



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

PRIORITY MAINTENANCE

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY MITCHELL

BRIDGE NUMBER 600084

INSPECTION CYCLE 2 YRS

ROUTE SR1349

ACROSS PIGEON ROOST CREEK

M.P. 0

LOCATION 2.25 MI.N.JCT.SR1319

SUPERSTRUCTURE TIMBER FLOOR ON TIMBER JOISTS

SUBSTRUCTURE ABUTMENTS:RUBBLE MASONRY

SPANS 1 @ 18'-6

LONGITUDE 83° 16' 23.8"

LATITUDE 36° 5' 58.4"

PRESENT CONDITION FAIR

INVENTORY RATING

INSPECTION DATE 02/15/2012

OPERATING RATING

PRESENT POSTING SV 11 TTST 18 SV 11 TTST 17

PROPOSED POSTING

COMPUTER UPDATE

ANALYSIS DATE

POSTING LETTER DATE

SUFFICIENCY RATING

OTHER SIGNS PRESENT DELINEATORS, NARROW BRIDGE



SOUTH

SIGN NOTICE
ISSUED FOR

NUMBERED
REQUIRED

Yes	WEIGHT LIMIT	1
Yes	DELINEATORS	1
No	NARROW BRIDGE	
No	ONE LANE BRIDGE	
No	LOW CLEARANCE	

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

Run Date: 02/29/2012

IDENTIFICATION				CLASSIFICATION			
(1) STATE NAME -NORTH CAROLINA	BRIDGE	600084		SUFFICIENCY RATING =		4	
(8) STRUCTURE NUMBER(FEDERAL)		000000001210084		STATUS =	Structurally Deficient		
(5) INVENTORY ROUTE (ON/UNDER) - ON		31013490					
(2) STATE HIGHWAY DEPARTMENT DISTRICT		1					
(3) COUNTY CODE	121	(4) PLACE CODE	00000	(112)NBIS BRIDGE SYSTEM -		NO	
(6) FEATURE INTERSECTED -	PIGEON ROOST CREEK			(104)HIGHWAY SYSTEM	Is not on NHS	0	
(7) FACILITY CARRIED	SR1349			(26) FUNCTIONAL CLASS -	Local	09	
(9) LOCATION	2.25 MI.N.JCT.SR1319			(100)STRAHNET HIGHWAY -	Not a STRAHNET Route	0	
(11)MILEPOINT		0		(101)PARALLEL STRUCTURE -	No Parallel Structure	N	
(16)LAT	36° 5' 1.0"	(17)LONG	82° 16' 37.5"	(102)DIRECTION OF TRAFFIC -	2-way Traffic	2	
(98)BORDER BRIDGE STATE CODE		PCT SHARE		(103)TEMPORARY STRUCTURE -	Temporary Structure/Conditions	T	
(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:	Wood or Timber			(58) DECK		5	
TYPE -	Stringer Mutlibeam or Girder	CODE	702	(59) SUPERSTRUCTURE		3	
(44) STRUCTURE TYPE APPR :				(60) SUBSTRUCTURE		5	
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 -	8	CODE		LOAD RATING AND POSTING			
(108)WEARING SURFACE / PROTECTIVE SYSTEM :				(31) DESIGN LOAD	Other or Unknown	0	
(A) TYPE OF WEARING SURFACE -		CODE		(63) OPERATING RATING METHOD -	Allowable Stress		
(B) TYPE OF MEMBRANE -		CODE		(64) OPERATING RATING -	HS-1	201	
(C) TYPE OF DECK PROTECTION -		CODE		(65) INVENTORY RATING METHOD -	Allowable Stress		
				(66) INVENTORY RATING -	HS-1	201	
				(70) BRIDGE POSTING -	Posting Required	0	
				(41) STRUCTURE OPEN, POSTED ,OR CLOSED		P	
				DESCRIPTION -	Posted for Load		
AGE AND SERVICE				APPRAISAL			
(27) YEAR BUILT		1963		(67) STRUCTURAL EVALUATION		3	
(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		(72) APPROACH ROADWAY ALIGNMENT		5	
(29) AVERAGE DAILY TRAFFIC		310		(36) TRAFFIC SAFETY FEATURES		0000	
(30) YEAR OF ADT	2009	(109) TRUCK ADT PCT	6%	(113)SCOUR CRITICAL BRIDGES		U	
(19) BYPASS OR DETOUR LENGTH		99 MI					
GEOMETRIC DATA				PROPOSED IMPROVEMENTS			
(48) LENGTH OF MAXIMUM SPAN		17 FT		(75) TYPE OF WORK -		CODE	
(49) STRUCTURE LENGTH		19 FT		(76) LENGTH OF STRUCTURE IMPROVEMENT			
(50)CURB OR SIDEWALK: LEFT	.3 FT	RIGHT	.3 FT	(94) BRIDGE IMPROVEMENT COST			
(51) BRIDGE ROADWAY WIDTH CURB TO CURB		18 FT		(95) ROADWAY IMPROVEMENT COST			
(52) DECK WIDTH OUT TO OUT		19 FT		(96) TOTAL PROJECT COST			
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)		18 FT		(97) YEAR OF IMPROVEMENT COST ESTIMATE			
(33) BRIDGE MEDIAN -	No Median	CODE	0	(114)FUTURE ADT	620	(115) YEAR FUTURE ADT	2025
(34) SKEW	20°	(35) STRUCTURE FLARED	0				
(10) INVENTORY ROUTE MIN VERT CLEAR		999.9 FT		INSPECTIONS			
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR		18 FT		(90) INSPECTION DATE		02/15/2012	
(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: 02/29/2012

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
MITCHELL	13	1	600084	19	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1349	PIGEON ROOST CREEK

LOCATED :	BRIDGE NAME :	CITY :
2.25 MI.N.JCT.SR1319		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	310 2009	LT 227 RT 227

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1963	BMU			Other or Unknown

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
			TAN	70	ON 2 UNDER

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT	8 FT	1 FT

SUPERSTRUCTURE :	TIMBER FLOOR ON TIMBER JOISTS
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SUBSTRUCTURE :	ABUTMENTS:TIMBER CAPS/RUBBLE MASONRY
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SPANS :	1 @ 18'-6
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BEAMS OR GIRDERS :	10 LNS.6X12 TIM.JSTS.& 1 LN.DBL.6X12 TIM.JSTS.@ VAR.CTS.
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FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
4X8 TIM/4.5 AWS		19 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
18 FT	18.7 FT	LT .3 FT RT .3 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	12	DATE	02/29/2012
HS-1	HS-1	I.Jsts3-4&6	SV 7				

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. 600084 COUNTY MITCHELL ROUTE SR1349 OVER PIGEON ROOST CREEK
 STRUCTURE TYPE TIMBER FLOOR ON TIMBER JOISTS
 ROUTE ORIENTATION S - N SPANS 1 @ 18'-6

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

INSPECTION ITEM				ITEM 61		
DECK ITEMS			GRADES	45. CHANNEL & CHANNEL PROT.		
1. WEARING SURFACE			G	a. WATERWAY		G
2. DECK NO. OF EA TYPE SPN GRADE RATES SI & A ITEM 58				b. ALIGNMENT		F
a. CONCRETE				c. SCOUR		G
b. TIMBER			1	d. SLOPE PROT., RIP-RAP, DIKES, ETC.		
c. STEEL PLANK				50. APPROACH ROADWAY CONDITION		G
d. OPEN GRID				51. APPROACH SLABS		
3. RAILING				52. PAINT SYSTEM CODE		
a. CONCRETE				53. UTILITIES		
b. TIMBER			F	54. RESPONSE TO LIVE LOAD		F
c. ALUMINUM				55. ESTIMATED REMAINING LIFE		2
d. STEEL						
4. CURBS, WHEELGUARDS, PARAPETS, MEDIANS			F			
5. WALKWAYS (ON OR ATTACHED TO STRUCTURE)				60. REGULATORY SIGN NOTICE ISSUED		YES
6. DECK EXP JTS. OR DEVICES. NO. OF EACH				61. PROMPT-ACTION NOTICE ISSUED		YES
a. STEEL PL OR FINGER				62. PRESENTLY POSTED		YES
b. MISC PREFAB				63. TOT. FIELD INSP TIME (INCLUDE WRITE UP)(MAN HR)		7
c. COMPRESSION SEAL				64. TOTAL SNOOPER INSP. TIME (HRS)		0
d. STANDARD JOINTS				65. TOTAL TRAFFIC CONTROL TIME (MAN HRS)		0
e. OPEN JOINTS						
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				b. SUPERSTRUCTURE ITEM 59		3
11. LONGITUDINAL JOIST OR STRINGERS			C	c. SUBSTRUCTURE ITEM 60		5
12. INT. DIAP'S, X-FRAMES, BRACING & CONN'S				d. CHANNEL & CHANNEL PROT. ITEM 61		7
13. END DIAP'S, CURTAIN WALLS, & CONN'S						
14. FLOOR BEAMS AND CONNECTIONS				71. SI&A FIELD APPRAISAL RATINGS		
15. BEARING ASSEMBLIES (INCLUDING MISALIGN)				a. WATERWAY ADAQUACY		7
16. DRAINAGE SYSTEM (ON STRUCTURE)			G	b. APPR. RDWY. ALIGNMENT		5
17. MOVABLE SPAN MACHINERY						
				72. FIELD SCOUR EVALUATION		L
SUB STR. ITEMS. ITEM 60 (INCLUDE SCOUR)						
35. TIM SUB STR.				USE OF INSP. ACCESSIBILITY EQUIPMENT		
a. ABUT. & INT. BENT CAPS & RISERS			F	SNOOPER (CODE S, 4, OR N) HRS		NO
b. PILES, POST, SILLS, & BRACING				LADDER		NO
c. BULKHEADS, WING'S, & TIE BACKS						
36. CONC SUB STR.				BUCKET TRUCK		NO
a. ABUT. & INT. BENT CAPS			F	BOAT		NO
b. ABUT. & BENT COL'S BREASTWALLS			F	OTHER		YES
c. ABUT. & INT. BENT PILES						
d. BACKWALLS, WING'S, RETAIN. WALLS			F			
e. ABUT. & BENT FOOTINGS & SILLS			F			
37. STEEL SUB STR.				SPECIAL INSPECTION REQUESTED FOR		
a. ABUT. & INT. BENT CAPS & RISERS						
b. PILES, BRACING, AND BULKHEADS						
38. FOUNDATION PILES TYPE MATERIAL				NOTE		
39. SLOPE PROT., RIP-RAP (INCLUDE DRAINAGE)						
40. FENDER SYSTEMS				80. INSPECTED BY:		<i>Rev. W. D. H. 9</i>
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 Inspection & Analysis</u>	
Team Leader Roy W. Shook			
Assisted By GLM			
Item No.	Grade		
2b	F	FLOORING LOOSE. SCATTERED FUNGUS THROUGHOUT UNDERSIDE. BOARDS WEATHERED AND DECAYING ON ENDS.	
3b	F	NEAR END OF RIGHT RAILING LEANING OUT SLIGHTLY, POSSIBLE COLLISION DAMAGE. POST BLOCKS WEATHERED AND SOFT	
7	F	DIRT ACCUMULATION IN GUTTERS.	
11	C	TOP OF JOISTS SOFT AND DECAYING. JOIST 10 SUPPLEMENTED. FAR HALF OF JOIST 2 HEAVILY FUNGUS STAINED, IS DULL AND HOLLOW SOUNDING BECOMING MORE SO TOWARD THE BEARING. STRESS FRACTURING IN BOTTOM OF JOIST 2 AT MID AND 3/4 SPAN AND IN BOTTOM AT MID JOIST 5, SEE PHOTOS. BRIDGE ON SLIGHT POSITIVE GRADE. PRIORITY MAINTENANXCE WILL BE REQUESTED ON FRACTURED JOISTS.	
35a	F	TIMBER BEARING BOLSTERS WEATHERED AND SOFT PRIMARILY ON ENDS. DECAY IN TOP on OUTSIDE of EXTERIOR JOISTS. ABUTMENT 1 BOLSTER EXTREMELY SOFT, JOISTS CRUSHING INTO BRIDGE SEAT. BRIDGE ON SLIGHT POSITIVE GRADE, JOISTS CRUSHING INTO FRONT EDGE OF BOLSTER TIMBER AT ABUTMENT 2.	
36b	F	LOOSE STONES AND ERODED JOINT GROUT IN BASE OF DOWNSTREAM END ABUTMENT 1, SEE PHOTOS. NO SETTLEMENT NOTICED AT THIS INSPECTION.	
50	G	SETTLED SLIGHTLY OVER FILL FACE ABUTMENTS.	
54	F	FLOORING PROGRESSIVELY RESPONDING TO LIVE LOAD	
55	2	BASED ON FRACTURED JOISTS AND DECAYING FLOORING AND JOISTS	
60	YES	NOTICE ISSUED, WEIGHT LIMIT MISSING FROM NEAR END OF BRIDGE. ONE DELINEATOR AT FAR END OF BRIDGE WAS DOWN, WAS REHUNG WITH STICK FOR TEMPORARY SAFETY	
61	YES	PRIORITY MAINTENANCE REQUESTED ON FRACTURED JOISTS	
62	YES	SV- 11, TTST- 17	

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 600084

County MITCHELL

Date: 02/15/2012

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

MMS Code	Description of Function	Unit	Quantity	Remarks	Est. Cost
 3304	Maintain/Replace Timber Superstructure Components	LF	17	Stress fracture in bottom of joist 5 at mid span around knot defect. Fracture follows grain 4" to 6" and runs up from bottom 2" to 3". Bridge is posted.	
 3304	Maintain/Replace Timber Superstructure Components	LF	17	Stress fractures in bottom of joist 2 at mid and 3/4 span around knot defects. Fractures follow grain 10" to 12" and run up from bottom 2" to 3". Bridge is posted.	
3304	Maintain/Replace Timber Superstructure Components	LF	150	JOISTS SOFT IN TOP. FAR HALF OF JOIST 2 STAINED AND HOLLOW SOUNDING. BOTTOM OF JOISTS 2 & 5 FRACTURED AROUND KNOT DEFECTS	
3348	Maintain Concrete Substructure Components	LF	100	LOOSE MASONRY IN BASE OF ABUTMENT 1	

Key



Priority Maintenance Item



Critical Finding Item



Priority Maintenance Level Not Determined

BRIDGE INSPECTOR'S RECOMMENDATION FOR PRIORITY MAINTENANCE REPAIRS

Bridge: 600084

County MITCHELL

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

MMS Code	MMS Description	Quantity
3304	Maintain/Replace Timber Superstructure Components	17 LF
Location:		
Beams and Girders	Bent/Span No. 1	Joist 2
Priority Level	Status	
Priority Maintenance	Division Bridge Maintenance Notification Received	
Submitted Date:	Submitted By:	Assisted By:
02/15/2012	Roy W. Shook	G.L. McKinney
Details		
Stress fractures in bottom of joist 2 at mid and 3/4 span around knot defects. Fractures follow grain 10" to 12" and run up from bottom 2" to 3". Bridge is posted.		

MMS Code	MMS Description	Quantity
3304	Maintain/Replace Timber Superstructure Components	17 LF
Location:		
Beams and Girders	Bent/Span No. 1	Joist 5
Priority Level	Status	
Priority Maintenance	Division Bridge Maintenance Notification Received	
Submitted Date:	Submitted By:	Assisted By:
02/15/2012	Roy W. Shook	G.L. McKinney
Details		
Stress fracture in bottom of joist 5 at mid span around knot defect. Fracture follows grain 4" to 6" and runs up from bottom 2" to 3". Bridge is posted.		



FRACTURE AT MID JOIST 2 IN BOTTOM AT KNOT DEFECT



FRACTURE AT MID JOIST 2 IN BOTTOM AT KNOT DEFECT



FRACTURE AT 3/4 SPAN JOIST 2 IN BOTTOM AT KNOT DEFECT



FRACTURE AT 3/4 SPAN JOIST 2 IN BOTTOM AT KNOT DEFECT



FRACTURE AT MID JOIST 5 IN BOTTOM AT KNOT DEFECT



LOOSE MASONRY AND ERODED GROUT IN DOWNSTREAM END ABUTMENT 1

Structure Data Worksheet

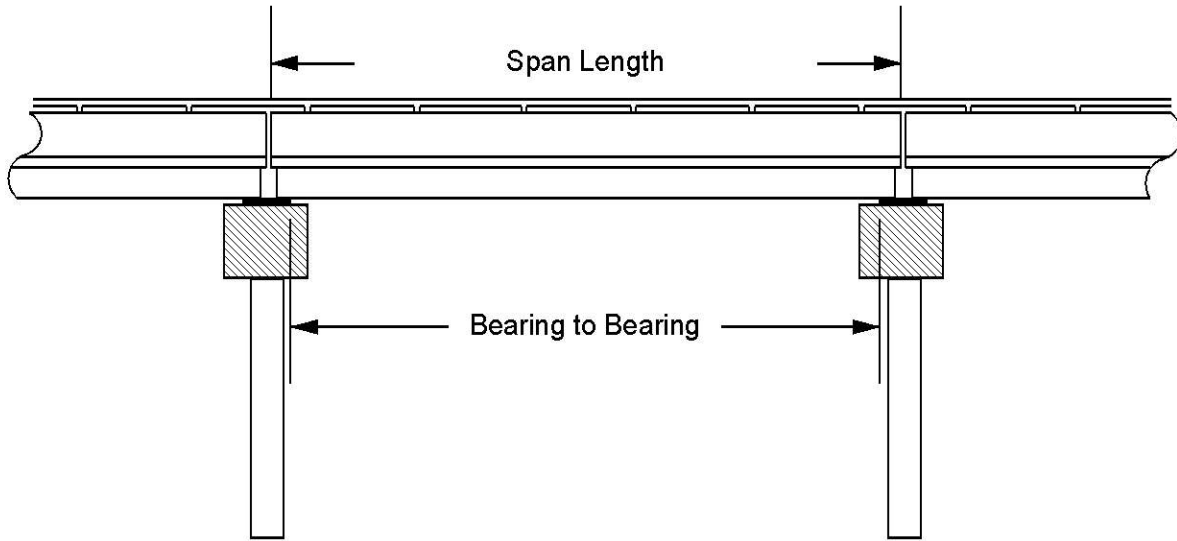
Spans

County: MITCHELL

Structure No: 600084

Date: 02/15/2012

Inspected By: RWS



Span No	Span Length	Bearing to Bearing	Comments
1	18'- 6"	16'- 10 7/8"	NBIS < 20'

Stream Bed Soundings

(See next sheet for profile sketch)

Bridge No: 600084 County: MITCHELL Date: 02/15/2012 By: RWS

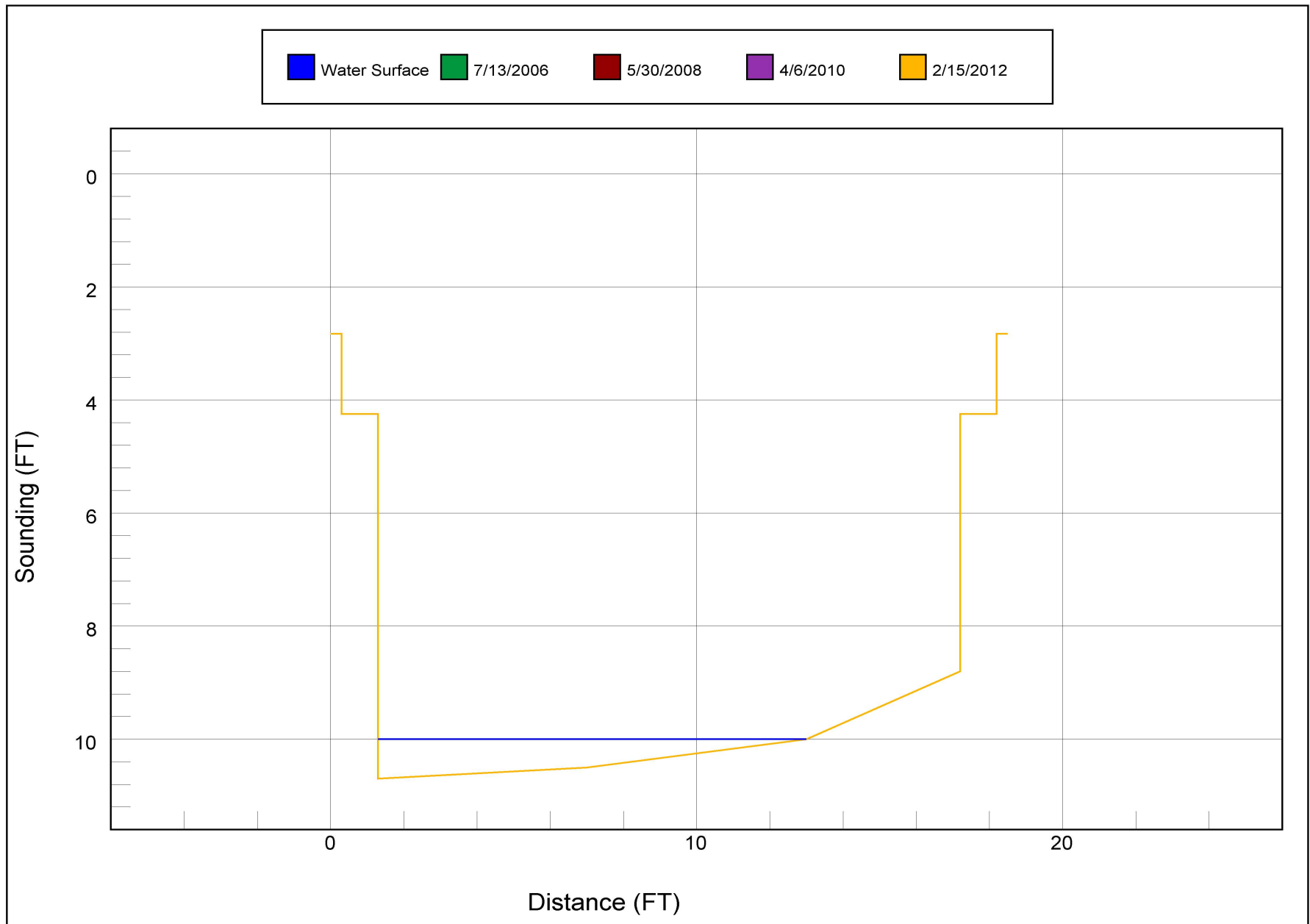
Record sounding from top of rail. Other location if needed:

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	2.833				
0.3	2.833				
0.3	4.25				
1.3	4.25				
1.3	10	Water Surface/Water Edge (WSWE)			
1.3	10.7				
7	10.5				
13	10	Water Surface/Water Edge (WSWE)			
17.2	8.8				
17.201	4.25				
18.2	4.25				
18.201	2.833				
18.5	2.833				

STREAMBED PROFILE (Downstream)

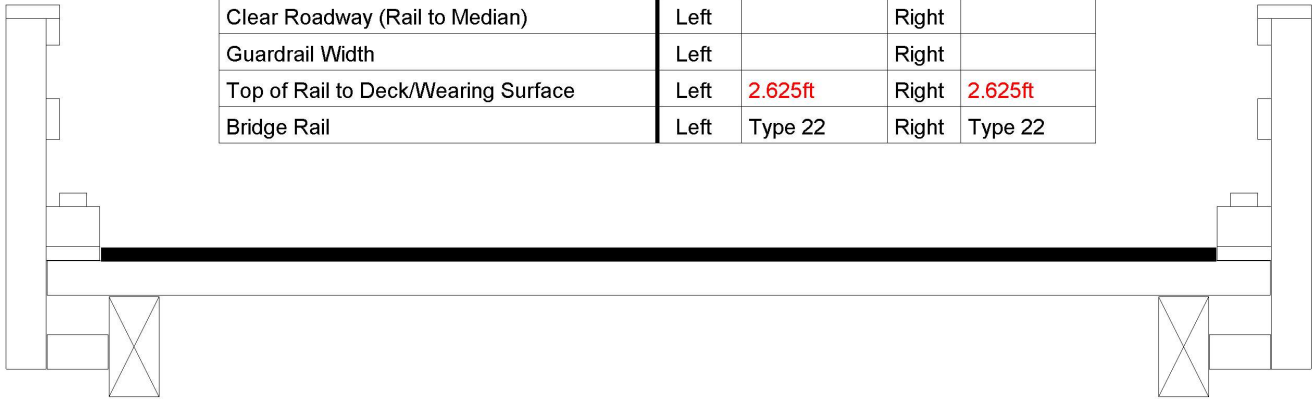
Top of Rail = 0 FT (Sounding)



Bridge Inspection Field Sketch

Deck Width/Out to Out	19ft	Between Rails	18.667ft
Clear Roadway	18ft	Wearing Surface	0.375ft
Median Width		Median Height	
Curb Height		Left	0.417ft
Sidewalk Width		Left	
Clear Roadway (Rail to Median)		Left	
Guardrail Width		Left	
Top of Rail to Deck/Wearing Surface		Left	2.625ft
Bridge Rail		Left	Type 22

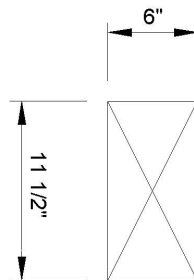
Additional AWS



Similar Size Supplement Joist Placed Flush Against The Right Side of Joist 10
Joist 11 Replaced With New Treated Timber

Measurements for Span #	1		
Deck Thickness	0.313	Left Overhang	1.0
Top of Rail to Bottom of Beam	4.25	Right Overhang	1.0

Beam Number	Beam Type	Spacing
1 thru 11	Timber (Rectangular)	1.708ft



JOIST DIMENSIONS

02/15/2012 R.W. Shook

(RUBBLE MASONRY ABUTMENTS)

Title		Description	
Typical Section		Data Worksheet	
Bridge No: 600084	Drawn By: Roy W. Shook	Date: 05/30/2008	File Name: S0000000549

Bridge Inspection Field Sketch



Roadway	18.0ft Wide	2 Paved Lanes	Looking North
Left Shoulder	2ft Wide		2.0ft Unpaved
Right Shoulder	2ft Wide		2.0ft Unpaved
Left Guardrail			
Right Guardrail			

02/15/2012 R.W. Shook

Title		Description	
Approach Roadway		Data Worksheet	
Bridge No: 600084	Drawn By: DDH	Date: 05/30/2008	File Name: S0000000548



NORTH



SOUTH



UPSTREAM



DOWNSTREAM



UPSTREAM SIDE



ABUTMENT 1



ABUTMENT 2



DOWNSTREAM SIDE