



NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 STRUCTURE MANAGEMENT UNIT

ATTENTION: **PAR: EROSION, RIGHT RAIL, SPALLS, END BENT**

Structure Safety Report

Routine Element Inspection

STRUCTURE NUMBER: 100078 SAP STRUCTURE NO: 0110078 FHWA STRUCTURE NO: 00000000210078

DIVISION: 13 COUNTY: BUNCOMBE INSPECTION DATE: 11/08/2022 FREQUENCY: 24 MONTHS

FACILITY CARRIED: NC197 MILE POST: _____

LOCATION: .01 MI.S.JCT.SR1003

FEATURE INTERSECTED: NORTH FORK IVY CREEK

LATITUDE: 35° 46' 40.37" LONGITUDE: 82° 27' 31.17"

SUPERSTRUCTURE: REINFORCED CONC.SLAB EXTENDED W/4-BARREL RCBC

SUBSTRUCTURE: REINFORCED CONCRETE ABUTMENTS & PIER

SPANS: 6 SPANS. SEE SPAN PROFILE SHEET FOR SPAN DETAILS

FRACTURE CRITICAL TEMPORARY SHORING SCOUR CRITICAL SCOUR PLAN OF ACTION

GRADES: (Inspector/NBI Coding) DECK 6/6 SUPERSTRUCTURE 6/6 SUBSTRUCTURE 6/6 CULVERT N/N

POSTED SV: Not Posted POSTED TTST: Not Posted

OTHER SIGNS PRESENT: NONE



Sign noticed issued for	Number Required
<u>NO</u> WEIGHT LIMIT	<u>0</u>
<u>NO</u> DELINEATORS	<u>0</u>
<u>NO</u> NARROW BRIDGE	<u>0</u>
<u>NO</u> ONE LANE BRIDGE	<u>0</u>
<u>NO</u> LOW CLEARANCE	<u>0</u>

DIRECTION OF INSPECTION S-N

DIRECTION MATCHES PLANS _____

SOUTH APPROACH LOOKING NORTH

INSPECTED BY Joseph Huntsinger	SIGNATURE 	ASSISTED BY Dennis Wilson
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NATIONAL BRIDGE INVENTROY ----- STRUCTURE INVENTORY AND APPRAISAL

01/24/2023

IDENTIFICATION

(1) STATE NAME NORTH CAROLINA BRIDGE 100078
 (8) STRUCTURE NUMBER (FEDERAL) 0210078
 (5) INVENTORY ROUTE (ON/UNDER) ON 131001970
 (2) STATE HIGHWAY DEPARTMENT DISTRICT 13
 (3) COUNTY CODE (FEDERAL) 21 (4) PLACE CODE 00000
 (6) FEATURE INTERSECTED NORTH FORK IVY CREEK
 (7) FACILITY CARRIED NC197
 (9) LOCATION .01 MI.S.JCT.SR1003
 (11) MILEPOINT 0.0
 (12) BASE HIGHWAY NETWORK 0
 (13) LRS INVENTORY ROUTE & SUBROUTE
 (16) LATITUDE 35° 46' 40.37" (17) LONGITUDE 82° 27' 31.17"
 (98) BORDER BRIDGE STATE CODE PERCENT SHARED
 (99) BORDER BRIDGE STRUCTURE NUMBER

SUFFICIENCY RATING 56.05
 STATUS = Functionally Obsolete

CLASSIFICATION **CODE**

(112) NBIS BRIDGE SYSTEM YES
 (104) HIGHWAY SYSTEM Inventory Route not on NHS 0
 (26) FUNCTIONAL CLASS Rural Major Collector 07
 (100) STRAHNET HIGHWAY Not a STRAHNET Route 0
 (101) PARALLEL STRUCTURE No parallel structure exists N
 (102) DIRECTION OF TRAFFIC 2-way traffic 2
 (103) TEMPORARY STRUCTURE
 (110) DESIGNATED NATIONAL NETWORK - on national network for trucks 1
 (20) TOLL On Free Road 3
 (21) MAINT - 01
 (22) OWNER - 01
 (37) HISTORICAL SIGNIFICANCE - 5

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE MAIN Concrete
 TYPE Slab CODE 101
 (44) STRUCTURE TYPE APPROACH
 TYPE CODE
 (45) NUMBER OF SPANS IN MAIN UNIT 2
 (46) NUMBER OF SPANS IN APPROACH 0
 (107) DECK STRUCTURE TYPE CODE 1
 (108) WEARING SURFACE/PROTECTIVE SYSTEM
 (A) TYPE OF WEARING SURFACE CODE 6
 (B) TYPE OF MEMBRANE CODE 0
 (C) TYPE OF DECK PROTECTION CODE 0

CONDITION **CODE**

(58) DECK 6
 (59) SUPERSTRUCTURE 6
 (60) SUBSTRUCTURE 6
 (61) CHANNEL & CHANNEL PROTECTION 7
 (62) CULVERTS N

LOAD RATING AND POSTING **CODE**

(31) DESIGN LOAD HS 15 3
 (63) OPERATING RATING METHOD - 0
 (64) OPERATING RATING - HS-17 30
 (65) INVENTORY RATING METHOD - 0
 (66) INVENTORY RATING HS-13 23
 (70) BRIDGE POSTING No Posting Required 5
 (41) STRUCTURE OPEN, POSTED, OR CLOSED DESCRIPTION Open, no restriction A

AGE AND SERVICE

(27) YEAR BUILT 1950
 (106) YEAR RECONSTRUCTED 0
 (42) TYPE OF SERVICE ON - Highway
 OFF - Waterway CODE 15
 (28) LANES ON STRUCTURE 2 LANES UNDER STRUCTURE 0
 (29) AVERAGE DAILY TRAFFIC 3400
 (30) YEAR OF ADT 2019 (109) TRUCK ADT PCT 7
 (19) BYPASS OR DETOUR LENGTH 19.0

APPRAISAL **CODE**

(67) STRUCTURAL EVALUATION 5
 (68) DECK GEOMETRY 2
 (69) UNDERCLEARANCES, VERT & HORIZ N
 (71) WATERWAY ADEQUACY 7
 (72) APPROACH ROADWAY ALIGNMENT 8
 (36) TRAFFIC SAFETY FEATURES 0000
 (113) SCOUR CRITICAL BRIDGES 5

GEOMETRIC DATA

(48) LENGTH OF MAXIMUM SPAN 30.0
 (49) STRUCTURE LENGTH 64.0
 (50) CURB OR SIDEWALK: LEFT 9.0 RIGHT 3.7
 (51) BRIDGE ROADWAY WIDTH, CURB TO CURB 24.0
 (52) DECK WIDTH OUT TO OUT 40.3
 (32) APPROACH ROADWAY WITH (W/ SHOULDERS) 28.0
 (33) BRIDGE MEDIAN No median CODE 0
 (34) SKEW 45 (35) STRUCTURE FLARED 0
 (10) INVENTORY ROUTE MIN VERT CLEAR 999.9
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 24.0
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 999.9
 (54) MIN VERT UNDERCLEAR: REFERENCE 0.0
 (55) MIN LAT UNDERCLEARANCE RT: REFERENCE N 0.0
 (56) MIN LAT UNDERCLEARANCE LT: 0.0

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 6,800 YEAR OF FUTURE ADT 2040

NAVIGATION DATA

(38) NAVIGATION CONTROL - CODE 0
 (111) PIER PROTECTION CODE
 (39) NAVIGATION VERTICAL CLEARANCE 0.0
 (116) VERT - LIFT BRIDGE NAV MIN VERT CLEAR 0.0
 (40) NAVIGATION HORIZONTAL CLEARANCE 0.0

INSPECTION

(90) INSPECTION DATE 11/22 (91) FREQUENCY 24
 (92) CRITICAL FEATURE INSPECTION (93) CFI DATE
 A) FRACTURE CRIT DETAIL A)
 B) UNDERWATER INSP B)
 C) OTHER SPECIAL INSP C)
 SCOUR

Superstructure Build Details

Span Number 1

Span Length 31.667

Skew 135.000

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
2	Steel Rail	Metal Bridge Railing	64 Feet	Unknown	120
1	Reinforced Concrete Deck Slab	Reinforced Concrete Slabs	1100 Square Feet		

Span Number 2

Span Length 32.000

Skew 135.000

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
1	Reinforced Concrete Deck Slab	Reinforced Concrete Slabs	1112 Square Feet		
2	Steel Rail	Metal Bridge Railing	64 Feet	Unknown	120

Span Number 3

Span Length 9.000

Skew 135.000

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
1	Reinforced Concrete Box Culvert	Reinforced Concrete Culvert	41 Feet		

Span Number 4

Span Length 9.000

Skew 135.000

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
1	Reinforced Concrete Box Culvert	Reinforced Concrete Culvert	41 Feet		

Span Number 5

Span Length 9.000

Skew 135.000

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
1	Reinforced Concrete Box Culvert	Reinforced Concrete Culvert	41 Feet		

Span Number 6

Span Length 9.000

Skew 135.000

Number of Items	Type of Component	Element Name	Quantity	Protective System Applied	Quantity (Sq Ft)
1	Reinforced Concrete Box Culvert	Reinforced Concrete Culvert	41 Feet		

Structure Element Scoring

Structure Number: 100078

Inspection Date 11/8/2022

Element Number	Parent Number	Element Name	Location	Total Quantity	Level 1 Quantity	Level 2 Quantity	Level 3 Quantity	Level 4 Quantity
38		Reinforced Concrete Slabs	Deck	2,212	2,157	5	50	0
241		Reinforced Concrete Culvert	Culverts and Pipes	164	159	0	4	1
330		Metal Bridge Railing	Bridge Rail	128	0	126	2	0
515	330	Steel Protective Coating	Bridge Rail	240	0	0	0	240
210		Reinforced Concrete Pier Wall	Piles and Columns	43	21	20	2	0
215		Reinforced Concrete Abutment	Abutments	86	73	0	13	0
234		Reinforced Concrete Pier Cap	Caps	43	40	0	3	0

Summary of Maintenance Needs

Maintenance By Defect

Structure Number: **100078**

Inspection Date: **11/08/2022**

MMS Code	Element Name	Defect Name	Recommended Quantity
3326	Reinforced Concrete Slabs	Exposed Rebar	40 Square Feet
3326	Reinforced Concrete Slabs	Patched Area	2 Square Feet
3326	Reinforced Concrete Slabs	Delamination/Spall	13 Square Feet
3348	Reinforced Concrete Pier Wall	Cracking (RC and Other)	2 Feet
3350	Reinforced Concrete Abutment	Cracking (RC and Other)	13 Feet
3348	Reinforced Concrete Pier Cap	Delamination/Spall	3 Feet
3370	Reinforced Concrete Culvert	Cracking (RC and Other)	2 Feet
3370	Reinforced Concrete Culvert	Delamination/Spall	3 Feet
3322	Metal Bridge Railing	Connection	5 Feet
3342	Steel Protective Coating	Effectiveness (Steel Protective Coatings)	240 Square Feet

Element Structure Maintenance Quantities

Structure Number: 100078

Inspection Date 11/08/2022

Location	MMS Code	Description	Maint Quantity	Total Quantity	Severe Quantity	Poor Quantity	Fair Quantity	Good Quantity
Bridge Rail	3322	Maintenance of Steel Bridge Rail	5	128	0.000	2.000	126.000	0.000
Bridge Rail	3342	Clean and Paint Steel	240	240	240.000	0.000	0.000	0.000
Culverts and Pipes	3370	Maintenance of NBI Culverts and Pipes	5	164	1.000	4.000	0.000	159.000
Deck	3326	Maintenance of Concrete Deck	55	2212	0.000	50.000	5.000	2157.000
Abutments	3350	Maintenance of Concrete Wings and Wall	13	86	0.000	13.000	0.000	73.000
Caps	3348	Maintenance of Concrete Substructure	3	43	0.000	3.000	0.000	40.000
Piles and Columns	3348	Maintenance of Concrete Substructure	2	43	0.000	2.000	20.000	21.000

Priority Actions Request

Structure Number 100078

Span1

3326 Slab 1 Reinforced Concrete Deck Slab

Priority Level	Defect Type	Quantity	Defect Description
2	Exposed Rebar	8	Span 1 - Slab Slab 1: NUMEROUS SPALLS ALONG RIGHT SIDE UP TO 6 INCHES IN DIAMETER WITH EXPOSED AND CORRODING REBAR WITH MEASUREABLE SECTION LOSS. (PAR)
2	Exposed Rebar	30	Span 1 - Slab Slab 1: NUMEROUS SPALLS UP TO 1 FOOT DIAMETER X 0.5 INCHES DEEP ALONG THE LEFT SIDE, SOME WITH EXPOSED REINFORCING. (PAR)

3322 Right Rail Steel Rail

Priority Level	Defect Type	Quantity	Defect Description
2	Connection	1	Span 1 - Slab Right Rail: 2.5 FEET WIDE X 9 INCH HIGH X 3 INCH DEEP SPALL OF THE CONCRETE AT THE BASE OF POST 6. THE ANCHOR OF THE POST IS COMPLETELY EXPOSED AND LOOSE. (PAR)
2	Connection	1	Span 1 - Slab Right Rail: 3 FEET WIDE X 9 INCH HIGH X 3 INCH DEEP SPALL OF THE CONCRETE AT THE BASE OF POST 5. THE ANCHOR OF THE POST IS COMPLETELY EXPOSED AND LOOSE. (PAR)

Span2

3326 Slab Reinforced Concrete Deck Slab

Priority Level	Defect Type	Quantity	Defect Description
2	Exposed Rebar	2	Span 2 - Slab Slab: SPALL IN BOTTOM FACE 2 FEET LONG X 9 INCHES WIDE X 1 INCH DEEP WITH REINFORCING STEEL EXPOSED WITH MEASUREABLE SECTION LOSS AT NEAR END, 2 FEET FROM RIGHT EDGE. (PAR)

Bent 1

3350 Abutment Reinforced Concrete Abutment

Priority Level	Defect Type	Quantity	Defect Description
2	Cracking (RC and ...)	13	End Bent 1 Abutment: FULL HEIGHT X 0.5 INCH WIDE VERTICAL CRACK AND 13 FEET LONG X 0.5 INCH WIDE HORIZONTAL CRACK AT THE RIGHT END OF THE ABUTMENT. (PAR)

Slope Protection

3352 Slope Protection Slope Protection

Priority Level	Defect Type	Quantity	Defect Description
2		18	EROSION CAUSED BY STORMWATER RUNOFF AT THE SOUTH EAST CORNER 3 FEET WIDE X 6 FEET LONG X 1 FOOT DEEP CURRENTLY AT THE EDGE OF

? Priority Action Request (PAR)
 1 Assigned Routine Maintenance
 2 Assigned Priority Maintenance
 3 Assigned Critical Find

Priority Actions Request

Structure Number 100078

PAVEMENT. (PAR)

Element Condition and Maintenance Data

Structure Number: 100078

Inspection Date: 11/08/2022

Span 1 **Slab 1**
Reinforced Concrete Deck Slab

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty	
38	Reinforced Concrete Slabs	1,100	1,054	0	46	0	Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
<input checked="" type="checkbox"/> 38	Delamination/Spall	8 FEET LONG X 1 FOOT WIDE X 2 INCH DEEP SCALING DUE TO CONCRETE DETERIORATION AT THE RIGHT SIDE, NEAR END.	3	8	8	Square Feet
<input checked="" type="checkbox"/> 38	Exposed Rebar	NUMEROUS SPALLS ALONG RIGHT SIDE UP TO 6 INCHES IN DIAMETER WITH EXPOSED AND CORRODING REBAR WITH MEASUREABLE SECTION LOSS. (PAR)	3	8	8	Square Feet
<input checked="" type="checkbox"/> 38	Exposed Rebar	NUMEROUS SPALLS UP TO 1 FOOT DIAMETER X 0.5 INCHES DEEP ALONG THE LEFT SIDE, SOME WITH EXPOSED REINFORCING. (PAR)	3	30	30	Square Feet

General Comments

Span 1 **Left Rail**
Steel Rail

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty	
330	Metal Bridge Railing	32	0	32	0	0	Feet
515	Steel Protective Coating	60	0	0	0	60	Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
<input checked="" type="checkbox"/> 330	Corrosion	SURFACE CORROSION ON POSTS AND RAILS THE FULL LENGTH.	2	32		Square Feet
<input checked="" type="checkbox"/> 515	Effectiveness (Steel Protective Coatings)	FAILED ALLOWING SURFACE CORROSION	4	60	60	Square Feet

General Comments

Span 1 **Right Rail**
Steel Rail

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty	
330	Metal Bridge Railing	32	0	30	2	0	Feet
515	Steel Protective Coating	60	0	0	0	60	Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
<input checked="" type="checkbox"/> 330	Connection	2.5 FEET WIDE X 9 INCH HIGH X 3 INCH DEEP SPALL OF THE CONCRETE AT THE BASE OF POST 6. THE ANCHOR OF THE POST IS COMPLETELY EXPOSED AND LOOSE. (PAR)	3	1	1	Feet
<input checked="" type="checkbox"/> 330	Connection	3 FEET WIDE X 9 INCH HIGH X 3 INCH DEEP SPALL OF THE CONCRETE AT THE BASE OF POST 5. THE ANCHOR OF THE POST IS COMPLETELY EXPOSED AND LOOSE. (PAR)	3	1	1	Feet
<input checked="" type="checkbox"/> 330	Connection	PATCH TO BASE OF RAIL AT POST 4 WITH PLYWOOD FORM LEFT IN PLACE AS REPAIR TO PREVIOUS PAR.	2	1	1	Feet

Structure Number: **100078**

Inspection Date: **11/08/2022**

<input checked="" type="checkbox"/>	330	Corrosion	SURFACE CORROSION ON POSTS AND RAILS THE FULL LENGTH.	2	29	Square Feet
<input checked="" type="checkbox"/>	515	Effectiveness (Steel Protective Coatings)	FAILED ALLOWING SURFACE CORROSION	4	60	60 Square Feet

General Comments

Span 2 Slab Reinforced Concrete Deck Slab

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
38	Reinforced Concrete Slabs	1,112	1,103	5	4	0 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
<input checked="" type="checkbox"/>	38	Exposed Rebar			
		SPALL IN BOTTOM FACE 2 FEET LONG X 9 INCHES WIDE X 1 INCH DEEP WITH REINFORCING STEEL EXPOSED WITH MEASUREABLE SECTION LOSS AT NEAR END, 2 FEET FROM RIGHT EDGE. (PAR)	3	2	2 Square Feet
<input checked="" type="checkbox"/>	38	Patched Area			
		2 FEET LONG X 1 FOOT HIGH UNSOUND PATCH IN THE RIGHT FACE, NEAR END.	3	2	2 Square Feet
<input checked="" type="checkbox"/>	38	Delamination/Spall			
		NUMEROUS SPALLS UP TO 6 INCHES IN DIAMTER ALONG THE UNDERSIDE.	2	5	5 Square Feet

General Comments

Span 2 Steel Rail 1 Steel Rail

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
330	Metal Bridge Railing	32	0	32	0	0 Feet
515	Steel Protective Coating	60	0	0	0	60 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
<input checked="" type="checkbox"/>	330	Corrosion			
		SURFACE CORROSION ON POSTS AND RAILS THE FULL LENGTH.	2	16	Square Feet
<input checked="" type="checkbox"/>	330	Distortion			
		TWO POSTS LEANING WESTWARD 1 INCH AT THE TOP, AND BOTH RAILS ARE BENT AT FAR END OF THE SPAN.	2	16	Feet
<input checked="" type="checkbox"/>	515	Effectiveness (Steel Protective Coatings)			
		FAILED ALLOWING SURFACE CORROSION.	4	60	60 Square Feet

General Comments

Span 2 Steel Rail 2 Steel Rail

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
330	Metal Bridge Railing	32	0	32	0	0 Feet
515	Steel Protective Coating	60	0	0	0	60 Square Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
<input checked="" type="checkbox"/>	330	Connection			
		PATCH WITH PLYWOOD FORMS AND A STEEL PLATE AT THE BASE OF POSTS 7 AND 8 AS REPAIRS TO PREVIOUS PARS.	2	2	2 Feet
<input checked="" type="checkbox"/>	330	Corrosion			
		SURFACE CORROSION ON POSTS AND RAILS THE FULL LENGTH.	2	30	Square Feet

<input checked="" type="checkbox"/>	515	Effectiveness (Steel Protective Coatings)	FAILED ALLOWING SURFACE CORROSION.	4	60	60	Square Feet
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General Comments

Span 4 Barrel 2

Reinforced Concrete Box Culvert

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
241	Reinforced Concrete Culvert	41	40	0	1	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
<input checked="" type="checkbox"/>	241	Delamination/Spall	SPALLS IN THE UPSTREAM END OF INTERIOR WALL 1 UP TO 3 INCHES DEEP.	3	1	1 Feet

General Comments

Span 5 Barrel 3

Reinforced Concrete Box Culvert

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
241	Reinforced Concrete Culvert	41	40	0	1	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
<input checked="" type="checkbox"/>	241	Delamination/Spall	SPALLS IN THE UPSTREAM END OF INTERIOR WALL 2 UP TO 3 INCHES DEEP.	3	1	1 Feet

General Comments

Span 6 Barrel 4

Reinforced Concrete Box Culvert

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
241	Reinforced Concrete Culvert	41	38	0	2	1 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
<input checked="" type="checkbox"/>	241	Cracking (RC and Other)	FULL HEIGHT X 0.5 INCH WIDE VERTICAL CRACK IN EXTERIOR WALL AT DOWNSTREAM END OF THE BARREL.	4	1	1 Feet
<input checked="" type="checkbox"/>	241	Cracking (RC and Other)	FULL HEIGHT X 0.5 INCH WIDE VERTICAL CRACK IN EXTERIOR WALL AT UPSTREAM END OF THE BARREL.	3	1	1 Feet
<input checked="" type="checkbox"/>	241	Delamination/Spall	SPALLS IN THE UPSTREAM END OF INTERIOR WALL 3 UP TO 1 INCH DEEP.	3	1	1 Feet

General Comments

End Bent 1 Abutment

Reinforced Concrete Abutment

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty
215	Reinforced Concrete Abutment	43	30	0	13	0 Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty
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<input checked="" type="checkbox"/>	215	Cracking (RC and Other)	FULL HEIGHT X 0.5 INCH WIDE VERTICAL CRACK AND 13 FEET LONG X 0.5 INCH WIDE HORIZONTAL CRACK AT THE RIGHT END OF THE ABUTMENT. (PAR)	3	13	13	Feet
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General Comments

Bent 1 RC Cap

Reinforced Concrete Pier Cap

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty	
234	Reinforced Concrete Pier Cap	43	40	0	3	0	Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
<input checked="" type="checkbox"/>	234	Delamination/Spall	3	3	3	Feet
		3 FEET LONG X 1 FOOT HIGH X 2 INCH DEEP SCALING DUE TO CONCRETE DETERIORATION AT THE RIGHT END OF THE CAP.				

General Comments

Bent 1 Pier Wall

Reinforced Concrete Pier Wall

Element Number	Element Name	Total Qty	CS1 Qty	CS2 Qty	CS3 Qty	CS4 Qty	
210	Reinforced Concrete Pier Wall	43	21	20	2	0	Feet

Element Number	Defect Type	Defect Description	CS	CS Qty	Maint Qty	
<input checked="" type="checkbox"/>	210	Cracking (RC and Other)	3	2	2	Feet
		FULL HEIGHT X 0.5 INCH WIDE VERTICAL CRACK AT THE LEFT END OF THE PIER WALL.				
<input checked="" type="checkbox"/>	210	Abrasion/Wear (PSC/RC)	2	20		Feet
		ABRASION 1 FOOT HIGH X 20 FEET LONG BEGINNING AT THE RIGHT END WITH COARSE AGGREGATE INTACT.				

General Comments

Elements Verified

Location	Name	Component	Element Name	Amount
Span 1	Slab 1	Reinforced Concrete Deck Slab	Reinforced Concrete Slabs	1100
Span 1	Left Rail	Steel Rail	Metal Bridge Railing	32
Span 1	Right Rail	Steel Rail	Metal Bridge Railing	32
Span 2	Slab	Reinforced Concrete Deck Slab	Reinforced Concrete Slabs	1112
Span 2	Steel Rail 1	Steel Rail	Metal Bridge Railing	32
Span 2	Steel Rail 2	Steel Rail	Metal Bridge Railing	32
Span 3	Barrel 1	Reinforced Concrete Box Culvert	Reinforced Concrete Culvert	41
Span 4	Barrel 2	Reinforced Concrete Box Culvert	Reinforced Concrete Culvert	41
Span 5	Barrel 3	Reinforced Concrete Box Culvert	Reinforced Concrete Culvert	41
Span 6	Barrel 4	Reinforced Concrete Box Culvert	Reinforced Concrete Culvert	41
End Bent 1	Abutment	Reinforced Concrete Abutment	Reinforced Concrete Abutment	43
Pier 1	RC Cap	Reinforced Concrete Pier Cap	Reinforced Concrete Pier Cap	43
Pier 1	Pier Wall	Reinforced Concrete Pier Wall	Reinforced Concrete Pier Wall	43
End Bent 2	Abutment	Reinforced Concrete Abutment	Reinforced Concrete Abutment	43

General Inspection Notes

National Bridge and NC Inspection Items

Structure Number: 100078

Inspection Date: 11/08/2022

National Bridge Inventory Items

Item	Grade Scale	Grade
Item 58: Deck	0 - 9 , N	6
Item 59: Superstructure	0 - 9 , N	6
Item 60: Substructure	0 - 9 , N	6
Item 61: Channel and Channel Protection	0 - 9 , N	7
Item 62: Culvert	0 - 9 , N	N
Item 71: Waterway Adequacy	0 - 9 , N	7
Item 72: Approach Roadway Alignment	0 - 9 , N	8

Note:
Items 58,59,60,62 reflect this inspection only.

For overall NBI coding grade, see cover sheet.

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	G	0	3376
Drainage System	G, F, P, or C	G	0	3332
Utilities	G, F, P, or C			
Slope Protection	G, F, P, or C		0	3352
Scour	G, F, P, or C	G		
Wingwall	G, F, P, or C	G	0	3350
Field Scour Evaluation		L		
Drift	G, F, P, or C	F	30	3366
Fender System	G, F, P, or C		0	3364
Movable Span Machinery	G, F, P, or C			
Response to Live Load	G, F, P, or C	G		
Superstructure Paint Code				

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

Inspection Information

Item	Grade Scale	Grade
Sign Noticed Issued	YES/NO	N
Priority Maintenance Request Submitted	YES/NO	Y
Inspection Time	Hours	4
Traffic Control Time	Hours	
Snooper Time	Hours	
Ladder Used	YES/NO	N
Bucket Truck Used	YES/NO	N
Boat Used	YES/NO	N
Other Equipment Used	YES/NO	N
Portion of Structure in > 3' of water	YES/NO	N

National Bridge and NC SMU Inspection Item Details

Structure Number: 100078

Inspection Date: 11/08/2022

Item	Priority Maintenance Issued	Grade	Y	Maint Code		Qty.	0
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Details RIGHT RAIL, EROSION, SPALLS

Item	Drift	Grade	F	Maint Code	3366	Qty.	30
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Details DRIFT 6 FEET WIDE X 3 FEET HIGH X 1 FOOT DEEP AGAINST EACH INTERIOR WALL.

ROCK AND SEDIMENT BUILDUP UP TO 2 FEET DEEP IN ALL BARRELS.

Item	General Comments and Misc Items	Grade		Maint Code		Qty.	0
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Details EROSION CAUSED BY STORMWATER RUNOFF AT THE SOUTH EAST CORNER 3 FEET WIDE X 6 FEET LONG X 1 FOOT DEEP CURRENTLY AT THE EDGE OF PAVEMENT. (PAR)



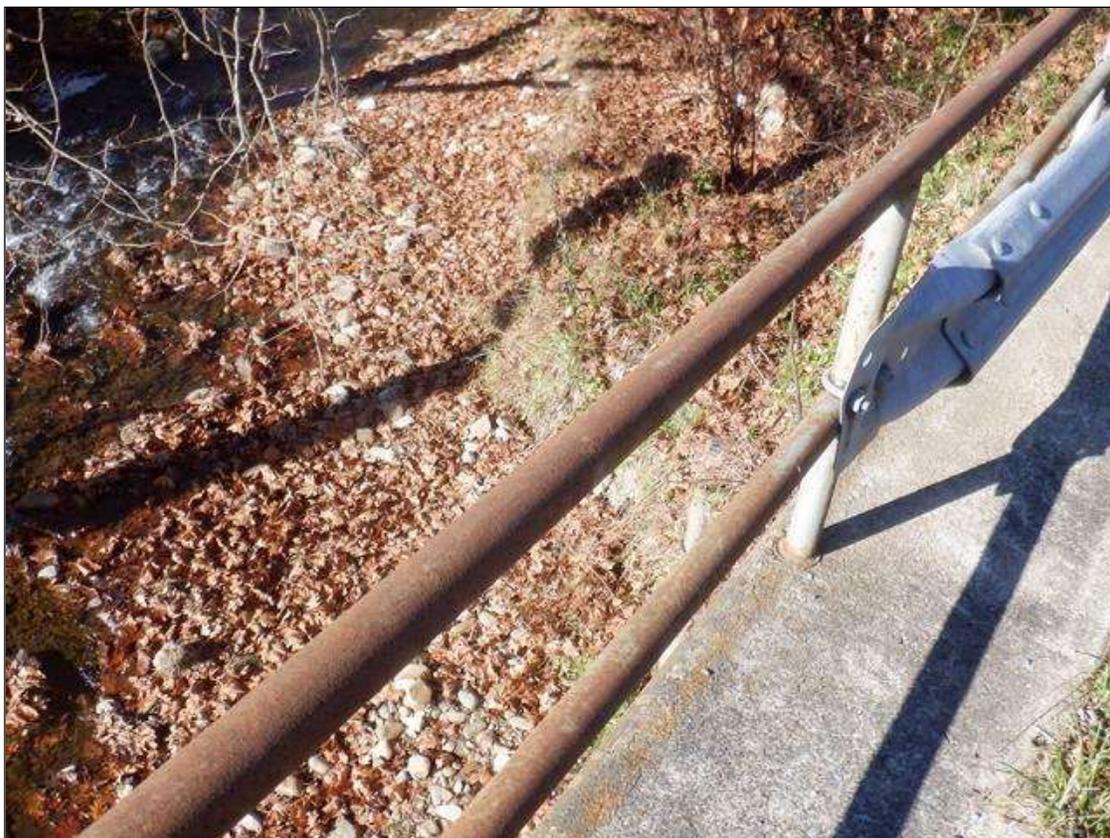
EROSION CAUSED BY STORMWATER RUNOFF AT THE SOUTH EAST CORNER 3 FEET WIDE X 6 FEET LONG X 1 FOOT DEEP CURRENTLY AT THE EDGE OF PAVEMENT. (PAR)



Span 2 - Slab Steel Rail 1: TWO POSTS LEANING WESTWARD 1 INCH AT THE TOP, AND BOTH RAILS ARE BENT AT FAR END OF THE SPAN.



Span 2 - Slab Steel Rail 1: SURFACE CORROSION ON POSTS AND RAILS THE FULL LENGTH.



Span 2 - Slab Steel Rail 2: SURFACE CORROSION ON POSTS AND RAILS THE FULL LENGTH.



Span 1 - Slab Right Rail: PATCH TO BASE OF RAIL AT POST 4 WITH PLYWOOD FORM LEFT IN PLACE AS REPAIR TO PREVIOUS PAR.



Span 1 - Slab Right Rail: 3 FEET WIDE X 9 INCH HIGH X 3 INCH DEEP SPALL OF THE CONCRETE AT THE BASE OF POST 5. THE ANCHOR OF THE POST IS COMPLETELY EXPOSED AND LOOSE. (PAR)



Span 1 - Slab Right Rail: 2.5 FEET WIDE X 9 INCH HIGH X 3 INCH DEEP SPALL OF THE CONCRETE AT THE BASE OF POST 6. THE ANCHOR OF THE POST IS COMPLETELY EXPOSED AND LOOSE. (PAR)



Span 2 - Slab Steel Rail 2: PATCH WITH PLYWOOD FORMS AND A STEEL PLATE AT THE BASE OF POSTS 7 AND 8 AS REPAIRS TO PREVIOUS PARS.



Span 1 - Slab Slab 1: 8 FEET LONG X 1 FOOT WIDE X 2 INCH DEEP SCALING DUE TO CONCRETE DETERIORATION AT THE RIGHT SIDE, NEAR END.



End Bent 1 Abutment: FULL HEIGHT X 0.5 INCH WIDE VERTICAL CRACK AND 13 FEET LONG X 0.5 INCH WIDE HORIZONTAL CRACK AT THE RIGHT END OF THE ABUTMENT. (PAR)



End Bent 1 Abutment: FULL HEIGHT X 0.5 INCH WIDE VERTICAL CRACK AND 13 FEET LONG X 0.5 INCH WIDE HORIZONTAL CRACK AT THE RIGHT END OF THE ABUTMENT. (PAR)



Span 1 - Slab Slab 1: NUMEROUS SPALLS ALONG RIGHT SIDE UP TO 6 INCHES IN DIAMETER WITH EXPOSED AND CORRODING REBAR WITH MEASUREABLE SECTION LOSS. (PAR)



Pier 1 RC Cap: 3 FEET LONG X 1 FOOT HIGH X 2 INCH DEEP SCALING DUE TO CONCRETE DETERIORATION AT THE RIGHT END OF THE CAP.



Pier 1 Pier Wall: ABRASION 1 FOOT HIGH X 20 FEET LONG BEGINNING AT THE RIGHT END WITH COARSE AGGREGATE INTACT.



Span 2 - Slab Slab: 2 FEET LONG X 1 FOOT HIGH UNSOUND PATCH IN THE RIGHT FACE, NEAR END.



Span 2 - Slab Slab: SPALL IN BOTTOM FACE 2 FEET LONG X 9 INCHES WIDE X 1 INCH DEEP WITH REINFORCING STEEL EXPOSED WITH MEASUREABLE SECTION LOSS AT NEAR END, 2 FEET FROM RIGHT EDGE. (PAR)



Span 2 - Slab Slab: NUMEROUS SPALLS UP TO 6 INCHES IN DIAMTER ALONG THE UNDERSIDE.



Pier 1 Pier Wall: FULL HEIGHT X 0.5 INCH WIDE VERTICAL CRACK AT THE LEFT END OF THE PIER WALL.



ROCK AND SEDIMENT BUILDUP UP TO 2 FEET DEEP IN ALL BARRELS.



Barrel 4 - RCBC Barrel 4: FULL HEIGHT X 0.5 INCH WIDE VERTICAL CRACK IN EXTERIOR WALL AT DOWNSTREAM END OF THE BARREL.



DRIFT 6 FEET WIDE X 3 FEET HIGH X 1 FOOT DEEP AGAINST EACH INTERIOR WALL.



Barrel 4 - RCBC Barrel 4: FULL HEIGHT X 0.5 INCH WIDE VERTICAL CRACK IN EXTERIOR WALL AT UPSTREAM END OF THE BARREL.



Barrel 4 - RCBC Barrel 4: SPALLS IN THE UPSTREAM END OF INTERIOR WALL 3 UP TO 1 INCH DEEP.



Barrel 3 - RCBC Barrel 3: SPALLS IN THE UPSTREAM END OF INTERIOR WALL 2 UP TO 3 INCHES DEEP.



Barrel 2 - RCBC Barrel 2: SPALLS IN THE UPSTREAM END OF INTERIOR WALL 1 UP TO 3 INCHES DEEP.



Span 1 - Slab Slab 1: NUMEROUS SPALLS UP TO 1 FOOT DIAMETER X 0.5 INCHES DEEP ALONG THE LEFT SIDE, SOME WITH EXPOSED REINFORCING. (PAR)

Stream Bed Soundings

(Profile diagram on following sheet)

County **BUNCOMBE**

Structure Number: **100078**

Sounding Date **11/08/2022**

Sounding recorded from: **TOP F OF SIDEWALL**

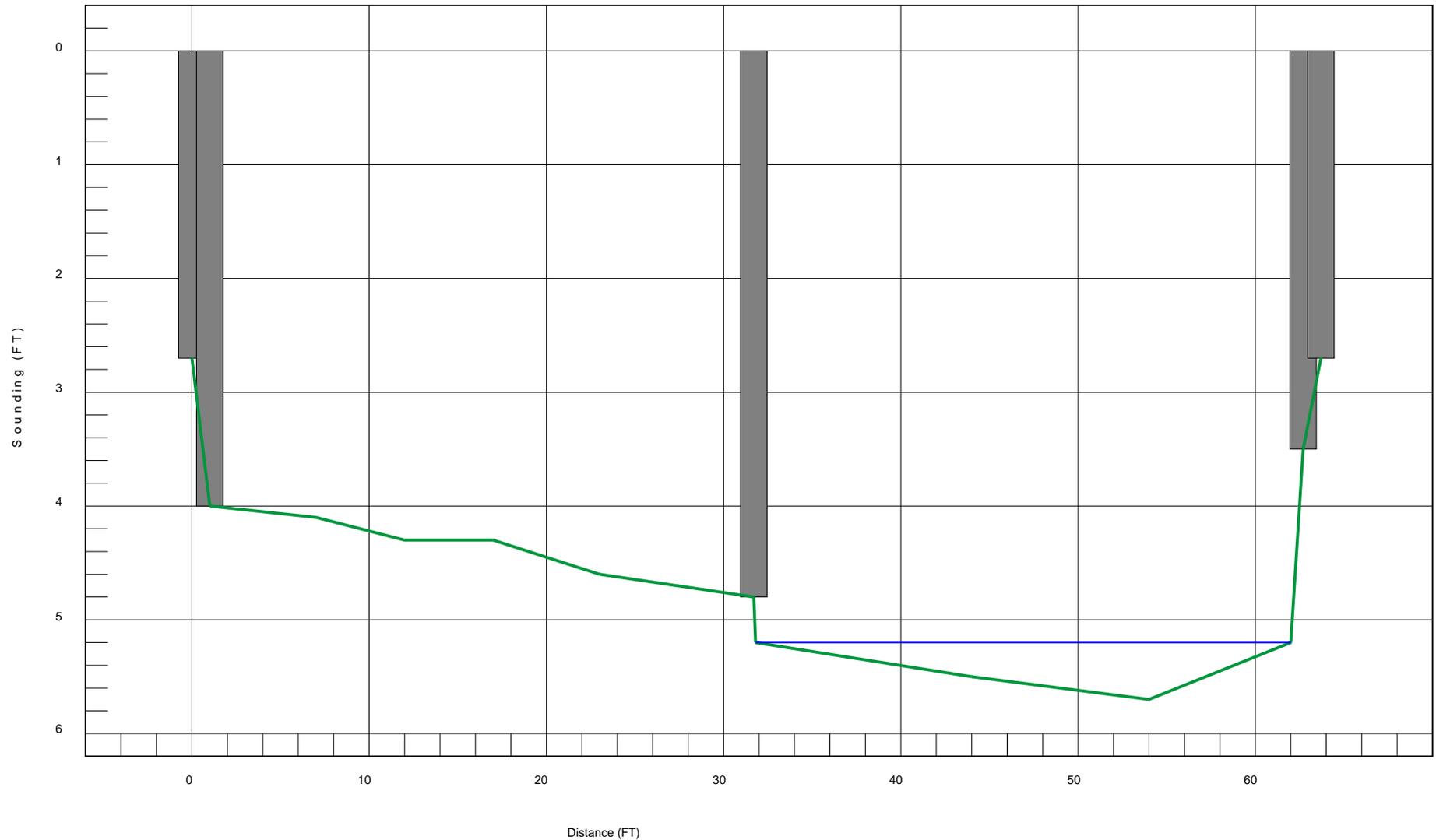
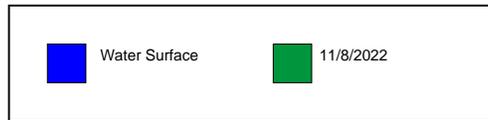
Highwater Mark Distance **5.2**

Location of Highwater Mark **WSWE**

Distance (Station) ft.	Downstream Sounding ft.	Upstream Sounding ft.	Description
0.000	2.700	0.000	FF END BENT 1
1.010	4.000	0.000	SF END BENT 1 (NO UPSTREAM MEASUREMENTS DUE TO
7.000	4.100	0.000	
12.000	4.300	0.000	
17.000	4.300	0.000	
23.000	4.600	0.000	
31.700	4.800	0.000	PIER
31.800	5.200	0.000	WSWE
44.000	5.500	0.000	
54.000	5.700	0.000	
62.000	5.200	0.000	WSWE
62.700	3.500	0.000	SF END BENT 2
63.700	2.700	0.000	FF END BENT 2

STREAMBED PROFILE (Downstream)

Top of Rail = 0FT (Sounding)

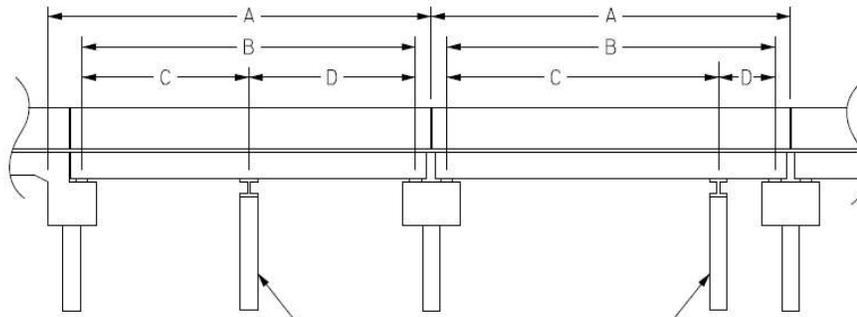


Structure Data Worksheet

Span Profile

County: **BUNCOMBE**

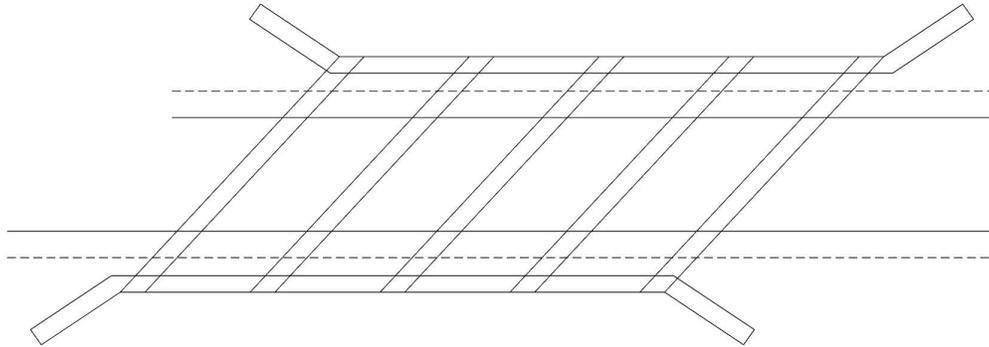
Structure Number: **100078**



A: SPAN LENGTH
 B: BEARING TO BEARING
 C: DISTANCE FROM NEAR BEARING
 D: DISTANCE TO FAR BEARING

Span Number	Span Length	Bearing to Bearing	Crutch/ Helper Bent	Distance to Near Bearing	Distance to Far Bearing
1	31.667	30.167			
2	32.000	29.500			
3	9.000	0.000			
4	9.000	0.000			
5	9.000	0.000			
6	9.000	0.000			

Bridge Inspection Field Sketch



Crown of Roadway



Bed

Number of Barrels	Skew	Distance From Crown to Bed	Fill Depth
4	135°	11ft	4ft
Length Along Center Line of Culvert		Length Along Center Line of Roadway	
		53.033ft	
Left Edge of Road to Culvert		Right Edge of Road to Culvert	
7.111ft		4.278ft	

Barrel #	Width	Height	Wall Thickness	Type
1	9ft	7ft		Reinforced Concrete Box Culvert
2	9ft	7ft	0.5ft	Reinforced Concrete Box Culvert
3	9ft	7ft	0.5ft	Reinforced Concrete Box Culvert
4	9ft	7ft	0.5ft	Reinforced Concrete Box Culvert

Speed Limit 35 MPH

Left: Road to Rail 10ft

Right: Road to Rail 5.75ft

Title
Culvert Profile

Description
Structure Details

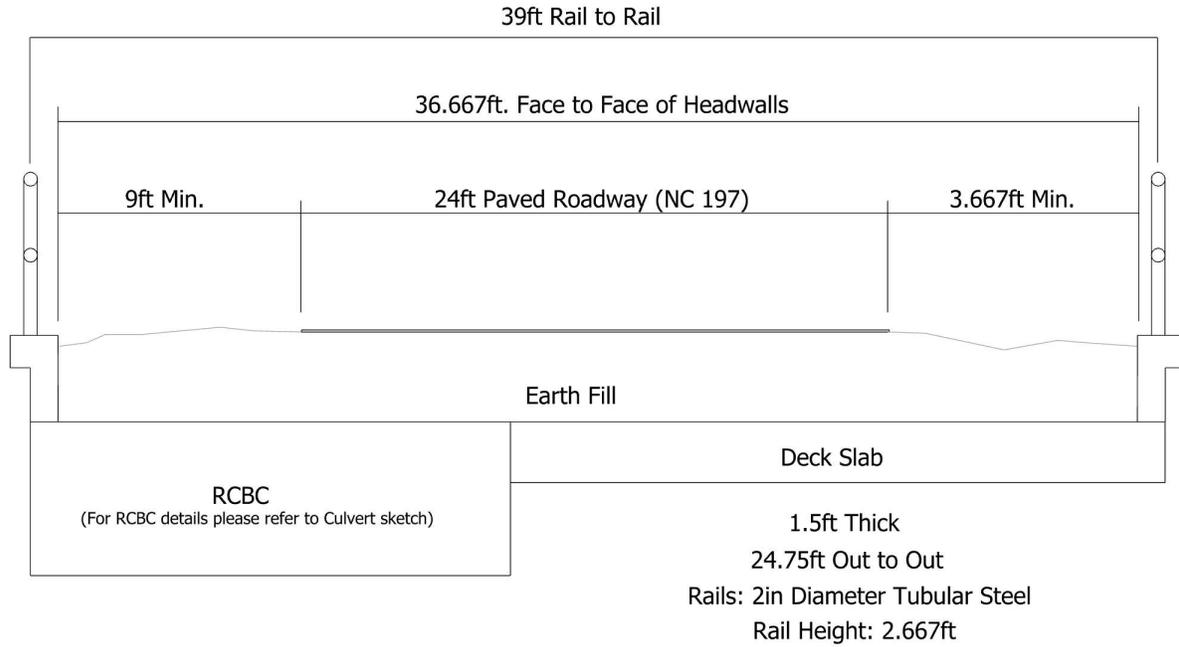
Structure No: 100078

Drawn By: Joseph C Huntsinger

Date: 10/31/2022

Filename: S000000006236.wes

Bridge Inspection Field Sketch



Title Typical Section		Description Superstructure Details	
Structure No: 100078	Drawn By: Joseph C Huntsinger	Date: 10/31/2022	Filename: S000000006237.wes

Bridge Inspection Field Sketch



Measurements taken 20ft South of the bridge

Roadway	24ft Wide	2 Paved Lanes	Looking North
Left Shoulder	3ft Wide	2ft Paved	01ft Unpaved
Right Shoulder	3ft Wide	2ft Paved	01ft Unpaved
Left Guardrail			
Right Guardrail	5.167ft from road		

Title
Approach Roadway

Description
Looking North

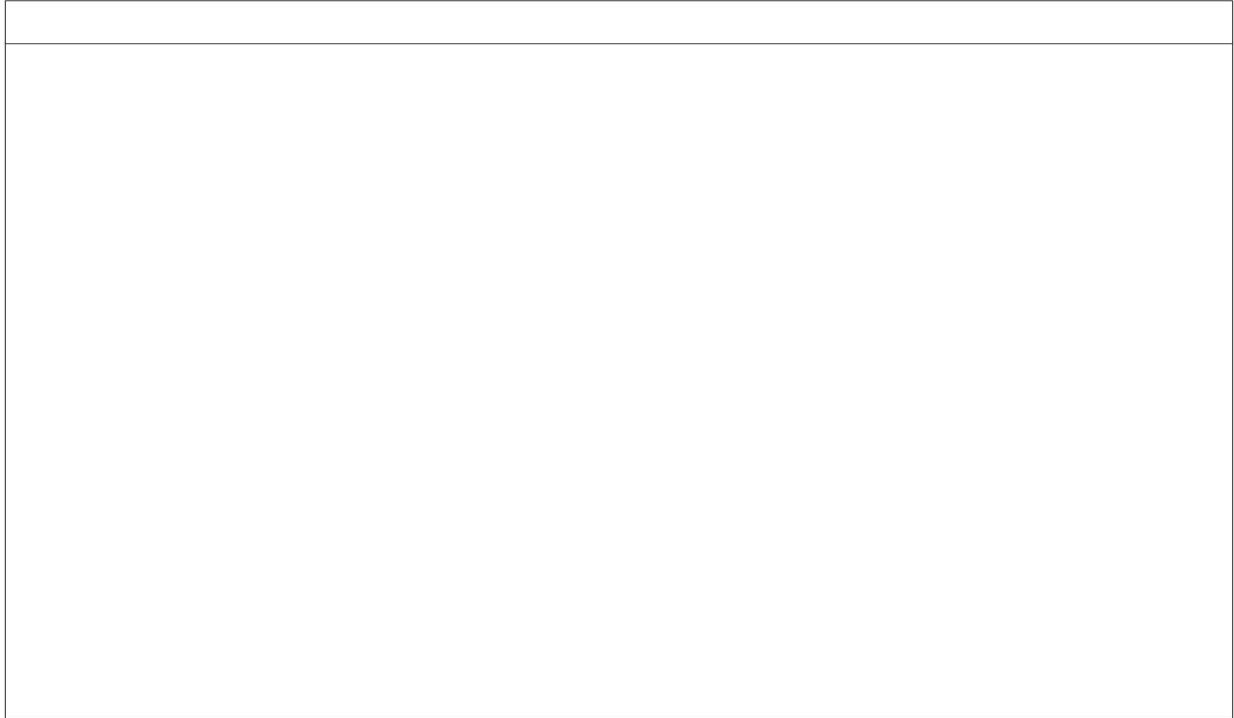
Structure No: 100078

Drawn By: Joseph C Huntsinger

Date: 10/31/2022

Filename: S000000006243.wes

Bridge Inspection Field Sketch



Caps							
#	Name	Type	Length	Width	Height	Left Beam to End of Cap	Right Beam to End of Cap
1	RC Cap 1	Reinforced Concrete Pier Cap	42.667ft	40in	18in	1ft	1ft

Piles							
#	Name	Type	Spacing	From	Height/Diam.	Width	Length
1	Pier Wall 1	Reinforced Concrete Pier Wall	21.333ft	Left End of Bent		42.667ft	5ft

Title Pier 1		Description Substructure Details	
Structure No: 100078	Drawn By: Joseph C Huntsinger	Date: 10/31/2022	Filename: S000306000080.wes



APPROACH RAIL END TREATMENT AT THE NORTH WEST CORNER. SOUTH EAST RAIL END IS OFF SITE.



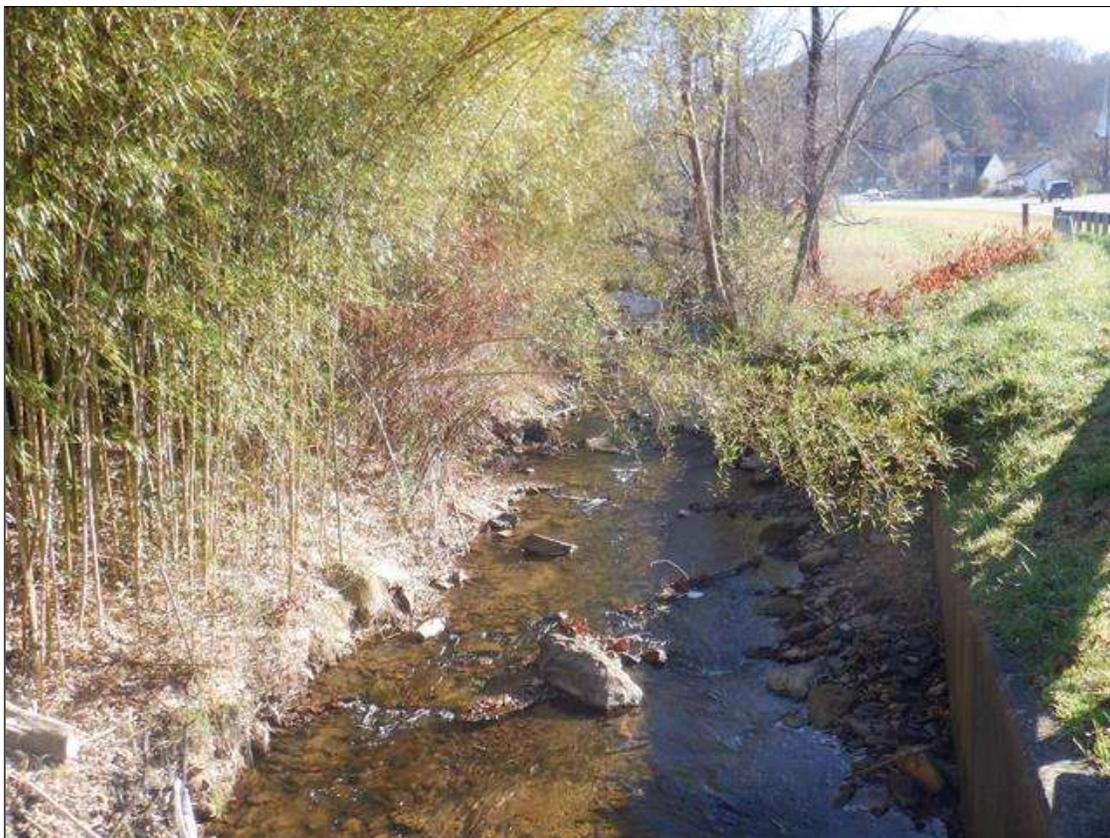
NORTH APPROACH LOOKING SOUTH



APPROACH RAILING AT NORTH WEST AND SOUTH EAST CORNER IS CONNECTED TO BRIDGE RAIL BY ONE U BOLT.



APPROACH RAILING AT NORTH WEST AND SOUTH EAST CORNER IS CONNECTED TO BRIDGE RAIL BY ONE U BOLT.



LOOKING UPSTREAM



SOUTH APPROACH LOOKING NORTH



LOOKING DOWNSTREAM



DOWNSTREAM PROFILE



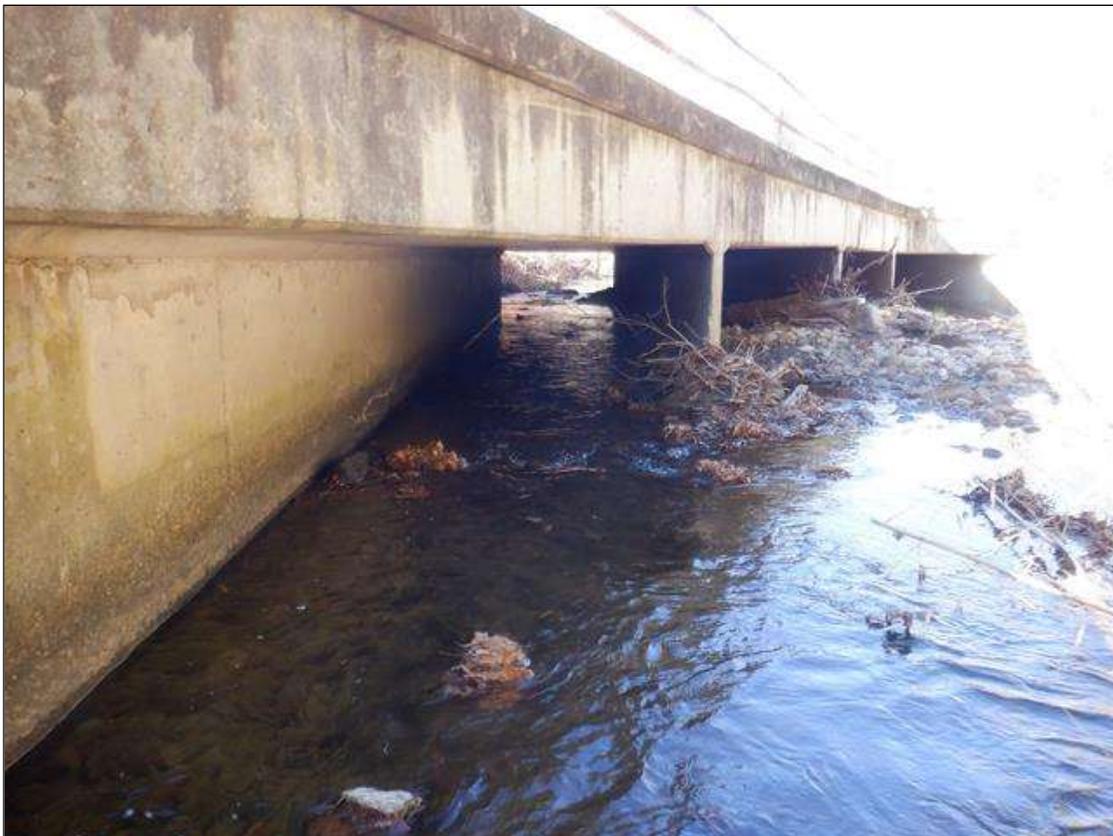
END BENT 1



PIER 1



END BENT 2



UPSTREAM PROFILE