

Vertical Accuracy Report

Wisconsin WROC - 3DEP 2019
Adams County Lidar

The logo for Ayres Associates, featuring the word "AYRES" in a bold, blue, sans-serif font. The letters are contained within a white, trapezoidal shape that has a slight 3D effect with a dark blue shadow on the right side.

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Vertical Accuracy Report

Project Information

Prepared By: Ayres

Project Name: Wisconsin WROC – 3DEP Adams County Lidar 2019

Sensor Info: ALS80 SN8146

USGS Quality Level: 2

Required Nominal Pulse Spacing: 0.7

Contractor Name: Ayres

Units: US Survey Feet

Date of Acquisition: Start: 4/21/2019 Finish: 4/23/2019

Report Information

This report documents the absolute vertical accuracy of the lidar data collected for the Adams County, WI, QL2 lidar project. Independent ground control checkpoints were collected by land surveyors using Trimble GNSS equipment connected to WISCRS base stations. The checkpoints were collected from April 25, 2019, to May 3, 2019.

The checkpoints were collected under various land cover types that are predominant in the County. Each land cover type falls into either the Non-vegetated Vertical Accuracy (NVA) or the Vegetated Vertical Accuracy (VVA) group. For this project, 48 NVA points and 47 VVA points were collected throughout the County.

The following report shows the final statistics for the NVA checkpoints compared against the raw swath point cloud and the bare earth DEM, and the VVA statistics compared against the DEM. Statistics are reported for LAS and DEM by NVA and VVA categories and by land cover type.

Vertical Accuracy Specifications per USGS QL2 level:

LAS:

NVA equates to 10 cm RMSEz, or 19.6 cm (0.64 ft) at the 95% confidence level.

DEM:

NVA equates to 10 cm RMSEz, or 19.6 cm (0.64 ft) at the 95% confidence level.

VVA equates to 29.4 cm (0.96 ft) at the 95th percentile.

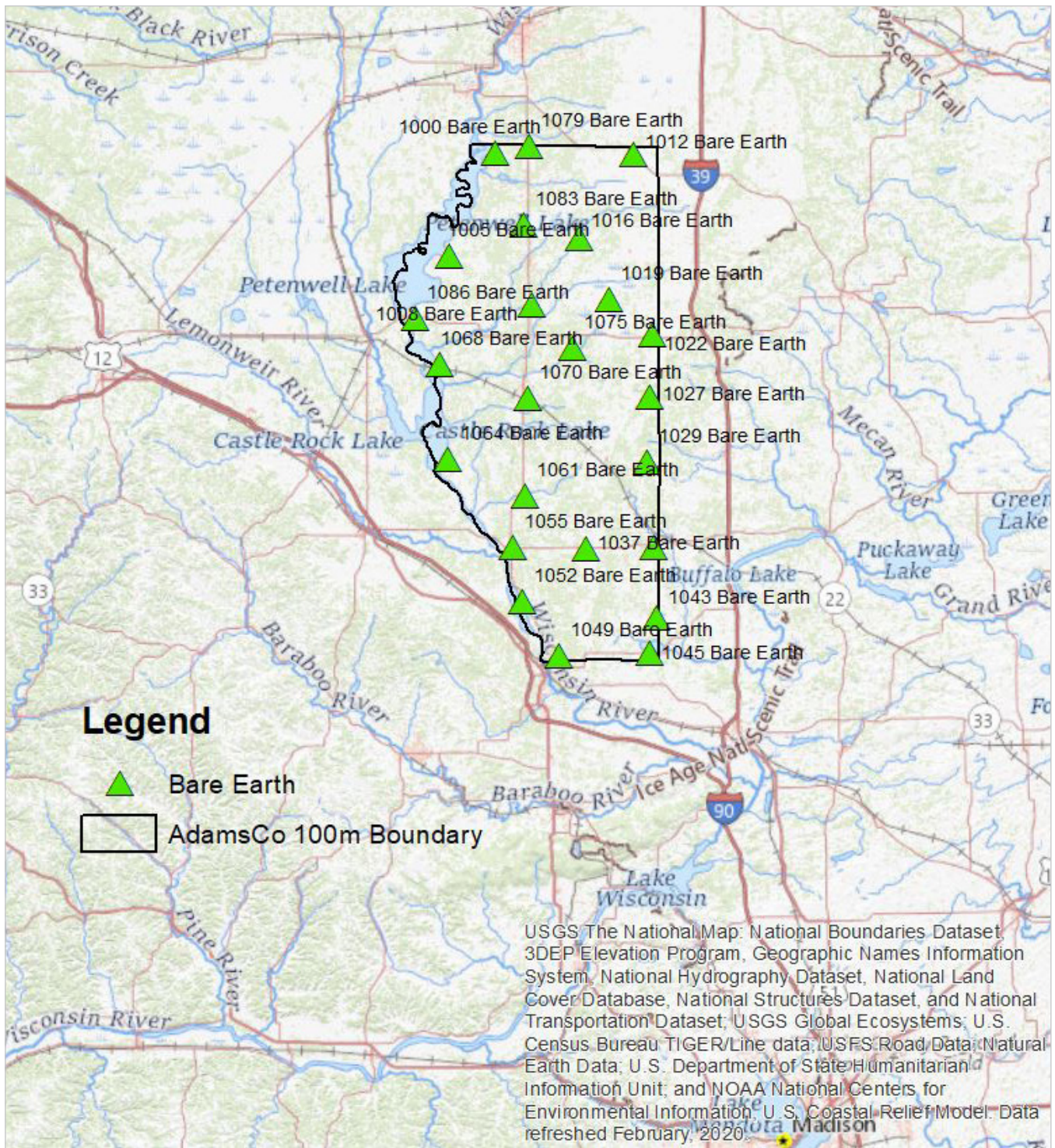
The NVA and VVA statistics for this project are within the above stated specifications.

Lidar Accuracy Assessment Summary

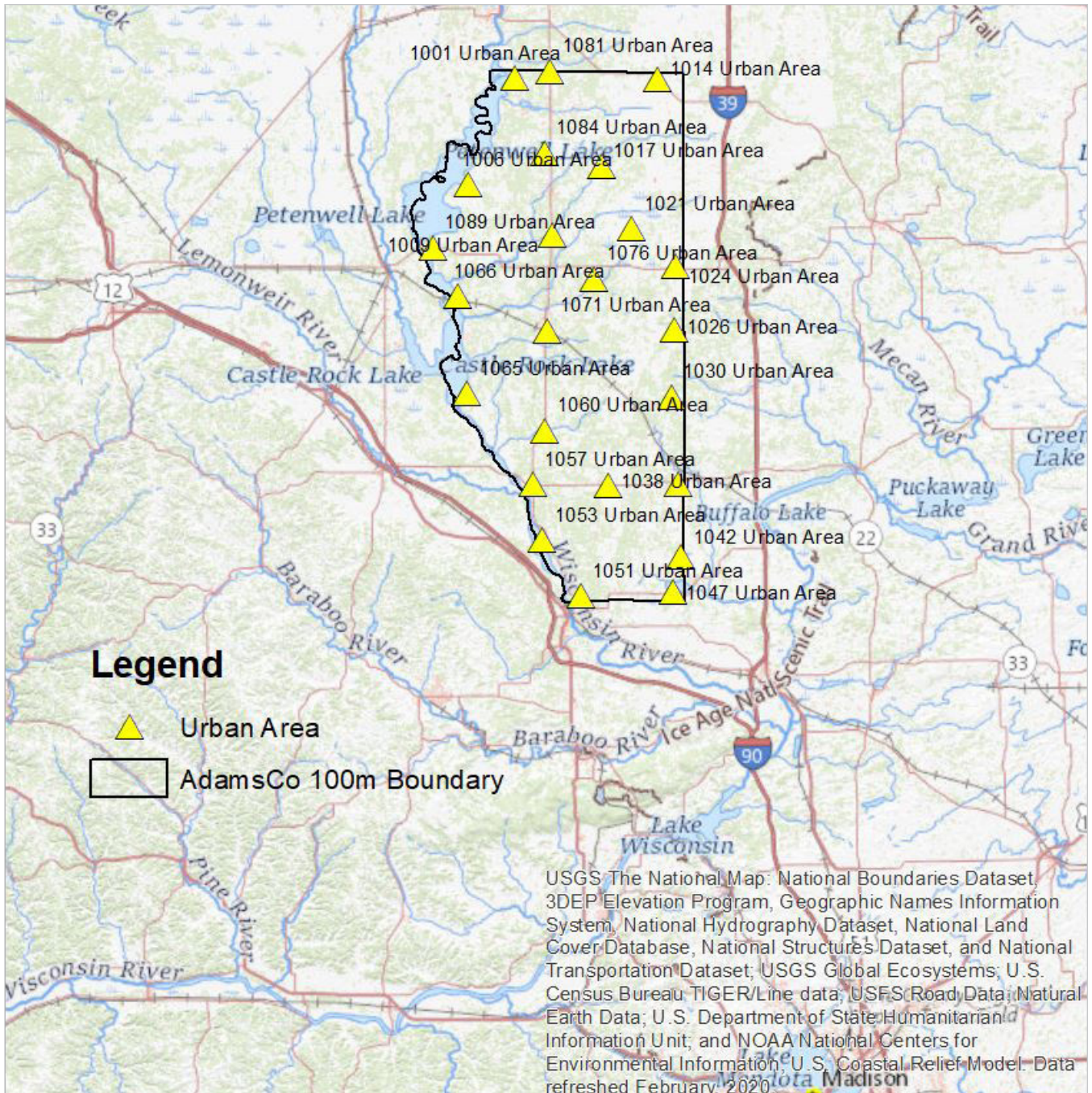
LAND COVER TYPE	# OF POINTS	NVA	VVA
LAS		95% confidence level	N/A
1. Bare Earth	24	0.226	N/A
2. Urban Areas	24	0.233	N/A
3. Tall Weeds	23	N/A	N/A
5. Forest	24	N/A	N/A
TOTAL	95	0.229	N/A
DEM		95% confidence level	95th percentile
1. Bare Earth	24	0.176	N/A
2. Urban Areas	24	0.208	N/A
3. Tall Weeds	23	N/A	0.491
5. Forest	24	N/A	0.415
TOTAL	95	0.193	0.447

Units: US Survey Feet

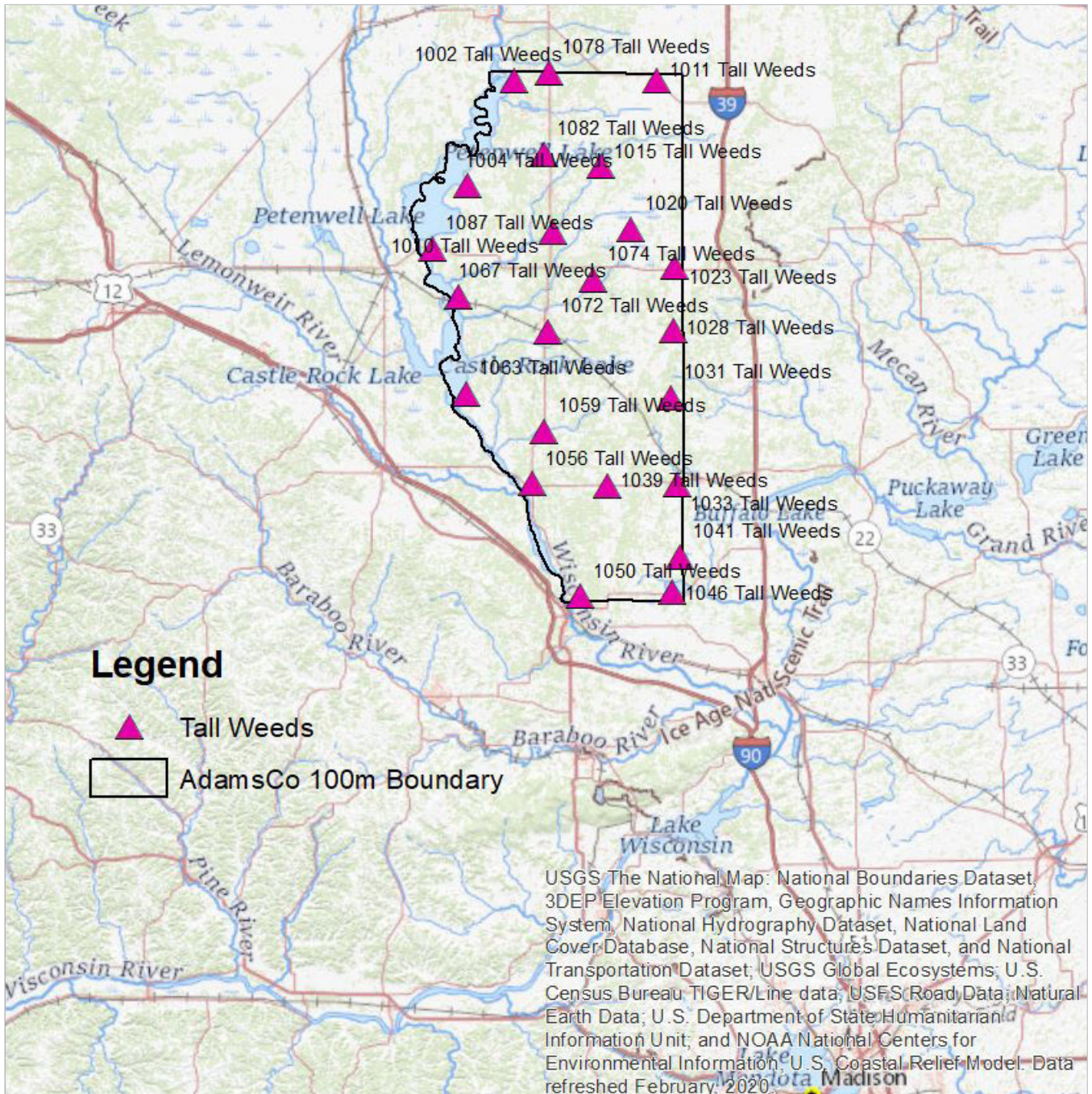
Map of NVA Checkpoint Locations - 1. Bare Earth



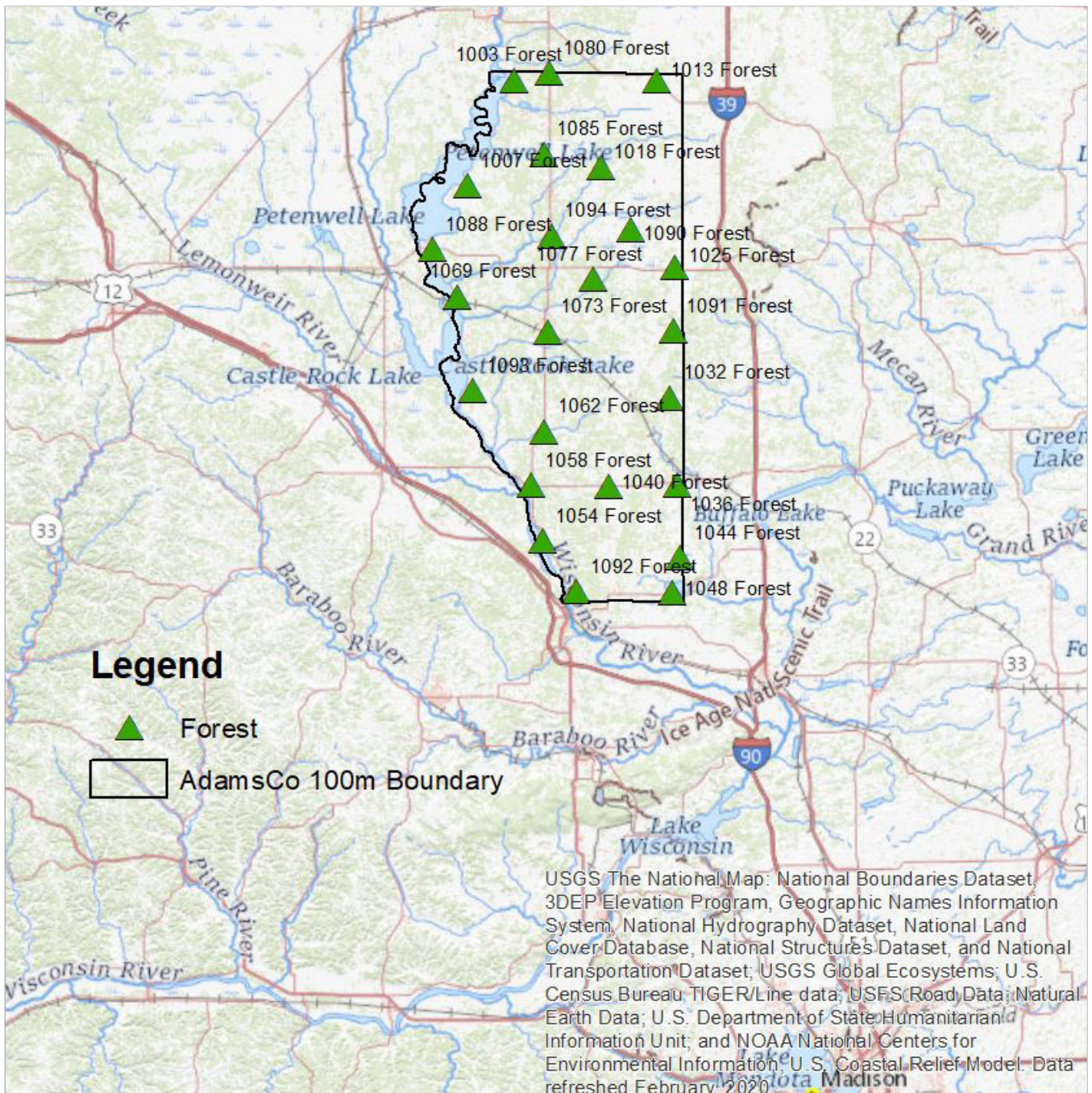
Map of NVA Checkpoint Locations - 2. Urban Areas



Map of VVA Checkpoint Locations - 3. Tall Weeds



Map of VVA Checkpoint Locations - 5. Forested Areas



LAS

NONVEGETATED VERTICAL ACCURACY – OVERALL	
Land Cover Type	1. Bare Earth, 2. Urban Areas
Minimum DZ	-0.24
Maximum DZ	0.218
Mean DZ	-0.024
Mean Magnitude DZ	0.314
Number Observations	48
Standard Deviation DZ	0.116
RMSE Z	0.117
95% Confidence Level Z	0.229
Units	US Survey Feet

DEM

NONVEGETATED VERTICAL ACCURACY – OVERALL	
Land Cover Type	1. Bare Earth, 2. Urban Areas
Minimum DZ	-0.193
Maximum DZ	0.216
Mean DZ	-0.013
Mean Magnitude DZ	0.288
Number Observations	48
Standard Deviation DZ	0.099
RMSE Z	0.098
95% Confidence Level Z	0.193
Units	US Survey Feet

DEM (Continued)

VEGETATED VERTICAL ACCURACY	
Land Cover Type	3. Tall Weeds
Minimum DZ	-0.039
Maximum DZ	0.535
Mean DZ	0.261
Mean Magnitude DZ	0.514
Number Observations	23
Standard Deviation DZ	0.133
RMSE Z	0.291
95% Confidence Level Z	0.491
Units	US Survey Feet

DEM (Continued)

VEGETATED VERTICAL ACCURACY	
Land Cover Type	5. Forest
Minimum DZ	-0.042
Maximum DZ	0.447
Mean DZ	0.206
Mean Magnitude DZ	0.457
Number Observations	24
Standard Deviation DZ	0.145
RMSE Z	0.25
95% Confidence Level Z	0.415
Units	US Survey Feet

Point: 1000 Bare Earth

Survey X: 518419.77, Survey Y: 318742.16, Z1: 933.26, Z DEM: 933.48, Z LAS: 933.45, ΔZ DEM: 0.22, ΔZ LAS: 0.19



North



South



East



West

Point: 1001 Urban Area

Survey X: 518259.69, Survey Y: 318693.21, Z1: 934.96, Z DEM: 934.93, Z LAS: 934.93, ΔZ DEM: -0.04, ΔZ LAS: -0.04



North



South



East



West

Point: 1002 Tall Weeds

Survey X: 518386.73, Survey Y: 318674.04, Z1: 933.37, Z DEM: 933.64, Z LAS: 933.63, ΔZ DEM: 0.27, ΔZ LAS: 0.26



North



South



East



West

Point: 1003 Forest

Survey X: 518437.35, Survey Y: 318449.89, Z1: 934.29, Z DEM: 934.57, Z LAS: 934.61, ΔZ DEM: 0.28, ΔZ LAS: 0.32



North



South



East



West

Point: 1004 Tall Weeds

Survey X: 499006.96, Survey Y: 274286.25, Z1: 931.32, Z DEM: 931.56, Z LAS: 931.61, ΔZ DEM: 0.25, ΔZ LAS: 0.29



North



South



East



West

Point: 1005 Bare Earth

Survey X: 498701.42, Survey Y: 274262.35, Z1: 929.41, Z DEM: 929.39, Z LAS: 929.37, ΔZ DEM: -0.02, ΔZ LAS: -0.05



North



South



East



West

Point: 1006 Urban Area

Survey X: 498892.57, Survey Y: 274304.54, Z1: 932.09, Z DEM: 931.96, Z LAS: 932, ΔZ DEM: -0.14, ΔZ LAS: -0.1



North



South



East



West

Point: 1007 Forest

Survey X: 498783.65, Survey Y: 274342.59, Z1: 929.69, Z DEM: 929.8, Z LAS: 929.98, ΔZ DEM: 0.11, ΔZ LAS: 0.29



North



South



East



West

Point: 1008 Bare Earth

Survey X: 534390.97, Survey Y: 253397.34, Z1: 975.5, Z DEM: 975.56, Z LAS: 975.52, ΔZ DEM: 0.07, ΔZ LAS: 0.02



North



South



East



West

Point: 1009 Urban Area

Survey X: 534364.88, Survey Y: 253254.98, Z1: 974.5, Z DEM: 974.4, Z LAS: 974.42, ΔZ DEM: -0.1, ΔZ LAS: -0.08



North



South



East



West

Point: 1010 Tall Weeds

Survey X: 534530.8, Survey Y: 254755.16, Z1: 978, Z DEM: 978.27, Z LAS: 978.32, ΔZ DEM: 0.27, ΔZ LAS: 0.31



North



South



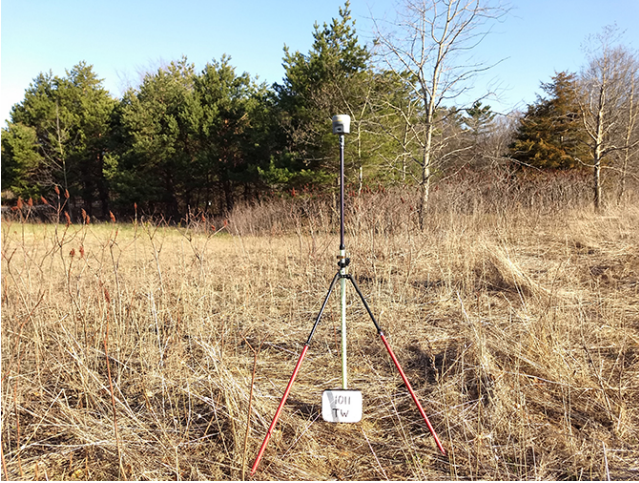
East



West

Point: 1011 Tall Weeds

Survey X: 578314.93, Survey Y: 318559.89, Z1: 1055.78, Z DEM: 1056.27, Z LAS: 1056.28, ΔZ DEM: 0.49, ΔZ LAS: 0.5



North



South



East



West

Point: 1012 Bare Earth

Survey X: 578182.05, Survey Y: 318446.62, Z1: 1055.09, Z DEM: 1055.25, Z LAS: 1055.27, ΔZ DEM: 0.16, ΔZ LAS: 0.18



North



South



East



West

Point: 1013 Forest

Survey X: 578217.03, Survey Y: 318644.68, Z1: 1055.56, Z DEM: 1055.92, Z LAS: 1055.96, ΔZ DEM: 0.35, ΔZ LAS: 0.4



North



South



East



West

Point: 1014 Urban Area

Survey X: 578231.3, Survey Y: 318514.45, Z1: 1057.04, Z DEM: 1057.06, Z LAS: 1057.06, ΔZ DEM: 0.03, ΔZ LAS: 0.02



North



South



East



West

Point: 1015 Tall Weeds

Survey X: 554610.72, Survey Y: 282362.42, Z1: 1012.75, Z DEM: 1012.71, Z LAS: 1012.75, ΔZ DEM: -0.04, ΔZ LAS: 0



North



South



East



West

Point: 1016 Bare Earth

Survey X: 554545.71, Survey Y: 282350.24, Z1: 1012.46, Z DEM: 1012.36, Z LAS: 1012.38, ΔZ DEM: -0.09, ΔZ LAS: -0.08



North



South



East



West

Point: 1017 Urban Area

Survey X: 554622.08, Survey Y: 282318.88, Z1: 1014.69, Z DEM: 1014.55, Z LAS: 1014.45, ΔZ DEM: -0.14, ΔZ LAS: -0.24



North



South



East



West

Point: 1018 Forest

Survey X: 554621.88, Survey Y: 282244.04, Z1: 1014.11, Z DEM: 1014.16, Z LAS: 1014.22, ΔZ DEM: 0.04, ΔZ LAS: 0.1



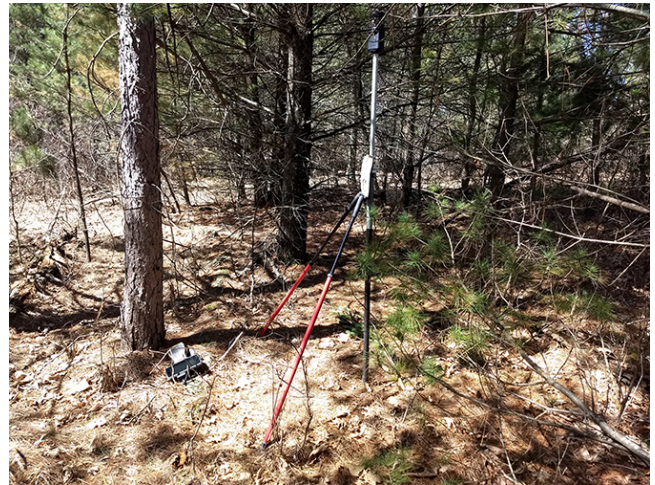
North



South



East



West

Point: 1019 Bare Earth

Survey X: 567478.52, Survey Y: 256024.8, Z1: 1024.21, Z DEM: 1024.17, Z LAS: 1024.18, ΔZ DEM: -0.04, ΔZ LAS: -0.03



North



South



East



West

Point: 1020 Tall Weeds

Survey X: 567569.66, Survey Y: 256036.1, Z1: 1022.24, Z DEM: 1022.65, Z LAS: 1022.56, ΔZ DEM: 0.41, ΔZ LAS: 0.32



North



South



East



West

Point: 1021 Urban Area

Survey X: 567494.63, Survey Y: 255989.65, Z1: 1024.67, Z DEM: 1024.59, Z LAS: 1024.52, ΔZ DEM: -0.09, ΔZ LAS: -0.16



North



South



East



West

Point: 1022 Bare Earth

Survey X: 586129.52, Survey Y: 240466.51, Z1: 1061.39, Z DEM: 1061.43, Z LAS: 1061.44, ΔZ DEM: 0.04, ΔZ LAS: 0.05



North



South



East



West

Point: 1023 Tall Weeds

Survey X: 585969.3, Survey Y: 240489.78, Z1: 1060.6, Z DEM: 1060.75, Z LAS: 1060.75, ΔZ DEM: 0.15, ΔZ LAS: 0.16



North



South



East



West

Point: 1024 Urban Area

Survey X: 586000.83, Survey Y: 240439.68, Z1: 1062.2, Z DEM: 1062.25, Z LAS: 1062.18, ΔZ DEM: 0.05, ΔZ LAS: -0.02



North



South



East



West

Point: 1025 Forest

Survey X: 585931.61, Survey Y: 240381.13, Z1: 1059.84, Z DEM: 1060.28, Z LAS: 1060.39, ΔZ DEM: 0.45, ΔZ LAS: 0.55



North



South



East



West

Point: 1026 Urban Area

Survey X: 585382.52, Survey Y: 213718.64, Z1: 1077.86, Z DEM: 1077.81, Z LAS: 1077.74, ΔZ DEM: -0.05, ΔZ LAS: -0.12



North



South



East



West

Point: 1027 Bare Earth

Survey X: 585342.28, Survey Y: 213704.92, Z1: 1077.12, Z DEM: 1077.15, Z LAS: 1077.21, ΔZ DEM: 0.03, ΔZ LAS: 0.09



North



South



East



West

Point: 1028 Tall Weeds

Survey X: 585336.44, Survey Y: 213775.04, Z1: 1077.29, Z DEM: 1077.34, Z LAS: 1077.31, ΔZ DEM: 0.05, ΔZ LAS: 0.02



North



South



East



West

Point: 1029 Bare Earth

Survey X: 583848.22, Survey Y: 185679.49, Z1: 988.9, Z DEM: 988.88, Z LAS: 988.68, ΔZ DEM: -0.02, ΔZ LAS: -0.22



North



South



East



West

Point: 1030 Urban Area

Survey X: 583894.52, Survey Y: 185651.38, Z1: 988.3, Z DEM: 988.31, Z LAS: 988.17, ΔZ DEM: 0.02, ΔZ LAS: -0.12



North



South



East



West

Point: 1031 Tall Weeds

Survey X: 583945.72, Survey Y: 185672.53, Z1: 986.9, Z DEM: 987.3, Z LAS: 987.13, ΔZ DEM: 0.39, ΔZ LAS: 0.23



North



South



East



West

Point: 1032 Forest

Survey X: 583784.39, Survey Y: 185695.46, Z1: 987.8, Z DEM: 987.89, Z LAS: 987.95, ΔZ DEM: 0.09, ΔZ LAS: 0.15



North



South



East



West

Point: 1033 Tall Weeds

Survey X: 586715.45, Survey Y: 148891.52, Z1: 896.4, Z DEM: 896.62, Z LAS: 896.55, ΔZ DEM: 0.22, ΔZ LAS: 0.15



North



South



East



West

Point: 1034 Urban Area

Survey X: 586803.95, Survey Y: 148910.15, Z1: 897.46, Z DEM: 897.35, Z LAS: 897.37, ΔZ DEM: -0.11, ΔZ LAS: -0.09



North



South



East



West

Point: 1035 Bare Earth

Survey X: 586704.43, Survey Y: 148915.84, Z1: 897.21, Z DEM: 897.2, Z LAS: 897.17, ΔZ DEM: 0, ΔZ LAS: -0.04



North



South



East



West

Point: 1036 Forest

Survey X: 586757.59, Survey Y: 148942.32, Z1: 897.61, Z DEM: 897.67, Z LAS: 897.5, ΔZ DEM: 0.07, ΔZ LAS: -0.11



North



South



East



West

Point: 1037 Bare Earth

Survey X: 557768.14, Survey Y: 148468.23, Z1: 1024.61, Z DEM: 1024.59, Z LAS: 1024.59, ΔZ DEM: -0.01, ΔZ LAS: -0.02



North



South



East



West

Point: 1038 Urban Area

Survey X: 557725.51, Survey Y: 148515.74, Z1: 1025.1, Z DEM: 1025, Z LAS: 1024.91, ΔZ DEM: -0.1, ΔZ LAS: -0.19



North



South



East



West

Point: 1039 Tall Weeds

Survey X: 557666.94, Survey Y: 148547.68, Z1: 1022.66, Z DEM: 1022.82, Z LAS: 1022.83, ΔZ DEM: 0.16, ΔZ LAS: 0.17



North



South



East



West

Point: 1040 Forest

Survey X: 557840.32, Survey Y: 148625.11, Z1: 1024.81, Z DEM: 1024.83, Z LAS: 1024.9, ΔZ DEM: 0.01, ΔZ LAS: 0.09



North



South



East



West

Point: 1041 Tall Weeds

Survey X: 587982.43, Survey Y: 118729.87, Z1: 839.95, Z DEM: 840.3, Z LAS: 840.26, ΔZ DEM: 0.35, ΔZ LAS: 0.31



North



South



East



West

Point: 1042 Urban Area

Survey X: 588005.11, Survey Y: 118581.73, Z1: 838.72, Z DEM: 838.6, Z LAS: 838.62, AZ DEM: -0.12, AZ LAS: -0.1



North



South



East



West

Point: 1043 Bare Earth

Survey X: 587863.67, Survey Y: 118653.49, Z1: 846.07, Z DEM: 846.16, Z LAS: 846.19, ΔZ DEM: 0.09, ΔZ LAS: 0.12



North



South



East



West

Point: 1044 Forest

Survey X: 588062.93, Survey Y: 118704.5, Z1: 835.13, Z DEM: 835.34, Z LAS: 835.23, ΔZ DEM: 0.2, ΔZ LAS: 0.09



North



South



East



West

Point: 1045 Bare Earth

Survey X: 584803.68, Survey Y: 103906.18, Z1: 805.04, Z DEM: 805.18, Z LAS: 805.18, ΔZ DEM: 0.14, ΔZ LAS: 0.14



North



South



East



West

Point: 1046 Tall Weeds

Survey X: 584737.56, Survey Y: 103824.54, Z1: 800.44, Z DEM: 800.88, Z LAS: 800.88, ΔZ DEM: 0.44, ΔZ LAS: 0.44



North



South



East



West

Point: 1047 Urban Area

Survey X: 584805.85, Survey Y: 103882, Z1: 805.23, Z DEM: 805.18, Z LAS: 805.19, ΔZ DEM: -0.05, ΔZ LAS: -0.04



North



South



East



West

Point: 1048 Forest

Survey X: 584638.14, Survey Y: 104004.05, Z1: 805.91, Z DEM: 806.31, Z LAS: 806.2, ΔZ DEM: 0.4, ΔZ LAS: 0.29



North



South



East



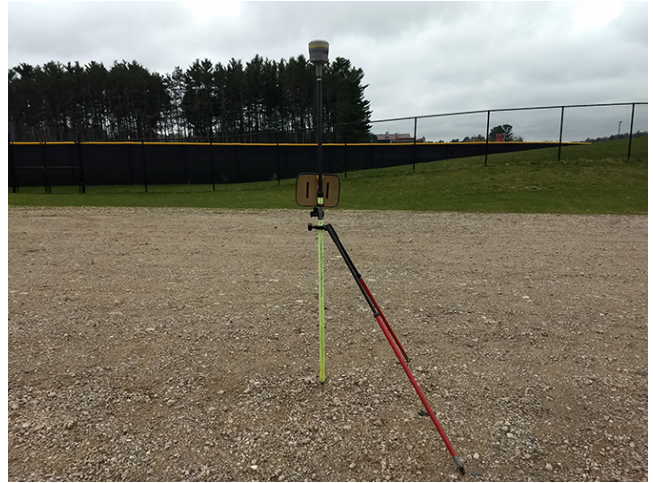
West

Point: 1049 Bare Earth

Survey X: 546139.17, Survey Y: 102317.78, Z1: 933.01, Z DEM: 933.09, Z LAS: 933.12, ΔZ DEM: 0.08, ΔZ LAS: 0.11



North



South



East



West

Point: 1050 Tall Weeds

Survey X: 546139.34, Survey Y: 102382.75, Z1: 932.06, Z DEM: 932.3, Z LAS: 932.37, ΔZ DEM: 0.24, ΔZ LAS: 0.31



North



South



East



West

Point: 1051 Urban Area

Survey X: 545986.1, Survey Y: 102304.33, Z1: 930.42, Z DEM: 930.53, Z LAS: 930.52, ΔZ DEM: 0.11, ΔZ LAS: 0.1



North



South



East



West

Point: 1052 Bare Earth

Survey X: 530131.47, Survey Y: 125656.85, Z1: 859.07, Z DEM: 859.04, Z LAS: 859.04, ΔZ DEM: -0.03, ΔZ LAS: -0.04



North



South



East



West

Point: 1053 Urban Area

Survey X: 530105.19, Survey Y: 125720.1, Z1: 859.37, Z DEM: 859.18, Z LAS: 859.21, ΔZ DEM: -0.19, ΔZ LAS: -0.16



North



South



East



West

Point: 1054 Forest

Survey X: 530200.01, Survey Y: 125691.99, Z1: 858.43, Z DEM: 858.56, Z LAS: 858.56, ΔZ DEM: 0.13, ΔZ LAS: 0.13



North



South



East



West

Point: 1055 Bare Earth

Survey X: 525908.53, Survey Y: 149122.26, Z1: 871.11, Z DEM: 871.16, Z LAS: 871.14, ΔZ DEM: 0.05, ΔZ LAS: 0.03



North



South



East



West

Point: 1056 Tall Weeds

Survey X: 525918.04, Survey Y: 149386.97, Z1: 871.14, Z DEM: 871.32, Z LAS: 871.32, ΔZ DEM: 0.18, ΔZ LAS: 0.18



North



South



East



West

Point: 1057 Urban Area

Survey X: 525802.55, Survey Y: 148980.59, Z1: 869.16, Z DEM: 868.99, Z LAS: 869.01, ΔZ DEM: -0.17, ΔZ LAS: -0.15



North



South



East



West

Point: 1058 Forest

Survey X: 525781.53, Survey Y: 149069.28, Z1: 869.98, Z DEM: 870.32, Z LAS: 870.38, ΔZ DEM: 0.33, ΔZ LAS: 0.39



North



South



East



West

Point: 1059 Tall Weeds

Survey X: 531150.2, Survey Y: 171443.71, Z1: 910.53, Z DEM: 910.74, Z LAS: 910.81, ΔZ DEM: 0.21, ΔZ LAS: 0.29



North



South



East



West

Point: 1060 Urban Area

Survey X: 531170.25, Survey Y: 171407.48, Z1: 911.3, Z DEM: 911.19, Z LAS: 911.27, ΔZ DEM: -0.11, ΔZ LAS: -0.03



North



South



East



West

Point: 1061 Bare Earth

Survey X: 531148.18, Survey Y: 171410.64, Z1: 911.06, Z DEM: 911.18, Z LAS: 911.19, ΔZ DEM: 0.12, ΔZ LAS: 0.13



North



South



East



West

Point: 1062 Forest

Survey X: 531132.11, Survey Y: 171615.41, Z1: 903.34, Z DEM: 903.62, Z LAS: 903.57, AZ DEM: 0.28, AZ LAS: 0.22



North



South



East



West

Point: 1063 Tall Weeds

Survey X: 498507.04, Survey Y: 187100.75, Z1: 868.25, Z DEM: 868.78, Z LAS: 868.78, ΔZ DEM: 0.54, ΔZ LAS: 0.54



North



South



East



West

Point: 1064 Bare Earth

Survey X: 498407.01, Survey Y: 187121.85, Z1: 868.88, Z DEM: 868.91, Z LAS: 868.92, ΔZ DEM: 0.03, ΔZ LAS: 0.03



North



South



East



West

Point: 1065 Urban Area

Survey X: 498408.67, Survey Y: 186984.87, Z1: 869.46, Z DEM: 869.4, Z LAS: 869.44, ΔZ DEM: -0.06, ΔZ LAS: -0.03



North



South



East



West

Point: 1066 Urban Area

Survey X: 494822.29, Survey Y: 227747.87, Z1: 918.73, Z DEM: 918.64, Z LAS: 918.62, ΔZ DEM: -0.09, ΔZ LAS: -0.11



North



South



East



West

Point: 1067 Tall Weeds

Survey X: 494950.84, Survey Y: 227800.33, Z1: 924.5, Z DEM: 924.72, Z LAS: 924.66, ΔZ DEM: 0.22, ΔZ LAS: 0.16



North



South



East



West

Point: 1068 Bare Earth

Survey X: 494763.6, Survey Y: 227761.72, Z1: 916.92, Z DEM: 916.98, Z LAS: 917.04, ΔZ DEM: 0.06, ΔZ LAS: 0.12



North



South



East



West

Point: 1069 Forest

Survey X: 494763.44, Survey Y: 227873.74, Z1: 916.03, Z DEM: 916.26, Z LAS: 916.34, ΔZ DEM: 0.24, ΔZ LAS: 0.32



North



South



East



West

Point: 1070 Bare Earth

Survey X: 532369.05, Survey Y: 213514.74, Z1: 966.54, Z DEM: 966.55, Z LAS: 966.47, ΔZ DEM: 0.01, ΔZ LAS: -0.07



North



South



East



West

Point: 1071 Urban Area

Survey X: 532293.88, Survey Y: 213358.12, Z1: 965.22, Z DEM: 965.03, Z LAS: 965.04, ΔZ DEM: -0.19, ΔZ LAS: -0.19



North



South



East



West

Point: 1072 Tall Weeds

Survey X: 532386.85, Survey Y: 213395.63, Z1: 962.96, Z DEM: 963.21, Z LAS: 963.18, ΔZ DEM: 0.26, ΔZ LAS: 0.23



North



South



East



West

Point: 1073 Forest

Survey X: 532464.64, Survey Y: 213332.19, Z1: 962.01, Z DEM: 962.27, Z LAS: 962.14, ΔZ DEM: 0.25, ΔZ LAS: 0.12



North



South



East



West

Point: 1074 Tall Weeds

Survey X: 551782.67, Survey Y: 234943.22, Z1: 988.79, Z DEM: 989.01, Z LAS: 989, ΔZ DEM: 0.22, ΔZ LAS: 0.21



North



South



East



West

Point: 1075 Bare Earth

Survey X: 551594, Survey Y: 234925.03, Z1: 989.31, Z DEM: 989.38, Z LAS: 989.44, ΔZ DEM: 0.07, ΔZ LAS: 0.13



North



South



East



West

Point: 1076 Urban Area

Survey X: 551580.51, Survey Y: 234904.77, Z1: 990.11, Z DEM: 990.07, Z LAS: 990, ΔZ DEM: -0.04, ΔZ LAS: -0.11



North



South



East



West

Point: 1077 Forest

Survey X: 551571.26, Survey Y: 235114.61, Z1: 989.48, Z DEM: 989.89, Z LAS: 989.85, ΔZ DEM: 0.41, ΔZ LAS: 0.37



North



South



East



West

Point: 1078 Tall Weeds

Survey X: 533230.12, Survey Y: 321745.76, Z1: 1005.57, Z DEM: 1005.87, Z LAS: 1005.86, ΔZ DEM: 0.3, ΔZ LAS: 0.29



North



South



East



West

Point: 1079 Bare Earth

Survey X: 533339.92, Survey Y: 321710.42, Z1: 1006.21, Z DEM: 1006.17, Z LAS: 1006.21, ΔZ DEM: -0.03, ΔZ LAS: 0



North



South



East



West

Point: 1080 Forest

Survey X: 533345.25, Survey Y: 321599.4, Z1: 1006.09, Z DEM: 1006.41, Z LAS: 1006.45, ΔZ DEM: 0.32, ΔZ LAS: 0.36



North



South



East



West

Point: 1081 Urban Area

Survey X: 533188.66, Survey Y: 321677.42, Z1: 1009.8, Z DEM: 1009.87, Z LAS: 1009.85, ΔZ DEM: 0.07, ΔZ LAS: 0.05



North



South



East



West

Point: 1082 Tall Weeds

Survey X: 530741.18, Survey Y: 287631.49, Z1: 1003.91, Z DEM: 1004.11, Z LAS: 1004.14, ΔZ DEM: 0.19, ΔZ LAS: 0.23



North



South



East



West

Point: 1083 Bare Earth

Survey X: 530796.34, Survey Y: 287775.16, Z1: 1003.74, Z DEM: 1003.58, Z LAS: 1003.56, ΔZ DEM: -0.15, ΔZ LAS: -0.18



North



South



East



West

Point: 1084 Urban Area

Survey X: 530730.68, Survey Y: 287576.39, Z1: 1004.87, Z DEM: 1004.77, Z LAS: 1004.7, ΔZ DEM: -0.1, ΔZ LAS: -0.17



North



South



East



West

Point: 1085 Forest

Survey X: 530708.42, Survey Y: 287650.07, Z1: 1003.76, Z DEM: 1003.85, Z LAS: 1003.93, ΔZ DEM: 0.09, ΔZ LAS: 0.17



North



South



East



West

Point: 1086 Bare Earth

Survey X: 484175.74, Survey Y: 247800.52, Z1: 889.2, Z DEM: 889.34, Z LAS: 889.42, ΔZ DEM: 0.14, ΔZ LAS: 0.22



North



South



East



West

Point: 1087 Tall Weeds

Survey X: 484330.31, Survey Y: 247905.31, Z1: 888.09, Z DEM: 888.3, Z LAS: 888.35, ΔZ DEM: 0.21, ΔZ LAS: 0.26



North



South



East



West

Point: 1088 Forest

Survey X: 484231.33, Survey Y: 247776.1, Z1: 890.01, Z DEM: 890.43, Z LAS: 890.32, ΔZ DEM: 0.42, ΔZ LAS: 0.31



North



South



East



West

Point: 1089 Urban Area

Survey X: 484154.65, Survey Y: 247969.57, Z1: 892.7, Z DEM: 892.82, Z LAS: 892.77, ΔZ DEM: 0.12, ΔZ LAS: 0.07



North



South



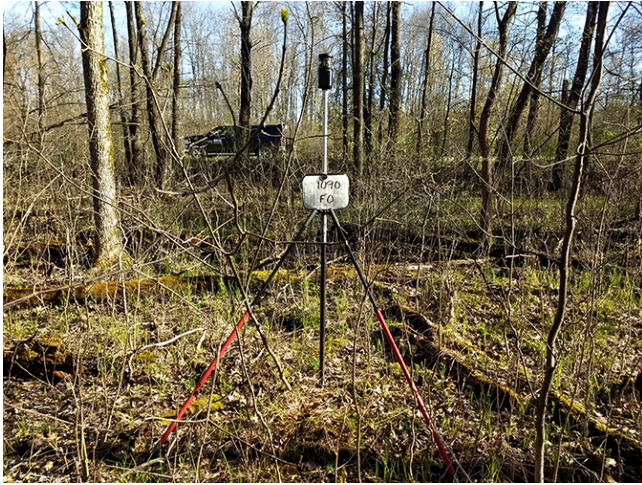
East



West

Point: 1090 Forest

Survey X: 567254.6, Survey Y: 255913.76, Z1: 1022.46, Z DEM: 1022.61, Z LAS: 1022.62, ΔZ DEM: 0.15, ΔZ LAS: 0.16



North



South



East



West

Point: 1091 Forest

Survey X: 585017.51, Survey Y: 213608.88, Z1: 1070.18, Z DEM: 1070.41, Z LAS: 1070.36, ΔZ DEM: 0.23, ΔZ LAS: 0.18



North



South



East



West

Point: 1092 Forest

Survey X: 544565.65, Survey Y: 104359.59, Z1: 933.9, Z DEM: 933.85, Z LAS: 933.91, ΔZ DEM: -0.04, ΔZ LAS: 0.01



North



South



East



West

Point: 1093 Forest

Survey X: 501336.56, Survey Y: 188649.11, Z1: 871.24, Z DEM: 871.27, Z LAS: 871.45, ΔZ DEM: 0.04, ΔZ LAS: 0.21



North



South



East



West

Point: 1094 Forest

Survey X: 534206.55, Survey Y: 253318.09, Z1: 977.89, Z DEM: 977.97, Z LAS: 978.06, ΔZ DEM: 0.07, ΔZ LAS: 0.17



North



South



East



West