

**2016 ROUTINE
BRIDGE INSPECTION REPORT**



**BRIDGE # 62530
CSAH 65(WHT BR AV) over UP RR**

DISTRICT: Metro

COUNTY: Ramsey

CITY/TOWNSHIP: St Paul

STATE: Minnesota

Date of Inspection: 07/10/2016

Equipment Used:

Owner: County Highway Agency

Inspected By: Engel, Michael; Reimer, Dan; Schaaf, Jerry

Report Written By: Jerry Schaaf

Report Reviewed By: Glenn Pagel

Final Report Date: 10/26/2016

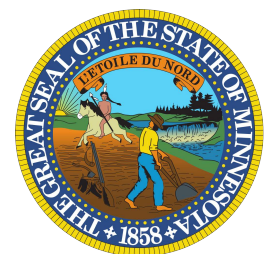


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Minnesota Structure Inventory Report

Bridge ID: 62530 CSAH 65(WHT BR AV) over UP RR

Date: 10/14/2016

+ GENERAL +	+ ROADWAY +	+ INSPECTION +		
Agency Br. No. Crew District 05 Maint. Area County 062 - Ramsey City St Paul Township Desc. Loc. 0.3 MI S OF JCT CSAH 31 Sect., Twp., Range 26 - 029N - 22W Latitude 44 ° 58 ' 24.24 " Longitude 93 ° 1 ' 31.16 " Custodian 02 - County Highway Agency Owner 02 - County Highway Agency BMU Agreement Year Built 1975 MN Year Reconstructed FHWA Year Reconstructed MN Temporary Status Bridge Plan Location 4 - MUNICIPAL Date Opened to Traffic On - Off System 1 - ON Legislative District 67A Potential ABC 2 - N/A	Bridge Match ID (TIS) 0 Roadway O/U Key Route On Structure Route Sys 04 - CSAH Number 65 Roadway Name or Description CSAH 65 Level of Service 1 - MAINLINE Roadway Type 2 - 2-way traffic Control Section (TH Only) Reference Point 002+00.088 Detour Length 1.0 mi. Lanes ON 4 UNDER 0 ADT 18625 YEAR 2008 HCA DT ADTT % Functional Class 16 - Urban - Minor Arterial	Userkey 199 Structurally Deficient N Functionally Obsolete N Sufficiency Rating 80.8 Routine Inspection Date 07/10/2016 Routine Inspection Frequency 24 Inspector Name Schaaf, Jerry Status A - Open		
		+ NBI	CONDITION	RATINGS +
		Deck	7	Unsound Deck %
		Superstructure	7	
		Substructure	8	
		Channel	N	
		Culvert	N	
		+ NBI	APPRAISAL	RATINGS +
		Structure Evaluation	7	
		Deck Geometry	4	
		Underclearances	9	
		Waterway Adequacy	N	
		Approach Alignment	9	
		+ SAFETY FEATURES +		
		Bridge Railing	1 - MEETS STANDARDS	
		GR Transition	1 - MEETS STANDARDS	
		Appr. Guardrail	1 - MEETS STANDARDS	
		GR Termini	1 - MEETS STANDARDS	
		+ IN	DEPTH	INSP. +
			Y/N	Freq Date
		Frac. Critical	N	
		Underwater	N	
		Pinned Asbly.	N	
		Spec. Feat.		
		+ WATERWAY +		
		Drainage Area (sq. mi.)		
		Waterway Opening (sf.)		
		Navigation Control	N - Not applicable, no	
		Pier Protection		
		Nav. Clr. (ft.)	Vert. 0.0	Horiz. 0.0
		Nav. Vert. Lift Bridge Clear. (ft.)		
		MN Scour Code	A - NON	Year
		+ CAPACITY	RATINGS +	
		Design Load	5 - HS 20	
		Operating Rating	2 - HS TRUCK	38.0
		Inventory Rating	2 - HS TRUCK	22.8
		Posting VEH:	SEMI:	DBL:
		Rating Date	05/14/2012	
		Overweight Permit Codes		
		A N - N/A	B N - N/A	C N - N/A
+ STRUCTURE +	+ RDWY DIMENSIONS +			
Service On 5 - Highway-pedestrian Service Under 2 - Railroad Main Span Type 3 - Steel Main Span Design 01 - Beam Span Main Span Detail Appr. Span Type Appr. Span Design Appr. Span Detail Skew 32 LEFT Culvert Type Barrel Length Cantilever ID Number of Spans MAIN: 2 APPR: 0 TOTAL: Main Span Length 78.0 ft. Structure Length 135.2 ft. Deck Width (Out-to-Out) 70.3 ft. Deck Material 1 - Concrete Cast-in-Place Wear Surf Type 4 - Low Slump Concrete Wear Surf Install Year 1988 Wear Course/Fill Depth 0.21 ft. Deck Membrane 0 - None Deck Rebars 0 - None Deck Rebars Install Year Structure Area (Out-to-Out) 9505 sq. ft. Roadway Area (Curb-to-Curb) 7029 sq. ft. Sidewalk Width 50A. Lt 7.70 ft. 50B. Rt 7.70 ft. Curb Height Lt 0.83 ft. Rt 0.83 ft. Rail Type Lt 21 Rt 21	If Divided NB-EB SB-WB Roadway Width 52.00 ft. ft. Vertical Clearance ft. ft. Max. Vert. Clear. ft. ft. Horizontal Clear. 51.9 ft. ft. Lateral Clearance ft. ft. Appr. Surface Width 52.0 ft. Bridge Roadway Width 52.0 ft. Median Width On Bridge ft.			
	+ MISC. BRIDGE DATA +			
	Structure Flared 0 - No flare Parallel Structure N - No parallel structure Field Conn. ID 4 - Bolted Abutment Foundation (Material/Type) 3 - FTG PILE Pier Foundation (Material/Type) 3 - FTG PILE Historic Status 5 - Not eligible			
	+ PAINT +			
	Year Painted Unsound Paint % Painted Area sq. ft. Primer Type Finish Type			
	+ BRIDGE SIGNS +			
	Posted Load 0 - Not Required Traffic 0 - Not Required Horizontal 0 - Not Required Vertical N - Not Applicable			

MINNESOTA BRIDGE INSPECTION REPORT

10/26/2016

Inspector: CO Bridge

BRIDGE 62530 CSAH 65(WHT BR AV) OVER UP RR

County: Ramsey	Location: 0.3 MI S OF JCT CSAH 31	Length: 135.2 ft.
City: St Paul	Route: 04 - CSAH 65 Ref. Pt.: 002+00.088	Deck Width: 70.3 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: 7029 sq. ft. / %
Section: 26 Township: 029N Range: 22W Maint. Area:		Paint Area/ Pct. Unsnd: sq. ft. / %
Span Type: 3 - Steel 2 - Stringer/Multi-beam or Girder	Local Agency Bridge Nbr.:	Culvert: N/A
List:		Postings:
NBI Deck: 7 Super: 7 Sub: 8 Chan: N Culv: N		
	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 80.8
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	07/10/2016	9505 SF	8875	440	190	0
		Migrated Values		9505 SF	8875	440	190	0
	Notes: Moderate to heavy density map cracking - various areas. 2006-16 40 lin. ft. of rust stained cracks in bays at the north abutment and along the center of the deck. 2008-14 3 small holes adjacent to the strip seal area. S. side joint. CS-3 2016 Water / salt saturation is present. Mostly along the CL joint. CS-2 2016							
510	- Wearing Surfaces	Routine	07/10/2016	7029 SF	6429	600	0	0
		Migrated Values		7029 SF	6429	600	0	0
	Notes: 52' x 135.2' = 7,029 SF total. 2016 Several transverse cracks in the deck especially over the west end of the pier. 2000-14 3 small holes adjacent to the strip seal area. S. side joint. Repaired Oct. 2016							
107	Steel Open Girder/Beam	Routine	07/10/2016	1079 LF	1070	9	0	0
		Migrated Values		1079 LF	1070	9	0	0
	Notes: South beam ends are rusty at the fascia beams. 2014-16 Beams are weathering steel. 2016 S. abut beam ends are rusty - flaking rust is present. 2016							
515	- Steel Protective Coating	Routine	07/10/2016	12678 SF	12573	105	0	0
		Migrated Values		12678 SF	12573	105	0	0
	Notes: Weathering steel coating is uniform. 2016 Protective oxide coating has minor deterioration at the beam ends. CS-2 2016							
205	Reinforced Concrete Column	Routine	07/10/2016	5 EA	5	0	0	0
		Migrated Values		5 EA	5	0	0	0
	Notes: Minor rust staining on the columns near the edges of the bridge. (TKDA 2012)							
215	Reinforced Concrete Abutment	Routine	07/10/2016	283 LF	278	2	3	0
		Migrated Values		283 LF	278	2	3	0
	Notes: S. side 2sq. ft. spall & also under fascia SW beam. 2010-14 Debris on north abut. bridge seat near the bearings. (TKDA 2012) Cracked and deteriorated concrete next to outside beam. 2014 7/8" opening between the northwest wing wall and abutment. 81-08. @ the top. 10-12 N. abut is 163 LF. 2016 S. abut is 120 LF. 2016 2 LF delamination and 3 LF heavy spalling with exposed rebar. 2016							
234	Reinforced Concrete Pier Cap	Routine	07/10/2016	82 LF	82	0	0	0
		Migrated Values		82 LF	82	0	0	0
	Notes: Minor rust staining on the ends of the pier cap. (TKDA 2012) Debris on top of the pier cap next to the rocker bearings. 2014-16							

BRIDGE 62530 CSAH 65(WHT BR AV) OVER UP RR

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
300	Strip Seal Expansion Joint	Routine	07/10/2016	77 LF	74	0	0	3
		Migrated Values		77 LF	74	0	0	3
Notes: Strip seal joint at SW corner is leaking. (TKDA 2012) Changed quantity from 164 LF to 77 LF total. 2014 Only one strip seal in the deck. 2014 Three holes in the deck, NB lane, CL to gutter line, next to extrusion. 2014-16 Leaking onto bearing seat. 2014								
301	Pourable Joint Seal	Routine	07/10/2016	202 LF	0	140	62	0
		Migrated Values		202 LF	0	140	62	0
Notes: Changed quantity from 164 LF to 202 LF total. 2014 10 LF of sealant is missing. 2016 Adhesion failure and severe deterioration of sealant is present. 2016								
311	Movable Bearing	Routine	07/10/2016	16 EA	8	8	0	0
		Migrated Values		16 EA	8	8	0	0
Notes: Light rust on bearings. 1992-14 S. end abut bearings have moderate rust / flaking. 8 total. 2016								
313	Fixed Bearing	Routine	07/10/2016	8 EA	8	0	0	0
		Migrated Values		8 EA	8	0	0	0
Notes: Light rust on bearings. 92-14 N. side abut. bearings are fixed. 2016								
321	Reinforced Concrete Approach Slab	Routine	07/10/2016	4619 SF	0	4619	0	0
		Migrated Values		4619 SF	0	4619	0	0
Notes: Quantity = (62' x 36.5') + (62' x 38') = 4,619 SF total. 2016 Several transverse cracks in the approach panels. Need sealing. 06-10. Cracks sealed in 2012.								
330	Metal Bridge Railing	Routine	07/10/2016	269 LF	269	0	0	0
		Migrated Values		269 LF	269	0	0	0
Notes: Some minor shrinkage cracks in walks, railings and copings. 81-14								
515	Steel Protective Coating	Routine	07/10/2016	1596 SF	1596	0	0	0
		Migrated Values		1596 SF	1596	0	0	0
Notes: Black vinyl wrap protective coating. 2016								
331	Reinforced Concrete Bridge Railing	Routine	07/10/2016	269 LF	269	0	0	0
		Migrated Values		269 LF	269	0	0	0
Notes: Some minor shrinkage cracks in walks, railings and copings. 81-14								
800	Critical Deficiencies or Safety Hazards	Routine	07/10/2016	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	07/10/2016	190 LF	190	0	0	0
		Migrated Values		190 LF	190	0	0	0
Notes: Deck cracks sealed in 2012 & 2016. Unsealed cracks in the sidewalks. 190 LF total. 2016								
815	Plow Fingers	Routine	07/10/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0

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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
855	Secondary Members (Superstructure)	Routine	07/10/2016	1 EA	0	1	0	0
		Migrated Values		1 EA	0	1	0	0
Notes: Diaphragms at the S. abut are in CS2, moderate rust with flaking. 2016								
856	Secondary Members (Substructure)	Routine	07/10/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: Crash struts between the columns. 2016								
881	Steel Section Loss	Routine	07/10/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: The weathering steel diaphragms at the south abutment have minor section loss at the ends. 2006-14 Beam ends at the S. abut have flaking rust present. 2016								
883	Concrete Shear Cracking	Routine	07/10/2016	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.								
892	Slopes & Slope Protection	Routine	07/10/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
893	Guardrail	Routine	07/10/2016	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	07/10/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
895	Sidewalk, Curb, & Median	Routine	07/10/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: The southeast and the southwest joint repair is map cracked. 2006-12 Sidewalk crack sealant is deteriorating. (TKDA 2012)								
899	Miscellaneous Items	Routine	07/10/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: Water ponds at the northwest retaining wall on railroad property. 93-99. The northwest retaining wall was constructed out 3/4" at approximately 30 ft north from the northwest wing wall of the bridge. 85-99. Vertical cracks and minor map cracking. 92-12 Bracket missing on the conduit under the bridge at the southwest corner. 96-12 Conduit running in east bay under the deck. (TKDA 2012)								
900	Protected Species	Routine	07/10/2016	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 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:

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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
36D.	Appr Guardrail Terminal NBI:							
59.	Superstructure NBI:							
60.	Substructure NBI:							
61.	Channel NBI:							
62.	Culvert NBI:							
71.	Waterway Adeq NBI:							
72.	Appr Roadway Alignment NBI:							
	Inventory Notes:	Rating and Load Posting Analysis done. 2012 TKDA - Joe Mueller Jr. - 5/14/2012 License # 49106						

Findings:

See Forms RC-CL, RD-CL and attachments. 2012

Recommendations:

Bridge Operating and Inventory Ratings changed. 2012
Inventory Rating changed from HS 16.4 to HS 22.8
Operating Rating changed from HS 34.9 to HS 38.0
see attached forms. 2012
Load posting NOT required. 2012

Jerry Schaaf
Inspector's Signature

Glenn Pagel
Reviewer's Signature



1. bridge ID plate.jpg



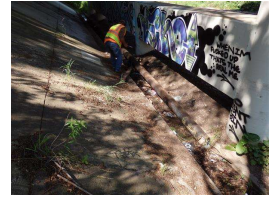
2. 2012 Deckview.jpg



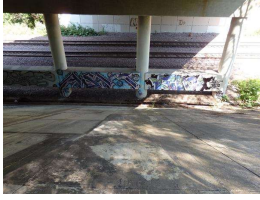
3. 2014 Elevation view_3.JPG



4. crash strut.JPG



5. drain trough needs cleaning 2016.JPG



6. grafitti.JPG



7. hole in deck south abut repairs needed.JPG



8. liquid poured joint sections missing.JPG



9. north abut. adhesion failure.JPG



10. north east approach small delamination.JPG



11. second hole in deck south abut..JPG



12. south abut. beam end flaking rust.JPG



13. south abut. bottom of diaphragm flaking rust.JPG



14. south abut. east end bottom of diaphragm flaking rust.JPG



15. south abut. east end flaking rust.JPG



16. south abut. end of beam flaking rust (2).JPG



17. south abut. end of beam flaking rust.JPG



18. south abut. expansion bearing heavy rust heavy flaking.JPG



19. south abut. flaking rust.JPG



20. south abut. large spall (2).JPG



21. south abut. large spall.JPG



22. southwest abut. 2lf delam.JPG



23. underside of deck map cracking leaching efflor..JPG



24. west side back side parapet wall spalls and cracking.JPG