

1.0759 m.

Project Number 45615.1.1

TIP Number B-5660

Let Date _____

PREDESIGN-PRESURVEY REPORT

County HALIFAX

Bridge Number 410065

Road Number SR 1100 - Bells Bridges

Stream Deep Creek Road

Type Of Request: POC Force Account TIP

Date 1-29-16 Name SJ Sykes Assigned To _____

Checked By _____

Prior Survey Date None (attach copy of prior survey)

Study By Scour Section _____

Flood Zone X Detail Study Limited Date 7-3-2007 (attach copy of flood map) Panel 2864

B.M. Info _____

Quad Map Hobgood Drainage Area 43.6 sq mi From STREAM STATS

Q25 2400 Q50 3000 Q100 3600 Method USGS SI Report 2009-5158

Braided stream @ site + D/S

EXISTING BRIDGE INFORMATION

Location 1.0 mi. W of NC 125

Average Daily Traffic 220 (yr 2011)

Length 121' Bed- To Crown 10' Water Depth 4'

Type Structure Steel plank floor on CONT. I-beams, timber caps + piles

Type Spans 1 @ 20', 1 @ 20'3", 1 @ 20'9", 1 @ 19'6", 1 @ 20', 1 @ 20'3"

Upstream Structure Brg # 23 (US 258) + unnamed culvert

Location 1.1 mi. S of JCT. NC 125

Bed- To Crown 10' Prior Survey 6-74 (72" CMP)

Downstream Structure Brg # 56 + # 57 (SR 1815)

Location 0.9 mi S JCT SR 1814

Bed- To Crown 15' Prior Survey 3-85 (4 @ 87" x 63" CSPA)

SCS Watershed _____

) BRG # 56

) BRG # 57

ENVIRONMENTAL

Trout Stream No Anadromous Fish No Primary Nursery Area No

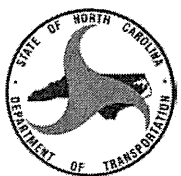
High Quality Waters No Nutrient Sensitive Waters YES

Near Water Supply Intake No CAMA County No

Stream Classification C, NSW

DENR River Basin Info. Tar/Pamlico

office estimated min. brg length = 130'



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION PRIORITY MAINTENANCE ISSUED (PILES)

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY HALIFAX BRIDGE NUMBER 410065 INSPECTION CYCLE 2 YRS
ROUTE SR1100 ACROSS DEEP CREEK M.P. 0

LOCATION 1.0MI.W.NC125

SUPERSTRUCTURE STEEL PLANK FLOOR ON CONT I-BEAMS

SUBSTRUCTURE E.BTS&BTS:TIMBER CAPS/TIMBER PILES @ VAR CTS.

SPANS 1@20';1@20'-3;1@20'-9;1@19'-6;1@20';1@20'-3;CONT

LONGITUDE 77° 26' 24.44" LATITUDE 36° 4' 26.05"

INSPECTION DATE 08/07/2013 PRESENT CONDITION FAIR

PRESENT POSTING SV 39 TTST 39 39 TONS PROPOSED POSTING

OTHER SIGNS PRESENT 4 DELINEATORS



LOOKING EAST

Fracture Critical	<u>No</u>
Temporary Shoring	<u>No</u>
Scour Critical	<u>No</u>
Scour POA	<u>Yes</u>

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: 08/19/2013

IDENTIFICATION				CLASSIFICATION	
(1) STATE NAME -NORTH CAROLINA	BRIDGE	410065	SUFFICIENCY RATING =	31.78	
(8) STRUCTURE NUMBER(FEDERAL)	00000000830065		STATUS =	Structurally Deficient	
(5) INVENTORY ROUTE (ON/UNDER) - ON	31011000				
(2) STATE HIGHWAY DEPARTMENT DISTRICT	1				
(3) COUNTY CODE	83	(4) PLACE CODE	0		
(6) FEATURE INTERSECTED - DEEP CREEK				(112)NBIS BRIDGE SYSTEM -	YES
(7) FACILITY CARRIED SR1100				(104)HIGHWAY SYSTEM	Is not on NHS
(9) LOCATION 1.0MI.W.NC125				(26) FUNCTIONAL CLASS -	Local
(11)MILEPOINT	0			(100)STRAHNET HIGHWAY -	Not a STRAHNET Route
(16)LAT 36° 4' 26.05"	(17)LONG 77° 26' 24.44"			(101)PARALLEL STRUCTURE -	No Parallel Structure
(98)BORDER BRIDGE STATE CODE	PCT SHARE			(102)DIRECTION OF TRAFFIC -	2-way Traffic
(99)BORDER BRIDGE STRUCTURE NO				(103)TEMPORARY STRUCTURE -	Temporary Structure/Conditions
				(110)DESIGNATED NATIONAL NETWORK -	Not on the National Network
				(20) TOLL	On Free Road
				(31) MAINTAIN -	State Highway Agency
				(22) OWNER -	State Highway Agency
				(37) HISTORICAL SIGNIFICANCE -	Not Eligible
STRUCTURE TYPE AND MATERIAL				CONDITION	
(43) STRUCTURE TYPE MAIN: Steel Continuous					
TYPE - Stringer Multibeam or Girder	CODE	402			
(44) STRUCTURE TYPE APPR :					
TYPE -	CODE	000			
(45) NUMBER OF SPANS IN MAIN UNIT	6			(58) DECK	5
(46) NUMBER OF APPROACH SPANS				(59) SUPERSTRUCTURE	5
(107)DECK STRUCTURE TYPE - 6	CODE			(60) SUBSTRUCTURE	3
(108)WEARING SURFACE / PROTECTIVE SYSTEM :				(61) CHANNEL & CHANNEL PROTECTION	7
(A) TYPE OF WEARING SURFACE -	CODE			(62) CULVERTS	N
(B) TYPE OF MEMBRANE -	CODE				
(C) TYPE OF DECK PROTECTION -	CODE				
AGE AND SERVICE				LOAD RATING AND POSTING	
(27) YEAR BUILT	1969			(31) DESIGN LOAD	H 15
(106)YEAR RECONSTRUCTED				(63) OPERATING RATING METHOD -	Allowable Stress
(42) TYPE OF SERVICE : ON - Highway				(64) OPERATING RATING -	HS-1
UNDER - Waterway	CODE	15		(65) INVENTORY RATING METHOD -	Allowable Stress
(28) LANES: ON STRUCTURE 2 UNDER STRUCTURE	0			(66) INVENTORY RATING -	HS-1
(29) AVERAGE DAILY TRAFFIC	220			(70) BRIDGE POSTING -	Posting Required
(30) YEAR OF ADT 2011	(109) TRUCK ADT PCT	6%		(41) STRUCTURE OPEN, POSTED ,OR CLOSED	P
(19) BYPASS OR DETOUR LENGTH	9 MI			DESCRIPTION -	Posted for Load
GEOMETRIC DATA				APPRAISAL	
(48) LENGTH OF MAXIMUM SPAN	20 FT			(67) STRUCTURAL EVALUATION	3
(49) STRUCTURE LENGTH	121 FT			(68) DECK GEOMETRY	4
(50)CURB OR SIDEWALK: LEFT .25 FT RIGHT .25 FT				(69) UNDERCLEARANCES,VERTI & HORIZ	N
(51) BRIDGE ROADWAY WIDTH CURB TO CURB	23.833 FT			(71) WATERWAY ADEQUACY	7
(52) DECK WIDTH OUT TO OUT	24.1 FT			(72) APPROACH ROADWAY ALIGNMENT	7
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)	19 FT			(36) TRAFFIC SAFETY FEATURES	0000
(33) BRIDGE MEDIAN - No Median	CODE	0		(113)SCOUR CRITICAL BRIDGES	U
(34) SKEW 0°	(35) STRUCTURE FLARED	0			
(10) INVENTORY ROUTE MIN VERT CLEAR	999.9 FT				
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR	23.833 FT				
(53) MIN VERT CLEAR OVER BRIDGE RDWY	999.9 FT				
(54) MIN VERT UNDERCLEAR REF Not a Highway or Railroad	0 FT				
(55) MIN LAT UNDERCLEAR RT REF Not a Highway or Railroad	000 FT				
(56) MIN LAT UNDERCLEAR LT REF -	000 FT				
NAVIGATION DATA				PROPOSED IMPROVEMENTS	
(38) NAVIGATION CONTROL - No Navigational Control	CODE	0		(75) TYPE OF WORK -	CODE
(111)PIER PROTECTION -	CODE			(76) LENGTH OF STRUCTURE IMPROVEMENT	
(39) NAVIGATION VERTICAL CLEARANCE	0			(94) BRIDGE IMPROVEMENT COST	
(116)VERT - LIFT BRIDGE NAV MIN VERT CLEAR	FT			(95) ROADWAY IMPROVEMENT COST	
(40) NAVIGATION HORIZONTAL CLEARANCE	0 FT			(96) TOTAL PROJECT COST	
				(97) YEAR OF IMPROVEMENT COST ESTIMATE	
				(114)FUTURE ADT	440
				(115) YEAR FUTURE ADT	2025
INSPECTIONS					
(90) INSPECTION DATE				08/07/2013	
(92) CRITICAL FEATURE INSPECTION :				(93) CFI DATE	
A) FRACTURE CRIT DETAIL -	NO			A)	
B) UNDERWATER INSP -	YES 48Mo			B) 11/28/2011	
C) OTHER SPECIAL INSP	NO			C)	
SCOUR					

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 08/19/2013

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
HALIFAX	4	1	410065	121	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1100	DEEP CREEK

LOCATED :	BRIDGE NAME :	CITY :
1.0MI.W.NC125		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	220 2011	LT 233 RT 233

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1969	BMU	5.3051		H 15

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

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT	10 FT	4 FT

SUPERSTRUCTURE : STEEL PLANK FLOOR ON CONT I-BEAMS

SUBSTRUCTURE : E.BTS&BTS:TIMBER CAPS/TIMBER PILES @ VAR CTS.

SPANS : 1@20';1@20'-3;1@20'-9;1@19'-6;1@20';1@20'-3;CONT

BEAMS OR GIRDERS : 8 LNS 16 CONT I-BEAMS @ VAR CTS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
STL PLK/4.5 AWS		24.1 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
23.833 FT	24.333 FT	LT .25 FT RT .25 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	DATE
HS-1	HS-1	Pile 2 Bent 3	SV 39	39	09/09/2009

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

UNDER ROUTES AND CLEARANCES

REMARKS :

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 01/28/2016

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
HALIFAX	4	1	410066	41	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1100	DEEP CREEK

LOCATED :	BRIDGE NAME :	CITY :
0.9MI. W JCT NC125		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	220 2011	LT 233 RT 233

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1969	BMU			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		8 FT		3 FT	

SUPERSTRUCTURE : STEEL PLANK FLOOR ON I-BEAMS (CONT.)

SUBSTRUCTURE : E.BTS&INT.BT:TIMBER CAP ON TIMBER PILES @ 6' CTS.

SPANS : 1@21'0",1@19'6" CONTINUOUS

BEAMS OR GIRDERS : 10 LINES W16X45 I-BEAMS (CONT.) @ 2'7 CTS.

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
STL PLK/4.5" AWS		24.083 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
23.917 FT	24.5 FT	LT .2915 FT RT .2915 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :			
HS-11	HS-21	Pile	SV 31	TTST 34	DATE	09/09/2009

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

UNDER ROUTES AND CLEARANCES

Site over flow

REMARKS :

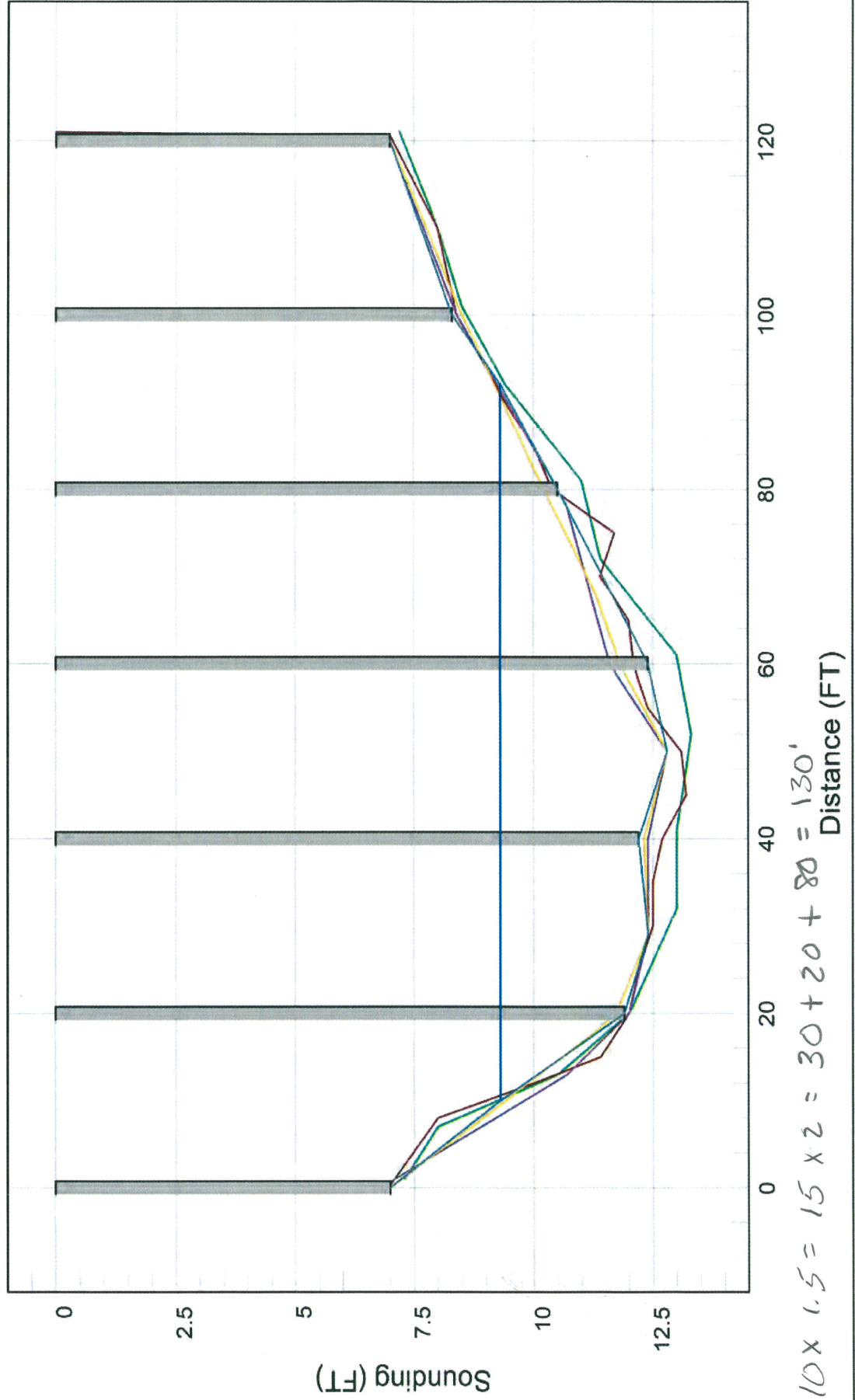
Bridge: 410065

County HALIFAX

Date: 08/07/2013

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 08/19/2013

COUNTY : DIVISION : DISTRICT : STRUCTURE NUMBER : LENGTH :
HALIFAX 4 1 410057 60 FEET

ROUTE CARRIED : FEATURE INTERSECTED :
SR1815 TRIB. OF DEEP CREEK

LOCATED : BRIDGE NAME : CITY :
0.9 MI S JCT SR1814

FUNC. CLASS : SYST.ON : SYST.UNDER : ADT & YR : RAIL TYPE :
09 NFA NFA 170 2012 LT 41 RT 41

BUILT : BY : PROJ : FED.AID PROJ : DESIGN LOAD :
1989 DOH 8.2300401 BRZ-1815(2) HS 20 + MOD

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 15 FT 10 FT

SUPERSTRUCTURE : PRESTRESSED CONCRETE CORED SLAB

SUBSTRUCTURE : E.BTS:RC CAP/PPC PILES;INT.BT:RC CAP/PPC PILES

SPANS : 2@30

BEAMS OR GIRDERS : 9 PRESTRESSED CONCRETE CORED SLAB SECTIONS

FLOOR : ENCROACHMENT : DECK (OUT TO OUT) :
18 PPC/3 AWS 27.167 FT

CLEAR ROADWAY : BETWEEN RAILS : SIDEWALK OR CURB :
24 FT 24 FT LT 0 FT RT 0 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. : OPE.RTG. : CONTR.MEMBER : POSTED : DATE :
HS-46 HS-55 C. Slab SR SV TTST 09/15/1989

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

UNDER ROUTES AND CLEARANCES

DOWN STREAM STRUCTURE

REMARKS :

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 08/19/2013

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
HALIFAX	4	1	410056	82	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1815	DEEP CREEK

LOCATED :	BRIDGE NAME :	CITY :
1.0 MI S JCT SR1814		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	170 2012	LT 41 RT 41

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1989	DOH	8.2300401	BRZ-1815(2)	HS 20 + MOD

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

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT	15 FT	8 FT

SUPERSTRUCTURE : PPC CORED SLAB

SUBSTRUCTURE : E.BTS:RC CAP ON PPC PILES;INT.BTS:RC CAP ON PPC PILES

SPANS : 2@41'0.75

BEAMS OR GIRDERS : 9 PPC CORED SLAB SECTIONS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
PPC.C.S/3 AWS		27.083 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
24 FT	24 FT	LT 0 FT RT 0 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	DATE
HS-27	HS-45	C. Slab LR	SV TTST	10/10/1989

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

UNDER ROUTES AND CLEARANCES

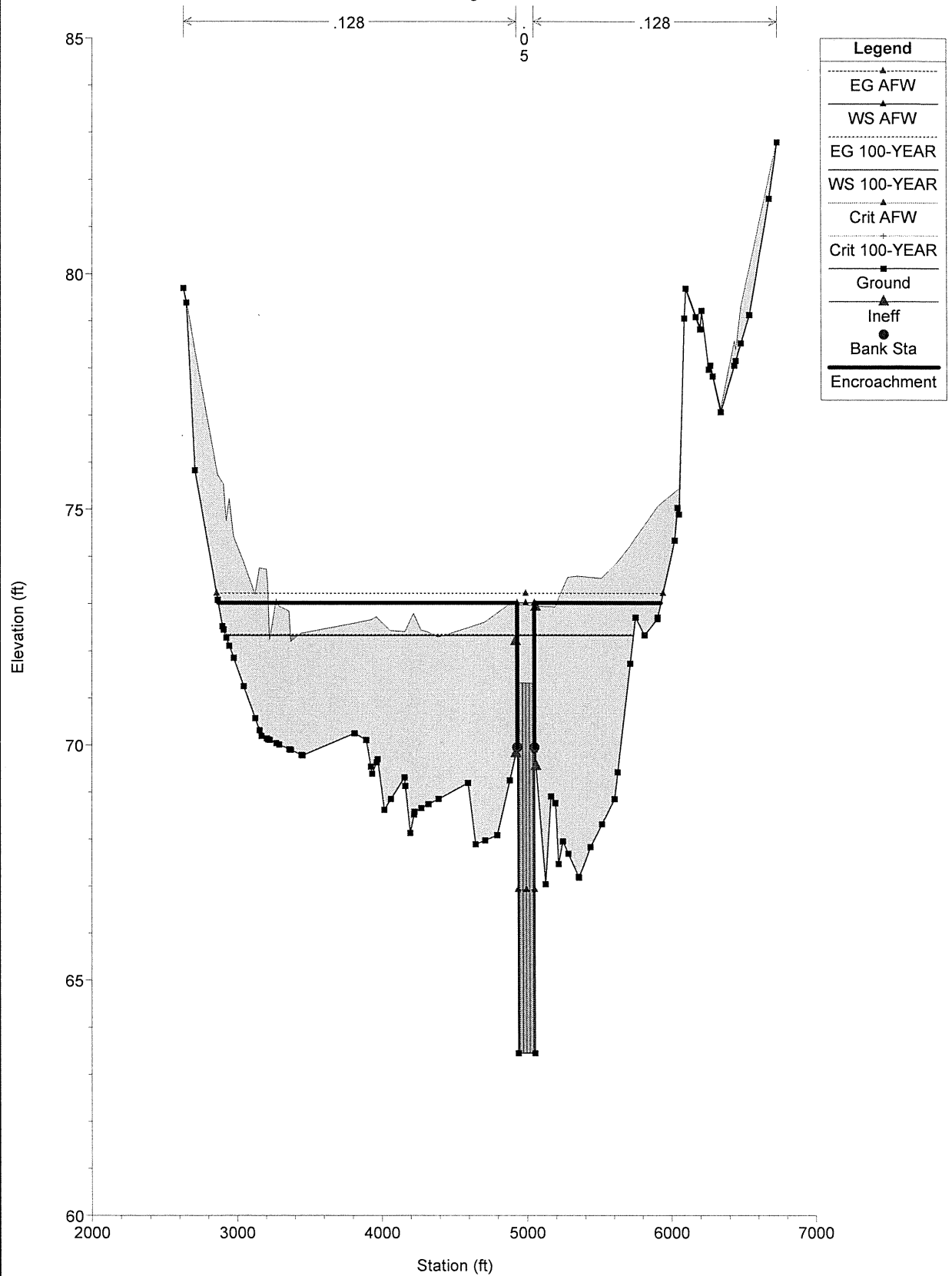
DOWNSTREAM STRUCTURE

REMARKS :

HEC-RAS Plan: Base Plan River: Main Stem Reach: Reach - 1

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach - 1	88119.1	100-YEAR	3895.00	64.41	72.75		72.75	0.000148	1.40	10420.92	2647.51	0.09
Reach - 1	88119.1	AFW	3895.00	64.41	73.70		73.70	0.000127	1.39	9327.89	1806.33	0.08
Reach - 1	87401.3	100-YEAR	3895.00	63.95	72.65		72.66	0.000123	1.31	10942.25	2617.53	0.08
Reach - 1	87401.3	AFW	3895.00	63.95	73.61		73.62	0.000106	1.31	9509.27	1647.92	0.07
Reach - 1	86401.2	100-YEAR	4054.00	63.62	72.47		72.49	0.000251	1.90	8845.82	2749.93	0.11
Reach - 1	86401.2	AFW	4054.00	63.62	73.46		73.47	0.000212	1.87	7070.85	1350.96	0.11
Reach - 1	85885.4	100-YEAR	4054.00	63.45	72.32	66.82	72.34	0.000256	1.92	6654.77	2822.36	0.11
Reach - 1	85885.4	AFW	4054.00	63.45	73.02	66.82	73.22	0.000867	3.60	1125.58	119.00	0.21
Reach - 1	85863.4		Bridge									
Reach - 1	85841.4	100-YEAR	4054.00	63.43	71.84	66.80	72.10	0.001241	4.08	1030.67	2750.73	0.25
Reach - 1	85841.4	AFW	4054.00	63.43	72.72	66.80	72.93	0.000951	3.71	1092.63	119.00	0.22
Reach - 1	85170.7	100-YEAR	4054.00	62.93	71.71		71.72	0.000179	1.60	9228.60	2416.95	0.10
Reach - 1	85170.7	AFW	4054.00	62.93	72.60		72.61	0.000171	1.66	7573.52	1429.33	0.09
Reach - 1	84399.0	100-YEAR	4054.00	62.70	71.56		71.57	0.000207	1.73	8037.12	1989.12	0.10
Reach - 1	84399.0	AFW	4054.00	62.70	72.45		72.46	0.000202	1.71	6806.27	1242.90	0.10
Reach - 1	83399.2	100-YEAR	4054.00	61.81	71.39		71.40	0.000140	1.50	9503.48	2165.44	0.09
Reach - 1	83399.2	AFW	4054.00	61.81	72.29		72.30	0.000133	1.55	8257.86	1474.54	0.08

Deep Creek Plan: Deep Creek 9/24/2003
 Bells Bridge Rd - TOR



Section 5.0 – Engineering Methods

Table 13—Limited Detailed Flood Hazard Data

Cross Section¹	Stream Station²	Flood Discharge (cfs)	1% Annual Chance Water- Surface Elevation (feet NAVD 88)	Non- Encroachment Width³ (feet)
CONCONNARA SWAMP TRIBUTARY 3				
019	1,860	1,075	79.3	80 / 100
025	2,548	1,075	79.5	100 / 100
029	2,929	1,075	79.7	100 / 100
035	3,508	1,075	79.9	150 / 75
039	3,946	1,075	80.2	150 / 50
DEEP CREEK				
572	57,155	5,224	60.8	453 / 750
579	57,903	5,224	61.1	649 / 991
589	58,901	5,224	61.4	348 / 1,384
596	59,647	5,224	61.8	207 / 1,069
613	61,255	5,224	62.3	622 / 1,378
629	62,907	5,224	62.6	1,760 / 352
646	64,595	5,224	63.0	107 / 51
646	64,642	5,224	63.2	107 / 51
651	65,147	5,224	63.8	1,707 / 1,214
660	66,031	4,495	64.0	78 / 1,082
667	66,670	4,495	64.2	476 / 834
679	67,908	4,495	64.4	31 / 1,459
689	68,908	4,495	64.6	31 / 1,245
699	69,852	4,495	64.8	247 / 1,416
709	70,908	4,495	65.2	428 / 970
719	71,907	4,495	65.5	763 / 1,068
726	72,572	4,495	65.7	452 / 1,473
734	73,406	4,495	65.9	361 / 1,155
740	74,013	4,495	66.1	73 / 1,303
752	75,190	4,495	66.5	512 / 1,328
764	76,408	4,495	67.1	298 / 873
774	77,404	4,495	67.6	203 / 1,199
784	78,402	4,495	68.0	145 / 1,068
804	80,400	4,495	70.9	28 / 1,221
814	81,400	4,495	71.1	174 / 1,008
824	82,399	4,054	71.3	357 / 940
834	83,399	4,054	71.4	373 / 1,098
844	84,399	4,054	71.5	28 / 1,213
852	85,171	4,054	71.7	377 / 1,050
858	85,841	4,054	71.8	60 / 60
859	85,885	4,054	72.3	60 / 60
864	86,401	4,054	72.5	883 / 467
874	87,401	3,895	72.6	515 / 1,131
881	88,119	3,895	72.7	537 / 1,267
889	88,864	3,895	72.9	309 / 1,239
896	89,572	3,895	73.0	335 / 1,089
904	90,404	3,895	73.2	494 / 951

Section 5.0 – Engineering Methods

Table 10—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Deep Creek (into Roanoke River)	Approximately 180 feet downstream of Little Deep Creek Road	26.31	*	*	5,751	*
	Approximately 0.7 mile upstream of Little Deep Creek Road	25.18	*	*	5,595	*
	Approximately 630 feet downstream of US Highway 158	23.52	*	*	5,361	*
	Approximately 980 feet upstream of US Highway 158	22.88	*	*	5,270	*
	Approximately 150 feet upstream of confluence of Deep Creek Tributary 3	22.37	*	*	5,196	*
	Approximately 940 feet downstream of NC Highway 903	21.57	*	*	5,079	*
	Approximately 0.6 mile upstream of NC Highway 903	20.88	*	*	4,977	*
	Approximately 0.9 mile upstream of NC Highway 903	18.16	*	*	4,562	*
	Approximately 1.5 miles upstream of NC Highway 903	17.67	*	*	4,484	*
	Approximately 2.1 miles upstream of NC Highway 903	15.83	*	*	4,187	*
	Approximately 730 feet upstream of confluence of Deep Creek into Roanoke River (into Roanoke River) Tributary 4	15.18	*	*	4,079	*
	Approximately 0.6 mile upstream of Deep Creek (into Roanoke River) Tributary 4	13.86	*	*	3,853	*

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 11/25/2015

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :
HALIFAX	4	1	410023	105 FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
US258	DEEP CREEK

LOCATED :	BRIDGE NAME :	CITY :
1.1 MI.S.JCT.NC125		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
06	FA	NFA	3400 2012	LT 41 RT 41

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1993	DOH	8.1300801	BRF8916	HS 20 + MOD

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
			TAN.	105	ON 2 UNDER 0

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT	10 FT	3 FT

SUPERSTRUCTURE : PPC CORED SLAB

SUBSTRUCTURE : EBTS&BTS:RC CAPS/PPC PILES @ VAR.CTRS.

SPANS : 3@35'

BEAMS OR GIRDERS : 15 PRESTRESSED CONCRETE CORED SLAB SECTIONS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
PPCCS/2.5" AWS		45 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
42 FT	42 FT	LT 0 FT RT 0 FT

VERT.CL.OVER :
999.9 FT

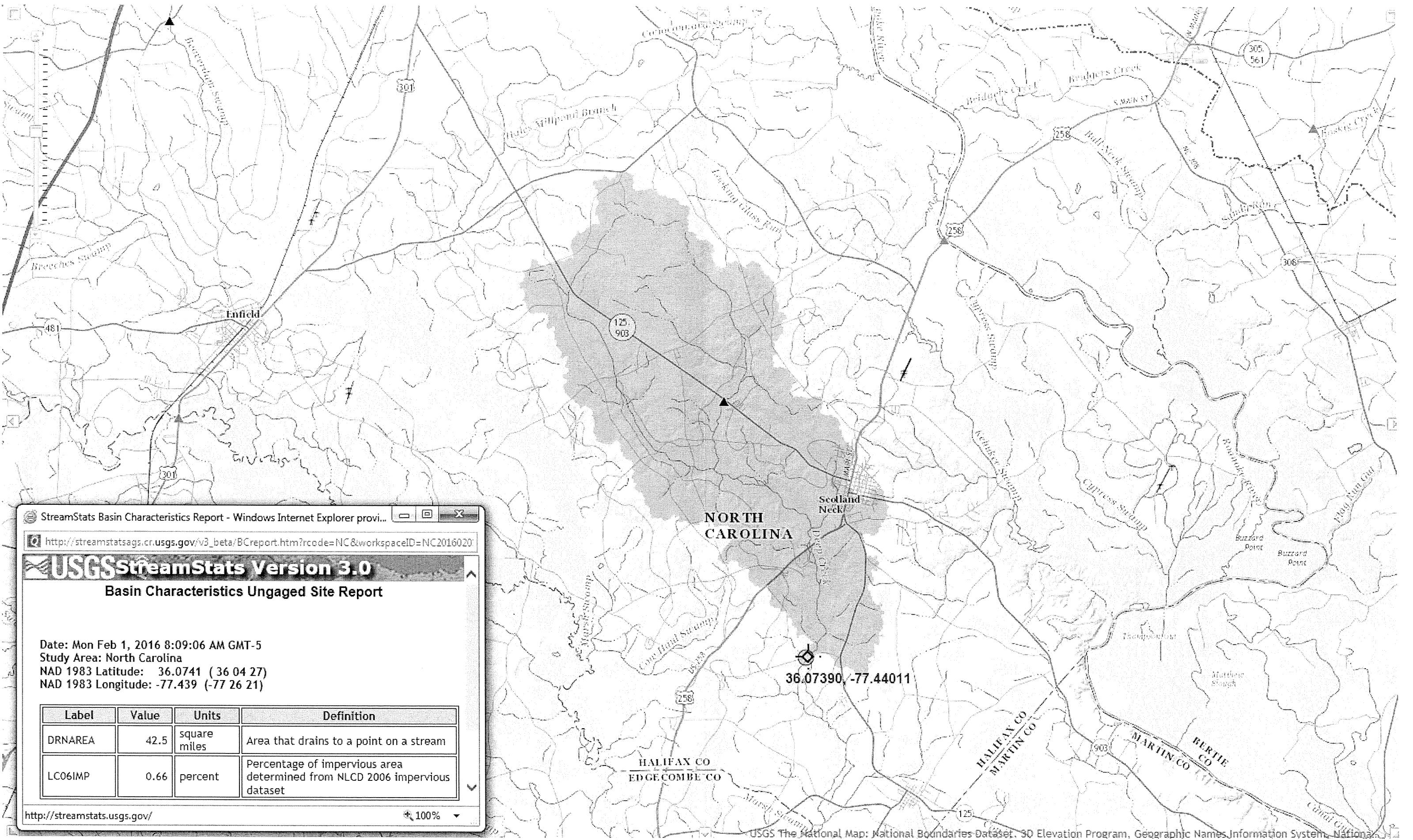
INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	DATE
HS-27	HS-44	Cored Slab LR	SV		08/31/1993

SYSTEM :	GREEN LINE ROUTE :
Primary U.S. Route	Y

UNDER ROUTES AND CLEARANCES

UP STREAM STRUCTURE

REMARKS :



StreamStats Basin Characteristics Report - Windows Internet Explorer provi...

http://streamstats.sgs.cr.usgs.gov/v3_beta/BCreport.htm?rcode=NC&workspaceID=NC2016020

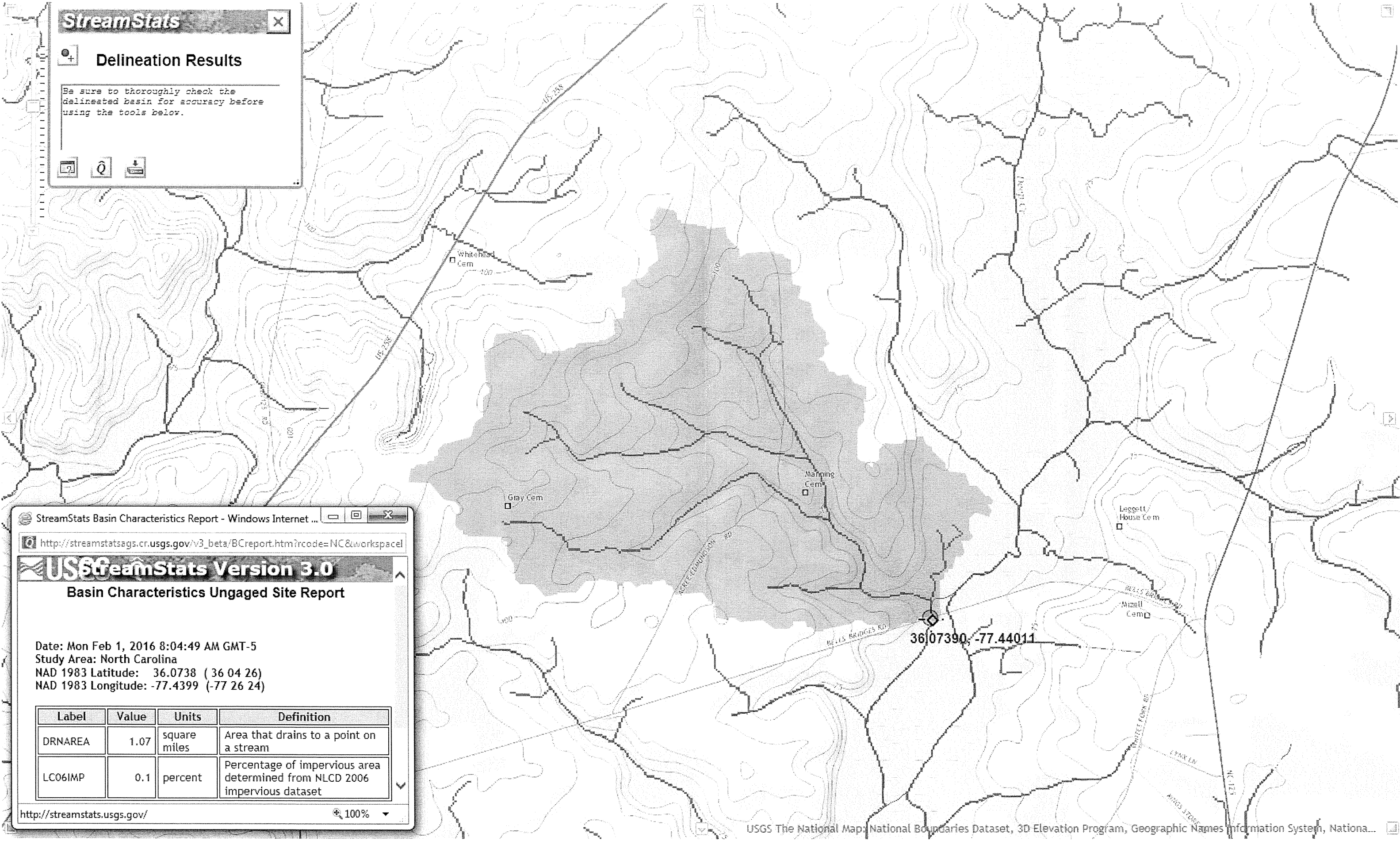
StreamStats Version 3.0

Basin Characteristics Ungaged Site Report

Date: Mon Feb 1, 2016 8:09:06 AM GMT-5
Study Area: North Carolina
NAD 1983 Latitude: 36.0741 (36 04 27)
NAD 1983 Longitude: -77.439 (-77 26 21)

Label	Value	Units	Definition
DRNAREA	42.5	square miles	Area that drains to a point on a stream
LC06IMP	0.66	percent	Percentage of impervious area determined from NLCD 2006 impervious dataset

<http://streamstats.usgs.gov/> 100%



StreamStats

Delineation Results

Be sure to thoroughly check the delineated basin for accuracy before using the tools below.

Q

StreamStats Basin Characteristics Report - Windows Internet ...

http://streamstatsags.cr.usgs.gov/v3_beta/BCReport.htm?rcode=NC&workspace=

StreamStats Version 3.0

Basin Characteristics Ungaged Site Report

Date: Mon Feb 1, 2016 8:04:49 AM GMT-5

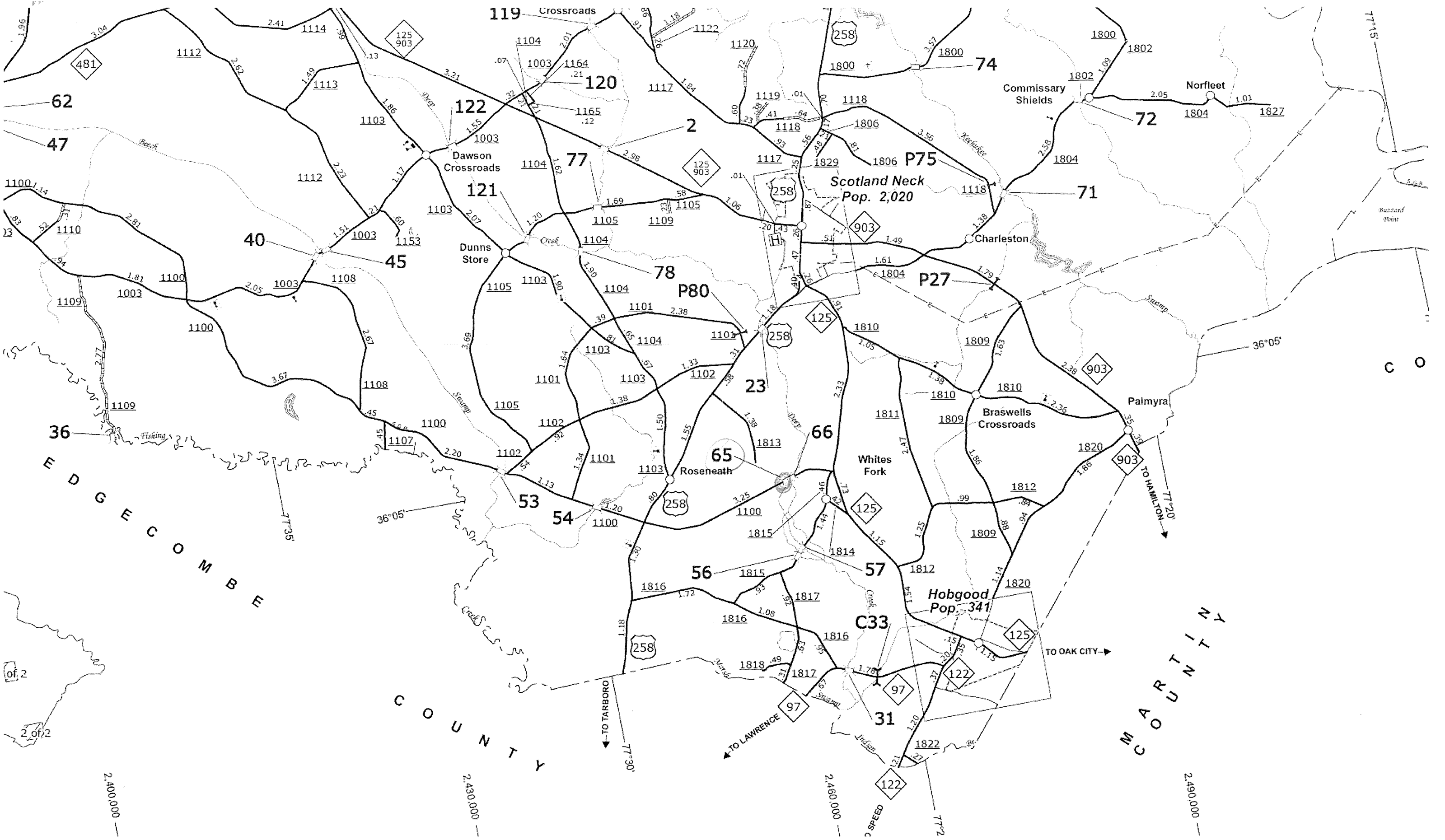
Study Area: North Carolina

NAD 1983 Latitude: 36.0738 (36 04 26)

NAD 1983 Longitude: -77.4399 (-77 26 24)

Label	Value	Units	Definition
DRNAREA	1.07	square miles	Area that drains to a point on a stream
LC06IMP	0.1	percent	Percentage of impervious area determined from NLCD 2006 impervious dataset

http://streamstats.usgs.gov/ 100%



2 of 2

2,400,000

2,430,000

2,460,000

2,490,000



Who Am I : General Public

Effective

Flood Information

Click the map to view information.

?

Map Location

Flood Zone: (Zone X) Minimal Flood Risk

Flood Source: Deep Creek

Base Flood Elevation: Not available for this area.

County: Halifax

Political Area: Halifax County

CID: 370327

Panel: 4864 [Download](#)

Map Number: 3720486400J

Panel Effective Date: 7/3/2007

Latitude: 36.0739

Longitude: -77.44012

Risk Information

Financial Vulnerability

FIS Reports

Map Export

Data Export

Drainage Area 35.8 SQ. MI. Obtained from USGS 83-211
Character of Drainage Area MOUNTAIN FLAT & SWAMPY
Highwater Mark(s) 81.5 Dates 1979 Obtained From E.R. JONES
Maximum Discharge of Record 3940 Sec. ft. Date SEPT. 1965
Discharge Data Obtained From USGS CREST STAGE GAGE NE SCOTLAND NECK (± 2.84.1) D.A. 12.3 (CORRELATION (95.3-7) 12.4)
Period Covered by Discharge Records 1953 - 1973
Discharge Used for Design of Waterway 2850 (MIN. CH.) 5000 CFS TOTAL Sec. Ft.
Waterway Area Considered Necessary 2850 ± 570 SF Sq. Ft.
Waterway Area Provided by Recommended Structure 6000 (MIN.) 3950 O.F.L.D. Sq. Ft.
Data on Existing Structure BUILT 1922, R.F. 16 FT, C.L. 40 FT
TOTAL OPEN 450 SF; # 46, D.L. 36', 2818, BUILT 1922
TOTAL OPEN 250 SF (MIN.) 500 250 SF
Data on other Structures Up or Down Stream BRIDGE DETR. HAS AN OVERFLOW -
Near 7th WESTRECK ON RUDD: C.L. 31 FT; 2x TO 200-13'
2 @ 30' SPANS, BUILT 1969
Method Used in Determining Foundation Material TO BE PAVED
Is Additional Foundation Investigation Considered Advisable
Other Information 100 YR & 50 YR D OBTAINED FROM
HALIFAX CO. FLOOD STUDY - PRESENT LEVEL OF
SERVICE - AT OR SLIGHTLY BELOW 50 YR - 12 TO 15
MAINTAINED
Information to be shown on plans
Design Discharge 1000 CFS TOTAL (2850 MIN. CH.) Frequency - 50 YR
100 yr. Discharge 4100 CFS TOTAL (3750 MIN. CH. & RD. OVERFLOW)
Design High Water Elev. 79.6 (77.00 + 0.6)
100 yr. High Water Elev. 80.3 (80.21 + 0.26)
Flood of Record SEPT. 1965 3940 CFS ± 90 YR
Date Discharge Frequency
OVERTOPPING 79.6 FT. ± 5000 CFS - 50 YR

HYDROGRAPHIC DEPARTMENT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N. C.

BRIDGE SURVEY REPORT

B-1211

PROJECT NO. B.1300801 HALIFAX COUNTY, STA. 16+12.5
BRIDGE OVER DEEP CR. & DEEP CR. O.F.D. Known as BR. 23 & BR. 46
On U.S. 250 between SCOTLAND NECK and ROSEMOUTH
Recommended Width of Roadway 36 FT Skew 105°
Recommended Structure 2 @ 35' COVERED SLABS
Rip Rap CLUTE TO EL. 80.5 FT
Temporary Crossing 15 REED
Present Structure TO BE REPLACED
New Location is SAME AS Up-Down-Stream from Crossing on Present Road
Nearest Shipping Point SCOTLAND NECK On ECL R. R. miles.
Distance from Shipping Point to Bridge Site is 2
Elevations From B. M. RR SPIKE IN BASE OF 18' SWEET Elev. 76.43
FROM 126' LT. E. STA. 18+00 Datum: NGVD

USE THIS SPACE FOR PHOTOGRAPH
OF PROPOSED SITE, SHOWING CEN-
TER LINE, DIRECTION OF FLOW
AND OTHER IMPORTANT POINTS ON
PHOTOGRAPH.

Surveyed by MANIRTALE ASSOC. Assisted by H.B. McFARLAND & J.D.G. Date 2-85

HP57088

67-30

Upstream STRUCTURE



* Drainage Area 48 sq. mi. Obtained from HALIFAX Co. Flood Study & USGS. QARD

Character of Drainage Area RURAL WOODED WETLANDS

Highwater Mark(s) _____ Dates _____ Obtained From LOCAL RESIDENTS

±2' ABOVE BR. DECK EL. 73.0' 1940 & 1952 OSCAR J. HOUSE & HOWARD DAVIS

EL. 73.0 1978 VIRGIL L. KING

Maximum Discharge of Record UNKNOWN Sec. ft. _____ Date UNKNOWN

Discharge Data Obtained From AVERAGE OF NEW JACKSON'S METHOD

DISCHARGES FROM REGION II & REGION III

Period Covered by Discharge Records N/A

Discharge Used for Design of Waterway THIS BRIDGE 1385 CFS (TOTAL FOR SITE 2300 CFS) Sec. Ft. _____

Waterway Area Considered Necessary 392 Sq. Ft. _____

Waterway Area Provided by Recommended Structure 392 Sq. Ft. _____

MAJOR CHANNEL BR # 56 CREO. TIMBER BRIDGE ABOT. & WINGS

Date on Existing Structure O.L. 86.6; SPANS 1@17.7', 2@17.0', 1@17.4', 1@17.5'

CL RDWAY 19.2' 440 SQ FT BELOW UNDERCLEARANCE

Data on other Structures Up or Down Stream ±2.5 MI DOWNSTREAM BR #31 TOTAL LENGTH 133'

AREA BELOW UNDERCLEARANCE 1120 SQ FT ±1.2 MI UPSTREAM

BR #65 TOTAL LENGTH 120' HT - CROWN - BED 11'

BR #66 TOTAL LENGTH 40' HT - CROWN - BED 8'

Method Used in Determining Foundation Material SEE GEOLOGY REPORT

Is Additional Foundation Investigation Considered Advisable YES

Other Information PROJECT IS LOCATED IN A FLOOD ZONE DETAILED

STUDY ENDS ±4 MI UPSTREAM EXISTING AND PROPOSED

HW ELEVATIONS DETERMINED USING STEP BACKWATER PROGRAM

HY-7

Information to be shown on plans

Design Discharge THIS BRIDGE 1385 CFS (TOTAL FOR SITE 2300 CFS) Frequency 5 YR

100 yr. Discharge THIS BRIDGE 1925 CFS (TOTAL FOR SITE 6410 CFS)

Design High Water Elev. 70.3' (0.4 BACKWATER)

100 yr. High Water Elev. 73.3' (0.8 BACKWATER)

Flood of Record UNKNOWN Date _____ UNKNOWN Discharge _____ UNKNOWN Frequency _____

SEE ALSO B-2140, B-2141

VPT/

HYDROGRAPHIC DEPARTMENT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N. C.

BRIDGE SURVEY REPORT

B-2042

OBJECT NO. 8.2300401 HALIFAX COUNTY, STA. 26+44

IDGE OVER DEEP CREEK Known as BR #56

SR 1815 between SR 1817 and SR 1814

commended Width of Roadway 24' Skew 90°

commended Structure 2@10' CORED SLAB

Rip Rap CL II RR RAR TO SHLD PT (SEE INSIDE REPORT)

Temporary Crossing IS NOT REQ'D

Present Structure TO BE REMOVED

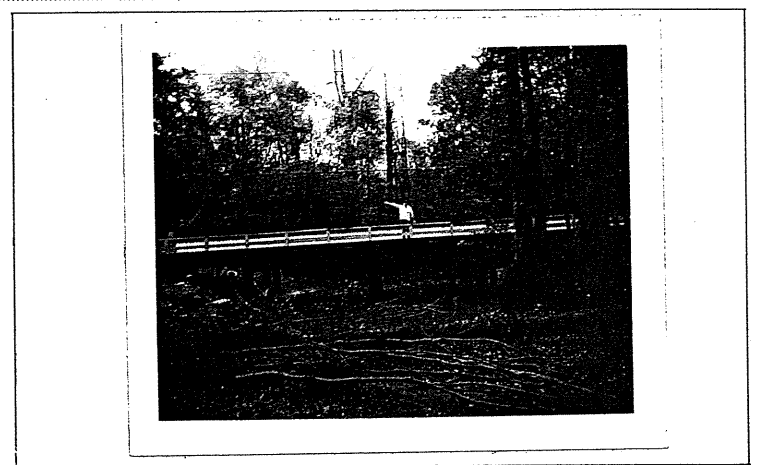
New Location is SAME AS Up Down Stream from Crossing on Present Road

Nearest Shipping Point SCOTLAND NECK On SEABOARD COASTLINE R. R.

Distance from Shipping Point to Bridge Site is ±6 miles.

Elevations From B. M. #2 RR SPIKE IN BASE OF 18" PINE 80' RT Elev. 81.37

OF L- STA. 20+06 Datum: MSL



41 0056 1986 B2042 STA. 2644 DEEP CR SR 1815 WO. 82300401 .PDF

8.2300401

B-2042

A-156

Deep Creek

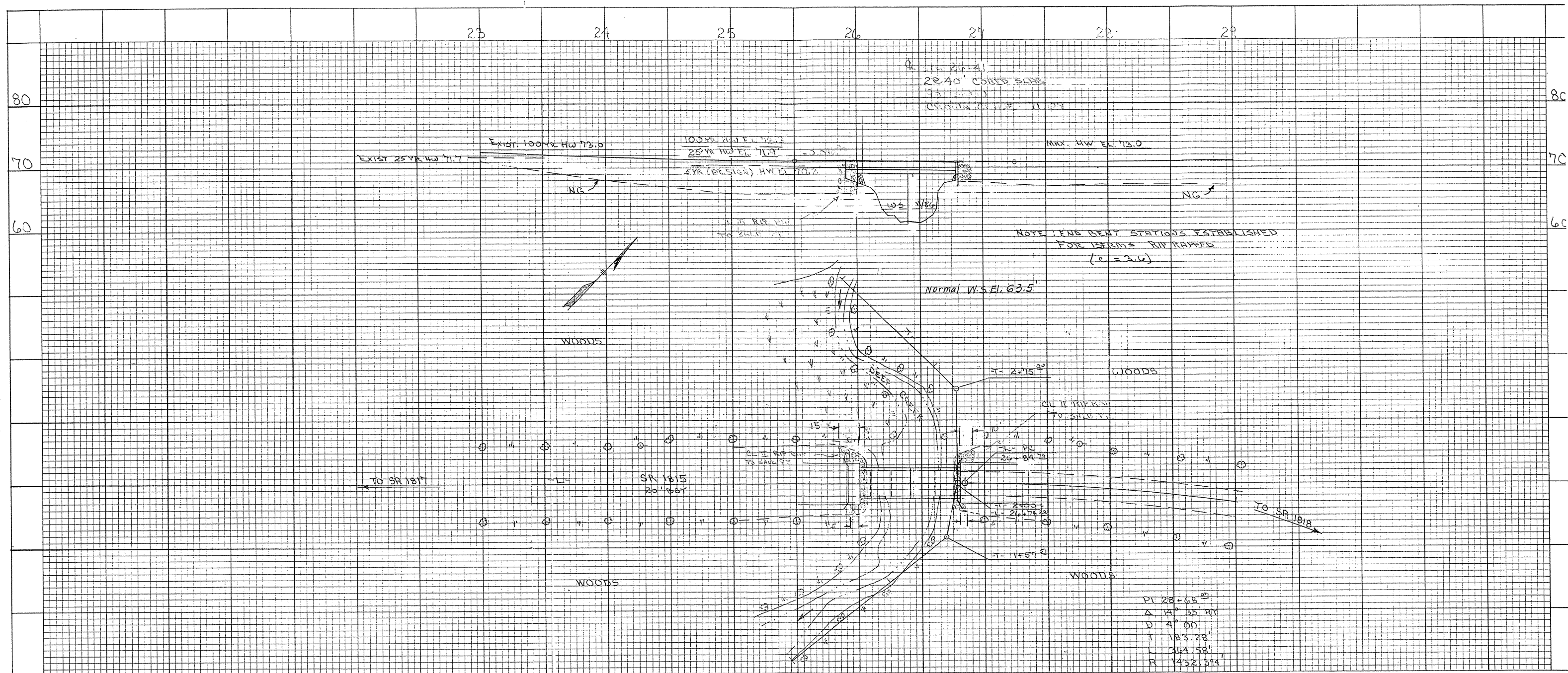
Surveyed by M.S. PRICE Assisted by DDT DHA Date Nov 1981

NPS7088

OVERTOPPING FLOOD ELEV 70.8' FREQ. 5 YR (175-4)

* DISCHARGE 2750 CFS * NOTE: DISCHARGE IS TOTAL FOR

DOWNSTREAM STRUCTURE



DOWNSTREAM STRUCTURE



* Drainage Area 48.50 mi Obtained from FLOOD STUDY & USGS QUAD
Character of Drainage Area RURAL WOODED WETLANDS
Highwater Mark(s) _____ Dates _____ Obtained From _____
± 2' ABOVE BR. DECK EL. 73.0 ± 1940 & 1952 LOCAL RESIDENTS
EL. 73.0 ± 1978 OSCAR J. HOUSE & HOWARD DAVIS
Maximum Discharge of Record UNKNOWN Sec. ft. _____ Date UNKNOWN
Discharge Data Obtained From AVERAGE OF NEW JACKSON'S METHOD
DISCHARGES FROM REGION II & REGION III
Period Covered by Discharge Records N/A
Discharge Used for Design of Waterway THIS BRIDGE 825 CFS (TOTAL FOR SITE 2300) Sec. Ft. _____
Waterway Area Considered Necessary 265 Sq. Ft. _____
Waterway Area Provided by Recommended Structure 265 Sq. Ft. _____
OVERFLOW BR #57 Data on Existing Structure CREEK TIMBER BRIDGE, ABUT & WINGS
O.L. 52.2' ; SPANS 10@17.5', 10@17.0', 10@17.5' CH. ROADWAY 19.2'
290.50 FT. BELOW UNDERCLEARANCE
Data on other Structures Up or Down Stream ± 2.5 MI. DOWNSTREAM BR #31 TOTAL LENGTH 133'
AREA BELOW UNDERCLEARANCE 1120 SQ. FT. ± 1.2 MI. UPSTREAM
BR #65 TOTAL LENGTH 120' HT - CROWN - BED 11
BR #66 TOTAL LENGTH 10' HT - CROWN - BED 8
Method Used in Determining Foundation Material SEE GEOLOGY REPORT
Is Additional Foundation Investigation Considered Advisable YES
Other Information PROJECT IS LOCATED IN A FLOOD ZONE DETAILED
STUDY ENDS ± 4 MI. UPSTREAM EXISTING AND PROPOSED
HW ELEVATIONS DETERMINED USING STEP BACKWATER PROGRAM
HY 7
Information to be shown on plans
Design Discharge THIS BRIDGE 825 CFS (TOTAL FOR SITE 2300 CFS) Frequency 5 YR
100 yr. Discharge THIS BRIDGE 1075 (TOTAL FOR SITE 6410 CFS)
Design High Water Elev. 70.3 (0.4' BACKWATER)
100 yr. High Water Elev. 73.3 (0.8' BACKWATER)
Flood of Record UNKNOWN Date _____ Discharge _____ Frequency _____

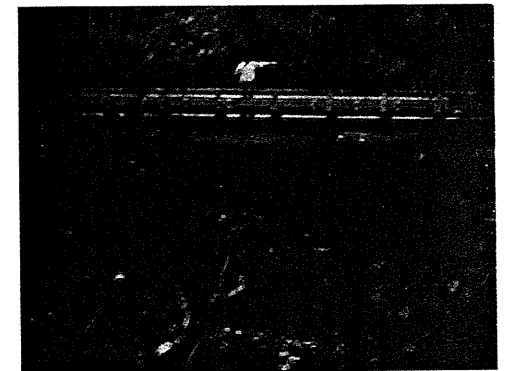
ie ALSO B-2141, B-2042

HYDROGRAPHIC DEPARTMENT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N. C.

V.P.T.✓

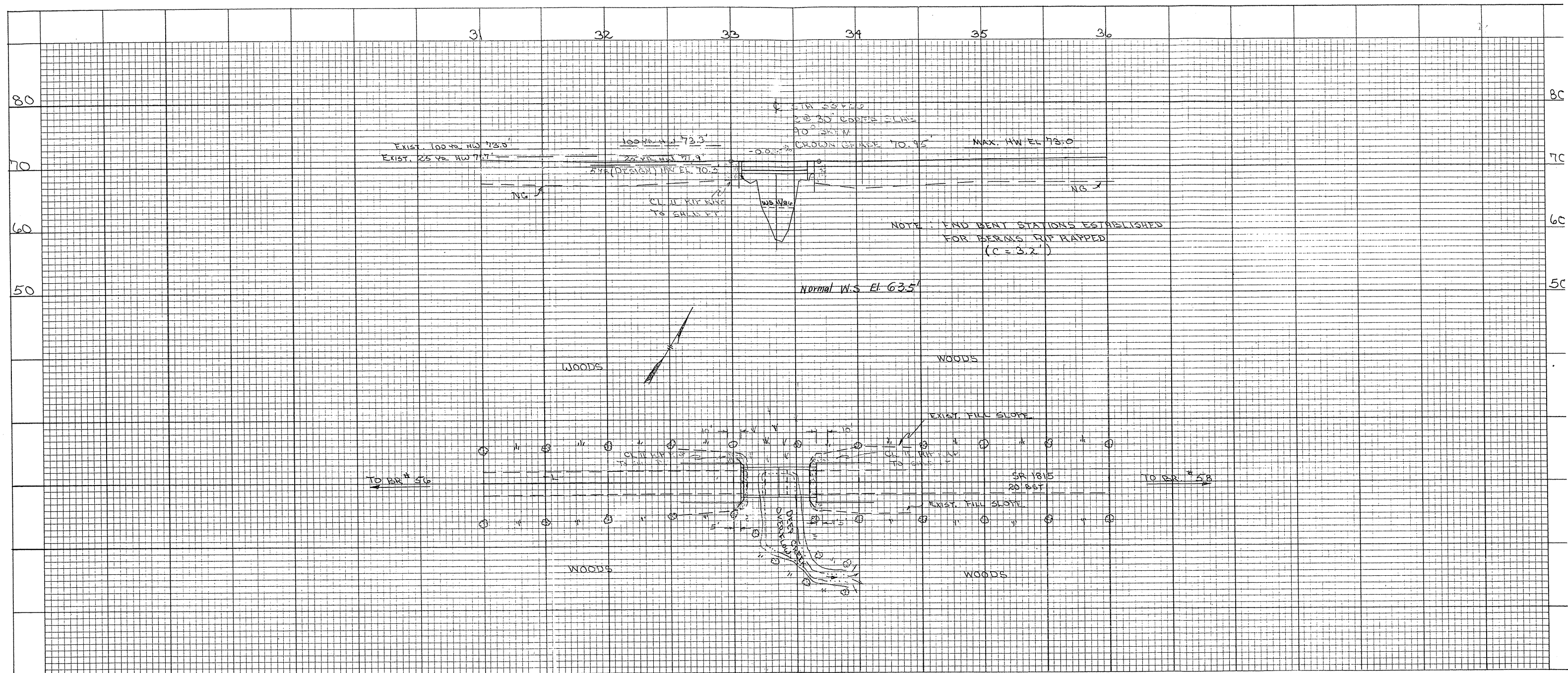
BRIDGE SURVEY REPORT

OJECT NO. B-2140 8.2300401 HALIFAX COUNTY, STA. 33+36
IDGE OVER DEEP CREEK OVERFLOW Known as BR. #57
BR. 1815 between BRIDGE #56 and BRIDGE #58
commended Width of Roadway 24' Skew 90
commended Structure 2@30' CORED SLAB
Rip Rap CL II RIP RAP TO SHOULDER PT. (SEE INSIDE REPORT)
Temporary Crossing IS NOT REQ'D
Present Structure TO BE REMOVED
New Location is SAME AS Up/Down Stream from Crossing on Present Road
Nearest Shipping Point SCOTLAND NECK On SEABOARD COASTLINE R. R. _____
Distance from Shipping Point to Bridge Site is ± 6 miles.
Elevations From B. M. #3 RR SPIKE IN BASE OF 14" OAK 76' HT - L Elev. 68.09
STA 30+25 Datum: MSL



Surveyed by M.S. PRICE Assisted by DDT, DHA Date Nov 198
OVERTOPPING FLOOD ELEV. 70.8 FREQ. 5-YR* (175)
* DISCHARGE 2750 CFS *NOTE DISCHARGE IS TOTAL FOR SITE

DOWNSTREAM STRUCTURE



DOWNSTREAM STRUCTURE

