

51

PREDESIGN-PRESURVEY REPORT

Project# \_\_\_\_\_  
TIP# \_\_\_\_\_  
Let Date \_\_\_\_\_  
WBS# \_\_\_\_\_

County Robeson

Bridge# 149  
Road# SR 1122 (McLeod Dr)  
Stream Hole Swamp  
Assigned To (First Swamp - FIS)

Type Of Request: POC Force Account TIP NCMA

Date \_\_\_\_\_ Name E AKpugu

Checked By \_\_\_\_\_

Prior Survey Date \_\_\_\_\_ (attach copy of prior survey)

Study By Scour Section \_\_\_\_\_

Flood Zone Yes Detail Study Limited Date Jan 19, 2005 Panel# 9300

B.M. Info

Quad Map Rowland Drainage Area 6.33 From USGS-NC Stream Stat.  
Q25 750 Q50 940 Q100 1140 Method USGS-Rural, Region 4, Coastal plain

FIS Q100 = 575 cfs

EXISTING BRIDGE INFORMATION

Location 1.0 mi NE Jct US 501

Average Daily Traffic 250 (2010)

Length 36' Bed- To Crown 11' Water Depth 8'

Type Structure RC Floor on Tim Joists

Type Spans 2 @ 18'

Upstream Structure N/A

Location \_\_\_\_\_

Bed- To Crown \_\_\_\_\_ Prior Survey \_\_\_\_\_

Downstream Structure Confluence with Wilkenson Creek

Location \_\_\_\_\_

Bed- To Crown \_\_\_\_\_ Prior Survey \_\_\_\_\_

SCS Watershed \_\_\_\_\_

ENVIRONMENTAL

Trout Stream No Anadromous Fish No Primary Nursery Area No

High Quality Waters \_\_\_\_\_ Nutrient Sensitive Waters No

Near Water Supply Intake - 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)

# BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY ROBESON BRIDGE NUMBER 770149 INSPECTION CYCLE 2 YRS  
ROUTE SR1122 ACROSS WATERING HOLE SWAMP M.P. 0

LOCATION 1.0 MI.NE. JCT. US501

SUPERSTRUCTURE REINFORCED CONCRETE FLOOR ON TIMBER JOISTS

SUBSTRUCTURE E.BTS&BT:TIM.CAPS/TIM.PILES;E.BT1 STL CRUTCH

SPANS 2@18'

LONGITUDE 79° 19' 7.8"

LATITUDE 34° 36' 17.2"

PRESENT CONDITION FAIR

INVENTORY RATING

INSPECTION DATE 04/09/2012

OPERATING RATING

PRESENT POSTING SV 17 TTST 24 SV 17 TTST 24

PROPOSED POSTING

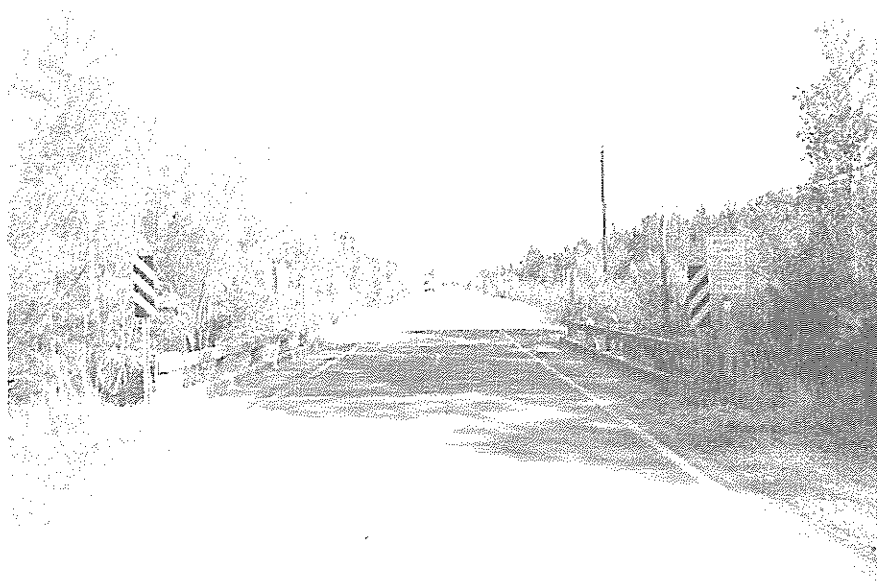
COMPUTER UPDATE

ANALYSIS DATE

POSTING LETTER DATE

SUFFICIENCY RATING

OTHER SIGNS PRESENT 4 DELINEATORS



LOOKING NORTH (MCLEOD ROAD)

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: 05/03/2012

COUNTY : ROBESON      DIVISION : 6      DISTRICT : 1      STRUCTURE NUMBER : 770149      LENGTH : 36 FEET

ROUTE CARRIED : SR1122      FEATURE INTERSECTED : WATERING HOLE SWAMP

LOCATED : 1.0 MI.NE. JCT. US501      BRIDGE NAME :      CITY :

FUNC. CLASS : 09      SYST.ON : NFA      SYST.UNDER : NFA      ADT & YR : 250 2010      RAIL TYPE : LT 241 RT 241

BUILT : 1954      BY : BMU      PROJ :      FED.AID PROJ :      DESIGN LOAD : Other or Unknown

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

NAVIGATION : VC 0 FT      HC 0 FT      HT. CRN. TO BED : 11 FT      WATER DEPTH : 8 FT

SUPERSTRUCTURE : REINFORCED CONCRETE FLOOR ON TIMBER JOISTS

SUBSTRUCTURE : E.BTS&BT;TIM.CAPS/TIM.PILES;E.BT1 STL CRUTCH

SPANS : 2@18'

BEAMS OR GIRDERS : 19 LINES 6X12 TIMBER JOISTS@1'4.25 CENTERS

FLOOR : 5 RC/2 AWS      ENCROACHMENT :      DECK (OUT TO OUT) : 25.3 FT

CLEAR ROADWAY : 24 FT      BETWEEN RAILS : 25.6 FT      SIDEWALK OR CURB : LT .8 FT RT .8 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. : HS-1      OPE.RTG. : HS-1      CONTR.MEMBER : JOIST INT.      POSTED : SV 17      TTST 24      DATE 09/11/2008

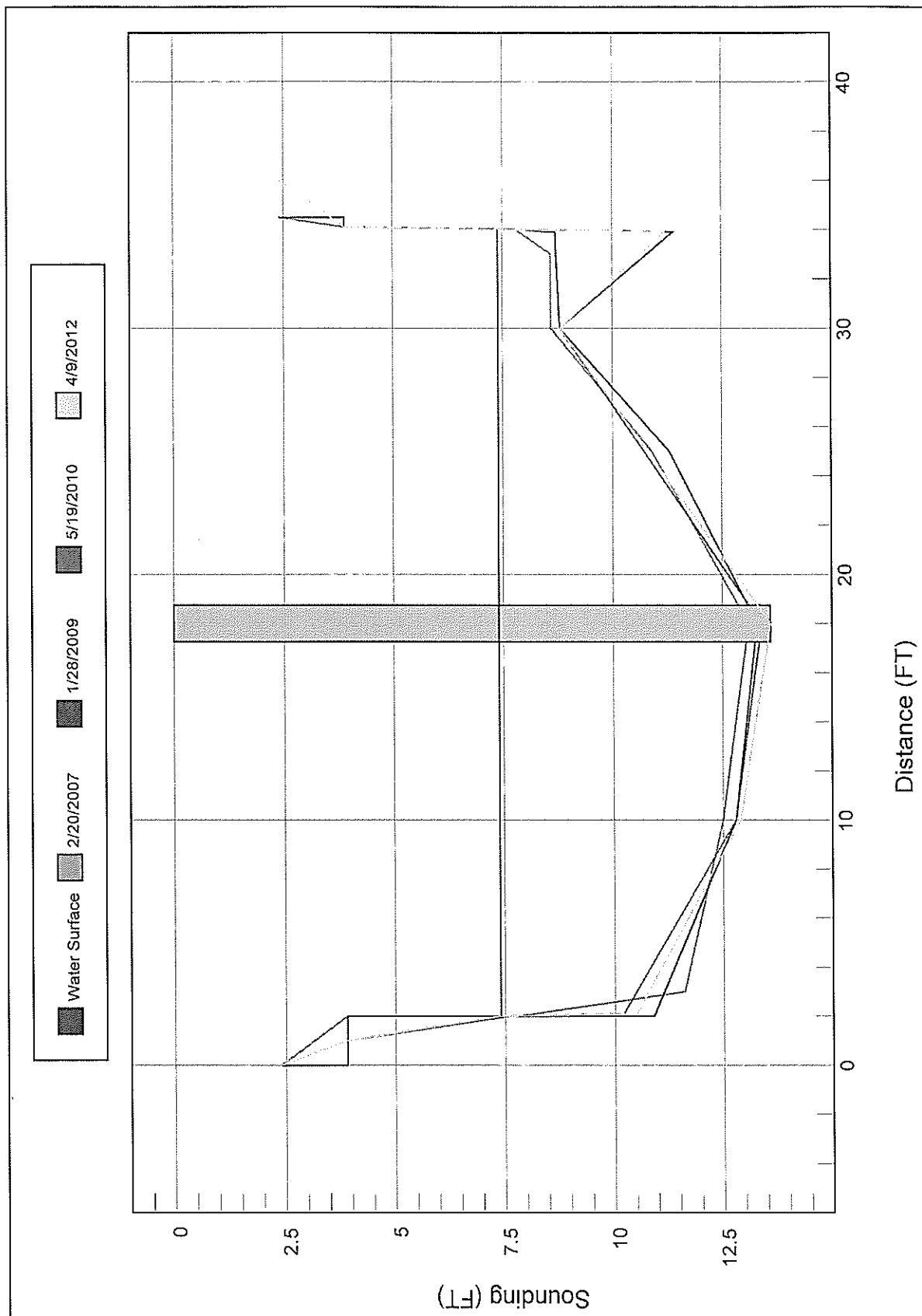
SYSTEM : Secondary S.R. Route      GREEN LINE ROUTE : N

UNDER ROUTES AND CLEARANCES

REMARKS :

**STREAMBED PROFILE (Downstream)**

Top of Rail = 0 FT (Sounding)



## Section 5.0 – Engineering Methods

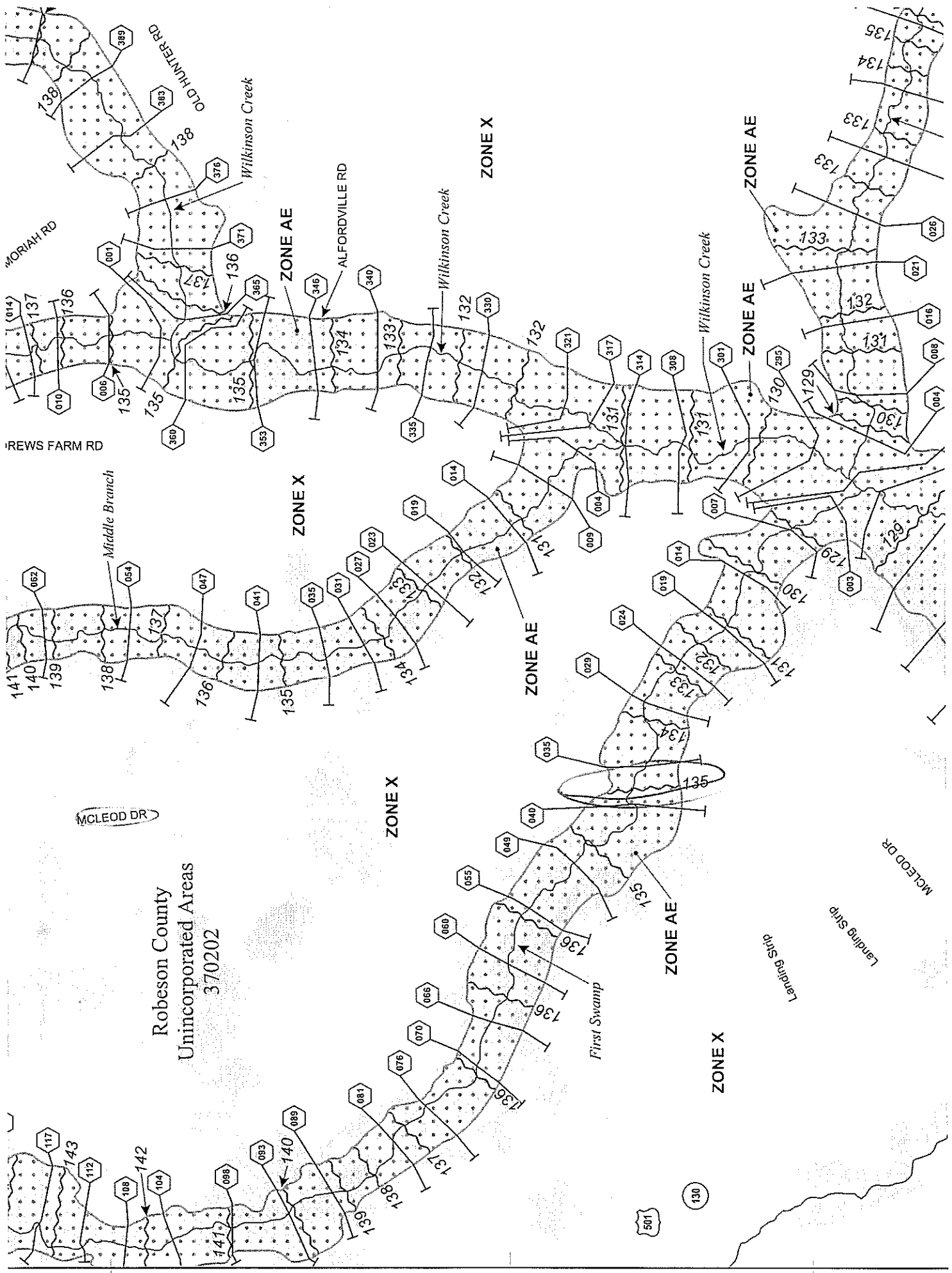
**Table 7—Summary of Discharges**

| Flooding Source                | Location                                                    | Drainage Area (square miles) | Discharges (cfs)  |                  |                  |                    |
|--------------------------------|-------------------------------------------------------------|------------------------------|-------------------|------------------|------------------|--------------------|
|                                |                                                             |                              | 10% Annual Chance | 2% Annual Chance | 1% Annual Chance | 0.2% Annual Chance |
| Crawley Swamp                  | At the confluence with Big Swamp                            | 44.6                         | *                 | *                | 2,000            | *                  |
|                                | At the confluence with Barefoot Swamp                       | 31.7                         | *                 | *                | 1,580            | *                  |
|                                | Approximately 0.8 mile upstream of SR 1100                  | 30.2                         | *                 | *                | 1,530            | *                  |
|                                | Approximately 1.6 miles upstream of SR 1100                 | 21.4                         | *                 | *                | 1,210            | *                  |
| Dunn's Marsh Creek             | At the confluence with Little Marsh Swamp                   | 5.24                         | 231               | 377              | 447              | 652                |
|                                | Approximately 3,100 feet downstream of Carolina Church Road | 4.42                         | 205               | 335              | 398              | 580                |
|                                | At the confluence of Dunn's Marsh Creek Tributary 1         | 2.05                         | 120               | 197              | 234              | 343                |
|                                | At the confluence of Dunn's Marsh Creek Tributary 2         | 0.84                         | 65                | 106              | 127              | 186                |
| Dunn's Marsh Creek Tributary 1 | At the confluence with Dunn's Marsh Creek                   | 2.02                         | 119               | 195              | 232              | 340                |
| Dunn's Marsh Creek Tributary 2 | At the confluence with Dunn's Marsh Creek                   | 0.39                         | 38                | 63               | 75               | 110                |
| First Swamp                    | Approximately 500 miles downstream of McLeod Road           | 9.02                         | *                 | *                | 668              | *                  |
|                                | Approximately 1.0 mile downstream of Midway Road            | 7.26                         | *                 | *                | 575              | *                  |
|                                | Approximately 1,500 feet downstream of Midway Road          | 5.85                         | *                 | *                | 496              | *                  |

## Section 5.0 – Engineering Methods

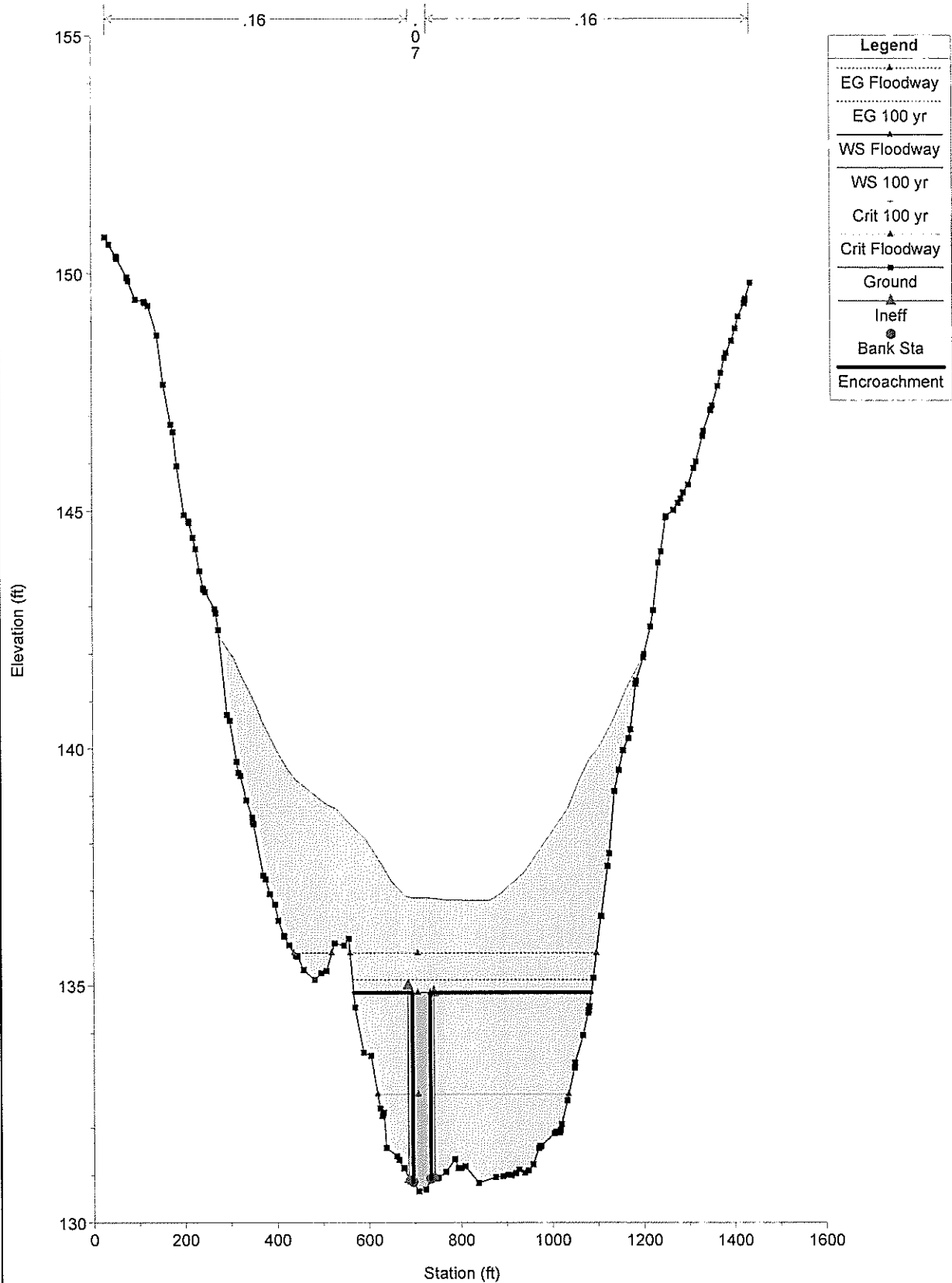
**Table 10—Limited Detailed Flood Hazard Data**

| Cross Section <sup>1</sup>       | Stream Station <sup>2</sup> | Flood Discharge (cfs) | 1% Annual Chance Water-Surface Elevation (feet NAVD 88) | Non-Encroachment Width <sup>3</sup> (feet) |
|----------------------------------|-----------------------------|-----------------------|---------------------------------------------------------|--------------------------------------------|
| <b>COWPEN BRANCH (continued)</b> |                             |                       |                                                         |                                            |
| 031                              | 3,089                       | 295                   | 148.0                                                   | 13 / 13                                    |
| 036                              | 3,566                       | 295                   | 148.8                                                   | 13 / 13                                    |
| <b>COWPEN SWAMP</b>              |                             |                       |                                                         |                                            |
| 001                              | 140 <sup>6</sup>            | 507                   | 79.6                                                    | <sup>5</sup>                               |
| 011                              | 1,148 <sup>6</sup>          | 485                   | 80.5                                                    | <sup>5</sup>                               |
| 015                              | 1,522 <sup>6</sup>          | 485                   | 80.8                                                    | <sup>5</sup>                               |
| 021                              | 2,108 <sup>6</sup>          | 485                   | 81.1                                                    | <sup>5</sup>                               |
| 027                              | 2,701 <sup>6</sup>          | 485                   | 81.3                                                    | <sup>5</sup>                               |
| 028                              | 2,836 <sup>6</sup>          | 485                   | 85.1                                                    | 78 / 27                                    |
| 036                              | 3,641 <sup>6</sup>          | 420                   | 85.1                                                    | 65 / 70                                    |
| 044                              | 4,371 <sup>6</sup>          | 420                   | 85.3                                                    | 30 / 85                                    |
| 044                              | 4,440 <sup>6</sup>          | 420                   | 85.5                                                    | 40 / 49                                    |
| 045                              | 4,462 <sup>6</sup>          | 420                   | 85.8                                                    | 88 / 24                                    |
| 053                              | 5,266 <sup>6</sup>          | 420                   | 86.0                                                    | 45 / 70                                    |
| 060                              | 6,047 <sup>6</sup>          | 420                   | 86.6                                                    | 49 / 25                                    |
| 068                              | 6,764 <sup>6</sup>          | 420                   | 88.7                                                    | 33 / 33                                    |
| 077                              | 7,693 <sup>6</sup>          | 385                   | 90.0                                                    | 45 / 32                                    |
| 085                              | 8,462 <sup>6</sup>          | 385                   | 90.8                                                    | 20 / 20                                    |
| 087                              | 8,652 <sup>6</sup>          | 385                   | 92.2                                                    | <sup>5</sup>                               |
| 091                              | 9,149 <sup>6</sup>          | 385                   | 92.3                                                    | <sup>5</sup>                               |
| 098                              | 9,762 <sup>6</sup>          | 315                   | 92.3                                                    | <sup>5</sup>                               |
| 101                              | 10,112 <sup>6</sup>         | 315                   | 92.4                                                    | <sup>5</sup>                               |
| <b>CRAWLEY SWAMP</b>             |                             |                       |                                                         |                                            |
| 052                              | 5,166                       | 2,004                 | 100.4 <sup>4</sup>                                      | 138 / 798                                  |
| <b>FIRST SWAMP</b>               |                             |                       |                                                         |                                            |
| 003                              | 261                         | 667                   | 129.2 <sup>4</sup>                                      | 234 / 14                                   |
| 007                              | 722                         | 667                   | 129.2 <sup>4</sup>                                      | 114 / 61                                   |
| 014                              | 1,422                       | 667                   | 130.1                                                   | 46 / 160                                   |
| 019                              | 1,943                       | 667                   | 131.1                                                   | 15 / 160                                   |
| 024                              | 2,411                       | 667                   | 132.8                                                   | 19 / 132                                   |
| 029                              | 2,921                       | 667                   | 133.9                                                   | 15 / 102                                   |
| 035                              | 3,536                       | 575                   | 134.5                                                   | 101 / 71                                   |
| 037                              | 3,683                       | 575                   | 134.6                                                   | 20 / 20                                    |
| 038                              | 3,841                       | 575                   | 135.1                                                   | 20 / 20                                    |
| 040                              | 3,984                       | 575                   | 135.1                                                   | 178 / 229                                  |
| 049                              | 4,902                       | 575                   | 135.2                                                   | 165 / 83                                   |
| 055                              | 5,506                       | 575                   | 135.5                                                   | 33 / 153                                   |
| 060                              | 6,048                       | 575                   | 135.8                                                   | 104 / 170                                  |
| 066                              | 6,616                       | 575                   | 136.2                                                   | 59 / 135                                   |
| 070                              | 7,028                       | 575                   | 136.4                                                   | 89 / 126                                   |
| 076                              | 7,644                       | 575                   | 136.7                                                   | 17 / 160                                   |
| 081                              | 8,085                       | 575                   | 137.2                                                   | 95 / 94                                    |
| 085                              | 8,485                       | 575                   | 138.1                                                   | 121 / 14                                   |



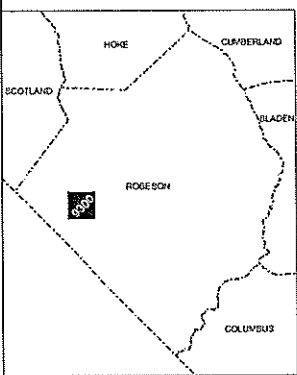
Robeson County  
Unincorporated Areas  
370202

Wilkinson Creek Approximate Study Plan: Plan 02 5/2/2002  
 SR 1122 (Robeson Bridge # 149)





# STATE OF NORTH CAROLINA FIRM PANEL LOCATOR DIAGRAM



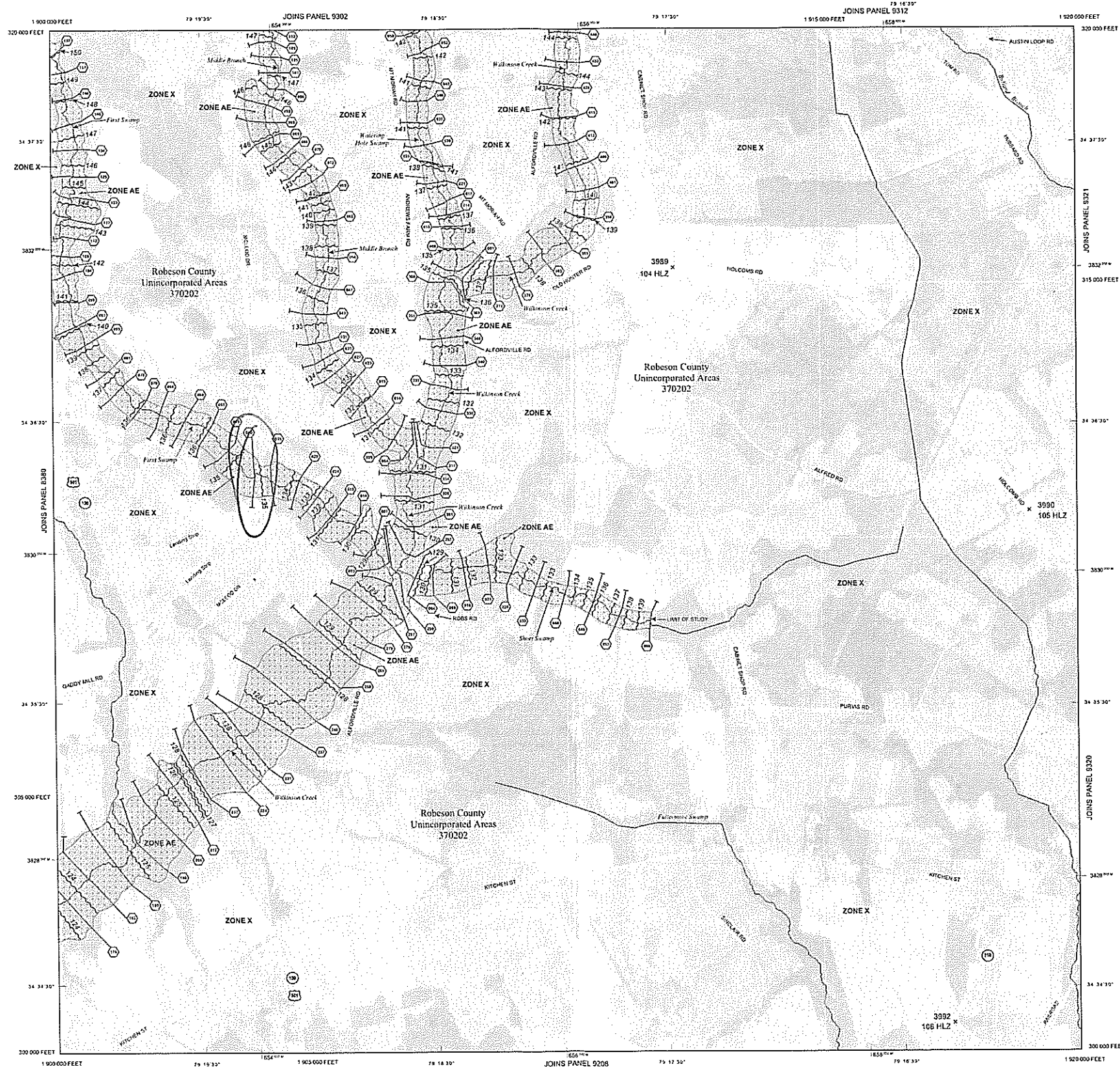
## DATUM INFORMATION

The projection used in the preparation of this map was the North Carolina State Plane (NAD83). The horizontal datum was the North American Datum of 1983 (NAD83). Differences in datum, ellipsoid, projection, or Universal Transverse Mercator zones used in the production of FIRM panels for adjacent jurisdictions may result in slight positional differences in map features across jurisdictional boundaries. These differences do not affect the accuracy of this FIRM. All coordinates on this map are in U.S. Survey Feet, where 1 U.S. Survey Foot = 1200/3937 Meters.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988 (NAVD 88). These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. An average offset between NAVD 88 and the National Geodetic Vertical Datum of 1929 (NGVD 29) has been computed for each North Carolina county. This offset was then applied to the NGVD 29 flood elevations that were not revised during the creation of this statewide format FIRM. The effects for each county shown on this FIRM panel are shown in the vertical datum offset table below. Where a county boundary and a flooding source with unreviewed NGVD 29 flood elevations are coincident, an individual offset has been calculated and applied during the creation of this statewide format FIRM. See Section 1.1 of the accompanying Flood Insurance Study report to obtain further information on the conversion of elevations between NAVD 88 and NGVD 29. To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the North Carolina Geodetic Survey at the address shown below. You may also contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit their website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov).

North Carolina Geodetic Survey  
121 West Jones Street  
Raleigh, NC 27601  
(919) 733-3536  
[www.ncgs.state.nc.us](http://www.ncgs.state.nc.us)

| County Average Vertical Datum Offset Table |                            |
|--------------------------------------------|----------------------------|
| County                                     | Vertical Datum Offset (ft) |
| Robeson                                    | -0.54                      |
| Reference: NAVD 88 = NGVD 29 + (-0.54)     |                            |



## LEGEND

### SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AD, AR, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AD** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of abutment flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently identified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

**FLOODWAY AREAS IN ZONE AE**  
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**  
**ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

**OTHER AREAS**  
**ZONE D** Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**  
**OTHERWISE PROTECTED AREAS (OPAs)**

- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities
- Base Flood Elevation line and value; elevation in feet
- Base Flood Elevation value where uniform within zone; elevation in feet

- Reference to the North American Vertical Datum of 1988
- Cross section line
- Trained line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 2000-meter Universal Transverse Mercator grid zone 17
- 5000-foot grid values. North Carolina State Plane coordinate system (FIPSZONE 3200, State Plane NAD 83 feet)
- 1:477,500 FEET
- BM5510 X
- BM5510 @
- M 15
- River Mile

## GRID NORTH

MAP SCALE 1" = 1000' (1 : 12,000)

500 0 1000 2000 FEET

300 0 300 600 METERS

## NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles, Floodway Data and/or Summary of Subwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for the jurisdictions.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in the jurisdiction.

Base map information and geospatial data used to develop this FIRM were obtained from various organizations, including the participating local community(ies), state and federal agencies, and/or other sources. The primary base for this FIRM is aerial imagery acquired as part of the National Digital Orthophoto Program. The time period of collection for the imagery is 1993-1999. Information and geospatial data supplied by the local community(ies) that met FEMA base map specifications were considered the preferred source for development of the base map. See geospatial metadata for the associated digital FIRM for additional information about base map preparation.

Base map features shown on this map, such as corporate limits, are based on the most up-to-date data available at the time of publication. Changes in the corporate limits may have occurred since the map was published. Map users should consult the appropriate community official or website to verify current conditions of jurisdictional boundaries and base map features.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contain authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program website for each community as well as a listing of the panels on which each is located.

If you have questions about this map, or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-335-2627) or visit the FEMA website at [www.fema.gov](http://www.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 [www.ncfloodmaps.com](http://www.ncfloodmaps.com), or contact the FEMA Map Service Center at 1-800-358-9816 for information on all related products associated with this FIRM. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9820 and their website at [www.fema.com](http://www.fema.com).

## MAP REPOSITORY

Refer to Listing of Map Repositories on Map Index or visit [www.ncfloodmaps.com](http://www.ncfloodmaps.com)

EFFECTIVE DATE OF FLOOD INSURANCE RATE MAP PANEL JANUARY 19, 2005

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to statewide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent, the North Carolina Division of Emergency Management or the National Flood Insurance Program at the following phone numbers or websites:

NC Division of Emergency Management (919) 715-8000 [www.nfep.ncem.org](http://www.nfep.ncem.org)

National Flood Insurance Program 1-800-638-6629 [www.fema.gov/nfip](http://www.fema.gov/nfip)

## PANEL 9300J

### FIRM FLOOD INSURANCE RATE MAP NORTH CAROLINA

PANEL 9300  
SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT

COMMUNITY  
ROBESON COUNTY

NUMBER  
37102

PANEL  
9300

REPLY  
J

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

EFFECTIVE DATE  
JANUARY 19, 2005

MAP NUMBER  
3710930000J



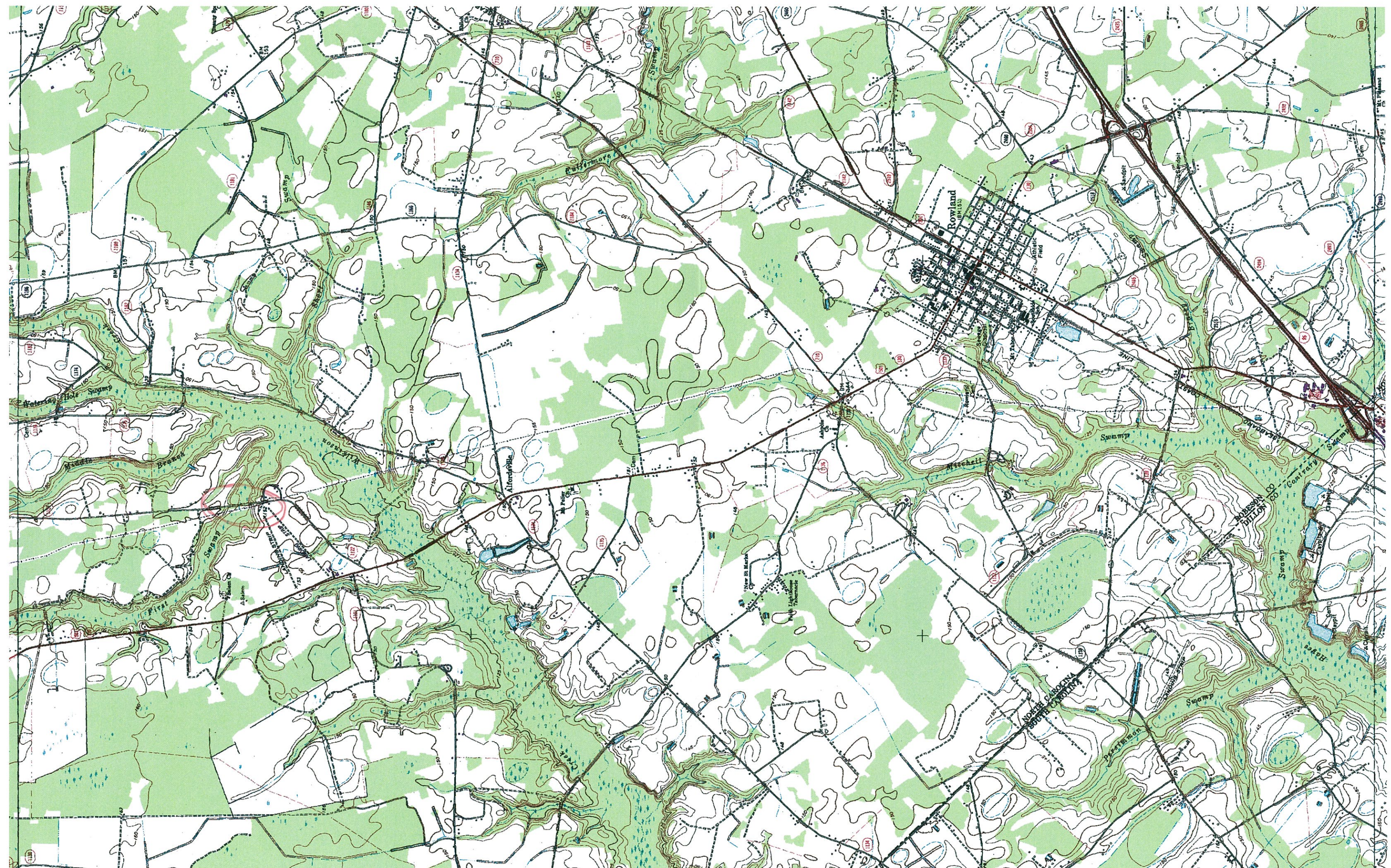
State of North Carolina  
Federal Emergency Management Agency



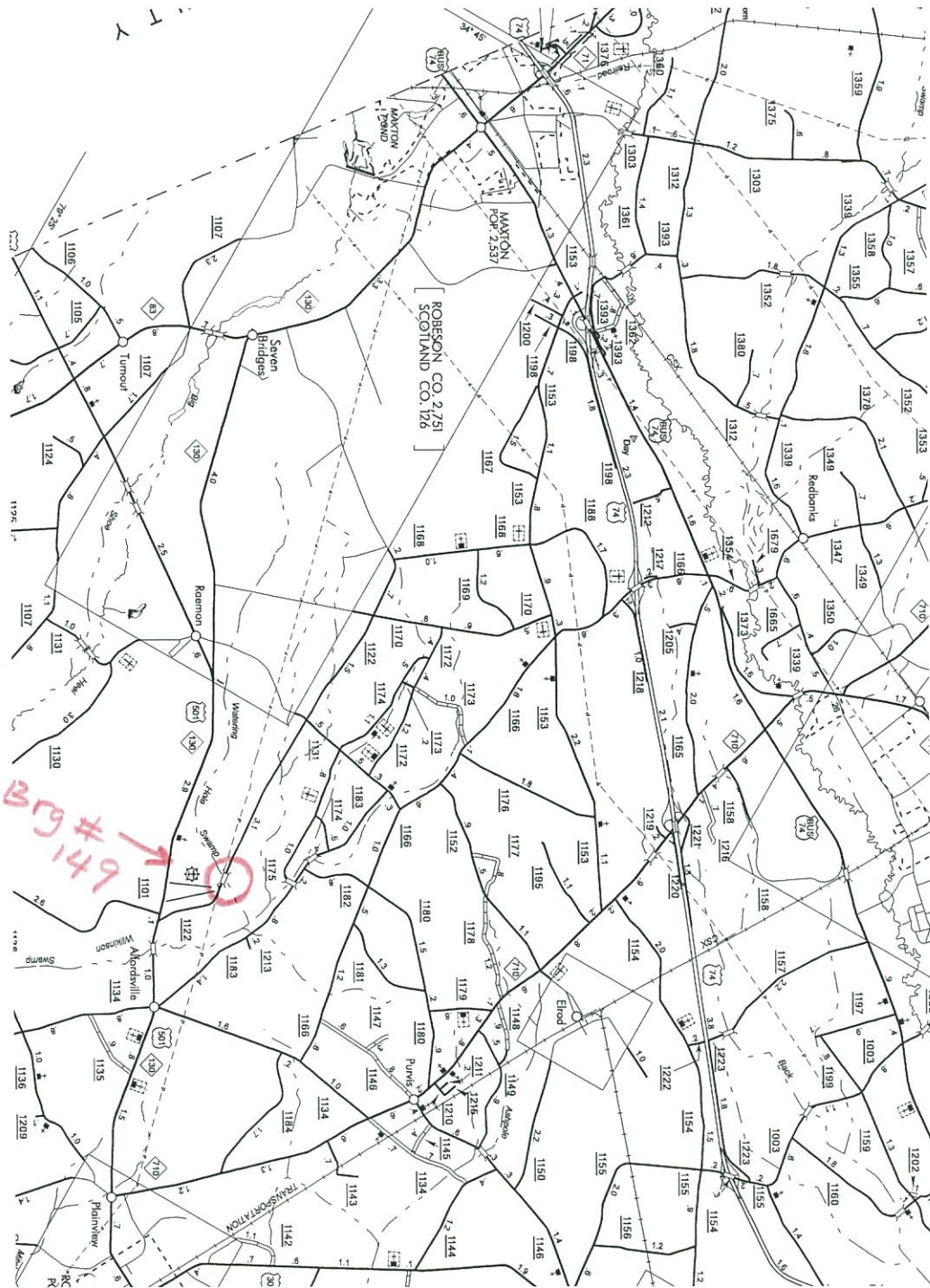
This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long term approach of floodplain management to decrease the costs associated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

[www.ncfloodmaps.com](http://www.ncfloodmaps.com)









*North Carolina StreamStats***Basin Characteristics Report**

Date: Mon Jul 1 2013 09:16:48 Mountain Daylight Time

NAD27 Latitude: 34.6047 (34 36 17)

NAD27 Longitude: -79.3191 (-79 19 09)

NAD83 Latitude: 34.6049 (34 36 18)

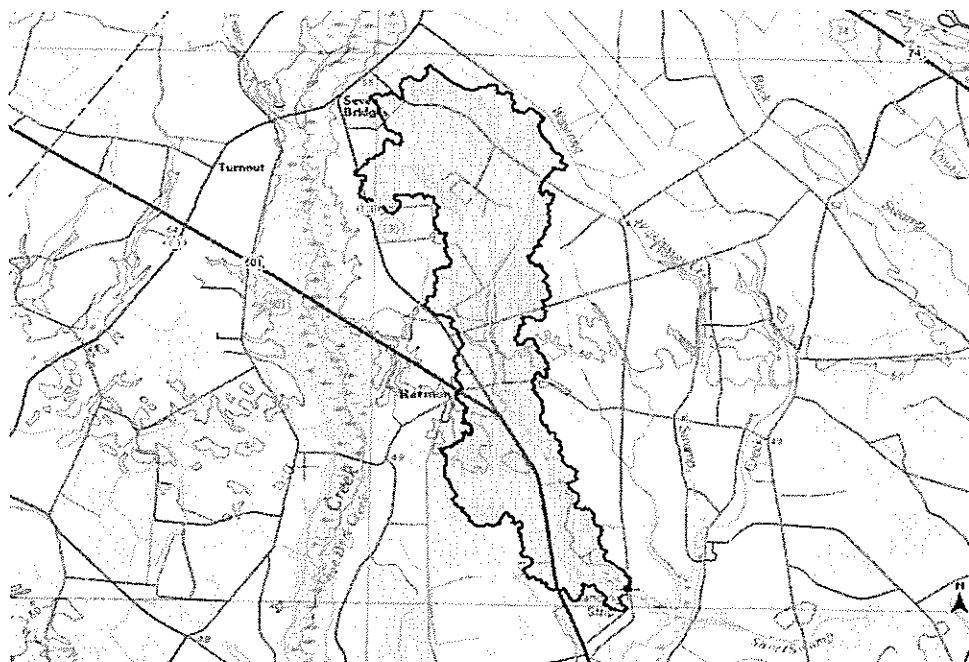
NAD83 Longitude: -79.3189 (-79 19 08)

| Parameter                                                         | Value |
|-------------------------------------------------------------------|-------|
| Area in square miles                                              | 6.33  |
| 10-85 slope in feet per mile based on preprocessed elevation data | 7.07  |
| Percent of area covered by barren rock using 1992 NLCD            | 0.000 |



North Carolina StreamStats

## StreamStats Print Page



## Explanation

- ✚ GlobalWatershedPoint
- SpotGagePoint
- ⊛ NCDOT Points
- △ LocalGages
- ▲ Gaging Station, Continuous Record
- Low Flow, Partial Record
- ▲ Peak Flow, Partial Record
- ▲ Peak and Low Flow, Partial Record
- ▲ Stage Only
- ▲ Low Flow, Partial Record, Stage
- ▲ Miscellaneous Record
- ▲ Unknown
- LocalHHD2
- LongestFlowpathHHD
- Stream Grid
- GlobalWatershed
- Pilot Study Area
- hucpoly

7/1/2013 9:17:57 AM