HISTORIC PRESERVATION COMMISSION AGENDA

June 17, 2015
6:00 P.M.

Meeting Rooms D&E — 160 South Macy Street
City-County Government Center — Fond du Lac, Wisconsin

I. CALL TO ORDER

A. Roll Call

B. Declaration a Quorum is Present

II. APPROVAL OF MINUTES

A. May 20, 2015

III. NEW MEMBER INTRODUCTION

A. New Member Introduction
Initiator: Dyann Benson, Community Development Director

IV. ADMINISTRATIVE REPORT

V. DISCUSSION

A. Review Engineering/Structure Rehabilitation Report Fountain Island Bridge
Initiator: Dyann Benson, Community Development Director

B. Review of May 2015 Historic Preservation Event and Discussion Regarding Possible Events for May 2016
Initiator: Lisa Pauly, Commissioner

C. Verbal Discussion Regarding Education and Outreach Efforts – Walking Tour Ideas, Informational Handout Topics and Ideas for Utilizing Photograph Archives in
Initiator: Dyann Benson, Community Development Director

VI. REPORT OF OFFICERS

A. Possible Designations

VII. COMMISSIONER COMMENTS

VIII. CORRESPONDENCE

IX. ADJOURN

HISTORIC PRESERVATION COMMISSION
MINUTES

Wednesday, May 20, 2015
6:00 P.M.

Meeting Rooms D&E
City-County Government Center

160 South Macy Street
Fond du Lac, Wisconsin

CALL TO ORDER

ROLL CALL: Present – Cathy Boyle
John Huberty
Brian Kolstad
Lisa Pauly
Tony Roden
Steve Schoofs

Absent – None

Administrative Staff - Dyann Benson, Dir of Comm Development

Director of Community Development, Dyann Benson declared a quorum present.

APPROVAL OF MINUTES

March 18, 2015

Motion made by Commissioner Boyle to approve the minutes of the Historic Preservation Commission of the March 18, 2015 meeting as presented. Seconded by Commissioner Pauly.
ROLL CALL VOTE: Aye – Boyle, Huberty, Pauly, Roden, Schoofs
Nay – None
Abstain – Kolstad

Carried.

NEW MEMBER INTRODUCTION

New Member Introduction
Initiator: Dyann Benson, Director of Community Development

Dyann Benson introduced Brian Kolstad as the new Council Representative to the existing members of the Historic Preservation Commission and in exchange they introduced themselves.

ELECTION OF OFFICERS

Chairperson

Lisa Pauly was nominated for the office of **Chairperson** of the Historic Preservation Commission.

Motion made by Commissioner Schoofs to elect Lisa Pauly as Chairperson.
Seconded by Commissioner Kolstad.
ROLL CALL VOTE: Aye – Boyle, Huberty, Kolstad, Pauly, Roden, Schoofs
Nay – None

Carried.

Lisa Pauly was elected as **Chairperson** of the Historic Preservation Commission.

At this point in the meeting, Pauly assumed the Chair.

Vice-Chairperson

Tony Roden was nominated for the office of **Vice-Chairperson** of the Historic Preservation Commission.

Motion made by Commissioner Pauly to elect Tony Roden as Vice-Chairperson.
Seconded by Commissioner Schoofs.
ROLL CALL VOTE: Aye – Boyle, Huberty, Kolstad, Pauly, Roden, Schoofs
Nay – None

Carried.

Tony Roden was elected as **Vice-Chairperson** of the Historic Preservation Commission.

Secretary

Cathy Boyle was nominated for the office of **Secretary** of the Historic Preservation Commission.

Motion made by Commissioner Schoofs to elect Cathy Boyle as Vice-Chairperson.
Seconded by Commissioner Huberty.
ROLL CALL VOTE: Aye – Boyle, Huberty, Kolstad, Pauly, Roden, Schoofs
Nay – None

Carried.

Cathy Boyle was elected as **Secretary** of the Historic Preservation Commission.

ADMINISTRATIVE REPORT

Notification of Vacancy

Dyann Benson updated the Historic Preservation Commission on filling the vacancy on the committee.

DISCUSSION

Report on the Wisconsin Association of Historic Preservation Commissions (WAHPC) April Conference
Initiator: Commissioner Pauly

The WAHPC conference was held in La Crosse. One presentation topic was newer buildings becoming eligible for designation as they approach the 50-year mark. Ideas for City sites which might have potential future designation for mid-century architecture include Woodworth and the library. Historic tax credits were also discussed and Commissioner Pauly stated a letter of support for historic tax credits was already provided. A tour was provided of downtown La Crosse and a roundtable discussion took place about the accomplishments of each Historic Preservation Commission. It was announced that a conference for Historic Preservation Commissions and Historical Societies will take place in Middleton in October.

Review of the Local Historic Designation Booklet
Initiator: Dyann Benson, Community Development Director

Appeared in Support and to ask/answer questions:
Joanie Dreifuerst, 336 East 9th St., Fond du Lac

The Commission members discussed some edits and changes.

Discussion Regarding Education and Outreach Efforts
Initiator: Dyann Benson, Community Development Director

Plans for a walking tour of the East Division and Sheboygan Street areas were discussed, as many architectural styles of noteworthy individuals can be

viewed. A suggestion was made to create a podcast to digitize readings and draw attention to the accomplishments of noteworthy individuals.

REPORTS OF OFFICERS

Possible Designations

No possible designations were reported at this time.

COMMISSIONER COMMENTS

Plans for the upcoming May 2015 Historic Preservation Month Event were discussed. Jim Draeger from the Wisconsin Historical Society will give a presentation on May 21, 2015 at 6 pm in the McLane Room at the Fond du Lac Library.

ADJOURN

Motion made by Commissioner Roden to adjourn. Seconded by Commissioner Schoofs.

ROLL CALL VOTE: Aye – Boyle, Huberty, Kolstad, Pauly, Roden, Schoofs
Nay – None

Carried.

Meeting adjourned at 6:40 p.m.

MARGARET HEFTER
CITY CLERK

MH/ke

CITY OF FOND DU LAC - Memorandum

Department of Community Development

Date: June 3, 2015

To: Historic Preservation Commission

From: Dyann Benson, Community Development Director

Re: Engineering/Structural Rehabilitation Report – Fountain Island Bridge

The Engineering/Structural Rehabilitation Report for the Fountain Island Bridge is attached. Staff and a representative from the engineering consultant will be on hand to review the report. The report results and the discussion at the meeting will determine the next steps.

STRUCTURE REHABILITATION FEASIBILITY REPORT

Fountain Island Bowstring Truss Bridge
Lakeside Park
City of Fond du Lac
Fond du Lac County
Wisconsin

Prepared By:

MSA Professional Services, Inc.
1230 South Boulevard
Baraboo, Wisconsin 53913

May 2015

STRUCTURE REHABILITATION FEASIBILITY REPORT

Fountain Island Bowstring Truss Bridge
Lakeside Park
City of Fond du Lac
Fond du Lac County
Wisconsin

PURPOSE/OVERVIEW

This report addresses the feasibility of rehabilitating the bowstring truss bridge located in Lakeside Park in the City of Fond du Lac, Wisconsin. Included in the report is an assessment of the structure conditions, and an estimate of the cost of rehabilitating the structure.

SITE REVIEW

On April 23, 2015, engineers from MSA Professional Services and a bridge contractor met at the structure site with a staff member of the City of Fond du Lac public works department to review current conditions. The 1870's iron bridge, over Lakeside Park channel, crosses from Promen Drive on the north to Fountain Island on the south. The bridge is a 67-foot long single span iron bowstring truss set on concrete abutments. It has a clear width of 10 feet and an out-to-out width of 12 feet. It has a concrete deck. Although it once was a vehicular bridge, it has recently been restricted to just pedestrian use (see Exhibit A, Photo Log, Page 1).

A previous inspection was conducted by MSA in April 2014. MSA provided a repair scheme in which the floor system was temporarily strengthened by installing secondary floor beams beneath the lower chord (see Exhibit A, Page 6). As the original iron floor beams had failed and sagged (see Exhibit A, Pages 4 & 5), that repair restored support to the stringer and the concrete deck. The installation eliminated the sag in the floor beams and the settlement of the stringers from the concrete deck, both of which were observed in the previous inspection. The repair is holding up well, but due to instability around the lower chord connections, resulting from progressive section loss (see Exhibit A, Page 5), the need to either replace or rehabilitate the structure in the near future remains essential.

The bowstring truss upper chords, vertical struts, and diagonal tie rod tension members (see Exhibit A, Page 2) are in fair condition above the deck except for the following defects. There are old tears in some of the upper chord channel members around the splices (see Exhibit A, Page 3). These tears have been there for years, perhaps since the 1920's when the truss was moved to the current site. A few of the struts (vertical members) have minor bends probably the result of vehicular damage (see Exhibit A, Page 3). The truss lower chords and under deck steel floor system, consisting of floor beams and stringers, were inspected from a boat. Severe corrosion and section loss were found throughout, including the pin connected lower joints, the floor beams and the stringers. The lower chord members consist of two channel shaped elements. The inner channel shape is corroded the worse. Corrosion in the lower pinned joints impacts also the diagonal tie rod eye bar tension members, with moderate losses of strength, and more critically the vertical strut end plates. Most of these plates below the concrete deck are nearly gone. If the concrete deck were removed, some of these strut compression members would be expected to fail. The diagonal tie rods utilize wedge shaped bushings, or skewbacks, to connect to the

top of the upper chord. Many skewbacks are cracked or broken and need replacement (see Exhibit A, Page 3).

The concrete deck has top surface pitting, but the deck is sound. It has transverse cracks running the full width of the deck. These cracks are located at the quarter points of the bridge length. The concrete deck has reinforcing bars running longitudinal and transverse. On the underside of the deck there are numerous spall locations with exposed reinforcement bars (see Exhibit A, Page 4). There is moderate section loss to the reinforcing bars at these locations.

The abutments show minor deterioration, but otherwise do not exhibit any movement or structural failure. The City of Fond du Lac indicated they would prefer to reuse the abutments if possible.

REHABILITATION

As part of the rehabilitation process it would be most expedient for a contractor to temporarily transport the two side trusses to a shop. This would first require removal of the concrete deck and at least partial disassembly at the site. In each truss the upper chords and diagonal tie rod tension members would be secured for reuse. During further disassembly in the shop, it may be determined necessary to replace some of the diagonal tie rods. The tie rod skewbacks need to be replaced. The upper chord splices, where there are tears in the iron channels (see Exhibit A, Page 3), need to be strengthened using longer internal gusset plates and rivet (huck lock bolt) type connections. The existing vertical strut (compression members) would be preserved except for the corroded ends below the deck at the lower chord pin connections. The lower ends of the vertical struts would be refitted for connection to the pinned lower chord members. The lower chord members also need to be replaced as well as the pins.

Corrosion of all structural steel or iron below the existing concrete deck (lower chords, floor beams, and stringers (see Exhibit A, Page 4)) is so far advanced that this material needs to be replaced. All members below the concrete deck should be replaced with new steel designed to meet current code for pedestrian load capacity. Weathering steel is recommended as unpainted it can still provide a long service life in areas not heavily salted. Exact in kind replication of the plate riveted double channel structural shapes used for the existing transverse floor beams is not economically prudent. Fabrication would be much more costly, with little benefit, as few would see them but from underneath. Their function can be more economically served using wide flange (WF) steel beams. The longitudinal stringers would all be replaced in kind with steel beams and framed to the new floor beams.

All reused iron from the upper chords, struts, and diagonal tie rods, would be blast cleaned and painted. The lower chords and the under deck steel within 2 feet of the deck edge would also be painted to match the upper chords.

The condition of the concrete abutments should allow reuse, however they should be capped to raise the bridge deck about one foot so that it is higher than the nearby roadway. This would provide additional clearance under the bridge and keep roadway drainage off the bridge and abutments. Otherwise this salt brine drainage might result in accelerated corrosion to the bearing plates and

anchor rods. The bridge raise should be moderate and be conducive to use by bicyclists and pedestrians.

The bridge deck would be replaced with a wooden deck using treated timber planks. Other park bridges use timber decks, and this was the preference of the City. Although there is apparently no record of such, it is likely that the original bridge used a wooden deck.

To complete the rehabilitation, the bridge needs to have a safety railing installed. The type, aesthetics, and details would be based on the preference of the City. One option would be a wooden rail mounted outside the trusses on extended wooden planks.

MAINTENANCE PLAN

Future maintenance of the painted bridge should anticipate localized repair to the paint system. It is recommended to plan to touch up the paint system (for chips and minor rust) in 5 years and then do a full overcoat of the paint system in 15 years. Cost for the full overcoat is estimated at $10,000 for the entire bridge. A 20 year frequency for spot cleaning and the full overcoat can be expected.

To extend the life expectancy of the bridge it is recommended to reduce salt application near the bridge if it is used on the walkway. Annual washing of the deck and exposed steel would also help to minimize the buildup of debris near the connections and joints, reducing the possibility of corrosion/pack rust at these locations.

COMPARISON OF ALTERNATIVES

The following compares rehabilitation costs of the bowstring truss bridge to the cost of installing a new prefabricated steel bow truss bridge. Cost comparisons include a breakdown of the work described in the rehabilitation and maintenance plan.

Rehabilitation of Existing Bridge	
Remove Concrete Deck	$5,000
Disassemble At Site	$25,000
Transport to Shop (2 Ways)	$10,000
Sandblast and Paint	$20,000
Reassemble and Place on Abutments	$25,000
Treated Timber Plank Deck with Fasteners	$13,000
Strengthening Upper Chord Splices	$4,500
Under Deck Steel Replacement (Using Weathering Steel)	$49,000
Cap Existing Concrete Abutments	$8,000
Wood Railing	$2,500
Detailed Design Engineering (Estimate)	$40,000
Maintenance (Assume 75 Year Life w/ 4 Overcoats)	$40,000
Total	$242,000

New Bridge		
Removal of Existing Bridge		$15,000
Cap Existing Concrete Abutments		$8,000
Erection of New Bridge		$15,000
*Steel Bow Truss Bridge Transported to the Site (68' x 10' clear width)		$49,000
Design Engineering (Estimate)		$20,000
Maintenance (1 Deck Replacement)		$13,000
	Total	$120,000

* The cost for the replacement bridge is based on a proposal provided on September 18, 2014 from Anderson Bridges (See Exhibit D). The proposal takes into account delivery of the new structure. Additional new bridge costs as noted include removal of the existing bridge, capping the existing concrete abutments, erection of the new bridge, design engineering and a future deck replacement. Similar costs might be expected from other prefabricated truss suppliers.

CONCLUSION

The existing bowstring truss bridge can be rehabilitated to provide the full structural capacity needed for pedestrian use. This restored function will come at a significantly higher cost compared to a modern complete replacement.

The cost comparisons presume a 75 year replacement. This evaluation indicates a new bridge is the most economical alternative.

SCHEDULE

The existing structure should be replaced, rehabilitated, or closed in another year. The 2014 repairs are only temporary. If not, at least yearly the bridge should be inspected to check the integrity of the structure and review the lower joints and underdeck members that are already structurally compromised.

If rehabilitation is pursued, expect a contractor preferred construction schedule to allow work between October and the following May.

REFERENCES

Other resources are available for review documenting the history of the bridge.
The City of Fond du Lac has a copy of the National Park Service Historic American Engineering Record, HAER Report No. WI-23, written in 1987 by historian Lola Bennett. The City also maintains a collection of Photos and a copy the 2014 bridge evaluation report completed by MSA Professional Services.

Also an excellent website article on this bridge is located at http://bridgehunter.com/wi/fond-du-lac/fountain-island ..

LIST OF EXHIBITS

EXHIBIT A - PHOTO LOG

EXHIBIT B - CONTRACTOR CORRESPONDENCE

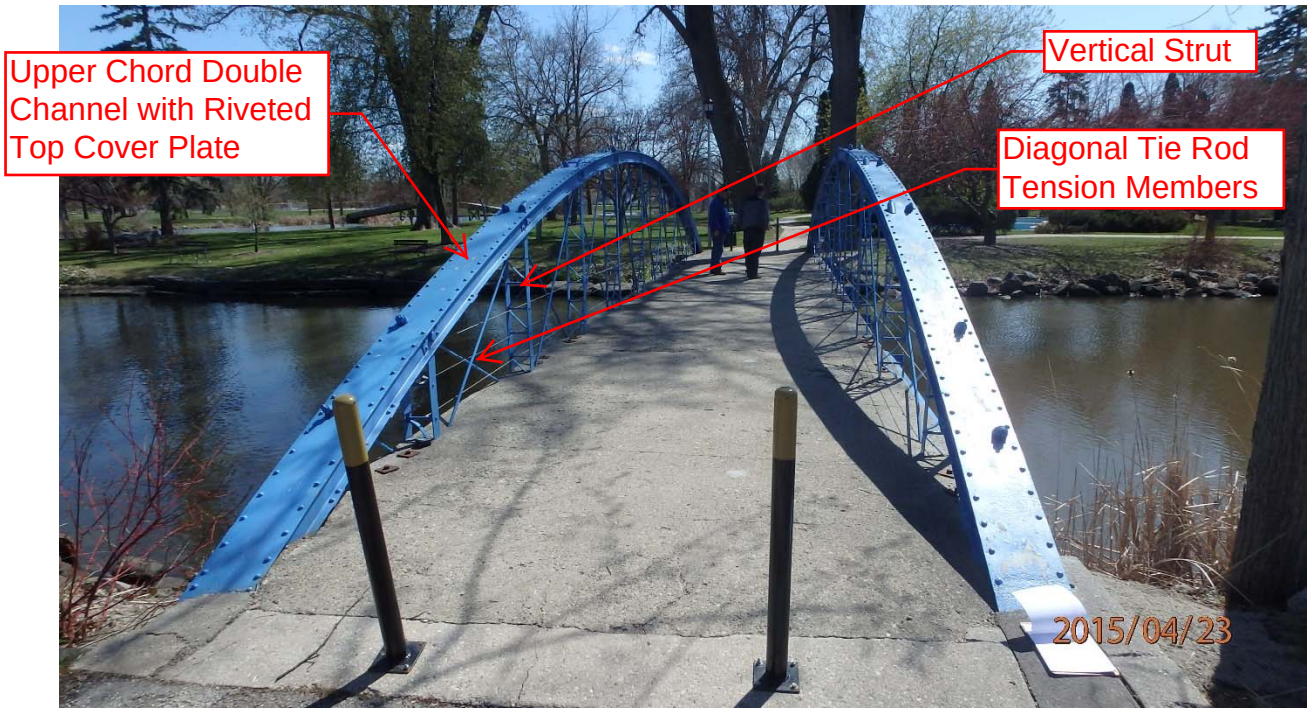
EXHIBIT C - COST CALCULATIONS

EXHIBIT D - PROPOSAL FOR NEW BRIDGE

EXHIBIT A

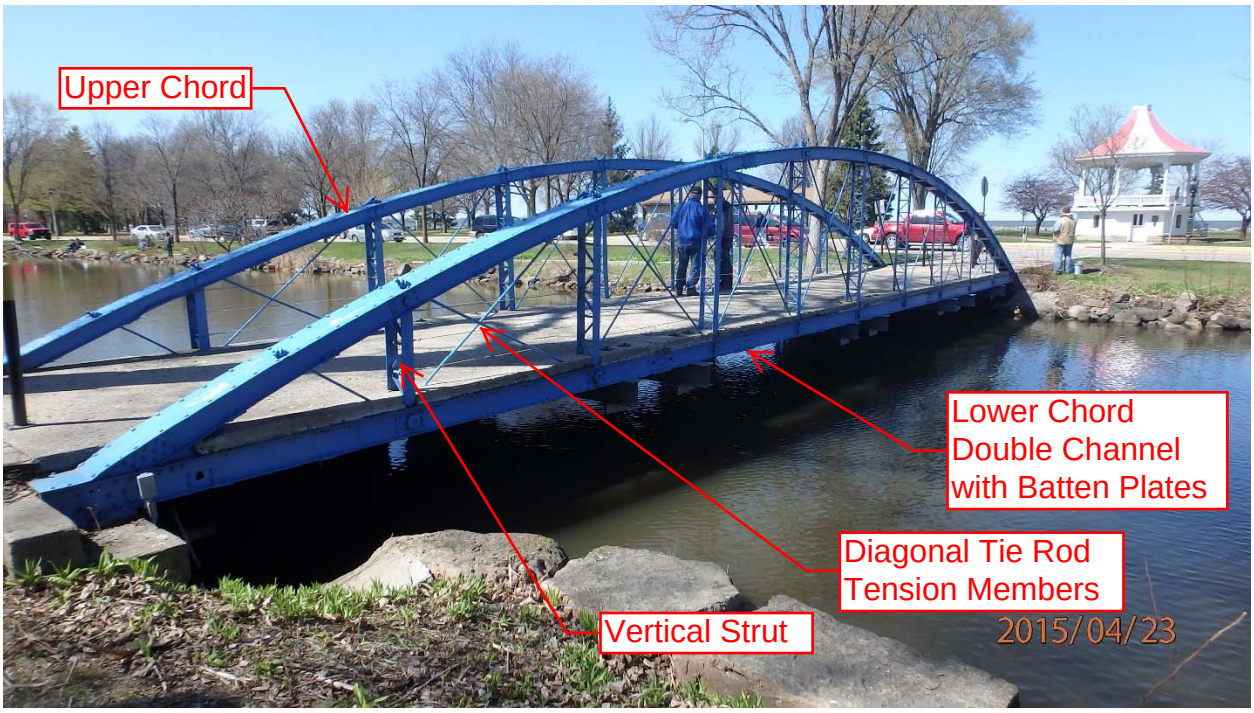
PHOTO LOG

Bowstring Truss Bridge – April 2015
Looking North from Fountain Island Toward Promen Drive

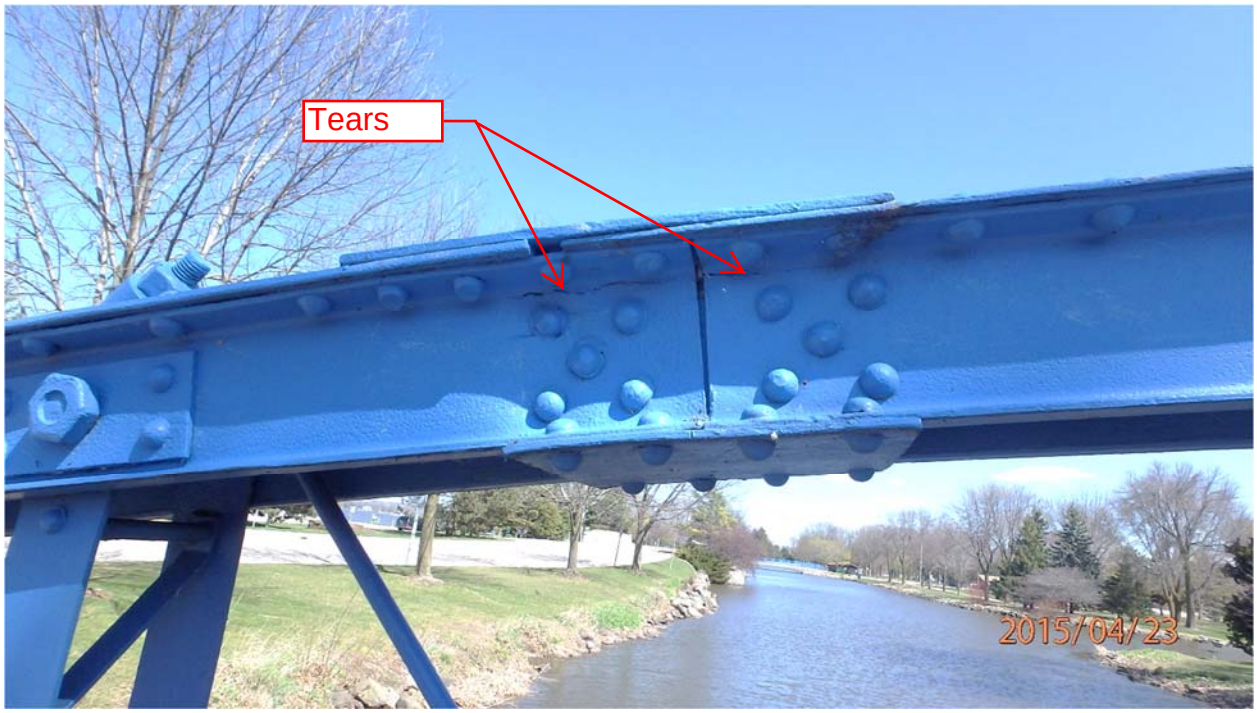


Bowstring Truss Bridge, Looking South – April 2015

West Side of Bridge – April 2015

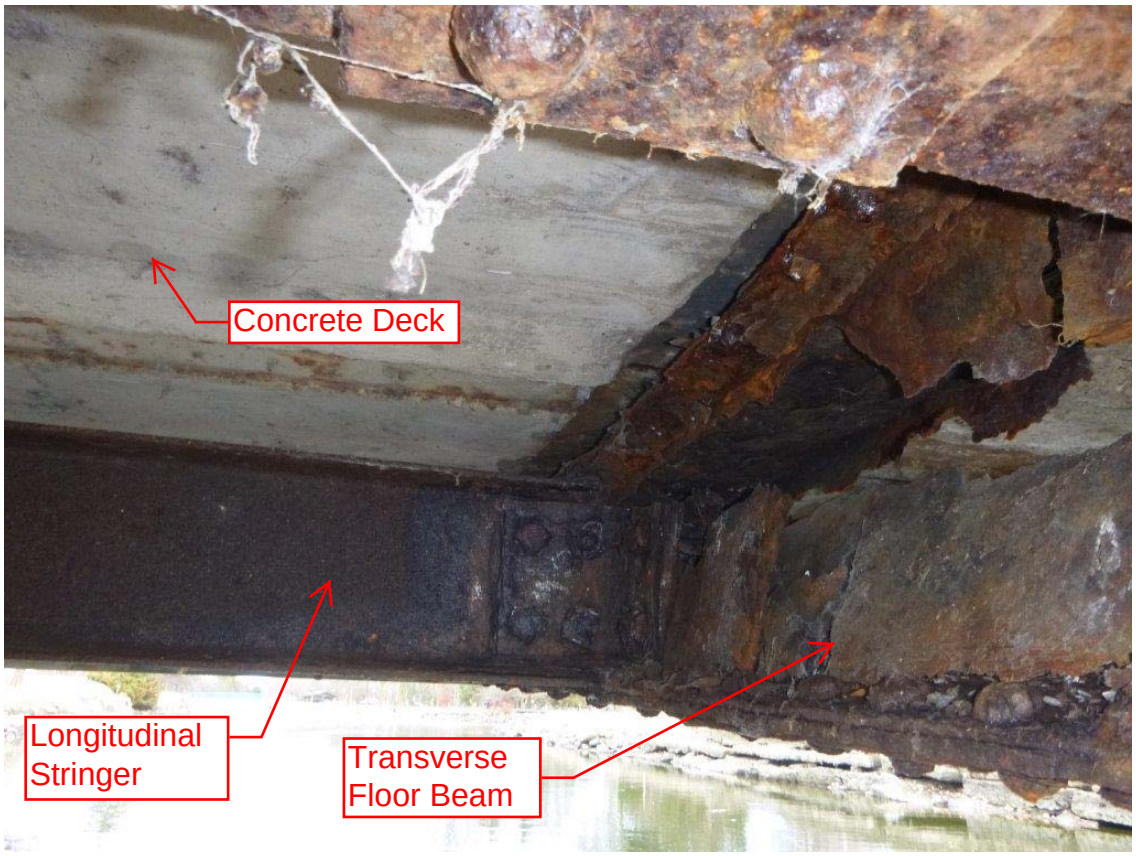


East Side of Bridge – April 2015

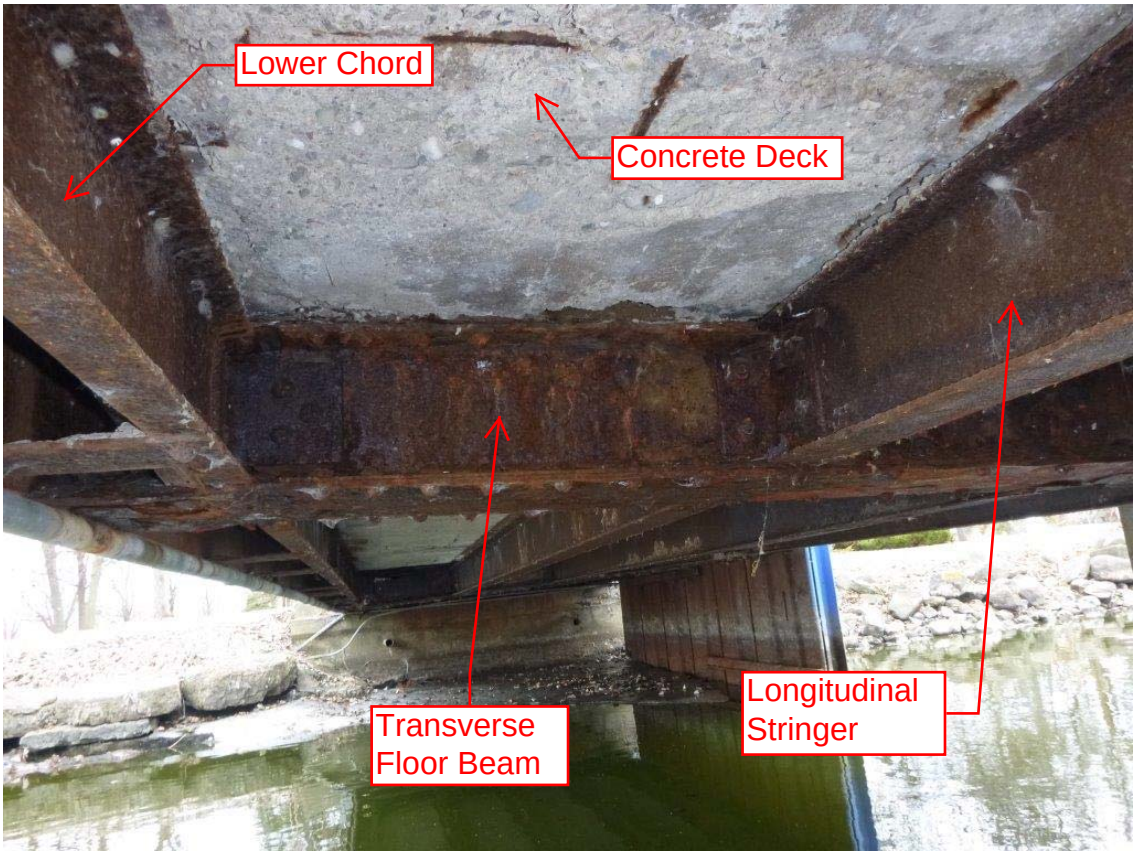


Tears in Upper Chord Splice – April 2015

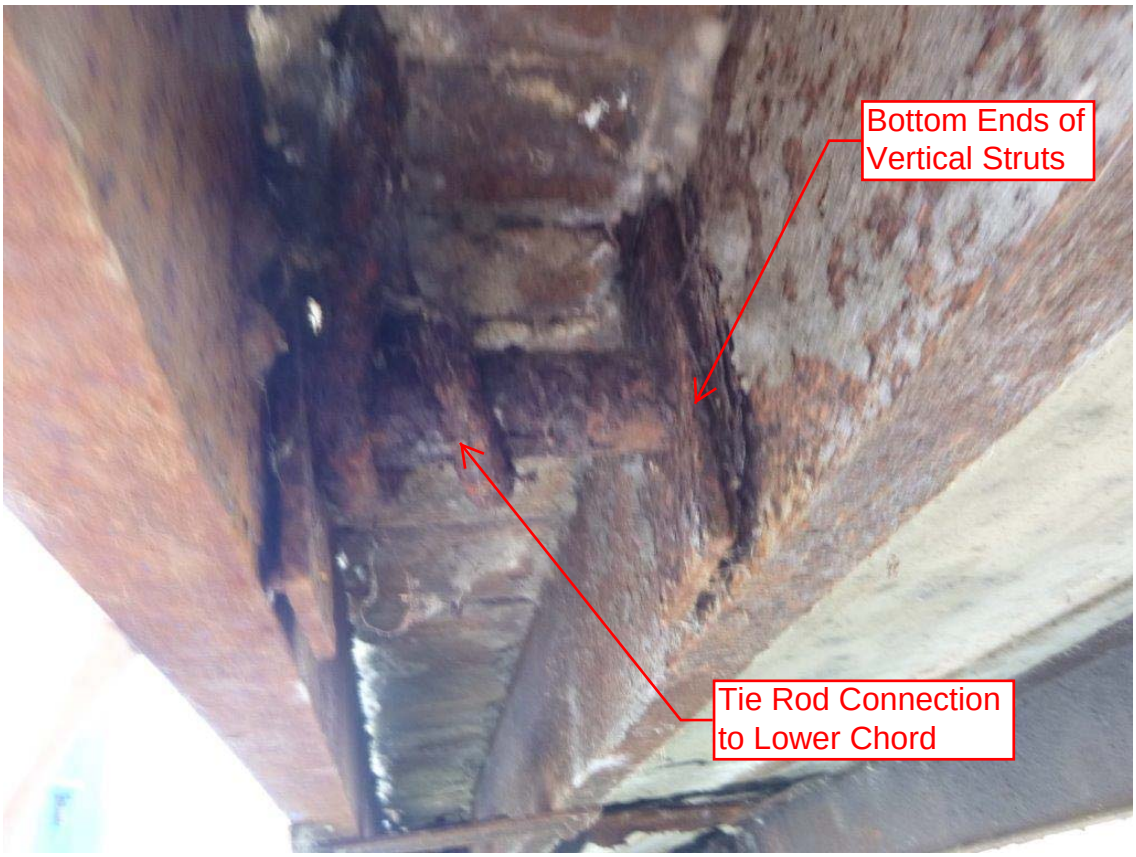
Damage to Upper Chord Near Southwest Corner – April 2015



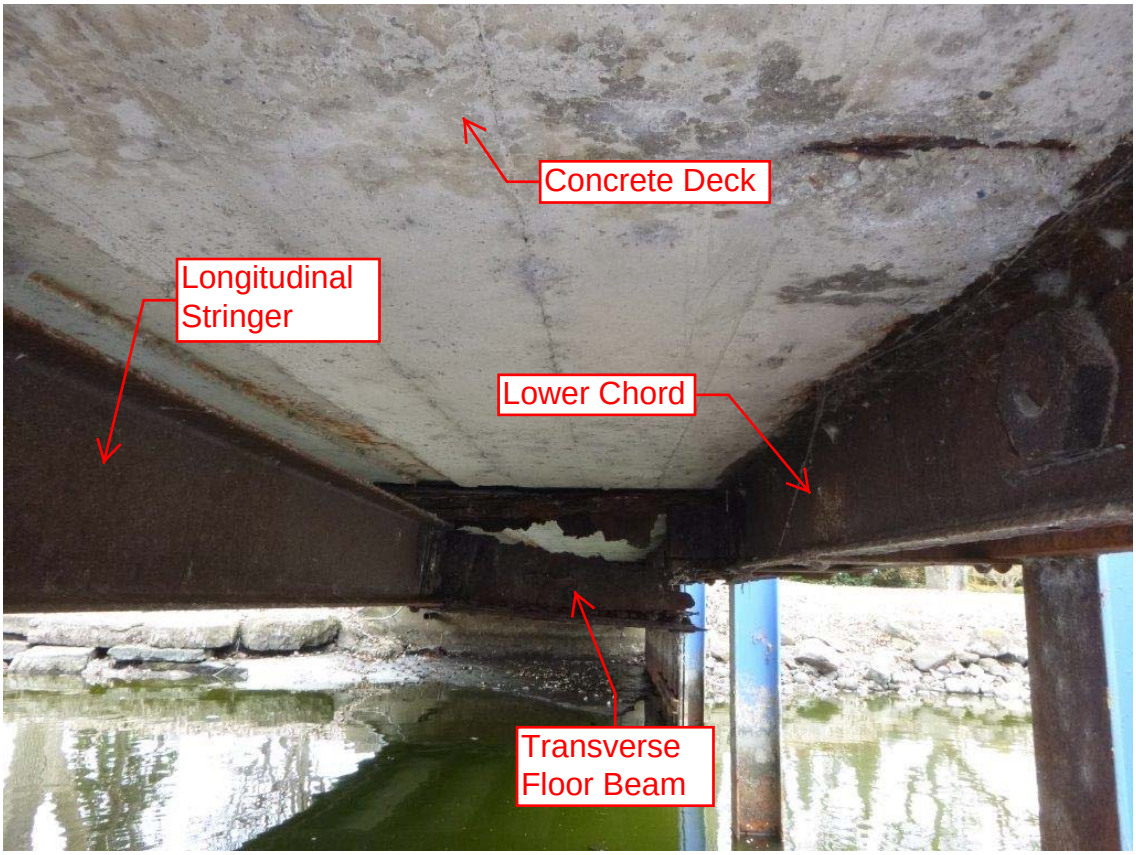
Underside of Deck Prior to Repairs – April 2014



Underside of Deck Prior to Repairs – April 2014



Lower Chord Pin Connection – April 2014



Underside of Deck Prior to Repairs – April 2014

Installation of Secondary Floor Beams

EXHIBIT B

CONTRACTOR CORRESPONDENCE

Summary of Correspondence with Contractors

Note that costs estimates in the report used this information for reference. Two contractors were contacted and the following summarizes their general opinions on the process and costs to rehabilitate the existing bowstring truss structure.

Curt Pheifer of Radtke Contractors Inc., Winneconne, Wisconsin, April 28, 2015

Curt indicated during his on-site visit that the best method to rehabilitate the bridge would be to move the structure to a shop where it could be most efficiently dismantled, evaluated and refurbished.

Take existing structure apart on site	$25,000
Reassemble structure later	$25,000
Transport to and from contractor's yard	$10,000
Sandblast and paint the outside of truss	$20,000
Remove concrete deck	$5,000
Replace with concrete deck	$10,500.
Subtotal not counting steel replacement	$100,000

Curt did not have an estimated quantity of steel but estimated weathering steel to be $3.50-$4.00/lb.

Steve Janke of Janke General Contractors Inc., Athens, Wisconsin, April 28, 2015

Steve agreed that the bridge should be moved to a shop for the structural work.
He estimated $78,000 including materials, equipment and labor for the following:

- Demo of the bridge for transportation
- Ship the bridge to Janke's shop
- Rebuild the bridge using standard structural steel
- Clean and Paint
- Transport the bridge back to the site.

This does not include the following items for which he provided general cost guidance.

- Treated Timber Deck $5000 per MBF (1000 board feet)
- For repairs of tears in truss upper chord splices, effort includes disassembly and riveting in supplemental splices plates. Estimate labor and materials at $15 per lb of steel
- Weathering steel is getting hard to come by and is more expensive. If desired the above estimate will be higher
- Capping the concrete abutments (18' long, 2' wide, 1' high) is roughly 1.5 cy per abutment.
    - Expect about $ 2,500.00 per cubic yard of concrete.
    - Concrete reinforcing bars at around $3.00 per lb.
    - Galvanized Anchor Bolts – four ¾" dia. bolts. Say $60.00 each
    - Dowel into existing abutment cap to tie new down to the old. $7.00 per dowel. each
    - The combined cost of abutment capping would be about $4,000 per abutment.
- Erection of rehabilitated bridge onto new abuts. $12,000.00

Steve noted that a Construction timeline allowed between late October and early May would be more beneficial and should allow for the lowest pricing.

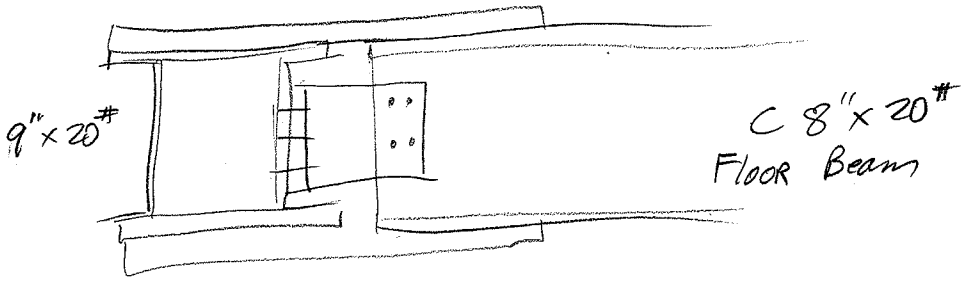
EXHIBIT C

COST CALCULATIONS

DHW

5-1-15

RDL Bow-string Truss



Lower Chords = 2 x 20# x 72' x 2 Sides = 5,760

Floor Beams = 2 x 20# x 12' x 2 Intermediates 960

Cover Plate Top & Bottom

$2 \times \left(\frac{3}{8}" \times 12"\right) \frac{3.4\#}{in^2} \times 12' \times 2$ 734

Sub Σ = 7454

Batten Plates & Connectors = 10% of Above 746

FB & LC = 8,200 #

Stringers $72' \times 3 \times \left(\text{WF}_{\text{Say}}^{"} \; 8 \times 10 \; \#\right)$ = Str. = 2,160 #

10,400 #

Say 10,500 #

@ $4.00/lb.

= $42,000

Rivets (Huckbolt) =

LC Splices 26 x 2 x 2 Loc's x 2 Sides = 208

LC Batten Plates 4 x 2 x 6 Loc's x 2 Sides = 96

FB Connection 26 x 2 x 2 x 2 = 208

FB Plates = 24 x 4 x 2 = 192

Stringer Connectors 6 x 2 x 2 x 3 x 2 Beams = 144

Strut Extension 3 x 2 x 8 Loc x 2 sides = 96

Pin Reinforce = 4 x 2 x 8 Loc x 2 sides = 128

1072 Rivets @ $5 = Say 6,000

LC PINS = 8 Loc's x 2 = 16 @ $80 each Est. Say 1,000

Σ Say $49,000

MSA
PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL

Sheet____ of____
Project BOWSTRING Comp. by JRS
Date 5/6/2015 Ckd. by____
Proj. No. 01878020

STRENGTHENING UPPER CORD SPLICES

* ESTIMATE 75 LBS OF STEEL PER SPLICE FOR STRENGTHENING

* COST PER LB FROM CORRESPONDENCE WITH STEVE JANKE = $15 / LB

COST = (75 LBS / SPLICE)(4 SPLICES)($15/LB) = $4,500

ABUTMENT CONCRETE CAPS

CONCRETE = (18')(2')(1')(2 ABUTMENTS)$\left(\frac{1\,CY}{27\,CF}\right)$($2,500 / CY) = $6,667
REINFORCEMENT = (75 LBS / ABUT)(2 ABUT.)($3 / LB) = $450
ANCHOR BOLTS = (2 / ABUT.)(2 ABUT.)($60 EACH) = $240
DOWELS = (17 / ABUT)(2 ABUT.)($7 EACH) = $238
$7595 SAY $8,000

SAFETY RAILING

ESTIMATE $10 / LF FOR CHAIN LINK FENCE (INCLUDES INSTALL)

COST = ($10 / LF)(72')(2) = $1,440 SAY $1,500

TREATED TIMBER PLANK DECK

* ESTIMATE FROM JANKE $5,000 MBF

COST = ($5/SF-in)(3" THICK)(12')(72') = $12,960 SAY $13,000

EXHIBIT D

PROPOSAL FOR NEW BRIDGE

ANDERSON BRIDGES

111 Willow Street
Colfax, WI 54730
(715) 962-2800
FAX: (715) 962-2801

PROPOSAL

September 18, 2014

To: Fond du Lac Engineering

Re: Bridge Budget

1 - **68' x 10' (clear width)** steel truss bridge

- Design Standards: **AASHTO**
- Diagonals per Panel: **1**
- Clear width: **Inside face structural elements at deck level**
- End Vertical: **Square**
- Bearings: **Equal Elevations**
- Steel Grade: **A588**
- Deck: **Nominal 3" #1 Southern Yellow Pine (.40 ACQ)**
- Safety Rails: **Horizontal (4" opening)**
- Rub Rail: **None**
- Anchor Rods: **Not Included**
- Finish: **None (Self-Weathering)**
- Loads: **90 psf live load - 35 psf wind load – 10,000 lbs. vehicle load**
- Number of Sections: **1**
- FOB: **Fond du Lac, WI (bridge delivered to nearest good-haul road)**
- Estimated Lifting Weight: **25,000 lbs.**
- Engineered Drawings State Seal: **Wisconsin**

Price----------$45,000

Alternate-
Bridge to be bow truss with vertical railings ----------$49,000

*******This price is for budgetary purposes only*******

Please call with any questions.

Thank you,

Kory S. Weathers