



NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 BRIDGE MANAGEMENT UNIT

ATTENTION

PRIORITY MAINTENANCE ISSUED ON ANCHOR BOLTS.

# BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY JOHNSTON BRIDGE NUMBER 500037 INSPECTION CYCLE 2 YRS  
 ROUTE US301&701& ACROSS CSX RR M.P. 0

LOCATION 0.2 MI N JCT US701&US301

SUPERSTRUCTURE REINF. CONC. FLOOR ON I-BEAMS

SUBSTRUCTURE ABUTS:RC SPILL-THROUGH,INT.BTS:RCP&B

SPANS 1@38';1@37'6";1@47'6";1@32'6";1@33'

LONGITUDE 78° 23' 21.1" LATITUDE 35° 27' 1.4"

PRESENT CONDITION FAIR INVENTORY RATING \_\_\_\_\_

INSPECTION DATE 11/21/2011 OPERATING RATING \_\_\_\_\_

PRESENT POSTING Not Posted **NOT POSTED** PROPOSED POSTING \_\_\_\_\_

COMPUTER UPDATE \_\_\_\_\_ ANALYSIS DATE \_\_\_\_\_

POSTING LETTER DATE \_\_\_\_\_ SUFFICIENCY RATING \_\_\_\_\_

OTHER SIGNS PRESENT 3 DELINEATORS



LOOKING NORTH

SIGN NOTICE ISSUED FOR	NUMBERED REQUIRED
<u>No</u> WEIGHT LIMIT	_____
<u>No</u> DELINEATORS	_____
<u>No</u> NARROW BRIDGE	_____
<u>No</u> ONE LANE BRIDGE	_____
<u>No</u> LOW CLEARANCE	_____

NATIONAL BRIDGE INVENTORY----- STRUCTURE INVENTORY AND APPRAISAL

Run Date: 12/21/2011

**IDENTIFICATION**

(1) STATE NAME -NORTH CAROLINA BRIDGE **500037**  
 (8) STRUCTURE NUMBER(FEDERAL) 000000001010037  
 (5) INVENTORY ROUTE (ON/UNDER) - ON 21003010  
 (2) STATE HIGHWAY DEPARTMENT DISTRICT 3  
 (3) COUNTY CODE 101 (4) PLACE CODE 00000  
 (6) FEATURE INTERSECTED - CSX RR  
 (7) FACILITY CARRIED US301&701  
 (9) LOCATION 0.2 MI N JCT US701&US301  
 (11)MILEPOINT 0  
 (16)LAT 35° 27' 1.4" (17)LONG 78° 23' 21.1"  
 (98)BORDER BRIDGE STATE CODE PCT SHARE  
 (99)BORDER BRIDGE STRUCTURE NO

SUFFICIENCY RATING = 55.9  
 STATUS = Functionally Obsolete

**CLASSIFICATION** **CODE**

(112)NBIS BRIDGE SYSTEM - YES  
 (104)HIGHWAY SYSTEM Is not on NHS 0  
 (26) FUNCTIONAL CLASS - Other Principal Arterial 14  
 (100)STRAHNET HIGHWAY - Not a STRAHNET Route 0  
 (101)PARALLEL STRUCTURE - No Parallel Structure N  
 (102)DIRECTION OF TRAFFIC - 2-way Traffic 2  
 (103)TEMPORARY STRUCTURE -  
 (110)DESIGNATED NATIONAL NETWORK - Not on the National Network 0  
 (20) TOLL On Free Road 3  
 (31) MAINTAIN - State Highway Agency 01  
 (22) OWNER - State Highway Agency 01  
 (37) HISTORICAL SIGNIFICANCE - Not Eligible 5

**STRUCTURE TYPE AND MATERIAL**

(43) STRUCTURE TYPE MAIN: Steel  
 TYPE - Stringer Multibeam or Girder CODE 302  
 (44) STRUCTURE TYPE APPR :  
 TYPE - CODE 000  
 (45) NUMBER OF SPANS IN MAIN UNIT 5  
 (46) NUMBER OF APPROACH SPANS  
 (107)DECK STRUCTURE TYPE - 1 CODE  
 (108)WEARING SURFACE / PROTECTIVE SYSTEM :  
 (A) TYPE OF WEARING SURFACE - CODE  
 (B) TYPE OF MEMBRANE - CODE  
 (C) TYPE OF DECK PROTECTION - CODE

**CONDITION** **CODE**

(58) DECK 5  
 (59) SUPERSTRUCTURE 5  
 (60) SUBSTRUCTURE 5  
 (61) CHANNEL & CHANNEL PROTECTION N  
 (62) CULVERTS N

**LOAD RATING AND POSTING** **CODE**

(31) DESIGN LOAD HS 20 5  
 (63) OPERATING RATING METHOD - Load Factor  
 (64) OPERATING RATING - HS-34 161  
 (65) INVENTORY RATING METHOD - Load Factor  
 (66) INVENTORY RATING - HS-20 136  
 (70) BRIDGE POSTING - No Posting Required 5  
 (41) STRUCTURE OPEN, POSTED ,OR CLOSED A  
 DESCRIPTION - Open, No Restriction

**AGE AND SERVICE**

(27) YEAR BUILT 1926  
 (106)YEAR RECONSTRUCTED 1954  
 (42) TYPE OF SERVICE : ON - Highway  
 UNDER - Railroad CODE 12  
 (28) LANES: ON STRUCTURE 2 UNDER STRUCTURE  
 (29) AVERAGE DAILY TRAFFIC 8000  
 (30) YEAR OF ADT 2010 (109) TRUCK ADT PCT 12%  
 (19) BYPASS OR DETOUR LENGTH 6 MI

**APPRAISAL** **CODE**

(67) STRUCTURAL EVALUATION 5  
 (68) DECK GEOMETRY 2  
 (69) UNDERCLEARANCES,VERTI & HORIZ 4  
 (71) WATERWAY ADEQUACY N  
 (72) APPROACH ROADWAY ALIGNMENT 8  
 (36) TRAFFIC SAFETY FEATURES 0000  
 (113)SCOUR CRITICAL BRIDGES N

**GEOMETRIC DATA**

(48) LENGTH OF MAXIMUM SPAN 48 FT  
 (49) STRUCTURE LENGTH 188 FT  
 (50)CURB OR SIDEWALK: LEFT 1.5 FT RIGHT 1.5 FT  
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 30.3 FT  
 (52) DECK WIDTH OUT TO OUT 33.5 FT  
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 29 FT  
 (33) BRIDGE MEDIAN - No Median CODE 0 FT  
 (34) SKEW 40° (35) STRUCTURE FLARED 0  
 (10) INVENTORY ROUTE MIN VERT CLEAR 999.9 FT  
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 30.3 FT  
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 999.9 FT  
 (54) MIN VERT UNDERCLEAR REF Not a Highway or Railroad 0 FT  
 (55) MIN LAT UNDERCLEAR RT REF Not a Highway or Railroad 000 FT  
 (56) MIN LAT UNDERCLEAR LT REF - 000 FT

**PROPOSED IMPROVEMENTS** **CODE**

(75) TYPE OF WORK - CODE  
 (76) LENGTH OF STRUCTURE IMPROVEMENT  
 (94) BRIDGE IMPROVEMENT COST  
 (95) ROADWAY IMPROVEMENT COST  
 (96) TOTAL PROJECT COST  
 (97) YEAR OF IMPROVEMENT COST ESTIMATE  
 (114)FUTURE ADT 16000 (115) YEAR FUTURE ADT 2025

**INSPECTIONS**

(90) INSPECTION DATE 11/21/2011  
 (92) CRITICAL FEATURE INSPECTION : (93) CFI DATE  
 A) FRACTURE CRIT DETAIL - NO A)  
 B) UNDERWATER INSP - NO B)  
 C) OTHER SPECIAL INSP NO C)  
 SCOUR

**NAVIGATION DATA**

(38) NAVIGATION CONTROL - Not Applicable CODE N  
 (111)PIER PROTECTION - CODE  
 (39) NAVIGATION VERTICAL CLEARANCE 0  
 (116)VERT - LIFT BRIDGE NAV MIN VERT CLEAR FT  
 (40) NAVIGATION HORIZONTAL CLEARANCE 0 FT

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 12/21/2011

COUNTY : JOHNSTON DIVISION : 4 DISTRICT : 3 STRUCTURE NUMBER : 500037 LENGTH : 188 FEET

ROUTE CARRIED : US301&701 FEATURE INTERSECTED : CSX RR

LOCATED : 0.2 MI N JCT US701&US301 BRIDGE NAME : CITY :

FUNC. CLASS : 14 SYST.ON : FA SYST.UNDER : NFA ADT & YR : 8000 2010 RAIL TYPE : LT 111 RT 111

BUILT : 1926 BY : SHPWC PROJ : 2334 FED.AID PROJ : DESIGN LOAD : HS 20

REHAB : 1954 BY : SHPWC PROJ : ALIGNMENT : TAN. SKEW : 50 LANES : ON 2 UNDER

NAVIGATION : VC 0 FT HC 0 FT HT. CRN. TO BED : 0 FT WATER DEPTH : 0 FT

SUPERSTRUCTURE : REINF. CONC. FLOOR ON I-BEAMS

SUBSTRUCTURE : ABUTS:RC SPILL-THROUGH,INT.BTS:RCP&B

SPANS : 1@38';1@37'6;1@47'6;1@32'6;1@33'

BEAMS OR GIRDERS : 5 LINES VARYING SIZE I-BEAMS @ 6'10 CENTERS

FLOOR : ENCROACHMENT : DECK (OUT TO OUT) : 33.5 FT

CLEAR ROADWAY : 30.3 FT BETWEEN RAILS : 33.3 FT SIDEWALK OR CURB : LT 1.5 FT RT 1.5 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. : HS-20 OPE.RTG. : HS-34 CONTR.MEMBER : EXTERIOR BEAM D EXT BEAM POSTED : SV TTST DATE

SYSTEM : Primary U.S. Route GREEN LINE ROUTE : Y

UNDER ROUTES AND CLEARANCES

REMARKS :



# BRIDGE INSPECTION RECORD AND SUMMARY

INSPECTION TYPE Routine Inspection  
 BRIDGE NO. 500037 COUNTY JOHNSTON ROUTE US301&701& OVER CSX RR  
 STRUCTURE TYPE REINF. CONC. FLOOR ON I-BEAMS  
 ROUTE ORIENTATION S - N SPANS 1@38';1@37'6";1@47'6";1@32'6";1@33'

EVALUATION CODES: CRITICAL (C, 0 - 3); POOR (P, 4); FAIR (F, 5, 6); GOOD (G, 7 - 9)

INSPECTION ITEM				ITEM 61				
DECK ITEMS			GRADES					
1. WEARING SURFACE			G	45. CHANNEL & CHANNEL PROT.	a. WATERWAY			
2. DECK NO. OF EA TYPE SPN GRADE RATES SI & A ITEM 58	a. CONCRETE		5		b. ALIGNMENT			
	b. TIMBER				c. SCOUR			
	c. STEEL PLANK				d. SLOPE PROT., RIP-RAP, DIKES, ETC.			
	d. OPEN GRID			50. APPROACH ROADWAY CONDITION			F	
3. RAILING	a. CONCRETE		F	51. APPROACH SLABS				
	b. TIMBER			52. PAINT SYSTEM		CODE	A	P
	c. ALUMINUM			53. UTILITIES				
	d. STEEL			54. RESPONSE TO LIVE LOAD				G
4. CURBS, WHEELGUARDS, PARAPETS, MEDIANS			F	55. ESTIMATED REMAINING LIFE		10		
5. WALKWAYS (ON OR ATTACHED TO STRUCTURE)				60. REGULATORY SIGN NOTICE ISSUED		NO		
6. DECK EXP JTS. OR DEVICES. NO. OF EACH	a. STEEL PL OR FINGER			61. PROMPT-ACTION NOTICE ISSUED		YES		
	b. MISC PREFAB			62. PRESENTLY POSTED		NO		
	c. COMPRESSION SEAL			63. TOT. FIELD INSP TIME (INCLUDE WRITE UP)(MAN HR)		10		
	d. STANDARD JOINTS		4	G	64. TOTAL SNOOPER INSP. TIME (HRS)		0	
	e. OPEN JOINTS				65. TOTAL TRAFFIC CONTROL TIME (MAN HRS)		0	
7. DECK DEBRIS (INCLUDES EXCESS SAND/GRAVEL)			F	70. SI&A GENERAL CONDITION RATINGS				
SUPER STR. (FM. 1 (90)B TRUSS) ITEM 59				a. DECK		ITEM 58	5	
10. LONGITUDINAL BEAMS OR GIRDERS			F	b. SUPERSTRUCTURE		ITEM 59	5	
11. LONGITUDINAL JOIST OR STRINGERS				c. SUBSTRUCTURE		ITEM 60	5	
12. INT. DIAP'S, X-FRAMES, BRACING & CONN'S			G	d. CHANNEL & CHANNEL PROT.		ITEM 61		
13. END DIAP'S, CURTAIN WALLS, & CONN'S			F	71. SI&A FIELD APPRAISAL RATINGS				
14. FLOOR BEAMS AND CONNECTIONS				a. WATERWAY ADAQUACY				
15. BEARING ASSEMBLIES (INCLUDING MISALIGN) <i>3/6/12 TSE P F</i>				b. APPR. RDWY. ALIGNMENT		7		
16. DRAINAGE SYSTEM (ON STRUCTURE)			P	72. FIELD SCOUR EVALUATION				
17. MOVABLE SPAN MACHINERY				USE OF INSP. ACCESSIBILITY EQUIPMENT				
SUB STR. ITEMS. ITEM 60 (INCLUDE SCOUR)				SNOOPER (CODE S, 4, OR N)		HRS	NO	
35. TIM SUB STR.	a. ABUT. & INT. BENT CAPS & RISERS			LADDER		YES		
	b. PILES, POST, SILLS, & BRACING			BUCKET TRUCK		NO		
	c. BULKHEADS, WING'S, & TIE BACKS			BOAT		NO		
36. CONC SUB STR.	a. ABUT. & INT. BENT CAPS		F	OTHER		NO		
	b. ABUT. & BENT COL'S BREASTWALLS		F					
	c. ABUT. & INT. BENT PILES							
	d. BACKWALLS, WING'S, RETAIN. WALLS		F					
	e. ABUT. & BENT FOOTINGS & SILLS							
37. STEEL SUB STR.	a. ABUT. & INT. BENT CAPS & RISERS			SPECIAL INSPECTION REQUESTED FOR				
	b. PILES, BRACING, AND BULKHEADS							
38. FOUNDATION PILES TYPE MATERIAL				NOTE				
39. SLOPE PROT., RIP-RAP (INCLUDE DRAINAGE)			F	80. INSPECTED BY: <i>K. C. Myr</i>				
40. FENDER SYSTEMS				81. REVIEWED BY:				
41. DRIFT								

Bridge I&A Form 1(82)H <b>State of North Carolina</b> <b>Dept. of Transportation</b> <b>Division of Highways</b>		<b>FIELD INSPECTION REPORT</b> <u>Bridge Inspection &amp; Analysis</u>	
Team Leader <b>WILLIS C MAY</b>			
Assisted By <b>WTW</b>			
Item No.	Grade		
2a	F	CONCRETE DECK BOTTOM OF DECK HAS RANDOM HAIRLINE TRANSVERSE AND MAP CRACKS. RANDOM HAIRLINE TRANSVERSE CRACKS IN BOTTOM OF OVERHANGS , SOME EXTENDING UP VERTICAL FACE. HAIRLINE DIAGONAL CRACK WITH EFFLORESCENCE ON BOTTOM OF DECK IN BAY 4 AT END BENT 2 .	
3a	F	CONCRETE RAILING: SCALING WITH EXPOSED COARSE AGGREGATE AND HAIRLINE MAP CRACKS IN FACES. LEFT SIDE CONCRETE RAIL AT END BENT 1 SPALLED 6" DIAMETER. X 1-1/2" DEEP WITH REBAR EXPOSED.	
4	F	CURBS CURBS SCALED IN PLACES WITH EXPOSED COARSE AGGREGATE. RANDOM TRANSVERSE CRACKS AND SEVERAL SURFACE SPALLS WITH SHORT SECTIONS OF REBAR EXPOSED.	
6d	G	STANDARD JOINTS: JOINTS HAVE BEEN RESEALED.	
7	F	DECK DEBRIS: DIRT AND VEGETATION 6" DEEP AND OUT 1 FT. WIDE ALONG CURBS.	

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Team Leader <b>WILLIS C MAY</b>			
Assisted By <b>WTW</b>			
Item No.	Grade		
10	F	<p>LONGITUDINAL BEAMS:            BEAM, WEBS AND FLANGES RUSTY AND SCALED AT BENTS.            FROM 1/16 TO 1/8 IN. SECTION LOSS 1 IN. WIDE IN WEBS AROUND DIAPHRAGMS.            EXTERIOR BEAM BOTTOM FLANGE RUST SCALED AT END BENTS.</p> <p>SPAN 1 AT BENT 1            BEAM 1 SPAN 1 AT BENT 1 HAS SECTION LOSS WITH 7/16 IN. REMAINING IN WEB 3 IN. HIGH X 5 FT. LONG.            BEAM 5 SPAN 1 AT BENT 1 HAS SECTION LOSS WITH 7/16 IN. REMAINING IN WEB 3 IN. HIGH X 4 FT. LONG AND 1/2 IN. REMAINING IN BOTTOM FLANGE 5 FT. LONG.</p> <p>SPAN 2 AT BENT 1            BEAM 1 SPAN 2 BENT 1 HAS SECTION LOSS IN WEB WITH 3/8 IN. REMAINING 4 IN. X 10 IN. UNDER DIAPHRAGM. OTHER BEAMS AT BENT 1 HAVE SURFACE IN BOTTOM FLANGES OUT 2 FT.            BOTTOM FLANGES OF SPAN 2 BEAMS AT BENT 2 HAVE SECTION LOSS WITH 15/32 TO 7/16 IN. REMAINING OUT 1 TO 2 FT.</p> <p>SPAN 3 AT BENT 2            BEAM 1 SPAN 3 BENT 2 HAS SECTION LOSS WITH 1/2 IN. REMAINING IN WEB 6 IN. HIGH X 4 FT. LONG AND 9/16 IN. REMAINING IN BOTTOM FLANGE 4 FT. LONG.            BEAMS 2 THRU 4 AT BENT 2 HAVE RUST SCALE IN BOTTOM FLANGE OUT 2 FT.            BEAM 5 SPAN 3 BENT 2 HAS SECTION LOSS IN WEB WITH 1/2 IN. REMAINING 12 IN. X 12 IN. AND 6 IN. HIGH X 3 FT. LONG, BOTTOM FLANGE HAS SECTION LOSS WITH 3/4 IN. REMAINING 3 FT. LONG.</p> <p>SPAN 3 AT BENT 3            BEAM 1 SPAN 3 BENT 3 HAS SECTION LOSS WITH 7/16 IN. REMAINING IN WEB 12 IN. X 12 IN. AND 6 IN. HIGH X 6 FT. LONG, SECTION LOSS IN BOTTOM FLANGE WITH 1/2 IN. REMAINING 7 FT. LONG.            BEAM 5 SPAN 3 BENT 3 HAS SECTION LOSS WITH 7/16 IN. REMAINING IN WEB 5 IN. HIGH X 3 FT. LONG.            OTHER BEAMS AT BENT 3 HAVE RUST SCALE IN WEBS AND BOTTOM FLANGE OUT 4 FT.</p> <p>SPAN 4 AT BENT 3            BEAM 1 SPAN 4 BENT 3 HAS SECL WITH 7/16 IN. REMAINING 16 IN. X 16 IN. AND 3 IN. HIGH X 4 FT. LONG, SECTION LOSS IN BOTTOM FLANGE WITH 1/2 IN. REMAINING 6 FT. LONG.            INTERIOR BEAMS AT BENT 3 RUSY AND FLAKING FROM ENDS OUT 2' LONG.            BM5 SPAN 4 BENT 3 HAS SECTION LOSS WITH 1/4 IN. REMAINING IN BOTTOM FLANGE 2 IN. LONG. AND 9/16 IN. REMAINING 3 FT. LONG.</p> <p>SPAN 4 AT BENT 4            BEAM 1 SPAN 4 BENT 4 HAS SECTION LOSS WITH 7/16 IN. REMAINING IN WEB 4 IN. HIGH X 3 FT. LONG AND 9/16 IN. REMAINING IN BOTTOM FLANGE 4 FT. LONG.            BEAM 2 SPAN 4 BENT 4 HAS SECTION LOSS WITH 9/16 IN. REMAINING IN BOTTOM FLANGE 2 FT. LONG.</p> <p>SPAN 5 AT BENT 4            BEAM 1 SPAN 5 BENT 4 HAS SECTION LOSS WITH 3/8 IN. REMAINING IN WEB 1 1/2 IN. HIGH X 2 FT. LONG AND 1/2 IN. REMAINING IN BOTTOM FLANGE 3 FT. LONG.            BEAM 2 SPAN 5 BENT 4 HAS SECTION LOSS WITH 3/8 IN. REMAINING IN WEB 2 IN. WIDE AROUND END DIAPHRAGM AND 4 IN. DIAMETER BELOW DIAPHRAGM.            BEAM 5 SPAN 5 BENT 4 HAS SECTION LOSS WITH 3/8 IN. REMAINING IN WEB 4 IN. HIGH X 3 FT. LONG AND 1/2 IN. REMAINING IN BOTTOM FLANGE 4 FT. LONG.</p>	

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State of North Carolina Dept. of Transportation Division of Highways			
Team Leader <b>WILLIS C MAY</b>			
Assisted By <b>WTW</b>			
Item No.	Grade		
10A	NO	NO CURVED GIRDERS.	
13	F	END DIAPHRAGMS SPAN 1 LEFT SIDE EXTERIOR DIAPHRAGM AT BENT 1 SPALLED WITH REBAR EXPOSED. DIAPHRAGM CRACKED WITH DELAMINATION AT BOTTOM EDGE IN BAY 1 AND SPALLED IN BAY 2 AT BENT 1. SPAN 2 DIAPHRAGM CRACKED WITH DELAMINATION AT BOTTOM EDGE IN BAY 2 AND 4 AT BENT 1. SPAN 3 DIAPHRAGM CRACKED WITH DELAMINATION AT BOTTOM EDGE IN BAY 4 IN AT BENT 2. SPAN 4 DIAPHRAGM CRACKED WITH DELAMINATION AT BOTTOM EDGE IN BAY 2 AND 4 AT BENT 4. SPAN 5 BAY 1 SPAN 5 DIAPHRAGM AT BENT 4 SPALLED 12 IN. DIAMETER .	
15	P	BEARING ASSEMBLIES BEARING ASSEMBLIES HEAVILY RUSTED AT INTERIOR BENTS. BENT 3 SPAN 4 BEAM 4 AT BENT 3 RIGHT SIDE ANCHOR BOLT HAS SECTION LOSS WITH 1/4 IN. DIAMETER REMAINING. PRIORITY MAINTENANCE ISSUED SPAN 4 BEAM 5 AT BENT 3 LEFT SIDE ANCHOR BOLT HAS SECTION LOSS WITH 1/4 IN. DIAMETER REMAINING. PRIORITY MAINTENANCE ISSUED	
16	P	DRAINAGE SYSTEM ALL OF THE DECK DRAINS ARE CLOGGED.	
52	P	PAINT SYSTEM: ENDS OF BEAMS AND BEARINGS AT INTERIOR BENTS ARE RUST SCALED WITH SECTION LOSS.	

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Team Leader <b>WILLIS C MAY</b>			
Assisted By <b>WTW</b>			
Item No.	Grade		
36a	F	<p>CONCRETE ABUTS, BENTS, CAPS: RANDOM HAIRLINE TRANSVERSE CRACKS ON TOP AND FACE OF END BENT CAPS. END BENT 1 SPALL 6" DIAMETER. X 1" DEEP WITH REBAR EXPOSED ON FACE OF CAP UNDER BAY 4, SIMILAR AT GROUND LINE AT BEAM 2. VERTICAL CRACK AND DELAMINATION 6 INCHES X 18 INCHES ON FACE UNDER BAY 4. BENT 1 LEFT END OF CAP CRACKED SPAN 1 SIDE . 1/16 IN. X 4 FT. LONG LONGITUDINAL CRACK IN BAY 3 SPAN 1 SIDE AT BOTTOM CORNER. 1/32" HORIZONTAL CRACK AND DELAMINATED PATCH ON SPAN 2 SIDE OF CAP AT BEAM 1. 1/32" LONGITUDINAL CRACKS 3' LONG UNDER BEAM 3 AND ON SPAN 1 SIDE OF LEFT SIDE FILLET. 7 INCH X 8 INCH DELAMINATED PATCH ON SPAN 2 SIDE OF CAP AT BEAM 4. BENT 2 1/16" CRACK X 4' LONG HORIZONTAL CRACK ON FACE OF CAP ON SPAN 3 SIDE UNDER BEAM 2 AND 1/16 INCH CRACKS ON BOTTOM CORNER OF CAP AT MIDPOINT, SPAN 2 SIDE. CAP HAS TRANSVERSE CRACK ON BOTTOM AT PEAK OF FILLET AND UP SIDES, BENT 3 SIMILAR. 6 IN. DIAMETER X 1/2 IN. DEEP SPALL WITH REBAR EXPOSED ON SPAN 3 SIDE UNDER BEAM 1. END BENT 2 CAP 1/16 INCH HORIZONTAL CRACK 5 FT LONG AND HAIRLINE MAP CRACKS AT BEAM NO. 5.</p>	
		<p>36b</p> <p>F</p> <p>CONCRETE COLUMNS BENT 1 COLUMN 1 1/16 INCH VERTICAL CRACKS ON LEFT CORNER WITH 8 IN WIDE X 4 FT. LONG DELAMINATION IN SPAN 2 SIDE. COLUMN 2 CRACKED AND DELAMINATED ON THE LEFT CORNER, SPAN 1 SIDE AND DELAMINATED ON THE SPAN 2 SIDE. RIGHT CORNER HAS 1/8 IN. WIDE VERTICAL CRACK AT SPAN 2 SIDE WITH DELAMINATION.  BENT 2 1/2" WIDE VERTICAL CRACK IN PEDESTAL WALL BETWEEN COLUMNS.  BENT 3 COLUMN 1 SPALLED 12 IN. X 12 IN. X 1 1/2 IN. DEEP WITH REBAR EXPOSED AT TOP OF SPAN 3 SIDE. HAIRLINE VERTICAL CRACK ON LEFT SIDE SIDE OF COLUMN 1. COLUMN 2 AT BENT 3 CRACKED WITH DELAMINATION ON THE RIGHT SIDE, 2 CRACKS 1/2" WIDE X 4' LONG WITH DELAMINATION. SPAN 4 SIDE CRACKED AND DELAMINATED 8 IN. WIDE X 4 FT. LONG. 1/2" WIDE VERTICAL CRACK IN PEDESTAL WALL BETWEEN COLUMNS.  BENT 4...COLUMN 1 HAS VERTICAL HAIRLINE CRACKS ON SPAN 5 SIDE. 1/2" VERTICAL CRACK 5' LONG WITH DELAMINATION IN LEFT CORNER OF COLUMN 2, SPAN 5 SIDE, AND 3/16 IN. VERTICAL CRACK IN RIGHT CORNER OF SPAN 5 SIDE .</p>	



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State of North Carolina Dept. of Transportation Division of Highways			
Team Leader <b>WILLIS C MAY</b>			
Assisted By <b>WTW</b>			
Item No.	Grade		
<b>36d</b>	<b>F</b>	<p>CONCRETE RETAINING WALLS  END BENT 1  LEFT SIDE BACKWALL EXTENSION HAS 1/32 INCH HORIZONTAL CRACK WITH REBAR EXPOSED 7 INCHES AND HAIRLINE MAP CRACKING.  BACKWALL CRACKED WITH DELAMINATION AT BEAM 1.  END BENT 2  BACKWALL CRACKED WITH DELAMINATION AT BEAM 1.</p>	
<b>39</b>	<b>F</b>	<p>SLOPE PROTECTION:  UNPROTECTED SLOPE.  3' DEEP EROSION AT END BENT 1.</p>	
<b>50</b>	<b>F</b>	<p>APPROACH ROADWAY:  APPROACH 1  TRANSVERSE AND LONGITUDINAL CRACKS IN APPROACH ASPHALT WITH 1" SETTLEMENT AT END BENT 1.  APPROACH 2  TRANSVERSE CRACKS IN ASPHALT AND 1" SETTLEMENT AT END BENT 2.</p>	



## BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 500037

County JOHNSTON

Date: 11/21/2011

**These Repairs Should Be Made Within Twelve Months From Date Of This Inspection**

MMS Code	Description of Function	Unit	Quantity	Remarks	Est. Cost
2816	Asphalt Surface Repair or Replacement	SY	140	CRACKS AND SETTLEMENT IN BOTH APPROACHES.	
3306	Maintain Concrete Superstructure Components	SF	80	DIAPHRAGMS CRACKED AND SPALLED WITH REBAR EXPOSED.	
 3334	Bridge Bearings	EA	<i>X TSE</i> <i>3/6/12</i>	BEAM 4 SPAN 4 AT BENT 3 RIGHT SIDE ANCHOR BOLT HAS SECTION LOSS WITH 1/4 IN. DIAMETER REMAINING.	
 3334	Bridge Bearings	EA	<i>X TSE</i>	BEAM 5 SPAN 4 AT BENT 3 LEFT SIDE ANCHOR BOLT HAS SECTION LOSS WITH 1/4 IN. DIAMETER REMAINING.	
3342	Clean and Paint Structural Steel	SF	2400	ENDS OF BEAMS AND BEARINGS ARE RUSTY WITH SECTION LOSS IN SOME BEAMS OVER INTERIOR BENTS.	
3348	Maintain Concrete Substructure Components	LF	100	CRACKS , DELAMINATIONS, AND SPALLS IN CAPS AND COLUMNS.	
3352	Maint Slope Protection	SF	600	EROSION UNDER SPAN 1.	

**Key**



Priority Maintenance Item



Critical Finding Item



Priority Maintenance Level Not Determined

## BRIDGE INSPECTOR'S RECOMMENDATION FOR PRIORITY MAINTENANCE REPAIRS

Bridge: 500037

County JOHNSTON

THE FOLLOWING MAINTENANCE ITEMS HAVE BEEN SUBMITTED IN CONJUNCTION WITH A PRIORITY MAINTENANCE REQUEST

MMS Code	MMS Description	Quantity
3334	Bridge Bearings	1 EA
Location:		
Beams and Girders                      Bent/Span No.    4                      ANCHOR BOLT		
Priority Level		Status
Priority Maintenance		Division Bridge Maintenance Notification Received
Submitted Date:	Submitted By:	Assisted By:
11/21/2011	WILLIS C MAY	WAYNE T WILKINSON
Details		
BEAM 4 SPAN 4 AT BENT 3 RIGHT SIDE ANCHOR BOLT HAS SECTION LOSS WITH 1/4 IN. DIAMETER REMAINING.		

MMS Code	MMS Description	Quantity
3334	Bridge Bearings	1 EA
Location:		
Beams and Girders                      Bent/Span No.    4                      ANCHOR BOLT		
Priority Level		Status
Priority Maintenance		Division Bridge Maintenance Notification Received
Submitted Date:	Submitted By:	Assisted By:
11/21/2011	WILLIS C MAY	WAYNE T WILKINSON
Details		
BEAM 5 SPAN 4 AT BENT 3 LEFT SIDE ANCHOR BOLT HAS SECTION LOSS WITH 1/4 IN. DIAMETER REMAINING.		





LONGITUDINAL AND TRANSVERSE CRACKS IN APPROACH 1



TRANSVERSE CRACK IN WEARING SURFACE OVER END BENT 1





WEARING SURFACE CRACKED OVER END BENT 2 AND APPROACH 2



AREA OF DELAMINATION IN FACE OF CAP AT END BENT 2 UNDER BEAM 5





CRACKING AND DELAMINATION IN THE RIGHT SIDE OF COLUMN 2 AT BENT 3 AND SPAN 4 SIDE



VERTICAL CRACK IN BENT 2 PEDESTAL SPAN 2 SIDE - EXTENDS OVER TOP AND DOWN SPAN 3 SIDE



LEFT EXTERIOR END DIAPHRAGM IN SPAN 1 AT BENT 1 SPALLED WITH SECTION LOSS TO EXPOSED REBAR



EROSION AT TOP OF SLOPE UNDER SPAN 1





SPALLING WITH EXPOSED REBAR IN FACE OF CAP AT END BENT 1 BAY 4



SPALLING WITH EXPOSED REBAR IN THE LEFT EXTERIOR BACKWALL AT END BENT 1





SECTION LOSS IN THE WEB OF BEAM 1 IN SPAN 1 OVER BENT 1



SECTION LOSS IN THE WEB AND BOTTOM FLANGE OF BEAM 5 IN SPAN 1 OVER BENT 1





SECTION LOSS IN THE WEB AND BOTTOM FLANGE OF BEAM 5 IN SPAN 5 OVER BENT 4



SECTION LOSS IN THE LEFTSIDE ANCHOR BOLT FOR BEAM 5 IN SPAN 4 AT BENT 3 - PRIORITY MAINTENANCE ISSUED





SECTION LOSS IN THE BOTTOM FLANGE OF BEAM 5 IN SPAN 4 OVER BENT 3



SECTION LOSS IN THE RIGHT SIDE ANCHOR BOLT FOR BEAM 4 IN SPAN 4 OVER BENT 3 - PRIORITY MAINTENANCE ISSUED

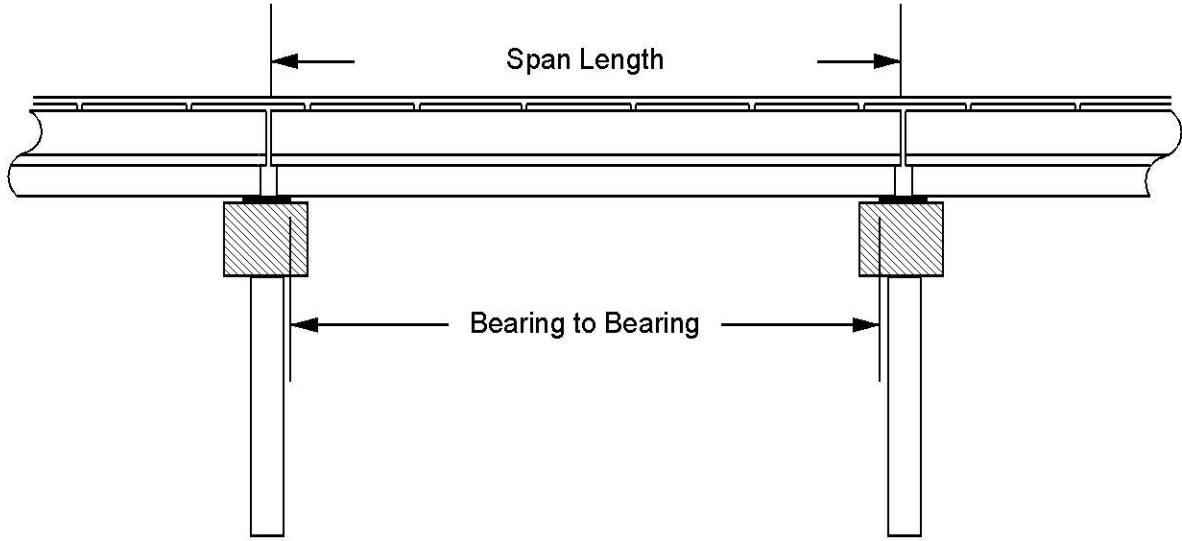


SECTION LOSS IN THE BOTTOM FLANGE OF BEAM 1 IN SPAN 3 OVER BENT 2

# Structure Data Worksheet

Spans

County: JOHNSTON      Structure No: 500037      Date: 11/21/2011      Inspected By: WCM



Span No	Span Length	Bearing to Bearing	Comments
1	38	SEE PLANS	
2	37.5		
3	47.5		
4	32.5		
5	33		

# Bridge Inspection Field Sketch



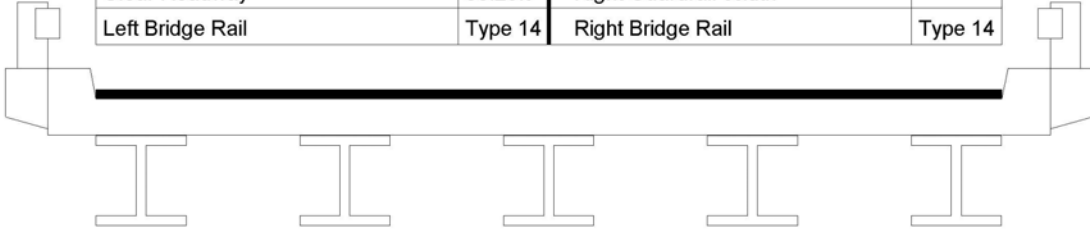
Roadway	23ft Wide	2 Paved Lanes	Looking North
Left Shoulder	4ft Wide	2.5ft Paved	1.5ft Unpaved
Right Shoulder	4ft Wide	3ft Paved	1ft Unpaved
Left Guardrail	4ft from road		
Right Guardrail	4ft from road		

CHECKED: 11/21/11 WTW

<b>Title</b>		<b>Description</b>	
APPROACH ROADWAY		LOOKING NORTH	
Bridge No: 500037	Drawn By: GGW	Date: 04/12/2006	File Name: S0214000199

# Bridge Inspection Field Sketch

Deck Width/Out to Out	33.5ft	Wearing Surface	.333ft
Between Rails	33.333ft	Median Width	
Curb Height	.5ft	Median Height	
Top Rail to Deck/Wearing Surface	2.25ft	Left Guardrail Width	
Clear Roadway	30.25ft	Right Guardrail Width	
Left Bridge Rail	Type 14	Right Bridge Rail	Type 14



Measurements for Span #	1		
Deck Thickness	.542	Left Overhang	3.083
Top of Rail to Bottom of Beam	5.25	Right Overhang	3.083

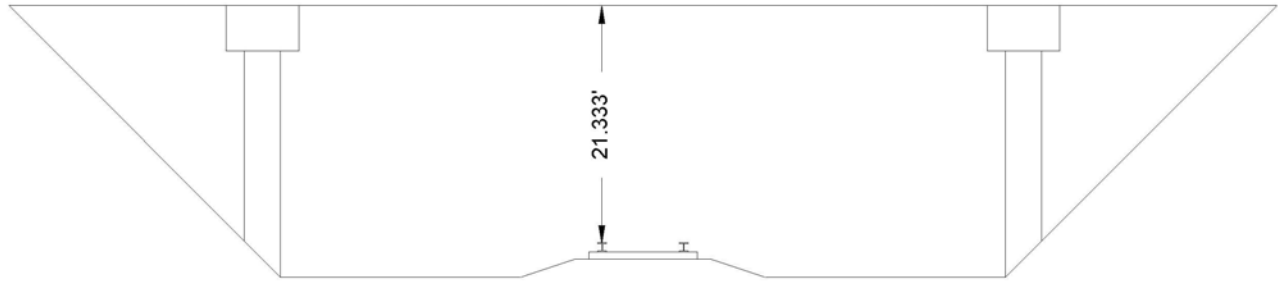
Beam No	Beam Type	Spacing	Comments
1	Steel I Beam	6.833ft	
2	Steel I Beam	6.833ft	
3	Steel I Beam	6.833ft	
4	Steel I Beam	6.833ft	
5	Steel I Beam		

CHECKED: 11/21/11 WTW

<b>Title</b> TYPICAL SECTION		<b>Description</b> LOOKING NORTH	
<b>Bridge No:</b> 500037	<b>Drawn By:</b> GGW	<b>Date:</b> 04/12/2006	<b>File Name:</b> S0214000200



# Bridge Inspection Field Sketch



## Measurements Under Span 3

Rail to Rail	5ft	1 set(s) of tracks	Looking: EAST
Vertical Clearance	21.333ft	Measured from rail 2 at Beam # 1	
Distance to Left Bent	19.25ft		
Distance to Left Toe of Slope			
Distance to Right Bent	9.333ft		
Distance to Right Toe of Slope			

CHECKED: 11/21/11 WTW

<b>Title</b> RAILROAD CLEARANCE PROFILE		<b>Description</b> LOOKING EAST	
<b>Bridge No:</b> 500037	<b>Drawn By:</b> WTW	<b>Date:</b> 11/28/2007	<b>File Name:</b> S0214000201



RIGHT SIDE GUARDRAIL TERMINAL END APPROACH 1



LOOKING NORTH





APPROACH 1



SPAN 1 OVERVIEW





JOINT AT BENT 1



RIGHT SIDE GUARDRAIL CONNECTION IN SPAN 1





SPAN 2 OVERVIEW



JOINT AT BENT 2





SPAN 3 OVERVIEW



JOINT AT BENT 3





SPAN 4 OVERVIEW



JOINT AT BENT 4





SPAN 5 OVERVIEW



LOOKING SOUTH





APPROACH 2



TYPICAL BEARING ASSEMBLY THROUGHOUT STRUCTURE





END BENT 2 OVERVIEW



LOOKING EAST ALONG RAILROAD





LOOKING WEST ALONG RAILROAD



WEST PROFILE





EAST PROFILE



BENT 1 SPAN 2 SIDE - BENT 4 SIMILAR





BENT 2 SPAN 2 SIDE - BENT 2 SIMILAR



SUPERSTRUCTURE OVERVIEW - ALL SPANS SIMILAR



SUPERSTRUCTURE OVER END OF CAP AT BENT 2 - OTHER BENTS SIMILAR



END BENT 1 OVERVIEW