

**2016 ROUTINE
BRIDGE INSPECTION REPORT**



**BRIDGE # 9345
MUN 68 over ISLAND LAKE CHANNEL**

**DISTRICT: Metro COUNTY: Ramsey CITY/TOWNSHIP: Shoreview
STATE: Minnesota**

**Date of Inspection: 08/25/2016
Equipment Used: Life Jacket, Probing Rod**

Owner: County Highway Agency

Inspected By: Essler, Brian

**Report Written By: Brian Essler
Report Reviewed By: Nicklaus Fischer
Final Report Date: 10/04/2016**

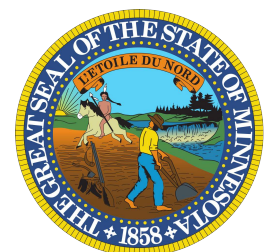


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Minnesota Structure Inventory Report

Bridge ID: 9345

MUN 68

over ISLAND LAKE CHANNEL

Date: 10/04/2016

GENERAL			
Agency Br. No.			
District Metro			
Maint. Area		Crew	
County 062 - Ramsey			
City Shoreview			
Township			
Desc. Loc. 0.1 MI W OF JCT CSAH 52			
Sect., Twp., Range		26 - 030N - 23W	
Latitude Deg	45	Min	3
Longitude Deg	93	Min	8
Sec	23.77	Sec	4.41
Custodian 02 - County Highway Agency			
Owner 02 - County Highway Agency			
BMU Agreement			
Year Built		1959	
MN Year Reconstructed			
FHWA Year Reconstructed			
MN Temporary Status			
Bridge Plan Location 3 - COUNTY			
Date Opened to Traffic			
On-Off System 0 - OFF			
Legislative District 54B			
ABC Suitable			

ROADWAY			
Bridge Match ID (TIS) 0			
Roadway O/U Key Route On Structure			
Route Sys 10 - MUN		Number 68	
Roadway Name or Description			
MUN 68			
Level of Service 1 - MAINLINE			
Roadway Type 2 - 2-way traffic			
Control Section (TH Only)			
Reference Point 043+00.473			
Detour Length	99.0	mi	
Lanes	On 2	Under 0	
	ADT 500	Year 1975	
HCADT	0	ADTT 0	%
Functional Class 19 - Urban - Local			

INSPECTION	
Userkey	102
Unofficial Structurally Deficient	N
Unofficial Functionally Obsolete	N
Unofficial Sufficiency Rating	37.3
Routine Inspection Date	08/25/2016
Routine Inspection Frequency	12
Inspector Name	CO Bridge
Status	B - Open, Posting Required

RDWY DIMENSIONS			
If Divided	NB-EB	SB-WB	
Roadway Width	26.00	ft.	ft.
Vertical Clearance		ft.	ft.
Max. Vert. Clear.		ft.	ft.
Horizontal Clear.	25.9	ft.	ft.
Lateral Clearance		ft.	ft.
Appr. Surface Width	30.0	ft.	
Bridge Roadway Width	26.0	ft.	
Median Width On Bridge		ft.	

NBI CONDITION RATINGS	
Deck	5 - Fair Condition
Unsound Deck %	
Superstructure	5 - Fair Condition
Substructure	6 - Satisfactory Condition
Channel	7 - Needs minor repairs
Culvert	N - Not Applicable

STRUCTURE	
Service On	5 - Highway-pedestrian
Service Under	5 - Waterway
Main Span Type	2 - Concrete Continuous 09 - Slab Span
Main Span Detail	
Appr. Span Type	
Appr. Span Detail	
Skew	0
Culvert Type	
Barrel Length	ft.
Cantilever ID	

NBI APPRAISAL RATINGS	
Structure Evaluation	4
Deck Geometry	5
Underclearances	N
Water Adequacy	8 - Bridge Above Approach
Approach Alignment	8 - Equal to present desirable

MISC. BRIDGE DATA	
Structure Flared	0 - No flare
Parallel Structure	N - No parallel structure
Field Conn. ID	
Abutment Foundation	1 - CONC
(Material/Type)	3 - FTG PILE
Pier Foundation	9 - PRESTRESSED CONC
(Material/Type)	4 - PILE BENT
Historic Status	5 - Not eligible

SAFETY FEATURES	
Bridge Railing	1 - MEETS STANDARDS
GR Transition	0 - SUBSTANDARD
Appr. Guardrail	1 - MEETS STANDARDS
GR Termini	0 - SUBSTANDARD

NUMBER OF SPANS			
MAIN:	3	APPR:	0
TOTAL:	3		
Main Span Length	24.0	ft.	
Structure Length	64.0	ft.	
Deck Width (Out-to-Out)	32.5	ft.	
Deck Material	1 - Concrete Cast-in-Place		
Wear Surf Type	1 - Monolithic Concrete (concr)		
Wear Surf Install Year			
Wear Course/Fill Depth	0.00	ft.	
Deck Membrane	0 - None		
Deck Rebars	0 - None		
Deck Rebars Install Year			
Structure Area (Out-to-Out)	2080	sq. ft.	
Roadway Area (Curb-to-Curb)	1668	sq. ft.	
Sidewalk Width	Lt 0.00	ft.	Rt 5.00
Curb Height	Lt 0.75	ft.	Rt 0.75
Rail Type	Lt 19		Rt 19

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

PAINT	
Year Painted	
Unsound Paint %	
Painted Area	sq. ft.
Primer Type	
Finish Type	

WATERWAY			
Drainage Area (sq. mi.)			
Waterway Opening	250	sq. ft.	
Navigation Control	0 - No nav. control on waterw		
Pier Protection			
Nav. Clr. (ft.)	Vert.	ft.	Horiz. ft.
Nav. Vert. Lift Bridge Clear. (ft.)			
MN Scour Code	N - STBL - LIM S	Year	1990

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

CAPACITY RATINGS		
Design Load	5 - HS 20	
Operating Rating	1 - LF (LF)	HS 12.6
Inventory Rating	1 - LF (LF)	HS 7.6
Posting VEH:	18	SEMI: 30
DBL:	30	
Rating Date	03/31/2015	

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

Minnesota Structure Inventory Report

Bridge ID: 9345

MUN 68 over ISLAND LAKE
CHANNEL

Date: 08/25/2016

+ GENERAL +	+ ROADWAY +	+ INSPECTION +			
Agency Br. No. Crew	Bridge Match ID (TIS) 0	Userkey 102			
District 05 Maint. Area	Roadway O/U Key Route On Structure	Structurally Deficient N			
County 062 - Ramsey	Route Sys 10 - MUN Number 68	Functionally Obsolete N			
City Shoreview	Roadway Name or Description	Sufficiency Rating 37.3			
Township	MUN 68	Routine Inspection Date 08/25/2016			
Desc. Loc. 0.1 MI W OF JCT CSAH 52	Level of Service 1 - MAINLINE	Routine Inspection Frequency 12			
Sect., Twp., Range 26 - 030N - 23W	Roadway Type 2 - 2-way traffic	Inspector Name Essler, Brian			
Latitude 45 ° 3' 23.77 "	Control Section (TH Only)	Status B - Open, Posting Required			
Longitude 93 ° 8' 4.41 "	Reference Point 043+00.473	+ NBI CONDITION RATINGS +			
Custodian 02 - County Highway Agency	Detour Length 99.0 mi.	Deck 5	Unsound Deck %		
Owner 02 - County Highway Agency	Lanes ON 2 UNDER 0	Superstructure 5			
BMU Agreement	ADT 500 YEAR 1975	Substructure 6			
Year Built 1959	HCADT	Channel 7			
MN Year Reconstructed	Functional Class 19 - Urban - Local	Culvert N			
FHWA Year Reconstructed	+ RDWY DIMENSIONS +			+ NBI APPRAISAL RATINGS +	
MN Temporary Status	If Divided NB-EB SB-WB	Structure Evaluation 4			
Bridge Plan Location 3 - COUNTY	Roadway Width 26.00 ft. ft.	Deck Geometry 5			
Date Opened to Traffic	Vertical Clearance ft. ft.	Underclearances N			
On - Off System 0 - OFF	Max. Vert. Clear. ft. ft.	Waterway Adequacy 8			
Legislative District 54B	Horizontal Clear. 25.9 ft. ft.	Approach Alignment 8			
Potential ABC 2 - N/A	Lateral Clearance ft. ft.	+ SAFETY FEATURES +			
+ STRUCTURE +			Bridge Railing 1 - MEETS STANDARDS		
Service On 5 - Highway-pedestrian	Appr. Surface Width 30.0 ft.	GR Transition 0 - SUBSTANDARD			
Service Under 5 - Waterway	Bridge Roadway Width 26.0 ft.	Appr. Guardrail 1 - MEETS STANDARDS			
Main Span Type 2 - Concrete Continuous	Median Width On Bridge ft.	GR Termini 0 - SUBSTANDARD			
Main Span Design 09 - Slab Span	+ MISC. BRIDGE DATA +				
Main Span Detail	Structure Flared 0 - No flare	+ IN DEPTH INSP. +			
Appr. Span Type	Parallel Structure N - No parallel structure	Frac. Critical N	Freq	Date	
Appr. Span Design	Field Conn. ID	Underwater N			
Appr. Span Detail	Abutment 1 - CONC	Pinned Asbly. N			
Skew 0	Foundation (Material/Type) 3 - FTG PILE	Spec. Feat.			
Culvert Type	Pier Foundation (Material/Type) 9 - PRESTRESSED CONCRETE	+ WATERWAY +			
Barrel Length	4 - PILE BENT	Drainage Area (sq. mi.)			
Cantilever ID	Historic Status 5 - Not eligible	Waterway Opening (sf.) 250			
	+ PAINT +				
	Year Painted	Navigation Control 0 - No nav. control on			
	Unsound Paint %	Pier Protection -			
	Painted Area sq. ft.	Nav. Clr. (ft.) Vert. 0.0 Horiz. 0.0			
	Primer Type	Nav. Vert. Lift Bridge Clear. (ft.)			
	Finish Type	MN Scour Code N - STBL - LIM Year 1990			
	+ BRIDGE SIGNS +				
	Posted Load 0 - Not Required	+ CAPACITY RATINGS +			
	Traffic 0 - Not Required	Design Load 5 - HS 20			
	Horizontal 0 - Not Required	Operating Rating 2 - HS TRUCK 12.6			
	Vertical N - Not Applicable	Inventory Rating 2 - HS TRUCK 7.6			
		Posting VEH: 18 SEMI: 30 DBL: 30			
		Rating Date 03/31/2015			
		Overweight Permit Codes			
		A N - N/A B N - N/A C N - N/A			

MINNESOTA BRIDGE INSPECTION REPORT

10/04/2016

BRIDGE 9345 MUN 68 OVER ISLAND LAKE CHANNEL

ROUTINE INSP. DATE: 08/25/2016

County: Ramsey	Location: 0.1 MI W OF JCT CSAH 52	Length: 64.0 ft.
City: Shoreview	Route: 10 - MUN 68 Ref. Pt.: 043+00.473	Deck Width: 32.5 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: 1668 sq. ft. / %
Section: 26 Township: 030N Range: 23W Maint. Area:		Paint Area/ Pct. Unsnd: sq. ft. / %
Span Type: 2 - Concrete Continuous 1 - Slab	Local Agency Bridge Nbr.:	Culvert: N/A
List:		Postings: 18 30 30
NBI Deck: 5 Super: 5 Sub: 6 Chan: 7 Culv: N		
	Open, Posted, Closed: B - Open, Posting Required	
	MN Scour Code: N - STBL - LIM SCOUR	
Appraisal Ratings - Approach: 8 Waterway: 8		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 37.3

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
038	Top of Concrete Slab (No Overlay - Uncoated Rebar)	2	Routine	08/25/2016	2077 SF	0	0	2077	0	0
			Routine	08/26/2015	2077 SF	0	0	2077	0	0

Notes: [2011-2015] Distressed area is 2%-5%. Moderate deterioration with moderate spalls.
 [2005-2015] Approximately 13 LF of longitudinal cracking at NW corner. There is a total of 30 LF of minor cracking on the concrete slab.
 [2009] Moderate deterioration with moderate spalls exists with 2% distressed area.
 [2001-2007] Minor deterioration with spalls exists but less than 2% distressed area.

205	Reinforced Concrete Column	2	Routine	08/25/2016	12 EA	0	11	1	0	N/A
			Routine	08/26/2015	12 EA	0	11	1	0	N/A

Notes: [2015] added element # 205 / deleted element # 204 per MNDOT compliance report
 [2005-2015] All columns have minor cracking with occasional spalls.
 [2011-2015] Column #12 contains a major spall.
 [2007-2015] Deterioration is more severe at the north side. Delamination is beginning @ column #12.

215	Reinforced Concrete Abutment	2	Routine	08/25/2016	72 LF	0	72	0	0	N/A
			Routine	08/26/2015	72 LF	0	72	0	0	N/A

Notes: [2015] 2' diagonal cracks on SW & NW corners.
 [2015] 4' vertical crack 9' from NE corner of east abutment.
 [2011-2015] Moderate spalls exist on both abutments.
 [2001-2015] Abutments have minor cracking and spalling but no evidence of rebar corrosion.
 [2005-2015] Signs of seepage with efflorescence both abutments.
 [2007-2015] There are diagonal cracks at bridge seats @ all 4 corners.

220	Reinforced Concrete Footing	2	Routine	08/25/2016		0	0	0	0	N/A
			Routine	08/26/2015		0	0	0	0	N/A

Notes: [2015] added element # 220 per MNDOT compliance report
 [2015] footings have moderate cracking & spalling

301	Poured Deck Joint	2	Routine	08/25/2016	69 LF	53	16	0	N/A	N/A
			Routine	08/26/2015	69 LF	53	16	0	N/A	N/A

Notes: [2015] moved 53' to condition state 1.
 [2001-2015] Minor adhesion and cohesion failures exists. Minor seepage is present. Some spalls adjacent to joint.

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
333	Masonry, Other or Combination Material Railing	2	Routine	08/25/2016	121 LF	0	112	9	N/A	N/A
			Routine	08/26/2015	121 LF	0	112	9	N/A	N/A
<p>Notes: [2015] 7' to condition state 3 (9' total) [2013-2015] Minor damage to NE corner of north metal railing due to adjacent construction work. There is some moderate delamination at the NE corner near bridge plate. [2009-2015] Railing on north side has a 1' X 6' area with major spall and corrosion present. [2007-2015] Railing on the north side contains delamination w/corrosion. Some cracking and spalls are present on concrete parapet both sides. [2003-2015] Paint on metal railing is chalking and peeling. Requires paint. Railing is a combination concrete parapet & metal railing (2 Line Aluminum Railing).</p>										
358	Concrete Deck Cracking Smart Flag	2	Routine	08/25/2016	1 EA	0	1	0	0	N/A
			Routine	08/26/2015	1 EA	0	1	0	0	N/A
<p>Notes: [2001-2015] Moderate unsealed cracking exists on the deck. [2013-2015] There are numerous moderate spalls near the centerline joint.</p>										
359	Underside of Concrete Deck Smart Flag	2	Routine	08/25/2016	1 EA	0	1	0	0	0
			Routine	08/26/2015	1 EA	0	1	0	0	0
<p>Notes: [2015] moderate delamination w/spalls @ columns on north side. [2015] Span #1- There is a 6' area of major spall at north side, west end with exposed rebar & corrosion. [2013] Span #1- There is a 6' area of major delamination at north side, west end with exposed rebar & corrosion. [2003-2005] Spalling at north side, west end with exposed rebar & corrosion. [2011-2015] Span#2- There is cracking with leaching & efflorescence at centerline joint. Numerous moderate spalls at centerline joint. [2009-2015] There is a 10' length X 6" area of delamination north side middle of span #2. [2007] Cracking is starting @ north side of span #2. [2011-2015] Span #3 has 2' of cracking at north fascia. The north fascia contains three moderate size spalls. [2005-2015] Distressed area is less than 2%. Minor corrosion of paving stools.</p>										
387	Reinforced Concrete Wingwall	2	Routine	08/25/2016	4 EA	0	4	0	0	N/A
			Routine	08/26/2015	4 EA	0	4	0	0	N/A
<p>Notes: [2001-2015] Minor cracking and spalling. Need to seal joints.</p>										
407	Bituminous Approach Roadway	1	Routine	08/25/2016	2 EA	0	2	0	0	N/A
			Routine	08/26/2015	2 EA	0	2	0	0	N/A
<p>Notes: [2013-2015] East bit. approach contains moderate settlement. [2009-2013] West bituminous approach has minor settlement. New bituminous approach in 2006. Wood compression joint was removed in 2006. [2003-2005] There is moderate cracking & settlement on both sides of the bridge. Needs patching both sides.</p>										
964	Critical Finding Smart Flag	2	Routine	08/25/2016	1 EA	1	0	N/A	N/A	N/A
			Routine	08/26/2015	1 EA	1	0	N/A	N/A	N/A
<p>Notes: DO NOT DELETE THIS CRITICAL FINDING SMART FLAG.</p>										
965	Concrete Shear Cracking Smart Flag	2	Routine	08/25/2016	1 EA	1	0	0	0	N/A
			Routine	08/26/2015	1 EA	1	0	0	0	N/A
<p>Notes: [2015] added element # 965 per MNDOT compliance report [2015] 2' diagonal cracks on SW & NW corners. [2015] 4' vertical crack 9' from NE corner of east abutment.</p>										

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
981	Signing	2	Routine	08/25/2016	1 EA	0	0	1	0	0
			Routine	08/26/2015	1 EA	0	0	1	0	0
Notes: [2015] load limit signs are in place. [2001-2015] No signing or delineation. 03/31/2015: Load Posting Required: 18T/30T/30T. NBI 41: Status coded 'B - Open, Posting Required'. Agency to notify MnDOT BADMU when signs are installed.										
982	Approach Guardrail	2	Routine	08/25/2016	1 EA	1	0	0	N/A	N/A
			Routine	08/26/2015	1 EA	1	0	0	N/A	N/A
Notes: [2009-2015] There is no crash attenuator at guardrail ends, but low speed. [1995-2015] Guardrail should be attached to bridge rail. [2005-2015] No guardrail at NW corner.										
984	Deck & Approach Drainage	1	Routine	08/25/2016	1 EA	1	0	0	N/A	N/A
			Routine	08/26/2015	1 EA	1	0	0	N/A	N/A
Notes: [2015] moved to condition state 1 [2007-2015] All 5 scuppers on each side of the bridge are functioning properly [2009-2011] There is major erosion at the SW & SE corners. Erosion protection is required.										
985	Slopes & Slope Protection	2	Routine	08/25/2016	1 EA	1	0	0	N/A	N/A
			Routine	08/26/2015	1 EA	1	0	0	N/A	N/A
Notes: [2013] Concrete slope protection panels were removed and new riprap installed in 2012. [2013-2015] Slopes and slope protection are in good codition. West side slope protection- Concrete slope protection has severe settlement 2007-2011. East side slope protection- Concrete panels on the east slope have been displaced. Slope protection restoration work is necessary. East side is more severe 2009-2011. Concrete slope protection settling 1983-2011. Corrective work 1984,1986. Severe movement of slope protection panels 1992-2011. Additional repairs are necessary 2005-2011. The slope protection consists of 2' X2' concrete panels.										
986	Curb & Sidewalk	2	Routine	08/25/2016	1 EA	0	1	0	N/A	N/A
			Routine	08/26/2015	1 EA	0	1	0	N/A	N/A
Notes: [2001-2015] Concrete patch on the north side not holding. [2005- 2015] Major spalling with delamination @ mid point on the north side (1' X 3' area on sidewalk). [2013-2015] Also moderate delamination near mid point. There is a moderate size crack in curb and sidewalk below rail joint - north side.										

General Notes: [2016] Bridge safety inspection was conducted by Dan Bodelson, R. Bussiere, B. Anderson & Brian Essler on 8/25/2016.
 [2015] Bridge safety inspection was conducted by Dan Bodelson & Brian Essler.
 [2013] Bridge safety inspection was conducted by B. Wieman and R. Bussiere. Some additional delamination and spalls caused by adjacent bridge work in 2012.
 2011 Bridge safety inspection was conducted by B. Wieman 9/16/2011.
 2009 Bridge safety inspection was conducted by B. Wieman 6/19/2009.
 Bridge safety inspection was conducted by B. Wieman and B. Essler on 7/26/2007.
 Bridge safety inspection was conducted by Bret Wieman on 9/19/2005.
 The #5 metal railing under the bridge is missing and should be replaced 2005-2011.
 Erosion at all 4 corners 1983-2005. SW & SE corners are more severe 2005-2011. Concrete is in place on the north side.

58. Deck NBI: Moderate deterioration & moderate spalls
 Major delamination on underside of deck

36A. Brdg Railings NBI: meets standards

36B. Transitions NBI: Guardrail is not connected to bridge

36C. Appr Guardrail NBI: meets standard

36D. Appr Guardrail no crash attenuators
 Terminal NBI:

59. Superstructure NBI: Moderate deterioration & moderate spalls

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
	Major delamination on underside of deck									
60.	Substructure NBI:		Moderate spalls on abutments							
61.	Channel NBI:		new rip rap installed in 2012 banks have minor erosion							
62.	Culvert NBI:		Bridge							
71.	Waterway Adeq NBI:		greater than 3' of freeboard							
72.	Appr Roadway Alignment NBI:		no speed reduction required							
	Inventory Notes:									

 Brian Essler
 Inspector's Signature

 Nicklaus Fischer
 Reviewer's Signature

MINNESOTA BRIDGE INSPECTION REPORT

10/04/2016

Inspector: CO Bridge

BRIDGE 9345 MUN 68 OVER ISLAND LAKE CHANNEL

County: Ramsey	Location: 0.1 MI W OF JCT CSAH 52	Length: 64.0 ft.
City: Shoreview	Route: 10 - MUN 68 Ref. Pt.: 043+00.473	Deck Width: 32.5 ft.
Township:	Control Section:	Rdwy. Area/ Pct. Unsnd: 1668 sq. ft. / %
Section: 26 Township: 030N Range: 23W Maint. Area:		Paint Area/ Pct. Unsnd: sq. ft. / %
Span Type: 2 - Concrete Continuous 1 - Slab	Local Agency Bridge Nbr.:	Culvert: N/A
List:		Postings: 18 30 30
NBI Deck: 5 Super: 5 Sub: 6 Chan: 7 Culv: N		
	Open, Posted, Closed: B - Open, Posting Required	
	MN Scour Code: N - STBL - LIM SCOUR	
Appraisal Ratings - Approach: 8 Waterway: 8		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 37.3

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
38	Reinforced Concrete Slab	Routine	08/25/2016	2080 SF	2038	0	42	0
		Migrated Values		2080 SF	2038	0	42	0
	Notes: [2015-16] moderate delamination w/spalls @ columns on north side. [2015-16] Span #1- There is a 6' area of major spall at north side, west end with exposed rebar & corrosion. [2011-2016] Span#2- There is cracking with leaching & efflorescence at centerline joint. Numerous moderate spalls at centerline joint. [2011-2016] Span #3 has 2' of cracking at north fascia. The north fascia contains three moderate size spalls. [2009-2016] There is a 10' length X 6" area of delamination north side middle of span #2. [2005-2016] Distressed area is less than 2%. Minor corrosion of paving stools. [2013] Span #1- There is a 6' area of major delamination at north side, west end with exposed rebar & corrosion. [2007] Cracking is starting @ north side of span #2. [2003-2005] Spalling at north side, west end with exposed rebar & corrosion.							
510	Wearing Surfaces	Routine	08/25/2016	1668 SF	1501	0	167	0
		Migrated Values		1668 SF	1501	0	167	0
	Notes: [2011-2016] Distressed area is 2%-5%. Moderate deterioration with moderate spalls. [2005-2015] Approximately 13 LF of longitudinal cracking at NW corner. There is a total of 30 LF of minor cracking on the concrete slab. [2009] Moderate deterioration with moderate spalls exists with 2% distressed area. [2001-2007] Minor deterioration with spalls exists but less than 2% distressed area. Concrete Slab with Uncoated Rebar							
205	Reinforced Concrete Column	Routine	08/25/2016	12 EA	0	11	1	0
		Migrated Values		12 EA	0	11	1	0
	Notes: [2016] Moderate Delamination on column #12. [2011-2016] Column #12 contains a major spall. [2005-2016] All columns have minor cracking with occasional spalls. [2007-2015] Deterioration is more severe at the north side. Delamination is beginning @ column #12. [2015] added element # 205 / deleted element # 204 per MNDOT compliance report							
215	Reinforced Concrete Abutment	Routine	08/25/2016	112 LF	0	112	0	0
		Migrated Values		112 LF	0	112	0	0
	Notes: [2015-16] 2' diagonal cracks on SW & NW corners. [2015-16] 4' vertical crack 9' from NE corner of east abutment. [2011-2016] Moderate spalls exist on both abutments. [2007-2016] There are diagonal cracks at bridge seats @ all 4 corners. [2005-2016] Signs of seepage with efflorescence both abutments. [2001-2016] Abutments have minor cracking and spalling but no evidence of rebar corrosion. [2001-2016] Minor cracking and spalling along wing walls. Need to seal joints. [2016] Migrator added 40 LF to abutment quantity to account for wingwalls (CS1:0 CS2:40 CS3:0 CS4:0).							
301	Pourable Joint Seal	Routine	08/25/2016	69 LF	53	16	0	0
		Migrated Values		69 LF	53	16	0	0
	Notes: [2001-2016] Minor adhesion and cohesion failures exists. Minor seepage is present. Some spalls adjacent to joint. [2015] moved 53' to condition state 1.							

BRIDGE 9345 MUN 68 OVER ISLAND LAKE CHANNEL

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
330	Metal Bridge Railing	Routine	08/25/2016	121 LF	0	121	0	0
		Migrated Values		121 LF	0	121	0	0
Notes: [2013-2016] Minor damage to NE corner of north metal railing [2003-2016] Paint on metal railing is chalking and peeling. Requires paint. [2016] Migrator assumed concrete/metal combination type rail. [2013] Minor damage to NE corner of north metal railing due to adjacent construction work. Railing is a combination concrete parapet & metal railing (2 Line Aluminum Railing).								
515 -	Steel Protective Coating	Routine	08/25/2016	242 SF	0	242	0	0
		Migrated Values		242 SF	0	242	0	0
Notes: [2003-2016] Paint on metal railing is chalking and peeling. Requires paint. [2016] 121' X 2' Railings = 242 SF								
331	Reinforced Concrete Bridge Railing	Routine	08/25/2016	121 LF	0	110	11	0
		Migrated Values		121 LF	0	110	11	0
Notes: [2016] 2' to condition state 3 (11' total) [2016] There are 1' X 2' & 1' X 0.5' spalls with exposed rebar and rust on the north side. [2016] There are 2 1'X 4' delamination areas with rust on the north side. [2013-2016] There is some moderate delamination at the NE corner near bridge plate. [2009-2016] Railing on north side has a 1' X 6' area with major spall and corrosion present. [2016] Migrator assumed concrete/metal combination type rail. [2015] 7' to condition state 3 (9' total) [2007-2015] Railing on the north side contains delamination w/corrosion. Some cracking and spalls are present on concrete parapet both sides. Railing is a combination concrete parapet & metal railing (2 Line Aluminum Railing).								
800	Critical Deficiencies or Safety Hazards	Routine	08/25/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: NO CRITICAL FINDINGS OBSERVED DURING THE LAST INSPECTION.								
810	Concrete Decks - Cracking & Sealing	Routine	08/25/2016	30 LF	0	30	0	0
		Migrated Values		30 LF	0	30	0	0
Notes: [2001-2016] Moderate unsealed cracking exists on the deck. [2013-2016] There are numerous moderate spalls near the centerline joint.								
822	Bituminous Approach Roadway	Routine	08/25/2016	2 EA	0	2	0	0
		Migrated Values		2 EA	0	2	0	0
Notes: [2013-2016] East bit. approach contains moderate settlement. [2009-2013] West bituminous approach has minor settlement. New bituminous approach in 2006. Wood compression joint was removed in 2006. [2003-2005] There is moderate cracking & settlement on both sides of the bridge. Needs patching both sides.								
890	Load Posting or Vertical Clearance Signing	Routine	08/25/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
Notes: 2015-2016] load limit signs are in place. [2016] Structure requires a vertical clearance sign or load posting sign.								
891	Other Bridge Signing	Routine	08/25/2016	1 EA	0	0	1	0
		Migrated Values		1 EA	0	0	1	0
Notes: [2015-2016] load limit signs are in place. [2001-2015] No signing or delineation. 03/31/2015: Load Posting Required: 18T/30T/30T. NBI 41: Status coded 'B - Open, Posting Required'. Agency to notify MnDOT BADMU when signs are installed.								

BRIDGE 9345 MUN 68 OVER ISLAND LAKE CHANNEL

ELEM NBR	ELEMENT NAME	REPORT TYPE	INSP. DATE	QUANTITY	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
892	Slopes & Slope Protection	Routine	08/25/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
<p>Notes: [2013-2016] Slopes and slope protection are in good condition. [2013] Concrete slope protection panels were removed and new riprap installed in 2012. West side slope protection- Concrete slope protection has severe settlement 2007-2011. East side slope protection- Concrete panels on the east slope have been displaced. Slope protection restoration work is necessary. East side is more severe 2009-2011. Concrete slope protection settling 1983-2011. Corrective work 1984,1986. Severe movement of slope protection panels 1992-2011. Additional repairs are necessary 2005-2011. The slope protection consists of 2' X2' concrete panels.</p>								
893	Guardrail	Routine	08/25/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
<p>Notes: [2009-2016] There is no crash attenuator at guardrail ends, but low speed. [1995-2016] Guardrail should be attached to bridge rail. [2005-2016] No guardrail at NW corner.</p>								
894	Deck & Approach Drainage	Routine	08/25/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
<p>Notes: [2007-2016] All 5 scuppers on each side of the bridge are functioning properly [2015] moved to condition state 1 [2009-2011] There is major erosion at the SW & SE corners. Erosion protection is required.</p>								
895	Sidewalk, Curb, & Median	Routine	08/25/2016	1 EA	0	1	0	0
		Migrated Values		1 EA	0	1	0	0
<p>Notes: [2016] Major spalling, (1' X 3' area on sidewalk), & 1' X 5' delamination @ mid point on the north side [2013-2015] There is moderate delamination near mid point. There is a moderate size crack in curb and sidewalk below rail joint - north side. [2005- 2015] Major spalling with delamination @ mid point on the north side (1' X 3' area on sidewalk). [2001-2015] Concrete patch on the north side not holding.</p>								
900	Protected Species	Routine	08/25/2016	1 EA	1	0	0	0
		Migrated Values		1 EA	1	0	0	0
<p>Notes: No protected species found on this structure.</p>								
<p>General Notes: [2016] Bridge safety inspection was conducted by Dan Bodelson, R. Bussiere, B. Anderson & Brian Essler on 8/25/2016. [2015] Bridge safety inspection was conducted by Dan Bodelson & Brian Essler. [2013] Bridge safety inspection was conducted by B. Wieman and R. Bussiere. Some additional delamination and spalls caused by adjacent bridge work in 2012. 2011 Bridge safety inspection was conducted by B. Wieman 9/16/2011. 2009 Bridge safety inspection was conducted by B. Wieman 6/19/2009. Bridge safety inspection was conducted by B. Wieman and B. Essler on 7/26/2007. Bridge safety inspection was conducted by Bret Wieman on 9/19/2005. The #5 metal railing under the bridge is missing and should be replaced 2005-2011. Erosion at all 4 corners 1983-2005. SW & SE corners are more severe 2005-2011. Concrete is in place on the north side.</p>								
<p>58. Deck NBI: Moderate deterioration & moderate spalls Major delamination on underside of deck</p>								
<p>36A. Brdg Railings NBI: meets standards</p>								
<p>36B. Transitions NBI: Guardrail is not connected to bridge</p>								
<p>36C. Appr Guardrail NBI: meets standard</p>								
<p>36D. Appr Guardrail Terminal NBI: no crash attenuators</p>								
<p>59. Superstructure NBI: Moderate deterioration & moderate spalls Major delamination on underside of deck</p>								
<p>60. Substructure NBI: Moderate spalls on abutments</p>								
<p>61. Channel NBI: new rip rap installed in 2012 banks have minor erosion</p>								
<p>62. Culvert NBI: Bridge</p>								

BRIDGE 9345 MUN 68 OVER ISLAND LAKE CHANNEL

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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71. Waterway Adeq NBI: greater than 3' of freeboard

72. Appr Roadway Alignment NBI: no speed reduction required

Inventory Notes:

Brian Essler
Inspector's Signature

Nicklaus Fischer
Reviewer's Signature

Pictures



Photo 1 - Island Lake Rip Rap 001



Photo 2 - Island Lake Rip Rap 002

Pictures



Photo 3 - Island Lake Rip Rap 003



Photo 4 - Island Lake Rip Rap 004

Pictures



Photo 5 - Island Lake Rip Rap 005



Photo 6 - Island Lake Rip Rap 006

Pictures



Photo 7 - Island Lake Rip Rap 007



Photo 8 - Island Lake Rip Rap 008

Pictures



Photo 9 - east load sign 2016



Photo 10 - South side1 2016

Pictures



Photo 11 - South sidel 2016



Photo 12 - West load sign 2016