North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

General Project Information

WBS Element:	DF18313-2059016	**TIP Number:**	**DF18313-2059016**	**Project Type:**	Bridge Replacement	**Date:**	10/8/2025
NCDOT Contact:	Hannah K. Smith			**Contractor / Designer:**	Erik Aadland, PE		
Address:	55 Orange Street Asheville, NC 28801			**Address:**	301 Fayetteville Street Suite 1500 Raleigh, NC 27601		
Phone:	828.250.3026			**Phone:**	919.882.7839		
Email:	hksmith@ncdot.gov			**Email:**	eaadland@kcaeng.com		
City/Town:	Old Fort			**County(ies):**	Mcdowell		
River Basin(s):	Catawba			**CAMA County?**	No		
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	141 ft	**Surrounding Land Use:**	Rural - Wooded - Mountainous				
	Proposed Project			**Existing Site**			
Project Built-Upon Area (ac.)	0.14	ac.		0.14	ac.		
Typical Cross Section Description:	The proposed bridge typical section consists of a 14' clear roadway width a 15' out to out width. The proposed roadway will match the existing roadway and grade to the maximum extent practicable to tie into the existing roadway.			The existing typical section consists of a gravel roadway. The existing bridge was washed out during Hurricane Helene. A temporary single lane rail car has been installed to regain access to properties.			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	150	Year: 2022	Existing:	110	Year:	2000
General Project Narrative: (Description of Minimization of Water Quality Impacts)	The existing drainage patterns will be matched to the maximum extent practicable. The proposed design will have flush shoulders tying to existing ground with the proposed grade matching the existing garde as closely as possible. The proposed bridge will be constructed in the same location as the existing bridge that was washed out during Hurricane Helene in order to match the same stream crossing location. The temporary bridge that was installed post storm will be removed and graded back to the existing conditions to the maximum extent practicable. Erosion control measures will be placed around temporary and proposed bridges to avoid sedimentation from entering the stream to the maximum extent possible						

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WBS Element:	DF18313-2059016	TIP/Proj No.:	DF18313-2059016	County(ies):	Mcdowell	Page	2	of	2

General Project Information

Waterbody Information

Surface Water Body (1):	Mill Creek		**NCDWR Stream Index No.:**	11-7-5			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C				
		Supplemental Classification:	Trout Waters (Tr)	(HQW)			
Other Stream Classification:	Designated Public Mountain Trout Waters						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:	N/A			**Buffer Rules in Effect:**	N/A		
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	No		
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							

Surface Water Body (2):	Paris Branch		**NCDWR Stream Index No.:**	11-7-(0.5)			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C				
		Supplemental Classification:	Trout Waters (Tr)	(HQW)			
Other Stream Classification:	Designated Public Mountain Trout Waters						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:	N/A			**Buffer Rules in Effect:**	N/A		
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A		
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							

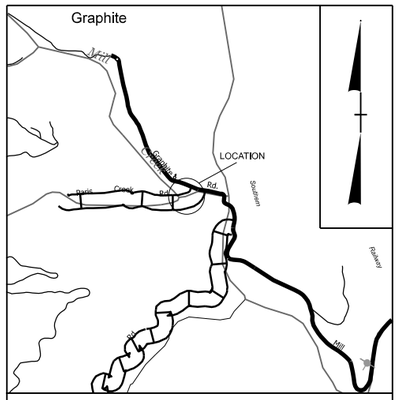
Surface Water Body (3):	N/A		**NCDWR Stream Index No.:**				
NCDWR Surface Water Classification for Water Body		**Primary Classification:**					
		Supplemental Classification:					
Other Stream Classification:							
Impairments:							
Aquatic T&E Species?		Comments:					
NRTR Stream ID:				**Buffer Rules in Effect:**			
Project Includes Bridge Spanning Water Body?		**Deck Drains Discharge Over Buffer?**		**Dissipator Pads Provided in Buffer?**			
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							

01/16/24

TIP PROJECT: 580-141

CONTRACT: _____

See Sheet 1B for Conventional Symbols



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MCDOWELL COUNTY

LOCATION: *REPLACE BRIDGE 141 ON SR 1409 (PARIS CREEK RD) OVER MILL CREEK*

TYPE OF WORK: *GRADING, PAVING DRAINAGE, STRUCTURE*

PERMIT DRAWING
SHEET 3 OF 8

NAD 83/2011

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	580-141	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
DF18313.2059016.PR		P.E.

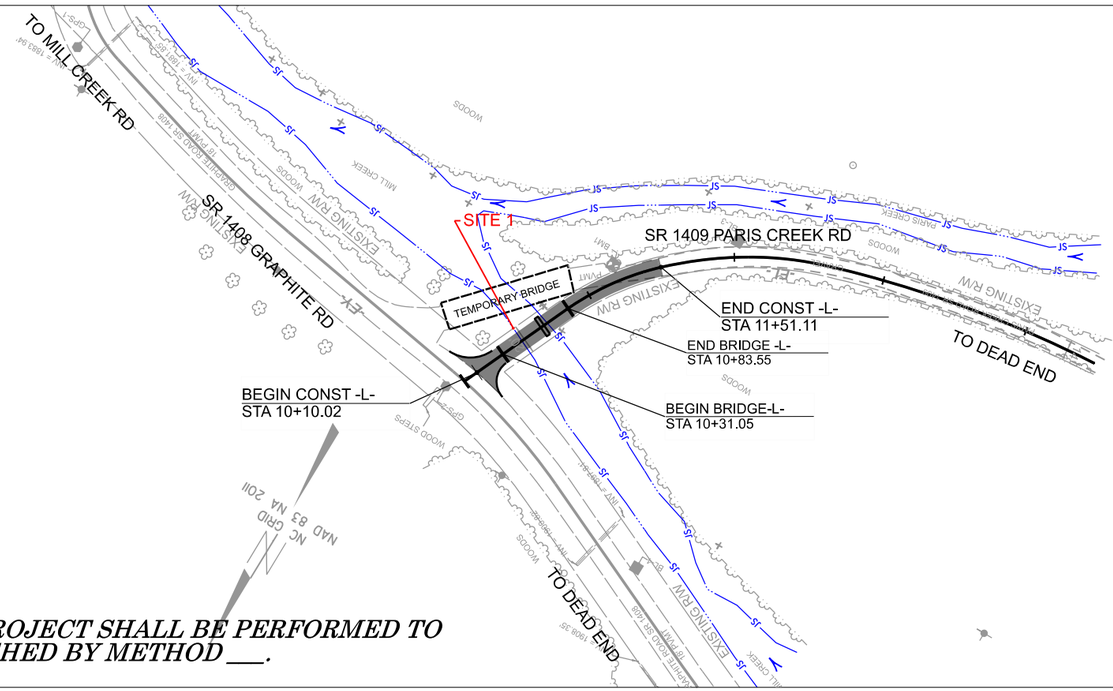
WETLAND IMPACTS

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

580-141: REVISED DESIGN RECOMMENDATION PLAN SET
DATE: 10/24/2025

4



NOTES:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ___.

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT 580-141 = 0.017 MI

LENGTH OF STRUCTURE TIP PROJECT 580-141 = 0.010 MI

TOTAL LENGTH OF TIP PROJECT 580-141 = 0.027 MI

Prepared in the Office of:
Michael Baker Engineering, Inc.
Michael Baker INTERNATIONAL
8000 Regency Pkwy
Suite 600
Cary, NC 27518
NC License: F-1084

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: _____

LETTING DATE: _____

TODD BUCKNER, PE
PROJECT ENGINEER

ETHAN NELSON, EIT
PROJECT DESIGN ENGINEER

HANNAH K. SMITH
NCDOT CONTACT

HYDRAULICS ENGINEER

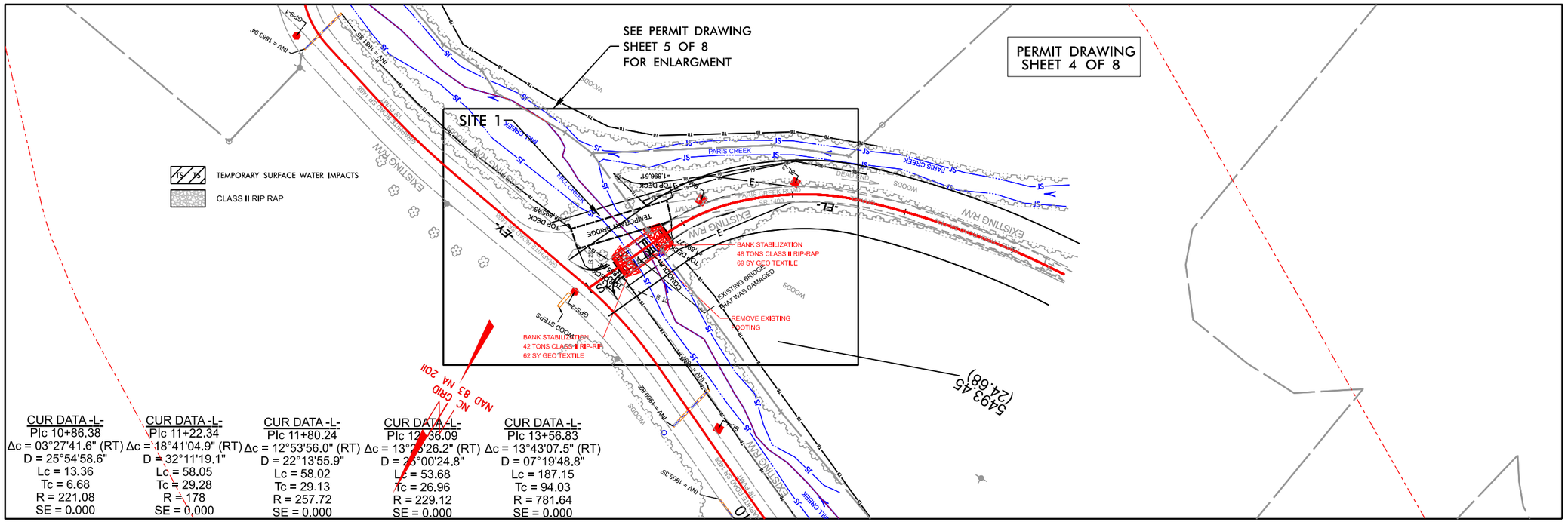
_____ .
P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

_____ .
P.E.
SIGNATURE:

STATE OF NORTH CAROLINA - DEPARTMENT OF TRANSPORTATION

11/14/23



CUR DATA -L-	CUR DATA -L-	CUR DATA -L-	CUR DATA -L-	CUR DATA -L-
Plc 10+86.38	Plc 11+22.34	Plc 11+80.24	Plc 12+36.09	Plc 13+56.83
Δc = 03°27'41.6" (RT)	Δc = 18°41'04.9" (RT)	Δc = 12°53'56.0" (RT)	Δc = 13°25'26.2" (RT)	Δc = 13°43'07.5" (RT)
D = 25°54'58.6"	D = 32°11'19.1"	D = 22°13'55.9"	D = 25°00'24.8"	D = 07°19'48.8"
Lc = 13.36	Lc = 58.05	Lc = 58.02	Lc = 53.68	Lc = 187.15
Tc = 6.68	Tc = 29.28	Tc = 29.13	Tc = 26.96	Tc = 94.03
R = 221.08	R = 178	R = 257.72	R = 229.12	R = 781.64
SE = 0.000	SE = 0.000	SE = 0.000	SE = 0.000	SE = 0.000

DF18313.2059016

PERMIT | WETLAND

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HENDERSON COUNTY

HIGHWAY DIVISION 14

ROADWAY DESIGN
ENGINEER

PREPARED BY

KCA
KISINGER CAMPO
& ASSOCIATES

NC FIRM LICENSE No: C-1506
301 Fayettville St.,
Suite 1500
Raleigh, NC 27601
(919)882-7839

$$$-USER_NAME-$$$ - $$$-DATE-$$$

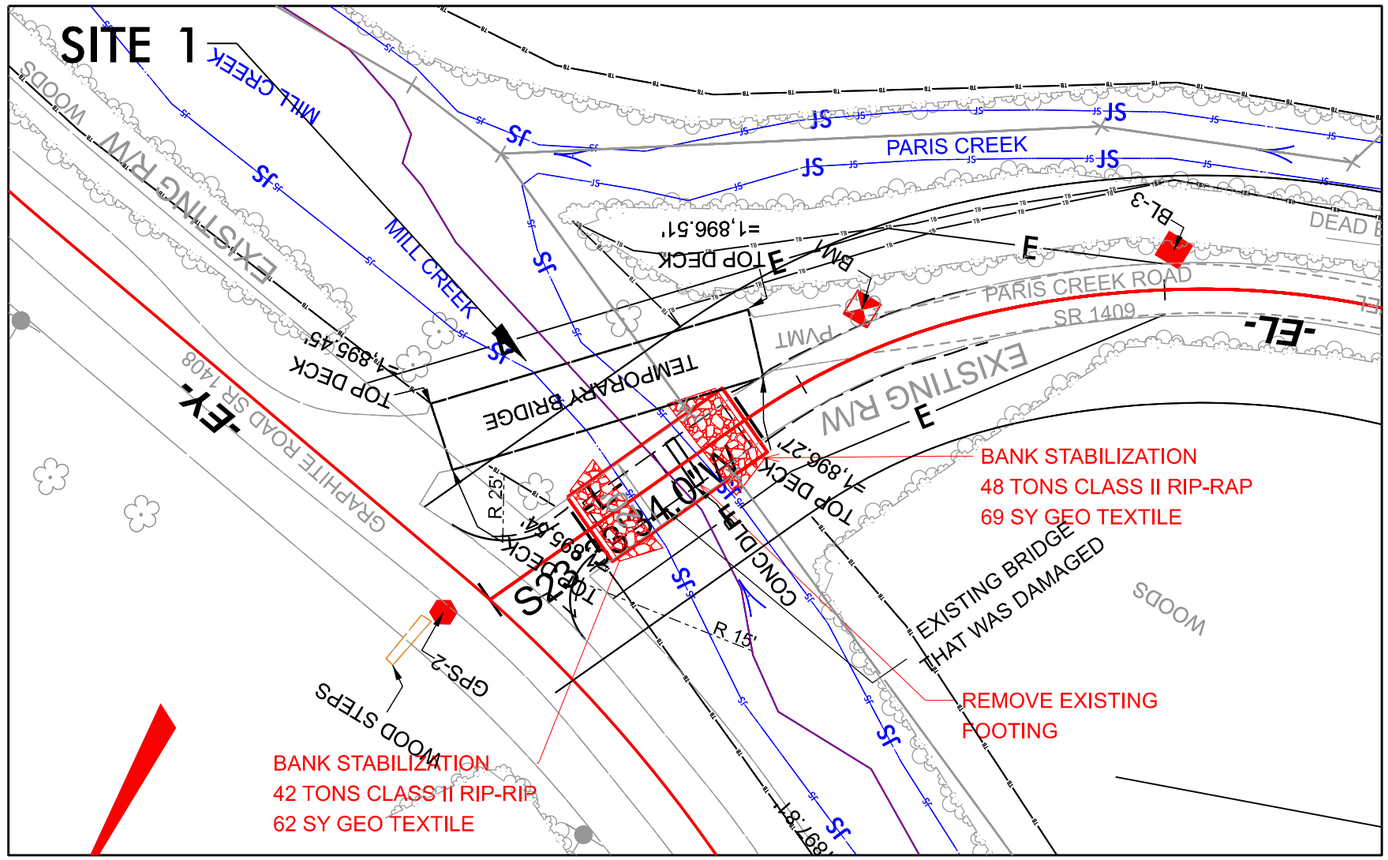
11/14/23

TS TS TEMPORARY SURFACE WATER IMPACTS

CLASS II RIP RAP

0' 10' 40'

PERMIT DRAWING
SHEET 5 OF 8



DFI8313.2059016
PERMIT | WETLAND

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HENDERSON COUNTY

HIGHWAY DIVISION 14

ROADWAY DESIGN ENGINEER

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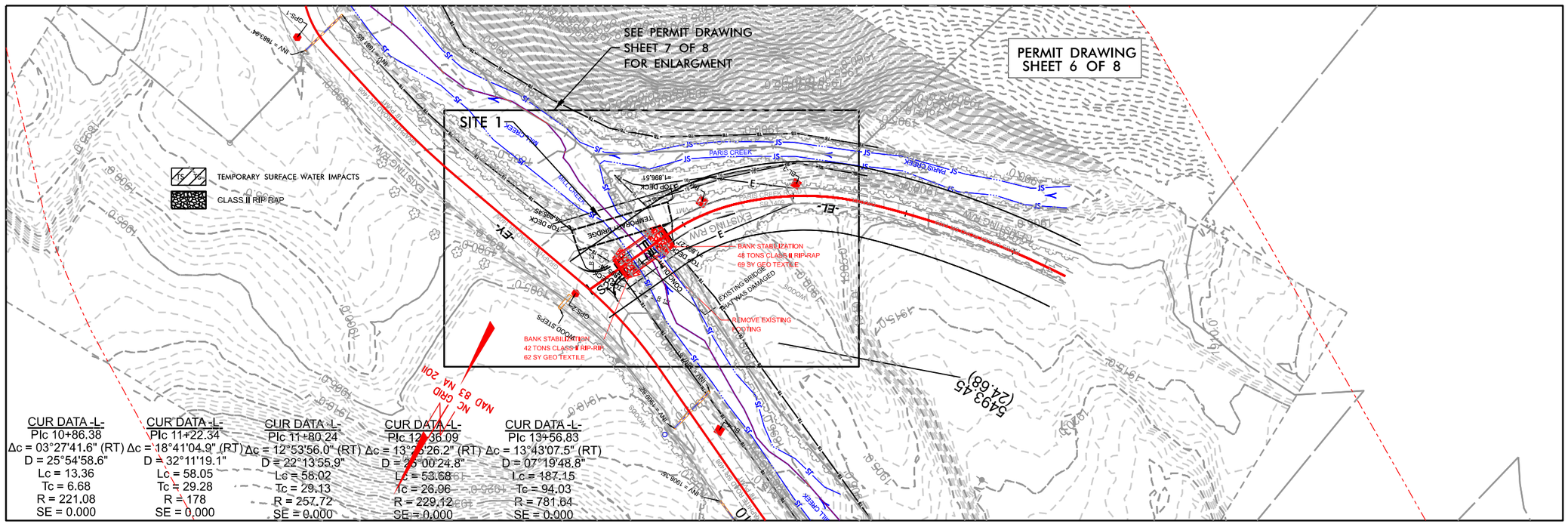
11/14/23



DF18313.2059016

PERMIT | WETLAND

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HENDERSON COUNTY

HIGHWAY DIVISION 14

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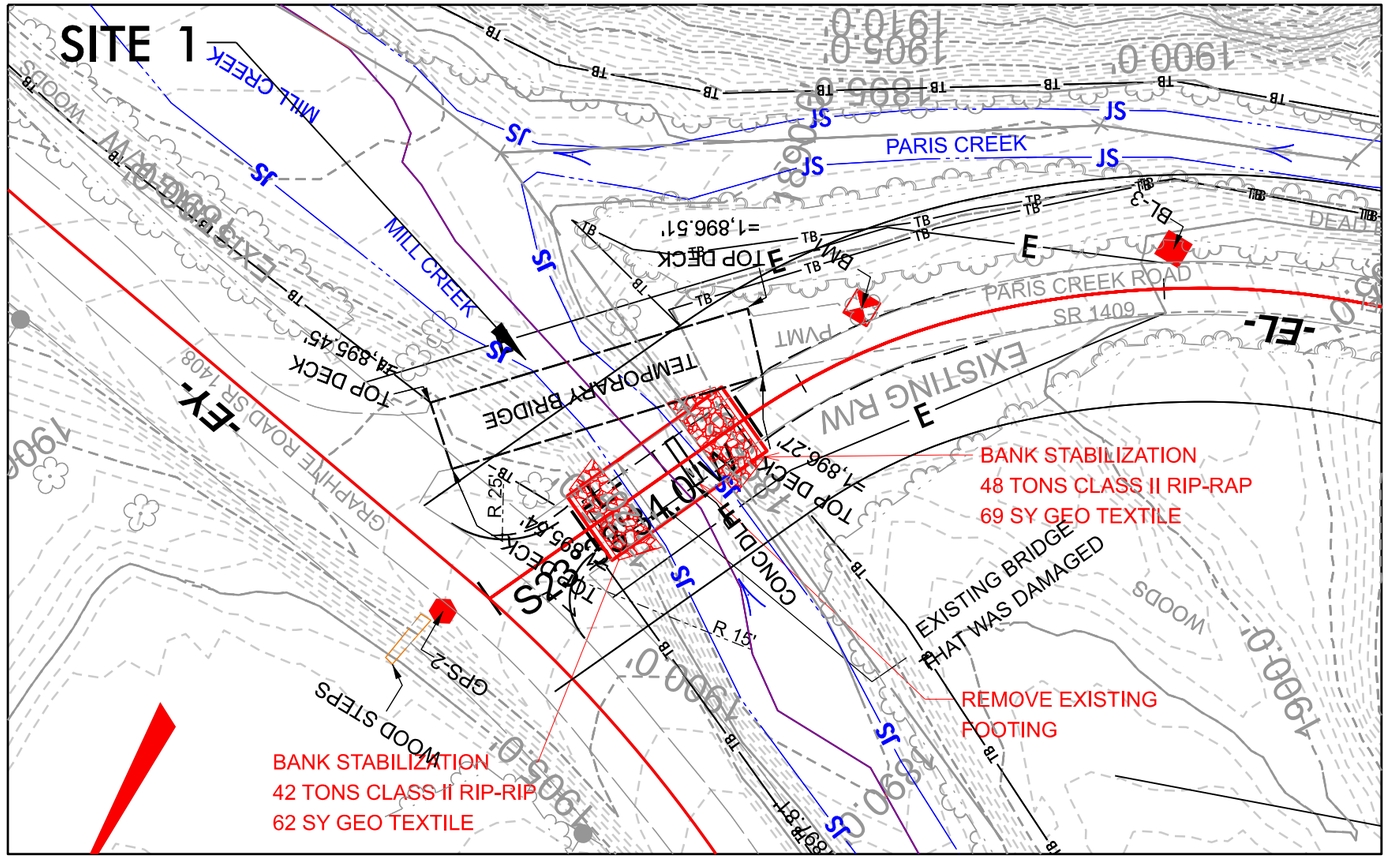
11/14/23

TS TS TEMPORARY SURFACE WATER IMPACTS

CLASS II RIP RAP

0' 10' 40'

PERMIT DRAWING
SHEET 7 OF 8



NAD 83 NC GRID NA 2011

DF18313.2059016
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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HENDERSON COUNTY

HIGHWAY DIVISION 14

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Raleigh, NC 27601
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$$$-USER_NAME-$$$ - $$$-DATE-$$$

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation in Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac)	WETLAND IMPACTS: Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	SURFACE WATER IMPACTS: Temp. SW impacts (ac)	SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft)	SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
1	-L-10+64 / 10+69	Bridge EB2										
TOTALS*:										0	0	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
1/9/2025
McDowell
DF18313.2059016