



STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

Inspection Report for  
**B-64-123**

IH 43 SB over ELM RIDGE RD  
Aug 23, 2018



Type	Prior	Frequency (mos)	Performed
Routine	08-23-16	24	X
Load Posted Verification (dt2122)	12-19-12	0	
SIA Review	08-23-16	48	
Vertical Clearance Measured	08-23-16	0	

Start Coordinates  
Latitude   
Longitude

End Coordinates (optional)  
Latitude   
Longitude

Owner

Maintainer

**Time Log**

**Team members**

Hours	Minutes	
3	0	

Inspector	Name	Number	Signature	Signature Date
	Jashinsky, Dan	2010	<i>Dan Jashinsky</i> E-signed by Dan P Jashinsky(dotdjp)	12-12-18

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**Identification & Location**

Feature On: IH 43 SB	Section Town Range: S24 T02N R15E	Structure Number: <b>B-64-123</b>
Feature Under: ELM RIDGE RD	County: WALWORTH	
Location 2.8 MI S JCT STH 50	Municipality: DARIEN	Structure Name:

**Geometry**

measurements in feet, except where noted

Approach Roadway Width: 40	Bridge Roadway Width: 40.0	Total Length: 146.7
Approach Pavement Width: 24	Deck Width: 42.5	Deck Area (sq ft): 6234

**Traffic**

	Lanes	ADT	ADT year	Traffic Pattern
On	2	10250	2018	ONE WAY TRAFFIC
Under	2	1000	2015	TWO WAY TRAFFIC

**Capacity**

**Load Rating**

Inventory rating: HS20	Overburden depth (in): 0.0	Last rating date: 07-28-15	Controlling: INTERIOR DECK GIRDER Negative Moment
Operating rating: HS33	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: SPAN 2
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 #: 97.5

**Span(s)**

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT PREST CONC	DECK GIRDER	45	44.5	
2	CONT PREST CONC	DECK GIRDER	45	64.0	Y
3	CONT PREST CONC	DECK GIRDER	45	33.5	

**Expansion joint(s)**

**Temperature:**

Joint #	Location	Type	Last inspection date	File:79 Last measure (in)	New:75 New measure (in)
1	WEST ABUTMENT	STRIPSEAL	08-23-16	1.5	1.5

**Clearance**

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	15.3	23-Aug-2016	
Highway Min Vertical Under Non-Cardinal			
Horizontal Under Cardinal	50.0		
Horizontal Under Non-Cardinal			
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

**Construction History**

Year	Work Performed	FOS id
2016	NEW DECK	1090-33-71
2003	OVERLAY - CONCRETE	1090-12-70
1975	NEW STRUCTURE	1091-02-73

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Structure No.: **B-64-123**

**Maintenance Items History**

Item	Recommended by	Status	Status change	Year completed
<b>IMP-Deck Replacement</b>	Brooks, Julie (2017)	COMPLETE	08/31/16	2016
2016 Scheduled				
<b>Drainage - Repair/Replace Deck Drains</b>	Brooks, Julie (2017)	COMPLETE	08/31/16	2016
Repair deteriorating inlet at NE wing				

**Maintenance Items**

Item	Priority	Recommended by	Status	Status change
<b>Deck - Seal w/ Concrete Sealer</b>	MEDIUM	Bolka, John (2007)	IDENTIFIED	08/31/16
2017 - Recommend Placing Sealer on New Deck.				

**Elements**

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		<b>Reinforced Concrete Deck-Coated Reinforcing</b>	SF	6,425	5,729	696	0	0
			Delamination - Spall - Patched Area	SF		0	37	0	0
		1080	<b>SPANS 1,2 &amp; 3: 33 holes, Ln 1, filled w/epoxy (top to bot) from pinned barrier wall during stage 2 construction.</b> SPAN 2: <b>Sound patch</b> at Pier 1 Haunch, G2-3.						
		1130	Cracking (RC)	SF		0	659	0	0
			SPAN 1: Transverse Cracks w/Staining; SPAN 2: Transverse Cracks w/Staining; Few Transverse Cracks w/Efflorescence.						
		8000	Wearing Surface (Bare)	SF	5,868	5,248	620	0	0
X	109	3210	Debonding/Spall/Patched Area/Pothole	SF		0	33	0	0
			<b>SPANS 1,2 &amp; 3: 33 holes, Ln 1, filled w/epoxy (top to bot) from pinned barrier wall during stage 2 construction.</b>						
		3220	Crack (Wearing Surface)	SF		587	587	0	0
X	205		<b>Prestressed Concrete Open Girder</b>	LF	587	566	21	0	0
			Girders Numbered N=>S						
X	215	1080	Delamination - Spall - Patched Area	LF		0	21	0	0
			<b>Span 1, Girder 1: 2 sound patches at top flng outside.</b> <b>Span 2, Girder 1: Sound patch at top flng inside; Girder 4: 2 sound patches at top flng inside&amp;outside.</b> <b>Span 3, Girder 3: Sound patch at top flng at Pier 2; Girder 4: Sound patch at top flng at east abut.</b> Scrapes and small patch ( <b>sound</b> ) on Girder 4 over Roadway.						
X	215		<b>Reinforced Concrete Column</b>	EA	6	6	0	0	0
			<b>Reinforced Concrete Abutment</b>	LF	97	77	20	0	0
X	215	1080	Delamination - Spall - Patched Area	LF		0	14	0	0
			E Abutment: Several Concrete Repairs ( <b>sound</b> ).						
X	215	1130	Cracking (RC)	LF		6	6	0	0
			W Abutment: Few HL/Narrow Vertical Cracks. E Abutment: Few HL/Narrow Vertical Cracks.						

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X	234		<b>Reinforced Concrete Cap</b>	LF	98	76	20	2	0
		1080	Delamination - Spall - Patched Area	LF		0	19	2	0
			PIER 1: <b>6</b> Concrete Repairs ( <b>sound</b> ) at East/West Top Corner, <b>2 sm spalls</b> . PIER 2: <b>Sound patch</b> at Top West Corner G2-3, <b>Sm spall east bot. corner btwn Col's 1 &amp; 2</b> .						
		1130	Cracking (RC)	LF		0	1	0	0
			Pier 1: HL Vertical Crack at Column 1.						
X	300		<b>Strip Seal Expansion Joint</b>	LF	46	46	0	0	0
			W Joint: 1-1/2" @ <b>75</b> @ NW Corner; Gland Was Cut At Stage 1/2 Joint.						
X	310		<b>Elastomeric Bearing</b>	EA	4	4	0	0	0
			Includes Bearings @ West Abutment						
X	331		<b>Reinforced Concrete Bridge Rail</b>	LF	291	252	39	0	0
		1130	Cracking (RC)	LF		19	39	0	0
			HL/Narrow Vertical Cracks .						
X	8400		<b>Integral Wingwall</b>	EA	4	4	0	0	0
X	8800		<b>FRP Strengthening</b>	EA	6	6	0	0	0
			SPAN 1: Girders 1 & 4, 4-ft at West Abutment, Girders 2 & 3, 7-ft at West Abutment; SPAN 3: Girders 2 & 3, 4-ft at East Abutment.						

**Assessments**

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	9001		<b>Drainage - Ends of Structure</b>	EA	4	4	0	0	0
			NE: Concrete Curb at Wingtip; SE: Concrete Curb at Wingtip; NW: Concrete Barrier w/Inlet at Wingtip; SW: Concrete Barrier w/Inlet at Wingtip.						
X	9030		<b>Signs - Object Markers</b>	EA	2	2	0	0	0
			SE/NE						
X	9043		<b>Slope Protection- Crushed Aggregate with Bit.</b>	EA	2	2	0	0	0
X	9167		<b>Steel Diaphragm</b>	EA	9	9	0	0	0
			Galvanized						
X	9168		<b>Concrete Diaphragm</b>	EA	6	6	0	0	0
X	9323		<b>Approach Roadway - Asphalt</b>	EA	2	2	0	0	0
			<b>Both Approaches: Few diag &amp; trans crks; Holes in Ln 1 filled w/epoxy from pinned barrier wall during stage 2 construction.</b>						

**NBI Ratings**

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

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Structure No.: **B-64-123**

**Structure Specific Notes**

Minimum Vertical Clearance (15.30', 10/11/16) Measured at G4 (South Fascia) at East Edge of Pavement.

**Inspection Specific Notes**

**Inspector Site-Specific Safety Considerations**

**Structure Inspection Procedures**

Parked on outside shoulder north of the bridge, Gates in median at each end of bridge.

**Special Requirements**

Chk	Hours	Cost	Comments
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Routine  
Document Comment/Description

Roadway looking south bound.



**Routine**

**Document Comment/Description**

Fiber-wrapped Girder #4 at west abutment - typical.





**Routine**

**Document Comment/Description**

Pier 1 Cap.

Photo copied from previous inspection report - no change 2018.





**From:** [Filtz, Dean J - DOT](mailto:Filtz,Dean.J@dot.wi.gov)  
**To:** [Wood, Kevin](mailto:Wood, Kevin)  
**Cc:** [Pettit, Mary Beth; Elgaq, Wafa - DOT](mailto:Pettit, Mary Beth; Elgaq, Wafa - DOT)  
**Subject:** RE: I-43 Walworth County 1090-16-00 - change of scope and structure survey report requirements  
**Date:** Thursday, October 18, 2018 4:25:41 PM  
**Attachments:** [image001.png](#)  
RE: 1090-16-00 I-43 Walworth Co. Revision to Amendment #1.mxd

Kevin,

I ran this by BOS and they agree with the streamlined requirements stated below. I have attached the original email that was sent back to you after BOS reviewed the initial amendment for reference. Please resubmit a draft amendment with the hour reductions which will be reviewed by consultant services.

Thanks,  
[Dean Filtz, P.E.](mailto:Dean.Filtz@dot.wi.gov)  
WisDOT, SE Freeways  
414-730-2914  
[Dean.Filtz@dot.wi.gov](mailto:Dean.Filtz@dot.wi.gov)

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**From:** Wood, Kevin [mailto:kevin.wood@graef-usa.com]  
**Sent:** Thursday, October 18, 2018 8:50 AM  
**To:** Filtz, Dean J - DOT <Dean.Filtz@dot.wi.gov>  
**Cc:** Pettit, Mary Beth <marybeth.pettit@graef-usa.com>  
**Subject:** FW: I-43 Walworth County 1090-16-00 - change of scope and structure survey report requirements

Dean,

Thanks for speaking with me this morning. To document the evolution of the scope requirements for bridges B-64-122 & B-64-123 added to our scope of services last spring, the below e-mail outlines requirements received from Tony Landini last March. As noted in Tony's second to last sentence, these two new bridges required "normal preliminary plan submittal". Following this direction, we had originally scoped our hours to include a site visit, SSR form preparation, preliminary bridge plans, submittal of site visit photos, location map, inspection report, plan of deficient areas, and preliminary roadway plans.

We understand that for relatively new bridges receiving thin polymer overlays, there is now a new streamlined procedure for the preliminary bridge design work. Though these bridges were originally constructed in 1975, both were redecked in 2015/2016 and are considered "relatively new". As such, we understand that for preliminary design, the streamlined requirements for each bridge will include:

1. SSR form DT1696
2. Location map
3. Preliminary plans
4. Latest inspection report
5. Traffic staging

We understand that a site visit, photo exhibit, deficient area plan documentation, and preliminary roadway plans will not be required.

Because of the reduced preliminary plan scope from what was originally assumed, GRAEF can reduce the effort for bridges B-64-122 & B-64-123 to 120 hours which includes the SSR related submittal work, preliminary plans, final plans, and load ratings. This is reduced from the 186 hours that I had sent last Friday.

If you have any questions please do not hesitate to call me.

Regards,

**Kevin Wood, P.E., S.E.**  
Principal

**GRÆF**

One Honey Creek Corporate Center  
125 South 84th Street, Suite 401  
Milwaukee, Wisconsin 53214-1470

414 / 259 1500 office  
414 / 266 9144 direct

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**From:** Landini, Anthony P - DOT [mailto:Anthony.Landini@dot.wi.gov]  
**Sent:** Thursday, March 08, 2018 11:32 AM  
**To:** Wood, Kevin <kevin.wood@graef-usa.com>  
**Cc:** Ksontini, Najoua - DOT <najoua.ksontini@dot.wi.gov>; Jenks, Julie - DOT <Julie.Jenks@dot.wi.gov>  
**Subject:** RE: I-43 Walworth County 1090-16-00 - change of scope and structure survey report requirements

Kevin

For **change from concrete overlay to REDECK:**

Resubmit SSR form, preliminary plans, and deck investigation/evaluation report.

Include a statement in SSR that the proposed work meets the following BM 40.4 requirement for "major rehab work, build to current standards such as safety parapets, full shoulder widths, etc.". If the proposed bridge clear width does not meet current standards indicate that it will be justified and approved in the DSR.

Include in preliminary plans staging cross sections if bridge will not be closed for re-decking.

For B-64-63 require bearings be replaced before new deck is poured. Note that it appears from the photographs the existing bearings were not placed in accordance with original plans. Adjust detailing of new bearings as required.

B-64-107 and 126 have bridge deck weather sensors for determining when to apply de-icing chemicals. Coordinate the replacement of these systems.

Structural approach slabs will not be required because it is unlikely the existing abutments can meet the demand of the increased loading.

For **add thin POLYMER OVERLAY**

I'm sure you are aware that there is a minimum waiting period of 28 days and moisture contents maximum limits before the thin polymer overlay can be applied. Account for this in the construction schedule and staging requirements. If the structures are opened to traffic before the overlay is applied it is likely shot blasting and cleaning will be required. We will use this email as documentation and no further submittal is required.

For **add SCOUR COUNTERMEASURES (RIP RAP)**

Send us email with description of proposed work supplemented with annotated photographs and/or plan view showing locations. Include information indicating how the proposed work will affect hydraulic performance.

For **add EPOXY CRACK INJECTION FOR GIRDERS**

We will use this email as documentation and no further submittal is required.

For the two new bridges, normal preliminary plan submittal.

I assume Graef is lead on this project and will transmit this information to others as required.

Tony

**From:** Wood, Kevin [mailto:kevin.wood@graef-usa.com]  
**Sent:** Tuesday, March 06, 2018 10:19 AM  
**To:** Landini, Anthony P - DOT <Anthony.Landini@dot.wi.gov>  
**Cc:** Ksontini, Najoua - DOT <najoua.ksontini@dot.wi.gov>; Jenks, Julie - DOT <Julie.Jenks@dot.wi.gov>  
**Subject:** RE: I-43 Walworth County 1090-16-00 - change of scope and structure survey report requirements

Tony,

Please see below. Color coding is **change from concrete overlay to REDECK**, **add thin POLYMER OVERLAY** for increased friction, **add SCOUR COUNTERMEASURES (RIP RAP)**, and **add EPOXY CRACK INJECTION FOR GIRDERS**.

There are also **two new bridges added to our scope** that will **add thin POLYMER OVERLAY** for increased friction to B-64-122 and B-64-123. These two bridges will require SSRs.

Thanks for your help Tony,

**Kevin Wood, P.E., S.E.**  
Principal

**GRAEF**

One Honey Creek Corporate Center  
125 South 84th Street, Suite 401  
Milwaukee, Wisconsin 53214-1470

414 / 259 1500 office  
414 / 266 9144 direct

**From:** Landini, Anthony P - DOT [mailto:Anthony.Landini@dot.wi.gov]  
**Sent:** Tuesday, March 06, 2018 10:05 AM  
**To:** Wood, Kevin <kevin.wood@graef-usa.com>  
**Cc:** Ksontini, Najoua - DOT <najoua.ksontini@dot.wi.gov>  
**Subject:** RE: I-43 Walworth County 1090-16-00 - change of scope and structure survey report requirements

Kevin

Which of the following 1090-16-00 project structures do these changes apply too? You can just highlight structure number. I take a quick look at the reply tomorrow.

Tony

Bridge #	Mega Project	Proposed Work	Design ID	Construction ID	Feature On/Feature Over	Consultant
B-64-114	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over CTH F	CORRE
B-64-115	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over CTH F	CORRE
B-64-128	STATE	Painting	1090-16-00	1090-16-70	Lawson School Rd over IH 43	CORRE
B-64-139	STATE	Surface Repair	1090-16-00	1090-16-70	IH 43 over Swawn Creek	CORRE
B-64-140	STATE	Surface Repair	1090-16-00	1090-16-70	IH 43 over Branch Jackson Creek	CORRE
B-64-141	STATE	Surface Repair	1090-16-00	1090-16-70	IH 43 over Branch Jackson Creek	CORRE
B-64-142	STATE	Surface Repair	1090-16-00	1090-16-70	IH 43 over Branch Little Turtle Cr	CORRE
B-64-144	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over Westbound Lane Rd	CORRE
B-64-145	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over Westbound Lane Rd	CORRE
B-64-63	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over USH 12	GRAEF
B-64-64	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over USH 12	GRAEF
B-64-105	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over CTH H	GRAEF
B-64-106	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over CTH H	GRAEF
B-64-107	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over Centralia Rd & WSOR RR	GRAEF
B-64-108	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over Centralia Rd & WSOR RR	GRAEF
B-64-109	STATE	Concrete Overlay	1090-16-00	1090-16-70	STH 67 over IH 43	GRAEF
B-64-116	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over Mound Rd	GRAEF
B-64-117	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over Mound Rd	GRAEF
B-64-124	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over WSOR RR	GRAEF
B-64-125	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over WSOR RR	GRAEF
B-64-135	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over WSOR RR	GRAEF
B-64-136	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over WSOR RR	GRAEF
B-64-137	STATE	Surface Repair	1090-16-00	1090-16-70	IH 43 SB over North Rd & Turtle Cr	GRAEF
B-64-138	STATE	Surface Repair	1090-16-00	1090-16-70	IH 43 NB over North Rd & Turtle Cr	GRAEF
B-64-118	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over STH 50	MICHAEL BAKER CORP
B-64-119	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over STH 50	MICHAEL BAKER CORP
B-64-120	STATE	Abutment Repair	1090-16-00	1090-16-70	Borg Road over IH 43	MICHAEL BAKER CORP
B-64-126	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over CTH X (Beloit Rd)	MICHAEL BAKER CORP
B-64-127	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over CTH X (Beloit Rd)	MICHAEL BAKER CORP
B-64-132	STATE	Painting	1090-16-00	1090-16-70	Wisconsin Street over IH 43	MICHAEL BAKER CORP
B-64-133	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 SB over USH 14	MICHAEL BAKER CORP
B-64-134	STATE	Concrete Overlay	1090-16-00	1090-16-70	IH 43 NB over USH 14	MICHAEL BAKER CORP

**From:** Ksontini, Najoua - DOT  
**Sent:** Monday, March 05, 2018 3:11 PM  
**To:** Landini, Anthony P - DOT <Anthony.Landini@dot.wi.gov>  
**Subject:** FW: I-43 Walworth County 1090-16-00 - change of scope and structure survey report requirements

Tony,

FYI, and can you respond to Kevin's questions below.

Thanks  
Najoua

---

**From:** Wood, Kevin [<mailto:kevin.wood@graef-usa.com>]  
**Sent:** Monday, March 05, 2018 2:26 PM  
**To:** Ksontini, Najoua - DOT <[najoua.ksontini@dot.wi.gov](mailto:najoua.ksontini@dot.wi.gov)>  
**Cc:** Sadowski, Jason <[Jason.Sadowski@mbakerintl.com](mailto:Jason.Sadowski@mbakerintl.com)>; Bill Hove <[bhove@correinc.com](mailto:bhove@correinc.com)>; Jenks, Julie - DOT <[Julie.Jenks@dot.wi.gov](mailto:Julie.Jenks@dot.wi.gov)>  
**Subject:** I-43 Walworth County 1090-16-00 - change of scope and structure survey report requirements

Najoua,

Thanks for speaking this afternoon. So that everyone is on the same page, here is what we discussed:

- A. For the 4 bridges being changed from concrete overlays to deck replacements, revised structure survey reports will be required.
- B. For bridges remaining as concrete overlays, but now having a thin polymer overlay added, it is not necessary to resubmit the structure survey reports. We will simply e-mail you with the affected bridge numbers and you will make sure the final plan reviewers are aware of the scope change.

Here are a few more follow up questions:

1. For the redecks, which exhibits should be resubmitted (SSR form, preliminary plans, others?)?
2. One of our culvert rehabs, we will now have scour countermeasures (riprap) added. Will this change follow the same procedure as item B above?
3. For the redecks, please confirm that a structure approach slab will not be required as noted in the WBM 12.11 policy item.

Thanks again for your help,

**Kevin Wood, P.E., S.E.**  
Principal



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