

HIGH PRECISION VERTICAL CONTROL NETWORK MODEL:
SOUTHEAST ATLANTIC COAST REGION, FLORIDA

FINAL REPORT

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INTRODUCTION

The National Geodetic Survey (NGS) has published standards for achieving two- and five-cm accuracies for GPS derived heights (see http://www.ngs.noaa.gov/PUBS_LIB/DRAFTGuidelinesforEstablishingGPSderivedOrthometricHeights.pdf for more information). It is the intent of the University of Florida in cooperation with Department of Environmental Protection, Bureau of Beaches and Coastal Systems to apply these standards to develop and implement a GPS-derived vertical control network with improved vertical accuracies for all coastal monitoring activities. As part of this effort, University of Florida researchers, in collaboration with the Bureau of Beaches and Coastal System (BBCS), collected and adjusted GPS L1/L2 observations for the 7-county Southeast Atlantic Coast Region. This marks the fourth phase of GPS observation collection and adjustment: vertical control marks along Florida's entire coast have now been similarly observed by GPS and adjusted save for the North-central Gulf coast region from Wakulla County south to Pasco County.

NETWORK DESIGN AND ADJUSTMENT STRATEGY

The strategy for the development of high-accuracy elevations along the coastline hinges on GPS observations for two networks: Tier-1 aims for 2 centimeter ellipsoid height accuracy and all stations are tied directly to the CORS network (see <http://www.ngs.noaa.gov/CORS/>) while Tier-2 consists of a dense network of stations whose target is 5 centimeters of ellipsoid height accuracy, tied to the Tier-1 stations. Tier-1 stations are observed over multiple sessions of at least two hours each while Tier-2 stations are observed along shorter baselines using shorter sessions, forming many independent and redundant interconnections.

Positions of Tier-1 GPS network stations for this Southeast Atlantic Coast region were processed using the Online User Positioning Service (OPUS), which is a web-based static GPS processing engine built around the PAGES software. See <http://www.ngs.noaa.gov/OPUS/> for more information. Tier-2 network observations were processed by FDEP using Ashtech Solutions Software, and then adjusted by a least-squares method using Ashtech's GNSS software suite.

Only NAD83 ellipsoid heights are adjusted, final orthometric heights referenced to NAVD88 are computed using GEOID03 – the latest geoid model available from NOAA/NGS – see <http://www.ngs.noaa.gov/GEOID/GEOID03/> for more information.

GPS OBSERVATIONS AND TIER-1 NETWORK ADJUSTMENT

Figure 1 (below) illustrates the section covered by this report. CORS stations appear as large red triangles and Tier-1 stations as smaller blue triangles.

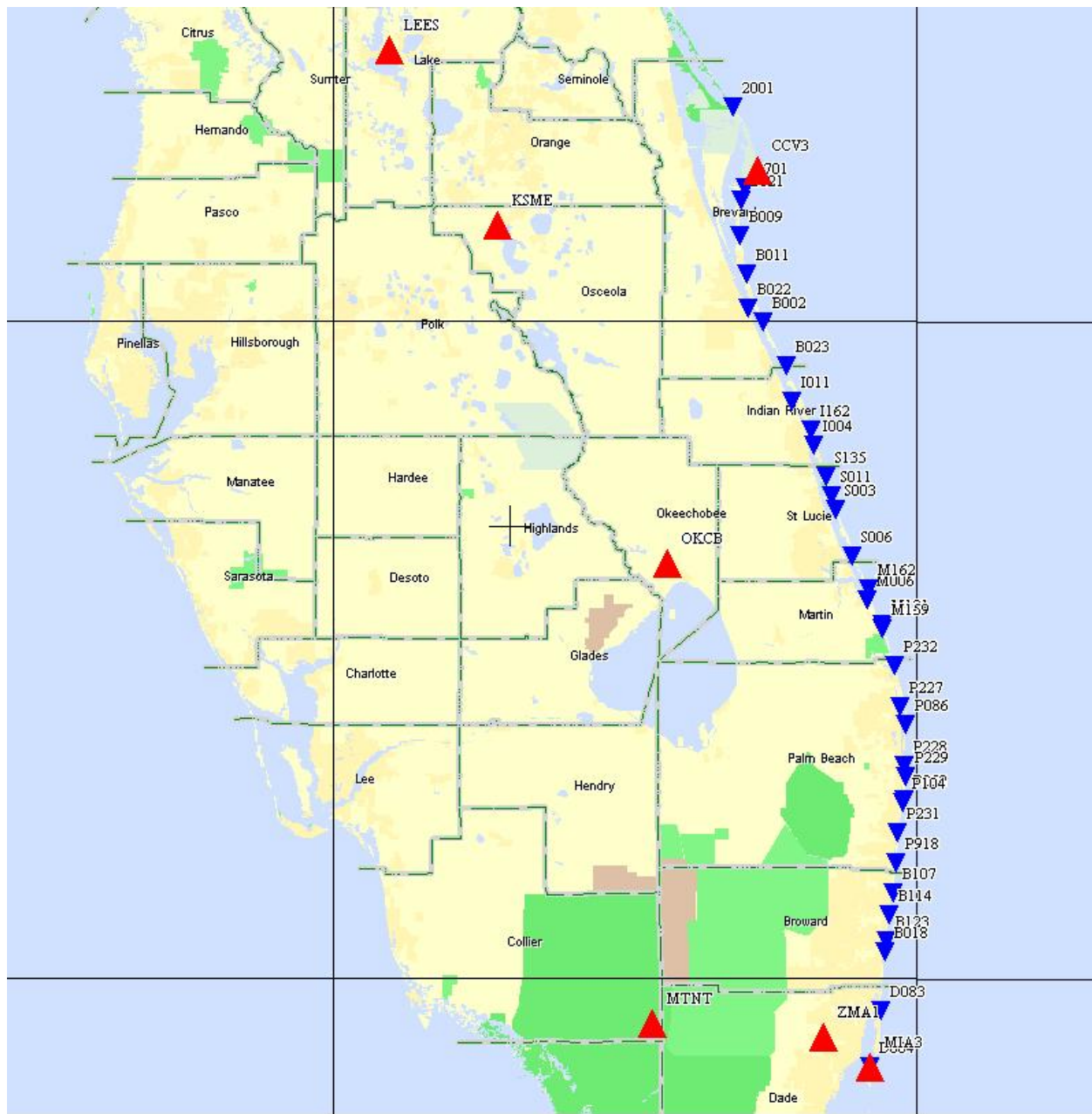


Figure 1 - Tier-1 and CORS for Southeast Florida Vertical Adjustment.

Tier-1 GPS observation sessions were conducted by FDEP from February 25 through May 28, 2006. Each session was at least two hours in duration with many sessions considerably longer, logging once every five seconds, with one hour between sessions. This schedule follows or exceeds the 2-cm guidelines by NGS mentioned previously. All raw data as well as OPUS solutions for all sessions were provided to UF.

An analysis of the peak-to-peak error reported in the OPUS solution sometimes reveals a large difference in the expected accuracy of the ellipsoid heights. The OPUS web page explains peak-to-peak errors like this:

Accuracy estimates for GPS reductions obtained by formal error propagation are notoriously optimistic. For this reason, OPUS does not rely only on the formal errors. Instead, the peak-to-peak error, or error range is provided for each coordinate component (XYZ and NEU). The peak-to-peak error is the difference between the maximum and the minimum value of a coordinate obtained from the 3 baseline solutions. A completely random population with a standard deviation of 1.0 cm, when sampled 3 times, will have a peak-to-peak error of 3.3 cm or less, 95% of the time. In other words, if you see a peak-to-peak variation in the ellipsoidal height of 3.3 cm or higher, there is a 5% chance that such a variation came from data that had a 1.0 cm (one sigma) precision. It is, of course, more likely that 3.3 cm or higher variation indicates a precision larger than 1.0 cm.

Because of some large differences in the peak-to-peak errors reported in OPUS solutions for some stations, a **weighted average** of the ellipsoid heights was calculated as the final adjusted height value, using the inverse of the OPUS-reported peak-to-peak errors as the weighting factor. This method has the advantage of relying heavily upon the better session values for ellipsoid height, and proportionately less on the noisier session values. The weighted average calculation for each station was performed in the following manner:

1. The ellipsoid height value along with its peak-to-peak error height error was extracted from each OPUS solution for that station.
2. The inverse of the ellipsoid height peak-to-peak error was calculated as the weight.
3. Each ellipsoid height value was then multiplied by its weight.
4. These products were then summed.
5. This sum was then divided by the sum total of all weights, yielding the weighted average.

Many stations included in the Tier-1 list for this phase were observed more than two times: some as many as six times. Sometimes these multiple sessions resulted in the OPUS-processed ellipsoid height of a particular station for a particular session to be significantly different from the height values processed in the remaining sessions. In this case the outlying value was NOT used in the weighted average calculation.

Table 1 (below) provides a summary of the Tier-1 sessions.

NAME		LAT		LONG	H	Range	P-t-P	Weight	W Avg
L207 63	28 41	34.64426	080 39	36.71188	-26.514		0.052	19.231	
L207 63	28 41	34.64423	080 39	36.71130	-26.526	0.012	0.042	23.810	
		36.71159		36.71159	-26.520			43.040	-26.525
521 1964	28 41	27.30063	080 39	31.56229	-26.581		0.016	62.500	
521 1964	28 41	27.30053	080 39	31.56218	-26.588	0.007	0.030	33.333	
		27.30058		31.56224	-26.585			95.833	-26.583
B2001	28 39	4.44291	080 37	50.31923	-26.823		0.057	17.544	
B2001	28 39	4.44289	080 37	50.31933	-26.819		0.069	14.493	
B2001	28 39	4.44263	080 37	50.31913	-26.819	0.004	0.017	58.824	
		4.44281		50.31923	-26.820			90.860	-26.820
B701	28 24	29.16278	080 35	19.08759	-26.984		0.068	14.706	
B701	28 24	29.16271	080 35	19.08722	-26.985		0.027	37.037	
B701	28 24	29.16271	080 35	19.08702	-26.987		0.009	111.111	
B701	28 24	29.16264	080 35	19.08751	-26.987	0.003	0.052	19.231	
		29.16271		19.08734	-26.986			182.085	-26.986
872 1649 A 1994	28 22	3.30386	080 36	13.13135	-25.546		0.070	14.286	
872 1649 A 1994	28 22	3.30365	080 36	13.13137	-25.545	0.001	0.041	24.390	
		3.30376		13.13136	-25.546			38.676	-25.545
GPS 1009	28 15	43.34775	080 36	18.79576	-24.765		0.019	52.632	
GPS 1009	28 15	43.34794	080 36	18.79600	-24.738		0.040	25.000	
GPS 1009	28 15	43.34797	080 36	18.79591	-24.719		0.047	21.277	
GPS 1009	28 15	43.34801	080 36	18.79545	-24.639	0.046	0.094	10.638	
		43.34792		18.79589	-24.715			98.908	-24.748
872 1804 F	28 8	33.64951	080 34	56.09114	-24.433		0.067	14.925	
872 1804 F	28 8	33.64780	080 34	56.08815	-24.244	0.189	0.301	3.322	
		33.64866		56.08965	-24.339			18.248	-24.399
1874 NO1 1972	28 2	29.66929	080 34	50.82502	-27.915		0.014	71.429	
1874 NO1 1972	28 2	29.66915	080 34	50.82539	-27.911		0.046	21.739	
1874 NO1 1972	28 2	29.66908	080 34	50.82526	-27.907		0.046	21.739	
1874 NO1 1972	28 2	29.66907	080 34	50.82527	-27.921		0.061	16.393	
1874 NO1 1972	28 2	29.66906	080 34	50.82514	-27.888		0.093	10.753	
1874 NO1 1972	28 2	29.66881	080 34	50.82673	-27.929	0.041	0.050	20.000	
		29.66908		50.82547	-27.912			162.053	-27.914
70 80 A50	27 59	59.63706	080 31	31.30056	-23.443		0.070	14.286	
70 80 A50	27 59	59.63702	080 31	31.30040	-23.466	0.023	0.052	19.231	
		59.63704		31.30048	-23.455			33.516	-23.456
2004 1 1995	27 51	50.74869	080 26	58.08836	-25.240		0.030	33.333	
2004 1 1995	27 51	50.74856	080 26	58.08879	-25.196		0.066	15.152	
2004 1 1995	27 51	50.74868	080 26	58.08828	-25.186		0.003	333.333	
2004 1 1995	27 51	50.74868	080 26	58.08811	-25.184		0.013	76.923	
2004 1 1995	27 51	50.74886	080 26	58.08823	-25.164	0.032	0.011	90.909	
		50.74869		58.08835	-25.194			516.317	-25.182

2059 NO2 1972	27 45	16.28210	080 25	34.96624	-26.914		0.084	11.905	
2059 NO2 1972	27 45	16.28194	080 25	34.96530	-26.886	0.028	0.037	27.027	
		16.28202		34.96577	-26.900			38.932	-26.895
8878A22A	27 40	10.09613	080 21	41.09178	-27.182		0.089	11.236	
8878A22A	27 40	10.09667	080 21	41.08747	-27.165		0.175	5.714	
8878A22A	27 40	10.09617	080 21	41.08983	-27.139		0.076	13.158	
8878A22A	27 40	10.09587	080 21	41.08998	-27.118		0.115	8.696	
8878A22A	27 40	10.09578	080 21	41.08987	-27.091	0.091	0.058	17.241	
		10.09612		41.08979	-27.139			56.045	-27.132
GPS 137 1998	27 37	27.52052	080 21	11.10219	-24.783		0.077	12.987	
GPS 137 1998	27 37	27.52042	080 21	11.10216	-24.757		0.046	21.739	
GPS 137 1998	27 37	27.52035	080 21	11.10214	-24.769		0.080	12.500	
GPS 137 1998	27 37	27.52013	080 21	11.10205	-24.741	0.042	0.024	41.667	
		27.52036		11.10214	-24.763			88.893	-24.755
94 77 A35	27 31	45.08661	080 18	48.90763	-24.419		0.069	14.493	
94 77 A35	27 31	45.08639	080 18	48.90749	-24.399	0.020	0.025	40.000	
		45.08650		48.90756	-24.409			54.493	-24.404
PIERCE 2 NO5	27 28	10.57185	080 17	27.24003	-25.717		0.119	8.403	
PIERCE 2 NO5	27 28	10.57165	080 17	27.24192	-25.738		0.081	12.346	
PIERCE 2 NO5	27 28	10.57163	080 17	27.24183	-25.709		0.018	55.556	
PIERCE 2 NO5	27 28	10.57146	080 17	27.24212	-25.699	0.039	0.024	41.667	
		10.57165		27.24148	-25.716			117.971	-25.709
Z307 1987_	27 25	39.78496	080 16	44.62795	-26.419		0.065	15.385	
Z307 1987_	27 25	39.78469	080 16	44.62779	-26.392	0.027	0.019	52.632	
		39.78483		44.62787	-26.406			68.016	-26.398
2312 G 1986	27 17	9.22630	080 13	27.35491	-26.372		0.060	16.667	
2312 G 1986	27 17	9.22657	080 13	27.35494	-26.369		0.069	14.493	
2312 G 1986	27 17	9.22662	080 13	27.35504	-26.337		0.017	58.824	
2312 G 1986	27 17	9.22653	080 13	27.35455	-26.314	0.058	0.040	25.000	
		9.22651		27.35486	-26.348			114.983	-26.341
MARTCO107RM2	27 11	5.60396	080 9	50.85814	-26.306		0.069	14.493	
MARTCO107RM2	27 11	5.60381	080 9	50.85809	-26.277		0.017	58.824	
MARTCO107RM2	27 11	5.60376	080 9	50.85816	-26.259		0.019	52.632	
MARTCO107RM2	27 11	5.60359	080 9	50.85815	-26.264	0.047	0.066	15.152	
		5.60378		50.85814	-26.277			141.099	-26.272
2381 NO4 1973	27 9	13.40123	080 10	17.11453	-26.786		0.011	90.909	
2381 NO4 1973	27 9	13.40108	080 10	17.11464	-26.788	0.002	0.069	14.493	
		13.40116		17.11459	-26.787			105.402	-26.786
DET4/GSS 1985	27 4	40.05771	080 7	14.51392	-25.333		0.034	29.412	
DET4/GSS 1985	27 4	40.05767	080 7	14.51402	-25.335		0.034	29.412	
DET4/GSS 1985	27 4	40.05767	080 7	14.51412	-25.351		0.004	250.000	
DET4/GSS 1985	27 4	40.05752	080 7	14.51415	-25.328	0.023	0.007	142.857	
		40.05764		14.51405	-25.337			451.681	-25.342
2429 C 1980	27 3	57.80624	080 7	1.93127	-25.640		0.021	47.619	
2429 C 1980	27 3	57.80620	080 7	1.93110	-25.677	0.037	0.007	142.857	
		57.80622		1.93119	-25.659			190.476	-25.668

2491 E 1981	26 57	9.64607	080 4	37.80776	-24.771		0.059	16.949	
2491 E 1981	26 57	9.64601	080 4	37.80779	-24.760		0.026	38.462	
2491 E 1981	26 57	9.64600	080 4	37.80777	-24.777		0.001	1000.000	
2491 E 1981	26 57	9.64583	080 4	37.80769	-24.782	0.022	0.017	58.824	
		9.64598		37.80775	-24.773			1114.234	-24.777
Q309 1970	26 49	37.29914	080 3	26.56105	-25.822		0.102	9.804	
Q309 1970	26 49	37.29900	080 3	26.56038	-25.852		0.018	55.556	
Q309 1970	26 49	37.29887	080 3	26.56148	-25.874		0.226	4.425	
Q309 1970	26 49	37.29878	080 3	26.56058	-25.852	0.052	0.045	22.222	
		37.29895		26.56087	-25.850			92.006	-25.850
T 309 1970	26 46	25.61639	080 2	13.55799	-25.386		0.329	3.040	
T 309 1970	26 46	25.61586	080 2	13.55894	-25.400		0.100	10.000	
T 309 1970	26 46	25.61585	080 2	13.55799	-25.355		0.035	28.571	
T 309 1970	26 46	25.61578	080 2	13.55817	-25.351		0.071	14.085	
T 309 1970	26 46	25.61577	080 2	13.55843	-25.415	0.064	0.037	27.027	
		25.61593		13.55830	-25.381			82.722	-25.381
2654 NO4 1970	26 38	46.79521	080 2	42.92450	-25.570		0.116	8.621	
2654 NO4 1970	26 38	46.79743	080 2	42.92661	-25.468		0.021	47.619	
2654 NO4 1970	26 38	46.79733	080 2	42.92681	-25.435	0.033	0.078	12.821	
		46.79666		42.92597	-25.491			60.440	-25.461
P 317 1970	26 36	52.38007	080 2	12.55973	-21.154		0.029	34.483	
P 317 1970	26 36	52.37996	080 2	12.55986	-21.172	0.018	0.010	100.000	
		52.38002		12.55980	-21.163			134.483	-21.167
HAUOVER NO3	26 32	43.91172	080 2	32.10343	-23.047		0.025	40.000	
HAUOVER NO3	26 32	43.91157	080 2	32.10356	-23.058		0.018	55.556	
HAUOVER NO3	26 32	43.91139	080 2	32.10361	-23.027	0.031	0.030	33.333	
		43.91156		32.10353	-23.044			128.889	-23.047
HAUOVER-A 91	26 32	8.53133	080 2	49.91201	-23.169		0.089	11.236	-23.169
2761 NO2 1973	26 26	43.45605	080 3	56.21276	-24.669		0.078	12.821	
2761 NO2	26 26	43.45662	80 3	56.21237	-24.614		0.053	18.868	
2761 NO2	26 26	43.45616	80 3	56.21275	-24.592		0.070	14.286	
2761 NO2 1973	26 26	43.45647	080 3	56.21352	-24.580	0.034	0.050	20.000	
		43.45633		56.21285	-24.614			53.154	-24.595
P918	26 21	1.48187	080 4	11.04457	-20.807		0.032	31.250	
P918	26 21	1.48169	080 4	11.04464	-20.791		0.019	52.632	
P918	26 21	1.48199	80 4	11.04416	-20.787	0.020	0.061	16.393	
		1.48185		11.04446	-20.795			100.275	-20.795
8692DA23	26 6	48.59504	80 6	16.51201	-23.042		0.107	9.346	
8692DA23	26 6	48.59481	80 6	16.51177	-22.971		0.022	45.455	
86 92 DA23	26 6	48.59460	080 6	16.51220	-22.956		0.014	71.429	
86 92 DA23	26 6	48.59462	080 6	16.51207	-22.946	0.025	0.072	13.889	
		48.59477		16.51201	-22.979			130.772	-22.960
8696 X 15	26 4	52.61952	080 6	41.02462	-21.284	0.038	0.054	18.519	
8696 X 15	26 4	52.61928	080 6	41.02471	-21.258		0.111	9.009	

2957X158	26 4	52.61910	080 6	41.02479	-21.260		0.070	14.286	
2957X158	26 4	52.61943	080 6	41.02597	-21.246		0.035	28.571	
		52.61933		41.02502	-21.262			70.385	-21.260
DANIA 3 1985	26 3	11.06214	080 6	49.14169	-19.442		0.023	43.478	
DANIA 3 1985	26 3	11.06198	080 6	49.14224	-19.405	0.037	0.080	12.500	
		11.06206		49.14197	-19.424			55.978	-19.434
3044 H 1982_	25 56	36.31647	080 7	28.17960	-25.263		0.078	12.821	
3044 H 1982_	25 56	36.31633	080 7	28.17957	-25.200	0.063	0.139	7.194	
		36.31640		28.17959	-25.232			20.015	-25.240
3080 A	25 54	10.25839	080 7	23.61894	-24.853		0.087	11.494	
3080 A	25 54	10.25870	080 7	23.61819	-24.826		0.095	10.526	
3080 A	25 54	10.25895	080 7	23.61870	-24.740		0.206	4.854	
		10.25868		23.61861	-24.806			22.021	-24.840
87 91 DA 21	25 48	39.88248	080 7	19.12730	-23.432		0.015	66.667	
87 91 DA 21	25 48	39.88243	080 7	19.12730	-23.420	0.012	0.073	13.699	
87 91 DA 21	25 48	39.88289	080 7	19.12713	-23.371		0.126	7.937	
87 91 DA 21	25 48	39.88310	080 7	19.12710	-23.348		0.107	9.346	
		39.88273		19.12721	-23.393			80.365	-23.430
3165 MH 16	25 46	47.50546	080 11	6.81534	-24.257		0.064	15.625	
3165 MH 16	25 46	47.50490	080 11	6.81500	-24.256	0.001	0.080	12.500	
		47.50518		6.81517	-24.257			28.125	-24.257
VIALINK GPS	25 45	52.09467	080 7	52.50580	-23.571		0.083	12.048	
VIALINK GPS	25 45	52.09434	080 7	52.50506	-23.540		0.029	34.483	
VIALINK GPS	25 45	52.09421	080 7	52.50549	-23.516		0.169	5.917	
VIALINK GPS	25 45	52.09482	080 7	52.50512	-23.502	0.038	0.088	11.364	
		52.09451		52.50537	-23.532			51.764	-23.529
3214 H 2003	25 43	58.05602	080 9	42.34423	-23.446		0.038	26.316	
3214 H 2003	25 43	58.05566	080 9	42.34511	-23.477		0.049	20.408	
3214 H 2003	25 43	58.05563	080 9	42.34385	-23.493	0.047	0.080	12.500	
		58.05577		42.34440	-23.472			59.224	-23.467
3232 NO4_	25 41	57.37270	080 10	8.27986	-24.750		0.215	4.651	
3232 NO4_	25 41	57.37239	080 10	8.27912	-24.744	0.006	0.095	10.526	
		57.37255		8.27949	-24.747			15.177	-24.746
D412	25 40	16.32850	080 9	14.13306	-23.003		0.181	5.525	
D412	25 40	16.32816	080 9	14.13201	-22.967	0.036	0.076	13.158	
		16.32833		14.13254	-22.985			18.683	-22.978
8692DA07	26 15	39.86877	80 5	1.19483	-21.349		0.150	6.667	
8692DA07	26 15	39.86856	80 5	1.19457	-21.334	0.015	0.019	52.632	
		39.86867		1.19470	-21.342			59.298	-21.336
8692DA14	26 11	30.75561	80 5	44.41685	-22.783		0.066	15.152	
8692DA14	26 11	30.75580	80 5	44.41688	-22.788	0.005	0.061	16.393	
		30.75571		44.41687	-22.786			31.545	-22.786

Table 1 (above) is a listing of all relevant Tier-1 session information. Separate session results appear as separate lines in the above table.

Column 1 is the station designation. Columns 2-5 are the latitude and longitude in NAD83 as processed by OPUS in relation to CORS. Column 6 (H) is the ellipsoid height processed by OPUS for that session. Column 7 (Range) is the spread in ellipsoid heights for each station across all observation sessions for that station. Column 8 (P-t-P) is the peak to peak error (in meters) from the OPUS solution of the ellipsoid height, and its inverse is the weight used in the weighted average calculation (Column 9). The orange rows indicate the outliers, and were not used in the weighted average calculations.

Note the following:

1. Station HAULOVER-A 91 was only observed once, in a short session and does not meet Tier-1 requirements. It is shown in red in the above table
2. Station 872 1804 F was observed across 2 sessions with a difference of 0.189 meters in height. This is an unreasonably large difference, and the session with the peak-to-peak error of 0.301 meters was ignored for this station
3. Station 8878A22A was observed 5 times and had a range in heights of 91 millimeters, yet had no obvious outliers. All 5 sessions were used for the calculation of the weighted average.
4. ***Leaving out the 2 stations mentioned above the average range of height values across the sessions for the Tier-1 stations is 28 millimeters, with a standard deviation of 19 millimeters. This appears to easily meet the 2 centimeter standard of ellipsoid height accuracy.***

A final listing of all Tier 1 points appears below in Table 2. Ellipsoid heights are in meters and NAVD88 elevations are in both meters and feet.

NAME		LAT		LONG	H	NAVD88(M)	NAVD88(F)
B002 ??	28 41	36.71159	080 39	36.71159	-26.525	1.677	5.502
521 1964	28 41	27.30058	080 39	31.56224	-26.583	1.619	5.312
2001	28 39	4.44281	080 37	50.31923	-26.820	1.394	4.573
B701	28 24	29.16271	080 35	19.08734	-26.986	1.272	4.173
B021	28 22	3.30376	080 36	13.13136	-25.545	2.717	8.914
B009	28 15	43.34792	080 36	18.79589	-24.748	3.527	11.571
B011	28 8	33.64866	080 34	56.08965	-24.443	3.812	12.506
B022	28 2	29.66908	080 34	50.82547	-27.914	0.232	0.761
B002	27 59	59.63704	080 31	31.30048	-23.456	4.695	15.403
B023	27 51	50.74869	080 26	58.08835	-25.182	2.860	9.383
I011	27 45	16.28202	080 25	34.96577	-26.895	0.978	3.209
I162	27 40	10.09612	080 21	41.08979	-27.132	0.680	2.231
I004	27 37	27.52036	080 21	11.10214	-24.755	2.986	9.796
S135	27 31	45.08650	080 18	48.90756	-24.404	3.258	10.689
S011	27 28	10.57165	080 17	27.24148	-25.709	1.923	6.309
S003	27 25	39.78483	080 16	44.62787	-26.398	1.204	3.950
S006	27 17	9.22651	080 13	27.35486	-26.341	1.276	4.186
M162	27 11	5.60378	080 9	50.85814	-26.272	1.471	4.826
M006	27 9	13.40116	080 10	17.11459	-26.786	0.889	2.917
M131	27 4	40.05764	080 7	14.51405	-25.342	2.368	7.769
M159	27 3	57.80622	080 7	1.93119	-25.668	2.024	6.640
P232	26 57	9.64598	080 4	37.80775	-24.777	2.678	8.786
P227	26 49	37.29895	080 3	26.56087	-25.849	1.101	3.612
P086	26 46	25.61593	080 2	13.55830	-25.381	1.427	4.682
P228	26 38	46.79666	080 2	42.92597	-25.461	0.925	3.035
P229	26 36	52.38002	080 2	12.55980	-21.167	5.201	17.063
P052	26 32	43.91156	080 2	32.10353	-23.047	3.201	10.502
P231	26 26	43.45633	080 3	56.21285	-24.595	1.483	4.865
P918	26 21	1.48185	80 4	11.04446	-20.795	5.232	17.165
B107	26 15	39.86867	80 5	1.19470	-21.336	4.600	15.092
8692DA14	26 11	30.75571	80 5	44.41687	-22.786	3.069	10.069
B123	26 6	48.59477	080 6	16.51201	-22.960	2.820	9.252
B018	26 4	52.61933	080 6	41.02502	-21.260	4.483	14.708
B012	26 3	11.06206	080 6	49.14197	-19.434	6.301	20.672
D082	25 56	36.31640	080 7	28.17959	-25.240	0.446	1.463
D083	25 54	10.25868	080 7	23.61861	-24.840	0.852	2.795
D028	25 48	39.88273	080 7	19.12721	-23.430	2.301	7.549
D087	25 46	47.50518	080 11	6.81517	-24.257	1.250	4.101
D086	25 45	52.09451	080 7	52.50537	-23.529	2.209	7.247
D084	25 43	58.05577	080 9	42.34440	-23.467	2.190	7.185
D085	25 41	57.37255	080 10	8.27949	-24.746	0.935	3.068
D412	25 40	16.32833	080 9	14.13254	-22.978	2.804	9.199

SECOND-TIER NETWORK ADJUSTMENTS

Tier-2 stations were broken up into five separate adjustments: Brevard, Indian River, and St. Lucie Counties were done individually, Martin and Palm Beach Counties were combined, as were Broward and Dade Counties. Least-Squares Adjustments were run holding the appropriate Tier-1 stations fixed in Ashtech's GNSS software.

Brevard Adjustment.

Eight Tier-1 stations were held fixed and 73 Tier-2 stations were adjusted. Quality control for these adjustments was done in the following manner:

1. Repeat vectors were analyzed for precision. Three out of a total of 32 repeat vectors were rejected. Of these, one was an obvious blunder as the difference in height between the 2 stations was over 2 meters. The other 2 rejections had differences of 8 centimeters and 3 centimeters respectively. Height agreement between the other 29 repeat measurements was better than 1 centimeter.
2. Residual values on the components of the adjusted vectors were carefully inspected, and found to be, in general, less than 1 centimeter.
3. The 95% error reported on the adjusted stations was carefully examined and found to be, in general, less than 1 centimeter.

Indian River Adjustment.

Five Tier-1 stations were held fixed and 47 Tier-2 stations were adjusted. Quality control for these adjustments was done in the following manner:

1. Repeat vectors were analyzed for precision. Height agreement between the 8 of 12 pairs of repeat measurements was better than 1 centimeter; Three vectors were discarded as outliers and 1 pair showed a vertical disagreement of 39 millimeters, which was adjusted.
2. Residual values on the components of the adjusted vectors were carefully inspected, and found to be, in general, less than 1 centimeter; only two vectors showed a residual of more than 4 centimeters, which was accepted.
3. The 95% error reported on the adjusted stations was carefully examined and found to be, in general, less than 1 centimeter, and in all cases less than 3 centimeters.

St Lucie Adjustment.

Six Tier-1 stations were held fixed and 46 Tier-2 stations were adjusted. Quality control for these adjustments was done in the following manner:

1. Repeat vectors were analyzed for precision. Height agreement between the 26 of 32 pairs of repeat measurements was better than 3 centimeters; four vectors were discarded as outliers.
2. Residual values on the components of the adjusted vectors were carefully inspected, four vectors were discarded. Average residual values were 2 centimeters.

3. The 95% error reported on the adjusted stations was carefully examined and found to be, in general, less than 1 centimeter, and in all cases but three (M129, M131, and M776) less than 3 centimeters. These three stations had a 95% error of 6 centimeters.

Martin/Palm Beach Adjustment

Eleven Tier-1 stations were held fixed and 86 Tier-2 stations were adjusted. Quality control for these adjustments was done in the following manner:

1. Repeat vectors were analyzed for precision. Height agreement between the 34 of 39 pairs of repeat measurements was 4 centimeters or less; six vectors were discarded as outliers.
2. Residual values on the components of the adjusted vectors were carefully inspected; Average residual values were less than 2 centimeters, with about 10% of the adjusted vectors having a height residual 4 and 7 centimeters.
3. The 95% error reported on the height of the adjusted stations was carefully examined and found to be, in general, less than 5 centimeters, and in all cases but four (M123, M122, and M121and M119) less than 8 centimeters. These four stations had a 95% error of 12 centimeters.
4. This adjustment had the highest 95% errors of all adjustments.

Broward/Dade Adjustment

Thirteen Tier-1 stations were held fixed and 59 Tier-2 stations were adjusted. Quality control for these adjustments was done in the following manner:

1. Repeat vectors were analyzed for precision. Height agreement between the 25 of 28 pairs of repeat measurements was 4 centimeters or less; two vectors were discarded as outliers.
2. Residual values on the components of the adjusted vectors were carefully inspected; Average residual values were slightly more than 2 centimeters, with about 10% of the adjusted vectors having a height residual 4 and 7 centimeters.
3. The 95% error reported on the height of the adjusted stations was carefully examined and found to be, in general, less than 2 centimeters, and in all cases less than 4 centimeters.

Control Points

Brevard Adjustment

Name		Components	95% Error	Status	Control Error
B002	East	809328.934	0.000	FIXED	
	North	1332965.162	0.000	FIXED	
	Ortho height	15.404	0.000	FIXED	
B009	East	783248.995	0.000	FIXED	
	North	1428180.442	0.000	FIXED	
	Ortho height	11.571	0.000	FIXED	
B011	East	790793.995	0.000	FIXED	
	North	1384808.646	0.000	FIXED	
	Ortho height	12.508	0.000	FIXED	
B021	East	783629.512	0.000	FIXED	
	North	1466555.559	0.000	FIXED	
	Ortho height	8.914	0.000	FIXED	
B022	East	791391.889	0.000	FIXED	
	North	1348051.457	0.000	FIXED	
	Ortho height	0.760	0.000	FIXED	
B023	East	834041.405	0.000	FIXED	
	North	1283695.101	0.000	FIXED	
	Ortho height	9.382	0.000	FIXED	
B701	East	788407.050	0.000	FIXED	
	North	1481302.855	0.000	FIXED	
	Ortho height	4.172	0.000	FIXED	
I011	East	841687.790	0.000	FIXED	
	North	1243892.660	0.000	FIXED	
	Ortho height	3.208	0.000	FIXED	

Logged Points

Brevard Adjustment

Name		Components	95% Error	Status
B004	East	829979.202	0.020	Adjusted
	North	1291631.132	0.015	Adjusted
	Ortho height	11.497	0.027	Adjusted
B005	East	794451.621	0.016	Adjusted
	North	1370880.702	0.013	Adjusted
	Ortho height	13.191	0.021	Adjusted
B007	East	788639.307	0.016	Adjusted
	North	1394597.585	0.012	Adjusted
	Ortho height	13.486	0.021	Adjusted

B008	East	787929.860	0.018	Adjusted
	North	1397551.909	0.014	Adjusted
	Ortho height	12.901	0.024	Adjusted
B012	East	777177.303	0.016	Adjusted
	North	1462985.127	0.013	Adjusted
	Ortho height	3.225	0.023	Adjusted
B013	East	774083.657	0.018	Adjusted
	North	1462941.613	0.014	Adjusted
	Ortho height	2.894	0.028	Adjusted
B020	East	783473.514	0.016	Adjusted
	North	1479467.900	0.011	Adjusted
	Ortho height	13.749	0.024	Adjusted
B024	East	796073.537	0.019	Adjusted
	North	1366300.933	0.014	Adjusted
	Ortho height	15.118	0.025	Adjusted
B025	East	785054.629	0.022	Adjusted
	North	1415814.206	0.016	Adjusted
	Ortho height	9.980	0.030	Adjusted
B026	East	813530.373	0.022	Adjusted
	North	1324033.707	0.018	Adjusted
	Ortho height	11.730	0.029	Adjusted
B104	East	785363.987	0.014	Adjusted
	North	1475106.357	0.010	Adjusted
	Ortho height	6.062	0.020	Adjusted
B105	East	784612.144	0.013	Adjusted
	North	1472494.478	0.009	Adjusted
	Ortho height	7.485	0.019	Adjusted
B106	East	783787.576	0.008	Adjusted
	North	1468990.977	0.006	Adjusted
	Ortho height	8.264	0.011	Adjusted
B108	East	783403.872	0.011	Adjusted
	North	1465468.111	0.009	Adjusted
	Ortho height	8.774	0.014	Adjusted
B110	East	782039.663	0.019	Adjusted
	North	1460877.715	0.016	Adjusted
	Ortho height	9.887	0.025	Adjusted
B111	East	781685.677	0.019	Adjusted
	North	1457461.166	0.016	Adjusted
	Ortho height	5.866	0.025	Adjusted
B113	East	782042.308	0.020	Adjusted
	North	1450601.123	0.016	Adjusted
	Ortho height	10.010	0.026	Adjusted
B114	East	781963.998	0.024	Adjusted
	North	1447757.869	0.017	Adjusted
	Ortho height	10.224	0.031	Adjusted
B115	East	782077.736	0.021	Adjusted
	North	1444158.293	0.017	Adjusted
	Ortho height	12.415	0.027	Adjusted
B116	East	782220.660	0.019	Adjusted
	North	1440145.863	0.014	Adjusted
	Ortho height	10.252	0.025	Adjusted
B120	East	783288.384	0.014	Adjusted
	North	1427905.589	0.010	Adjusted

	Ortho height	12.098	0.018	Adjusted
B121	East	783852.564	0.019	Adjusted
	North	1424213.474	0.014	Adjusted
	Ortho height	12.054	0.027	Adjusted
B124	East	785293.742	0.021	Adjusted
	North	1413143.794	0.016	Adjusted
	Ortho height	8.000	0.029	Adjusted
B129	East	788717.370	0.016	Adjusted
	North	1394540.825	0.012	Adjusted
	Ortho height	13.623	0.021	Adjusted
B130	East	789456.889	0.015	Adjusted
	North	1390912.895	0.012	Adjusted
	Ortho height	14.298	0.021	Adjusted
B133	East	792015.206	0.013	Adjusted
	North	1379623.938	0.011	Adjusted
	Ortho height	14.165	0.017	Adjusted
B134	East	792833.352	0.015	Adjusted
	North	1376472.415	0.013	Adjusted
	Ortho height	13.891	0.020	Adjusted
B135	East	793496.692	0.015	Adjusted
	North	1374060.197	0.012	Adjusted
	Ortho height	13.199	0.020	Adjusted
B139	East	796801.301	0.019	Adjusted
	North	1363339.148	0.015	Adjusted
	Ortho height	13.566	0.026	Adjusted
B140	East	797792.555	0.018	Adjusted
	North	1360814.519	0.014	Adjusted
	Ortho height	13.690	0.025	Adjusted
B144	East	801470.414	0.020	Adjusted
	North	1351505.623	0.014	Adjusted
	Ortho height	14.486	0.027	Adjusted
B145	East	802344.939	0.019	Adjusted
	North	1349380.782	0.014	Adjusted
	Ortho height	14.851	0.025	Adjusted
B147	East	804986.026	0.020	Adjusted
	North	1343027.911	0.016	Adjusted
	Ortho height	15.968	0.027	Adjusted
B149	East	808251.760	0.011	Adjusted
	North	1335510.892	0.009	Adjusted
	Ortho height	17.723	0.015	Adjusted
B152	East	811672.320	0.016	Adjusted
	North	1328152.627	0.013	Adjusted
	Ortho height	15.613	0.023	Adjusted
B155	East	814659.102	0.020	Adjusted
	North	1321298.153	0.016	Adjusted
	Ortho height	10.179	0.027	Adjusted
B156	East	816103.245	0.022	Adjusted
	North	1318387.072	0.018	Adjusted
	Ortho height	9.736	0.030	Adjusted
B157	East	817550.694	0.022	Adjusted
	North	1315549.680	0.018	Adjusted
	Ortho height	10.429	0.029	Adjusted

B158	East	818982.575	0.022	Adjusted
	North	1312902.985	0.017	Adjusted
	Ortho height	10.454	0.029	Adjusted
B159	East	821071.754	0.024	Adjusted
	North	1308799.037	0.018	Adjusted
	Ortho height	10.914	0.032	Adjusted
B162	East	826591.315	0.020	Adjusted
	North	1297879.821	0.016	Adjusted
	Ortho height	8.365	0.028	Adjusted
B364	East	784370.031	0.020	Adjusted
	North	1421055.319	0.015	Adjusted
	Ortho height	11.752	0.028	Adjusted
B716	East	784387.337	0.011	Adjusted
	North	1466581.255	0.009	Adjusted
	Ortho height	18.906	0.014	Adjusted
B728	East	782562.250	0.019	Adjusted
	North	1455461.935	0.015	Adjusted
	Ortho height	13.624	0.025	Adjusted
B740	East	782263.092	0.019	Adjusted
	North	1444130.659	0.015	Adjusted
	Ortho height	13.504	0.025	Adjusted
B750	East	782840.425	0.019	Adjusted
	North	1433951.686	0.014	Adjusted
	Ortho height	14.280	0.025	Adjusted
B759	East	783649.577	0.041	Adjusted
	North	1426672.844	0.037	Adjusted
	Ortho height	10.470	0.054	Adjusted
B780	East	786484.445	0.021	Adjusted
	North	1405833.178	0.016	Adjusted
	Ortho height	14.913	0.029	Adjusted
B789	East	788223.311	0.018	Adjusted
	North	1397637.768	0.014	Adjusted
	Ortho height	17.377	0.024	Adjusted
B810	East	792764.518	0.015	Adjusted
	North	1378054.114	0.013	Adjusted
	Ortho height	15.503	0.020	Adjusted
B819	East	794939.112	0.018	Adjusted
	North	1370252.443	0.014	Adjusted
	Ortho height	15.330	0.024	Adjusted
B830	East	798204.357	0.021	Adjusted
	North	1360216.643	0.015	Adjusted
	Ortho height	17.323	0.029	Adjusted
B842	East	802222.242	0.018	Adjusted
	North	1349879.627	0.014	Adjusted
	Ortho height	15.066	0.025	Adjusted
B859	East	808601.025	0.011	Adjusted
	North	1335183.751	0.009	Adjusted
	Ortho height	16.942	0.015	Adjusted
B871	East	813777.590	0.017	Adjusted
	North	1323929.200	0.014	Adjusted
	Ortho height	20.339	0.024	Adjusted
B883	East	818955.349	0.022	Adjusted
	North	1313272.213	0.017	Adjusted

	Ortho height	17.079	0.029	Adjusted
B893	East	823083.861	0.025	Adjusted
	North	1305194.169	0.019	Adjusted
	Ortho height	14.970	0.033	Adjusted
B902	East	827263.432	0.020	Adjusted
	North	1297288.919	0.015	Adjusted
	Ortho height	15.819	0.028	Adjusted
B908	East	830160.311	0.020	Adjusted
	North	1291783.374	0.015	Adjusted
	Ortho height	22.019	0.027	Adjusted
B919	East	834841.026	0.010	Adjusted
	North	1282851.180	0.009	Adjusted
	Ortho height	10.342	0.014	Adjusted
H099	East	790188.264	0.014	Adjusted
	North	1388949.229	0.012	Adjusted
	Ortho height	17.324	0.020	Adjusted
H151	East	806026.953	0.021	Adjusted
	North	1341097.769	0.016	Adjusted
	Ortho height	19.208	0.028	Adjusted
I007	East	847192.897	0.022	Adjusted
	North	1254993.232	0.019	Adjusted
	Ortho height	8.606	0.032	Adjusted
I100	East	834016.308	0.009	Adjusted
	North	1283016.936	0.007	Adjusted
	Ortho height	19.495	0.012	Adjusted
I101	East	834695.371	0.010	Adjusted
	North	1281550.140	0.009	Adjusted
	Ortho height	19.242	0.014	Adjusted
I105	East	836886.880	0.015	Adjusted
	North	1276789.155	0.013	Adjusted
	Ortho height	3.063	0.020	Adjusted
I106	East	838955.302	0.020	Adjusted
	North	1272548.286	0.017	Adjusted
	Ortho height	3.750	0.028	Adjusted
I108	East	841989.213	0.022	Adjusted
	North	1265051.182	0.018	Adjusted
	Ortho height	4.759	0.030	Adjusted
I109	East	844425.541	0.024	Adjusted
	North	1260280.787	0.020	Adjusted
	Ortho height	6.645	0.033	Adjusted
I111	East	848669.385	0.024	Adjusted
	North	1251560.627	0.020	Adjusted
	Ortho height	7.651	0.034	Adjusted
I715	East	841058.065	0.020	Adjusted
	North	1268540.286	0.016	Adjusted
	Ortho height	7.767	0.027	Adjusted
I725	East	844867.545	0.022	Adjusted
	North	1260162.672	0.018	Adjusted
	Ortho height	7.972	0.031	Adjusted
I732	East	847949.946	0.023	Adjusted
	North	1254240.015	0.020	Adjusted
	Ortho height	18.398	0.034	Adjusted

Control Points

Indian River Adjustment

Name		Components	95%	Status	Control Error
			Error		
B023	East	834041.405	0.000	FIXED	
	North	1283695.101	0.000	FIXED	
	Ortho height	9.382	0.000	FIXED	
I004	East	865642.022	0.000	FIXED	
	North	1196671.095	0.000	FIXED	
	Ortho height	9.797	0.000	FIXED	
I011	East	841687.790	0.000	FIXED	
	North	1243892.660	0.000	FIXED	
	Ortho height	3.208	0.000	FIXED	
I162	East	862859.771	0.000	FIXED	
	North	1213075.098	0.000	FIXED	
	Ortho height	2.230	0.000	FIXED	
S135	East	878624.015	0.000	FIXED	
	North	1162158.895	0.000	FIXED	
	Ortho height	10.689	0.000	FIXED	

Logged Points

Indian River Adjustment

Name		Components	95%	Status
			Error	
0035	East	847899.550	0.010	Adjusted
	North	1254106.261	0.008	Adjusted
	Ortho height	9.113	0.020	Adjusted
B004	East	829979.201	0.011	Adjusted
	North	1291631.129	0.008	Adjusted
	Ortho height	11.496	0.015	Adjusted
B162	East	826591.310	0.013	Adjusted
	North	1297879.827	0.010	Adjusted
	Ortho height	8.355	0.018	Adjusted
B902	East	827263.431	0.012	Adjusted
	North	1297288.908	0.009	Adjusted
	Ortho height	15.812	0.018	Adjusted
B908	East	830160.310	0.011	Adjusted
	North	1291783.372	0.008	Adjusted
	Ortho height	22.017	0.015	Adjusted
B919	East	834841.025	0.006	Adjusted
	North	1282851.180	0.006	Adjusted
	Ortho height	10.349	0.007	Adjusted

H007	East	877760.307	0.008	Adjusted
	North	1165644.793	0.006	Adjusted
	Ortho height	10.210	0.010	Adjusted
H063	East	859702.480	0.010	Adjusted
	North	1224609.442	0.008	Adjusted
	Ortho height	18.856	0.015	Adjusted
H073	East	862353.033	0.008	Adjusted
	North	1215923.772	0.006	Adjusted
	Ortho height	12.478	0.011	Adjusted
H118	East	875523.238	0.010	Adjusted
	North	1173863.970	0.008	Adjusted
	Ortho height	12.086	0.013	Adjusted
I003	East	871390.727	0.010	Adjusted
	North	1186890.732	0.007	Adjusted
	Ortho height	9.348	0.013	Adjusted
I005	East	856461.045	0.012	Adjusted
	North	1233626.604	0.009	Adjusted
	Ortho height	8.528	0.020	Adjusted
I007	East	847192.906	0.009	Adjusted
	North	1254993.235	0.008	Adjusted
	Ortho height	8.646	0.018	Adjusted
I100	East	834016.308	0.006	Adjusted
	North	1283016.934	0.006	Adjusted
	Ortho height	19.502	0.006	Adjusted
I101	East	834695.371	0.006	Adjusted
	North	1281550.139	0.006	Adjusted
	Ortho height	19.248	0.007	Adjusted
I105	East	836886.880	0.007	Adjusted
	North	1276789.155	0.006	Adjusted
	Ortho height	3.079	0.010	Adjusted
I106	East	838955.303	0.010	Adjusted
	North	1272548.288	0.008	Adjusted
	Ortho height	3.770	0.014	Adjusted
I108	East	841989.218	0.010	Adjusted
	North	1265051.184	0.008	Adjusted
	Ortho height	4.788	0.016	Adjusted
I109	East	844425.545	0.010	Adjusted
	North	1260280.791	0.009	Adjusted
	Ortho height	6.675	0.018	Adjusted
I111	East	848669.397	0.010	Adjusted
	North	1251560.630	0.008	Adjusted
	Ortho height	7.697	0.020	Adjusted
I114	East	852729.054	0.011	Adjusted
	North	1243463.266	0.008	Adjusted
	Ortho height	9.024	0.021	Adjusted
I115	East	854934.536	0.011	Adjusted
	North	1238792.762	0.009	Adjusted
	Ortho height	9.665	0.021	Adjusted
I117	East	857366.630	0.023	Adjusted
	North	1230802.777	0.015	Adjusted
	Ortho height	9.398	0.029	Adjusted
I118	East	858422.830	0.010	Adjusted
	North	1226659.596	0.008	Adjusted
	Ortho height	8.448	0.015	Adjusted

I119	East	858645.183	0.010	Adjusted
	North	1224029.180	0.007	Adjusted
	Ortho height	7.413	0.014	Adjusted
I120	East	860565.827	0.008	Adjusted
	North	1219162.864	0.006	Adjusted
	Ortho height	7.288	0.011	Adjusted
I123	East	863264.934	0.008	Adjusted
	North	1211765.314	0.006	Adjusted
	Ortho height	4.484	0.011	Adjusted
I124	East	862714.535	0.006	Adjusted
	North	1210850.544	0.006	Adjusted
	Ortho height	4.735	0.008	Adjusted
I130	East	867295.238	0.006	Adjusted
	North	1193332.197	0.006	Adjusted
	Ortho height	5.644	0.007	Adjusted
I133	East	870549.337	0.009	Adjusted
	North	1188599.103	0.006	Adjusted
	Ortho height	7.685	0.012	Adjusted
I134	East	871241.840	0.008	Adjusted
	North	1187419.470	0.006	Adjusted
	Ortho height	10.313	0.011	Adjusted
I140	East	874145.079	0.011	Adjusted
	North	1176042.027	0.009	Adjusted
	Ortho height	2.350	0.014	Adjusted
I715	East	841058.069	0.009	Adjusted
	North	1268540.287	0.008	Adjusted
	Ortho height	7.794	0.014	Adjusted
I724	East	883143.979	0.015	Adjusted
	North	1150667.432	0.012	Adjusted
	Ortho height	13.551	0.020	Adjusted
I725	East	844867.551	0.009	Adjusted
	North	1260162.675	0.008	Adjusted
	Ortho height	8.005	0.017	Adjusted
I732	East	847949.954	0.009	Adjusted
	North	1254240.019	0.007	Adjusted
	Ortho height	18.441	0.019	Adjusted
I740	East	851166.307	0.011	Adjusted
	North	1247349.374	0.008	Adjusted
	Ortho height	13.906	0.022	Adjusted
I747	East	854658.278	0.010	Adjusted
	North	1240324.634	0.008	Adjusted
	Ortho height	16.326	0.021	Adjusted
I751	East	856239.176	0.011	Adjusted
	North	1236464.951	0.009	Adjusted
	Ortho height	14.709	0.022	Adjusted
I778	East	863821.034	0.007	Adjusted
	North	1210760.086	0.006	Adjusted
	Ortho height	13.196	0.010	Adjusted
I783	East	865166.134	0.011	Adjusted
	North	1205998.823	0.008	Adjusted
	Ortho height	13.834	0.015	Adjusted
I790	East	866141.483	0.007	Adjusted

I802	North	1199979.988	0.006	Adjusted
	Ortho height	11.482	0.010	Adjusted
	East	871803.869	0.009	Adjusted
I808	North	1188826.315	0.006	Adjusted
	Ortho height	13.003	0.013	Adjusted
	East	873377.007	0.010	Adjusted
S129	North	1183506.819	0.008	Adjusted
	Ortho height	7.724	0.014	Adjusted
	East	883422.403	0.015	Adjusted
S130	North	1147644.064	0.013	Adjusted
	Ortho height	5.723	0.021	Adjusted
	East	882771.792	0.015	Adjusted
S130	North	1150065.474	0.012	Adjusted
	Ortho height	4.987	0.020	Adjusted
	East	882771.792	0.015	Adjusted

Control Points

St Lucie Adjustment

Name	Components	95% Error	Status	Control Error
M006	East	925606.001	0.000	FIXED
	North	1025940.391	0.000	FIXED
	Ortho height	2.917	0.000	FIXED
M162	East	927902.319	0.000	FIXED
	North	1037286.646	0.000	FIXED
	Ortho height	4.827	0.000	FIXED
S003	East	890026.679	0.000	FIXED
	North	1125332.219	0.000	FIXED
	Ortho height	3.952	0.000	FIXED
S006	East	908123.673	0.000	FIXED
	North	1073880.668	0.000	FIXED
	Ortho height	4.185	0.000	FIXED
S011	East	886099.926	0.000	FIXED
	North	1140537.348	0.000	FIXED
	Ortho height	6.309	0.000	FIXED
S135	East	878624.015	0.000	FIXED
	North	1162158.895	0.000	FIXED
	Ortho height	10.689	0.000	FIXED

Logged Points

St Lucie Adjustment

Name	Components	95% Error	Status
BS008C06	East	881114.949	321.522
	North	1138563.385	321.522
	Ortho height	51.932	321.522

H007	East	877760.315	0.012	Adjusted
	North	1165644.794	0.010	Adjusted
	Ortho height	10.200	0.016	Adjusted
H111	East	914153.850	0.012	Adjusted
	North	1070095.583	0.008	Adjusted
	Ortho height	13.279	0.021	Adjusted
H118	East	875523.253	0.019	Adjusted
	North	1173863.968	0.016	Adjusted
	Ortho height	12.061	0.026	Adjusted
I003	East	871390.747	0.026	Adjusted
	North	1186890.732	0.022	Adjusted
	Ortho height	9.294	0.035	Adjusted
I134	East	871241.853	0.026	Adjusted
	North	1187419.461	0.022	Adjusted
	Ortho height	10.288	0.035	Adjusted
I140	East	874145.096	0.021	Adjusted
	North	1176042.025	0.018	Adjusted
	Ortho height	2.331	0.028	Adjusted
I724	East	883144.008	0.013	Adjusted
	North	1150667.445	0.010	Adjusted
	Ortho height	13.537	0.018	Adjusted
I808	East	873377.027	0.025	Adjusted
	North	1183506.814	0.021	Adjusted
	Ortho height	7.674	0.034	Adjusted
M005	East	920251.921	0.013	Adjusted
	North	1035182.860	0.010	Adjusted
	Ortho height	3.475	0.033	Adjusted
M115	East	925137.612	0.011	Adjusted
	North	1046102.451	0.008	Adjusted
	Ortho height	3.578	0.015	Adjusted
M116	East	925512.149	0.010	Adjusted
	North	1045463.716	0.008	Adjusted
	Ortho height	3.498	0.014	Adjusted
M119	East	927286.216	0.009	Adjusted
	North	1042827.816	0.007	Adjusted
	Ortho height	7.586	0.014	Adjusted
M123	East	930863.426	0.012	Adjusted
	North	1032510.322	0.008	Adjusted
	Ortho height	9.968	0.017	Adjusted
M124	East	931258.443	0.013	Adjusted
	North	1031719.394	0.009	Adjusted
	Ortho height	6.786	0.018	Adjusted
M129	East	941950.067	0.046	Adjusted
	North	999154.381	0.038	Adjusted
	Ortho height	8.801	0.060	Adjusted
M131	East	942293.845	0.047	Adjusted
	North	998449.639	0.038	Adjusted
	Ortho height	7.795	0.061	Adjusted
M161	East	926122.097	0.011	Adjusted
	North	1044936.697	0.008	Adjusted
	Ortho height	5.899	0.015	Adjusted
M709	East	919076.508	0.020	Adjusted
	North	1058812.537	0.015	Adjusted

	Ortho height	5.299	0.028	Adjusted
M723	East	924278.004	0.011	Adjusted
	North	1048357.715	0.008	Adjusted
	Ortho height	15.166	0.015	Adjusted
M735	East	929062.966	0.009	Adjusted
	North	1038283.012	0.007	Adjusted
	Ortho height	5.471	0.014	Adjusted
M776	East	940269.091	0.046	Adjusted
	North	1002553.127	0.038	Adjusted
	Ortho height	14.780	0.060	Adjusted
S004	East	886835.274	0.008	Adjusted
	North	1137167.636	0.006	Adjusted
	Ortho height	5.627	0.012	Adjusted
S008	East	881114.814	0.016	Adjusted
	North	1138543.389	0.012	Adjusted
	Ortho height	6.058	0.028	Adjusted
S009	East	895224.992	0.015	Adjusted
	North	1113543.580	0.012	Adjusted
	Ortho height	1.881	0.020	Adjusted
S102	East	915003.789	0.012	Adjusted
	North	1067202.100	0.008	Adjusted
	Ortho height	2.836	0.020	Adjusted
S103	East	913817.868	0.011	Adjusted
	North	1069711.500	0.008	Adjusted
	Ortho height	2.570	0.019	Adjusted
S105	East	911354.932	0.009	Adjusted
	North	1075470.400	0.007	Adjusted
	Ortho height	2.966	0.018	Adjusted
S106	East	909950.882	0.010	Adjusted
	North	1079107.775	0.008	Adjusted
	Ortho height	3.499	0.019	Adjusted
S110	East	904117.826	0.018	Adjusted
	North	1092819.193	0.015	Adjusted
	Ortho height	1.783	0.026	Adjusted
S111	East	902848.570	0.019	Adjusted
	North	1095230.890	0.016	Adjusted
	Ortho height	9.701	0.026	Adjusted
S112	East	901700.918	0.017	Adjusted
	North	1097189.395	0.014	Adjusted
	Ortho height	12.691	0.023	Adjusted
S114	East	900016.357	0.018	Adjusted
	North	1101912.090	0.015	Adjusted
	Ortho height	10.225	0.024	Adjusted
S115	East	897765.955	0.016	Adjusted
	North	1107441.134	0.013	Adjusted
	Ortho height	10.048	0.022	Adjusted
S119	East	892208.499	0.012	Adjusted
	North	1118854.070	0.010	Adjusted
	Ortho height	2.561	0.016	Adjusted
S121	East	888124.524	0.007	Adjusted
	North	1127421.884	0.006	Adjusted
	Ortho height	2.345	0.010	Adjusted

S123	East	887887.094	0.010	Adjusted
	North	1131990.112	0.008	Adjusted
	Ortho height	2.863	0.014	Adjusted
S129	East	883422.433	0.011	Adjusted
	North	1147644.078	0.009	Adjusted
	Ortho height	5.721	0.016	Adjusted
S130	East	882771.821	0.012	Adjusted
	North	1150065.489	0.009	Adjusted
	Ortho height	4.979	0.017	Adjusted
S732	East	885770.083	0.009	Adjusted
	North	1142848.880	0.007	Adjusted
	Ortho height	11.452	0.013	Adjusted
S741	East	888023.501	0.010	Adjusted
	North	1134264.226	0.007	Adjusted
	Ortho height	8.555	0.014	Adjusted
S753	East	892164.474	0.010	Adjusted
	North	1122392.409	0.008	Adjusted
	Ortho height	9.470	0.014	Adjusted
S770	East	898093.300	0.017	Adjusted
	North	1107943.592	0.014	Adjusted
	Ortho height	7.521	0.023	Adjusted
S787	East	905288.544	0.018	Adjusted
	North	1091921.826	0.015	Adjusted
	Ortho height	3.866	0.027	Adjusted
S798	East	909349.778	0.014	Adjusted
	North	1081616.893	0.012	Adjusted
	Ortho height	9.956	0.024	Adjusted

Control Points

Martin/Palm Beach Adjustment

Name		Components	95% Error	Status	Control Error
M006	East	925606.001	0.000	FIXED	
	North	1025940.390	0.000	FIXED	
	Ortho height	2.917	0.000	FIXED	
M131	East	942293.854	0.000	FIXED	
	North	998449.630	0.000	FIXED	
	Ortho height	7.770	0.000	FIXED	
M159	East	943461.188	0.000	FIXED	
	North	994190.954	0.000	FIXED	
	Ortho height	6.640	0.000	FIXED	
P052	East	969281.221	0.000	FIXED	
	North	805143.957	0.000	FIXED	
	Ortho height	10.503	0.000	FIXED	
P086	East	970339.738	0.000	FIXED	
	North	888130.432	0.000	FIXED	
	Ortho height	4.683	0.000	FIXED	
P227	East	963579.361	0.000	FIXED	

	North	907436.887	0.000	FIXED
	Ortho height	3.609	0.000	FIXED
P228	East	968024.959	0.000	FIXED
	North	841779.574	0.000	FIXED
	Ortho height	3.034	0.000	FIXED
P229	East	970867.413	0.000	FIXED
	North	830246.769	0.000	FIXED
	Ortho height	17.065	0.000	FIXED
P231	East	961907.398	0.000	FIXED
	North	768690.623	0.000	FIXED
	Ortho height	4.866	0.000	FIXED
P232	East	956791.973	0.000	FIXED
	North	953067.577	0.000	FIXED
	Ortho height	8.789	0.000	FIXED
P918	East	960808.539	0.000	FIXED
	North	734150.469	0.000	FIXED
	Ortho height	17.165	0.000	FIXED

Logged Points

Martin/Palm Beach Adjustment

Name		Components	95% Error	Status
M005	East	920251.905	0.056	Adjusted
	North	1035182.846	0.046	Adjusted
	Ortho height	3.423	0.075	Adjusted
M007	East	947088.740	0.022	Adjusted
	North	983321.219	0.017	Adjusted
	Ortho height	2.696	0.031	Adjusted
M119	East	927286.201	0.100	Adjusted
	North	1042827.829	0.082	Adjusted
	Ortho height	7.527	0.125	Adjusted
M121	East	927896.625	0.097	Adjusted
	North	1037311.029	0.079	Adjusted
	Ortho height	4.845	0.122	Adjusted
M123	East	930863.406	0.096	Adjusted
	North	1032510.354	0.079	Adjusted
	Ortho height	9.917	0.120	Adjusted
M129	East	941950.085	0.011	Adjusted
	North	999154.377	0.009	Adjusted
	Ortho height	8.747	0.017	Adjusted
M133	East	944968.413	0.014	Adjusted
	North	991435.009	0.010	Adjusted
	Ortho height	12.537	0.022	Adjusted
M134	East	946052.905	0.023	Adjusted
	North	989026.178	0.016	Adjusted
	Ortho height	11.323	0.031	Adjusted
M137	East	948481.439	0.023	Adjusted

	North	982550.591	0.018	Adjusted
	Ortho height	11.947	0.033	Adjusted
M138	East	948800.985	0.022	Adjusted
	North	982158.718	0.017	Adjusted
	Ortho height	11.392	0.031	Adjusted
M139	East	949149.875	0.024	Adjusted
	North	981262.184	0.018	Adjusted
	Ortho height	12.795	0.033	Adjusted
M140	East	949210.884	0.023	Adjusted
	North	980916.597	0.018	Adjusted
	Ortho height	12.173	0.034	Adjusted
M141	East	949456.954	0.023	Adjusted
	North	979886.707	0.017	Adjusted
	Ortho height	11.425	0.032	Adjusted
M143	East	950635.350	0.023	Adjusted
	North	977741.133	0.017	Adjusted
	Ortho height	19.065	0.033	Adjusted
M144	East	950884.372	0.024	Adjusted
	North	976813.300	0.018	Adjusted
	Ortho height	18.370	0.034	Adjusted
M147	East	951451.098	0.023	Adjusted
	North	973801.716	0.018	Adjusted
	Ortho height	13.976	0.034	Adjusted
M148	East	952356.870	0.024	Adjusted
	North	970990.944	0.019	Adjusted
	Ortho height	12.188	0.035	Adjusted
M149	East	952657.346	0.025	Adjusted
	North	969625.984	0.019	Adjusted
	Ortho height	11.892	0.036	Adjusted
M150	East	952434.936	0.024	Adjusted
	North	968938.898	0.018	Adjusted
	Ortho height	12.431	0.034	Adjusted
M151	East	952500.795	0.024	Adjusted
	North	968248.681	0.018	Adjusted
	Ortho height	11.780	0.034	Adjusted
M152	East	952800.984	0.025	Adjusted
	North	967491.995	0.019	Adjusted
	Ortho height	6.199	0.036	Adjusted
M153	East	952871.606	0.025	Adjusted
	North	966543.624	0.019	Adjusted
	Ortho height	4.245	0.035	Adjusted
M154	East	952965.093	0.026	Adjusted
	North	965966.072	0.021	Adjusted
	Ortho height	4.525	0.037	Adjusted
M155	East	954156.838	0.023	Adjusted
	North	963254.818	0.018	Adjusted
	Ortho height	3.620	0.033	Adjusted
M156	East	955039.014	0.025	Adjusted
	North	961129.034	0.020	Adjusted
	Ortho height	3.450	0.035	Adjusted
M157	East	955272.615	0.023	Adjusted
	North	959556.919	0.017	Adjusted
	Ortho height	3.538	0.031	Adjusted

M160	East	950452.931	0.024	Adjusted
	North	978126.039	0.018	Adjusted
	Ortho height	18.798	0.035	Adjusted
M162	East	927902.296	0.058	Adjusted
	North	1037286.631	0.047	Adjusted
	Ortho height	4.856	0.074	Adjusted
M163	East	940156.245	0.022	Adjusted
	North	1002358.070	0.018	Adjusted
	Ortho height	2.152	0.028	Adjusted
M776	East	940269.113	0.017	Adjusted
	North	1002553.121	0.013	Adjusted
	Ortho height	14.739	0.022	Adjusted
M786	East	944077.419	0.014	Adjusted
	North	994205.874	0.010	Adjusted
	Ortho height	15.947	0.021	Adjusted
M800	East	948892.193	0.022	Adjusted
	North	982837.879	0.017	Adjusted
	Ortho height	20.497	0.031	Adjusted
M810	East	951833.275	0.023	Adjusted
	North	974060.033	0.018	Adjusted
	Ortho height	14.860	0.034	Adjusted
M824	East	954855.711	0.024	Adjusted
	North	962534.718	0.019	Adjusted
	Ortho height	22.723	0.034	Adjusted
P004	East	956379.387	0.020	Adjusted
	North	956850.626	0.015	Adjusted
	Ortho height	17.827	0.028	Adjusted
P005	East	954241.052	0.002	Processed (static)
	North	951120.806	0.001	Processed (static)
	Ortho height	39.575	0.005	Processed (static)
P013	East	962206.857	0.045	Adjusted
	North	932740.037	0.032	Adjusted
	Ortho height	17.202	0.064	Adjusted
P022	East	971254.525	0.018	Adjusted
	North	898273.712	0.014	Adjusted
	Ortho height	4.517	0.028	Adjusted
P023	East	971004.510	0.017	Adjusted
	North	892399.110	0.013	Adjusted
	Ortho height	10.274	0.025	Adjusted
P028	East	971071.248	0.026	Adjusted
	North	876364.364	0.023	Adjusted
	Ortho height	13.141	0.038	Adjusted
P030	East	971776.445	0.039	Adjusted
	North	866507.384	0.029	Adjusted
	Ortho height	15.648	0.058	Adjusted
P032	East	971809.298	0.034	Adjusted
	North	862664.365	0.025	Adjusted
	Ortho height	13.000	0.049	Adjusted
P033	East	971829.200	0.034	Adjusted
	North	861713.585	0.025	Adjusted
	Ortho height	12.730	0.049	Adjusted
P034	East	971634.382	0.033	Adjusted

	North	857599.850	0.023	Adjusted
	Ortho height	12.754	0.047	Adjusted
P035	East	971588.081	0.033	Adjusted
	North	857442.307	0.024	Adjusted
	Ortho height	13.081	0.047	Adjusted
P038	East	970664.052	0.020	Adjusted
	North	842175.084	0.014	Adjusted
	Ortho height	19.809	0.029	Adjusted
P041	East	970808.105	0.016	Adjusted
	North	831080.824	0.013	Adjusted
	Ortho height	15.396	0.022	Adjusted
P042	East	970851.778	0.015	Adjusted
	North	825327.676	0.012	Adjusted
	Ortho height	22.097	0.021	Adjusted
P045	East	970364.330	0.017	Adjusted
	North	820281.784	0.013	Adjusted
	Ortho height	2.435	0.024	Adjusted
P046	East	970241.552	0.019	Adjusted
	North	819187.698	0.015	Adjusted
	Ortho height	2.457	0.027	Adjusted
P048	East	969741.473	0.021	Adjusted
	North	812968.918	0.016	Adjusted
	Ortho height	3.001	0.028	Adjusted
P049	East	969381.615	0.023	Adjusted
	North	811040.551	0.017	Adjusted
	Ortho height	4.256	0.030	Adjusted
P050	East	969598.697	0.017	Adjusted
	North	810637.193	0.013	Adjusted
	Ortho height	18.555	0.023	Adjusted
P055	East	966604.873	0.029	Adjusted
	North	791309.625	0.020	Adjusted
	Ortho height	7.012	0.042	Adjusted
P057	East	965730.483	0.033	Adjusted
	North	784566.695	0.023	Adjusted
	Ortho height	10.510	0.049	Adjusted
P067	East	961571.718	0.031	Adjusted
	North	745357.665	0.024	Adjusted
	Ortho height	7.824	0.040	Adjusted
P069	East	960568.259	0.018	Adjusted
	North	737655.774	0.014	Adjusted
	Ortho height	4.436	0.024	Adjusted
P070	East	960530.344	0.018	Adjusted
	North	733646.294	0.013	Adjusted
	Ortho height	4.024	0.023	Adjusted
P072	East	959952.216	0.022	Adjusted
	North	728671.362	0.016	Adjusted
	Ortho height	11.018	0.029	Adjusted
P084	East	965722.100	0.051	Adjusted
	North	922308.493	0.036	Adjusted
	Ortho height	3.889	0.075	Adjusted
P085	East	971134.938	0.018	Adjusted
	North	895113.286	0.014	Adjusted

	Ortho height	3.593	0.028	Adjusted
P088	East	969633.818	0.016	Adjusted
	North	885684.792	0.014	Adjusted
	Ortho height	3.273	0.023	Adjusted
P089	East	970952.468	0.027	Adjusted
	North	877923.333	0.024	Adjusted
	Ortho height	15.223	0.038	Adjusted
P094	East	970214.414	0.089	Adjusted
	North	834488.008	0.061	Adjusted
	Ortho height	4.282	0.118	Adjusted
P095	East	970364.854	0.019	Adjusted
	North	824587.089	0.016	Adjusted
	Ortho height	4.427	0.026	Adjusted
P096	East	970242.641	0.018	Adjusted
	North	823081.027	0.014	Adjusted
	Ortho height	3.886	0.026	Adjusted
P104	East	967690.572	0.020	Adjusted
	North	801559.346	0.013	Adjusted
	Ortho height	10.158	0.029	Adjusted
P105	East	967564.511	0.021	Adjusted
	North	800221.292	0.014	Adjusted
	Ortho height	3.593	0.029	Adjusted
P106	East	960540.374	0.022	Adjusted
	North	728962.919	0.016	Adjusted
	Ortho height	10.256	0.028	Adjusted
P225	East	956649.302	0.024	Adjusted
	North	953013.877	0.018	Adjusted
	Ortho height	16.799	0.034	Adjusted
P226	East	958670.851	0.029	Adjusted
	North	950189.226	0.021	Adjusted
	Ortho height	9.255	0.041	Adjusted
P230	East	963990.707	0.017	Adjusted
	North	771954.803	0.012	Adjusted
	Ortho height	13.295	0.023	Adjusted
P351	East	968566.454	0.033	Adjusted
	North	911574.134	0.027	Adjusted
	Ortho height	22.183	0.047	Adjusted
P424	East	970726.457	0.023	Adjusted
	North	834829.344	0.015	Adjusted
	Ortho height	11.193	0.034	Adjusted
P433	East	970852.834	0.018	Adjusted
	North	823975.660	0.014	Adjusted
	Ortho height	16.752	0.026	Adjusted
P472	East	965587.358	0.034	Adjusted
	North	783498.099	0.023	Adjusted
	Ortho height	10.232	0.049	Adjusted
P721	East	960546.028	0.038	Adjusted
	North	941765.884	0.027	Adjusted
	Ortho height	13.244	0.054	Adjusted
P731	East	963680.700	0.046	Adjusted
	North	931477.028	0.032	Adjusted
	Ortho height	18.214	0.066	Adjusted

P740	East	966288.278	0.054	Adjusted
	North	922151.833	0.043	Adjusted
	Ortho height	16.079	0.076	Adjusted
P761	East	970774.064	0.026	Adjusted
	North	902481.400	0.021	Adjusted
	Ortho height	18.956	0.038	Adjusted
P767	East	971830.746	0.017	Adjusted
	North	895438.411	0.013	Adjusted
	Ortho height	10.668	0.027	Adjusted
P775	East	971996.898	0.012	Adjusted
	North	888054.203	0.010	Adjusted
	Ortho height	4.193	0.019	Adjusted
P828	East	971028.823	0.014	Adjusted
	North	829602.796	0.011	Adjusted
	Ortho height	13.793	0.020	Adjusted
P837	East	970647.561	0.017	Adjusted
	North	819384.163	0.014	Adjusted
	Ortho height	16.895	0.025	Adjusted
P887	East	963455.370	0.020	Adjusted
	North	767272.757	0.015	Adjusted
	Ortho height	16.430	0.025	Adjusted
P900	East	962289.671	0.044	Adjusted
	North	754063.455	0.035	Adjusted
	Ortho height	18.629	0.056	Adjusted

Control Points

Broward/Dade Adjustment

Name		Components	95% Error	Status	Control Error
B012	East	947164.577	0.000	FIXED	
	North	625968.840	0.000	FIXED	
	Ortho height	20.671	0.000	FIXED	
B018	East	947835.002	0.000	FIXED	
	North	636227.944	0.000	FIXED	
	Ortho height	14.709	0.000	FIXED	
B107	East	956476.500	0.000	FIXED	
	North	701643.890	0.000	FIXED	
	Ortho height	15.092	0.000	FIXED	
B123	East	949989.561	0.000	FIXED	
	North	647953.150	0.000	FIXED	
	Ortho height	9.251	0.000	FIXED	
D028	East	945019.380	0.000	FIXED	
	North	537990.626	0.000	FIXED	
	Ortho height	7.548	0.000	FIXED	
D082	East	943871.258	0.000	FIXED	
	North	586088.447	0.000	FIXED	
	Ortho height	1.464	0.000	FIXED	

D083	East	944386.275	0.000	FIXED
	North	571344.345	0.000	FIXED
	Ortho height	2.794	0.000	FIXED
D084	East	932112.045	0.000	FIXED
	North	509451.003	0.000	FIXED
	Ortho height	7.186	0.000	FIXED
D085	East	929817.031	0.000	FIXED
	North	497251.511	0.000	FIXED
	Ortho height	3.066	0.000	FIXED
D086	East	942080.752	0.000	FIXED
	North	521029.740	0.000	FIXED
	Ortho height	7.246	0.000	FIXED
D087	East	924281.674	0.000	FIXED
	North	526510.721	0.000	FIXED
	Ortho height	4.100	0.000	FIXED
P231	East	961907.398	0.000	FIXED
	North	768690.624	0.000	FIXED
	Ortho height	4.866	0.000	FIXED
P918	East	960808.539	0.000	FIXED
	North	734150.470	0.000	FIXED
	Ortho height	17.165	0.000	FIXED

Logged Points

Broward/Dade Adjustment

Name		Components	95% Error	Status
0703	East	959378.190	0.015	Adjusted
	North	721794.517	0.011	Adjusted
	Ortho height	17.705	0.021	Adjusted
0716	East	957903.735	0.015	Adjusted
	North	708131.857	0.011	Adjusted
	Ortho height	14.645	0.019	Adjusted
0750	East	952948.859	0.020	Adjusted
	North	676483.534	0.015	Adjusted
	Ortho height	11.024	0.025	Adjusted
0760	East	951796.496	0.020	Adjusted
	North	666143.217	0.015	Adjusted
	Ortho height	10.383	0.026	Adjusted
0765	East	951098.445	0.022	Adjusted
	North	661427.111	0.016	Adjusted
	Ortho height	5.807	0.028	Adjusted
0786	East	948623.242	0.011	Adjusted
	North	639870.223	0.009	Adjusted
	Ortho height	9.265	0.014	Adjusted
0798	East	948047.875	0.009	Adjusted
	North	627872.937	0.007	Adjusted

	Ortho height	18.542	0.010	Adjusted
0806	East	947110.779	0.013	Adjusted
	North	620150.307	0.010	Adjusted
	Ortho height	6.525	0.016	Adjusted
0824	East	945983.891	0.018	Adjusted
	North	601865.645	0.014	Adjusted
	Ortho height	10.683	0.025	Adjusted
B016	East	957436.461	0.014	Adjusted
	North	721068.110	0.011	Adjusted
	Ortho height	24.752	0.020	Adjusted
B017	East	949556.145	0.013	Adjusted
	North	648188.262	0.009	Adjusted
	Ortho height	3.179	0.016	Adjusted
B103	East	958273.058	0.014	Adjusted
	North	717087.882	0.011	Adjusted
	Ortho height	12.477	0.020	Adjusted
B104	East	958059.707	0.017	Adjusted
	North	715278.787	0.012	Adjusted
	Ortho height	13.628	0.022	Adjusted
B106	East	957445.883	0.009	Adjusted
	North	704154.603	0.007	Adjusted
	Ortho height	2.751	0.011	Adjusted
B109	East	955225.636	0.018	Adjusted
	North	692243.287	0.014	Adjusted
	Ortho height	13.407	0.023	Adjusted
B110	East	954055.566	0.018	Adjusted
	North	689346.590	0.014	Adjusted
	Ortho height	6.635	0.023	Adjusted
B112	East	953554.919	0.019	Adjusted
	North	683870.554	0.015	Adjusted
	Ortho height	7.409	0.024	Adjusted
B113	East	952870.765	0.021	Adjusted
	North	680255.118	0.015	Adjusted
	Ortho height	9.398	0.026	Adjusted
B114	East	952716.967	0.020	Adjusted
	North	676463.081	0.015	Adjusted
	Ortho height	10.084	0.026	Adjusted
B117	East	951375.227	0.021	Adjusted
	North	669591.599	0.015	Adjusted
	Ortho height	8.207	0.028	Adjusted
B118	East	951601.270	0.021	Adjusted
	North	666145.963	0.015	Adjusted
	Ortho height	9.924	0.028	Adjusted
B119	East	951323.219	0.020	Adjusted
	North	664129.994	0.015	Adjusted
	Ortho height	10.038	0.026	Adjusted
B124	East	949531.503	0.011	Adjusted
	North	642744.674	0.009	Adjusted
	Ortho height	9.680	0.014	Adjusted
B127	East	947615.160	0.011	Adjusted
	North	626601.210	0.008	Adjusted
	Ortho height	3.489	0.012	Adjusted

B129	East	945924.041	0.014	Adjusted
	North	619087.618	0.011	Adjusted
	Ortho height	25.421	0.017	Adjusted
B130	East	945884.422	0.018	Adjusted
	North	611052.261	0.014	Adjusted
	Ortho height	27.772	0.025	Adjusted
B131	East	945744.244	0.018	Adjusted
	North	608213.187	0.013	Adjusted
	Ortho height	2.393	0.024	Adjusted
D001	East	945531.407	0.020	Adjusted
	North	596639.469	0.015	Adjusted
	Ortho height	7.451	0.026	Adjusted
D002	East	945419.835	0.020	Adjusted
	North	594496.166	0.015	Adjusted
	Ortho height	8.968	0.026	Adjusted
D010	East	944582.182	0.012	Adjusted
	North	576922.361	0.010	Adjusted
	Ortho height	11.966	0.014	Adjusted
D011	East	944497.112	0.010	Adjusted
	North	573797.007	0.008	Adjusted
	Ortho height	9.719	0.012	Adjusted
D016	East	945359.790	0.018	Adjusted
	North	562049.806	0.014	Adjusted
	Ortho height	9.790	0.023	Adjusted
D017	East	945518.394	0.018	Adjusted
	North	560363.311	0.014	Adjusted
	Ortho height	9.370	0.023	Adjusted
D020	East	945800.494	0.016	Adjusted
	North	554682.805	0.012	Adjusted
	Ortho height	9.222	0.022	Adjusted
D022	East	945880.834	0.016	Adjusted
	North	552101.655	0.013	Adjusted
	Ortho height	9.756	0.022	Adjusted
D023	East	945926.043	0.017	Adjusted
	North	550787.345	0.013	Adjusted
	Ortho height	8.138	0.024	Adjusted
D025	East	945589.128	0.017	Adjusted
	North	543446.865	0.013	Adjusted
	Ortho height	5.768	0.025	Adjusted
D030	East	944694.011	0.012	Adjusted
	North	536158.236	0.010	Adjusted
	Ortho height	7.714	0.016	Adjusted
D036	East	938321.359	0.014	Adjusted
	North	514195.295	0.011	Adjusted
	Ortho height	1.614	0.019	Adjusted
D039	East	934011.626	0.011	Adjusted
	North	507770.233	0.009	Adjusted
	Ortho height	7.572	0.014	Adjusted
D040	East	932162.327	0.011	Adjusted
	North	509567.654	0.009	Adjusted
	Ortho height	6.873	0.013	Adjusted
D046	East	934451.861	0.025	Adjusted
	North	490286.202	0.019	Adjusted

	Ortho height	3.919	0.030	Adjusted
D088	East	932113.849	0.014	Adjusted
	North	509553.214	0.011	Adjusted
	Ortho height	7.362	0.017	Adjusted
D201	East	944582.730	0.009	Adjusted
	North	571262.255	0.007	Adjusted
	Ortho height	9.755	0.010	Adjusted
D398	East	935391.989	0.015	Adjusted
	North	500798.563	0.012	Adjusted
	Ortho height	5.158	0.019	Adjusted
D413	East	934373.827	0.027	Adjusted
	North	486121.576	0.021	Adjusted
	Ortho height	6.323	0.033	Adjusted
D716	East	945423.479	0.011	Adjusted
	North	581249.465	0.009	Adjusted
	Ortho height	11.940	0.015	Adjusted
D764	East	943482.380	0.012	Adjusted
	North	532361.407	0.010	Adjusted
	Ortho height	7.956	0.017	Adjusted
0726	East	957499.703	0.011	Adjusted
	North	701124.362	0.009	Adjusted
	Ortho height	14.348	0.014	Adjusted
0817	East	946501.521	0.018	Adjusted
	North	608686.261	0.014	Adjusted
	Ortho height	9.989	0.026	Adjusted
P067	East	961571.717	0.018	Adjusted
	North	745357.674	0.014	Adjusted
	Ortho height	7.833	0.024	Adjusted
P069	East	960568.260	0.011	Adjusted
	North	737655.771	0.009	Adjusted
	Ortho height	4.434	0.015	Adjusted
P070	East	960530.344	0.011	Adjusted
	North	733646.291	0.008	Adjusted
	Ortho height	4.016	0.014	Adjusted
P071	East	959894.180	0.014	Adjusted
	North	729993.394	0.010	Adjusted
	Ortho height	29.312	0.019	Adjusted
P072	East	959952.221	0.012	Adjusted
	North	728671.368	0.009	Adjusted
	Ortho height	11.004	0.015	Adjusted
P106	East	960540.372	0.012	Adjusted
	North	728962.925	0.009	Adjusted
	Ortho height	10.239	0.015	Adjusted
P230	East	963990.680	0.015	Adjusted
	North	771954.792	0.011	Adjusted
	Ortho height	13.350	0.018	Adjusted
P887	East	963455.360	0.013	Adjusted
	North	767272.756	0.010	Adjusted
	Ortho height	16.449	0.016	Adjusted
P900	East	962289.665	0.028	Adjusted
	North	754063.458	0.022	Adjusted
	Ortho height	18.640	0.035	Adjusted