REHABILITATION STRUCTURE SURVEY REPORT

Wisconsin Department of Transportation

DT1696 6/2012

☐ **Grade Separation** ☐ **Stream Crossing** ☐ **Culvert**

☐ **Railroad** ☐ **Retaining Wall** ☐ **Noise Barrier**

☐ **Sign Structure** ☐ **Other:** _____

For guidance see: http://dotnet/dtid_bos/extranet/structures/reports-checklists.htm

Design Project ID	Construction Project ID	Highway (Project Name)		
Final Plan Due Date	Preliminary Plan Due Date	☐ Town ☐ Village ☐ City		
PS&E Date	Letting Date	County		
Structure Number		Section	Town	Range
Station	Latitude: Longitude:	☐ YES ☐ NO Structure Located on National Highway System		
For Survey and CADD Files Horizontal Coordinate System: Vertical Datum:		**Traffic Forecast Data**		
		Design Year	Average Daily Traffic (ADT)	Roadway Design Speed	Functional Class
Feature On		Feature On			
Feature Under		Feature Under			
Region Contact: (Area Code) Telephone Number(s): Email:		Consultant Contact: (Area Code) Telephone Number(s): Email:			

Work To Be Performed

Field Information Required

Item Number *(see Pages 2–4)*

☐ A. Structural Repair 1–3, 22

☐ B. Overlay 1–3, 10–22, 26–28, 32, 34

- ☐ Concrete Overlay ☐ Asphalt Overlay
- ☐ Polymer Modified Asphalt Overlay ☐ Thin Bonded Polymer Overlay
- ☐ Other: _____

☐ C. New Bearings 3, 8, 9, 22

☐ D. New Railings 15–17, 20–23

☐ E. Curb and Sidewalk Repair 2, 3, 16, 22, 23

☐ F. Abutment Repair 2, 3, 12, 16

☐ G. Pier Repair 2, 3, 12, 16

☐ H. New Deck 1–6, 9, 10, 13–28, 32–34

☐ I. Widening 1–28, 30, 32–35

☐ J. Joint Repair 2, 3, 8, 16, 19, 22

☐ K. Surface Repair 2, 3, 22

☐ L. Raising Bridge 3, 6, 9, 16, 20–24

☐ M. Slope Stabilization 1–3, 30

☐ N. Scour Repair ..... 1, 2 or 3, 16, 19, 21, 27, 29, 31–35

☐ O. Painting 16, 22, 24

☐ P. Other: _____

Summary of Comments on Microsoft Word - dt1696.doc

Page: 1

Number: 1 Author: BOS Comment Subject: Sticky Note Date: 10/26/2015 10:11:05 AM

Select the type of structure work that is being submitted. The information provided on this form will enable BOS to produce a structurally sound, site appropriate design and plan set more efficiently.

Number: 2 Author: BOS Comment Subject: Sticky Note Date: 10/26/2015 10:11:42 AM

Station at estimated start of structure; helps designer to quickly locate structure in alignment.

Number: 3 Author: BOS Comment Subject: Sticky Note Date: 10/26/2015 10:12:40 AM

Latitude and longitude of proposed structure can be found using Google Maps. Useful for design engineer and also later when structure is uploaded to HSI.

Number: 4 Author: BOS Comment Subject: Sticky Note Date: 10/26/2015 10:13:14 AM

Traffic data is used in structure design, displayed on structure plans and uploaded to HSI.

Number: 5 Author: BOS Comment Subject: Sticky Note Date: 3/3/2016 3:15:11 PM -06'00'

Coordinate with the structure designer or BOS Design Supervisors prior to conducting field survey to determine data collection requirements for

letters A, B, C, D, E, H, I, and L. Provide as-built plans for all structures. Address discrepancies between survey and as-built plans.

Number: 6 Author: BOS Comment Subject: Sticky Note Date: 9/28/2015 10:04:58 AM

Concrete overlays are the preferred method for bridge rehabilitation. If another overlay type is requested, provide brief justification for this choice.

Number: 7 Author: BOS Comment Subject: Sticky Note Date: 9/28/2015 10:57:30 AM

Indicate type of railing to be installed. If non-standard, provide a sketch of the desired shape. Provide justification if either a non-standard railing is requested, or if a sub-standard railing is to be left in place.

Number: 8 Author: BOS Comment Subject: Sticky Note Date: 10/16/2015 8:04:24 AM

Deck, superstructure, and substructure must meet requirements from *Bridge Manual Chapter 40* in order to be eligible for deck replacement. If these criteria are not met, consider an overlay.

Number: 9 Author: BOS Comment Subject: Sticky Note Date: 10/14/2015 2:28:44 PM

Coordinate with the hydraulic designer and structure designer prior to conducting field survey of stream bed to determine data collection requirements.

Field Information Required

If no structure number exists provide the following: Small County Map on which the location of proposed structure is shown in red and any highway relocation in green. In addition, provide Location Map of scale not less than 1" = 2000' showing the structure location and number.

☐ 1. Most recent inspection report, brief history of bridge construction date, and description of repairs with dates. 1

☐ 2. Outline deficient areas on existing structure plan or drawing. 2

☐ 3. Photographs of details requiring repairs or modifications, such as: bearings, x-frames, joints, etc. Photograph all deficient areas. Clearly label all photographs. 3

☐ 4. Provide proposed typical section for roadway and structure showing dimensions and cross slopes.

☐ 5. Survey beam seat or girder elevations at both sides of bridge at all substructure units. 4

☐ 6. Provide cross-section elevations at 10 foot intervals extending across the structure and a minimum of 100 feet beyond each end. Sections should be normal to centerline and show elevations at centerline roadway and gutter line. Take elevations along joints and at floor drains.

☐ 7. Show and identify starting stationing on bridge. 5

☐ 8. Record measurement, temperature of the structure, and date taken for each of the following:
(a) Joint opening measured normal to joint at centerline of roadway and both curb lines.
(b) Clearance between girder ends at piers.
(c) Distance from front face of abutment backwall to closest point of girder end measured parallel to girder.
(d) Temperature of structure determined by averaging top and under deck (if accessible) readings.

☐ 9. Fixed and expansion bearings - condition and orientation. 6

☐10. Number and width of proposed pours including construction staging sequence.

☐11. Location of existing construction joints in the deck. 7

☐12. Estimated Quantities:

Preparation, Decks, Type 1 8	Sq. Yd. _____	9
Preparation, Decks, Type 2	Sq. Yd. _____	
Full Depth Deck Repair	Sq. Yd. _____	Galvanic Anodes? _____
Concrete Surface Repair Superstructure	Sq. Ft. _____	Galvanic Anodes? _____
Concrete Surface Repair Substructure	Sq. Ft. _____	Galvanic Anodes? _____
Curb Repair	LF. _____	Galvanic Anodes? _____

☐13. Sufficiency number: _____ (obtain from HSI Bridge Inventory System)

☐14. Appraisal and Condition Rating 10

	Deck Condition	Superstructure Condition	Substructure Condition	Load Capacity Appraisal	Structural EVAL Appraisal
Current	11	12	13	14	15

☐ 15. Load Ratings

	Inventory	Operational
Current Calculated Date:		
After Completed by Bridge Designer		

Page: 2

Number: 1 Author: BOS Comment Subject: Sticky Note Date: 9/28/2015 3:23:09 PM
Obtain from HSI Bridge Inventory System.

Number: 2 Author: BOS Comment Subject: Sticky Note Date: 11/30/2015 4:33:38 PM -06'00'
Show using existing plans or sketches all areas to be repaired or replaced. Label areas with anticipated type of repair to be performed. (Print existing plans to .pdf and using adobe commenting tools works great.)

Number: 3 Author: BOS Comment Subject: Sticky Note Date: 11/30/2015 12:28:51 PM -06'00'
Submit zip file of photos as JPEG (or other photo file format such as .pdf). Photos should clearly show area to be repaired or modified, and the location of the highlighted area relative to the overall structure. *(There's no such thing as too many pictures!)*

Number: 4 Author: BOS Comment Subject: Sticky Note Date: 9/28/2015 3:24:18 PM
Accurate survey data are vital to creating correct plans. The existing plans may not reflect actual conditions in the field.

Number: 5 Author: BOS Comment Subject: Sticky Note Date: 9/28/2015 2:10:31 PM
Indicate whether the rehabilitation project will use the existing stationing, or will be based on a new alignment.

Number: 6 Author: BOS Comment Subject: Sticky Note Date: 11/25/2015 4:50:42 PM -06'00'
These should also be included in the photographs as shown above, see #3.

Number: 7 Author: BOS Comment Subject: Sticky Note Date: 11/30/2015 4:39:18 PM -06'00'
Submit a sketch showing all existing construction joints. Indicate whether these joints will be preserved during rehabilitation.

Number: 8 Author: BOS Comment Subject: Sticky Note Date: 11/25/2015 4:51:50 PM -06'00'
The total estimated area for each repair type should match what is shown in bullet point 2 above. A note will be added to the plans that final repair areas will be determined by the field engineer. The number provided here will be used for estimating and letting purposes.

Number: 9 Author: BOS Comment Subject: Sticky Note Date: 11/25/2015 4:52:46 PM -06'00'
This is a type of corrosion protection. Consult Region Bridge Maintenance staff to determine possible applicability.

Number: 10 Author: BOS Comment Subject: Sticky Note Date: 3/3/2016 3:06:52 PM -06'00'
Based on inspection report, found in HSI. Important to look at HSI and recent inspection reports to ensure all necessary work is being completed.

Number: 11 Author: BOS Comment Subject: Sticky Note Date: 3/3/2016 3:00:40 PM -06'00'
HSI
> Bridge Inventory tab
> Appraisal tab
> see "item 58"

Number: 12 Author: BOS Comment Subject: Sticky Note Date: 3/3/2016 3:01:01 PM -06'00'
HSI
> Bridge Inventory tab
> Appraisal tab
> see "item 59"

Number: 13 Author: BOS Comment Subject: Sticky Note Date: 3/3/2016 3:01:16 PM -06'00'
HSI
> Bridge Inventory tab
> Appraisal tab
> see "item 60"

Number: 14 Author: BOS Comment Subject: Sticky Note Date: 3/3/2016 3:02:54 PM -06'00'
HSI
> Bridge Inventory tab
> Appraisal tab
> see "item 67"

Number: 15 Author: BOS Comment Subject: Sticky Note Date: 3/3/2016 3:03:41 PM -06'00'
HSI
> Bridge Inventory tab
> Bridge Appraisal tab
> see "item 70"

Comments from page 2 continued on next page

Field Information Required

If no structure number exists provide the following: Small County Map on which the location of proposed structure is shown in red and any highway relocation in green. In addition, provide Location Map of scale not less than 1" = 2000' showing the structure location and number.

☐ 1. Most recent inspection report, brief history of bridge construction date, and description of repairs with dates.

☐ 2. Outline deficient areas on existing structure plan or drawing.

☐ 3. Photographs of details requiring repairs or modifications, such as: bearings, x-frames, joints, etc. Photograph all deficient areas. Clearly label all photographs.

☐ 4. Provide proposed typical section for roadway and structure showing dimensions and cross slopes.

☐ 5. Survey beam seat or girder elevations at both sides of bridge at all substructure units.

☐ 6. Provide cross-section elevations at 10 foot intervals extending across the structure and a minimum of 100 feet beyond each end. Sections should be normal to centerline and show elevations at centerline roadway and gutter line. Take elevations along joints and at floor drains.

☐ 7. Show and identify starting stationing on bridge.

☐ 8. Record measurement, temperature of the structure, and date taken for each of the following:
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(b) Clearance between girder ends at piers.
(c) Distance from front face of abutment backwall to closest point of girder end measured parallel to girder.
(d) Temperature of structure determined by averaging top and under deck (if accessible) readings.

☐ 9. Fixed and expansion bearings - condition and orientation.

☐10. Number and width of proposed pours including construction staging sequence.

☐11. Location of existing construction joints in the deck.

☐12. Estimated Quantities:

Preparation, Decks, Type 1	Sq. Yd. _____	
Preparation, Decks, Type 2	Sq. Yd. _____	
Full Depth Deck Repair	Sq. Yd. _____	Galvanic Anodes? _____
Concrete Surface Repair Superstructure	Sq. Ft. _____	Galvanic Anodes? _____
Concrete Surface Repair Substructure	Sq. Ft. _____	Galvanic Anodes? _____
Curb Repair	LF. _____	Galvanic Anodes? _____

☐13. Sufficiency number: _____ (obtain from HSI Bridge Inventory System)

☐14. Appraisal and Condition Rating

	Deck Condition	Superstructure Condition	Substructure Condition	Load Capacity Appraisal	Structural EVAL Appraisal
Current					

☐ 15. Load Ratings

	Inventory	Operational
Current Calculated Date: 16		
After Completed by Bridge Designer		

Number: 16 Author: BOS Comment Subject: Sticky Note Date: 3/3/2016 3:08:11 PM -06'00'

Obtain from HSI Bridge Inventory System. If not available, coordinate with BOS Development Section Structures Management Unit to determine existing load ratings.

HSI
> Bridge Inventory tab
> Capacity tab
> see "Rating Change Date"

☐ 16. Utilities on/near Structure. (WisDOT policy is to avoid placing utilities on the structure.)
☐ Yes ☐ No

Type	Owner and Contact Information	Size	Opening at Abutment	Weight	Pressure

☐ 17. Is existing bridge railing deficient?
☐ Yes ☐ No If Yes – Replacement Rail Type: 1

☐ 18. Drains to be:
☐ Raised ☐ Closed ☐ Downspouted ☐ New

☐ 19. Traffic maintained on bridge during work?
☐ Yes ☐ No If Yes – Include sketches 2

☐ 20. Will guard rail be attached?
☐ Yes ☐ No If Yes – Which corners?

☐ 21. Will work to be performed eliminate all deficiencies?
☐ Yes ☐ No If No – Explain: 3

☐ 22. Hazardous waste (asbestos) to be removed?
☐ Yes ☐ No If Yes – Explain: 4

☐ 23. Wing location(s) for surface drain anchors:

☐ 24. Painting? 5
☐ Yes ☐ No If Yes – Explain on Page 4
(all, part, railing, color system, containment, bid items)

☐ 25. Desired roadway width: *(new deck / widening)* 6 Ft.
Desired sidewalk clear width: Left: _____ Ft. Right: _____ Ft.

☐ 26. Maximum increase in grade line elevation 7 In.

☐ 27. Benchmark description to be shown

☐ 28. Desired final cross slopes on bridge 8 Ft./Ft.

☐ 29. Underwater Inspection Report including:
- Streambed Cross Section With Pier, Footing and Seal Elevations
- Pier Elevation Drawings
- Pier Layout
- Hydrographic Survey

☐ 30. Slope stabilization, provide:
Type: _____ Quantity: _____ CY.
Slope: _____ Ft./Ft. Fill: _____ CY.

☐ 31. Preliminary layout of grout bags or proposed scour repair.
C.I.P. Articulated Mats (for Scour) _____ CY.
Grout Bags (for Scour) _____ CY.
Heavy Riprap _____ CY.
Extra Heavy Riprap _____ CY.

Page: 3

Number: 1 Author: BOS Comment Subject: Sticky Note Date: 10/16/2015 8:13:11 AM
See *Bridge Manual Chapter 30* for railing rehabilitation requirements.

Number: 2 Author: BOS Comment Subject: Sticky Note Date: 9/28/2015 12:03:04 PM
Sketches should show direction and location of traffic during each stage. Also show location of construction joints, and temporary barriers if required.

Number: 3 Author: BOS Comment Subject: Sticky Note Date: 9/28/2015 11:47:06 AM
Provide justification for any sub-standard components to be left in place.

Number: 4 Author: BOS Comment Subject: Sticky Note Date: 11/30/2015 4:13:12 PM -06'00'
Specify where on the structure asbestos (or other hazardous material) is present, and whether the material will be removed. The design engineer needs this information to determine the appropriate bid items for the project.

Number: 5 Author: BOS Comment Subject: Sticky Note Date: 11/25/2015 4:54:35 PM -06'00'
Provide the square footage required for painting in the *Additional Information*. This number will be used in creating the STSP. Also describe what needs painting, the color with federal color number, type of painting, cleaning and containment system required.

Number: 6 Author: BOS Comment Subject: Sticky Note Date: 11/25/2015 4:55:01 PM -06'00'
Refers to inside distance between curbs/railings on bridge. Design engineer will determine overall width based on railings, superstructure type, etc.

Number: 7 Author: BOS Comment Subject: Sticky Note Date: 9/28/2015 12:21:46 PM
Only applies if existing profile grade line is to be preserved. If a new PGL is developed, coordinate with BOS to determine how rehabilitation will affect deck elevation.

Number: 8 Author: BOS Comment Subject: Sticky Note Date: 9/28/2015 11:57:31 AM
If any changes are to be made to the deck (overlay, widening, replacement, etc.), indicate desired cross slope even if it will be the same as the existing cross slope.

☐ 32. Report submitted with Preliminary Plan requires **no** CADD file submittal *(See ESubmittal instructions)*.

☐ 33. Report submitted for development of Preliminary Plan to structure design engineer requires CADD file (if available) submittal and Report submittal to Soils Engineer if project involves foundation modifications.

☐ 34. Coordinate with structure design engineer **before** going into the field if existing structure has no available plans, if staged construction is planned, or if there are adjoining/adjacent structures that will remain in place.

☐ 35. If project involves substructure widening coordinate with structure and/or hydraulic design engineer to determine if information on the separation and/or stream crossing SSR will be required.

Additional Information

Elaborate on other concerns such as: DNR, Local, Utility Conflicts, Aesthetics, Railing Type and Staged Construction.
Please be as detailed and specific as possible.

1

The more information that can be provided, the better. This will result in fewer questions from BOS during structure design and a better end product.

The following is not all inclusive; please add/delete discussion items to fit site/project specific details that may influence structure design:

Item ##:
Expand on any items from the previous sections of this form requiring additional information. The more information the better!

Geotechnical Coordination:
Detail who is completing geotechnical work/soil borings (in-house or consultant) and anticipated schedule of work.

Aesthetics:
Include desired federal color number for painting/staining rehabs.

Structural Approach Slabs:
Structural approach slabs generally can't be added to existing structures without substantial modifications to the abutments. Contact BOS with questions about using structural approach slabs.

Proposed Structure (& Future Expansion):
Discuss proposed final size of structure and vertical/horizontal clearances (if special clearances are required for construction staging). Describe future expansion, if any is anticipated, which may include lower roadway lane expansion, upper roadway widening, etc.

Temporary Shoring:
Describe anticipated locations of temporary shoring needed for construction.

Construction Staging:
Discuss construction staging in detail and describe desired sequencing.

Concrete Barrier:
Discuss barrier locations, type, and heights approaching the structure, if applicable.

Bike/Pedestrian/Other Structure Accommodations:
Discuss impacts of sidewalks, multi-use paths, separation barriers, medians, etc.

Existing Structure Information:
Provide detailed existing structure information regarding size, type, bridge number, dimensions, type of substructures and location, with respect to the proposed structure.

Utilities:
List utilities located under, near, or on the proposed structure. Include type of utility, action to be taken and who owns the utility. If conduit/ utility will be on the structure describe who will be servicing it, number and size of conduits needed and any other pertinent information.

Site Drainage:
Discuss potential drainage concerns involving the proposed structure. Possible concerns include proposed roadway drainage pipes under substructure units, anticipated need for deck drains and median drainage. Include locations of pipes and invert elevations as appropriate.

DNR:
Discuss the status of coordination between Region/Consultant and DNR. Include any agreements made, concerns with the site, or areas requiring special attention as expressed by DNR (e.g. AOP, etc.).