

Hydraulics Unit Pre-Design Report (Pre-Scoping) for Structure #: 110145Date:

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: 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

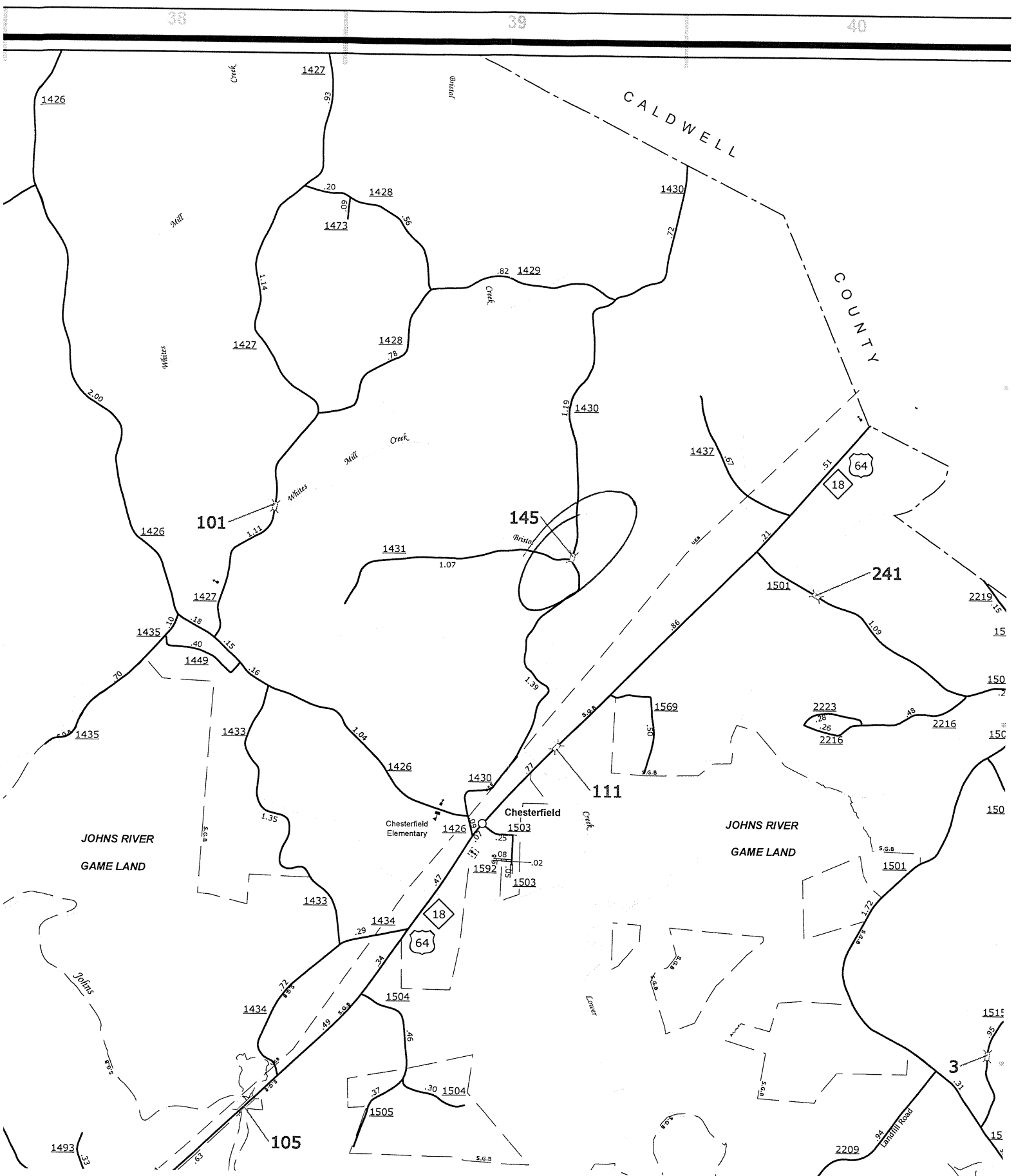
Up/Down Stream Features

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



StreamStats Report

Region ID:

Workspace ID:

Clicked Point (Latitude, Longitude):

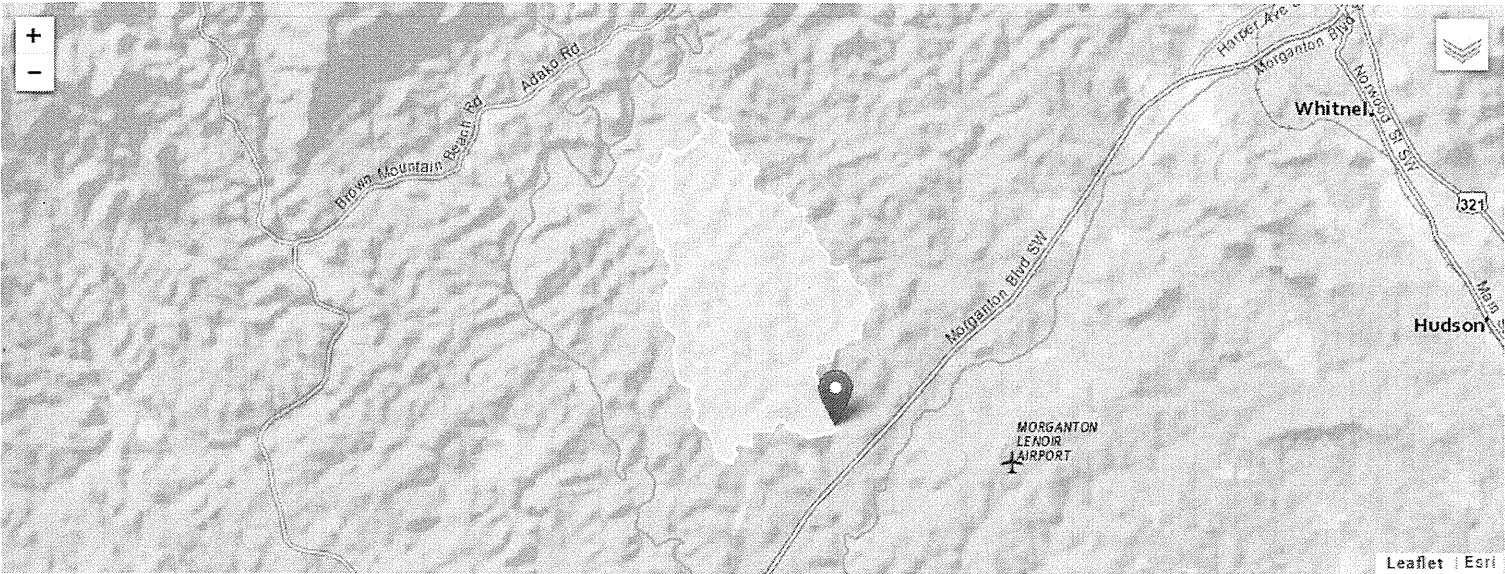
Time:

NC

NC20180802192509184000

35.82707, -81.65402

2018-08-02 15:25:24 -0400



Basin Characteristics

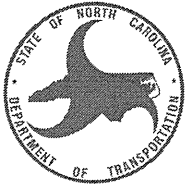
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	8.06	square miles
I24H50Y	Maximum 24-hour precipitation that occurs on average once in 50 years	7.35	inches
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	0.8	percent

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Application Version: 4.2.1



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURE MANAGEMENT UNIT

ATTENTION: PRIORITY MAINTENANCE FOR WEIGHT LIMIT SIGNS,
BEAMS, AND ABUTMENT AT END BENT 1. NEWLY
STRUCTURALLY DEFICIENT. CHANGE TO
STRUCTURE DATA.

Structure Safety Report

Routine Element Inspection - Contract

COUNTY: BURKE STRUCTURE NUMBER: 110145 FREQUENCY: 24 MONTHS

FACILITY CARRIED: SR1430 Hartland Rd MILE POST:

LOCATION: .05 MI.N.JCT.SR1431

FEATURE INTERSECTED: BRISTOL CREEK

LATITUDE: 35° 49' 37.67" 35.82713056 LONGITUDE: 81° 39' 14.7" 81.65408333

SUPERSTRUCTURE: TIMBER FLOOR ON I-BEAMS

SUBSTRUCTURE: E.BT1:TIM.CAPS/TIM.POST&SILL;E.BT2:TIM.CAPS/TIM.PILES

SPANS: 1 @ 40'-6

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

PRESENT CONDITION: Poor INSPECTION DATE: 10/03/2017

POSTED SV: 19 Not Posted POSTED TTST: 24 Not Posted

OTHER SIGNS PRESENT: NONE



Sign noticed issued for		Number Required
<u>YES</u>	<u>WEIGHT LIMIT</u>	<u>2</u>
<u>NO</u>	<u>DELINEATORS</u>	<u>0</u>
<u>NO</u>	<u>NARROW BRIDGE</u>	<u>0</u>
<u>NO</u>	<u>ONE LANE BRIDGE</u>	<u>0</u>
<u>NO</u>	<u>LOW CLEARANCE</u>	<u>0</u>

DIRECTION OF INSPECTION S-N

DIRECTION MATCHES PLANS

LOOKING NORTH

INSPECTED BY GREGORY COLS	SIGNATURE <u>Burke</u>	ASSISTED BY ALLYSON ORR
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UP = Brg 161 Not comparable DA

DS = Brg 111

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 01/16/2018

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
BURKE	13	1	110145	41	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1430	BRISTOL CREEK

LOCATED :	BRIDGE NAME :	CITY :
.05 MI.N.JCT.SR1431		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	1600 2014	LT 253 RT 253

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1958	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		7 FT		1 FT

SUPERSTRUCTURE : TIMBER FLOOR ON I-BEAMS

SUBSTRUCTURE : E.BT1:TIM.CAPS/TIM.POST&SILL;E.BT2:TIM.CAPS/TIM.PILES

SPANS : 1 @ 40'-6

BEAMS OR GIRDERS : 8 LINES 18 I-BEAMS @ VAR.CENTERS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
3X4 TIM/3 AWS		19.833 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
18.917 FT	18.917 FT	LT 0 FT RT 0 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :				
HS-4	HS-8	Bm 8	SV 10 TTST 10	DATE	01/11/2018		

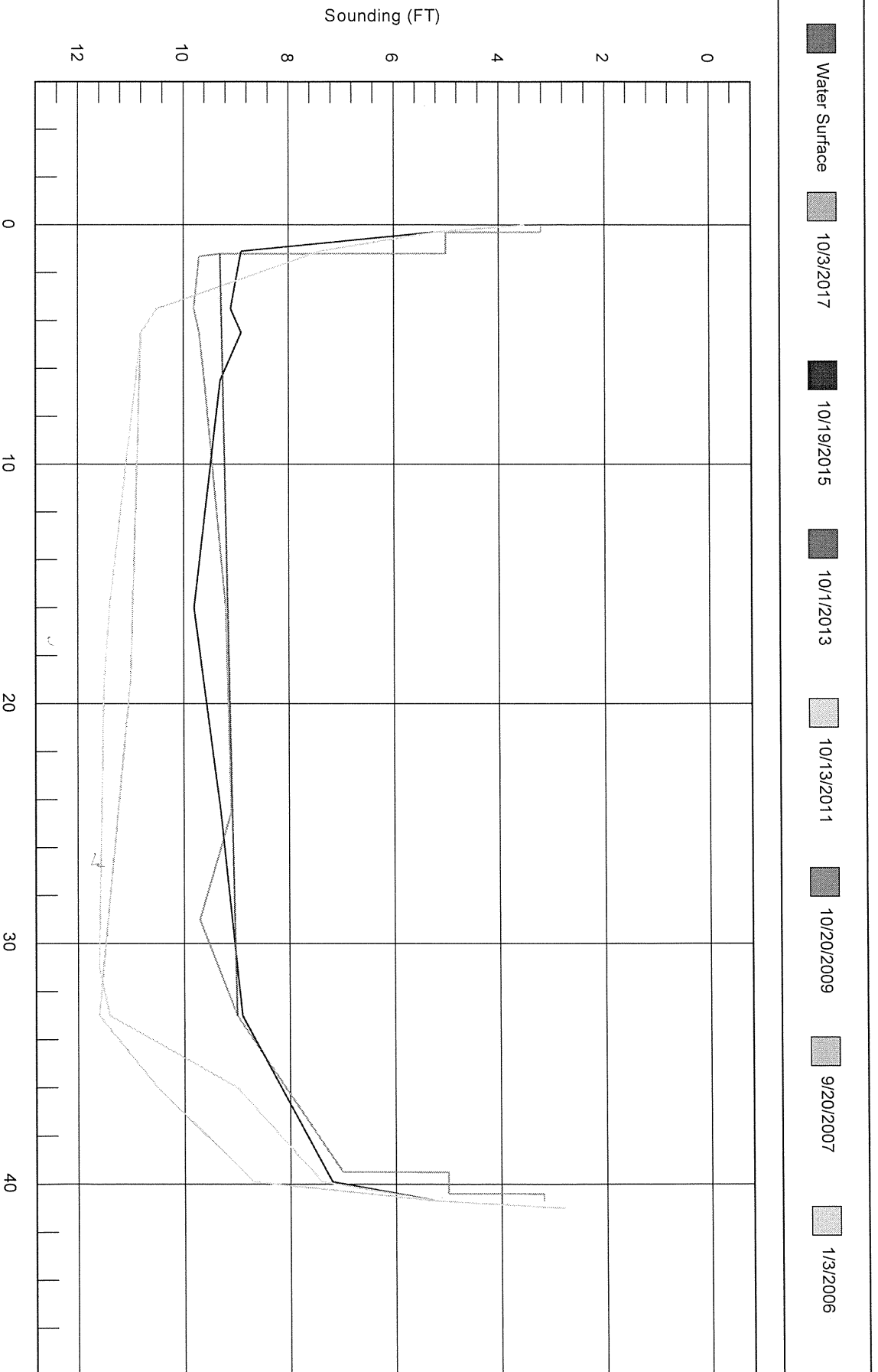
SYSTEM :	GREEN LINE ROUTE :
Secondary S.R. Route	N

UNDER ROUTES AND CLEARANCES

REMARKS :

Top of Rail = 0 FT (Sounding)

STREAMBED PROFILE (Downstream)



$$7 \times 1.5 = 10.5 \times 2 = 21 + 20 + 30 = 71$$

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 03/27/2017

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :
BURKE	13	1	110101	31 FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1427	WHITE MILL CREEK

LOCATED :	BRIDGE NAME :	CITY :
.4 MI.S.JCT.SR1428		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	300 1995	LT 253 RT 253

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1953	BMU			Unknown

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
1981	BMU	5.8551	TAN	90	ON 2 UNDER 0

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT 9 FT		1 FT

SUPERSTRUCTURE : TIMBER FLOOR ON I-BEAMS

SUBSTRUCTURE : E.BTS:TIMBER CAPS/TIMBER PILES @ 2'-9.6" CENTERS

SPANS : 1 @ 30'-8

BEAMS OR GIRDERS : 8 LINES 21 I-BEAMS @ 2'-8.5 CENTERS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
3X4 TIM/4 AWS		21.5 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
19 FT	20.5 FT	LT .75 FT RT .75 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	DATE
HS-17	HS-28	IntBeam	SV TTST	03/20/2017

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

UNDER ROUTES AND CLEARANCES

upstream Structure

REMARKS :

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 02/13/2018

COUNTY : BURKE DIVISION : 13 DISTRICT : 1 STRUCTURE NUMBER : 110111 LENGTH : 105 FEET

ROUTE CARRIED : US64,NC18 FEATURE INTERSECTED : BRISTOL CREEK

LOCATED : 0.3 MI.S.JCT.SR1569 BRIDGE NAME : CITY : *MORGANTON

FUNC. CLASS : 14 SYST.ON : FA SYST.UNDER : NFA ADT & YR : 8200 2015 RAIL TYPE : LT 71 RT 71

BUILT : 1935 BY : SHPWC PROJ : 8141 FED.AID PROJ : DESIGN LOAD : HS 20

REHAB : 1965 BY : SHC PROJ : 8.1814502 ALIGNMENT : TAN SKEW : 120 LANES : ON 2 UNDER 0

NAVIGATION : VC 0 FT HC 0 FT HT. CRN. TO BED : 13 FT WATER DEPTH : 3 FT

SUPERSTRUCTURE : REINFORCED CONCRETE FLOOR ON I-BEAMS

SUBSTRUCTURE : E.BTS&INT.BTS:RC CAPS/H-PILES;INT.BTS.ENCASED CONCRETE

SPANS : 3 @ 35'

BEAMS OR GIRDERS : 4 LINES 30 I-BEAMS @ 8' CENTERS

FLOOR : 7.75 RC/2.5 AWS ENCROACHMENT : 4 PVC TELEDUCT DECK (OUT TO OUT) : 33.5 FT

CLEAR ROADWAY : 28.25 FT BETWEEN RAILS : 31.25 FT SIDEWALK OR CURB : LT 1.5 FT RT 1.5 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. : HS-22 OPE.RTG. : HS-37 CONTR.MEMBER : Int Beam POSTED : SV TTST DATE

SYSTEM : Primary U.S. Route GREEN LINE ROUTE : Y

UNDER ROUTES AND CLEARANCES

Downstream Structure .

REMARKS :

Downstream Structure
by # 110111

Discharge Area 9.83 Sq. mi. Obtained from 115.85. Creek
 Character of Discharge Area Hilly to Mountainous
 Waterway Required by Formula Sq. Ft. Formula Used
 Maximum Stream Discharge 4,000 cfs Sec. Ft. Date
 Discharge Data Obtained From 4,000 cfs
 Period Covered by Discharge Record
 Discharge Used for Design of Waterway 4.00 @ 10/1/56 Sec. Ft.
 Waterway Area Considered Necessary 4.00 @ 10/1/56 Sq. Ft.
 Waterway Area Provided by Recommended Structure 4.350 Sq. Ft.
 Data on Existing Structure 4.170. Creek Timber on Timber Bldgs. on 60.5'
Timber Millhouse at Creek Timber Bldgs. with water surface
4.0. 41. Roadway 120. 6. 4. Timber Structure. H.B. No. 12. 12. 12
 Data on other Structures Up or Down Stream 111

Method Used in Determining Foundation Material 1/2" 1000 Bldgs
 Is Additional Foundation Investigation Considered Advisable
 Other Information

11 0000 1963 NO TIP STA_23802 WHITE MILLS CR NC 18
 WO_818145 PDF

BRIDGE SURVEY REPORT

PROJECT NO. 010145 White Mills Creek (Bristol Creek) known as COUNTY, STA. 2384.025
 DCE OVER White Mills Creek (Bristol Creek) known as not known
 between Discharge and 4.00
 unimproved Width of Roadway 28.47' 19.60 Skew 30.44
 unimproved Structure 30.35' 1.00 Exc. Rd 4.00-30.44

Rip Rap 13 Regular - 500. 40.50
 Temporary Crossing 15 Regular - 10. 10. 10
 Present Structure 10 no removed complete

New Location is Same Up Down Stream from Crossing on Present Road
 Name of Shipping Point Marquette On Southward R. R.
 Distance from Shipping Point to Bridge Site is 10 miles
 Elevation From B. M. 17 10. 10. 10 to 20. 10. 10 to 21. 10. 10 to 22. 10. 10

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

Surveyed by W. L. S. 1/18/56 Antecedent by W. L. S. 1/18/56 Date 10/1/56
 (19-24)



[Flood Information](#)

[Risk Information](#)

[Financial Vulnerability](#)

[Flood Insurance](#)

[FIS Reports](#)

Engineering Models

[Click a stream to view models.](#) ?

Model Information

Stream: Bristol Creek

Model: Bristol Creek Model

Study: Limited Detailed Study

Start: The confluence with Lower Creek

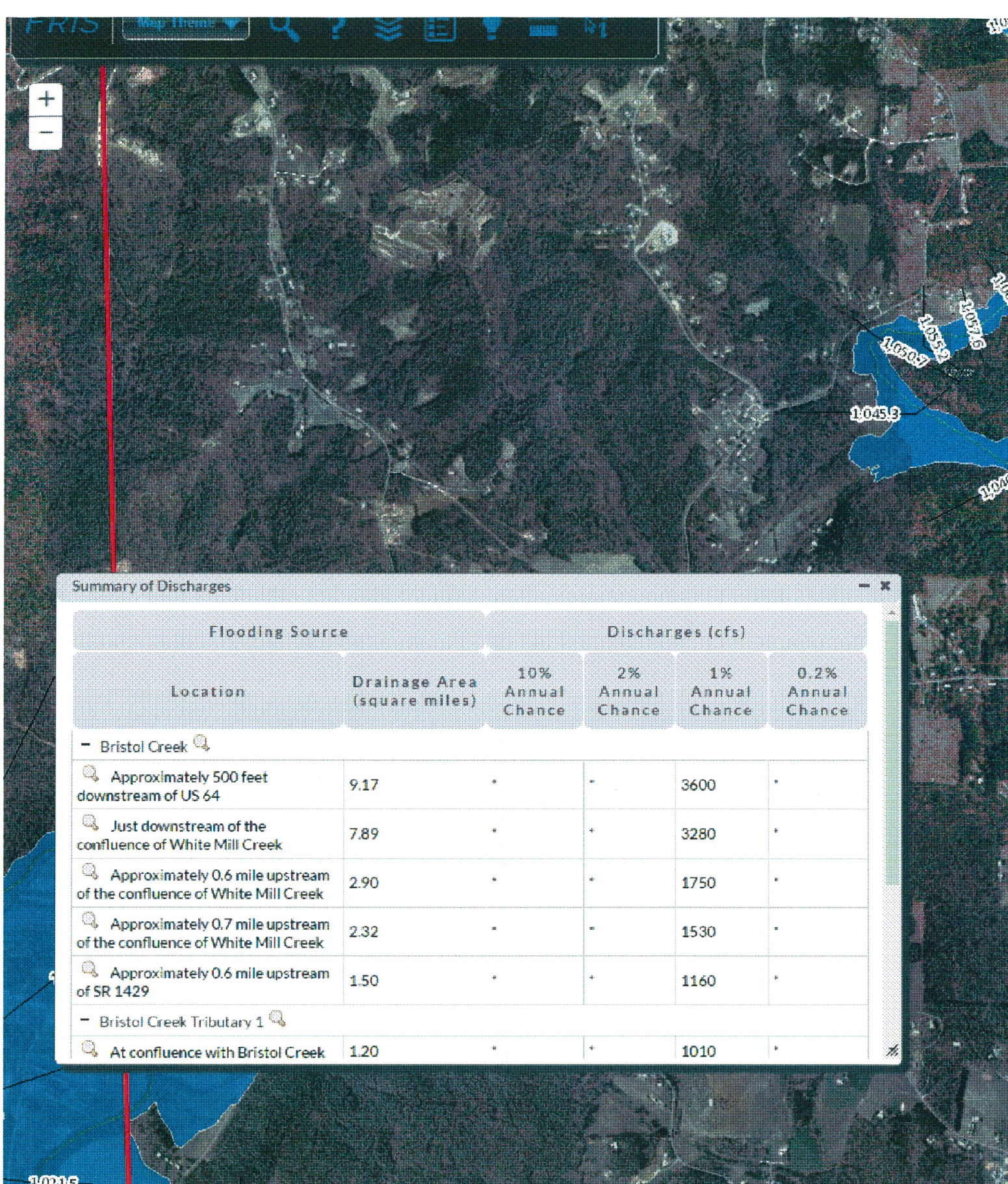
End: Approximately 180 feet downstream of the Burke / Caldwell County boundary

[Download Model](#)

[Map Export](#)

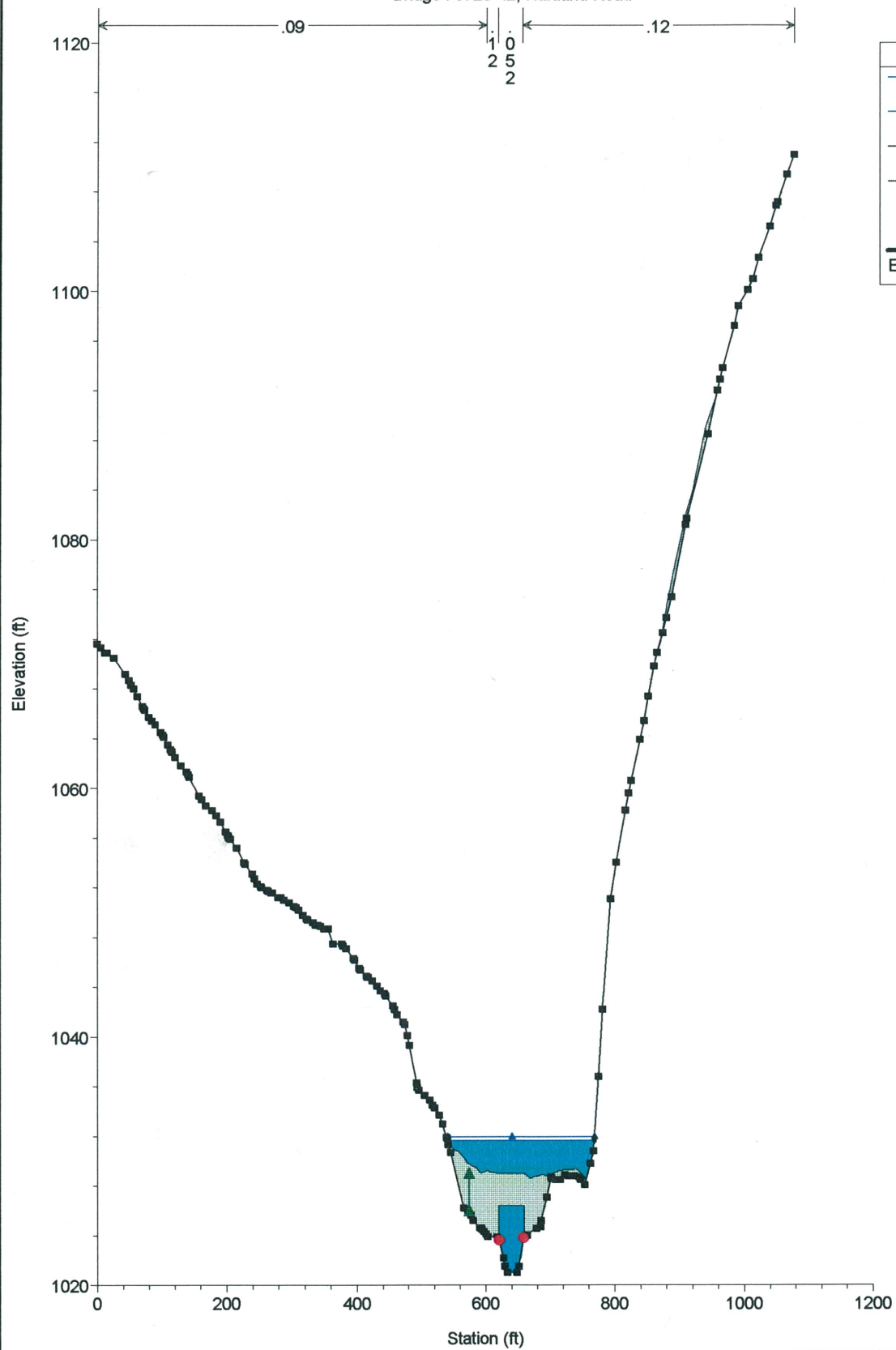
[Data Export](#)





Bristol Creek Plan: Bristol Creek 8/2/2018

Bridge : 3723-42, Hartland Road



Legend	
WS enc	▲
WS P100yr	■
Ground	▲
Ineff	●
Bank Sta	●
Encroachment	