

Gusset Plate Advisory Plan of Action

February 20, 2008

The Federal Highway Administration issued the "Load-carrying Capacity Considerations of Gusset Plates in Non-load-path-redundant Steel Truss Bridges" Technical Advisory (Gusset Plate Advisory) on January 15, 2008. This advisory was issued as a result of the National Transportation Safety Board investigation of the I-35 bridge failure in Minneapolis, MN. The gusset plate advisory is attached.

The Nebraska Plan of Action to comply with this advisory is as follows:

- 1- New or replaced steel truss bridges: The gusset plates will be checked for structural adequacy.
- 2- Future Load Rating of steel truss bridges:
 - a. State System Bridges: All steel truss bridges will be reviewed for significant added loads. The gusset plates will be checked for structural adequacy only if the bridge has been subjected to added loads. Added loads are dead loads that were not considered in the design of the bridge.
 - b. Local System Bridges: A letter will be sent to the bridge owners requesting a review of the truss bridges for added loads. If the bridge is subjected to added loads, the owners will be instructed to either remove the added loads or measure the gusset plates and forward the information to the department. This information will be forwarded to a load rating consultant to check the gusset plates for structural adequacy.
- 3- Privately Owned Bridges: a letter was sent to the Bellevue Bridge Commission requesting their plan of action to comply with this advisory.



Dave Heineman
Governor

STATE OF NEBRASKA

DEPARTMENT OF ROADS
John L. Craig, Director

1500 Highway 2 • PO Box 94759 • Lincoln NE 68509-4759
Phone (402) 471-4567 • FAX (402) 479-4325 • www.dor.state.ne.us

March 3, 2008

Dear Bridge Owner:

This letter covers two very important subjects relating to bridges you may own that are fracture critical, or bridges of any design that have accumulated gravel on their decks. Both of these subjects are critical to the load carrying capacity of the bridges and the safety of the motoring public.

I have enclosed the recent Technical Advisory from the Federal Highway Administration regarding the gusset plates that form joints on steel truss bridges. This Technical advisory was issued as a result of the failure of the I-35W Bridge in Minnesota. I have also included Nebraska's Gusset Plate Advisory Plan of Action. This plan of action outlines what the Bridge Office is doing, and requiring of others, to comply with the advisory.

In regard to item 2-b of the plan of action, I have enclosed a list of bridges in your jurisdiction that have accumulated excessive amounts of gravel on their decks.

If you have bridges with corrugated steel decks, these bridges were designed to have gravel on the deck. Any depth of gravel beyond what the bridge was designed for must be removed or the Bridge Office may order the bridge closed until the excess gravel is removed. The action must take place as soon as possible after receiving this letter.

If you have any bridges with up to three inches of gravel on the deck, the bridge deck must be cleared of gravel or the Bridge Office may order the bridge closed until the excess gravel is removed.

In some cases, where the bridge has an extreme amount of gravel (over 3 inches), the bridge must be closed and the gravel removed before reopening the bridge.

Please notify the bridge office by June 15, 2008, of the actions you take for each bridge on these Lists and provide updated information on the gravel removed or remaining on the bridge deck.

If a bridge is a truss and is subjected to added dead loads that cannot be removed, then the gusset plates must be measured for a new load rating and the information submitted to the bridge office by June 15, 2008. If the load can and is removed, then the gusset plates do not have to be measured.

Appropriate forms to report the gusset details are also included in this package. Feel free to copy the sheets as needed.

Contact Steve Andersen at 402-479-4705 if you have any questions. Submit your information to the Bridge Office in care of Steve Andersen.

Sincerely,

Sam Fallaha P.E.
Assistant Bridge Engineer
402-479-4389

cc: Lyman Freeman, State Bridge Engineer
Monty Fredrickson, Deputy Director Engineering
Jeff Schroeder, Asst. Attorney General
Greg Kolle, FHWA

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Technical Advisory
Gusset Plate Plan of Action
Examples of Gusset Plate Forms
Blank Gusset Plate Forms
Lists of Bridges with Gravel on the Decks



Dave Heineman
Governor

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July 2, 2008

Dear Bridge Owner:

This is a reminder of the March 3, 2008 letter regarding excessive gravel/soil on bridges.

The technical Advisory from the Federal Highway Administration regarding the gusset plates that form joints on steel truss bridges was included in the earlier letter. This Technical advisory was issued as a result of the failure of the I-35W Bridge in Minnesota. The Nebraska Gusset Plate Advisory Plan of Action was also included. The plan of action outlines what the Bridge Office is doing, and requiring of others, to comply with the advisory.

In regard to item 2-b of the plan of action, we had enclosed a list of bridges in your jurisdiction that have accumulated excessive amounts of gravel on their decks.

If you have any bridges with up to three inches of gravel on the deck, the bridge deck must be cleared of gravel or the Bridge Office may order the bridge closed until the excess gravel is removed.

In some cases, where the bridge has an extreme amount of gravel (over 3 inches), the bridge must be closed and the gravel removed before reopening the bridge.

If the bridge is a truss, then all dead load must be removed. If the additional dead load cannot be removed, then the gusset plates must be inspected, measured and the data sent to the NDOR for load rating the bridge.

The deadline for notifying the bridge office of your actions was June 15, 2008. However, we have received information from only 14 counties as of July 2, 2008. We have extended the deadline until July 25, 2008. Those who have not yet sent in the information need to submit this information or risk having the listed bridges closed.

Contact Steve Andersen at 402-479-4705 if you have any questions. Submit your information to the Bridge Office in care of Steve Andersen.

Sincerely,

Moe Jamshidi
Interim Bridge Engineer

cc: Monty Fredrickson, Deputy Director Engineering
Jeff Schroeder, Asst. Attorney General
County Attorney
Victoria Peters, FHWA



Dave Heineman
Governor

STATE OF NEBRASKA

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John L. Craig, Director

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March 19, 2009

Dear Bridge Owner:

RE: Bridge Inspection Responsibility

As you are aware, the Department of Roads is making a significant effort to assist cities and counties in improving the inspection and load rating of their bridges. As part of this effort the Department of Roads had contracted with several engineering consulting firms to inspect and load rate the fracture critical and timber bridges across the state. This was a onetime effort by the Department of Roads.

Beginning with the 2009 bridge inspections, you will once again be responsible for the appropriate inspection and load rating of all your bridges. The only exception will be those requiring an underwater inspection. The Department of Roads will continue to schedule these inspections using certified contractors.

Our policy regarding new and rebuilt bridges has been distributed before, but I feel it is important enough to include along with this letter. Please review the policy and adjust your procedures to match. The Bridge Office does not want to close or keep a bridge closed after rebuilding because all the paper work has not been completed. However, the requirements of the policy are needed for the Department of Roads to maintain proper records of all bridges in the state

If you have any questions, please call Steve Andersen at 402-479-4705.

Sincerely,

Mark Traynowicz
State Bridge Engineer

cc: County Attorney
County Clerk
FHWA Division Office
Jeff Schroeder Asst. Attorney General
Jim Wilkinson Local Projects Engineer
File

enclosure