

Project Number _____
TIP Number _____
Let Date _____

PREDESIGN-PRESURVEY REPORT

County Robeson

Bridge Number 770435
Road Number SR 2101
Stream Jackson Swamp

Type Of Request: POC Force Account TIP
Date 1/11/16 Name EAPwaga Assigned To _____
Checked By _____

Prior Survey Date 10-69 (attach copy of prior survey)

Study By Scour Section Yes

Flood Zone Yes Detail Study Limited Date 1/19/2005 (attach copy of flood map)

B.M. Info _____

Quad Map NE Lumberton Drainage Area 8 Smi From stream stat
Q25 865 Q50 1075 Q100 1310 Method USGS-Rural regression
Egn, Sir Report 2009-5158

EXISTING BRIDGE INFORMATION

Location 0.9 mi N Jct SR 2103
Average Daily Traffic 430 (2012)
Length 91 Bed- To Crown 14 Water Depth 8
Type Structure Prestressed Conc. Channels STD BMD-13
Type Spans 3 @ 30'6

Upstream Structure Brg # 422 (SR 2105)
Location 0.5 mi E Jct SR 1002

Bed- To Crown 12' Prior Survey None

Downstream Structure Non-Inventory Structure on SR 2100

Location _____

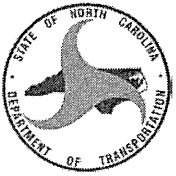
Bed- To Crown _____

Prior Survey _____

SCS Watershed _____

ENVIRONMENTAL

Trout Stream No Anadromous Fish _____ 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 Lumber



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION SHORED STRUCTURE: CRUTCHBENT
STRUCTURE DATA CHANGES

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY ROBESON BRIDGE NUMBER 770435 INSPECTION CYCLE 2 YRS
ROUTE SR2101 ACROSS JACKSON SWAMP M.P. 0

LOCATION 0.9 MI.N.JCT.SR2103

SUPERSTRUCTURE PRESTRESSED CONCRETE CHANNELS STD BMD-13

SUBSTRUCTURE E.BTS&INT.BTS:PPC CAPS/TIMBER PILES;TIM.CRUTCH BNT.

SPANS 3@30'6

LONGITUDE 78° 52' 38.65"

LATITUDE 34° 37' 49.04"

INSPECTION DATE 05/27/2014

PRESENT CONDITION FAIR

PRESENT POSTING Y

SV 21; TTST 24

PROPOSED POSTING

OTHER SIGNS PRESENT 4 DELINEATORS



LOOKING NORTH (MERCER MILL ROAD)

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>

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 07/07/2014

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
ROBESON	6	1	770435	91	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR2101	JACKSON SWAMP

LOCATED :	BRIDGE NAME :	CITY :
0.9 MI.N.JCT.SR2103		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	430 2012	LT 233 RT 233

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1971	BMU			H 10

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

NAVIGATION :	VC	0	FT	HC	0	FT	HT. CRN. TO BED :	14	FT	WATER DEPTH :	8	FT
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SUPERSTRUCTURE :	PRESTRESSED CONCRETE CHANNELS STD BMD-13
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SUBSTRUCTURE :	E.BTS&INT.BTS:PPC CAPS/TIMBER PILES;TIM.CRUTCH BNT.
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SPANS :	3@30'6"
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BEAMS OR GIRDERS :	12 LNS 31" PRESTRESSED CONCRETE CHANNEL SECTIONS
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FLOOR :	PPC CH/3 AWS	ENCROACHMENT :	DECK (OUT TO OUT) :	30.5 FT
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CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
29 FT	30 FT	LT .5 FT RT .5 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	26	DATE	07/02/2014
HS-1	HS-1	Pile	SV 23				

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

UNDER ROUTES AND CLEARANCES

REMARKS :

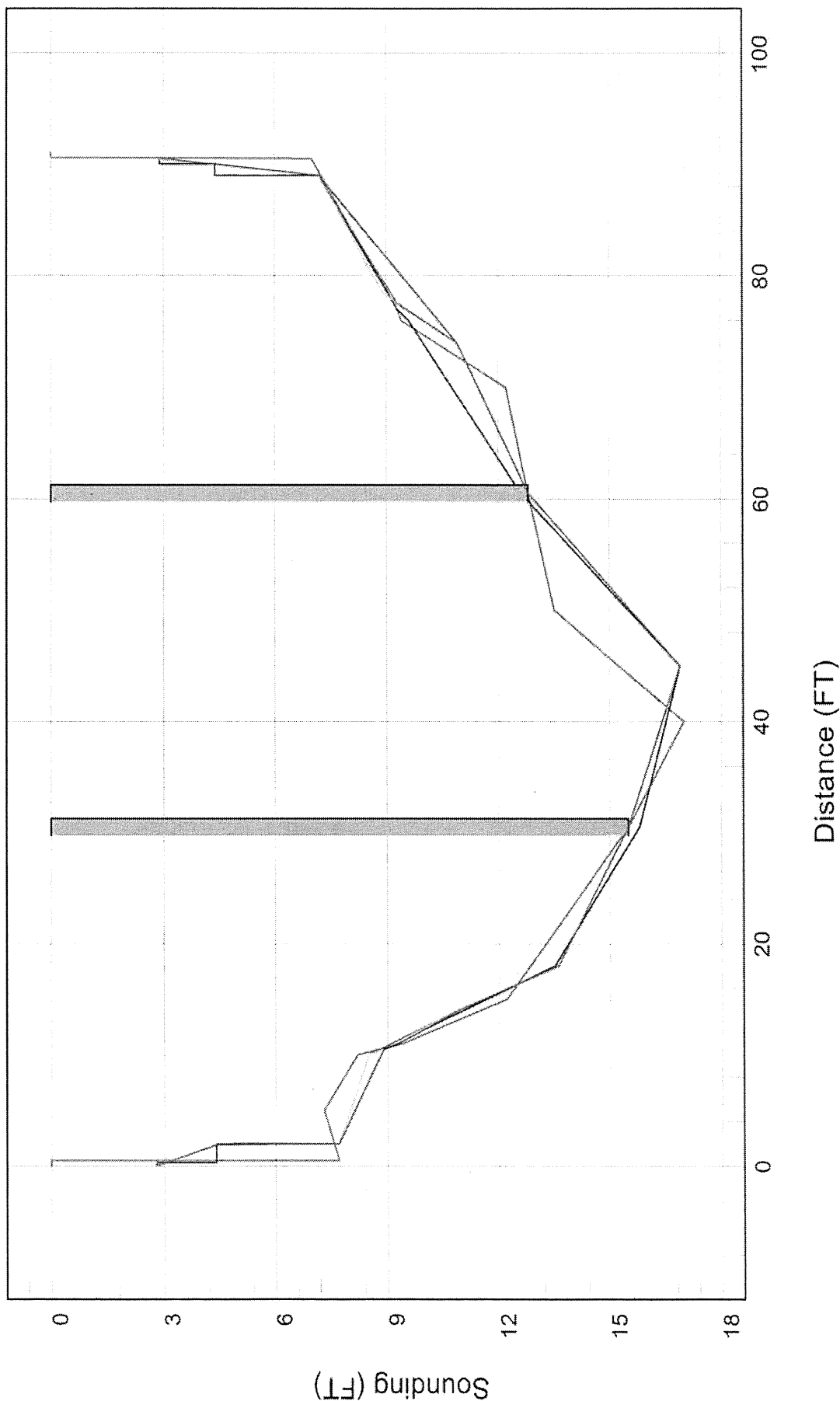
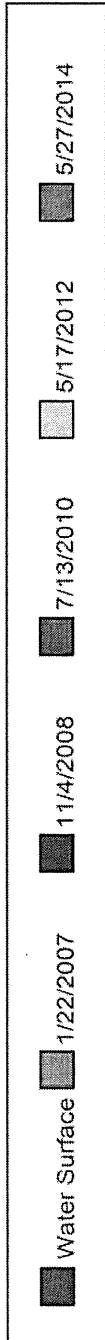
Bridge: 770435

County ROBESON

Date: 05/27/2014

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 12/17/2013

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
ROBESON	6	1	770422	36	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR2105	JACKSON SWAMP

LOCATED :	BRIDGE NAME :	CITY :
0.5 MI. E. OF JCT. SR1002		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	30 1996	LT 227 RT 227

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1960	SHC	3603		Unknown

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 12 FT		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 OF 6'X14' TIMBER JOISTS @ VARIOUS CENTERS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
4X8TIM/1.2 AWS		20 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
19.1 FT	19.8 FT	LT .35 FT RT .35 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	DATE
HS-11	HS-14	J#4 Sp2	SV 16	24	12/21/2011

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

UNDER ROUTES AND CLEARANCES

Upstream Structure

REMARKS :

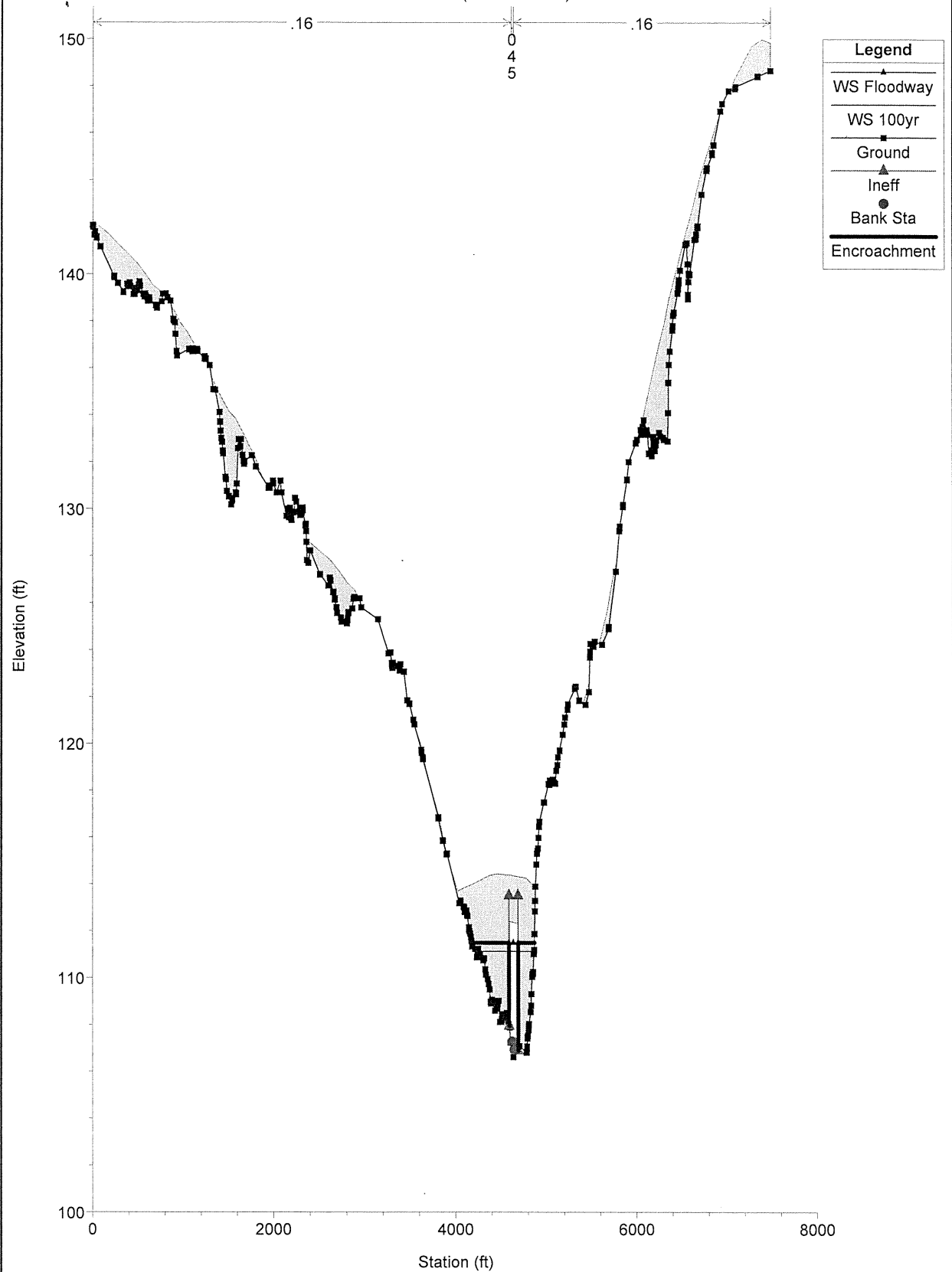
Summary of Discharges

- x

Flooding Source		Discharges (cfs)			
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
- Big Swamp					
At the confluences of Jackson Swamp and Crawley Swamp	293.68	*	*	7332	*
- Jackson Swamp					
At the confluence with Big Swamp	12.92	*	*	855	*
Approximately 2,500 feet upstream of Mercer Mill Road	6.23	*	*	518	*
Print					

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Big Swamp Section 2 Tributaries Study Plan: 100 yr Flood Event Simulation 1/11/2016
 SR 2101 (NCDOT# 435)



HEC-RAS Plan: Approximate River: Jackson Swamp Reach: Jackson Swamp

Reach	River Sta	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
Jackson Swamp	26013.94	518.00	116.92	120.74		120.75	0.000607	1.39	909.55	277.59	0.13
Jackson Swamp	24519.19	518.00	116.24	117.96		117.98	0.004539	2.46	646.57	550.53	0.35
Jackson Swamp	24519.19	518.00	116.24	118.65		118.71	0.004761	3.05	380.40	177.01	0.36
Jackson Swamp	22691.92	518.00	112.16	115.30		115.31	0.000762	1.57	1148.60	593.94	0.16
Jackson Swamp	22691.92	518.00	112.16	116.04		116.05	0.000730	1.78	818.70	257.14	0.16
Jackson Swamp	21248.96	518.00	112.03	113.78		113.79	0.002382	1.89	820.88	571.49	0.25
Jackson Swamp	21248.96	518.00	112.03	114.66		114.68	0.001939	2.07	601.07	240.72	0.23
Jackson Swamp	19324.96	855.00	108.98	112.63		112.63	0.000420	1.25	2060.33	713.12	0.12
Jackson Swamp	19324.96	855.00	108.98	113.24		113.25	0.000577	1.64	1422.43	373.31	0.14
Jackson Swamp	17511.97	855.00	107.48	112.06		112.06	0.000280	1.19	2274.82	693.90	0.10
Jackson Swamp	17511.97	855.00	107.48	112.44		112.45	0.000403	1.52	1519.44	341.14	0.12
Jackson Swamp	16752.11	855.00	107.07	111.85		111.86	0.000296	1.29	2126.65	632.44	0.11
Jackson Swamp	16752.11	855.00	107.07	112.15		112.16	0.000386	1.54	1471.84	311.56	0.12
Jackson Swamp	16465.82	855.00	106.62	111.49	108.85	111.62	0.002754	3.94	445.18	693.47	0.32
Jackson Swamp	16465.82	855.00	106.62	111.77	108.86	111.90	0.002415	3.84	473.64	101.00	0.30
Jackson Swamp	16384.93	Bridge									
Jackson Swamp	16304.07	855.00	106.54	110.24	109.10	110.64	0.011223	6.45	255.91	365.50	0.62
Jackson Swamp	16304.07	855.00	106.54	110.94	109.11	111.23	0.006281	5.47	321.08	101.00	0.48
Jackson Swamp	15973.56	855.00	106.27	109.84		109.85	0.000726	1.59	1752.87	804.81	0.16
Jackson Swamp	15973.56	855.00	106.27	110.56		110.57	0.000712	1.80	1267.45	338.33	0.16
Jackson Swamp	15147.04	855.00	105.41	109.34		109.35	0.000596	1.61	1578.14	512.60	0.15
Jackson Swamp	15147.04	855.00	105.41	110.07		110.09	0.000583	1.79	1237.61	278.30	0.15
Jackson Swamp	14004.37	855.00	104.79	108.37		108.39	0.001489	2.11	1234.73	559.92	0.22
Jackson Swamp	14004.37	855.00	104.79	109.11		109.14	0.001477	2.28	972.08	323.11	0.21
Jackson Swamp	11824.99	855.00	101.44	105.49		105.52	0.001545	2.57	1253.92	703.99	0.23
Jackson Swamp	11824.99	855.00	101.44	106.18		106.23	0.001556	2.89	818.90	252.73	0.24
Jackson Swamp	10873.57	855.00	99.38	104.51		104.53	0.000741	1.96	1752.99	885.40	0.16
Jackson Swamp	10873.57	855.00	99.38	105.21		105.24	0.000744	2.16	1253.12	403.92	0.17

Br. 435

3rd STA 4+20
30' 30" P.S.
90° TURN

APPROX MAX H.W. EL. 103.4

B.M. 2 NAILS IN BASE 10" SYCAMORE
40' RT. STA 3+09 ELEV. 100.00 ASSUMED

STREAM PROFILE

JACKSON

POND

REMOVE
48" & 30" CM. PIPES

REMOVE DRAIN
2 @ 72" CM PIPES

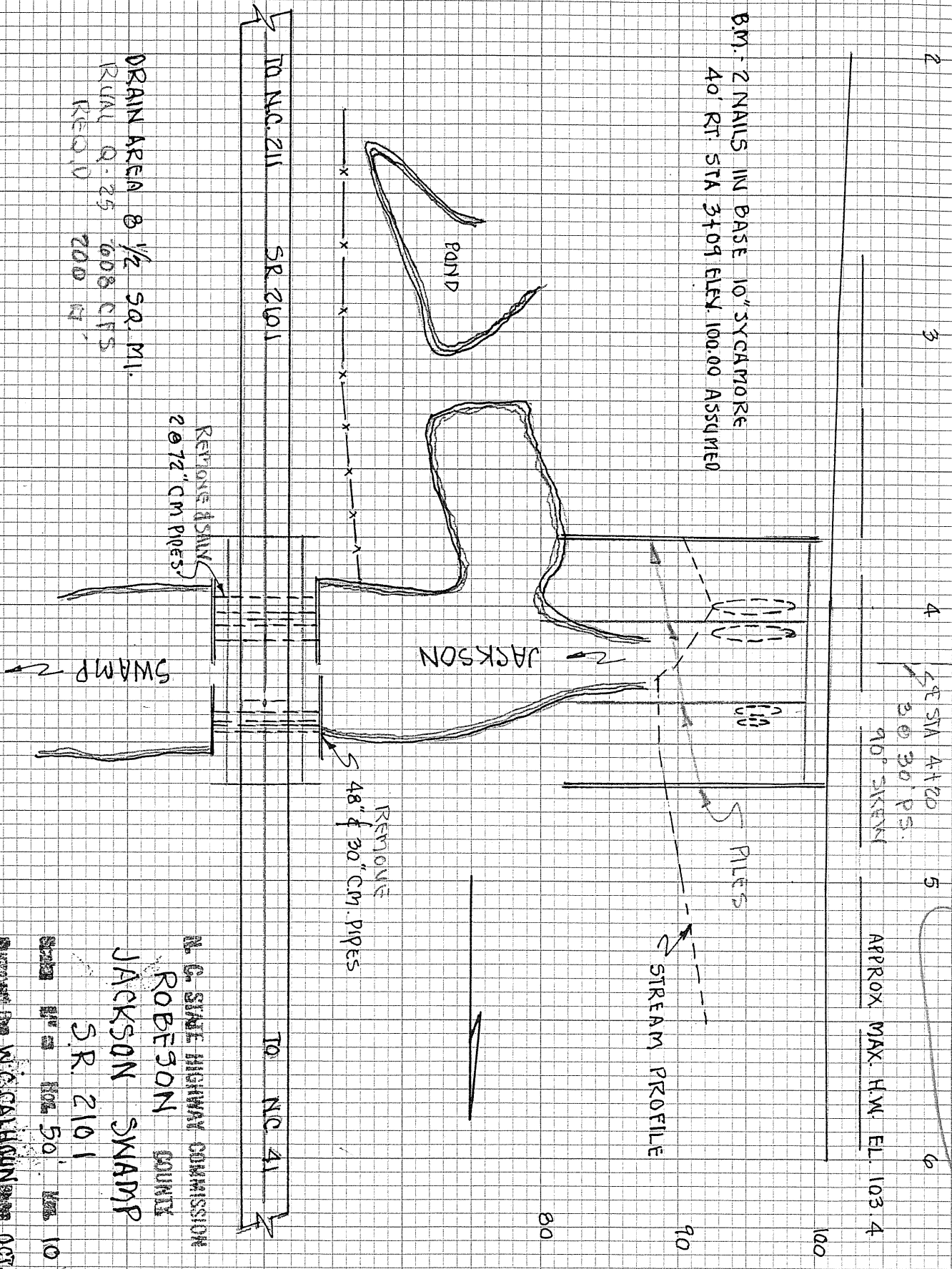
DRAIN AREA @ 1/2 SQ. MI.
RUAL Q. 25 600 CFS
REQ'D 200 W'

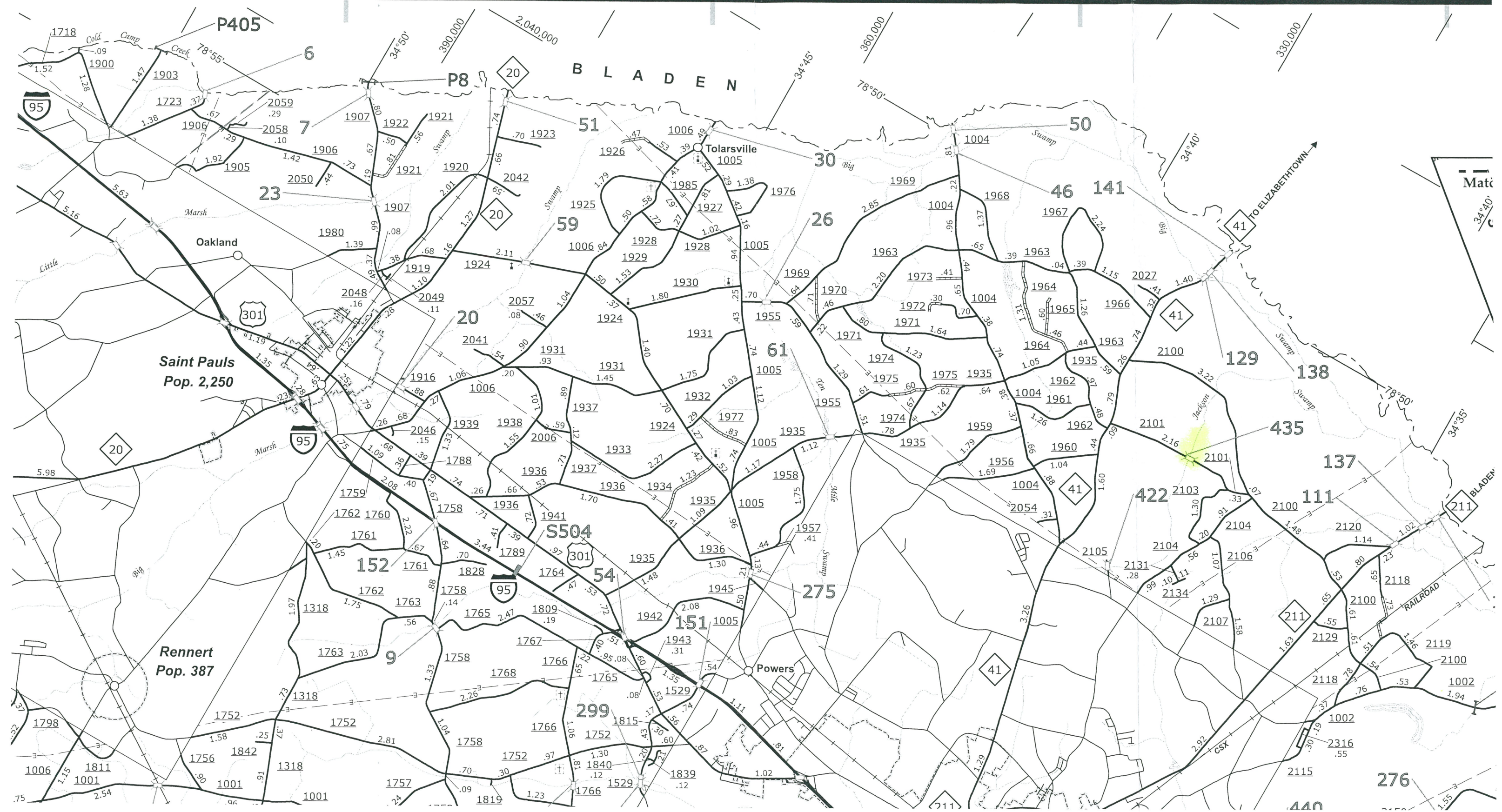
N. C. STATE HIGHWAY COMMISSION
ROBEYSON COUNTY
JACKSON SWAMP

SR. 2101

Scale 1" = 100. 50' 100' 10'

Surveyed by W. C. CALHOUN OCT. 1969





StreamStats Basin Characteristics Report - Google Chro...

streamstatsags.cr.usgs.gov/v3_beta/BCreport.htm?rcode=

StreamStats Version 3.0

Basin Characteristics Ungaged Site Report

Date: Mon Jan 11, 2016 10:32:32 AM GMT-5
Study Area: North Carolina
NAD 1983 Latitude: 34.6304 (34 37 49)
NAD 1983 Longitude: -78.8773 (-78 52 39)

Label	Value	Units	Definition
DRNAREA	7.94	square miles	Area that drains to a point on a stream
LC01FOREST	16.143	percent	Percentage of forest from NLCD 2001 classes 41-43
LC01IMP	0.82	percent	Percentage of impervious land cover from NLCD 2001

