Cover Page

Hydraulics Unit Pre-Design Report (Pre-Scoping) for Structure #: 770422

Date:

County: Robeson | Stream: Jackson Swamp

Road #: SR 2105 | Road Name: Judge Rd

Division: 6 | Location: 0.5 MI. E. JCT SR 1002 & 0.1 MI. W OF END OF SR 2105

Latitude: 34.63389 | Longitude: 78.91444 Decimal degrees, a min of 5 decimal points

Assigned to: NCDOT

Prepared By RTH

Hydro Reviewer:

Project Type:

Existing Structure

Structure Type: Timber Deck/ Timber Joists | Yr Built: 1960

Span Arrangement: 2@18' | OAL (ft): 36.0 | Skew: 90 | Abutment Type:

Number of Barrels: | @ Span (ft): | x Rise (ft):

Bed to Crown (ft): 11.0 | Clear Roadway (ft): 19.2 | Water Depth (ft) 8.0 | Superstructure Depth:

ADT: 30 | Year ADT: 1996 | Scour Code (item113): U | Prior Survey Completed: | Survey Date:

Drainage Area: 3.7 Sq. Mi. | Drainage Area Source: Sel.-Sites | Roadway Overtops at Q100:

Discharge Method: USGS Regression Equations | USGS Region: 4- Coastal | Stream Gage Number(if applicable):

Q10 (cfs): 390.0 | Q25 (cfs): 542.0 | Q50 (cfs): 678.0 | Q100 (cfs): 827.0 | QBFE (cfs):

Structure in Flood Hazard Zone No | Panel #: 0322 | Panel Date: 01/19/2005 | Type of FIS: NO STUDY | Date of FIS:

Enviromental

Quad Map: NORTHEAST LUMBERTON, NC | River Basin: Lumbar | Buffer Rule:

Primary Stream Classification

- ☐ Class B
- ☒ Class C
- ☐ SA
- ☐ SB
- ☐ SC
- ☐ SWL
- ☐ WL
- ☐ WS I
- ☐ WS II
- ☐ WS III
- ☐ WS IV
- ☐ WS V

Supplemental Stream Classification

- ☐ FWS
- ☐ HQW
- ☐ NSW
- ☐ ORW
- ☒ Sw
- ☐ Tr
- ☐ UWL
- ☐ w/in 0.5mi. of CA

Other Stream Classification

- ☐ Anadromous Fish
- ☐ Area of Envronmental Concern
- ☐ CAMA County
- ☐ Federal Wild & Scenic Rivers
- ☐ HSB Requried
- ☐ NC Natural & Scenic Rivers
- ☐ Impaired [303d]
- ☐ Primary Nursery Area
- ☐ TVA
- ☐ Designated Shellfish Harvesting Area
- ☐ Designated Public Mountain Trout Waters

Up/Down Stream Features

Upstream Feature:

Location:

Structure #: | Route:

Latitude: | Longitude:

Prior Survey Completed: | Survey Date:

Structure Type:

Span Arrangement: | OAL (ft):

Number of Barrels: | @ Span (ft): | x Rise (ft):

Bed to Crown (ft): | Year Built:

Downstream Feature:

Location:

Structure #: | Route:

Latitude: | Longitude:

Prior Survey Completed: | Survey Date:

Structure Type:

Span Arrangement: | OAL (ft):

Number of Barrels: | @ Span (ft): | x Rise (ft):

Bed to Crown (ft) | Year Built:

Preliminary Structure Estimate [Office Estimate]

Structure Type: | Skew:

Dimensions/Spans:

Notes

N.C. DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MAINTENANCE UNIT

BRIDGE INSPECTION REPORT

TYPE OF INSPECTION: **ROUTINE + UNDERWATER**

COUNTY	ROBESON	BRIDGE NUMBER	770422	INSPECTION CYCLE	2 YR.
ROUTE	S.R. 2105	ACROSS	JACKSON SWAMP	M. P.	

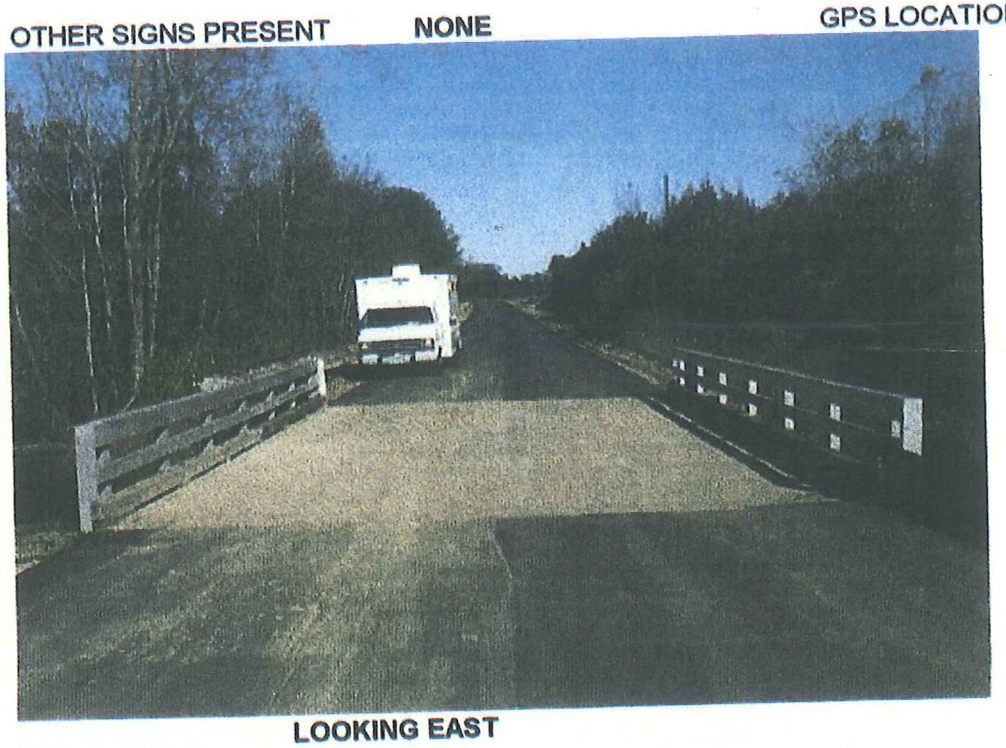
LOCATION: 0.5 MILE EAST OFJCT. S.R. 1002 & 0.1 MILE WEST OF END OF S.R. 2105

SUPERSTRUCTURE: TIMBER RAILS , DECK & JOISTS

SUBSTRUCTURE: TIMBER CAPS & PILES

SPANS: TWO (SPAN 1 = 18' & SPAN 2 = 18')

PRESENT CONDITION	POOR	INVENTORY RATING	HS-9
INSPECTION DATE	11/13/03	OPERATING RATING	HS-13
PRESENT POSTING	SIGNS MISSING	PROPOSED POSTING	RETAIN SV-16 TTST-23
COMPUTER UPDATE	3-17-04	ANALYSIS DATE	3/11/04
POSTING LETTER DATE		OTHER SIGNS PRESENT	NONE
OTHER SIGNS PRESENT	NONE	GPS LOCATION	N 34° 38' 02.34" W 078° 54' 51.6"



LOOKING EAST

SIGN NOTICE ISSUED FOR	NUMBER REQUIRED
WEIGHT LIMIT	2
DELINEATORS	4
NARROW BRIDGE	
ONE LANE BRIDGE	
LOW CLEARANCE	

********** IDENTIFICATION **********

(1) STATE NAME - NORTH CAROLINA BRIDGE 770422
(8) STRUCTURE NUMBER (FEDERAL) 000000001550422
(5) INVENTORY ROUTE (ON/UNDER) - ON = 131021050
(2) STATE HIGHWAY DEPARTMENT DISTRICT 06
(3) COUNTY CODE 155 (4) PLACE CODE
(5) FEATURES INTERSECTED - JACKSON SWAMP
(7) FACILITY CARRIED - SR2105
(9) LOCATION - 0.5 MI.E JCT SR1002
(11) MILEPOINT 000.000
(16) LAT 34 D 38 M 02.33 (17) LONG 078 D 54 M 51.65
(98) BORDER BRIDGE STATE CODE PCT SHARE
(99) BORDER BRIDGE STRUCTURE NO. #

********** STRUCTURE TYPE AND MATERIAL *********

(43) STRUCTURE TYPE MAIN: WOOD OR TIMBER
TYPE - STRINGER/MBEAM OR GIRDER CODE 702
(44) STRUCTURE TYPE APPR: OTHER
TYPE - OTHER CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 002
(46) NUMBER OF APPROACH SPANS 0000
(107) DECK STRUCTURE TYPE - WOOD OR TIMBER CODE 8
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE - BITUMINOUS CODE 6
B) TYPE OF MEMBRANE - NONE CODE 0
C) TYPE OF DECK PROTECTION - NONE CODE 0

********** AGE AND SERVICE **********

(27) YEAR BUILT 1960
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON - HIGHWAY
UNDER - WATERWAY CODE 15
(28) LANES: ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 000030
(30) YEAR OF ADT 1996 (109) TRUCK ADT PCT
(19) BYPASS, DETOUR LENGTH 99 MI

********** GEOMETRIC DATA **********

(48) LENGTH OF MAXIMUM SPAN 0018 FT
(49) STRUCTURE LENGTH 000036 FT
(50) CURB OR SIDEWALK: LEFT 00.3 FT RIGHT 00.3 FT
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 019.2 FT
(52) DECK WIDTH OUT TO OUT 020.0 FT
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 021 FT
(33) BRIDGE MEDIAN - NO MEDIAN CODE 0
(34) SKEW 00 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99 FT 99 IN
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 19.2 FT
(53) MIN VERT CLEAR OVER BRIDGE RDWY 99 FT 99 IN
(54) MIN VERT UNDERCLEAR REF - NOT HY/RR 00 FT 00 IN
(55) MIN LAT UNDERCLEAR RT REF - NOT HWY/RR 99.9 FT
(56) MIN LAT UNDERCLEAR LT 00.0 FT

********** NAVIGATION DATA **********

(38) NAVIGATION CONTROL - BRG PERMIT NOT REQ CODE 0
(111) PIER PROTECTION - NOT APPLICABLE CODE
(39) NAVIGATION VERTICAL CLEARANCE 000 FT
(116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR FT
(40) NAVIGATION HORIZONTAL CLEARANCE 0000 FT

****

SUFFICIENCY RATING = 45.5
STATUS = STRUCTURALLY DEFICIENT

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH - YES
(104) HIGHWAY SYSTEM - NON NHS ROUTE 0
(26) FUNCTIONAL CLASS - LOCAL 09
(100) DEFENSE HIGHWAY - NOT DEFENSE HWY 0
(101) PARALLEL STRUCTURE - NONE EXISTS N
(102) DIRECTION OF TRAFFIC - 2-WAY TRAFFIC 2
(103) TEMPORARY STRUCTURE - NOT TEMPORARY
(110) DESIGNATED NATIONAL NETWORK - NOT PART OF 0
(20) TOLL - ON FREE ROAD 3
(21) MAINTAIN - STATE HIGHWAY AGENCY 01
(22) OWNER - STATE HIGHWAY AGENCY 01
(37) HISTORICAL SIGNIFICANCE - NOT ELIGIBLE 5

********** CONDITION ********** CODE

(58) DECK 8
(59) SUPERSTRUCTURE 4
(60) SUBSTRUCTURE 5
(61) CHANNEL & CHANNEL PROTECTION 6
(62) CULVERTS N

********** LOAD RATING AND POSTING ********* CODE

(31) DESIGN LOAD - OTHER/UNKNOWN 0
(64) OPERATING RATING - AS HS-13 223
(66) INVENTORY RATING - AS HS-09 216
(70) BRIDGE POSTING - POSTING REQUIRED 1
(41) STRUCTURE OPEN, POSTED, OR CLOSED P
DESCRIPTION - POSTED FOR LOAD

********** APPRAISAL ********** CODE

(67) STRUCTURAL EVALUATION 4
(68) DECK GEOMETRY 4
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATERWAY ADEQUACY 7
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 0000
(113) SCOUR CRITICAL BRIDGES U

********** PROPOSED IMPROVEMENTS **********

(75) TYPE OF WORK - ... CODE
(76) LENGTH OF STRUCTURE IMPROVEMENT 000000 FT
(94) BRIDGE IMPROVEMENT COST $ 0
(95) ROADWAY IMPROVEMENT COST $ 0
(96) TOTAL PROJECT COST $ 0
(97) YEAR OF IMPROVEMENT COST ESTIMATE
(114) FUTURE ADT 000060 (115) YEAR FUTURE ADT 2025

********** INSPECTIONS **********

(90) INSPECTION DATE 11/2003 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL - NO - MO A)
B) UNDERWATER INSP - YES - 24 MO B) 11/2003
C) OTHER SPECIAL INSP - NO - MO C)
SCOUR - NOT EVALUATED

B80028 BRIDGE MAINTENANCE UNIT RUN DATE 03/17/04
DATA ON EXISTING STRUCTURE

COUNTY:	DIV.:	DIST.:	STRUCTURE NUMBER:	LENGTH:
ROBESON	06	1	77 0422	36 FEET

ROUTE CARRIED: SR2105
FEATURE INTERSECTED: JACKSON SWAMP

LOCATED: 0.5 MI.E JCT SR1002
BRIDGE NAME: ----------

FUNC. CLASS:	SYST.ON:	SYST.UNDER:	ADT & YR:	RAIL TYPE:
LR	NONFA	-----	30 96	LT 227 RT 227

BUILT:	BY:	PROJ:	FED.AID PROJ:	DESIGN LOAD:
1960	SHC	3603	----------	OTH-UNKN

REHAB:	BY:	PROJ:	ALIGNMENT:	SKEW:	LANES:
----	-----	---------	TAN	090	ON 02 UNDER 00

NAVIGATION: VC --- FT HC ---- FT
HT.CRN.TO BED: 11 FT
WATER DEPTH: 8 FT

SUPERSTRUCTURE:
TIMBER FLOOR ON TIMBER JOISTS

SUBSTRUCTURE:
EBTS&IBT:TIMBER CAPS/TIMBER PILES @ 6'CENTERS

SPANS:
2@18'

BEAMS OR GIRDERS:
12 LINES 6X14 TIMBER JOISTS @ VARIOUS CENTERS

FLOOR: 4X8TIM/1.5 AWS
ENCRCACHMENTS: ----------
DECK (OUT TO OUT): 020.0

CLEAR ROADWAY:	BETWEEN RAILS:	SIDEWALK OR CURB:
019.2	019 .8	LT 00.3 RT 00.3

VERT.CL.OVER:	VERT.CL.UNDER:	HOR.CL.UNDER:	SPECIAL PERMIT:
99 FT 99 IN	00 FT 00 IN	00.0 FT	---

INV.RTG.:	OPE.RTG.:	CONTR.MEMBER:	POSTED:
HS- 9	HS- 13	JOIST INT. SV 16	TTST 23 DATE 05 02 2000

SYSTEM: 5 SECONDARY
GREEN LINE ROUTE: NO

2ND OPENING:	3RD OPENING:	4TH OPENING:	5TH OPENING:
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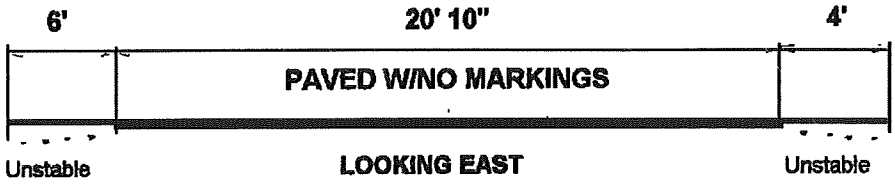
REMARKS:

Revised 9/21/98 TJTFTRWS1

STRUCTURE DATA WORKSHEET

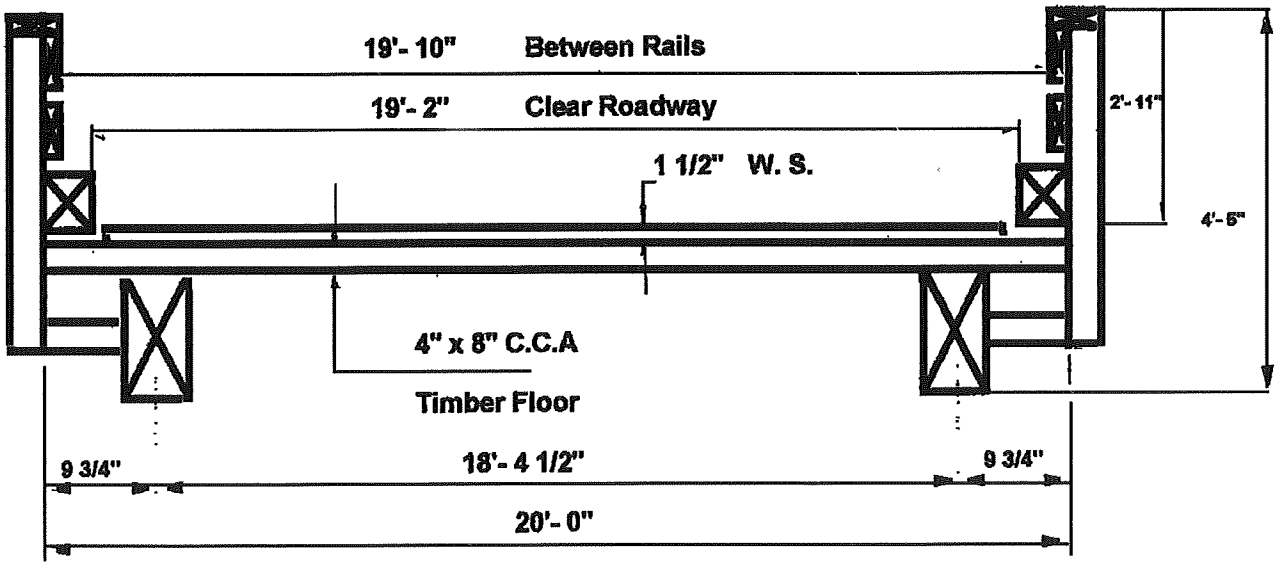
Bridge #: 770422 County ROBESON Date: 11/13/03 By: WHL

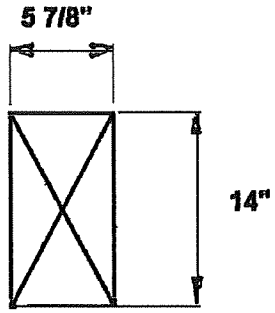
APPROACH ROADWAY WIDTH (SI & A ITEM 32)



TYPICAL SECTION

Rail Type: 227





N.B.I.S. BRIDGE LENGTH = 33'- 11"

Span	Length	* Brg. To Brg.
1	18'- 0"	17'- 4"
2	18'- 0"	17'- 4"

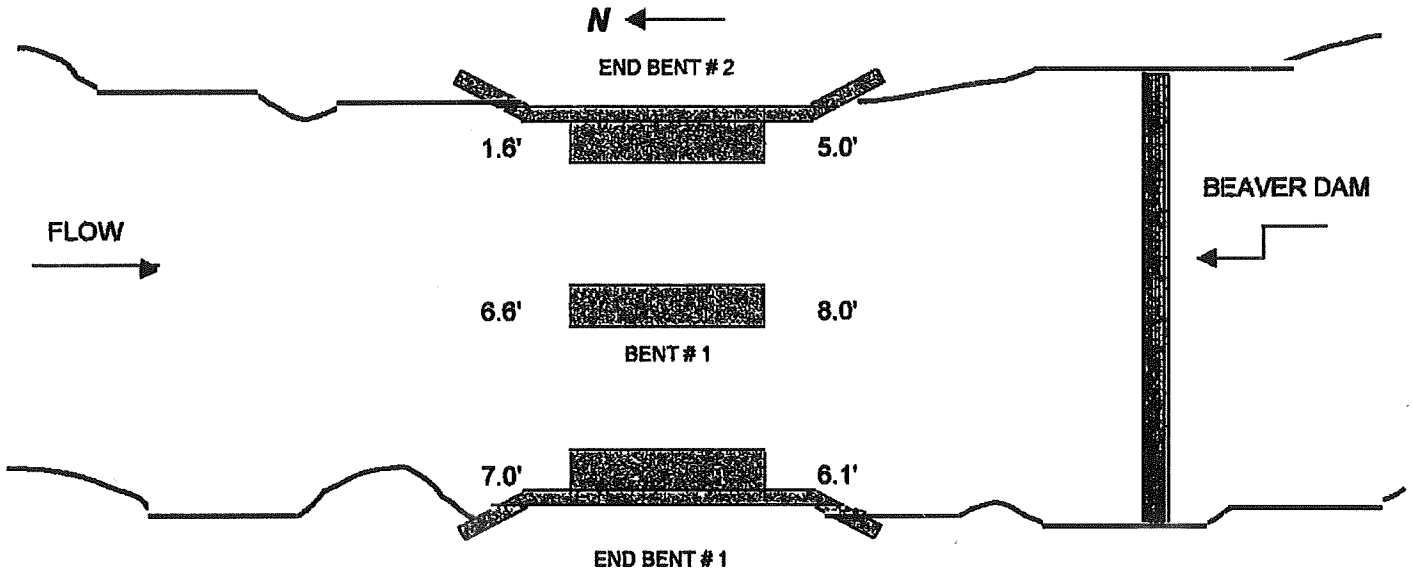
JOIST SPACINGS

JOIST	SPAN # 1	SPAN # 2
J1 TO J2	25 1/4"	19 1/4"
J2 TO J3	19 3/4"	19 3/4"
J3 TO J4	19 1/2"	19 1/2"
J4 TO J5	19 3/4"	19 1/4"
J5 TO J6	19 1/4"	19 1/2"
J6 TO J7	19 1/4"	19 1/2"
J7 TO J8	20"	19 1/2"
J8 TO J9	20"	19 3/4"
J9 TO J10	19"	19 3/4"
J10 TO J11	21 1/4"	21 1/2"
J11 TO J12	20 1/2"	25 1/2"

SPAN # 1 - 6" x 12" REPLACEMENT JOIST AT SOUTH SIDE OF J7 WITH NO SHIMS IN PLACE (6" FROM C/L OF J7 TO C/L OF REPLACEMENT JOIST

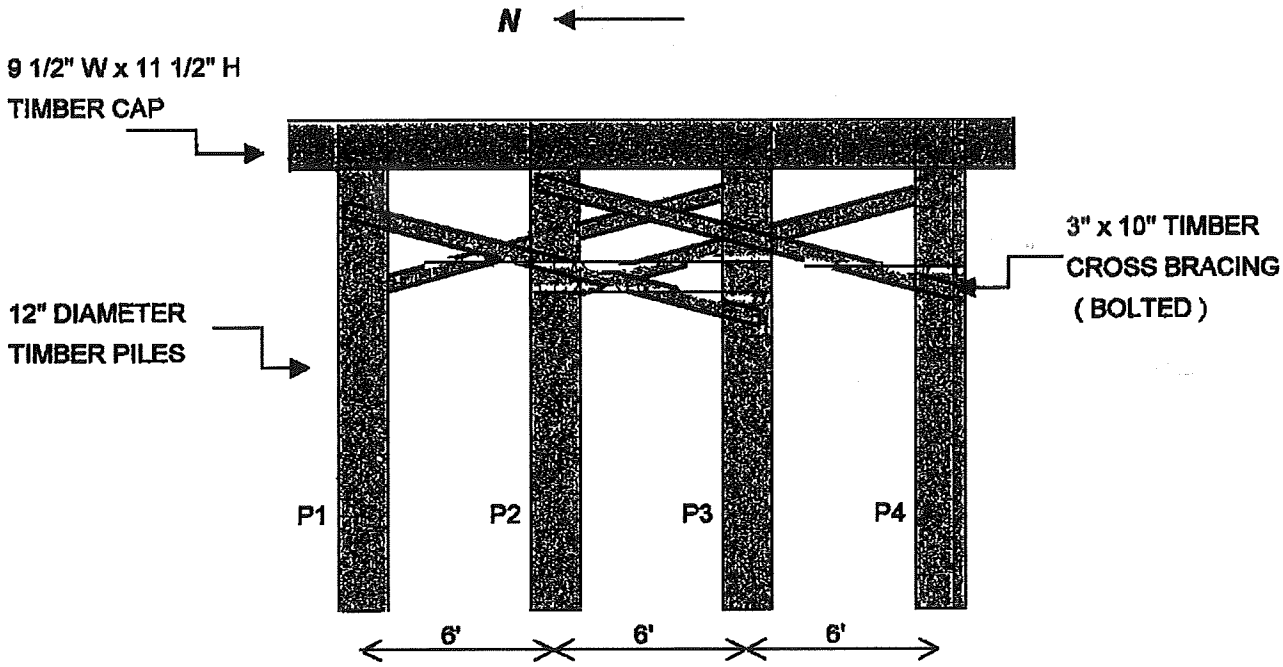
COUNTY ROBESON BR. # 770422 DATE 11/13/03 BY: WHL

PLAN VIEW



WATER SURFACE TO TOP OF RAIL = 6.8".
BOTTOM COMPOSITION : SILT / SAND
BOTTOM PROBE : 4'

BENT # 1 PROFILE



SHEET # 3

STREAM BED SOUNDINGS

(SEE NEXT SHEET FOR PROFILE SKETCH)

BR. INSP. WORKSHEET (1/1/90)
Revised 10/9/1998

Bridge #: 770422 COUNTY ROBESON DATE 11/13/03 BY: W.H. LOTZ

RECORD SOUNDINGS FROM TOP OF RAIL. OTHER LOCATION IF NEEDED:

DISTANCE HIGHWATER MARK TO TOP OF RAIL: 3'- 0" LOCATION H. W. MARK DECK

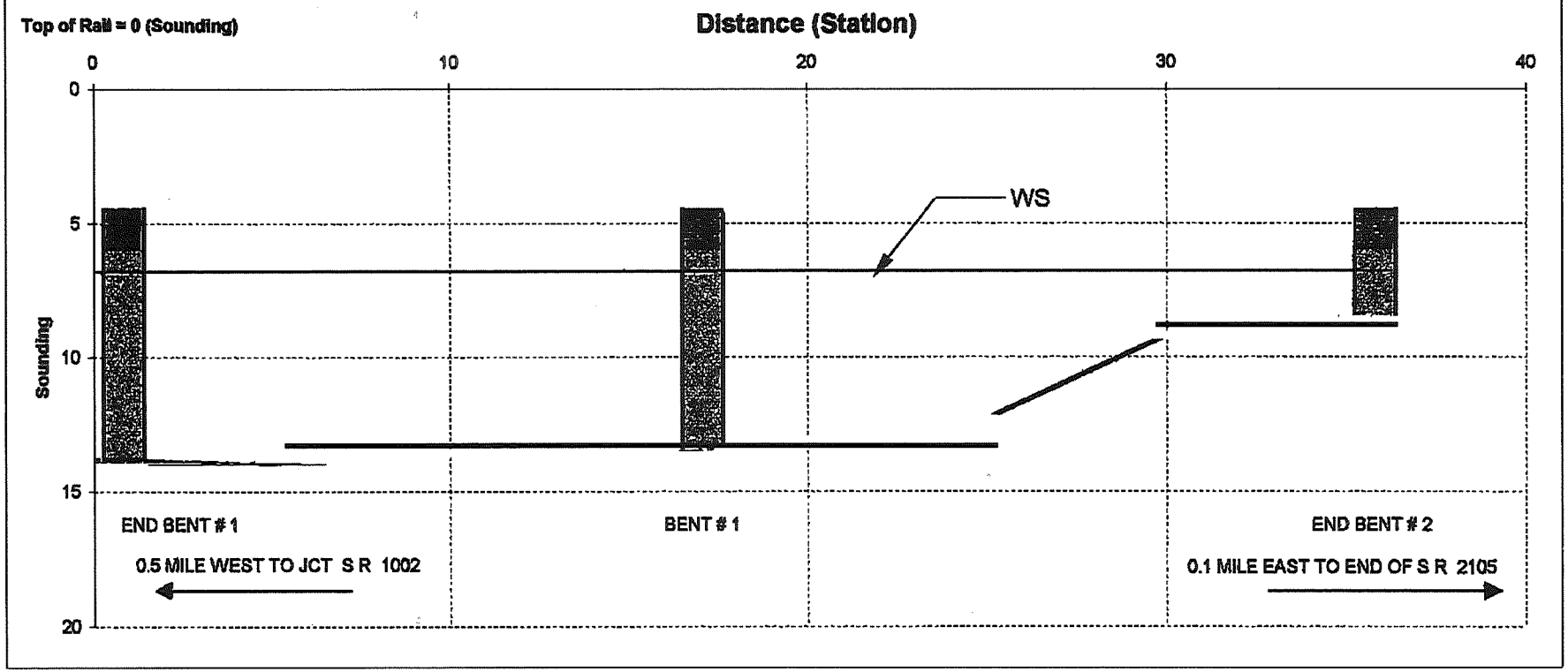
NOTE: Draft a Stream Bed Profile sketch and record soundings at the stream face of abutments, C/L of piers, WE, WS, and major contour changes on the downstream side. Record soundings at the stream face abutments and C/L piers on the upstream side.

DOWNSTREAM (SOUTH)			UPSTREAM (NORTH)		
DISTANCE (Station)	SOUNDING	DESCRIPTION	DISTANCE (Station)	SOUNDING	DESCRIPTION
0	6.8	WS & WE			WS & WE
36	6.8	WS & WE			WS &WE
0	13.8	END BENT # 1	0	12.9	END BENT # 1
5	14.0				
10	13.5				
17.2	13.4	BENT # 1	17.2	14.8	BENT # 1
20	13.0				
25	12.3				
30	9.2				
36	8.4	END BENT # 2	36	11.8	END BENT # 2

SHEET # 4

Bridge # 770422 County: ROBESON Date: 11/13/03 by: W.H.L SHEET 5

STREAMBED PROFILE (Downstream)



STREAM BED SOUNDINGS

(SEE NEXT SHEET FOR PROFILE SKETCH)

BR. INSP WORKSHEET (1/1/90)
Revised 10/9/1998

Bridge # 770422 COUNTY ROBESON DATE 1/28/02 BY: W.H. LOTZ

RECORD SOUNDINGS FROM TOP OF RAIL OTHER LOCATION IF NEEDED

DISTANCE HIGHWATER MARK TO TOP OF RAIL: 3'- 0" LOCATION H. W. MARK: DECK

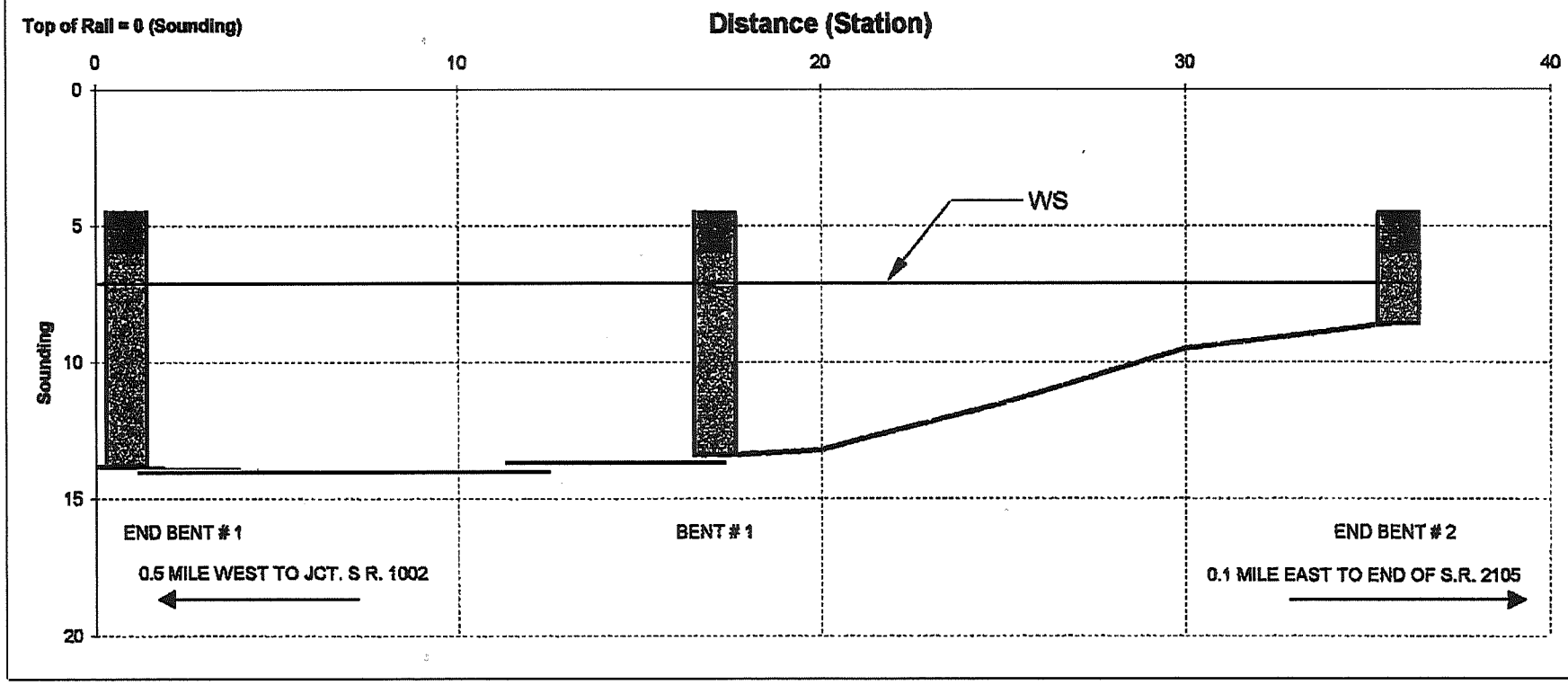
NOTE.Draft a Stream Bed Profile sketch and record soundings at the stream face of abutments, C/L of piers, WE, WS, and major contour changes on the downstream side. Record soundings at the stream face abutments and C/L piers on the upstream side.

DOWNSTREAM (SOUTH)			UPSTREAM (NORTH)		
DISTANCE (Station)	SOUNDING	DESCRIPTION	DISTANCE (Station)	SOUNDING	DESCRIPTION
0	7.1	WS & WE			WS & WE
36	7.1	WS & WE			WS &WE
0	13.8	END BENT # 1	0	13	END BENT # 1
5	14.0				
10	14.1				
17.2	13.4	BENT # 1	17.2	14.7	BENT # 1
20	13.2				
25	11.5				
30	9.5				
36	8.5	END BENT # 2	36	10.3	END BENT # 2

SHEET # 6

Bridge #: 770422 County: ROBESON Date: 1/28/02 by: W.H.L SHEET 7

STREAMBED PROFILE (Downstream)



STREAM BED SOUNDINGS

(SEE NEXT SHEET FOR PROFILE SKETCH)

BR. INSP. WORKSHEET (1/1/90)
Revised 6/13/1997

BRIDGE NO. 422 COUNTY ROBESON DATE 1/11/00 BY: W.H. LOTZ

RECORD SOUNDINGS FROM TOP OF RAIL. OTHER LOCATION IF NEEDED.

DISTANCE HIGHWATER MARK TO TOP OF RAIL: 3'-0" LOCATION H. W. MARK: BOTTOM OF CAP

NOTE: Draft a Stream Bed Profile sketch and record soundings at the stream face of abutments, C/L of piers, WE, WS, and major contour changes on the downstream side. Record soundings at the stream face abutments and C/L piers on the upstream side.

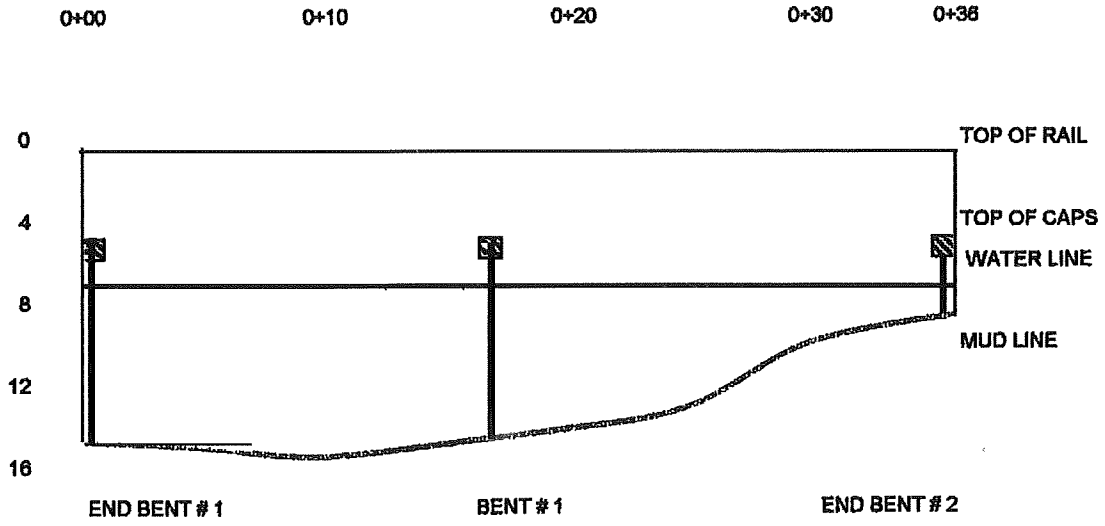
DOWNSTREAM (SOUTH)			UPSTREAM (NORTH)		
STATION	SOUNDING	DESCRIPTION	STATION	SOUNDING	DESCRIPTION
0	6.7'	WS & WE			
36	6.7'	WS & WE			
0	14.1'	END BENT #1	0	13.0'	END BENT #1
5	14.2'				
10	14.6'				
17.2	13.9'	BENT #1	17.2'	14.7'	BENT #1
20	13.7'				
25	12.4'				
30	9.3'				
36	8.5'	END BENT #2	36	10.3'	END BENT #2

SHEET # 8

COUNTY ROBESON BR. # 770422 DATE 1/11/00 BY: WHL

STREAM BED PROFILE

DOWNSTREAM (SOUTH SIDE)



SCALE : 1/4" = 2'

0 5 MILE WEST TO JCT. S.R. 1002

0.1 MILE EAST TO END OF S R. 2105

SHEET # 9

STREAM BED SOUNDINGS

(SEE NEXT SHEET FOR PROFILE SKETCH)

BR. INSP. WORKSHEET (1/1/90)
Revised 6/13/1997

BRIDGE NO. 422 COUNTY ROBESON DATE 1/5/98 BY: W.H. LOTZ

RECORD SOUNDINGS FROM TOP OF RAIL OTHER LOCATION IF NEEDED:

DISTANCE HIGHWATER MARK TO TOP OF RAIL: 5.4' LOCATION H. W. MARK: BOTTOM OF CAP

NOTE: Draft a Stream Bed Profile sketch and record soundings at the stream face of abutments, C/L of piers, WE, WS, and major contour changes on the downstream side. Record soundings at the stream face abutments and C/L piers on the upstream side.

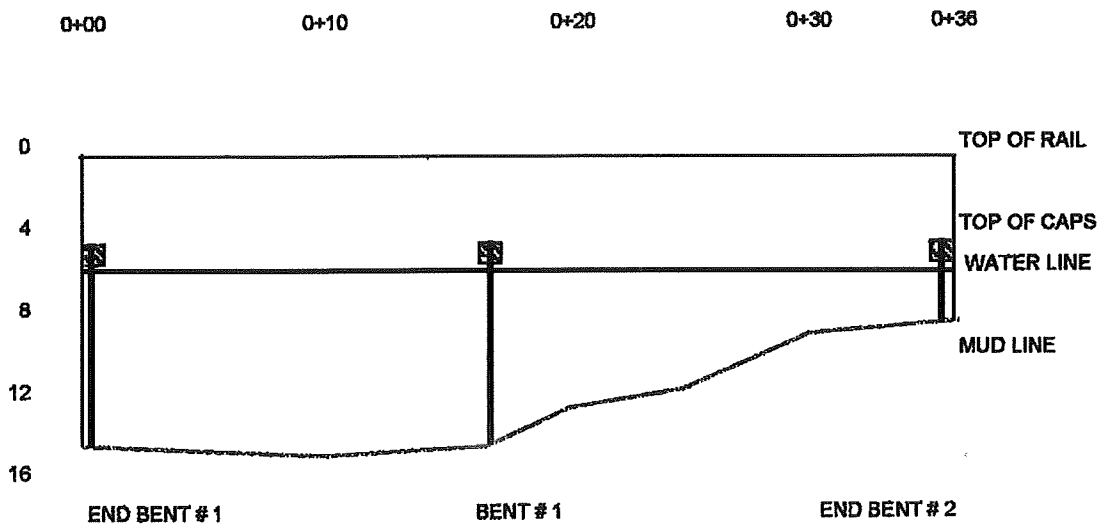
DOWNSTREAM (SOUTH)			UPSTREAM (NORTH)		
STATION	SOUNDING	DESCRIPTION	STATION	SOUNDING	DESCRIPTION
0+00	4.5	TOP OF CAP			
0+01	5.5	WATER SURFACE			
0+01	14.1	MUD LINE	0+01	12.8	MUD LINE
0+10	13.4	" "			
0+17.2	13	BENT # 1	0+17.2	15.0	BENT # 1
0+20	12.2	MUD LINE			
0+25	11.5	" "			
0+30	8.8	" "			
0+35	8.3	" "	0+35	10.0	MUD LINE
0+35	5.5	WATER SURFACE			
0+36	4.5	TOP OF CAP			

SHEET # 10

COUNTY ROBESON BR. # 422 DATE 1/5/98 BY: WHL

STREAM BED PROFILE

DOWNSTREAM (SOUTH SIDE)



SCALE : 1/4" = 2'

0 5 MILE WEST TO JCT S.R. 1002 ←

0.1 MILE EAST TO END OF S.R. 2105 →

SHEET # 11

NORTH PROFILE

SOUTH PROFILE

LOOKING WEST ALONG THE NORTH SIDE

LOOKING EAST ALONG THE SOUTH SIDE

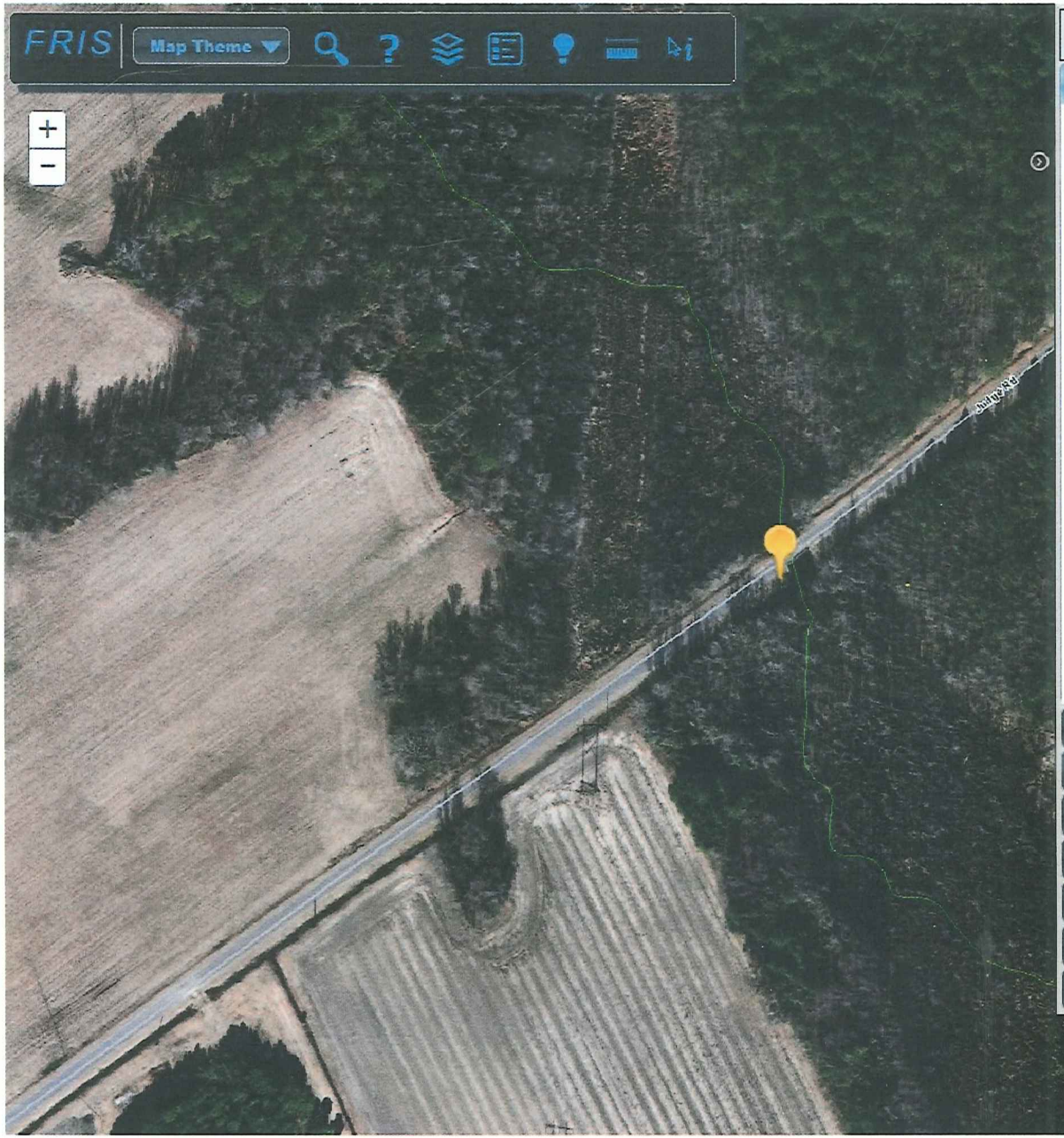
LOOKING EAST

LOOKING WEST

END BENT 1

BENT 1 SPAN 2 SIDE

CURBS AND RAILS



Who Am I : Advanced | Effective

Flood Information

Click the map to view information.

Map Location

Flood Zone:	(Zone X) Minimal Flood Risk
Flood Source:	Flood model is not available for this area.
Base Flood Elevation:	Not available for this area.
County:	Robeson
Political Area:	Robeson County
CID:	370202
Panel:	0322 Download
Map Number:	3720032200J
Panel Effective Date:	1/19/2005
Latitude:	34.63389
Longitude:	-78.91444

Address locations are approximate.

- Risk Information
- Financial Vulnerability
- Flood Insurance
- FIS Reports
- Engineering Models
- Map Export
- Data Export

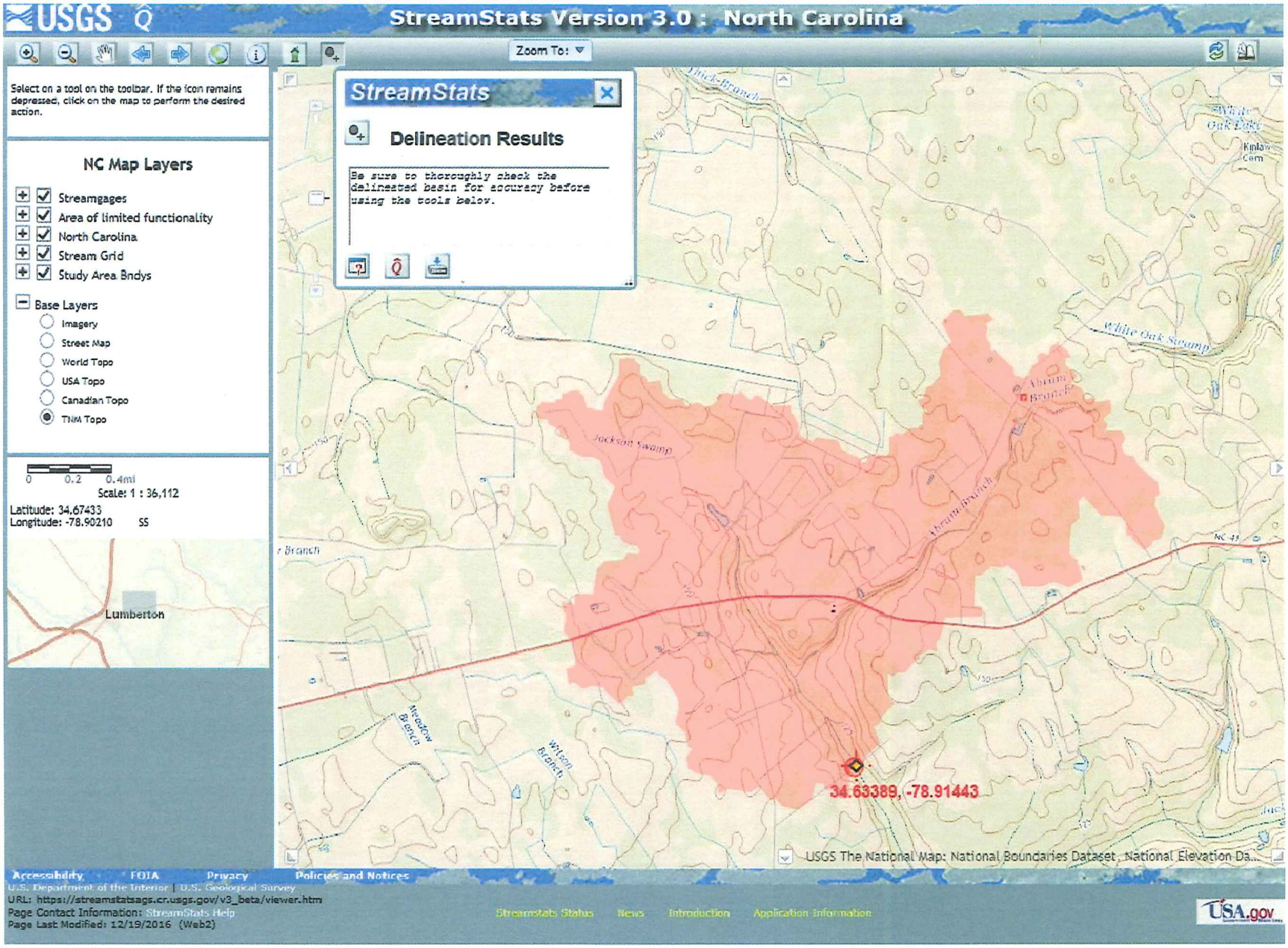

USGS
StreamStats Version 3.0 : North Carolina
Zoom To:
Select on a tool on the toolbar. If the icon remains depressed, click on the map to perform the desired action.
NC Map Layers
Streamgages
Area of limited functionality
North Carolina
Stream Grid
Study Area Bndys
Base Layers
Imagery
Street Map
World Topo
USA Topo
Canadian Topo
TNM Topo
0 0.2 0.4mi
Scale: 1 : 36,112
Latitude: 34.67433
Longitude: -78.90210 SS
Lumberton
StreamStats
Delineation Results
Be sure to thoroughly check the delineated basin for accuracy before using the tools below.
Jackson Swamp
White Oak Swamp
Abram Branch
Meadow Branch
Wilson Branch
34.63389, -78.91443
USGS The National Map: National Boundaries Dataset, National Elevation Da...
Accessibility FOIA Privacy Policies and Notices
U.S. Department of the Interior | U.S. Geological Survey
URL: https://streamstatsags.cr.usgs.gov/v3_beta/viewer.htm
Page Contact Information: StreamStats Help
Page Last Modified: 12/19/2016 (Web2)
Streamstats Status News Introduction Application Information
USA.gov

Table 8—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
Hog Swamp	Approximately 3,500 feet downstream of NC 41	8.41	*	*	2,544	*
	At the confluence of Little Hog Swamp	15.74	*	*	1,605	*
	At the confluence of Old Field Swamp	32.29	*	*	979	*
	At the confluence with Ashpole Swamp	63.04	*	*	636	*
Holy Swamp	At the confluence with Raft Swamp	8.59	*	*	646	*
Horn Camp Swamp	At mouth	4.25	*	*	398	*
Horns Millrace	At the confluence with Ashpole Swamp	2.29	*	*	260	*
Horse Branch	At the confluence with Big Marsh Swamp	1.80	*	*	214	*
Horse Swamp	At the confluence with Aaron Swamp	7.29	*	*	577	*
	Approximately feet upstream of NC 2435	4.49	*	*	413	*
Humphrey Branch	At the confluence with Raft Swamp	2.28	*	*	259	*
Indian Swamp	At mouth	29.3	*	*	1,501	*
	At the confluence of Little Indian Swamp	9.52	*	*	693	*
	At the confluence of Bay Branch	6.13	*	*	512	*
Ivey Branch	At Railroad	3.5	1,620	2,180	2,430	3,630
Jackson Swamp	At the confluence with Big Swamp	12.92	*	*	855	*
	Approximately 2,500 feet upstream of Mercer Mill Road	6.23	*	*	518	*

This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long-term approach to floodplain management to overcome the costs associated with flooding. This is demonstrated by the State's commitment to map flood hazard areas at the local level. As a part of this effort, the State of North Carolina has joined in a Cooperating Technical State agreement with FEMA to produce and maintain this digital FIRM.

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTP://FRIS.NC.GOV/FRIS

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A, V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with Average Depth Less Than One Foot or With Drainage Areas of Less Than One Square Mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes *Zone X*
OTHER AREAS	Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Accredited or Provisionally Accredited Levee, Dike, or Floodwall
	Non-accredited Levee, Dike, or Floodwall
	DM5510 North Carolina Geodetic Survey bench mark
	DM5510 National Geodetic Survey bench mark
	DM5510 Contractor Est. NCFMP Survey bench mark
	513 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
	Coastal Transect
	Coastal Transect Baseline
OTHER FEATURES	Profile Baseline
	Hydrographic Feature
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. An accompanying Flood Insurance Study report, Letter of Map Revision (LOMR) or Letter of Map Amendment (LOMA) revising portions of this panel, and digital versions of this FIRM may be available. Visit the North Carolina Floodplain Mapping Program website at http://www.ncfloodmaps.com, or contact the FEMA Map Service Center.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. This may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the North Carolina Floodplain Mapping Program (NCFMP). The source of this information can be determined from the metadata available in the digital FLOOD database and in the Technical Support Data Notebook (TSDN).

ACCREDITED LEVEE NOTES TO USERS: If an accredited levee note appears on this panel check with your local community to obtain more information, such as the calculated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection. To mitigate flood risk in mapped risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

PROVISIONALLY ACCREDITED LEVEE NOTES TO USERS: If a Provisionally Accredited Levee (PAL) note appears on this panel, check with your local community to obtain more information, such as the calculated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection. To maintain accreditation, the levee owner or community is required to submit the data and documentation across may be comply with Section 65.10 of the NFIP regulations. If the community or owner does not provide the necessary data and documentation or if the data and documentation provided indicates the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accredited of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

LIMIT OF MODERATE WAVE ACTION NOTES TO USERS: For areas coastal flooding zones the AE Zone category has been divided by a Limit of Moderate Wave Action (LiMWA). The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LiMWA (or between the shoreline and the LiMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

Limit of Moderate Wave Action (LiMWA)

COASTAL BARRIER RESOURCES SYSTEM (CBRS) NOTE

This map may include approximate boundaries of the CBRS for informational purposes only. Flood insurance is not available within CBRS areas for structures that are newly built or substantially improved on or after the date(s) indicated on this map. For more information see http://www.fws.gov/habitatconservation/coastal_barriers.html, the FIS Report, or call the U.S. Fish and Wildlife Service Customer Service Center at 1-800-344-WILD.

CBRS Area | Otherwise Protected Area

SCALE

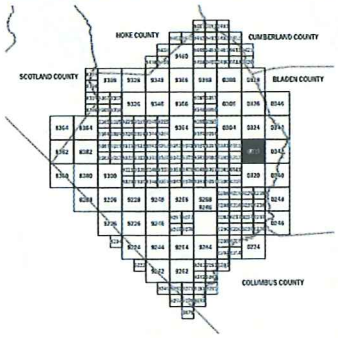
Map Projection:
North Carolina State Plane Projection Feet (Zone 3200)
Datum: NAD 1983 (Horizontal) NAVD 1988 (Vertical)

1 inch = 1,000 feet 1:12,000

0 500 1,000 2,000 Feet

0 150 300 600 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM
NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

NORTH CAROLINA

PANEL 0322

FEMA

Panel Contains:

COMMUNITY	CID	PANEL	SUFFIX
ROBESON COUNTY	370202	0322	J

MAP NUMBER
3720032200J

MAP REVISED
01/19/05

ABC
Possible
with Concrete
Headwall
with 1' Sill.
Dead
End
Bot Beam
2nd Opt.
Bridge
25'
30'
70'
Woods
Woods
Woods
Woods
12' BTC
1.5'
12' BTC
1.5'
12' Bridge
36
36