BUREAU OF STRUCTURES

# WISCONSIN DOT

## STRUCTURES INSPECTION PROGRAM

## TECHNICAL BULLETIN

Issue 4 – November 2019


### 2019 WISDOT STRUCTURE INSPECTION REFRESHER TRAINING (SIRT) REMINDER

A reminder that all structural inspectors and program managers in Wisconsin are required to have a WisDOT approved refresher training on a periodic (5-year maximum) basis. All inspections conducted after **January 1, 2020** will require the inspector to have passed the 2019 SIRT. This training will be administered online using the WisDOT LearnCenter. For inspectors external to WisDOT, see Attachment A of the spring 2019 bulletin for details on how to register for the training. Click on the following link to register: spring 2019 bulletin

There are 13 modules in the training curriculum and each module can be completed separately to allow for flexibility if they are all completed by December 31st, 2019.

Each module needs to be taken and passed to receive credit for the refresher training. There will be a short quiz at the end of each module. The participant will need to receive an 80% or greater score on the quiz to pass the module otherwise they will need to retake the quiz to pass.

Once the participant has completed all modules, he/she will be able to print out (or save digitally) a completion certification for the course worth 5 Professional Development Hours (PDH's).

**Inspectors and program managers wishing to maintain certification to perform in-service inspections of structures in Wisconsin must submit the following to** Structure-Inspection@dot.wi.gov:

1) Completion Certificate (Attach Document)
2) Inspector Name (First and Last)
3) Inspector Email Address
4) Wisconsin Inspector ID (4-Digit Number) for all Team Leaders
5) Wisconsin PE # (Optional)

### UPCOMING STRUCTURES INSPECTION TRAINING

- NHI Course 130087 - Inspection and Maintenance of Ancillary Highway Structures ($815 per participant)
  - Eau Claire December 3rd – 4th **SPOTS AVAILABLE** contact Steve Doocy at Steve.doocy@dot.wi.gov

- NHI Course 130055 - Safety Inspection of In-Service Bridges (~$2,300 per participant)
  - Eau Claire March 9th – 20th **SPOTS AVAILABLE** contact Matt Coupar at matthew.coupar@dot.wi.gov

Did you know:

**Currently the oldest roadway bridge in the state is LATHERS RD over TURTLE CREEK in Rock County. It is an overhead truss with a single span of 141'. It was built in 1887 making it 132 years old.**

## FIELD MANUAL – 2019 INTERIM AND UPDATES

In addition to the SIRT the 2019 Interim WisDOT Structures Inspection Field Manual is now available. A separate list of updates that were made in the Field manual are also available. Those two documents can be found on the website. The link to the website is here: WisDOT Structure Inspection Website.

Inspectors are advised to update their field manual with these changes as soon as possible. The update covers errors in the previous version as well as new guidance on the severe (CS4) condition state. The 2019 SIRT covers most of these updates.

## POLICY UPDATES

The new and updated versions of the following policies are now available on the Inspection Website under Policy Memos (see above link). They include:

- Structural Review Policy (clarifications coming in December)
- Critical Findings Policy
- Inspection and Documentation of Load Posted Bridges

FHWA now requires load posting signs to be installed or updated within 30 days of notification. Once signage is installed, photos and the load posting verification form (DT2122) shall be uploaded to the HSIS as an attachment to an inspection with "Load Posted Verification" activity selected immediately after sign installation. Additional guidance on reviewing and updating load postings during inspections can be found in the December 2018 Structures Inspection Technical Bulletin.

## 2019 RESISTOGRAPH NON-DESTRUCTIVE TESTING (NDE) OF TIMBER PILES

Visual inspection and sounding timber elements with a hammer is the most basic type of inspection. But these can be difficult to interpret, and at best, can only give you an indication that decay is present, but cannot be used to determine the extent of the decay. It also has limited detection on large timber members, on members like piles that have surface delamination or damage near the water line and on large preservative treated timbers that may have an intact exterior, where the preservative treatment has penetrated, but has a decayed core. A better way to determine decay in timber elements is found using a resistograph. The resistograph pushes a small 1.5mm micro-bore (with a flared 3mm tip) into the wood and a microprocessor measures the relative resistance. The wood's resistance to the micro-bore is saved to a computer file.

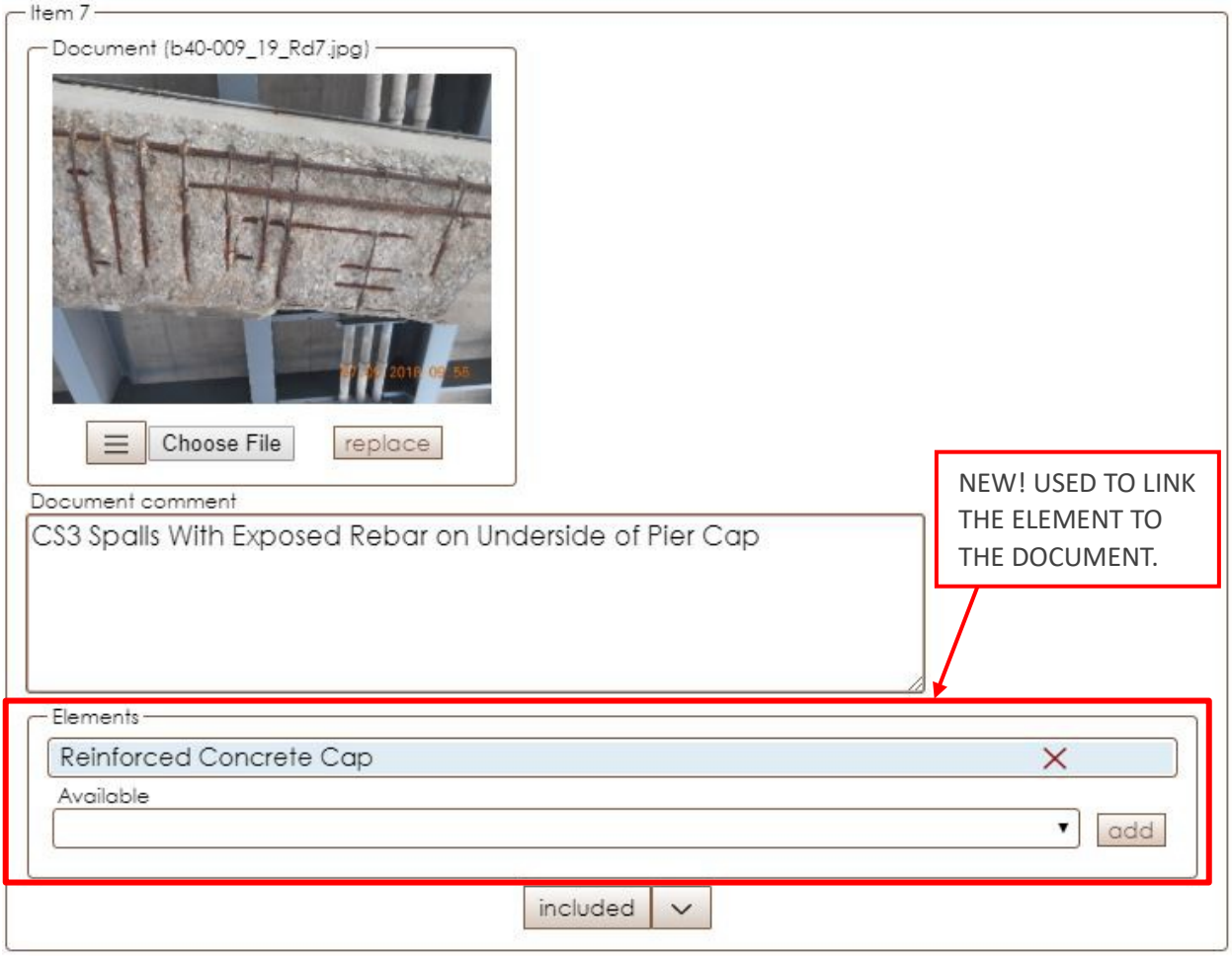
The Bureau of Structures (BOS) recently performed non-destructive testing on 66 bridges statewide using a timber resistograph. The first round of structures were chosen utilizing inspection reports that showed timber piles/columns in severe (CS4) condition.

BOS plans on performing another round of testing in the summer of 2020 on other bridges with deteriorating timber substructure members. Inform BOS if you have any structures with timber piles that you are concerned about and would like resistograph testing done. Please send requests to Matt Coupar at matthew.coupar@dot.wi.gov.

## HSIS QUICK UPDATES

A list of recent updates is available on the website https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/strct/hsi.aspx. Some highlights are:

- Inspectors can now associate your photos and documents with elements and assessments. In the image below, a pier cap with spalls is shown. Inspectors can now select from a dropdown menu what elements or assessments are shown in the photo. Multiple elements can be selected for one photo. **Starting January 1, 2020, all elements with a quantity in CS3 or CS4 will be required to have a photo associated with them.** Starting January 1, inspectors will not be able to complete their inspection if there is not a photo for all elements with a quantity in CS3 and CS4.




- Maintenance items that exist from a previous inspection and are not updated in the current one will automatically be updated with the date of the new inspection and inspector name on inspection completion. An "on complete" note has been added to HSIS to alert the inspector that this will happen.

## HSIS READ-ONLY

The NBI file must be submitted by March 15. **HSIS will be in read-only mode for two weeks starting in mid-February.** Please note the following.

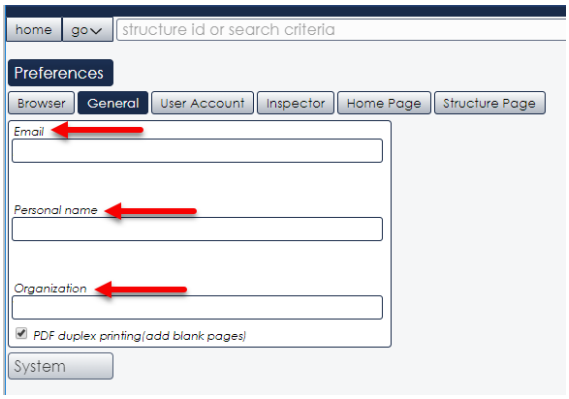
- Inspections performed through the end of January 2020 shall be entered into the HSIS prior to mid-February.
- Inspections entered into the HSIS **cannot** be re-opened for editing or photo uploads after the NBI submittal.

## INSPECTION REMINDERS AND TIPS

### UPDATE YOUR CONTACT INFORMATION IN THE HSIS TO RECEIVE NOTIFICATIONS

To receive emails related to the inspection program and mandatory inspection training it is important inspectors keep their contact information up to date in the HSIS. See instructions below on how to do so.

This can be found in the HSIS under the go menu ➔ Tools ➔Preferences ➔General tab




### BRIDGES THAT HAVE BEEN REPLACED

There have been instances where inspectors have created an inspection for a structure that was replaced under the old structure ID and noted an NBI of zero for out of service. Another case that should be avoided is creating an inspection using the old structure ID for the new structure that replaced the old. In the end an inspection should not be created for a bridge that has been replaced. Instead email the structure ID number that was replaced to your WisDOT Region Bridge Inspection PM. They will then forward to their BOS Bridge Management Liaison to update the bridge status in HSIS to Replaced.

## LOCAL BRIDGE STRENGTHENING PROGRAM

The Local Bridge Strengthening Pilot Program included 16 bridge retrofit projects in 2019: one with angles bolted onto existing steel girders, six concrete slab retrofits (five with FRP), seven timber slab retrofits with spreader decks, and two superstructure replacements. 14 of these projects have been completed or are near completion. Additionally, 14 bridges had load postings removed through re-evaluation with refined analysis techniques without requiring retrofits.

This program's objective was to economically remove load postings using construction methods that could be performed by county crews, efficiently designed by Bureau of Structures staff, and with minimal environmental impacts. The future of the program beyond the pilot phase is currently being evaluated. For more information or to request consideration of a posted bridge to be included in the program if it moves forward, contact Alex Pence at alex.pence@dot.wi.gov.

## ABOUT THE BULLETIN

The Bureau of Structures at WisDOT will publish 1~2 newsletters a year to discuss topics involving inspection, maintenance, repair, or improvement information and initiatives. If you have ideas for future topics, please submit to Rick Marz, Travis McDaniel, Matt Coupar or Steve Doocy.

## INSPECTION PROGRAM CONTACTS

| Office | Name | Phone | Cell | Email | Role |
|---|---|---|---|---|---|
| FHWA | Joe Balice | 608-829-7528 | 608-609-5025 | joe.balice@dot.gov | FHWA Bridge Engineer |

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| Bureau of Structures | Richard Marz | 608-266-8195 | 608-516-6376 | richard.marz@dot.wi.gov | Statewide Inspection Program Manager |
| Bureau of Structures | Travis McDaniel | 608-266-5097 | | travis.mcdaniel@dot.wi.gov | Assistant Statewide Inspection Program Manager |
| Bureau of Structures | Matt Coupar | 608-266-5083 | | Matthew.Coupar@dot.wi.gov | Statewide Bridge Inspection Program Manager |
| Bureau of Structures | Steve Doocy | 608-261-6063 | | Steve.doocy@dot.wi.gov | Statewide Ancillary Inspection Program Manager |
| Bureau of Structures | James Kast | | 608-516-6370 | james.kast@dot.wi.gov | Reach-All Operator & Inspection/Maintenance |
| Bureau of Structures | Mark Dent | | 608-516-6374 | mark.dent@dot.wi.gov | Reach-All Operator & Inspection/Maintenance |
| Bureau of Structures | Craig Hampton | | 608-516-6373 | craig.hampton@dot.wi.gov | Reach-All Operator & Inspection (Scheduling) |
| Bureau of Structures | Matt Tourdot | | | Matthew.tourdot@dot.wi.gov | Reach-All Operator & Inspection/Maintenance |
| Bureau of Structures | Nate Sippel | | | Nathaniel.Sippel@dot.wi.gov | Reach-All Operator & Inspection/Maintenance |
| Bureau of Structures | Dean Strey | | | dean.strey@dot.wi.gov | Reach-All Operator & Inspection/Maintenance |
| Bureau of Structures | Ryan Bowers | 608-267-3577 | | Ryan.bowers@dot.wi.gov | Bridge Management Engineer / HSI Contact |
| Bureau of Structures | Steve Doocy | 608-261-6063 | | Steve.doocy@dot.wi.gov | Statewide Ancillary Inspection Program Manager |
| Waukesha (SE) | John Bolka | 262-548-6711 | 414-750-1516 | john.bolka@dot.wi.gov | SE Region Bridge Inspection Program Manager |
| Madison (SW) | Michael Williams | 608-516-6484 | 608-246-3250 | michael.williams@dot.wi.gov | SW Region Bridge Inspection Program Manager |
| Madison (SW) | Steven Katzner | 608-516-6425 | | steven.katzner@dot.wi.gov | SW Region Bridge Inspection Program Manager |
| La Crosse (SW) | David Bohnsack | 608-785-9781 | 608-792-6084 | david.bohnsack@dot.wi.gov | SW Region Bridge Inspection Program Manager |
| Green Bay (NE) | Dale Weber | 920-492-7161 | 920-366-6430 | dale.weber@dot.wi.gov | NE Region Bridge Inspection Program Manager |
| Wisconsin Rapids (NC) | Tom Hardinger | 715-421-8323 | 715-459-4269 | thomas.hardinger@dot.wi.gov | NC Region Bridge Inspection Program Manager |
| Rhinelander (NC) | Brock Gehrig | 715-365-5799 | 715-493-4397 | brock.gehrig@dot.wi.gov | NC Region Bridge Inspection Program Manager |
| Superior (NW) | Allan Bjorklund | | 715-225 9308 | allan.bjorklund@dot.wi.gov | NW Region Bridge Inspection Program Manager |
| Eau Claire (NW) | Gregory Haig | | 715-577-0646 | gregory.haig@dot.wi.gov | NW Region Bridge Inspection Program Manager |