REHABILITATION STRUCTURE SURVEY REPORT

Wisconsin Department of Transportation
DT1696 4/2017

RECEIVED
06/27/2019
BUREAU OF STRUCTURES

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

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

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

For guidance see: **http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/strct/survey.aspx**

Design Project ID 1196-04-02	Construction Project ID 1196-04-77	Highway (Project Name) USH 53		
Final Plan Due Date 3/1/2020	Preliminary Plan Due Date 6/28/2019	☒ Town ☐ Village ☐ City Dovre		
PS&E Date 5/1/2020	Letting Date 11/10/2020	County Barron		
Structure Number B-03-0016		Section 16	Town 32N	Range 10W
Station 221+50	Latitude: 451527.5 Longitude: 913645.85	☒ YES ☐ NO Structure Located on National Highway System		
For Survey and CADD Files Horizontal Coordinate System: NAD83 (2011), Barron County Coordinate System Vertical Datum: NAVD88 (2012)		**Traffic Forecast Data**		
		Design Year	Average Daily Traffic (ADT)	Roadway Design Speed	Functional Class
Feature On USH 53 SB		Feature On 2023	7,320	80	Principal Arterial
Feature Under CTH AA		Feature Under 2000	270	60	Minor Collector
Region Contact: Brendan Dirkes (Area Code) Telephone Number(s): 715-395-3026 Email: Brendan.Dirkes@dot.wi.gov		Consultant Contact: Brett Oftedahl (Area Code) Telephone Number(s): 608-251-4843 Email: brett.oftedahl@strand.com			

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: Upper Wingwall Replacement, Girder Replacement (G1, S2)

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:
(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.

☒ 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. 10	Galvanic Anodes? _____
Curb Repair	LF. _____	Galvanic Anodes? _____

☒ 13. Sufficiency number: 80.2 (obtain from HSI Bridge Inventory System)

☒ 14. Appraisal and Condition Rating

	Deck Condition	Superstructure Condition	Substructure Condition	Load Capacity Appraisal	Structural EVAL Appraisal
Current	5	5	7	5	5

☒ 15. Load Ratings

	Inventory	Operational
Current Calculated Date: 8/7/2013	HS15	HS24
After Completed by Bridge Designer	Completed During Final Design	Completed During Final Design

☒ 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:

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

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

☒ 20. Will guard rail be attached?
☒ Yes ☐ No If Yes – Which corners? Wing 3 and Wing 4 Corners

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

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

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

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

☒ 25. Desired roadway width: *(new deck / widening)* 40 Ft.
Desired sidewalk clear width: Left: _____ Ft. Right: _____ Ft.

☒ 26. Maximum increase in grade line elevation 1 In.

☒ 27. Benchmark description to be shown

☒ 28. Desired final cross slopes on bridge 0.01 (Super.) 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.

☒ 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.

Construction History:
1972: New Structure
1991: Concrete Overlay

Anticipated Rehabilitation Work:
The proposed work includes removing and replacing the concrete deck and parapets, concrete surface repair at abutments, replacing Girder 1/Span 2, replacing upper wingwalls at all wings, epoxy sealing girder ends, removing midspan concrete diaphragms and replacing with steel diaphragms, and removing and replacing bearings at north abutment.

Construction Staging:
A single southbound lane will be maintained across the bridge during construction. At a minimum, a 12-foot lane and two 2-foot shoulders (16 feet clear width) is anticipated to be provided at all times. The maintained 16-foot clear width will allow for USH 53 to remain an OSOW Wind Tower Route.

Geotechnical Coordination:
No Geotechnical Services will be required for this rehabilitation project.

Approach Slabs:
ADT is estimated at 7,320 for 2023. Per FDM 14-10-15, Structural/Concrete approach slabs are required for roads with traffic volumes greater than 3,500 ADT, however this is a rehabilitation project and WisDOT Bridge Manual policy states that structural approach slabs shall not be used on rehabilitation projects, unless approved otherwise. After discussions with the Region, concrete approach slabs will be utilized.

Existing Structure Information:
See select existing structure plans and most recent Inspection Report in the "B-03-0016_oth" file.

Asbestos Report:
An asbestos report has been completed and Asbestos Containing Material (ACM) was not detected on the structure. See the "B-03-0016_oth" file for a copy of the report.