STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-66-110

STH 144 over IH 41

Jul 26,2018

Type	Prior	Frequency (mos)	Performed
Routine	11-16-16	24	X
SIA Review	11-14-14	48	X
Vertical Clearance Measured	11-16-16	0	X

Start Coordinates		End Coordinates (optional)	
Latitude	43°20'49.69"N	Latitude	
Longitude	88°16'55.89"W	Longitude	
Owner	STATE HIGHWAY DEPT	Maintainer	STATE HIGHWAY DEPT

Time Log

Hours	Minutes
1	15

Team members

Leah Barsch

	Name	Number	Signature	Date
Inspector	Zemke, Jason	2016	Jason Zemke E-signed by Jason Zemke(dotjrz)	09-04-18

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

Identification & Location

Feature On: STH 144	Section Town Range: S07 T10N R19E	Structure Number: **B-66-110**
Feature Under: IH 41	County: WASHINGTON	
Location: 0.9 MI N JCT STH 175	Municipality: POLK	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 62	Bridge Roadway Width: 62.5	Total Length: 217.2
Approach Pavement Width: 48	Deck Width: 78.3	Deck Area (sq ft): 17006

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	2	5100	2016	TWO WAY TRAFFIC
Under	4	35100	2016	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: RF1.07	Overburden depth (in): 0.0	Last rating date:	Controlling:
Operating rating: RF1.39	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location:
Posting:	Re-rate notes:		

Hydraulic

Classification

Scour Critical Code(113): (N) NO WATERWAY	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 99.8

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	PREST CONCRETE	DECK GIRDER		107.0	Y
2	PREST CONCRETE	DECK GIRDER		107.0	

Expansion joint(s)

Temperature:

File:	New:

Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	17.55	16-Nov-2016	
Highway Min Vertical Under Non-Cardinal	18.52	16-Nov-2016	
Horizontal Under Cardinal	72.4		
Horizontal Under Non-Cardinal	72.7		
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Construction History

Year	Work Performed	FOS id
2014	NEW STRUCTURE	1107-02-79

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
Approach - Seal Approach to Paving Block	Zemke, Jason (2016)	COMPLETE	08/11/16	2015
Work completed per 2015 annual summary.				
Misc - Remove Vegetation (Spray)	Barsch, Leah (2021)	COMPLETE	02/13/17	2016
Deck - Seal Surface Cracks	Barsch, Leah (2021)	COMPLETE	02/14/17	2016
Used Epoxy				
Deck - Clean and Sweep Deck/Drains	Barsch, Leah (2021)	COMPLETE	03/02/17	2016

Deck - Clean and Sweep Deck/Drains	Barsch, Leah (2021)	COMPLETE	04/18/18	2017

Maintenance Items

Item	Priority	Recommended by	Status	Status change
IMP-Thin Epoxy Overlay	HIGH	Zemke, Jason (2016)	IDENTIFIED	01/26/17
2022- Recommend thin polymer overlay prior to 2024. Fairly extensive cracking in deck after 2 years.				
Drainage - Repair Washouts / Erosion	HIGH	Zemke, Jason (2016)	IDENTIFIED	01/26/17
Fill in undermining at SE corner and grade to top of pavement. Also - repair erosion ruts beyond flume in RT shoulder at NE wing. Pave with HMA or place compacted millings.				
IMP-Concrete Overlay	LOW	Zemke, Jason (2016)	IDENTIFIED	01/26/17
2039- Recommend concrete OL				
Slope Protection - Reseal Slope Paving	LOW	Zemke, Jason (2016)	IDENTIFIED	07/31/18
Recommend re-sealing the concrete slope paving above the retaining wall.				
Approach - Seal Approach to Paving Block	LOW	Zemke, Jason (2016)	IDENTIFIED	08/30/18
Re-seal deck joints.				

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**12**		**Reinforced Concrete Deck-Coated Reinforcing**	SF	17,166	16,526	640	0	0
		1080	Delamination - Spall - Patched Area	SF		0	2	0	0
			Small area of honeycombing patched with mortar in span 2 at bay **at median.**						
		1130	Cracking (RC)	SF		0	638	0	0
			Typical HL transverse Cracks w/Effloresecence. A few HL diag. cracks near corners of deck **with effloresecence.**						
	8000		Wearing Surface (Bare)	SF	13,567	10,100	3,392	75	0
			No IR data available.						
		3220	Crack (Wearing Surface)	SF		3,392	3,392	75	0
			Many HL **and narrow** transverse cracks, some HL **and narrow** diagonal and longit cracks at deck ends, a few longit cracks over pier, extensive transverse cracking over pier, many cracks sealed with epoxy. **A few medium diagonal cracks at N end of deck at NB and SB side and some transverse at pier.**						
X	**109**		**Prestressed Concrete Open Girder**	LF	1,933	1,905	25	3	0
			Girders numbered 1-9 from W-E.						
		1110	Cracking (PSC)	LF		0	25	3	0
			N. Abut east face of girders: NRW diagonal crack at top flange, G2 2_LF (west face), Med at G5 1_LF (both sides), NRW at G6 2_LF & NRW at G9 2_LF. Horizontal NRW crack at top of web, G1 3_LF & G4 1_LF. **S. Abut west face of girders: NRW diagonal crack at top flange, G6 2_LF, G7 2_LF & Med at G5 2_LF. Horizontal NRW crack at top of web, G2 1_LF, G3 2_LF, G4 2_LF, G8 2_LF, G9 4_LF.**						
X	**205**		**Reinforced Concrete Column**	EA	6	5	1	0	0
		1080	Delamination - Spall - Patched Area	EA		0	1	0	0
			Column 6 , on right looking **north**, has small spall**s** from semi truck and trailer crash on 6-8-17						

X	**215**		**Reinforced Concrete Abutment**	LF	198	177	18	3	0
			Some leakage through sill joints. Several mortar rubs/small patches in corners of abutment diaphragms **from construction.**						
		1080	Delamination - Spall - Patched Area	LF		5	15	3	0
			Small spalls at corners of beam seats (no chamfer strip) (15_LF CS2). Concrete patches at top flanges (5_LF CS1). **N. abut -** small spall at W end at corner of end diaph **(1_LF CS3).** **S. Abut - CS3 spall/failed patches at top flange on the west side of G1 & G4.**						
		1130	Cracking (RC)	LF		9	3	0	0
			S-few HL vertical cracks; HL vertical cracks at W end with stains and effl. N-few HL/nrw vertical and diag cracks.						
X	**234**		**Reinforced Concrete Cap**	LF	98	97	1	0	0
		1080	Delamination - Spall - Patched Area	LF		0	1	0	0
			South end of pier cap has small spall from semi truck and trailer crash on 6-8-17.						
X	**331**		**Reinforced Concrete Bridge Rail**	LF	522	452	70	0	0
		1080	Delamination - Spall - Patched Area	LF		0	2	0	0
			E: Small delams at face of barrier at middle of bridge expansion joint, small delam under fence post connection plate near middle of bridge.						
		1130	Cracking (RC)	LF		250	68	0	0
			W Rail: HL Vertical Cracks **entire rail, scattered NRW vertical cracks.** E Rail: **HL &** Narrow Vertical Cracks**.**						
X	**8400**		**Integral Wingwall**	EA	4	4	0	0	0
			No defects noted at all 4 wings						

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**9001**		**Drainage - Ends of Structure**	EA	4	1	3	0	0
			Riprap behind all 4 wings to bottom of slope along retaining walls. **NE-concrete curb and gutter to HMA flume and riprap down slope.** SE-fill low **1'** at end of wing, **undermining of sidewalk slab intiated**. SW-small HMA flume sunk or placed 6" low, no erosion. NW-C&G to HMA flume, **settled at edge of barrier max 1".**						
X	**9007**		**Median**	EA	1	1	0	0	0
			A few HL **& NRW** transverse cracks **and plow abrasion and edges.**						
X	**9009**		**Sidewalk**	EA	1	1	0	0	0
			Located on East side of bridge - a few HL **to NRW** transverse cracks at pier sealed with epoxy; a few minor chips at curb face.						
X	**9010**		**Aesthetic Treatments**	EA	1	1	0	0	0
			Girders painted gray. Pier columns have archit. details/rustification.						
X	**9030**		**Signs - Object Markers**	EA	2	2	0	0	0
			Tiger boards installed at SE/NW.						
X	**9042**		**Slope Protection- Concrete**	EA	2	0	2	0	0
			N-dip at bay 2 from S - has settled **4" with a NRW crack at the low point.** **S- 1 1/2" settlement at the East end of the abutment, med size crack 1" East from middle joint of the slope paving, east side of crack starting to settle.**						

X	9167		**Steel Diaphragm**	EA	32	32	0	0	0
			Galvanized						
X	9168		**Concrete Diaphragm**	EA	8	8	0	0	0
			Located at pier. No defects.						
X	9322		**Approach Roadway - Concrete (non-structural)**	EA	4	3	1	0	0
			All deck joints sealed. SE- good **condition, C&G at RT side cracked, settled 1/2", low spot with ponding. (CS2)** SW- RT shoulder has several longit/diag cracks sealed with epoxy and tar; s**mall s**hallow spall/gouge in through lane**, 3rd slab from deck at RT shoulder down 1/2" at RT side**. NE- HMA at **roadway** end of approach is low 1/2". NW- **Several** Rt shoulder cracks sealed with epoxy and tar**, HMA at roadway end of approach is 1/2" low in the through lane.**						
X	9337		**Protective Screening**	EA	1	1	0	0	0
			Located on E Rail: 4'-6" Ornamental Protective Screening w/2" CL Fabric, w/Duplex Coating System. Top Coat is Black. Galvanized connection hardware.						

NBI Ratings

	File	New
Deck	8	8
Superstructure	9	7
Substructure	8	8
Culvert	N	N
Channel	N	N
Waterway	N	N

Structure Specific Notes

Cardinal VC Measured @ Lt Edge of HMA shoulder @ G9=17.55'; Non-Cardinal VC Measured @ Rt Edge of Lane 2 @ G9=18.52'.

Note: orientation of structure elements is north and south abutments and east and west parapets.

R-66-35 located at N abutment.
R-66-34 located at S abutment.

Inspection Specific Notes

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Parked on NB right shoulder for topside inspection.
Parked on both NB and SB IH 41 right shoulders for underdeck inspection.

Special Requirements

Chk	Hours	Cost	Comments

Routine

Document Comment/Description

East elevation view looking NW along NB 41.

Routine

Document Comment/Description

Roadway looking north.

Routine

Document Comment/Description

Extensive HL transverse cracking, with some longit. and diagonal cracks near deck ends. Many cracks sealed with epoxy. Pictured at SB lanes over pier.

Routine

Document Comment/Description

Typical medium transverse crack in wearing surface at pier. Medium diagonal crks also near ends of deck.

Routine

Document Comment/Description

Ponding at curb line at SE approach.

Routine

Document Comment/Description

SW approach - RT shoulder has several longit./diag. cracks sealed with epoxy and tar. (Unchanged 2018)

Routine

Document Comment/Description

SE corner undermining of sidewalk slab.

Routine

Document Comment/Description

Typical riprap treatment behind all 4 wings along abutment retaining walls. Pic at NE wing. (Unchanged 2018)

Routine

Document Comment/Description

Small spall at N abut at west end.

Routine

Document Comment/Description

Typical condition of West rail.

Routine

Document Comment/Description

North span (span 2) girders and soffit. (Unchanged 2018)

Routine

Document Comment/Description

N. Slope paving, looking at North abutment. Settled 5 inches.

Routine

Document Comment/Description

Typical mortar rub at abutment diaphragms.

Routine

Document Comment/Description

Typical CS3 diagonal crack in the top flange. Girder 5 S. abut pictured.

Routine

Document Comment/Description

S. slope paving looking west, Note medium crack just east of the joint.

Routine

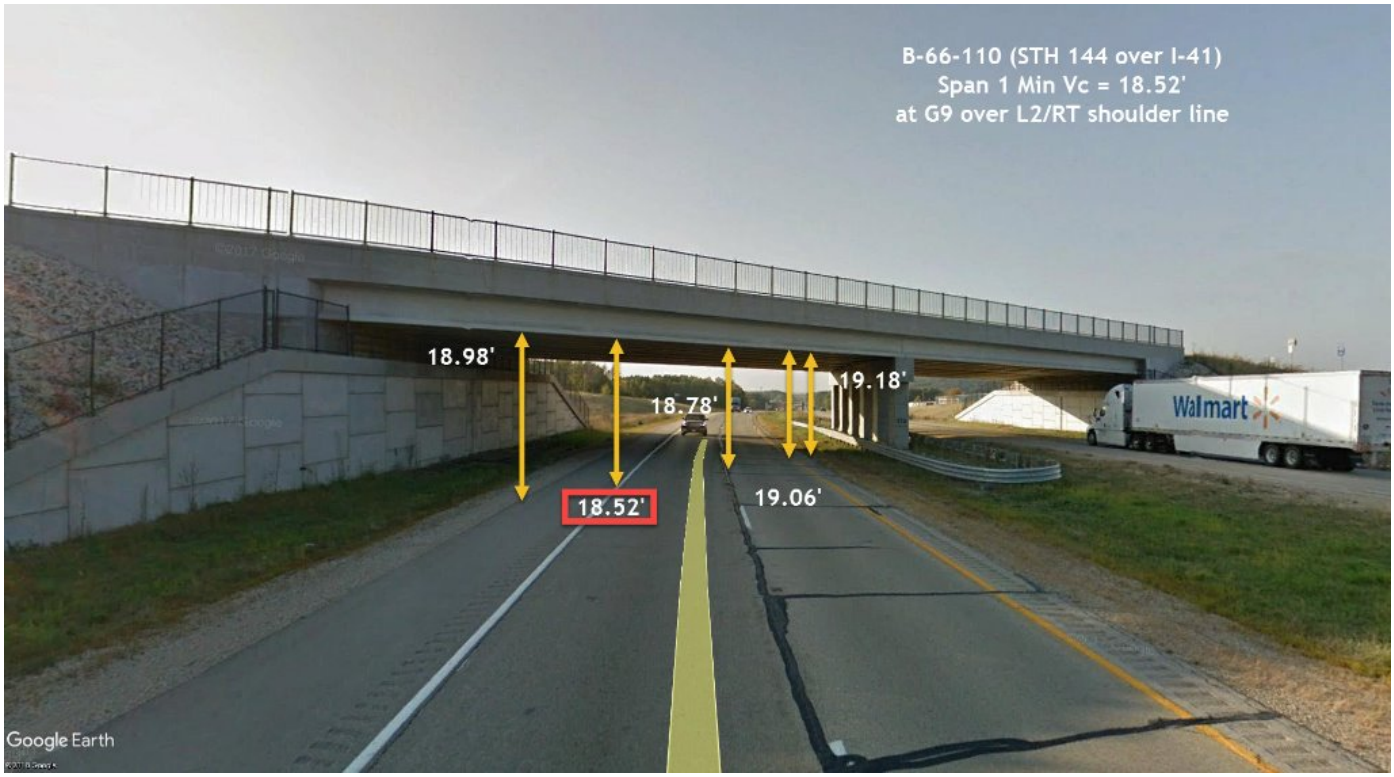
Document Comment/Description

Small spalls at east column and east end of pier cap from 2017 traffic impact.

Vertical Clearance Verification

Document Comment/Description

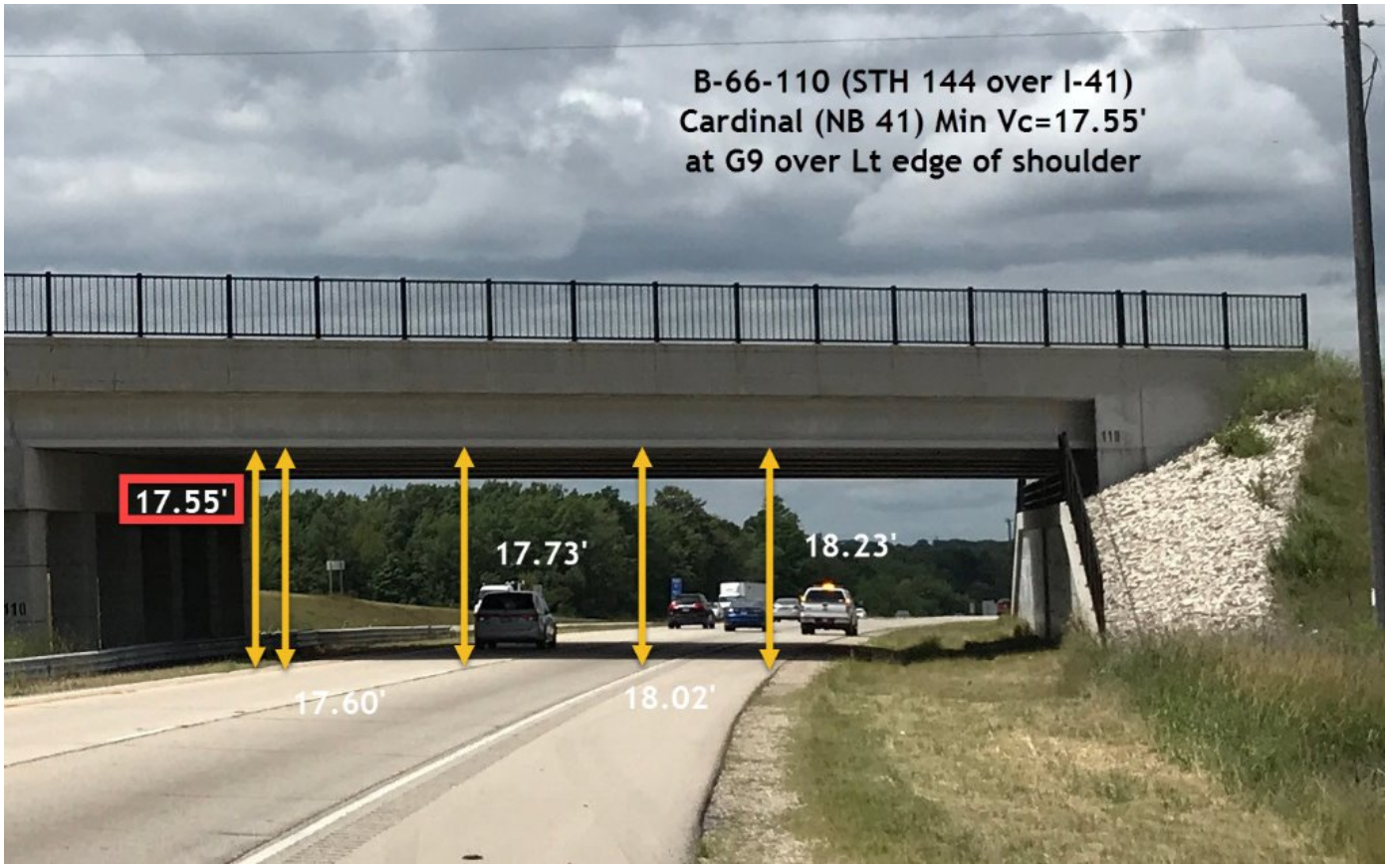
NonCardinal Min Vc (SB 41) = 18.52' at G9 over RT edge L2.



Vertical Clearance Verification

Document Comment/Description

Cardinal Min Vc (NB 41) = 17.55' at G9 over LT edge LT shoulder.



STRUCTURE INVENTORY AND APPRAISAL FIELD REVIEW FORM

B-66-110
STH 144 over IH 41

LOCATION

(3) Municipality:	POLK
(16) Latitiude(° ' "):	43°20'49.69"N
(17) Longitude(° ' "):	88°16'55.89"W

TRAFFIC SERVICE

(28A) Lanes On:	2
(28B) Lanes Under:	4
(102) Traffic Pattern On:	-NO TRAFFIC -ONE WAY TRAFFIC X-TWO WAY TRAFFIC
(102) Traffic Pattern Under:	-NO TRAFFIC -ONE WAY TRAFFIC X-TWO WAY TRAFFIC
(19) Detour Length(mi):	1

GEOMETRY

(49) Structure Length(ft):	217.2	
(50) Sidewalk Width(ft):	**Left:** 0.0	**Right:** 8.0
(50) Curb Width(ft):	0.0	
(52) Culvert Barrel Length(ft):		
(34) Skew:	**Angle(°):** 38	**Direction:** -RIGHT FORWARD X-LEFT FORWARD
	Cardinal	**Non-Cardinal**
(51) Bridge Roadway Width(ft):	62.5	62.5
(52) Deck Width(ft):	78.3	78.3
Right Wingwall Length(ft):	20.0	20.0
Left Wingwall Length(ft):	23.2	24.0
(32) Approach Roadway Width(ft):	62	0
	Cardinal Under Clearance	**Non-Cardinal Under Clearance**
(47) Minimum Horizontal(ft):	72.4	72.7
(55) Minimum Right Lateral(ft):	31.1	30.5
(56) Minimum Left Lateral(ft):	23.3	23.4

RAILING APPRAISAL

(36A) Bridge Rail Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36B) Transition Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36C) Approach Guardrail Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36D) Guardrail Termination Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE

Outer Rail:

Left	Right	Type
		TYPE F (TWO SQUARE TUBES) - STEEL(8)
		TYPE F (3 SQUARE TUBES) - STEEL(65)
		TYPE F (4 SQUARE TUBES) - STEEL(72)
		TYPE M-STEEL 3 SQUARE TUBES(93)
X		SLOPED FACE PARAPET LF(91)
		SLOPED FACE PARAPET HF(92)
	X	VERTICAL FACE PARAPET TYPE A(74)
		TYPE W-THRIE BEAM(79)
		TYPE H ON VERTICAL PARAPET(80)
		TIMBER(38)
		OTHER(99) (Please specify)

Transition Type:

	CONT GUARD RAIL
	NO APP GRDRL
	NO ATTACHMENT
5	22 MM(7/8") BOLT (Please enter quantity)
	25 MM(1") BOLT (Please enter quantity)
	OTHER (Please specify)

Approach Attachment Rail Note:

Guardrail Termination Type:

X	(01) ENERGY ABSORBING TERMINAL/EAT
	(02) TURN DOWN
	(99) OTHER (Please specify)

Guardrail Termination Note:

ROADWAY ALIGNMENT APPRAISAL

(72) Approach Alignment Appraisal:

	3 Intolerable- Substantial speed reduction
	6 Fair- Minor speed reduction
X	8 Good- No speed reduction