

**2016 ROUTINE  
BRIDGE INSPECTION REPORT**



**BRIDGE # 62008  
CSAH 49(RICE ST) over BNSF RR**

**DISTRICT:** Metro

**COUNTY:** Ramsey

**CITY/TOWNSHIP:** St Paul

**STATE:** Minnesota

**Date of Inspection:** 09/15/2016

**Equipment Used:**

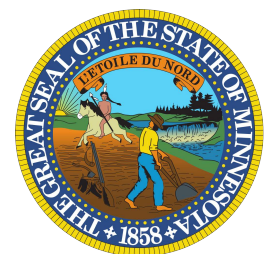
**Owner:** County Highway Agency

**Inspected By:** Engel, Michael; Grau, Joe; Reimer, Dan

**Report Written By:** Dan Reimer

**Report Reviewed By:** Glenn Pagel

**Final Report Date:** 12/06/2016



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# Minnesota Structure Inventory Report

Bridge ID: 62008

CSAH 49(RICE ST) over BNSF RR

Date: 11/21/2016

+ GENERAL +	+ ROADWAY +	+ INSPECTION +																				
<b>Agency Br. No.</b> Crew <b>District</b> 05 <b>Maint. Area</b> <b>County</b> 062 - Ramsey <b>City</b> St Paul <b>Township</b> <b>Desc. Loc.</b> 0.5 MI N OF JCT UNIV AVE <b>Sect., Twp., Range</b> 36 - 029N - 23W <b>Latitude</b> 44 ° 57 ' 46.72 " <b>Longitude</b> 93 ° 6 ' 22.49 " <b>Custodian</b> 02 - County Highway Agency <b>Owner</b> 02 - County Highway Agency <b>BMU Agreement</b> <b>Year Built</b> 1976 <b>MN Year Reconstructed</b> <b>FHWA Year Reconstructed</b> <b>MN Temporary Status</b> <b>Bridge Plan Location</b> 1 - CENTRAL <b>Date Opened to Traffic</b> 7/1/1976 <b>On - Off System</b> 1 - ON <b>Legislative District</b> 65A <b>Potential ABC</b> 2 - N/A	<b>Bridge Match ID (TIS)</b> 0 <b>Roadway O/U Key</b> Route On Structure <b>Route Sys</b> 04 - CSAH <b>Number</b> 49 <b>Roadway Name or Description</b> CSAH 49 <b>Level of Service</b> 1 - MAINLINE <b>Roadway Type</b> 2 - 2-way traffic <b>Control Section (TH Only)</b> <b>Reference Point</b> 000+00.489 <b>Detour Length</b> 1.0 mi. <b>Lanes</b> <b>ON</b> 4 <b>UNDER</b> 0 <b>ADT</b> 15338 <b>YEAR</b> 2008 <b>HCA DT</b> <b>ADTT</b> % <b>Functional Class</b> 16 - Urban - Minor Arterial	<b>Userkey</b> 199 <b>Structurally Deficient</b> N <b>Functionally Obsolete</b> N <b>Sufficiency Rating</b> 69.8 <b>Routine Inspection Date</b> 09/15/2016 <b>Routine Inspection Frequency</b> 24 <b>Inspector Name</b> Reimer, Dan <b>Status</b> A - Open																				
		+ NBI CONDITION RATINGS +																				
		<b>Deck</b> 7 <b>Unsound Deck %</b> 0 <b>Superstructure</b> 7 <b>Substructure</b> 7 <b>Channel</b> N <b>Culvert</b> N																				
		+ NBI APPRAISAL RATINGS +																				
		<b>Structure Evaluation</b> 5 <b>Deck Geometry</b> 4 <b>Underclearances</b> 4 <b>Waterway Adequacy</b> N <b>Approach Alignment</b> 9																				
		+ SAFETY FEATURES +																				
		<b>Bridge Railing</b> 1 - MEETS STANDARDS <b>GR Transition</b> N - NOT REQUIRED <b>Appr. Guardrail</b> N - NOT REQUIRED <b>GR Termini</b> N - NOT REQUIRED																				
		+ IN DEPTH INSP. +																				
		<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Y/N</th> <th style="text-align: center;">Freq</th> <th style="text-align: center;">Date</th> </tr> </thead> <tbody> <tr> <td><b>Frac. Critical</b></td> <td style="text-align: center;">N</td> <td></td> <td></td> </tr> <tr> <td><b>Underwater</b></td> <td style="text-align: center;">N</td> <td></td> <td></td> </tr> <tr> <td><b>Pinned Asbly.</b></td> <td style="text-align: center;">N</td> <td></td> <td></td> </tr> <tr> <td><b>Spec. Feat.</b></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Y/N	Freq	Date	<b>Frac. Critical</b>	N			<b>Underwater</b>	N			<b>Pinned Asbly.</b>	N			<b>Spec. Feat.</b>			
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<b>Pinned Asbly.</b>	N																					
<b>Spec. Feat.</b>																						
		+ WATERWAY +																				
		<b>Drainage Area (sq. mi.)</b> <b>Waterway Opening (sf.)</b> <b>Navigation Control</b> N - Not applicable, no <b>Pier Protection</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td><b>Nav. Clr. (ft.)</b></td> <td style="text-align: center;">Vert.</td> <td style="text-align: center;">0.0</td> <td style="text-align: center;">Horiz.</td> <td style="text-align: center;">0.0</td> </tr> </table> <b>Nav. Vert. Lift Bridge Clear. (ft.)</b> <b>MN Scour Code</b> A - NON <b>Year</b>	<b>Nav. Clr. (ft.)</b>	Vert.	0.0	Horiz.	0.0															
<b>Nav. Clr. (ft.)</b>	Vert.	0.0	Horiz.	0.0																		
		+ CAPACITY RATINGS +																				
		<b>Design Load</b> 5 - HS 20 <b>Operating Rating</b> 2 - HS TRUCK 24.4 <b>Inventory Rating</b> 2 - HS TRUCK 14.6 <b>Posting VEH:</b> <b>SEMI:</b> <b>DBL:</b> <b>Rating Date</b> 03/31/2015 <b>Overweight Permit Codes</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">A 1 - No Restriction</td> <td style="width: 33%;">B 1 - No Restriction</td> <td style="width: 33%;">C 1 - No Restriction</td> </tr> </table>	A 1 - No Restriction	B 1 - No Restriction	C 1 - No Restriction																	
A 1 - No Restriction	B 1 - No Restriction	C 1 - No Restriction																				
+ STRUCTURE +	+ RDWY DIMENSIONS +																					
<b>Service On</b> 5 - Highway-pedestrian <b>Service Under</b> 2 - Railroad <b>Main Span Type</b> 5 - Prestress or Precast <b>Main Span Design</b> 01 - Beam Span <b>Main Span Detail</b> <b>Appr. Span Type</b> <b>Appr. Span Design</b> <b>Appr. Span Detail</b> <b>Skew</b> 0 <b>Culvert Type</b> <b>Barrel Length</b> <b>Cantilever ID</b>  <b>Number of Spans</b> <b>MAIN:</b> 4 <b>APPR:</b> 0 <b>TOTAL:</b> <b>Main Span Length</b> 82.0 ft. <b>Structure Length</b> 295.2 ft. <b>Deck Width (Out-to-Out)</b> 66.3 ft. <b>Deck Material</b> 1 - Concrete Cast-in-Place <b>Wear Surf Type</b> 4 - Low Slump Concrete <b>Wear Surf Install Year</b> 1992 <b>Wear Course/Fill Depth</b> 0.23 ft. <b>Deck Membrane</b> 0 - None <b>Deck Rebars</b> 2 - Galvanized Reinforcing <b>Deck Rebars Install Year</b> 1975 <b>Structure Area (Out-to-Out)</b> 19572 sq. ft. <b>Roadway Area (Curb-to-Curb)</b> 15349 sq. ft. <b>Sidewalk Width</b> <b>50A. Lt</b> 6.00 ft. <b>50B. Rt</b> 6.00 ft. <b>Curb Height</b> <b>Lt</b> 0.83 ft. <b>Rt</b> 0.83 ft. <b>Rail Type</b> <b>Lt</b> 21 <b>Rt</b> 21	<b>If Divided</b> <b>NB-EB</b> <b>SB-WB</b> <b>Roadway Width</b> 52.00 ft. ft. <b>Vertical Clearance</b> ft. ft. <b>Max. Vert. Clear.</b> ft. ft. <b>Horizontal Clear.</b> 51.9 ft. ft. <b>Lateral Clearance</b> ft. ft. <b>Appr. Surface Width</b> 50.0 ft. <b>Bridge Roadway Width</b> 52.0 ft. <b>Median Width On Bridge</b> ft.																					
	+ MISC. BRIDGE DATA +																					
	<b>Structure Flared</b> 0 - No flare <b>Parallel Structure</b> N - No parallel structure <b>Field Conn. ID</b> <b>Abutment Foundation (Material/Type)</b> 1 - CONC 3 - FTG PILE <b>Pier Foundation (Material/Type)</b> 1 - CONC 3 - FTG PILE <b>Historic Status</b> 5 - Not eligible																					
	+ PAINT +																					
	<b>Year Painted</b> <b>Unsound Paint %</b> <b>Painted Area</b> sq. ft. <b>Primer Type</b> <b>Finish Type</b>																					
	+ BRIDGE SIGNS +																					
	<b>Posted Load</b> 0 - Not Required <b>Traffic</b> 0 - Not Required <b>Horizontal</b> 0 - Not Required <b>Vertical</b> N - Not Applicable																					

# MINNESOTA BRIDGE INSPECTION REPORT

12/06/2016

Inspector: CO Bridge

## BRIDGE 62008 CSAH 49(RICE ST) OVER BNSF RR

County: Ramsey	Location: 0.5 MI N OF JCT UNIV AVE	Length: 295.2 ft.
City: St Paul	Route: 04 - CSAH 49 Ref. Pt.: 000+00.489	Deck Width: 66.3 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: 15349 sq. ft. / 0%
Section: 36 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	Traffic: 0 - Not Required	Unofficial Functionally Obsolete N
Horizontal: 0 - Not Required	Vertical: N - Not Applicable	Unofficial Sufficiency Rating 69.8

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	09/15/2016	19572 SF	18392	826	354	0
		Migrated Values		19572 SF	18392	826	354	0
Notes: [2004] UNDERSIDE OF DECK HAS 28 LF OF LIGHT TRANSVERSE LEACHING CRACKS. THERE IS LIGHT SCALING BELOW THE W. GUTTER LINE. 2006-16 West gutter line under deck area of distress = approx. 4' x 295' = 1,180 SF. 2012 Significant water / salt saturation with rust staining. 2016								
510	- Wearing Surfaces	Routine	09/15/2016	15349 SF	14973	375	1	0
		Migrated Values		15349 SF	14973	375	1	0
Notes: 4 Lanes. Deck has galvanized rebar.  Transverse cracks. 2010-14 Sealed 2013 4500 LF / 12 = 375 SF of sealed cracks. 2016 1 SF spall - ½" to 1½" deep. NB left lane - N. end. 2016								
109	Prestressed Concrete Open Girder/Beam	Routine	09/15/2016	2359 LF	2359	0	0	0
		Migrated Values		2359 LF	2359	0	0	0
Notes: 45" DEEP PRESTRESSED BEAMS.								
205	Reinforced Concrete Column	Routine	09/15/2016	12 EA	12	0	0	0
		Migrated Values		12 EA	12	0	0	0
215	Reinforced Concrete Abutment	Routine	09/15/2016	153 LF	147	6	0	0
		Migrated Values		153 LF	147	6	0	0
Notes: [2001] FACE OF HIGH WALL ABUTMENTS HAVE 100 LF OF VERTICAL CRACKS. SOUTH ABUT PARAPET HAS 7 SF SPALL - 1" DEEP. 2004-16 Vertical cracking present at the abuts. 2012-16 N. end has a moderate width vertical crack, toward the E. end. 2016 [1985/2001] EAST WINGWALLS HAVE SEPARATED FROM ABUTMENTS: SE JT HAS OPENED UP 2" NE JT HAS OPENED UP 1". [1983] SW WINGWALL HAS 8 LF HORIZONTAL CRACK. SW WINGWALL HAS RUST STAINS FROM FORMWORK TIE RODS. 2004-2010								
234	Reinforced Concrete Pier Cap	Routine	09/15/2016	200 LF	200	0	0	0
		Migrated Values		200 LF	200	0	0	0
300	Strip Seal Expansion Joint	Routine	09/15/2016	131 LF	131	0	0	0
		Migrated Values		131 LF	131	0	0	0
Notes: [1992] STRIP SEALS - TYPE "H" - INSTALLED AT ABUTMENTS.								

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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	09/15/2016	66 LF	36	30	0	0
		Migrated Values		66 LF	36	30	0	0
Notes: New bituminous over lay on the S. approach. 2016 Poured joints only at the N. side approach. 2016								
311	Movable Bearing	Routine	09/15/2016	52 EA	52	0	0	0
		Migrated Values		52 EA	52	0	0	0
Notes: Changed quantity to 52 each. 2014								
313	Fixed Bearing	Routine	09/15/2016	16 EA	16	0	0	0
		Migrated Values		16 EA	16	0	0	0
Notes: Changed quantity to 16 each. 2014 Fixed bearings located at pier 2. 2014								
321	Reinforced Concrete Approach Slab	Routine	09/15/2016	2000 SF	1997	0	3	0
		Migrated Values		2000 SF	1997	0	3	0
Notes: South approach has a new bituminous overlay. Excellent - 2016 Minor to moderate deterioration. 2012-14 Bituminous wearing surface on the N. end is rutting. NB and SB lanes. 2016								
330	Metal Bridge Railing	Routine	09/15/2016	1936 LF	1934	2	0	0
		Migrated Values		1936 LF	1934	2	0	0
Notes: [1998] FENCE POST BENT AT SW CORNER and NW of tracks. 2010 Finish coat failing. Rust is present. 2016								
515	Steel Protective Coating	Routine	09/15/2016	9680 SF	0	0	1936	7744
		Migrated Values		9680 SF	0	0	1936	7744
Notes: Moderate finish coat deterioration and galvanized system is failing. 2016								
331	Reinforced Concrete Bridge Railing	Routine	09/15/2016	1936 LF	1936	0	0	0
		Migrated Values		1936 LF	1936	0	0	0
Notes: [1998] FENCE POST BENT AT SW CORNER and NW of tracks. 2010 [2002] Vertical cracks in railing. Surface finish is extremely weathered. 2004 Painted parapets. 2010 Insignificant vertical cracks are present. 2016								
800	Critical Deficiencies or Safety Hazards	Routine	09/15/2016	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	09/15/2016	4500 LF	4500	0	0	0
		Migrated Values		4500 LF	4500	0	0	0
Notes: [1994/95] OVERLAY HAS 4,000 LF OF TRANSVERSE CRACKS & 500 LF OF LONGITUDINAL CRACKS. Numerous cracks in overlay , some need additional sealing. 01. Many cracks are not completely sealed. 04-12 Cracks of moderate size. 2012 Cracks sealed 2013. Looks OK. 2014 Unsealed cracks are present. Less than .012" wide. 2016								
855	Secondary Members (Superstructure)	Routine	09/15/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: Consists of concrete diaphragms. 2016								
856	Secondary Members (Substructure)	Routine	09/15/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: Consists of concrete crash struts. 2016								

**BRIDGE 62008 CSAH 49(RICE ST) OVER BNSF RR**

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	09/15/2016	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 concrete pier caps and prestressed concrete beams.							
891	Other Bridge Signing	Routine	09/15/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: All required signs are present. 2016							
892	Slopes & Slope Protection	Routine	09/15/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Use this element to rate the condition of slopes and slope protection.							
893	Guardrail	Routine	09/15/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: Posted speed is NOT over 40 MPH. 2014 Guard rail at the SE end has impact damage. 2016							
894	Deck & Approach Drainage	Routine	09/15/2016	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	09/15/2016	1 EA	0	0	1	0
		Migrated Values		1 EA	0	0	1	0
	Notes: Numerous minor transverse cracks. 2004-16 The approach walks have settled - 1" to 2". 2016							
899	Miscellaneous Items	Routine	09/15/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
	Notes: INSULATED WATER MAIN IN EAST BAY, CONDUIT IN 2nd BAY FROM EAST. [1992] 1st WATER PIPE SUPPORT AT SE CORNER IS LOOSE. 2 ACTIVE RR TRACKS IN SPAN #4, ONE SPUR LINE IN SPAN #3 (TRACKS IN SPANS #1 & 2 HAVE BEEN REMOVED). [1996]							
900	Protected Species	Routine	09/15/2016	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 noticed. 2016							

General Notes: Bridge #62008  
BRIDGE CONSTRUCTED IN 1976.

58. Deck NBI: Minor to moderate cracking present. - 2012

36A. Brdg Railings NBI:

36B. Transitions NBI: Posted speed is Not over 40 MPH. 2014

36C. Appr Guardrail NBI:

36D. Appr Guardrail  
Terminal NBI:

59. Superstructure NBI:

60. Substructure NBI:

61. Channel NBI:

62. Culvert NBI:

71. Waterway Adeq NBI:

**BRIDGE 62008 CSAH 49(RICE ST) OVER BNSF RR**

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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
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72. Appr Roadway  
Alignment NBI:  
Inventory Notes:

Dan Reimer  
Inspector's Signature

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Glenn Pagel  
Reviewer's Signature

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1. bit. approach 022.JPG



2. 5-4-2012 002.jpg



3. 5-4-2012 061.jpg



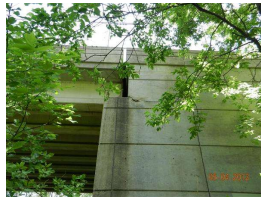
4. 5-4-2012 065.jpg



5. 5-4-2012 069.jpg



6. 5-4-2012 070.jpg



7. 5-4-2012 073.jpg



8. 5-4-2012 074.jpg



9. 5-4-2012 077.jpg



10. 5-4-2012 107.jpg



11. underdeck gutterline west\_9.jpg



12. underdeck gutterline west\_10.jpg



13. NE end.JPG



14. NB left lane towards the N end.JPG



15. N Abutment towards the E.JPG



16. NW end block.JPG



17. SE end.JPG



18. SW end (1).JPG



19. SW end (2).JPG



20. Under W sidewalk near the N end.JPG



21. Underdeck, mid span facing S.JPG