

The items listed below represent clarifications or changes to the original Scope of Work dated 9/30/15 and attached to Purchase Order NMF00000384. All items listed below will take precedent over the original Scope of Work.

The clarifications listed below were discussed and accepted via emails between Molly Wick, Project Coordinator for the DNR, and Zach Nienow, Project Manager for Ayres Associates, on 10/2/15.

- Datum – The projection should be UTM with elevation in meters as specified in the original SOW.
- Accuracy – stick with the at least 20 Check Points for NVA and 20 check points for VVA assessment as listed in the original SOW.
- Raw point cloud will be delivered as listed in the original SOW.
- Classes 17 bridge decks & 18 high noise are added from the Lidar base spec but will be included.
- Metadata: metadata files will be provided for each product deliverable (raw point cloud, classified point cloud, DEM, breaklines, intensity). Each of these will include information about the overall project, but there will not be an additional metadata file for the entire overall project.
- Metadata for each lift will not be provided. The majority of this information will be provided in the Ground Control and Airborne GPS Report.
- The Quality Assurance Project Plan will be completed in October 2015 prior to collection of data, and will include the quality assurance procedures for data analysis in addition to data collection procedures and plans.
- The Final Report may in reality be a suite of reports that includes the information listed in the original SOW. For example, weather, solar altitude, time of year, and any equipment malfunctions will be included in flight logs.
- “Percent of good laser returns (if available), standard deviation and residuals in GPS trajectories” Do not need to be delivered. (I think this was language copied from another contract and is unnecessary).
- Calibration reports will not be delivered as part of the final report. These reports will be available in the future through Ayres if necessary, but are not typically delivered or necessary.
- The minimum vertical accuracy has changed according to your email dated 9/30/15 and attached (listed below).
- The minimum vertical accuracy for the lidar point cloud is: Non-vegetated vertical accuracy (NVA) is 10 cm RMSEz, which equates to 19.6cm at the 95% confidence level.
- The minimum vertical accuracy for the derived DEM is: Non-vegetated vertical accuracy (NVA) is 10 cm RMSEz, which equates to 19.6cm at the 95% confidence level.
Vegetated vertical accuracy (VVA) is 29.4cm at the 95th percentile.

The timeline is adjusted as you mentioned in your email (listed here):

- Completion of QA Project Plan – October 2015
- Data Acquisition – October-November 2015
- Data processing – December 2015-June 2016
- Data validation versus check points – February 2016
- Pilot area delivery of datasets (9 tile contiguous area) – March 1, 2016
- DNR review of Pilot area – March 2016
- Final delivery of project-wide datasets to DNR – no later than June 30, 2016