



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

PMN ISSUED FOR (NW) WING...

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY ALEXANDER BRIDGE NUMBER 010071 INSPECTION CYCLE 2 YRS

ROUTE SR1338 ACROSS GRASSY CREEK M.P. 0

LOCATION 0.3 MI. E. JCT. SR1337

SUPERSTRUCTURE TIMBER DECK ON I-BEAMS

SUBSTRUCTURE END BENTS:TIMBER CAPS,POSTS & SILLS,TIMBER BULKHEADS

SPANS 1@40'6"

LONGITUDE 81° 11' 45.86"

LATITUDE 35° 58' 51.23"

PRESENT CONDITION FAIR

INVENTORY RATING

INSPECTION DATE 10/08/2012

OPERATING RATING

PRESENT POSTING Not Posted **NOT POSTED**

PROPOSED POSTING

COMPUTER UPDATE

ANALYSIS DATE

POSTING LETTER DATE

SUFFICIENCY RATING

OTHER SIGNS PRESENT NONE



WEST TO EAST

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: 11/20/2012

IDENTIFICATION					
(1) STATE NAME -NORTH CAROLINA	BRIDGE	010071		SUFFICIENCY RATING =	21.26
(8) STRUCTURE NUMBER(FEDERAL)		00000000030071		STATUS =	Functionally Obsolete
(5) INVENTORY ROUTE (ON/UNDER) - ON		31013380			
(2) STATE HIGHWAY DEPARTMENT DISTRICT		2		CLASSIFICATION	CODE
(3) COUNTY CODE 3	(4) PLACE CODE	0		(112)NBIS BRIDGE SYSTEM -	YES
(6) FEATURE INTERSECTED - GRASSY CREEK				(104)HIGHWAY SYSTEM Is not on NHS	0
(7) FACILITY CARRIED SR1338				(26) FUNCTIONAL CLASS - Local	09
(9) LOCATION 0.3 MI. E. JCT. SR1337				(100)STRAHNET HIGHWAY - Not a STRAHNET Route	0
(11)MILEPOINT		0		(101)PARALLEL STRUCTURE - No Parallel Structure	N
(16)LAT 35° 58' 51.23"	(17)LONG 81° 11' 45.86"			(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					
(43) STRUCTURE TYPE MAIN: Steel					
TYPE - Stringer Mutlibeam or Girder		CODE 302			
(44) STRUCTURE TYPE APPR :				CONDITION	CODE
TYPE -		CODE 000		(58) DECK	7
(45) NUMBER OF SPANS IN MAIN UNIT		1		(59) SUPERSTRUCTURE	5
(46) NUMBER OF APPROACH SPANS				(60) SUBSTRUCTURE	5
(107)DECK STRUCTURE TYPE - 8		CODE		(61) CHANNEL & CHANNEL PROTECTION	7
(108)WEARING SURFACE / PROTECTIVE SYSTEM :				(62) CULVERTS	N
(A) TYPE OF WEARING SURFACE -		CODE			
(B) TYPE OF MEMBRANE -		CODE		LOAD RATING AND POSTING	CODE
(C) TYPE OF DECK PROTECTION -		CODE		(31) DESIGN LOAD Unknown	0
				(63) OPERATING RATING METHOD - Load Factor	
				(64) OPERATING RATING - HS-1	101
				(65) INVENTORY RATING METHOD - Load Factor	
				(66) INVENTORY RATING - HS-1	101
				(70) BRIDGE POSTING - No Posting Required	5
				(41) STRUCTURE OPEN, POSTED ,OR CLOSED	D
				DESCRIPTION - Open Temporary Shoring	
AGE AND SERVICE					
(27) YEAR BUILT		1963			
(106)YEAR RECONSTRUCTED		1984			
(42) TYPE OF SERVICE : ON - Highway					
UNDER - Waterway		CODE 15			
(28) LANES: ON STRUCTURE 2 UNDER STRUCTURE		0			
(29) AVERAGE DAILY TRAFFIC		270		APPRAISAL	CODE
(30) YEAR OF ADT 2010	(109) TRUCK ADT PCT	6%		(67) STRUCTURAL EVALUATION	3
(19) BYPASS OR DETOUR LENGTH		3 MI		(68) DECK GEOMETRY	3
				(69) UNDERCLEARANCES,VERTI & HORIZ	N
GEOMETRIC DATA					
(48) LENGTH OF MAXIMUM SPAN		39 FT		(71) WATERWAY ADEQUACY	7
(49) STRUCTURE LENGTH		41 FT		(72) APPROACH ROADWAY ALIGNMENT	7
(50)CURB OR SIDEWALK: LEFT 0 FT RIGHT		0 FT		(36) TRAFFIC SAFETY FEATURES	1000
(51) BRIDGE ROADWAY WIDTH CURB TO CURB		19.833 FT		(113)SCOUR CRITICAL BRIDGES	U
(52) DECK WIDTH OUT TO OUT		20 FT			
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)		17 FT		PROPOSED IMPROVEMENTS	
(33) BRIDGE MEDIAN - No Median		CODE 0		(75) TYPE OF WORK -	CODE
(34) SKEW 0°	(35) STRUCTURE FLARED	0		(76) LENGTH OF STRUCTURE IMPROVEMENT	
(10) INVENTORY ROUTE MIN VERT CLEAR		999.9 FT		(94) BRIDGE IMPROVEMENT COST	
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR		19.833 FT		(95) ROADWAY IMPROVEMENT COST	
(53) MIN VERT CLEAR OVER BRIDGE RDWY		999.9 FT		(96) TOTAL PROJECT COST	
(54) MIN VERT UNDERCLEAR REF Not a Highway or Railroad		0 FT		(97) YEAR OF IMPROVEMENT COST ESTIMATE	
(55) MIN LAT UNDERCLEAR RT REF Not a Highway or Railroad		000 FT		(114)FUTURE ADT 520	(115) YEAR FUTURE ADT 2025
(56) MIN LAT UNDERCLEAR LT REF -		000 FT			
NAVIGATION DATA					
(38) NAVIGATION CONTROL - No Navigational Control		CODE 0		(90) INSPECTION DATE	10/08/2012
(111)PIER PROTECTION -		CODE		(92) CRITICAL FEATURE INSPECTION :	(93) CFI DATE
(39) NAVIGATION VERTICAL CLEARANCE		0		A) FRACTURE CRIT DETAIL - NO	A)
(116)VERT - LIFT BRIDGE NAV MIN VERT CLEAR		FT		B) UNDERWATER INSP - NO	B)
(40) NAVIGATION HORIZONTAL CLEARANCE		0 FT		C) OTHER SPECIAL INSP NO	C)
				SCOUR	

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 11/20/2012

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
ALEXANDER	12	2	010071	41	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1338	GRASSY CREEK

LOCATED :	BRIDGE NAME :	CITY :
0.3 MI. E. JCT. SR1337		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	270 2010	LT 253 RT 253

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

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :		
1984	BMU		TAN	90	ON 2	UNDER	0

NAVIGATION :			HT. CRN. TO BED :		WATER DEPTH :		
VC 0 FT	HC 0 FT		12 FT		1		FT

SUPERSTRUCTURE :	TIMBER DECK ON I-BEAMS
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SUBSTRUCTURE :	END BENTS:TIMBER CAPS,POSTS & SILLS,TIMBER BULKHEADS
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SPANS :	1@40'6
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BEAMS OR GIRDERS :	9 LINES OF W24X68 I-BEAMS @ 2'4 CENTERS
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FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
4X8 TIM,2 AWS		20 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
19.833 FT	19.833 FT	LT 0 FT RT 0 FT

VERT.CL.OVER :	
999.9 FT	

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :		DATE
HS-1	HS-1	Int.bms	SV	TTST	09/28/1984

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. 010071 COUNTY ALEXANDER ROUTE SR1338 OVER GRASSY CREEK
 STRUCTURE TYPE TIMBER DECK ON I-BEAMS
 ROUTE ORIENTATION W - E SPANS 1@40'6

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

INSPECTION ITEM				ITEM 61			
DECK ITEMS			GRADES				
1. WEARING SURFACE			F	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			50. APPROACH ROADWAY CONDITION			G
	b. TIMBER	1	G	51. APPROACH SLABS			
	c. STEEL PLANK			52. PAINT SYSTEM			CODE F F
	d. OPEN GRID			53. UTILITIES			
3. RAILING	a. CONCRETE			54. RESPONSE TO LIVE LOAD			G
	b. TIMBER			55. ESTIMATED REMAINING LIFE			28
	c. ALUMINUM						
	d. STEEL		G				
4. CURBS, WHEELGUARDS, PARAPETS, MEDIANS							
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			YES
	b. MISC PREFAB			62. PRESENTLY POSTED			NO
	c. COMPRESSION SEAL			63. TOT. FIELD INSP TIME (INCLUDE WRITE UP)(MAN HR)			7
	d. STANDARD JOINTS			64. TOTAL SNOOPER INSP. TIME (HRS)			
	e. OPEN JOINTS			65. TOTAL TRAFFIC CONTROL TIME (MAN HRS)			
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	7	
10. LONGITUDINAL BEAMS OR GIRDERS			F	b. SUPERSTRUCTURE	ITEM 59	5	
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							
14. FLOOR BEAMS AND CONNECTIONS				71. SI&A FIELD APPRAISAL RATINGS			
15. BEARING ASSEMBLIES (INCLUDING MISALIGN)			G	a. WATERWAY ADAQUACY		7	
16. DRAINAGE SYSTEM (ON STRUCTURE)			G	b. APPR. RDWY. ALIGNMENT		7	
17. MOVABLE SPAN MACHINERY							
				72. FIELD SCOUR EVALUATION			O
SUB STR. ITEMS. ITEM 60 (INCLUDE SCOUR)							
35. TIM SUB STR.	a. ABUT. & INT. BENT CAPS & RISERS		G	USE OF INSP. ACCESSIBILITY EQUIPMENT			
	b. PILES, POST, SILLS, & BRACING		F	SNOOPER (CODE S, 4, OR N)	HRS	NO	
	c. BULKHEADS, WING'S, & TIE BACKS		P	LADDER		YES	
36. CONC SUB STR.	a. ABUT. & INT. BENT CAPS			BUCKET TRUCK			NO
	b. ABUT. & BENT COL'S BREASTWALLS			BOAT			NO
	c. ABUT. & INT. BENT PILES			OTHER			NO
	d. BACKWALLS, WING'S, RETAIN. WALLS						
	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:	[Signature]		
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 MAX FORD			
Assisted By RAP			
Item No.	Grade		
1	F	WEARING SURFACE IS CRACKED AND UNEVEN...	
10	F	RUST, SCALE AND LOSS OF SECTION TO OUTER +/- 3 INCHES OF TOP FLANGES. SEVERAL AREAS OF +/- 1/16 INCH PITTING ALONG BOTTL. FLANGES. SEE SKETCH SEE PAINT...	
10A	NO	NO CURVED GIRDERS...	
52	F	RUST AND SCALE ALONG ALL BEAM FLANGES...	
35b	F	POST NUMBER FIVE IS SUPPLEMENTED POST IS BOLTED TO ORIGINAL POST.	
35c	P	(NW) WING IS DETERIORATED AND DISTORTED... (SE) WING IS DISTORTED...	

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 010071

County ALEXANDER

Date: 10/08/2012

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

MMS Code	Description of Function	Unit	Quantity	Remarks	Est. Cost
 3346	Repair / Maintain Timber Wings & Blkhds	SF	144	(NW) WING IS DETERIORATED AND DISTORTED... APPROX. 144 SF	
2816	Asphalt Surface Repair or Replacement	SY	91	WEARING SURFACE IS CRACKED AND UNEVEN...	
3342	Clean and Paint Structural Steel	SF	740	RUST AND SCALE ALONG ALL BEAM FLANGES...	
3346	Repair / Maintain Timber Wings & Blkhds	SF	144	(NW) WING IS DETERIORATED AND DISTORTED...	
3346	Repair / Maintain Timber Wings & Blkhds	SF	100	(SE) WING IS DISTORTED...	

Key



Priority Maintenance Item



Critical Finding Item



Priority Maintenance Level Not Determined

BRIDGE INSPECTOR'S RECOMMENDATION FOR PRIORITY MAINTENANCE REPAIRS

Bridge: 010071 County ALEXANDER

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

MMS Code	MMS Description	Quantity
3346	Repair / Maintain Timber Wings & Blkhds	144 SF
Location:		
Abutment Substructure	Bent/Span No. 2 (NW) WING	
Priority Level	Status	
Priority Maintenance	Division Bridge Maintenance Notification Received	
Submitted Date:	Submitted By:	Assisted By:
10/09/2012	MAX FORD	ROBERT PIERCE
Details		
(NW) WING IS DETERIORATED AND DISTORTED... APPROX. 144 SF		



WEARING SURFACE IS CRACKED AND UNEVEN...



RUST AND SCALE ALONG ALL BEAM FLANGES...



(NW) WING IS DETERIORATED AND DISTORTED... APPROX. 144 SF

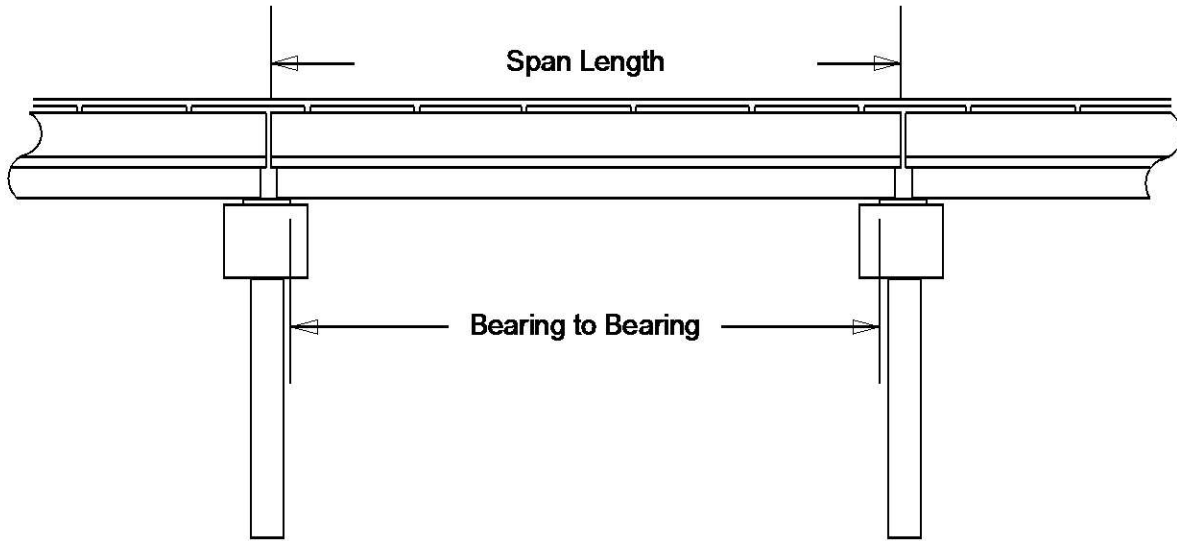


(SE) WING IS DISTORTED...

Structure Data Worksheet

Spans

County: ALEXANDER Structure No: 010071 Date: 10/08/2012 Inspected By: MF



Span No	Span Length	Bearing to Bearing	Comments
1	40.5	39.167	FACE OF CAP TO FACE OF CAP =38.042

Stream Bed Soundings

(See next sheet for profile sketch)

Bridge No: 010071 County: ALEXANDER Date: 10/08/2012 By: MF

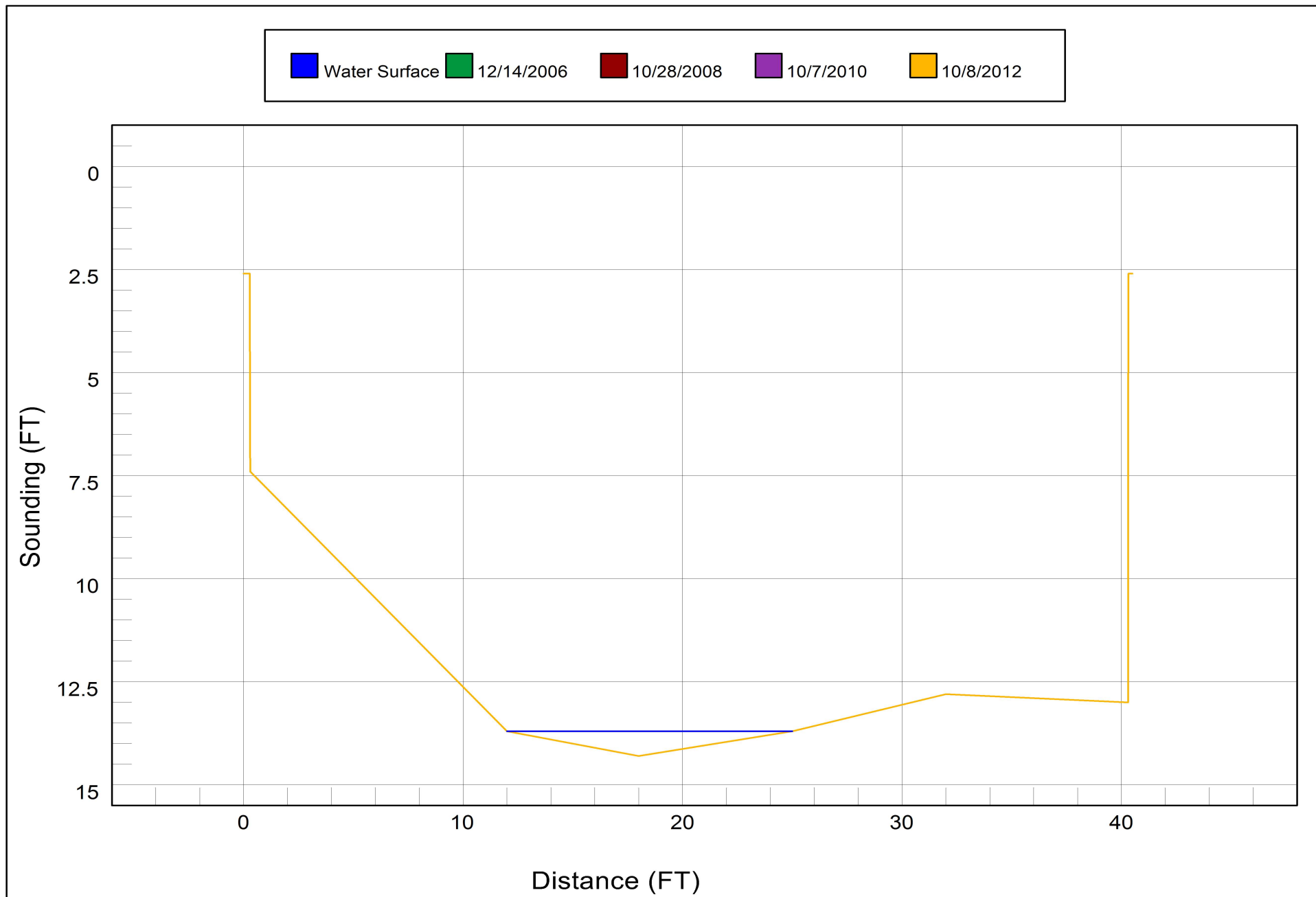
Record sounding from top of rail. Other location if needed: _____

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	2.6	TOP OF FILLFACE			
0.28	2.6	TOP OF FILLFACE			
0.29	5	TOP OF CAP			
0.3	7.4	FACE OF ABUT	0.3	9.3	FACE OF ABUT
12	13.7	WSWE			
18	14.3	BED			
25	13.7	WSWE			
32	12.8	SLOPE			
40.3	13	FACE OF ABUT	40.3	10	FACE OF ABUT
40.31	5	TOP OF CAP			
40.32	2.6	TOP OF FILLFACE			
40.5	2.6	TOP OF FILLFACE			

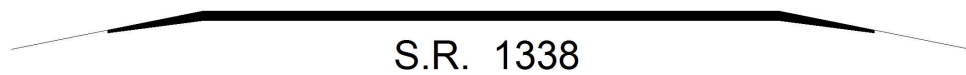
STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



Bridge Inspection Field Sketch

VERIFIED 10/8/12 R.A. PIERCE, M. FORD



S.R. 1338

LOOKING EAST

Roadway	17ft Wide	2 Paved Lanes	Looking East
Left Shoulder	8ft Wide		8ft Unpaved
Right Shoulder	8ft Wide		8ft Unpaved
Left Guardrail			
Right Guardrail			

Title
APPR. RDWY.

Description
APPR. RDWY.

Bridge No: 010071

Drawn By: RAP

Date: 10/28/08

File Name: S0000001097

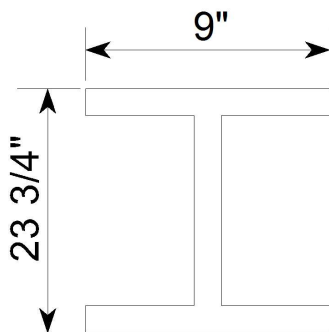
Bridge Inspection Field Sketch

VERIFIED 10/8/12 R.A. PIERCE, M. FORD

Deck Width/Out to Out	20ft	Wearing Surface	.167ft
Between Rails	19.833ft	Median Width	
Curb Height		Median Height	
Top Rail to Deck/Wearing Surface	2.25ft	Left Guardrail Width	
Clear Roadway	19.833ft	Right Guardrail Width	
Left Bridge Rail	Type 25	Right Bridge Rail	Type 25

Measurements for Span #	1		
Deck Thickness	0.333	Left Overhang	.667
Top of Rail to Bottom of Beam	5	Right Overhang	.667

Beam No	Beam Type	Spacing	Comments
1	Steel I Beam	2.333ft	
2	Steel I Beam	2.333ft	
3	Steel I Beam	2.333ft	
4	Steel I Beam	2.333ft	
5	Steel I Beam	2.333ft	
6	Steel I Beam	2.333ft	
7	Steel I Beam	2.333ft	
8	Steel I Beam	2.333ft	
9	Steel I Beam		



FLANGE THICKNESS: 9/16"
 WEB THICKNESS: 7/16"

Title
SUPER.

Description
DECK SECTION

Bridge No: 010071

Drawn By: RAP

Date: 10/28/08

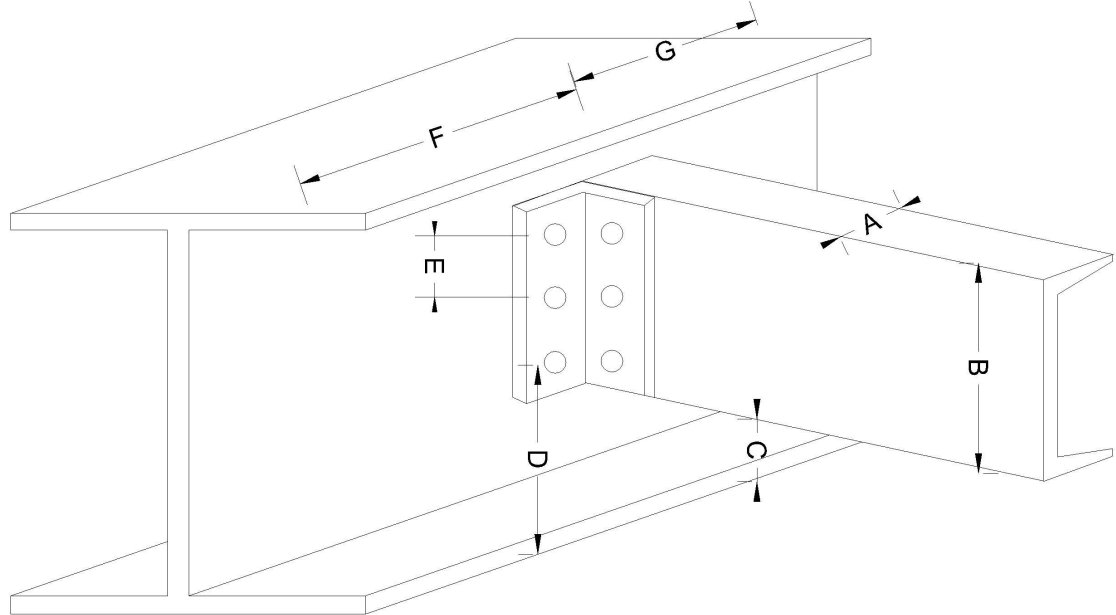
File Name: S0000001098

Bridge Inspection Field Sketch

VERIFIED 10/8/12 R.A. PIERCE, M. FORD

SPAN: 1

LOCATION: MID - SPAN



3 BOLTS

SPAN	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F	DIM. G	BOLT SIZE
1	2 1/2"	10"	8"	10 1/2"	2 1/2"	20'	20'	3/4"

Title
DIAPH.

Description
DIAPH.

Bridge No: 010071

Drawn By: RAP

Date: 10/28/08

File Name: S0000001104

Bridge Inspection Field Sketch

VERIFIED 10/8/12 R.A. PIERCE, M. FORD



Abutment #	1		
Cap - Beam Type (Wood or Steel)			
Cap Size	20.833ft Long	0.979ft Wide	0.979ft High
Left Overhang	1.75ft	Lt Cap/Beam Overhang	0.583ft
Right Overhang	1.75ft	Rt Cap/Beam Overhang	0.583ft

Pile #	Material	Pile Type	Spacing	Length	Width/Diam.	Height	Orientation
1	Wood or Timber	Pile Bent	4.583		0.812	0.812	Vertical
2	Wood or Timber	Pile Bent	3.583		0.812	0.958	Vertical
3	Wood or Timber	Pile Bent	4.167		0.812	0.812	Vertical
4	Wood or Timber	Pile Bent	4.25		0.812	0.958	Vertical
5	Wood or Timber	Pile Bent			0.812	0.812	Vertical

Title
SUBST. 1

Description
ABUT. # 1

Bridge No: 010071

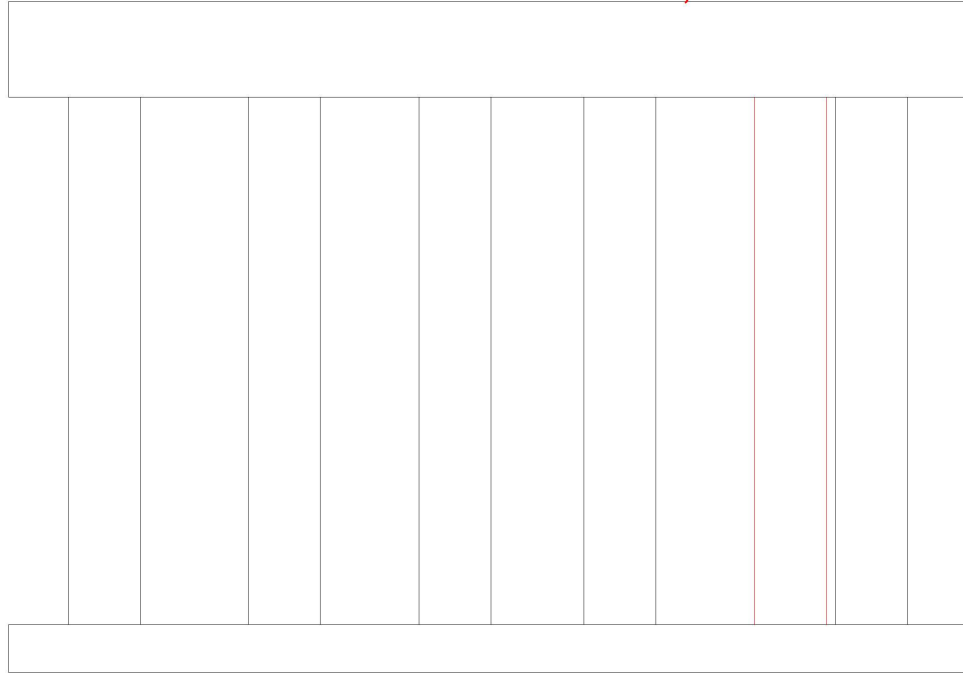
Drawn By: RAP

Date: 10/28/08

File Name: S0000001105

Bridge Inspection Field Sketch

VERIFIED 10/8/12 R.A. PIERCE, M. FORD



Abutment #	2		
Cap - Beam Type (Wood or Steel)			
Cap Size	19.833ft Long	0.979ft Wide	0.979ft High
Left Overhang	1.75ft	Lt Cap/Beam Overhang	0.583ft
Right Overhang	1.75ft	Rt Cap/Beam Overhang	0.583ft
Sill - Sill			
Sill Size	19.833ft Long	0.833ft Wide	0.833ft High

Pile #	Material	Pile Type	Spacing	Length	Width/Diam.	Height	Orientation
1	Wood or Timber	Post and Sills	4.333		0.812	0.812	Vertical
2	Wood or Timber	Post and Sills	4		1		Vertical
3	Wood or Timber	Post and Sills	4		0.812	0.812	Vertical
4	Wood or Timber	Post and Sills	3.083		1		Vertical
5	Wood or Timber	Post and Sills	0.917		0.812	0.812	Vertical
6	Wood or Timber	Post and Sills			0.917	0.812	Vertical

POST # 5 IS A SUPPLEMENT

POST # 5 BOLTED TO POST # 6

Title

SUBST. 2

Description

ABUT. # 2

Bridge No: 010071

Drawn By: RAP

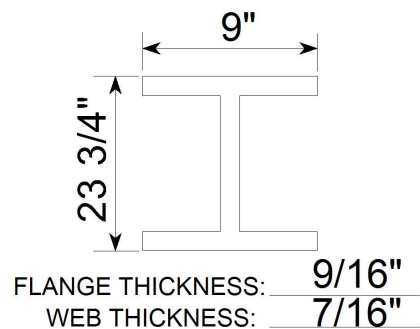
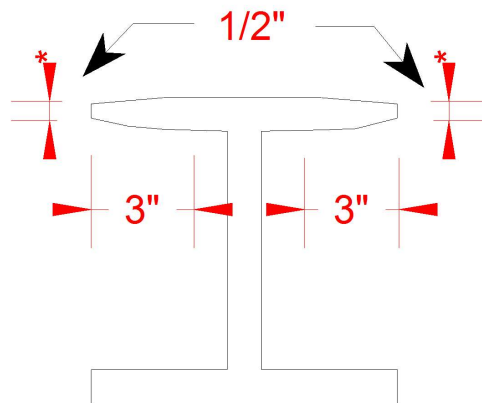
Date: 10/28/08

File Name: S0000001106

Bridge Inspection Field Sketch

VERIFIED 10/8/12 R.A. PIERCE, M. FORD

APPROX. 1/16" SECT. LOSS ON TOP FLANGE OF ALL BMS.
LOSS IS ON OUTER 3" OF FLANGES & EXTENDS FULL LENGTH



SCALE: N.T.S.

ORIGINAL SECTION

Title
SECT. LOSS

Description
SECT. LOSS

Bridge No: 010071

Drawn By: RAP

Date: 10/7/2010

File Name: S0138072588



LOOKING WEST



UPSTREAM



DOWNSTREAM



WEST TO EAST



ABUT. (A)



ABUT. (B)



NORTH PROFILE



SOUTH PROFILE