



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

WILL TAKE OVER AS 2YR. COMPLETE
DUE 10/23/2010

UNDERWATER BRIDGE INSPECTION REPORT

INSPECTION TYPE: 4 Year Underwater Inspection

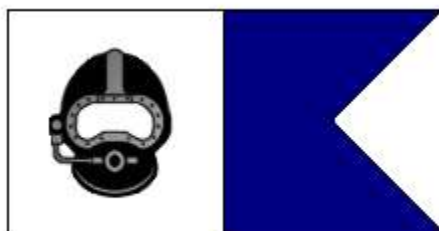
COUNTY COLUMBUS BRIDGE NUMBER 230075 INSPECTION CYCLE 4 YRS

ROUTE SR1006 ACROSS CREEK

Inspection Date 03/12/2009 Inspected By WILLIAM MUELLER

Type Work Performed

Man Hours (Spec. Work Only)



EQUIPMENT USED
COMPRESSOR ☐ WET SUIT ☐ COMMUNICATION - AMRON ☐
SCUBA ☐ DRY SUIT ☒ COMMUNICATION OTS ☐
LIGHTS ☒ ROPE ☐ UNDERWATER PHOTOS TAKEN ☐
BOAT ☐ CONSTRUCTION EQUIPMENT ☐

DATE	DIVER	CURRENT	VISIBILITY	METEOROLOGY	DEPTH	DIVE TIME
3/12/2009	WRM	NONE	3'	70D CLEAR	4.0'	15 MIN.

NATIONAL BRIDGE INVENTORY----- STRUCTURE INVENTORY AND APPRAISAL Run Date: 07/16/2009

IDENTIFICATION							
(1) STATE NAME -NORTH CAROLINA	BRIDGE	230075		SUFFICIENCY RATING =		35.9	
(8) STRUCTURE NUMBER(FEDERAL)		000000000470075		STATUS =	Structurally Deficient		
INVENTORY ROUTE (ON/UNDER) - ON		131010060					
(2) STATE HIGHWAY DEPARTMENT DISTRICT		6		CLASSIFICATION		CODE	
(3) COUNTY CODE 47	(4) PLACE CODE	00000		(112)NBIS BRIDGE SYSTEM -		YES	
(6) FEATURE INTERSECTED - CREEK				(104)HIGHWAY SYSTEM NON NHS Route		0	
(7) FACILITY CARRIED SR1006				(26) FUNCTIONAL CLASS - Minor Collector		08	
(9) LOCATION 0.1 MI E JCT SR1141				(100)STRAHNET HIGHWAY - Not a STRAHNET Route		0	
(11)MILEPOINT		0		(101)PARALLEL STRUCTURE - No Parallel Structure		N	
(16)LAT 34° 7' 1.7"	(17)LONG 78° 43' 5.4"			(102)DIRECTION OF TRAFFIC - 2-way Traffic		2	
(98)BORDER BRIDGE STATE CODE	PCT SHARE			(103)TEMPORARY STRUCTURE - Not Temporary			
(99)BORDER BRIDGE STRUCTURE NO				(110)DESIGNATED NATIONAL NETWORK - Not Part of		0	
				(20) TOLL Toll Bridge		1	
STRUCTURE TYPE AND MATERIAL				(31) MAINTAIN - State Highway Agency		01	
(43) STRUCTURE TYPE MAIN: Steel				(22) OWNER - State Highway Agency		01	
TYPE - Stringer Mutlibeam or Girder	CODE	302		(37) HISTORICAL SIGNIFICANCE - Not Eligible		5	
(44) STRUCTURE TYPE APPR :				CONDITION		CODE	
TYPE -	CODE			(58) DECK		6	
(45) NUMBER OF SPANS IN MAIN UNIT		2		(59) SUPERSTRUCTURE		4	
(46) NUMBER OF APPROACH SPANS				(60) SUBSTRUCTURE		5	
(107)DECK STRUCTURE TYPE - Concrete cast-in-place	CODE	1		(61) CHANNEL & CHANNEL PROTECTION		6	
(108)WEARING SURFACE / PROTECTIVE SYSTEM :				(62) CULVERTS		N	
(A) TYPE OF WEARING SURFACE - Bituminous	CODE	6		LOAD RATING AND POSTING		CODE	
(B) TYPE OF MEMBRANE - None	CODE	0		(31) DESIGN LOAD Other or Unknown		0	
(C) TYPE OF DECK PROTECTION - None	CODE	0		(64) OPERATING RATING - HS-15		127	
				(66) INVENTORY RATING - HS-9		116	
AGE AND SERVICE				(70) BRIDGE POSTING - Posting Required		0	
(27) YEAR BUILT		1950		(41) STRUCTURE OPEN, POSTED ,OR CLOSED		P	
(106)YEAR RECONSTRUCTED				DESCRIPTION - Posted for Load			
(42) TYPE OF SERVICE : ON - Highway				APPRAISAL		CODE	
UNDER - Waterway	CODE	15		(67) STRUCTURAL EVALUATION		4	
(28) LANES: ON STRUCTURE 2 UNDER STRUCTURE				(68) DECK GEOMETRY		4	
(29) AVERAGE DAILY TRAFFIC		500		(69) UNDERCLEARANCES,VERTI & HORIZ		N	
(30) YEAR OF ADT 2007	(109) TRUCK ADT PCT	6 %		(71) WATERWAY ADEQUACY		7	
(19) BYPASS OR DETOUR LENGTH		2 MI		(72) APPROACH ROADWAY ALIGNMENT		8	
GEOMETRIC DATA				(36) TRAFFIC SAFETY FEATURES		0000	
(48) LENGTH OF MAXIMUM SPAN		19 FT		(11)SCOUR CRITICAL BRIDGES		U	
(49) STRUCTURE LENGTH		37 FT		PROPOSED IMPROVEMENTS			
(50)CURB OR SIDEWALK: LEFT 0.8 FT RIGHT 0.8 FT				(75) TYPE OF WORK -	CODE		
(51) BRIDGE ROADWAY WIDTH CURB TO CURB		24.0 FT		(76) LENGTH OF STRUCTURE IMPROVEMENT		0 FT	
(52) DECK WIDTH OUT TO OUT		25.3 FT		(94) BRIDGE IMPROVEMENT COST			
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)		18.0 FT		(95) ROADWAY IMPROVEMENT COST			
(33) BRIDGE MEDIAN - No Median	CODE	0		(96) TOTAL PROJECT COST			
(34) SKEW 0° (35) STRUCTURE FLARED		NO		(97) YEAR OF IMPROVEMENT COST ESTIMATE		20	
(10) INVENTORY ROUTE MIN VERT CLEAR		99 FT 99 IN		(114)FUTURE ADT 1000	(115) YEAR FUTURE ADT	2025	
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR		24.0 FT		INSPECTIONS			
(53) MIN VERT CLEAR OVER BRIDGE RDWY		99 FT 99 IN		(90) INSPECTION DATE		10/23/2008	
(54) MIN VERT UNDERCLEAR REF Not a Highway or Railroad				(92) CRITICAL FEATURE INSPECTION :	(93) CFI DATE		
(55) MIN LAT UNDERCLEAR RT REF Not a Highway or Railroad		99.9 FT		A) FRACTURE CRIT DETAIL - NO	A)		
(56) MIN LAT UNDERCLEAR LT REF -		0.0 FT		B) UNDERWATER INSP - YES 48Mo	B)	03/01/2009	
				C) OTHER SPECIAL INSP NO	C)		
NAVIGATION DATA				SCOUR			
(38) NAVIGATION CONTROL - No Navigational Control	CODE	0					
(111)PIER PROTECTION - Not Applicable	CODE						
(39) NAVIGATION VERTICAL CLEARANCE		0					
(116)VERT - LIFT BRIDGE NAV MIN VERT CLEAR							
(40) NAVIGATION HORIZONTAL CLEARANCE		0					

BRIDGE INSPECTION RECORD AND SUMMARY

INSPECTION TYPE 4 Year Underwater Inspection

BRIDGE NO. 230075 COUNTY COLUMBUS

ROUTE SR1006

OVER CREEK

STRUCTURE TYPE RC FLOOR ON I-BEAMS

ROUTE ORIENTATION W - E

SPANS 1@18'8;1@18'4

EVALUATION CODE: 0-2 CRITICAL, 3 & 4 POOR, 5 & 6 FAIR, 7-9 GOOD

INSPECTION ITEM			ITEM 61		
DECK ITEMS		GRADES			
1. WEARING SURFACE			45. CHANNEL & CHANNEL PROT.	a. WATERWAY	5
				b. ALIGNMENT	8
				c. SCOUR	8
				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		
	b. TIMBER		51. APPROACH SLABS		
	c. STEEL PLANK		52. PAINT SYSTEM CODE		
	d. OPEN GRID		53. UTILITIES		
3. RAILING	a. CONCRETE		54. RESPONSE TO LIVE LOAD		
	b. TIMBER		55. ESTIMATED REMAINING LIFE		
	c. ALUMINUM				
	d. STEEL				
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 NO		
	b. MISC PREFAB		62. PRESENTLY POSTED YES		
	c. COMPRESSION SEAL		63. TOT. FIELD INSP TIME (INCLUDE WRITE UP)(MAN HR) 5		
	d. STANDARD JOINTS		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)					
			70. SI&A GENERAL CONDITION RATINGS		
SUPER STR. (FM. 1 (90)B TRUSS) ITEM 59			a. DECK	ITEM 58	
10. LONGITUDINAL BEAMS OR GIRDERS			b. SUPERSTRUCTURE	ITEM 59	
11. LONGITUDINAL JOIST OR STRINGERS			c. SUBSTRUCTURE	ITEM 60	5
12. INT. DIAP'S, X-FRAMES, BRACING & CONN'S			d. CHANNEL & CHANNEL PROT.	ITEM 61	6
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)			b. APPR. RDWY. ALIGNMENT		
17. MOVABLE SPAN MACHINERY					
			72. FIELD SCOUR EVALUATION 0		
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	5	SNOOPER (CODE S, 4, OR N)	HRS	NO
	c. BULKHEADS, WING'S, & TIE BACKS		LADDER		NO
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: <i>William R. Muth</i>		
41. DRIFT 6			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 WILLIAM MUELLER			
Assisted By PGR			
Item No.	Grade		
35b	5	TIMBER PILES PILES EXHIBIT VERTICAL CHECKS TO 1/16", DELAMINATIONS TO 1/2", AND SURFACE SOFTNESS TO 1/4". RANDOM AREAS OF SPOT DECAY LOCATED NEAR WATERLINE. CONCRETE COLLAR IN PLACE AT P-3 BENT 1 TO 2.5' ABOVE MUDLINE. CONCRETE COLLARS AT P-1 & P-2 OF END BENT 2 ENDING 2" ABOVE MUDLINE.	
41	6	DRIFT DRIFT TO 2" DIAMETER SCATTERED THROUGHOUT WITH ACCUMULATIONS TO 2' ABOVE MUDLINE.	
45a	5	WATERWAY HIGH WATER MARK LOCATED AT TOP OF CAPS. UPSTREAM WATERWAY OBSTRUCTED BY NUMEROUS FALLEN TREES. BEAVER DAM LOCATED +/-40 YARDS DOWNSTREAM OF STRUCTURE.	
45b	8	CHANNEL ALIGNMENT NO PROBLEMS NOTED.	
45c	8	SCOUR NO PROBLEMS NOTED.	
62	YES	PRESENTLY POSTED SV 17T/ TTST 24T	

BRIDGE INSPECTOR'S RECOMMENDATION FOR MAINTENANCE REPAIRS

Bridge: 230075

County COLUMBUS

Date: 03/12/2009

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

MMS Code	Description of Function	Unit	Quantity	Remarks	Est. Cost
3366	Drift and Debris Removal	HR	60	BEAVER DAM DOWNSTREAM OF STRUCTURE.	

Key



Priority Maintenance Item



Critical Finding Item



Priority Maintenance Level Not Determined

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 07/16/2009

COUNTY :	COLUMBUS	DIV :	6	DIST :	3	STRUCTURE NUMBER :	230075	LENGTH :	37	FEET
ROUTE CARRIED :	SR1006	FEATURE INTERSECTED :	CREEK							
LOCATED :	0.1 MI E JCT SR1141	BRIDGE NAME :								
FUNC. CLASS :	08	SYST.ON :	NFA	SYST.UNDER :	NFA	ADT & YR :	500 2007	RAIL TYPE :	LT 241	RT 241
BUILT :	1950	BY :	SHPWC		FED.AID PROJ :	DESIGN LOAD : Other or Unknown				
REHAB :		BY :		PROJ :		ALIGNMENT :	TAN. 90	LANES :	ON 2	UNDER
NAVIGATION :	VC 0.0 FT	HT. CRN. TO BED :	10 FT	WATER DEPTH :	4 FT					
SUPERSTRUCTURE :	RC FLOOR ON I-BEAMS									
SUBSTRUCTURE :	EBTS&BT:RC CAP/TIMBER PILES @ 7'4CTS.									
SPANS :	1@18'8;1@18'4									
BEAMS OR GIRDERS :	12 LINES W12X16.5 I-BEAMS @ 2'2.5CENTERS									
FLOOR :	5RC/1AWS	ENCROACHMENT :	DECK (OUT TO OUT) : 25.3 FT							
CLEAR ROADWAY :	24.0 FT	BETWEEN RAILS :	25.5 FT	SIDEWALK OR CURB :	LT 0.8 FT	RT 0.8 FT				
VERT.CL.OVER :	99 FT 99 IN	VERT.CL.UNDER :	00 FT 00 IN	HOR.CL.UNDER :	0.0 FT					
INV.RTG. :	HS-9	OPE.RTG. :	HS-15	CONTR.MEMBER :	BEAM INT.	POSTED :	SV 17	TTST 24	DATE	02/10/2009
SYSTEM :	Secondary S.R. Route					GREEN LINE ROUTE :	N			
2ND OPENING :	3RD OPENING :		4TH OPENING :		5TH OPENING :					
REMARKS :										

Bridge Inspection Field Sketch



Roadway	18ft Wide	2 Paved Lanes	Looking East
Left Shoulder	8ft Wide		8ft Unpaved
Right Shoulder	8ft Wide		8ft Unpaved
Left Guardrail			
Right Guardrail			

Title

APPROACH ROADWAY

Description

APPROACH ROADWAY

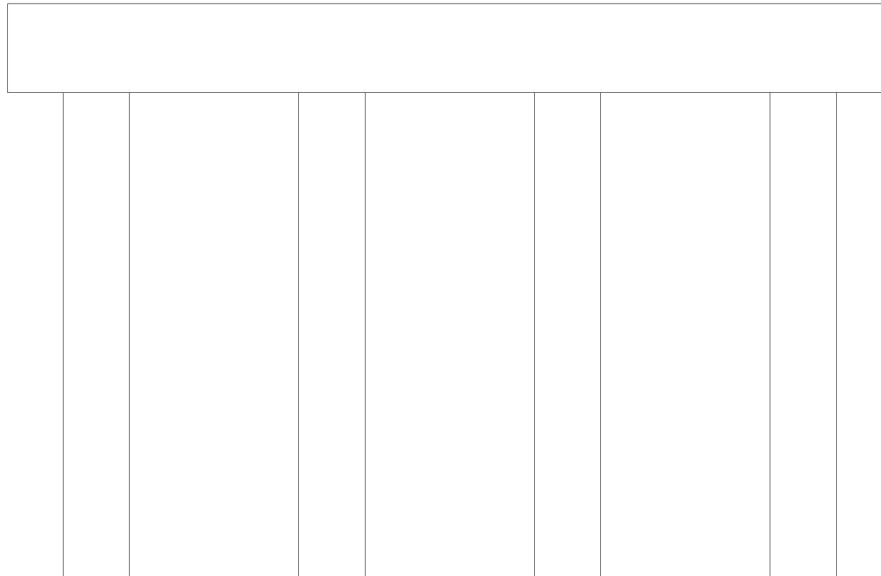
Bridge No: 230075

Drawn By: CAA

Date: 10/23/2008

File Name: S0326000098

Bridge Inspection Field Sketch



Bent #	1	End Bents 1 & 2 Similar	
Cap - Pre-Cast			
Cap Size	27ft Long	2ft Wide	2ft High
Left Overhang	2.5ft	Lt Cap/Beam Overhang	
Right Overhang	2.5ft	Rt Cap/Beam Overhang	

Pile #	Material	Pile Type	Spacing	Length	Width/Diam.	Height	Orientation
1	Wood or Timber	Solid Pier	7.333ft		1ft		Vertical
2	Wood or Timber	Solid Pier	7.333ft		1ft		Vertical
3	Wood or Timber	Solid Pier	7.333ft		1ft		Vertical
4	Wood or Timber	Solid Pier			1ft		Vertical

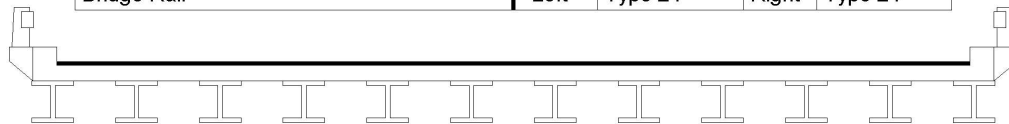
NOTE: R.C. REPAIR JACKETS AT PILE 3, BENT 1 AND PILES 1 & 2, END BENT 2.

PILES NOT VISIBLE DURING THIS INSPECTION DUE TO HIGH WATER

Title		Description	
SUBSTRUCTURE DETAILS		END BENTS 1 & 2 AND BENT 1	
Bridge No: 230075	Drawn By: SLK	Date: 10/23/2008	File Name: S0326000100

Bridge Inspection Field Sketch

Deck Width/Out to Out	25.333ft	Between Rails			25.5ft
Clear Roadway	24ft	Wearing Surface			0.083ft
Median Width		Median Height			
Curb Height		Left	0.667ft	Right	0.667ft
Sidewalk Width		Left		Right	
Clear Roadway (Rail to Median)		Left		Right	
Guardrail Width		Left	1.75ft	Right	1.75ft
Top of Rail to Deck/Wearing Surface		Left	2.417ft	Right	2.417ft
Bridge Rail		Left	Type 24	Right	Type 24



Measurements for Span #	1 & 2		
Deck Thickness	0.417ft	Left Overhang	0.521ft
Top of Rail to Bottom of Beam	3.917ft	Right Overhang	0.521ft

Beam Number	Beam Type	Spacing	Comments
1	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
2	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
3	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
4	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
5	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
6	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
7	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
8	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
9	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
10	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
11	Steel I Beam	2.208ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web
12	Steel I Beam	ft	12" Deep x 4" Wide w/ 1/4" Flanges and Web

Title

TYPICAL SECTION

Description

TYPICAL SECTION

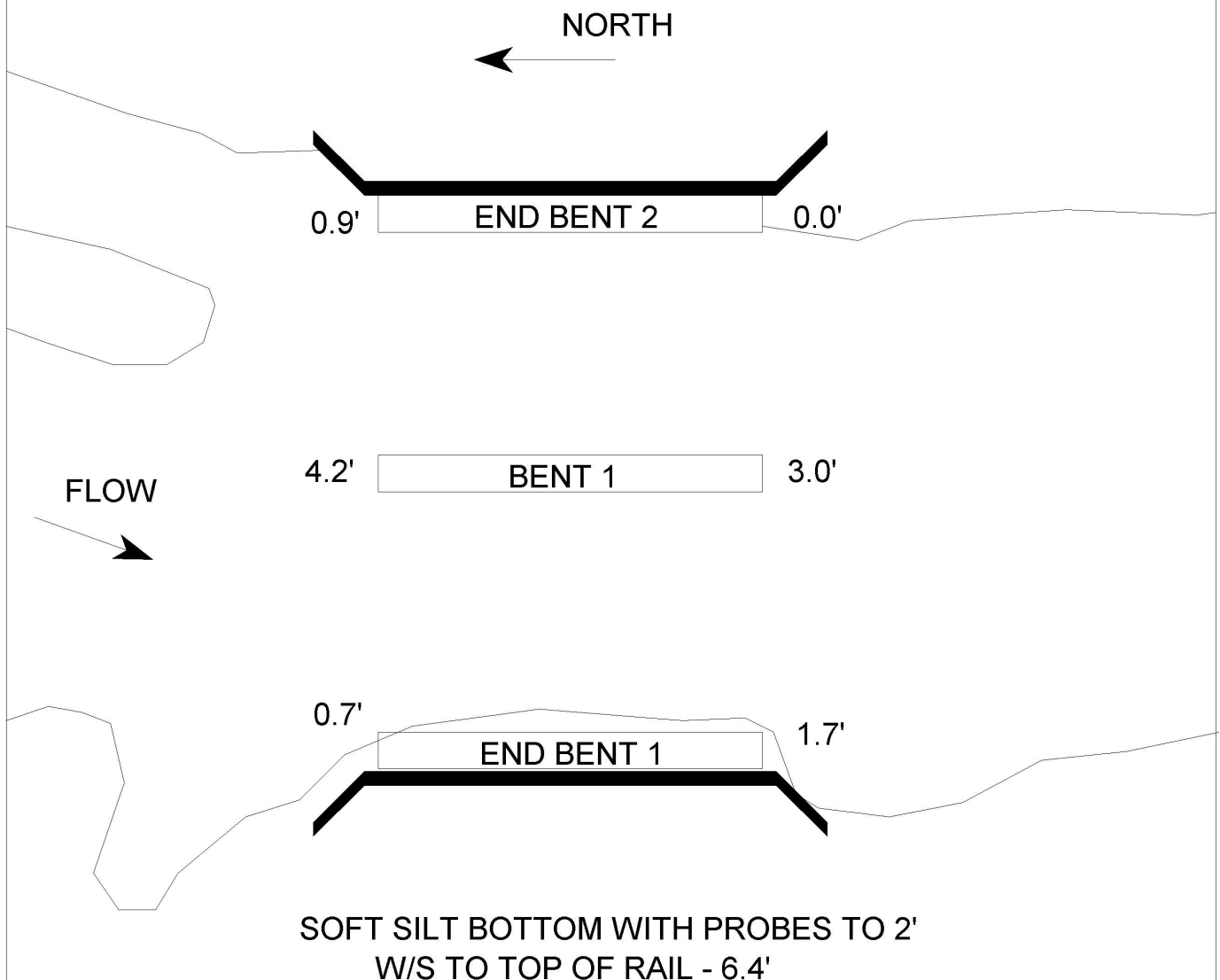
Bridge No: 230075

Drawn By: CAA

Date: 10/23/2008

File Name: S0326000099

Bridge Inspection Field Sketch



CONCRETE ENCASEMENTS
BENT 1 - P-3
END BENT 2 - P-1 & P-2

Title		Description	
PLAN VIEW		CHANNEL OVERVIEW	
Bridge No:	230075	Drawn By:	WRM
		Date:	3/26/2009
		File Name:	S0174012514



LOOKING EAST ALONG THE SOUTH SIDE



LOOKING SOUTH



LOOKING NORTH



LOOKING WEST ALONG THE NORTH SIDE



END BENT 2