

May 11, 2012

Mr. Roland Sachs, Jr.
Superintendent of Roads
Palatine Township Road District
530 North Smith Street
Palatine, Illinois 60067

Re: Briarwood Lane at Salt Creek
Palatine Township Road District

Dear Mr. Sachs:

Per your recent request, Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) has reviewed the plans for Briarwood Lane prepared by Haegar Engineering dated October 31, 2011 and an updated exhibit from May 7, 2012. The project involves the replacement of the existing bridge on Briarwood Lane over Salt Creek in Palatine Township. In order to provide better alignment and sight lanes, the roadway's approaches to the bridge are also proposed to be reconstructed in order to meet current minimum design standards. Our review was limited to the geometric alignment of the roadway only.

Existing Conditions

Our review of the existing condition plans and field visit determined the following:

- The existing roadway is 21 feet wide and the existing bridge is 20.7 feet wide. Pavement markings do not exist within the limits of the project.
- The existing roadway alignment is not centered in the existing right-of-way.
- The radius of the two existing horizontal curves just west of Salt Creek are approximately 125 feet and 165 feet which are below the minimum standard of 180 feet and 295 feet (based on the IDOT BLR Manual, Chapter 29) for design speeds of 25 mph and 30 mph, respectively.
- The curve directly west of the Salt Creek bridge is not tangent to the existing roadway as Briarwood Lane continues to the northeast.

It seems appropriate that with the replacement of the bridge, the roadway alignment should also be revised to meet current minimum standards.

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Proposed Condition

Our review of the proposed plans determined that the above concerns will be addressed as follows:

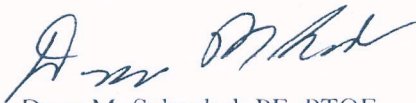
- The proposed bridge will be 28 feet wide with 2-11 foot wide lanes and a 3 foot wide painted shoulder on each side. By striping the lanes across the bridge in this manner, the motoring public will be guided across the bridge allowing for clear zone separation from the edge of the driving lane to the face of the bridge wall.
- The design plans have utilized a design speed equal to the posted speed of 25 mph. While this is an acceptable practice, please be aware that in order to provide some factor of safety, typically the design speed is 5 mph higher than the posted speed limit. However, the constraints of the existing right-of way do not allow this to be achieved.
- The horizontal curves are proposed to be at 225 feet and 240 feet which will be between the minimum requirement of 180 feet and 295 feet for design speeds of 25 mph and 30 mph, respectively.
- The proposed vertical curves along this project meet or exceed the minimum requirements set forth in the IDOT BLR Manual for design speed of 25 mph.

Four of the existing driveways will require improvements on private property which will require temporary easements. One of the driveways at the property located at 301 Briarwood Lane will have to be eliminated. However, the second access drive will remain.

The existing "Narrow Bridge-15 MPH" signs in advance of the bridge should be removed as part of this project as they will no longer be required as noted in the *Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition, Section 2C.20*. Also, the proposed design will eliminate the need for curve warning signs as shown in the MUTCD Sections 2C.06 and 2C.07 and Table 2C-5.

Should you have any questions or require additional information, please let me know.

Sincerely,



Dana M. Schnabel, PE, PTOE
Senior Consultant

C: Kevin Shaffer, Haegar Engineering