



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

PRIORITY MAINTENANCE
CORRECTION TO BETWEEN RAIL AND TOP OF RAIL
TO WEAR SURFACE.

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY HARNETT BRIDGE NUMBER 420245 INSPECTION CYCLE 2 YRS
SR2054 MARSHBANKS ST
ROUTE SR2054 ACROSS EAST BUIES CREEK M.P. 0

LOCATION 0.1MI.N.US421&NC27

SUPERSTRUCTURE REINFORCED CONCRETE THRU GIRDER

SUBSTRUCTURE REINFORCED CONCRETE FULL HEIGHT ABUTMENTS

SPANS 1@31'7

LONGITUDE 78° 44' 2.08"

LATITUDE 35° 24' 1.48"

INSPECTION DATE 06/03/2014

PRESENT CONDITION FAIR

PRESENT POSTING SV 21 TTST 27 SV 21 TTST 27 PROPOSED POSTING _____

OTHER SIGNS PRESENT 4-DELINEATORS; 2-NARROW BRIDGE



LOOKING NORTH

Fracture Critical	<u>No</u>
Temporary Shoring	<u>No</u>
Scour Critical	<u>No</u>
Scour POA	<u>No</u>

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: 07/23/2014

IDENTIFICATION				CLASSIFICATION			
(1) STATE NAME -NORTH CAROLINA	BRIDGE	420245		SUFFICIENCY RATING =		60.56	
(8) STRUCTURE NUMBER(FEDERAL)		00000000850245		STATUS =	Functionally Obsolete		
(5) INVENTORY ROUTE (ON/UNDER) - ON		31020540					
(2) STATE HIGHWAY DEPARTMENT DISTRICT		2					
(3) COUNTY CODE 85	(4) PLACE CODE	0		(112)NBIS BRIDGE SYSTEM -		YES	
(6) FEATURE INTERSECTED - EAST BUIES CREEK				(104)HIGHWAY SYSTEM	Is not on NHS	0	
(7) FACILITY CARRIED SR2054				(26) FUNCTIONAL CLASS -	Local	09	
(9) LOCATION 0.1MI.N.US421&NC27				(100)STRAHNET HIGHWAY -	Not a STRAHNET Route	0	
(11)MILEPOINT		0		(101)PARALLEL STRUCTURE -	No Parallel Structure	N	
(16)LAT 35° 24' 1.48"	(17)LONG 78° 44' 2.08"			(102)DIRECTION OF TRAFFIC -	2-way Traffic	2	
(98)BORDER BRIDGE STATE CODE	PCT SHARE			(103)TEMPORARY STRUCTURE -			
(99)BORDER BRIDGE STRUCTURE NO				(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				CONDITION			
(43) STRUCTURE TYPE MAIN: Concrete				(58) DECK		6	
TYPE - Girder or Floorbeam System		CODE 103		(59) SUPERSTRUCTURE		6	
(44) STRUCTURE TYPE APPR :				(60) SUBSTRUCTURE		6	
TYPE -		CODE 000		(61) CHANNEL & CHANNEL PROTECTION		7	
(45) NUMBER OF SPANS IN MAIN UNIT		1		(62) CULVERTS		N	
(46) NUMBER OF APPROACH SPANS							
(107)DECK STRUCTURE TYPE - 1		CODE		LOAD RATING AND POSTING			
(108)WEARING SURFACE / PROTECTIVE SYSTEM :				(31) DESIGN LOAD	H 15	2	
(A) TYPE OF WEARING SURFACE -		CODE		(63) OPERATING RATING METHOD -	Load Factor	1	
(B) TYPE OF MEMBRANE -		CODE		(64) OPERATING RATING -	HS-20	36	
(C) TYPE OF DECK PROTECTION -		CODE		(65) INVENTORY RATING METHOD -	Load Factor	1	
				(66) INVENTORY RATING -	HS-12	21	
				(70) BRIDGE POSTING -	Posting Required	2	
				(41) STRUCTURE OPEN, POSTED ,OR CLOSED		P	
				DESCRIPTION -	Posted for Load		
AGE AND SERVICE				APPRAISAL			
(27) YEAR BUILT		1923		(67) STRUCTURAL EVALUATION		5	
(106)YEAR RECONSTRUCTED				(68) DECK GEOMETRY		2	
(42) TYPE OF SERVICE : ON - Highway				(69) UNDERCLEARANCES,VERTI & HORIZ		N	
UNDER - Waterway		CODE 15		(71) WATERWAY ADEQUACY		7	
(28) LANES: ON STRUCTURE 2 UNDER STRUCTURE		0		(72) APPROACH ROADWAY ALIGNMENT		8	
(29) AVERAGE DAILY TRAFFIC		2300		(36) TRAFFIC SAFETY FEATURES		0000	
(30) YEAR OF ADT 2009	(109) TRUCK ADT PCT	6%		(113)SCOUR CRITICAL BRIDGES		5	
(19) BYPASS OR DETOUR LENGTH		1 MI					
GEOMETRIC DATA				PROPOSED IMPROVEMENTS			
(48) LENGTH OF MAXIMUM SPAN		31 FT		(75) TYPE OF WORK -		CODE	
(49) STRUCTURE LENGTH		32 FT		(76) LENGTH OF STRUCTURE IMPROVEMENT			
(50)CURB OR SIDEWALK: LEFT .4585 FT RIGHT .4585 FT				(94) BRIDGE IMPROVEMENT COST			
(51) BRIDGE ROADWAY WIDTH CURB TO CURB		20 FT		(95) ROADWAY IMPROVEMENT COST			
(52) DECK WIDTH OUT TO OUT		24.833 FT		(96) TOTAL PROJECT COST			
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)		21 FT		(97) YEAR OF IMPROVEMENT COST ESTIMATE			
(33) BRIDGE MEDIAN - No Median		CODE 0		(114)FUTURE ADT 4600	(115) YEAR FUTURE ADT	2025	
(34) SKEW 0°	(35) STRUCTURE FLARED	0					
(10) INVENTORY ROUTE MIN VERT CLEAR		999.9 FT		INSPECTIONS			
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR		20 FT		(90) INSPECTION DATE		06/03/2014	
(53) MIN VERT CLEAR OVER BRIDGE RDWY		999.9 FT		(92) CRITICAL FEATURE INSPECTION :		(93) CFI DATE	
(54) MIN VERT UNDERCLEAR REF Not a Highway or Railroad		0 FT		A) FRACTURE CRIT DETAIL -	NO	A)	
(55) MIN LAT UNDERCLEAR RT REF Not a Highway or Railroad		000 FT		B) UNDERWATER INSP -	NO	B)	
(56) MIN LAT UNDERCLEAR LT REF -		000 FT		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: 07/23/2014

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
HARNETT	6	2	420245	32	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR2054	EAST BUIES CREEK

LOCATED :	BRIDGE NAME :	CITY :
0.1MI.N.US421&NC27		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	2300 2009	LT 281 RT 281

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1923	SHC	437		H 15

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :		
			TAN.	90	ON 2	UNDER	0

NAVIGATION :			HT. CRN. TO BED :		WATER DEPTH :		
VC 0 FT	HC 0 FT		11 FT		3		FT

SUPERSTRUCTURE :	REINFORCED CONCRETE THRU GIRDER
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SUBSTRUCTURE :	REINFORCED CONCRETE FULL HEIGHT ABUTMENTS
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SPANS :	1@31'7
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BEAMS OR GIRDERS :	RC THRU GIRDERS
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FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
17 RC/4 AWS		24.833 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
20 FT	20.917 FT	LT .4585 FT RT .4585 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :				
HS-12	HS-20	thruGird	SV 21	TTST 27	DATE	09/10/2008	

SYSTEM :	GREEN LINE ROUTE :
Secondary S.R. Route	N

UNDER ROUTES AND CLEARANCES

REMARKS :

BRIDGE INSPECTION RECORD AND SUMMARY

INSPECTION TYPE Routine Inspection
 BRIDGE NO. 420245 COUNTY HARNETT ROUTE SR2054 OVER EAST BUIES CREEK
 STRUCTURE TYPE REINFORCED CONCRETE THRU GIRDER
 ROUTE ORIENTATION S - N SPANS 1@31'7

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	G	
					b. ALIGNMENT	G	
					c. SCOUR	G	
					d. SLOPE PROT., RIP-RAP, DIKES, ETC.		
2. DECK NO. OF EA TYPE SPN GRADE RATES SI & A ITEM 58	a. CONCRETE	1	F	50. APPROACH ROADWAY CONDITION			G
	b. TIMBER			51. APPROACH SLABS			
	c. STEEL PLANK			52. PAINT SYSTEM			CODE
	d. OPEN GRID			53. UTILITIES			
3. RAILING	a. CONCRETE		F	54. RESPONSE TO LIVE LOAD			G
	b. TIMBER			55. ESTIMATED REMAINING LIFE			10
	c. ALUMINUM						
	d. STEEL						
4. CURBS, WHEELGUARDS, PARAPETS, MEDIANS			F	60. REGULATORY SIGN NOTICE ISSUED			NO
5. WALKWAYS (ON OR ATTACHED TO STRUCTURE)				61. PROMPT-ACTION NOTICE ISSUED			YES
6. DECK EXP JTS. OR DEVICES. NO. OF EACH	a. STEEL PL OR FINGER			62. PRESENTLY POSTED			YES
	b. MISC PREFAB			63. TOT. FIELD INSP TIME (INCLUDE WRITE UP)(MAN HR)			6
	c. COMPRESSION SEAL			64. TOTAL SNOOPER INSP. TIME (HRS)			
	d. STANDARD JOINTS			65. TOTAL TRAFFIC CONTROL TIME (MAN HRS)			
	e. OPEN JOINTS						
7. DECK DEBRIS (INCLUDES EXCESS SAND/GRAVEL)			G	70. SI&A GENERAL CONDITION RATINGS			
SUPER STR. (FM. 1 (90)B TRUSS) ITEM 59				a. DECK	ITEM 58	6	
10. LONGITUDINAL BEAMS OR GIRDERS			F	b. SUPERSTRUCTURE	ITEM 59	6	
11. LONGITUDINAL JOIST OR STRINGERS				c. SUBSTRUCTURE	ITEM 60	6	
12. INT. DIAP'S, X-FRAMES, BRACING & CONN'S				d. CHANNEL & CHANNEL PROT.	ITEM 61	7	
13. END DIAP'S, CURTAIN WALLS, & CONN'S				71. SI&A FIELD APPRAISAL RATINGS			
14. FLOOR BEAMS AND CONNECTIONS				a. WATERWAY ADAQUACY		7	
15. BEARING ASSEMBLIES (INCLUDING MISALIGN)				b. APPR. RDWY. ALIGNMENT		8	
16. DRAINAGE SYSTEM (ON STRUCTURE)			P	72. FIELD SCOUR EVALUATION			O
17. MOVABLE SPAN MACHINERY							
SUB STR. ITEMS. ITEM 60 (INCLUDE SCOUR)				USE OF INSP. ACCESSIBILITY EQUIPMENT			
35. TIM SUB STR.	a. ABUT. & INT. BENT CAPS & RISERS			SNOOPER (CODE S, 4, OR N)		HRS	NO
	b. PILES, POST, SILLS, & BRACING			LADDER			NO
	c. BULKHEADS, WING'S, & TIE BACKS			BUCKET TRUCK			NO
36. CONC SUB STR.	a. ABUT. & INT. BENT CAPS	G		BOAT			YES
	b. ABUT. & BENT COL'S BREASTWALLS	F		OTHER			NO
	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)							
40. FENDER SYSTEMS				80. INSPECTED BY:	JH. O'Brien		
41. DRIFT			G	81. REVIEWED BY:			

Bridge I&A Form 1(82)H State of North Carolina Dept. of Transportation Division of Highways		FIELD INSPECTION REPORT <u>Bridge Inspeccion & Analysis</u>	
Team Leader a.d.osborne			
Assisted By jsf			
Item No.	Grade		
2a	F	SPALL 22"LONG X 10"WIDE X 2"DEEP WITH REBAR EXPOSED BOTTOM OF DECK UPSTREAM END AT ABUTMENT 1 (PRIORITY MAINTENANCE). SPALL 1'LONG X 6"WIDE X 1"DEEP WITH REBAR EXPOSED BOTTOM OF DECK SOUTHWEST CORNER AT ABUTMENT 1 (PRIORITY MAINTENANCE). SPALL 16"LONG X 3"WIDE X 1/2"DEEP WITH REBAR EXPOSED BOTTOM OF DECK NORTHWEST CORNER AT ABUTMENT 2. DELAMINATION 18" X 12" BOTTOM OF DECK AT DRAIN NORTHWEST CORNER AT ABUTMENT 2. HORIZONTAL AND VERTICAL HAIRLINE CRACKS WITH EFFLORESCENCE IN THE DOWNSTREAM FACE OF THE DECK. DIAGONAL HAIRLINE CRACK WITH EFFLORESCENCE IN THE BOTTOM OF THE DECK AT THE NORTHWEST CORNER.	
3a	F	WEATHERING WITH EXPOSED AGGREGATE IN BOTH RAILS.	
4	F	COARSE AGGREGATE EXPOSED.	
10	F	THRU GIRDER 1 BACKSIDE SCATTERED CRACKS WITH EFFLO. STAINS SIMILAR IN GIRDER 2. OLD CONCRETE GIRDERS WEATHERED AND SURFACE PITTED.	
10A	NO	NO CURVED GIRDERS	
16	P	THE DECK DRAINS HAVE BEEN PAVED OVER AND ARE OBSTRUCTING DRAINAGE ALONG THE LENGTH OF THE STRUCTURE.	
36b	F	5" DIAMETER X 1/2" DEEP SPALL WITH EXPOSED REBAR IN ABUTMENT 2 BREASTWALL AT THE UPSTREAM END. SCALING WITH EXPOSED AGGREGATE IN THE FACE OF THE ABUTMENT BREASTWALLS ALONG THE WATER LINE AND BENEATH THE WEEP HOLES. SEE PHOTO OF THE SCALING IN ABUTMENT 1 BREASTWALL.	
36d	F	SCALING ALONG THE WATER LINE AND WEATHERING WITH EXPOSED AGGREGATE IN ALL FOUR WINGWALLS.	
45c	G	REFER TO SCOUR REPORT DATED 03/24/2010	
61	YES	SPALLS IN BOTTOM OF DECK.	
62	YES	SV 21; TTST 27	

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 420245

County HARNETT

Date: 06/03/2014

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

MMS Code	Description of Function	Unit	Quantity	Remarks	Est. Cost
 3326	Maintain Concrete Deck	SF	3 7 SE 7-21-14	SPALLS 1) 22" X 10" X 2" DEEP, 2) 1' X 6" X 1" DEEP ON BOTTOM OF DECK WITH REBAR EXPOSED. 3) SPALL 16" LONG X 3" WIDE X 1/2" DEEP WITH REBAR EXPOSED BOTTOM OF DECK NORTHWEST CORNER AT ABUTMENT 2	
3326	Maintain Concrete Deck	SF	100	CRACKS IN SIDES AND BOTTOM OF DECK.	
3348	Maintain Concrete Substructure Components	LF	10	SPALL AND CRACKS IN BOTH ABUTMENTS.	

Key



Priority Maintenance Item



Critical Finding Item



Priority Maintenance Level Not Determined

BRIDGE INSPECTOR'S RECOMMENDATION FOR PRIORITY MAINTENANCE REPAIRS

Bridge: 420245 County HARNETT

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

MMS Code	MMS Description	Quantity
3326	Maintain Concrete Deck	3 SF
Location:		
Deck Structure Type	Bent/Span No. 1	CONCRETE DECK
Priority Level	Status	
Priority Maintenance	SIA Updates in Process	
Submitted Date:	Submitted By:	Assisted By:
06/05/2014	AD OSBORNE	JS FAULKNER
Details		
SPALLS 1) 22" X 10" X 2" DEEP, 2) 1' X 6" X 1" DEEP ON BOTTOM OF DECK WITH REBAR EXPOSED. 3) SPALL 16"LONG X 3"WIDE X 1/2"DEEP WITH REBAR EXPOSED BOTTOM OF DECK NORTHWEST CORNER AT ABUTMENT 2		



SPALL 22"LONG X 10"WIDE X 2"DEEP WITH REBAR EXPOSED BOTTOM OF DECK UPSTREAM END AT
ABUTMENT 1



SPALL 1'LONG X 6"WIDE X 1"DEEP WITH REBAR EXPOSED BOTTOM OF DECK SOUTHWEST CORNER AT
ABUTMENT 1



SPALL 16"LONG X 3"WIDE X 1/2"DEEP WITH REBAR EXPOSED BOTTOM OF DECK NORTHWEST CORNER AT ABUTMENT 2



DELAMINATION 18" X 12" BOTTOM OF DECK AT DRAIN NORTHWEST CORNER AT ABUTMENT 2

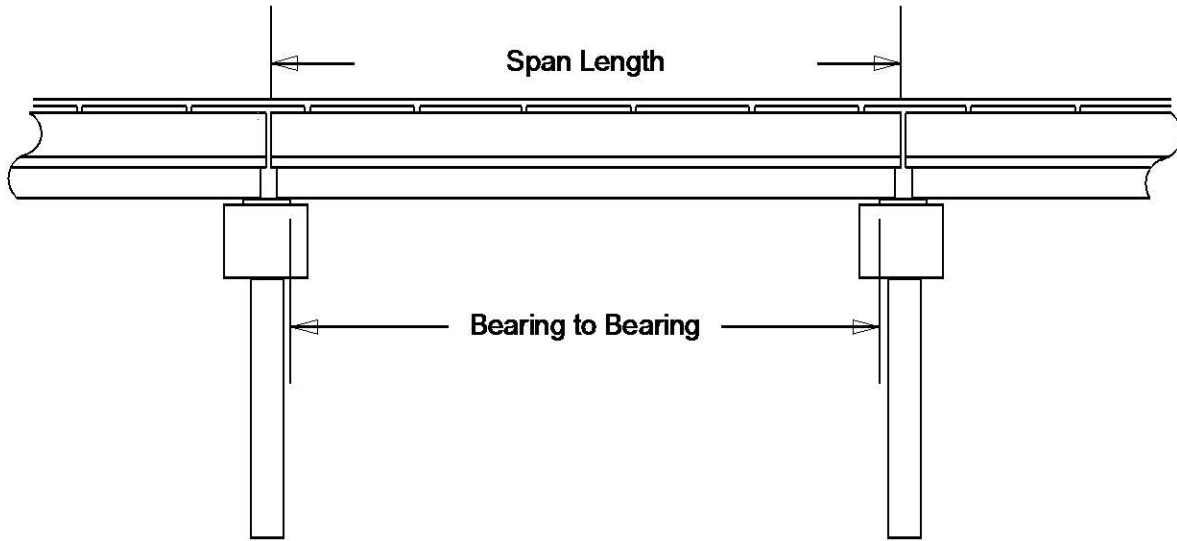


SPALL 5" DIAMETER WITH REBAR EXPOSED ABUTMENT 2 AT UPSTREAM END

Structure Data Worksheet

Spans

County: HARNETT Structure No: 420245 Date: 06/03/2014 Inspected By: ado



Span No	Span Length	Bearing to Bearing	Comments
1	31.583	30.583	NBIS: 30.0

Stream Bed Soundings

(See next sheet for profile sketch)

Bridge No: 420245 County: HARNETT Date: 06/03/2014 By: ado

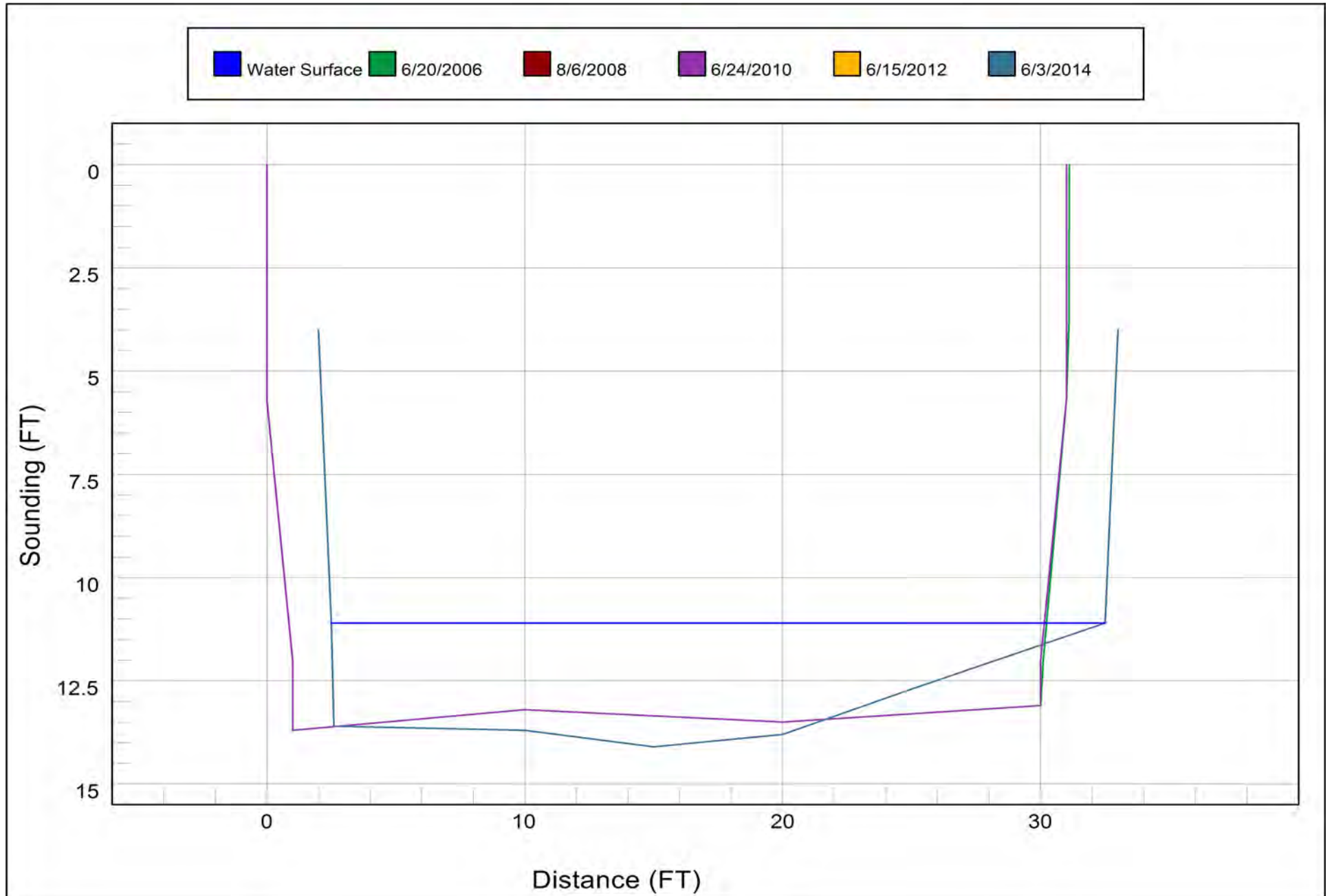
Record sounding from top of rail. Other location if needed: _____

Distance from Highwater Mark to top of rail: 10 Location of Highwater Mark: _____

DOWNSTREAM			UPSTREAM		
Distance (Station) (ft)	Sounding (ft)	Description	Distance (Station) (ft)	Sounding (ft)	Description
2	4	TOP OF WINGWALL			
2.5	11.1	Water Surface/Water Edge (WSWE)	2.5	13.4	STREAMBED
2.6	13.6	STREAMBED			
10	13.7	STREAMBED			
15	14.1	STREAMBED			
20	13.8	STREAMBED			
25	12.7	STREAMBED			
32.5	11.1	Water Surface/Water Edge (WSWE)	32.5	13.5	STREAMBED
33	4	TOP OF WINGWALL			

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



Bridge Inspection Field Sketch

SR 2054



Roadway	18.5ft Wide	2 Paved Lanes	Looking North
Left Shoulder	8.5ft Wide	2.5ft Paved	6ft Unpaved
Right Shoulder	6ft Wide		6ft Unpaved
Left Guardrail			
Right Guardrail			

MEASUREMENTS VERIFIED ADO JSF 6-03-2014

Title

APPROACH ROADWAY

Description

LOOKING NORTH

Bridge No: 420245

Drawn By: WBN

Date: 8/6/08

File Name: S0074000948

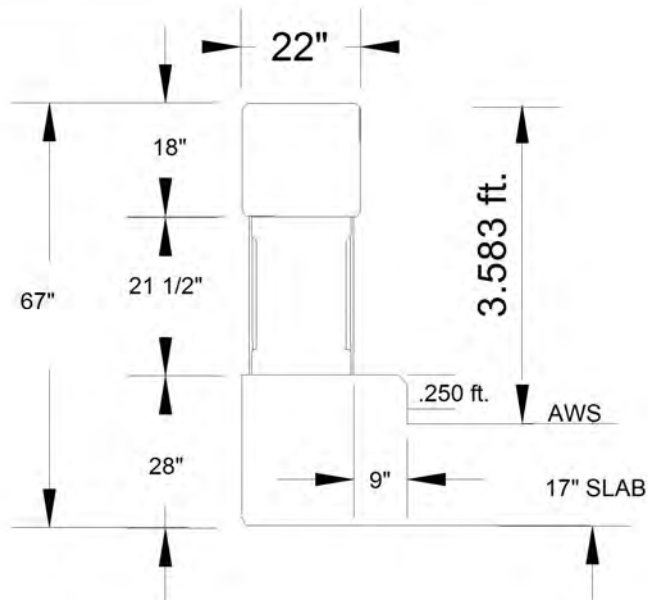
Bridge Inspection Field Sketch

Deck Width/Out to Out	24.833ft	Wearing Surface	0.417ft
Between Rails	20.917ft	Median Width	
Curb Height	0.25ft	Median Height	
Top Rail to Deck/Wearing Surface	3.583ft	Left Guardrail Width	1.833ft
Clear Roadway	20ft	Right Guardrail Width	1.833ft
Left Bridge Rail	Type 28	Right Bridge Rail	Type 28



Measurements for Span #	1		
Deck Thickness	1.417	Left Overhang	N/A
Top of Rail to Bottom of Beam	5.583	Right Overhang	N/A

Beam No	Beam Type	Spacing	Comments
1	Thru Girder	23.167ft	THRU GIRDER
2	Thru Girder		



MEASUREMENTS REVISED ADO JSF 6-03-2014

Title

TYPICAL SECTION

Description

R. C. THRU GIRDER

Bridge No: 420245

Drawn By: JSF

Date: 06/03/14

File Name: S0074000949



NARROW BRIDGE SIGN SOUTH END



NARROW BRIDGE SIGN NORTH END



LOOKING NORTH



LEFT SIDE



RIGHT SIDE



POSTING SOUTH END



LOOKING NORTH FROM MIDSPAN



LOOKING SOUTH FROM MIDSPAN



LOOKING SOUTH



ABUTMENT 1



UPSTREAM



ABUTMENT 2



DOWNSTREAM



SUPERSTRUCTURE