

Minnesota Department of Transportation (MnDOT) Bridge Management Plan Addendum

Bridge Number: 9036

Bridge 9036, a concrete through arch, carries Robert Street over the Mississippi River in Ramsey County. The Minnesota Department of Transportation (MnDOT) has committed to preserve certain state-owned historic bridges, including Bridge 9036. As part of this commitment, MnDOT prepared a Historic Bridge Management Plan (Management Plan) for each of the bridges. These plans for state-owned bridges were prepared between 2006 and 2009, and can be found on the MnDOT website (see <http://www.dot.state.mn.us/historicbridges/about.html>). The 2006 Management Plan for Bridge 9036 describes the character-defining features of the bridge and recommends maintenance, stabilization, and preservation efforts for its ongoing use.

In 2011 MnDOT applied an epoxy overlay of the bridge deck to Bridge 9036. As part of the review of the project, MnDOT found that the proposed work met the Secretary of the Interior's Standards (Standards) and therefore had no adverse effect to the bridge. The Minnesota State Historic Preservation Office (SHPO) concurred (see Appendix A for correspondence).

The epoxy overlay work was undertaken as a maintenance project and no plans for the repair were available. The original Management Plan recommended sealing the cracks on the top of the bridge deck to minimize the intrusion of salt-laden water, using standard MnDOT crack sealing procedures. This was a recommended stabilization activity. The epoxy chip seal overlay on the concrete deck fulfilled that recommendation. The epoxy overlay work did not change the other recommendations in the original management plan. As such, the original engineering recommendations for preservation, stabilization, and maintenance of the structure will continue to be applicable. Additionally, no field investigation was undertaken as part of the current study for this repair work. Cost estimates provided in the original management plan were not updated as part of this study. Prior to any planned work, new cost estimates should be prepared for the proposed project. The current MnDOT Structure Inventory Report and Bridge Inspection Report are included in Appendix B.

Funding for this bridge in the management plan previously identified the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) as a source for rehabilitation funds. Since the creation of the original Management Plans in 2006, federal transportation funding was reauthorized under a program known as MAP-21, which replaced SAFETEA-LU. The MAP-21 program is in place until September 30, 2014, at which time it is expected to be replaced by another federal transportation reauthorization bill expected to authorize federal funds for transportation projects.

**Minnesota Department of Transportation (MnDOT)
Bridge Management Plan Addendum**

Bridge Number: 9036



2005 Photograph

**Minnesota Department of Transportation (MnDOT)
Bridge Management Plan Addendum**

Appendices

Bridge Number: 9036

Appendix A. SHPO and MnDOT Compliance Correspondence



Minnesota Department of Transportation

395 John Ireland Boulevard
Saint Paul, Minnesota 55155-1899

May 26, 2011

Mary Ann Heidemann, Manager
Government Programs and Compliance
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. West
St. Paul, MN 55102-1903

Re: Robert Street Bridge (National Register listed)
Application of concrete deck protection system

Dear Ms. Heidemann:

We have reviewed the above-referenced undertaking pursuant to our FHWA-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800), and as per the terms of the 2005 Section 106 Programmatic Agreement (PA) between the FHWA and the Minnesota State Historic Preservation Office (SHPO).

The Mn/DOT Metro District is planning to apply a thin polymer bridge deck overlay (sealer) to the National Register of Historic Places-listed Robert Street Bridge (Bridge #9036), which carries MN TH 952A over the Mississippi River. The structure, built in 1926, has eight reinforced-concrete-arch main spans and nine prestressed-concrete-beam approach spans. The main spans include three open-spandrel barrel arches, four open-spandrel rib arches, and a rib through-arch (rainbow arch) over the navigation channel. The deck is 1,428 feet long and 56 feet wide with a total deck area of 80,019 square feet. A 1989 reconstruction included replacement of the deck and approach spans, restoration of the arch spans, and reconstruction of the ornamental railing.

The proposed deck overlay system entails the application of a layer of epoxy to the deck surface, followed by a layer of aggregate, a second layer of epoxy, and a final layer of aggregate (for greater skid resistance). One of the recommended stabilization activities outlined in the Historic Bridge Management Plan for the bridge (copy attached) is crack sealing in the deck to minimize the intrusion of salt-laden water using standard Mn/DOT crack sealing procedures. The proposed overlay system is expected to provide a high level of deck protection for 20 years, compared to a 5-year maintenance cycle for crack sealing. The overlay system will not affect any of the character-defining features of the bridge and the aggregate will result in an appearance similar to the current concrete; therefore, the system is an appropriate deck protection measure that will help prolong the life of the bridge.

The finding of this office is that the undertaking as planned will have **no adverse effect** on historic properties. If the project scope changes, our office will complete an additional review as necessary.

Sincerely,

A handwritten signature in cursive script that reads "Garneth O. Peterson".

Garneth O. Peterson
Historian
Cultural Resources Unit (CRU)

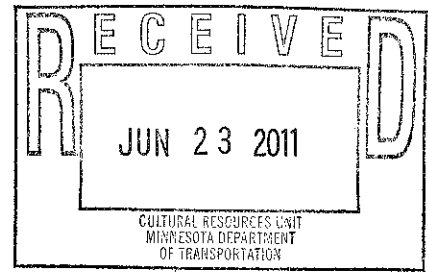
Attachment

cc: Jack Pirkl, Mn/DOT Metro
Deb Bunde, Mn/DOT Metro
Joe Hudak, Mn/DOT CRU
Mn/DOT CRU Project File



STATE HISTORIC PRESERVATION OFFICE

June 21, 2011



Ms. Garneth Peterson
MNDOT Cultural Resources Unit
Transportation Building, MS 620
395 John Ireland Boulevard
St. Paul, MN 55155-1899

RE: Robert Street Bridge deck overlay project
St. Paul, Ramsey County
SHPO Number: 2011-2461

Dear Ms. Peterson:

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the Advisory Council on Historic Preservation (36CFR800), and to the responsibilities given the Minnesota Historical Society by the Minnesota Historic Sites Act.

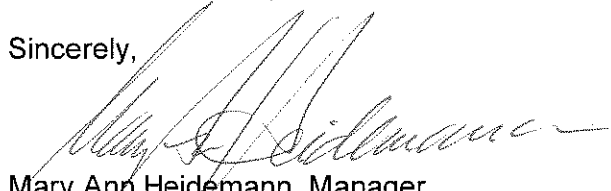
As you know, the Robert Street Bridge (Bridge No. 9036) is listed in the National Register of Historic Places.

We have reviewed the Historic Bridge Management Plan you submitted for this project, and we conclude that the project meets the Secretary of the Interior's Standards for Rehabilitation provided that the epoxy treatment is limited to the deck and does not extend to the railings or larger structure.

With this condition, we concur with your finding that the project will have **no adverse effect** on the historic Robert Street Bridge.

Please contact me at (651) 259-3456 if you have any questions regarding our review of this project.

Sincerely,



Mary Ann Heidemann, Manager
Government Programs and Compliance

Minnesota Department of Transportation (MnDOT) Bridge Management Plan Addendum

Appendices

Bridge Number: 9036

Appendix B. Current MnDOT Bridge Inspection Report and Structure Inventory Report

Crew Number: 7639

Mn/DOT BRIDGE INSPECTION REPORT

Inspected by: METRO DISTRICT

BRIDGE 9036

ROBERT ST (US952A) OVER MISSISSIPPI RIVER & RR

INSP. DATE: 08-13-2012

County: RAMSEY

Location: 0.7 MI SE OF TH 35E & 94

Length: 1,428.9 ft

City: ST PAUL

Route: USTH 952A Ref. Pt.: 131+00.035

Deck Width: 80.4 ft

Township:

Control Section: 17 Maint. Area: 5B

Rdwy. Area / Pct. Unsd: 80,019 sq ft 2 %

Section: 06 Township: 028NN Range: 22W

Local Agency Bridge Nbr:

Paint Area/ Pct. Unsd: 32,502 sq ft 1 %

Span Type: CONC ARCH

Culvert N/A

NBI Deck: 7 Super: 6 Sub: 6 Chan: 8 Culv: N

Open, Posted, Closed: OPEN

Appraisal Ratings - Approach: 8 Waterway: 9

MN Scour Code: P-STBL;PROT INPL

Def. Stat: F.O. Suff. Rate: 75.0

Required Bridge Signs - Load Posting: NOT REQUIRED Traffic: NOT REQUIRED

Horizontal: NOT REQUIRED Vertical: NOT APPLICABLE

STRUCTURE UNIT: 0

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
18	LATEX O/L (CONCDECK)	2	08-13-2012	80,019 SF	80,019	0	0	0	0
Notes: [2012] A thin epoxy overlay was installed in the summer of 2011 by Mn/DOT crews with supervision from the vendor (Polycarb).									
300	STRIP SEAL JOINT	2	08-13-2012	1,576 LF	1,576	0	0	N/A	N/A
			08-05-2011	1,576 LF	1,576	0	0	N/A	N/A
Notes: [1989] Type H strip joint at abutment "A"; both arch span abutments, each face of the arch piers 1 - 7, bents 4 & 8.									
301	POURED DECK JOINT	2	08-13-2012	1,351 LF	1,351	0	0	N/A	N/A
			08-05-2011	1,351 LF	1,341	0	10	N/A	N/A
Notes: [1989] Pourable joint at end block (north of 2nd street.), ten in span 8 (rainbow arch), bents 1 thru 3 & 5 thru 8. [2012] Thin epoxy overlay was placed in 2011. As part of that work, the poured joints were covered to prevent the aggregate from covering the joint, however the epoxy binder was not prevented from sealing the joints.									
412	APPR RELIEF JOINT	2	08-13-2012	120 LF	0	115	5	N/A	N/A
			08-05-2011	120 LF	0	115	5	N/A	N/A
Notes: Relief joint: south joint filled with asphalt, north joint needs seal. [2010] South approach has 5 LF of relief joint material missing.									
321	CONC APPROACH SLAB	2	08-13-2012	2 EA	0	2	0	0	N/A
			08-05-2011	2 EA	0	2	0	0	N/A
Notes: [2003/09] North approach has 30 LF random cracks, 4 SF of spall along pourable joint, 2 SF delamination right turn lane. South approach has 4 SF of spall NB right lane. Along SB west curb is 40 SF of bituminous patch. [2010] 2 SF spall, north approach slab. 6 SF spall south approach slab. Multiple unsealed cracks in both slabs									
331	CONCRETE RAILING	2	08-13-2012	2,856 LF	2,084	572	200	0	N/A
Notes: [2012] Element changed from #333 to better reflect the railing type present on the bridge. Scaling is common in the splash zone of the railing (1/4" to 1/2" deep), especially over the piers (the railing is closer to the roadway in these areas), where heavy scaling (0.5" to 1" deep) is prevalent.									
109	P/S CONCRETE GIRDER	2	08-13-2012	3,106 LF	3,106	0	0	0	N/A
			08-05-2011	3,106 LF	3,106	0	0	0	N/A
Notes: [1989] 28" deep pre-stressed beams replaced in north (span 4) & south approach (spans 13 - 20).									
113	PAINT STEEL STRINGER	2	08-13-2012	2,640 LF	2,540	50	50	0	0
			08-05-2011	2,640 LF	2,540	50	50	0	0
Notes: [1989] 24" deep. Zinc rich paint system. Salt film & surface rust.									
144	CONCRETE ARCH	2	08-13-2012	2,980 LF	2,200	500	280	0	N/A
			08-05-2011	2,980 LF	2,200	500	280	0	N/A
Notes: Arch ribs & barrels are original. [1989] Arch spans (5 - 7) & (9 - 12) were saw cut to allow for watermain. [1995/97] Span 7 (over Shepard Road), arch has 3 severe longitudinal cracks through barrel, (spalling with exposed rebar on bottom). [2010] The portion of the arch above the deck has several minor spalls due to traffic impacts.[2011] North barrel arch bottom side has 70 lf of spalls w/ exposed rebar.									
152	PAINT STL FLOORBEAM	2	08-13-2012	846 LF	746	50	50	0	0
			08-05-2011	846 LF	746	50	50	0	0
Notes: [1989] 90" deep. Zinc rich paint system. Salt film & surface rust.									

Crew Number: 7639

Mn/DOT BRIDGE INSPECTION REPORT

Inspected by: METRO DISTRICT

BRIDGE 9036**ROBERT ST (US952A) OVER MISSISSIPPI RIVER & RR****INSP. DATE: 08-13-2012****STRUCTURE UNIT: 0**

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
385	CONC SPANDREL COLUMN	2	08-13-2012	62 EA	0	50	12	0	N/A
			08-05-2011	62 EA	0	50	12	0	N/A
	Notes: Cracks, delamination & spall. [2010] The 6 ft of each spandrel column above the deck in the main span is affected by scaling, map cracking, rust staining, delamination and minor spalling.								
380	SECONDARY ELEMENTS	2	08-13-2012	1 EA	0	1	0	0	N/A
			08-05-2011	1 EA	0	1	0	0	N/A
	Notes: [1989] Concrete end & steel intermediate diaphragms.								
310	ELASTOMERIC BEARING	2	08-13-2012	139 EA	139	0	0	N/A	N/A
			08-05-2011	139 EA	139	0	0	N/A	N/A
	Notes: [1989] Abutment "A" has four exterior bearings. North & south arch abutments, each have nine bearings. Bents 1, 3, 4, & 5, each have 18 bearings. Bents 2 & 6, each have eight exterior bearings. Bent 7 has 19 bearings. Bent 8 has 10 bearings.								
313	FIXED BEARING	2	08-13-2012	25 EA	25	0	0	N/A	N/A
			08-05-2011	25 EA	25	0	0	N/A	N/A
	Notes: [1989] Abutment "A" has five interior bearings. Bents 2 & 6 each have 10 exterior bearings.								
205	CONCRETE COLUMN	2	08-13-2012	45 EA	0	40	5	0	N/A
			08-05-2011	45 EA	0	40	5	0	N/A
	Notes: Approach bents (spans 13 - 20) columns are original (cracking, scaling & delamination).								
210	CONCRETE PIER WALL	2	08-13-2012	675 LF	600	45	30	0	N/A
			08-05-2011	675 LF	600	45	30	0	N/A
	Notes: Main span piers (1 - 7) are hollow "pierwalls". [1989] Special surface finish & crack repair. Delamination & spall.								
215	CONCRETE ABUTMENT	2	08-13-2012	225 LF	213	12	0	0	N/A
			08-05-2011	225 LF	213	12	0	0	N/A
	Notes: Abutment "A", north & south abutment.[2011] south abut has 12 s.f. of spalls.								
234	CONCRETE CAP	2	08-13-2012	4,068 LF	4,021	47	0	0	N/A
			08-05-2011	4,068 LF	4,021	47	0	0	N/A
	Notes: [1989] Spandrel caps (5 - 7 & 9 - 12), bents caps (1 - 8) rebuilt. Cracks.								
387	CONCRETE WINGWALL	2	08-13-2012	1 EA	0	1	0	0	N/A
			08-05-2011	1 EA	0	1	0	0	N/A
	Notes: < none >								
358	CONC DECK CRACKING	2	08-13-2012	1 EA	1	0	0	0	N/A
			08-05-2011	1 EA	1	0	0	0	N/A
	Notes: [93/1995] 3000 LF transverse cracks in arch spans. Random longitudinal cracks.[2011] cracks sealed with epoxy flood seal summer 2011.								
359	CONC DECK UNDERSIDE	2	08-13-2012	1 EA	0	1	0	0	0
			08-05-2011	1 EA	0	1	0	0	0
	Notes: [95/2009] 1200 LF of transverse leaching cracks.								
361	SCOUR	2	08-13-2012	1 EA	1	0	0	N/A	N/A
			08-05-2011	1 EA	1	0	0	N/A	N/A
	Notes: Stable due to protection. Inspect countermeasures. [1991] Underwater inspection performed by contract divers. [2004] Underwater Inspections by "Ayres Associates" found vertical cracks at piers 4 & 5. No evidence of scour.								
362	TRAFFIC IMPACT	2	08-13-2012	1 EA	1	0	0	N/A	N/A
			08-05-2011	1 EA	1	0	0	N/A	N/A
	Notes: [2010] Minor damage to the thru arch portion of the bridge, including scrapes, small spalls, and paint loss indicate traffic impacts have occurred.								

Mn/DOT BRIDGE INSPECTION REPORT

STRUCTURE UNIT: 0

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
363	SECTION LOSS	2	08-13-2012	1 EA	0	1	0	0	N/A
			08-05-2011	1 EA	0	1	0	0	N/A
Notes: Flaking & surface rust on steel (span 8).									
964	CRITICAL FINDING	2	08-13-2012	1 EA	1	0	N/A	N/A	N/A
			08-05-2011	1 EA	1	0	N/A	N/A	N/A
Notes: < none >									
981	SIGNING	2	08-13-2012	1 EA	1	0	0	0	0
			08-05-2011	1 EA	1	0	0	0	0
Notes: < none >									
984	DRAINAGE	2	08-13-2012	1 EA	0	1	0	N/A	N/A
			08-05-2011	1 EA	0	1	0	N/A	N/A
Notes: 2 Drop inlets: base both curb south roadway, drop inlet base both curb north roadway. [1996] 2 Deck scuppers, base of each curb at piers 1 & 7. [2010] Deck drains are plugged.									
985	SLOPES	2	08-13-2012	1 EA	1	0	0	N/A	N/A
			08-05-2011	1 EA	1	0	0	N/A	N/A
Notes: [2010] Element added as suggested in the 2008 Underwater Inspection Report.									
986	CURB & SIDEWALK	2	08-13-2012	1 EA	0	1	0	N/A	N/A
			08-05-2011	1 EA	0	1	0	N/A	N/A
Notes: Sidewalks are 9 FT wide at approach spans & 6 FT wide at arch spans. [1997] Sidewalks have extensive map cracking. [2009] 1350 LF random cracks west, 1845 LF random cracks east sidewalk. [2010/11] East sidewalk has 4 SF spall, repaired summer 2011.[2011] crack sealed. Electrical fiberglass conduit running in both sidewalks 2" below the surface.									
988	MISCELLANEOUS	2	08-13-2012	1 EA	0	0	1	N/A	N/A
			08-05-2011	1 EA	0	0	1	N/A	N/A
Notes: [1993] Abandoned phone line hanging down in south approach spans should be removed. [1997] Flood lights at base of main piers are broken. Underdeck & rail mounted ornamental lighting.									

General Notes: Bridge #9036, Year 2012
 Bridge constructed in 1926, re-decked in 1989. Note: Refer to plans for pier & span numbering.
 [1997] Photos. City of St. Paul: Joe Lee (651) 487-4654, John Engebretson (651)-4654

- 1997 Snooper inspection: K Fuhrman, P Wilson
- 2003 Snooper inspection: K Fuhrman, V Desens
- 2005 Inspector: V Desens
- 2006 Snooper inspection: K Fuhrman, V Desens
- 2007 Inspector: PB Americas Inc.
- 2008 Snooper inspection. K Fuhrman, V Desens
- 2009 Inspector: K Fuhrman
- 2010 Inspector: K Fuhrman
- 2011 Inspector: P O'Brien
- 2012 Snooper inspection: K Fuhrman, C Hoberg

Inspector's Signature

Reviewer's Signature / Date

Mn/DOT Structure Inventory Report

Bridge ID: 9036

ROBERT ST (US952A) over MISSISSIPPI RIVER & RR

Date: 12/16/2013

+ GENERAL +	+ ROADWAY +	+ INSPECTION +
Agency Br. No. Crew 7639	Bridge Match ID (TIS) 1	Deficient Status F.O.
District METRO Maint. Area 5B	Roadway O/U Key 1-ON	Sufficiency Rating 75.0
County 62 - RAMSEY	Route Sys/Nbr USTH 952A	Last Inspection Date 08-13-2012
City ST PAUL	Roadway Name or Description	Inspection Frequency 24
Township	ROBERT ST (TH 952A)	Inspector Name METRO
Desc. Loc. 0.7 MI SE OF TH 35E & 94	Roadway Function MAINLINE	Structure A-OPEN
Sect., Twp., Range 06 - 028NN - 22W	Roadway Type 2 WAY TRAF	+ NBI CONDITION RATINGS +
Latitude 44d 56m 40.38s	Control Section (TH Only) 17	Deck 2 % UNSOUND 7
Longitude 93d 05m 17.47s	Ref. Point (TH Only) 131+00.035	Superstructure 6
Custodian STATE HWY	Date Opened to Traffic 07-01-1990	Substructure 6
Owner STATE HWY	Detour Length 1 mi.	Channel 8
Inspection By METRO DISTRICT	Lanes 5 Lanes ON Bridge	Culvert N
BMU Agreement	ADT (YEAR) 19,000 (2004)	+ NBI APPRAISAL RATINGS +
Year Built 1926	HCADT 380	Structure Evaluation 6
Year Fed Rehab 1989	Functional Class. URB/MINOR ART	Deck Geometry 2
Year Remodeled 1989	+ RDWY DIMENSIONS +	Underclearances 2
Temp	If Divided NB-EB SB-WB	Waterway Adequacy 9
Plan Avail. CENTRAL	Roadway Width 56.0 ft	Approach Alignment 8
+ STRUCTURE +	Vertical Clearance	+ SAFETY FEATURES +
Service On HWY;PED	Max. Vert. Clear.	Bridge Railing 1-MEETS STANDARDS
Service Under HWY;RR;STREAM	Horizontal Clear. 55.9 ft	GR Transition N-NOT REQUIRED
Main Span Type CONC ARCH	Lateral Clr. - Lt/Rt	Appr. Guardrail N-NOT REQUIRED
Main Span Detail RAINBOW ARCH	Appr. Surface Width 56.0 ft	GR Termini N-NOT REQUIRED
Appr. Span Type PRESTR BM SPAN	Roadway Width 56.0 ft	+ IN DEPTH INSP. +
Appr. Span Detail	Median Width	Frac. Critical
Skew	+ MISC. BRIDGE DATA +	Underwater Y 60 mo 10/2012
Culvert Type	Structure Flared NO	Pinned Asbly.
Barrel Length	Parallel Structure NONE	Spec. Feat.
Number of Spans	Field Conn. ID RIVETED	+ WATERWAY +
MAIN: 8 APPR: 9 TOTAL: 17	Cantilever ID	Drainage Area
Main Span Length 264.0 ft	Foundations	Waterway Opening 99999 sq ft
Structure Length 1,428.9 ft	Abut. CONC - FTG PILE	Navigation Control PERMIT REQD
Deck Width 80.4 ft	Pier CONC - FTG PILE	Pier Protection NOT REQUIRED
Deck Material C-I-P CONCRETE	Historic Status ON REGISTER	Nav. Vert./Horz. Clr. 62 ft 200.0 ft
Wear Surf Type EPOXY OVERLAY	On - Off System ON	Nav. Vert. Lift Bridge Clear.
Wear Surf Install Year 2011	+ PAINT +	MN Scour Code P-STBL;PROT INPL
Wear Course/Fill Depth	Year Painted 1989 Pct. Unsound 1 %	Scour Evaluation Year 1996
Deck Membrane NONE	Painted Area 32,502 sf	+ CAPACITY RATINGS +
Deck Protect. EPOXY COATED REBAR	Primer Type INORGANIC ZINC	Design Load HS25
Deck Install Year 1989	Finish Type	Operating Rating HS 32.50
Structure Area 114,884 sq ft	+ BRIDGE SIGNS +	Inventory Rating HS 20.80
Roadway Area 80,019 sq ft	Posted Load NOT REQUIRED	Posting
Sidewalk Width - L/R 9.5 ft 9.5 ft	Traffic NOT REQUIRED	Rating Date 03-01-1976
Curb Height - L/R 0.83 ft 0.83 ft	Horizontal NOT REQUIRED	Mn/DOT Permit Codes
Rail Codes - L/R 41 41	Vertical NOT APPLICABLE	A: 1 B: 1 C: 1

Mn/DOT Structure Inventory Report

Bridge ID: 9036

ROBERT ST (US952A) over MISSISSIPPI RIVER & RR

Date: 12/16/2013

+ GENERAL +	+ ROADWAY +	+ INSPECTION +
Agency Br. No. Crew 7639	Bridge Match ID (TIS) 2	Deficient Status F.O.
District METRO Maint. Area 5B	Roadway O/U Key A-UNDER (1ST)	Sufficiency Rating 75.0
County 62 - RAMSEY	Route Sys/Nbr CSAH 37	Last Inspection Date 08-13-2012
City ST PAUL	Roadway Name or Description	Inspection Frequency 24
Township	SHEPARD ROAD (CSAH 37)	Inspector Name METRO
Desc. Loc. 0.7 MI SE OF TH 35E & 94	Roadway Function MAINLINE	Structure A-OPEN
Sect., Twp., Range 06 - 028NN - 22W	Roadway Type 2 WAY TRAF	+ NBI CONDITION RATINGS +
Latitude 44d 56m 40.38s	Control Section (TH Only)	Deck 2 % UNSOUND 7
Longitude 93d 05m 17.47s	Ref. Point (TH Only)	Superstructure 6
Custodian STATE HWY	Date Opened to Traffic	Substructure 6
Owner STATE HWY	Detour Length 1 mi.	Channel 8
Inspection By METRO DISTRICT	Lanes 4 Lanes UNDER Bridge	Culvert N
BMU Agreement	ADT (YEAR) 16,200 (2005)	+ NBI APPRAISAL RATINGS +
Year Built 1926	HCADT	Structure Evaluation 6
Year Fed Rehab 1989	Functional Class. URB/OTH PR ART	Deck Geometry 2
Year Remodeled 1989	+ RDWY DIMENSIONS +	Underclearances 2
Temp	If Divided NB-EB SB-WB	Waterway Adequacy 9
Plan Avail. CENTRAL	Roadway Width 22.4 ft 22.3 ft	Approach Alignment 8
+ STRUCTURE +	Vertical Clearance 23.9 ft 23.9 ft	+ SAFETY FEATURES +
Service On HWY;PED	Max. Vert. Clear. 23.9 ft 23.9 ft	Bridge Railing 1-MEETS STANDARDS
Service Under HWY;RR;STREAM	Horizontal Clear. 27.7 ft 27.8 ft	GR Transition N-NOT REQUIRED
Main Span Type CONC ARCH	Lateral Clr. - Lt/Rt 1.1 ft 1.4 ft	Appr. Guardrail N-NOT REQUIRED
Main Span Detail RAINBOW ARCH	Appr. Surface Width 51.0 ft	GR Termini N-NOT REQUIRED
Appr. Span Type PRESTR BM SPAN	Roadway Width 44.7 ft	+ IN DEPTH INSP. +
Appr. Span Detail	Median Width 6.0 ft	Frac. Critical
Skew	+ MISC. BRIDGE DATA +	Underwater Y 60 mo 10/2012
Culvert Type	Structure Flared NO	Pinned Asbly.
Barrel Length	Parallel Structure NONE	Spec. Feat.
Number of Spans	Field Conn. ID RIVETED	+ WATERWAY +
MAIN: 8 APPR: 9 TOTAL: 17	Cantilever ID	Drainage Area
Main Span Length 264.0 ft	Foundations	Waterway Opening 99999 sq ft
Structure Length 1,428.9 ft	Abut. CONC - FTG PILE	Navigation Control PERMIT REQD
Deck Width 80.4 ft	Pier CONC - FTG PILE	Pier Protection NOT REQUIRED
Deck Material C-I-P CONCRETE	Historic Status ON REGISTER	Nav. Vert./Horz. Clr. 62 ft 200.0 ft
Wear Surf Type EPOXY OVERLAY	On - Off System ON	Nav. Vert. Lift Bridge Clear.
Wear Surf Install Year 2011	+ PAINT +	MN Scour Code P-STBL;PROT INPL
Wear Course/Fill Depth	Year Painted 1989 Pct. Unsound 1 %	Scour Evaluation Year 1996
Deck Membrane NONE	Painted Area 32,502 sf	+ CAPACITY RATINGS +
Deck Protect. EPOXY COATED REBAR	Primer Type INORGANIC ZINC	Design Load HS25
Deck Install Year 1989	Finish Type	Operating Rating HS 32.50
Structure Area 114,884 sq ft	+ BRIDGE SIGNS +	Inventory Rating HS 20.80
Roadway Area 80,019 sq ft	Posted Load NOT REQUIRED	Posting
Sidewalk Width - L/R 9.5 ft 9.5 ft	Traffic NOT REQUIRED	Rating Date 03-01-1976
Curb Height - L/R 0.83 ft 0.83 ft	Horizontal NOT REQUIRED	Mn/DOT Permit Codes
Rail Codes - L/R 41 41	Vertical NOT APPLICABLE	A: 1 B: 1 C: 1

Mn/DOT Structure Inventory Report

Bridge ID: 9036

ROBERT ST (US952A) over MISSISSIPPI RIVER & RR

Date: 12/16/2013

+ GENERAL +	+ ROADWAY +	+ INSPECTION +
Agency Br. No. Crew 7639	Bridge Match ID (TIS) 3	Deficient Status F.O.
District METRO Maint. Area 5B	Roadway O/U Key B-UNDER (2ND)	Sufficiency Rating 75.0
County 62 - RAMSEY	Route Sys/Nbr MUN 1596	Last Inspection Date 08-13-2012
City ST PAUL	Roadway Name or Description	Inspection Frequency 24
Township	2ND STREET	Inspector Name METRO
Desc. Loc. 0.7 MI SE OF TH 35E & 94	Roadway Function MAINLINE	Structure A-OPEN
Sect., Twp., Range 06 - 028NN - 22W	Roadway Type 1 WAY TRAF	+ NBI CONDITION RATINGS +
Latitude 44d 56m 40.38s	Control Section (TH Only)	Deck 2 % UNSOUND 7
Longitude 93d 05m 17.47s	Ref. Point (TH Only)	Superstructure 6
Custodian STATE HWY	Date Opened to Traffic	Substructure 6
Owner STATE HWY	Detour Length 1 mi.	Channel 8
Inspection By METRO DISTRICT	Lanes 2 Lanes UNDER Bridge	Culvert N
BMU Agreement	ADT (YEAR) 500 (1974)	+ NBI APPRAISAL RATINGS +
Year Built 1926	HCADT	Structure Evaluation 6
Year Fed Rehab 1989	Functional Class. URBAN LOCAL	Deck Geometry 2
Year Remodeled 1989	+ RDWY DIMENSIONS +	Underclearances 2
Temp	If Divided NB-EB SB-WB	Waterway Adequacy 9
Plan Avail. CENTRAL	Roadway Width 28.0 ft	Approach Alignment 8
+ STRUCTURE +	Vertical Clearance 12.1 ft	+ SAFETY FEATURES +
Service On HWY;PED	Max. Vert. Clear. 12.1 ft	Bridge Railing 1-MEETS STANDARDS
Service Under HWY;RR;STREAM	Horizontal Clear. 29.0 ft	GR Transition N-NOT REQUIRED
Main Span Type CONC ARCH	Lateral Clr. - Lt/Rt 0.4 ft	Appr. Guardrail N-NOT REQUIRED
Main Span Detail RAINBOW ARCH	Appr. Surface Width 28.0 ft	GR Termini N-NOT REQUIRED
Appr. Span Type PRESTR BM SPAN	Roadway Width 28.0 ft	+ IN DEPTH INSP. +
Appr. Span Detail	Median Width	Frac. Critical
Skew	+ MISC. BRIDGE DATA +	Underwater Y 60 mo 10/2012
Culvert Type	Structure Flared NO	Pinned Asbly.
Barrel Length	Parallel Structure NONE	Spec. Feat.
Number of Spans	Field Conn. ID RIVETED	+ WATERWAY +
MAIN: 8 APPR: 9 TOTAL: 17	Cantilever ID	Drainage Area
Main Span Length 264.0 ft	Foundations	Waterway Opening 99999 sq ft
Structure Length 1,428.9 ft	Abut. CONC - FTG PILE	Navigation Control PERMIT REQD
Deck Width 80.4 ft	Pier CONC - FTG PILE	Pier Protection NOT REQUIRED
Deck Material C-I-P CONCRETE	Historic Status ON REGISTER	Nav. Vert./Horz. Clr. 62 ft 200.0 ft
Wear Surf Type EPOXY OVERLAY	On - Off System ON	Nav. Vert. Lift Bridge Clear.
Wear Surf Install Year 2011	+ PAINT +	MN Scour Code P-STBL;PROT INPL
Wear Course/Fill Depth	Year Painted 1989 Pct. Unsound 1 %	Scour Evaluation Year 1996
Deck Membrane NONE	Painted Area 32,502 sf	+ CAPACITY RATINGS +
Deck Protect. EPOXY COATED REBAR	Primer Type INORGANIC ZINC	Design Load HS25
Deck Install Year 1989	Finish Type	Operating Rating HS 32.50
Structure Area 114,884 sq ft	+ BRIDGE SIGNS +	Inventory Rating HS 20.80
Roadway Area 80,019 sq ft	Posted Load NOT REQUIRED	Posting
Sidewalk Width - L/R 9.5 ft 9.5 ft	Traffic NOT REQUIRED	Rating Date 03-01-1976
Curb Height - L/R 0.83 ft 0.83 ft	Horizontal NOT REQUIRED	Mn/DOT Permit Codes
Rail Codes - L/R 41 41	Vertical NOT APPLICABLE	A: 1 B: 1 C: 1