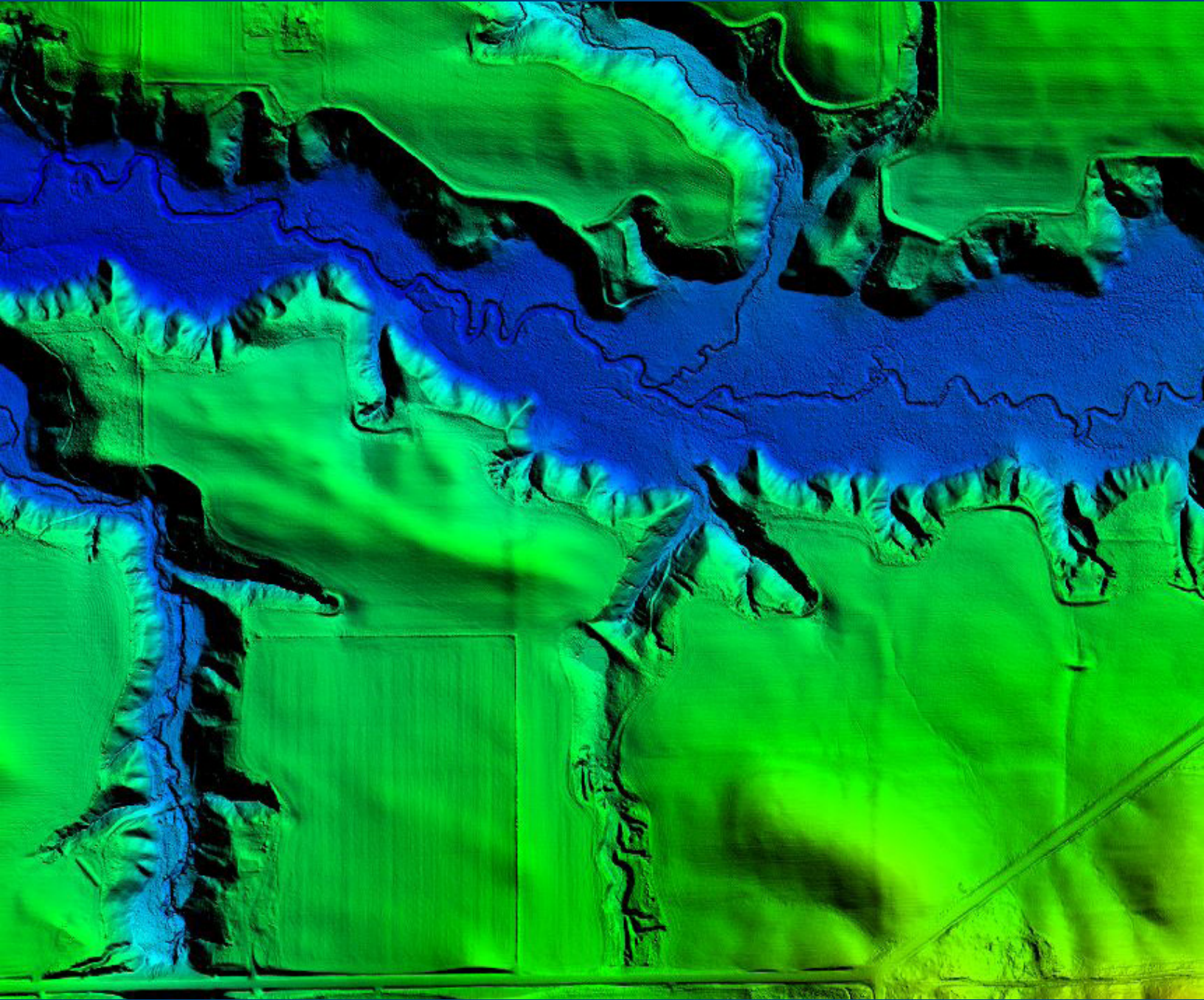


Waupaca County

Wisconsin WROC – 3DEP 2018

Waupaca County Lidar



May 2019

PROJECT INFORMATION

Prepared By: Ayres Associates
Project Name: Wisconsin WROC – 3DEP Waupaca County Lidar 2018
Sensor Info: Leica ALS80 SN8227
Required Nominal Pulse Spacing: 0.7
USGS Quality Level: 2
Contractor Name: Ayres Associates
Units: US Survey Feet
Date of Acquisition: Start: 5/8/2018 Finish: 5/13/2018

REPORT INFORMATION

This report documents the absolute vertical accuracy of the lidar data collected for the Waupaca County, WI, QL2 lidar project. Independent ground control checkpoints were collected by land surveyors using Trimble GNSS equipment connected to WISCORS base stations. The checkpoints were collected from May 16, 2018, to June 1, 2018.

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, 60 NVA points and 40 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.

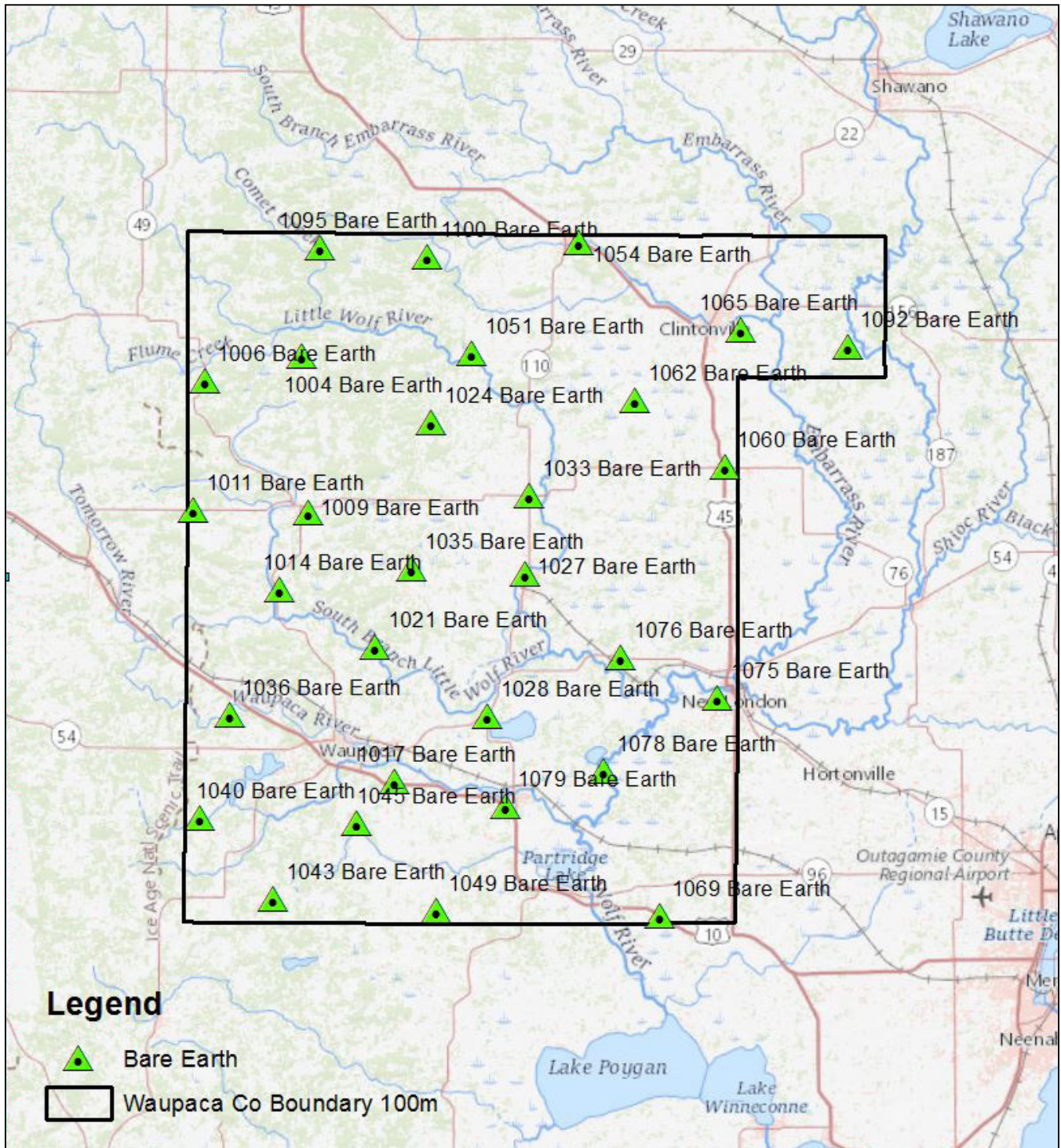
The NVA and VVA statistics for this project are within the above stated specifications.

LIDAR ACCURACY ASSESSMENT SUMMARY

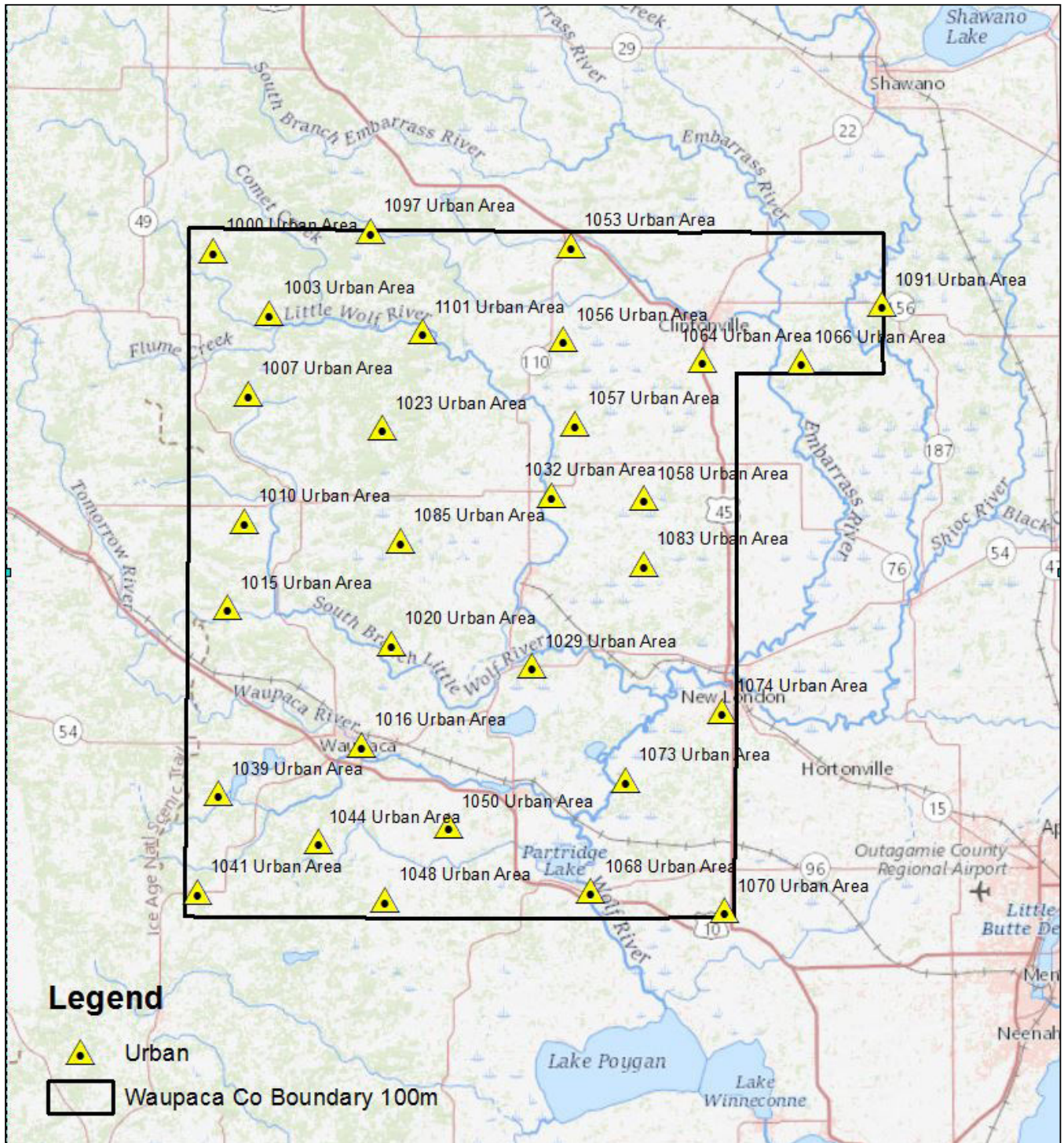
LAND COVER TYPE	# OF POINTS	NVA	VVA
LAS		95% confidence level	N/A
1. Bare Earth	30	0.307	N/A
2. Urban Areas	30	0.258	N/A
3. Tall Weeds	15	N/A	N/A
5. Forest	15	N/A	N/A
7. Swamp	10	N/A	N/A
TOTAL	100	0.284	N/A
DEM		95% confidence level	95th percentile
1. Bare Earth	30	0.318	N/A
2. Urban Areas	30	0.241	N/A
3. Tall Weeds	15	N/A	0.569
5. Forest	15	N/A	0.372
7. Swamp	10	N/A	0.826
TOTAL	100	0.282	0.811

Units: US Survey Feet

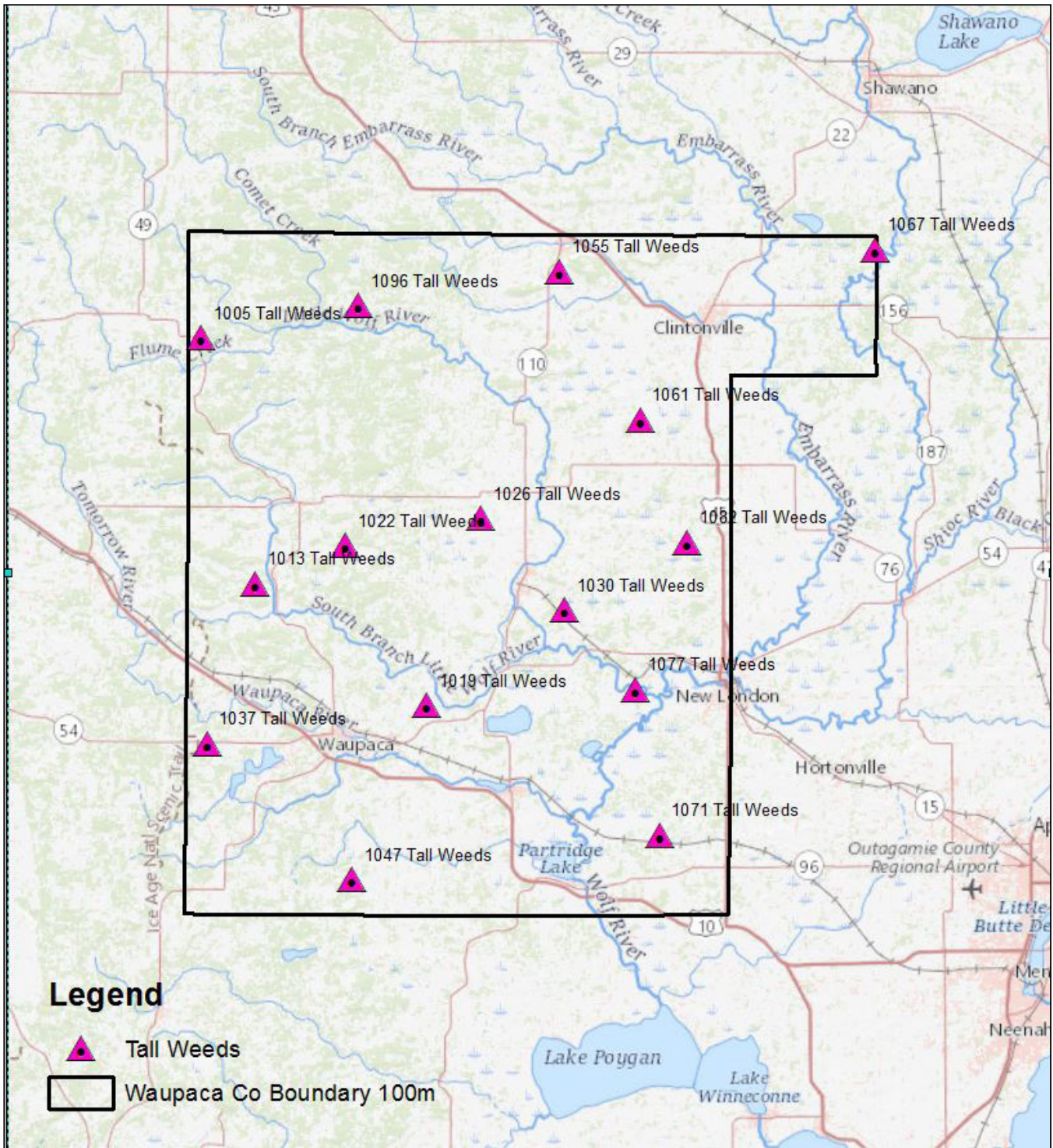
MAP OF NVA CHECKPOINT LOCATIONS - 1. BARE EARTH



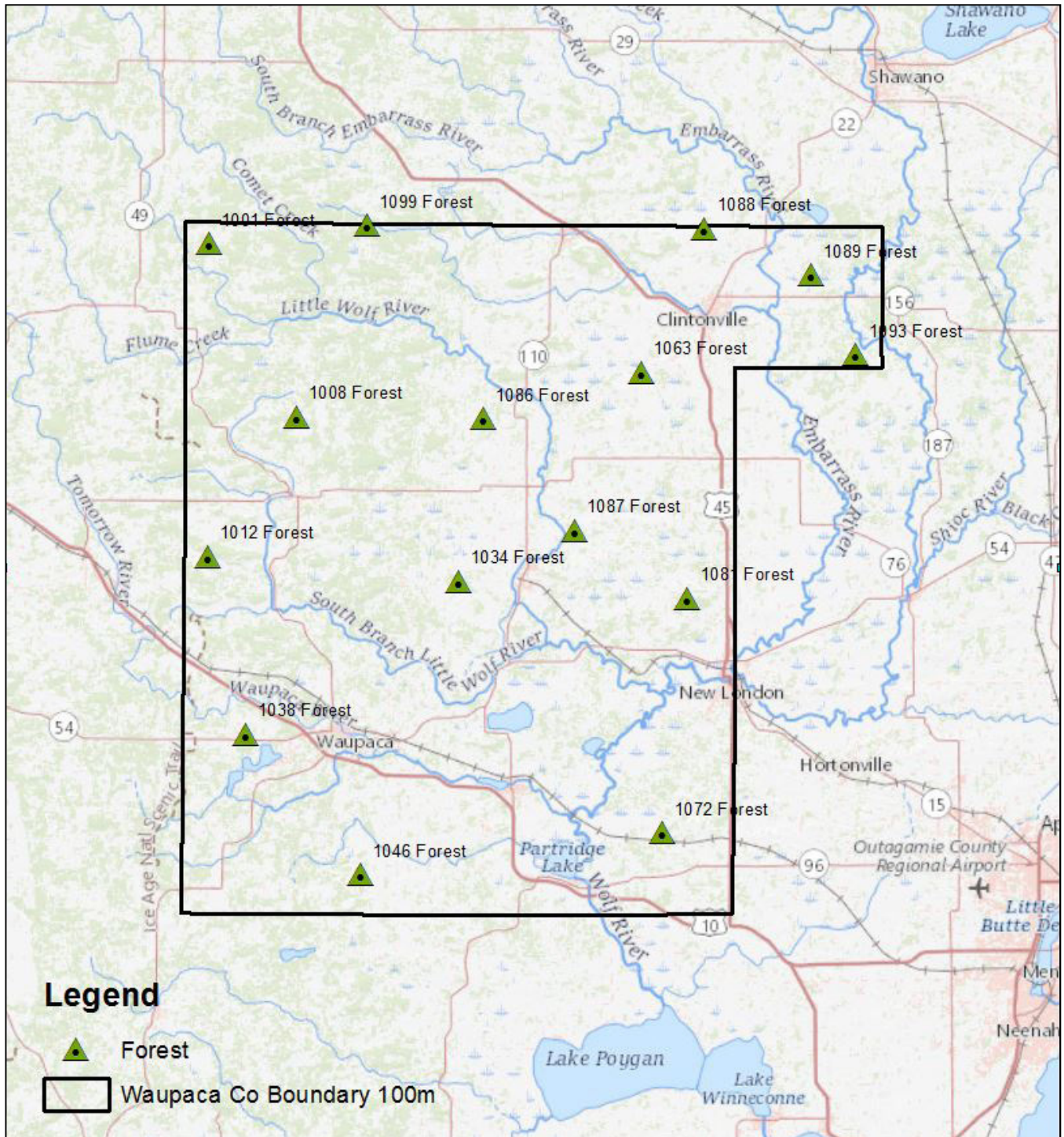
MAP OF NVA CHECKPOINT LOCATIONS - 2. URBAN AREA



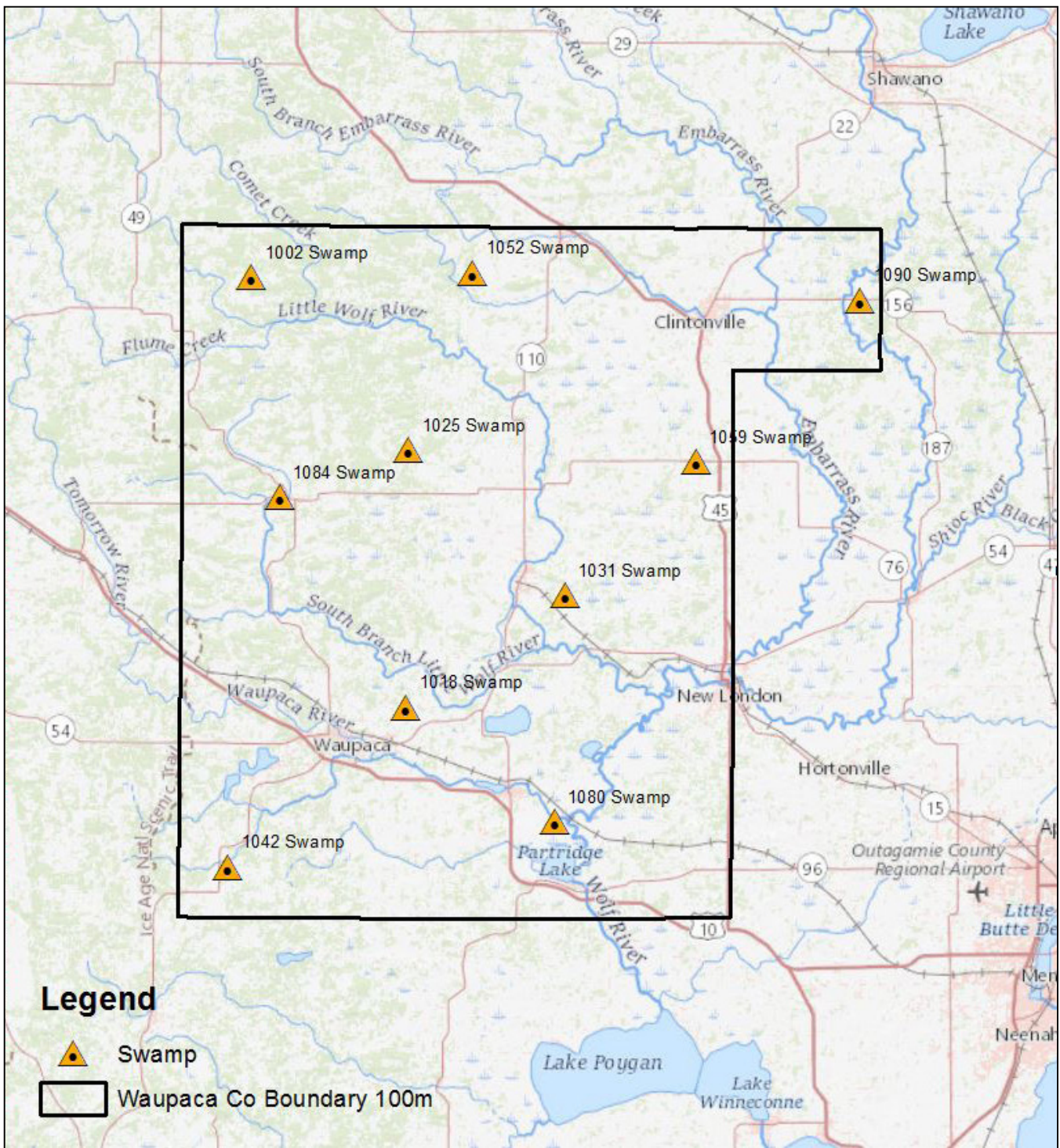
MAP OF VVA CHECKPOINT LOCATIONS - 3. TALL WEEDS



MAP OF VVA CHECKPOINT LOCATIONS - 5. FORESTED AREAS



MAP OF VVA CHECKPOINT LOCATIONS - 7. SWAMP



LAS

NONVEGETATED VERTICAL ACCURACY – OVERALL	
Land Cover Type	1. Bare Earth, 2 Urban Areas
Minimum DZ	-0.498
Maximum DZ	0.261
Mean DZ	0.001
Mean Magnitude DZ	0.314
Number Observations	60
Standard Deviation DZ	0.146
RMSE Z	0.145
95% Confidence Level Z	0.284
Units	US Survey Feet

DEM

NONVEGETATED VERTICAL ACCURACY – OVERALL	
Land Cover Type	1. Bare Earth, 2. Urban Area
Minimum DZ	-0.482
Maximum DZ	0.315
Mean DZ	0.015
Mean Magnitude DZ	0.316
Number Observations	60
Standard Deviation DZ	0.144
RMSE Z	0.144
95% Confidence Level Z	0.282
Units	US Survey Feet

DEM (CONTINUED)

VEGETATED VERTICAL ACCURACY	
Land Cover Type	3. Tall Weeds
Minimum DZ	-0.397
Maximum DZ	0.972
Mean DZ	0.303
Mean Magnitude DZ	0.596
Number Observations	15
Standard Deviation DZ	0.278
RMSE Z	0.404
95th Percentile	0.569
Units	US Survey Feet

DEM (CONTINUED)

VEGETATED VERTICAL ACCURACY	
Land Cover Type	5. Forest
Minimum DZ	-0.237
Maximum DZ	0.381
Mean DZ	0.186
Mean Magnitude DZ	0.467
Number Observations	15
Standard Deviation DZ	0.169
RMSE Z	0.248
95th Percentile	0.372
Units	US Survey Feet

DEM (CONTINUED)

VEGETATED VERTICAL ACCURACY	
Land Cover Type	7. Swamp
Minimum DZ	0.173
Maximum DZ	0.826
Mean DZ	0.493
Mean Magnitude DZ	0.702
Number Observations	10
Standard Deviation DZ	0.239
RMSE Z	0.543
95th Percentile	0.826
Units	US Survey Feet

Point: 1000 Urban Area

Survey X: 506273.18, Survey Y: 454840.03, Z1: 1101.19, Z DEM: 1101.05, Z LAS: 1101.04, LC Type: 2, ΔZ DEM: -0.13, ΔZ LAS: -0.14



North



South



East



West

Point: 1001 Forest

Survey X: 506397.52, Survey Y: 455095.47, Z1: 1097.15, Z DEM: 1097.25, Z LAS: 1097.28, LC Type: 5, ΔZ DEM: 0.1, ΔZ LAS: 0.13



North



South



East



West

Point: 1002 Swamp

Survey X: 516762.46, Survey Y: 447754.96, Z1: 1055.38, Z DEM: 1055.72, Z LAS: 1055.67, LC Type: 7, ΔZ DEM: 0.34, ΔZ LAS: 0.29



North



South



East



West

Point: 1003 Urban Area

Survey X: 519561.04, Survey Y: 440324.35, Z1: 1057.98, Z DEM: 1057.86, Z LAS: 1057.86, LC Type: 2, ΔZ DEM: -0.13, ΔZ LAS: -0.12



North



South



East



West

Point: 1004 Bare Earth

Survey X: 527275.4, Survey Y: 431178.14, Z1: 1016.45, Z DEM: 1016.4, Z LAS: 1016.38, LC Type: 1, ΔZ DEM: -0.05, ΔZ LAS: -0.06



North



South



East



West

Point: 1005 Tall Weeds

Survey X: 503746.76, Survey Y: 435044.16, Z1: 1126.71, Z DEM: 1126.97, Z LAS: 1126.95, LC Type: 3, ΔZ DEM: 0.26, ΔZ LAS: 0.24



North



South



East



West

Point: 1006 Bare Earth

Survey X: 504769.03, Survey Y: 425508.31, Z1: 1118.86, Z DEM: 1119.05, Z LAS: 1119.06, LC Type: 1, ΔZ DEM: 0.2, ΔZ LAS: 0.2



North



South



East



West

Point: 1007 Urban Area

Survey X: 514655.26, Survey Y: 421641.4, Z1: 1016.31, Z DEM: 1016.25, Z LAS: 1016.27, LC Type: 2, ΔZ DEM: -0.06, ΔZ LAS: -0.04



North



South



East



West

Point: 1008 Forest

Survey X: 526604.9, Survey Y: 414916.98, Z1: 1009.85, Z DEM: 1010.22, Z LAS: 1010.2, LC Type: 5, ΔZ DEM: 0.37, ΔZ LAS: 0.36



North



South



East



West

Point: 1009 Bare Earth

Survey X: 528664.65, Survey Y: 394866.35, Z1: 978.95, Z DEM: 979.18, Z LAS: 979.18, LC Type: 1, ΔZ DEM: 0.23, ΔZ LAS: 0.23



North



South



East



West

Point: 1010 Urban Area

Survey X: 513817.1, Survey Y: 391975.73, Z1: 998.06, Z DEM: 998.14, Z LAS: 998.11, LC Type: 2, ΔZ DEM: 0.08, ΔZ LAS: 0.05



North



South



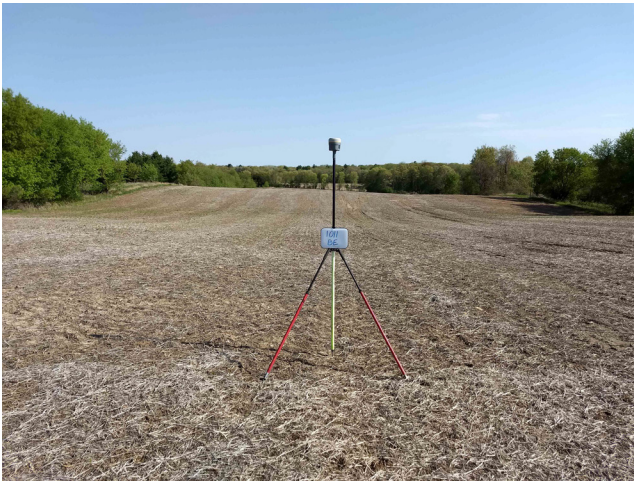
East



West

Point: 1011 Bare Earth

Survey X: 502127.78, Survey Y: 395413.69, Z1: 1144.08, Z DEM: 1144.23, Z LAS: 1144.22, LC Type: 1, ΔZ DEM: 0.15, ΔZ LAS: 0.14



North



South



East



West

Point: 1012 Forest

Survey X: 506191.25, Survey Y: 382582.34, Z1: 982.54, Z DEM: 982.92, Z LAS: 982.84, LC Type: 5, ΔZ DEM: 0.38, ΔZ LAS: 0.3



North



South



East



West

Point: 1013 Tall Weeds

Survey X: 516302.26, Survey Y: 377334.4, Z1: 945.23, Z DEM: 945.53, Z LAS: 945.5, LC Type: 3, ΔZ DEM: 0.3, ΔZ LAS: 0.26



North



South



East



West

Point: 1014 Bare Earth

Survey X: 522208.13, Survey Y: 376898.38, Z1: 955.57, Z DEM: 955.81, Z LAS: 955.8, LC Type: 1, ΔZ DEM: 0.23, ΔZ LAS: 0.23



North



South



East



West

Point: 1015 Urban Area

Survey X: 509773.39, Survey Y: 371733.56, Z1: 937.02, Z DEM: 937.05, Z LAS: 936.99, LC Type: 2, ΔZ DEM: 0.03, ΔZ LAS: -0.04



North



South



East



West

Point: 1016 Urban Area

Survey X: 540886.91, Survey Y: 339925.9, Z1: 845.03, Z DEM: 845.05, Z LAS: 845.05, LC Type: 2, ΔZ DEM: 0.02, ΔZ LAS: 0.02



North



South



East



West

Point: 1017 Bare Earth

Survey X: 548674.26, Survey Y: 332457.31, Z1: 831.34, Z DEM: 831.37, Z LAS: 831.36, LC Type: 1, ΔZ DEM: 0.03, ΔZ LAS: 0.03



North



South



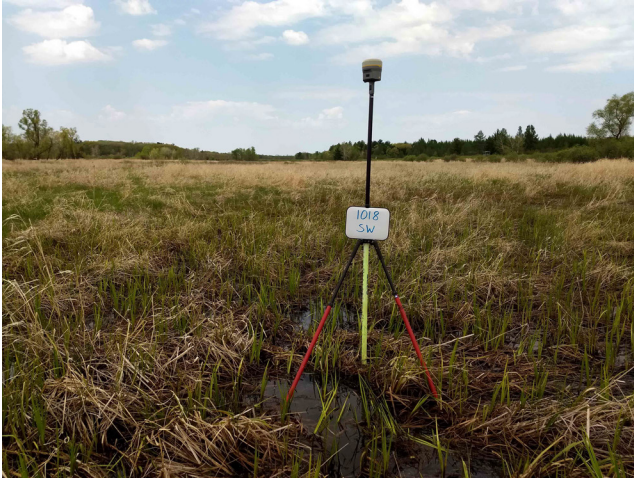
East



West

Point: 1018 Swamp

Survey X: 552520.2, Survey Y: 348335.39, Z1: 833.78, Z DEM: 834.6, Z LAS: 834.56, LC Type: 7, ΔZ DEM: 0.83, ΔZ LAS: 0.79



North



South



East



West

Point: 1019 Tall Weeds

Survey X: 556565.99, Survey Y: 348838.28, Z1: 886.55, Z DEM: 886.95, Z LAS: 886.91, LC Type: 3, ΔZ DEM: 0.4, ΔZ LAS: 0.36



North



South



East



West

Point: 1020 Urban Area

Survey X: 547832.85, Survey Y: 363528.7, Z1: 851.03, Z DEM: 851.04, Z LAS: 851.03, LC Type: 2, ΔZ DEM: 0.01, ΔZ LAS: -0.01



North



South



East



West

Point: 1021 Bare Earth

Survey X: 544252.23, Survey Y: 363582.26, Z1: 847.74, Z DEM: 847.94, Z LAS: 847.91, LC Type: 1, ΔZ DEM: 0.2, ΔZ LAS: 0.17



North



South



East



West

Point: 1022 Tall Weeds

Survey X: 537556.74, Survey Y: 386355.51, Z1: 960.49, Z DEM: 960.81, Z LAS: 960.78, LC Type: 3, ΔZ DEM: 0.33, ΔZ LAS: 0.3



North



South



East



West

Point: 1023 Urban Area

Survey X: 545626.95, Survey Y: 413576.46, Z1: 894.79, Z DEM: 894.76, Z LAS: 894.73, LC Type: 2, ΔZ DEM: -0.02, ΔZ LAS: -0.05



North



South



East



West

Point: 1024 Bare Earth

Survey X: 557386.3, Survey Y: 415786.09, Z1: 865.09, Z DEM: 865.14, Z LAS: 865.14, LC Type: 1, ΔZ DEM: 0.04, ΔZ LAS: 0.04



North



South



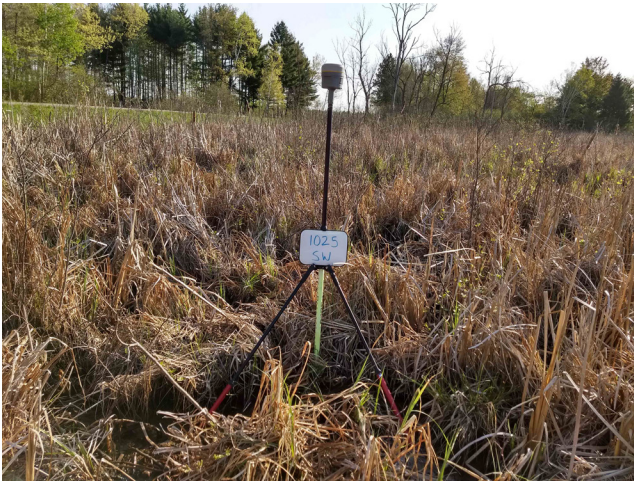
East



West

Point: 1025 Swamp

Survey X: 553136.88, Survey Y: 407868.36, Z1: 858.47, Z DEM: 858.84, Z LAS: 858.91, LC Type: 7, ΔZ DEM: 0.37, ΔZ LAS: 0.44



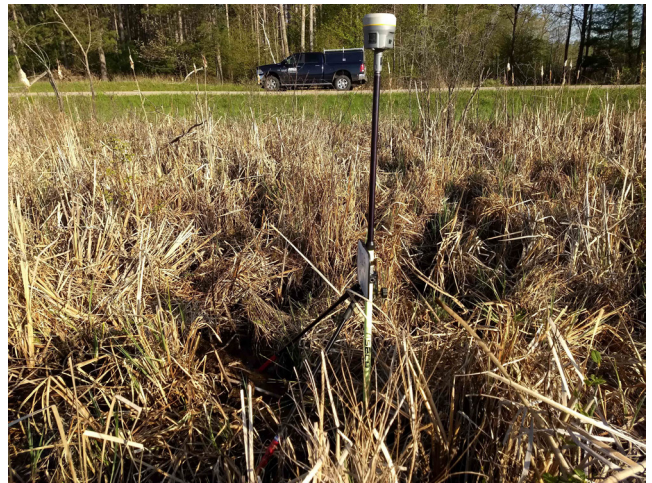
North



South



East



West

Point: 1026 Tall Weeds

Survey X: 569299.23, Survey Y: 392688.8, Z1: 858.33, Z DEM: 858.6, Z LAS: 858.44, LC Type: 3, ΔZ DEM: 0.27, ΔZ LAS: 0.11



North



South



East



West

Point: 1027 Bare Earth

Survey X: 579000.56, Survey Y: 380525, Z1: 802.11, Z DEM: 802.1, Z LAS: 802.1, LC Type: 1, ΔZ DEM: -0.01, ΔZ LAS: 0



North



South



East



West

Point: 1028 Bare Earth

Survey X: 570425.78, Survey Y: 347696.56, Z1: 816.18, Z DEM: 816.1, Z LAS: 816.06, LC Type: 1, ΔZ DEM: -0.08, ΔZ LAS: -0.12



North



South



East



West

Point: 1029 Urban Area

Survey X: 580505.15, Survey Y: 358177.53, Z1: 803.84, Z DEM: 803.86, Z LAS: 803.84, LC Type: 2, ΔZ DEM: 0.02, ΔZ LAS: 0



North



South



East



West

Point: 1030 Tall Weeds

Survey X: 589098.86, Survey Y: 371183.77, Z1: 813.16, Z DEM: 813.42, Z LAS: 813.43, LC Type: 3, ΔZ DEM: 0.26, ΔZ LAS: 0.27



North



South



East



West

Point: 1031 Swamp

Survey X: 589332.99, Survey Y: 374156.75, Z1: 819.67, Z DEM: 820.48, Z LAS: 820.49, LC Type: 7, ΔZ DEM: 0.81, ΔZ LAS: 0.82



North



South



East



West

Point: 1032 Urban Area

Survey X: 585101.04, Survey Y: 398038.92, Z1: 853.24, Z DEM: 853.24, Z LAS: 853.23, LC Type: 2, ΔZ DEM: 0, ΔZ LAS: -0.01



North



South



East



West

Point: 1033 Bare Earth

Survey X: 580099.36, Survey Y: 398668.7, Z1: 849.59, Z DEM: 849.91, Z LAS: 849.85, LC Type: 1, ΔZ DEM: 0.32, ΔZ LAS: 0.26



North



South



East



West

Point: 1034 Forest

Survey X: 564228.67, Survey Y: 376758.15, Z1: 902.59, Z DEM: 902.88, Z LAS: 902.82, LC Type: 5, ΔZ DEM: 0.29, ΔZ LAS: 0.23



North



South



East



West

Point: 1035 Bare Earth

Survey X: 552712.5, Survey Y: 381767.26, Z1: 872.17, Z DEM: 872.15, Z LAS: 872.11, LC Type: 1, ΔZ DEM: -0.02, ΔZ LAS: -0.06



North



South



East



West

Point: 1036 Bare Earth

Survey X: 510524.41, Survey Y: 347893.47, Z1: 917.15, Z DEM: 917.14, Z LAS: 917.16, LC Type: 1, ΔZ DEM: -0.02, ΔZ LAS: 0



North



South



East



West

Point: 1037 Tall Weeds

Survey X: 505087.25, Survey Y: 339909.3, Z1: 948.88, Z DEM: 949.23, Z LAS: 949.25, LC Type: 3, ΔZ DEM: 0.35, ΔZ LAS: 0.37



North



South



East



West

Point: 1038 Forest

Survey X: 514753.69, Survey Y: 341428.56, Z1: 928.69, Z DEM: 928.98, Z LAS: 929.04, LC Type: 5, ΔZ DEM: 0.3, ΔZ LAS: 0.35



North



South



East



West

Point: 1039 Urban Area

Survey X: 507674.84, Survey Y: 328530.65, Z1: 917.13, Z DEM: 917.04, Z LAS: 917.01, LC Type: 2, ΔZ DEM: -0.09, ΔZ LAS: -0.12



North



South



East



West

Point: 1040 Bare Earth

Survey X: 503606.74, Survey Y: 324053.13, Z1: 919.16, Z DEM: 919.22, Z LAS: 919.22, LC Type: 1, ΔZ DEM: 0.07, ΔZ LAS: 0.06



North



South



East



West

Point: 1041 Urban Area

Survey X: 502838.15, Survey Y: 305707.93, Z1: 932.62, Z DEM: 932.77, Z LAS: 932.75, LC Type: 2, ΔZ DEM: 0.15, ΔZ LAS: 0.14



North



South



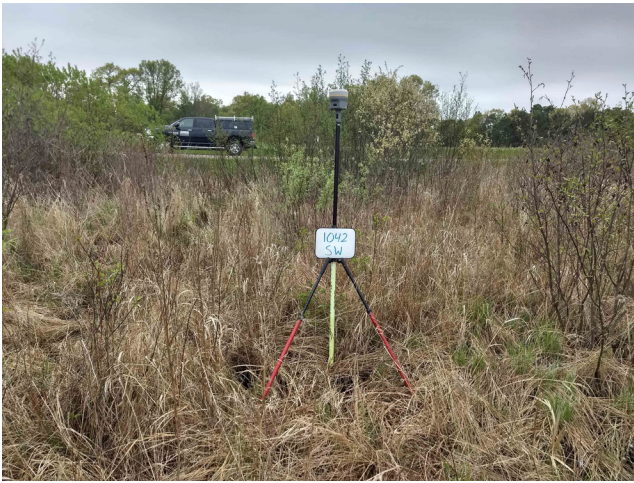
East



West

Point: 1042 Swamp

Survey X: 511319.06, Survey Y: 311336.39, Z1: 893.19, Z DEM: 893.98, Z LAS: 893.84, LC Type: 7, ΔZ DEM: 0.79, ΔZ LAS: 0.65



North



South



East



West

Point: 1043 Bare Earth

Survey X: 520735.64, Survey Y: 305346.27, Z1: 937.68, Z DEM: 937.81, Z LAS: 937.85, LC Type: 1, ΔZ DEM: 0.13, ΔZ LAS: 0.16



North



South



East



West

Point: 1044 Urban Area

Survey X: 530839.32, Survey Y: 317291.47, Z1: 839.72, Z DEM: 839.81, Z LAS: 839.78, LC Type: 2, ΔZ DEM: 0.1, ΔZ LAS: 0.07



North



South



East



West

Point: 1045 Bare Earth

Survey X: 540012.05, Survey Y: 322714.16, Z1: 831.38, Z DEM: 831.42, Z LAS: 831.41, LC Type: 1, ΔZ DEM: 0.04, ΔZ LAS: 0.03



North



South



East



West

Point: 1046 Forest

Survey X: 541389.54, Survey Y: 308882.46, Z1: 851.12, Z DEM: 851.3, Z LAS: 851.35, LC Type: 5, ΔZ DEM: 0.18, ΔZ LAS: 0.24



North



South



East



West

Point: 1047 Tall Weeds

Survey X: 539188, Survey Y: 307905.96, Z1: 831.66, Z DEM: 832.63, Z LAS: 832.74, LC Type: 3, ΔZ DEM: 0.97, ΔZ LAS: 1.08



North



South



East



West

Point: 1048 Urban Area

Survey X: 546502.94, Survey Y: 303900.63, Z1: 850.68, Z DEM: 850.79, Z LAS: 850.78, LC Type: 2, ΔZ DEM: 0.11, ΔZ LAS: 0.1



North



South



East



West

Point: 1049 Bare Earth

Survey X: 558420.14, Survey Y: 302543.74, Z1: 818.61, Z DEM: 818.78, Z LAS: 818.73, LC Type: 1, ΔZ DEM: 0.17, ΔZ LAS: 0.13



North



South



East



West

Point: 1050 Urban Area

Survey X: 561206.72, Survey Y: 320980.43, Z1: 866.18, Z DEM: 866.22, Z LAS: 866.2, LC Type: 2, ΔZ DEM: 0.03, ΔZ LAS: 0.01



North



South



East



West

Point: 1051 Bare Earth

Survey X: 566729.06, Survey Y: 431898.61, Z1: 866.07, Z DEM: 866.06, Z LAS: 866.05, LC Type: 1, ΔZ DEM: -0.01, ΔZ LAS: -0.02



North



South



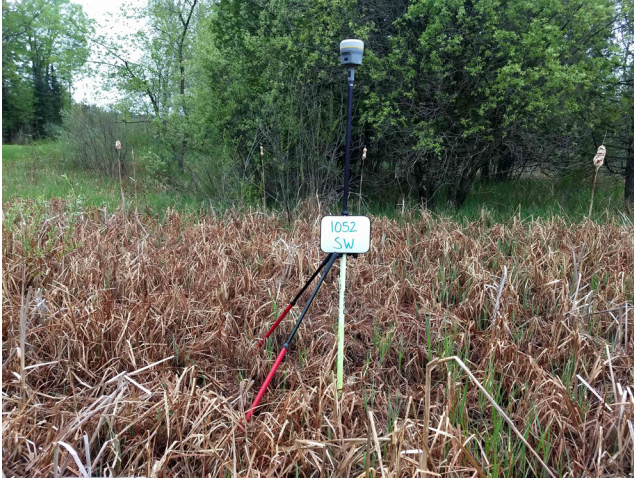
East



West

Point: 1052 Swamp

Survey X: 567997.87, Survey Y: 448849.27, Z1: 900.45, Z DEM: 900.62, Z LAS: 900.63, LC Type: 7, ΔZ DEM: 0.17, ΔZ LAS: 0.18



North



South



East



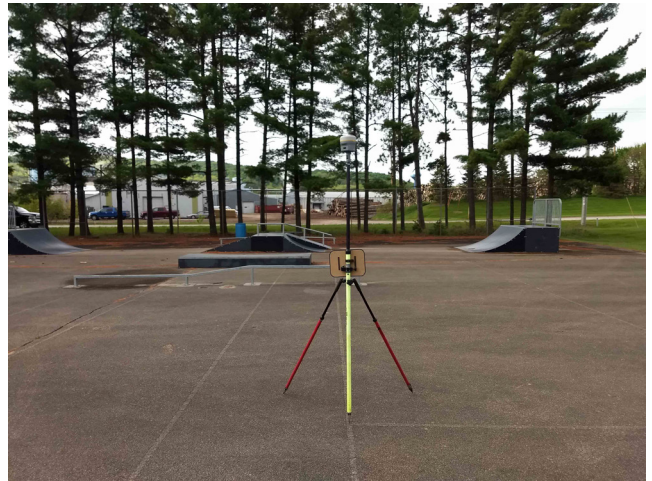
West

Point: 1053 Urban Area

Survey X: 589675.57, Survey Y: 456107.56, Z1: 856.81, Z DEM: 856.81, Z LAS: 856.78, LC Type: 2, ΔZ DEM: 0, ΔZ LAS: -0.03



North



South



East



West

Point: 1054 Bare Earth

Survey X: 591445.31, Survey Y: 457662.26, Z1: 837.81, Z DEM: 837.97, Z LAS: 837.97, LC Type: 1, ΔZ DEM: 0.17, ΔZ LAS: 0.17



North



South



East



West

Point: 1055 Tall Weeds

Survey X: 587909.95, Survey Y: 450625.01, Z1: 867.38, Z DEM: 867.5, Z LAS: 867.49, LC Type: 3, ΔZ DEM: 0.12, ΔZ LAS: 0.12



North



South



East



West

Point: 1056 Urban Area

Survey X: 587876.31, Survey Y: 434117.05, Z1: 876.46, Z DEM: 876.43, Z LAS: 876.41, LC Type: 2, ΔZ DEM: -0.03, ΔZ LAS: -0.06



North



South



East



West

Point: 1057 Urban Area

Survey X: 590564.66, Survey Y: 414613.56, Z1: 841.1, Z DEM: 841.14, Z LAS: 841.15, LC Type: 2, ΔZ DEM: 0.04, ΔZ LAS: 0.05



North



South



East



West

Point: 1058 Urban Area

Survey X: 606577.57, Survey Y: 397243.85, Z1: 845.09, Z DEM: 845.01, Z LAS: 845.04, LC Type: 2, ΔZ DEM: -0.08, ΔZ LAS: -0.05



North



South



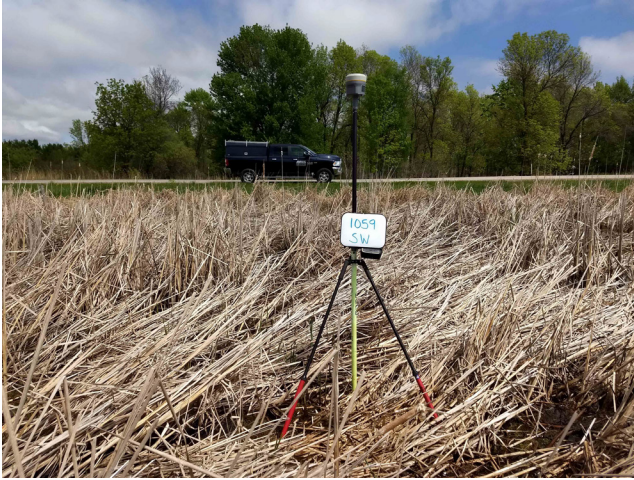
East



West

Point: 1059 Swamp

Survey X: 619528.95, Survey Y: 405082.75, Z1: 826.72, Z DEM: 827.28, Z LAS: 827.27, LC Type: 7, ΔZ DEM: 0.56, ΔZ LAS: 0.55



North



South



East



West

Point: 1060 Bare Earth

Survey X: 625305.55, Survey Y: 405442.65, Z1: 839.18, Z DEM: 839.41, Z LAS: 839.38, LC Type: 1, ΔZ DEM: 0.23, ΔZ LAS: 0.2



North



South



East



West

Point: 1061 Tall Weeds

Survey X: 606763.59, Survey Y: 415874.86, Z1: 882.21, Z DEM: 882.78, Z LAS: 882.66, LC Type: 3, ΔZ DEM: 0.57, ΔZ LAS: 0.45



North



South



East



West

Point: 1062 Bare Earth

Survey X: 604508.33, Survey Y: 420985.13, Z1: 879.97, Z DEM: 880.05, Z LAS: 880.02, LC Type: 1, ΔZ DEM: 0.08, ΔZ LAS: 0.06



North



South



East



West

Point: 1063 Forest

Survey X: 606574.12, Survey Y: 425254.89, Z1: 856.73, Z DEM: 856.81, Z LAS: 856.78, LC Type: 5, ΔZ DEM: 0.09, ΔZ LAS: 0.06



North



South



East



West

Point: 1064 Urban Area

Survey X: 620180.64, Survey Y: 429290.63, Z1: 855.34, Z DEM: 855.3, Z LAS: 855.28, LC Type: 2, ΔZ DEM: -0.05, ΔZ LAS: -0.07



North



South



East



West

Point: 1065 Bare Earth

Survey X: 629036.85, Survey Y: 437235.68, Z1: 817.32, Z DEM: 817.32, Z LAS: 817.31, LC Type: 1, ΔZ DEM: 0, ΔZ LAS: -0.01



North



South



East



West

Point: 1066 Urban Area

Survey X: 643138.57, Survey Y: 429010.96, Z1: 799.33, Z DEM: 799.26, Z LAS: 799.21, LC Type: 2, ΔZ DEM: -0.07, ΔZ LAS: -0.13



North



South



East



West

Point: 1067 Tall Weeds

Survey X: 662096.96, Survey Y: 455836.84, Z1: 809.84, Z DEM: 810.08, Z LAS: 810.15, LC Type: 3, ΔZ DEM: 0.23, ΔZ LAS: 0.31



North



South



East



West

Point: 1068 Urban Area

Survey X: 594333.72, Survey Y: 305843.52, Z1: 752.78, Z DEM: 752.88, Z LAS: 752.84, LC Type: 2, ΔZ DEM: 0.1, ΔZ LAS: 0.06



North



South



East



West

Point: 1069 Bare Earth

Survey X: 610193.18, Survey Y: 301296.69, Z1: 756.52, Z DEM: 756.58, Z LAS: 756.66, LC Type: 1, ΔZ DEM: 0.06, ΔZ LAS: 0.13



North



South



East



West

Point: 1070 Urban Area

Survey X: 625271.22, Survey Y: 301211.25, Z1: 851.78, Z DEM: 851.84, Z LAS: 851.85, LC Type: 2, ΔZ DEM: 0.05, ΔZ LAS: 0.07



North



South



East



West

Point: 1071 Tall Weeds

Survey X: 611348.45, Survey Y: 318335.02, Z1: 787.63, Z DEM: 787.81, Z LAS: 787.76, LC Type: 3, ΔZ DEM: 0.19, ΔZ LAS: 0.14



North



South



East



West

Point: 1072 Forest

Survey X: 611477.05, Survey Y: 318484.89, Z1: 786.93, Z DEM: 787.27, Z LAS: 787.24, LC Type: 5, ΔZ DEM: 0.34, ΔZ LAS: 0.31



North



South



East



West

Point: 1073 Urban Area

Survey X: 602403.54, Survey Y: 331714.85, Z1: 755.57, Z DEM: 755.65, Z LAS: 755.61, LC Type: 2, ΔZ DEM: 0.08, ΔZ LAS: 0.04



North



South



East



West

Point: 1074 Urban Area

Survey X: 624906.82, Survey Y: 347690.08, Z1: 844.39, Z DEM: 844.39, Z LAS: 844.4, LC Type: 2, ΔZ DEM: 0, ΔZ LAS: 0.01



North



South



East



West

Point: 1075 Bare Earth

Survey X: 623684.23, Survey Y: 351804.47, Z1: 764.07, Z DEM: 763.95, Z LAS: 763.96, LC Type: 1, ΔZ DEM: -0.11, ΔZ LAS: -0.11



North



South



East



West

Point: 1076 Bare Earth

Survey X: 601184.24, Survey Y: 361318.58, Z1: 844.28, Z DEM: 844.3, Z LAS: 844.33, LC Type: 1, ΔZ DEM: 0.03, ΔZ LAS: 0.05



North



South



East



West

Point: 1077 Tall Weeds

Survey X: 605662.62, Survey Y: 352640.63, Z1: 764.3, Z DEM: 764.64, Z LAS: 764.6, LC Type: 3, ΔZ DEM: 0.34, ΔZ LAS: 0.3



North



South



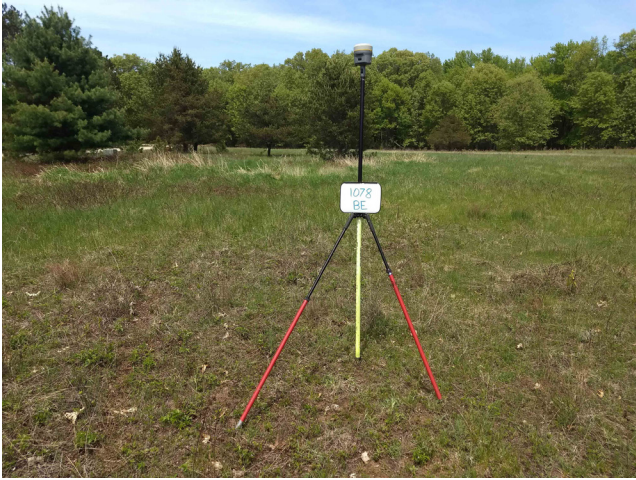
East



West

Point: 1078 Bare Earth

Survey X: 597193.75, Survey Y: 334932.76, Z1: 758.39, Z DEM: 758.43, Z LAS: 758.4, LC Type: 1, ΔZ DEM: 0.04, ΔZ LAS: 0.01



North



South



East



West

Point: 1079 Bare Earth

Survey X: 574414.77, Survey Y: 326824.51, Z1: 821.47, Z DEM: 821.51, Z LAS: 821.51, LC Type: 1, ΔZ DEM: 0.04, ΔZ LAS: 0.04



North



South



East



West

Point: 1080 Swamp

Survey X: 586867.26, Survey Y: 321825.14, Z1: 752.08, Z DEM: 752.4, Z LAS: 752.37, LC Type: 7, ΔZ DEM: 0.32, ΔZ LAS: 0.29



North



South



East



West

Point: 1081 Forest

Survey X: 617350.27, Survey Y: 372830.66, Z1: 862.85, Z DEM: 862.88, Z LAS: 863.01, LC Type: 5, ΔZ DEM: 0.04, ΔZ LAS: 0.16



North



South



East



West

Point: 1082 Tall Weeds

Survey X: 617925.18, Survey Y: 387066.32, Z1: 816.15, Z DEM: 816.49, Z LAS: 816.53, LC Type: 3, ΔZ DEM: 0.34, ΔZ LAS: 0.38



North



South



East



West

Point: 1083 Urban Area

Survey X: 606531.55, Survey Y: 381909.75, Z1: 851.49, Z DEM: 851.53, Z LAS: 851.49, LC Type: 2, ΔZ DEM: 0.04, ΔZ LAS: 0



North



South



East



West

Point: 1084 Swamp

Survey X: 523267.95, Survey Y: 396846, Z1: 943.05, Z DEM: 943.49, Z LAS: 943.44, LC Type: 7, ΔZ DEM: 0.44, ΔZ LAS: 0.39



North



South



East



West

Point: 1085 Urban Area

Survey X: 550023.65, Survey Y: 387349.85, Z1: 889.73, Z DEM: 889.81, Z LAS: 889.75, LC Type: 2, ΔZ DEM: 0.07, ΔZ LAS: 0.01



North



South



East



West

Point: 1086 Forest

Survey X: 569933.86, Survey Y: 414413.46, Z1: 851.27, Z DEM: 851.53, Z LAS: 851.45, LC Type: 5, ΔZ DEM: 0.26, ΔZ LAS: 0.17



North



South



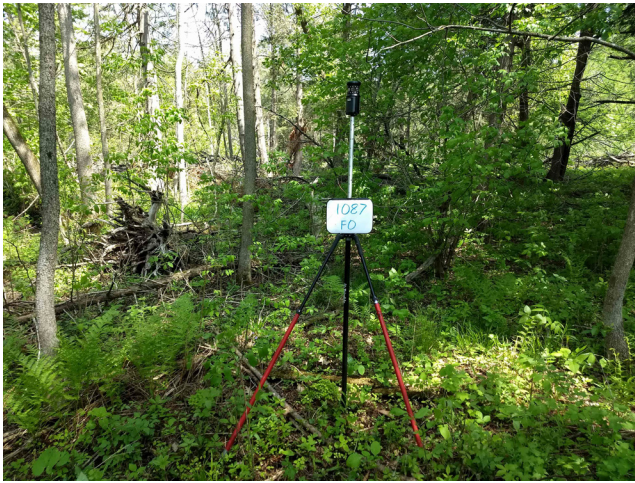
East



West

Point: 1087 Forest

Survey X: 591095.82, Survey Y: 388668.47, Z1: 820.2, Z DEM: 820.53, Z LAS: 820.58, LC Type: 5, ΔZ DEM: 0.32, ΔZ LAS: 0.37



North



South



East



West

Point: 1088 Forest

Survey X: 621275.09, Survey Y: 458481.56, Z1: 899.72, Z DEM: 899.78, Z LAS: 899.93, LC Type: 5, ΔZ DEM: 0.06, ΔZ LAS: 0.21



North



South



East



West

Point: 1089 Forest

Survey X: 645953.26, Survey Y: 447797.45, Z1: 796.92, Z DEM: 797.17, Z LAS: 797.15, LC Type: 5, ΔZ DEM: 0.25, ΔZ LAS: 0.23



North



South



East



West

Point: 1090 Swamp

Survey X: 657511.44, Survey Y: 442442.34, Z1: 782.05, Z DEM: 782.35, Z LAS: 782.33, LC Type: 7, ΔZ DEM: 0.3, ΔZ LAS: 0.28



North



South



East



West

Point: 1091 Urban Area

Survey X: 661912.66, Survey Y: 442313.96, Z1: 795.66, Z DEM: 795.62, Z LAS: 795.6, LC Type: 2, ΔZ DEM: -0.05, ΔZ LAS: -0.06



North



South



East



West

Point: 1092 Bare Earth

Survey X: 653786.11, Survey Y: 433173.91, Z1: 791.82, Z DEM: 791.86, Z LAS: 791.83, LC Type: 1, ΔZ DEM: 0.04, ΔZ LAS: 0.01



North



South



East



West

Point: 1093 Forest

Survey X: 656371.99, Survey Y: 429383.17, Z1: 786.15, Z DEM: 786.2, Z LAS: 786.28, LC Type: 5, ΔZ DEM: 0.05, ΔZ LAS: 0.13



North



South



East



West

Point: 1095 Bare Earth

Survey X: 531435.42, Survey Y: 456321.62, Z1: 1036.35, Z DEM: 1036.01, Z LAS: 1036, LC Type: 1, ΔZ DEM: -0.33, ΔZ LAS: -0.35



North



South



East



West

Point: 1096 Tall Weeds

Survey X: 540721.9, Survey Y: 442611.37, Z1: 1000.97, Z DEM: 1000.57, Z LAS: 1000.56, LC Type: 3, ΔZ DEM: -0.4, ΔZ LAS: -0.41



North



South



East



West

Point: 1097 Urban Area

Survey X: 543096.07, Survey Y: 459384.65, Z1: 983.05, Z DEM: 982.56, Z LAS: 982.55, LC Type: 2, ΔZ DEM: -0.48, ΔZ LAS: -0.5



North



South



East



West

Point: 1099 Forest

Survey X: 543117.46, Survey Y: 459289.61, Z1: 981.93, Z DEM: 981.69, Z LAS: 981.69, LC Type: 5, ΔZ DEM: -0.24, ΔZ LAS: -0.24



North



South



East



West

Point: 1100 Bare Earth

Survey X: 556216.88, Survey Y: 454212.92, Z1: 936.96, Z DEM: 936.52, Z LAS: 936.54, LC Type: 1, ΔZ DEM: -0.44, ΔZ LAS: -0.42



North



South



East



West

Point: 1101 Urban Area

Survey X: 555062.76, Survey Y: 436033.69, Z1: 897.43, Z DEM: 897.16, Z LAS: 897.06, LC Type: 2, ΔZ DEM: -0.27, ΔZ LAS: -0.37



North



South



East



West