



April 4, 2013

Mr. Marc Small  
Roads Commissioner / Emergency Management Coordinator  
Village of Long Grove  
3110 RFD  
Long Grove, IL 60047

Re: Robert Parker Coffin Road Bridge  
IDOT Structure Number: 049-7150

Dear Mr. Small:

As per your request, on Wednesday, April 3, 2013 I met you at the above referenced structure and conducted a Routine NBIS Inspection of the bridge.

#### **DESCRIPTION OF EXISTING STRUCTURE**

SN 049-7150 is a single span Truss bridge carrying Robert Parker Coffin Road over Buffalo Creek in Long Grove, IL. The bridge was originally built in 1925 and reconstructed in 1981 according to the IDOT Master Structure Report. For the purpose of this report the bridge spans from east to west.

#### **OBSERVATIONS**

The following is a summary of my observations during my inspection of the building:

1. A section of the armoring angle is missing on the approach end of the east abutment.
2. As vehicles cross the structure, the east end of the bridge deflects downward by approximately two (2) inches.
3. Deterioration and spalling of the limestone abutments continues to advance. Movement of the east end of the bridge is due to spalling of the bearing area.
4. Scour has undermined a section of the east abutment.

#### **CONCLUSIONS AND RECOMMENDATIONS**

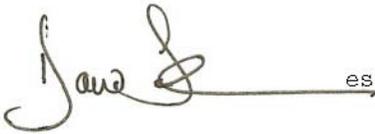
Based on the observed deficiencies noted above I recommend the following:

1. The missing section of armoring steel should be replaced to avoid puncturing of motorist's tires.
2. The movement of the structure observed at the east abutment is not **currently** a serious structural problem. However, the abutments will continue to deteriorate and spall eventually necessitating significant repair or closure of the bridge. Additional steel bearing plates can be placed under the bearings at this time to reduce or eliminate movement of the bridge.

3. The scouring and undermining present at the east abutment should be stabilized immediately. I recommend that the undermined section of the abutment be dewatered, a lean concrete mix be pumped under the abutment and rip rap be placed in front of the abutment to prevent further scouring.
4. The abutments should be inspected on a regular basis to avoid any serious deterioration going undetected. I recommend the abutments be inspected on a monthly basis until such time as the bridge is either closed or replaced.

Please contact me you have any questions about this inspection or require any additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Feuerborn", followed by a horizontal line ending in an arrowhead. The letters "es" are written in small print at the end of the line.

Daniel Feuerborn, P.E., S.E.  
Structural Project Manager



SPALLING IN THE BEARING AREA FOR STEEL STRINGERS – EAST ABUTMENT



SPALLING IN THE BEARING AREA FOR STEEL STRINGERS – WEST ABUTMENT

VILLAGE OF LONG GROVE – ROBERT PARKER COFFIN ROAD BRIDGE



EAST ABUTMENT



UNDERMINING AT THE NORTH END OF THE EAST ABUTMENT