

DATE: March 3, 2025  
 TO: Highway Structures Information System (HSIS) Users  
 FROM: DTSD – Bureau of Structures  
 SUBJECT: **February 2025 HSIS updates**

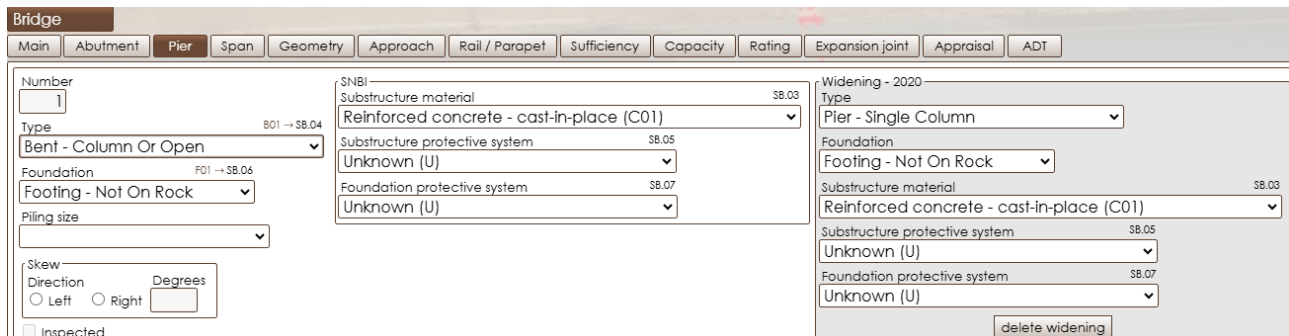
Version 3.0.1-1406 of HSIS was released on 2/25/25. The following is a list of some of the enhancements added and bugs fixed in these releases. This may not be a comprehensive list.

Version 3.0.1-1406 contains many changes related to implementing the NBIS and SNBI. If you believe something is not working correctly, if you cannot enter something you think you should be able to, or you have questions on where to find something, please contact me.

If you discover any bugs or have suggestions for enhancements, please email [ryan.bowers@dot.wi.gov](mailto:ryan.bowers@dot.wi.gov). If you do find a bug, please provide as much information as possible about what structure you were working on, what browser you used, if you were using a mobile device or not, items you were editing or clicking on prior to the bug occurring, etc. The more information you provide, the better chance we have at replicating the issue, determining the cause, and fixing it. Any screenshots or videos you can take are helpful.

## Enhancements

- 1) Data for span, abutment, and pier widenings can now be stored in HSIS. The SNBI requires this data be recorded if it differs from the original construction. The widened data is shown next to the existing data in HSIS. BOS will work on populating the data we have in the upcoming months. If you notice something that is wrong or missing, please let me know.



The screenshot shows the 'Bridge' form in HSIS with the 'Widening' tab selected. The form is divided into three main sections: 'Main', 'Substructure', and 'Widening - 2020'. The 'Main' section includes fields for Number (1), Type (Bent - Column Or Open), Foundation (Footing - Not On Rock), Piling size, and Skew (Left/Right, Degrees). The 'Substructure' section includes fields for Substructure material (Reinforced concrete - cast-in-place (C01)), Substructure protective system (Unknown (U)), and Foundation protective system (Unknown (U)). The 'Widening - 2020' section includes fields for Type (Pier - Single Column), Foundation (Footing - Not On Rock), Substructure material (Reinforced concrete - cast-in-place (C01)), Substructure protective system (Unknown (U)), and Foundation protective system (Unknown (U)). A 'delete widening' button is located at the bottom right of the 'Widening - 2020' section.

Widening example.

- 2) Many items in Errata Number 1 for the SNBI have been addressed in HSIS. Items such related to load ratings and inspection equipment will be addressed in a future HSIS version.  
[https://www.fhwa.dot.gov/bridge/snbi/errata1\\_to\\_snbi\\_march\\_2022\\_publication.pdf](https://www.fhwa.dot.gov/bridge/snbi/errata1_to_snbi_march_2022_publication.pdf)
- 3) A scour plan of action is required for bridges with B.AP.03 scour vulnerability coded C, D, E, U, or O.
- 4) A special component was added for "NDT – ultrasonic peening UPT".

- 5) A critical finding will be triggered automatically when any of the following occur during an inspection:
- A nonredundant steel tension member (NSTM) inspection condition rating (B.C.14) is less than or equal to 3.
  - The deck, superstructure, substructure, or culvert condition rating (B.C.01, B.C.02, B.C.03 or B.C.04, respectively) is less than or equal to 2.
  - The channel or scour condition rating (B.C.09 or B.C.11, respectively) is less than or equal to 2.
- 6) There is a checkbox for noting is there is an “animal nesting/roosting presence on structure”. If this box is checked, additional notes can be entered. This is found on the Inspection > Notes / requirements tab. Please refer to the inspection manual for additional guidance.

General  
Bridge  
Inspection

Edit History Interval Structure information Elements Assessments Condition ratings Notes / requirements Documents / images Maintenance

**Notes**

Structure specific notes  
Single Span Reinforced Concrete Flat Slab Bridge

Inspector site- specific safety considerations  
Low clearance under bridge to access.

☐ Animal nesting/roosting presence on structure

Inspection specific notes  
None.

“Animal nesting” checkbox and notes field.

- 7) Railing data has been overhauled to comply with SNBI requirements. Previously, one rail could be selected for each of the left outer, left inner, right inner, and right outer rail. Now, a primary rail, decorative rail, screening, and transition rail can all be defined, and each can be defined for the left outer, left inner, right inner, and right outer rail if they exist.

The primary rail and transitions require a field-measured height to be entered during an inspection. These heights will be used to determine the codes submitted to FHWA for SNBI items B.RH.01 Bridge Railings and B.RH.02 Transitions. HSIS will determine the codes to be submitted. Heights are entered on the Inspection > Structure information tab. If the rail isn't shown in HSIS, or the type shown is incorrect, the inspector is able to and should update this information. Additional guidance will be provided at the inspector refresher training on March 19, 2025.

**Rails**

Primary rail

Left outer Measured height (in)

Tubular steel type F (2 tube)

delete

Right outer Measured height (in)

Tubular steel type F (2 tube)

delete

Position

add

Display currently empty

Railing data fields on the Inspection > Structure Information tab.

There is currently a bug where the new “Rail / Parapet” tab is not visible on the “Bridge” tab. However, railing information is still displayed, field measured heights can be entered, and rail types can be added or modified, during an inspection on the “Structure Information” tab. The rail type shown on the “approach” tab references a different database table; **any changes made to the new rail types on the Structure information tab will not be displayed on the Approach tab, but they are present in the database and will be displayed in the next HSIS version.**

**Bridge**

Main Abutment Pier Span Geometry Approach **Rail / Parapet**

Primary rail

Left outer Measured height (in) 02/25/25

Single slope parapet - 42SS

42.1

delete

Right outer Measured height (in) 02/25/25

Single slope parapet - 32SS

32.2

delete

Crash rating code

M163

Position

add

Railing heights and crash rating displayed on Bridge > Rail / Parapet tab.

- 8) A new activity, “Unmanned vehicle”, is available for use. It currently can only be used for bridge structures at this time. It will be available for other structure types in the next release. This activity is not visible in the activity list until an inspection type is selected.

The screenshot shows the 'Inspection' form with three tabs: 'Create', 'History', and 'Interval'. The 'Create' tab is active. On the left, there is a 'Cover photo' section with a photo of a bridge and the date '09/06/24'. On the right, there are two columns of checkboxes. The 'Inspection type' column has 'Special' selected. The 'Activity type' column has 'Unmanned vehicle' selected.

Inspection type	Activity type
<input type="checkbox"/> Initial / inventory	<input type="checkbox"/> Critical finding
<input type="checkbox"/> Routine	<input type="checkbox"/> Structural review
<input type="checkbox"/> Damage	<input type="checkbox"/> Deck evaluation
<input checked="" type="checkbox"/> Special	<input type="checkbox"/> Load posted verification (dt2122)
<input type="checkbox"/> NSTM (arm's length)	<input type="checkbox"/> Non-Destructive evaluation
<input type="checkbox"/> In-Depth	<input type="checkbox"/> QA inspection review
<input type="checkbox"/> Uw-Dive	<input type="checkbox"/> Reach all
	<input type="checkbox"/> Scour monitoring
	<input type="checkbox"/> Scour plan of action
	<input type="checkbox"/> Service
	<input type="checkbox"/> SIA review
	<input type="checkbox"/> SNBI
	<input checked="" type="checkbox"/> Unmanned vehicle
	<input type="checkbox"/> Uw-Profile
	<input type="checkbox"/> Vertical clearance measured

“Unmanned vehicle” activity displayed in activity list.

Use of the unmanned vehicle activity requires one of the following to be selected from the “special requirements” list located on the Inspection > Notes / requirements” tab: remote operated vehicle (ROV) – Emily; remote operated vehicle (ROV) – pipe trekker; remote operated vehicle (ROV) – sub; unmanned aerial system (UAS); unmanned aerial systems (UAS) – thermal.

The screenshot shows a dropdown menu titled 'Special requirements'. The menu lists several options, including 'Remote Operated Vehicle(ROV) - Emily', 'Remote Operated Vehicle(ROV) - pipe trekker', 'Remote Operated Vehicle(ROV) - sub', 'Unmanned Aerial Systems (UAS)', and 'Unmanned Aerial Systems (UAS) - thermal'. There is an 'add' button at the bottom right of the dropdown.

Special requirements
A52 Reach-All Unit
A62 Reach-All Unit
A62T Reach-All Unit
Other Access Equipment
Remote Operated Vehicle(ROV) - Emily
Remote Operated Vehicle(ROV) - pipe trekker
Remote Operated Vehicle(ROV) - sub
Testing Equipment
Traffic Control
Unmanned Aerial Systems (UAS)
Unmanned Aerial Systems (UAS) - thermal

Special requirements dropdown showing new ROV and UAS options.

If the unmanned vehicle activity is selected but a ROV or UAS is not added to the special requirement, an inspection complete disabled reason will appear. Either the activity needs to be removed or a piece of equipment selected to clear the complete disabled reason. A similar complete disabled reason will appear if a piece of equipment is selected without also choosing the unmanned vehicle activity.

Inspection complete disabled	
Reason	
unmanned special requirement (is used) required when unmanned vehicle activity checked	

- 9) Additional information about the inspector can now be entered under Preference > Inspector. This is information such as the inspector email address and employer name. The NBIS requires this information. Email address is being required in this location even though it is captured elsewhere in HSIS because other locations connect the email address to the HSIS user ID, whereas the email under inspector is for the specific inspector selected. The user ID email address and inspector email address might not always be the same, such as when someone is entering an inspection into HSIS for a different person.

Preferences

Browse

General

User Account

Inspector

Home page

Structure page

Inspector

RegionSET, SW\_MAD (1017)

Inspector id

1017

First name

SW\_MAD

Middle initial

Last name

RegionSET

Work

Employer

Email

Address line 1

Address line 2

City

State

Zip

00000 (-0000)

optional: -

delete

use: ryan.bowers@dot.wi.gov

Phone

(000)000-0000 (extension)

optional: ( ) -

Fax

(000)000-0000

optional: ( ) -

Address type

add

Assigned qualifications

Code	Description
TMMR	Team M

Qualification

Team Member

Effective start

01/27/2015

Qualification

New data fields for inspector information.

## **Bugs Fixed**

The following bugs were fixed with this version. Additional bugs not listed below were also fixed.

- 1) Program managers were unable to update the routine inspection interval to 24 months after a special or initial inspection occurred and eliminated the need to a 12-month routine inspection interval.
- 2) Program managers were unable to edit the uw-profile interval when the bridge also receives a uw-dive inspection.
- 3) A uw-profile was being required in order to submit a scour POA.
- 4) An error message appeared when entering expansion joint measurements. The values were being saved despite the message.
- 5) An error message appeared when assigning inspection qualifications to inspectors.
- 6) SNBI items B.C.05 bridge railings, B.C.06 bridge railing transitions, B.C.07 bridge bearings, and B.C.08 bridge joints condition ratings could only be entered during routine inspections.
- 7) Hydraulic files stored in HSIS couldn't be downloaded.
- 8) Users couldn't add the "uw-dive" inspection type to an open inspection.
- 9) Some bridges had an inspection on-complete message stating a bridge as eligible for a 48-month routine inspection interval after an initial inspection was completed. Upon inspection completion, the routine interval did not allow 48-months. The bridge is NOT eligible for a 48-month interval, as the NBIS requires the bridge "be in service for 24 months, and receive its next routine inspection before being eligible for inspection interval greater than 24 months."
- 10) The appropriate notes and quantities were not always copied forward to the next inspection when inspections were entered into HSIS out of sequential order.