



NC DEPARTMENT OF TRANSPORTATION      ATTENTION  
 DIVISION OF HIGHWAYS  
 BRIDGE MANAGEMENT UNIT

# BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY GASTON      BRIDGE NUMBER 350316      INSPECTION CYCLE 2 YRS  
 ROUTE 185      ACROSS CREEK      M.P. 16700

LOCATION 0.5 MI. S. JCT. US321

SUPERSTRUCTURE TRIPLE 8'X9'RC BOX CULVERT,166'9 ALONG CENTERLINE CULVERT

SUBSTRUCTURE \_\_\_\_\_

SPANS \_\_\_\_\_

LONGITUDE <u>81° 11' 44.90"</u>	LATITUDE <u>35° 17' 86.54"</u>
PRESENT CONDITION <u>FAIR</u>	INVENTORY RATING _____
INSPECTION DATE <u>09/10/2012</u>	OPERATING RATING _____
PRESENT POSTING <u>Not Posted</u>	PROPOSED POSTING _____
COMPUTER UPDATE _____	ANALYSIS DATE _____
POSTING LETTER DATE _____	SUFFICIENCY RATING _____
OTHER SIGNS PRESENT <u>NONE</u>	



SOUTH APPROACH

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: 10/04/2012

**IDENTIFICATION**

(1) STATE NAME -NORTH CAROLINA BRIDGE **350316**  
 (8) STRUCTURE NUMBER(FEDERAL) 00000000710316  
 (5) INVENTORY ROUTE (ON/UNDER) - ON 11000850  
 (2) STATE HIGHWAY DEPARTMENT DISTRICT 1  
 (3) COUNTY CODE 71 (4) PLACE CODE 25580  
 (6) FEATURE INTERSECTED - CREEK  
 (7) FACILITY CARRIED I85  
 (9) LOCATION 0.5 MI. S. JCT. US321  
 (11) MILEPOINT 16.7  
 (16) LAT 35° 17' 86.54" (17) LONG 81° 11' 44.90"  
 (98) BORDER BRIDGE STATE CODE PCT SHARE  
 (99) BORDER BRIDGE STRUCTURE NO

SUFFICIENCY RATING = 74  
 STATUS = Not Deficient

**CLASSIFICATION** **CODE**

(112) NBIS BRIDGE SYSTEM - YES  
 (104) HIGHWAY SYSTEM Is on the NHS 1  
 (26) FUNCTIONAL CLASS - Arterial - Interstate 11  
 (100) STRAHNET HIGHWAY - Interstate STRAHNET Route 1  
 (101) PARALLEL STRUCTURE - No Parallel Structure N  
 (102) DIRECTION OF TRAFFIC - 2-way Traffic 2  
 (103) TEMPORARY STRUCTURE -  
 (110) DESIGNATED NATIONAL NETWORK - On the National Network 1  
 (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: Concrete continuous  
 TYPE - Culverts (includes frame culverts) CODE 219  
 (44) STRUCTURE TYPE APPR :  
 TYPE - CODE 000  
 (45) NUMBER OF SPANS IN MAIN UNIT 3  
 (46) NUMBER OF APPROACH SPANS  
 (107) DECK STRUCTURE TYPE - N 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 N  
 (59) SUPERSTRUCTURE N  
 (60) SUBSTRUCTURE N  
 (61) CHANNEL & CHANNEL PROTECTION 7  
 (62) CULVERTS 5

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

(31) DESIGN LOAD HS 20 + MOD 6  
 (63) OPERATING RATING METHOD - No Rating Analysis or Evaluatic  
 (64) OPERATING RATING - HS-26 546  
 (65) INVENTORY RATING METHOD - No Rating Analysis or Evaluatic  
 (66) INVENTORY RATING - HS-20 536  
 (70) BRIDGE POSTING - No Posting Required 5  
 (41) STRUCTURE OPEN, POSTED ,OR CLOSED A  
 DESCRIPTION - Open, No Restriction

**AGE AND SERVICE**

(27) YEAR BUILT 1962  
 (106) YEAR RECONSTRUCTED 1996  
 (42) TYPE OF SERVICE : ON - Highway  
 UNDER - Waterway CODE 15  
 (28) LANES: ON STRUCTURE 6 UNDER STRUCTURE 0  
 (29) AVERAGE DAILY TRAFFIC 84000  
 (30) YEAR OF ADT 2011 (109) TRUCK ADT PCT 16%  
 (19) BYPASS OR DETOUR LENGTH 2 MI

**APPRAISAL** **CODE**

(67) STRUCTURAL EVALUATION 5  
 (68) DECK GEOMETRY N  
 (69) UNDERCLEARANCES, VERTI & HORIZ N  
 (71) WATERWAY ADEQUACY 7  
 (72) APPROACH ROADWAY ALIGNMENT 7  
 (36) TRAFFIC SAFETY FEATURES NNNN  
 (113) SCOUR CRITICAL BRIDGES 8

**GEOMETRIC DATA**

(48) LENGTH OF MAXIMUM SPAN 8 FT  
 (49) STRUCTURE LENGTH 29 FT  
 (50) CURB OR SIDEWALK: LEFT 0 FT RIGHT 0 FT  
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 0 FT  
 (52) DECK WIDTH OUT TO OUT 0 FT  
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 108 FT  
 (33) BRIDGE MEDIAN - No Median CODE 3  
 (34) SKEW 30° (35) STRUCTURE FLARED 0  
 (10) INVENTORY ROUTE MIN VERT CLEAR 999.9 FT  
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 99.9 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**

(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 178000 (115) YEAR FUTURE ADT 2025

**INSPECTIONS**

(90) INSPECTION DATE 09/10/2012  
 (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 - No Navigational Control CODE 0  
 (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: 10/04/2012

COUNTY : GASTON DIVISION : 12 DISTRICT : 1 STRUCTURE NUMBER : 350316 LENGTH : 29 FEET

ROUTE CARRIED : I85 FEATURE INTERSECTED : CREEK

LOCATED : 0.5 MI. S. JCT. US321 BRIDGE NAME : CITY : GASTONIA

FUNC. CLASS : 11 SYST.ON : FA SYST.UNDER : NFA ADT & YR : 84000 2011 RAIL TYPE : LT 0 RT 0

BUILT : 1962 BY : SHC PROJ : 8.16316 FED.AID PROJ : I-85-1(13)10 DESIGN LOAD : HS 20 + MOD

REHAB : 1996 BY : DOH PROJ : ALIGNMENT : TAN SKEW : 120 LANES : ON 6 UNDER 0

NAVIGATION : VC 0 FT HC 0 FT HT. CRN. TO BED : 20 FT WATER DEPTH : 1 FT

SUPERSTRUCTURE : TRIPLE 8'X9'RC BOX CULVERT,166'9 ALONG CENTERLINE CULVERT

SUBSTRUCTURE :

SPANS :

BEAMS OR GIRDERS :

FLOOR : ENCROACHMENT : DECK (OUT TO OUT) : 0 FT

CLEAR ROADWAY : 0 FT BETWEEN RAILS : 0 FT SIDEWALK OR CURB : LT 0 FT RT 0 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. : HS-20 OPE.RTG. : HS-26 CONTR.MEMBER : POSTED : SV TTST DATE

SYSTEM : Primary Interstate GREEN LINE ROUTE : Y

UNDER ROUTES AND CLEARANCES

REMARKS :

# BRIDGE INSPECTION RECORD AND SUMMARY (R. C. BOX CULVERTS)

 INSPECTION TYPE Routine Inspection  
 BRIDGE NO. 350316

ROUTE I85

INSPECTION DATE 09/10/2012

OVER CREEK

ROUTE ORIENTATION S - N

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

1. Top Slab		F
2. Bottom Slab		G
3. Ext. & Int. Walls		F
4. Wingwalls - Retaining Walls		G
5. Headwalls, Toewalls, Flumes		G
6. Structure Alignment - Settlement		G
7. Drainage Systems (On Structure)		G
8. Channel & Channel Protection	a. Waterway	F
	b. Alignment	G
	c. Scour	G
	d. Slope Prot. (Rip-Rap, Dikes, etc.)	
9. Approach Roadway Condition		G
10. Estimated Remaining Life		29
11. Channel & Channel Protection	Item 61	7
12. Culvert & Retaining Walls	Item 62	5
13. Waterway Adequacy	Item 71	7
14. Approach Roadway	Item 72	7
15. Field Scour Evaluation		G
16. Presently Posted		NO
17. Regulatory Sign Notice Issued		NO
18. Prompt Action Notice Issued		NO
19. Total Field Inspection Time		3
20. Inspected By		<i>Red RL</i>

Bridge I&A Form 1(82)H		<b>FIELD INSPECTION REPORT</b> <u>Bridge Inspection &amp; Analysis</u>	
State of North Carolina Dept. of Transportation Division of Highways			
Team Leader <b>DEREK RICKUS</b>			
Assisted By <b>DJA</b>			
Item No.	Grade		
8a	F	15' WIDE X 3' HIGH X 4' DEEP DRIFT ACROSS THE INLET OF BARRELS 1 & 2. 6' SEDIMENT BUILDUP IN BARREL 1. BARRELS 2 & 3 HAVE 2' SEDIMENT.	
1	F	CONSTRUCTION JOINT AT 70' FROM THE INLET IS CRACKED AND OPEN 1/4" IN THE TOP SLAB AND WALLS. CONSTRUCTION JOINT AT MIDSTRUCTURE IN CRACKED AND LEAKING.	
3	F	SCATTERED VERTICAL H/L CRACKS IN THE WALLS. EXTERIOR WALL 2 HAS A 6' LONG DIAGONAL CRACK NEAR THE OUTLET EXTENDING FROM THE CONSTRUCTION JOINT.	

# BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 350316

County GASTON

Date: 09/10/2012


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

MMS Code	Description of Function	Unit	Quantity	Remarks	Est. Cost
3366	Drift and Debris Removal	HR	8	15' WIDE X 3' HIGH X 4' DEEP DRIFT ACROSS THE INLET OF BARRELS 1 & 2.	
4675	Maintenance of reinforced Concrete Box Culverts	LF	30	CONSTRUCTION JOINT AT 70' FROM THE INLET IS CRACKED AND OPEN 1/4" IN THE TOP SLAB AND WALLS.	
4675	Maintenance of reinforced Concrete Box Culverts	LF	30	CONSTRUCTION JOINT AT MIDSTRUCTURE IN CRACKED AND LEAKING.	
4675	Maintenance of reinforced Concrete Box Culverts	LF	60	SCATTERED VERTICAL H/L CRACKS IN THE WALLS.	

**Key**

 Priority Maintenance Item

 Critical Finding Item

 Priority Maintenance Level Not Determined



15' WIDE X 3' HIGH X 4' DEEP DRIFT ACROSS THE INLET OF BARRELS 1 & 2.



SCATTERED VERTICAL H/L CRACKS IN THE WALLS.



CONSTRUCTION JOINT AT 70' FROM THE INLET IS CRACKED AND OPEN 1/4" IN THE TOP SLAB AND WALLS.



CONSTRUCTION JOINT AT MIDSTRUCTURE IS CRACKED AND LEAKING.



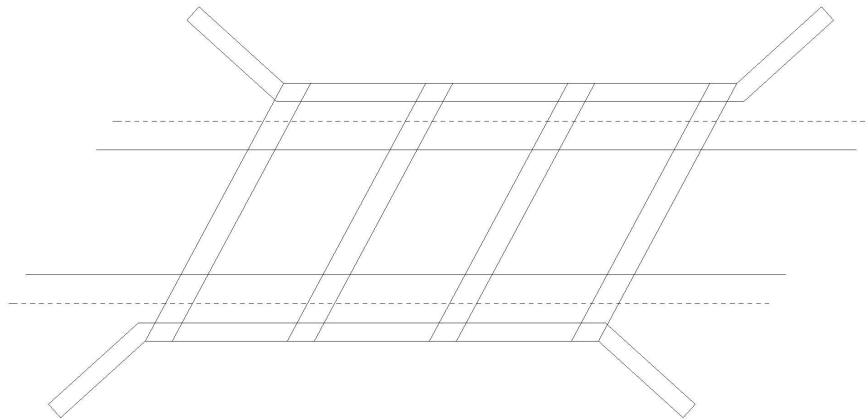


6' SEDIMENT BUILDUP IN BARREL 1. BARRELS 2 & 3 HAVE 2' SEDIMENT.



EXTERIOR WALL 2 HAS A 6' LONG DIAGONAL CRACK NEAR THE OUTLET EXTENDING FROM THE CONSTRUCTION JOINT.

# Bridge Inspection Field Sketch



Crown of Roadway



Bed

Number of Barrels	Skew	Distance From Crown to Bed
3	120°	20ft
Length Along Center Line of Culvert		Length Along Center Line of Roadway
166.75ft		29ft

Barrel #	Width	Height	Wall Thickness	Scour at Inlet	Scour at Outlet	Distance From Previous Pipe
1	8.0	9.0	0.625'	NO	NO	
2	8.0	9.0		NO	NO	
3	8.0	9.0		NO	NO	

VERIFIED BY DEREK RICKUS ON 9-10-12

**Title**

Culvert dimensions

**Description**

plan and view details

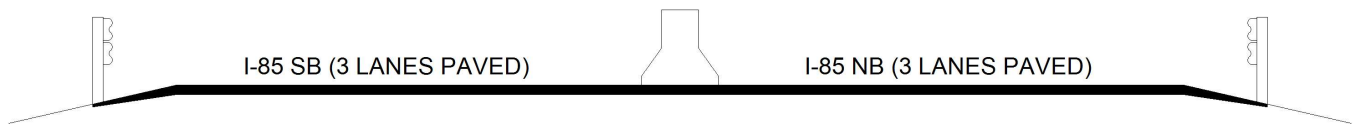
Bridge No: 350316

Drawn By: DJA

Date: 9/2/2008

File Name: S0146030630

# Bridge Inspection Field Sketch



SECTION OVER CULVERT

Left Lanes			
Roadway	36ft Wide	3 Paved Lanes	South Bound
Left Shoulder	8.25ft Wide	8.25ft Paved	
Right Shoulder	10ft Wide	10ft Paved	
Left Guardrail			
Right Guardrail	10ft from road		
Median	3ft Wide	5ft High	
Right Lanes			
Roadway	36ft Wide	3 Paved Lanes	North Bound
Left Shoulder	8.583ft Wide	8.583ft Paved	
Right Shoulder	8.583ft Wide	8.583ft Paved	
Left Guardrail			
Right Guardrail	8.583ft from road		

VERIFIED BY DEREK RICKUS ON 9-10-12

<b>Title</b> APPROACH ROADWAY		<b>Description</b> LOOKING NORTH	
<b>Bridge No:</b> 350316	<b>Drawn By:</b> DJA	<b>Date:</b> 9/2/2008	<b>File Name:</b> S0146030636



UPSTREAM



LOOKING UPSTREAM



LOOKING DOWNSTREAM



DOWNSTREAM



SOUTH APPROACH



NORTH APPROACH