



December 15, 2016

Survey Report of
LiDAR Calibration & Quality Control Points

USGS Contract: G16PC00016

VT_Connecticut River Basin
LiDAR_2016_B16

USGS Task Order: G16PD00992

Presented to:



Presented By:





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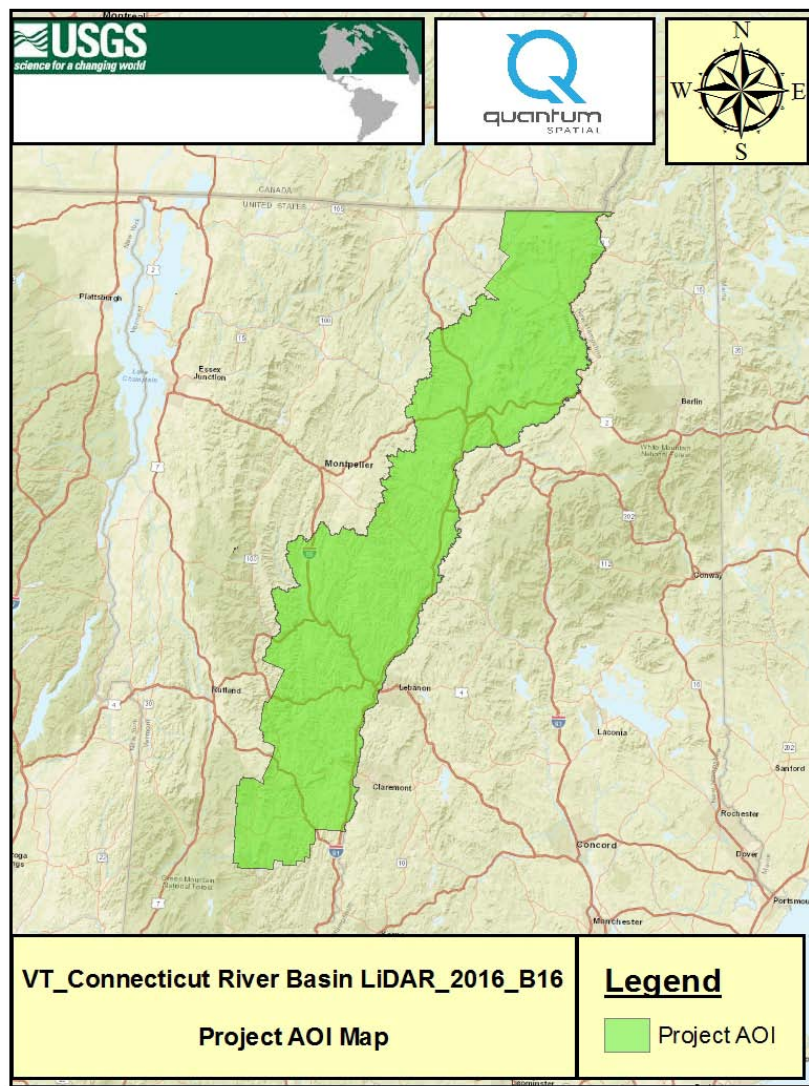


Introduction

Quantum Spatial, Inc. was contracted by USGS under task order G16PD00992 to Survey LiDAR calibration and quality control points in support of VT_Connecticut River Basin LiDAR_2016_B16. This is the report of the technical approach used and detail of each point surveyed.

Project Area

The Project Areas, shown in the figure below, consists of approximately 2,858 square miles.





Technical Approach to Land Cover Validation Point Selection

Referencing ASPRS Positional Accuracy Standards for Digital Geospatial Data (Edition 1, Version 1.0, - November, 2014) table C.1 Recommended Number of Checkpoints based on Area, Quantum Spatial calculated that 118 Non-Vegetated Vertical Assessment (NVA) and 87 Vegetated Vertical Assessment (VVA) points are required for this project area.

To ensure that checkpoints were distributed generally proportionate among the various vegetated land cover types, Quantum Spatial used existing USGS Land Cover data to divide both the NVA and VVA categories among the various types, calculating the approximate number of required points in each representative type proportionate to the total project area. The resulting point classes are detailed below:

<u>NVA Class</u>	<u># of Points</u>	<u>VVA Class</u>	<u># of Points</u>
Bare Earth	50	Forested	55
Urban Area	34	Tall Weeds/Crops	7
		Brushland/Trees	3

Quantum Spatial has adopted the philosophy that each vegetative class must be well distributed throughout the project area. While points in varying classes may be near to one another, points of a single vegetative class may not. Proposed point locations are selected with this distribution methodology in mind.

Survey Accuracy Requirements

Given that the survey accuracy of calibration and quality control check points should be 3 times more accurate than the required accuracy of the data set, Quantum Spatial requires that calibration and NVA points are better than 3 centimeters RMSE, both horizontally and vertically, and that VVA points be better than 5 centimeters RMSE, both horizontally and vertically. The surveyed accuracy of each point must be determined through redundant measurements and/or network adjustment using procedures and methodologies that reliably and consistently result in the aforementioned accuracies.

Due to variances in reference control accuracy and adjustment, Quantum Spatial requires that the survey methodology used be explained, so that it can be repeated if necessary.



Field Survey Methodology

Date Range: October 27, 2016 – November 17, 2016

Equipment Used:

Field crews used Trimble R8 dual frequency GNSS receivers as base stations and rovers.

GNSS Methodology:

A combination of RTK GPS, fast static GPS, and traditional surveying methods were used during this project. The RTK GPS survey procedure involved placing a GPS receiver on a check point and collecting three minute “fixed” observations. RTK GPS corrected observations were provided from a Virtual Reference Station System (VRS network – KeyNetGPS, Inc.). KeyNetGPS is a series of continuously operating, high precision GNSS reference stations working through a cellular modem. A minimum of two observations were taken at each check point and the two coordinates were compared and averaged. Published control check points were also located with RTK methods. A Hiper II centimeter accuracy survey grade GPS receiver was used to collect the data.

In areas with limited cellular coverage, the fast static GPS method was used to collect check points. The method consisted of collecting a minimum 30 minutes of data. The data was downloaded and baselines processed to NGS CORS and KeyNET VRS base stations. The network was adjusted holding the CORS as control.

In areas under the tree canopy, traditional surveying methods were used. Pairs of points were collected in open areas using GPS methods. The points were occupied using a Trimble M3 total station to survey the forested check points. Multiple observations were collected at each check point and the coordinates were compared and averaged.

All of the GPS information was downloaded, processed and analyzed using Trimble Business Center processing software.

Overall Project Accuracy Statement

All point coordinates have been reported in the North American Datum of 1983 (NAD83 2011), Vermont State Plane coordinates in meters. Elevations are relative to the North



American Vertical Datum of 1988 (NAVD 88) which were derived using the Geoid 12B model and are reported in meters.

Calibration Points

Average Horizontal RMSE is 0.008 meter.

Average Elevation RMSE is 0.013 meter.

Average 3 dimensional RMSE is 0.015 meter.

NVA Points

Average Horizontal RMSE is 0.008 meter.

Average Elevation RMSE is 0.012 meter.

Average 3 dimensional RMSE is 0.015 meter.

VVA Points

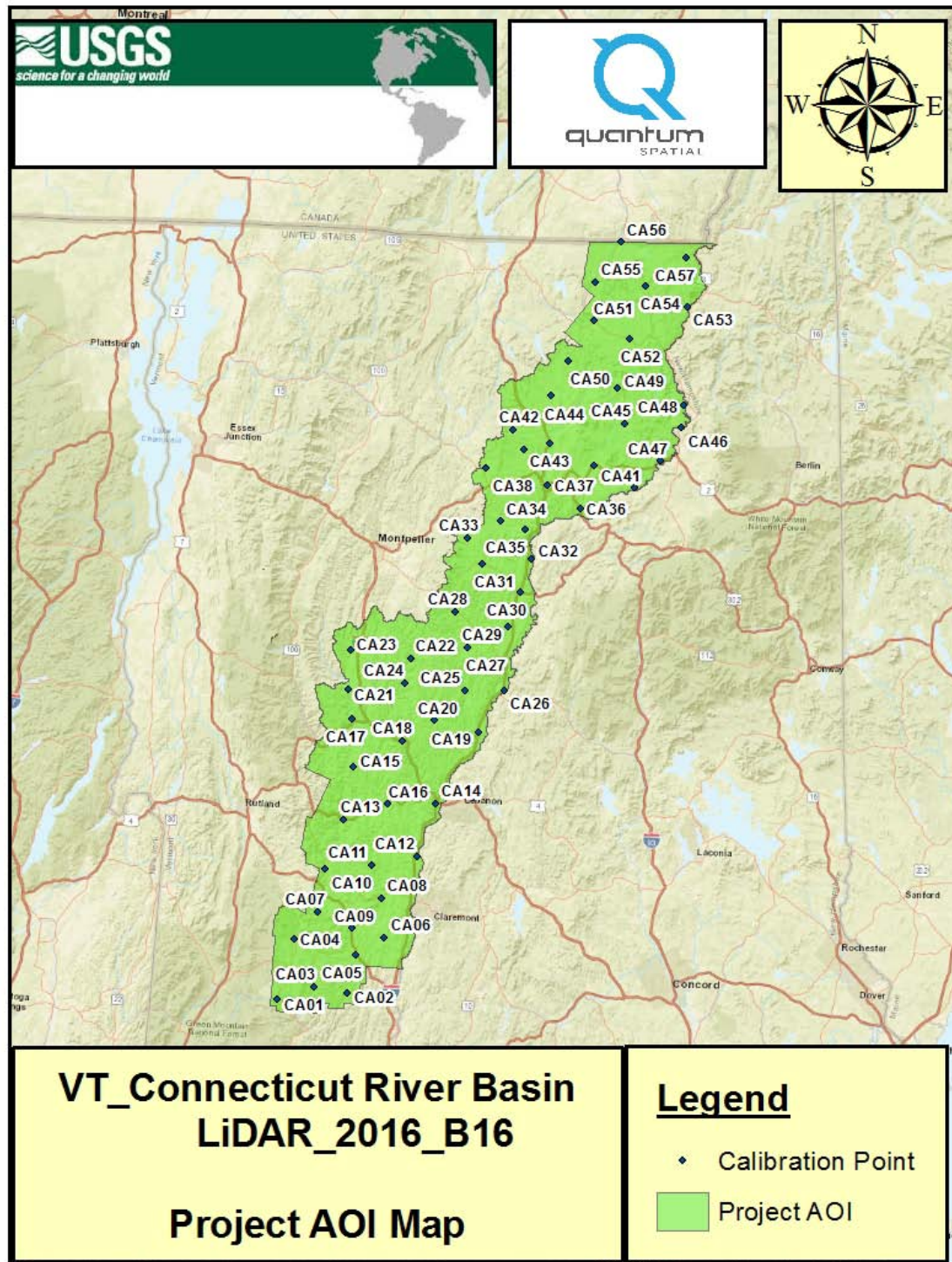
Average Horizontal RMSE is 0.017 meter.

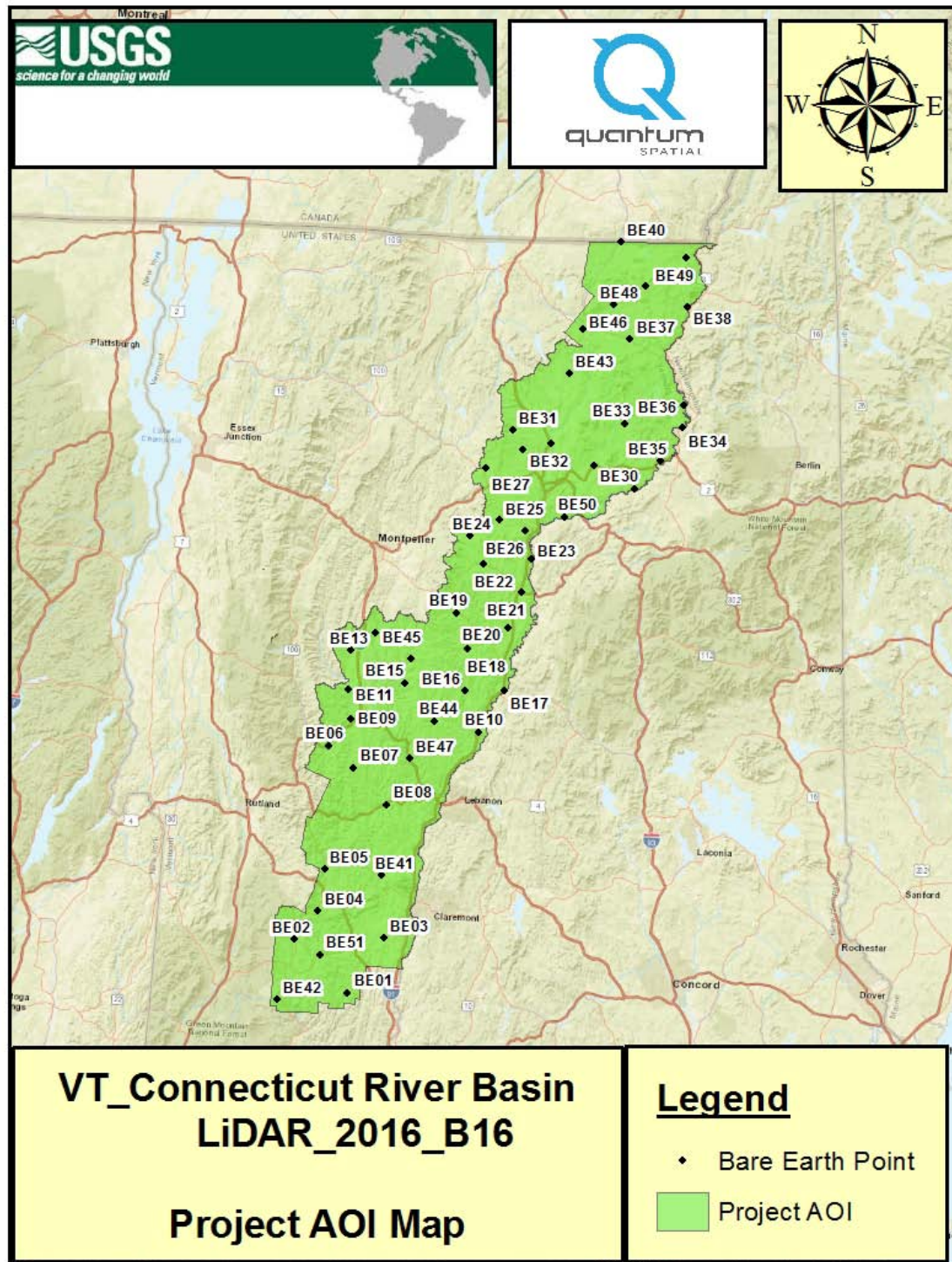
Average Elevation RMSE is 0.021 meter.

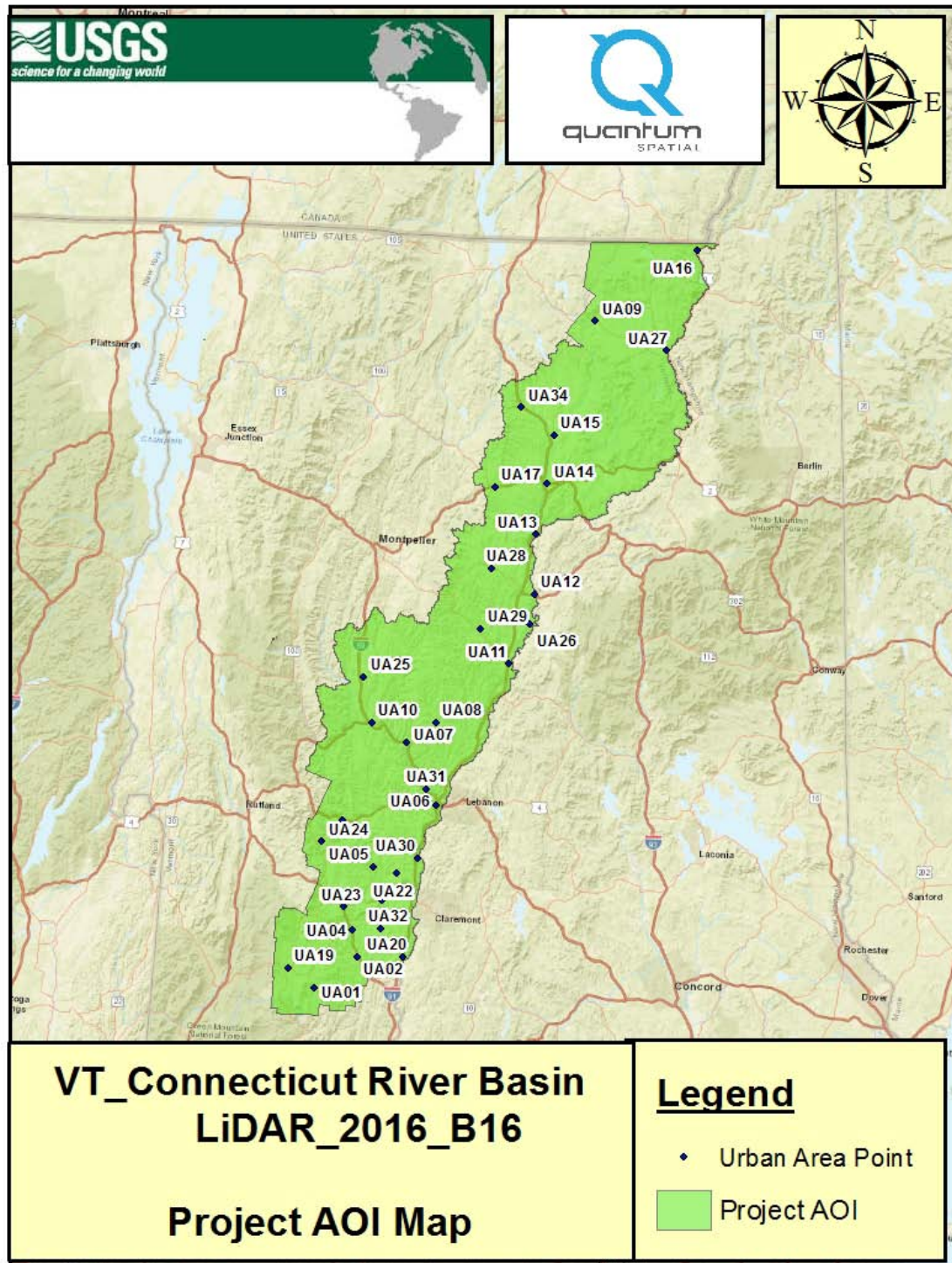
Average 3 dimensional RMSE is 0.027 meter.

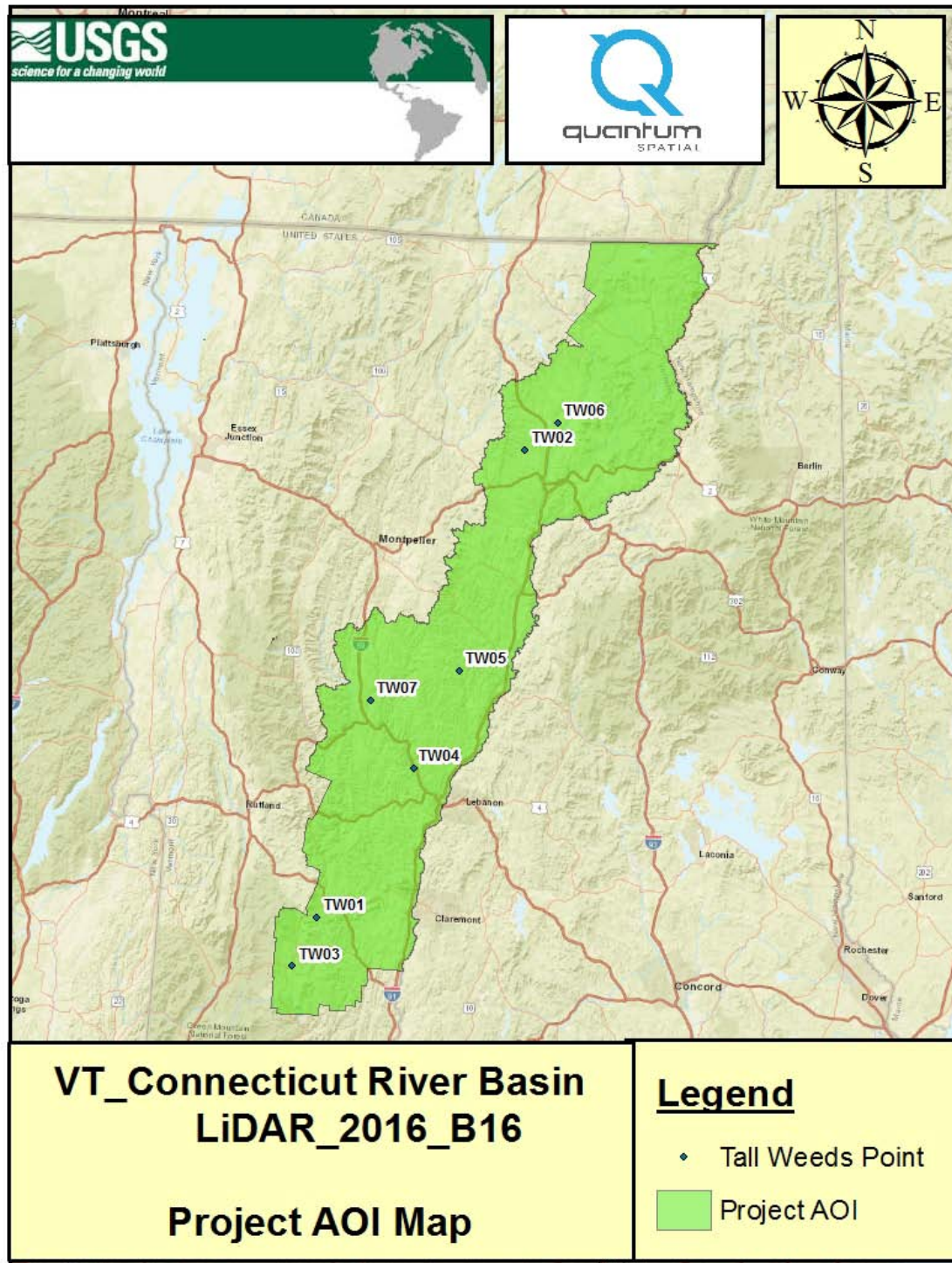


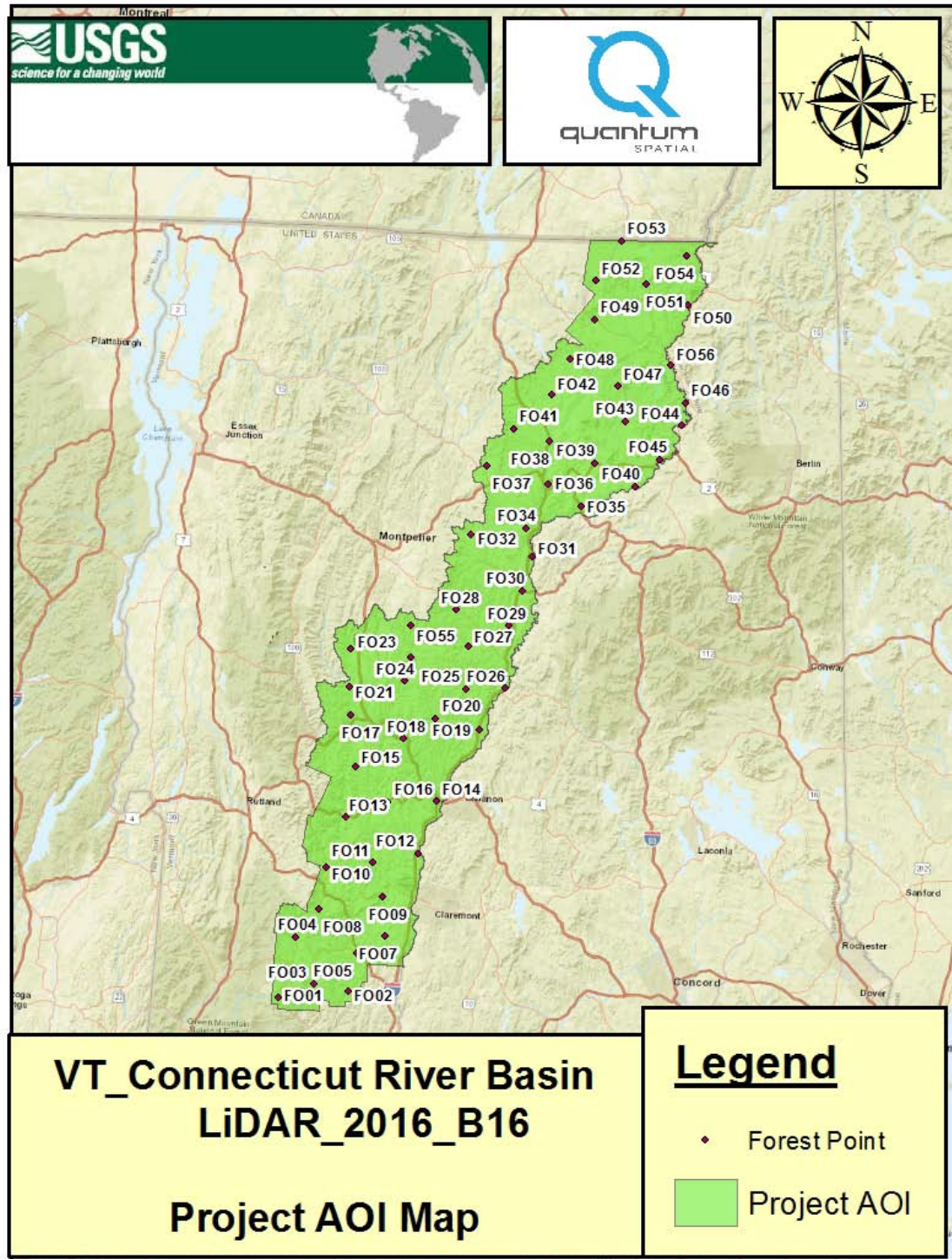
Project AOI & Point Location Maps

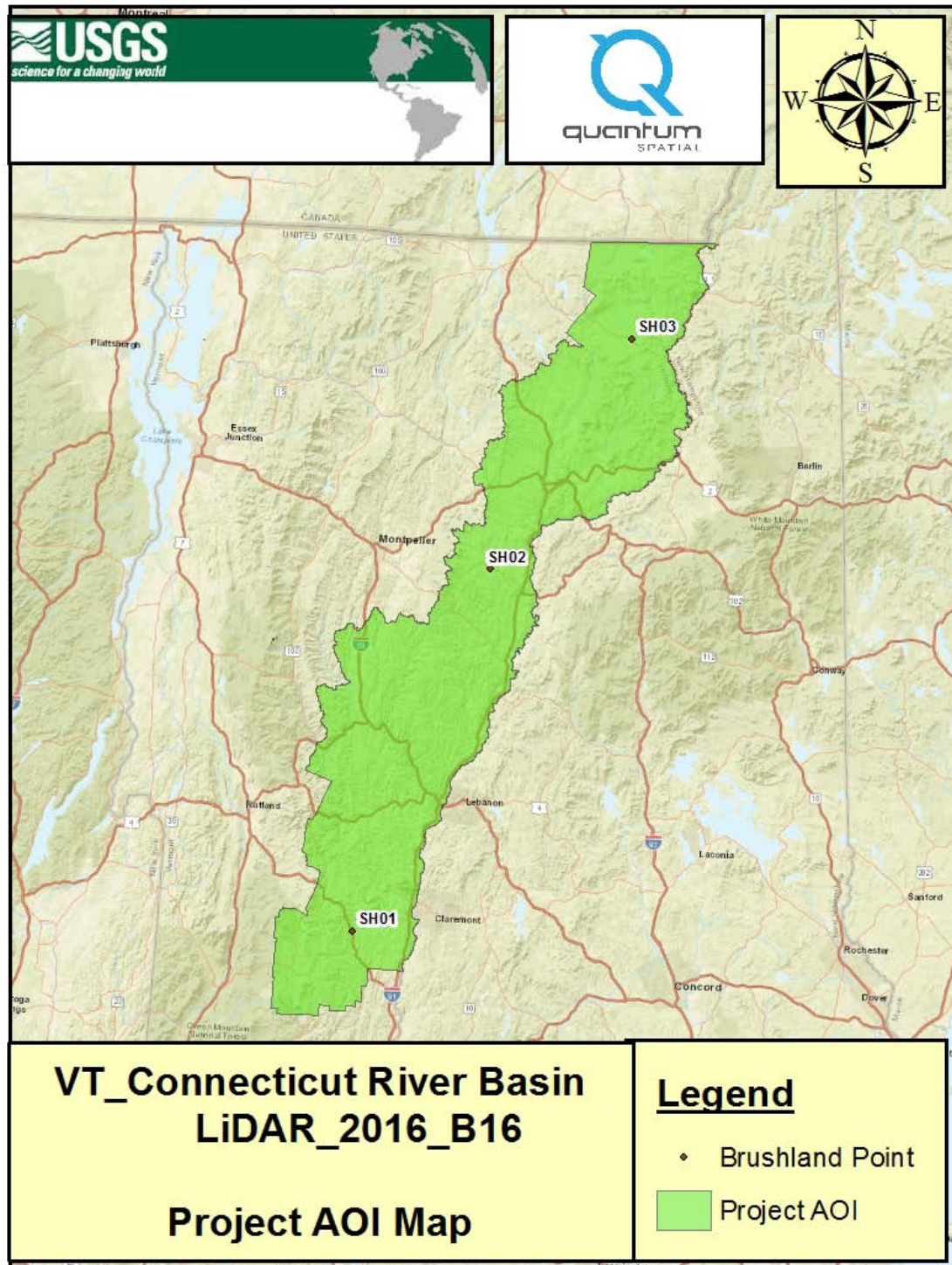














Final Point Coordinates



Calibration Point Coordinates

Horizontal Datum - NAD83(2011)
Vermont State Plane
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
CA01	71655.518	472130.114	360.742
CA02	74236.919	490871.294	256.364
CA03	75564.215	481642.506	596.072
CA04	88082.226	475968.572	406.021
CA05	84415.339	492664.940	180.217
CA06	89397.754	500118.996	158.281
CA07	95779.033	482034.019	502.649
CA08	99981.885	498887.149	187.255
CA09	91609.711	491367.289	218.633
CA10	107224.321	483480.963	327.143
CA11	108879.593	496116.206	281.374
CA12	111735.652	508140.925	146.479
CA13	120769.406	487931.397	254.794
CA14	126130.665	512427.045	175.547
CA15	134869.506	490045.671	474.531
CA16	125420.961	499424.232	206.528
CA17	147903.963	488876.432	170.480
CA18	142505.723	502905.262	168.504
CA19	145728.703	523092.220	207.512
CA20	148350.565	511330.842	268.675
CA21	155792.109	487597.200	211.172
CA22	164746.186	504144.424	245.116
CA23	166235.460	487802.333	226.977
CA24	158144.116	502678.201	194.816
CA25	156733.527	519031.052	223.446
CA26	157342.194	529572.496	131.185
CA27	168255.209	519213.563	252.662
CA28	177777.294	515630.979	297.271
CA29	174312.763	529970.810	288.783



CA30	183826.414	532997.281	191.134
CA31	191099.870	522244.732	269.436
CA32	192966.307	535451.003	159.194
CA33	197761.159	518035.543	342.580
CA34	202870.647	526595.061	382.663
CA35	200775.794	533425.012	217.419
CA36	206988.903	547965.942	284.885
CA37	212772.760	538957.260	190.584
CA38	216976.128	522260.214	504.402
CA39	224162.168	538903.386	214.478
CA40	218848.798	551269.978	328.263
CA41	213097.032	562479.755	268.993
CA42	227359.418	529081.337	442.441
CA43	222227.838	532178.238	377.023
CA44	236932.961	538713.971	397.434
CA45	230384.903	559063.266	415.580
CA46	229880.566	574280.460	264.041
CA47	220676.195	568885.328	261.863
CA48	236108.953	574763.305	274.915
CA49	239894.867	556603.457	743.578
CA50	246649.229	543189.692	497.903
CA51	257647.306	549552.156	358.985
CA52	253191.362	559482.235	350.885
CA53	262611.650	574385.555	323.450
CA54	267586.740	563115.305	529.777
CA55	267964.167	549335.036	422.293
CA56	279064.170	555834.567	391.818
CA57	275770.824	573509.249	381.293



Bare Earth Point Coordinates

Horizontal Datum - NAD83(2011)
Vermont State Plane
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
BE01	74251.846	490914.888	255.965
BE02	88046.362	475998.939	406.903
BE03	89385.664	500162.044	155.765
BE04	95849.968	482054.549	498.980
BE05	107194.960	483448.600	327.674
BE06	140503.954	482981.377	216.650
BE07	134748.161	490044.503	478.476
BE08	125271.575	499379.101	209.258
BE09	147993.703	488846.064	170.555
BE10	145764.579	523113.292	205.781
BE11	155877.955	487645.075	209.649
BE12	164645.389	504154.290	244.608
BE13	166286.086	487797.606	226.812
BE15	158106.925	502742.460	190.001
BE16	156658.866	519061.959	222.985
BE17	157374.644	529529.440	131.796
BE18	168120.439	519141.703	250.701
BE19	177632.739	515771.503	294.542
BE20	174156.064	529919.670	290.845
BE21	183847.537	533042.553	189.629
BE22	191051.998	522527.008	267.055
BE23	192914.637	535436.201	159.134
BE24	198415.660	518792.398	342.590
BE25	203085.135	526276.199	407.878
BE26	200496.258	533474.582	216.382
BE27	216978.589	522113.353	497.712
BE28	224235.998	539384.097	215.400
BE29	218893.105	551248.535	326.766
BE30	212951.780	562535.251	260.207
BE31	227259.936	529081.733	448.717



BE32	222195.361	531969.151	365.389
BE33	230282.180	558935.898	424.922
BE34	229889.543	574583.462	265.393
BE35	220748.496	568860.606	262.525
BE36	236019.364	574696.394	274.540
BE37	253132.988	559488.257	351.024
BE38	262578.090	574432.330	321.868
BE39	267646.731	563153.863	528.027
BE40	279047.928	555805.350	391.889
BE41	106139.051	498721.428	234.270
BE42	71667.938	472088.591	361.295
BE43	243236.048	543485.694	535.429
BE44	148303.991	511051.744	270.371
BE45	171139.379	494461.643	220.612
BE46	255442.797	546576.020	356.331
BE47	137831.781	504879.610	129.603
BE48	262165.185	554648.390	471.329
BE49	275695.786	573484.363	382.296
BE50	204648.084	544028.727	203.990
BE51	84268.185	483173.283	336.936



Urban Area Point Coordinates

Horizontal Datum - NAD83(2011)
Vermont State Plane
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
UA01	75618.566	481627.636	601.461
UA02	84446.438	492698.516	180.085
UA03	99984.522	498844.891	186.992
UA04	91596.635	491356.381	219.489
UA05	108883.995	496091.732	281.955
UA06	126145.505	512368.120	176.958
UA07	142671.104	503691.549	150.611
UA08	148326.038	511330.365	268.384
UA09	257599.837	549459.141	359.527
UA10	147513.676	494077.189	153.238
UA11	164739.962	530299.266	138.488
UA12	183789.281	536260.280	128.332
UA13	199714.985	535948.992	168.791
UA14	213414.152	538512.925	184.862
UA15	226617.476	539627.652	217.751
UA16	277760.698	575906.101	319.621
UA17	212065.139	524399.309	475.012
UA18	99623.609	483621.684	305.500
UA19	80874.822	474343.886	344.507
UA20	85048.705	505100.515	97.938
UA21	120856.621	487410.257	258.538
UA22	107522.717	502343.326	206.722
UA23	97790.150	488485.924	283.067
UA24	115076.732	482087.401	431.231
UA25	159703.291	491478.097	419.757
UA26	175523.734	535415.497	143.984
UA27	250534.648	568950.176	276.727
UA28	190054.647	524334.032	243.563
UA29	173853.596	522268.756	215.094



UA30	111745.657	508080.730	147.225
UA31	130301.843	509566.594	125.447
UA32	92425.126	498649.304	140.333
UA33	238523.816	541327.039	291.339
UA34	233585.977	530623.142	274.764



Tall Weed Point Coordinates

Horizontal Datum - NAD83(2011)

Vermont State Plane

Vertical Datum - NAVD 88

Geoid - GEOID12B

Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
TW01	94676.026	481642.785	531.892
TW02	222243.007	532154.816	375.814
TW03	81321.434	475558.130	349.558
TW04	135847.869	506063.925	122.108
TW05	162442.648	516931.441	288.195
TW06	229836.842	540596.222	236.101
TW07	153380.692	493422.889	163.847



Forest Point Coordinates

Horizontal Datum - NAD83(2011)
Vermont State Plane
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
FO01	71590.536	472128.931	358.549
FO02	74182.274	490829.782	257.342
FO03	75589.378	481583.209	604.294
FO04	87978.710	475959.283	407.543
FO05	84393.696	492608.728	179.520
FO07	89398.534	500094.664	160.056
FO08	95865.722	482087.193	497.286
FO09	99963.447	498910.612	188.963
FO10	107171.199	483503.474	325.036
FO11	108910.970	496114.399	287.964
FO12	111796.502	508073.607	147.186
FO13	120804.282	488091.789	254.610
FO14	126094.857	512457.259	174.260
FO15	134726.064	490107.034	477.426
FO16	125364.204	499402.505	204.737
FO17	148373.672	488252.076	172.641
FO18	142550.915	502782.433	176.046
FO19	145717.124	523044.748	206.601
FO20	148354.358	511296.087	269.935
FO21	155795.675	487651.183	214.260
FO22	164647.041	504027.000	248.158
FO23	166274.923	487749.195	227.142
FO24	158138.208	502567.752	194.028
FO25	156700.854	518981.123	234.007
FO26	157339.419	529609.075	130.690
FO27	168224.457	519242.400	254.686
FO28	177838.189	515687.800	309.149
FO29	174170.564	529911.087	294.922



FO30	183752.610	533019.100	194.960
FO31	193097.704	535517.303	157.804
FO32	198383.477	518771.715	339.970
FO33	202853.233	525962.498	423.508
FO34	200681.660	533563.383	205.109
FO35	207050.818	547951.199	289.131
FO36	212741.258	539011.565	194.278
FO37	217008.025	522237.069	501.707
FO38	224164.598	538857.848	216.077
FO39	218839.858	551230.333	328.329
FO40	213041.379	562447.645	268.262
FO41	227326.347	529041.779	445.222
FO42	236969.540	538668.151	397.307
FO43	230408.906	559039.652	418.805
FO44	229951.890	574305.591	264.439
FO45	220595.192	568608.677	262.503
FO46	236122.203	574783.142	273.346
FO47	239871.648	556633.214	739.340
FO48	246681.663	543286.757	499.553
FO49	257617.541	549378.744	360.154
FO50	262599.569	574435.771	321.742
FO51	267670.951	563124.340	531.536
FO52	267922.905	549322.125	421.934
FO53	279091.262	555834.099	390.012
FO54	275769.978	573472.417	380.101
FO55	173260.257	503484.235	511.418
FO56	246008.100	570598.029	286.828



Brushland Point Coordinates

Horizontal Datum - NAD83(2011)

Vermont State Plane

Vertical Datum - NAVD 88

Geoid - GEOID12B

Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
SH01	91549.862	491325.881	217.389
SH02	190028.895	524150.670	241.562
SH03	253214.161	559463.935	350.880



Point Data and Accuracy Log Sheets



Calibration Point Log Sheets



Point ID	CA01
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Londonderry

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
71655.518	472130.114	360.742

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	CA02
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Saxton's River

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
74236.919	490871.294	256.364

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106561067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-16-2016
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	CA03
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Windham

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
75564.215	481642.506	596.072

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	CA04
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Weston

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
88082.226	475968.572	406.021

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.008
RMSE Z	0.015
GPS Method	VRN

PHOTOS:





Point ID	CA05
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Chester

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
84415.339	492664.940	180.217

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	CA06
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Springfield

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
89397.754	500118.996	158.281

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.009
RMSE Z	0.017
GPS Method	VRN

PHOTOS:





Point ID	CA07
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Andover

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
95779.033	482034.019	502.649

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	VRN

PHOTOS:





Point ID	CA08
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Cavendish

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
99981.885	498887.149	187.255

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-13-2016
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	CA09
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Chester

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
91609.711	491367.289	218.633

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.010
RMSE Z	0.016
GPS Method	STATIC

PHOTOS:





Point ID	CA10
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Ludlow

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
107224.321	483480.963	327.143

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-13-2016
RMSE Hz	0.014
RMSE Z	0.022
GPS Method	VRN

PHOTOS:





Point ID	CA11
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Cavendish

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
108879.593	496116.206	281.374

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-13-2016
RMSE Hz	0.017
RMSE Z	0.028
GPS Method	STATIC

PHOTOS:





Point ID	CA12
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Hartland

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
111735.652	508140.925	146.479

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	CA13
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Plymouth

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
120769.406	487931.397	254.794

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	CA14
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Hanover

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
126130.665	512427.045	175.547

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.008
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	CA15
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Woodstock North

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
134869.506	490045.671	474.531

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.009
RMSE Z	0.011
GPS Method	Static

PHOTOS:





Point ID	CA16
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Woodstock North

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
125420.961	499424.232	206.528

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	CA17
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Bethel

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
147903.963	488876.432	170.480

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	CA18
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Sharon

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
142505.723	502905.262	168.504

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.008
RMSE Z	0.016
GPS Method	VRN

PHOTOS:





Point ID	CA19
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Lyme

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
145728.703	523092.220	207.512

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	CA20
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	South Strafford

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
148350.565	511330.842	268.675

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 4
Receiver S/N	5328439860
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	Static

PHOTOS:





Point ID	CA21
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Randolph

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
155792.109	487597.200	211.172

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-01-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	CA22
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Chelsea

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
164746.186	504144.424	245.116

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-01-2016
RMSE Hz	0.006
RMSE Z	0.008
GPS Method	Static

PHOTOS:





Point ID	CA23
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Randolph

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
166235.460	487802.333	226.977

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-01-2016
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	CA24
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Chelsea

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
158144.116	502678.201	194.816

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.007
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	CA25
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Vershire

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
156733.527	519031.052	223.446

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-01-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	Static

PHOTOS:





Point ID	CA26
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Fairlee

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
157342.194	529572.496	131.185

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	CA27
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	West Topsham

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
168255.209	519213.563	252.662

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-31-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	CA28
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	West Topsham

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
177777.294	515630.979	297.271

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-31-2016
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	CA29
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	East Corinth

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
174312.763	529970.810	288.783

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.009
RMSE Z	0.017
GPS Method	VRN

PHOTOS:





Point ID	CA30
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Woodsville

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
183826.414	532997.281	191.134

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-28-2016
RMSE Hz	0.006
RMSE Z	0.007
GPS Method	Static

PHOTOS:





Point ID	CA31
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Groton

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
191099.870	522244.732	269.436

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-29-2016
RMSE Hz	0.007
RMSE Z	0.008
GPS Method	Static

PHOTOS:





Point ID	CA32
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Woodsville

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
192966.307	535451.003	159.194

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-31-2016
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	Static

PHOTOS:





Point ID	CA33
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Marshfield

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
197761.159	518035.543	342.580

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-30-2016
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	Static

PHOTOS:





Point ID	CA34
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Peachem

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
202870.647	526595.061	382.663

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-30-2016
RMSE Hz	0.006
RMSE Z	0.008
GPS Method	Static

PHOTOS:





Point ID	CA35
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Barnet

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
200775.794	533425.012	217.419

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-30-2016
RMSE Hz	0.006
RMSE Z	0.011
GPS Method	Static

PHOTOS:





Point ID	CA36
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Lower Waterford

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
206988.903	547965.942	284.885

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-27-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	Static

PHOTOS:





Point ID	CA37
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Saint Johnsbury

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
212772.760	538957.260	190.584

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-31-2016
RMSE Hz	0.006
RMSE Z	0.008
GPS Method	Static

PHOTOS:





Point ID	CA38
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Joes Pond

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
216976.128	522260.214	504.402

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-31-2016
RMSE Hz	0.006
RMSE Z	0.008
GPS Method	Static

PHOTOS:





Point ID	CA39
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Lyndonville

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
224162.168	538903.386	214.478

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-30-2016
RMSE Hz	0.006
RMSE Z	0.012
GPS Method	Static

PHOTOS:





Point ID	CA40
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Miles Pond

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

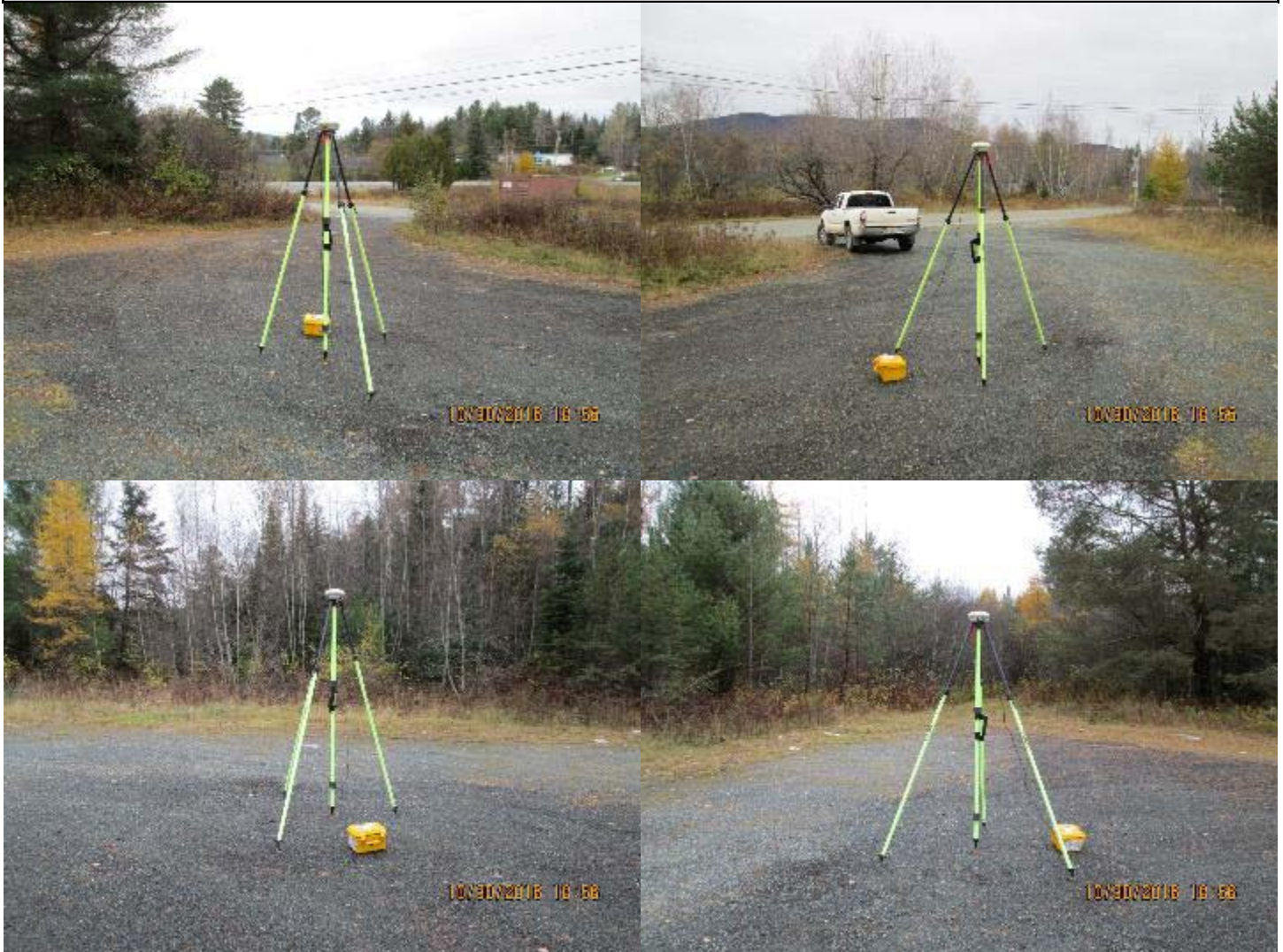
Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
218848.798	551269.978	328.263

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-30-2016
RMSE Hz	0.005
RMSE Z	0.008
GPS Method	Static

PHOTOS:





Point ID	CA41
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Gilman

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
213097.032	562479.755	268.993

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-27-2016
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	Static

PHOTOS:





Point ID	CA42
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Stannard

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
227359.418	529081.337	442.441

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-31-2016
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	Static

PHOTOS:





Point ID	CA43
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Saint Johnsbury

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
222227.838	532178.238	377.023

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5407453971
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-31-2016
RMSE Hz	0.006
RMSE Z	0.008
GPS Method	Static

PHOTOS:





Point ID	CA44
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Sutton

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
236932.961	538713.971	397.434

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-30-2016
RMSE Hz	0.005
RMSE Z	0.007
GPS Method	Static

PHOTOS:





Point ID	CA45
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Gallup Mills

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
230384.903	559063.266	415.580

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-30-2016
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	Static

PHOTOS:





Point ID	CA46
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Groveton

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
229880.566	574280.460	264.041

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-27-2016
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	Static

PHOTOS:





Point ID	CA47
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Gilman

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
220676.195	568885.328	261.863

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-27-2016
RMSE Hz	0.005
RMSE Z	0.010
GPS Method	Static

PHOTOS:





Point ID	CA48
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Groveton

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
236108.953	574763.305	274.915

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-27-2016
RMSE Hz	0.011
RMSE Z	0.015
GPS Method	Static

PHOTOS:





Point ID	CA49
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Seneca Mountain

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
239894.867	556603.457	743.578

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-30-2016
RMSE Hz	0.009
RMSE Z	0.010
GPS Method	Static

PHOTOS:





Point ID	CA50
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	West Burke

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
246649.229	543189.692	497.903

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	CA51
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Island Pond

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
257647.306	549552.156	358.985

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	CA52
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Bloomfield

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
253191.362	559482.235	350.885

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	CA53
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Tinkerville

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
262611.650	574385.555	323.450

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	CA54
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Averill Lake

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
267586.740	563115.305	529.777

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.011
RMSE Z	0.017
GPS Method	Static

PHOTOS:





Point ID	CA55
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Morgan Center

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
267964.167	549335.036	422.293

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	Static

PHOTOS:





Point ID	CA56
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Norton Pond OE N

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
279064.170	555834.567	391.818

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	Static

PHOTOS:





Point ID	CA57
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Monadnock Mountain

	Aerial Target
X	LiDAR Ground Control
	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
275770.824	573509.249	381.293

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 4
Receiver S/N	5407453971
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.006
RMSE Z	0.012
GPS Method	Static

PHOTOS:





Bare Earth Point Log Sheets





Point ID	BE01
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Saxton's River

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
74251.846	490914.888	255.965

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	BE02
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Weston

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
88046.362	475998.939	406.903

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	BE03
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Springfield

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
89385.664	500162.044	155.765

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.010
RMSE Z	0.020
GPS Method	VRN

PHOTOS:





Point ID	BE04
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Andover

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
95849.968	482054.549	498.980

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	BE05
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Ludlow

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
107194.960	483448.600	327.674

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-13-2016
RMSE Hz	0.010
RMSE Z	0.014
GPS Method	VRN

PHOTOS:





Point ID	BE06
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Bethel

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
140503.954	482981.377	216.650

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	BE07
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Woodstock North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
134748.161	490044.503	478.476

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	BE08
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Woodstock North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
125271.575	499379.101	209.258

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.013
RMSE Z	0.025
GPS Method	VRN

PHOTOS:





Point ID	BE09
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Bethel

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
147993.703	488846.064	170.555

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.008
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	BE10
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Lyme

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
145764.579	523113.292	205.781

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	BE11
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Randolph

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
155877.955	487645.075	209.649

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-01-2016
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	VRN

PHOTOS:





Point ID	BE12
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Chelsea

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
164645.389	504154.290	244.608

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-01-2016
RMSE Hz	0.006
RMSE Z	0.008
GPS Method	Static

PHOTOS:





Point ID	BE13
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Randolph

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
166286.086	487797.606	226.812

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-01-2016
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	BE15
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Chelsea

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
158106.925	502742.460	190.001

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.007
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	BE16
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Vershire

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
156658.866	519061.959	222.985

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-01-2016
RMSE Hz	0.010
RMSE Z	0.013
GPS Method	Static

PHOTOS:





Point ID	BE17
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Fairlee

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
157374.644	529529.440	131.796

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.008
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	BE18
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	West Topsham

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
168120.439	519141.703	250.701

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-13-2016
RMSE Hz	0.008
RMSE Z	0.013
GPS Method	Statc

PHOTOS:





Point ID	BE19
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	West Topsham

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
177632.739	515771.503	294.542

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-13-2016
RMSE Hz	0.017
RMSE Z	0.015
GPS Method	Static

PHOTOS:





Point ID	BE20
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	East Corinth

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
174156.064	529919.670	290.845

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.008
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	BE21
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Woodsville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
183847.537	533042.553	189.629

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
0.012Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.009
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	BE22
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Groton

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
191051.998	522527.008	267.055

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.007
RMSE Z	0.014
GPS Method	VRN

PHOTOS:





Point ID	BE23
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Woodsville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
192914.637	535436.201	159.134

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	VRN

PHOTOS:





Point ID	BE24
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Marshfield

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
198415.660	518792.398	342.590

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-6-2016
RMSE Hz	0.011
RMSE Z	0.018
GPS Method	VRN

PHOTOS:





Point ID	BE25
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Peachem

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
203085.135	526276.199	407.878

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	BE26
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Barnet

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
200496.258	533474.582	216.382

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	BE27
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Joes Pond

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
216978.589	522113.353	497.712

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	BE28
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Lyndonville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
224235.998	539384.097	215.400

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	VRN

PHOTOS:





Point ID	BE29
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Miles Pond

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
218893.105	551248.535	326.766

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	BE30
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Gilman

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
212951.780	562535.251	260.207

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	BE31
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Stannard

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
227259.936	529081.733	448.717

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-17-2016
RMSE Hz	0.009
RMSE Z	0.015
GPS Method	STATIC

PHOTOS:





Point ID	BE32
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	St. Johnsbury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
222195.361	531969.151	365.389

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.010
RMSE Z	0.014
GPS Method	VRN

PHOTOS:





Point ID	BE33
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Gallup Mills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
230282.180	558935.898	424.922

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-5-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	BE34
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Groveton

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
229889.543	574583.462	265.393

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	BE35
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Gilman

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
220748.496	568860.606	262.525

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	BE36
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Groveton

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
236019.364	574696.394	274.540

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	BE37
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Bloomfield

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
253132.988	559488.257	351.024

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.008
RMSE Z	0.014
GPS Method	VRN

PHOTOS:





Point ID	BE38
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Tinkerville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
262578.090	574432.330	321.868

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	BE39
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Averill Lake

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
267646.731	563153.863	528.027

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 4
Receiver S/N	5407453971
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	Static

PHOTOS:





Point ID	BE40
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Norton Pond OE N

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
279047.928	555805.350	391.889

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 4
Receiver S/N	5407453971
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	Static

PHOTOS:





Point ID	BE41
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Cavendish

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
106139.051	498721.428	234.270

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	VRN

PHOTOS:





Point ID	BE42
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Londonderry

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
71667.938	472088.591	361.295

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	BE43
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	West Burke

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
243236.048	543485.694	535.429

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.010
RMSE Z	0.014
GPS Method	VRN

PHOTOS:





Point ID	BE44
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	South Strafford

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
148303.991	511051.744	270.371

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.010
RMSE Z	0.015
GPS Method	VRN

PHOTOS:





Point ID	BE45
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Brookfield

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
171139.379	494461.643	220.612

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-01-2016
RMSE Hz	0.009
RMSE Z	0.015
GPS Method	VRN

PHOTOS:





Point ID	BE46
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Island Pond

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
255442.797	546576.020	356.331

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	BE47
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Quechee

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
137831.781	504879.610	129.603

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	VRN

PHOTOS:





Point ID	BE48
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Spectacle Pond

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
262165.185	554648.390	471.329

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.013
RMSE Z	0.018
GPS Method	Static

PHOTOS:





Point ID	BE49
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Monadnock Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
275695.786	573484.363	382.296

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.006
RMSE Z	0.012
GPS Method	Static

PHOTOS:





Point ID	BE50
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Lower Waterford

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
204648.084	544028.727	203.990

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.007
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	BE51
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Andover

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
84268.185	483173.283	336.936

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.009
RMSE Z	0.012
GPS Method	STATIC

PHOTOS:





Urban Area Point Log Sheets



Point ID	UA01
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Windham

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
75618.566	481627.636	601.461

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.010
RMSE Z	0.015
GPS Method	VRN

PHOTOS:





Point ID	UA02
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Chester

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
84446.438	492698.516	180.085

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	UA03
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Cavendish

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
99984.522	498844.891	186.992

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-13-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	UA04
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Chester

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
91596.635	491356.381	219.489

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.010
RMSE Z	0.015
GPS Method	VRN

PHOTOS:





Point ID	UA05
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Cavendish

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
108883.995	496091.732	281.955

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-13-2016
RMSE Hz	0.011
RMSE Z	0.020
GPS Method	VRN

PHOTOS:





Point ID	UA06
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Hanover

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
126145.505	512368.120	176.958

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.008
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	UA07
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Sharon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
142671.104	503691.549	150.611

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.008
RMSE Z	0.014
GPS Method	VRN

PHOTOS:





Point ID	UA08
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	South Strafford

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
148326.038	511330.365	268.384

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	Static

PHOTOS:





Point ID	UA09
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Island Pond

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
257599.837	549459.141	359.527

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.014
RMSE Z	0.022
GPS Method	VRN

PHOTOS:





Point ID	UA10
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	South Royalton

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
147513.676	494077.189	153.238

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	UA11
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Piermont

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
164739.962	530299.266	138.488

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	VRN

PHOTOS:





Point ID	UA12
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Woodsville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
183789.281	536260.280	128.332

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	UA13
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Barnet

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
199714.985	535948.992	168.791

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	UA14
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Saint Johnsbury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
213414.152	538512.925	184.862

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	UA15
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Lyndonville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
226617.476	539627.652	217.751

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	UA16
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Monadnock Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
277760.698	575906.101	319.621

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-4-2016
RMSE Hz	0.014
RMSE Z	0.022
GPS Method	Static

PHOTOS:





Point ID	UA17
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Joes Pond

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
212065.139	524399.309	475.012

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	UA18
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Ludlow

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
99623.609	483621.684	305.500

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	UA19
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Londonderry

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
80874.822	474343.886	344.507

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.009
RMSE Z	0.015
GPS Method	VRN

PHOTOS:





Point ID	UA20
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Springfield

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
85048.705	505100.515	97.938

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.008
RMSE Z	0.014
GPS Method	VRN

PHOTOS:





Point ID	UA21
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Plymouth

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
120856.621	487410.257	258.538

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.006
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	UA22
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Windsor

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
107522.717	502343.326	206.722

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	UA23
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Ludlow

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
97790.150	488485.924	283.067

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	UA24
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Plymouth

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
115076.732	482087.401	431.231

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	UA25
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Randolph Center

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
159703.291	491478.097	419.757

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-04-2016
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Point ID	UA26
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Newbury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
175523.734	535415.497	143.984

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.008
RMSE Z	0.014
GPS Method	VRN

PHOTOS:





Point ID	UA27
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Bloomfield

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
250534.648	568950.176	276.727

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	Static

PHOTOS:





Point ID	UA28
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Groton

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
190054.647	524334.032	243.563

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.008
RMSE Z	0.013
GPS Method	VRN

PHOTOS:





Point ID	UA29
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	East Corinth

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
173853.596	522268.756	215.094

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-02-2016
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Point ID	UA30
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Hartland

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
111745.657	508080.730	147.225

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	VRN

PHOTOS:





Point ID	UA31
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Quechee

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
130301.843	509566.594	125.447

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	VRN

PHOTOS:





Point ID	UA32
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Chester

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
92425.126	498649.304	140.333

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	VRN

PHOTOS:





Point ID	UA33
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	West Burke

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
238523.816	541327.039	291.339

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.008
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	UA34
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Lyndonville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
233585.977	530623.142	274.764

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-2-2016
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	VRN

PHOTOS:





Tall Weeds Point Log Sheets



Point ID	TW01
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Andover

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
94676.026	481642.785	531.892

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.008
RMSE Z	0.010
GPS Method	VRN

PHOTOS:





Point ID	TW02
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Saint Johnsbury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
222243.007	532154.816	375.814

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-31-2016
RMSE Hz	0.006
RMSE Z	0.008
GPS Method	Static

PHOTOS:





Point ID	TW03
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Londonderry

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
81321.434	475558.130	349.558

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.009
RMSE Z	0.014
GPS Method	VRN

PHOTOS:





Point ID	TW04
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Quechee

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
135847.869	506063.925	122.108

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-11-2016
RMSE Hz	0.006
RMSE Z	0.008
GPS Method	VRN

PHOTOS:





Point ID	TW05
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Vershire

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
162442.648	516931.441	288.195

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-31-2016
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	Static

PHOTOS:





Point ID	TW06
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Burke Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
229836.842	540596.222	236.101

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-30-2016
RMSE Hz	0.008
RMSE Z	0.010
GPS Method	Static

PHOTOS:





Point ID	TW07
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Randolph Center

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
153380.692	493422.889	163.847

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-17-2016
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	VRN

PHOTOS:





Forest Point Log Sheets



Point ID	FO01
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Londonderry

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
71590.536	472128.931	358.549

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/16/2016
Occupy PT	CA01
Back Sight PT	BE42
RMSE Hz	0.019
RMSE Z	0.022

PHOTOS:





Point ID	FO02
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Saxton's River

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
74182.274	490829.782	257.342

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/16/2016
Occupy PT	CA02
Back Sight PT	BE01
RMSE Hz	0.017
RMSE Z	0.020

PHOTOS:





Point ID	FO03
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windham
Quad	Windham

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
75589.378	481583.209	604.294

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/16/2016
Occupy PT	UA01
Back Sight PT	CA03
RMSE Hz	0.020
RMSE Z	0.024

PHOTOS:





Point ID	FO04
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Weston

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
87978.710	475959.283	407.543

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/16/2016
Occupy PT	BE02
Back Sight PT	CA04
RMSE Hz	0.016
RMSE Z	0.019

PHOTOS:





Point ID	FO05
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Chester

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
84393.696	492608.728	179.520

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/16/2016
Occupy PT	CA05
Back Sight PT	UA02
RMSE Hz	0.016
RMSE Z	0.019

PHOTOS:





Point ID	FO07
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Springfield

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
89398.534	500094.664	160.056

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/16/2016
Occupy PT	CA06
Back Sight PT	BE03
RMSE Hz	0.019
RMSE Z	0.025

PHOTOS:





Point ID	FO08
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Andover

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
95865.722	482087.193	497.286

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/16/2016
Occupy PT	BE04
Back Sight PT	CA07
RMSE Hz	0.017
RMSE Z	0.019

PHOTOS:





Point ID	FO09
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Cavendish

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
99963.447	498910.612	188.963

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/16/2016
Occupy PT	CA08
Back Sight PT	UA03
RMSE Hz	0.019
RMSE Z	0.021

PHOTOS:





Point ID	FO10
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Ludlow

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
107171.199	483503.474	325.036

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/15/2016
Occupy PT	CA10
Back Sight PT	BE05
RMSE Hz	0.024
RMSE Z	0.031

PHOTOS:





Point ID	FO11
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Cavendish

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
108910.970	496114.399	287.964

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/16/2016
Occupy PT	CA11
Back Sight PT	UA05
RMSE Hz	0.027
RMSE Z	0.037

PHOTOS:





Point ID	FO12
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Hartland

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
111796.502	508073.607	147.186

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/15/2016
Occupy PT	UA30
Back Sight PT	CA12
RMSE Hz	0.016
RMSE Z	0.018

PHOTOS:





Point ID	FO13
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Plymouth

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
120804.282	488091.789	254.610

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/15/2016
Occupy PT	FO13TP
Back Sight PT	CA13
RMSE Hz	0.021
RMSE Z	0.026

PHOTOS:





Point ID	FO14
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Hanover

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
126094.856	512457.259	174.260

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/15/2016
Occupy PT	CA14
Back Sight PT	UA06
RMSE Hz	0.018
RMSE Z	0.022

PHOTOS:





Point ID	FO15
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Woodstock North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
134726.064	490107.034	477.426

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/15/2016
Occupy PT	BE07
Back Sight PT	FO15BS
RMSE Hz	0.017
RMSE Z	0.020

PHOTOS:





Point ID	FO16
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Woodstock North

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
125364.204	499402.505	204.737

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/15/2016
Occupy PT	FO16TP
Back Sight PT	BE08
RMSE Hz	0.021
RMSE Z	0.024

PHOTOS:





Point ID	FO17
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Bethel

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
148373.672	488252.076	172.641

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/15/2016
Occupy PT	FO17TP
Back Sight PT	FO17BS
RMSE Hz	0.021
RMSE Z	0.021

PHOTOS:





Point ID	FO18
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Sharon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
142550.915	502782.433	176.046

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/15/2016
Occupy PT	FO18TP
Back Sight PT	CA18
RMSE Hz	0.018
RMSE Z	0.024

PHOTOS:





Point ID	FO19
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Lyme

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
145717.124	523044.748	206.601

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/10/2016
Occupy PT	CA19
Back Sight PT	BE10
RMSE Hz	0.017
RMSE Z	0.020

PHOTOS:





Point ID	FO20
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Sharon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
148354.358	511296.087	269.935

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/14/2016
Occupy PT	CA20
Back Sight PT	UA08
RMSE Hz	0.017
RMSE Z	0.017

PHOTOS:





Point ID	FO21
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Randolph

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
155795.675	487651.183	214.260

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/15/2016
Occupy PT	CA21
Back Sight PT	BE11
RMSE Hz	0.018
RMSE Z	0.020

PHOTOS:





Point ID	FO22
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Chelsea

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
164647.041	504027.000	248.158

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/14/2016
Occupy PT	BE12
Back Sight PT	CA22
RMSE Hz	0.017
RMSE Z	0.018

PHOTOS:





Point ID	FO23
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Randolph

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
166274.923	487749.195	227.142

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/15/2016
Occupy PT	BE13
Back Sight PT	CA23
RMSE Hz	0.018
RMSE Z	0.021

PHOTOS:





Point ID	FO24
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Chelsea

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
158138.208	502567.752	194.028

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/14/2016
Occupy PT	BE15
Back Sight PT	CA24
RMSE Hz	0.017
RMSE Z	0.023

PHOTOS:





Point ID	FO25
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	West Topsham

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
156700.854	518981.123	234.007

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/10/2016
Occupy PT	BE16
Back Sight PT	CA25
RMSE Hz	0.020
RMSE Z	0.022

PHOTOS:





Point ID	FO26
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Fairlee

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
157339.419	529609.075	130.690

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/10/2016
Occupy PT	CA26
Back Sight PT	BE17
RMSE Hz	0.018
RMSE Z	0.019

PHOTOS:





Point ID	FO27
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	West Topsham

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
168224.457	519242.400	254.686

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/10/2016
Occupy PT	CA27
Back Sight PT	FO27BS
RMSE Hz	0.017
RMSE Z	0.019

PHOTOS:





Point ID	FO28
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	West Topsham

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
177838.189	515687.800	309.149

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/10/2016
Occupy PT	CA28
Back Sight PT	FO28BS
RMSE Hz	0.018
RMSE Z	0.021

PHOTOS:





Point ID	FO29
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	East Corinth

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
174170.564	529911.087	294.922

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/10/2016
Occupy PT	BE20
Back Sight PT	CA29
RMSE Hz	0.018
RMSE Z	0.021

PHOTOS:





Point ID	FO30
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Woodsville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
183752.610	533019.100	194.960

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/6/2016
Occupy PT	CA30
Back Sight PT	FO30BS
RMSE Hz	0.016
RMSE Z	0.016

PHOTOS:





Point ID	FO31
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Woodsville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
193097.704	535517.303	157.804

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/9/2016
Occupy PT	FO31TP
Back Sight PT	CA32
RMSE Hz	0.017
RMSE Z	0.019

PHOTOS:





Point ID	FO32
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Mansfield

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
198383.477	518771.715	339.970

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/6/2016
Occupy PT	FO32TP
Back Sight PT	BE24
RMSE Hz	0.019
RMSE Z	0.023

PHOTOS:





Point ID	FO33
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Pecham

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
202853.233	525962.498	423.508

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/6/2016
Occupy PT	FO33TP
Back Sight PT	FO33BS
RMSE Hz	0.017
RMSE Z	0.022

PHOTOS:





Point ID	FO34
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Barnet

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
200681.660	533563.383	205.109

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/6/2016
Occupy PT	FO34BS
Back Sight PT	CA35
RMSE Hz	0.017
RMSE Z	0.021

PHOTOS:





Point ID	FO35
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Lower Waterford

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
207050.818	547951.199	289.131

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/8/2016
Occupy PT	CA36
Back Sight PT	FO35BS
RMSE Hz	0.017
RMSE Z	0.019

PHOTOS:





Point ID	FO36
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	St. Johnsbury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
212741.258	539011.565	194.278

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/8/2016
Occupy PT	FO36TP
Back Sight PT	CA37
RMSE Hz	0.024
RMSE Z	0.031

PHOTOS:





Point ID	FO37
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Joes Pond

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
217008.025	522237.069	501.707

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/8/2016
Occupy PT	CA38
Back Sight PT	FO37BS
RMSE Hz	0.016
RMSE Z	0.017

PHOTOS:





Point ID	FO38
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Lyndonville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
224164.598	538857.848	216.077

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	CA39
Back Sight PT	FO38BS
RMSE Hz	0.016
RMSE Z	0.021

PHOTOS:





Point ID	FO39
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Miles Pond

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
218839.858	551230.333	328.329

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/8/2016
Occupy PT	CA40
Back Sight PT	FO39BS
RMSE Hz	0.015
RMSE Z	0.017

PHOTOS:





Point ID	FO40
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Gilman

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
213041.379	562447.645	268.262

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/8/2016
Occupy PT	FO40TP
Back Sight PT	CA41
RMSE Hz	0.016
RMSE Z	0.019

PHOTOS:





Point ID	FO41
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Stannard

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
227326.347	529041.779	445.222

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/8/2016
Occupy PT	CA42
Back Sight PT	FO41BS
RMSE Hz	0.017
RMSE Z	0.018

PHOTOS:





Point ID	FO42
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	Sutton

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
236969.540	538668.151	397.307

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/8/2016
Occupy PT	CA44
Back Sight PT	FO42BS
RMSE Hz	0.015
RMSE Z	0.016

PHOTOS:





Point ID	FO43
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Gallup Mills

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
230408.906	559039.652	418.805

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	CA45
Back Sight PT	FO43BS
RMSE Hz	0.016
RMSE Z	0.017

PHOTOS:





Point ID	FO44
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Groveton

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
229951.890	574305.591	264.439

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	FO44TP
Back Sight PT	CA46
RMSE Hz	0.020
RMSE Z	0.023

PHOTOS:





Point ID	FO45
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Gilman

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
220595.192	568608.677	262.503

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/8/2016
Occupy PT	FO45TP
Back Sight PT	CA47
RMSE Hz	0.016
RMSE Z	0.021

PHOTOS:





Point ID	FO46
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Groveton

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
236122.203	574783.142	273.346

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	CA48
Back Sight PT	FO46BS
RMSE Hz	0.021
RMSE Z	0.023

PHOTOS:





Point ID	FO47
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Seneca Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
239871.648	556633.214	739.340

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	FO47TP
Back Sight PT	CA49
RMSE Hz	0.019
RMSE Z	0.020

PHOTOS:





Point ID	FO48
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Caledonia
Quad	West Burke

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
246681.663	543286.757	499.553

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	FO48TP
Back Sight PT	CA50
RMSE Hz	0.019
RMSE Z	0.024

PHOTOS:





Point ID	FO49
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Island Pond

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
257617.541	549378.744	360.154

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	UA09
Back Sight PT	CA51
RMSE Hz	0.024
RMSE Z	0.031

PHOTOS:





Point ID	FO50
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Tinkerville

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
262599.569	574435.771	321.742

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	BE38
Back Sight PT	CA53
RMSE Hz	0.019
RMSE Z	0.021

PHOTOS:





Point ID	FO51
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Averill

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
267670.951	563124.340	531.536

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	BE39
Back Sight PT	CA54
RMSE Hz	0.019
RMSE Z	0.022

PHOTOS:





Point ID	FO52
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Norton Pond

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
267922.905	549322.125	421.934

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	CA55
Back Sight PT	FO52BS
RMSE Hz	0.018
RMSE Z	0.020

PHOTOS:





Point ID	FO53
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Norton Port of Entry

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
279091.262	555834.099	390.012

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	CA56
Back Sight PT	BE40
RMSE Hz	0.016
RMSE Z	0.018

PHOTOS:





Point ID	FO54
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Monadnock Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
275769.978	573472.417	380.101

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	CA57
Back Sight PT	BE49
RMSE Hz	0.016
RMSE Z	0.021

PHOTOS:





Point ID	FO55
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Washington

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
173260.257	503484.235	511.418

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/10/2016
Occupy PT	FO55TP
Back Sight PT	FO55BS
RMSE Hz	0.022
RMSE Z	0.025

PHOTOS:





Point ID	FO56
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Stratford

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
246008.100	570598.029	286.828

Operator	Zeke Ingram
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11/5/2016
Occupy PT	FO56TP
Back Sight PT	FO56BS
RMSE Hz	0.020
RMSE Z	0.022

PHOTOS:





Brushland Point Log Sheets



Point ID	SH01
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Windsor
Quad	Chester

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
91549.862	491325.881	217.389

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-12-2016
RMSE Hz	0.010
RMSE Z	0.014
GPS Method	STATIC

PHOTOS:





Point ID	SH02
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Orange
Quad	Groton

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
VT SPCS
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
190028.895	524150.670	241.562

Operator	Kevin Chapman
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5106461067
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	10-30-2016
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	Static

PHOTOS:



Point ID	SH03
Project No.	29178
Project Name	VT CT River Basin
State	Vermont
County	Essex
Quad	Bloomfield

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
State Plane VT
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
253214.161	559463.935	350.880

Operator	Zeke Ingram
Receiver Model	Trimble R-8, Model 3
Receiver S/N	5046455718
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	11-1-2016
RMSE Hz	0.009
RMSE Z	0.014
GPS Method	VRN

PHOTOS:

