

Hydraulics Unit Pre-Design Report (Pre-Scoping) for Structure #: 100536

Date: 08/27/2018

County: Buncombe	Stream: nEWFOUND cREEK	Assigned to:
Road #: SR 1296	Road Name: Brooks Branch Rd	Prepared By: HPM/wsh
Division: 13	Location: 0.1 M N JCT SR 1004	Hydro Mgr: PAJ Hydro Reviewer: MTS
Latitude: 35.60773	Longitude: -82.73036	Project Type: B-6018

Existing Structure

Structure Type: Bridge	Yr Built: 1959
Span Arrangement: 1 @ 30' 6"	OAL (ft): 31.0 Skew: Abutment Type: Vertical -Timber
Number of Barrels: @ Span (ft): x Rise (ft): 	
Bed to Crown (ft): 7.0	Clear Roadway (ft): 17.8 Water Depth (ft): 1.0 Superstructure Depth:
ADT: 430 Year ADT: 2000 Scour Code (item113): U	Prior Survey Completed: ☐ Survey Date:
Drainage Area: 6.6 Sq. Mi.	Drainage Area Source: USGS Stream Stats Roadway Overtops at Q100: ☐
Discharge Method: USGS Regression Equations	USGS Region: 2- Mountain Stream Gage Number(if applicable):
Q10 (cfs): Q25 (cfs): 1,600 Q50 (cfs): 1,900 Q100 (cfs): 2,200 QBFE (cfs): 	
☐ Structure in Flood Hazard Zone Panel #: 8699 Panel Date: 01/06/2010 Type of FIS: REDELINEATED Date of FIS: 	

Enviromental

Quad Map: ENKA, NC	River Basin: French Broad	Buffer Rule:
Primary Stream Classification		Other Stream Classification
☐ Class B ☒ Class C ☐ SA ☐ SB	☐ SC ☐ SWL ☐ WL ☐ WS I	☐ Anadromous Fish ☐ Area of Environmental Concern
☐ WS II ☐ WS III ☐ WS IV ☐ WS V	☐ CAMA County ☐ Federal Wild & Scenic Rivers	☐ HSB Required ☐ NC Natural & Scenic Rivers
Supplemental Stream Classification	☐ Impaired [303d] ☐ Primary Nursery Area	☐ TVA ☐ Designated Shellfish Harvesting Area
☐ FWS ☐ HQW ☐ NSW ☐ ORW	☐ Sw ☐ Tr ☐ UWL ☐ w/in 0.5mi. of CA	☐ Designated Public Mountain Trout Waters

Up/Down Stream Features

Upstream Feature: Bridge	Structure Type: Timber Deck/ I Beams
Location: 0.1 m N JCT SR 1004	Span Arrangement: 2@ 17' 3" OAL (ft): 35.0
Structure #: 100325 Route: SR 1220	Number of Barrels: @ Span (ft): x Rise (ft):
Latitude: 35.60524 Longitude: -82.73299	
Prior Survey Completed: ☐ Survey Date: 	Bed to Crown (ft): 8.0 Year Built: 1952
Downstream Feature: Bridge	Structure Type: Cored Slab
Location: 0.1 M E JCT SR 1297 on BROWNTOWN RD	Span Arrangement: 1@ 30'3", 1@ 30', 1 @ 30'3" OAL (ft): 91.00
Structure #: 100029 Route: SR 1297	Number of Barrels: @ Span (ft): x Rise (ft):
Latitude: 35.61408 Longitude: -82.71939	
Prior Survey Completed: ☐ Survey Date: 	Bed to Crown (ft) 12.0 Year Built: 1978

Preliminary Structure Estimate [Office Estimate]

Structure Type: 	Skew:
Dimensions/Spans: 	

Notes

Stream #:6-84

5
827

Project# B-6018 ✓

TIP#

Let Date

WBS#

PREDESIGN-SCOPING REPORT

County Buncombe (DIV. 13)

Bridge# 100536
Road# SR 1296 ✓ Brooks Branch Rd
Stream Newfound Creek ✓

Type Of Request: POC Force Account TIP NCMA

Date 8/23/18 Name HPM

Assigned To PAJ/MTS

Checked By Wsh 8-27-18

BRN: NONE CO FILE N

Prior Survey Date (attach copy of prior survey)

Study By Scour Section CODE: U PDR: N BSR: NONE

Flood Zone AE ✓ Detail Study RDS Date 1/6/2010 Panel# 8699
REDELINATED ✓

Quad Map Enka ✓ Drainage Area 6.58 mi² From StreamStats
Q25 1600 Q50 1900 Q100 2200 Method Regression EQU. (OLD)
LONG: -82.730361
LAT: 35.60725 Region 2

EXISTING BRIDGE INFORMATION

Location 0.1 mi N of JCT SR 1004 YEAR BUILT: 1959
Average Daily Traffic 430 2000 (6% T) CLEAR ROADWAY WIDTH 17.75'
Length 31' Bed-To Crown 7' Water Depth 1' I.A % = %

Type Structure Timber floor on I-Beams

Type Spans 1 @ 30' - 6"

Upstream Structure Bridge #100325

Location SR 1220 (Morgan Branch Rd) (0.1 MN Jct SR 1004) YR. BUILT: 1952 LONG: -82.732991 ✓

Bed-To Crown 8' LAT: 35.605236

2 @ 17' - 3" Timber floor on Timber joists

Downstream Structure Bridge #100029 YR. BUILT: 1978

Location SR 1297 (Browntown Rd) (0.1 ME Jct SR 1297) LONG: -82.719387 ✓

Bed-To Crown 12' LAT: 35.614081 ✓

1 @ 30' - 3", 1 @ 30' - 7", 1 @ 30' - 3" PC Corad Slab

Trout Stream No ENVIRONMENTAL TVA: Yes ✓
Anadromous Fish No Primary Nursery Area NO

High Quality Waters No Nutrient Sensitive Waters NO

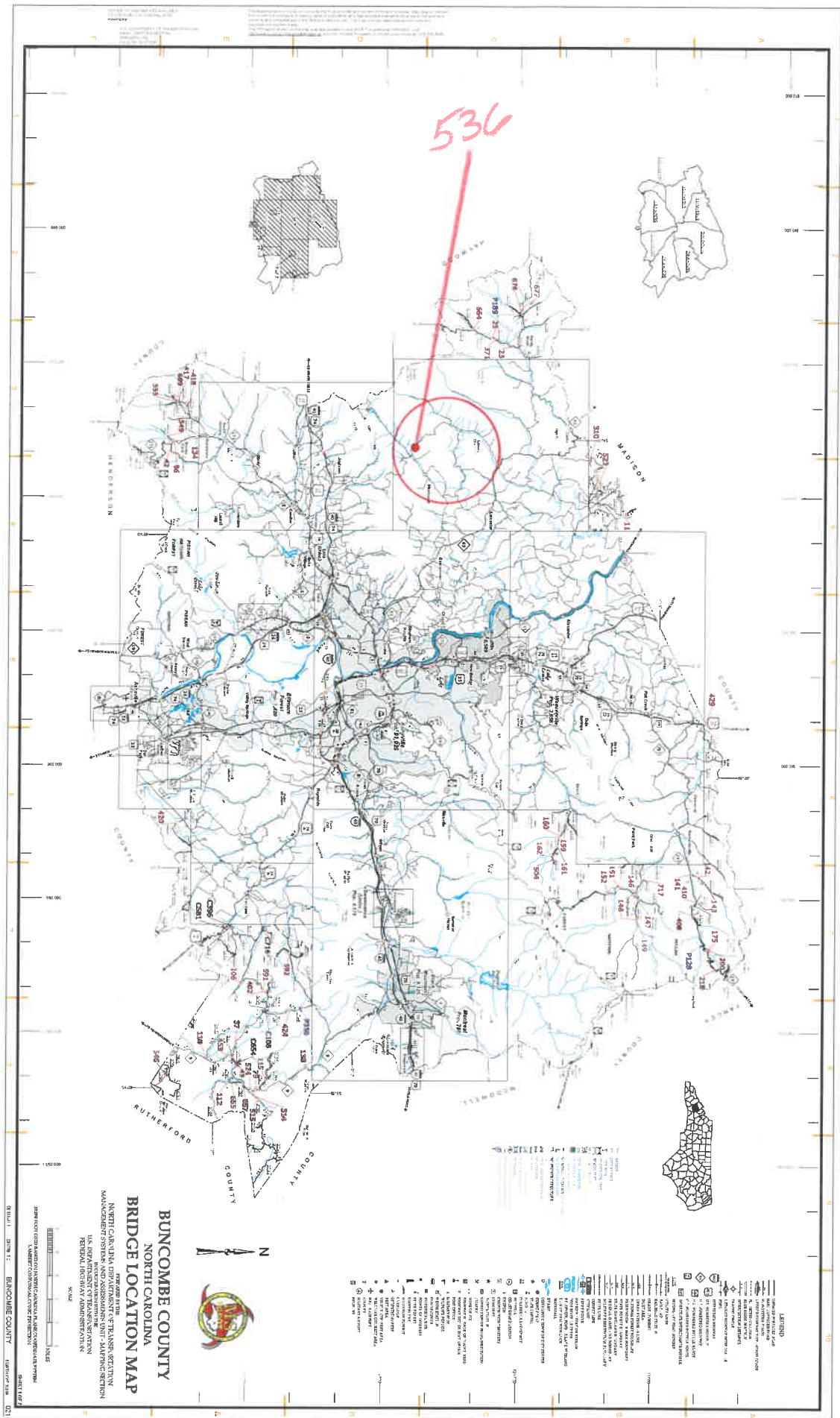
Near Water Supply Intake CAMA County NO ✓

Stream Classification C ✓ STREAM #: 6-84 ✓

DENR River Basin Info. French Broad

303(d): Benthos

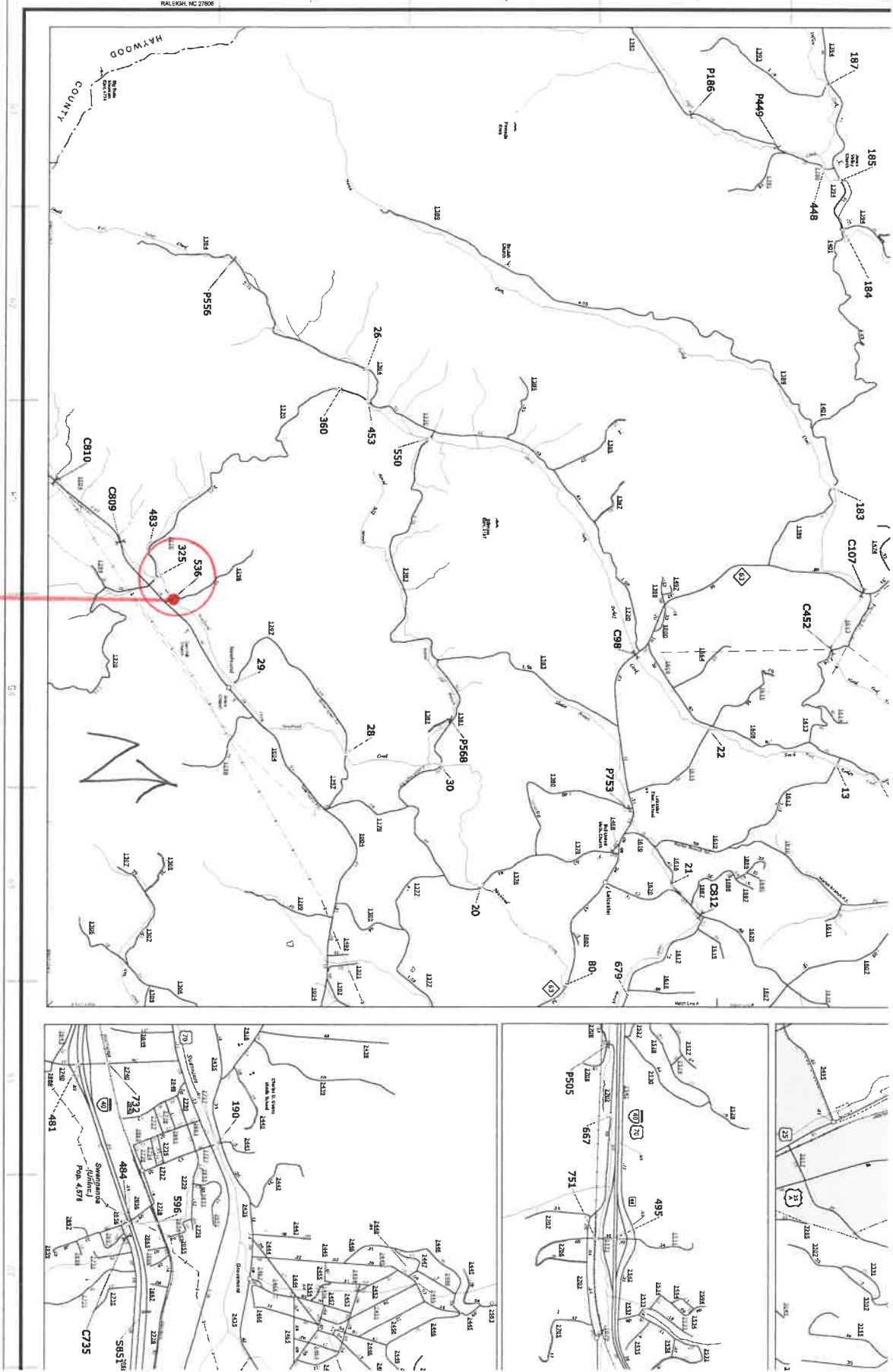
1, 21, 23, 25



100536

COPIES OF THIS MAP ARE AVAILABLE
TO THE PUBLIC AT NOMINAL COST.
ADDRESS:
N.C. DEPARTMENT OF TRANSPORTATION
MS&U - MAPPING SECTION
4500 BERRY RD.
RALEIGH, NC 27606

The Mapping Section's goal is to provide the most accurate and current information possible. Map data is compiled
from numerous sources with varying dates of publication and in no accuracy standards. As a result, the accuracy
currency and completeness of the data provided will vary. This map includes data maintained roads and
important non-system roads.
The information shown on this map was last updated in July 2015. For additional information, visit
<http://www.ncdot.gov/Map/Map.aspx> and click on Data Providers or contact us by phone at (919) 835-6400.



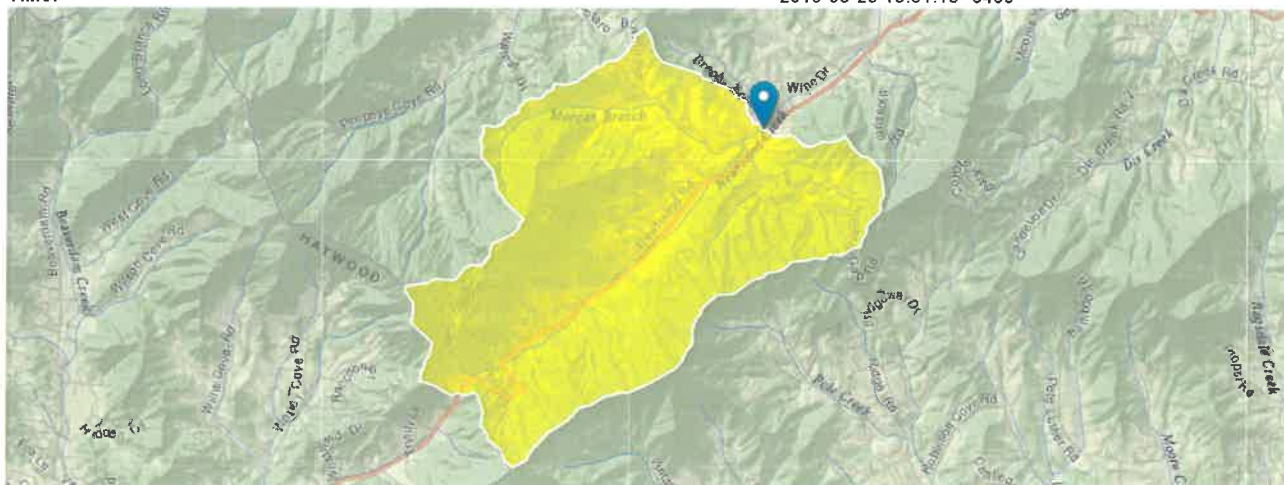
536

536

StreamStats Report

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

NC
 NC20180823195057936000
 35.60724, -82.73033
 2018-08-23 15:51:13 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	6.58	square miles
PCTREG1	Percentage of drainage area located in Region 1	0	percent
PCTREG2	Percentage of drainage area located in Region 2	100	percent
PCTREG3	Percentage of drainage area located in Region 3	0	percent
PCTREG4	Percentage of drainage area located in Region 4	0	percent
PCTREG5	Percentage of drainage area located in Region 5	0	percent

Peak-Flow Statistics Parameters (Peak Southeast US over 1 sqmi 2009 5158)

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.58	square miles	1	9000
PCTREG1	Percent Area in Region 1	0	percent	0	100
PCTREG2	Percent Area in Region 2	100	percent	0	100
PCTREG3	Percent Area in Region 3	0	percent	0	100
PCTREG4	Percent Area in Region 4	0	percent	0	100
PCTREG5	Percent Area in Region 5	0	percent	0	100

Peak-Flow Statistics Flow Report (Peak Southeast US over 1 sqmi 2009 5158)

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu	SEp
2 Year Peak Flood	476	ft ³ /s	272	832	34.5
5 Year Peak Flood	857	ft ³ /s	493	1490	34
10 Year Peak Flood	1150	ft ³ /s	653	2040	35.1
25 Year Peak Flood	1560	ft ³ /s	849	2860	37.5
50 Year Peak Flood	1850	ft ³ /s	977	3510	39.6
100 Year Peak Flood	2200	ft ³ /s	1120	4330	41.9

old regression equations:

	REGION 1	REGION 2
Q25	1681.974	1556.964
Q50	2047.09	1852.771
Q100	2376.227	2203.246

D.A. = 6.58 sq mi lpArea=

current regression equations: **2014-2050 PG 28.**

UPDATED: .1 to 3mi

	REGION 1	REGION 2
Q25	2231.611	
Q50	2801.309	
Q100	3423.615	

SITE: 100536
DATE: 8/27/2018

3mi TO 436mi

	REGION 1
1 Q25	1841.34
Q50	2207.77
Q100	2595.89

536



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURE MANAGEMENT UNIT

ATTENTION: DATA CHANGED: ADDITIONAL WEARING SURFACE

Structure Safety Report

Routine Element Inspection

COUNTY: BUNCOMBE STRUCTURE NUMBER: 100536 FREQUENCY: 24 MONTHS
 FACILITY CARRIED: SR1296 MILE POST: _____
 LOCATION: 0.1MI.N.JCT.SR1004
 FEATURE INTERSECTED: NEWFOUND CREEK
 LATITUDE: 35° 36' 26.08" LONGITUDE: 82° 43' 49.28"
 SUPERSTRUCTURE: TIMBER FLOOR ON I-BEAMS
 SUBSTRUCTURE: E.BTS:TIMBER CAPS/TIMBER POST&SILLS @ VAR. CTS.
 SPANS: 1 @ 30'-6"
☐ FRACTURE CRITICAL ☐ TEMPORARY SHORING ☐ SCOUR CRITICAL ☐ SCOUR PLAN OF ACTION
 PRESENT CONDITION: Good INSPECTION DATE: 08/02/2017
 POSTED SV: 22 22 POSTED TTST: 30 30
 OTHER SIGNS PRESENT: DELINEATORS (4), ONE LANE BRIDGE (2)



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 S-N

DIRECTION MATCHES PLANS _____

SOUTH APPROACH LOOKING NORTH

INSPECTED BY DELVIN ADAMS	SIGNATURE 	ASSISTED BY JOE HUNTSINGER
------------------------------	---------------	-------------------------------

Structure: 100536

County: BUNCOMBE

Date: 08/02/2017

Structure Photos



DECK UNDERSIDE



UPSTREAM PROFILE

536

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 11/21/2017

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
BUNCOMBE	13	2	100536	31	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1296	NEWFOUND CREEK

LOCATED :	BRIDGE NAME :	CITY :
0.1MI.N.JCT.SR1004		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	430 2000	LT 227 RT 227

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1959	BMU			Unknown

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
	BMU	5.8451	TAN	90	ON 2 UNDER 0

NAVIGATION :	VC	0	FT	HC	0	FT	HT. CRN. TO BED :	7	FT	WATER DEPTH :	1	FT
--------------	----	---	----	----	---	----	-------------------	---	----	---------------	---	----

SUPERSTRUCTURE :	TIMBER FLOOR ON I-BEAMS
------------------	-------------------------

SUBSTRUCTURE :	E.BTS:TIMBER CAPS/TIMBER POST&SILLS @ VAR. CTS.
----------------	---

SPANS :	1 @ 30'-6"
---------	------------

BEAMS OR GIRDERS :	11 LINES 14 I-BEAMS @ 1'-8.0938" CENTERS
--------------------	--

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
4X8 TIM/3" AWS		18.75 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
17.75 FT	18.417 FT	LT .3 FT RT .3 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	29	DATE	11/07/2017
HS-1	HS-1	ext bm	SV 22				

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

UNDER ROUTES AND CLEARANCES

REMARKS :

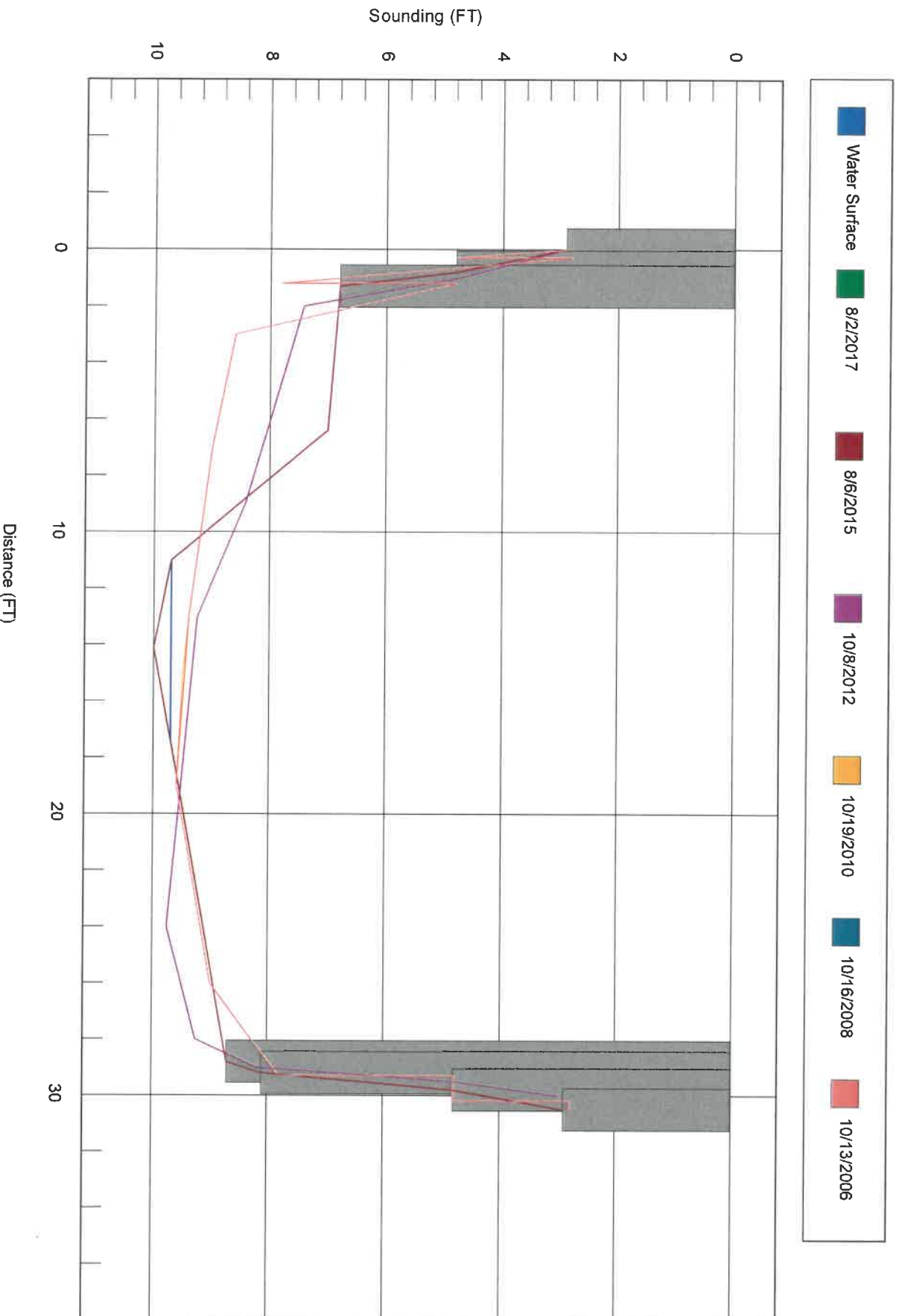
Bridge: 100536

County: BUNCOMBE

Date: 08/02/2017

Top of Rail = 0FT (Sounding)

STREAMBED PROFILE (Downstream)



U/S Structure

536

Structure: 100325

County: BUNCOMBE

Date: 09/26/2016

Structure Photos



UPSTREAM



SOUTH APPROACH "NARROW BRIDGE" SIGN AT 150' FROM THE BRIDGE. NORTH APPROACH SIGN IS AT 300'.

V/S Structure

S36

Structure: 100029

County: BUNCOMBE

Date: 09/27/2016

Structure Photos



DOWNSTREAM



UPSTREAM



Final 2016 Category 5 Assessments -303(d) List

French Broad River Subbasin

French Broad River Basin

Assessment Unit Name	Assessment Unit Description		
Assessment Unit Number	Water Quality Classification	Length/Area	Units
Little Ivy Creek (River)	From State Route 1547 to Ivy Creek		
6-96-10b	WS-II;HQW	2.1	FW Miles
Assessment Criteria Status	Reason for Rating	Parameter of Interest	IR Category
Exceeding Criteria	FCB 5in30 GM >200 or >2	Fecal Coliform (GM 200/400, REC, FW)	5

Mills River	From River Mile 1.03 to a point 0.5 mile upstream of N.C. Hwy. 191		
6-54-(1)b	WS-II;Tr,HQW	1.8	FW Miles

Assessment Criteria Status	Reason for Rating	Parameter of Interest	IR Category
Exceeding Criteria	> 10% and < 90% conf	pH (6 su, AL, FW)	5e

Mud Creek	From State Route 1125 to Little Mud Creek		
6-55b	C	1.9	FW Miles

Assessment Criteria Status	Reason for Rating	Parameter of Interest	IR Category
Exceeding Criteria	Fair	Benthos (Nar, AL, FW)	5
Exceeding Criteria	Poor	Fish Community (Nar, AL, FW)	5

Mud Creek	From Little Mud Creek to Clear Creek Byers Creek		
6-55c1	C	7.4	FW Miles

Assessment Criteria Status	Reason for Rating	Parameter of Interest	IR Category
Exceeding Criteria	Fair	Benthos (Nar, AL, FW)	5
Exceeding Criteria	Fair	Fish Community (Nar, AL, FW)	5

Mud Creek	From Clear Creek to Byers Creek		
6-55c2	C	3.6	FW Miles

Assessment Criteria Status	Reason for Rating	Parameter of Interest	IR Category
Exceeding Criteria	Fair	Benthos (Nar, AL, FW)	5
Exceeding Criteria	Fair	Fish Community (Nar, AL, FW)	5

Newfound Creek From source to SR 1296

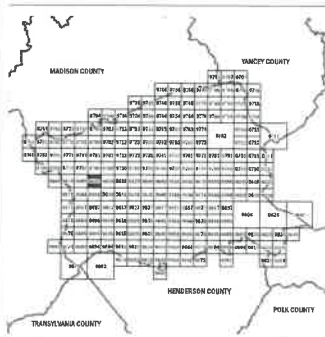
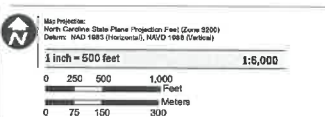
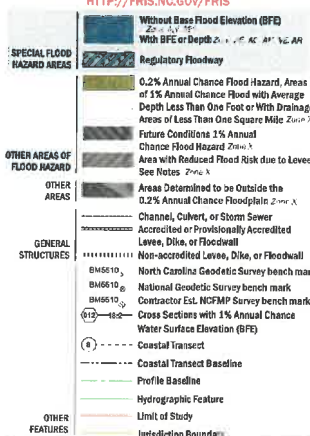
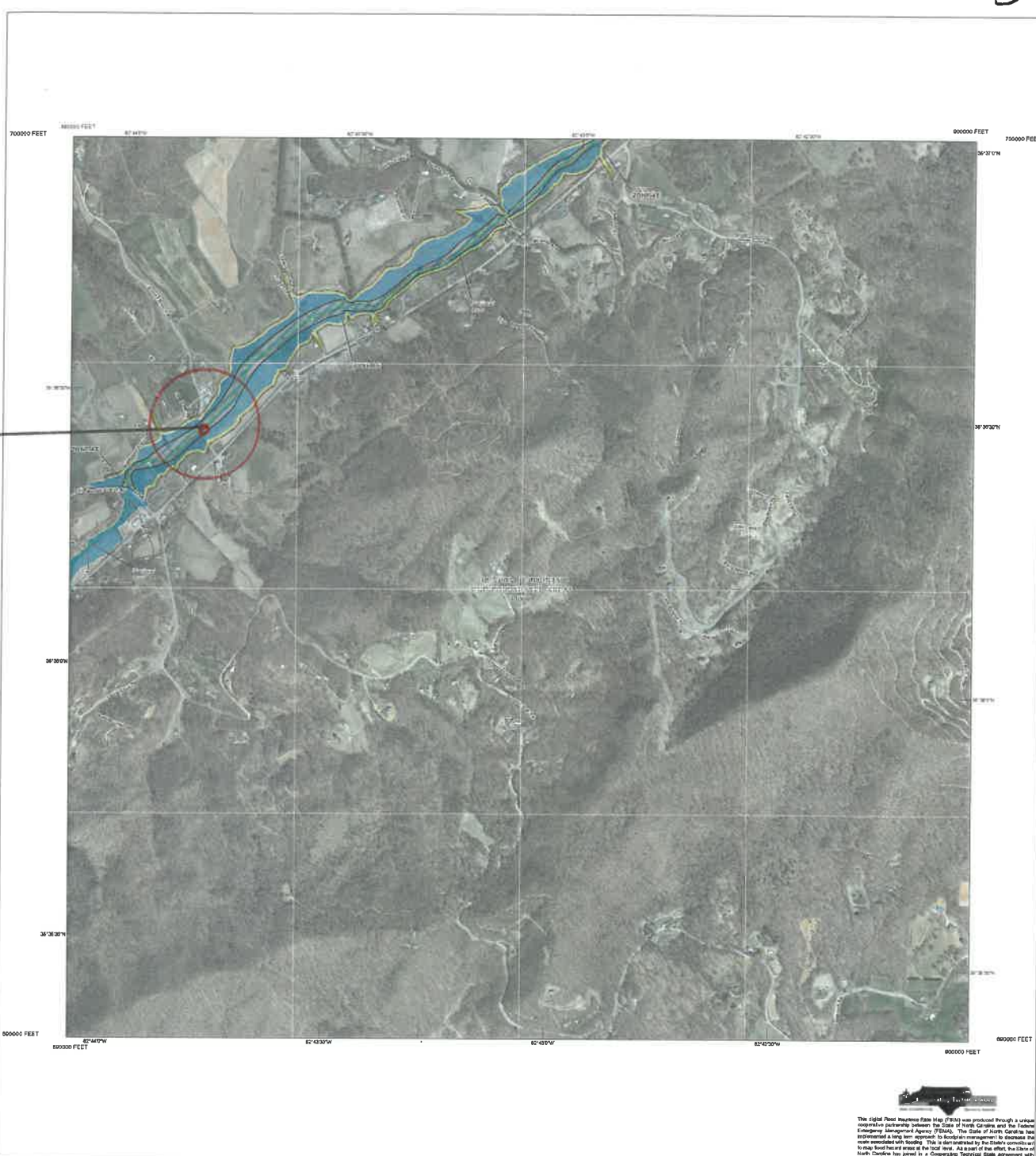
6-84a	C	3.9	FW Miles
--------------	---	-----	----------

Assessment Criteria Status	Reason for Rating	Parameter of Interest	IR Category
Exceeding Criteria	Fair	Benthos (Nar, AL, FW)	5

536



536



FEMA
National Flood Insurance Program



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

NORTH CAROLINA

PANEL 8699

Panel Coordinates:

COMMUNITY
BUNGOMBE COUNTY

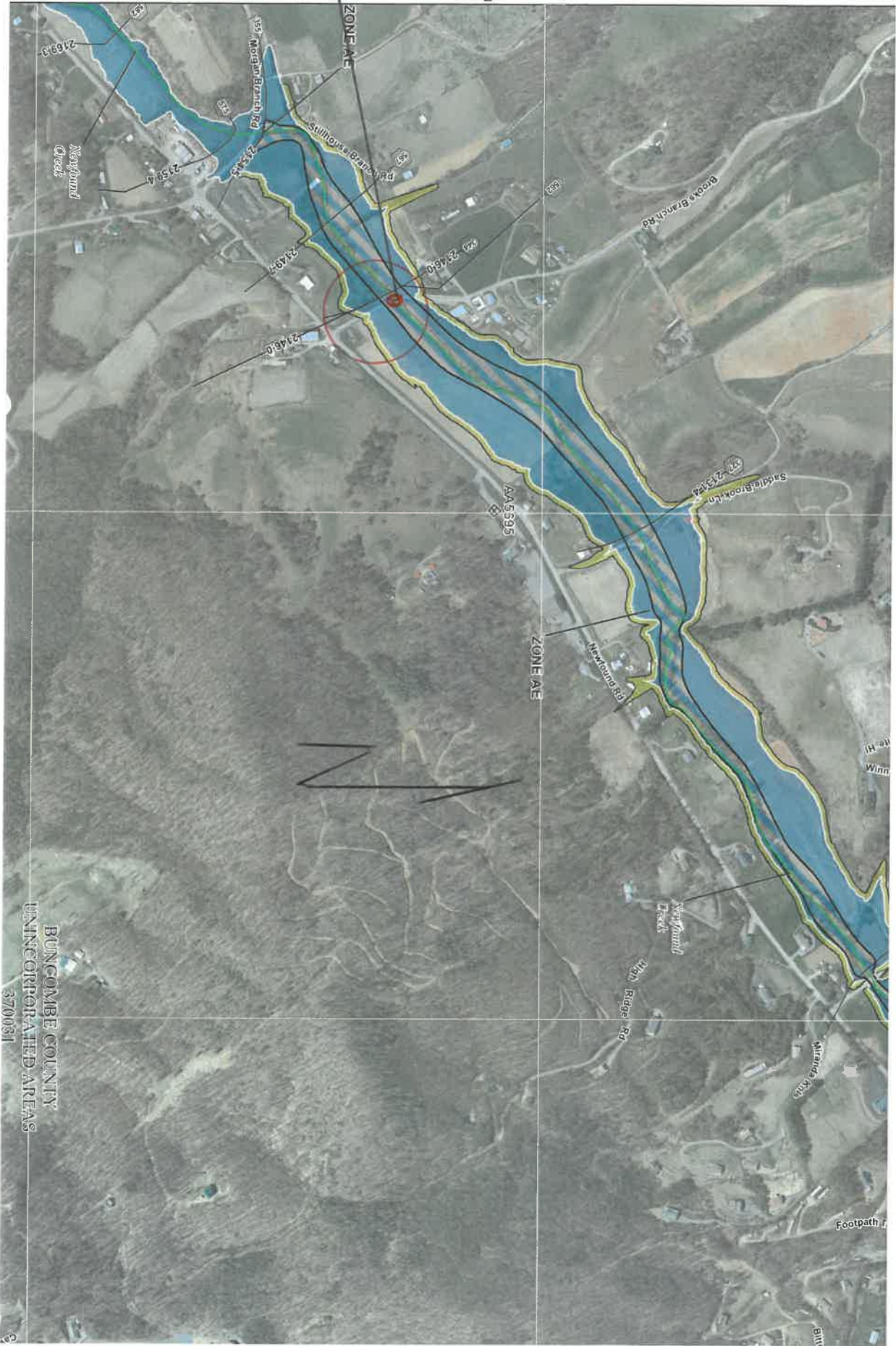
CID PANEL SUPER
370029 8699 2





MAP NUMBER
3700869900J
MAP REVISED

* REDELINATE!
No HEC
RAS



BUNCOMBE COUNTY
UNINCORPORATED AREAS
370031