

SITE ID: 059-01-35b28

SITE ADDRESS: 104 MISTY DRIVE,
OLD FORT, NC 28762

North Carolina Emergency Management – Private Roads and Bridges

Site Information Form

Site Number: 059-01-35b28

Site Address: 104 Misty Drive, Old Fort, NC 28762

GPS Coordinates: 35.6751, -82.2011

County: McDowell

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

Span Length: 30 ft Standard Bridge or 40 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 059-01-35b28 Latitude 35.67615 Longitude -82.20241

County McDowell Address near 104 Misty Drive

City Old Fort, NC Zip Code 28762

Recommended Structure 1 @ 40' Modular Bridge (30' effective length)

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

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

Temporary Crossing .....



I hereby certify that that I have reviewed the existing hydraulic conveyance at this site which was a 20 ft existing bridge with the proposed conveyance provided by the proposed 30.0 ft. span bridge. Picture shows a temporary bridge repair with a shorter span arrangement.

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 | 10:52:38 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 Catawba Character .....

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

Debris Potential: Low ☐ Moderate ☒ High ☐

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

Existing Structure - Description 2 @ 10' Concrete Bridge deck (from HEC-RAS model)

Note: Post Helene shows 1@10' , 1@5' bridge deck (temporary repair) Estimated Waterway Opening 54.15 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 Newberry Creek LDS Study

Flood Study 100-yr Discharge 2610 cfs WS Elev: With Floodway 1726.17 ft Without Floodway 1726.07 ft River Station 1932.728

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 87.4 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	= 1030 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25 YRS.
DESIGN HIGH WATER ELEVATION	= _____
DRAINAGE AREA	= 5.28 SQ. MI.
BASIC DISCHARGE (Q100)	= 1560 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*

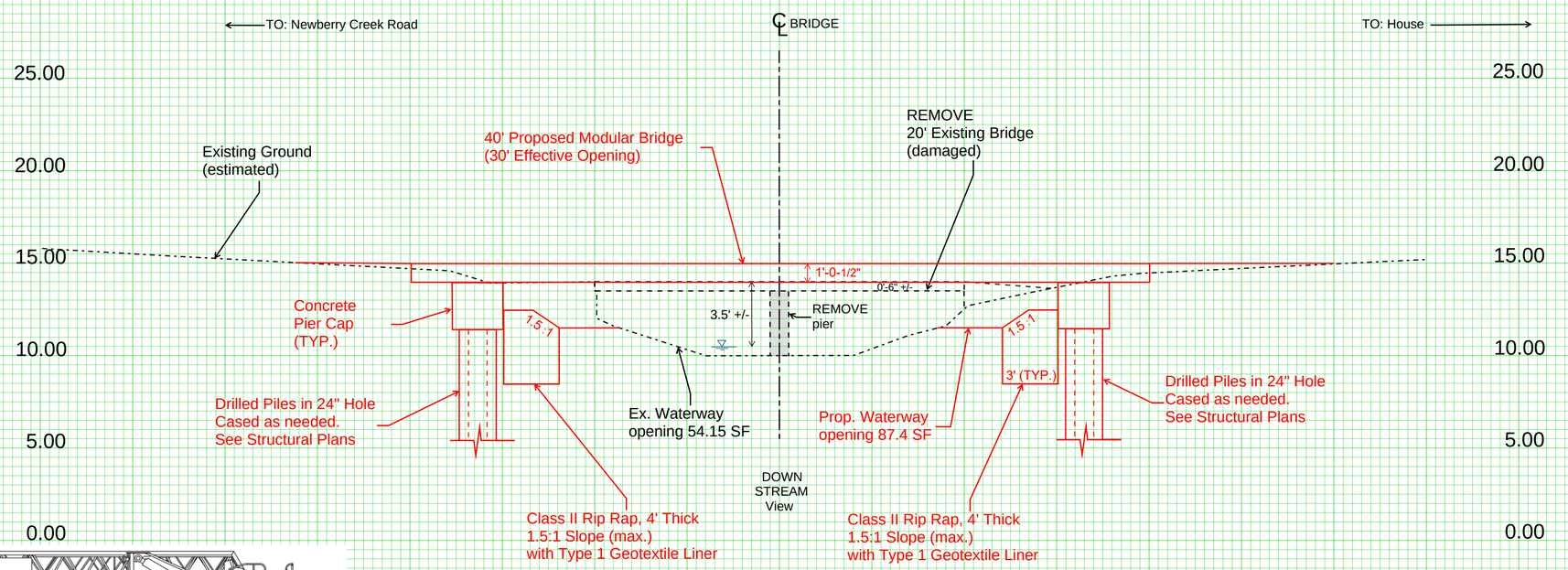
WS EL. Taken @ River Station ?

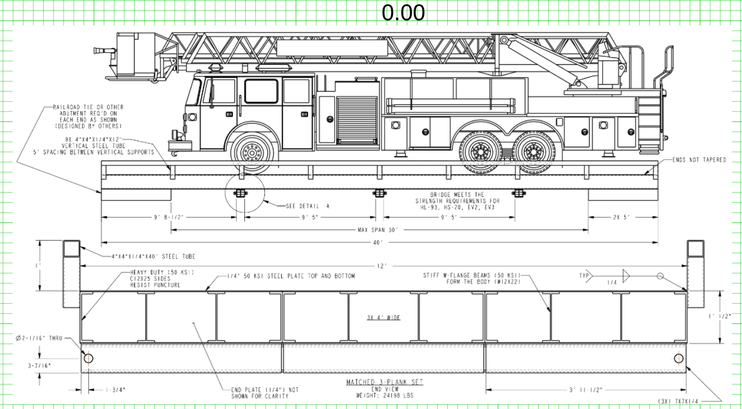
ADDITIONAL INFORMATION AND COMPUTATIONS

Emergency Vehicle Access Possible?	No
Number of Homes Confirmed	Yes
Number of Homes	3
Churches Confirmed	No
Number of Churches	0
Schools Confirmed	No
Number of Schools	0
Recreational/Business Areas Confirmed	No
Number of Recreational/Business Areas	0
General Description	Two span concrete slab bridge. Cinder block abutments and bent Added riprap & abc quantity. SC/RV 10/28
Overall Condition	Damage
Condition Other	
Site Repair Status	No Repair
Condition Description	Bent appears to have settled about 6", upstream edge of slab partially spalled off
Expected Level of Effort	Replace
Other Level of Effort	
Horizontal Curve	No
Number of Travel Lanes (LOS)	1
Inclination	No
Roadway Divider	No
Road/Bridge Width (ft)	10.00
Span/Gap Estimate (ft)	20.00
Surface to Water (ft)	2.50
Utility/Mechanical	No

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

NC DEPARTMENT OF EMERGENCY MANAGEMENT
PRIVATE ROADS AND BRIDGES PROGRAM

Site Number 059-01-35b28 Latitude 35.67615 Longitude -82.20241

County McDowell Address near 104 Misty Drive

City Old Fort, NC Zip Code 28762

Recommended Structure 1 @ 30' Steel Girder Bridge w/ timber deck

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

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

Temporary Crossing .....



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Date .....

NORTH CAROLINA PROFESSIONAL SEAL 20646 ENGINEER MATTHEW D. FOSTER

Signed by: Matthew D Foster 10/26/2026 | 10:52:38 AM EDT
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SITE DATA

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

River Basin Catawba Character .....

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

Debris Potential: Low ☐ Moderate ☒ High ☐

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

Existing Structure - Description 2 @ 10' Concrete Bridge deck (damaged by Helene)

Note: Post Helene shows 1@10' , 1@5' bridge deck (temporary repair) Estimated Waterway Opening 54.15 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 Newberry Creek LDS Study

Flood Study 100-yr Discharge 2610 cfs WS Elev: With Floodway 1726.17 ft Without Floodway 1726.07 ft River Station 1932.728

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 66.0 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	= 1030	C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25	YRS.
DESIGN HIGH WATER ELEVATION	= _____	
DRAINAGE AREA	= 5.28	SQ. MI.
BASIC DISCHARGE (Q100)	= 1560	C.F.S.
BASIC HIGH WATER ELEVATION	= _____	

OVERTOPPING FLOOD DATA

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

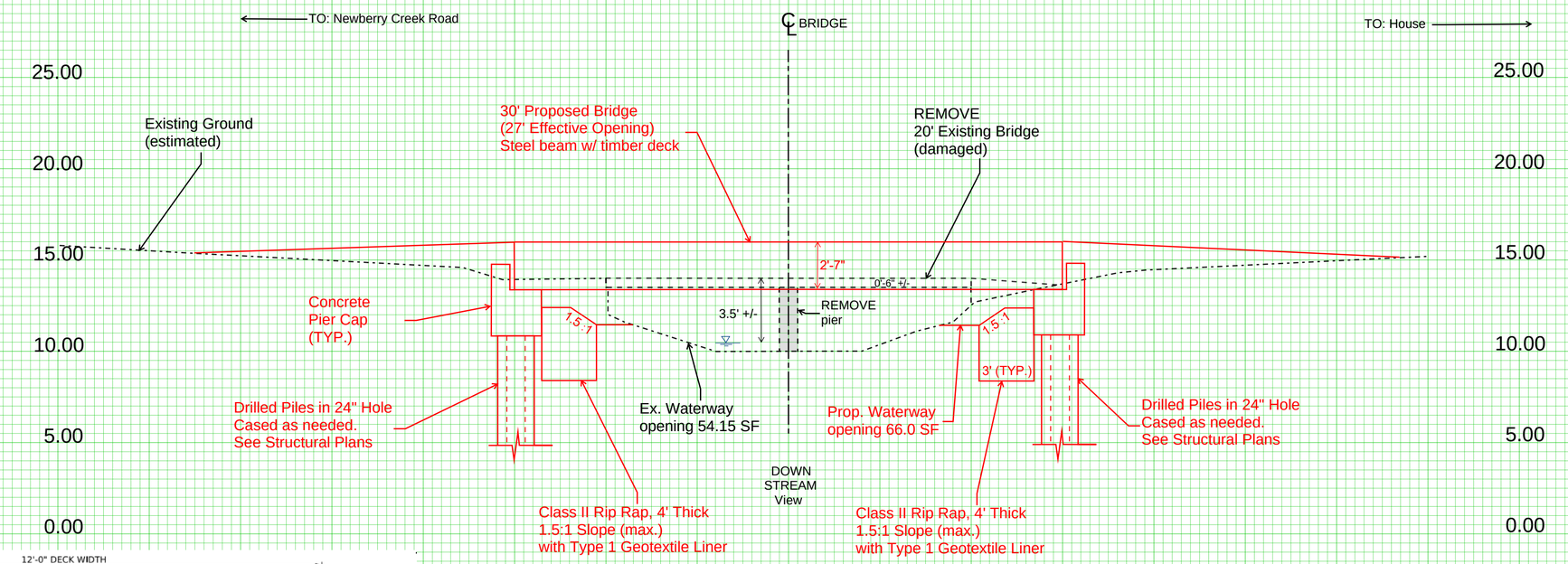
** NOTE LOCATION OF OVERTOPPING*

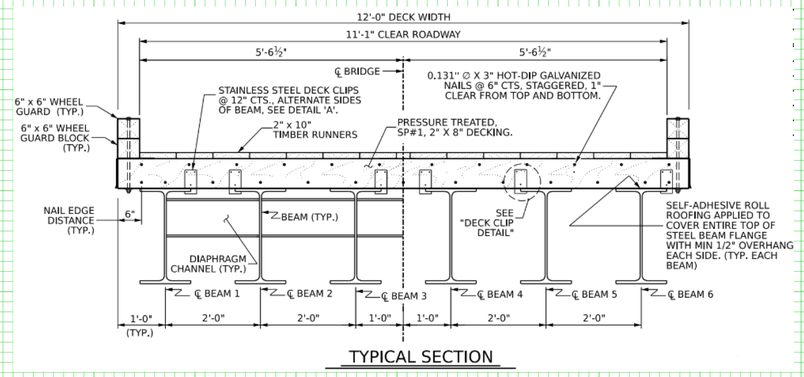
WS EL. Taken @ River Station ?

ADDITIONAL INFORMATION AND COMPUTATIONS

Emergency Vehicle Access Possible?	No
Number of Homes Confirmed	Yes
Number of Homes	3
Churches Confirmed	No
Number of Churches	0
Schools Confirmed	No
Number of Schools	0
Recreational/Business Areas Confirmed	No
Number of Recreational/Business Areas	0
General Description	Two span concrete slab bridge. Cinder block abutments and bent Added riprap & abc quantity. SC/RV 10/28
Overall Condition	Damage
Condition Other	
Site Repair Status	No Repair
Condition Description	Bent appears to have settled about 6", upstream edge of slab partially spalled off
Expected Level of Effort	Replace
Other Level of Effort	
Horizontal Curve	No
Number of Travel Lanes (LOS)	1
Inclination	No
Roadway Divider	No
Road/Bridge Width (ft)	10.00
Span/Gap Estimate (ft)	20.00
Surface to Water (ft)	2.50
Utility/Mechanical	No

21" W21X48 beam
+ 8" Deck
+ 2" Runner
=31" (2'-7" 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 059-01-35b28	**TIP** N/A	**COUNTY** McDOWELL	**GEOLOGIST** J. Baskin
SITE DESCRIPTION 104 Misty Drive for Bridge over Newberry Creek			**GROUND WTR (ft)**
BORING NO. EB1	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** 3.1
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 23.6 ft	**NORTHING** 716,374	**EASTING** 1,049,103	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic
DRILLER S. Davis	**START DATE** 03/05/26	**COMP. DATE** 03/05/26	**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	1	6	7		M		**ALLUVIAL** Dark Brown, Silty Fine to Coarse SAND (A-2-4) with Trace Gravel, Mica, and Roots
-5	-3.5	3.5	1	20	43	63		Sat.		
	-8.5	8.5	17	35	45	80		M		-7.0 7.0 **RESIDUAL** Gray-Orange and Gray, Clayey Fine to Coarse Sandy SILT (A-4) with Trace Mica and Rock Fragments
-10										
-15	-13.5	13.5	20	19	20	39		M		
	-18.5	18.5	4	7	18	25		M		
-20										
	-23.5	23.5								-22.7 22.7 -23.5 23.5
	-23.6	23.6	60/0.1			60/0.1				-23.6 23.6 **WEATHERED ROCK** Sliver-Gray PHYLLITE
			60/0.0			60/0.0				**CRYSTALLINE ROCK** Sliver-Gray PHYLLITE
										Boring Terminated with Standard Penetration Test Refusal at Elevation -23.6 ft in CRYSTALLINE ROCK (PHYLLITE)

Note:
1. Auger Refusal at 23.6'

DRAFT

FOR INFORMATION ONLY

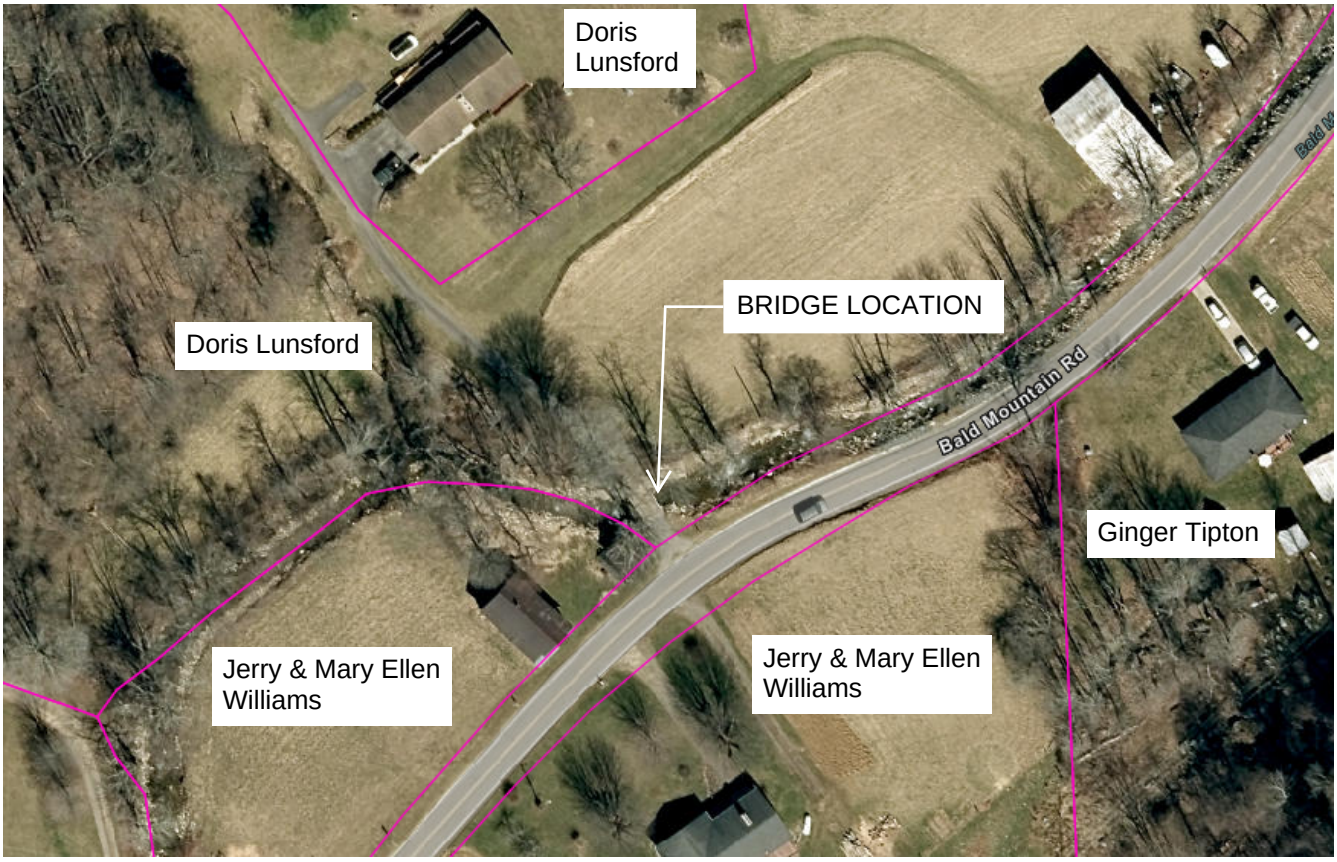
GEOTECHNICAL BORING REPORT
BORE LOG

WBS 059-01-35b28	**TIP** N/A	**COUNTY** McDOWELL	**GEOLOGIST** J. Baskin	
SITE DESCRIPTION 104 Misty Drive for Bridge over Newberry Creek				**GROUND WTR (ft)**
BORING NO. EB2	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** NM
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 27.6 ft	**NORTHING** 716,326	**EASTING** 1,049,088	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R7348 CME-750X 87% 12/20/2024		**DRILL METHOD** H.S. Augers		**HAMMER TYPE** Automatic
DRILLER S. Davis	**START DATE** 03/05/26	**COMP. DATE** 03/05/26	**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	2	15	13	28		M		**ALLUVIAL** Dark Brown, Silty Fine to Coarse SAND (A-2-4) with Trace Mica and Gravel
-5	-3.5	3.5	15	15	18	33		M		
	-8.5	8.5	44	51	46	97		D		-7.0 7.0 **RESIDUAL** Gray-Green-Tan, Clayey Fine to Coarse Sandy SILT (A-4) with Trace Mica and Rock Fragments
-10	-13.5	13.5	8	9	15	24		M		
-15	-18.5	18.5	17	14	21	35		M		
-20	-23.5	23.5	100/0.4			100/0.4				-22.0 22.0 **WEATHERED ROCK** Silver-Gray PHYLLITE
-25	-27.6	27.6	60/0.0			60/0.0				-27.6 27.6 Boring Terminated with Standard Penetration Test Refusal at Elevation -27.6 ft on CRYSTALLINE ROCK (PHYLLITE)

Note:
1. Auger Refusal at 27.6'

DRAFT



SITE ID: 100-01-00395

SITE ADDRESS: 4370 Bald Mountain Rd., Burnsville, NC

North Carolina Emergency Management – Private Roads and Bridges

Site Information Form

Site Number: 059-01-35b28

Site Address: 104 Misty Drive, Old Fort, NC 28762

GPS Coordinates: 35.6751, -82.2011

County: McDowell

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

Span Length: 30 ft Standard Bridge or 40 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 100-01-00395 Latitude 35.976425 Longitude -82.451342

County Yancey Address 4730 Bald Mountain Rd.

City Burnsville, NC Zip Code 28714

Recommended Structure 1 @ 40' Steel Modular Bridge (30' effective length)

Recommended Width of Roadway ____ Skew ____

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

Temporary Crossing



Pre-Helene
Google Image

I hereby certify that that I have reviewed the existing hydraulic conveyance at this site which was a 20 ft +/- existing bridge with the proposed conveyance provided by the proposed 40.0 ft. span 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".

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Designed by

Assisted by

Date

NORTH CAROLINA PROFESSIONAL SEAL 20646 ENGINEER MATTHEW D. FOSTER

Signed by: Matthew D Foster 10/26/2026 3:56:56 PM EDT
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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) C; Tr

Debris Potential: Low ☐ Moderate ☒ High ☐

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

Existing Structure - Description 1 @ 18' +/- private bridge (damaged by Helene)

Estimated Waterway Opening 56.2 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 N/A , (Bald Mountain Creek)

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

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 93.5 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	= 1230	C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25	YRS.
DESIGN HIGH WATER ELEVATION	= ____	
DRAINAGE AREA	= 6.65	SQ. MI.
BASIC DISCHARGE (Q100)	= 1860	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

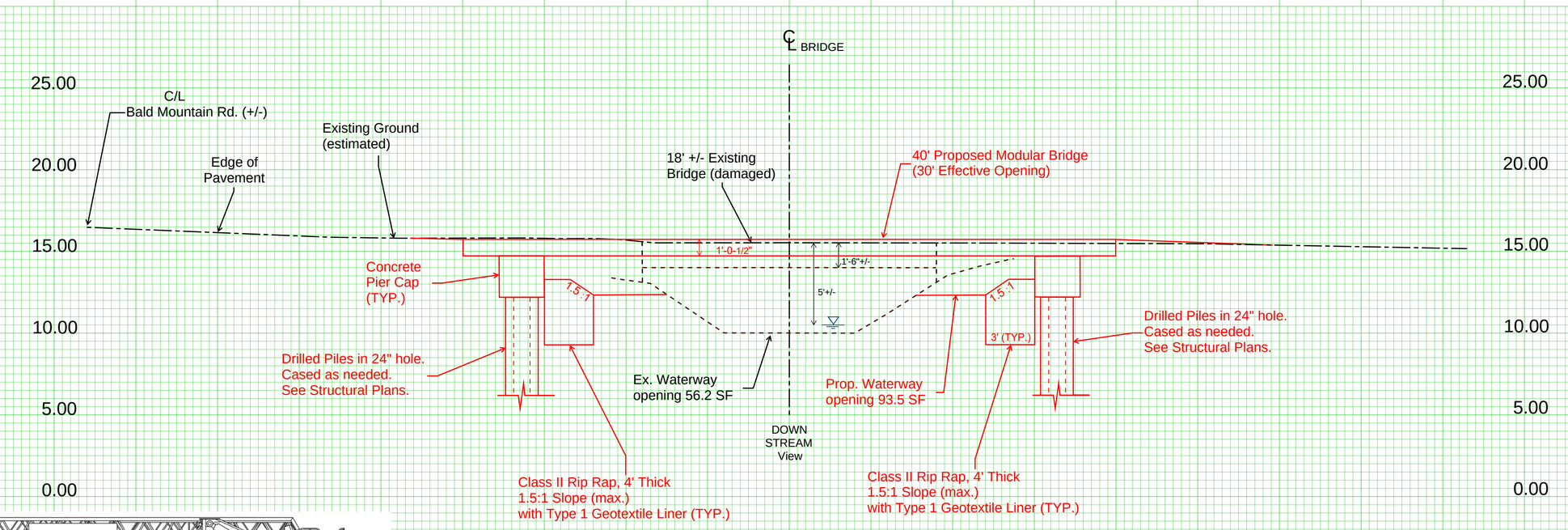
Emergency Vehicle Access Possible?	No
Number of Homes Confirmed	Yes
Number of Homes	1
Churches Confirmed	No
Number of Churches	0
Schools Confirmed	No
Number of Schools	0
Recreational/Business Areas Confirmed	No
Number of Recreational/Business Areas	0
General Description	timber bridge needs replaced, end bents sunk, 2x4s placed for personal vehicles, no heavy/emergency vehicles should cross
Overall Condition	Collapse
Condition Other	
Site Repair Status	Temporary Repair
Condition Description	Needs new 30ft long bridge
Expected Level of Effort	Full Redesign
Other Level of Effort	
Horizontal Curve	Yes
Number of Travel Lanes (LOS)	1
Inclination	No
Roadway Divider	No
Road/Bridge Width (ft)	15.00
Span/Gap Estimate (ft)	30.00
Surface to Water (ft)	3.00
Utility/Mechanical	Yes

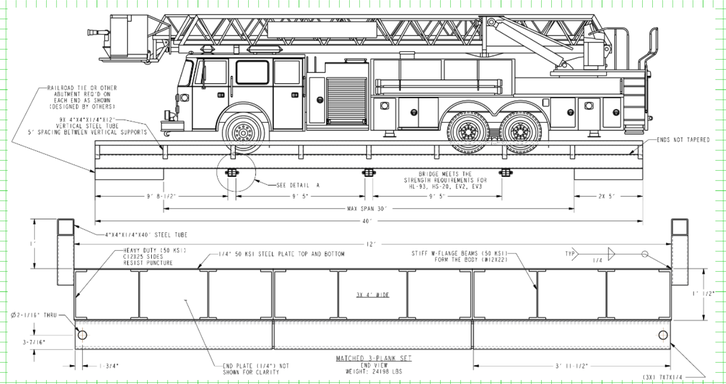


Post Helene temporary shoring by others.

12" W12X22 beam
+ 0.25" Steel Plate
+ 0.25" Steel Plate
=12.5" (1'-0-1/2") 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.





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Temporary Crossing

Pre-Helene Google Image



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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) C; Tr

Debris Potential: Low ☐ Moderate ☒ High ☐

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

Existing Structure - Description 1 @ 18' +/- private bridge (damaged by Helene)

Estimated Waterway Opening 56.2 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 N/A , (Bald Mountain Creek)

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

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 62.5 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	= 1230	C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25	YRS.
DESIGN HIGH WATER ELEVATION	=	
DRAINAGE AREA	= 6.65	SQ. MI.
BASIC DISCHARGE (Q100)	= 1860	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 ?

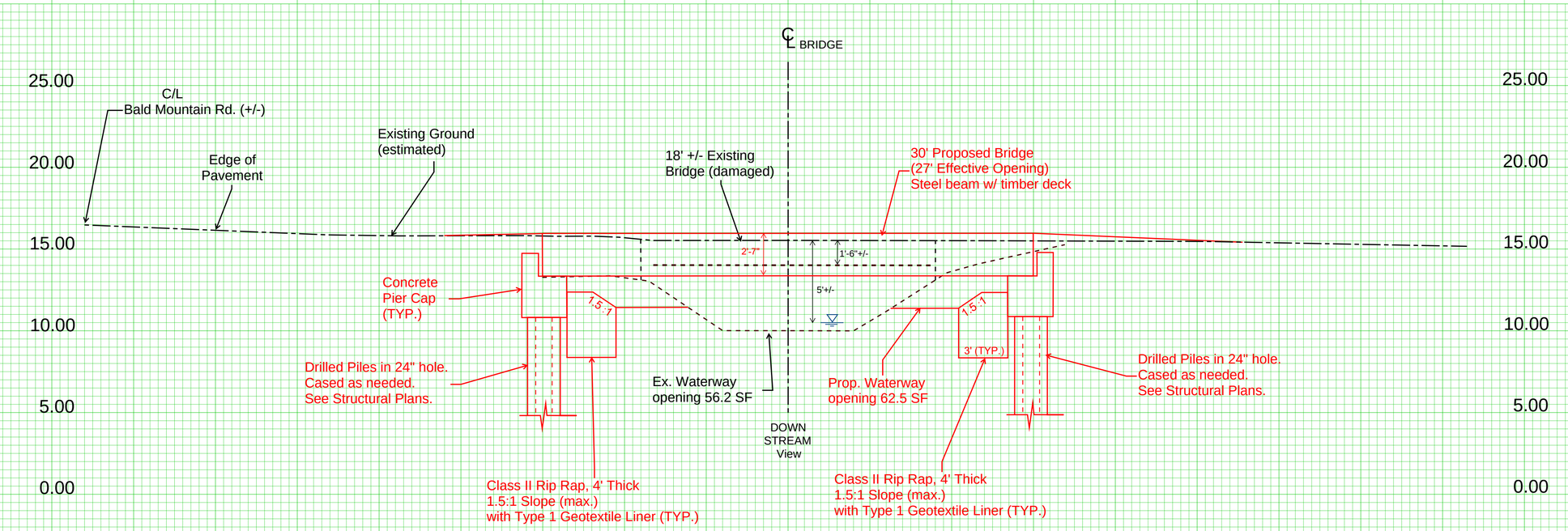
ADDITIONAL INFORMATION AND COMPUTATIONS

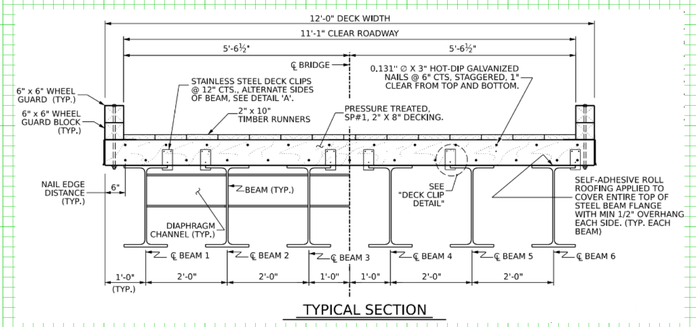
Emergency Vehicle Access Possible?	No
Number of Homes Confirmed	Yes
Number of Homes	1
Churches Confirmed	No
Number of Churches	0
Schools Confirmed	No
Number of Schools	0
Recreational/Business Areas Confirmed	No
Number of Recreational/Business Areas	0
General Description	timber bridge needs replaced, end bents sunk, 2x4s placed for personal vehicles, no heavy/emergency vehicles should cross
Overall Condition	Collapse
Condition Other	
Site Repair Status	Temporary Repair
Condition Description	Needs new 30ft long bridge
Expected Level of Effort	Full Redesign
Other Level of Effort	
Horizontal Curve	Yes
Number of Travel Lanes (LOS)	1
Inclination	No
Roadway Divider	No
Road/Bridge Width (ft)	15.00
Span/Gap Estimate (ft)	30.00
Surface to Water (ft)	3.00
Utility/Mechanical	Yes



Post Helene temporary shoring by others.

21" W21X48 beam
+ 8" Deck
+ 2" Runner
=31" (2'-7") ft 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

SHEET

WBS 100-01-00395	**TIP** N/A	**COUNTY** YANCEY	**GEOLOGIST** J. Baskin
SITE DESCRIPTION 4370 Big Mountain Road for Bridge over Bald Mountain 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** 39.2 ft	**NORTHING** 828,038	**EASTING** 979,018	**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** 08/20/26	**COMP. DATE** 08/20/26	**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
	-0.1	0.1	12	100/0.4		100/0.9		M		-0.2 **ASPHALT**	0.2
										-1.0 **ROADWAY EMBANKMENT** Gray-Brown, Silty Fine to Coarse SAND (A-2-4) with Trace Gravel	1.0
-5	-5.0	5.0	12	54	17	71		Sat.		**ALLUVIAL** Cobbles and Boulders with Gray-Brown, Silty Fine to Coarse SAND (A-2-4) with Trace Gravel	
-10	-10.0	10.0	31	27	25	52		M		-12.0 No Recovery	12.0
-15	-15.0	15.0	7	3	3	6		M			
	-18.5	18.5	3	2	2	4		M		-22.0 **RESIDUAL** Brown to Black-Brown, Fine to Coarse Sandy SILT (A-4) with Trace Mica and Rock Fragments	22.0
-20											
-25	-23.5	23.5	2	4	6	10		M			
-30	-28.5	28.5	5	10	14	24		W			
-35	-33.5	33.5	16	15	17	32		M			
	-38.5	38.5								-37.0 **WEATHERED ROCK** White Tan MIGMITITE GNEISS	37.0
	-39.1	39.1	70	30/0.1		100/0.6				-39.1 **CRYSTALLINE ROCK** White Tan MIGMITITE GNEISS	39.1
			60/0.1			60/0.1				-39.2 Boring Terminated with Standard Penetration Test Refusal at Elevation -39.2 ft in CRYSTALLINE ROCK (MIGMITITE GNEISS)	39.2

Notes:
1. Augers Skewed After First SPT Drive-Switch to Coring at 1.0'
2. 0 HR Water Level and Cave Depth Obtained After Coring Completed
3. 0 HR Cave Depth = 7.5'

DRAFT

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 100-01-00395	**TIP** N/A	**COUNTY** YANCEY	**GEOLOGIST** J. Baskin
SITE DESCRIPTION 4370 Big Mountain Road for Bridge over Bald Mountain 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** 39.2 ft	**NORTHING** 828,038	**EASTING** 979,018	**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** 08/20/26	**COMP. DATE** 08/20/26	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 14.5 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
-1											Begin Coring @ 1.0 ft
	-1.0	1.0	4.0	0:58/1.0 0:36/1.0 1:18/1.0 3:43/1.0	(1.1) 28%	(0.0) 0%					-1.0 **ALLUVIAL** 1.0 Cobbles and Boulders with Gray-Brown, Silty Fine to Coarse SAND (A-2-4) with Trace Gravel
-5	-5.0	5.0		N=71							
-10				N=52							-12.0 12.0 No Recovery
-15				N=6							
-20	-20.0	20.0		N=4							-22.0 22.0 **RESIDUAL** Brown to Black-Brown, Fine to Coarse Sandy SILT (A-4) with Trace Mica and Rock Fragments
	-23.5	23.5	3.5	0:28/0.5 0:58/1.0 0:57/1.0 1:04/1.0	(0.0) 0%	(0.0) 0%					
-25	-25.0	25.0		N=10							
	-28.5	28.5	3.5	0:16/0.5 0:45/1.0 0:37/1.0 0:30/1.0	(0.0) 0%	(0.0) 0%					
-30				N=24							
-35	-35.0	35.0		N=32							
	-38.5	38.5	3.5	0:41/1.0 1:31/0.5 0:46/1.0 0:57/1.0	(0.0) 0%	(0.0) 0%					-37.0 37.0 **WEATHERED ROCK** White Tan MIGMITITE GNEISS -39.1 39.1 -39.2 39.2 **CRYSTALLINE ROCK** White Tan MIGMITITE GNEISS Boring Terminated with Standard Penetration Test Refusal at Elevation -39.2 ft in CRYSTALLINE ROCK (MIGMITITE GNEISS)
				N=100/0.6 N=60/0.1							

Notes:
1. Augers Skewed After First SPT Drive- Switch to Coring at 1.0'
2. 0 HR Water Level and Cave Depth Obtained After Coring Completed
3. 0 HR Cave Depth = 7.5'

DRAFT