Minnesota Department of Transportation
Photogrammetric Unit
395 John Ireland Boulevard, MS 640
Saint Paul, MN 55155

5 January 2018

Matt Richards, CFM
North Wind Resource Partners
200 West Adams Street, Suite 2800
Chicago, IL 60606

RE: Certification of Minnesota LiDAR Quality
Pine County Projects

Dear Mr. Richards:

Attached you will find a signed and sealed Certification Statement for LiDAR Data that was collected by Sanborn Map Company for Pine County. The Minnesota Department of Transportation, in partnership with other State agencies and Pine County, helped with the quality assurance phase of the contract. As part of the quality assurance process, a partner collected independent test points in order to validate the contract deliverables. Although this was considered an individual project at the time of acquisition, the involvement by the Department and the standards and specifications published by the RFP were essentially the same for all areas of the statewide collect which was led by the Minnesota Department of Natural Resources.

If you have any additional questions concerning the testing process, please contact me at 651.366.3504.

Sincerely,

Peter W. Jenkins, PLS, CFedS
Surveying & Mapping Manager

Enclosures: Certification Letter

cc: S. Jiwani

Certification of Minnesota LiDAR Data Quality

Project Area: Miscellaneous Minnesota Counties

Counties covered: Pine

Horizontal Positional Accuracy: All these data products have a horizontal accuracy of 0.60 meters, with a nominal point spacing of 1.5 meters.

Vertical Positional Accuracy: Accuracy of the dataset was verified by a second set of ground control points provided by the 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. The acquisition date, vertical RMSE, 95% Confidence Level, the sample count and flying height above mean terrain (AMT) as tested by the State of Minnesota is as follows: Pine, October 25 and November 4 2006, 0.181m (RMSE), 0.355m (95%), 100 points, 1200m (AMT). Please reference the metadata for details regarding datums, coordinate systems and other specifics about the data.

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, CFedS

MN PLS # 22683

Surveying and Mapping Manager

Minnesota Department of Transportation