

VRS GNSS Project Control Monument Coordinate Analysis

Project: ALL-117-10.77		GPS Antenna: Trimble R12i		Report Date: 3/13/2024	
PID: 117792		VRS Network: ODOT VRS		Prepared By: DGL Consulting Engineers	
Point ID: 500	No. of Sessions: 15	(GRID)		Checked By: DGL Consulting Engineers	

SESSION #	Point	Observation Date	Start Time	Northing(sft)	Easting(sft)	Height(sft)	Δ Northing(sft)	Δ Easting(sft)	Δ Height(sft)	Include in Solution?
1	500	0:00:00	10:12:30 AM	262421.72000	135158.11800	837.50200	-0.00258	-0.00517	0.01217	<input checked="" type="checkbox"/>
2	500	0:00:00	10:12:48 AM	262421.73000	135158.10600	837.46000	0.00000	0.00000	0.00000	<input type="checkbox"/>
3	500	0:00:00	10:13:07 AM	262421.70700	135158.11500	837.50100	0.01042	-0.00217	0.01317	<input checked="" type="checkbox"/>
4	500	0:00:00	10:13:30 AM	262421.69900	135158.10900	837.50500	0.00000	0.00000	0.00000	<input type="checkbox"/>
5	500	0:00:00	10:13:47 AM	262421.70800	135158.10800	837.53500	0.00942	0.00483	-0.02083	<input checked="" type="checkbox"/>
6	500	0:00:00	10:14:03 AM	262421.71700	135158.10700	837.56700	0.00000	0.00000	0.00000	<input type="checkbox"/>
7	500	0:00:00	10:14:22 AM	262421.70900	135158.10700	837.54300	0.00842	0.00583	-0.02883	<input checked="" type="checkbox"/>
8	500	0:00:00	10:14:42 AM	262421.71100	135158.10900	837.54100	0.00642	0.00383	-0.02683	<input checked="" type="checkbox"/>
9	500	0:00:00	10:15:01 AM	262421.72300	135158.10800	837.51500	-0.00558	0.00483	-0.00083	<input checked="" type="checkbox"/>
10	500	0:00:00	10:15:20 AM	262421.72900	135158.11300	837.50400	-0.01158	-0.00017	0.01017	<input checked="" type="checkbox"/>
11	500	0:00:00	10:15:44 AM	262421.71700	135158.12400	837.48900	0.00042	-0.01117	0.02517	<input checked="" type="checkbox"/>
12	500	0:00:00	10:16:02 AM	262421.72700	135158.11300	837.51800	-0.00958	-0.00017	-0.00383	<input checked="" type="checkbox"/>
13	500	0:00:00	10:16:25 AM	262421.72200	135158.11000	837.50800	-0.00458	0.00283	0.00617	<input checked="" type="checkbox"/>
14	500	0:00:00	10:16:37 AM	262421.72000	135158.11800	837.50700	-0.00258	-0.00517	0.00717	<input checked="" type="checkbox"/>
15	500	0:00:00	10:16:49 AM	262421.71600	135158.11100	837.50700	0.00142	0.00183	0.00717	<input checked="" type="checkbox"/>

AVERAGE	262421.71742	135158.11283	837.51417	RMSE:	RMSE:	RMSE:
				RMSE IN U.S. Survey FT:	0.00709	0.00491
				Tolerance:	0.02900	0.03900
				PASS	PASS	PASS

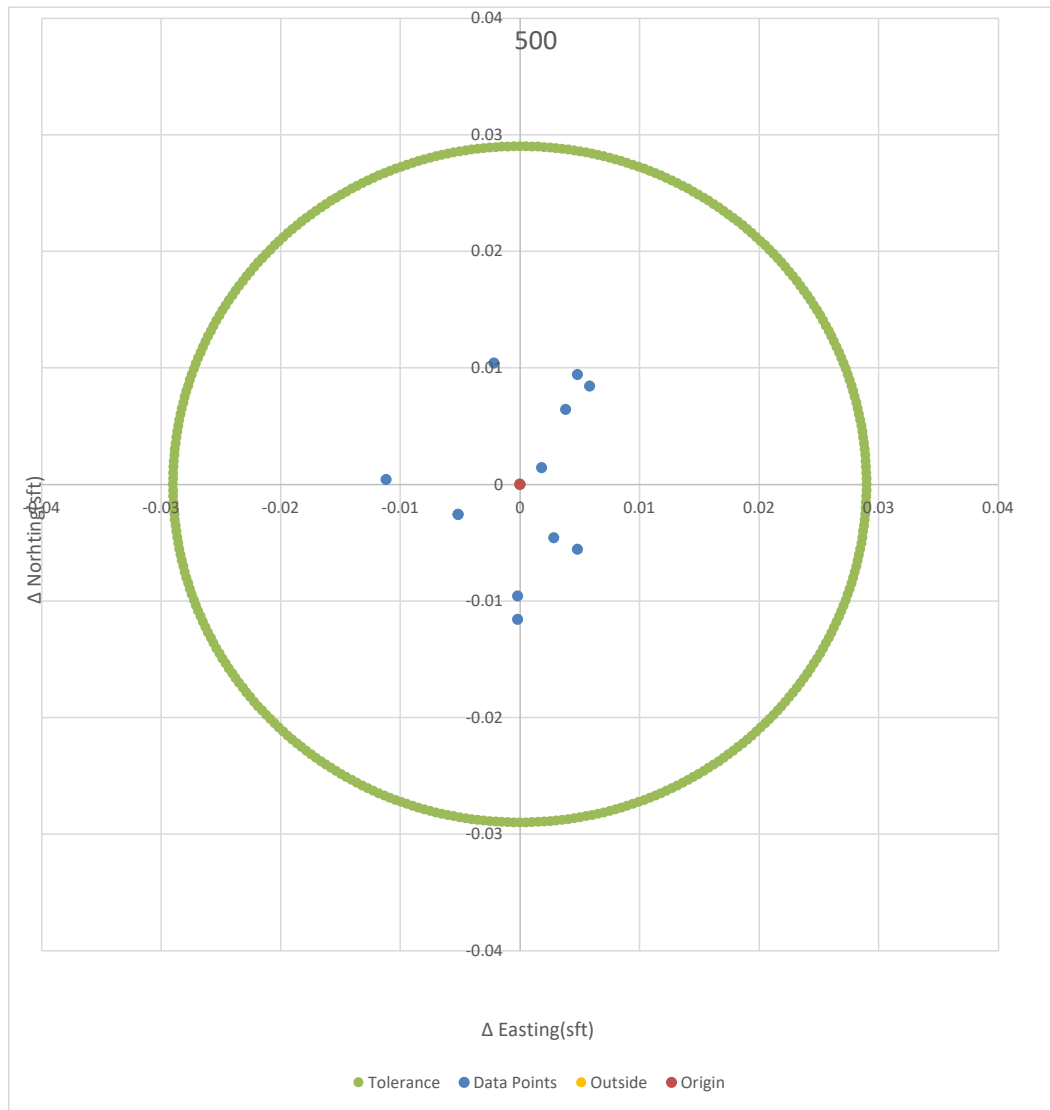
AVERAGED GPS-DERIVED POSITION			
MONUMENT COORDINATES	NORTHING	EASTING	ORTHO HEIGHT
U.S. Survey FT (GRID)	262421.7174	135158.1128	837.514

LEVELED ELEVATION	
U.S. Survey FT	837.514 (Fill out Level Run Sheet or N/A if no leveled elevation is available)
MONUMENT HELD	MN500 (Type the monument name from which leveling originated)
LEVELED ELEVATION - GPS DERIVED ELEVATION =	0.000 sft

FINAL MONUMENT COORDINATES				
MONUMENT COORDINATES	NORTHING	EASTING	ELEVATION	FEATURE CODE
U.S. Survey FT (GRID)	262421.7174	135158.1128	837.514	CNPT IPINS
U.S. Survey FT (GROUND)	262421.7174	135158.1128	837.514	CNPT IPINS

Δ North, Δ East, and Δ Ht. are the difference between the average northing, easting, and height for each observation.

Mask Angle: **10°**



VRS GNSS Project Control Monument Coordinate Analysis

Project: ALL-117-10.77		GPS Antenna: Trimble R12i		Report Date: 3/13/2024	
PID: 117792		VRS Network: ODOT VRS		Prepared By: DGL Consulting Engineers	
Point ID: 501	No. of Sessions: 15	(GRID)		Checked By: DGL Consulting Engineers	

SESSION #	Point	Observation Date	Start Time	Northing(sft)	Easting(sft)	Height(sft)	Δ Northing(sft)	Δ Easting(sft)	Δ Height(sft)	Include in Solution?
1	501	0:00:00	10:29:12 AM	261736.89300	135134.68000	843.30400	-0.00017	0.00250	-0.00858	<input checked="" type="checkbox"/>
2	501	0:00:00	10:29:28 AM	261736.89300	135134.69200	843.28800	-0.00017	-0.00950	0.00742	<input checked="" type="checkbox"/>
3	501	0:00:00	10:29:45 AM	261736.89900	135134.68000	843.29000	-0.00617	0.00250	0.00542	<input checked="" type="checkbox"/>
4	501	0:00:00	10:30:04 AM	261736.89500	135134.67800	843.28900	-0.00217	0.00450	0.00642	<input checked="" type="checkbox"/>
5	501	0:00:00	10:30:22 AM	261736.90100	135134.67300	843.29000	-0.00817	0.00950	0.00542	<input checked="" type="checkbox"/>
6	501	0:00:00	10:30:42 AM	261736.89900	135134.67800	843.26900	-0.00617	0.00450	0.02642	<input checked="" type="checkbox"/>
7	501	0:00:00	10:31:06 AM	261736.89900	135134.68400	843.28900	-0.00617	-0.00150	0.00642	<input checked="" type="checkbox"/>
8	501	0:00:00	10:31:24 AM	261736.88100	135134.67200	843.28400	0.01183	0.01050	0.01142	<input checked="" type="checkbox"/>
9	501	0:00:00	10:31:37 AM	261736.88800	135134.68000	843.30300	0.00483	0.00250	-0.00758	<input checked="" type="checkbox"/>
10	501	0:00:00	10:31:53 AM	261736.90500	135134.67700	843.32500	-0.01217	0.00550	-0.02958	<input checked="" type="checkbox"/>
11	501	0:00:00	10:32:08 AM	261736.89100	135134.67600	843.34000	0.00000	0.00000	0.00000	<input type="checkbox"/>
12	501	0:00:00	10:32:20 AM	261736.88600	135134.68600	843.29100	0.00683	-0.00350	0.00442	<input checked="" type="checkbox"/>
13	501	0:00:00	10:32:32 AM	261736.84300	135134.65900	843.35400	0.00000	0.00000	0.00000	<input type="checkbox"/>
14	501	0:00:00	10:32:44 AM	261736.86100	135134.67200	843.36200	0.00000	0.00000	0.00000	<input type="checkbox"/>
15	501	0:00:00	10:32:57 AM	261736.87500	135134.71000	843.32300	0.01783	-0.02750	-0.02758	<input checked="" type="checkbox"/>

AVERAGE	261736.89283	135134.68250	843.29542	RMSE:	RMSE:	RMSE:
				RMSE IN U.S. Survey FT:	0.00847	0.00979
				Tolerance:	0.02900	0.03900
				PASS	PASS	PASS

AVERAGED GPS-DERIVED POSITION			
MONUMENT COORDINATES	NORTHING	EASTING	ORTHO HEIGHT
U.S. Survey FT (GRID)	261736.8928	135134.6825	843.295

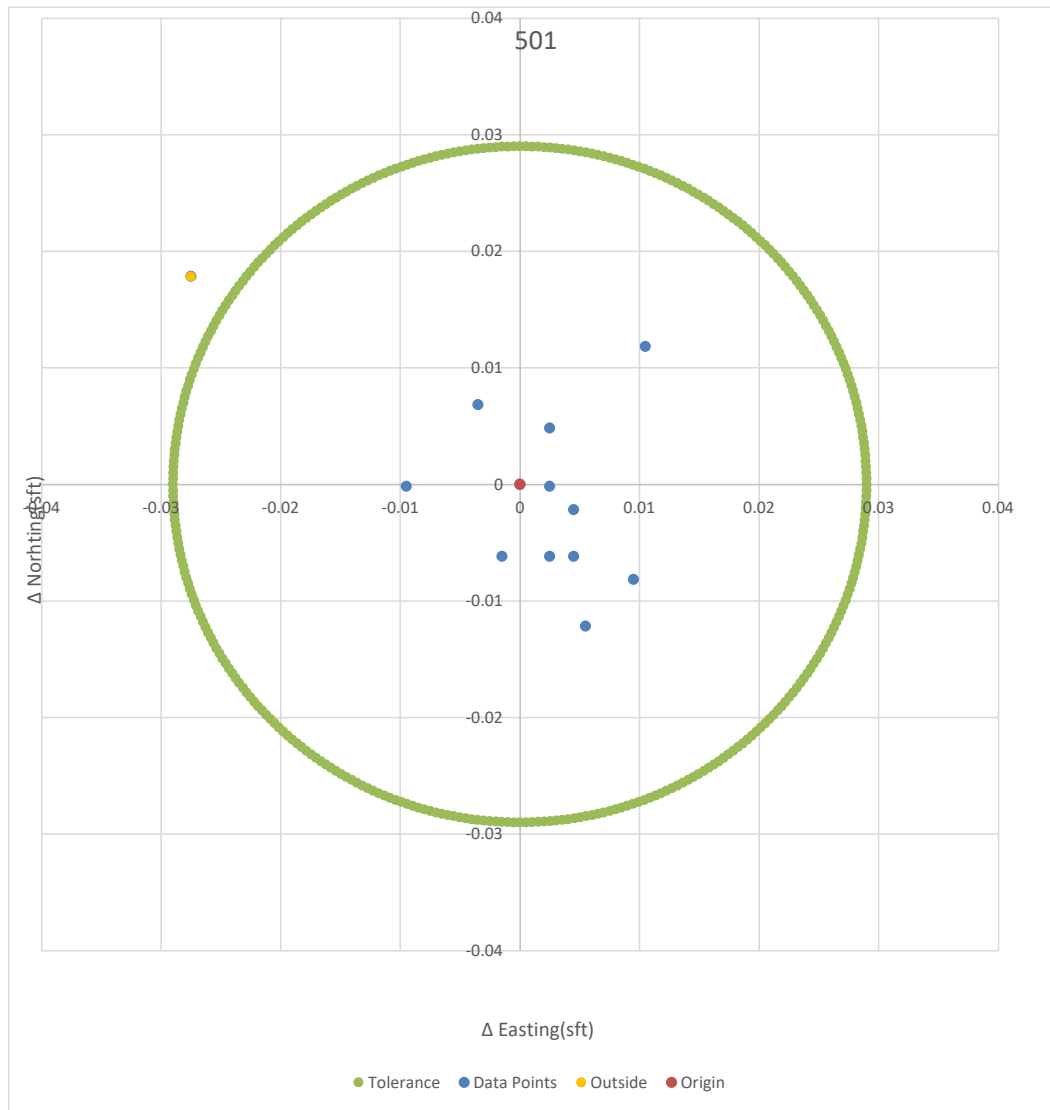
LEVELED ELEVATION	
U.S. Survey FT	843.279 (Fill out Level Run Sheet or N/A if no leveled elevation is available)
MONUMENT HELD	MN500 (Type the monument name from which leveling originated)
LEVELED ELEVATION - GPS DERIVED ELEVATION =	-0.016 sft

FINAL MONUMENT COORDINATES				
MONUMENT COORDINATES	NORTHING	EASTING	ELEVATION	FEATURE CODE
U.S. Survey FT (GRID)	261736.8928	135134.6825	843.279	CNPT IPINS
U.S. Survey FT (GROUND)	261736.8928	135134.6825	843.279	CNPT IPINS

Δ North, Δ East, and Δ Ht. are the difference between the average northing, easting, and height for each observation.

Mask Angle: **10°**

Notes:



VRS GNSS Project Control Monument Coordinate Analysis

Project: ALL-117-10.77		GPS Antenna: Trimble R12i		Report Date: 3/13/2024	
PID: 117792		VRS Network: ODOT VRS		Prepared By: DGL Consulting Engineers	
Point ID: 502	No. of Sessions: 15	(GRID)		Checked By: DGL Consulting Engineers	

SESSION #	Point	Observation Date	Start Time	Northing(sft)	Easting(sft)	Height(sft)	Δ Northing(sft)	Δ Easting(sft)	Δ Height(sft)	Include in Solution?
1	502	0:00:00	10:48:13 AM	260869.50900	135136.42900	842.39900	0.00692	-0.00892	0.01700	<input checked="" type="checkbox"/>
2	502	0:00:00	10:48:29 AM	260869.51200	135136.43300	842.41700	0.00392	-0.01292	-0.00100	<input checked="" type="checkbox"/>
3	502	0:00:00	10:48:44 AM	260869.52100	135136.43500	842.42500	-0.00508	-0.01492	-0.00900	<input checked="" type="checkbox"/>
4	502	0:00:00	10:48:56 AM	260869.52400	135136.42700	842.40800	-0.00808	-0.00692	0.00800	<input checked="" type="checkbox"/>
5	502	0:00:00	10:49:10 AM	260869.52500	135136.41500	842.41200	-0.00908	0.00508	0.00400	<input checked="" type="checkbox"/>
6	502	0:00:00	10:49:25 AM	260869.52200	135136.40600	842.38200	0.00000	0.00000	0.00000	<input type="checkbox"/>
7	502	0:00:00	10:49:37 AM	260869.52400	135136.41100	842.40300	-0.00808	0.00908	0.01300	<input checked="" type="checkbox"/>
8	502	0:00:00	10:49:50 AM	260869.50700	135136.41400	842.40200	0.00892	0.00608	0.01400	<input checked="" type="checkbox"/>
9	502	0:00:00	10:50:03 AM	260869.50800	135136.40500	842.38600	0.00792	0.01508	0.03000	<input checked="" type="checkbox"/>
10	502	0:00:00	10:50:17 AM	260869.51800	135136.41100	842.43900	-0.00208	0.00908	-0.02300	<input checked="" type="checkbox"/>
11	502	0:00:00	10:50:28 AM	260869.52200	135136.41700	842.42600	-0.00608	0.00308	-0.01000	<input checked="" type="checkbox"/>
12	502	0:00:00	10:50:40 AM	260869.51200	135136.40400	842.45200	0.00392	0.01608	-0.03600	<input checked="" type="checkbox"/>
13	502	0:00:00	10:50:53 AM	260869.49400	135136.41200	842.47200	0.00000	0.00000	0.00000	<input type="checkbox"/>
14	502	0:00:00	10:51:06 AM	260869.48200	135136.42100	842.47700	0.00000	0.00000	0.00000	<input type="checkbox"/>
15	502	0:00:00	10:51:18 AM	260869.50900	135136.44000	842.42300	0.00692	-0.01992	-0.00700	<input checked="" type="checkbox"/>

AVERAGE	260869.51592	135136.42008	842.41600	RMSE:	RMSE:	RMSE:
				RMSE IN U.S. Survey FT:	0.00676	0.01168
				Tolerance:	0.02900	0.03900
	PASS	PASS	PASS			

AVERAGED GPS-DERIVED POSITION			
MONUMENT COORDINATES	NORTHING	EASTING	ORTHO HEIGHT
U.S. Survey FT (GRID)	260869.5159	135136.4201	842.416

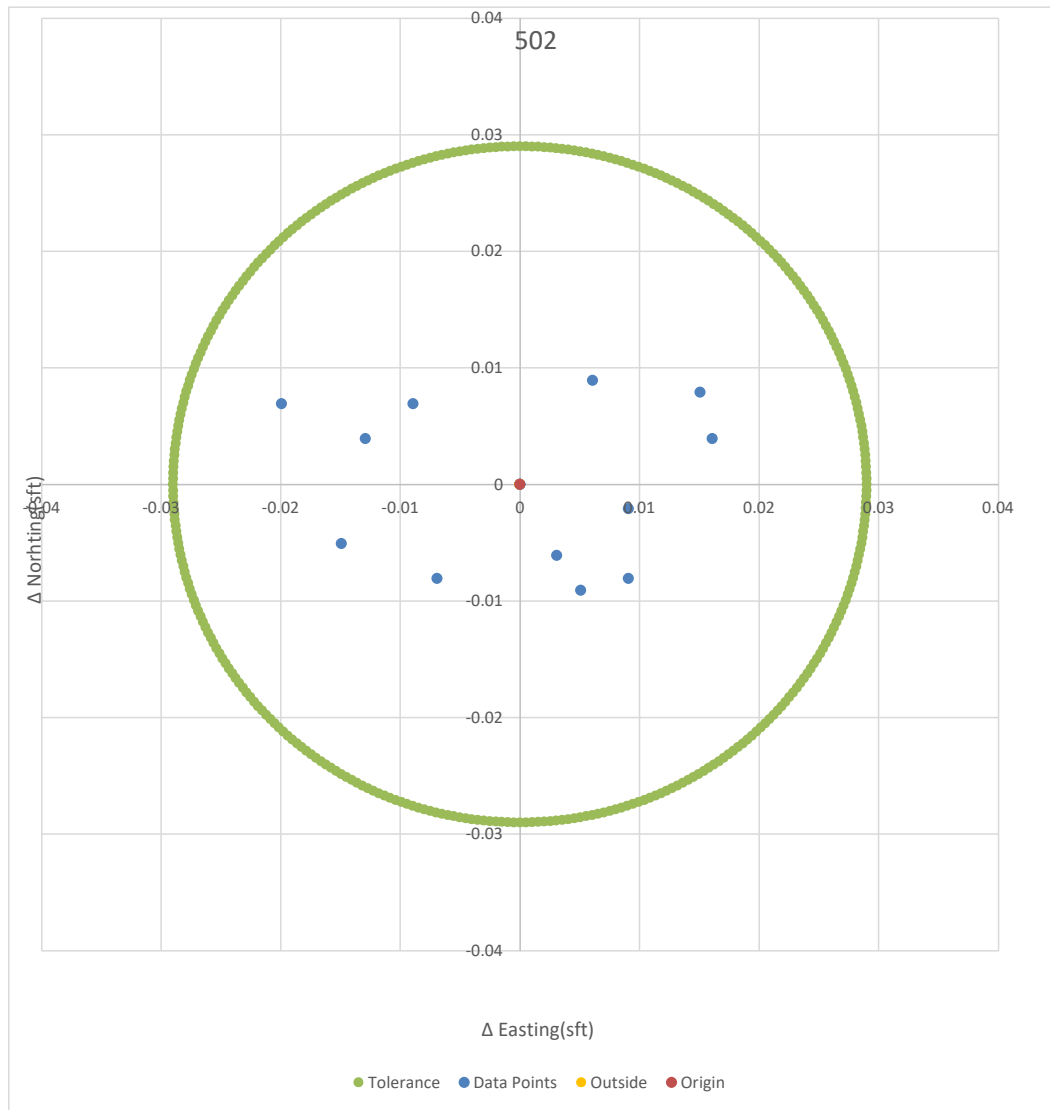
LEVELED ELEVATION	
U.S. Survey FT	842.440 (Fill out Level Run Sheet or N/A if no leveled elevation is available)
MONUMENT HELD	MN500 (Type the monument name from which leveling originated)
LEVELED ELEVATION - GPS DERIVED ELEVATION =	0.024 sft

FINAL MONUMENT COORDINATES				
MONUMENT COORDINATES	NORTHING	EASTING	ELEVATION	FEATURE CODE
U.S. Survey FT (GRID)	260869.5159	135136.4201	842.440	CNPT IPINS
U.S. Survey FT (GROUND)	260869.5159	135136.4201	842.440	CNPT IPINS

Δ North, Δ East, and Δ Ht. are the difference between the average northing, easting, and height for each observation.

Mask Angle: **10°**

Notes:



VRS GNSS Project Control Monument Coordinate Analysis

Project: ALL-117-10.77		GPS Antenna: Trimble R12i		Report Date: 3/13/2024	
PID: 117792		VRS Network: ODOT VRS		Prepared By: DGL Consulting Engineers	
Point ID: 503	No. of Sessions: 15	(GRID)		Checked By: DGL Consulting Engineers	

SESSION #	Point	Observation Date	Start Time	Northing(sft)	Easting(sft)	Height(sft)	Δ Northing(sft)	Δ Easting(sft)	Δ Height(sft)	Include in Solution?
1	503	0:00:00	11:10:53 AM	263009.14800	135780.87500	844.04400	0.00550	0.00408	0.01692	<input checked="" type="checkbox"/>
2	503	0:00:00	11:11:14 AM	263009.11900	135780.88900	844.07000	0.00000	0.00000	0.00000	<input type="checkbox"/>
3	503	0:00:00	11:11:26 AM	263009.11400	135780.88900	844.08200	0.00000	0.00000	0.00000	<input type="checkbox"/>
4	503	0:00:00	11:11:39 AM	263009.14400	135780.89000	844.08100	0.00950	-0.01092	-0.02008	<input checked="" type="checkbox"/>
5	503	0:00:00	11:11:54 AM	263009.16200	135780.87400	844.06700	-0.00850	0.00508	-0.00608	<input checked="" type="checkbox"/>
6	503	0:00:00	11:12:20 AM	263009.15500	135780.88400	844.07700	-0.00150	-0.00492	-0.01608	<input checked="" type="checkbox"/>
7	503	0:00:00	11:12:35 AM	263009.17200	135780.88600	844.07600	-0.01850	-0.00692	-0.01508	<input checked="" type="checkbox"/>
8	503	0:00:00	11:13:17 AM	263009.16700	135780.87600	844.07200	-0.01350	0.00308	-0.01108	<input checked="" type="checkbox"/>
9	503	0:00:00	11:13:30 AM	263009.14700	135780.87000	844.05100	0.00650	0.00908	0.00992	<input checked="" type="checkbox"/>
10	503	0:00:00	11:13:42 AM	263009.14700	135780.87200	844.05900	0.00650	0.00708	0.00192	<input checked="" type="checkbox"/>
11	503	0:00:00	11:13:54 AM	263009.14300	135780.88200	844.05600	0.01050	-0.00292	0.00492	<input checked="" type="checkbox"/>
12	503	0:00:00	11:14:06 AM	263009.15900	135780.88000	844.07100	-0.00550	-0.00092	-0.01008	<input checked="" type="checkbox"/>
13	503	0:00:00	11:14:26 AM	263009.15100	135780.87600	844.03500	0.00250	0.00308	0.02592	<input checked="" type="checkbox"/>
14	503	0:00:00	11:14:36 AM	263009.14700	135780.88400	844.04200	0.00650	-0.00492	0.01892	<input checked="" type="checkbox"/>
15	503	0:00:00	11:14:47 AM	263009.15000	135780.89000	844.02800	0.00000	0.00000	0.00000	<input type="checkbox"/>

AVERAGE	263009.15350	135780.87908	844.06092	RMSE:	RMSE:	RMSE:
				RMSE IN U.S. Survey FT:	0.00910	0.00591
				Tolerance:	0.02900	0.03900
				PASS	PASS	PASS

AVERAGED GPS-DERIVED POSITION			
MONUMENT COORDINATES	NORTHING	EASTING	ORTHO HEIGHT
U.S. Survey FT (GRID)	263009.1535	135780.8791	844.061

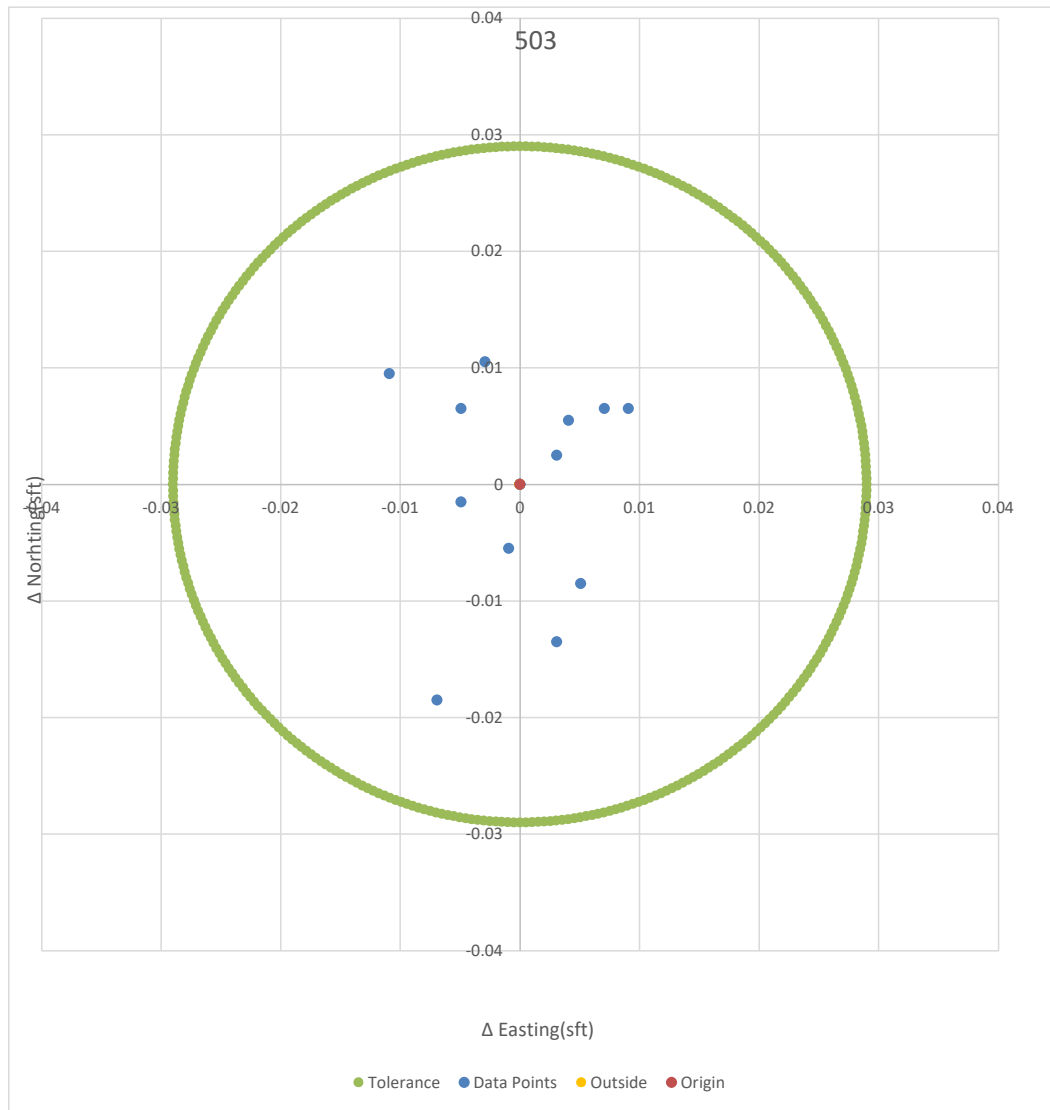
LEVELED ELEVATION	
U.S. Survey FT	844.037 (Fill out Level Run Sheet or N/A if no leveled elevation is available)
MONUMENT HELD	MN500 (Type the monument name from which leveling originated)
LEVELED ELEVATION - GPS DERIVED ELEVATION =	-0.024 sft

FINAL MONUMENT COORDINATES				
MONUMENT COORDINATES	NORTHING	EASTING	ELEVATION	FEATURE CODE
U.S. Survey FT (GRID)	263009.1535	135780.8791	844.037	CNPT IPINS
U.S. Survey FT (GROUND)	263009.1535	135780.8791	844.037	CNPT IPINS

Notes:

Mask Angle: **10°**

Δ North, Δ East, and Δ Ht. are the difference between the average northing, easting, and height for each observation.



VRS GNSS Project Control Monument Coordinate Analysis

Project: ALL-117-10.77		GPS Antenna: Trimble R12i		Report Date: 3/13/2024	
PID: 117792		VRS Network: ODOT VRS		Prepared By: DGL Consulting Engineers	
Point ID: 504	No. of Sessions: 15	(GRID)		Checked By: DGL Consulting Engineers	

SESSION #	Point	Observation Date	Start Time	Northing(sft)	Easting(sft)	Height(sft)	Δ Northing(sft)	Δ Easting(sft)	Δ Height(sft)	Include in Solution?
1	504	0:00:00	11:29:40 AM	263369.59800	136407.00900	842.15900	-0.00025	-0.01517	-0.00558	<input checked="" type="checkbox"/>
2	504	0:00:00	11:29:54 AM	263369.61900	136407.01000	842.12100	-0.02125	-0.01617	0.03242	<input checked="" type="checkbox"/>
3	504	0:00:00	11:30:06 AM	263369.61000	136407.00800	842.14200	0.00000	0.00000	0.00000	<input type="checkbox"/>
4	504	0:00:00	11:30:18 AM	263369.61200	136407.00200	842.15500	-0.01425	-0.00817	-0.00158	<input checked="" type="checkbox"/>
5	504	0:00:00	11:30:30 AM	263369.59400	136407.00900	842.16400	0.00375	-0.01517	-0.01058	<input checked="" type="checkbox"/>
6	504	0:00:00	11:30:42 AM	263369.61400	136407.01500	842.14400	0.00000	0.00000	0.00000	<input type="checkbox"/>
7	504	0:00:00	11:30:55 AM	263369.60900	136407.00200	842.17500	-0.01125	-0.00817	-0.02158	<input checked="" type="checkbox"/>
8	504	0:00:00	11:31:09 AM	263369.61100	136406.98800	842.15900	-0.01325	0.00583	-0.00558	<input checked="" type="checkbox"/>
9	504	0:00:00	11:31:26 AM	263369.59800	136406.98700	842.14400	-0.00025	0.00683	0.00942	<input checked="" type="checkbox"/>
10	504	0:00:00	11:31:38 AM	263369.58500	136406.98800	842.14700	0.01275	0.00583	0.00642	<input checked="" type="checkbox"/>
11	504	0:00:00	11:31:50 AM	263369.59600	136406.97700	842.16000	0.00175	0.01683	-0.00658	<input checked="" type="checkbox"/>
12	504	0:00:00	11:32:02 AM	263369.59500	136406.97300	842.15200	0.00275	0.02083	0.00142	<input checked="" type="checkbox"/>
13	504	0:00:00	11:32:14 AM	263369.57000	136406.98800	842.15000	0.00000	0.00000	0.00000	<input type="checkbox"/>
14	504	0:00:00	11:32:25 AM	263369.57800	136406.99200	842.15200	0.01975	0.00183	0.00142	<input checked="" type="checkbox"/>
15	504	0:00:00	11:32:38 AM	263369.57800	136406.98900	842.15300	0.01975	0.00483	0.00042	<input checked="" type="checkbox"/>

AVERAGE	263369.59775	136406.99383	842.15342	RMSE:	RMSE:	RMSE:
				RMSE IN U.S. Survey FT:	0.01266	0.01195
				Tolerance:	0.02900	0.03900
				PASS	PASS	PASS

AVERAGED GPS-DERIVED POSITION			
MONUMENT COORDINATES	NORTHING	EASTING	ORTHO HEIGHT
U.S. Survey FT (GRID)	263369.5978	136406.9938	842.153

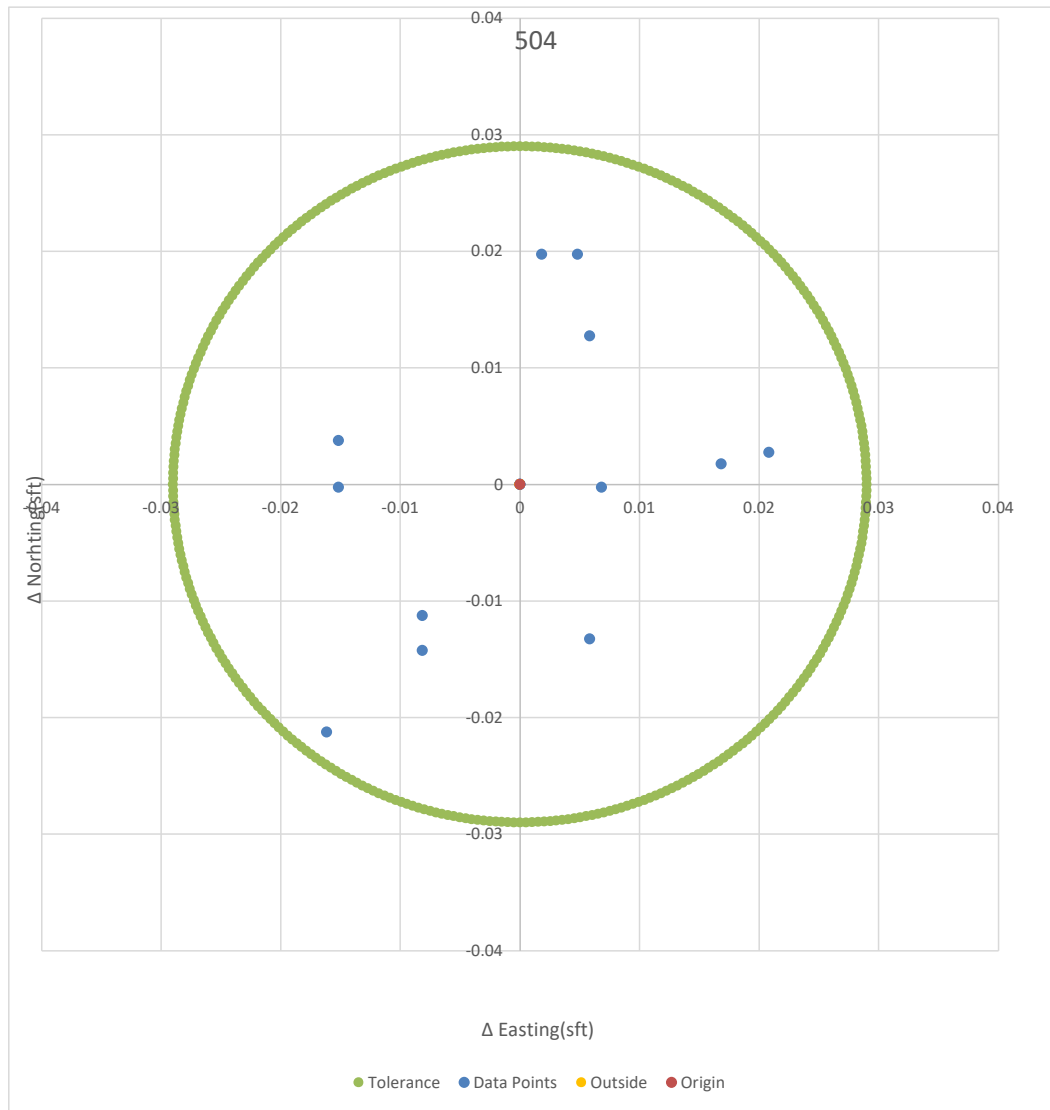
LEVELED ELEVATION	
U.S. Survey FT	842.144 (Fill out Level Run Sheet or N/A if no leveled elevation is available)
MONUMENT HELD	MN500 (Type the monument name from which leveling originated)
LEVELED ELEVATION - GPS DERIVED ELEVATION =	-0.009 sft

FINAL MONUMENT COORDINATES				
MONUMENT COORDINATES	NORTHING	EASTING	ELEVATION	FEATURE CODE
U.S. Survey FT (GRID)	263369.5978	136406.9938	842.144	CNPT IPINS
U.S. Survey FT (GROUND)	263369.5978	136406.9938	842.144	CNPT IPINS

Notes:

Mask Angle: **10°**

Δ North, Δ East, and Δ Ht. are the difference between the average northing, easting, and height for each observation.



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Project: ALL-117-10.77			GPS Antenna: Trimble R12i			Report Date: 3/13/2024		
PID: 117792			VRS Network: ODOT VRS			Prepared By: DGL Consulting Engineers		
Point ID: 505		No. of Sessions: 15		(GRID)				
Checked By: DGL Consulting Engineers								

SESSION #	Point	Observation Date	Start Time	Northing(sft)	Easting(sft)	Height(sft)	Δ Northing(sft)	Δ Easting(sft)	Δ Height(sft)	Include in Solution?
1	505	0:00:00	11:42:16 AM	263217.21500	135121.73600	832.77300	0.00000	0.00000	0.00000	<input type="checkbox"/>
2	505	0:00:00	11:42:38 AM	263217.24800	135121.72300	832.76700	0.00000	0.00000	0.00000	<input type="checkbox"/>
3	505	0:00:00	11:42:51 AM	263217.25800	135121.71400	832.74900	0.00000	0.00000	0.00000	<input type="checkbox"/>
4	505	0:00:00	11:44:00 AM	263217.24700	135121.70700	832.80000	-0.00567	0.02375	-0.00817	<input checked="" type="checkbox"/>
5	505	0:00:00	11:44:16 AM	263217.23800	135121.71600	832.79500	0.00333	0.01475	-0.00317	<input checked="" type="checkbox"/>
6	505	0:00:00	11:44:31 AM	263217.23000	135121.71800	832.78500	0.01133	0.01275	0.00683	<input checked="" type="checkbox"/>
7	505	0:00:00	11:44:46 AM	263217.23600	135121.72700	832.78800	0.00533	0.00375	0.00383	<input checked="" type="checkbox"/>
8	505	0:00:00	11:45:03 AM	263217.24900	135121.72600	832.77700	-0.00767	0.00475	0.01483	<input checked="" type="checkbox"/>
9	505	0:00:00	11:45:17 AM	263217.24900	135121.72400	832.77900	-0.00767	0.00675	0.01283	<input checked="" type="checkbox"/>
10	505	0:00:00	11:45:33 AM	263217.24100	135121.72600	832.79100	0.00033	0.00475	0.00083	<input checked="" type="checkbox"/>
11	505	0:00:00	11:45:47 AM	263217.22600	135121.73600	832.81800	0.01533	-0.00525	-0.02617	<input checked="" type="checkbox"/>
12	505	0:00:00	11:46:02 AM	263217.24000	135121.74500	832.78000	0.00133	-0.01425	0.01183	<input checked="" type="checkbox"/>
13	505	0:00:00	11:46:16 AM	263217.25500	135121.74500	832.79300	-0.01367	-0.01425	-0.00117	<input checked="" type="checkbox"/>
14	505	0:00:00	11:46:31 AM	263217.24800	135121.75200	832.80500	-0.00667	-0.02125	-0.01317	<input checked="" type="checkbox"/>
15	505	0:00:00	11:46:44 AM	263217.23700	135121.74700	832.79100	0.00433	-0.01625	0.00083	<input checked="" type="checkbox"/>

AVERAGE		263217.24133	135121.73075	832.79183	RMSE:	RMSE:	RMSE:
		RMSE IN U.S. Survey FT:		0.00819	0.01353	0.01127	
		Tolerance:		0.02900	0.03900		
		PASS		PASS	PASS		

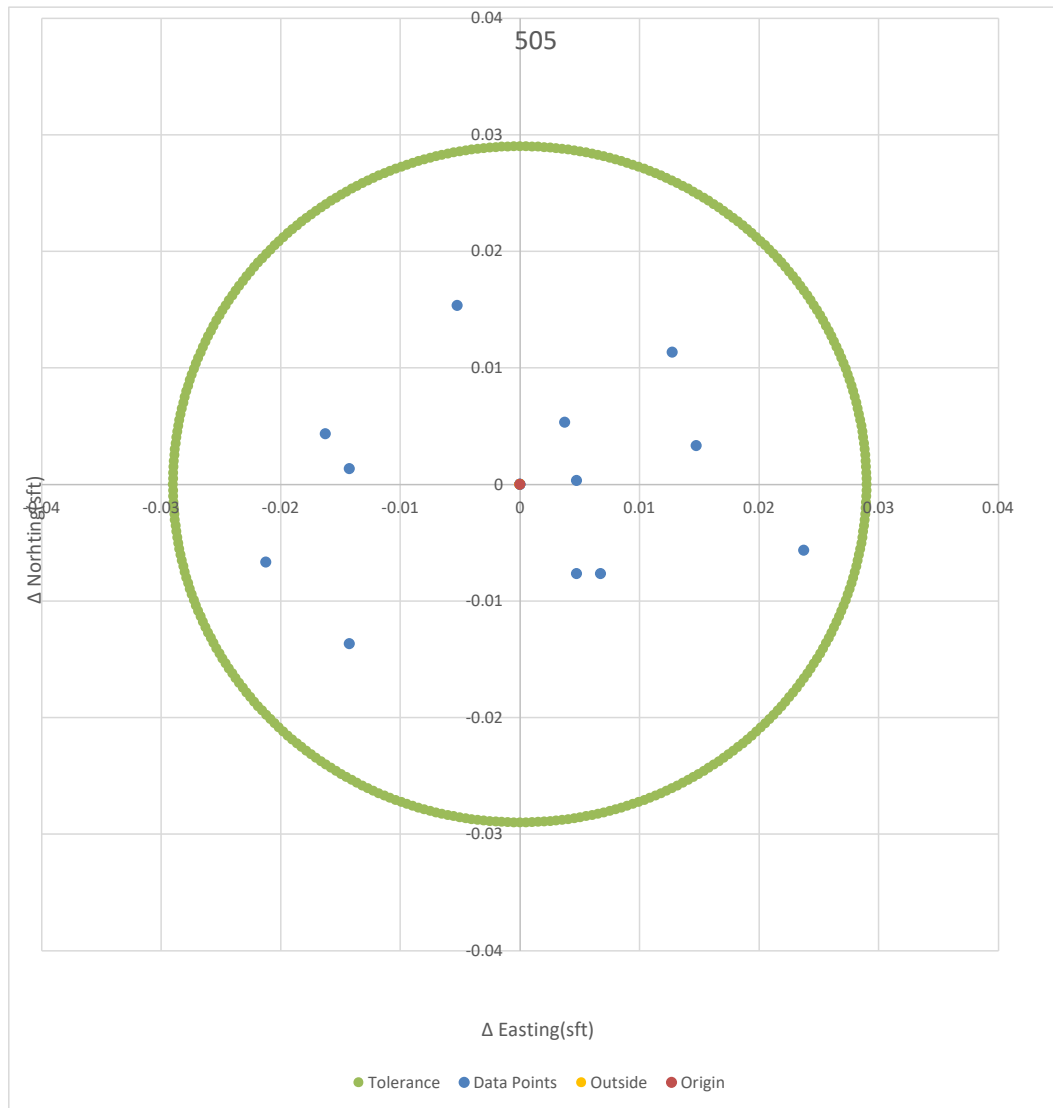
AVERAGED GPS-DERIVED POSITION			
MONUMENT COORDINATES	NORTHING	EASTING	ORTHO HEIGHT
U.S. Survey FT (GRID)	263217.2413	135121.7308	832.792

LEVELED ELEVATION	
U.S. Survey FT	832.758 (Fill out Level Run Sheet or N/A if no leveled elevation is available)
MONUMENT HELD	MN500 (Type the monument name from which leveling originated)
LEVELED ELEVATION - GPS DERIVED ELEVATION =	-0.034 sft

FINAL MONUMENT COORDINATES				
MONUMENT COORDINATES	NORTHING	EASTING	ELEVATION	FEATURE CODE
U.S. Survey FT (GRID)	263217.2413	135121.7308	832.758	CNPT IPINS
U.S. Survey FT (GROUND)	263217.2413	135121.7308	832.758	CNPT IPINS

Δ North, Δ East, and Δ Ht. are the difference between the average northing, easting, and height for each observation.

Mask Angle: **10°**



VRS GNSS Project Control Monument Coordinate Analysis

Project: ALL-117-10.77		GPS Antenna: Trimble R12i		Report Date: 3/13/2024	
PID: 117792		VRS Network: ODOT VRS		Prepared By: DGL Consulting Engineers	
Point ID: 506	No. of Sessions: 15	(GRID)		Checked By: DGL Consulting Engineers	

SESSION #	Point	Observation Date	Start Time	Northing(sft)	Easting(sft)	Height(sft)	Δ Northing(sft)	Δ Easting(sft)	Δ Height(sft)	Include in Solution?
1	506	0:00:00	12:08:36 PM	264138.54400	135125.10800	841.71400	-0.00933	-0.01425	0.01725	<input checked="" type="checkbox"/>
2	506	0:00:00	12:09:07 PM	264138.53300	135125.09500	841.75000	0.00167	-0.00125	-0.01875	<input checked="" type="checkbox"/>
3	506	0:00:00	12:09:20 PM	264138.54600	135125.08000	841.75600	-0.01133	0.01375	-0.02475	<input checked="" type="checkbox"/>
4	506	0:00:00	12:09:36 PM	264138.54700	135125.09700	841.75200	-0.01233	-0.00325	-0.02075	<input checked="" type="checkbox"/>
5	506	0:00:00	12:09:48 PM	264138.54400	135125.09000	841.74400	-0.00933	0.00375	-0.01275	<input checked="" type="checkbox"/>
6	506	0:00:00	12:10:00 PM	264138.53100	135125.08500	841.73100	0.00367	0.00875	0.00025	<input checked="" type="checkbox"/>
7	506	0:00:00	12:10:13 PM	264138.52800	135125.09000	841.71200	0.00667	0.00375	0.01925	<input checked="" type="checkbox"/>
8	506	0:00:00	12:10:28 PM	264138.52400	135125.07500	841.70800	0.01067	0.01875	0.02325	<input checked="" type="checkbox"/>
9	506	0:00:00	12:10:40 PM	264138.52200	135125.09000	841.72400	0.01267	0.00375	0.00725	<input checked="" type="checkbox"/>
10	506	0:00:00	12:10:53 PM	264138.49700	135125.08400	841.77700	0.00000	0.00000	0.00000	<input type="checkbox"/>
11	506	0:00:00	12:11:05 PM	264138.51900	135125.09300	841.77700	0.00000	0.00000	0.00000	<input type="checkbox"/>
12	506	0:00:00	12:11:17 PM	264138.54600	135125.10600	841.71000	-0.01133	-0.01225	0.02125	<input checked="" type="checkbox"/>
13	506	0:00:00	12:11:29 PM	264138.53000	135125.09700	841.73700	0.00467	-0.00325	-0.00575	<input checked="" type="checkbox"/>
14	506	0:00:00	12:11:42 PM	264138.52100	135125.11200	841.73700	0.01367	-0.01825	-0.00575	<input checked="" type="checkbox"/>
15	506	0:00:00	12:11:52 PM	264138.55600	135125.11600	841.69700	0.00000	0.00000	0.00000	<input type="checkbox"/>

AVERAGE	264138.53467	135125.09375	841.73125	RMSE:	RMSE:	RMSE:
				RMSE IN U.S. Survey FT:	0.00969	0.01068
				Tolerance:	0.02900	0.03900
				PASS	PASS	PASS

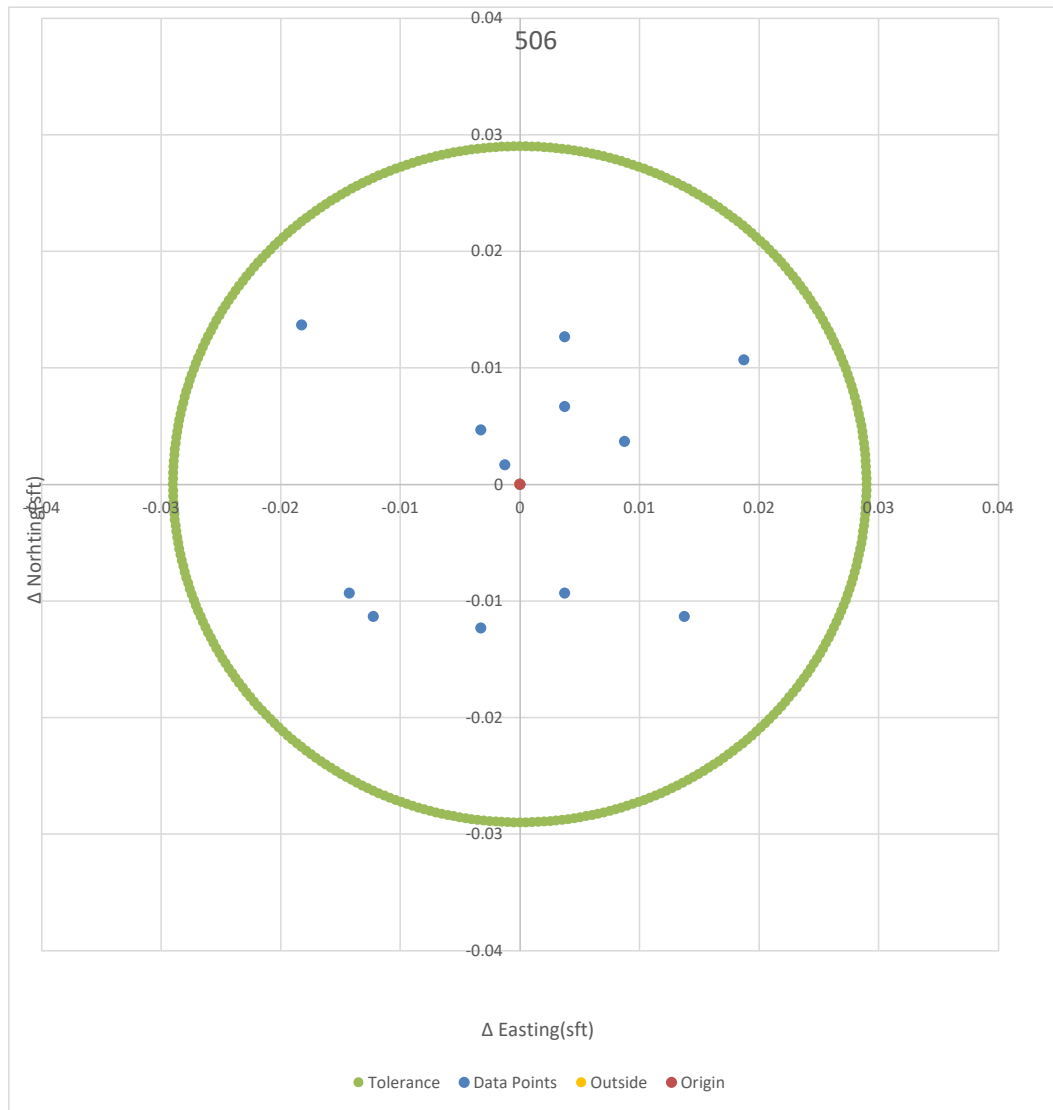
AVERAGED GPS-DERIVED POSITION			
MONUMENT COORDINATES	NORTHING	EASTING	ORTHO HEIGHT
U.S. Survey FT (GRID)	264138.5347	135125.0938	841.731

LEVELED ELEVATION	
U.S. Survey FT	841.767 (Fill out Level Run Sheet or N/A if no leveled elevation is available)
MONUMENT HELD	MN500 (Type the monument name from which leveling originated)
LEVELED ELEVATION - GPS DERIVED ELEVATION =	0.036 sft

FINAL MONUMENT COORDINATES				
MONUMENT COORDINATES	NORTHING	EASTING	ELEVATION	FEATURE CODE
U.S. Survey FT (GRID)	264138.5347	135125.0938	841.767	CNPT IPINS
U.S. Survey FT (GROUND)	264138.5347	135125.0938	841.767	CNPT IPINS

Δ North, Δ East, and Δ Ht. are the difference between the average northing, easting, and height for each observation.

Mask Angle: 10°



VRS GNSS Project Control Monument Coordinate Analysis

Project: ALL-117-10.77				GPS Antenna: Trimble R12i				Report Date: 3/13/2024	
PID: 117792				VRS Network: ODOT VRS				Prepared By: DGL Consulting Engineers	
Point ID: 507		No. of Sessions: 15		(GRID)		Checked By: DGL Consulting Engineers			

SESSION #	Point	Observation Date	Start Time	Northing(sft)	Easting(sft)	Height(sft)	Δ Northing(sft)	Δ Easting(sft)	Δ Height(sft)	Include in Solution?
1	507	0:00:00	12:32:47 PM	261920.14200	134549.03200	837.49700	0.00000	0.00000	0.00000	<input type="checkbox"/>
2	507	0:00:00	12:33:02 PM	261920.17400	134549.04100	837.52300	0.00550	0.00225	-0.02775	<input checked="" type="checkbox"/>
3	507	0:00:00	12:33:26 PM	261920.18100	134549.04900	837.51400	-0.00150	-0.00575	-0.01875	<input checked="" type="checkbox"/>
4	507	0:00:00	12:33:41 PM	261920.15800	134549.05400	837.48800	0.02150	-0.01075	0.00725	<input checked="" type="checkbox"/>
5	507	0:00:00	12:33:53 PM	261920.13900	134549.05400	837.52700	0.00000	0.00000	0.00000	<input type="checkbox"/>
6	507	0:00:00	12:34:06 PM	261920.16100	134549.04000	837.54000	0.00000	0.00000	0.00000	<input type="checkbox"/>
7	507	0:00:00	12:34:18 PM	261920.18000	134549.04800	837.50600	-0.00050	-0.00475	-0.01075	<input checked="" type="checkbox"/>
8	507	0:00:00	12:34:32 PM	261920.17900	134549.05000	837.51900	0.00050	-0.00675	-0.02375	<input checked="" type="checkbox"/>
9	507	0:00:00	12:34:44 PM	261920.19200	134549.05300	837.49300	-0.01250	-0.00975	0.00225	<input checked="" type="checkbox"/>
10	507	0:00:00	12:35:16 PM	261920.20200	134549.05900	837.49000	-0.02250	-0.01575	0.00525	<input checked="" type="checkbox"/>
11	507	0:00:00	12:35:28 PM	261920.20100	134549.05200	837.48800	-0.02150	-0.00875	0.00725	<input checked="" type="checkbox"/>
12	507	0:00:00	12:35:40 PM	261920.18300	134549.03400	837.47700	-0.00350	0.00925	0.01825	<input checked="" type="checkbox"/>
13	507	0:00:00	12:35:53 PM	261920.17800	134549.02700	837.46400	0.00150	0.01625	0.03125	<input checked="" type="checkbox"/>
14	507	0:00:00	12:36:07 PM	261920.17300	134549.02400	837.50200	0.00650	0.01925	-0.00675	<input checked="" type="checkbox"/>
15	507	0:00:00	12:36:20 PM	261920.15300	134549.02800	837.47900	0.02650	0.01525	0.01625	<input checked="" type="checkbox"/>

AVERAGE	261920.17950	134549.04325	837.49525	RMSE:	RMSE:	RMSE:
				RMSE IN U.S. Survey FT:	0.01408	0.01153
				Tolerance:	0.02900	0.03900
				PASS	PASS	PASS

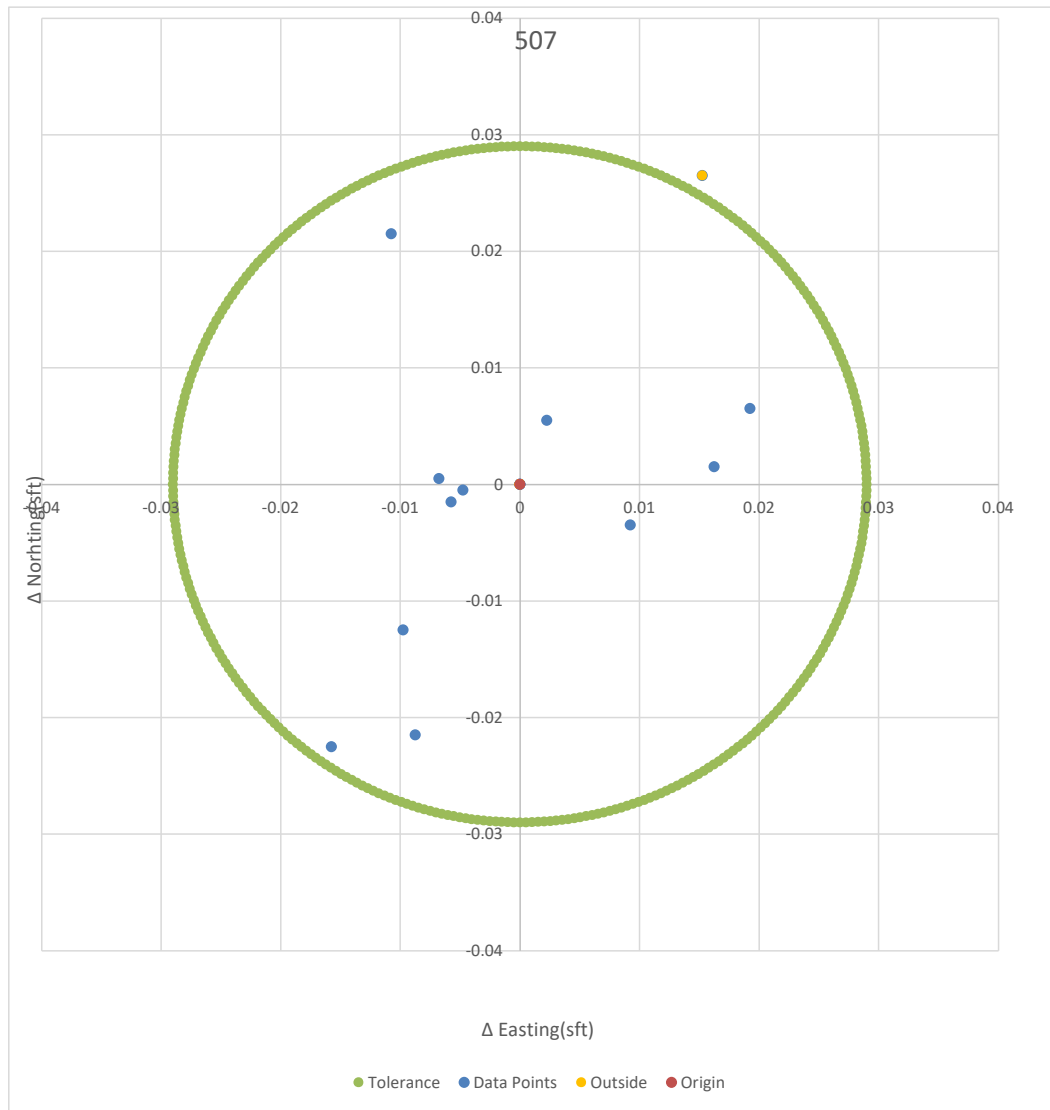
AVERAGED GPS-DERIVED POSITION			
MONUMENT COORDINATES	NORTHING	EASTING	ORTHO HEIGHT
U.S. Survey FT (GRID)	261920.1795	134549.0433	837.495

LEVELED ELEVATION	
U.S. Survey FT	837.491 (Fill out Level Run Sheet or N/A if no leveled elevation is available)
MONUMENT HELD	MN500 (Type the monument name from which leveling originated)
LEVELED ELEVATION - GPS DERIVED ELEVATION =	-0.004 sft

FINAL MONUMENT COORDINATES				
MONUMENT COORDINATES	NORTHING	EASTING	ELEVATION	FEATURE CODE
U.S. Survey FT (GRID)	261920.1795	134549.0433	837.491	CNPT IPINS
U.S. Survey FT (GROUND)	261920.1795	134549.0433	837.491	CNPT IPINS

Δ North, Δ East, and Δ Ht. are the difference between the average northing, easting, and height for each observation.

Mask Angle: **10°**



VRS GNSS Project Control Monument Coordinate Analysis

Project: ALL-117-10.77		GPS Antenna: Trimble R12i		Report Date: 3/13/2024	
PID: 117792		VRS Network: ODOT VRS		Prepared By: DGL Consulting Engineers	
Point ID: 508	No. of Sessions: 15	(GRID)		Checked By: DGL Consulting Engineers	

SESSION #	Point	Observation Date	Start Time	Northing(sft)	Easting(sft)	Height(sft)	Δ Northing(sft)	Δ Easting(sft)	Δ Height(sft)	Include in Solution?
1	508	0:00:00	12:43:47 PM	261649.42800	133650.87400	839.86900	-0.01233	0.00567	-0.01667	<input checked="" type="checkbox"/>
2	508	0:00:00	12:44:12 PM	261649.42000	133650.85600	839.82200	-0.00433	0.02367	0.03033	<input checked="" type="checkbox"/>
3	508	0:00:00	12:44:24 PM	261649.43100	133650.85500	839.83900	-0.01533	0.02467	0.01333	<input checked="" type="checkbox"/>
4	508	0:00:00	12:44:36 PM	261649.38700	133650.86000	839.79100	0.00000	0.00000	0.00000	<input type="checkbox"/>
5	508	0:00:00	12:44:51 PM	261649.40400	133650.85400	839.82500	0.01167	0.02567	0.02733	<input checked="" type="checkbox"/>
6	508	0:00:00	12:45:05 PM	261649.39900	133650.86200	839.84800	0.01667	0.01767	0.00433	<input checked="" type="checkbox"/>
7	508	0:00:00	12:45:22 PM	261649.41600	133650.88200	839.85100	-0.00033	-0.00233	0.00133	<input checked="" type="checkbox"/>
8	508	0:00:00	12:45:35 PM	261649.42200	133650.89700	839.83500	-0.00633	-0.01733	0.01733	<input checked="" type="checkbox"/>
9	508	0:00:00	12:45:47 PM	261649.40300	133650.88900	839.87600	0.01267	-0.00933	-0.02367	<input checked="" type="checkbox"/>
10	508	0:00:00	12:45:59 PM	261649.39300	133650.90100	839.87600	0.02267	-0.02133	-0.02367	<input checked="" type="checkbox"/>
11	508	0:00:00	12:46:12 PM	261649.43200	133650.88400	839.91400	0.00000	0.00000	0.00000	<input type="checkbox"/>
12	508	0:00:00	12:46:25 PM	261649.43500	133650.88800	839.86400	-0.01933	-0.00833	-0.01167	<input checked="" type="checkbox"/>
13	508	0:00:00	12:46:37 PM	261649.40900	133650.91100	839.81500	0.00000	0.00000	0.00000	<input type="checkbox"/>
14	508	0:00:00	12:46:51 PM	261649.41900	133650.91400	839.88200	-0.00333	-0.03433	-0.02967	<input checked="" type="checkbox"/>
15	508	0:00:00	12:47:03 PM	261649.41800	133650.88400	839.84100	-0.00233	-0.00433	0.01133	<input checked="" type="checkbox"/>

AVERAGE	261649.41567	133650.87967	839.85233	RMSE:	0.01266	RMSE:	0.01890	RMSE:	0.01981
	RMSE IN U.S. Survey FT:				0.01266		0.01890		0.01981
	Tolerance:				0.02900		0.03900		0.03900
					PASS		PASS		PASS

AVERAGED GPS-DERIVED POSITION			
MONUMENT COORDINATES	NORTHING	EASTING	ORTHO HEIGHT
U.S. Survey FT (GRID)	261649.4157	133650.8797	839.852

LEVELED ELEVATION	
U.S. Survey FT	839.772 (Fill out Level Run Sheet or N/A if no leveled elevation is available)
MONUMENT HELD	MN500 (Type the monument name from which leveling originated)
LEVELED ELEVATION - GPS DERIVED ELEVATION =	-0.080 sft

FINAL MONUMENT COORDINATES				
MONUMENT COORDINATES	NORTHING	EASTING	ELEVATION	FEATURE CODE
U.S. Survey FT (GRID)	261649.4157	133650.8797	839.772	CNPT IPINS
U.S. Survey FT (GROUND)	261649.4157	133650.8797	839.772	CNPT IPINS

Δ North, Δ East, and Δ Ht. are the difference between the average northing, easting, and height for each observation.

Mask Angle: 10°

Notes:

