

Project Definition: The entire collection for a contracted area.

Work Unit Definition: A production block of data defined by the National Geospatial Technical Operations Center due to expediency, priority or resource allocation. There can be one or many work units per project.

Project Information

Lidar Base Specification: 2.1	Primary Contractor: Ayers Associates
Las Version: 1.4	Contract Mechanism: Financial Assistance
P Method: 7 - Linear-Mode Lidar	
Collection Start Date: 04-08-2020	Collection End Date: 05-03-2020
The National Map Email: tnm_help@usgs.gov	

Vertical Accuracy Results

The U.S. Geological Survey evaluates absolute vertical accuracy of the lidar and lidar-derived bare earth DEM data at the project level

Lidar Point Cloud	Required NVA RMSEz (cm)	Tested NVA RMSEz (cm)	Required NVA at 95% confidence level (cm)	Tested NVA at 95% confidence level (cm)	Required VVA at 95th percentile (cm)	Tested VVA at 95th percentile (cm)
	5.0	2.77	9.8	5.42	N/A	12.20

Digital Elevation Model	Required NVA RMSEz (cm)	Tested NVA RMSEz (cm)	Required NVA at 95% confidence level (cm)	Tested NVA at 95% confidence level (cm)	Required VVA at 95th percentile (cm)	Tested VVA at 95th percentile (cm)
	5.0	2.59	9.8	5.07	15.0	13.62

The field survey for this project employed RTK or RTN methodology. Vertical error commonly associated with this GNSS-surveying technique is on the order of 2 cm, though better results are possible. The QL0 language associated with this project requires a per-checkpoint RMSEv value of 1.7 cm per the ASPRS Positional Accuracy Standards for Digital Geospatial Data (2014, Ed. 1). USGS has accepted this data as QL0 for the following reasons. (1) Discussions surrounding the network survey component of this project were had by the USGS and funding partner at a time when ASPRS Ed. 2 was imminent. ASPRS Ed. 2 requires a per-checkpoint RMSEv value of 2.5 cm. (2) USGS, the funding partner, and other project stakeholders were unaware of the potential issues with using RTK/RTN methodologies to achieve an appropriate QL0 checkpoint network at the time of the project task order award. (3) Prior to ASPRS Ed. 2, USGS was unable to verify the vertical error component of the checkpoints for any 3DEP project.

Classifications Used

Classification verification is limited to the minimum required by applicable Lidar Base Specification. Classifications beyond the minimum are not verified by USGS.

Classification ID	Classification Type
1	Processed, but unclassified
2	Bare earth
5	
6	
7	Low noise
9	Water
17	Bridge deck
18	High noise
20	Ignored ground (typically breaklines proximity)
22	Temporal Exclusion

Sensor(s) Used

Sensor
Riegl VQ-1560i - Aerial Oscillating Mirror

Work Unit Information

MN_GoodhueCo_1_2020	Work Unit ID: 191386	Quality Level: 0
Horizontal EPSG Code: 103732	Vertical EPSG Code: 6360	Geoid Model: GEOID12B
DEM Ground Sample Distance: 1.0	Hydro Treatment: hydro-flattened	
Collection Start Date: 2020-04-08	Collection End Date: 2020-05-03	