



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURE MANAGEMENT UNIT

ATTENTION: HURRICANE MATTHEW DAMAGE , GRADING ON
DAMAGE ONLY ROAD CLOSED PM ISSUED POA
SCOUR

Structure Safety Report Supplemental Element Inspection

COUNTY: COLUMBUS STRUCTURE NUMBER: 230188 FREQUENCY: None

FACILITY CARRIED: SR1516 MILE POST:

LOCATION: 0.3 MI E. JCT SR1515

FEATURE INTERSECTED: BRIER CREEK

LATITUDE: 34° 27' 24.13" LONGITUDE: 78° 54' 6.46"

SUPERSTRUCTURE: RC FLOOR/TIMBER JOISTS (BMD-10)

SUBSTRUCTURE: EBTS&IBT:TIM CAP/TIM PILES;ADDED STL.CRUTCH BENTS BOTH SIDES BT 1

SPANS: 2@17'-10"

☐ FRACTURE CRITICAL ☐ TEMPORARY SHORING ☐ SCOUR CRITICAL ☒ SCOUR PLAN OF ACTION

PRESENT CONDITION: Poor INSPECTION DATE: 10/13/2016

POSTED SV: 23 POSTED TTST: 38

OTHER SIGNS PRESENT: 2 DELINEATORS



Sign noticed issued for		Number Required
NO	WEIGHT LIMIT	0
YES	DELINEATORS	2
NO	NARROW BRIDGE	0
NO	ONE LANE BRIDGE	0
NO	LOW CLEARANCE	0

DIRECTION OF INSPECTION	W-E
DIRECTION MATCHES PLANS	NO PLANS

LOOKING EAST ROAD CLOSED

INSPECTED BY Ray L. Kisner	SIGNATURE <i>Ray L. Kisner</i>	ASSISTED BY Debra Kristensen
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Structure Element Scoring

Structure Number: **230188**

Inspection Date **10/13/201**
6

Element Number	Parent Number	Element Name	Location	Total Quantity	Level 1 Quantity	Level 2 Quantity	Level 3 Quantity	Level 4 Quantity
12	0	Reinforced Concrete Deck	Deck	907	804	9	94	0
111	0	Timber Open Girder/Beam	Beam	608	606	2	0	0
216	0	Timber Abutment	Abutments	64	54	10	0	0
225	0	Steel Pile	Piles and Columns	6	6	0	0	0
515	225	Steel Protective Coating	Piles and Columns	366	366	0	0	0
228	0	Timber Pile	Piles and Columns	12	10	0	2	0
231	0	Steel Pier Cap	Caps	52	52	0	0	0
515	231	Steel Protective Coating	Caps	316	316	0	0	0
235	0	Timber Pier Cap	Caps	78	57	6	15	0
301	0	Pourable Joint Seal	Expansion Joints	26	0	0	26	0
331	0	Reinforced Concrete Bridge Railing	Bridge Rail	72	72	0	0	0
510	0	Wearing Surface	Wearing Surfaces	910	910	0	0	0

Element Structure Maintenance Quantities

Structure Number: **230188**

Inspection Date **10/13/2016**

Location	MMS Code	Description	Maint Quantity	Total Quantity	Severe Quantity	Poor Quantity	Fair Quantity	Good Quantity
Abutments	3346	Maintenance of Timber Bulkheads or Wingwalls	10	64	0	0	10	54
Beam	3304	Maintenance of Timber of Superstructure Components	2	608	0	0	2	606
Bridge Rail	3318	Maintenance of Concrete Bridge Rail	0	72	0	0	0	72
Caps	3342	Clean and Paint Steel	0	316	0	0	0	316
Caps	3344	Maintenance To Timber Substrcutre	21	78	0	15	6	57
Caps	3354	Maintenance of Steel Substructure Components	0	52	0	0	0	52
Deck	3326	Maintenance of Concrete Deck	103	907	0	94	9	804
Expansion Joints	3310	Maintenance of Standard Bridge Expansion Joints	26	26	0	26	0	0
Piles and Columns	3342	Clean and Paint Steel	0	366	0	0	0	366
Piles and Columns	3344	Maintenance To Timber Substrcutre	2	12	0	2	0	10
Piles and Columns	3354	Maintenance of Steel Substructure Components	0	6	0	0	0	6
Wearing Surfaces	2816	Asphalt Surface Repair	0	910	0	0	0	910

Element Condition and Maintenance Data

Structure Number: 230188

Inspection Date: 10/13/2016

Span 1

Reinforced Concrete Deck 1

Reinforced Concrete Deck

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	455	407	5	43	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
0			0	0	0

General Comments

43 Square Feet of Cracking (RC and Other): Width greater than 0.05 in. or spacing of less than 1 ft. HAIRLINE MAP CRACKING IN RIGHT SHOULDER
 2 Square Feet of Delamination/Spall/Patched Area: Delaminated. Spall 1 in. or less deep or 6 in. or less in diameter. Patched area that is sound. SOUND PATCH IN RIGHT SHOULDER AT BENT 1
 1 Square Feet of Delamination/Spall/Patched Area: Delaminated. Spall 1 in. or less deep or 6 in. or less in diameter. Patched area that is sound. SPAN 1 LEFT CURB AT NORTHWEST CORNER SPALL 7" LONG X 3" WIDE X 2" HIGH
 2 Square Feet of Delamination/Spall/Patched Area: Delaminated. Spall 1 in. or less deep or 6 in. or less in diameter. Patched area that is sound. SOUND PATCH IN LEFT SHOULDER AT BENT 1

Span 2

Reinforced Concrete Deck 1

Reinforced Concrete Deck

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
12	Reinforced Concrete Deck	452	397	4	51	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
0			0	0	0

General Comments

2 Square Feet of Delamination/Spall/Patched Area: Delaminated. Spall 1 in. or less deep or 6 in. or less in diameter. Patched area that is sound. SOUND PATCH IN RIGHT SHOULDER AT BENT 1
 43 Square Feet of Cracking (RC and Other): Width greater than 0.05 in. or spacing of less than 1 ft. HAIRLINE MAP CRACKING IN RIGHT SHOULDER
 2 Square Feet of Delamination/Spall/Patched Area: Delaminated. Spall 1 in. or less deep or 6 in. or less in diameter. Patched area that is sound. SOUND PATCH IN LEFT SHOULDER AT BENT 1
 8 Square Feet of Cracking (RC and Other): Width greater than 0.05 in. or spacing of less than 1 ft. 2" WIDE X 4" LONG HAIRLINE MAP CRACKING NEAR END BENT 2 IN LEFT SHOULDER

Span 2

Timber Joist 19

Timber Joist

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
111	Timber Open Girder/Beam	16	14	2	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
0			0	0	0

General Comments

2 Feet of Check/Shake: Penetrates 5% - 50% of the thickness of the member and not in a tension zone. 2" LONG X 1" HIGH X 1/2" DEEP SHAKE ON BOTTOM EXTERIOR CORNER

Span 2**Standard Joint 1****Standard Joint**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
301	Pourable Joint Seal	26	0	0	26	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
0			0	0	0

General Comments

26 Feet of Leakage: Moderate. More than a drip and less than free flow of water. MATERIAL MISSING , AND LEAKING

Bent 1**Timber Pier Cap 1****Timber Pier Cap**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
235	Timber Pier Cap	26	14	0	12	0 Feet
515	Steel Protective Coating	56	56	0	0	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
0			0	0	0

General Comments

2 Feet of Split/Delamination (Timber): Length equal to or greater than the member depth but does not require structural review. END BENT 1 TIMBER CROWNSTRIP IS DELAMINATED UNDER JOIST 8

6 Feet of Split/Delamination (Timber): Length equal to or greater than the member depth but does not require structural review. END BENT 1 TIMBER CROWNSTRIP DELAMINATED FROM LEFT END TO JOIST 3

END BENT 1 TIMBER CAP IS ROTATED BACK 1/2" OFF PILE 3 , NOT BEARING ON PILE 3 ONLY, ALL OTHER PILES SEATED (PHOTO # 7101)

4 Feet of Split/Delamination (Timber): Length equal to or greater than the member depth but does not require structural review. NORTH END OF CROWNSTRIP HAS 1/2" WIDE X 4" LONG SPLIT

Bent 1**Timber Abutment 1****Timber Abutment**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
216	Timber Abutment	32	24	8	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
0			0	0	0

General Comments

8 Feet of Decay/Section Loss: Affects less than 10% of the member section BOTTOM ABUTMENT BOARD DECAYED BETWEEN PILES 2 AND 3

Bent 1**Timber Pile 2****Timber Pile**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
228	Timber Pile	1	0	0	1	0 Each

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
0			0	0	0

General Comments

1 Each of Decay/Section Loss: Affects 10% or more of the member but does not warrant structural review. PILE

DECAYED FULL CIRCUMFERENCE X 3" HIGH X 2" TO 3" DEEP

Bent 1**Timber Pile 4****Timber Pile**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
228	Timber Pile	1	0	0	1	0 Each

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
0			0	0	0

General Comments

BENT 1 PILE 4 TIMBER ENCASED WITH CONCRETE (PHOTO # 7095) TEMPORARY REPAIR
 1 Each of Decay/Section Loss: Affects 10% or more of the member but does not warrant structural review. PILE
 DECAYED 6" DIAMETER X 3" DEEP ABOVE ENCASEMENT

Bent 2**Timber Pier Cap 1****Timber Pier Cap**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
235	Timber Pier Cap	26	17	6	3	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
0			0	0	0

General Comments

3 Feet of Split/Delamination (Timber): Length equal to or greater than the member depth but does not require structural review. NORTH END OF END BENT 2 CROWNSTRIP SPLIT 1/2" WIDE X 3" LONG
 2 Feet of Decay/Section Loss: Affects less than 10% of the member section. END BENT 2 CROWNSTRIP DECAYED 2" DEEP UNDER JOIST 5
 4 Feet of Decay/Section Loss: Affects less than 10% of the member section. END BENT 2 CROWNSTRIP DECAYED 2" DEEP UNDER JOISTS 1 THRU 3

Bent 2**Timber Abutment 1****Timber Abutment**

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
216	Timber Abutment	32	30	2	0	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
0			0	0	0

General Comments

2 Feet of Decay/Section Loss: Affects less than 10% of the member section END BENT 2 ABUTMENT DECAYED 2" AT SOUTHEAST CORNER

Elements Verified

Location	Name	Component	Element Name	Amount
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National Bridge and NC Inspection Items

Structure Number: 230188

Inspection Date: 10/13/2016

National Bridge Inventory Items

Item	Grade Scale	Grade
Item 58: Deck	0 - 9 , N	
Item 59: Superstructure	0 - 9 , N	
Item 60: Substructure	0 - 9 , N	
Item 61: Channel and Channel Protection	0 - 9 , N	
Item 62: Culvert	0 - 9 , N	
Item 71: Waterway Adequacy	0 - 9 , N	
Item 72: Approach Roadway Alignment	0 - 9 , N	0

Note: If NBI Inspection Item is not present, code NBI item with "N"

NC SMU Inspection Items

Item	Grade Scale	Grade	Maint. Qty.	Maint. Code
Deck Debris	G, F, P, or C			
Drainage System	G, F, P, or C			
Utilities	G, F, P, or C			
Slope Protection	G, F, P, or C	C	13260	3352
Scour	G, F, P, or C	C		
Wingwall	G, F, P, or C			
Field Scour Evaluation				
Drift	G, F, P, or C			
Fender System	G, F, P, or C			
Movable Span Machinery	G, F, P, or C			
Response to Live Load	G, F, P, or C			
Estimated Remaining Life	0 - 100 Years			
Superstructure Paint Code				

Note: If NC SMU Inspection Item is not present, leave NC SMU item blank

Inspection Information

Item	Grade Scale	Grade
Regulatory Sign Noticed Issued	YES/NO	Y
Priority Maintenance Request Submitted	YES/NO	Y
Inspection Time	Hours	2
Traffic Control Time	Hours	
Snooper Time	Hours	
Ladder Used	YES/NO	
Bucket Truck Used	YES/NO	
Boat Used	YES/NO	
Other Equipment Used	YES/NO	

National Bridge and NC SMU Inspection Item Details

Structure Number: 230188

Inspection Date: 10/13/2016

Item	Approach Roadway Alignment - Item 72	Grade	0	Maint Code		Qty.	0
Details	EAST APPROACH WASHOUT BEHIND ABUTMENT 2 30' LONG X 34' WIDE X 13' DEEP (13,260 SQ. FT.) PM ISSUED						
Item	Regulatory Sign Notice Issued	Grade	Y	Maint Code		Qty.	0
Details	2 DELINEATORS MISSING						
Item	Priority Maintenance Issued	Grade	Y	Maint Code		Qty.	0
Details	EAST APPROACH WASHOUT BEHIND ABUTMENT 2 30' LONG X 34' WIDE X 13' DEEP (13,260 SQ. FT.) PM ISSUED						
Item	Slope Protection	Grade	C	Maint Code	3352	Qty.	13260
Details	EAST APPROACH WASHOUT BEHIND ABUTMENT 2 30' LONG X 34' WIDE X 13' DEEP (13,260 SQ. FT.) PM ISSUED						
Item	Scour	Grade	C	Maint Code		Qty.	0
Details	SCOUR POA : DIFFERENCE FROM 2009 REPORT DOWNSTREAM END BENT 2 9.5 FT. SCOUR UPSTREAM END BENT 2 8.1 FT. OF SCOUR UPSTREAM END BENT 1 6.5 FT. OF SCOUR						
Item	Estimated Remaining Life	Grade		Maint Code		Qty.	0
Details	STREAM CHANNEL HAS MOVED EAST WITH SCOUR BEHIND ABUTMENT 2 NOT SURE IF STRUCTURE CAN BE REPAIRED / OR REPLACEMENT .						



EAST APPROACH WASHOUT BEHIND ABUTMENT 2 30' LONG X 34' WIDE X 13' DEEP (13,260 SQ. FT.) PM
ISSUED



LOOKING EAST ROAD CLOSED