January 31, 2018

Pete Ricketts, Governor

RE: Bridge Inspection Program

Nebraska Bridge Inspection Program Participants:

The Quality Assurance (QA) Evaluation of the Bridge Inspection Program (BIP) has been completed for data entered into BrM from April 1, 2016 to March 31, 2017. In addition to meeting with bridge owners to review records, the following items were part of the QA Program:

- Qualifications of Personnel
- Inspection Frequency
- Inspection Procedures

- Bridge Posting or Closure
- Hydraulic and Hydrology
- Bridge Rating

A total of 399 files were reviewed this year at 22 different Bridge Owners. The results from this year and the previous two years are below.

Review Result	Percent		
	2015	**2016**	**2017**
Compliant → All required items are included in file	32% (138 of 478)	30% (159 of 525)	56% (222 of 399)
Substantially Compliant → File is missing one required item	28% (121 of 478)	36% (190 of 525)	21% (84 of 399)
Non-Compliant → File is missing two or more required items	40% (172 of 478)	34% (176 of 525)	23% (93 of 399)

This year there was a large jump in the number of files that were Compliant (contained all required items). While there was an overall increase in the quality of the files, a large portion of this increase is attributed to the change in the way SI&A sheets are allowed to be stored by NDOT. In past cycles, a hard copy was required to be in the file if owners kept physical files. With the increasing digitization of records, NDOT is allowing SI&A sheets to be kept electronically in BrM as long as the owner has access to the program to view and print these documents. This removes the requirement to have a hard copy of the latest SI&A sheet in the bridge file.

A brief summary of other significant findings during this year's QA process follows:

Data entry users of BrM that aren't qualified Nebraska Team Leaders should input the Team Leader that completed the inspection when entering data. Some owners and consultants choose to have someone other than the Team Leader that completed the inspection enter data into BrM. While this is allowed, the Team Leader that completed the inspection should be selected in the "Inspector"

drop down box in BrM when entering the data and the "Entered By" should be the person actually entering data.

The best bridge files are organized in a consistent, logical flow. Many owners keep all or most of the required information but have unorganized files. The best files have information kept in a consistent order across the entire inventory. Files that are kept in a consistent order are more easily updated and any missing information is more readily apparent.

Bridges that are posted for load generally have load posting signs that match the current load rating. However, nearly 10% of structures in the sample had load posting signs significantly less than the current load rating allows. Inspectors and owners should verify that the current posting signs are at least the same or lower than the current load rating allows. NDOT prefers bridges be posted at the values shown on the current Load Rating Summary Sheet. Bridges that are posted well below the current load rating unnecessarily restrict traffic that could otherwise use the structure.

Each file should contain plans for the structure. As in previous years, this continues to be one of the most commonly missing items from owners' files. Each file should either contain the plans/sketches for the structure or have a note in the file where they are located. For instance, if the plans are part of a larger project and stored together in a separate file, a note should be placed in the bridge folder to indicate this location. If there are no known plans or sketches, a note should be placed in the file to indicate this as well. In all, plans or a note were found in 67% of the files reviewed this year. This was the same percentage as last year.

Only one Load Rating Summary Sheet should be active in each file. Almost all files had a current LRSS this year; however, numerous files had several versions of past summary sheets included. When new summary sheets are received from NDOT or consultants, "void" should be written on the previous summary sheet to avoid confusion.

Fracture Critical, Other Special, and Underwater bridge inspection documentation should be stored in the bridge file with the other bridge documentation. Approximately 70% of Fracture Critical and Other Special Inspection documents were found in the files this year. This is a large increase over previous years. However, Underwater Inspection documents were found much less often, only 38% of the time. Underwater inspections are typically done on bridges that require it every 60 months. The reports are sent to owners directly by the consultant completing the inspection. When received, they should be treated like any other inspection document and placed in the bridge file.

POAs and POA Monitoring Logs continue to be widely kept with the files. Similar to previous years, nearly 80% of scour critical bridges had a POA and a POA Monitoring Log included in the file. NDOT periodically sends updates regarding bridges that may require a POA and a POA Log. When

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these are received, please create a POA for the structure, place it in the file, and copy the Department. Please remember that POA Logs should also be kept for each scour critical bridge and completed per the POA requirements. Additionally, if there is no hydraulic event in a given year that requires monitoring, the POA Log should be updated with the text "No event requiring monitoring" or something similar.

Owners should update bridge files and BrM when structures are replaced. Similar to previous years, several files reviewed were for bridges that had been replaced. Most of these files still contain the information related to the previous structure, even if it had been several years since the replacement. When bridges are replaced, site photos, Load Rating Summary Sheets and other required items should be updated in the file. The information relating to the old structure should be removed, archived, or otherwise segregated from current information to avoid confusion. If the replacement structure is no longer bridge length, send photos of the new structure and a request to NDOT to remove it from the database upon completion.

Inspectors are required to add a note and take a photo for any NBI Condition Code of 5 (Fair) or less. This applies to NBI Items 58, 59, 60, and 62. The note should document what caused the condition rating of 5 or less and include a photo of the defect or distress. The wording of the note should preferably follow the BIPM descriptions in Chapter 3 for the item being evaluated. Inspectors are also encouraged to upload the photo(s) to BrM. Both the note and photos should be updated each inspection cycle.

Nebraska Department of Transportation and Federal Highway Administration appreciate your cooperation in meeting the requirements of the National Bridge Inspection Standards.

This memorandum is being sent to all local Bridge Owners and is intended to provide an update on the Nebraska Bridge Inspection Program (BIP). Electronic copies of this and previous BIP memos, as well as other BIP information, can be found on the NDOT Bridge Division website at the following link:

http://dot.nebraska.gov/business-center/bridge/inspection/

Sincerely,

Signed by:
Mark Traynowicz, PE
State Bridge Engineer