

Min. Brg = 81'

213

not work
Friday

PREDESIGN-PRESURVEY REPORT

Project# _____
TIP# _____
Let Date _____
WBS# _____

County Columbus

Bridge# 118
Road# SR 1317 (Chadbourne)
Stream Gum Swamp, Clarendon Rd

Type Of Request: POC Force Account TIP NCMA

Date _____ Name _____ Assigned To _____

Checked By _____

Prior Survey Date _____ (attach copy of prior survey)

Study By Scour Section _____

Flood Zone Yes Detail Study Limited Date June 2, 2006 Panel# 0146

B.M. Info _____

Quad Map Tabor City E Drainage Area 3.44 From DASS
Q25 520 Q50 650 Q100 800 Method USGS-Rural Regression Eqn

FIS Q100 = 890 Region 4 coastal plain

EXISTING BRIDGE INFORMATION

Location 0.3 mi N Jct SR 1314
Average Daily Traffic 690 (2011)
Length 35' Bed- To Crown 9' Water Depth 2'
Type Structure RC Floor/Timber Joist (BMD-10)
Type Spans 2 @ 17'8"
Upstream Structure Brg # 114
Location _____

Bed- To Crown _____ Prior Survey _____

Downstream Structure _____

Location _____

Bed- To Crown _____ 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. Lumber



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION TEMP REPAIRS: ENCASED PILES

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY COLUMBUS BRIDGE NUMBER 230118 INSPECTION CYCLE 2 YRS
ROUTE SR1317 ACROSS GUM SWAMP M.P. 0

LOCATION 0.3 MI N JCT SR1314

SUPERSTRUCTURE RC FLOOR/TIMBER JOIST (BMD-10)

SUBSTRUCTURE EBTS&IBT:TIMBER CAP/TIMBER PILES @ VAR.CTS.

SPANS 2@17'8

LONGITUDE 78° 50' 37.71"

LATITUDE 34° 12' 54.51"

PRESENT CONDITION FAIR

INVENTORY RATING

INSPECTION DATE 08/15/2012

OPERATING RATING

PRESENT POSTING SV 20 TTST 29 SV 20 TTST 29

PROPOSED POSTING

COMPUTER UPDATE

ANALYSIS DATE

POSTING LETTER DATE

SUFFICIENCY RATING

OTHER SIGNS PRESENT 4 DELINEATORS



LOOKING SOUTH (CLARENDON CHADBURN ROAD)

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: 09/10/2012

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
COLUMBUS	6	3	230118	35	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1317	GUM SWAMP

LOCATED :	BRIDGE NAME :	CITY :
0.3 MI N JCT SR1314		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
08	NFA	NFA	690 2011	LT 241 RT 241

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1956	BMU			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		9 FT		2 FT	

SUPERSTRUCTURE : RC FLOOR/TIMBER JOIST (BMD-10)

SUBSTRUCTURE : EBTS&IBT:TIMBER CAP/TIMBER PILES @ VAR.CTS.

SPANS : 2@17'8

BEAMS OR GIRDERS : 19 LINES 6X12 TIMBER JOIST @1'4.25 CTS.

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
5 RC/1.5 AWS		25.33 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
24 FT	25.5 FT	LT .75 FT RT .75 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	32	DATE	09/10/2012
HS-1	HS-1	int.joist	SV 22				

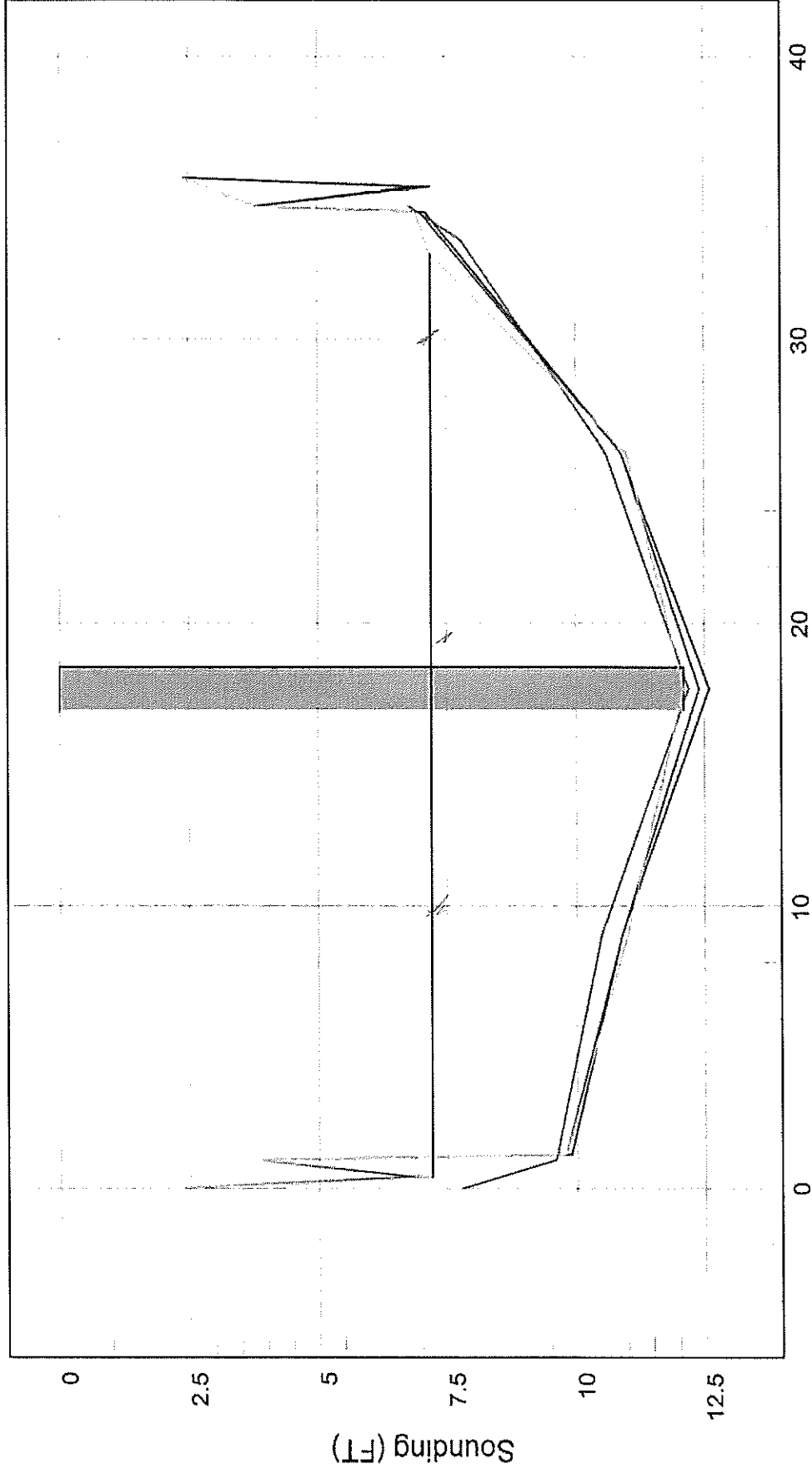
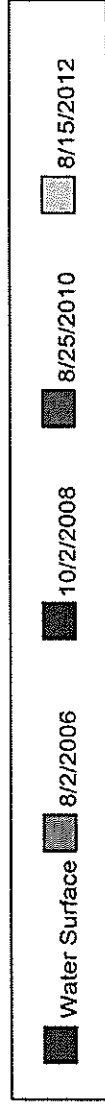
SYSTEM :	GREEN LINE ROUTE :
Secondary S.R. Route	N

UNDER ROUTES AND CLEARANCES

REMARKS :

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



$$9.5 \times 1.5 = 14.25 \times 2 = 28.5 + 20 + 33 = 81.5$$

Section 5.0 – Engineering Methods

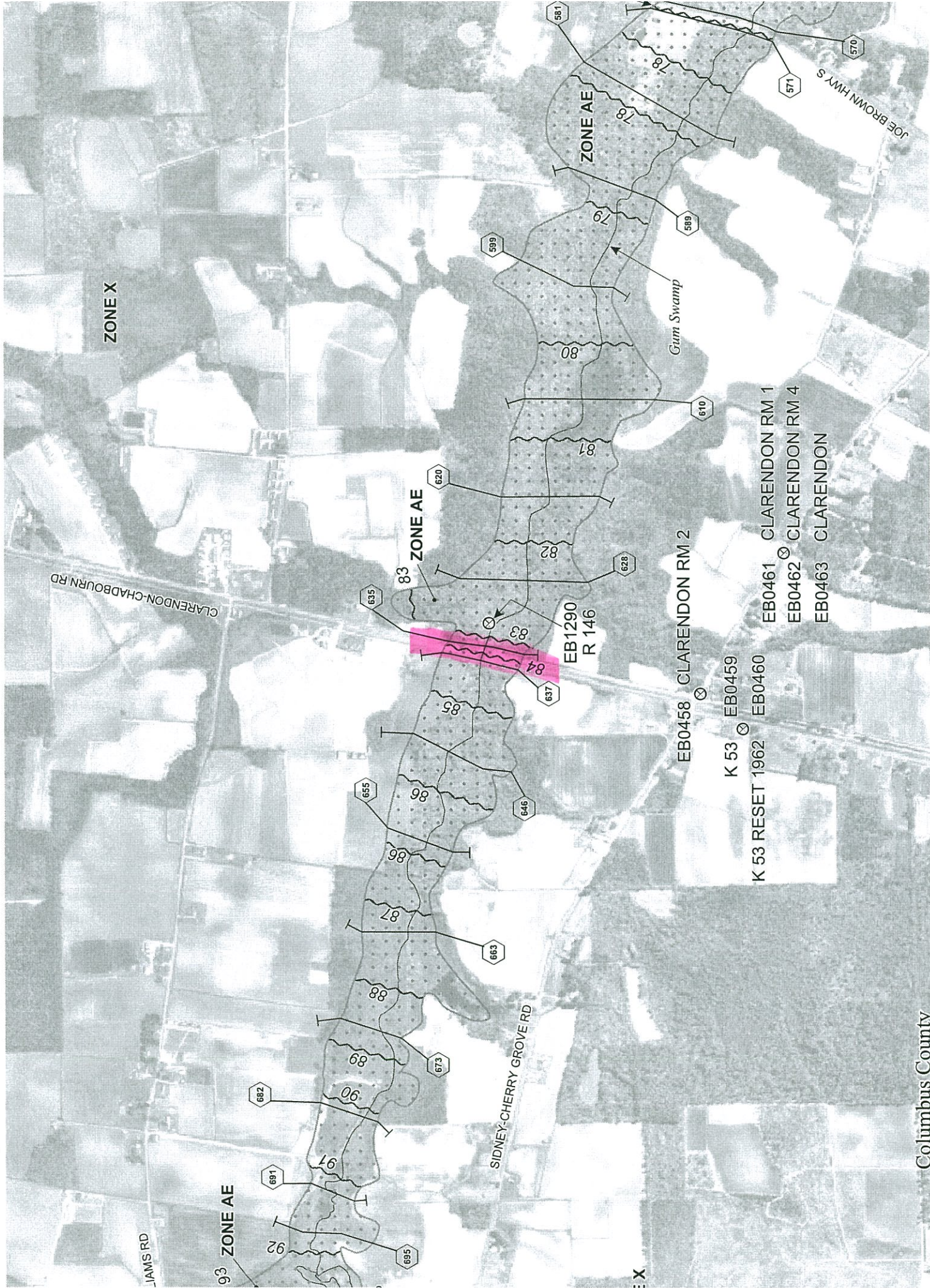
Table 7—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gum Swamp (continued)	Approximately 4,600 feet downstream of US HWY 701	14.7	*	*	2,030	*
	Approximately 1,000 feet downstream of Peacock Road	10.9	*	*	1,710	*
	Approximately 4,500 feet downstream of NC HWY 410	8.82	*	*	1,510	*
	Approximately 800 feet downstream of NC HWY 410	6.59	*	*	1,280	*
	Approximately 800 feet downstream of Chadbourne Clarendon Road	5.25	*	*	1,130	*
	Approximately 5,600 feet downstream of Old Stake Road	3.50	*	*	890	*
	Approximately 400 feet downstream of Old Stake Road	2.11	*	*	670	*
Honey Island Swamp	Approximately 17,300 feet downstream of Tram Road	30.9	*	*	3,110	*
	Approximately 9,950 feet downstream of Tram Road	29.4	*	*	3,020	*
	Approximately 9,850 feet downstream of Tram Road	26.3	*	*	2,830	*
	Approximately 1,950 feet downstream of Tram Road	25.7	*	*	2,790	*

Section 5.0 – Engineering Methods

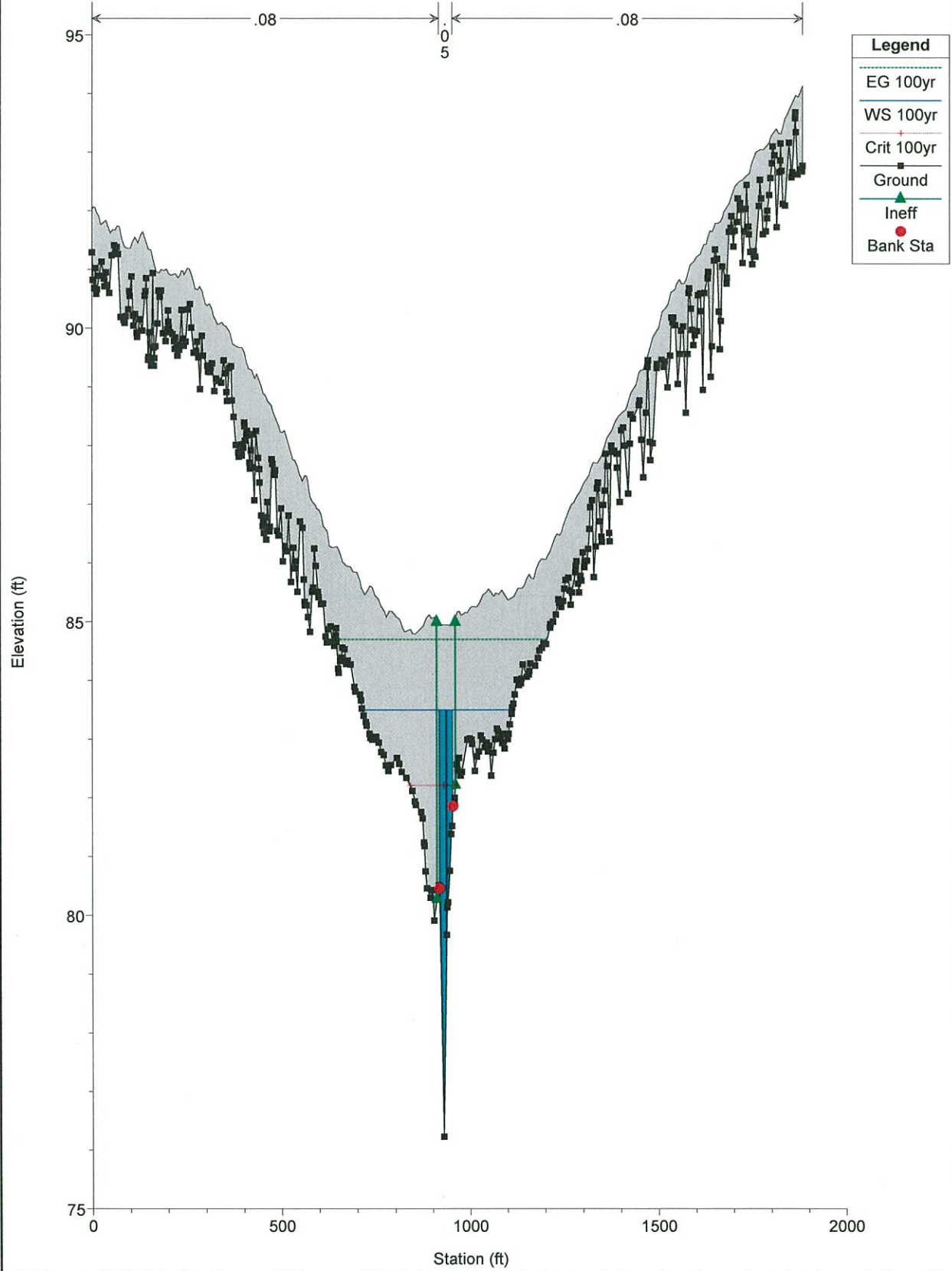
Table 10—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
GUM SWAMP (continued)				
495	49,475	1,510	69.5	5
499	49,902	1,510	69.9	5
504	50,377	1,510	70.2	5
508	50,816	1,510	70.6	5
512	51,184	1,510	71.2	5
516	51,582	1,510	72.0	5
519	51,948	1,510	72.5	5
523	52,341	1,510	72.8	5
527	52,703	1,510	73.1	5
531	53,082	1,280	73.4	5
535	53,509	1,280	73.6	5
539	53,906	1,280	73.9	5
544	54,359	1,280	74.3	5
548	54,767	1,280	74.8	5
552	55,182	1,280	75.3	5
557	55,673	1,280	75.7	5
563	56,295	1,280	76.3	5
567	56,679	1,130	76.6	5
570	57,017	1,130	76.9	5
571	57,127	1,130	77.6	5
577	57,734	1,130	77.8	5
581	58,118	1,130	77.9	5
585	58,492	1,130	78.2	5
589	58,929	1,130	78.8	5
594	59,400	1,130	79.2	5
599	59,893	1,130	79.5	5
604	60,434	1,130	80.0	5
610	60,953	1,130	80.6	5
616	61,580	1,130	81.1	5
620	61,982	1,130	81.5	5
624	62,410	1,130	81.9	5
628	62,796	1,130	82.5	5
632	63,158	890	82.8	5
635	63,535	890	83.1	5
636	63,608	890	84.4	5
636	63,615	890	84.5	5
636	63,622	890	84.6	5
637	63,666	890	85.1	5
641	64,069	890	85.3	5
646	64,574	890	85.5	5
650	65,024	890	85.6	5
655	65,458	890	85.8	5
659	65,900	890	86.4	5

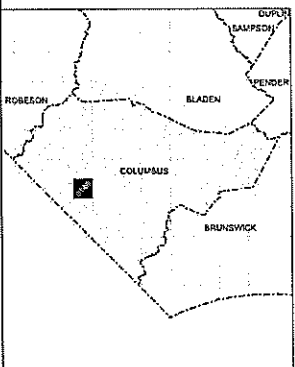


EB0458 CLARENDON RM 2
K 53 EB0459
K 53 RESET 1962 EB0460
EB0461 CLARENDON RM 1
EB0462 CLARENDON RM 4
EB0463 CLARENDON

Gum Plan: Gum Swamp Plan 11/5/2002
SR 1317 -- Columbus County Bridge #118



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 (FIPS ZONE 3200). The horizontal datum was the North American Datum of 1983, GRS80 ellipsoid. Differences in datum, ellipsoid, projection, or Universal Transverse Mercator zones used in the production of FIRMs 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 offsets 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 unrevised NGVD 29 flood elevations are coincident, an individual offset has been calculated and applied during the creation of this statewide format FIRM. See Section 6.1 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 its website at www.ngs.noaa.gov.

North Carolina Geodetic Survey
121 West Jones Street
Raleigh, NC 27601
(919) 733-3936
www.ncgs.state.nc.us

County	Average Vertical Datum Offset Table
COLUMBUS	0.00
BRUNSWICK	0.00
ROBERTSON	0.00
BLADEN	0.00



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 floodway areas have been determined, users are encouraged to consult the Flood Profiles, Floodway Data, Limited Detailed Flood Hazard Data, and/or Summary of Subwater Deviations 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 regulatory floodways shown on the FIRM for flooding sources studied by detailed methods 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 for flooding sources studied by detailed methods as well as non-engineered floodways for flooding sources studied by limited detailed methods are provided in the Flood Insurance Study report for the jurisdiction. The FIS report also provides instructions for determining a floodway using non-engineered floodways for flooding sources studied by limited detailed methods.

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 the 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 by Columbus County. The time period of collection for the imagery is 1997. 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 this 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 may contain roads that were not considered in the hydraulic analysis of streams where no new hydraulic model was created during the production of this statewide format FIRM.

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 dates 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 (1-877-336-6227) or visit the FEMA website at www.fema.gov.

An accompanying Flood Insurance Study report, Letter of Map Revision (LOMR) or Letter of Map Amendment (LOMA) revising portions of the panel and digital versions of this FIRM may be available. Visit the North Carolina Floodplain Mapping Program website at www.ncfloodmaps.com or contact the FEMA Map Service Center at 1-800-358-9616 for information on all related products associated with this FIRM. The FEMA Map Service Center may also be reached by Fax at 1-800-358-0620 and its website at www.fema.gov/mfsc.

MAP REPOSITORY

Refer to listing of Map Repositories on Map Index or visit www.ncfloodmaps.com.

EFFECTIVE DATE OF FLOOD INSURANCE RATE MAP PANEL

JUNE 2, 2006

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.ncdemon.state.nc.us

National Flood Insurance Program
1-800-438-6420 www.fema.gov/nfip

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, AO, A1, A2, 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 AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of shallow flood, 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 deteriorated. 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 X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE O 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 defining Special Flood Hazard Zones and boundary defining 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

Transect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)

2000-meter Universal Transverse Mercator grid ticks, zone 17

5000-foot grid values North Carolina State Plane coordinate system (FIPS ZONE 3200, State Plane NAD 83 feet)

North Carolina Geodetic Survey bench mark (see explanation in the Datum Information section of the FIS report)

National Geodetic Survey bench mark (see explanation in the Datum Information section of the FIS report)

Water mile



MAP SCALE 1" = 1000' (1 : 12,000)
1" = 1000'
1000
300 0 300 600
METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0146J
FIRM
FLOOD INSURANCE RATE MAP
NORTH CAROLINA

PANEL 0146
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY COLUMBUS COUNTY
CENSUS PANEL 270305 0146
SUFFIX J

EFFECTIVE DATE
JUNE 2, 2006
MAP NUMBER
3720014600J

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

