

Hydraulics Unit Pre-Design Report (Pre-Scoping) for Structure #: 290078

Date: 10/03/2016

County: Davie	Stream: Hunting Creek	Assigned to: wgc
Road #: SR-1338	Road Name: County Line Rd.	Prepared By: Idc
Division: 9	Location: 0.8 Mi. S. Jct. SR-1335	Hydro Reviewer:
Latitude: 35.94140	Longitude: 80.69000	Project Type: DB

Existing Structure

Structure Type: RC Deck/ I Beams	Yr Built: 1961			
Span Arrangement: 4@55	OAL (ft): 220.0	Skew: 90	Abutment Type: Spill Through	
Number of Barrels:	@ Span (ft):	x Rise (ft):		
Bed to Crown (ft): 28.0	Clear Roadway (ft): 24.0	Water Depth (ft): 4.0	Superstructure Depth:	
ADT: 520	Year ADT: 2013	Scour Code (item113): 8	Prior Survey Completed: No	Survey Date:
Drainage Area: 180.0	Sq. Mi.	Drainage Area Source: USGS Stream Stats	Roadway Overtops at Q100: No	
Discharge Method: USGS Regression Equations	USGS Region: 1- Piedmont	Stream Gage Number(if applicable):		
Q10 (cfs): 9,800.0	Q25 (cfs): 12,500.0	Q50 (cfs): 14,900.0	Q100 (cfs): 17,000.0	QBFE (cfs): 19,150.0
Structure in Flood Hazard Zone: Yes	Panel #: 4880	Panel Date: 09/17/2008	Type of FIS: LIMITED	Date of FIS:

Enviromental

Quad Map: CALAHALN, NC	River Basin: Yadkin-Pee Dee	Buffer Rule: N/A			
Primary Stream Classification		Other Stream Classification			
☐ Class B	☐ Class C	☐ SA	☐ SB	☐ Anadromous Fish	☐ Area of Environmental Concern
☐ SC	☐ SWL	☐ WL	☐ WS I	☐ CAMA County	☐ Federal Wild & Scenic Rivers
☐ WS II	☒ WS III	☐ WS IV	☐ WS V	☐ HSB Required	☐ NC Natural & Scenic Rivers
Supplemental Stream Classification		☐ Impaired [303d]	☐ Primary Nursery Area		
☐ FWS	☐ HQW	☐ NSW	☐ ORW	☐ TVA	☐ Designated Shellfish Harvesting Area
☐ Sw	☐ Tr	☐ UWL	☐ w/in 0.5mi. of CA	☐ Designated Public Mountain Trout Waters	

Up/Down Stream Features

Upstream Feature: Bridge	Structure Type: Bridge			
Location:	Span Arrangement: 5@50	OAL (ft): 251.0		
Structure #: 480343	Route: SR-2126	Number of Barrels:	@ Span (ft):	x Rise (ft):
Latitude: 35.95220	Longitude: 80.72250	Bed to Crown (ft): 27.0	Year Built: 1961	
Prior Survey Completed:	Survey Date:			
Downstream Feature: Bridge	Structure Type: Bridge			
Location: 1.4 Mi. E. Jct. NC901	Span Arrangement: 1@61, 3@60, 1@61	OAL (ft): 302.00		
Structure #: 290003	Route: US64	Number of Barrels:	@ Span (ft):	x Rise (ft):
Latitude: 35.91610	Longitude: 80.67220	Bed to Crown (ft): 19.0	Year Built: 1996	
Prior Survey Completed:	Survey Date:			

Preliminary Structure Estimate [Office Estimate]

Structure Type:	Skew:
Dimensions/Spans:	

Notes

-High Rock Watershed; FEMA 100 Yr 4' below low steel
-State owned property both sides South & archeological site SE of bridge. No impacts. Maintain existing grade.



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURE MANAGEMENT UNIT

ATTENTION: **PRIORITY MAINTENANCE**

Structure Safety Report

Routine Element Inspection

COUNTY: DAVIE STRUCTURE NUMBER: 290078 FREQUENCY: 24 MONTHS

FACILITY CARRIED: SR1338 MILE POST:

LOCATION: 0.8 MI. S. JCT. SR1335

FEATURE INTERSECTED: HUNTING CREEK

LATITUDE: 35° 56' 28.38" LONGITUDE: 80° 41' 24.19"

SUPERSTRUCTURE: REINFORCED CONCRETE DECK ON I-BEAMS

SUBSTRUCTURE: END & INTERIOR BENTS: RC CAP ON STEEL PILES

SPANS: 4@55'0"

☐ FRACTURE CRITICAL ☐ TEMPORARY SHORING ☐ SCOUR CRITICAL ☐ SCOUR PLAN OF ACTION

PRESENT CONDITION: Poor INSPECTION DATE: 10/29/2014

POSTED SV: 35 POSTED TTST: 38

OTHER SIGNS PRESENT: (4) DELINEATORS



LOOKING NORTH

Sign noticed issued for		Number Required
<u>NO</u>	WEIGHT LIMIT	<u>0</u>
<u>NO</u>	DELINEATORS	<u>0</u>
<u>NO</u>	NARROW BRIDGE	<u>0</u>
<u>NO</u>	ONE LANE BRIDGE	<u>0</u>
<u>NO</u>	LOW CLEARANCE	<u>0</u>

INSPECTED BY STEVE AUSTIN	SIGNATURE 	ASSISTED BY JASON ROLFSMEYER
------------------------------	--	---------------------------------

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

Run Date: 12/18/2014

IDENTIFICATION							
(1) STATE NAME -NORTH CAROLINA	BRIDGE	290078		SUFFICIENCY RATING =	49.26		
(8) STRUCTURE NUMBER(FEDERAL)		000000000590078		STATUS =	Structurally Deficient		
(5) INVENTORY ROUTE (ON/UNDER) - ON		31013380					
(2) STATE HIGHWAY DEPARTMENT DISTRICT		2					
(3) COUNTY CODE	59	(4) PLACE CODE	0				
(6) FEATURE INTERSECTED - HUNTING CREEK							
(7) FACILITY CARRIED SR1338							
(9) LOCATION 0.8 MI. S. JCT. SR1335							
(11) MILEPOINT		0					
(16) LAT 35° 56' 28.38"	(17) LONG	80° 41' 24.19"					
(98) BORDER BRIDGE STATE CODE		PCT SHARE					
(99) BORDER BRIDGE STRUCTURE NO							
STRUCTURE TYPE AND MATERIAL				CLASSIFICATION			
(43) STRUCTURE TYPE MAIN: Steel				(112) NBIS BRIDGE SYSTEM -	YES		
TYPE - Stringer Multibeam or Girder		CODE 302		(104) HIGHWAY SYSTEM Is not on NHS	0		
(44) STRUCTURE TYPE APPR :				(26) FUNCTIONAL CLASS - Local	09		
TYPE -		CODE 000		(100) STRAHNET HIGHWAY - Not a STRAHNET Route	0		
(45) NUMBER OF SPANS IN MAIN UNIT		4		(101) PARALLEL STRUCTURE - No Parallel Structure	N		
(46) NUMBER OF APPROACH SPANS				(102) DIRECTION OF TRAFFIC - 2-way Traffic	2		
(107) DECK STRUCTURE TYPE - 1		CODE		(103) TEMPORARY STRUCTURE -			
(108) WEARING SURFACE / PROTECTIVE SYSTEM :				(110) DESIGNATED NATIONAL NETWORK - Not on the National Network	0		
(A) TYPE OF WEARING SURFACE -		CODE		(20) TOLL On Free Road	3		
(B) TYPE OF MEMBRANE -		CODE		(31) MAINTAIN - State Highway Agency	01		
(C) TYPE OF DECK PROTECTION -		CODE		(22) OWNER - State Highway Agency	01		
				(37) HISTORICAL SIGNIFICANCE - Not Eligible	5		
				CONDITION			
(45) NUMBER OF SPANS IN MAIN UNIT		4		(58) DECK	6		
(46) NUMBER OF APPROACH SPANS				(59) SUPERSTRUCTURE	4		
(107) DECK STRUCTURE TYPE - 1		CODE		(60) SUBSTRUCTURE	5		
(108) WEARING SURFACE / PROTECTIVE SYSTEM :				(61) CHANNEL & CHANNEL PROTECTION	5		
(A) TYPE OF WEARING SURFACE -		CODE		(62) CULVERTS	N		
(B) TYPE OF MEMBRANE -		CODE		LOAD RATING AND POSTING			
(C) TYPE OF DECK PROTECTION -		CODE		(31) DESIGN LOAD H 15	2		
				(63) OPERATING RATING METHOD - Load Factor	1		
(27) YEAR BUILT		1961		(64) OPERATING RATING - HS-23	41		
(106) YEAR RECONSTRUCTED				(65) INVENTORY RATING METHOD - Load Factor	1		
(42) TYPE OF SERVICE : ON - Highway				(66) INVENTORY RATING - HS-13	24		
UNDER - Waterway		CODE 15		(70) BRIDGE POSTING - Posting Required	3		
(28) LANES: ON STRUCTURE 2 UNDER STRUCTURE		0		(41) STRUCTURE OPEN, POSTED, OR CLOSED	P		
(29) AVERAGE DAILY TRAFFIC		520		DESCRIPTION - Posted for Load			
(30) YEAR OF ADT 2013	(109) TRUCK ADT PCT	6%		APPRAISAL			
(19) BYPASS OR DETOUR LENGTH		2 MI		(67) STRUCTURAL EVALUATION	4		
GEOMETRIC DATA				(68) DECK GEOMETRY	4		
(48) LENGTH OF MAXIMUM SPAN		54 FT		(69) UNDERCLEARANCES, VERTI & HORIZ	N		
(49) STRUCTURE LENGTH		220 FT		(71) WATERWAY ADEQUACY	7		
(50) CURB OR SIDEWALK: LEFT 1.125 FT RIGHT 1.125 FT				(72) APPROACH ROADWAY ALIGNMENT	8		
(51) BRIDGE ROADWAY WIDTH CURB TO CURB		24 FT		(36) TRAFFIC SAFETY FEATURES	0000		
(52) DECK WIDTH OUT TO OUT		26.417 FT		(113) SCOUR CRITICAL BRIDGES	8		
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)		18 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		24 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 1040	(115) YEAR FUTURE ADT	2025	
(56) MIN LAT UNDERCLEAR LT REF -		000 FT		INSPECTIONS			
NAVIGATION DATA				(90) INSPECTION DATE	10/29/2014		
(38) NAVIGATION CONTROL - No Navigational Control		CODE 0		(92) CRITICAL FEATURE INSPECTION :	(93) CFI DATE		
(111) PIER PROTECTION -		CODE		A) FRACTURE CRIT DETAIL - NO	A)		
(39) NAVIGATION VERTICAL CLEARANCE		0		B) UNDERWATER INSP - NO	B)		
(116) VERT - LIFT BRIDGE NAV MIN VERT CLEAR		FT		C) OTHER SPECIAL INSP NO	C)		
(40) NAVIGATION HORIZONTAL CLEARANCE		0 FT		SCOUR			

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 12/18/2014

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
DAVIE	9	2	290078	220	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1338	HUNTING CREEK

LOCATED :	BRIDGE NAME :	CITY :
0.8 MI. S. JCT. SR1335		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	520 2013	LT 141 RT 141

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1961	SHC	8.28256	S-1280(1)	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		28 FT		4		FT

SUPERSTRUCTURE :	REINFORCED CONCRETE DECK ON I-BEAMS
------------------	-------------------------------------

SUBSTRUCTURE :	END & INTERIOR BENTS:RC CAP ON STEEL PILES
----------------	--

SPANS :	4@55'0"
---------	---------

BEAMS OR GIRDERS :	4 LINES OF W33X141 I-BEAMS @ 7'0" CENTERS
--------------------	---

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
7" RC SLAB		26.417 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
24 FT	26.25 FT	LT 1.125 FT RT 1.125 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :				
HS-13	HS-23	Ext bm	SV 35	TTST 38	DATE	10/20/2008	

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

UNDER ROUTES AND CLEARANCES

REMARKS :



LOOKING SOUTH



NORTH POSTING



LOOKING EAST



BEARING ASSY SEAT 2 ABUT 2



ABUT 2



PIER 2



SUPERSTRUCTURE SPAN 3



NORTH APPROACH



UPSTREAM



DOWNSTREAM



SOUTH APPROACH



LOOKING NORTH



SOUTH POSTING



LOOKING WEST



BEARING ASSY SEAT 1 PIER 1 SPANS 1 AND 2



ABUT 1



DOWNSTREAM



UPSTREAM



Span 4 Deck: 100 Square Feet of Cracking (RC and Other): Width 0.012-0.05 in. or spacing of 1.0-3.0 ft. RANDOM AREAS OF CRACKING



DRIFT AT PIER 3 UP TO 8FT. W x 8FT. DEEP x 40 FT. LONG PRIORITY MAINTENANCE



Span 1 Deck: 200 Square Feet of Abrasion/Wear (PSC/RC): Abrasion or wearing has exposed coarse aggregate but the aggregate remains secure in the concrete. IN RANDOM AREAS



S.W. SLOPE PROTECTION HOLE UP TO 18 IN DIA x 1FT. DEEP. WITH CRACKING



Bent 2 Pile 1: 1 Each of Corrosion: Freckled Rust. Corrosion of the steel has initiated.

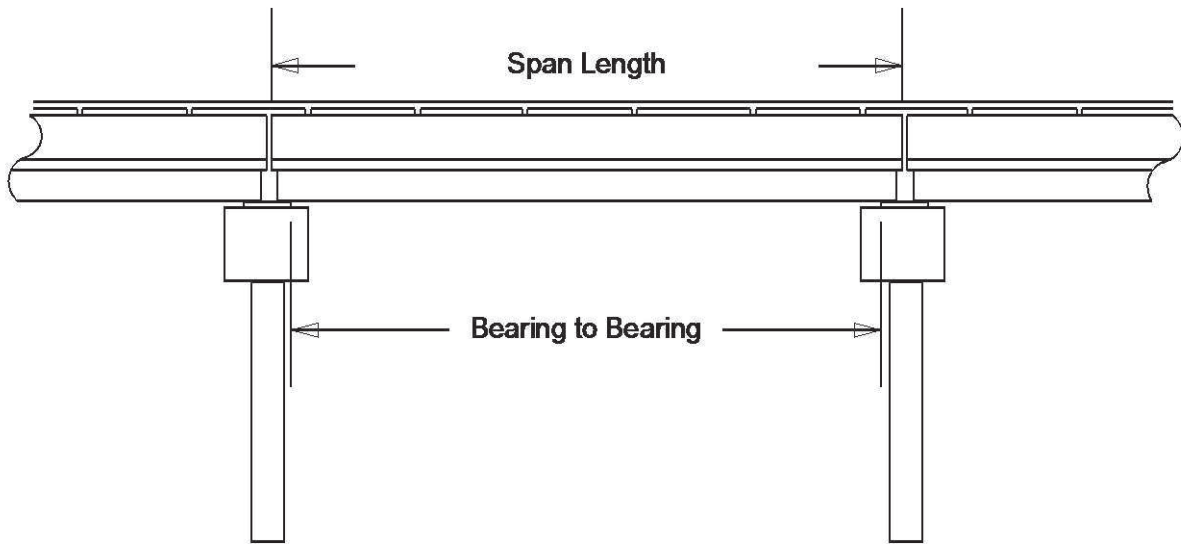


DRIFT AT PIER 3 8FT. W X 8 FT. H X 40 FT. LONG PRIORITY MAINTENANCE

Structure Data Worksheet

Spans

County: DAVIE Structure No: 290078 Date: Inspected By: SWA



Span No	Span Length	Bearing to Bearing	Comments
1	55.0	53.083	NBIS BL: 215.0 FT
2	55.0	53.667	
3	55.0	53.667	
4	55.0	53.083	

Stream Bed Soundings

(See next sheet for profile sketch)

Bridge No: 290078 County: DAVIE Date: By: SWA

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	6	TOC			
1	6				
1.1	7.6		1.1	7.6	
7	7.6				
17	14.5				
35	14.8				
55	16.7	PIER 1	55	19.1	PIER 1
65	17				
90	16.3				
108	25.6	WS WE			
110	27.3	PIER 2	110	25.3	PIER 2
122	27				
130	27.3				
140	29.4				
150	30				
160	31				
165	27.8	PIER 3	165	30.7	PIER 3
165.1	26.8	WS WE			
192	19.5				
213	7.6				
219	7.5		219	7.8	
219.1	6				
220	6	TOC			
220.1	0	ABUT 2	220.1	0.0	ABUT 2

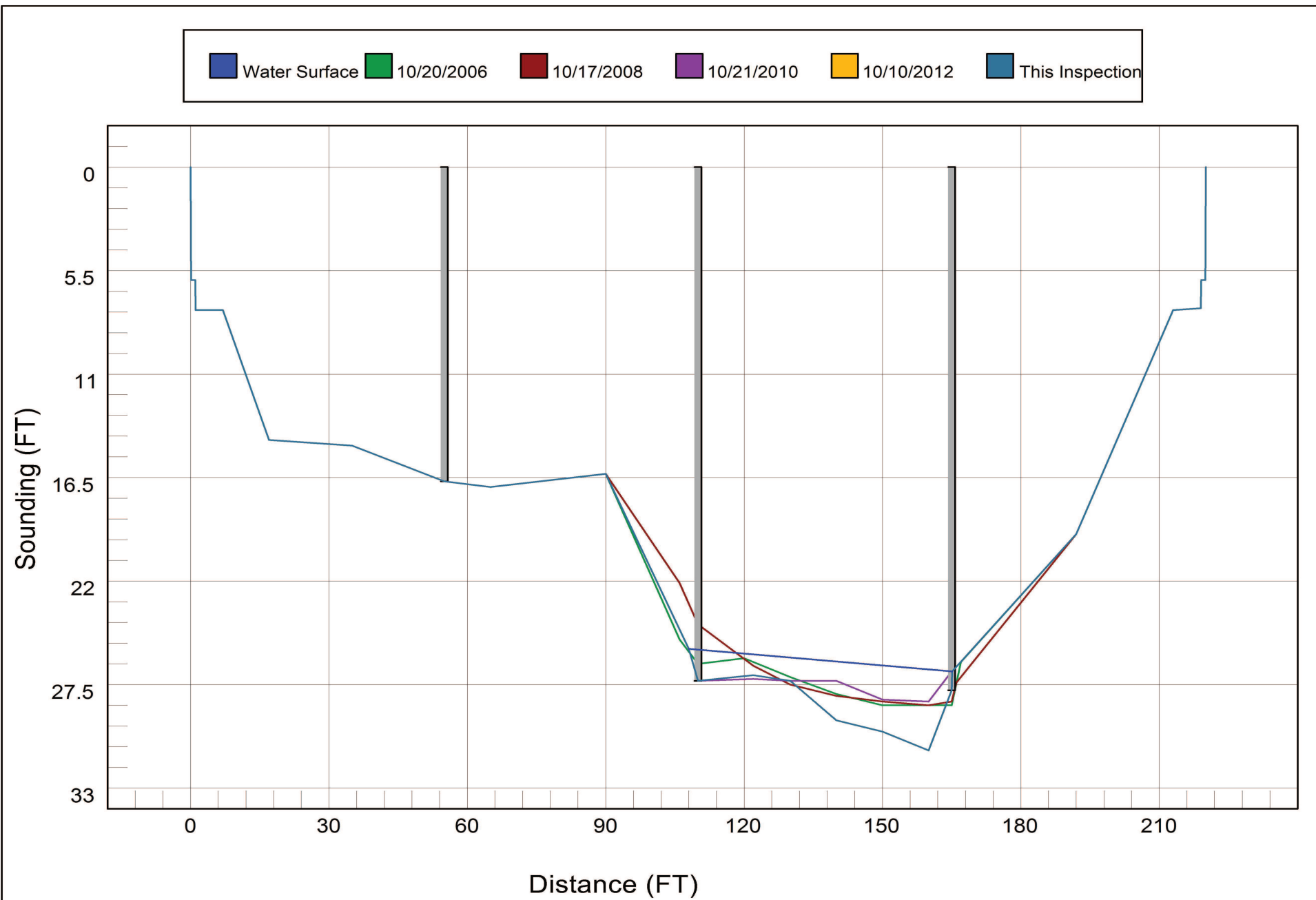
Bridge: 290078

County DAVIE

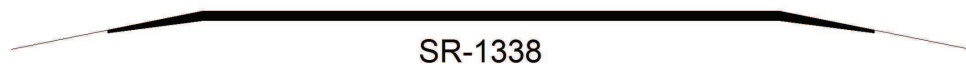
Date:

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



Bridge Inspection Field Sketch



Roadway	18ft Wide	2 Unpaved Lanes	Looking North
Left Shoulder	6ft Wide		6ft Unpaved
Right Shoulder	6ft Wide		6ft Unpaved
Left Guardrail			
Right Guardrail			

MEASUREMENTS VERIFIED 10-29-14 JER
MEASUREMENTS VERIFIED 10-10-12 BTH
MEASUREMENTS VERIFIED 10-21-10 BTH
MEASUREMENTS VERIFIED 10-15-08 BTH

Title

APPROACH ROADWAY

Description

SHEET 1

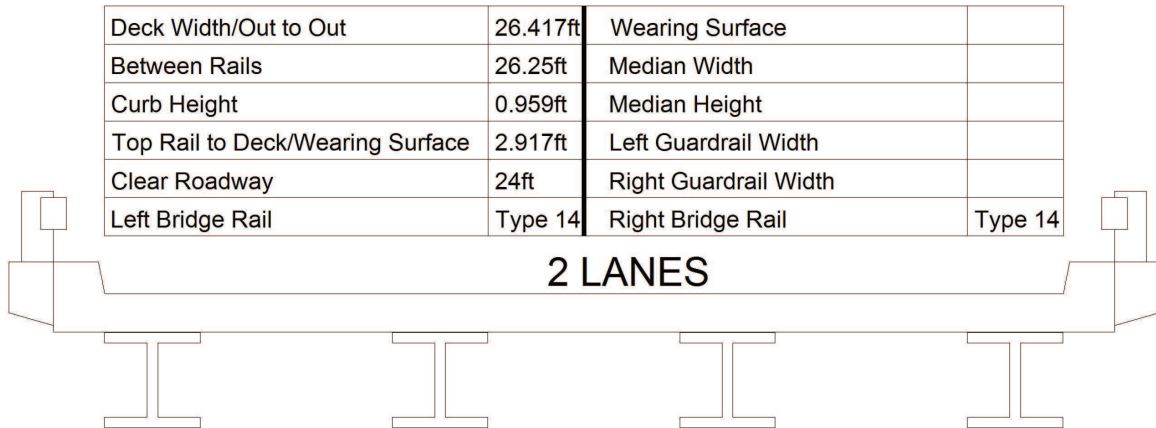
Bridge No: 290078

Drawn By: BTH

Date: 10/15/08

File Name: S0090001914

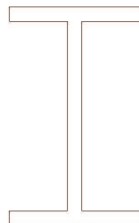
Bridge Inspection Field Sketch



Measurements for Span #	1	Spans 2 & 4 Similar	
Deck Thickness	0.583	Left Overhang	2.709
Top of Rail to Bottom of Beam	6	Right Overhang	2.709

Beam No	Beam Type	Spacing	Comments
1	Steel I Beam	7.0 ft.	
2	Steel I Beam	7.0 ft.	
3	Steel I Beam	7.0 ft.	
4	Steel I Beam		

ABUTS: RC CAPS ON 1.0 ft. STEEL PILES. PIERS: RC CAPS ON 1.67 ft. STEEL PILES ENCASED. AT GROUND.
INT. DIAPH. ARE 15 IN. CHANNELS SPACED AT THE 1/3 PT. IN ALL SPANS.



I-BEAMS	WIDTH	HEIGHT	WEB	FLANGE
ALL	.969 ft.	2.792 ft.	.052 ft.	.088 ft.

MEASUREMENTS VERIFIED 10-29-14 JER
MEASUREMENTS VERIFIED 10-10-12 BTH
MEASUREMENTS VERIFIED 10-21-10 BTH
MEASUREMENTS VERIFIED 10-15-08 BTH

Title

SUPERSTRUCTURE

Description

SHEET 2

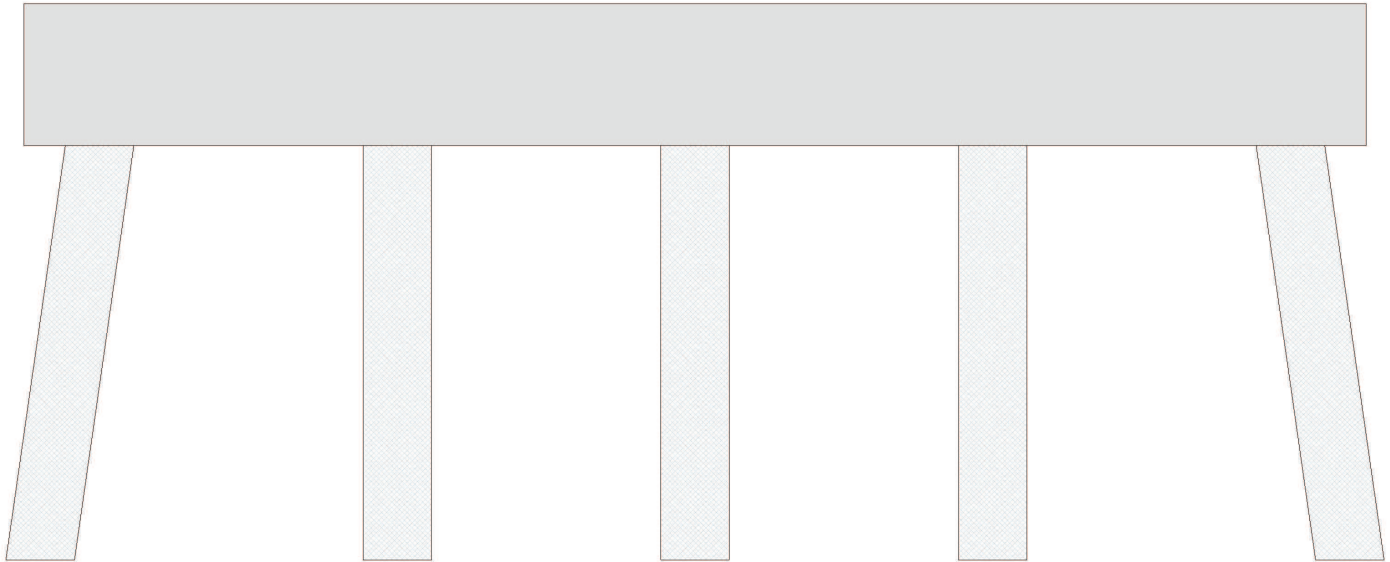
Bridge No: 290078

Drawn By: BTH

Date: 10/15/08

File Name: S0090001915

Bridge Inspection Field Sketch



Cap Information			Material Cast-in-Place Concrete							
Length	Width	Height	Left Overhang	Right Overhang	Left Beam to End of Cap.	Right Beam to End of Cap.				
23.667 ft.	2.500 ft.	2.500 ft.	1.333 ft.	1.333 ft.	1.083 ft.	1.083 ft.				
Subcap Information			Material							
Length	Width	Height	Left Overhang	Right Overhang	Left Pile to Splice.					
Sill Information			Material							
Length	Width	Height								
Pile #	Material	Spacing	Width/Dia.	Height	Length	Orientation	Driven?	Replacement?	Removed?	Collar?
1	Steel	5.25 ft.	1.209 ft.	1.167 ft.		Battered	No	No	No	No
2	Steel	5.25 ft.	1.209 ft.	1.167 ft.		Vertical	No	No	No	No
3	Steel	5.25 ft.	1.209 ft.	1.167 ft.		Vertical	No	No	No	No
4	Steel	5.25 ft.	1.209 ft.	1.167 ft.		Vertical	No	No	No	No
5	Steel		1.209 ft.	1.167 ft.		Battered	No	No	No	No
MEASUREMENTS VERIFIED 10-29-14 JER MEASUREMENTS VERIFIED 10-10-12 BTH MEASUREMENTS VERIFIED 10-21-10 BTH MEASUREMENTS VERIFIED 10-15-08 BTH										
Bent/Abutment #: 1			Similar Bents: PIERS 2 AND 3							

Title

PIERS

Description

SHEET 3

Bridge No: 290078

Drawn By: BTH

Date: 10/15/2008

File Name: S0090003020

Hunting Creek Limited Detail Study Plan: Floodway Run 10/4/2016

Hunting Road - TOR Structure ID: LDS_HC_07 Approximate Survey St

