

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 7004

BRIDGE SAFETY INSPECTION REPORT

Facility 4 3/4 MILE RD	Latitude / Longitude 43.5688 / -84.3455	MDOT Structure ID 56314H00009B010	Structure Condition Good Condition(7)
Feature PINE RIVER	Length / Width 131.2 / 31.17	Owner County: Midland(56)	
Location @ GORDONVILLE RD	Built / Recon. / Paint / Ovly. 1997 / / /	TSC Mt. Pleasant(4A)	Operational Status A Open, no restriction(A)
Region / County Bay(4) / Midland(56)	Material / Design 5 Prestressed Concrete / 05 Multiple Box Beam	Last NBI Inspection 09/10/2015 / JC06	Scour Evaluation 5 Stable w/in footing



NBI INSPECTION

JC06

Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Eric Rickert	Great Lakes Engineering Group	24	09/10/2015

GENERAL NOTES

Good.

DECK

	09/11	09/13	09/15	
1. Surface (SIA-58A)	7	7	6	Concrete deck covered with healer/sealer in 2011. Only shoulders have healer/sealer left. Visible cracks in both spans. (09/15) Concrete deck covered with healer/sealer in 2011. Estimate 60% of healer/sealer worn off, visible cracks are sealed. (09/13) Concrete deck covered with healer/sealer in 2011. No visible cracks in surface (09/11)
2. Expansion Joints	7	6	6	E3 joints at both reference lines. Sealed construction joint at pier with chip in concrete adjacent to joint. 5% adhesion loss at joints. (09/15) E3 joints at both reference lines with joint material intact. Sealed construction joint at pier leaks. (09/13) At both joints, joint material is intact. (09/11)
3. Other Joints	6	N	N	(09/15) (09/13) Leakage on pier indicates joint over pier leaks (09/11)
4. Railings	7	7	7	Surface sealer on concrete railing, vertical cracks reflecting through sealer. (09/15) Surface sealer on concrete railing, cracks reflecting through sealer. (09/13) Surface sealer on concrete railing, cracks reflecting through sealer. (09/11)
5. Sidewalks or Curbs	N	N	N	(09/15) (09/13) (09/11)
6. Deck Bottom Surface (SIA-58B)	N	N	N	Side by side box beams (09/15) Side by side box beams (09/13) Side by side box beams (09/11)
7. Deck (SIA-58)	7	7	7	Deck partially covered with healer/sealer. Efflorescence at 1 joint at south abutment and pier. (09/15) Deck partially covered with healer/sealer. (09/13) Deck covered with healer/sealer (09/11)
8. Drainage				(09/15) (09/13) (09/11)

SUPERSTRUCTURE

	09/11	09/13	09/15	
9. Stringer (SIA-59)	7	7	7	Fascia beams have tight shrinkage cracks along length. Noted hairline shear crack in SE fascia. East fascia beam, at pier north span beam end has spall at bottom corner. (09/15) Fascia beams have tight shrinkage cracks along length. Noted hairline shear crack in SE fascia. East fascia beam, at pier north span beam end has spall at bottom corner. (09/13) Fascia beams have tight shrinkage cracks along length. Noted hairline shear crack in SE fascia. East fascia beam, at pier north span beam end has spall at bottom corner. (09/11)

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10. Paint (SIA-59A)	N	N	N	(09/15) (09/13) (09/11)
11. Section Loss	N	N	N	(09/15) (09/13) (09/11)
12. Bearings	8	8	8	Elastomeric pads in place (09/15) Elastomeric pads in place (09/13) Elastomeric pads in place (09/11)

SUBSTRUCTURE

	09/11	09/13	09/15	
13. Abutments (SIA-60)	8	8	8	Concrete curtainwall abutments with no visible cracks. (09/15) Concrete curtainwall abutments with no visible cracks. (09/13) Concrete curtainwall abutments with no visible cracks. (09/11)
14. Piers (SIA-60)	8	7	7	Evidence of leakage on both pier faces. Debris stuck on west end of pier removed. (09/15) Evidence of leakage on both pier faces. Debris stuck on west end of pier. (09/13) Evidence of leakage on both pier faces. (09/11)
15. Slope Protection	5	5	5	Estimate 50%-60% of riprap missing at north & south slopes with exposed fabric (09/15) Estimate 50%-60% of riprap missing at north & south slopes with exposed fabric (09/13) Estimate 30%-40% of riprap missing at north & south slopes (09/11)

APPROACH

	09/11	09/13	09/15	
16. Approach Pavement	8	8	8	Concrete approach slabs on bit road, no visible cracks in concrete (09/15) Concrete approach slabs on bit road, no visible cracks in concrete (09/13) Concrete approach slabs on bit road, no visible cracks in concrete (09/11)
17. Approach Shoulders Sidewalks	7	7	7	Gravel/grass shoulders (09/15) Gravel/grass shoulders (09/13) Gravel/grass shoulders (09/11)
18. Approach Slopes				Radius rail in SE and NW damaged (09/15) Radius rail in SE and NW replaced (09/13) Radius rail in SE and NW damaged by traffic. (09/11)
19. Utilities				Overhead west of bridge (09/15) Overhead west of bridge (09/13) None noted on bridge (09/11)
20. Channel (SIA-61)	7	7	7	Channel has vertical banks and flows through wide flood plain (09/15) Channel has vertical banks and flows through wide flood plain (09/13) Channel has vertical banks and flows through wide flood plain (09/11)
21. Drainage Culverts				(09/15) (09/13) (09/11)

MISCELLANEOUS

Guard Rail		Other Items	
Item	Rating	Item	Rating
36A. Bridge Railings	1	71. Water Adequacy	8
36B. Transitions	1	72. Approach Alignment	6
36C. Approach Guardrail	1	Temporary Support	0 No Temporary Supports

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36D. Approach Guardrail Ends	1	High Load Hit (M)	No
		Special Insp. Equipment	2
		Underwater Insp. Method	1

False Decking (Timber) Removed to Complete Inspection N/A - No False Decking

Critical Feature Inspections (SIA-92)

	<u>Freq</u>	<u>Date</u>
92A. Fracture Critical		
92B. Underwater		
92C. Other Special		
92D. Fatigue Sensitive		

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STRUCTURE INVENTORY AND APPRAISAL

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Bridge History, Type, Materials

27 - Year Built	1997
106 - Year Reconstructed	
202 - Year Painted	
203 - Year Overlay	
43 - Main Span Bridge Type	5 05
44 - Appr Span Bridge Type	
77 - Steel Type	0
78 - Paint Type	0
79 - Rail Type	6
80 - Post Type	2
107 - Deck Type	1
108A - Wearing Surface	1
108B - Membrane	0
108C - Deck Protection	1

Structure Dimensions

34 - Skew	5
35 - Struct Flared	0
45 - Num Main Spans	2
46 - Num Apprs Spans	0
48 - Max Span Length	65.3
49 - Structure Length	131.2
50A - Width Left Curb/SW	0
50B - Width Right Curb/SW	0
33 - Median	0
51 - Width Curb to Curb	28.87
52 - Width Out to Out	31.17
112 - NBIS Length	Y

Inspection Data

90 - Inspection Date	09/10/2015
91 - Inspection Freq	24
92A - Frac Crit Req/Freq	N
93A - Frac Crit Insp Date	
92B - Und Water Req/Freq	N
93B - Und Water Insp Date	
92C - Oth Spec Insp Req/Freq	N
93C - Oth Spec Insp Date	
92D - Fatigue Req/Freq	N
93D - Fatigue Insp Date	
176A - Und Water Insp Method	1
58 - Deck Rating	7
58A/B - Deck Surface/Bottom	6 N
59 - Superstructure Rating	7
59A - Paint Rating	N
60 - Substructure Rating	7
61 - Channel Rating	7
62 - Culvert Rating	N

Navigation Data

38 - Navigation Control	0
39 - Vertical Clearance	0
40 - Horizontal Clearance	0
111 - Pier Protection	
116 - Lift Brgd Vert Clear	

Route Carried By Structure(ON Record)

5A - Record Type	1
5B - Route Signing	4
5C - Level of Service	0
5D - Route Number	00000
5E - Direction Suffix	0
10L - Best 3m Unclr-Lt	0 0
10R - Best 3m Unclr-Rt	99 99
PR Number	
Control Section	
11 - Mile Point	0
12 - Base Highway Network	0
13 - LRS Route-Subroute	0000008936 07
19 - Detour Length	1
20 - Toll Facility	3
26 - Functional Class	09
28A - Lanes On	2
29 - ADT	485
30 - Year of ADT	1999
32 - Appr Roadway Width	27.89
32A/B - Ap Pvt Type/Width	4 27.99
42A - Service Type On	1
47L - Left Horizontal Clear	0.0
47R - Right Horizontal Clear	14.8
53 - Min Vert Clr Ov Deck	99 99
100 - STRAHNET	0
102 - Traffic Direct	2
109 - Truck %	10
110 - Truck Network	0
114 - Future ADT	721
115 - Year Future ADT	2019
Freeway	0

Structure Appraisal

36A - Bridge Railing	1
36B - Rail Transition	1
36C - Approach Rail	1
36D - Rail Termination	1
67 - Structure Evaluation	7
68 - Deck Geometry	5
69 - Underclearance	N
71 - Waterway Adequacy	8
72 - Approach Alignment	6
103 - Temporary Structure	
113 - Scour Criticality	5

Miscellaneous

37 - Historical Significance	1
98A - Border Bridge State	
98B - Border Bridge %	
101 - Parallel Structure	N
EPA ID	
Stay in Place Forms	
143 - Pin & Hanger Code	
148 - No. of Pin & Hangers	

Route Under Structure (UNDER Record)

5A - Record Type	
5B - Route Signing	
5C - Level of Service	
5D - Route Number	
5E - Direction Suffix	
10L - Best 3m Unclr-Lt	
10R - Best 3m Unclr-Rt	
PR Number	
Control Section	
11 - Mile Point	
12 - Base Highway Network	
13 - LRS Route-Subroute	
19 - Detour Length	
20 - Toll Facility	
26 - Functional Class	
28B - Lanes Under	
29 - ADT	
30 - Year of ADT	
42B - Service Type Under	5
47L - Left Horizontal Clear	
47R - Right Horizontal Clear	
54A - Left Feature	
54B - Left Underclearance	99 99
54C - Right Feature	
54D - Right Clearance	99 99
Under Clearance Year	
55A - Reference Feature	N
55B - Right Horiz Clearance	327.8
56 - Left Horiz Clearance	0
100 - STRAHNET	
102 - Traffic Direct	
109 - Truck %	
110 - Truck Network	
114 - Future ADT	
115 - Year Future ADT	
Freeway	

Proposed Improvements

75 - Type of Work	
76 - Length of Improvement	
94 - Bridge Cost	
95 - Roadway Cost	
96 - Total Cost	
97 - Year of Cost Estimate	

Load Rating and Posting

31 - Design Load	5
41 - Open, Posted, Closed	A
63 - Fed Oper Rtg Method	1
64F - Fed Oper Rtg Load	60.9
64MA - Mich Oper Rtg Method	
64MB - Mich Oper Rtg	85
64MC - Mich Oper Truck	
65 - Inv Rtg Method	1
66 - Inventory Load	36.5
70 - Posting	5
141 - Posted Loading	
193 - Overload Class	

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WORK RECOMMENDATIONS

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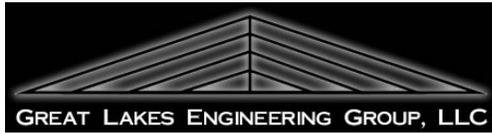
WORK RECOMMENDATIONS

JC06

Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Eric Rickert	Great Lakes Engineering Group	24	09/10/2015

RECOMMENDATIONS & ACTION ITEMS

Recommendation Type	Priority	Description
Railing Repair	L	Fix NW and SE approach rail
Joint Repair	L	Reseal joints
Overlay	M	New healer/sealer within next 4 years



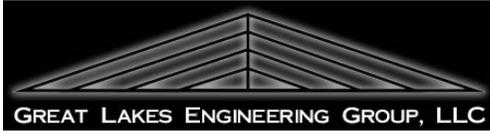
Midland County 2015 Bridge Inspections
4 3/4 Mile Rd over Pine River
SN 7004
GLEG Project No. 1015-2-336
September 10, 2015

*Road and
bridge section
facing south*



*Concrete
surface with
worn off
healer/sealer*





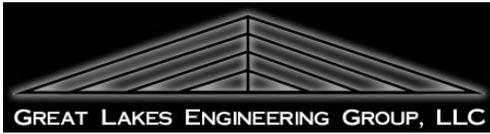
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End joint



Bridge railing





Midland County 2015 Bridge Inspections
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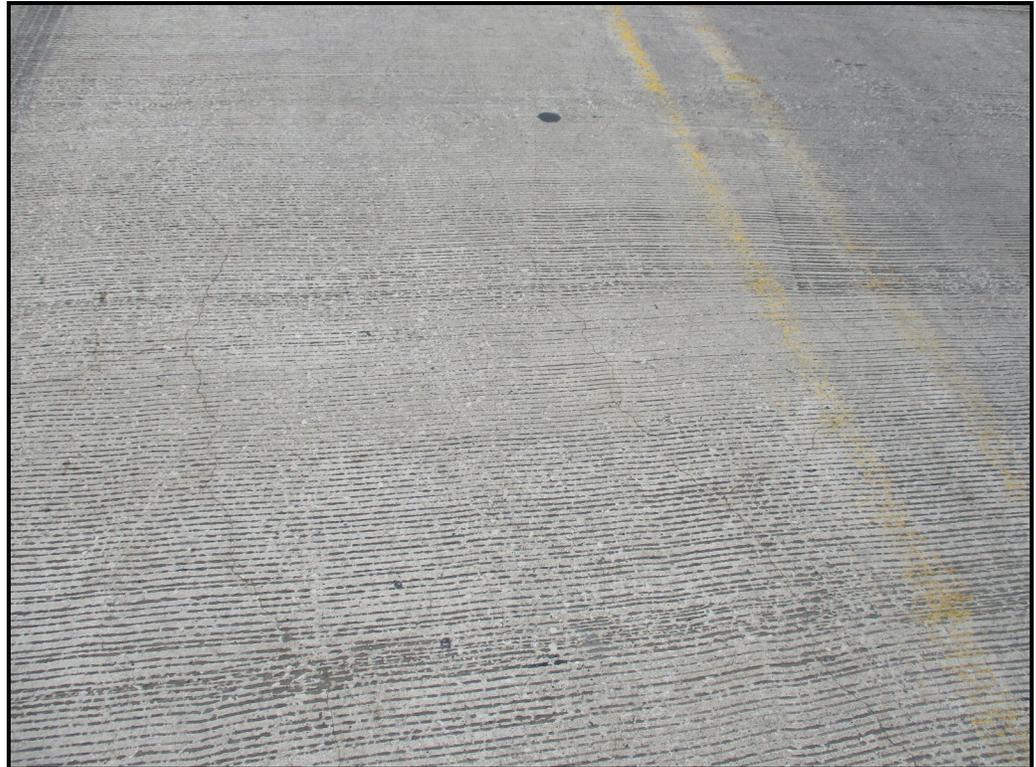
*Upstream
channel section*



*Downstream
channel section*



*Hairline cracks
in concrete
surface*



Joint over pier



South end joint



*Damaged
approach rail
in SE quad*



*East elevation
of bridge*



*South
abutment*



Pier



*Bottom of box
beams*

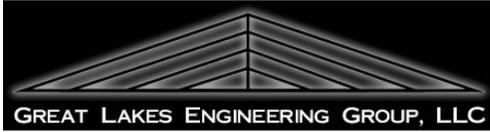


*Leakage on
pier*



*North
abutment*





Midland County 2015 Bridge Inspections
4 3/4 Mile Rd over Pine River
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*West elevation
of bridge*

