

Hydraulics Unit Pre-Design Report (Pre-Scoping) for Structure #: 250211

Date:

County: Stream:
Road #: Road Name:
Division: Location:
Latitude: Longitude: Decimal degrees, a min of 5 decimal points

Assigned to:
Prepared By:
Hydro Reviewer:
Project Type:

Existing Structure

Structure Type: Yr Built:
Span Arrangement: OAL (ft): Skew: Abutment Type:
Number of Barrels: @ Span (ft): x Rise (ft):
Bed to Crown (ft): Clear Roadway (ft): Water Depth (ft): Superstructure Depth:
ADT: Year ADT: Scour Code (item113): Prior Survey Completed: Survey Date:
Drainage Area: Sq. Mi. Drainage Area Source: Roadway Overtops at Q100:
Discharge Method: USGS Region: Stream Gage Number(if applicable):
Q10 (cfs): Q25 (cfs): Q50 (cfs): Q100 (cfs): QBFE (cfs):
Structure in Flood Hazard Zone: Panel #: Panel Date: Type of FIS: Date of FIS:

Enviromental

Quad Map: ~~FARMVILLE~~ **FAIETTEVILLE** River Basin: 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 Environmental Concern
☐ CAMA County ☐ Federal Wild & Scenic Rivers
☐ HSB Required ☐ NC Natural & Scenic Rivers
☐ Impaired [303d] ☐ Primary Nursery Area
☐ TVA ☐ Designated Shellfish Harvesting Area
☐ Designated Public Mountain Trout Waters

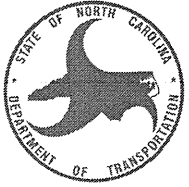
Up/Down Stream Features

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



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURE MANAGEMENT UNIT

ATTENTION: CITY OF FAYETTEVILLE MUNICIPAL STRUCTURE,
PRIORITY MAINT ITEMS ISSUED ON PILES AT END
BENTS 1 AND 2 AND BENT 1 AND BENT 2

Structure Safety Report

Routine Element Inspection - Contract

COUNTY: CUMBERLAND STRUCTURE NUMBER: 250211 FREQUENCY: 24 MONTHS

FACILITY CARRIED: LOUISE ST. MILE POST:

LOCATION: 0.14 MI.W.JCT.US401B

FEATURE INTERSECTED: BEAVER CREEK

LATITUDE: 35° 2' 50.35" 35.04732 LONGITUDE: 78° 58' 47.62" -78.97989.

SUPERSTRUCTURE: PRESTRESSED CONCRETE CHANNELS STD BMD-13 & BMD-13-1

SUBSTRUCTURE: E.BTS & BTS:PPC CAPS/TIMBER PILES @ 5'-8 CENTERS

SPANS: 1 @ 30'-8, 1 @ 30'-1, 1 @ 30'-9

☐ FRACTURE CRITICAL ☐ TEMPORARY SHORING ☐ SCOUR CRITICAL ☐ SCOUR PLAN OF ACTION

PRESENT CONDITION: Poor INSPECTION DATE: 01/20/2016

POSTED SV: 24 17 POSTED TTST: 31 21

OTHER SIGNS PRESENT: 4 DELINEATORS



Sign noticed issued for		Number Required
NO	WEIGHT LIMIT	<u>0</u>
NO	DELINEATORS	<u>0</u>
NO	NARROW BRIDGE	<u>0</u>
NO	ONE LANE BRIDGE	<u>0</u>
NO	LOW CLEARANCE	<u>0</u>

LOOKING EAST

INSPECTED BY RD WILLIAMS	SIGNATURE <i>RD Williams</i>	ASSISTED BY CARLTON ADAMS
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BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 07/21/2016

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :
CUMBERLAND	6	2	250211	91 FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
LOUISE ST.	BEAVER CREEK

LOCATED :	BRIDGE NAME :	CITY :
0.14 MI.W.JCT.US401B		FAYETTEVILLE

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
19	NFA	NFA	2200 2012	LT 233 RT 233

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1966	BMU	5.4451		Unknown

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

NAVIGATION :	VC	0	FT	HC	0	FT	HT. CRN. TO BED :	13	FT	WATER DEPTH :	2	FT
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SUPERSTRUCTURE : PRESTRESSED CONCRETE CHANNELS STD BMD-13 & BMD-13-1

SUBSTRUCTURE : E.BTS & BTS:PPC CAPS/TIMBER PILES @ 5'-8 CENTERS

SPANS : 1@30'-8",1@30'-1",1@30'-9"

BEAMS OR GIRDERS : 12 LINES PRESTRESSED CONCRETE CHANNEL SECTIONS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
PPC.CS/2. 875"AWS		31 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
29.5 FT	30.417 FT	LT .5 FT RT .5 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	31	DATE	03/11/2014
HS-13	HS-23	PILE, TIM.	SV 24				

SYSTEM :	GREEN LINE ROUTE :
Non-System Municipal roads or other non-system not in contact with State System	N

UNDER ROUTES AND CLEARANCES

REMARKS :

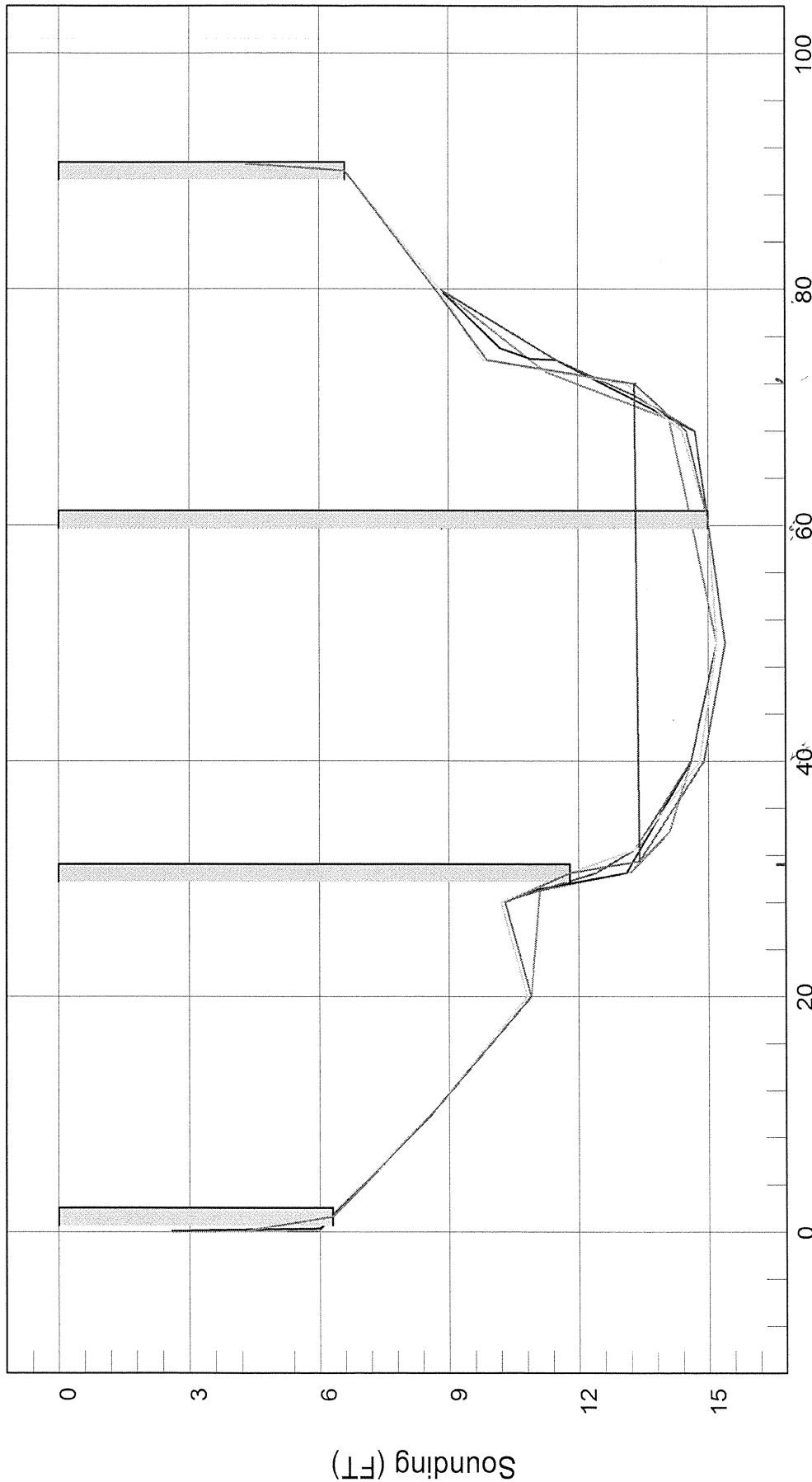
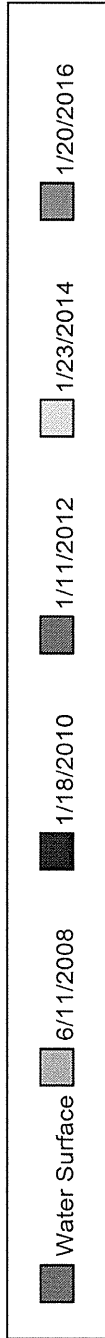
Bridge: 250211

County CUMBERLAND

Date: 01/20/2016

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



Distance (FT)

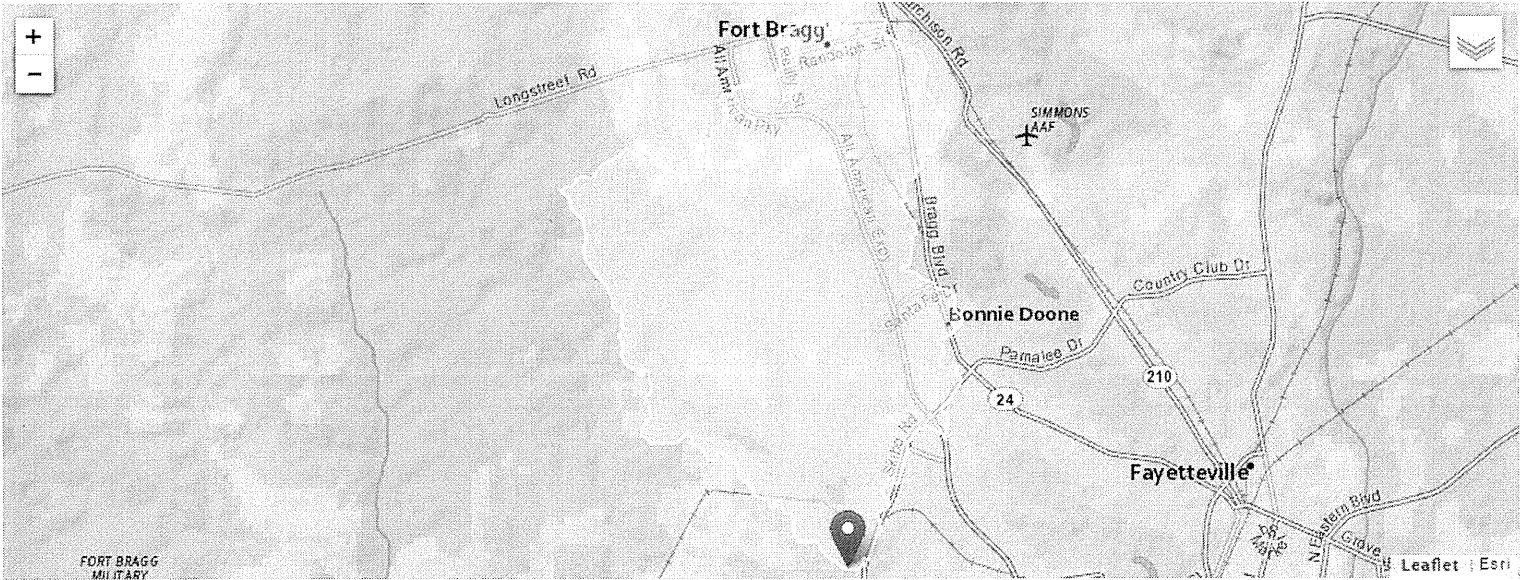
$$13 \times 1.5 = 19.5 \times 2 = 39 + 20 + 40 = 99.$$

Some comments here

StreamStats Report

Region ID:
Workspace ID:
Clicked Point (Latitude, Longitude):
Time:

NC
NC20180627170155730000
35.04735, -78.97990
2018-06-27 13:02:11 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	23.6	square miles
I24H50Y	Maximum 24-hour precipitation that occurs on average once in 50 years	7.44	inches
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	20.9	percent

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURE MANAGEMENT UNIT

ATTENTION: PRIORITY MAINTENANCE FOR EAST APPROACH,
CHANGE TO STRUCTURE DATA

Structure Safety Report

Routine Element Inspection - Contract

COUNTY: CUMBERLAND STRUCTURE NUMBER: 250071 FREQUENCY: 24 MONTHS

FACILITY CARRIED: SR 1400 MILE POST:

LOCATION: 0.1 MI. E. OF JCT. SR3193

FEATURE INTERSECTED: BEAVER CREEK

LATITUDE: 35° 3' 32.94" LONGITUDE: 78° 58' 52.1"

SUPERSTRUCTURE: RC FLOOR & PPC PANELS ON PPC GIRDERS

SUBSTRUCTURE: EBTS&IBTS:RC CAPS ON PPC PILES@VAR. CENTERS

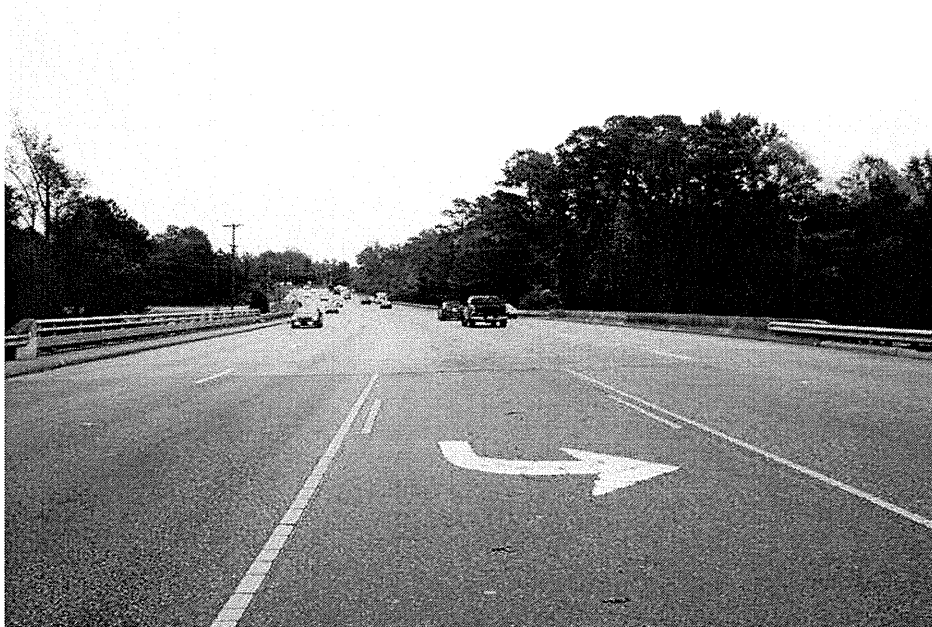
SPANS: 3@42'

☐ FRACTURE CRITICAL ☐ TEMPORARY SHORING ☐ SCOUR CRITICAL ☐ SCOUR PLAN OF ACTION

PRESENT CONDITION: Good INSPECTION DATE: 11/09/2017

POSTED SV: Not Posted POSTED TTST: Not Posted

OTHER SIGNS PRESENT: NONE



LOOKING EAST

Sign noticed issued for		Number Required
<u>NO</u>	WEIGHT LIMIT	<u>0</u>
<u>NO</u>	DELINEATORS	<u>0</u>
<u>NO</u>	NARROW BRIDGE	<u>0</u>
<u>NO</u>	ONE LANE BRIDGE	<u>0</u>
<u>NO</u>	LOW CLEARANCE	<u>0</u>

DIRECTION OF INSPECTION W-E

DIRECTION MATCHES PLANS

INSPECTED BY ALLYSON K. ORR	SIGNATURE <i>Allyson K. Orr</i>	ASSISTED BY WILL KEITH
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Upstream Structure

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 04/19/2018

COUNTY : CUMBERLAND DIVISION : 6 DISTRICT : 2 STRUCTURE NUMBER : 250071 LENGTH : 126 FEET

ROUTE CARRIED : SR 1400 FEATURE INTERSECTED : BEAVER CREEK

LOCATED : 0.1 MI. E. OF JCT. SR3193 BRIDGE NAME : CITY : FAYETTEVILLE

FUNC. CLASS : 16 SYST.ON : FA SYST.UNDER : NFA ADT & YR : 37000 2013 RAIL TYPE : LT 369 RT 41

BUILT : 1993 BY : DOH PROJ : 9.8069739 FED.AID PROJ : DESIGN LOAD : HS 20 + MOD

REHAB : BY : PROJ : ALIGNMENT : LT. SKEW : 90 LANES : ON 5 UNDER 0

NAVIGATION : VC 0 FT HC 0 FT HT. CRN. TO BED : 19 FT WATER DEPTH : 2 FT

SUPERSTRUCTURE : RC FLOOR & PPC PANELS ON PPC GIRDERS

SUBSTRUCTURE : EBTS&IBTS:RC CAPS ON PPC PILES@VAR. CENTERS

SPANS : 3@42'

BEAMS OR GIRDERS : 9 LINES 36" PPC GIRDERS

FLOOR : 8.5 RC/NO AWS ENCROACHMENT : UTILITY S.SIDE DECK (OUT TO OUT) : 71 FT

CLEAR ROADWAY : 64 FT BETWEEN RAILS : 68 FT SIDEWALK OR CURB : LT 4 FT RT 0 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. : HS-26 OPE.RTG. : HS-47 CONTR.MEMBER : PS I-Gir A LR POSTED : SV TTST DATE : 11/03/1994

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

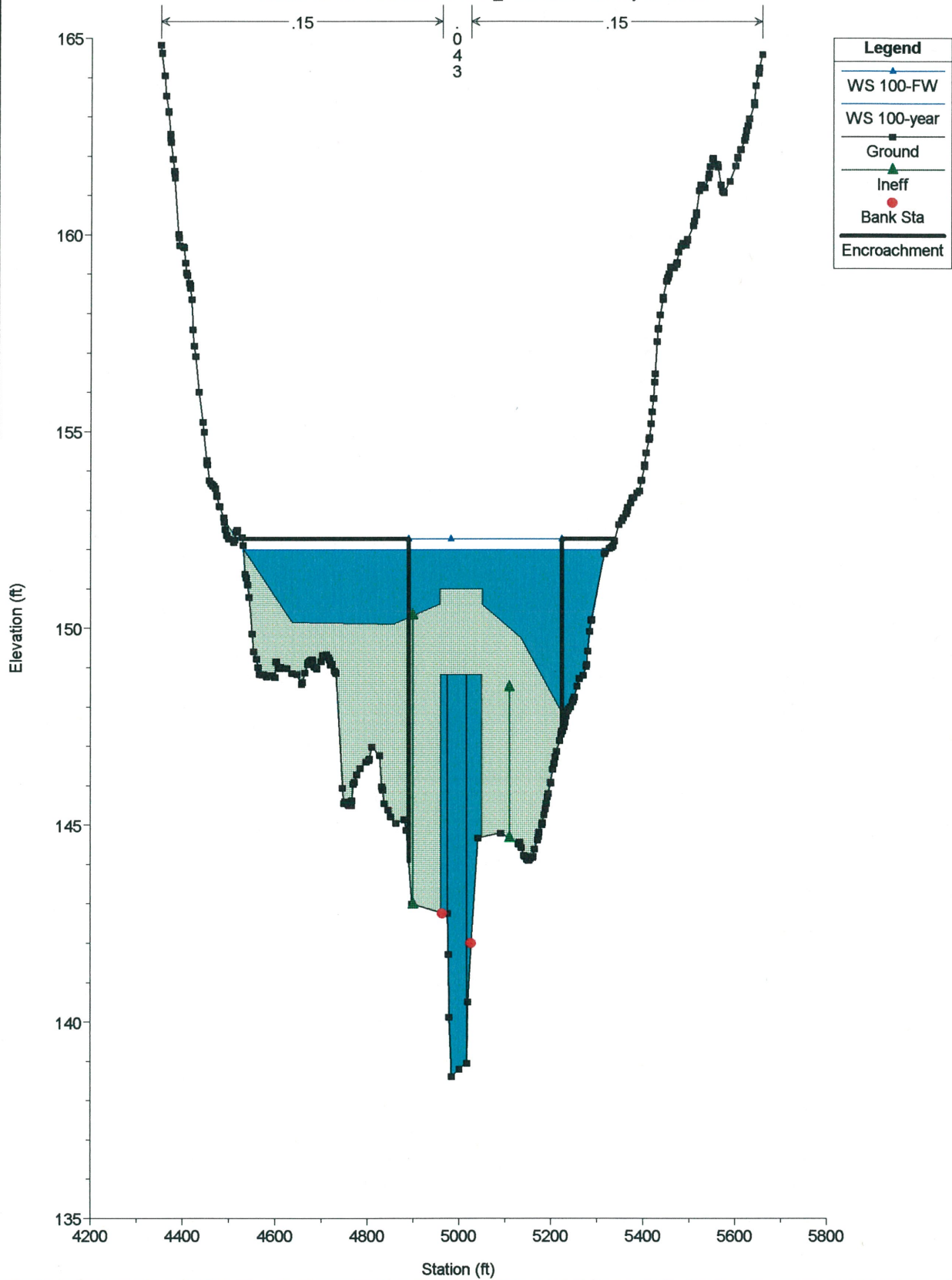
UNDER ROUTES AND CLEARANCES

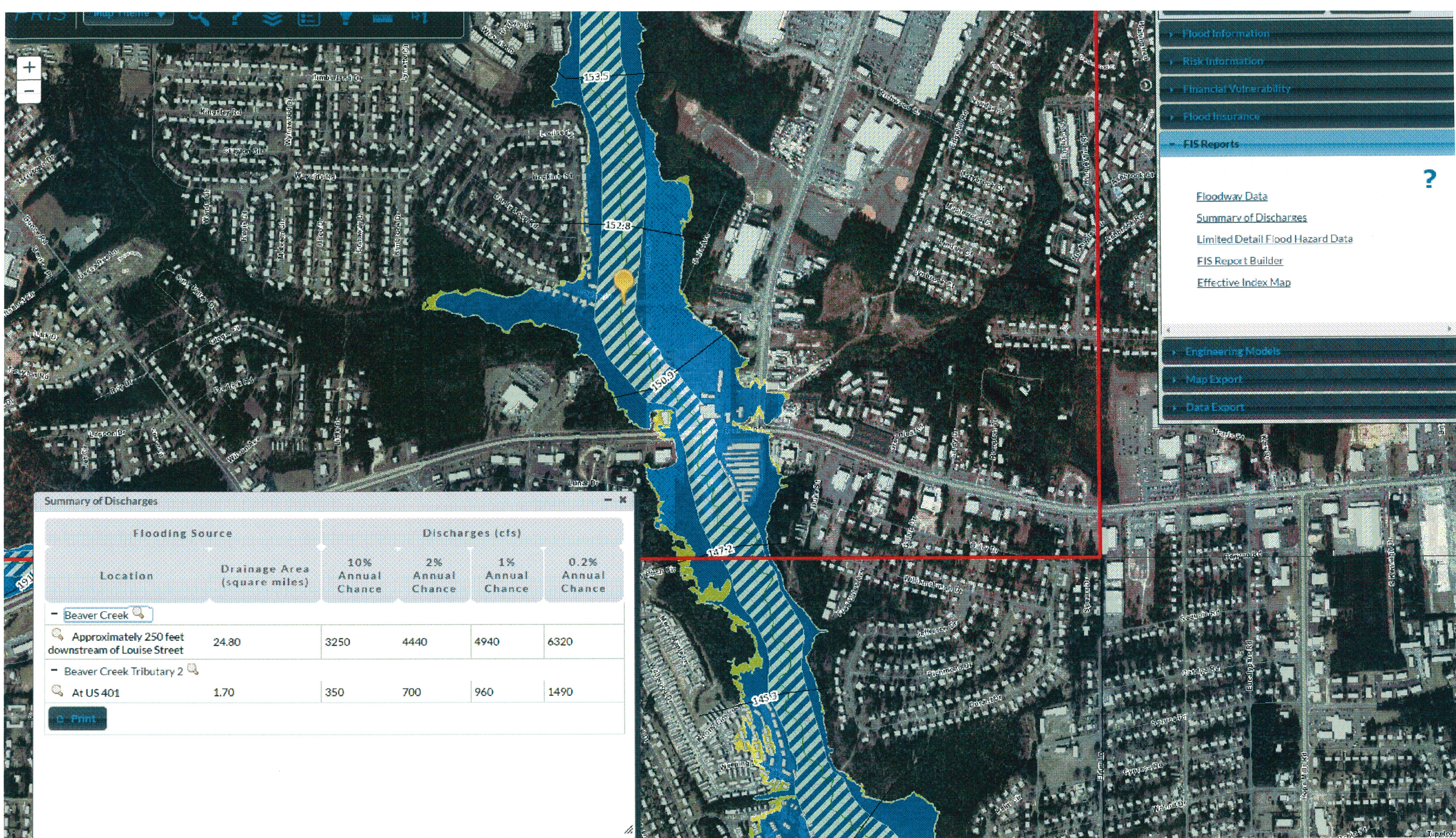
REMARKS :

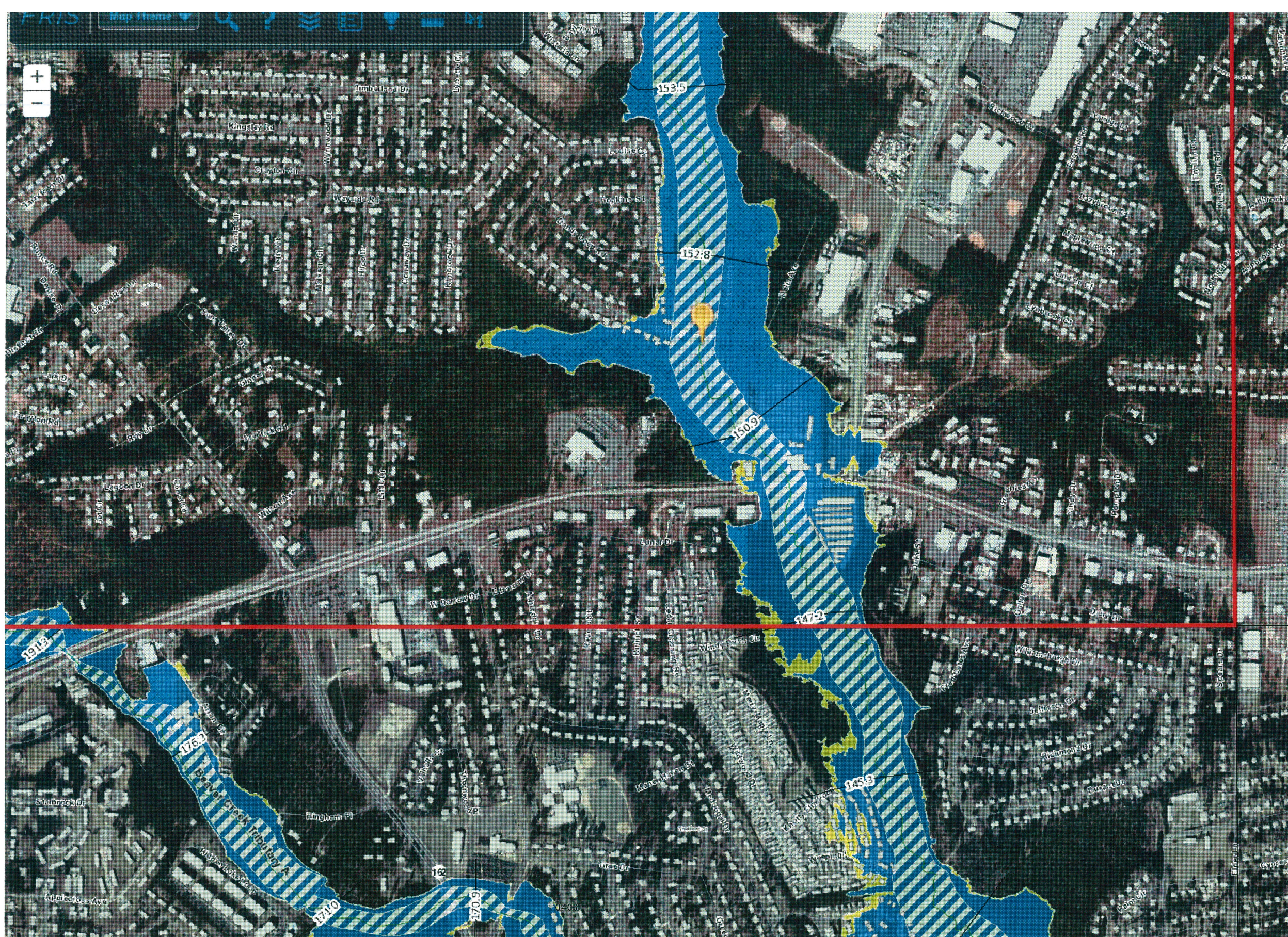
upstream structure.

BeaverCreekADJ Plan: Floodway Run 6/27/2018

Louise St TORStructure ID: STR_130Detailed Survey Structure







Flood Information

[Click the map to view information](#) ?

Map Location

Flood Zone: **AE (Floodway)**

Flood Source: Beaver Creek

Base Flood Elevation: 152 ft [More](#)

County: Cumberland

Political Area: City Of Fayetteville

CID: 370077

Panel: 0407 [Download](#)

Map Number: 3720040700J

Panel Effective Date: 1/5/2007

Latitude: 35.04735

Longitude: -78.97988

[Address locations are approximate.](#)
6000-6098 Louise St, Fayetteville, NC, 28314

- [Risk Information](#)
- [Financial Vulnerability](#)
- [Flood Insurance](#)
- [FIS Reports](#)
- [Engineering Models](#)
- [Map Export](#)
- [Data Export](#)

Drainage Area 22.9 MI² Obtained from USGS SELECTED SITES

Character of Drainage Area URBAN SANDHILLS

Highwater Mark(s) _____ Dates _____ Obtained From _____

150.4' 7-88 FIELD SURVEY

152.0' ± 1945 COMPUTED BY HEC-2

Maximum Discharge of Record 2300 CFS ± Sec-ft Date SEP 1945

Discharge Data Obtained From FEMA FLOOD STUDY

Period Covered by Discharge Records NA

Discharge Used for Design of Waterway 3070 CFS Sec-Ft

Waterway Area Considered Necessary 1330 Sq. Ft.

Waterway Area Provided by Recommended Structure 1330 Sq. Ft.

Data on Existing Structure 2@18', 2@17', TIMBER PILES, JOISTS, ABUTMENTS, AND

WINGWALLS, CLEAR ROADWAY = 28', O.L. = 68'

Data on other Structures Up or Down Stream UP STREAM: (PROPOSED) 3@32' PRESTRESSED 18"

CORED SLAB, DOWNSTREAM: 3@30' PRESTRESSED CONCRETE CHANNELS,

PRESTRESSED CONCRETE CAPS ON CREOSOTE TIMBER PILES, C.R. = 30'

Method Used in Determining Foundation Material N/A

Is Additional Foundation Investigation Considered Advisable YES, BY GEOTECH UNIT

Other Information MCFAYDEN LAKE IS LOCATED 450' NORTH OF EXISTING BRIDGE.

THE AVERAGE POOL ELEVATION IS 159.0' MSL AND COVERS 130 ACRES. THE

ARMY CORPS OF ENGINEERS GAVE THE DAM A HAZARD CLASSIFICATION OF

'HIGH' * DUE TO FOUNDATION RECOMMENDATION OF 2:1 SLOPES

Information to be shown on plans

Design Discharge 3070 CFS Frequency 50-YR

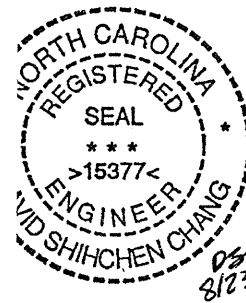
100 yr. Discharge 3835 CFS

Design High Water Elev. 154.9' (0.1' BACKWATER)

100 yr. High Water Elev. 156.2' (0.4' BACKWATER)

Flood of Record SEP 1945 2300 CFS 25-YR
Date Discharge Frequency

OVERTOPPING FLOOD: ELEV: 162.3, DISCHARGE: 5990 CFS, FREQ: 500-YRS



HYDROGRAPHIC DEPARTMENT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N. C.

BRIDGE SURVEY REPORT

J-2103D

OBJECT NO. 82440703 CUMBERLAND COUNTY, STA. 117+45.95-A2-

BRIDGE OVER BEAVER CREEK Known as BRIDGE NO. 71

on SR 1400 between SR 3193 and SR 1481

Recommended Width of Roadway 64' Skew 90°

Recommended Structure 3@43'-4" 36" PRESTRESSED GIRDERS

Rip Rap BERMS RIP RAPPED COMPLETELY, FILL SLOPES TO EL. 155.9, CLASS II RIP RAP

Temporary Crossing IS NOT REQUIRED

Present Structure IS TO BE REMOVED

New Location is _____ Up, ~~Down~~ Stream from Crossing on Present Road

Nearest Shipping Point FAYETTEVILLE On ABERDEEN + ROCKFISH R. R.

Distance from Shipping Point to Bridge Site is 0.13 miles.

Elevations From B. M. NO. 9: SPIKE IN BASE OF 20" GUM 156' LT OF STA. Elev. 152.82'

118+66-L- Datum: NGVD OF 1929

USE THIS SPACE FOR PHOTOGRAPH
OF PROPOSED SITE. SHOWING CEN-
TER LINE, DIRECTION OF FLOW
AND OTHER IMPORTANT POINTS ON
PHOTOGRAPH.

upstream structure

Surveyed by M. W. CLAWSON Assisted by JVP, SAS Date 7-88

NP57068

167-23

