

**2015 ROUTINE  
BRIDGE INSPECTION REPORT**



**BRIDGE # 62527  
CSAH 33(TRANSFR RD) over MC RY**

**DISTRICT: Metro**

**COUNTY: Ramsey**

**CITY/TOWNSHIP: St Paul**

**Date(s) of Inspection: 10/16/2015**

**Equipment Used:**

**Owner: City or Municipal Highway Agency**

**Inspected By: Ekstrand, Ron; Engel, Michael**

**Report Written By: Ron Ekstrand**

**Report Reviewed By: Glenn Pagel**

**Final Report Date: 12/30/2015**

**MnDOT Bridge Office  
3485 Hadley Avenue North  
Oakdale, MN 55128**



# MnDOT Structure Inventory Report

Bridge ID: 62527

CSAH 33(TRNSFR RD)

over MC RY

Date: 12/30/2015

GENERAL	
Agency Br. No.	
District	Metro
Maint. Area	Crew
County	062 - Ramsey
City	St Paul
Township	
Desc. Loc.	0.1 MI W OF JCT PRIOR AV
Sect., Twp., Range	28 - 029N - 23W
Latitude	Deg 44 Min 58 Sec 5.65
Longitude	Deg 93 Min 11 Sec 4.10
Custodian	04 - City or Municipal Highway Agency
Owner	04 - City or Municipal Highway Agency
BMU Agreement	
Year Built	1974
MN Year Reconstructed	
FHWA Year Reconstructed	
MN Temporary Status	
Bridge Plan Location	1 - CENTRAL
Date Opened to Traffic	
On-Off System	1 - ON
Legislative District	66B

STRUCTURE	
Service On	5 - Highway-pedestrian
Service Under	2 - Railroad
Main Span Type	
	4 - Steel Continuous 01 - Beam Span
Main Span Detail	
Appr. Span Type	
	3 - Steel 01 - Beam Span
Appr. Span Detail	
Skew	19 R
Culvert Type	
Barrel Length	ft.
Cantilever ID	F - Friction Hinge

NUMBER OF SPANS	
MAIN: 3	APPR: 1 TOTAL: 4
Main Span Length	126.0 ft.
Structure Length	368.6 ft.
Deck Width (Out-to-Out)	78.0 ft.
Deck Material	1 - Concrete Cast-in-Place
Wear Surf Type	4 - Low Slump Concrete
Wear Surf Install Year	1990
Wear Course/Fill Depth	0.23 ft.
Deck Membrane	0 - None
Deck Rebars	0 - None
Deck Rebars Install Year	
Structure Area (Out-to-Out)	28751 sq. ft.
Roadway Area (Curb-to-Curb)	23594 sq. ft.
Sidewalk Width	Lt 6.00 ft. Rt 6.00 ft.
Curb Height	Lt 0.75 ft. Rt 0.75 ft.
Rail Type	Lt 17 Rt 17

ROADWAY	
Bridge Match ID (TIS)	0
Roadway O/U Key	Route On Structure
Route Sys	04 - CSAH Number 33
Roadway Name or Description	CSAH 33
Level of Service	1 - MAINLINE
Roadway Type	2 - 2-way traffic
Control Section (TH Only)	
Reference Point	000+00.634
Detour Length	1.0 mi
Lanes	On 4 Under 0
	ADT 9362 Year 2008
HCACT	0 ADTT 0 %
Functional Class	16 - Urban - Minor Arterial

RDWY DIMENSIONS			
If Divided	NB-EB	SB-WB	
Roadway Width	64.00 ft.	ft.	
Vertical Clearance	ft.	ft.	
Max. Vert. Clear.	ft.	ft.	
Horizontal Clear.	63.9 ft.	ft.	
Lateral Clearance	ft.	ft.	
Appr. Surface Width	64.0 ft.		
Bridge Roadway Width	64.0 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	1 - CONC
(Material/Type)	3 - FTG PILE
Pier Foundation	1 - CONC
(Material/Type)	3 - FTG PILE
Historic Status	5 - Not eligible

PAINT	
Year Painted	
Unsound Paint %	
Painted Area	sq. ft.
Primer Type	F - Unpainted - 3309
Finish Type	K - Unpainted 3309 Steel

BRIDGE SIGNS	
Posted Load	0 - Not Required
Traffic	0 - Not Required
Horizontal	0 - Not Required
Vertical	N - Not Applicable

INSPECTION	
Userkey	199
Unofficial Structurally Deficient	N
Unofficial Functionally Obsolete	N
Unofficial Sufficiency Rating	98.1
Routine Inspection Date	10/16/2015
Routine Inspection Frequency	24
Inspector Name	City of St. Paul
Status	A - Open

NBI CONDITION RATINGS	
Deck	7 - Good Condition
Unsound Deck %	
Superstructure	6 - Satisfactory Condition
Substructure	6 - Satisfactory Condition
Channel	N - Not Applicable
Culvert	N - Not Applicable

NBI APPRAISAL RATINGS	
Structure Evaluation	6
Deck Geometry	7
Underclearances	5
Water Adequacy	N - Not Applicable
Approach Alignment	8 - Equal to present desirabl

SAFETY FEATURES	
Bridge Railing	1 - MEETS STANDARDS
GR Transition	N - NOT REQUIRED
Appr. Guardrail	N - NOT REQUIRED
GR Termini	N - NOT REQUIRED

IN DEPTH INSP.		
Y/N	Freq	Date
Frac. Critical		
Underwater		
Pinned Asbly.		
Spec. Feat.		

WATERWAY	
Drainage Area (sq. mi.)	
Waterway Opening	sq. ft.
Navigation Control	N - Not applicable, no waterw
Pier Protection	
Nav. Clr. (ft.)	Vert. ft. Horiz. ft.
Nav. Vert. Lift Bridge Clear. (ft.)	
MN Scour Code	A - NON WATER' Year

CAPACITY RATINGS	
Design Load	5 - HS 20
Operating Rating	1 - LF (LF) HS 46.2
Inventory Rating	1 - LF (LF) HS 27.6
Posting VEH:	SEMI: DBL:
Rating Date	05/14/2012

MnDOT Permit Codes	
A:	N - N/A
B:	N - N/A
C:	N - N/A

# MnDOT BRIDGE INSPECTION REPORT

12/30/2015

Inspector: City of St. Paul

**BRIDGE 62527 CSAH 33(TRNSFR RD) OVER MC RY**

**ROUTINE INSP. DATE: 10/16/2015**

County: Ramsey	Location: 0.1 MI W OF JCT PRIOR AV	Length: 368.6 ft.
City: St Paul	Route: 04 - CSAH 33 Ref. Pt.: 000+00.634	Deck Width: 78.0 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: 23594 sq. ft. / %
Section: 28 Township: 029N Range: 23W Maint. Area:		Paint Area/ Pct. Unsnd: sq. ft. / %
Span Type: 4 - Steel Continuous 02 -	Local Agency Bridge Nbr.:	Culvert: N/A
List: Stringer/Multi-beam or Girder		Postings:
NBI Deck: 7 Super: 6 Sub: 6 Chan: N Culv: N		
	Open, Posted, Closed: A - Open	
	MN Scour Code: A - NON WATERWAY	

Appraisal Ratings - Approach: 8 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 98.1

Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
022	Low Slump O/L (Concrete Deck with Uncoated Rebar)	2	Routine	10/16/2015	28750 SF	0	28750	0	0	0
			Routine	10/16/2013	28750 SF	0	28750	0	0	0

Requires Monitoring                       Monitored

Notes: Minor to moderate transverse and longitudinal cracking of deck. 2015  
 Spall on edge of deck at joint. 2011-15  
 Minor transverse and longitudinal cracking throughout the deck. ( TKDA 2012 )  
 Combined unsound wear surface is 2% or less than the total deck area. 2013-15

106	Weathering Steel Girder or Beam	2	Routine	10/16/2015	3310 LF	3260	50	0	0	N/A
			Routine	10/16/2013	3310 LF	3260	50	0	0	N/A

Requires Monitoring                       Monitored

Notes: Pack rust forming on ends of some beam at the east. abut. from the loose gland in the exp.joint. 05-07.  
 Minor to Moderate deterioration. 2011-15  
 Corrosion has progressed beyond the surface layer in some areas. 2011-15

205	Reinforced Concrete Column	2	Routine	10/16/2015	15 EA	14	1	0	0	N/A
			Routine	10/16/2013	15 EA	15	0	0	0	N/A

Requires Monitoring                       Monitored

Notes: S.side column at pier 1 has a 1 SF spall. 2015

215	Reinforced Concrete Abutment	2	Routine	10/16/2015	164 LF	144	20	0	0	N/A
			Routine	10/16/2013	164 LF	154	10	0	0	N/A

Requires Monitoring                       Monitored

Notes: Vertical hairline cracks in the west abutment and backwall. 2015  
 Two sq. ft. spall at the south side of the east abutment on the parapet. 2015  
 Isolated horizontal cracking below the bearings. 2013-15

## Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
234	Reinforced Concrete Pier Cap	2	Routine	10/16/2015	246 LF	238	5	3	0	N/A
			Routine	10/16/2013	246 LF	246	0	0	0	0

 Requires Monitoring Monitored

Notes: The S. end of the east pier cap is cracked & spalled with exposed rusty rebar. 05-15  
N.end of pier 3 - 3ft is in CS-2. 2015  
Staining and efflorescence is present. 2011-15

300	Strip Seal Deck Joint	2	Routine	10/16/2015	233 LF	223	4	6	N/A	N/A
			Routine	10/16/2013	233 LF	227	0	6	N/A	N/A

 Requires Monitoring Monitored

Notes: The east expansion joint leaks,  
The Gland is ripped for 6' in the inside E.B. lane. 2011-15

301	Poured Deck Joint	2	Routine	10/16/2015	243 LF	203	40	0	N/A	N/A
			Routine	10/16/2013	243 LF	243	0	0	N/A	N/A

 Requires Monitoring Monitored

Notes: Some adhesion loss is present. 2015

311	Expansion Bearing	2	Routine	10/16/2015	31 EA	21	10	0	N/A	N/A
			Routine	10/16/2013	31 EA	21	10	0	N/A	N/A

 Requires Monitoring Monitored

Notes: Type I - 4 at W.abut  
Type II - 10 at piers 1 & 3  
Type III - 8 at piers 1 & 3  
Type IV - 4 at E.abut  
Type V - 5 at e.abut  
Expansion bearing total = 31 - see erection plan sheet  
Bearings on northern two beams at the west abut. are actively corroding. ( TKDA 2012 )  
Cleaning and/or painting is recommended. 2011-15  
Some bearings have rust and corrosion. 2011-15

313	Fixed Bearing	2	Routine	10/16/2015	14 EA	8	6	0	N/A	N/A
			Routine	10/16/2013	14 EA	8	6	0	N/A	N/A

 Requires Monitoring Monitored

Notes: Type I - 5 at W.abut  
Type II - 5 at pier 2  
Type III - 4 at pier 2  
Fixed bearing total = 14 - see erection plan sheet  
Cleaning and/or painting is recommended. 2011-15  
Some bearings have rust and corrosion. 2011-15

## Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
321	Concrete Approach Slab-Concrete Wearing Surface	1	Routine	10/16/2015	2 EA	0	2	0	0	N/A
			Routine	10/16/2013	2 EA	0	2	0	0	N/A
		<input type="checkbox"/> Requires Monitoring				<input type="checkbox"/> Monitored				
Notes: Recommend sealing cracks at approach panels. 2013-15 Transverse cracks in the approach slabs. 2011-15 Longitudinal cracks in the approach slabs. 2011-15 Approach panels have moderate cracking. ( TKDA 2012 )										
333	Masonry, Other or Combination Material Railing	2	Routine	10/16/2015	2415 LF	1215	1200	0	N/A	N/A
			Routine	10/16/2013	2415 LF	2415	0	0	N/A	N/A
		<input type="checkbox"/> Requires Monitoring				<input type="checkbox"/> Monitored				
Notes: Metal railing is rusted at the anchors and base plates. 2015 Concrete railing - Vertical and horizontal cracking is present. 2015 Concrete railing - Isolated spalls and peeling paint. 2015										
357	Pack Rust Smart Flag	2	Routine	10/16/2015	1 EA	0	1	0	0	N/A
			Routine	10/16/2013	1 EA	1	0	0	0	N/A
		<input type="checkbox"/> Requires Monitoring				<input type="checkbox"/> Monitored				
Notes: Some bearings are corroded. Possibly frozen. 2011-15										
358	Concrete Deck Cracking Smart Flag	2	Routine	10/16/2015	1 EA	0	1	0	0	N/A
			Routine	10/16/2013	1 EA	0	1	0	0	N/A
		<input type="checkbox"/> Requires Monitoring				<input type="checkbox"/> Monitored				
Notes: Moderate cracking of deck. 2011-15 Unsealed cracks of moderate size or density. 2015 Recommend sealing the deck surfaces. 2015										
359	Underside of Concrete Deck Smart Flag	2	Routine	10/16/2015	1 EA	0	1	0	0	0
			Routine	10/16/2013						
		<input type="checkbox"/> Requires Monitoring				<input type="checkbox"/> Monitored				
Notes: Underdeck distress is 2% or less than the total deck area.										
373	Steel Hinge Assembly	2	Routine	10/16/2015	9 EA	7	2	0	0	0
			Routine	10/16/2013	1 EA	1	0	0	0	0
		<input type="checkbox"/> Requires Monitoring				<input type="checkbox"/> Monitored				
Notes: added element # 373 steel hinge assembly. ( TKDA 2012 ) Quantity = 9 hinge assemblies total. 2015 Fascia beam hinge assemblies are in CS-2. 2015 Clean, prep and paint recommended. 2015										

## Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
380	Secondary Structural Elements	2	Routine	10/16/2015	1 EA	1	0	0	0	N/A
			Routine	10/16/2013						
			<input type="checkbox"/> Requires Monitoring							<input type="checkbox"/> Monitored
			Notes: Diaphragms - WS Concrete crash struts - W.side pier 1 - S.end is cracked and delaminating. 2015							
387	Reinforced Concrete Wingwall	2	Routine	10/16/2015	4 EA	4	0	0	0	N/A
			Routine	10/16/2013	4 EA	4	0	0	0	N/A
			<input type="checkbox"/> Requires Monitoring							<input type="checkbox"/> Monitored
			Notes: PONTIS element inspection comments - < none >							
422	Painted Beam Ends	2	Routine	10/16/2015	1 EA	0	0	1	0	0
			Routine	10/16/2013						
			<input type="checkbox"/> Requires Monitoring							<input type="checkbox"/> Monitored
			Notes: The paint system at the beam ends is between 6% and 20% unsound. CS-3 2015							
964	Critical Finding Smart Flag	2	Routine	10/16/2015	1 EA	1	0	N/A	N/A	N/A
			Routine	10/16/2013	1 EA	1	0	N/A	N/A	N/A
			<input type="checkbox"/> Requires Monitoring							<input type="checkbox"/> Monitored
			Notes: DO NOT DELETE THIS CRITICAL FINDING SMART FLAG.							
981	Signing	1	Routine	10/16/2015	1 EA	1	0	0	0	0
			Routine	10/16/2013	1 EA	1	0	0	0	0
			<input type="checkbox"/> Requires Monitoring							<input type="checkbox"/> Monitored
			Notes: None required - 2015							
982	Approach Guardrail	2	Routine	10/16/2015	1 EA	1	0	0	N/A	N/A
			Routine	10/16/2013	1 EA	1	0	0	N/A	N/A
			<input type="checkbox"/> Requires Monitoring							<input type="checkbox"/> Monitored
			Notes: OK - 2011-15							

## Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
983	Plowstraps	2	Routine	10/16/2015	1 EA	1	0	0	N/A	N/A
			Routine	10/16/2013	2 EA	1	1	0	N/A	N/A

 Requires Monitoring Monitored

Notes: 1 plow straps missing. 2015 repaired 2015

985	Slopes & Slope Protection	2	Routine	10/16/2015	1 EA	0	1	0	N/A	N/A
			Routine	10/16/2013	1 EA	0	1	0	N/A	N/A

 Requires Monitoring Monitored

Notes: The bottom of the east slope paving is bulging slightly and has several cracks. 98-11.  
Also, west slope at the back. 2013-15  
There is a washout at the top, north side of the west slope paving. 99-15  
West slope cracking around columns. 2013-15  
Joint at abut - recommend sealing 2015

986	Curb & Sidewalk	2	Routine	10/16/2015	1 EA	0	1	0	N/A	N/A
			Routine	10/16/2013	1 EA	0	1	0	N/A	N/A

 Requires Monitoring Monitored

Notes: 2 sq.ft. spall at the 2nd pier from the west on the coping edge. 05-11.  
Many traverse and longitudinal cracks in walks. 2015  
Recommend resealing of walks. 2011-15

988	Miscellaneous Items	1	Routine	10/16/2015	1 EA	1	0	0	N/A	N/A
			Routine	10/16/2013	1 EA	1	0	0	N/A	N/A

 Requires Monitoring Monitored

Notes:

## General Notes:

58. Deck NBI: Minor cracking, leaching and scale. 2011  
Isolated delams / spalls. 2011

36A. Brdg Railings NBI:

36B. Transitions NBI:

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:

Structure Unit:

ELEM NBR	ELEMENT NAME	ENV	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4	QTY CS 5
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72. Appr Roadway  
Alignment NBI:

Inventory Notes: add element # 373 steel hinge assembly. ( TKDA 2012 )  
No deterioration noted. ( TKDA 2012 )

\_\_\_\_\_  
Ron Ekstrand  
Inspector's Signature

\_\_\_\_\_  
Glenn Pagel  
Reviewer's Signature





1. 2011 deckview\_2.jpg



2. 2011 elevation view center\_span.jpg



3. 62527\_NE\_abutjoint\_1.jpg



4. 62527\_NE\_abutjoint\_2.jpg



5. approach panel E.end\_1.jpg



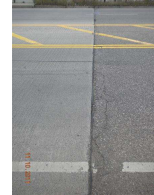
6. approach panel E.end\_2.jpg



7. approach panel E.end\_3.jpg



8. approach panel W.end\_1.jpg



9. approach panel W.end\_2.jpg



10. approach panel W.end\_3.jpg



11. approach panel W.end\_4.jpg



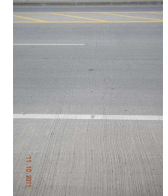
12. deck cracks\_1.jpg



13. deck cracks\_2.jpg



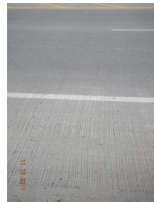
14. deck cracks\_3.jpg



15. deck cracks\_4.jpg



16. deck cracks\_5.jpg



17. deck cracks\_6.jpg



18. pier columns S.end cracks\_1.jpg



19. pier columns S.end cracks\_2.jpg



20. pier columns S.end impact damage.jpg



21. piercap N.end spall\_1.jpg



22. piercap N.end spall\_2.jpg



23. piercap N.end spall\_3.jpg



24. piercap S.end staining.jpg



25. slope N.side\_1.jpg



26. slope N.side\_2.jpg



27. slope S.side.jpg



28. underdeck spall at cold\_joint\_2.jpg



29. underdeck\_1.jpg



30. underdeck\_2.jpg



31. underdeck\_3.jpg



32. underdeck\_4.jpg



33. underdeck\_5.jpg



34. underdeck\_6.jpg



35. underdeck\_7.jpg





36. underdeck\_8.jpg



37. underdeck\_9.jpg



38. abut.E.side bearings\_1.jpg



39. abut.E.side bearings\_2.jpg



40. abut.E.side bearings\_3.jpg



41. abut.E.side bearings\_4.jpg



42. abut.E.side bearings\_5.jpg



43. abut.E.side bearings\_6.jpg



44. abut.E.side bearings\_7.jpg



45. abut.E.side bearings\_8.jpg



46. abut.E.side bearings\_9.jpg



47. abut.E.side bearings\_10.jpg



48. abut.E.side joint\_1.jpg



49. abut.E.side joint\_2.jpg



50. abut.E.side joint\_3.jpg



51. abut.E.side joint\_4.jpg



52. abut.E.side joint\_5.jpg



53. abut.W.side bearings\_2.jpg



54. abut.W.side bearings\_3.jpg



55. abut.W.side bearings\_4.jpg



56. abut.W.side bearings\_5.jpg



57. abut.W.side bearings\_6.jpg



58. abut.W.side bearings\_7.jpg



59. abut.W.side bearings\_8.jpg



60. abut.W.side bearings\_9.jpg



61. abut.W.side bearings\_10.jpg



62. abut.W.side\_1.jpg



63. joint - E\_abut\_1.jpg



64. joint - E\_abut\_2.jpg



65. joint - E\_abut\_3.jpg



66. joint - E\_abut\_4.jpg



67. joint - pier 1\_1.jpg



68. joint - pier 1\_2.jpg



69. joint - pier 1\_3.jpg



70. joint - W\_abut\_1.jpg



71. joint - W\_abut\_2.jpg