

PREDESIGN-PRESURVEY REPORT

Project# _____
TIP# _____
Let Date _____
WBS# 17B2.6.R.77

County ROBESON

Bridge# 770432
Road# SR 1157 (HENRY BERRY Rd)
Stream BACK SWAMP CANAL

Type Of Request: POC Force Account TIP NCMA

Date 6/6/16 Name Matthew Macou

Assigned To JLL

Checked By PAS

Prior Survey Date No (attach copy of prior survey)

Study By Scour Section No

Flood Zone YES Detail Study REDUNDANT Date 1/19/2005 Panel# 9331

B.M. Info _____

Quad Map McDonald Drainage Area 14.6 From Sheomajets / QWAD
Q25 1244 cfs Q50 1544 cfs Q100 1868 cfs Method USGS Real Regression

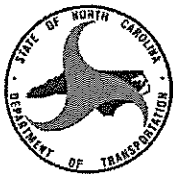
EXISTING BRIDGE INFORMATION

Location O.S. NE JCT SR 1154 (Union School Rd)
Average Daily Traffic 620
Length 69 FT Bed- To Crown 11 ft Water Depth 3 FT
Type Structure RC Deck ON TIMBER JOIST STD BMD
Type Spans 1@ 17'9, 1@ 16'8, 1@ 16'6, 1@ 17'9
Upstream Structure 7700-17 - NC 710
Location US 710, 0.2 MI. S OF JCT 1221 RUBY RD
Bed- To Crown 10 ft Prior Survey 1940
Downstream Structure 77041341 - 1@ 25'5; 1@ 25; 1@ 25 (SR 1003)
Location SR 1003, 0.4 MI. N OF JCT SR 1160 (Harrison Farm Dr)
Bed- To Crown 10 ft Prior Survey _____
SCS Watershed _____

ENVIRONMENTAL

Trout Stream NO Anadromous Fish NO Primary Nursery Area NO
High Quality Waters NO Nutrient Sensitive Waters NO
Near Water Supply Intake NO CAMA County NO
Stream Classification C; SW
DENR River Basin Info. LOWER PEE DEE Lumber

Office estimated min brg length = 95'



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION SHORED STRUCTURE
TEMP REPAIRS: ENCASED PILES

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY ROBESON BRIDGE NUMBER 770432 INSPECTION CYCLE 2 YRS
ROUTE SR1157 ACROSS BACK SWAMP CANAL M.P. 0

LOCATION 0.5 MI. NE. JCT. SR1154

SUPERSTRUCTURE RC DECK ON TIMBER JOISTS, STD.BMD-10

SUBSTRUCTURE E.BTS&INT.BTS:TIMBER CAPS ON TIMBER PILES

SPANS 1@17'9,1@16'8,1@16'6,1@17'9

LONGITUDE 79° 12' 52.10"

LATITUDE 34° 37' 29.91"

INSPECTION DATE 04/08/2014

PRESENT CONDITION FAIR

PRESENT POSTING SV 20 TTST 29

SV 20 TTST 29

PROPOSED POSTING

OTHER SIGNS PRESENT 4 DELINEATORS



LOOKING NORTH (HENRY BERRY ROAD)

Fracture Critical	No
Temporary Shoring	No
Scour Critical	No
Scour POA	Yes

SIGN NOTICE ISSUED FOR	NUMBERED REQUIRED
No WEIGHT LIMIT	
No DELINEATORS	
No NARROW BRIDGE	
No ONE LANE BRIDGE	
No LOW CLEARANCE	

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 05/20/2014

COUNTY : ROBESON DIVISION : 6 DISTRICT : 1 STRUCTURE NUMBER : 770432 LENGTH : 69 FEET

ROUTE CARRIED : SR1157 FEATURE INTERSECTED : BACK SWAMP CANAL

LOCATED : 0.5 MI. NE. JCT. SR1154 BRIDGE NAME : CITY :

FUNC. CLASS : 09 SYST.ON : NFA SYST.UNDER : NFA ADT & YR : 620 2004 RAIL TYPE : LT 241 RT 241

BUILT : 1970 BY : BMU PROJ : 6.801827 FED.AID PROJ : DESIGN LOAD : Unknown

REHAB : BY : DBM PROJ : ALIGNMENT : LT. SKEW : 75 LANES : ON 2 UNDER 0

NAVIGATION : VC 0 FT HC 0 FT HT. CRN. TO BED : 11 FT WATER DEPTH : 3 FT

SUPERSTRUCTURE : RC DECK ON TIMBER JOISTS, STD.BMD-10

SUBSTRUCTURE : E.BTS&INT.BTS:TIMBER CAPS ON TIMBER PILES

SPANS : 1@17'9,1@16'8,1@16'6,1@17'9

BEAMS OR GIRDERS : 22 LINES 6X12 TIMBER JOISTS @ VAR. CENTERS

FLOOR : 5RC/NO AWS ENCROACHMENT : DECK (OUT TO OUT) : 29.278 FT

CLEAR ROADWAY : 28 FT BETWEEN RAILS : 29.417 FT SIDEWALK OR CURB : LT .7085 FT RT .7085 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. : HS-1 OPE.RTG. : HS-1 CONTR.MEMBER : int jst POSTED : SV 19 TTST 27 DATE 05/20/2014

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

UNDER ROUTES AND CLEARANCES

REMARKS :

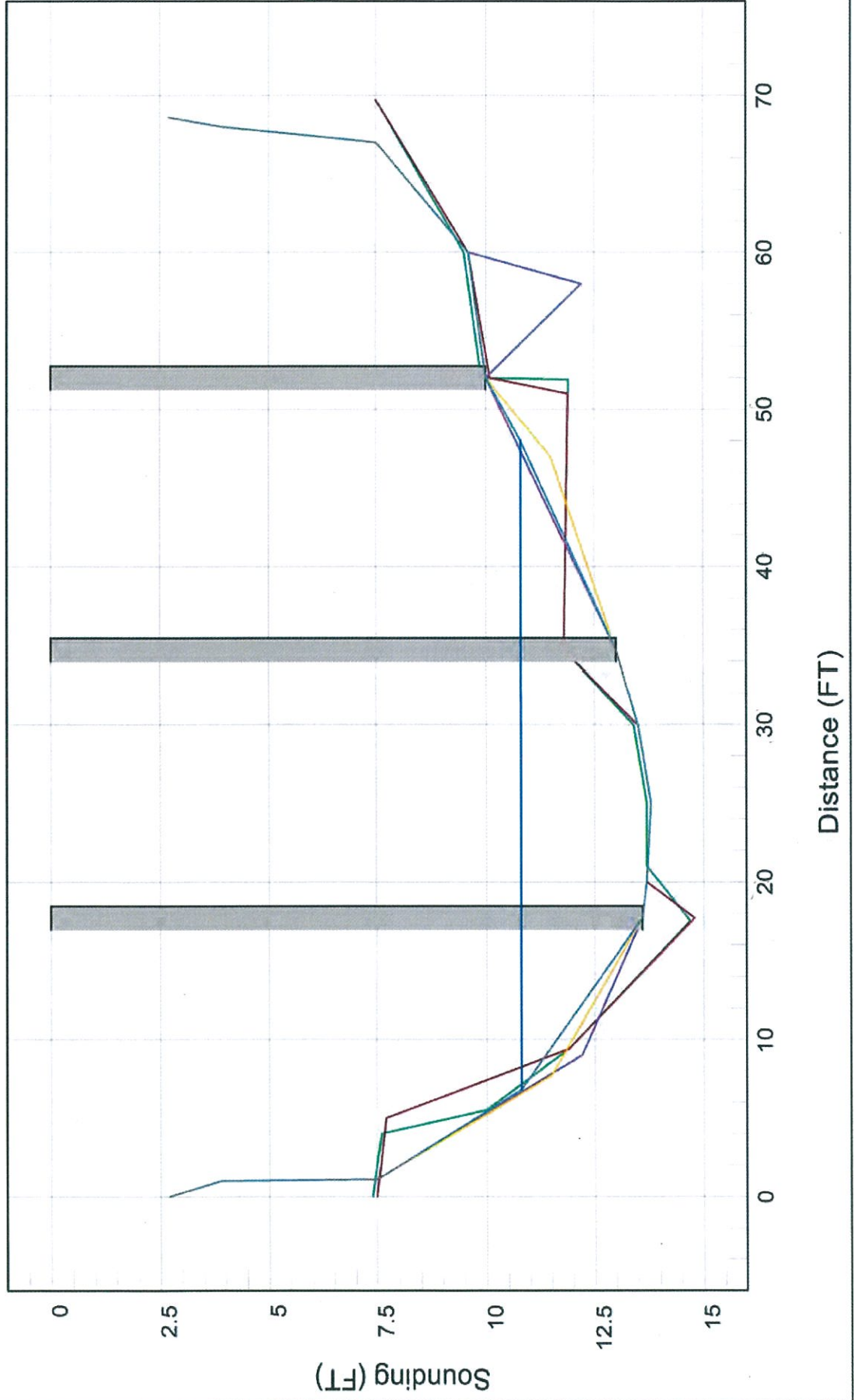
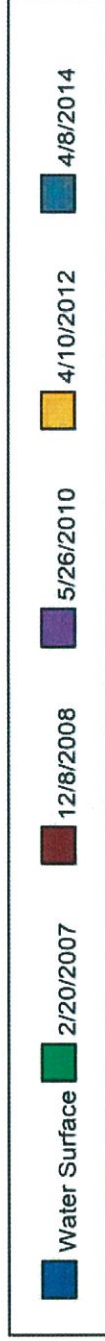
Bridge: 770432

County ROBESON

Date: 04/08/2014

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



$$11 \times 1.5 = 16.5 \times 2 = 33 + 20 + 40 = 93$$

UPSTREAM

6-6-57-122

BRIDGE DEPARTMENT

N. C. STATE HIGHWAY & PUBLIC WORKS COMMISSION

RALEIGH, N. C.

BRIDGE SURVEY REPORT

By #47

Line-L-

PROJECT NO. 3876 ROBESON COUNTY STA. 436+27

BRIDGE OVER DEESE BRANCH CANAL Known as

On Route No. #710 between Rowland and Red Springs

Recommended Structure 1 @ 15' I-Girder Composite

Recommended Width of Roadway 24' (20' or width of canal bedrock) Skew 30° L.H.

Additional Recommendations: Use 10' bulkheads & 6' vertical sheeting

Canal Subject not considered Advisable

Temporary Crossing is required

Present Structure is to be removed

New Location is Same Up, Down Stream from Crossing on Present Route

Nearest Shipping Point Elrod On A.C.L. R.R.

Distance from Shipping Point to Bridge Site is $\pm 4\frac{1}{2}$ miles.

Elevations From B. M. #22 - Nail in Root 12" Pine 40' ft. Elev. 156.39

Sta. 433+90



Surveyed by K.L. Ponzer, Jr. Assisted by A.O.N. & W.M. Jr. Date 7/12/40

55-05

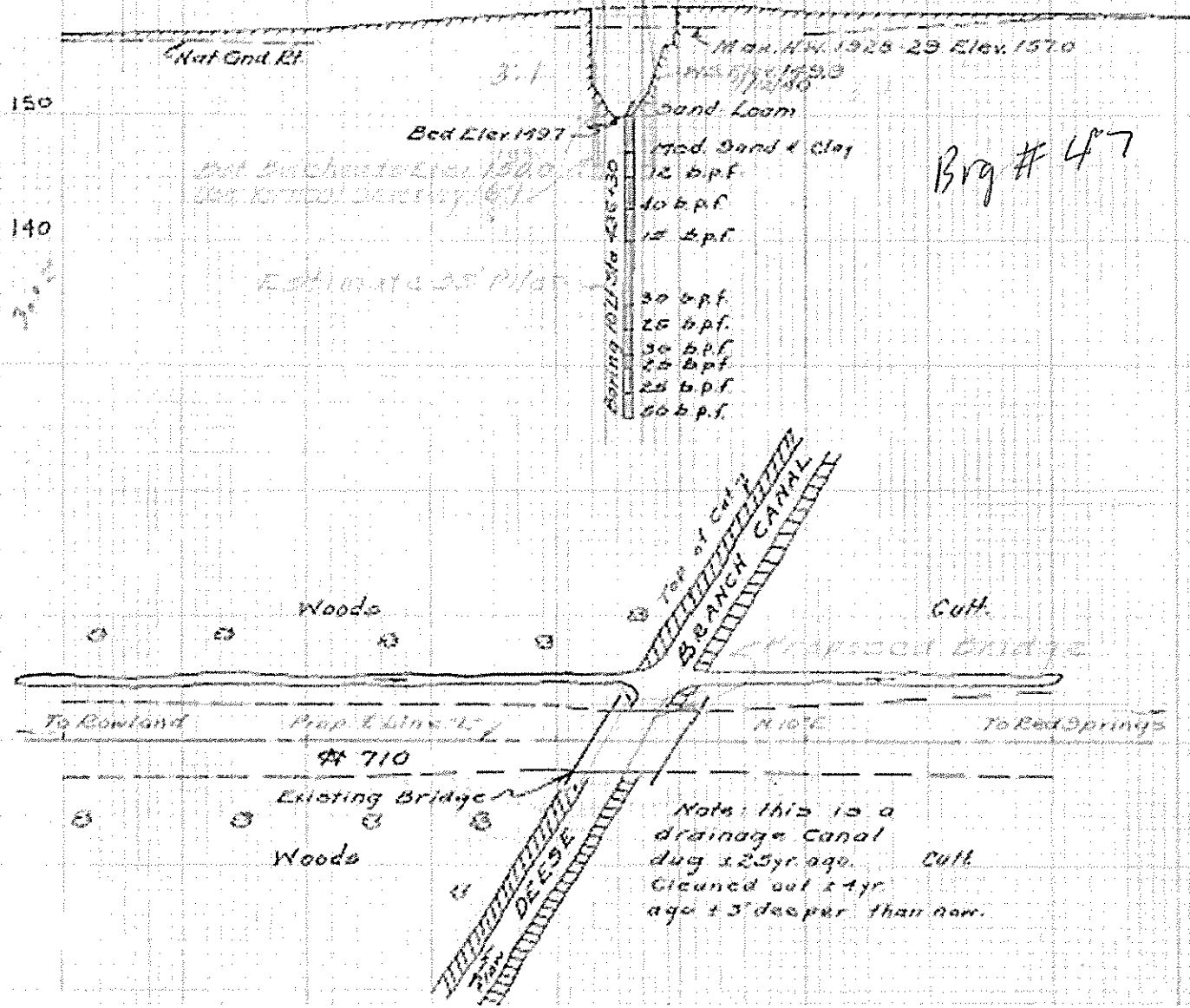
22 0047 1 840 10 TYP DEESE BR CANAL NC 710 WO. 3876.PDF

DE #47

DEESE BRANCH CANAL

Col. 3100 ft. Cont. 51.30 Elev. 150.07

10.15 51.30
51.30 51.30
51.30 51.30



Brg # 47

Note: This is a
drainage canal
dug 125yr. ago. Cut
cleaned out 14yr.
ago 13' deeper than now.

DOWNSTREAM



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION PM ISSUED: ON PPC CHANNELS
TEMPORARY REPAIRS: ON PPC CHANNELS

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY ROBESON BRIDGE NUMBER 770434 INSPECTION CYCLE 2 YRS
ROUTE SR1003 ACROSS BACK SWAMP M.P. 0

LOCATION 0.4 MI.N.JCT.SR1160

SUPERSTRUCTURE PRESTR.CONC.CHANNELS,STD.BMD-13

SUBSTRUCTURE E.BTS&INT.BTS:PRESTR.CONC.CAPS/TIMBER PILES@5'8CTS.

SPANS 1@25'5";1@25';1@25'5

LONGITUDE 79° 11' 33.29" LATITUDE 34° 37' 13.15"

INSPECTION DATE 04/08/2014 PRESENT CONDITION FAIR

PRESENT POSTING SV 21 TTST 28 SV 24 TTST 32 PROPOSED POSTING _____

OTHER SIGNS PRESENT NONE



LOOKING NORTH (N. CHICKEN ROAD)

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

SIGN NOTICE ISSUED FOR	NUMBERED REQUIRED
<u>No</u> WEIGHT LIMIT	_____
<u>No</u> DELINEATORS	_____
<u>No</u> NARROW BRIDGE	_____
<u>No</u> ONE LANE BRIDGE	_____
<u>No</u> LOW CLEARANCE	_____

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 05/19/2014

COUNTY : ROBESON DIVISION : 6 DISTRICT : 1 STRUCTURE NUMBER : 770434 LENGTH : 76 FEET

ROUTE CARRIED : SR1003 FEATURE INTERSECTED : BACK SWAMP

LOCATED : 0.4 MI.N. OF JCT.SR1160 BRIDGE NAME : CITY :

FUNC. CLASS : 08 SYST.ON : NFA SYST.UNDER : NFA ADT & YR : 3200 2012 RAIL TYPE : LT 233 RT 233

BUILT : 1970 BY : SHC PROJ : 9363 FED.AID PROJ : DESIGN LOAD : H 15

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

NAVIGATION : VC 0 FI HC 0 FT HT. CRN. TO BED : 10 FT WATER DEPTH : 2 FT

SUPERSTRUCTURE : PRESTR.CONC.CHANNELS,STD.BMD-13

SUBSTRUCTURE : E.BTS&INT.BTS:PRESTR.CONC.CAPS/TIMBER PILES@5'9"CTS.

SPANS : 1@25'5";1@25';1@25'5

BEAMS OR GIRDERS : 12 PRESTRESSED CONCRETE CHANNEL SECTIONS

FLOOR : PPC.CH./1AWS ENCROACHMENT : DECK (OUT TO OUT) : 30'504 FT

CLEAR ROADWAY : 29.083 FT BETWEEN RAILS : 30 FT SIDEWALK OR CURB : LT 4585 FT RT 4585 FT

VERT.C.LOVER : 999.9 FT

INV.RTG. : HS-1 OPE.RTG. : HS-1 CONTR.MEMBER : BMD 13-30A POSTED : SV 24 TTST 32 DATE : 06/28/2012

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

UNDER ROUTES AND CLEARANCES

Downstream Structure

REMARKS :

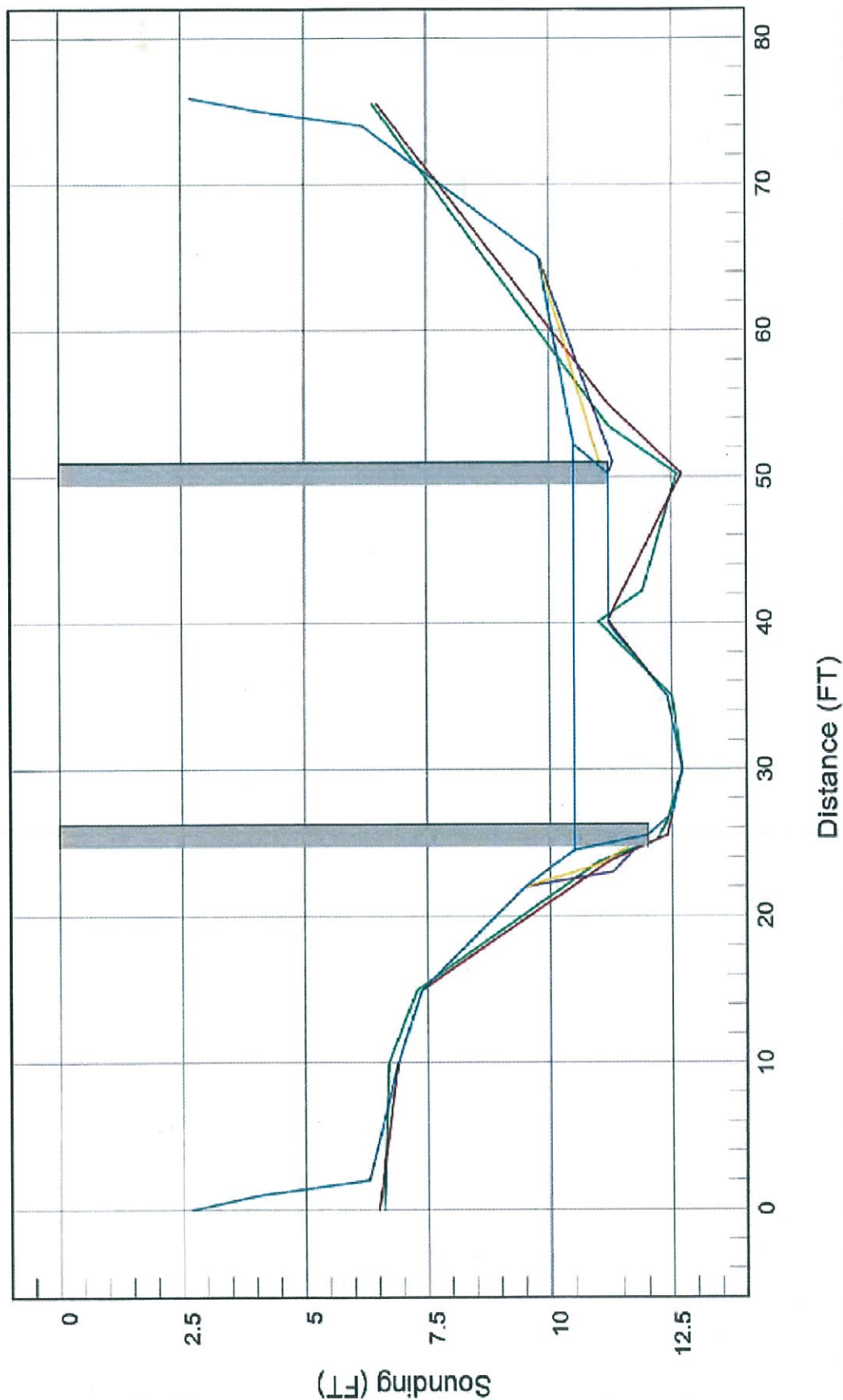
Bridge: 770434

County ROBESON

Date: 04/08/2014

STREAMBED PROFILE (Downstream)

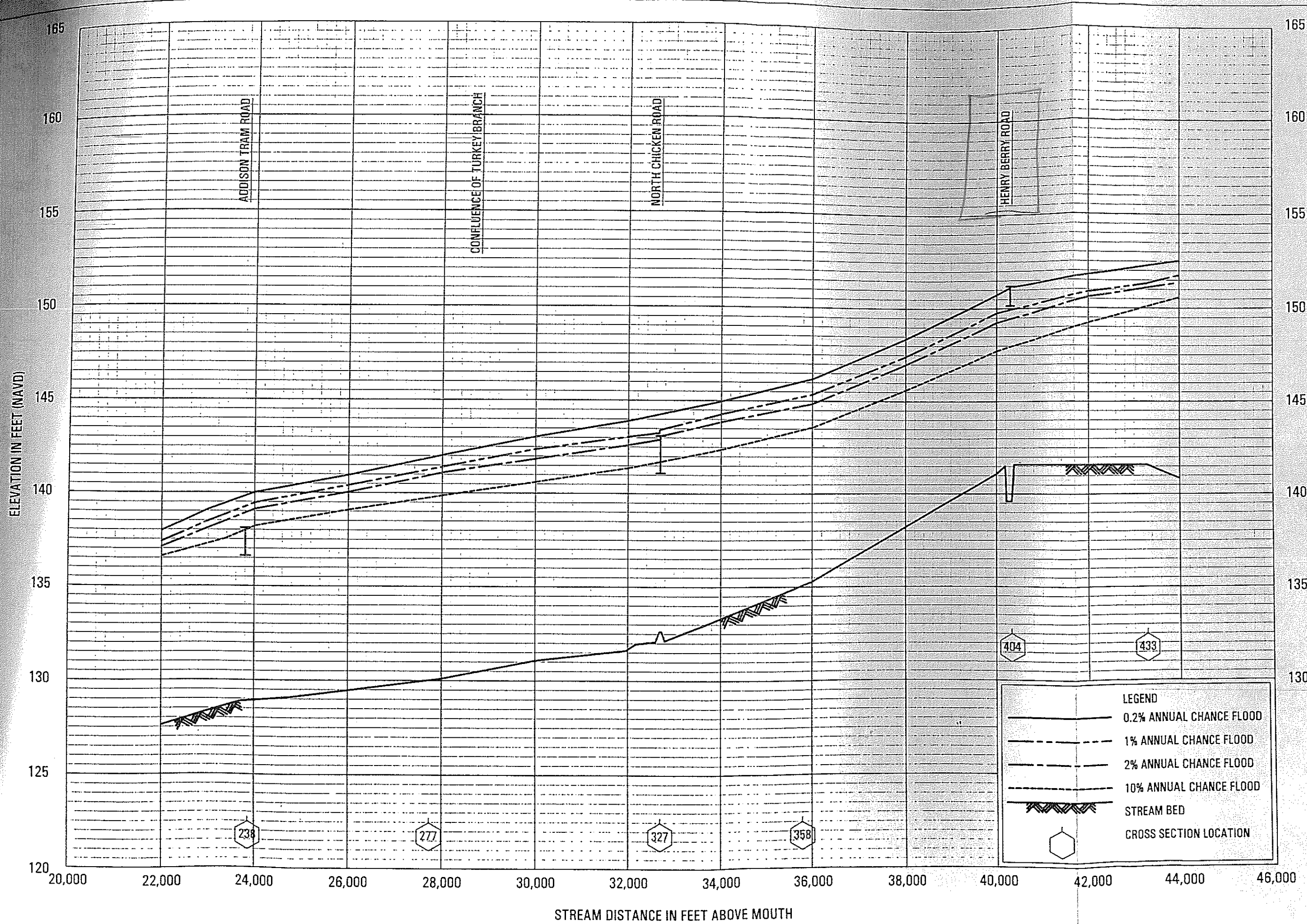
Top of Rail = 0 FT (Sounding)



Section 5.0 – Engineering Methods

Table 7—Summary of Discharges

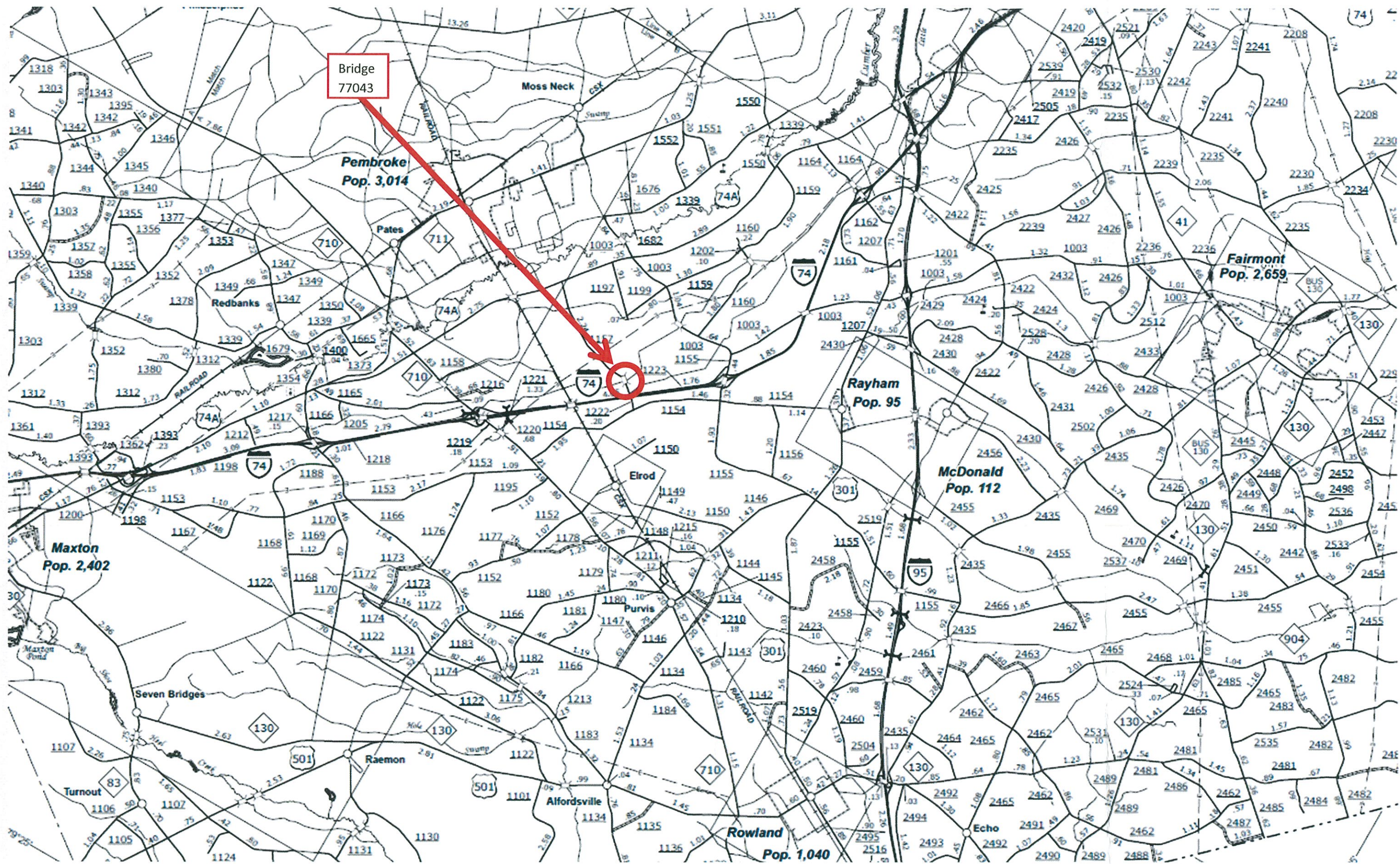
Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Ashpole Swamp (continued)	At the confluence of Horns Millrace	76.0	*	*	2,892	*
	At the confluence of Aaron Swamp	48.9	*	*	2,133	*
	At the confluence of Cowford Swamp	38.0	*	*	1,794	*
	At the confluence of Ashpole Swamp Tributary 3	33.6	*	*	1,649	*
	At the confluence of Scotts Mill Branch	28.3	*	*	1,465	*
	At the confluence of Fullermore Swamp	18.2	*	*	1,082	*
	At the confluence of Ashpole Swamp Tributary 2	14.6	*	*	931	*
	At the confluence of Ashpole Swamp Tributary 1	4.5	*	*	416	*
	Approximately 3,000 feet downstream of State Highway 1152	1.8	*	*	217	*
Ashpole Swamp Tributary 1	At mouth	3.74	*	*	364	*
Ashpole Swamp Tributary 2	At mouth	1.93	*	*	231	*
Ashpole Swamp Tributary 3	At mouth	1.43	*	*	188	*
Ashpole Swamp Tributary 4	At mouth	2.06	*	*	242	*
Back Swamp	At mouth	33.9	1,030	1,890	2,350	3,725
	At SR 1157	15.1	630	1,160	1,450	2,305
	Approximately 2.1 miles upstream of SR 1188	1.1	130	245	305	495

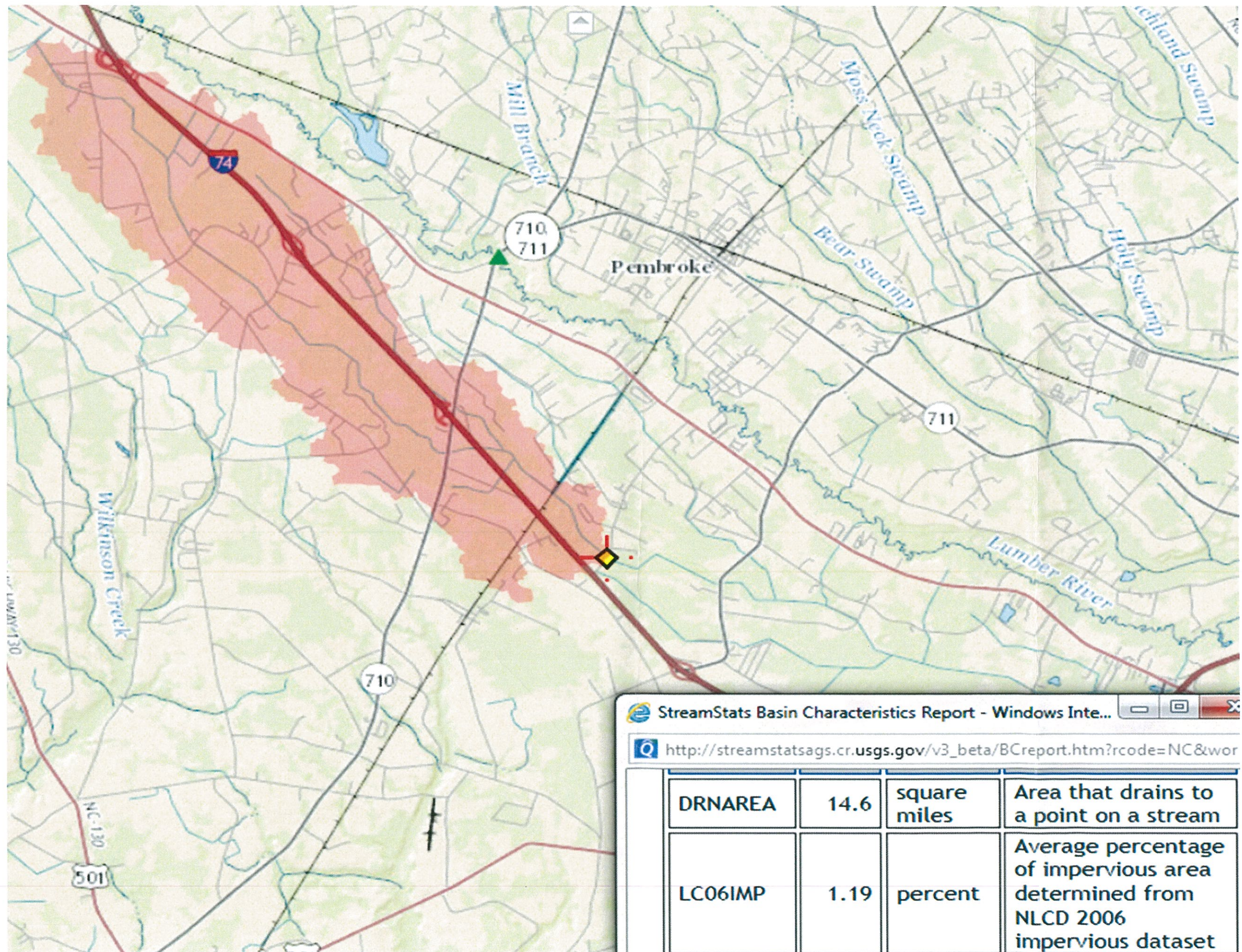


FLOOD PROFILES

BACK SWAMP

FEDERAL EMERGENCY MANAGEMENT AGENCY
ROBESON COUNTY, NC
AND INCORPORATED AREAS





(2 of 2)

Surface Water Classification

Stream Index: 14-8-(0.5)
Stream Name: Back Swamp
Description: From source to Robeson County SR 1157
Classification: C;Sw
Classification Date: August 2, 1992
River Basin: Lumber
What does this Class. Mean? [More info](#)

[Zoom to](#)

Pembroke

Raynham

McDonald

US-74-E I-74-E I-74-W

I-95-S Hector-Maclean Hwy I-95-S

74-US-74-E I-74-W

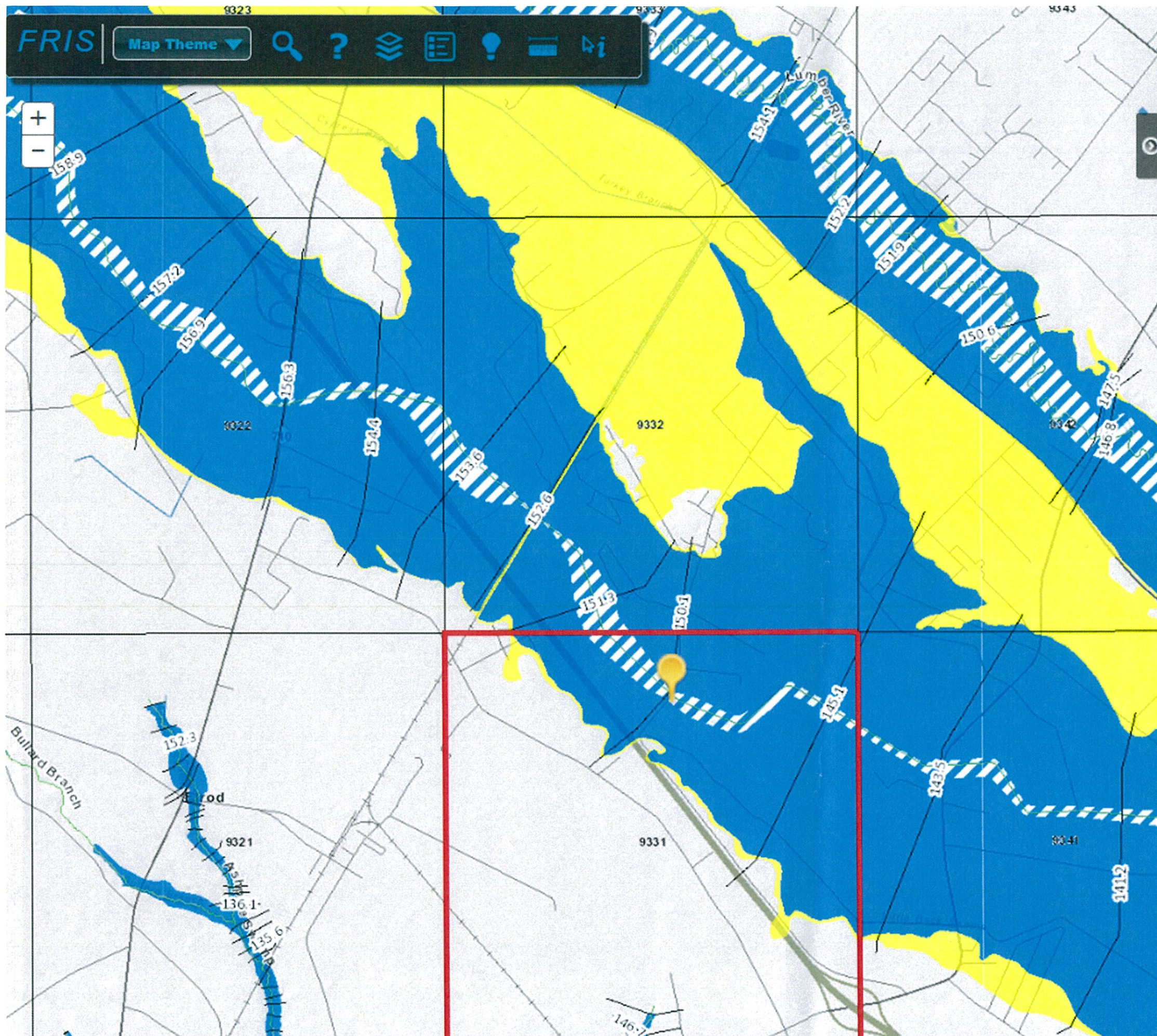
43m

NC-130

Swamp

Bear Swamp

Martin-Lu



Who Am I : Advanced **Effective**

Flood Information

Click the map to view information.

Map Location

Flood Zone: AE (Floodway)

Flood Source: Back Swamp

Base Flood Elevation: 150.1 ft

County: Robeson

Political Area: Robeson County

CID: 370202

Panel: 9331 [Download](#)

Map Number: 3710933100J

Panel Effective Date: 1/19/2005

Latitude: 34.62498

Longitude: -79.21447

Address locations are approximate.
[1921 Henry Berry Rd, Rowland, NC](#)

Risk Information

Financial Vulnerability

Flood Insurance

FIS Reports

Engineering Models

Map Export

Data Export

