

Inspection Report for

B-20-010

WESTERN AVE over E BR FOND DU LAC RIVER Aug 26,2021



Туре	Prior	Team Leader	Frequency (mos)	Performed
Routine	08-27-20	Conto, Thomas J (3531)	12	Х
Interim	10-19-05	Lang, Anthony (2505)	0	
SIA Review	08-27-20	Conto, Thomas J (3531)	48	

	Start Coordinates				End Coordinates (optional)	
Latitude	43°46'23.90"N			Latitude		
Longitude	88°27'02.50"W			Longitude		
Owner	CITY			Maintainer	CITY	
			Team members			
Time Log	Hours 1	Minutes 25	Thomas Conto - Andrew Freund	Team Leader - Team Member		
Weather	Temperature (f) 75	Condition Partly Cloudy				
	Name		Number	Signature		Signature Date
Inspector	Conto, Thomas	J	3531	JOMAS / COV	170 s J Conto(Tconto)	09-15-21

page 2

Identification & Loca	tion										
Feature On: Section Town Range: WESTERN AVE S15 T15N R17E				Str	ucture Nu	mber:					
Feature Under: County: E BR FOND DU LAC RIVER FOND DU LAC				B	-20-010)					
Location Municipality: Structure Nar 1.6M NE JCT I-41 AND S. MILITARY RD FOND DU LAC Structure Nar				me:							
Geometry measurements in feet, except w	here noted					Traffic	ADT	ADT vear	r Traffic Pat	tern	
Approach Roadway Width:	Bridge Roadway Width:	Total Ler	ngth:			Lanoo	1101	/ Jub r your			
52 Approach Pavement Width:	52.0 Deck Width:	74.4 Deck Are	ea (sg ft):		On	2	9211	2015	TWO W	AY TRAF	FIC
52	68.0	5059									
Capacity	Load Rating										
Inventory rating: HS13	Overburden depth (in): 0.5		Last rating 07-15-2	date: 1		Controlling	g:				
Operating rating: HS27	Deck surface material: LOW SLUMP CON	ICRETE				Control lo	cation:				
Posting:	Emergency Vehicle Weig	ght Limit (tons):									
Re-rate for capacity (Y/N):	Re-rate notes:										
Hydraulic								Classi	fication		
Scour Critical Code(113): (8) STABLE-ABOVE TO	P FOOTING			Q100 (ft3/s 3740	sec):						
High water elevation (ft): 747.1				Velocity (ft 5.5	/sec):			Sufficien 59.8	cy #:		
Span(s) Span # Material 1 PREST	CONCRETE	Con	figuration	DNS			Dept	th (in)	Leng	th (ft) 2.7	Main Y
Expansion joint(s)						Tempe	rature:	File:78	•	New:75	
Clearance										Į	
Highway Min Vertical O Horizontal O	Item File Meas On Cardinal	surement (ft)		File Date		New M	leasurem	ent (ft)]		
Construction History											
Year 2018		Work Pe	concret	TF					FOS id	1	
1973		NEW STR	UCTURE	. –					1420-02	-71	
Maintenance Items H	istory										
Item		Recomme	ended by Anthony (2	505)		Sta COMF	tus PLETF	Status	change 28/18	Year cor 20	mpleted
		Lang, /						00/2	_0/10	20	
Mill off leaking Rosphalt overlay and old concrete overlay, replace with new concrete overlay to original plan depth to eliminate Rosphalt overload. No change 2017					North						
Deck - Repair SidewalkLang, Anthony (2505)COMPLETE10/26/152015					15						
Comment: South sidewalk repaired	Comment: Status Comment: South sidewalk repaired 2015. North sidewalk was repaired in 2018										
Deck - Seal Surface Cr	acks	Lang, A	Anthony (2	505)		REJE	CTED	08/3	31/18		
Comment: Rosphalt leaking thru to box beams. No change 2017 Status Comment: Reject as concrete overlay was installed											

page 3

page 3			Struct	ure No.: B-20-010
Approach - Seal Cracks	Conto, Thomas J (3531)	COMPLETE	09/14/21	2021
Comment: Both approach pavement ends at the bridge were in approach HMA should be sealed along with the quadrant.	e sealed in 2020 but the cracking curb at the walk in each	Status Comment:		

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Misc - Repair / Replace Utilities or Signs	LOW	Conto, Thomas J (3531)	IDENTIFIED	09/14/21
Comment: The watermain insulation could be repaired in the quadrant under sidewalk. Other private utilities co in the NW quadrants as well. Status Comment:	NW and NE uld be repaired	20 21		
Deck - Seal Surface Cracks	LOW	Conto, Thomas J (3531)	IDENTIFIED	09/14/21
Comment: Reseal the centerline joint with an NP1 or other fle sealant and reseal the deck cracks where epoxy s	exible joint ealing is failing.	Status Comment:		
Misc - Other Work	LOW	Conto, Thomas J (3531)	IDENTIFIED	09/15/21
Comment: Various spall on abutment (east), parapet (SE end at integral wing (SE) Status Comment:	d), and parapet			

Elements

							Quantity in C	ondition State		
Chk	Element	Defect	Description		Total	1	2	3	4	
			Prestressed Concrete Top Flange	SF	5,059	5,059	0	0	0	
			Top of prestressed box beams were partially visib	le follov	ving the rem	noval of the	Rosphalt	overlay (fro	om 2005)	
X	15		and ~1.5 incres of the original concrete wearing surface. New concrete overlay installed in 2018. Visible							
			minor to no deterioration. Grout between the beam	s showe	ed signs of o	deterioratio	n or loss o	f bonding t	o the	
			boxes. Attempted to seal these gaps with TK-9030	prior to	concrete o	verlay plac	cement.			
									-	
			Concrete Overlay	SF	5,059	4,894	165	0	0	
			Concrete (Grade E Mix) overlay Aug. 2018 - mille	d off 1.5	i to 2 inches	s of origina	l concrete	deck and ir	nstall ~2.5	
			inches. Some narrow cracking of the overlay betwee	en the	box beams	and a few	other locat	tions were	noticed.	
	8514		They were sealed (w/TK-9030) during 2019 Sealing	g Projec	t. Total Se	aled about	530 FT (S	F) including	g resealing	
			c/l joint.							
			Note: 2021 Deck surface was chained to evaluat	e any c	delaminatio	on, none w	as identif	ed.		
					r					
			Crack (Wearing Surface)	SF		0	165	0	0	
			Cracks between the box beams are evident. Mos	t of the	cracks were	e sealed in	2019 but a	about 1/2 of	t these	
			sealed cracks appear to have some debonding and	a few o	cracks were	not sealed	1. Estimate	d that max	of 13% of	
		3220	the wearing surface has harrow cracking (max 9-10	tuli ien	gtn cracks i	total). The	south sid	e of deck	nas about	
			5 full length (74 X5 SF= 370 SF) cracks (includes	s centel	af 660 SE	nair lengt	n) and the	north side	e nas	
			about 4 full length (74 x4 SF= 290 SF) clacks of 50% of thom are adequately scaled (CS2 - 165 SI	a 101ai	01 000 3F.	U mese c		stimateu ti	nat only	
			50 % of them are adequately sealed (C52 - 105 Si	<i>)</i> .						
			Prestressed Concrete Closed Web / Box Girder	IF	1 5 3 1	1 442	4	57	28	
			Exposed and rusted steel prostrossing strands		and broken	on girdor	7 and 12 a		20 8	
			delamination typical along several boxes. Inspect	$d \frac{1}{20}$	and broken	and then y	arified on t	his inspect	a ion The	
			prestressed concrete beam on the northeast and a	nears i	to have shift	ted north a	bout 0 1' r	arior to the	Rosphalt	
X	104		overlay in 2005. The caulk joint on the northeast crid a	orner is	torn due to	the lateral	displacem	ent The ot	her three	
			corners are aligned properly. There is no visible se	paratio	n at the sur	face of the	deck The	ioints in th	he box	
			beams below also don't show a severe variation.	hift doe	sn't appear	to affect b	ridae funct	ionality. Se	e	
			attached pdf				- 0	,,	-	
			•							
			Delamination - Spall - Patched Area	LF		0	4	31	28	
		1080	Spalling, rusted and broken prestressing along be	am 7 ar	nd 13. See	attached p	odf and pics	3		
						•	•			
			Cracking (PSC)	LF		0	0	26	0	
		1110	Cracking along the edge of boxes and at the abut	ment in	several loca	ations. See	attached	pdf and pic	s	
								•		
			Reinforced Concrete Abutment	LF	153	129	21	3	0	
	215						l			
^	215									
			Delamination - Spall - Patched Area	LF		0	0	2	0	
		1080	East abutment - Beam 11, minor spall of 1.5'x 1.0	x 0.5"						
			Cracking (RC)	LF		0	21	1	0	
			Several minor to moderate vert cracks w/efflor @	both ab	uts. Over t	he storm	pipe along	the east a	abutment	
		1130	under beam 18 the crack is borderline CS3.							
			See attached pdf and pics							
	· · · · · · · · · · · · · · · · · · ·									

page	5
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page	e 5							Structure No.:	B-20-010
			Reinforced Concrete Bridge Rail	LF	200	188	10	2	0
X	331								
			Delamination - Spall - Patched Area	LF		0	0	2	0
		1080	13" x 8" x 2.5" Spall with exposed rebar at SE abu	utment					
			Cracking (RC)	LF		0	10	0	0
		1130	Narrow hairline cracking in the concrete railing, ur	nsealed.	About 2 F	F on North	and 8 FT c	on South.	
			Integral Wingwall	EA	4	3	1	0	0
X	8400								
			Wall Deterioration	EA		0	1	0	0
		8903	Cracking and efflorescent in SE Wing wall						

Assessments

							Quantity in C	ondition State	
Chk	Element	Defect	Description	UOM	Total	1	2	3	4
			Drainage - Ends of Structure	EA	4	4	0	0	0
X	9001		No issues noted						
			Sidewalk	EA	2	2	0	0	0
x	9009		South walk repaired 2015; North sidewalk repaire walk on both side but not delamination noted. Narr random. No delamination identified following c	d Aug 2 ow crac haining	018. Some :ks presen I.	rust stainir t in patche	ng in a few es and adj	locations a acent to pa	long the atches,
			Utilities	EA	3	1	0	2	0
x	9011		Utility conduit attached under the north walk. Fi abutment at timber retaining wall. Some damage t	ber and o the wa	other cable atermain ins	s not in co sulation als	nduit on th o in this loc	e NW end o cation.	of the
			Slope Protection- Bare	EA	1	0	1	0	0
X	9041		Minor erosion and cupping of bank along NE						
			Slope Protection- Riprap	EA	2	2	0	0	0
X	9045		Riprap along wing and along abutment in SE and along SW at and along abutment. Good condition.	along w	ring in SW o	quadrant. F	lowever, t	h e s lope is	bare
			Slope Protection- Other	EA	1	0	1	0	0
x	9047		Timber wall in NW quadrant. Some minor deterio planks	ration a	nd missing	planks nor	th of bridge	e with a few	missing
			Culvert End Treatment	EA	1	0	1	0	0
X	9248		Some minor to moderate rust and mortar breakdo	wn					
			Approach Roadway - Asphalt	EA	2	2	0	0	0
x	9323		Approach roadway was milled off (asphalt over co deck overlay. Cracking in the west and east appro	nc.) and ach asp	d replaced v halt was ro	with asphal outed and s	it in Aug. 20 ealed in 2 0	018 w/new 021.	concrete
			Decorative Rail	EA	2	1	1	0	0
x	9335		Minor dent in NW end of approach railing and abr South upper railing was replaced in 2018 because However, its still has some abrasion damage. The been corrected. One missing bolt at mid rail in the	asion da of equip loose ar NW coi	amage alon ment dama nd missing l rner of the b	g railing mage that oc polts and n pridge.	ainly along cur from ice uts along t	the south s e jam remo he south ra	side. val work. iling have
L									

NBI Ratings

	File	New
Deck	7	7
Superstructure	4	4
Substructure	6	6
Culvert	N	N
Channel	8	8
Waterway	8	8

page 6

Structure Specific Notes

Ice angle rusted w/adj minor spalls Spalled bottom of box beams with exposed, rusted and broken prestressing strands. See attached pdf, pics and element breakdown

Inspection Specific Notes

No scour problems identified by probing.

Inspector Site-Specific Safety Considerations

Inspect underside of bridge while wading with a team member. Assure life jackets are used while wading.

Routine Specific Procedures

Inspect box beams off the ice in late winter/early spring prior to routine inspection. Verify box beam defects during routine inspection.

Special Requirements

	Chk	Hours	Cost	Comments
Other Access Equipment	Х			waders and life jackets

Underwater Probe Form B-20-010

General Site Conditions - Scour

No scour issues - evaluated wading

General Site Conditions - Embankment Erosion/Conditions

West and east upstream heavy riprap good condition. Downstream west timber wall (some deteriorated or missing timber plank north of bridge), east is bare ground w/minor erosion.

Substructure Notes

 Chk
 Unit
 Max Water Depth(ft)
 Mode
 Notes

 X
 Cardinal
 3.5
 Wade
 East - North 3', center 3.5', South 1' (storm sewer outfall 4') (Riprap along south end) Note: Approx. River Elevation ~ 747.00

 X
 Non Cardinal
 1.0
 Wade
 West - North 1, center 0.5', South 0.5 (Note, this side has about 1' wide of standing water and then a soft berm east until the main river channel)

Routine Item 1



b20-010_21_Rd1.jpg

Routine Item 2 South Profile



Routine Item 3

Looking downstream (north)



Routine Item 4

Looking upstream (south)



Routine Item 5



Routine Item 6

East Approach looking west. Recently (2021) sealed approach cracks.



Linked Element(s): Approach Roadway - Asphalt

Routine Item 7

West Approach looking east. Recently (2021) sealed approach cracks.



Linked Element(s): Approach Roadway - Asphalt

SW Parapet - Name Plate



Routine Item 9



Linked Element(s): Prestressed Concrete Top Flange -> Concrete Overlay

Routine Item 10

Typical CS2 Abutment cracking w/efflorescent (efflor)



Linked Element(s): Reinforced Concrete Abutment

Routine Item 11



Spall of the east abutment face CS3

Routine Item 12



Linked Element(s): Reinforced Concrete Abutment

Routine Item 13



Routine Item 14

Typical Spall/Exposed/Broken Prestressing strands CS4 (Beam 7 N Side)



Linked Element(s): Prestressed Concrete Closed Web / Box Girder

Routine Item 15



Linked Element(s): Prestressed Concrete Closed Web / Box Girder	
Routine Item 16	
NE Box girder and parapet shifted north ~0.1'. No change from previous inspection	b20-010_21_Rd15.jpg
Reinforced Concrete Bridge Rail	

Routine Item 17

 Spall w/exposed rebar at SE Abutment (Reinforced Concrete Bridge Rail) CS3. Cracking with efflor in integral wing/abutment CS2.
 Image: Concrete Bridge Rail) CS3. Cracking with efflor in integral wing/abutment

 Linked Element(s):
 Image: Concrete Bridge Rail) CS3. Cracking with efflor in integral wing/abutment

Linked Element(s): Reinforced Concrete Bridge Rail Integral Wingwall

Three utilities under north sidewalk

Routine Item 18



Linked Element(s): Utilities

Routine Item 19



Linked Element(s): Utilities

Routine Item 20

Small impact damage to decorative railing NW wing



Linked Element(s): Decorative Rail

Routine Item 21

Abrasion damage (Typ.). Note, top rail replaced 2018 equipment damage following ice removal spring 2018



Linked Element(s): Decorative Rail

Routine Item 22

Rust staining on surface of the south sidewalk.

Sidewalk

Routine Item 23

Missing nut and washer in decorative railing (NW corner)



Linked Element(s): Decorative Rail

Routine Item 24

Minor spalls with exposed and corroded rebar at end of SE parapet, wingwall (CS2).



Linked Element(s): Integral Wingwall

Routine Item 25

Culvert nine through NE portion of the east abutment. Minor	
corrosion. Flowline below water surface but doesn't appear to be	
corroded.	
	and the second s
	b20-010_21_Rd22.jpg
Linked Element(s):	
Cuivert End Treatment	
Routine Item 26	
Box Beam Survey of Defects	100.040.04. D-100 - 15 (include 1)
	b20-010_21_Ka23.pdf (Included)

Linked Element(s): Prestressed Concrete Closed Web / Box Girder



Bridge Program\2021 Bridge Inspections\2 -August 2021 Inspections\2021 Box Beam As-builts dwg, 9/15/2021 12:32:36 PM, DWG To PDF.pc3