249	18.405	-12.364

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: **19961393** DATE: **05/19/20**
DAY OF YEAR: **139**

START TIME: **13:52** U.T.C.
END TIME: **14:32** LOCAL

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

ANTENNA
RADIUS (M): **60180796**
Antenna Serial #: **60180796**
Antenna Type: **ZEPHYR GEODETIC**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
MEASURED X FIXED HGT

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

Corner of a Stop Bar

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



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **302-14**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Block Island**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4561403.933	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	281979.388	25.641	-5.107

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: 19961391	DATE: 05/19/20	START TIME: 11:35	U.T.C.
	DAY OF YEAR: 139	END TIME: 12:15	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **60180796**
Antenna Type: **ZEPHYR GEODETIC**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Edge of stripe @ pavement color change

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



2670 Wilhite Drive
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **303-14**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Block Island**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4561540.463	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	284298.617	7.483	-23.250

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: 19961394	DATE: 05/19/20	START TIME: 14:50	U.T.C.
	DAY OF YEAR: 139	END TIME: 15:30	X LOCAL

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

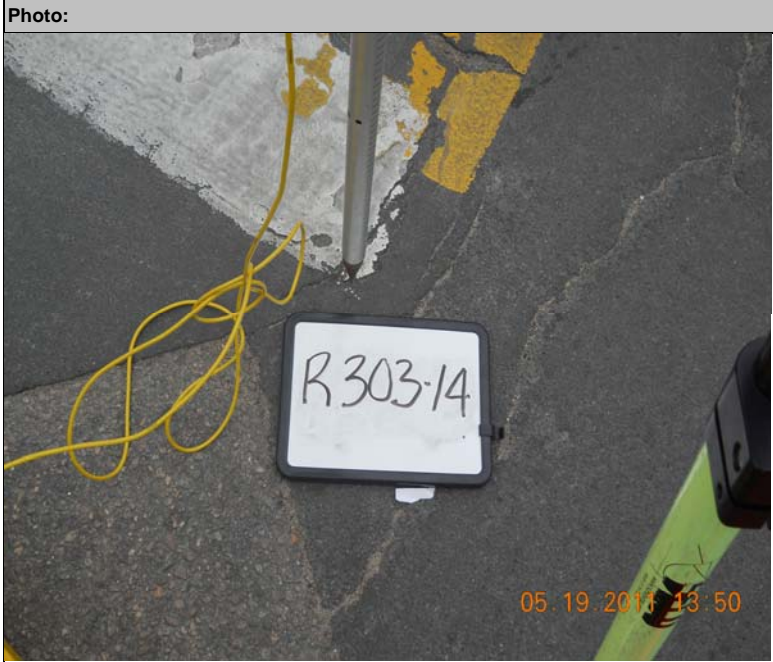
ANTENNA
RADIUS (M):
Antenna Serial #: **60180796**
Antenna Type: **ZEPHYR GEODETIC**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner of a Stop Bar

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



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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **304-9**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Block Island**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4559502.927	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	285998.612	37.130	6.374

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: 19961392	DATE: 05/19/20	START TIME: 12:57	U.T.C.
	DAY OF YEAR: 139	END TIME: 13:37	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **60180796**
Antenna Type: **ZEPHYR GEODETIC**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Edge of Driveway @ the Edge of the Road

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



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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
Rhode Island

POINT ID: **304-24**
Proj. No.: **7505-063**

STATE: **RI** COUNTY: **Newport** QUAD: **Block Island**

OPERATOR: **K Roberts**

NAD83 UTM 19 NORTH		NAVD88	GEOID 09
NORTHING (m)	4566097.516	ELEVATION (m)	ELLIPSOID (m)
EASTING (m)	284960.197	12.001	-18.662

RECEIVER MODEL: **Trimble 5700**
RECEIVER S/N: **0220371996**

SESSION: 19961390	DATE: 05/19/20	START TIME: 10:27	U.T.C.
	DAY OF YEAR: 139	END TIME: 11:12	X LOCAL

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

ANTENNA
RADIUS (M):
Antenna Serial #: **60180796**
Antenna Type: **ZEPHYR GEODETIC**

ANTENNA HEIGHT (ARP)
MTRS/FT: **2.000 Meters**
 MEASURED X FIXED HGT

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

Corner Driveway @ the Edge of the Road

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



Control Ties

The NGS Data Sheet

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

```

DATABASE = ,PROGRAM = datasheet, VERSION = 7.87
1 National Geodetic Survey, Retrieval Date = MAY 20, 2011
DI0884 *****
DI0884 CORS - This is a GPS Continuously Operating Reference Station.
DI0884 DESIGNATION - ACUSHNET 6 CORS ARP
DI0884 CORS_ID - ACU6
DI0884 PID - DI0884
DI0884 STATE/COUNTY- MA/BRISTOL
DI0884 USGS QUAD -
DI0884
DI0884 *CURRENT SURVEY CONTROL
DI0884
DI0884* NAD 83(CORS)- 41 44 35.67626(N) 070 53 11.72051(W) ADJUSTED
DI0884* NAVD 88 - *(meters) *(feet)
DI0884
DI0884 EPOCH DATE - 2002.00
DI0884 X - 1,560,587.202 (meters) COMP
DI0884 Y - -4,503,297.704 (meters) COMP
DI0884 Z - 4,224,372.197 (meters) COMP
DI0884 ELLIP HEIGHT- 6.260 (meters) (08/??/07) ADJUSTED
DI0884 GEOID HEIGHT- -28.95 (meters) GEOID09
DI0884 HORZ ORDER - SPECIAL (CORS)
DI0884 ELLP ORDER - SPECIAL (CORS)
DI0884
DI0884. ITRF positions are available for this station.
DI0884. The coordinates were established by GPS observations
DI0884. and adjusted by the National Geodetic Survey in August 2007.
DI0884. The coordinates are valid at the epoch date displayed above.
DI0884. The epoch date for horizontal control is a decimal equivalence
DI0884. of Year/Month/Day.
DI0884
DI0884
DI0884. The PID for the CORS L1 Phase Center is DI0885.
DI0884
DI0884. The XYZ, and position/ellipsoidal ht. are equivalent.
DI0884
DI0884. The ellipsoidal height was determined by GPS observations
DI0884. and is referenced to NAD 83.
DI0884
DI0884. The geoid height was determined by GEOID09.
DI0884
DI0884; North East Units Scale Factor Converg.
DI0884; SPC MA M - 832,735.119 251,024.721 MT 0.99999622 +0 24 43.4
DI0884; SPC MA M - 2,732,065.14 823,570.27 sFT 0.99999622 +0 24 43.4
DI0884
DI0884! - Elev Factor x Scale Factor = Combined Factor
DI0884! SPC MA M - 0.99999902 x 0.99999622 = 0.99999524
DI0884
DI0884 SUPERSEDED SURVEY CONTROL

```

DI0884
DI0884 NAD 83(CORS)- 41 44 35.67685(N) 070 53 11.71892(W) AD(2002.00) c
DI0884 ELLIP H (08/??/06) 6.258 (m) GP(2002.00) c c
DI0884
DI0884.Superseded values are not recommended for survey control.
DI0884.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DI0884.[See file dsdata.txt](#) to determine how the superseded data were derived.
DI0884
DI0884_U.S. NATIONAL GRID SPATIAL ADDRESS: 19TCG4312722989(NAD 83)
DI0884_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
DI0884
DI0884 STATION DESCRIPTION
DI0884
DI0884'DESCRIBED BY NATIONAL GEODETIC SURVEY 2007
DI0884'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
DI0884'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DI0884'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DI0884' FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG
DI0884' HTTP://WWW.NGS.NOAA.GOV/CORS.

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

The NGS Data Sheet

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

```

DATABASE = ,PROGRAM = datasheet, VERSION = 7.87
1 National Geodetic Survey, Retrieval Date = MAY 20, 2011
DH5831 *****
DH5831 CORS - This is a GPS Continuously Operating Reference Station.
DH5831 DESIGNATION - GROTON CORS ARP
DH5831 CORS_ID - CTGR
DH5831 PID - DH5831
DH5831 STATE/COUNTY- CT/NEW LONDON
DH5831 USGS QUAD - NEW LONDON (1984)
DH5831
DH5831 *CURRENT SURVEY CONTROL
DH5831
DH5831* NAD 83(CORS)- 41 20 07.03566(N) 072 02 58.96958(W) ADJUSTED
DH5831* NAVD 88 - *(meters) *(feet)
DH5831
DH5831 EPOCH DATE - 2002.00
DH5831 X - 1,478,107.642 (meters) COMP
DH5831 Y - -4,562,614.121 (meters) COMP
DH5831 Z - 4,190,441.882 (meters) COMP
DH5831 ELLIP HEIGHT- -18.346 (meters) (09/??/05) ADJUSTED
DH5831 GEOID HEIGHT- -30.64 (meters) GEOID09
DH5831 HORZ ORDER - SPECIAL (CORS)
DH5831 ELLP ORDER - SPECIAL (CORS)
DH5831
DH5831. ITRF positions are available for this station.
DH5831. The coordinates were established by GPS observations
DH5831. and adjusted by the National Geodetic Survey in September 2005.
DH5831. The coordinates are valid at the epoch date displayed above.
DH5831. The epoch date for horizontal control is a decimal equivalence
DH5831. of Year/Month/Day.
DH5831
DH5831
DH5831. The PID for the CORS L1 Phase Center is DH5832.
DH5831
DH5831. The XYZ, and position/ellipsoidal ht. are equivalent.
DH5831
DH5831. The ellipsoidal height was determined by GPS observations
DH5831. and is referenced to NAD 83.
DH5831
DH5831. The geoid height was determined by GEOID09.
DH5831
DH5831; North East Units Scale Factor Converg.
DH5831;SPC CT - 208,383.580 363,418.458 MT 0.99998910 +0 27 51.6
DH5831;SPC CT - 683,671.80 1,192,315.39 sFT 0.99998910 +0 27 51.6
DH5831
DH5831! - Elev Factor x Scale Factor = Combined Factor
DH5831!SPC CT - 1.00000288 x 0.99998910 = 0.99999198
DH5831
DH5831 SUPERSEDED SURVEY CONTROL

```

DH5831

DH5831.No superseded survey control is available for this station.

DH5831

DH5831_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TYL4687680178(NAD 83)

DH5831_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DH5831

DH5831

STATION DESCRIPTION

DH5831

DH5831'DESCRIBED BY NATIONAL GEODETIC SURVEY 2005

DH5831'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

DH5831'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DH5831'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DH5831' FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG

DH5831' HTTP://WWW.NGS.NOAA.GOV/CORS.

*** retrieval complete.

Elapsed Time = 00:00:00

The NGS Data Sheet

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

```

DATABASE = ,PROGRAM = datasheet, VERSION = 7.87
1 National Geodetic Survey, Retrieval Date = MAY 20, 2011
DH5835 *****
DH5835 CORS - This is a GPS Continuously Operating Reference Station.
DH5835 DESIGNATION - MANSFIELD CORS ARP
DH5835 CORS_ID - CTMA
DH5835 PID - DH5835
DH5835 STATE/COUNTY- CT/TOLLAND
DH5835 USGS QUAD - WILLIMANTIC (1984)
DH5835
DH5835 *CURRENT SURVEY CONTROL
DH5835
DH5835* NAD 83(CORS)- 41 43 52.91709(N) 072 12 38.87753(W) ADJUSTED
DH5835* NAVD 88 - *(meters) *(feet)
DH5835
DH5835 EPOCH DATE - 2002.00
DH5835 X - 1,456,379.704 (meters) COMP
DH5835 Y - -4,539,030.837 (meters) COMP
DH5835 Z - 4,223,420.354 (meters) COMP
DH5835 ELLIP HEIGHT- 55.182 (meters) (09/??/05) ADJUSTED
DH5835 GEOID HEIGHT- -29.87 (meters) GEOID09
DH5835 HORZ ORDER - SPECIAL (CORS)
DH5835 ELLP ORDER - SPECIAL (CORS)
DH5835
DH5835. ITRF positions are available for this station.
DH5835. The coordinates were established by GPS observations
DH5835. and adjusted by the National Geodetic Survey in September 2005.
DH5835. The coordinates are valid at the epoch date displayed above.
DH5835. The epoch date for horizontal control is a decimal equivalence
DH5835. of Year/Month/Day.
DH5835
DH5835
DH5835. The PID for the CORS L1 Phase Center is DH8938.
DH5835
DH5835. The XYZ, and position/ellipsoidal ht. are equivalent.
DH5835
DH5835. The ellipsoidal height was determined by GPS observations
DH5835. and is referenced to NAD 83.
DH5835
DH5835. The geoid height was determined by GEOID09.
DH5835
DH5835; North East Units Scale Factor Converg.
DH5835; SPC CT - 252,275.481 349,660.414 MT 0.99998908 +0 21 27.1
DH5835; SPC CT - 827,673.81 1,147,177.54 sFT 0.99998908 +0 21 27.1
DH5835
DH5835! - Elev Factor x Scale Factor = Combined Factor
DH5835! SPC CT - 0.99999134 x 0.99998908 = 0.99998043
DH5835
DH5835 SUPERSEDED SURVEY CONTROL

```

DH5835

DH5835.No superseded survey control is available for this station.

DH5835

DH5835_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TYM3197423710(NAD 83)

DH5835_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DH5835

DH5835

STATION DESCRIPTION

DH5835

DH5835'DESCRIBED BY NATIONAL GEODETIC SURVEY 2005

DH5835'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

DH5835'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DH5835'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DH5835' FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG

DH5835' HTTP://WWW.NGS.NOAA.GOV/CORS.

*** retrieval complete.

Elapsed Time = 00:00:00

The NGS Data Sheet

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

```

DATABASE = ,PROGRAM = datasheet, VERSION = 7.87
1 National Geodetic Survey, Retrieval Date = MAY 20, 2011
DH5837 *****
DH5837 CORS - This is a GPS Continuously Operating Reference Station.
DH5837 DESIGNATION - PUTNAM CORS ARP
DH5837 CORS_ID - CTPU
DH5837 PID - DH5837
DH5837 STATE/COUNTY- CT/WINDHAM
DH5837 USGS QUAD - PUTNAM (1970)
DH5837
DH5837 *CURRENT SURVEY CONTROL
DH5837
DH5837* NAD 83(CORS)- 41 53 58.88883(N) 071 53 20.88992(W) ADJUSTED
DH5837* NAVD 88 - *(meters) *(feet)
DH5837
DH5837 EPOCH DATE - 2002.00
DH5837 X - 1,477,964.641 (meters) COMP
DH5837 Y - -4,518,936.761 (meters) COMP
DH5837 Z - 4,237,355.688 (meters) COMP
DH5837 ELLIP HEIGHT- 57.100 (meters) (09/??/05) ADJUSTED
DH5837 GEOID HEIGHT- -29.60 (meters) GEOID09
DH5837 HORZ ORDER - SPECIAL (CORS)
DH5837 ELLP ORDER - SPECIAL (CORS)
DH5837
DH5837. ITRF positions are available for this station.
DH5837. The coordinates were established by GPS observations
DH5837. and adjusted by the National Geodetic Survey in September 2005.
DH5837. The coordinates are valid at the epoch date displayed above.
DH5837. The epoch date for horizontal control is a decimal equivalence
DH5837. of Year/Month/Day.
DH5837
DH5837
DH5837. The PID for the CORS L1 Phase Center is DH5838.
DH5837
DH5837. The XYZ, and position/ellipsoidal ht. are equivalent.
DH5837
DH5837. The ellipsoidal height was determined by GPS observations
DH5837. and is referenced to NAD 83.
DH5837
DH5837. The geoid height was determined by GEOID09.
DH5837
DH5837; North East Units Scale Factor Converg.
DH5837;SPC CT - 271,187.129 376,234.813 MT 1.00000351 +0 34 14.9
DH5837;SPC CT - 889,719.77 1,234,363.72 sFT 1.00000351 +0 34 14.9
DH5837
DH5837! - Elev Factor x Scale Factor = Combined Factor
DH5837!SPC CT - 0.99999104 x 1.00000351 = 0.99999455
DH5837
DH5837 SUPERSEDED SURVEY CONTROL

```


DH5837

DH5837.No superseded survey control is available for this station.

DH5837

DH5837_U.S. NATIONAL GRID SPATIAL ADDRESS: 19TBG6034242676(NAD 83)

DH5837_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DH5837

DH5837

STATION DESCRIPTION

DH5837

DH5837'DESCRIBED BY NATIONAL GEODETIC SURVEY 2005

DH5837'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

DH5837'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DH5837'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DH5837' FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG

DH5837' HTTP://WWW.NGS.NOAA.GOV/CORS.

*** retrieval complete.

Elapsed Time = 00:00:00

The NGS Data Sheet

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

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DATABASE = ,PROGRAM = datasheet, VERSION = 7.87
1 National Geodetic Survey, Retrieval Date = MAY 20, 2011
DE6262 *****
DE6262 CORS - This is a GPS Continuously Operating Reference Station.
DE6262 DESIGNATION - U OF RI COOP CORS ARP
DE6262 CORS_ID - URIL
DE6262 PID - DE6262
DE6262 STATE/COUNTY- RI/WASHINGTON
DE6262 USGS QUAD - KINGSTON (1975)
DE6262
DE6262 *CURRENT SURVEY CONTROL
DE6262
DE6262* NAD 83(CORS)- 41 29 20.15819(N) 071 31 39.77855(W) ADJUSTED
DE6262* NAVD 88 - *(meters) *(feet)
DE6262
DE6262 EPOCH DATE - 2002.00
DE6262 X - 1,516,052.603 (meters) COMP
DE6262 Y - -4,538,298.223 (meters) COMP
DE6262 Z - 4,203,281.861 (meters) COMP
DE6262 ELLIP HEIGHT- 45.687 (meters) (02/??/02) ADJUSTED
DE6262 GEOID HEIGHT- -30.23 (meters) GEOID09
DE6262 HORZ ORDER - SPECIAL (CORS)
DE6262 ELLP ORDER - SPECIAL (CORS)
DE6262
DE6262. ITRF positions are available for this station.
DE6262. The coordinates were established by GPS observations
DE6262. and adjusted by the National Geodetic Survey in February 2002.
DE6262. The coordinates are valid at the epoch date displayed above.
DE6262. The epoch date for horizontal control is a decimal equivalence
DE6262. of Year/Month/Day.
DE6262
DE6262
DE6262. The PID for the CORS L1 Phase Center is DH8689.
DE6262
DE6262. The XYZ, and position/ellipsoidal ht. are equivalent.
DE6262
DE6262. The ellipsoidal height was determined by GPS observations
DE6262. and is referenced to NAD 83.
DE6262
DE6262. The geoid height was determined by GEOID09.
DE6262
DE6262; North East Units Scale Factor Converg.
DE6262; SPC RI - 45,045.744 97,685.419 MT 0.99999382 -0 01 06.1
DE6262; SPC RI - 147,787.58 320,489.58 sFT 0.99999382 -0 01 06.1
DE6262
DE6262! - Elev Factor x Scale Factor = Combined Factor
DE6262! SPC RI - 0.99999283 x 0.99999382 = 0.99998665
DE6262
DE6262 SUPERSEDED SURVEY CONTROL

```

DE6262

DE6262.No superseded survey control is available for this station.

DE6262

DE6262_U.S. NATIONAL GRID SPATIAL ADDRESS: 19TBF8898596120(NAD 83)

DE6262_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DE6262

DE6262

STATION DESCRIPTION

DE6262

DE6262'DESCRIBED BY NATIONAL GEODETIC SURVEY 2002

DE6262'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

DE6262'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DE6262'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DE6262' FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG

DE6262' HTTP://WWW.NGS.NOAA.GOV/CORS.

*** retrieval complete.

Elapsed Time = 00:00:01

The NGS Data Sheet

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

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DATABASE = ,PROGRAM = datasheet, VERSION = 7.87
1 National Geodetic Survey, Retrieval Date = MAY 20, 2011
DI0966 *****
DI0966 CORS - This is a GPS Continuously Operating Reference Station.
DI0966 DESIGNATION - MTS FOX COOP CORS ARP
DI0966 CORS_ID - XMTS
DI0966 PID - DI0966
DI0966 STATE/COUNTY- MA/NORFOLK
DI0966 USGS QUAD -
DI0966
DI0966 *CURRENT SURVEY CONTROL
DI0966
DI0966* NAD 83(CORS)- 42 03 50.01897(N) 071 15 01.66916(W) ADJUSTED
DI0966* NAVD 88 - *(meters) *(feet)
DI0966
DI0966 EPOCH DATE - 2002.00
DI0966 X - 1,524,325.286 (meters) COMP
DI0966 Y - -4,490,636.877 (meters) COMP
DI0966 Z - 4,250,920.783 (meters) COMP
DI0966 ELLIP HEIGHT- 67.939 (meters) (08/??/06) ADJUSTED
DI0966 GEOID HEIGHT- -28.71 (meters) GEOID09
DI0966 HORZ ORDER - SPECIAL (CORS)
DI0966 ELLP ORDER - SPECIAL (CORS)
DI0966
DI0966. ITRF positions are available for this station.
DI0966. The coordinates were established by GPS observations
DI0966. and adjusted by the National Geodetic Survey in August 2006.
DI0966. The coordinates are valid at the epoch date displayed above.
DI0966. The epoch date for horizontal control is a decimal equivalence
DI0966. of Year/Month/Day.
DI0966
DI0966
DI0966. The PID for the CORS L1 Phase Center is DI0967.
DI0966
DI0966. The XYZ, and position/ellipsoidal ht. are equivalent.
DI0966
DI0966. The ellipsoidal height was determined by GPS observations
DI0966. and is referenced to NAD 83.
DI0966
DI0966. The geoid height was determined by GEOID09.
DI0966
DI0966; North East Units Scale Factor Converg.
DI0966; SPC MA M - 868,196.246 220,652.878 MT 0.99996738 +0 10 03.4
DI0966; SPC MA M - 2,848,407.18 723,925.32 sFT 0.99996738 +0 10 03.4
DI0966
DI0966! - Elev Factor x Scale Factor = Combined Factor
DI0966! SPC MA M - 0.99998934 x 0.99996738 = 0.99995672
DI0966
DI0966 SUPERSEDED SURVEY CONTROL

```

DI0966

DI0966.No superseded survey control is available for this station.

DI0966

DI0966_U.S. NATIONAL GRID SPATIAL ADDRESS: 19TCG1380359320(NAD 83)

DI0966_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DI0966

DI0966

STATION DESCRIPTION

DI0966

DI0966'DESCRIBED BY NATIONAL GEODETIC SURVEY 2006

DI0966'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

DI0966'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DI0966'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DI0966' FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG

DI0966' HTTP://WWW.NGS.NOAA.GOV/CORS.

*** retrieval complete.

Elapsed Time = 00:00:00

January 28, 2014



USVI RI Topographic Mapping

Ground Control Report



QSI Environmental
517 SW 2nd St., Suite 400
Corvallis, OR 97333
PH: 541-752-1204

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Cover Photo: A composite long-exposure photograph of the aircraft flight path while acquiring red and green LiDAR, as viewed from the ground near Myrtle Beach, Virginia, using the same sensors that were used in the USVI RI Topographic Mapping project. Credit QSI Ground Professional Brett Murphy.

INTRODUCTION

This photo taken by QSI acquisition staff shows a view of the NGS monument LW1760 near the Block Island Airport grounds.

Credit QSI Ground Professional Marc Nabelek



In September 2013, Quantum Spatial (QSI) was contracted to collect topographic Light Detection and Ranging (LiDAR) data and digital imagery from fall 2013 through fall 2014 for the USVI RI Topographic Mapping site along the Rhode Island coast. Data were collected to aid NOAA in modeling the topographic and geophysical properties of the study area to support the Hurricane Sandy recovery and restoration.

This report accompanies the delivered LiDAR data and imagery, and documents the ground survey efforts to support the airborne acquisition.



Vicinity of NGS monument AI5561 on Block Island

Credit QSI Ground Professional Marc Nabelek



Ground control surveys were conducted to support the airborne acquisition with monumentation and aerial targets. Ground control data were used to geospatially correct the aircraft positional coordinate data and to perform adjustments on orthoimagery products.

Static Control

The spatial configuration of ground survey monuments provided redundant control within 13-20 nautical miles of the mission areas for orthophoto and LiDAR flights. To correct the continuously recorded onboard measurements of the aircraft position, QSI concurrently conducted multiple static Global Navigation Satellite System (GNSS) ground surveys (1 Hz recording frequency).

Monumentation

Monument locations were selected with consideration for satellite visibility, field crew safety, and optimal location for survey point coverage. Monuments were also used as reference stations for collection of aerial targets and LiDAR vertical control.

Precise positioning of each new and existing monument was achieved by triangulating the static GNSS data with nearby CORS using the Online Positioning User Service (OPUS¹), then reprocessing each day's

¹ OPUS is a free service provided by the National Geodetic Survey to process corrected monument positions.
<http://www.ngs.noaa.gov/OPUS>.

sessions using OPUS Project. Multiple independent sessions over the same monument were processed to confirm antenna height measurements and to refine position accuracy.

QSI established three new monuments and utilized five existing monuments for the USVI RI Topographic Mapping LiDAR project. The position, precision, and composition of each monument have been provided in Table 1 and Table 2. In the case where positions computed by QSI conflicted significantly with NGS database positions, the QSI position was preferred. Due to the labor costs involved, no new monuments were submitted in “Blue Book” format.

The ten NGS CORS utilized during OPUS Project processing are listed in Table 3.

Table 1: New monuments established for the USVI RI Topographic Mapping acquisition. Coordinates are on the NAD83 (2011) datum, epoch 2010.00. RMS values shown are for the 95% percentile, in meters.

New Monument ID	Latitude	Longitude	Ellips. (m)	RMS X	RMS Y	RMS Z	Cap*
NOAA_RI_01	41° 20' 30.84747"	-71° 45' 25.23854"	-11.420	0.009	0.003	0.011	2" AL
NOAA_RI_02	41° 30' 30.57639"	-71° 18' 54.34537"	-15.857	0.003	0.005	0.014	2" AL
NOAA_RI_03	41° 28' 53.30360"	-71° 14' 43.83425"	-27.047	0.003	0.002	0.018	2" AL

* 2" AL = 2-inch aluminum cap set on 5/8-inch rebar

Table 2: NGS monuments utilized for the USVI RI Topographic Mapping acquisition. Coordinates are on the NAD83 (2011) datum, epoch 2010.00. RMS values shown are for the 95% percentile, in meters.

NGS PID	Latitude	Longitude	Ellips. (m)	RMS X	RMS Y	RMS Z	Reported*
AI5561	41° 10' 02.77652"	-71° 34' 39.23714"	2.011	0.008	0.004	0.008	n/a
LW0983	41° 23' 11.84706"	-71° 37' 50.27548"	-16.367	0.005	0.004	0.023	n/a
LW1760	41° 10' 01.90716"	-71° 34' 56.22238"	2.704	0.005	0.006	0.012	n/a
LW5648	41° 25' 45.75803"	-71° 29' 46.90689"	-21.254	0.004	0.006	0.022	n/a

* QSI opted not to submit recovery forms for monuments that had been recovered by any agency in the past 3-5 years.

Table 3: NGS CORS utilized with OPUS and OPUS Project. Standard NAD83(2011) coordinates were held and can be retrieved from <http://www.ngs.noaa.gov/CORS/>.

CORS used in OPUS Project and OPUS-S				
ACU5	ACU6	CTGR	CTMA	CTPU
MADA	MAFA	NPRI	URIL	XMTS

Network Accuracy

Monuments were established according to the national standard for geodetic control networks, as specified in the Federal Geographic Data Committee (FGDC) Geospatial Positioning Accuracy Standards for geodetic networks.² This standard provides guidelines for classification of monument quality at the 95% confidence interval as a basis for comparing the quality of one control network to another. The monument rating for this project is shown in Table 4.

Table 4: Federal Geographic Data Committee monument rating for network accuracy

Direction	Rating
1.96 * St Dev _{NE} :	0.020 m
1.96 * St Dev _Z :	0.050 m

Aerial Target Collection

Aerial targets were located throughout the project area in order to geo-spatially correct the orthoimagery. Each target was precisely located using one or more points, depending on the methodology used, each point being at least three times as accurate as the orthophotographs.

When permanent photo-identifiable features such as handicap parking signs, stop bars, and turn lane arrows could not be located, temporary aerial targets were placed within RTK range of the ground survey monuments, secured with surveyor's nails, and routinely checked for disturbance.

A variety of collection methods and equipment (Table 5) were used for the geolocation of aerial targets for the USVI RI Topographic Mapping project due to time, access, and resource constraints. These methods included real time kinematic (RTK), post processed kinematic (PPK), and fast-static (FS) survey techniques and will be further described herein. All survey methods were tied to the NAD83(2011) reference frame via the NGS CORS network and are capable of achieving the accuracies required for this project.

Table 5: Equipment identification table. Does not include CORS antennas.

Receiver Model	Antenna	OPUS Antenna ID	Serial Numbers	Use
Trimble R7	Zephyr GNSS Geodetic Model 2 RoHS	TRM57971.00	2240, 2502	Base
Trimble R8 Model 2	Integrated Antenna	TRM_R8_GNSS	0649	Rover

² Federal Geographic Data Committee, Geospatial Positioning Accuracy Standards (FGDC-STD-007.2-1998). Part 2: Standards for Geodetic Networks, Table 2.1, page 2-3. <http://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/part2/chapter2>

Real-Time Kinematic (RTK)

The RTK survey technique was used when time constraints did not allow for traditional static techniques. RTK methodologies were used to locate 59 aerial targets for the USVI RI Topographic Mapping project. For this method a QSI base GNSS receiver was positioned at a monument to broadcast a kinematic correction to a nearby roving GNSS receiver. All measurements were made during periods with a Position Dilution of Precision (PDOP) of ≤ 3.0 with at least six satellites in view of the stationary and roving receivers.

When collecting RTK data, the rover records data while stationary for five seconds, then calculates the pseudorange position using at least three one-second epochs. Relative errors for any position must be less than 1.5 cm horizontal and 2.0 cm vertical in order to be accepted.

RTK post-processing was conducted using Trimble Business Center version 3.20 and Leica Geo Office version 8.3.

Post-Processed Kinematic (PPK)

The PPK survey technique was used in the place of RTK when a radio link between the base and rover could not be established. PPK methodologies were used to locate 10 aerial targets for the USVI RI Topographic Mapping project. For this method a QSI base GNSS receiver was positioned at a monument to record kinematic corrections for a roving GNSS receiver. All measurements were made during periods with a Position Dilution of Precision (PDOP) of ≤ 3.0 with at least six satellites in view of the stationary and roving receivers.

When collecting PPK data, the rover records data while stationary for five to twenty seconds, depending on the baseline length, then calculates the pseudorange position using at least three to seven one-second epochs. Kinematic corrections are applied during post-processing, and relative errors for any position must be less than 1.5 cm horizontal and 2.0 cm vertical in order to be accepted.

PPK post-processing was conducted using Trimble Business Center version 3.20.

Fast-Static (FS)

The FS survey technique was used in the place of RTK and/or PPK when baselines exceeded approximately 3-5 miles and could not meet the accuracy requirements. FS methodologies were used to locate 5 aerial targets for the USVI RI Topographic Mapping project. For this method a QSI base GNSS receiver was positioned at a monument concurrently with roving GNSS receiver set up on a tripod. All measurements were made during periods with a Position Dilution of Precision (PDOP) of ≤ 3.0 with at least six satellites in view of the stationary and roving receivers.

When collecting FS data, the rover records data for up to fifteen minutes on each point until the desired accuracy can be achieved during post-processing; longer baselines require longer occupations. Relative errors for any position must be less than 1.5 cm horizontal and 2.0 cm vertical in order to be accepted.

FS post-processing was conducted using Trimble Business Center version 3.20.

Target Types

Aerial targets for orthophoto processing were collected using a variety of methods on a myriad of existing photo-identifiable objects in order to geospatially correct the orthoimagery. These objects were selected based on their stability, likelihood of obstruction, and spectral contrast against surrounding objects. Table 6 contains a representative photograph of each aerial target encountered for this project.

These photographs are meant to convey the general meaning of a target type and do not imply that all targets of a particular type look exactly identical, nor do they imply that the same reference points were recorded for every target of a particular type.

Target Positions

Aerial target positions for the USVI RI Topographic Mapping project are summarized below in Table 7. A copy of NOAA Form 76-53 – Control Station Identification has been filled out for every aerial target and may be found in the “USVI RI Form 76-53.zip” archive that accompanies this report. This form contains more detailed information regarding each aerial target.

Targets recorded from multiple reference points are reported as having multiple occupations. In such a case the reported position is approximate and is not necessarily the position held during orthophoto rectification. Multiple reference points were recorded during the ground survey to ensure that each target could be identified and referenced in the orthoimagery even if the target was partially obscured at the time of acquisition.

Session lengths are shown in Table 7 in minutes and seconds. The survey methods shown were described in detail earlier in this report. The horizontal and vertical precision of each target is shown, in meters, based on the 95th percentile, or 1.96 times the root mean square error (RMSE) of the position.

Table 6: Representative photographs of each aerial target type used in the USVI RI Topographic Mapping project

Type	Representative Photograph	Type	Representative Photograph
ADA Parking		Arrow	
Centerline End		Crosswalk	
Painted Cross (example 1)		Painted Cross (example 2)	
Painted Cross (example 3)		Parking Lines	
Shoulder Line End		Stop Bar	

Table 7: List of all aerial targets. Horizontal coordinates are in the UTM19 coordinate system and referenced to the NAD83(2011) datum. Orthometric elevations are on NAVD88 using Geoid12A.

PID	Easting (m)	Northing (m)	Ortho Geo12A (m)	Occ. Count	Avg. Session Length	Survey Method	Horiz. RMSE (m)	Vert. RMSE (m)	Target Type
AT_0363	279033.495	4584693.662	4.970	4	00:05	RTK	0.021	0.028	Stop Bar
AT_0364	279044.039	4584667.415	3.956	4	00:05	RTK	0.020	0.029	Stop Bar
AT_0365	279680.848	4584514.415	7.580	8	00:06	RTK	0.016	0.021	ADA Parking
AT_0366	282954.574	4582829.937	7.567	4	00:05	PPK	0.017	0.028	Stop Bar
AT_0367	282957.356	4582819.993	7.342	4	00:05	PPK	0.018	0.027	Stop Bar
AT_0368	282975.325	4582728.100	5.690	5	00:07	PPK	0.019	0.030	Painted Cross
AT_0370	283766.516	4558719.774	36.656	6	00:06	RTK	0.014	0.019	Centerline End
AT_0371	283751.710	4558745.447	37.128	2	00:05	RTK	0.017	0.025	Centerline End
AT_0372	284851.899	4566870.719	2.267	4	00:06	RTK	0.021	0.031	Centerline End
AT_0373	284946.559	4566745.713	1.984	1	00:05	RTK	0.024	0.030	Shoulder Line End
AT_0374	284951.466	4566691.569	1.973	1	00:05	RTK	0.023	0.036	Shoulder Line End
AT_0375	284819.775	4561793.485	2.118	4	00:05	RTK	0.016	0.020	Stop Bar
AT_0376	284334.432	4561601.197	9.402	4	00:06	RTK	0.022	0.032	Stop Bar
AT_0377	284103.318	4562002.067	1.102	4	00:05	RTK	0.022	0.031	Stop Bar
AT_0378	282326.496	4561762.935	24.856	1	00:06	RTK	0.016	0.020	Shoulder Line End
AT_0379	282326.214	4561803.503	24.456	1	00:05	RTK	0.022	0.027	Shoulder Line End
AT_0380	281615.212	4560002.287	18.344	4	00:05	RTK	0.013	0.018	Stop Bar
AT_0381	286163.288	4559991.626	13.623	1	00:05	RTK	0.021	0.030	Shoulder Line End
AT_0382	286160.716	4559977.313	13.725	3	00:05	RTK	0.021	0.030	Shoulder Line End
AT_0383	286160.023	4559990.346	13.519	2	00:05	RTK	0.021	0.031	Centerline End
AT_0384	291609.218	4589413.019	2.881	2	00:06	RTK	0.023	0.025	Centerline End
AT_0385	291621.568	4589426.853	2.851	2	00:05	RTK	0.023	0.027	Centerline End
AT_0386	291465.384	4589338.657	5.531	4	00:05	RTK	0.023	0.025	Stop Bar
AT_0387	288074.364	4586453.722	15.899	1	00:06	RTK	0.024	0.034	Arrow
AT_0388	288046.970	4586435.841	15.558	1	00:05	RTK	0.026	0.034	Arrow
AT_0389	289209.667	4585919.500	11.737	2	00:06	RTK	0.022	0.033	Stop Bar
AT_0390	293342.275	4590314.708	5.056	4	00:06	RTK	0.021	0.025	Stop Bar
AT_0391	293564.377	4585516.148	2.651	4	00:05	PPK	0.019	0.028	Stop Bar
AT_0392	293065.320	4585774.794	11.834	4	00:04	PPK	0.021	0.038	Stop Bar
AT_0393	293080.239	4585769.947	11.734	4	00:09	PPK	0.021	0.034	Stop Bar
AT_0394	297329.784	4594311.802	1.194	2	00:05	PPK	0.019	0.032	Centerline End
AT_0395	297344.378	4594309.335	1.238	2	00:06	PPK	0.018	0.032	Centerline End
AT_0396	297529.729	4594277.592	1.373	4	00:06	PPK	0.021	0.032	Painted Cross
AT_0397	269468.556	4578719.978	5.649	4	00:06	RTK	0.011	0.014	Stop Bar
AT_0398	269463.203	4578741.200	5.923	4	00:06	RTK	0.017	0.020	Stop Bar
AT_0399	268856.777	4579069.597	2.132	8	00:05	RTK	0.018	0.024	Crosswalk
AT_0400	268816.892	4579162.787	2.049	2	00:05	RTK	0.021	0.028	Stop Bar

PID	Easting (m)	Northing (m)	Ortho Geo12A (m)	Occ. Count	Avg. Session Length	Survey Method	Horiz. RMSE (m)	Vert. RMSE (m)	Target Type
AT_0401	268827.767	4579168.112	1.846	2	00:05	RTK	0.021	0.028	Stop Bar
AT_0402	268819.688	4579197.405	1.715	2	00:05	RTK	0.023	0.029	Stop Bar
AT_0403	268823.973	4579188.001	2.024	2	00:06	RTK	0.023	0.030	Stop Bar
AT_0404	268357.673	4580208.963	4.788	4	00:06	RTK	0.021	0.028	Stop Bar
AT_0405	268349.943	4580314.652	7.089	4	00:05	RTK	0.021	0.028	Stop Bar
AT_0406	256726.616	4579645.517	1.424	2	17:57	FS	0.010	0.025	Arrow
AT_0407	262538.507	4577892.989	1.578	1	15:16	FS	0.009	0.017	Stop Bar
AT_0408	302616.362	4598149.404	4.274	4	00:06	RTK	0.021	0.028	Parking Lines
AT_0409	302603.869	4598217.471	2.930	1	00:06	RTK	0.022	0.030	Shoulder Line End
AT_0410	302915.067	4594692.288	4.580	4	00:05	RTK	0.016	0.021	Stop Bar
AT_0411	302391.620	4596398.912	4.434	4	00:06	RTK	0.018	0.024	Stop Bar
AT_0412	303049.125	4592572.397	8.155	3	00:05	RTK	0.022	0.027	Centerline End
AT_0413	303071.310	4592280.330	7.650	1	00:05	RTK	0.021	0.028	Shoulder Line End
AT_0414	303077.966	4592265.409	7.888	1	00:06	RTK	0.021	0.028	Shoulder Line End
AT_0415	304800.165	4592123.287	5.670	4	00:05	RTK	0.017	0.022	Stop Bar
AT_0416	307035.698	4592047.312	6.458	4	00:05	RTK	0.017	0.022	Stop Bar
AT_0417	308019.533	4596155.845	3.761	4	00:05	RTK	0.021	0.023	Stop Bar
AT_0418	304962.407	4594672.309	2.240	9	00:05	RTK	0.021	0.027	Painted Cross
AT_0419	305006.689	4594252.668	2.025	2	00:05	RTK	0.019	0.027	Centerline End
AT_0420	304603.945	4593627.555	10.743	4	00:05	RTK	0.022	0.026	Stop Bar
AT_0421	304599.516	4593620.044	10.865	2	00:05	RTK	0.021	0.025	Stop Bar
AT_0422	304595.209	4593608.497	11.172	2	00:05	RTK	0.021	0.026	Stop Bar
AT_0423	306787.362	4597342.351	4.143	4	00:05	RTK	0.017	0.022	ADA Parking
AT_0424	300758.895	4595598.289	3.666	4	00:06	RTK	0.024	0.031	Stop Bar
AT_0425	297659.240	4600062.002	52.721	1	15:04	FS	0.011	0.018	Stop Bar
AT_0426	300951.179	4599854.675	21.419	1	15:02	FS	0.010	0.015	Stop Bar
AT_0427	312663.593	4594454.325	10.083	3	00:05	RTK	0.013	0.016	Arrow
AT_0428	312669.115	4594446.423	10.404	6	00:05	RTK	0.014	0.018	Arrow
AT_0429	311953.668	4595294.957	1.558	6	00:05	RTK	0.009	0.012	Arrow
AT_0430	316965.567	4592698.824	1.941	4	00:05	PPK	0.016	0.024	Crosswalk
AT_0431	316659.157	4592580.254	2.828	3	00:05	RTK	0.018	0.023	Shoulder Line End
AT_0432	316656.769	4592563.858	2.600	1	00:06	RTK	0.022	0.028	Shoulder Line End
AT_0433	320520.880	4595588.809	22.023	1	00:05	RTK	0.020	0.027	Centerline End
AT_0434	320529.237	4595594.848	22.131	1	00:05	RTK	0.022	0.028	Centerline End
AT_0435	312837.553	4597726.168	10.262	4	00:06	RTK	0.016	0.024	Stop Bar
AT_0436	318317.663	4593876.914	9.110	4	00:05	RTK	0.023	0.029	Stop Bar
AT_0437	325154.103	4596989.534	3.437	1	15:03	FS	0.010	0.019	Stop Bar

GLOSSARY

1-sigma (σ) Absolute Deviation: Value for which the data are within one standard deviation (approximately 68th percentile) of a normally distributed data set.

1.96 * RMSE Absolute Deviation: Value for which the data are within two standard deviations (approximately 95th percentile) of a normally distributed data set.

Accuracy: The statistical comparison between known (surveyed) points and measurements. Typically measured as the standard deviation (σ) or root mean square error (RMSE).

Real-Time Kinematic (RTK) Survey: A type of surveying conducted with a GPS base station deployed over a known monument with a radio connection to a GPS rover. Both the base station and rover receive differential GPS data and the baseline correction is solved between the two. This type of ground survey is accurate to 1.5 cm or less.

Root Mean Square Error (RMSE): A statistic used to approximate the overall accuracy of a model. It is calculated by squaring the difference between the known and measured values, then taking the average of the squares and taking the square root of the average.

Post-Processed Kinematic (PPK) Survey: GPS surveying is conducted with a GPS rover collecting concurrently with a GPS base station set up over a known monument. Differential corrections and precisions for the GNSS baselines are computed and applied after the fact during processing. This type of ground survey is accurate to 1.5 cm or less.