



Minnesota Department of Transportation

Photogrammetric Unit
395 John Ireland Boulevard, MS 640
Saint Paul, MN 55155

21 May 2014

Eric Ratcliffe
STARR MT-1 Project Manager
Atkins Global
3901 Calverton Boulevard, Suite 400
Calverton, MD, 20705



RE: Certification of Minnesota LiDAR Quality
Red River Valley Project – Priority Area 1

Dear Mr. Ratcliffe:

Attached you will find a signed and sealed Certification Statement for LiDAR Data that was collected independently by the International Water Institute (IWI) and its partners for the following counties: Big Stone, Clay, Grant, Stevens, Traverse, and Wilkin. The Minnesota Department of Transportation, in partnership with the Minnesota Department of Natural Resources and the IWI, helped prepare Request for Proposals, served on the selection committee and provided guidance. Initial quality assurance was provided by Houston Engineering, Inc. MnDOT and its county partners collected independent test points in order to validate the contract deliverables.

If you have any additional questions concerning the testing process, please contact me at 651.366.3457.

Sincerely,

Peter W. Jenkins, PLS
Photogrammetric Unit Supervisor

Enclosures: Certification Letter

cc: S. Jiwani
T. Loesch

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Certification of Minnesota LiDAR Data Quality

Project Area: Red River Valley Project, Minnesota

Counties covered: Big Stone, Clay, Grant, Stevens, Traverse and Wilkin.

Date of acquisition: 21 April 2008 to 18 May 2008 and Spring of 2010 (Big Stone County)

Horizontal Positional Accuracy: All these data products were acquired at 2400 meters above mean terrain (AMT) and have a horizontal accuracy of less than one meters, with a nominal point spacing of 1.35 meters.

Vertical Positional Accuracy: Accuracy of the dataset was verified by a second set of ground control points provided by each County and tested by the State of Minnesota. The Consolidated Vertical Accuracy (CVA) of the TIN as tested by the State of Minnesota of all land cover categories covering the 5 land classes as defined by ASPRS and NDEP were used in this evaluation. Due to the heavy snow cover in Grant County, only Fundamental Vertical Accuracy (FVA) was tested. FVA is only the open terrain land cover type. The vertical RMSE, 95% Confidence Level, and the sample count per county as tested by the State of Minnesota is as follows: Big Stone, 0.115m (RMSE), 0.225m (95%), 166 points; Clay, 0.101m (RMSE), 0.199m (95%), 100 points; Grant, 0.147m (RMSE), 0.287m (95%), 103 points; Stevens, 0.122m (RMSE), 0.239m (95%), 113 points; Traverse, 0.068m (RMSE), 0.133m (95%), 102 points and Wilkin, 0.117m (RMSE), 0.229m (95%), 101 points.

This is to certify that the work summarized above was completed in accordance with sound and accepted surveying practices and meets the accuracy requirements in the USGS's Lidar Guidelines and Base Specifications.



Peter Jenkins, PLS

MN PLS # 22683

Photogrammetric Unit Supervisor

Minnesota Department of Transportation

