

**2016 ROUTINE  
BRIDGE INSPECTION REPORT**



**BRIDGE # 62546  
CSAH 46(RAYMOND) over BNSF RR; MC RY YARDS**

**DISTRICT:** Metro                      **COUNTY:** Ramsey                      **CITY/TOWNSHIP:** St Paul  
**STATE:** Minnesota

**Date of Inspection:** 06/18/2016

**Equipment Used:**

**Owner:** County Highway Agency

**Inspected By:** Engel, Michael; Grau, Joe; Schaaf, Jerry

**Report Written By:** Joe Grau  
**Report Reviewed By:** Glenn Pagel  
**Final Report Date:** 09/29/2016



# Table of Contents

<u>SECTION</u>	<u>PAGE</u>
COVER	1
STRUCTURE INVENTORY	2
ELEMENTS	3
THUMBNAIL PICTURES	7



# MINNESOTA BRIDGE INSPECTION REPORT

09/29/2016

Inspector: CO Bridge

## BRIDGE 62546 CSAH 46(RAYMOND) OVER BNSF RR; MC RY YARDS

County: Ramsey	Location: 0.6 MI N OF UNIV AVE	Length: 403.9 ft.
City: St Paul	Route: 04 - CSAH 46 Ref. Pt.: 005+00.551	Deck Width: 62.3 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: 17771 sq. ft. / %
Section: 29 Township: 029N Range: 23W Maint. Area:		Paint Area/ Pct. Unsnd: sq. ft. / %
Span Type: 5 - Prestressed Concrete 2 - List: Stringer/Multi-beam or Girder	Local Agency Bridge Nbr.:	Culvert: N/A
NBI Deck: 7 Super: 7 Sub: 7 Chan: N Culv: N		Postings:
	Open, Posted, Closed: A - Open	
	MN Scour Code: A - NON WATERWAY	

Appraisal Ratings - Approach: 9 Waterway: N	Unofficial Structurally Deficient N
Required Bridge Signs - Load Posting: 0 - Not Required	Unofficial Functionally Obsolete N
Horizontal: 0 - Not Required	Unofficial Sufficiency Rating 84.8
Traffic: 0 - Not Required	
Vertical: N - Not Applicable	

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
12	Reinforced Concrete Deck	Routine	06/18/2016	25163 SF	25163	0	0	0
		Migrated Values		25163 SF	25163	0	0	0
	Notes: Minor transverse under deck cracks with efflorescence. 2010-14 Some efflorescence at outside edge of walk at joints over piers. 91-04 Also at some spans on both sides. 98-04 Leaching at control joint over pier 1 from south. 94-04							
510	- Wearing Surfaces	Routine	06/18/2016	17771 SF	17416	0	355	0
		Migrated Values		17771 SF	17416	0	355	0
	Notes: Some transverse cracks in the wear surface. 2016 Cracks have been sealed with epoxy sealant. 2016 Recommend sealing the entire deck. 2016							
109	Prestressed Concrete Open Girder/Beam	Routine	06/18/2016	2418 LF	2418	0	0	0
		Migrated Values		2418 LF	2418	0	0	0
	Notes: 54" prestressed beams. 2014							
205	Reinforced Concrete Column	Routine	06/18/2016	15 EA	15	0	0	0
		Migrated Values		15 EA	15	0	0	0
	Notes: The west column of the center pier has one sq. ft. of impact damage up to one inch deep. 2006 No change 2016							
215	Reinforced Concrete Abutment	Routine	06/18/2016	188 LF	173	15	0	0
		Migrated Values		188 LF	173	15	0	0
	Notes: 3/4 of the 3 ply waterproof is loose on No. abutment and slope paving joint. 2014-16 Crack at SE. abut seat. 2 LF 2012-16							
	Wing wall notes: Vertical and horizontal cracking at SE wing wall. 2012-16 Cork is also falling out. SE wing wall 2014-16							
234	Reinforced Concrete Pier Cap	Routine	06/18/2016	308 LF	288	20	0	0
		Migrated Values		308 LF	288	20	0	0
	Notes: Shear cracking at 3rd and 4th pier from the south. ( cantilevers ) 2012-16 Minor scrapes under south pier cap. 2 locations. 2014							
300	Strip Seal Expansion Joint	Routine	06/18/2016	128 LF	128	0	0	0
		Migrated Values		128 LF	128	0	0	0
	Notes: Concrete broken at north east corner of north expansion joint. 92-04.							

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ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
301	Pourable Joint Seal	Routine	06/18/2016	436 LF	436	0	0	0
		Migrated Values		436 LF	436	0	0	0
Notes: All pourable approach joints have been resealed with hot rubber. 2016								
311	Movable Bearing	Routine	06/18/2016	60 EA	60	0	0	0
		Migrated Values		60 EA	60	0	0	0
Notes: Sliding bearings at abutments need grease annually. 2012 Expansion bearing locations S.abut - 6 Pier 1 - 12 Pier 2 - 12 Pier 4 - 12 Pier 5 - 12 N.abut - 6								
313	Fixed Bearing	Routine	06/18/2016	12 EA	12	0	0	0
		Migrated Values		12 EA	12	0	0	0
Notes: Pier 3 has 8 fixed bearings and 4 fascia bearings that are able to move outward. 2014								
321	Reinforced Concrete Approach Slab	Routine	06/18/2016	1760 SF	874	880	6	0
		Migrated Values		1760 SF	874	880	6	0
Notes: Longitudinal crack NB. lane. 2010 South approach panel curbing - 6 LF missing / sheared off. 2016 North approach panel curbing - 2 LF missing / cracked. 2014-16 Cracks have been sealed with epoxy sealant. 2016								
330	Metal Bridge Railing	Routine	06/18/2016	2644 LF	2644	0	0	0
		Migrated Values		2644 LF	2644	0	0	0
	515 - Steel Protective Coating	Routine	06/18/2016	2368 SF	2368	0	0	0
		Migrated Values		2368 SF	2368	0	0	0
Notes: The metal railings were painted in 2016.								
331	Reinforced Concrete Bridge Railing	Routine	06/18/2016	2644 LF	2644	0	0	0
		Migrated Values		2644 LF	2644	0	0	0
Notes: Numerous vertical cracks in parapet. 92-04. The inside face of the concrete railings were painted in 2016.								
800	Critical Deficiencies or Safety Hazards	Routine	06/18/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: NO CRITICAL FINDINGS OBSERVED DURING THE LAST INSPECTION. 2016								
810	Concrete Decks - Cracking & Sealing	Routine	06/18/2016	882 LF	432	450	0	0
		Migrated Values		882 LF	432	450	0	0
Notes: Some transverse cracking in the wear surface is present. 2016 Cracks have been sealed with epoxy sealant. 2016 Recommend sealing the entire deck. 2016								
855	Secondary Members (Superstructure)	Routine	06/18/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: Diaphragms and pier crash struts. 2014 Vertical and map cracking of the crash struts 2, 3 and 4 - N. side. 2014-16 Minor impact damage and scrapes on 1 and 2 struts from the North. 2014-16								
880	Impact Damage	Routine	06/18/2016	1 EA	0	1	0	0
		Migrated Values		1 EA	0	1	0	0
Notes: Minor impact damage to the east side of the two north piers. 1996-16								

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ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
883	Concrete Shear Cracking	Routine	06/18/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Use this element to monitor the presence of shear cracking on concrete elements. Pay particular attention to the prestressed concrete beams. Shear cracking at 3rd and 4th pier from the south. (cantilevers) Monitor 2012-16							
892	Slopes & Slope Protection	Routine	06/18/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
893	Guardrail	Routine	06/18/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Posted speed does NOT exceed 40 MPH. 2014							
894	Deck & Approach Drainage	Routine	06/18/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Use this element to rate the condition, function, and adequacy of the drainage system.							
895	Sidewalk, Curb, & Median	Routine	06/18/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Two lighting pull boxes are 1" low at the southeast approach walk. 2004-10 SE. walk approach panel sunk. Bituminous patch in place. 2010-12 Transverse and longitudinal cracking. 2012  There are numerous cracks between joints in bridge walk. 91-99 NW approach walk settled 1 inch. 2016							
899	Miscellaneous Items	Routine	06/18/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Several vertical cracks 6' to 10' high in S.E. retaining wall with a couple of cork joints open up to 1/4". 91-04 Alligator cracking in special surface finish. 92-10 SE wall tipped out 1/2" at abut. 2010 There are 12 light pole on the bridge. 2016							
900	Protected Species	Routine	06/18/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Use this element to track the presence of protected species living on this structure. None found in 2016.							

General Notes:

58. Deck NBI:

36A. Brdg Railings NBI:

36B. Transitions NBI: Posted speed does NOT exceed 40 MPH. 2014

36C. Appr Guardrail NBI:

36D. Appr Guardrail Terminal NBI:

59. Superstructure NBI: Minor deterioration. 2014

60. Substructure NBI:

61. Channel NBI:

62. Culvert NBI:

71. Waterway Adeq NBI:

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72. Appr Roadway  
Alignment NBI:  
Inventory Notes:

Joe Grau

Inspector's Signature

Glenn Pagel

Reviewer's Signature



1. 2014 elevation view\_1.JPG



2. 2014 elevation view\_2.JPG



3. 2014 elevation view\_3.JPG



4. 20160614\_1.jpg



5. 20160614\_2.jpg



6. 20160614\_3.jpg



7. 20160614\_4.jpg



8. 20160614\_5.jpg



9. 20160614\_6.jpg



10. 20160614\_7.jpg