MN_SE_Driftless_2021_B21

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: 2021 Revision A	**Primary Contractor:** Woolpert, Inc. (Woolpert)
Las Version: 1.4	**Contract Mechanism:** GPSC
P Method: 7 - Linear-Mode Lidar	
Collection Start Date: 04-16-2021	**Collection End Date:** 05-19-2022
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

Quality Level 1: MN_SEDriftless_1_2021; MN_SEDriftless_2_2021; MN_SEDriftless_3_2021

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)**
	10.0	**3.54**	19.6	**6.94**	30.0	**27.14**

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)**
	10.0	**3.51**	19.6	**6.88**	30.0	**25.48**

Quality Level 0: MN_SEDriftless_4_2021; MN_SEDriftless_5_2021

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	**3.55**	9.8	**6.96**	15.0	**12.64**

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	**3.51**	9.8	**6.88**	15.0	**13.33**

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	Unclassified
2	Ground
7	Low Noise
9	Water
17	Bridge Deck
18	High Noise
20	Ignored Ground

Sensor(s) Used

Optech Galaxy T2000 - Aerial Oscillating Mirror

Work Unit Information

MN_SEDriftless_3_2021	**Work Unit ID:** 228972	**Quality Level:** 1
Horizontal EPSG Code: 6344	**Vertical EPSG Code:** 5703	**Geoid Model:** GEOID18
DEM Ground Sample Distance: 0.5	**Hydro Treatment:** hydro-flattened	
Collection Start Date: 2021-05-08	**Collection End Date:** 2022-05-15	

MN_SEDriftless_4_2021	**Work Unit ID:** 228988	**Quality Level:** 0
Horizontal EPSG Code: 6344	**Vertical EPSG Code:** 5703	**Geoid Model:** GEOID18
DEM Ground Sample Distance: 0.5	**Hydro Treatment:** hydro-flattened	
Collection Start Date: 2022-05-05	**Collection End Date:** 2022-05-19	

MN_SEDriftless_2_2021	**Work Unit ID:** 222535	**Quality Level:** 1
Horizontal EPSG Code: 6344	**Vertical EPSG Code:** 5703	**Geoid Model:** GEOID18
DEM Ground Sample Distance: 0.5	**Hydro Treatment:** hydro-flattened	
Collection Start Date: 2021-04-25	**Collection End Date:** 2022-05-15	

MN_SEDriftless_5_2021	**Work Unit ID:** 228991	**Quality Level:** 0
Horizontal EPSG Code: 6344	**Vertical EPSG Code:** 5703	**Geoid Model:** GEOID18
DEM Ground Sample Distance: 0.5	**Hydro Treatment:** hydro-flattened	
Collection Start Date: 2021-04-16	**Collection End Date:** 2021-05-13	

MN_SEDriftless_1_2021	**Work Unit ID:** 228969	**Quality Level:** 1
Horizontal EPSG Code: 6344	**Vertical EPSG Code:** 5703	**Geoid Model:** GEOID18
DEM Ground Sample Distance: 0.5	**Hydro Treatment:** hydro-flattened	
Collection Start Date: 2021-04-22	**Collection End Date:** 2021-06-13	