

SITE ID: 044-01-385aa

SITE ADDRESS: 75 Hominy Ridge, Canton, NC 28716

North Carolina Emergency Management – Private Roads and Bridges

Site Information Form

Site Number: 044-01-385aa

Site Address: 75 Hominy Ridge, Canton, NC, 28716

GPS Coordinates: 35.5387, -82.8159

County: Haywood

Bridge Type: Steel I-beam with Timber Decking or Modular Steel Bridge

Span Length: 40 ft Standard Bridge or 50 ft Modular Bridge. Refer to BSR for required waterway opening.

Bridge Width: 12'-0" Clear Width

Substructure Type: Concrete Cap on Drilled-in Piles

Geotechnical Information: See Standard Bridge Plans or the Modular Bridge Substructure Plans for Notes

Additional Notes:

Timber bridge railing not required for Steel I-beam with timber decking option.

Modular Steel Bridge option shall include guardrail as part of the system.

Wingwalls are not required.

The existing bridge is in place and must be removed by the Contractor prior to the start of construction.

No known debris or obstructions in the stream requiring removal.

BRIDGE SURVEY & HYDRAULIC DESIGN REPORT

NC DEPARTMENT OF EMERGENCY MANAGEMENT
PRIVATE ROADS AND BRIDGES PROGRAM

Site Number 044-01-385aa Latitude 35.53759 Longitude -82.81624

County Haywood Address near 112 Sandy Lane (note 75 Hominy Ridge home assoc. with this site)

City Canton, NC Zip Code 28716

Recommended Structure 1 @ 50' Modular Bridge (40' effective length)

Recommended Width of Roadway ..... Skew .....

Recommended Location is (At, Upstream, Downstream) of Existing Crossing .....

Temporary Crossing .....



Note: Overhead Power lines near the bridge.

I hereby certify that that I have reviewed the existing hydraulic conveyance at this site which was a 29 ft. timber bridge with the proposed conveyance provided by the proposed 50 ft. bridge.

The proposed bridge low chord for the bridge shall be set in accordance with the the FEMA Disaster Specific Guidance for the Replacement of Private Roads and Bridges issued on 14 February 2025, "to provide bridge/culvert design plans certified (sealed, signed, and dated) by a Professional Engineer licensed in the State of North Carolina demonstrating that the newly designed and installed private bridge/culvert provides conveyance greater than or equal to the original destroyed crossing".

This certification demonstrates that the newly designed and installed private bridge/culvert provides conveyance greater than or equal to the original destroyed crossing. This is based on the best available data provided from post storm evaluations. Portions of the existing structures may have been destroyed, removed, modified or shifted from their original location or elevation.

Designed by .....

Assisted by .....

Date .....

NORTH CAROLINA PROFESSIONAL SEAL 20646 ENGINEER MATTHEW D. FOSTER

Signed by: Matthew D Foster 7B1932BFAFC8472... 10/26/2026 | 10:43:17 AM EDT

Johnson, Mirmiran, & Thompson Inc.
108 Asheville Commerce Parkway
Candler, NC, 28715
License No: C-3097

Reviewed by ..... Date .....

SITE DATA

Drainage Area ..... Source .....

River Basin French Broad Character .....

Stream Classification (e.g., Trout, High Quality Water) Class C

Debris Potential: Low ☐ Moderate ☒ High ☐

Existing Structure - Source of Available Data NCEM Private Roads and Bridges Inspection Team

Existing Structure - Description 1 @ 29 ft timber deck bridge

Estimated Waterway Opening 176.7 ft²

Design Control Elev ..... ft Source .....

Gage Station No ..... Period of Records .....

Max Discharge ..... cfs Date ..... Frequency .....

Historical Flood Information:

Date ..... Elev ..... ft Est Freq ..... yr Source ..... Period of Knowledge ..... yrs

Historical Scour Info: General ..... ft Contraction ..... ft Local ..... ft

Channel Slope ..... ft/ft Source ..... Normal Water Surface Elev ..... ft

Manning's n: Left OB ..... Channel ..... Right OB ..... Source .....

Flood Study / Status FEMA Study for North Hominy Creek is a Redelineated HEC-2 model which is not available.

Flood Study 100-yr Discharge - cfs WS Elev: With Floodway - ft Without Floodway 2402.7 ft River Station -

data shown from FRIS website

DESIGN DATA

Hydrological Method .....

Hydraulic Design Method Disaster Specific Guidance for the Replacement of Private Roads and Bridges 2/14/2025

Floods Evaluated	Frequency (year)	Discharge (cfs)	Elevation (ft)	Backwater (ft)	Bridge Opening Velocity (fps)

Waterway Opening Provided Below: Design WS Elev ..... sf 100-yr WS Elev ..... sf Total 248.5 sf

Average Channel Velocity (Design) ..... fps Average Overbank Velocity (Design) ..... fps

Computed Scour: General ..... ft Contraction ..... ft Local ..... ft

INFORMATION TO BE SHOWN ON PLANS

HYDRAULIC DATA

DESIGN DISCHARGE	= 1400	C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25	YRS.
DESIGN HIGH WATER ELEVATION	= _____	
DRAINAGE AREA	= 7.81	SQ. MI.
BASIC DISCHARGE (Q100)	= 2110	C.F.S.
BASIC HIGH WATER ELEVATION	= _____	

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= _____	C.F.S.
FREQUENCY OF OVERRTOPPING FLOOD	= _____	YRS.
OVERTOPPING FLOOD ELEVATION	= _____*	

*NOTE LOCATION OF OVERTOPPING

WS EL. Taken @ River Station ?

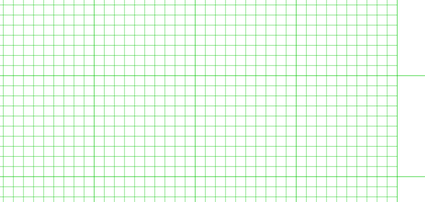
ADDITIONAL INFORMATION AND COMPUTATIONS

3. FIELD MEASUREMENTS

Measurement	Value	Units	Measurement	Value	Units
Current Deck Length	29	Feet	Current Deck Width	11.5	Feet
End Deck to Edge NCDOT Pavement	200+	Feet	Edge Cap EB-1 to Edge of NCDOT road	200+	Feet
Top Bank to Top Bank	36	Feet	Normal Flow stream width	23	Feet
Crown of Road to Stream Bed	9.5	Feet	Water Depth	0.5	Feet
Existing End Bent Height	9	Feet	Thickness of Superstructure	2.2	Feet
Other Measurement		Feet			Feet

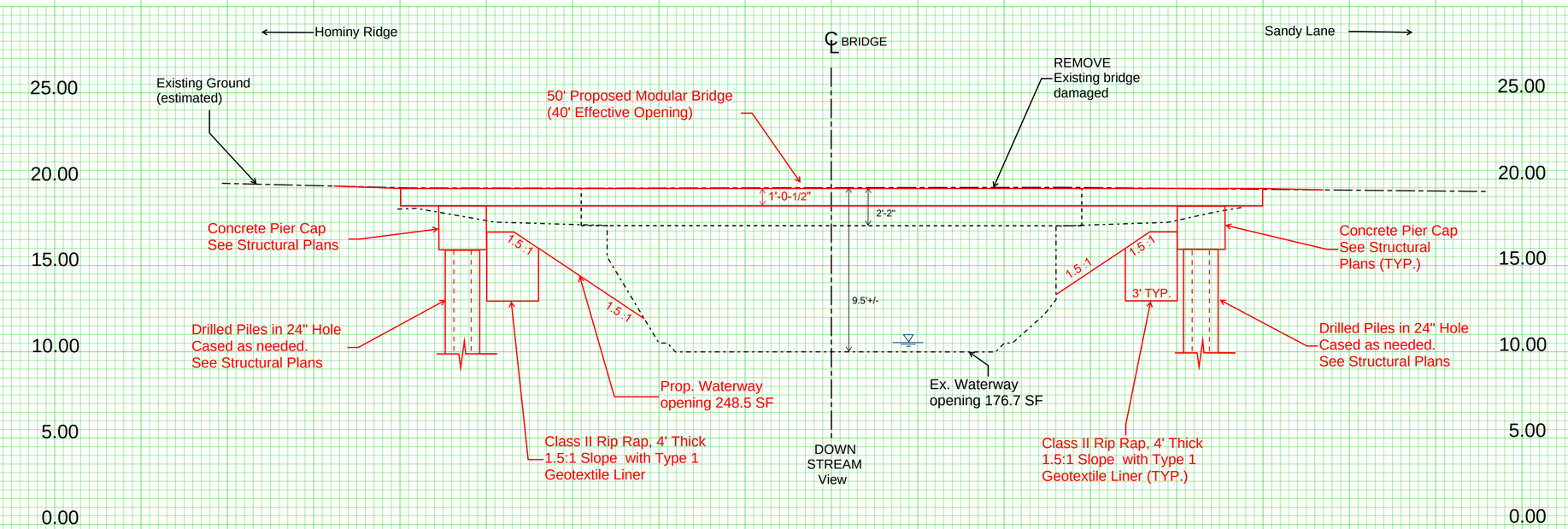
Existing bridge is located on North Hominy Creek which is redelineated model.
Geometry for the damaged bridge was taken from site assessment data.

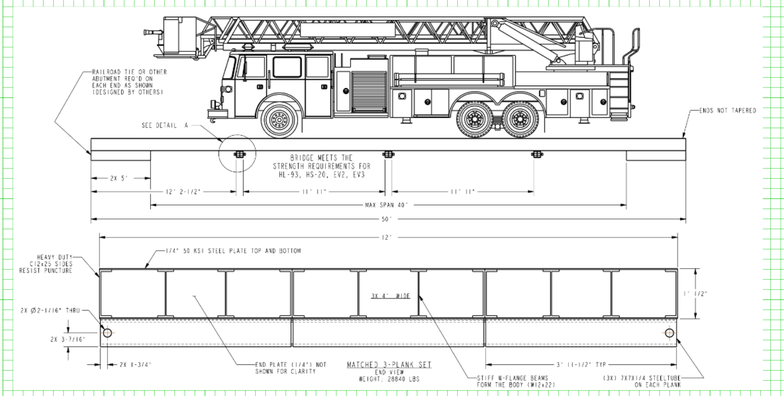
Downstream Google image looking towards the bridge site



12" W12X22 beam
+ 0.25" Steel Plate
+ 0.25" Steel Plate
=12.5" (1'-1/2") ft structure depth)

Proposed Conveyance Area has been reduced by 0.9 sf to account for blockage created by 3 Plank Connectors as shown in Detail A of the Typical Section.





Stationing and elevations shown are relative to the site.
Based on an assumed datum.
No survey grade field work was performed.

BSR based on MODULAR BRIDGE PLANS

BRIDGE SURVEY & HYDRAULIC DESIGN REPORT

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PRIVATE ROADS AND BRIDGES PROGRAM

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Recommended Width of Roadway ..... Skew .....

Recommended Location is (At, Upstream, Downstream) of Existing Crossing .....

Temporary Crossing .....



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Gage Station No ..... Period of Records .....

Max Discharge ..... cfs Date ..... Frequency .....

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Date ..... Elev ..... ft Est Freq ..... yr Source ..... Period of Knowledge ..... yrs

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Manning's n: Left OB ..... Channel ..... Right OB ..... Source .....

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data shown from FRIS website

DESIGN DATA

Hydrological Method .....

Hydraulic Design Method Disaster Specific Guidance for the Replacement of Private Roads and Bridges 2/14/2025

Floods Evaluated	Frequency (year)	Discharge (cfs)	Elevation (ft)	Backwater (ft)	Bridge Opening Velocity (fps)

Waterway Opening Provided Below: Design WS Elev ..... sf 100-yr WS Elev ..... sf Total 187.8 sf

Average Channel Velocity (Design) ..... fps Average Overbank Velocity (Design) ..... fps

Computed Scour: General ..... ft Contraction ..... ft Local ..... ft

INFORMATION TO BE SHOWN ON PLANS

HYDRAULIC DATA

DESIGN DISCHARGE	= 1400	C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25	YRS.
DESIGN HIGH WATER ELEVATION	= _____	
DRAINAGE AREA	= 7.81	SQ. MI.
BASIC DISCHARGE (Q100)	= 2110	C.F.S.
BASIC HIGH WATER ELEVATION	= _____	

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= _____	C.F.S.
FREQUENCY OF OVERRTOPPING FLOOD	= _____	YRS.
OVERTOPPING FLOOD ELEVATION	= _____	*

** NOTE LOCATION OF OVERTOPPING*

WS EL. Taken @ River Station ?

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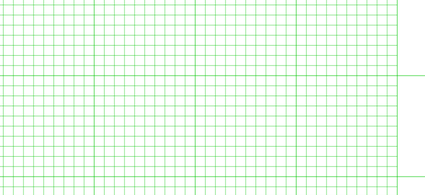
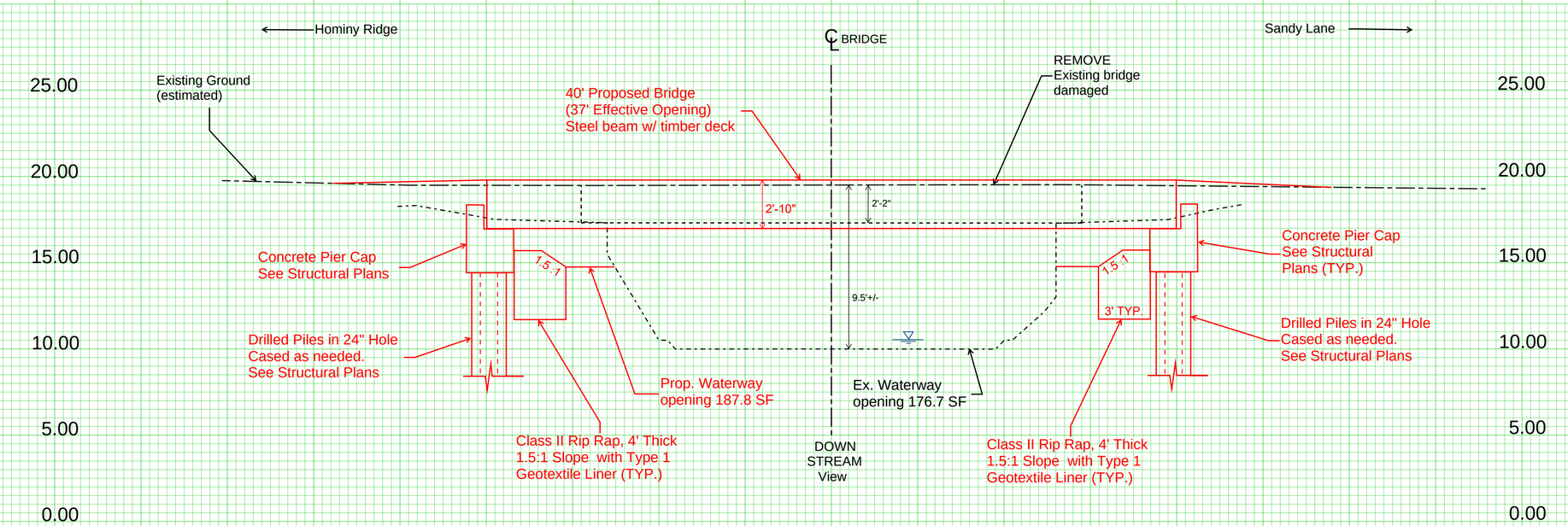
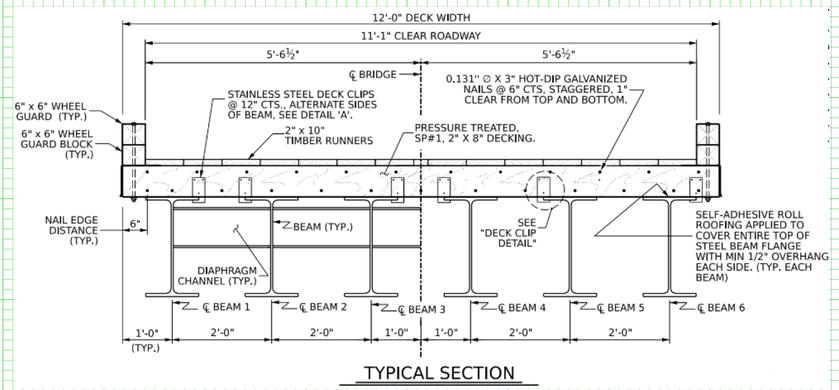
Geometry for the damaged bridge was taken from site assessment data.

Downstream Google image looking towards the bridge site



Proposed
24" W24X76 beam
+ 8" Deck
+ 2" Runner
=34" (2'-10" structure depth)





TYPICAL SECTION

Stationing and elevations shown are relative to the site.
Based on an assumed datum.
No survey grade field work was performed.

BSR based on STANDARD BRIDGE PLANS

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 044-01-685aa	**TIP** N/A	**COUNTY** HAYWOOD	**GEOLOGIST** C. Brake
SITE DESCRIPTION 75 Hominy Ridge for Bridge over North Hominy Creek			**GROUND WTR (ft)**
BORING NO. EB1	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 9.9 ft	**NORTHING** 672,398	**EASTING** 864,948	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3763 CME-550X 83% 05/18/2026		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic
DRILLER W. Shenberger	**START DATE** 09/03/26	**COMP. DATE** 09/03/26	**SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
0										0.0 GROUND SURFACE 0.0
	0.0	0.0	1	2	6	8		M		**ARTIFICIAL FILL** Brown, Clayey Fine to Coarse Sandy SILT (A-5) with Trace Gravel, Cobbles, and Mica
-5	-3.5	3.5	3	1	5	6		M		
	-7.0									-7.0 7.0
	-8.5	8.5	3	4	100/0.5	100/0.5		Sat.		**ALLUVIAL** Gray-Brown, Silty Fine to Coarse SAND (A-2-4) with Trace Mica and Gravel
	-9.9	9.9	60/0.0			60/0.0				-9.9 9.9
										Boring Terminated at Elevation -9.9 ft on CRYSTALLINE ROCK (MIGMATITIC GNEISS)

Notes:
1. Auger Refusal at 9.9'
2. 0 HR Cave Depth=7.0'

DRAFT

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 044-01-685aa	**TIP** N/A	**COUNTY** HAYWOOD	**GEOLOGIST** C. Brake	
SITE DESCRIPTION 75 Hominy Ridge for Bridge over North Hominy Creek				**GROUND WTR (ft)**
BORING NO. EB2	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 19.4 ft	**NORTHING** 672,407	**EASTING** 864,991	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3763 CME-550X 83% 05/18/2026		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER W. Shenberger	**START DATE** 09/02/26	**COMP. DATE** 09/03/26	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
0										0.0 GROUND SURFACE	0.0
	0.0	0.0	3	3	3	6		M		**ARTIFICIAL FILL**	
	-3.5	3.5	8	4	4	8		W		-2.0 Brown, Fine to Coarse Sandy SILT (A-4) with Trace Gravel, Mica, and Roots	2.0
-5										Gray-Brown, Fine to Coarse Sandy Clayey SILT (A-5) with Trace Gravel	
										-7.0	7.0
	-8.5	8.5								**WEATHERED ROCK**	
	-9.4	9.4	100/0.5			100/0.5				-9.4 White-Tan-Black MIGMATITIC GNEISS	9.4
-10			60/0.0			60/0.0				**CRYSTALLINE ROCK**	
										-12.8 Slight to Moderately Severe Weathering, Medium Hard to Hard, Fine to Coarse Crystalline, Tan-White MIGMATITIC GNEISS with Very Close to Close Fracture Spacing GSI=65-75	12.8
-15										Fresh to Very Slight Weathering, Medium Hard to Very Hard, Fine to Coarse Crystalline, Black-White MIGMATITIC GNEISS with Close to Moderately Close Fracture Spacing GSI=80-95	
										-19.4	19.4
										Boring Terminated at Elevation -19.4 ft in CRYSTALLINE ROCK (MIGMATITIC GNEISS)	

Notes:
1. Auger Refusal at 9.4', Begin Coring at 9.4'
2. 0 HR Cave Depth=7.0'
3. 0 HR Cave Depth and Water Level Measurement Obtained Prior to Coring
4. Evidence of Vertically Dipping Foliation in 8.5'-8.9' SPT Sample

DRAFT

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 044-01-685aa	**TIP** N/A	**COUNTY** HAYWOOD	**GEOLOGIST** C. Brake	
SITE DESCRIPTION 75 Hominy Ridge for Bridge over North Hominy Creek				**GROUND WTR (ft)**
BORING NO. EB2	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 19.4 ft	**NORTHING** 672,407	**EASTING** 864,991	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3763 CME-550X 83% 05/18/2026		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER W. Shenberger	**START DATE** 09/02/26	**COMP. DATE** 09/03/26	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 10.0 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
-9.4											Begin Coring @ 9.4 ft
-10	-9.4	9.4	5.0	0:57/1.0 0:54/1.0 1:51/1.0 2:18/1.0 2:41/1.0	(4.0) 80%	(1.4) 28%		(2.3) 68%	(0.5) 15%		**CRYSTALLINE ROCK** Slight to Moderately Severe Weathering, Medium Hard to Hard, Fine to Coarse Crystalline, Tan-White MIGMATITIC GNEISS with Very Close to Close Fracture Spacing GSI=65-75
-15	-14.4	14.4	5.0	1:50/1.0 1:46/1.0 2:05/1.0 2:30/1.0 5:15/1.0	(4.9) 98%	(4.1) 82%		(6.6) 100%	(5.0) 76%		Fresh to Very Slight Weathering, Medium Hard to Very Hard, Fine to Coarse Crystalline, Black-White MIGMATITIC GNEISS with Close to Moderately Close Fracture Spacing GSI=80-95
	-19.4	19.4									Boring Terminated at Elevation -19.4 ft in CRYSTALLINE ROCK (MIGMATITIC GNEISS)

ELEV. (ft) / DEPTH (ft): -9.4 / 9.4; -12.8 / 12.8; -19.4 / 19.4

Notes:
1. Auger Refusal at 9.4', Begin Coring at 9.4'
2. 0 HR Cave Depth=7.0'
3. 0 HR Cave Depth and Water Level Measurement Obtained Prior to Coring
4. Evidence of Vertically Dipping Foliation in 8.5'-8.9' SPT Sample

DRAFT