



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY DAVIDSON BRIDGE NUMBER 280031 INSPECTION CYCLE 2 YRS
ROUTE NC8 ACROSS LICK CREEK M.P. 0

LOCATION 0.4 MI. S. JCT. SR1002

SUPERSTRUCTURE REINFORCED CONCRETE DECK ON I-BEAMS

SUBSTRUCTURE EBT#1:RC CAP ON SPR.FTG, ABUT#2:RC SPILL THRU, INT.BTS:RCP&B

SPANS 1@50'5", 1@50'0", 1@50'5"

LONGITUDE 80° 10' 22.6"

LATITUDE 35° 36' 47.0"

PRESENT CONDITION POOR

INVENTORY RATING

INSPECTION DATE 03/13/2012

OPERATING RATING

PRESENT POSTING SV 22 TTST 26 SV 22 TTST 26

PROPOSED POSTING

COMPUTER UPDATE

ANALYSIS DATE

POSTING LETTER DATE

SUFFICIENCY RATING

OTHER SIGNS PRESENT (4) DELINEATORS



LOOKING NORTH

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

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

Run Date: 03/28/2012

IDENTIFICATION				CLASSIFICATION			
(1) STATE NAME -NORTH CAROLINA	BRIDGE	280031		SUFFICIENCY RATING =		47.62	
(8) STRUCTURE NUMBER(FEDERAL)		00000000570031		STATUS =	Not Deficient		
(5) INVENTORY ROUTE (ON/UNDER) - ON		31000080					
(2) STATE HIGHWAY DEPARTMENT DISTRICT		1					
(3) COUNTY CODE	57	(4) PLACE CODE	00000	(112)NBIS BRIDGE SYSTEM -		YES	
(6) FEATURE INTERSECTED -	LICK CREEK			(104)HIGHWAY SYSTEM	Is not on NHS	0	
(7) FACILITY CARRIED	NC8			(26) FUNCTIONAL CLASS -	Major Collector	07	
(9) LOCATION	0.4 MI. S. JCT. SR1002			(100)STRAHNET HIGHWAY -	Not a STRAHNET Route	0	
(11)MILEPOINT		0		(101)PARALLEL STRUCTURE -	No Parallel Structure	N	
(16)LAT	35° 36' 46.9"	(17)LONG	80° 10' 23.8"	(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:	Steel			(58) DECK		5	
TYPE -	Stringer Mutlibeam or Girder	CODE	302	(59) SUPERSTRUCTURE		4	
(44) STRUCTURE TYPE APPR :				(60) SUBSTRUCTURE		5	
TYPE -		CODE	000	(61) CHANNEL & CHANNEL PROTECTION		7	
(45) NUMBER OF SPANS IN MAIN UNIT			3	(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		
(B) TYPE OF MEMBRANE	-	CODE		(64) OPERATING RATING -	HS-18	133	
(C) TYPE OF DECK PROTECTION -		CODE		(65) INVENTORY RATING METHOD -	Load Factor		
				(66) INVENTORY RATING -	HS-11	120	
				(70) BRIDGE POSTING -	Posting Required	4	
				(41) STRUCTURE OPEN, POSTED ,OR CLOSED		P	
				DESCRIPTION -	Posted for Load		
AGE AND SERVICE				APPRAISAL			
(27) YEAR BUILT			1947	(67) STRUCTURAL EVALUATION		4	
(106)YEAR RECONSTRUCTED			1969	(68) DECK GEOMETRY		4	
(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			(72) APPROACH ROADWAY ALIGNMENT		7	
(29) AVERAGE DAILY TRAFFIC			960	(36) TRAFFIC SAFETY FEATURES		0000	
(30) YEAR OF ADT	2010	(109) TRUCK ADT PCT	7%	(113)SCOUR CRITICAL BRIDGES		8	
(19) BYPASS OR DETOUR LENGTH			2 MI				
GEOMETRIC DATA				PROPOSED IMPROVEMENTS			
(48) LENGTH OF MAXIMUM SPAN			50 FT	(75) TYPE OF WORK -		CODE	
(49) STRUCTURE LENGTH			151 FT	(76) LENGTH OF STRUCTURE IMPROVEMENT			
(50)CURB OR SIDEWALK: LEFT	1 FT RIGHT		1 FT	(94) BRIDGE IMPROVEMENT COST			
(51) BRIDGE ROADWAY WIDTH CURB TO CURB			24 FT	(95) ROADWAY IMPROVEMENT COST			
(52) DECK WIDTH OUT TO OUT			25.3 FT	(96) TOTAL PROJECT COST			
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)			19 FT	(97) YEAR OF IMPROVEMENT COST ESTIMATE			
(33) BRIDGE MEDIAN -	No Median	CODE	0	(114)FUTURE ADT	1920	(115) YEAR FUTURE ADT	2025
(34) SKEW	30°	(35) STRUCTURE FLARED	0				
(10) INVENTORY ROUTE MIN VERT CLEAR			999.9 FT	INSPECTIONS			
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR			24 FT	(90) INSPECTION DATE		03/13/2012	
(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: 03/28/2012

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
DAVIDSON	9	1	280031	151	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
NC8	LICK CREEK

LOCATED :	BRIDGE NAME :	CITY :
0.4 MI. S. JCT. SR1002		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
07	FA	NFA	960 2010	LT 141 RT 141

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1947	SHPWC	5244		H 15

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
1969	BMU		TAN	120	ON 2 UNDER

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT 24 FT		2 FT

SUPERSTRUCTURE : REINFORCED CONCRETE DECK ON I-BEAMS

SUBSTRUCTURE : EBT#1:RC CAP ON SPR.FTG, ABUT#2:RC SPILL THRU, INT.BTS:RCP&B

SPANS : 1@50'5", 1@50'0", 1@50'5"

BEAMS OR GIRDERS : 4 LINES OF W30X124 EXT. & W30X116 INT. I-BEAMS @ 6'9"CENTERS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
7 3/4"RC,2"AWS		25.3 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
24 FT	26 FT	LT 1 FT RT 1 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	DATE
HS-11	HS-18	Int Bm	SV 26	30	03/28/2012

SYSTEM :	GREEN LINE ROUTE :
Primary N.C. Route	N

UNDER ROUTES AND CLEARANCES

REMARKS :

BRIDGE INSPECTION RECORD AND SUMMARY

INSPECTION TYPE Routine Inspection
 BRIDGE NO. 280031 COUNTY DAVIDSON ROUTE NC8 OVER LICK CREEK
 STRUCTURE TYPE REINFORCED CONCRETE DECK ON I-BEAMS
 ROUTE ORIENTATION S - N SPANS 1@50'5", 1@50'0", 1@50'5"

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	3	F	50. APPROACH ROADWAY CONDITION			G
	b. TIMBER			51. APPROACH SLABS			
	c. STEEL PLANK			52. PAINT SYSTEM			CODE A P
	d. OPEN GRID			53. UTILITIES			
3. RAILING	a. CONCRETE		G	54. RESPONSE TO LIVE LOAD			G
	b. TIMBER			55. ESTIMATED REMAINING LIFE			12
	c. ALUMINUM						
	d. STEEL						
4. CURBS, WHEELGUARDS, PARAPETS, MEDIANS			G				
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			NO
	b. MISC PREFAB			62. PRESENTLY POSTED			YES
	c. COMPRESSION SEAL			63. TOT. FIELD INSP TIME (INCLUDE WRITE UP)(MAN HR)			6
	d. STANDARD JOINTS	2	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)			G				
				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			P	b. SUPERSTRUCTURE	ITEM 59	4	
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	7	
13. END DIAP'S, CURTAIN WALLS, & CONN'S			G				
14. FLOOR BEAMS AND CONNECTIONS				71. SI&A FIELD APPRAISAL RATINGS			
15. BEARING ASSEMBLIES (INCLUDING MISALIGN)			F	a. WATERWAY ADAQUACY		7	
16. DRAINAGE SYSTEM (ON STRUCTURE)			G	b. APPR. RDWY. ALIGNMENT		7	
17. MOVABLE SPAN MACHINERY							
				72. FIELD SCOUR EVALUATION			L
SUB STR. ITEMS. ITEM 60 (INCLUDE SCOUR)							
35. TIM SUB STR.	a. ABUT. & INT. BENT CAPS & RISERS			USE OF INSP. ACCESSIBILITY EQUIPMENT			
	b. PILES, POST, SILLS, & BRACING			SNOOPER (CODE S, 4, OR N)		HRS	NO
	c. BULKHEADS, WING'S, & TIE BACKS			LADDER			YES
36. CONC SUB STR.	a. ABUT. & INT. BENT CAPS		F	BUCKET TRUCK			NO
	b. ABUT. & BENT COL'S BREASTWALLS		G	BOAT			NO
	c. ABUT. & INT. BENT PILES			OTHER			NO
	d. BACKWALLS, WING'S, RETAIN. WALLS		G				
	e. ABUT. & BENT FOOTINGS & SILLS		G				
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)			G				
40. FENDER SYSTEMS				80. INSPECTED BY:	R.K. Floyd		
41. DRIFT			F	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 Inspection & Analysis</u>	
Team Leader KEITH FLOYD			
Assisted By BRIAN HEDRICK			
Item No.	Grade		
2a	F	FEW FINE TO H/L TRANSVERSE CRACKS WITH EFFLO ON UNDERSIDE OF DECK THRU-OUT. PHOTOS NO 1 & 4	
10	P	BEAM 1 SPAN 1 AT PIER 1 CLEANED AND PAINTED WITH 4 IN.H X 12 IN.L X 1/2 IN. THICK STEEL PLATES WELDED TO WEB AND BOTTOM FLANGE OF RIGHT SIDE. PHOTO NO 5 BEAM 4 SPAN 1 AT PIER 1 CLEANED AND PAINTED WITH 4 IN.H X 12 IN.L X 1/2 IN. THICK STEEL PLATES WELDED TO WEB AND BOTTOM FLANGE OF LEFT SIDE. PHOTO NO 7 BEAM 4 SPAN 1 AT PIER 1 CLEANED AND PAINTED WITH UP TO 1/2 IN. SECTION LOSS IN RIGHT SIDE OF BOTTOM FLANGE. PHOTO NO 9 BEAM 1 SPAN 2 AT PIER 1 CLEANED AND PAINTED WITH 4 IN.H X 12 IN.L X 1/2 IN. THICK STEEL PLATES WELDED TO WEB AND BOTTOM FLANGE OF RIGHT SIDE. PHOTO NO 8 BEAM 4 SPAN 2 AT PIER 1 CLEANED AND PAINTED WITH 4 IN.H X 18 IN.L X 1/2 IN. THICK STEEL PLATES WELDED TO WEB AND BOTTOM FLANGE OF LEFT SIDE. PHOTO NO 7 BEAMS 1 AND 4 SPANS 2 AND 3 AT PIER 2 CLEANED AND PAINTED WITH UP TO 3/16 IN. SECTION LOSS OF BOTTOM FLANGE, 12 IN. LONG X FULL WIDTH AND UP TO 1/16 IN. SECTION LOSS ON WEBS. PHOTO NO 6 AND 12 (5) FAIR- ALL INTERIOR BEAMS HAVE RUST w/ NO SECTION LOSS.	
10A	NO	NO CURVED GIRDERS	
15	F	ALL EXT. BEARINGS HAVE BEEN CLEANED AND PAINTED WITH UP TO 1/16 IN. SECTION LOSS. (7) GOOD- ALL INT. BEARINGS.	
52	P	SURFACE RUST THRU-OUT. PHOTO NO 2	
36a	F	ALL CAPS HAVE FEW FINE TO H/L VERTICAL AND HORIZONTAL CRACKS WITH FEW 1/2 IN. DEEP POP-OFFS. ABUT 1 CAP HAS A PATCHED AREA BENEATH SEAT 4. PHOTO NO 3	
41	F	TWO LOGS AT PIER 1, 1- 6 IN. DIA. x 5 FT. LONG AND 1- 6 IN. DIA. x 8 FT. LONG. PHOTO NO 11	
62	YES	SV 22 TTST 26	
72	L	SEE SCOUR REPORT 2/17/97 CODE (8) NOT SCOUR CRITICAL	

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 280031

County DAVIDSON

Date: 03/13/2012

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	25	CRACKS WITH EFFLO UNDERSIDE DECK.	
3342	Clean and Paint Structural Steel	SF	1000	RUST WITH SCALE ON BEAMS THRU-OUT.	
3366	Drift and Debris Removal	HR	50	DRIFT AT PIER 1.	

Key



Priority Maintenance Item



Critical Finding Item



Priority Maintenance Level Not Determined



PATCH IN ABUT 1 CAP BENEATH SEAT 4 PHOTO NO 3



CRACKS WITH RUST STAINS IN DECK SPAN 1 BAY 2 PHOTO NO 4



REPAIR TO BEAMS 4 SPANS 1 AND 2 PIER 1 LEFT SIDE BOTTOM FLANGE PHOTO NO 7



REPAIR TO BEAM 1 SPAN 2 PIER 1 RIGHT SIDE PHOTO NO 8



DRIFT AT PIER 1 PHOTO NO 11



SURFACE RUST ON BEAMS SPAN 2 PHOTO NO 2



BEAMS 4 SPANS 2 AND 3 AT PIER 2 CLEANED AND PAINTED PHOTO NO 12



BEAMS 1 SPANS 2 AND 3 AT PIER 2 CLEANED AND PAINTED PHOTO NO 6



CRACKS WITH EFFLO IN DECK SPAN 3 BAY 1 PHOTO NO 1



REPAIR TO BEAM 1 SPAN 1 AT PIER 1 PHOTO NO 5



BEAM 4 SPAN 1 AT PIER 1 CLEANED AND PAINTED PHOTO NO 9

Structure Data Worksheet

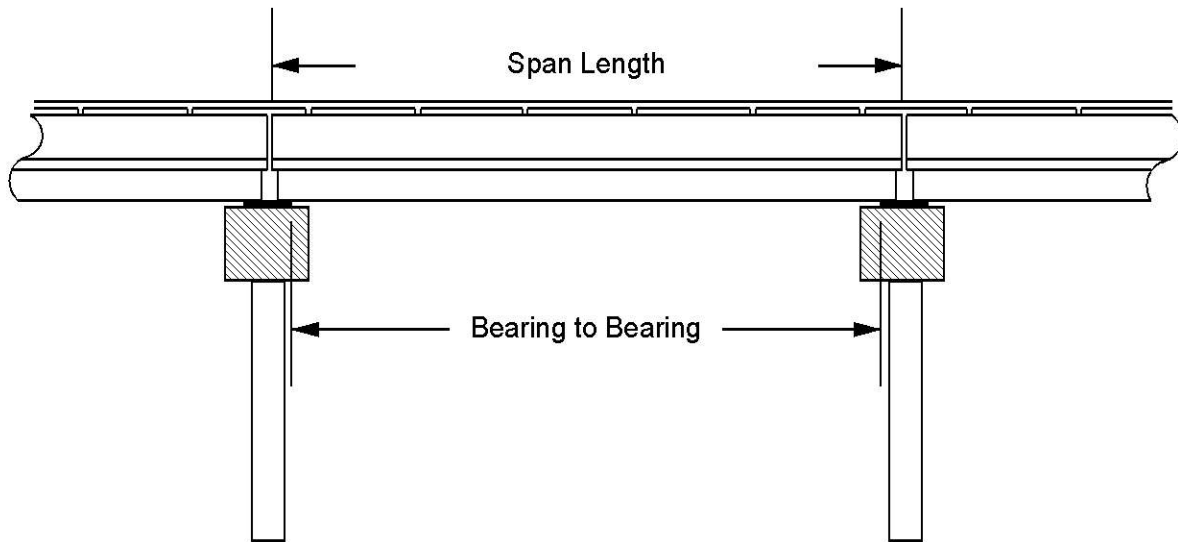
Spans

County: DAVIDSON

Structure No: 280031

Date: 03/13/2012

Inspected By: RK
FLOYD



Span No	Span Length	Bearing to Bearing	Comments
1	50.417	48.667	NBIS BL: 149.0 FT.
2	50.0	49.167	
3	50.417	48.667	

Stream Bed Soundings

(See next sheet for profile sketch)

Bridge No: 280031 County: DAVIDSON Date: 03/13/2012 By: RK FLOYD

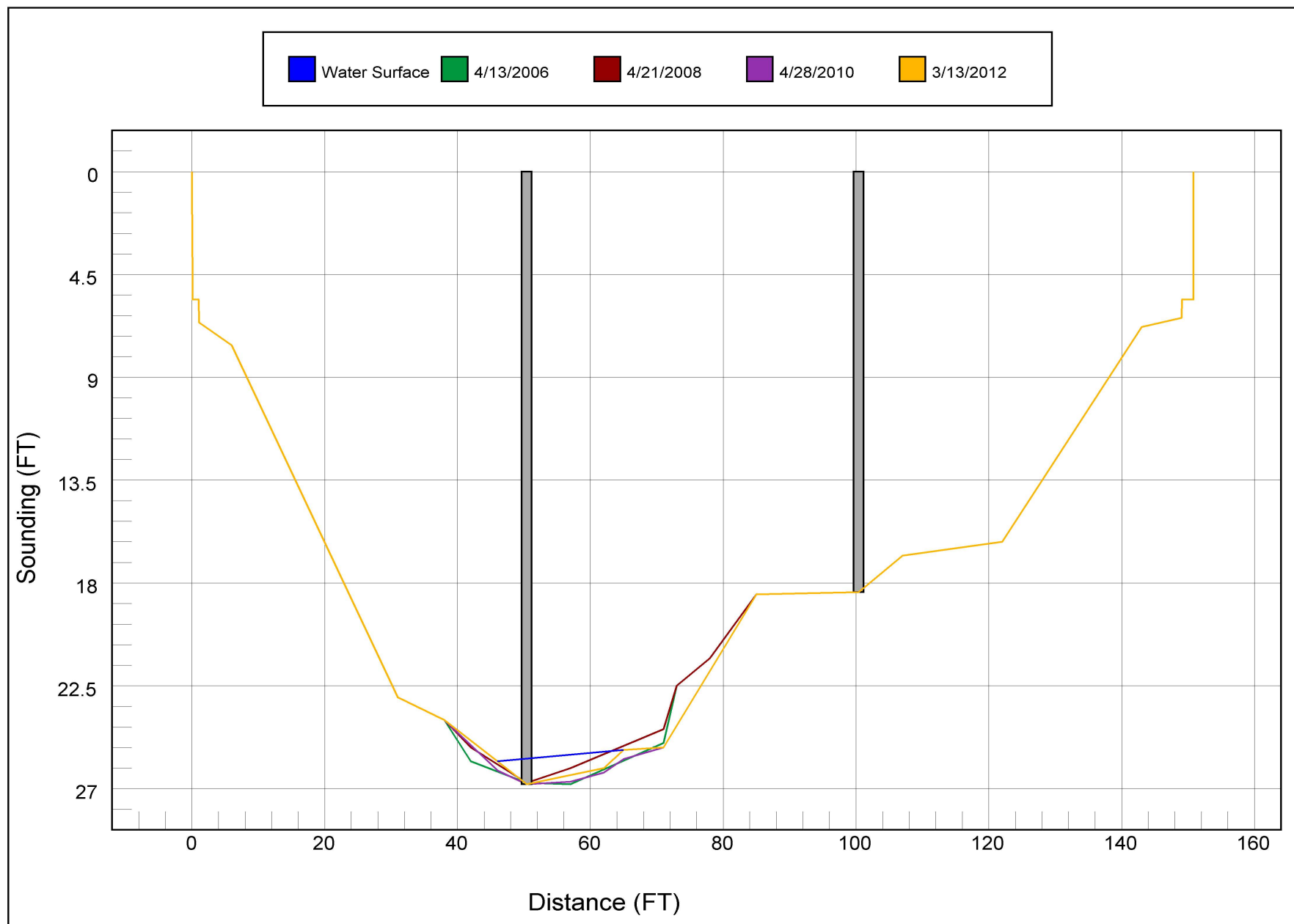
Record sounding from top of rail. Other location if needed: _____

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

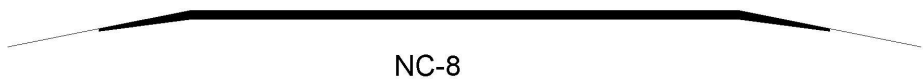
DOWNSTREAM			UPSTREAM		
Distance (Station) (ft)	Sounding (ft)	Description	Distance (Station) (ft)	Sounding (ft)	Description
0	0	ABUT 1	0	0.0	ABUT 1
0.1	5.6	TOC			
1	5.6				
1.1	6.6		1.1	7.0	
6	7.6				
31	23				
38	24				
46	25.8	WS WE			
50.4	26.8	PIER 1	50.4	26.6	PIER 1
57	26.4				
62	26.1				
65	25.3	WS WE			
71	25.2				
85	18.5				
100.4	18.4	PIER 2	100.4	17.8	PIER 2
107	16.8				
122	16.2				
143	6.8				
149	6.4		149	7.0	
149.1	5.6				
150.8	5.6	TOC			
150.81	0	ABUT 2	150.81	0.0	ABUT 2

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



Bridge Inspection Field Sketch

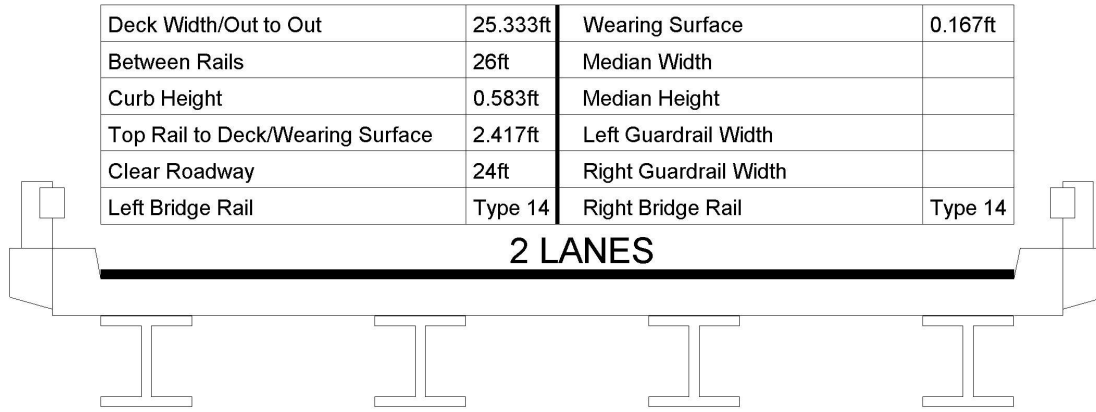


Roadway	19ft Wide	2 Paved Lanes	Looking North
Left Shoulder	4ft Wide		4ft Unpaved
Right Shoulder	4ft Wide		4ft Unpaved
Left Guardrail			
Right Guardrail			

MEASUREMENTS VERIFIED 3-13-12 BTH
MEASUREMENTS VERIFIED 4-28-10 BTH

Title APPROACH ROADWAY		Description SHEET 1	
Bridge No: 280031	Drawn By: BTH	Date: 04/21/08	File Name: S0090001124

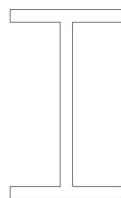
Bridge Inspection Field Sketch



Measurements for Span #	1	Spans 2-3 Similar	
Deck Thickness	0.646	Left Overhang	2.542
Top of Rail to Bottom of Beam	5.583	Right Overhang	2.542

Beam No	Beam Type	Spacing	Comments
1	Steel I Beam	6.75 ft.	
2	Steel I Beam	6.75 ft.	
3	Steel I Beam	6.75 ft.	
4	Steel I Beam		

ABUT 1: RC CAP ON SPREAD FOOTINGS. ABUT 2 & PIERS: 2 COLUMN RCP&B.



I-BEAMS	WIDTH	HEIGHT	WEB	FLANGE
INT.	.875 ft.	2.5 ft.	.047 ft.	.073 ft.
EXT.	.875 ft.	2.510 ft.	.047 ft.	.078 ft.

MEASUREMENTS VERIFIED 3-13-12 BTH
MEASUREMENTS VERIFIED 4-28-10 BTH

Title		Description	
SUPERSTRUCTURE		SHEET 2	
Bridge No: 280031	Drawn By: BTH	Date: 04/21/08	File Name: S0090001141

Bridge Inspection Field Sketch

[illegible]

Title PIERS		Description SHEET 3	
Bridge No: 280031	Drawn By: BTH	Date: 4/21/2008	File Name: S0090002769



LOOKING SOUTH



NORTH POSTING



LOOKING EAST



NORTH APPROACH



DOWNSTREAM



SOUTH APPROACH



UPSTREAM



LOOKING NORTH



SOUTH POSTING



LOOKING WEST



ABUT 1



PIER 1



DOWNSTREAM



SUPERSTRUCTURE SPAN 2



UPSTREAM



ABUT 2



BEARING ASSY SEAT 4 PIER 2