



Inspection Report for

**B-27-053**

**CASTLE MOUND RD over IH 94**

**Jul 24, 2020**



Type	Prior	Team Leader	Frequency (mos)	Performed
Routine	09-10-19	Balsiger, Lee (6011)	24	
Damage				X
Action				X
Critical Finding				X
SIA Review	09-10-19	Balsiger, Lee (6011)	48	
Vertical Clearance Measured	11-17-16	Balsiger, Lee (6011)	0	

Start Coordinates

Latitude	44°16'39.41"N
Longitude	90°48'13.59"W

OwnerSTATE HIGHWAY DEPT

End Coordinates (optional)

Latitude	
Longitude	

MaintainerSTATE HIGHWAY DEPT

Team members

Time Log	Hours 3	Minutes 0	Jim Kast
Weather	Temperature (f)	Condition	

Inspector	Name	Number	Signature	Signature Date
	Haig, Gregory	5014	<i>Gregory Haig</i> E-signed by Gregory H Haig(dotghh)	09-17-20

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

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**Identification & Location**

Feature On: CASTLE MOUND RD	Section Town Range: S24 T21N R04W	Structure Number:  <b>B-27-053</b>
Feature Under: IH 94	County: JACKSON	
Location 0.3M E JCT USH 12	Municipality: BROCKWAY	Structure Name:

**Geometry**

measurements in feet, except where noted

Approach Roadway Width: 26	Bridge Roadway Width: 24.0	Total Length: 238.7
Approach Pavement Width: 0	Deck Width: 27.5	Deck Area (sq ft): 6564

**Traffic**

	Lanes	ADT	ADT year	Traffic Pattern
On	2	110	2015	TWO WAY TRAFFIC
Under	4	20800	2013	TWO WAY TRAFFIC

**Capacity**

**Load Rating**

Inventory rating: HS12	Overburden depth (in): 0.0	Last rating date: 07-27-20	Controlling: INTERIOR DECK GIRDER Moment
Operating rating: HS20	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: 5.8 SPAN 1, 67.5
Posting: 8 TON NRBR	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 #: 31.2

**Span(s)**

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		117.0	Y
2	CONT STEEL	DECK GIRDER		117.0	

**Expansion joint(s)**

**Temperature:**

Joint #	Location	Type	Last inspection date	File:	New:
1	NORTH ABUTMENT	STEEL1		Last measure (in)	New measure (in)
2	SOUTH ABUTMENT	STEEL1			

**Clearance**

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	16.55	08-Mar-2017	
Highway Min Vertical Under Non-Cardinal	15.68	08-Mar-2017	
Horizontal Under Cardinal	66.25		
Horizontal Under Non-Cardinal	82.25		
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

**Special Components**

Component	Year	Work Performed	Note
CONC. PROTECTIVE TREATMENT - TK - 590 - 1 MS			APPLIED IN 2014 MAINTENANCE PROJECT

**Construction History**

Year	Work Performed	FOS id
2016	MISCELLANEOUS PREVENTATIVE MAINTENANCE	
2015	SEAL SUBSTRUCTURE - CONCRETE	1020-10-85
2013	PAINTING	
1968	NEW STRUCTURE	9425-31-16

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Structure No.: **B-27-053**

**Maintenance Items History**

Item	Recommended by	Status	Status change	Year completed
<b>Deck - Seal w/ Concrete Sealer</b>		COMPLETE		2014
UPLOADED ON 4/28/2015 FROM EXCEL SHEET COMPILED BY ALLAN JOHNSON. SEE SPECIAL COMPONENT TAB FOR SPECIFIC PRODUCT				
<b>Deck - Seal w/ Concrete Sealer</b>		COMPLETE		2016

**Maintenance Items**

Item	Priority	Recommended by	Status	Status change
<b>IMP-Concrete Overlay</b>	HIGH	Balsiger, Lee (6011)	IDENTIFIED	09/12/19
O'lay and joint replace.				

**Elements**

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		<b>Reinforced Concrete Deck</b>	SF	6,564	3,000	3,564	0	0
			Significant water movement through deck.						
		1130	Cracking (RC) Map cracked throughout. Areas of EFF/leaking.	SF		0	3,564	0	0
		8000	Wearing Surface (Bare)	SF	5,729	2,523	1,006	2,200	0
		3210	Debonding/Spall/Patched Area/Pothole Approx 40% delaminated/debonded. Both outside wheel paths debonded full length and also along rail. Other random debonding throughout. 3 Small concrete patches.	SF		0	6	2,200	0
X	107	3220	Crack (Wearing Surface) Transverse cracks @ approximately 8" spacing throughout deck.	SF		0	1,000	0	0
			<b>Steel Open Girder</b>	LF	941	805	56	30	50
			4 Girders. Repainted 2013.						
		1000	Corrosion Rust staining at bolted connections and girder ends.	LF		0	50	0	0
		1900	Distortion G1 over EB lanes has been heat straightened. Web tear was repaired with plate and diaphragm reattached. on 7/24/2020 approximately 50 ft. of girder 1 over the west bound lanes was struck by a backhoe and bent out plane by over 2 ft. the 3rd diaphragm in completely broke out and punched a 2 ft. hole in the girder. 10 ft. of the bottom cover plate also broke away from the bottom flange. In addition after looking at the top flange "hands on", 20 ft. of the top flange of G1 has broke loose from the deck and is no longer acting as a composite member. Girder 2 sustained less damage but still bent out of plane by approximately 6 in. Girder 4 has about 1 ft. of the girder "peeled" down but does not appear to be affecting the capacity.	LF		0	6	30	50
	8516		Painted Steel	SF	10,550	10,050	500	0	0
		3440	Effectiveness (Steel Protective Coatings) Rust staining at bolted connections and girder ends.	SF		0	500	0	0
			<b>Reinforced Concrete Column</b>	EA	3	3	0	0	0
	205	1130	Cracking (RC) Small crack - center one	EA		1	0	0	0

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Structure No.: **B-27-053**

	<b>215</b>		<b>Reinforced Concrete Abutment</b>	LF	61	51	10	0	0
		1130	Cracking (RC) South Abutment: 5 Vertical cracks. SE corner crack with EFF. North Abutment: 4 Vertical cracks.	LF		0	10	0	0
	<b>234</b>		<b>Reinforced Concrete Cap</b>	LF	26	22	4	0	0
		1080	Delamination - Spall - Patched Area Small spall on bottom side.	LF		0	1	0	0
		1130	Cracking (RC) Few hairline mapping cracks at east nose between G1 & G2. 3 diagonal cracks between G2 and G3.	LF		0	3	0	0
	<b>305</b>		<b>Assembly Joint without Seal</b> Sliding plate. Filled with rubber.	LF	56	51	5	0	0
		2360	Adjacent Deck or Header Damage Few small spalls.	LF		0	5	0	0
X	<b>311</b>		<b>Moveable Bearing</b> Locate at abutments. Keeper broke at girder 4 at north abutment. Keeper at south abutment, G1. Keeper broken, girder shifted east; G4 keeper broken, shifted west at north and south abutments.	EA	8	7	1	0	0
		2220	Alignment South abutment: G1 keeper bent, G2 keeper bent, G4 keeper broke and shifted west. North Abutment: G4 keeper broke.	EA		0	1	0	0
X	<b>313</b>		<b>Fixed Bearing</b> Located at Pier.	EA	4	4	0	0	0
	<b>331</b>		<b>Reinforced Concrete Bridge Rail</b>	LF	479	439	40	0	0
		1130	Cracking (RC) Few hairline vertical cracks.	LF		40	40	0	0
	<b>8400</b>		<b>Integral Wingwall</b>	EA	4	4	0	0	0

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Structure No.: **B-27-053**

**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
			NW & NE - Conc C & G flumes to pipe South: Gravel shoulders						
X	9043		<b>Slope Protection- Crushed Aggregate with Bit.</b>	EA	2	0	2	0	0
			Some weeds @ edges. Top 1/2 tight, bot 1/2 bleaching w/ 50% loose stones.						
X	9167		<b>Steel Diaphragm</b>	EA	55	54	0	0	1
			3rd diaphragm in from the east abutment is completely gone.						
X	9323		<b>Approach Roadway - Asphalt</b>	EA	2	0	2	0	0
			Cracked.						
X	9335		<b>Decorative Rail</b>	EA	2	2	0	0	0
			Aluminum Rail on Concrete Bridge Rail						

**NBI Ratings**

	File	New
Deck	5	5
Superstructure	6	3
Substructure	6	6
Culvert	N	N
Channel	N	N
Waterway	N	N

**Structure Specific Notes**

Exterior girder over EB I-94 struck in 2010 and heat straightened by state forces. Web tear was repaired with plate and diaphragm reattached.  
on 7/24/2020 approximately 50 ft. of girder 1 over the west bound lanes was struck by a backhoe and bent out plane by over 2 ft. the 3rd diaphragm in completely broke out and punched a 2 ft. hole in the girder. 10 ft. of the bottom cover plate also broke away from the bottom flange. In addition after looking at the top flange "hands on", 20 ft. of the top flange of G1 has broke loose from the deck and is no longer acting as a composite member. Girder 2 sustained less damage but still bent out of plane by approximately 6 in. Girder 4 has about 1 ft. of the girder "peeled" down but does not appear to be affecting the capacity.

**Inspection Specific Notes**

2013-small bug mud spots on paint may be causing rust??? S abut

**Inspector Site-Specific Safety Considerations**

**Special Requirements**

Chk Hours Cost Comments

**Action**

Action Plan: Critical - Partial Closure	Created: 27-Jul-2020	Due: 22-Sep-2020
Overall Notes: on 7/24/2020 approximately 50 ft. of girder 1 over the west bound lanes was struck by a backhoe and bent out plane by over 2 ft. the 3rd diaphragm in completely broke out and punched a 2 ft. hole in the girder. 10 ft. of the bottom cover plate also broke away from the bottom flange. Girder 2 sustained less damage but still bent out of plane by approximately 6 in. Girder 4 has about 1 ft. of the girder "peeled" down but does not appear to be affecting the capacity.		


Element	Required Reason	Note
Steel Open Girder	increase in CS4 quantity	To be repaired under let project.

Short Term Plan:  
Leave Castle Mound rd posted at 8 tons and barrel off area directly above the damaged areas.


Long Term Plan:  
Have state maintenance crews look at repairing. If not get a contractor to heat straight and strengthen damaged girder. Bridge will be repaired under a let project due to the extensive damages.

Final Action		
Final Action(s) Complete:	Late Reason:	Late Reason Status Notes:

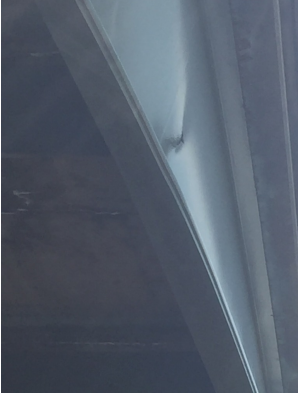
**Critical Finding Item 1**

	 <p>b27-053_20_Cd1.jpg</p>
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**Critical Finding Item 2**

	 <p>b27-053_20_Cd2.jpg</p>
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**Critical Finding Item 3**

	 <p>b27-053_20_Cd3.jpg</p>
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**Critical Finding Item 4**

	 <p>b27-053_20_Cd4.jpg</p>
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**Critical Finding Item 5**

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**Critical Finding Item 6**

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**Critical Finding Item 7**

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**Critical Finding Item 8**

	 <p>b27-053_20_Cd8.jpg</p>
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Critical Finding Item 9

	 <p>b27-053_20_Cd9.jpg</p>
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Critical Finding Item 10

	 <p>b27-053_20_Cd10.jpg</p>
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Critical Finding Item 11

	 <p>b27-053_20_Cd11.jpg</p>
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Critical Finding Item 12

	 <p>b27-053_20_Cd12.jpg</p>
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**Critical Finding Item 13**

Email describing rehab project and determination of work.	b27-053_20_Cd13.msg
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**Critical Finding Item 14**


	b27-053_20_Cd14.pdf (included)
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**Damage Item 1**

7-24-2020 Bridge Hit on Girder 3	
<a href="#">Linked Element(s):</a> Steel Open Girder Steel Diaphragm	

b27-053\_20\_Dd1.jpg

**Damage Item 2**

7-24-2020 Bridge Hit on Girder 3	
<a href="#">Linked Element(s):</a> Steel Open Girder Steel Diaphragm	

b27-053\_20\_Dd2.jpg

**Damage Item 3**

7-24-2020 Bridge Hit on Girder 3	
<a href="#">Linked Element(s):</a> Steel Open Girder Steel Diaphragm	

b27-053\_20\_Dd3.jpg

**Damage Item 4**

7-24-2020 Bridge Hit on Girder 3



b27-053\_20\_Dd4.jpg

Linked Element(s):  
Steel Open Girder

**Damage Item 5**

7-24-2020 Bridge Hit on Girder 3



b27-053\_20\_Dd5.jpg

Linked Element(s):  
Steel Open Girder

**Damage Item 6**

7-24-2020 Bridge Hit on Girder 2



b27-053\_20\_Dd6.jpg

Linked Element(s):  
Steel Open Girder

**Damage Item 7**

7-24-2020 Bridge Hit on Girder 3	 <p data-bbox="1070 600 1246 622">b27-053_20_Dd7.jpg</p>
<p data-bbox="82 622 280 674">Linked Element(s): Steel Open Girder</p>	

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**From:** [Kirk, Randall J - DOT](#)  
**To:** [Wincentsen, David - DOT](#); [Haig, Gregory - DOT](#)  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)  
**Date:** Thursday, September 10, 2020 4:17:06 PM  
**Attachments:** [image013.jpg](#)  
[image014.jpg](#)  
[image015.jpg](#)  
[image016.jpg](#)  
[image017.jpg](#)  
[image018.jpg](#)

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FIIPs ID is 1023-00-13(83)

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**From:** Wincentsen, David - DOT <David.Wincentsen@dot.wi.gov>  
**Sent:** Wednesday, September 9, 2020 10:52 AM  
**To:** Haig, Gregory - DOT <gregory.haig@dot.wi.gov>; Kirk, Randall J - DOT <randall.kirk@dot.wi.gov>  
**Cc:** Mason, Timothy - DOT <Timothy.Mason@dot.wi.gov>; Kern, Jeffrey - DOT <Jeffrey.Kern@dot.wi.gov>  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Randy,

Can you work with Hannah to get a ID set up.

Greg or Jeff,

Will this be a typical let, or does the region need to submit a request for emergency project/ expedited let for these repairs.

Thanks,  
Dave

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**From:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>  
**Sent:** Wednesday, September 9, 2020 9:09 AM  
**To:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>; Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>  
**Cc:** Mason, Timothy - DOT <[Timothy.Mason@dot.wi.gov](mailto:Timothy.Mason@dot.wi.gov)>; Kern, Jeffrey - DOT <[Jeffrey.Kern@dot.wi.gov](mailto:Jeffrey.Kern@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>; Pence, Alex W - DOT <[Alex.Pence@dot.wi.gov](mailto:Alex.Pence@dot.wi.gov)>; Meinel, Philip M - DOT <[Philip.Meinel@dot.wi.gov](mailto:Philip.Meinel@dot.wi.gov)>  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Thanks Ryan,

Gregory Haig, P.E.  
Bridge Maintenance Engineer  
Northwest Region, Eau Claire  
[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)  
cell. (715) 577-0646



---

**From:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>  
**Sent:** Wednesday, September 9, 2020 8:55 AM  
**To:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>; Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>  
**Cc:** Mason, Timothy - DOT <[Timothy.Mason@dot.wi.gov](mailto:Timothy.Mason@dot.wi.gov)>; Kern, Jeffrey - DOT <[Jeffrey.Kern@dot.wi.gov](mailto:Jeffrey.Kern@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>; Pence, Alex W - DOT <[Alex.Pence@dot.wi.gov](mailto:Alex.Pence@dot.wi.gov)>; Meinel, Philip M - DOT <[Philip.Meinel@dot.wi.gov](mailto:Philip.Meinel@dot.wi.gov)>  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Yep, here you go.

I checked a total of 6 scenarios. The first 3 used costs provided by Greg for the repair, superstructure replacement, and structure replacement. The second three used structure costs on the BOS website for the superstructure and structure replacement but used Greg's repair cost. I'd be happy to talk about the assumptions in greater detail if you'd like.

**Ryan Bowers, P.E. | Structures Asset Management Engineer**

Office: (608) 267-3577

[ryan.bowers@dot.wi.gov](mailto:ryan.bowers@dot.wi.gov) | [BOS Website](#)



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**From:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>  
**Sent:** Wednesday, September 09, 2020 8:52 AM  
**To:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>; Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>  
**Cc:** Mason, Timothy - DOT <[Timothy.Mason@dot.wi.gov](mailto:Timothy.Mason@dot.wi.gov)>; Kern, Jeffrey - DOT <[Jeffrey.Kern@dot.wi.gov](mailto:Jeffrey.Kern@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>; Pence, Alex W - DOT <[Alex.Pence@dot.wi.gov](mailto:Alex.Pence@dot.wi.gov)>; Meinel, Philip M - DOT <[Philip.Meinel@dot.wi.gov](mailto:Philip.Meinel@dot.wi.gov)>  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Ryan,

Would you mind sending the numbers that you used for the LCCA?

Thanks,

Gregory Haig, P.E.  
Bridge Maintenance Engineer  
Northwest Region, Eau Claire  
[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)  
cell. (715) 577-0646

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**From:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>  
**Sent:** Wednesday, September 9, 2020 8:45 AM  
**To:** Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>  
**Cc:** Mason, Timothy - DOT <[Timothy.Mason@dot.wi.gov](mailto:Timothy.Mason@dot.wi.gov)>; Kern, Jeffrey - DOT <[Jeffrey.Kern@dot.wi.gov](mailto:Jeffrey.Kern@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>; Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>; Pence, Alex W - DOT <[Alex.Pence@dot.wi.gov](mailto:Alex.Pence@dot.wi.gov)>; Meinel, Philip M - DOT <[Philip.Meinel@dot.wi.gov](mailto:Philip.Meinel@dot.wi.gov)>  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Dave,

I did a life-cycle cost analysis on this bridge and discussed the options with Alex and Philip. Repairing the damaged areas makes the most sense from the LCCA, and we think it is a reasonable alternative. If you would like to discuss this more, please let me know.

**Ryan Bowers, P.E. | Structures Asset Management Engineer**

Office: (608) 267-3577

[ryan.bowers@dot.wi.gov](mailto:ryan.bowers@dot.wi.gov) | [BOS Website](#)



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**From:** Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>  
**Sent:** Wednesday, September 09, 2020 8:04 AM  
**To:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>  
**Cc:** Mason, Timothy - DOT <[Timothy.Mason@dot.wi.gov](mailto:Timothy.Mason@dot.wi.gov)>; Kern, Jeffrey - DOT <[Jeffrey.Kern@dot.wi.gov](mailto:Jeffrey.Kern@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>; Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Good Morning Ryan,

Can we get a status update on where we are with deciding on the type of repair or replacement on B-27-0053.

Thanks,

**David Wincentsen P.E.**

Program Supervisor

Wisconsin Department of Transportation

Northwest Region

718 W Clairemont Ave

Eau Claire, WI 54701  
Phone: 715-836-5170  
Cell: 715-491-2136  
Fax: 715-836-2807  
[david.wincentsen@dot.wi.gov](mailto:david.wincentsen@dot.wi.gov)

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**From:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>  
**Sent:** Friday, September 4, 2020 11:46 AM  
**To:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>  
**Cc:** Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>; Mason, Timothy - DOT <[Timothy.Mason@dot.wi.gov](mailto:Timothy.Mason@dot.wi.gov)>; Kern, Jeffrey - DOT <[Jeffrey.Kern@dot.wi.gov](mailto:Jeffrey.Kern@dot.wi.gov)>  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Ryan,

If we simply do a repair, we would still do the overlay in 2027. The overlay would include other miscellaneous repair items (ie joint replacement, bearing work, spot painting and etc.). We do need to get moving on a repair or rehab fairly soon. So the project to fix the damage, regardless of what is decided, needs to be done way before fy27.

Thanks,

Gregory Haig, P.E.  
Bridge Maintenance Engineer  
Northwest Region, Eau Claire  
[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)  
cell. (715) 577-0646

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**From:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>  
**Sent:** Friday, September 4, 2020 11:25 AM  
**To:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>  
**Cc:** Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>; Mason, Timothy - DOT <[Timothy.Mason@dot.wi.gov](mailto:Timothy.Mason@dot.wi.gov)>; Kern, Jeffrey - DOT <[Jeffrey.Kern@dot.wi.gov](mailto:Jeffrey.Kern@dot.wi.gov)>  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Thanks Greg.

I apologize for not getting back to this sooner. I have a couple more questions. If the damaged areas are repaired, I'm assuming the concrete overlay would still be done. Is this correct? Does the \$400k Greg referenced for the current overlay project include work in addition to the concrete overlay?

And would whatever work is selected (repair and overlay, superstructure replacement, structure replacement) be done in FY27, or does the year depend on what the scope is?

**Ryan Bowers, P.E. | Structures Asset Management Engineer**

Office: (608) 267-3577

[ryan.bowers@dot.wi.gov](mailto:ryan.bowers@dot.wi.gov) | [BOS Website](#)



---

**From:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>

**Sent:** Friday, August 28, 2020 8:03 AM

**To:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>

**Cc:** Wincentzen, David - DOT <[David.Wincentzen@dot.wi.gov](mailto:David.Wincentzen@dot.wi.gov)>; Mason, Timothy - DOT <[Timothy.Mason@dot.wi.gov](mailto:Timothy.Mason@dot.wi.gov)>; Kern, Jeffrey - DOT <[Jeffrey.Kern@dot.wi.gov](mailto:Jeffrey.Kern@dot.wi.gov)>

**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Ryan,

I'm assuming the trucking company (Mathy) that hit the bridge is self-insured. They are responsible for all the costs associated with the incident, but I'm pretty sure they will be fighting a lot of the repair costs regardless of the repair/rehab we propose.

Thanks,

Gregory Haig, P.E.  
Bridge Maintenance Engineer  
Northwest Region, Eau Claire  
[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)  
cell. (715) 577-0646

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**From:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>

**Sent:** Friday, August 28, 2020 7:53 AM

**To:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>

**Cc:** Wincentzen, David - DOT <[David.Wincentzen@dot.wi.gov](mailto:David.Wincentzen@dot.wi.gov)>

**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

I have a few questions.

1. Is the insurance company paying to fix the bridge? I'm not familiar with the process.
2. If the insurance company is paying, do they cover the entire cost of the repair, or up to a limit?
3. If a larger scope of work is selected, such as superstructure replacement or structure

replacement, does insurance money still go toward that scope? Or is the money only available for the repair?

Thanks,

**Ryan Bowers, P.E. | Structures Asset Management Engineer**

Office: (608) 267-3577

[ryan.bowers@dot.wi.gov](mailto:ryan.bowers@dot.wi.gov) | [BOS Website](#)



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**From:** Bowers, Ryan - DOT

**Sent:** Wednesday, August 26, 2020 8:41 AM

**To:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>

**Cc:** Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>

**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Thanks Greg. I'll take a look and let you know if I have any questions.

**Ryan Bowers, P.E. | Structures Asset Management Engineer**

Office: (608) 267-3577

[ryan.bowers@dot.wi.gov](mailto:ryan.bowers@dot.wi.gov) | [BOS Website](#)



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**From:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>

**Sent:** Wednesday, August 26, 2020 8:33 AM

**To:** Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>; Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>

**Cc:** Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>

**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Here's some rough estimates for the repair, superstructure replacement or replacement of bridge B-27-0053:

1. Repairing damaged areas with no additional work. **I'm estimating the total cost at \$450k (Based off of Bridge B-41-0042 repair contract)**
  - a. Cost for removing and replacing the exterior girder. I'm assuming \$350k for the removal of the girder from the splice plate to the abutment. This would include removing and replacing the portion of the deck above the girder.
  - b. Cost for heat straightening and replacing damaged intermediate diaphragms and miscellaneous repairs would be around \$100k.
2. Super structure replacement. **I'm estimating the work at around \$710k**
  - a. Will depend on the capacity of the existing sub-structure and additional width of the bridge to bring it up to standard.



- b. Cost of new superstructure based on a 30ft. wide deck would be roughly \$580k.
  - c. Cost of raising the pier for clearance: \$30k
  - d. Cost for raising the grade on both ends to accommodate taller beams (existing girders would be 36 in. and new prestress would be 54 in.) : \$100k
3. Replacing the entire structure. **I'm estimating the cost at \$900k**
- a. Cost of new bridge based on a width of 30 ft. and length of 250 ft. would be approximately \$750k
  - b. Removing old structure \$50k
  - c. Cost for raising the grade on both ends for clearance (existing girders would be 36 in. and new prestress would be 54 in.) : \$100k

I did base all my estimated on other projects, but obviously these are rough estimates. Please keep in mind that this bridge is scoped for an overlay with an estimated cost of \$400K scheduled for 2027.

Thanks,

Gregory Haig, P.E.  
Bridge Maintenance Engineer  
Northwest Region, Eau Claire  
[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)  
cell. (715) 577-0646

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**From:** Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>  
**Sent:** Wednesday, August 26, 2020 8:25 AM  
**To:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>  
**Cc:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>; Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Thanks,

Greg, can you follow up with Ryan?

Randy

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**From:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>  
**Sent:** Wednesday, August 26, 2020 8:20 AM  
**To:** Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>  
**Cc:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>; Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>  
**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Hi Randy,

I have not received the preliminary estimate the region had. You said Greg was working up some rough numbers and was going to send them to BOS?

**Ryan Bowers, P.E. | Structures Asset Management Engineer**

Office: (608) 267-3577

[ryan.bowers@dot.wi.gov](mailto:ryan.bowers@dot.wi.gov) | [BOS Website](#)



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**From:** Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>

**Sent:** Wednesday, August 26, 2020 8:15 AM

**To:** Bowers, Ryan - DOT <[Ryan.Bowers@dot.wi.gov](mailto:Ryan.Bowers@dot.wi.gov)>

**Cc:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>; Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>

**Subject:** FW: Castle Mound Road over I-94 bridge hit (B-27-0053)

Hi Ryan,

Did you get all the information you needed from the region for this SCT submittal? Any guess on a timeframe when you will be able to make a recommendation on repair versus replace?

Thanks,

Randy

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**From:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>

**Sent:** Wednesday, August 26, 2020 7:20 AM

**To:** Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>; Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>

**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Any update on this bridge? I really to come up with a repair plan soon. Regardless of the route we go, this will have to be a let project due to it's cost.

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**From:** Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>

**Sent:** Tuesday, August 4, 2020 10:24 AM

**To:** Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>; Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>

**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Completed and submitted in SCT.

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**From:** Wincentsen, David - DOT <[David.Wincentsen@dot.wi.gov](mailto:David.Wincentsen@dot.wi.gov)>

**Sent:** Tuesday, August 4, 2020 9:23 AM

**To:** Haig, Gregory - DOT <[gregory.haig@dot.wi.gov](mailto:gregory.haig@dot.wi.gov)>; Kirk, Randall J - DOT <[randall.kirk@dot.wi.gov](mailto:randall.kirk@dot.wi.gov)>; Kern, Jeffrey - DOT <[Jeffrey.Kern@dot.wi.gov](mailto:Jeffrey.Kern@dot.wi.gov)>

**Cc:** Balsiger, Lee M - DOT <[Lee.Balsiger@dot.wi.gov](mailto:Lee.Balsiger@dot.wi.gov)>

**Subject:** RE: Castle Mound Road over I-94 bridge hit (B-27-0053)

Yes, and Randy please put the request in SCT for Superstructure replacement, and ask them to also complete a Benefit/ Cost Analysis for the structure replacement (if there is a notes field).