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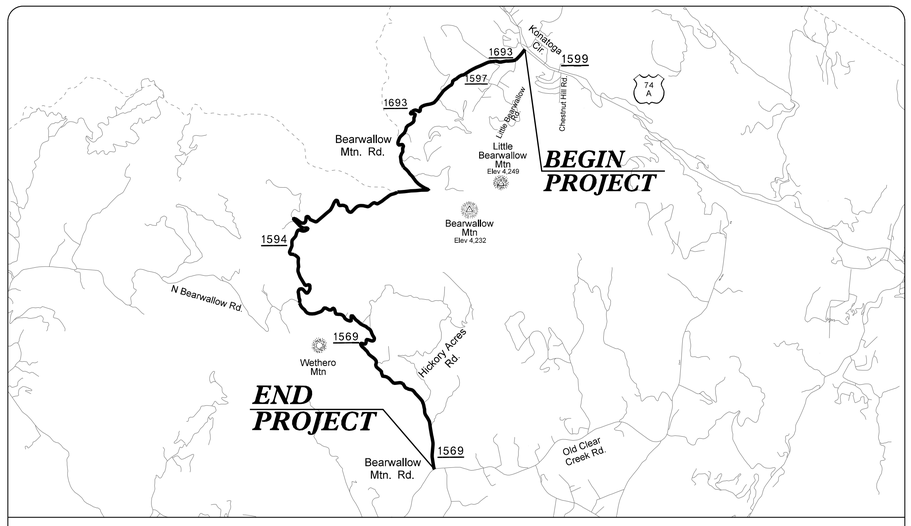
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

HENDERSON COUNTY

LOCATION: SR 1594 & SR 1569 BEARWALLOW MOUNTAIN RD BETWEEN US74A AND OLD CLEAR CREEK RD.



VICINITY MAP

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-1A	ROADWAY STANDARD DRAWINGS & LEGEND
TMP-1B	GENERAL NOTES AND MANAGEMENT STRATEGIES
TMP-2A THRU TMP-2D	TEMPORARY SHORING DETAILS
TMP-2E	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS DETAIL
TMP-3	PHASING NOTES
TMP-4	SITE 5 PHASE 1 DETAILS
TMP-5	SITE 5 PHASE 2 DETAILS
TMP-6	SITE 13 PHASE 1 DETAILS
TMP-7	SITE 13 PHASE 2 DETAILS

SHEET NO.
TMP-1

DF18314.2045121 W03290

TIP PROJECT: DN0135

09/18/25 DATE SUBMITTED
SUBMITTAL:
- [ ] STAGING CONCEPT
- [ ] MIDPOINT
- [ ] PRE-FINAL
- [X] FINAL

Kimley»Horn

BEN CRAWFORD, P.E. *TRAFFIC CONTROL PROJECT ENGINEER*

EVAN PARROTT, P.E. *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

BARRY MOSTELLER *DIVISION PROJECT ENGINEER*

ASSISTANT DIVISION CONSTRUCTION ENGINEER

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

*APPROVED:*_____
*DATE:*_____

SEAL

9/30/2025 K:\RAL_Roadway\Oll036679 - Bearwallow\Work Zone Traffic Control\Plans\Sheets\Bearwallow_tcp_tshdgn

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045121	TMP-1A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1130.01	BARRICADES
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE & MULTILANE ROADWAYS
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- WEDGING
- REMOVAL
- ABC

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

EXISTING PROPOSED TEMP TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

PAVEMENT MARKING LINES

P1 - PAINT (4", 2X) WHITE EDGELINE
P61 - PAINT (24", 2X) WHITE STOPBAR

Kimley»Horn

APPROVED:_____ DATE:_____

NORTH CAROLINA PROFESSIONAL SEAL 032606 ENGINEER BENJAMIN R. CRAWFORD
Benjamin Crawford
10/1/2025

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

9/30/2025 K:\RAL_Roadway\Oll036679 - Bearwallow\Work Zone Traffic Control\Plans\Sheets\Bearwallow_top_tshdgn

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045121	TMP-1B

MANAGEMENT STRATEGIES

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

TRAFFIC MANAGEMENT STRATEGIES:
- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- ONE-LANE, TWO WAY OPERATION (SIGNALIZED)
- NIGHT WORK
- WEEKEND WORK
- ON-SITE DETOURS

WORK ZONE SAFETY & MOBILITY STRATEGIES:
- TEMPORARY TRAFFIC SIGNALS

CONTRACTING & INNOVATIVE CONTRUCTION STRATEGIES:
- INTERMEDIATE CONTRACT TIMES / LIQUIDATED DAMAGES

GENERAL NOTES / LOCAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS;

A) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
SR 1594 (BEARWALLOW MOUNTAIN ROAD)	ANYTIME

LANE AND SHOULDER CLOSURE REQUIREMENTS:

B) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED AS DIRECTED BY THE ENGINEER.

C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRANSPORTATION MANAGEMENT PLAN, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

E) DO NOT WORK SIMULTANEOUSLY ON BOTH SIDES OF AN OPEN TRAVELWAY WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS:

F) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

G) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 200 FEET IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

GENERAL NOTES / LOCAL NOTES

TRAFFIC PATTERN ALTERATIONS:

H) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING:

I) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

K) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 100 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER:

L) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

M) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT

TRAFFIC CONTROL DEVICES:

N) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES), AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

PAVEMENT MARKINGS AND MARKERS:

O) INSTALL TEMPORARY PAINT PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR 1594 (BEARWALLOW MOUNTAIN ROAD)	PAINT	NONE
BEARWALLOW SUBDIVISION ROAD	PAINT	NONE

P) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

Q) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

R) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

Kimley»Horn

APPROVED:_____ DATE:_____

NORTH CAROLINA PROFESSIONAL SEAL 032606 ENGINEER JOSHUA R. CRAWFORD
Signed by: Joshua Crawford
10/1/2025

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

GENERAL NOTES AND MANAGEMENT STRATEGIES

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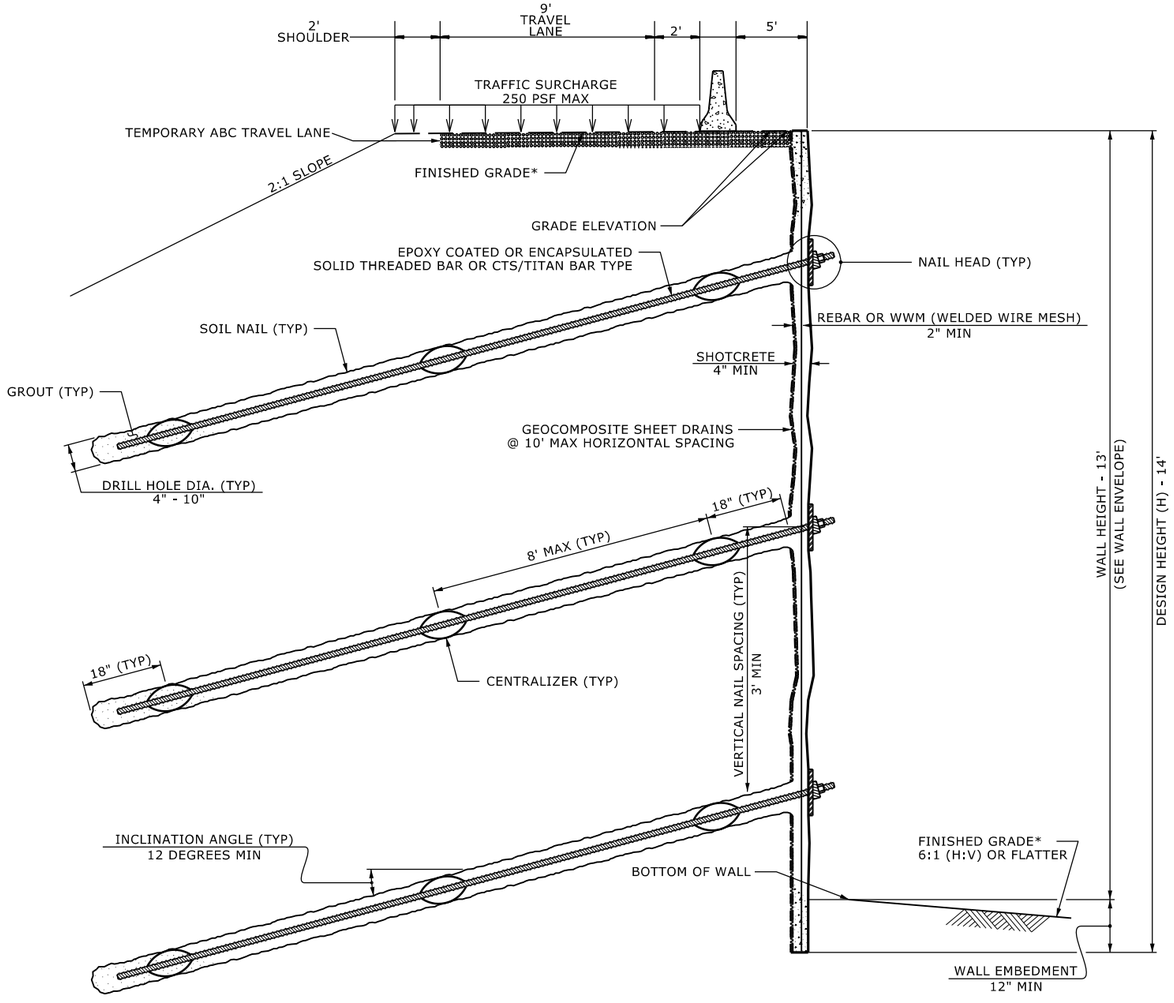
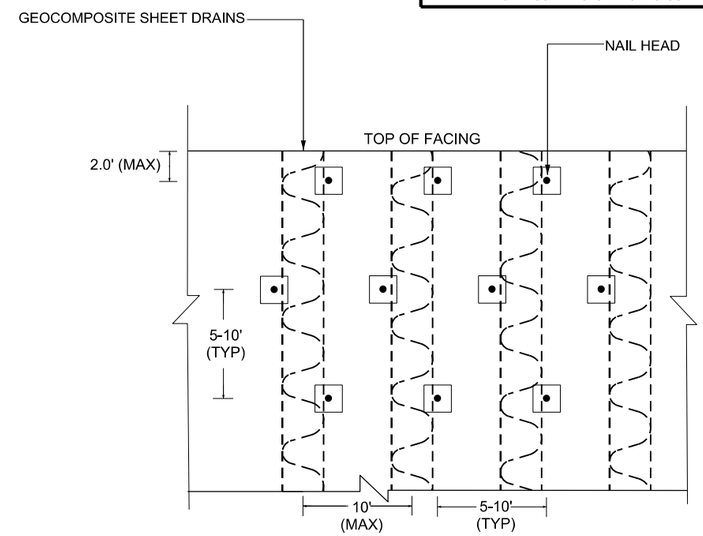
9/30/2025

GEOTECHNICAL ENGINEER	ENGINEER
SIGNATURE DATE	SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





ELEVATION VIEW

NOTES:

FOR TEMPORARY SOIL NAIL RETAINING WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

BEFORE BEGINNING WALL DESIGN FOR TEMPORARY SOIL NAIL WALL NO. 1, SURVEY WALL LOCATION.

DESIGN TEMPORARY SOIL NAIL WALL NO. 1 FOR THE FOLLOWING:
1) DESIGN HEIGHT (H) = WALL HEIGHT (13 FT) + WALL EMBEDMENT (1 FT) = 14 FT
2) IN-SITU ASSUMED FOR ROADWAY FILL/ALLUVIAL MATERIAL PARAMETERS:
UNIT WEIGHT, γ = 120 PCF
FRICTION ANGLE, φ = 28 DEGREES
COHESION, c = 0 PSF

DESIGN TEMPORARY SOIL NAIL WALL NO. 1 FOR A LIVE LOAD (TRAFFIC) SURCHARGE OF 250 PSF.

DESIGN TEMPORARY SOIL NAIL WALL NO. 1 FOR A PIPE EXTENDING THROUGH THE WALL AS SHOWN IN THE ROADWAY PLANS. VERIFY PIPE LOCATION AND ELEVATION BEFORE BEGINNING SOIL NAIL WALL DESIGN OR CONSTRUCTION.

CONTRACTOR SHALL SUBMIT THE WALL DESIGN FOR THE SHORING SYSTEM TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL. INCLUDE DRAWINGS AND CALCULATIONS SEALED BY THE CONTRACTOR'S DESIGN ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA.

TEMPORARY SOIL NAIL WALL - TYPICAL SECTION

*SEE PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: DF18314.2045404

HENDERSON COUNTY

STATION: -EL6- 19+60.00 TO 19+85.65

SHEET 1 OF 1 TEMPORARY SHORING #1

ESP ASSOCIATES, INC.
P.O. BOX 7030
CHARLOTTE, NC 28241
WWW.ESPASSOCIATES.COM

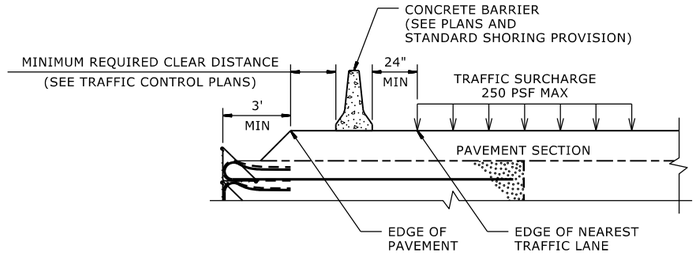
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

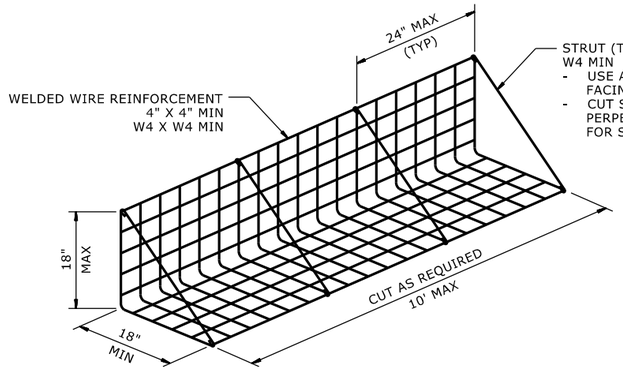
PREPARED BY: PB	DATE: 9/2025
REVIEWED BY: HAA	DATE: 9/2025

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			TMP-2A
2			4			

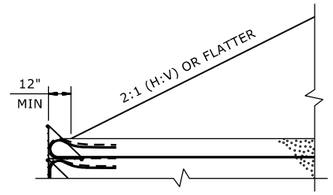
5/26/20



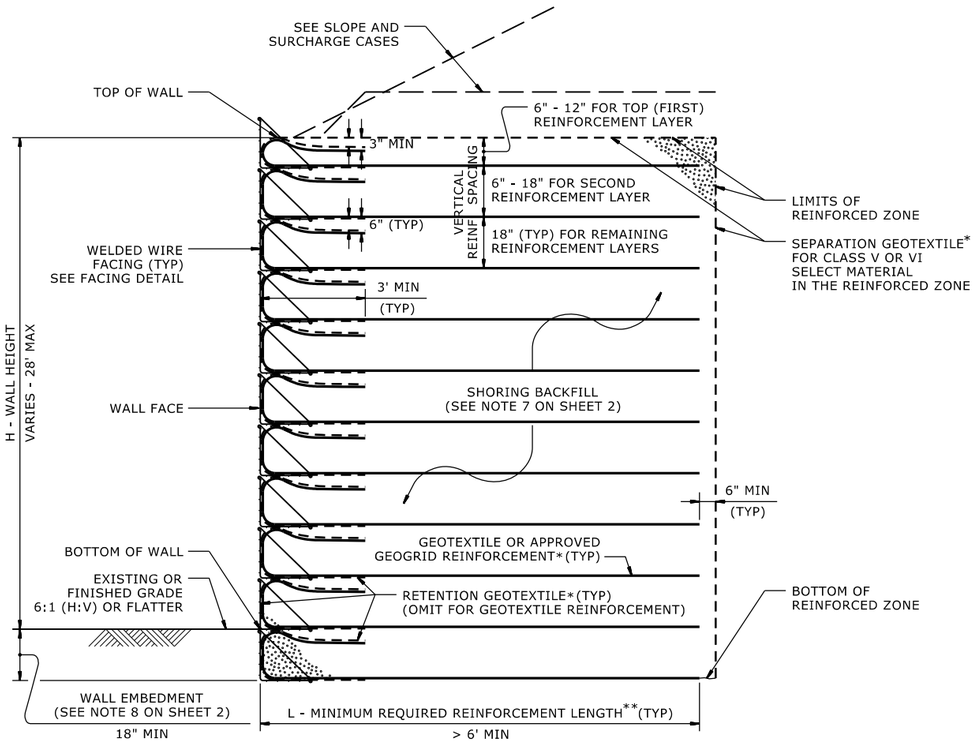
SURCHARGE CASE



FACING DETAIL

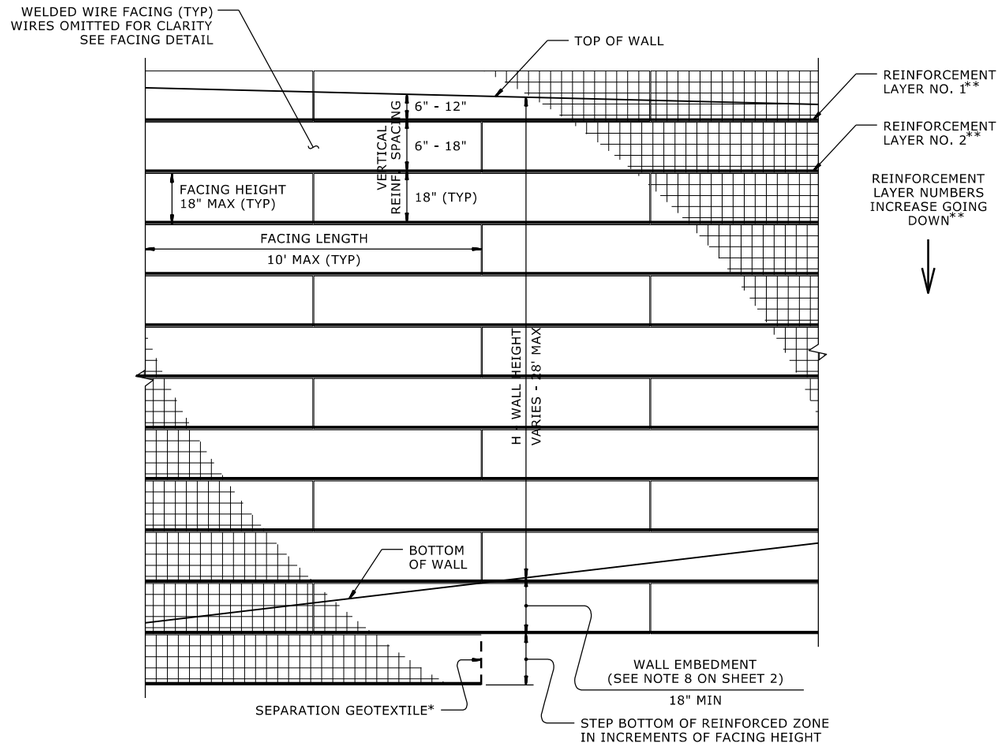


SLOPE CASE



STANDARD TEMPORARY WALL

(FOR STANDARD TEMPORARY WALLS ON STRUCTURES,
SEE TEMPORARY WALL ON STRUCTURE DETAIL ON SHEET 2.)
*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.
**SEE REINFORCEMENT TABLES ON SHEET 3.



STANDARD TEMPORARY WALL - PARTIAL ELEVATION

*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.
**SEE REINFORCEMENT TABLES ON SHEET 3.

DF18314.2045404

TMP-2B | -

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION

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057984
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ENGINEER
HRATCH ANTOINE ADOYAN

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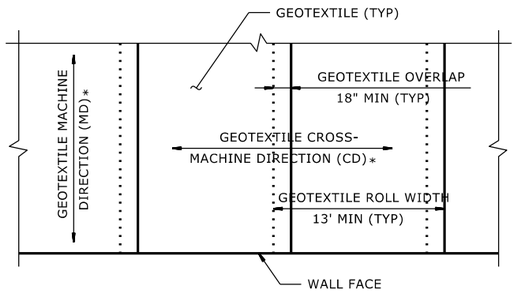
UNLESS ALL SIGNATURES COMPLETED

STANDARD
DETAIL NO. 1801.02

GEOTECHNICAL STANDARD DETAIL FOR

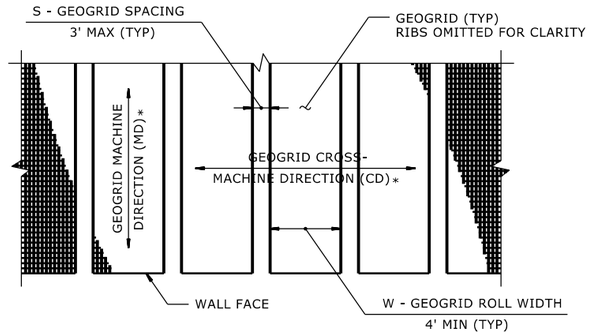
TEMPORARY WALL #2 (SHEET 1 OF 3)

DATE: 02-18-2025



GEOTEXTILE PLACEMENT

(100% COVERAGE MIN FOR
GEOTEXTILE REINFORCEMENT)

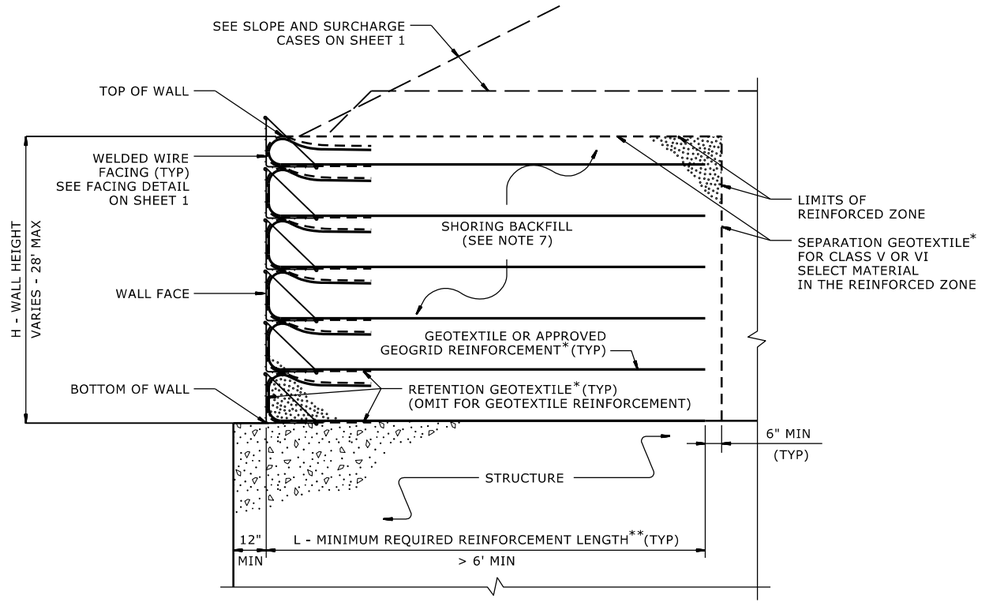


GEOGRID PLACEMENT

(80% COVERAGE MIN FOR
GEOGRID REINFORCEMENT -
$\frac{W}{W+S} \times 100 \geq 80\%$,
SEE NOTE 11)

GEOSYNTHETIC PLACEMENT DETAILS

(PLAN VIEW)
*SEE NOTE 12.



TEMPORARY WALL ON STRUCTURE DETAIL

*SEE GEOSYNTHETIC PLACEMENT DETAILS.
**SEE REINFORCEMENT TABLES ON SHEET 3.

NOTES:

1. AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY WALLS AS NOTED IN THE PLANS.
2. FOR STANDARD TEMPORARY WALLS, SEE STANDARD SHORING PROVISION.
3. STANDARD TEMPORARY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
   UNIT WEIGHT, γ = 110 PCF
   FRICTION ANGLE, φ = 28 DEGREES
   COHESION, c = 0 PSF
4. DO NOT USE STANDARD TEMPORARY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
5. DO NOT USE STANDARD TEMPORARY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW TEMPORARY WALLS.
6. USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, ASSUME GROUNDWATER DEPTH IS LESS THAN 7' BELOW BOTTOM OF REINFORCED ZONE. DO NOT USE STANDARD TEMPORARY WALLS IF GROUNDWATER OR FLOOD ELEVATION IS ABOVE BOTTOM OF REINFORCED ZONE.
7. DO NOT USE A-2-4 SOIL FOR STANDARD TEMPORARY WALLS AROUND CULVERTS OR IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS FOR SLOPE CASES. DO NOT USE CLASS VI SELECT MATERIAL IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS WITH GEOTEXTILE REINFORCEMENT.
8. WALL EMBEDMENT IS NOT REQUIRED FOR STANDARD TEMPORARY WALLS ON STRUCTURES OR ROCK AS DETERMINED BY THE ENGINEER.
9. DO NOT USE MORE THAN 4 DIFFERENT REINFORCEMENT STRENGTHS FOR EACH STANDARD TEMPORARY WALL.
10. GEOGRIDS FOR GEOGRID REINFORCEMENT ARE APPROVED FOR SHORT TERM DESIGN STRENGTHS (3-YEAR DESIGN LIFE) IN THE MD AND CD BASED ON MATERIAL TYPE. THE LIST OF APPROVED GEOGRIDS WITH DESIGN STRENGTHS IS AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Products.aspx
    DEFINE MATERIAL TYPE FROM THE WEBSITE ABOVE FOR SHORING BACKFILL AS FOLLOWS:

MATERIAL TYPE	SHORING BACKFILL
BORROW	A-2-4 SOIL
FINE AGGREGATE	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL
COARSE AGGREGATE	CLASS V OR VI SELECT MATERIAL

11. FOR GEOGRID REINFORCEMENT WITH LESS THAN 100% COVERAGE, STAGGER REINFORCEMENT SO GEOGRIDS ARE CENTERED OVER GAPS IN THE REINFORCEMENT LAYER BELOW.
12. AT THE CONTRACTOR'S OPTION, REINFORCEMENT MAY BE INSTALLED WITH THE MD PARALLEL TO THE WALL FACE IF BOTH OF THE FOLLOWING CONDITIONS OCCUR:
    - W (REINFORCEMENT ROLL WIDTH) > (MINIMUM REQUIRED REINFORCEMENT LENGTH) + 4.5' AND
    - REINFORCEMENT STRENGTH IN CD > MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD.
13. SUBMIT A "STANDARD TEMPORARY WALL SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY WALL CONSTRUCTION. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
14. DO NOT PLACE SHORING BACKFILL OR REINFORCEMENT UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
15. DO NOT SPLICE OR OVERLAP REINFORCEMENT SO SEAMS ARE PARALLEL TO THE WALL FACE.
16. CONTACT THE ENGINEER WHEN EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT.
17. FOR STANDARD TEMPORARY WALLS WITH INTERIOR ANGLES LESS THAN 90 DEGREES, WRAP GEOSYNTHETICS AT ACUTE CORNERS AS DIRECTED BY THE ENGINEER.
18. FOR STANDARD TEMPORARY WALLS WITH TOP OF WALL WITHIN 5' OF FINISHED GRADE, REMOVE TOP FACING AND INCORPORATE TOP REINFORCEMENT LAYER INTO FILL WHEN PLACING FILL IN FRONT OF WALL.
19. SLOPES PARALLEL TO TRAFFIC SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS (29 CFR 1926 SUBPART P). SLOPING AND BENCHING MUST COMPLY WITH THE REQUIREMENTS OF APPENDIX B (SLOPING AND BENCHING) BASED ON SOIL CLASSIFICATIONS PER APPENDIX A. SPOIL MATERIALS AND EQUIPMENT SHALL BE PLACED AWAY FROM THE EXCAVATION EDGE IN ACCORDANCE WITH OSHA REQUIREMENTS TO PREVENT SURCHARGE LOADING OR SLOPE DESTABILIZATION.

5/26/20

DF18314.2045404

TMP-2C | -

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ENGINEERING UNIT

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057984 HRATCH ANTOINE AGOPIAN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STANDARD DETAIL NO. 1801.02

GEOTECHNICAL STANDARD DETAIL FOR

TEMPORARY WALL #2 (SHEET 2 OF 3)

DATE: 02-18-2025

5/26/20

SLOPE OR SURCHARGE CASE	GROUNDWATER DEPTH BELOW BOTTOM OF REINFORCED ZONE (SEE NOTE 6 ON SHEET 2) (FT)	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)	H - WALL HEIGHT (FT)																								
			< 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
SLOPE CASE	> 0	CLASS II, TYPE 1, CLASS III, CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	8	9	11	12	13	13	14	15	16	17	18	19	20	21	22	23	24	24	25	26	27	27
SURCHARGE CASE	> 0 TO 7 FOR H < 20' > 0 TO 10 FOR H > 20'	ALL SHORING BACKFILL TYPES	6	7	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	17	17	18	19	19	20	21	22
	> 7 FOR H < 20' > 10 FOR H > 20'	A-2-4 SOIL	6	6	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	16	17	18	18	19	20	20	21
		CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	6	6	7	7	8	8	9	10	10	11	11	12	12	13	14	15	15	16	16	17	17	18	18	19	20
		CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	7	7	8	8	9	9	10	10	11	12	13	13	14	14	15	15	16	17	17	18	19	19

L - MINIMUM REQUIRED REINFORCEMENT LENGTH (FT)

(FOR ALL REINFORCEMENT TYPES)

WALL HEIGHT (H) + WALL EMBEDMENT (FT)	NUMBER OF REINFORCEMENT LAYERS*
2.5 - 4	3
4 - 5.5	4
5.5 - 7	5
7 - 8.5	6
8.5 - 10	7
10 - 11.5	8
11.5 - 13	9
13 - 14.5	10
14.5 - 16	11
16 - 17.5	12
17.5 - 19	13
19 - 20.5	14
20.5 - 22	15
22 - 23.5	16
23.5 - 25	17
25 - 26.5	18
26.5 - 28	19
28 - 29.5	20

*BASED ON VERTICAL REINFORCEMENT SPACING SHOWN ON SHEET 1.

REINFORCEMENT LAYER NUMBER *	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)				
	SLOPE CASE		SURCHARGE CASE		
	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL
1	2400	2400	2400	2400	2400
2	2400	2400	2400	2400	2400
3	2400	2400	2400	2400	2400
4	2400	2400	2500	2400	2400
5	2500	2400	3000	2400	2400
6	3000	2400	3500	2800	2400
7	3500	2700	4000	3200	2600
8	4000	3100	4500	3600	2900
9	4500	3500	5000	4000	3200
10	5000	3900	5500	4400	3500
11	5500	4300	6000	4800	3800
12	6000	4700	6500	5200	4100
13	6500	5100	7000	5600	4400
14	7000	5400	7500	6000	4700
15	7500	5800	8000	6400	5000
16	8000	6200	8500	6800	5300
17	8500	6600	9000	7200	5600
18	9000	7000	9500	7600	5900
19	9500	7400	10000	8000	6200
20	10000	7800	10500	8400	6500

GEOTEXTILE REINFORCEMENT ULTIMATE TENSILE STRENGTH (LB/FT)

REINFORCEMENT LAYER NUMBER*	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)				
	SLOPE CASE		SURCHARGE CASE		
	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V OR CLASS VI SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V OR CLASS VI SELECT MATERIAL
1	240	200	340	290	240
2	380	310	520	430	350
3	530	420	700	570	460
4	690	550	870	720	570
5	860	690	1050	860	680
6	1030	830	1220	1000	790
7	1200	970	1400	1150	900
8	1370	1110	1580	1290	1010
9	1550	1240	1750	1430	1120
10	1720	1380	1930	1580	1230
11	1890	1520	2100	1720	1340
12	2060	1660	2280	1860	1450
13	2240	1800	2450	2010	1560
14	2410	1940	2630	2150	1670
15	2580	2080	2800	2290	1780
16	2750	2220	2980	2440	1890
17	2930	2360	3160	2580	2000
18	3100	2500	3330	2720	2110
19	3270	2640	3510	2860	2220
20	3440	2780	3690	3000	2330

GEOGRID REINFORCEMENT SHORT-TERM DESIGN STRENGTH (LB/FT)

(SEE NOTE 10 ON SHEET 2.)

MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD

(SEE NOTE 9 ON SHEET 2.)
*SEE PARTIAL ELEVATION ON SHEET 1
FOR REINFORCEMENT LAYER NUMBERING.

DF18314.2045404

TMP-2D | -

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ENGINEERING UNIT

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057984 HRACH ANTOINE AGOPIAN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STANDARD DETAIL NO. 1801.02

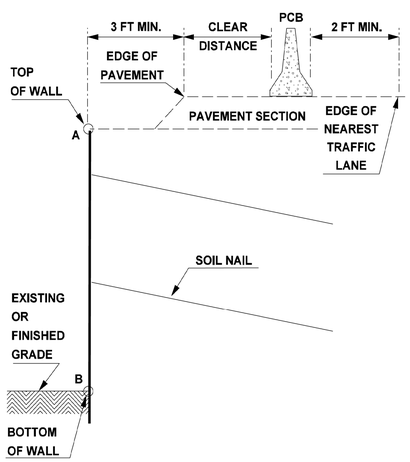
GEOTECHNICAL STANDARD DETAIL FOR

TEMPORARY WALL #2 (SHEET 3 OF 3)

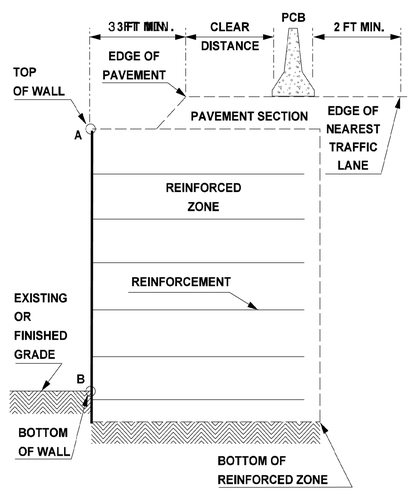
DATE: 02-18-2025

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045121	TMP-2E

TEMPORARY SOIL NAIL WALL



TEMPORARY MSE WALL



NOTE: WALL OR SHORING HEIGHT = A-B

TEMPORARY SHORING

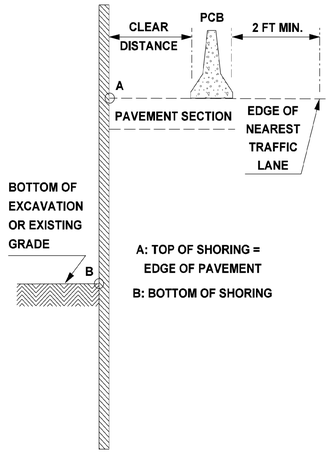


FIGURE A

NOTES

1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.

2- REFER TO THE "TEMPORARY SHORING" STANDARD PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).

3- PCB IS REQUIRED IF TEMPORARY SHORING/WALL IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT FOR APPLICABLE PAVEMENT DESIGN).

4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.

5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING/WALLS EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.

6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.

7- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS OR APPROVED BY THE ENGINEER.

8- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THIS MINIMUM REQUIRED DISTANCE IS NOT AVAILABLE, CONTACT THE ENGINEER.

9- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS.

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier Type	Pavement Type	Offset * ft	Design Speed, mph					
			<30	31-40	41-50	51-60	61-70	71-80
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
		>56	32	36	42	45	47	51
	Concrete	<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
		26-32	24	25	27	28	32	35
		32-38	24	26	27	30	33	36
		38-44	25	26	28	30	34	37
		44-50	26	26	28	32	35	37
		50-56	26	26	28	32	35	38
		>56	26	27	29	32	36	38
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

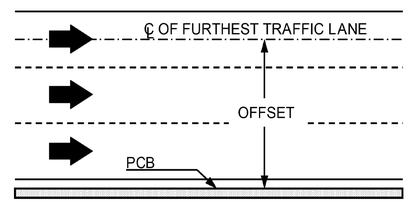


FIGURE B

APPROVED: _____

DATE: _____

SEAL

10/1/2025

NORTH CAROLINA PROFESSIONAL SEAL 082606 ENGINEER KEVIN R. CRAWFORD

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS

9/30/2025 K:\RAL_Roadway\Oll\036679 - Bearwallow\Work Zone Traffic Control\Plans\Sheets\Bearwallow_tcp_psh_2B.dgn

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045121	TMP-3

PHASING NOTES

SITES 1-2, 4, 8-12, 14, 16

WHILE MAINTAINING TRAFFIC USING RSD 1101.02, AND 1101.04 FOR LANE AND SHOULDER CLOSURES AS NECESSARY, PERFORM THE FOLLOWING:

STEP 1:
- INSTALL ADVANCE WARNING SIGNS IN ACCORDANCE WITH RSD 1101.01.
- PLACE VARIABLE DEPTH ABC AS REQUIRED TO MAINTAIN 9' MINIMUM LANE WIDTH DURING CONSTRUCTION.

STEP 2:
PERFORM THE FOLLOWING USING RSD 1101.02 SHEETS 1 AND 17 FOR TEMPORARY LANE CLOSURES AS REQUIRED:
- CONSTRUCT IMPROVEMENTS ON BEARWALLOW MTN RD BETWEEN THE FOLLOWING STATION RANGES:
  - SITE 1: -Y1- STA. 10+30.00 TO -Y1- STA. 11+80.00
  - SITE 2: -EL3- STA. 13+68.80 TO -EL3- STA. 15+33.00
  - SITE 4: -EL6- STA. 22+73.73 TO -EL6- STA. 23+54.00
  - SITE 8: -EL8- STA. 11+66.87 TO -EL8- STA. 13+25.00
  - SITE 9: -EL9- STA. 13+03.44 TO -EL9- STA. 14+73.00
  - SITE 10: -EL12- STA. 16+00.00 TO -EL12- STA. 18+50.00
  - SITE 11: -EL12- STA. 14+50.00 TO -EL12- STA. 15+50.00
  - SITE 12: -EL12- STA. 11+00.00 TO -EL12- STA. 12+00.00
  - SITE 14: -EL14- STA. 10+85.00 TO -EL14- STA. 12+25.00
  - SITE 16: -EL16- STA. 13+00.00 TO -EL16- STA. 14+25.00

INCLUDING BUT NOT LIMITED TO GRADING, DRAINAGE, CURB AND GUTTER, AND PAVING UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE.

STEP 3:
- COMPLETE GRADING, DRAINAGE INSTALLATION, AND INSTALL FINAL ASPHALT SURFACE COURSE AND FINAL PAVEMENT MARKINGS ON BEARWALLOW MNT RD.
- REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ALL LANES TO TRAFFIC.

NOTE: PROVIDE WEDGING AS REQUIRED TO ENSURE SMOOTH TRANSITIONS AND POSITIVE DRAINAGE.

SITE 5

PHASE 1

WHILE MAINTAINING TRAFFIC USING RSD 1101.02, AND 1101.04 FOR LANE AND SHOULDER CLOSURES AS NECESSARY, PERFORM THE FOLLOWING AS SHOWN ON SHEET TMP-4:

STEP 1:
- USING RSD 1101.02 SHEET 1 OF 19 FOR TEMPORARY LANE CLOSURES INSTALL APPROX. 20 LF EXTENSION OF TEMPORARY 48" CMP ON THE UPSTREAM SIDE OF THE EXISTING 48" CMP.
- CONSTRUCT GRADING AND TEMPORARY PAVEMENT AND PLACE 10" ABC FOR TEMPORARY DETOUR ROUTE SHOWN ON SHEET TMP-4 BETWEEN -EL6- STA. 17+96 (+/-) AND -EL6- STA. 20+98 (+/-).

STEP 2:
- INSTALL TEMPORARY SIGNALS, PLACE TEMPORARY PAINT PAVEMENT MARKINGS AND INSTALL TRAFFIC CONTROL DEVICES, PORTABLE CONCRETE BARRIER, AND TEMPORARY CRASH CUSHIONS.
- SHIFT TRAFFIC ONTO TEMPORARY PATTERN.

STEP 3:
- BEHIND BARRIER, INSTALL TEMPORARY SHORING #1 AND REMOVE EXIST 48" CMP AND INSTALL 60" CMP.

STEP 4:
- INSTALL TEMPORARY SHORING #2 AND CONSTRUCT ROADWAY IMPROVEMENTS INCLUDING BUT NOT LIMITED TO GRADING, PAVING AND DRAINAGE UP TO BUT NOT INCLUDING THE FINAL ASPHALT SURFACE COURSE. INSTALL TEMPORARY ABC REQUIRED TO MAINTAIN FUTURE 9' TRAVEL LANE AS SHOWN ON SHEET TMP-5.

NOTE: PROVIDE WEDGING AS REQUIRED TO ENSURE SMOOTH TRANSITIONS AND POSITIVE DRAINAGE.

PHASE 2

STEP 1:
- MAINTAIN PORTABLE SIGNALS, INSTALL TEMPORARY PAINT PAVEMENT MARKINGS, TRAFFIC CONTROL DEVICES AND PORTABLE CONCRETE BARRIER AS SHOWN ON SHEET TMP-5.
- REMOVE CONFLICTING DEVICES AND MARKINGS AND SHIFT TRAFFIC ONTO NEW PATTERN.

STEP 2:
- REMOVE PORTABLE CONCRETE BARRIER INSTALLED IN PHASE 1 STEP 2.
- BEHIND BARRIER, REMOVE TEMPORARY SHORING #1, REMOVE TEMPORARY PAVEMENT, TEMPORARY ABC, AND TEMPORARY 48" CMP PLACED IN PHASE 1 STEP 1.
- REMOVE TEMPORARY EARTHWORK CONSTRUCTED IN PHASE 1 AND RESTORE EXISTING DITCHES TO ORIGINAL LOCATION.
- INSTALL PROPOSED 60" CMP AND CONSTRUCT RELATED ROADWAY IMPROVEMENTS INCLUDING GRADING AND PAVING UP TO BUT NOT INCLUDING THE FINAL ASPHALT SURFACE COURSE.

STEP 3:
-REMOVE PORTABLE CONCRETE BARRIER, TRAFFIC CONTROL DEVICES AND TEMPORARY PAVEMENT MARKINGS. INSTALL PAINT VERSION OF FINAL PAVEMENT MARKINGS AND SHIFT TRAFFIC ONTO THE FINAL PATTERN.

STEP 4:
- INSTALL FINAL ASPHALT SURFACE COURSE AND FINAL PAVEMENT MARKINGS ON BEARWALLOW MNT RD.
- REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ALL LANES TO TRAFFIC.
- REMOVE TEMPORARY ABC PLACED IN PHASE 2 STEP 1 AND COMPLETE FINAL SHOULDER GRADING.

NOTE: PROVIDE WEDGING AS REQUIRED TO ENSURE SMOOTH TRANSITIONS AND POSITIVE DRAINAGE.

SITE 13

PHASE 1

WHILE MAINTAINING TRAFFIC USING RSD 1101.02, AND 1101.04 FOR LANE AND SHOULDER CLOSURES AS NECESSARY, PERFORM THE FOLLOWING:

STEP 1:
- PLACE VARIABLE DEPTH ABC AS SHOWN ON SHEET TMP-6 TO MAINTAIN 9' MINIMUM LANE WIDTH DURING CONSTRUCTION.
- INSTALL PORTABLE SIGNALS, TEMPORARY PAINT PAVEMENT MARKINGS, AND TRAFFIC CONTROL DEVICES AS SHOWN ON SHEET TMP-6.
- REMOVE CONFLICTING MARKINGS AND SHIFT TRAFFIC ONTO NEW TEMPORARY PATTERN.

STEP 2:
- INSTALL PORTABLE CONCRETE BARRIER AND TEMPORARY CRASH CUSHIONS AS SHOWN ON SHEET TMP-6.
- BEHIND BARRIER, REMOVE EXIST 60" CMP AND INSTALL PROPOSED 60" CMP AS SHOWN ON TMP-6.
- CONSTRUCT IMPROVEMENTS ON BEARWALLOW MTN RD BETWEEN THE FOLLOWING STATION RANGES:
  - -L13- STA. 11+26.05 TO -L13- STA. 15+73.40

INCLUDING BUT NOT LIMITED TO GRADING, DRAINAGE, CURB AND GUTTER, AND PAVING UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE AS SHOWN ON SHEET TMP-6.

NOTE: PROVIDE WEDGING AS REQUIRED TO ENSURE SMOOTH TRANSITIONS AND POSITIVE DRAINAGE.

PHASE 2

STEP 1:
- PLACE VARIABLE DEPTH ABC AS SHOWN ON TMP-7 TO MAINTAIN 9' MINIMUM LANE WIDTH DURING CONSTRUCTION.
- MAINTAIN PORTABLE SIGNALS, INSTALL TEMPORARY PAINT PAVEMENT MARKINGS AND TRAFFIC CONTROL DEVICES AS SHOWN ON SHEET TMP-7.
- REMOVE CONFLICTING MARKINGS AND SHIFT TRAFFIC ONTO NEW TEMPORARY PATTERN.

STEP 2:
- INSTALL PORTABLE CONCRETE BARRIER AND TEMPORARY CRASH CUSHIONS AS SHOWN ON SHEET TMP-6, AND COMPLETE INSTALLATION OF PROPOSED 60" CMP AS SHOWN ON SHEET TMP-7.
- BEHIND BARRIER, REMOVE REMAINING EXISTING 60" CMP AND COMPLETE INSTALLATION OF PROPOSED 60" CMP.
- CONSTRUCT IMPROVEMENTS ON BEARWALLOW MOUNTAIN ROAD BETWEEN THE FOLLOWING STATION RANGES:
  - -L13- STA. 11+26.05 TO -L13- STA. 15+73.40

INCLUDING BUT NOT LIMITED TO GRADING, DRAINAGE, CURB AND GUTTER, AND PAVING UP TO BUT NOT INCLUDING THE FINAL SURFACE COURSE AS SHOWN ON SHEET TMP-7.

STEP 3:
- INSTALL FINAL ASPHALT SURFACE COURSE AND FINAL PAVEMENT MARKINGS ON BEARWALLOW MNT RD.
- REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ALL LANES TO TRAFFIC.
-REMOVE TEMPORARY ABC PLACED IN PHASE 2 STEP 1 AND COMPLETE FINAL SHOULDER GRADING.

NOTE: PROVIDE WEDGING AS REQUIRED TO ENSURE SMOOTH TRANSITIONS AND POSITIVE DRAINAGE.

Kimley»Horn

APPROVED:_____ DATE:_____

NORTH CAROLINA PROFESSIONAL SEAL 032606 ENGINEER JOSHUA R CRAWFORD
Signed by: Joshua Crawford
10/1/2025

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

PHASING NOTES

K:\RAL_Roadway\Oll036679 - Bearwallow\Work Zone Traffic Control\Plans\Sheets\Bearwallow_tcp_1sh.dgn
9/30/2025

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045404	TMP-4

NC GRID
NAD 83/NA 2011

STOP HERE ON RED
R10-6
24" X 36"

50' TAPER | 30' | 30'

20LF TEMPORARY 48" CMP
INSTALLED AT EXISTING PIPE SLOPE
PROVIDE GRADING AS NECESSARY

–EL6– Sta. 19+60.00
OFF. = 27.50' (LT)

–EL6– Sta. 19+78.00
OFF. = 27.50' (LT)

BEGIN TEMP SHORING #1
–EL6– Sta. 19+60.00
OFF. = 8.75' (LT)

END TEMP SHORING #1
–EL6– Sta. 19+85.65
OFF. = 8.75' (LT)

BEGIN TEMP SHORING #2
–EL6– Sta. 19+60.00
OFF. = 6.75' (LT)

END TEMP SHORING #2
–EL6– Sta. 19+85.65
OFF. = 6.75' (LT)

DO NOT DISTURB EXISTING POLE

–EL6– Sta. 18+31.13
OFF. = 9.00' (LT)

–EL6– Sta. 17+96.75
OFF. = 8.17' (LT)

–EL6– Sta. 19+12.52
OFF. = 20.57' (LT)

–EL6– Sta. 20+08.70
OFF. = 22.77' (LT)

DRUM BOTH SIDES OF EXISTING WALL

–EL6– Sta. 20+98.31
OFF. = 9.00' (LT)

–EL6– Sta. 21+61.13

BEGIN PORTABLE CONCRETE BARRIER (UNANCHORED)
INSTALL TEMP CRASH CUSHION
–EL6– Sta. 19+04.65
OFF. = 5.96' (LT)

R=159' R=325' R=100' R=350'

9' 18.5' 8'

60" CMP

END PORTABLE CONCRETE BARRIER (UNANCHORED)
INSTALL TEMP CRASH CUSHION
–EL6– Sta. 20+39.62
OFF. = 3.57' (LT)

–EL6– Sta. 18+30.70
OFF. = 0.00'

–EL6– Sta. 19+23.67

INV = 2828.6'

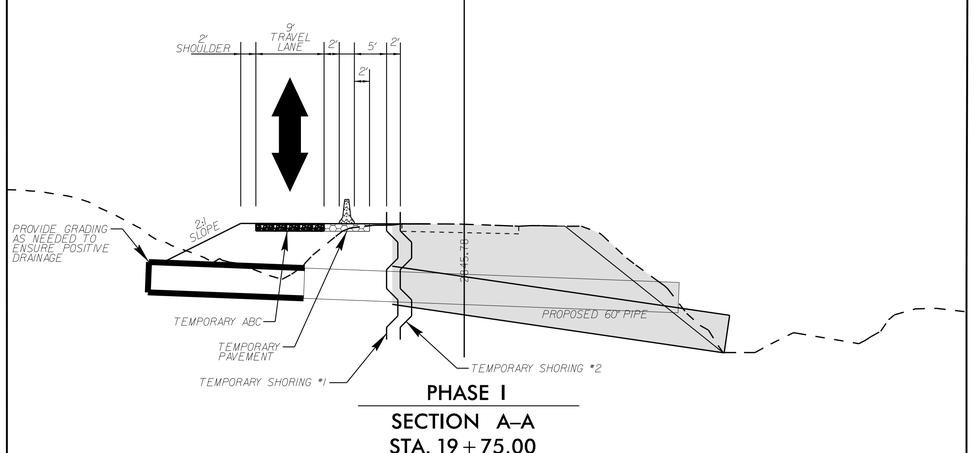
CL-I RIPRAP
EST. 40 TONS
EST. 75 SY GFD

P61 P1 PORT

30' | 30' | 50' TAPER

STOP HERE ON RED
R10-6
24" X 36"

℄-EL6- BEARWALLOW MTN RD.



PHASE 1
SECTION A–A
STA. 19+75.00

SEE RSD 1101.02 SHEET 17 FOR PLACEMENT OF PORTABLE SIGNALS AND SIGNS

Kimley»Horn

APPROVED:_____ DATE:_____

NORTH CAROLINA PROFESSIONAL SEAL 032606 ENGINEER JOSHUA R. CRAWFORD
Not Signed/Sealed Unless Printed
10/2/2025

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRAFFIC CONTROL SITE 5 PHASE 1

10/2/2025 K:\RAL_Roadway\Vol\036679 - Bearwallow\Work Zone Traffic Control\Plans\Sheets\Bearwallow_tcp_psh_4_Site_5 (Updated).dgn

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045404	TMP-5

NC GRID
NAD 83/NA 2011

BEGIN PORTABLE CONCRETE BARRIER
(UNANCHORED)
INSTALL TEMPORARY CRASH CUSHION
–EL6– Sta. 19+08.76
OFF. = 4.11' (LT)

–EL6– Sta. 17+79.12
OFF. = 7.80' (LT)

–EL6– Sta. 19+00.00
OFF. = 1.70' (LT)

–EL6– Sta. 18+31.32
OFF. = 2.37' (LT)

P1

P61

60" CMP

REMOVE TEMPORARY 48" PIPE
INSTALLED IN PHASE 1

B

DO NOT DISTURB
EXISTING POLE

INV = 2835.79'

INV = 2836.7'

END PORTABLE CONCRETE BARRIER
(UNANCHORED)
INSTALL TEMPORARY CRASH CUSHION
–EL6– Sta. 20+39.00
OFF. = 2.97' (LT)

–EL6– Sta. 20+40.00
OFF. = 0.00'

–EL6– Sta. 20+98.31
OFF. = 0.00'

–EL6– Sta. 21+43.25
OFF. = 0.00'

R=814'

R=2575'

R=2576'

9'

9'

–EL6– Sta. 19+50.06
OFF. = 1.30' (LT)

–EL6– Sta. 19+00.00
OFF. = 7.32' (RT)

–EL6– Sta. 19+00.00
OFF. = 10.30' (RT)

–EL6– Sta. 19+90.00
OFF. = 1.30' (RT)

–EL6– Sta. 19+90.00
OFF. = 10.30' (RT)

–EL6– Sta. 20+49.50
OFF. = 9.00' (RT)

–EL6– Sta. 20+40.00
OFF. = 9.00' (RT)

–EL6– Sta. 21+43.25
OFF. = 9.00' (RT)

INV = 2828.6'

B

50' TAPER 30' 30'

STOP
HERE ON
RED
R10-6
24" X 36"

P
O
R
T

INV=2830.87'

INV=2830.11'

SR 1594 (BEARWALLOW MNT RD)

ROCKS

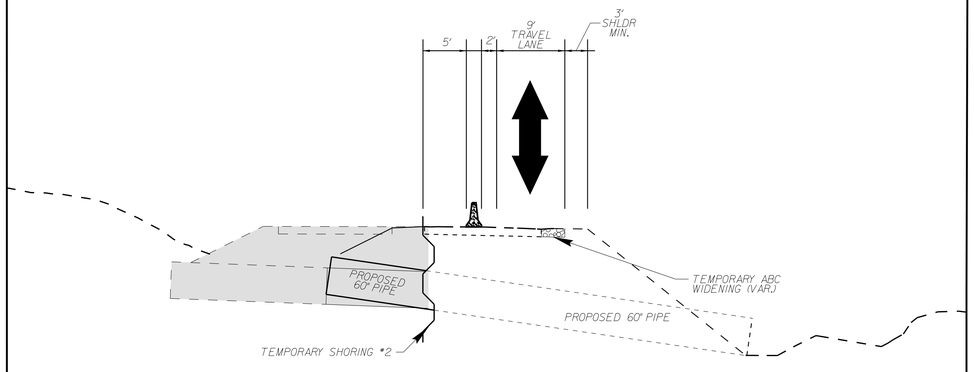
CHICKEN WIRE

RIP RAP

30' 30' 50' TAPER

STOP
HERE ON
RED
R10-6
24" X 36"

℄-EL6- BEARWALLOW MTN RD.



PHASE II
SECTION B–B
STA. 19+75.00

SEE RSD 1101.02 SHEET 17 FOR PLACEMENT OF PORTABLE SIGNALS AND SIGNS

Kimley»Horn

APPROVED:_____ DATE:_____

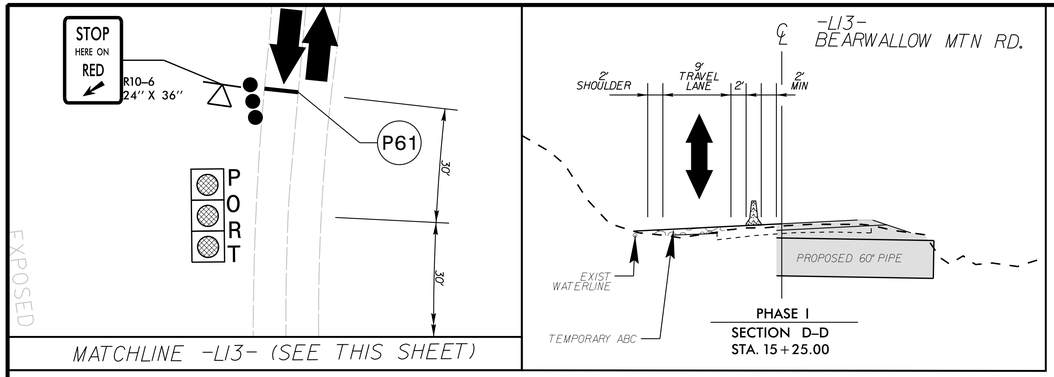
NORTH CAROLINA PROFESSIONAL SEAL 032606 ENGINEER JUSTIN R CRAWFORD
10/1/2025

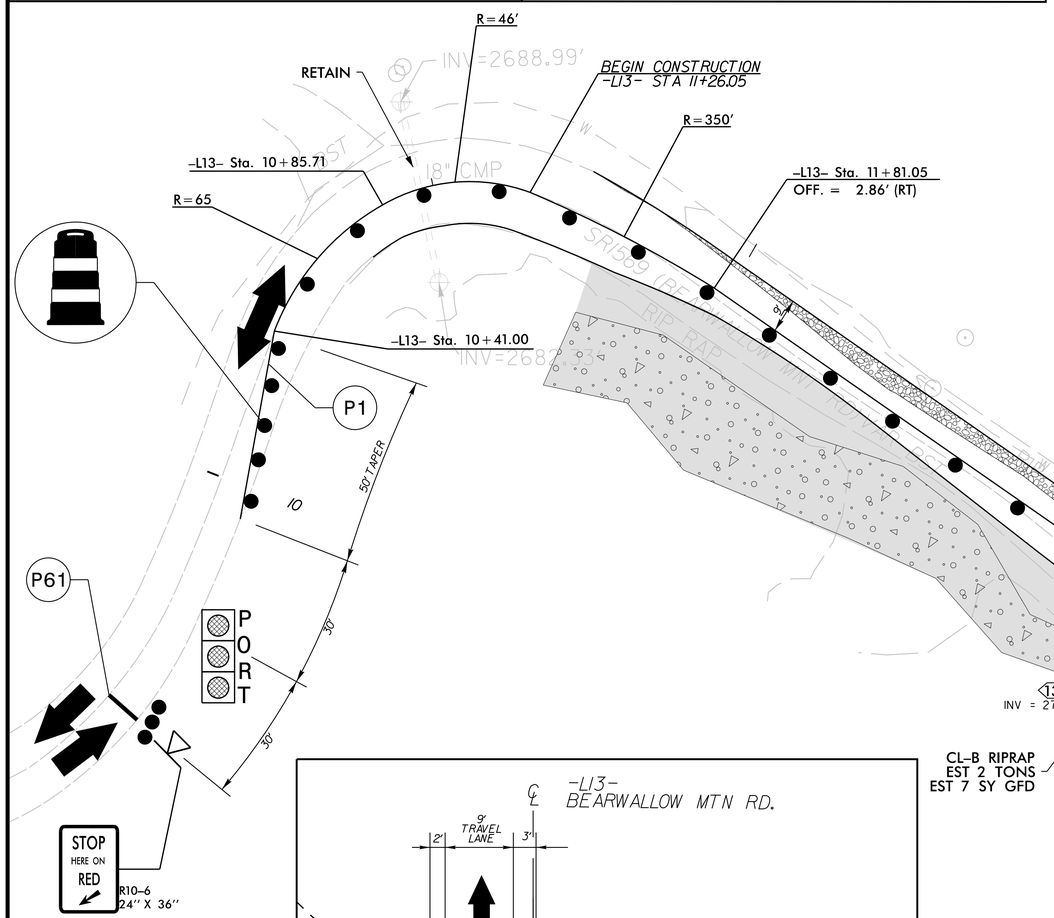
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

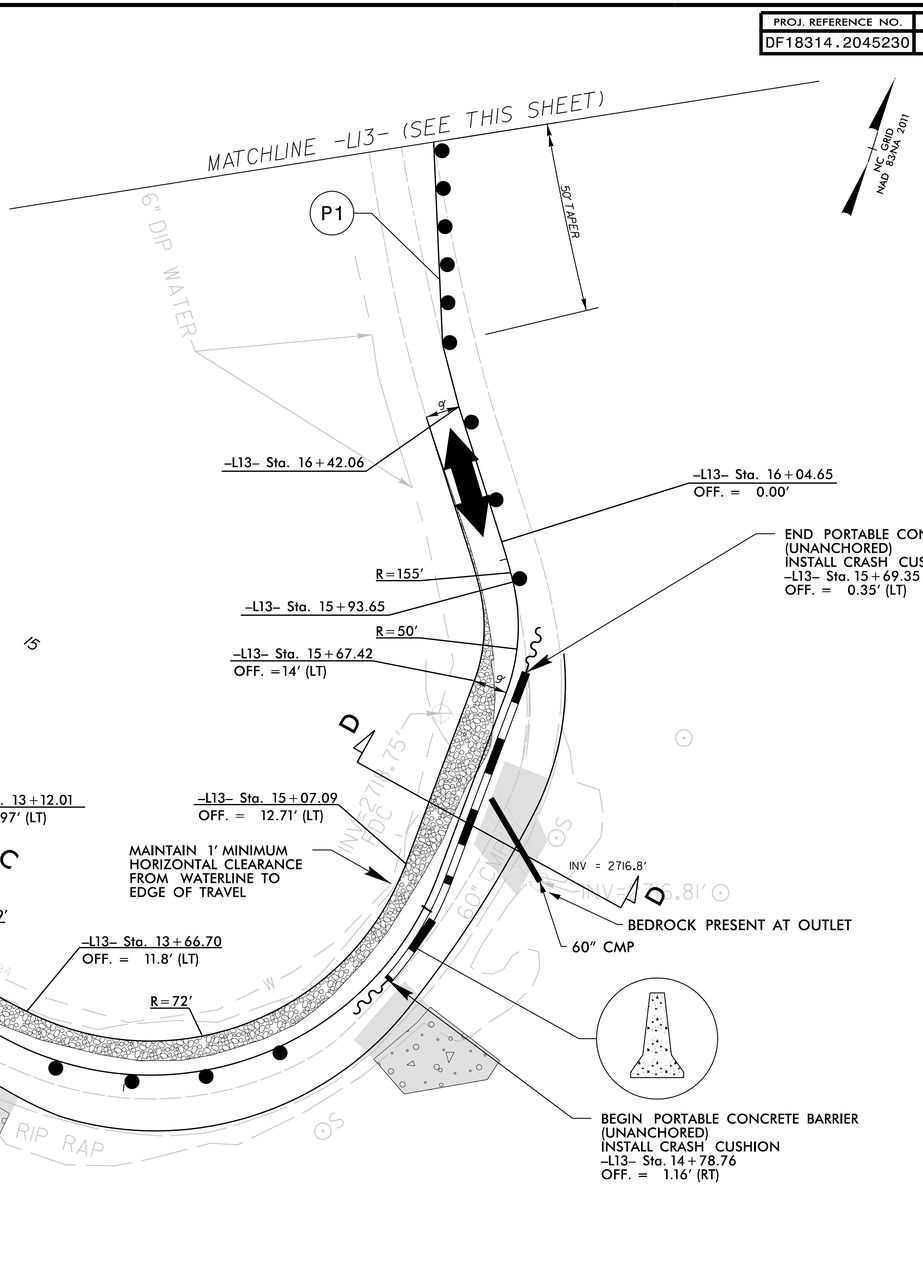
TRAFFIC CONTROL SITE 5 PHASE 2

9/30/2025 K:\RAL_Roadway\Oll036679 - Bearwallow\Work Zone Traffic Control\Plans\Sheets\Bearwallow_tcp_psh_5_Site_5 (Updated).dgn

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045230	TMP-6







SEE RSD 1101.02 SHEET 17 FOR PLACEMENT OF PORTABLE SIGNALS AND SIGNS

Kimley»Horn

APPROVED:_____ DATE:_____

NORTH CAROLINA PROFESSIONAL SEAL 032606 ENGINEER BENJAMIN R. CRAWFORD
10/1/2025

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRAFFIC CONTROL SITE 13 PHASE 1

9/30/2025 K:\RAL_Roadway\Dll036679 - BearwallowWork Zone Traffic Control\Plans\Sheets\Bearwallow_tcp_psh_6_Site_13.dgn

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045230	TMP-7

STOP HERE ON RED
R10-6
24" X 36"

P O R T

30'
30'

MATCHLINE -LI3- (SEE THIS SHEET)

℄ -LI3-
BEARWALLOW MTN RD.

2' MIN | 2' | 9' | 2' MIN

2%

PROPOSED 60" PIPE

TEMPORARY ABC

PHASE II
SECTION F-F
STA. 15+25.00

MATCHLINE -LI3- (SEE THIS SHEET)

P1

50' TAPER

NC GRID NAD83/NA 2011

PROPOSED 6" DIP WATER

BEGIN PORTABLE CONCRETE BARRIER (UNANCHORED)
INSTALL CRASH CUSHION
-L13- Sta. 16+20.91
OFF. = 3.0' (LT)

-L13- Sta. 15+98.00
OFF. = 0.00' (RT)
TIE TO PHASE 1 PAVEMENT MARKINGS

+98

9'

40' SHIFT

+58

60" CMP w/HW (BURIED 1' UPSTREAM w/INLET SILL)

INV=2718.75'

F

FDC

RIP RAP

R=78.6'

-L13- Sta. 15+58.00
OFF. = 13.62' (RT)

-L13- Sta. 15+35.70
OFF. = 13.61' (RT)

-L13- Sta. 15+14.92
OFF. = 13.61' (RT)

+10

30' SHIFT

+80

-L13- Sta. 14+80.00
OFF. = 12' (RT)

-L13- Sta. 14+75.85
OFF. = 12' (RT)

BEGIN PORTABLE CONCRETE BARRIER (UNANCHORED)
INSTALL CRASH CUSHION
-L13- Sta. 14+61.26
OFF. = 0.0' (LT)

P1

SITE-13

15

RETAIN

INV=2688.99'

R=160'

-L13- Sta. 11+48.00
OFF. = 0.71' (RT)

BST

18" CMP

-L13- Sta. 11+85.00
OFF. = 2.0' (RT)

R=348'

-L13- Sta. 12+35.22
OFF. = 2.0' (RT)

RIP RAP

BEGIN CONSTRUCTION
-LI3- STA 11+49.87

-L13- Sta. 10+41.00

INV=2682.33'

-L13- Sta. 11+51.15
OFF. = 10.00' (RT)

EXPRESSWAY GUTTER

SR1569 (BEARWALLOW MNT RD)

1301 TB 2GI
TOP = 2708.7'
INV = 2705.7'

18" CMP

1302 2GI
TOP = 2711.9'
INV = 2708.9'

-L13- Sta. 12+89.79
OFF. = 11.0' (RT)

R=570'

-L13- Sta. 13+88.40
OFF. = 12.0' (RT)

R=87'

R=120'

-L13- Sta. 13+68.00
OFF. = 11.0' (RT)

P1

P1

10

50' TAPER

30'

30'

P O R T

STOP HERE ON RED
R10-6
24" X 36"

℄ -LI3-
BEARWALLOW MTN RD.

3' | 9' | 2' MIN

DO NOT DISTURB WATER LINE

TEMPORARY ABC

PHASE II
SECTION E-E
STA. 13+31.50

SEE RSD 1101.02 SHEET 17 FOR PLACEMENT OF PORTABLE SIGNALS AND SIGNS

Kimley»Horn

APPROVED: _____ DATE: _____

NORTH CAROLINA PROFESSIONAL SEAL 032606 ENGINEER BENJAMIN R. CRAWFORD
Signed: 10/1/2025

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRAFFIC CONTROL
SITE 13 PHASE 2

K:\RAL_Roadway\DII036679 - Bearwallow\Work Zone Traffic Control\Plans\Sheets\Bearwallow_tcp_psh_7_Site_13.dgn

9/30/2025

CONTRACT: DN01135 WBS PROJECT: DF18314.2045121 W03290

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9/30/2025

TIP NO.	SHEET NO.
DF18314.2045121	PMP-1

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 051782 ENGINEER TYLER G. SPRING

Docusigned by: Tyler Spring

10/1/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND SIGNING PLAN
HENDERSON COUNTY

LOCATION: SR 1594 & SR 1569 BEARWALLOW MOUNTAIN RD BETWEEN US74A AND OLD CLEAR CREEK RD.

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING & SIGNING PLAN TITLE SHEET
PMP-2 THRU PMP-6	PAVEMENT MARKING & SIGNING PLANS

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL SUPPORTS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS

SIGNING QUANTITIES

SEC. NO.	TITLE	QTY	UNIT
901	CONTRACTOR FURNISHED, TYPE E SIGN	49	SF
903	SUPPORTS, 3-LB STEEL U-CHANNEL	143	LF
904	SIGN ERECTION, TYPE E	8	EA
907	DISPOSAL OF SUPPORT, U-CHANNEL	4	EA

PAVEMENT MARKING QUANTITIES

SEC. NO.	TITLE	QTY	UNIT
1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	8340	LF
1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	20	LF
1205	PAINT PAVEMENT MARKING LINES (4", 90 MILS)	4750	LF
1205	PAINT PAVEMENT MARKING LINES (24", 90 MILS)	440	LF

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
	FINAL PAVEMENT MARKINGS
T1	WHITE EDGELINE THERMOPLASTIC (4", 90 MILS)
T5	2 FT. - 6 FT./SP WHITE MINISKIP THERMOPLASTIC (4", 90 MILS)
T13	YELLOW DOUBLE CENTER THERMOPLASTIC (4", 90 MILS)
T61	WHITE STOPBAR THERMOPLASTIC (24", 90 MILS)

PAVEMENT MARKING GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL	THERMOPLASTIC	N/A

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

SIGNING GENERAL NOTES

- SIGNS FURNISHED BY CONTRACTOR.
- IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL TYPE 'E' AND TYPE 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHOWN ON PLANS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- ANY EXISTING SIGNS WITHIN THE PROJECT LIMITS THAT ARE NOT SHOWN ON PLANS SHALL BE RETAINED.
- WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW REMOVAL.
- THE BACKGROUND FOR TYPE 'E' AND TYPE 'F' SIGNS SHALL BE GRADE C REFLECTIVE SHEETING

PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

KELVIN JORDAN	SIGNING & DELINEATION REGIONAL ENGINEER
BARRY MOSTELLER	SIGNING & DELINEATION PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL UNIT

PLAN PREPARED BY: Kimley-Horn and Associates

BENJAMIN CRAWFORD, P.E.	PROJECT DESIGN ENGINEER
TYLER SPRING, P.E.	DESIGNER

Kimley»Horn

9/30/2025

SIGNING LEGEND

- DENOTES EXISTING SIGN
- DENOTES PROPOSED SIGN
- DENOTES NEW U-CHANNEL POST/PROPOSED SIGN LOCATION
- DENOTES EXISTING U-CHANNEL POST/EXISTING SIGN LOCATION

SIGNING NOTES

1. DISPOSAL OF SUPPORT, U-CHANNEL
2. SIGN ERECTION RELOCATE TYPE E ON NEW U-CHANNEL SUPPORT
3. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4. EXISTING SIGNS NOT NOTED SHOULD BE RETAINED.
5. SIGN ERECTION, TYPE E

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RALEIGH, N.C. 27601. NC LICENSE #F-0102

TIP NO.	SHEET NO.
DF18314.2045408	PMP-2
DF18314.2045413	

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 051782 ENGINEER TYLER G. SPRING

Tyler Spring

10/1/2025

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SITE-2
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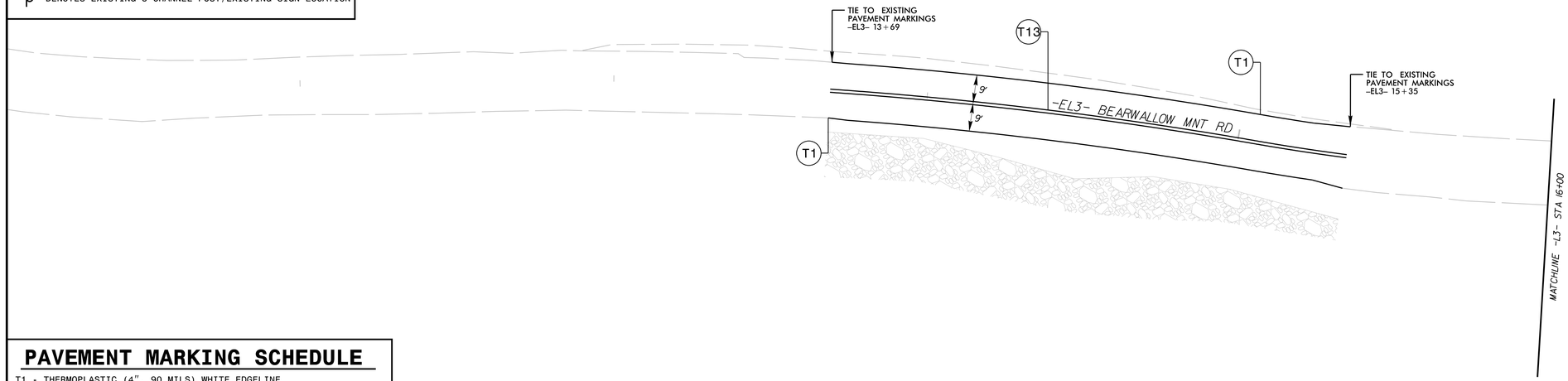


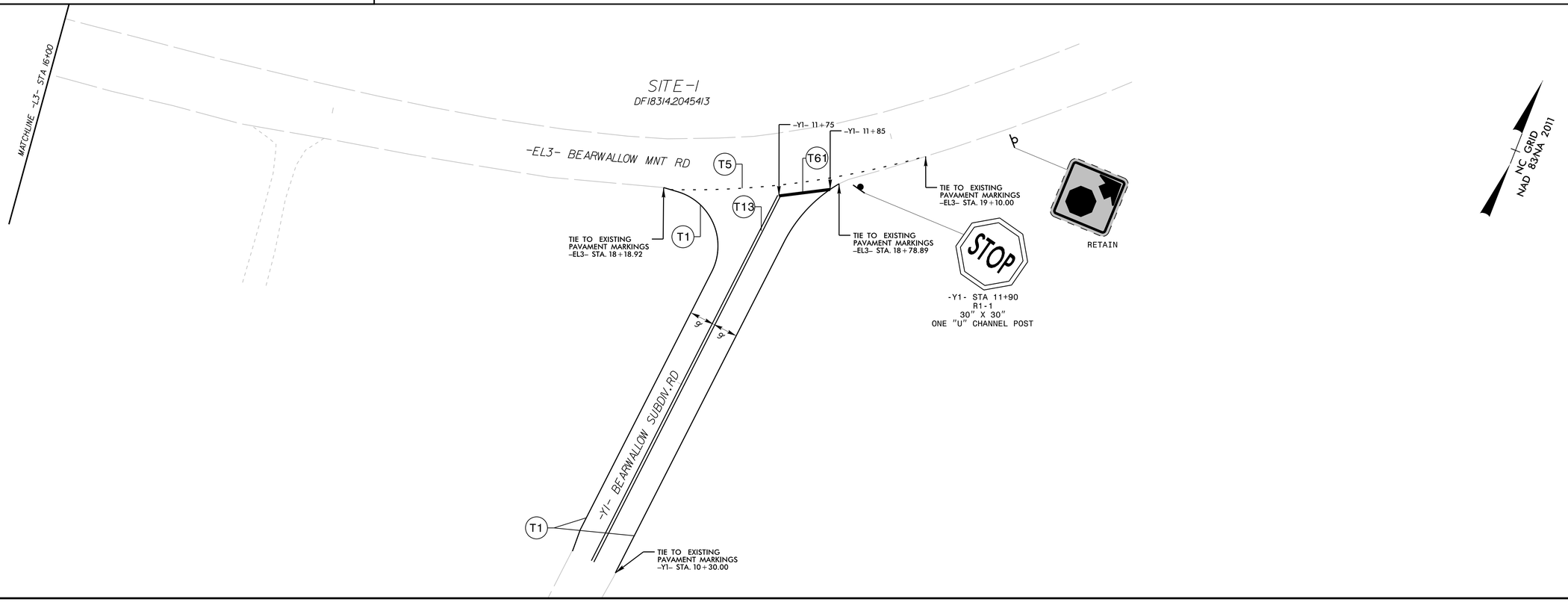
PAVEMENT MARKING SCHEDULE

T1 - THERMOPLASTIC (4", 90 MILS) WHITE EDGELINE
T5 - THERMOPLASTIC (4", 90 MILS) 2 FT. - 6 FT./SP WHITE MINISKIP
T13 - THERMOPLASTIC (4", 90 MILS) YELLOW DOUBLE CENTER
T61 - THERMOPLASTIC (24", 90 MILS) WHITE STOPBAR

PAVEMENT MARKING NOTES

A. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
B. CONTRACTOR SHALL TIE PROPOSED MARKINGS TO EXISTING MARKINGS AT PROJECT LIMIT.
C. CONTRACTOR SHALL MILL ANY EXISTING IN CONFLICT WITH PROPOSED.

SITE-1
DF18314.2045413



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9/30/2025

SIGNING LEGEND

- DENOTES EXISTING SIGN
- DENOTES PROPOSED SIGN
- DENOTES NEW U-CHANNEL POST/PROPOSED SIGN LOCATION
- DENOTES EXISTING U-CHANNEL POST/EXISTING SIGN LOCATION

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TIP NO.	SHEET NO.
DF18314.2045405	PMP-3
DF18314.2045404	
DF18314.2045233	
DF18314.2045234	

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 051782 ENGINEER TYLER G. SPRING
DocuSigned by: Tyler Spring
10/1/2025

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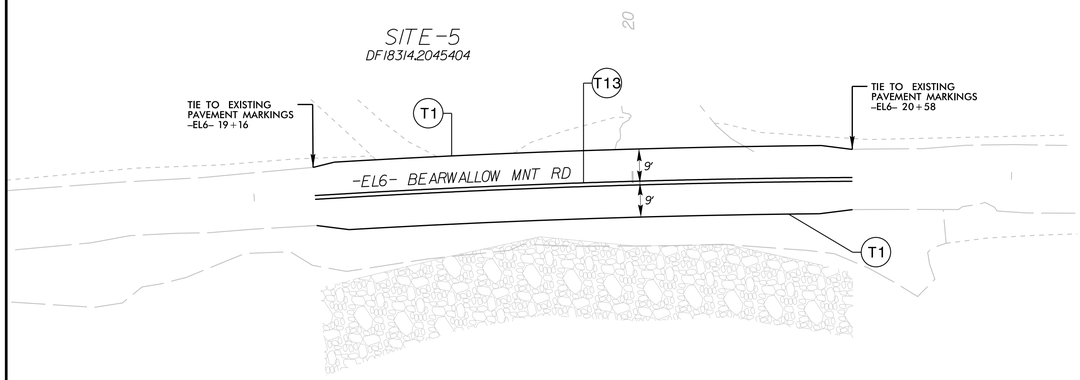

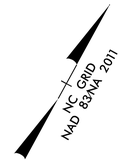

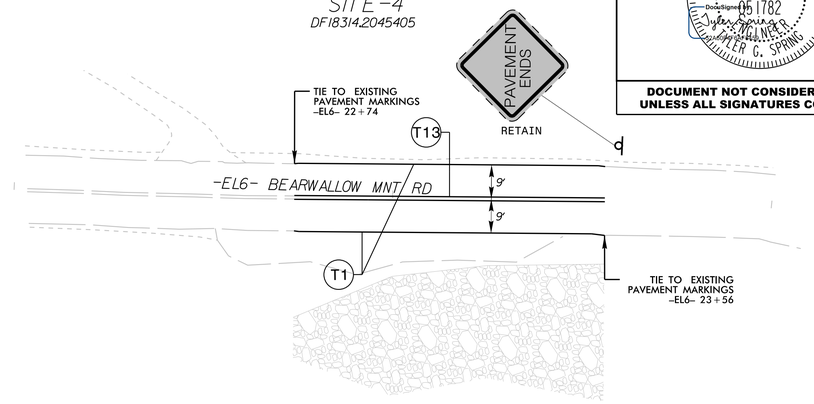

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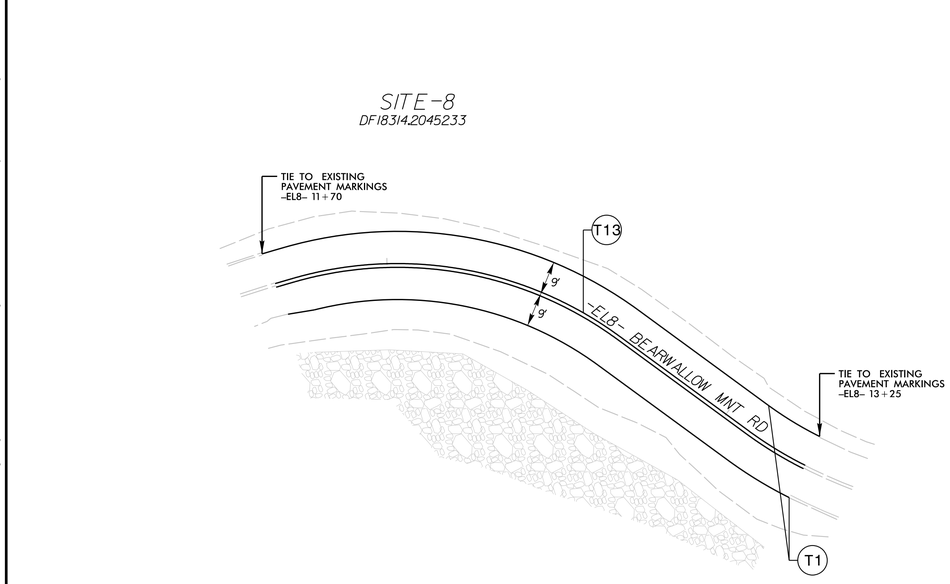

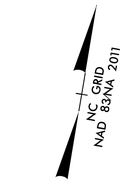

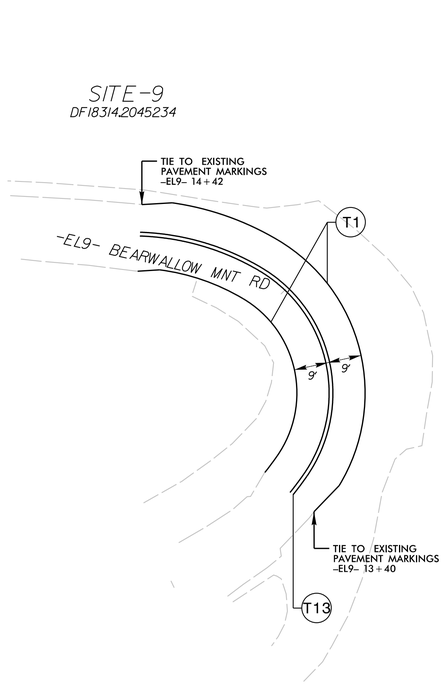

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9/30/2025

SIGNING LEGEND

- DENOTES EXISTING SIGN
- DENOTES PROPOSED SIGN
- DENOTES NEW U-CHANNEL POST/PROPOSED SIGN LOCATION
- DENOTES EXISTING U-CHANNEL POST/EXISTING SIGN LOCATION

SIGNING NOTES

1. DISPOSAL OF SUPPORT, U-CHANNEL
2. SIGN ERECTION RELOCATE TYPE E ON NEW U-CHANNEL SUPPORT
3. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4. EXISTING SIGNS NOT NOTED SHOULD BE RETAINED.
5. SIGN ERECTION, TYPE E

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TIP NO.	SHEET NO.
DF18314.2045231	PMP-4
DF18314.2045480	
DF18314.2045481	

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 051782 ENGINEER TYLER G. SPRING
DocuSigned by: Tyler Spring
10/1/2025

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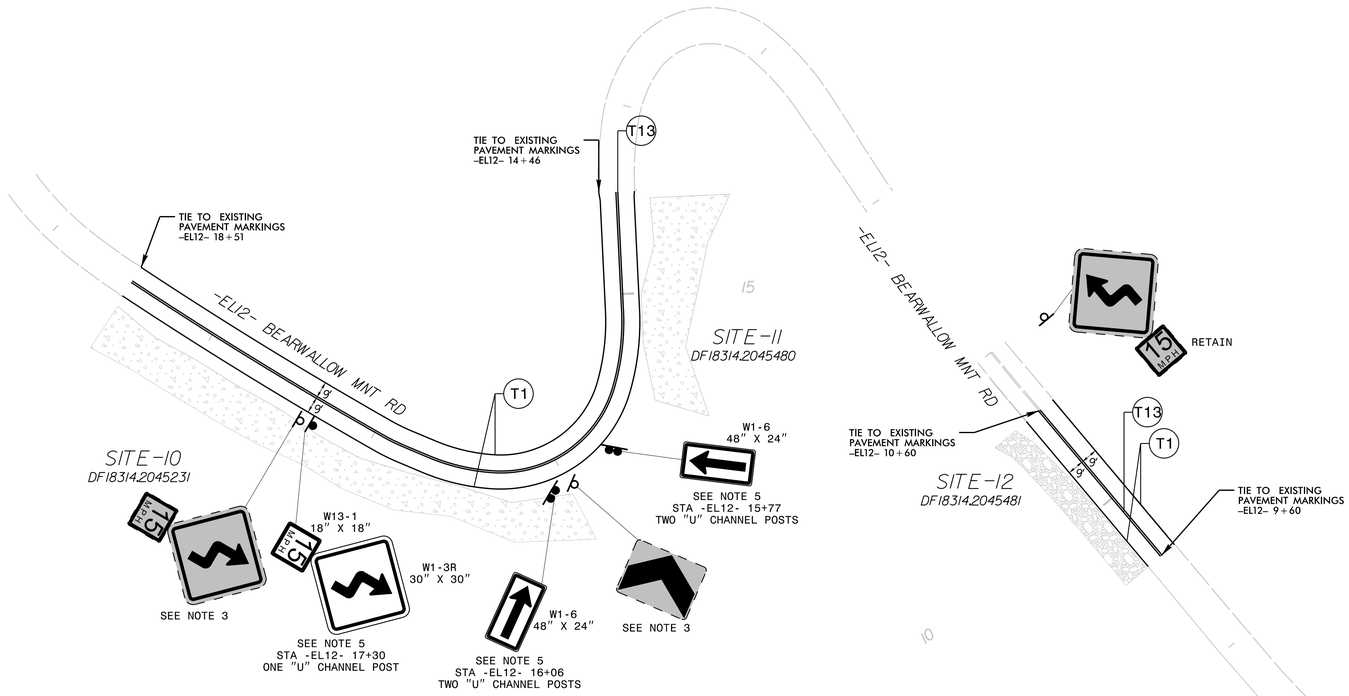
GRAPHIC SCALES

40 20 0 40 80
PLANS

NC GRID
NAD 83/NA 2011



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9/30/2025

SIGNING LEGEND

DENOTES EXISTING SIGN

DENOTES PROPOSED SIGN

DENOTES NEW U-CHANNEL POST/PROPOSED SIGN LOCATION

DENOTES EXISTING U-CHANNEL POST/EXISTING SIGN LOCATION

SIGNING NOTES

1. DISPOSAL OF SUPPORT, U-CHANNEL
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4. EXISTING SIGNS NOT NOTED SHOULD BE RETAINED.
5. SIGN ERECTION, TYPE E

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TIP NO.	SHEET NO.
DF18314.2045230	PMP-5

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036782 ENGINEER TYLER G. SPRING
DocuSigned by: Tyler Spring
10/1/2025

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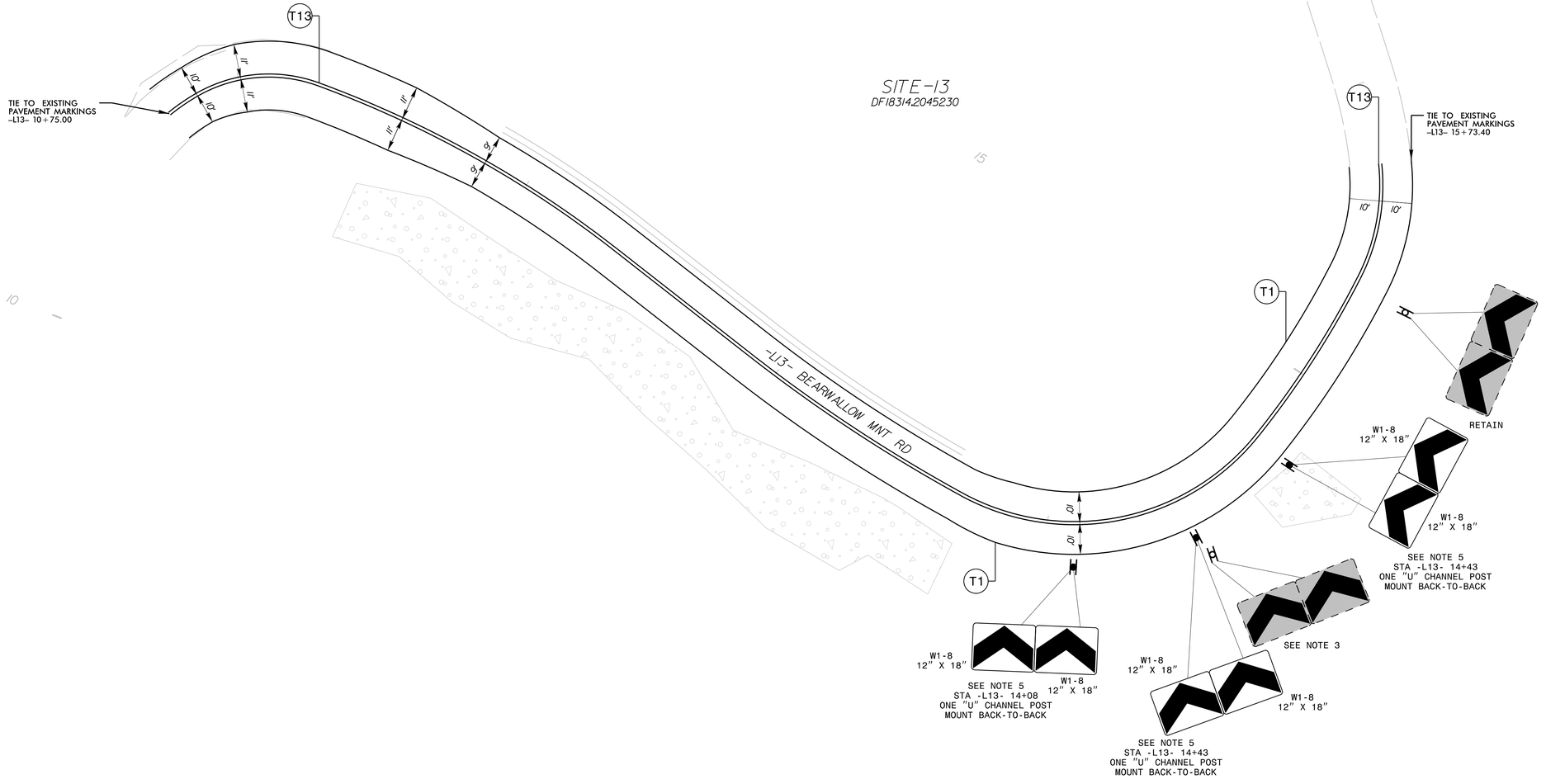

NC GRID NAD 83/NA 2011

SITE-13
DF18314.2045230

15

PAVEMENT MARKING SCHEDULE

T1 - THERMOPLASTIC (4", 90 MILS) WHITE EDGELINE
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9/30/2025

SIGNING LEGEND

- DENOTES EXISTING SIGN
- DENOTES PROPOSED SIGN
- DENOTES NEW U-CHANNEL POST/PROPOSED SIGN LOCATION
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4. EXISTING SIGNS NOT NOTED SHOULD BE RETAINED.
5. SIGN ERECTION, TYPE E

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TIP NO.	SHEET NO.
DF18314.2045121	PMP-6
DF18314.2045126	

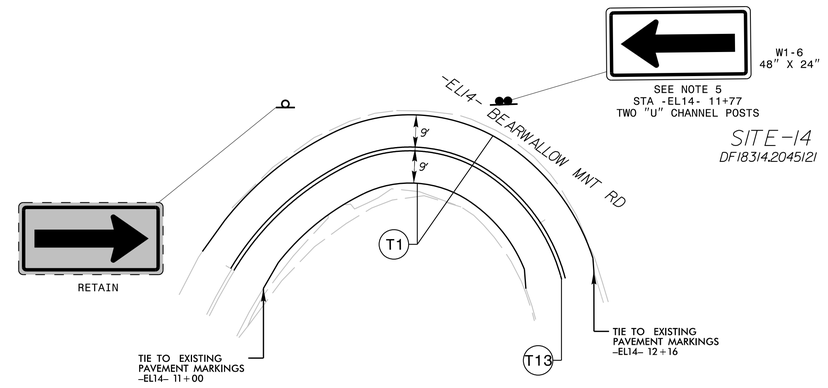
APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 051782 ENGINEER TYLER G. SPRING
DocuSigned by: Tyler Spring 10/1/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



SITE-14
DF18314.2045121

NC GRID
NAD 83/NA 2011

PAVEMENT MARKING SCHEDULE

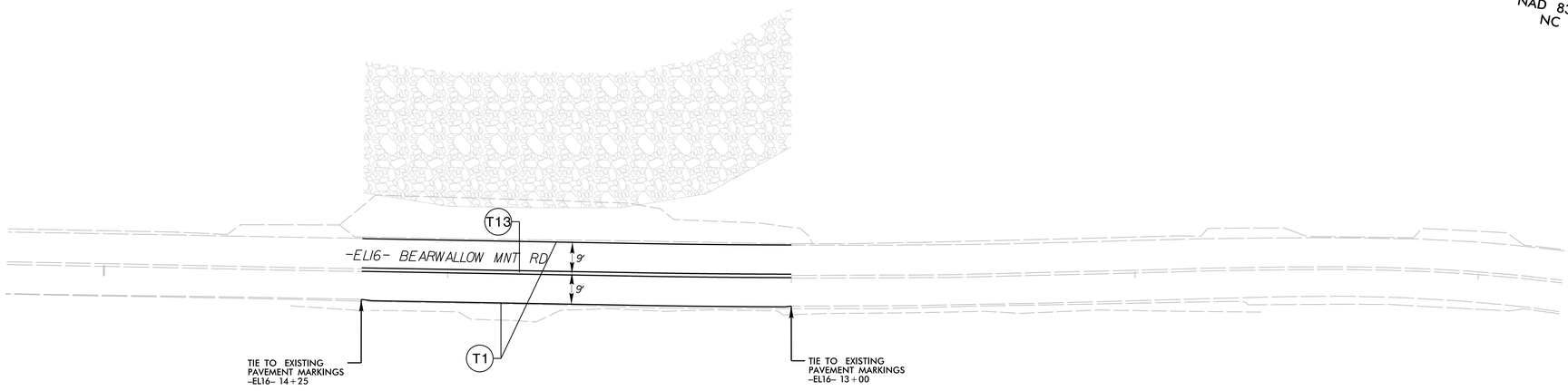
T1 - THERMOPLASTIC (4", 90 MILS) WHITE EDGELINE
T5 - THERMOPLASTIC (4", 90 MILS) 2 FT. - 6 FT./SP WHITE MINISKIP
T13 - THERMOPLASTIC (4", 90 MILS) YELLOW DOUBLE CENTER
T61 - THERMOPLASTIC (24", 90 MILS) WHITE STOPBAR

PAVEMENT MARKING NOTES

A. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
B. CONTRACTOR SHALL TIE PROPOSED MARKINGS TO EXISTING MARKINGS AT PROJECT LIMIT.
C. CONTRACTOR SHALL MILL ANY EXISTING IN CONFLICT WITH PROPOSED.

10

SITE-16
DF18314.2045126



NAD 83/NA 2011
NC GRID

15

K:\RAL_Roadway\011036679 - Bearwallow\Signing and Delineation\Design\Sheets\Bearwallow_rdy_pmp_psf6.dgn

CONTRACT: WBS PROJECT: DF18314.2045121 W03290

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18314.2045121	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

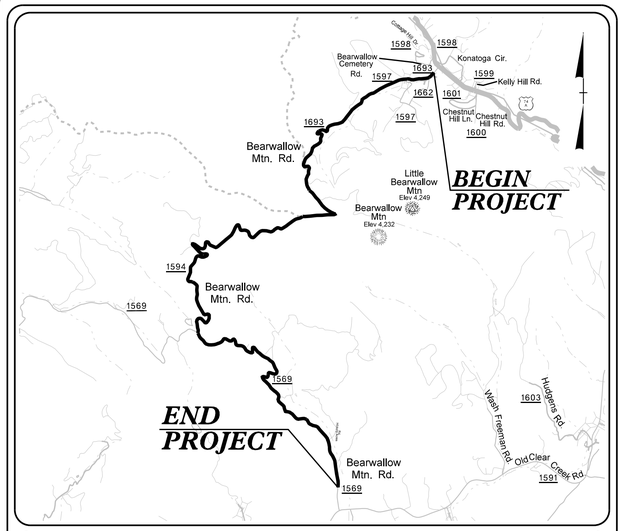
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

HENDERSON COUNTY

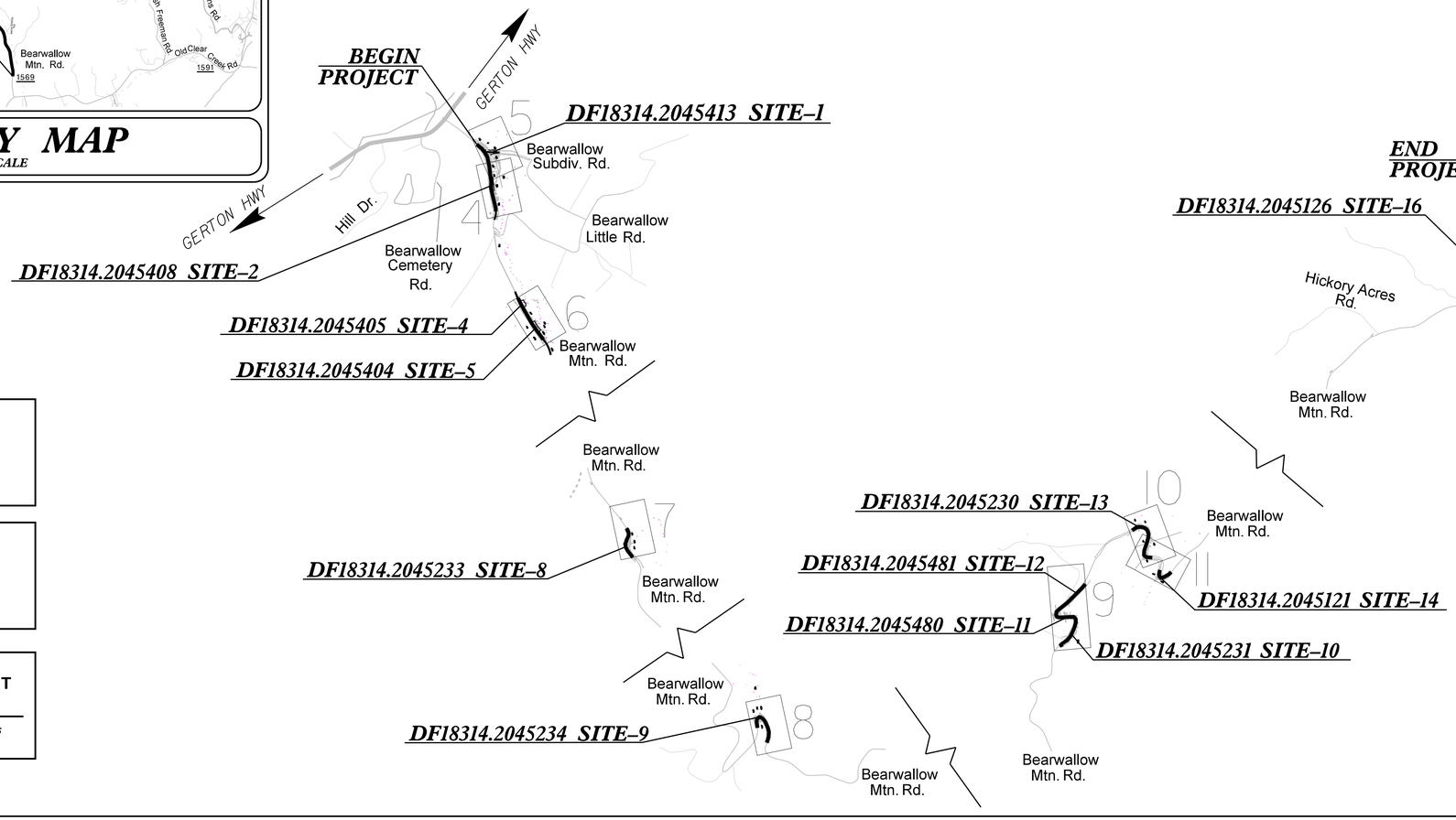
LOCATION: SR 1594 & SR 1569 BEARWALLOW MOUNTAIN RD BETWEEN US74A AND OLD CLEAR CREEK RD.

TYPE OF WORK: GRADING, DRAINAGE, PAVING, SLOPE REPAIRS & CULVERTS

NC GRID
NAD 1983/NA 2011



VICINITY MAP
NOT TO SCALE



THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Refer To E. C. Special Provisions for Special Considerations.

GRAPHIC SCALE

10 5 0 10 20
PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG–010000 GENERAL CONSTRUCTION PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

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Prepared in the Office of:

Kimley–Horn

421 Fayetteville Street, Suite 600
Raleigh, NC 27601

Designed by:

JUSTIN ROSE ***4389***
NAME *LEVEL III CERTIFICATION NO.*

Roadway Standard Drawings

The "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045121	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

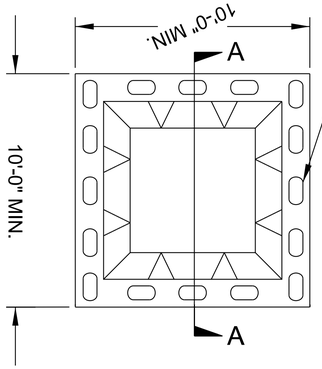
EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	TSD
1630.04	Stilling Basin	
1630.05	Temporary Diversion	TD
1630.06	Special Stilling Basin	
1630.07	Skimmer Basin	
1630.08	Tiered Skimmer Basin	
1630.09	Earthen Dam with Skimmer	
	Infiltration Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C

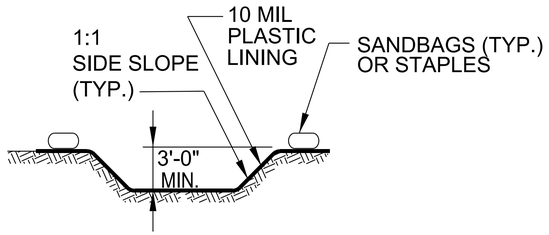
Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet Sediment Trap Type A	A
1635.02	Rock Pipe Inlet Sediment Trap Type B	B
1636.01	Excelsior Wattle Check	
1636.01	Excelsior Wattle Check with Flocculant	
1636.01	Coir Fiber Wattle Check	
1636.01	Coir Fiber Wattle Check with Flocculant	
1636.02	Silt Fence Excelsior Wattle Break	EW
	Silt Fence Coir Fiber Wattle Break	CFW
1636.03	Excelsior Wattle Barrier	—EW—EW—EW—
1636.03	Coir Fiber Wattle Barrier	—CFW—CFW—CFW—

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045121	EC-02A

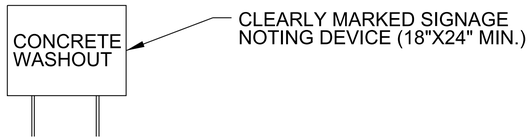
ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A



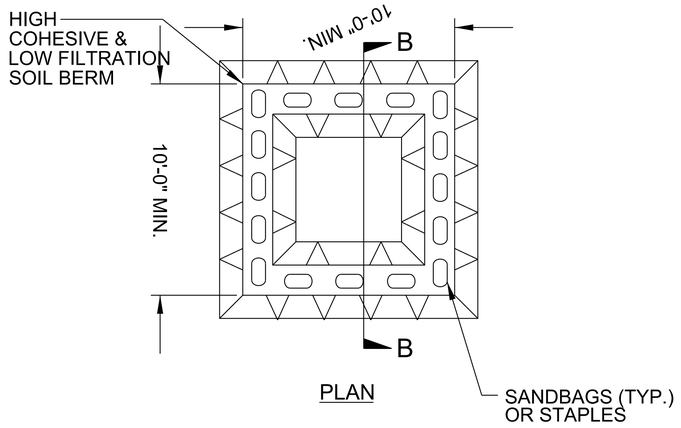
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

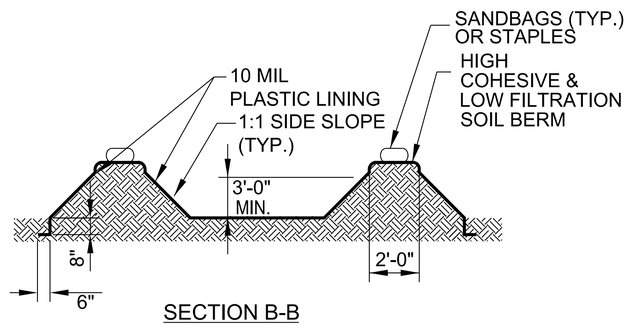
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE

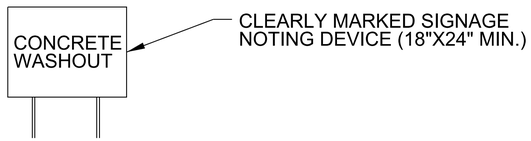
NOT TO SCALE



PLAN



SECTION B-B



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045121	EC-03

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES

9/30/2025

9/30/2025

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

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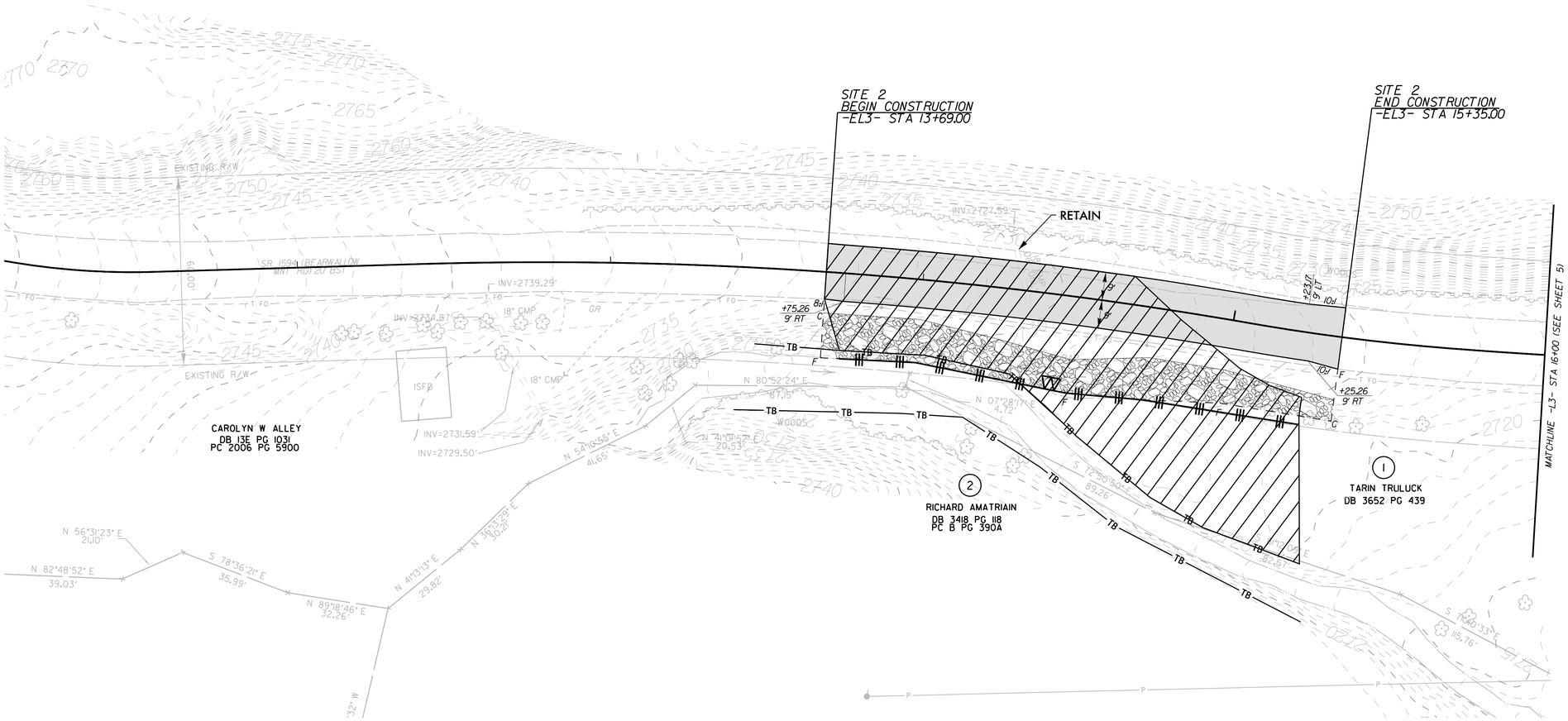
RALEIGH, NC 27601

0 10 20
PLANS

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045408	EC-4/CONST.4

15

NC GRID
NAD 83/NA 2011



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9/30/2025

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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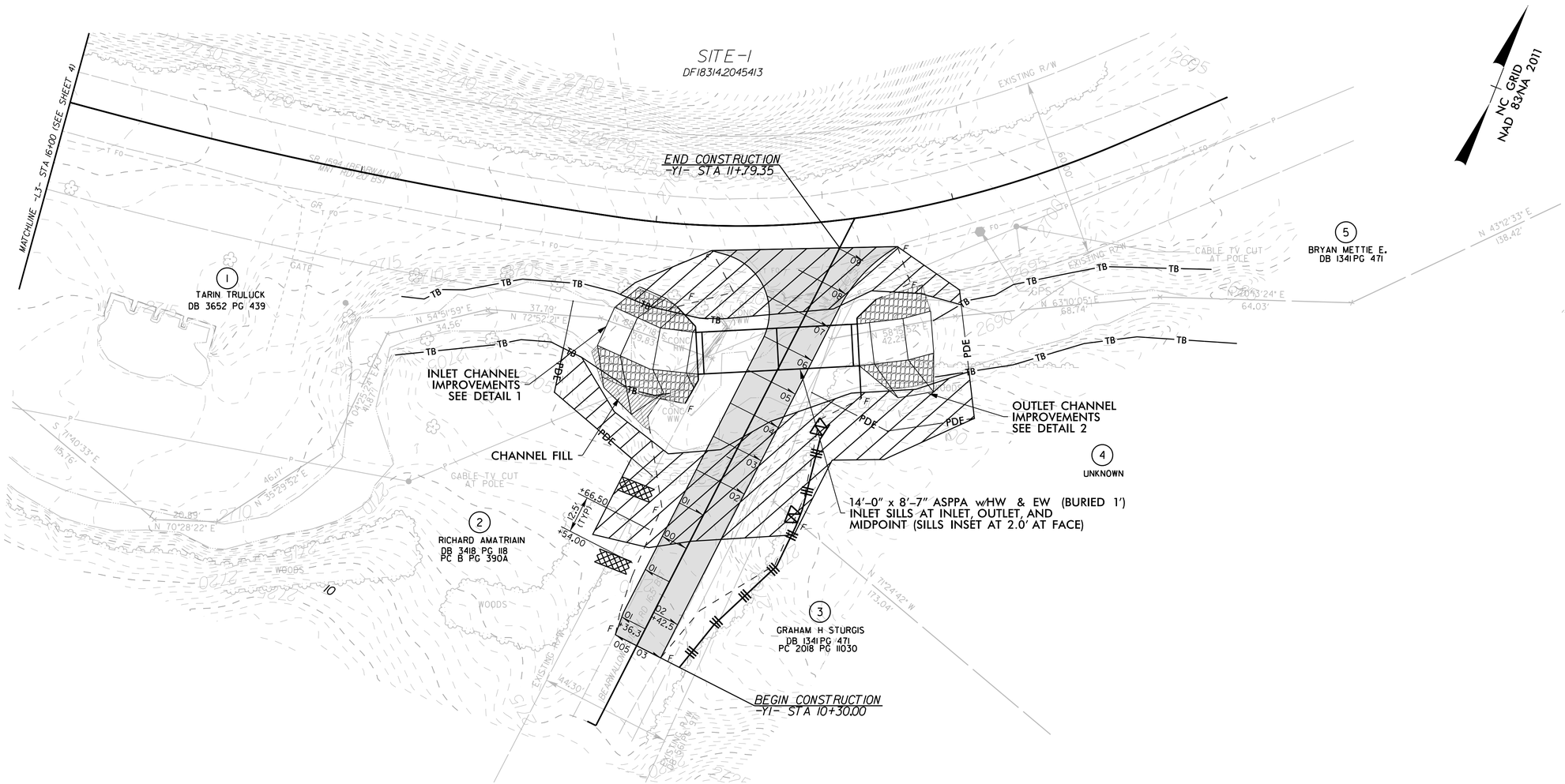
0 10 20
PLANS

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045413	EC-5/CONST.5



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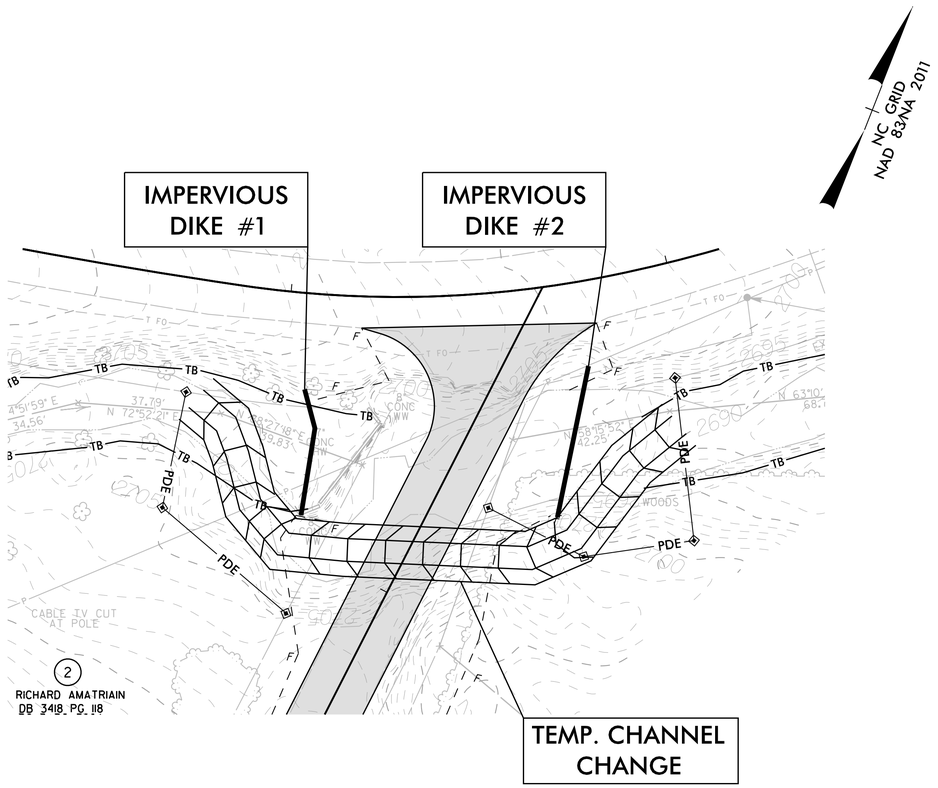
5/14/99

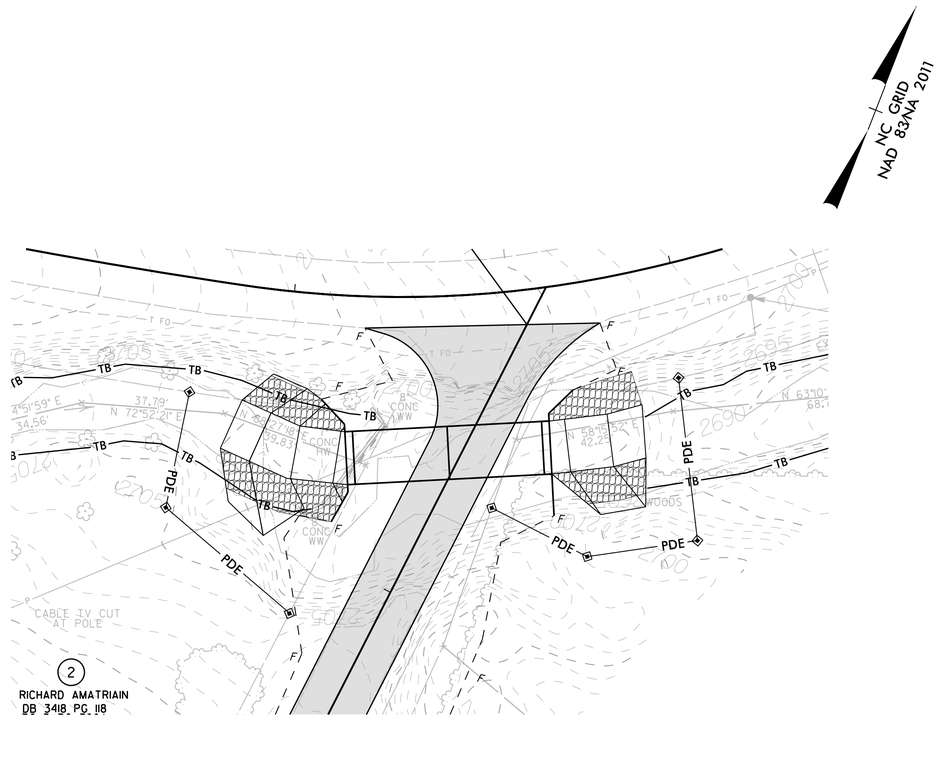
PROJECT REFERENCE NO.	SHEET NO.
DF1831420454I3	EC-5A/CONST.5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 11+41 –Y1–

1.) UTILIZE SPECIAL STILLING BASIN(S) DURING CONSTRUCTION AS NEEDED TO DEWATER WORK SITE. (TYP.)
2.) CONSTRUCT IMPERVIOUS DIKES 1 AND 2.
3.) CONSTRUCT TEMPORARY DIVERSION CHANNEL (6' BASE, 2' DEEP, 2:1 SIDE SLOPES).



1.) CONSTRUCT PROPOSED 14'–0" X 8'–7" ASPPA CULVERT.
2.) REMOVE IMPERVIOUS DIKES 1 AND 2.
3.) REMOVE SPECIAL STILLING BASIN.
4.) CONSTRUCT CHANNEL IMPROVEMENTS AND FILL IN TEMPORARY CHANNEL CHANGE.
5.) STABILIZE DISTURBED AREA AND REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES AS DIRECTED.
6.) FINISH ROADWAY AND DRAINAGE CONSTRUCTION.



9/30/2025

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RALEIGH, NC 27601

9/30/2025

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

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0 10 20
PLANS

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045405	EC-6/CONST.6
DF18314.2045404	

NC GRID
NAD 83/NA 2011

6
THE GLORIA BLACK ANDERS
REVOCABLE TRUST
DB 4002 PG 442

7
WILLIAM SINCLAIR
DB 2015E PG 332

SITE 5
BEGIN CONSTRUCTION
-EL6- STA 19+16.00

SITE-5
DF18314.2045404

DO NOT DISTURB
EXISTING POLE

SITE 5
END CONSTRUCTION
-EL6- STA 20+58.00

60" CMP w/HW
(BURIED 1' w/INLET SILL)
INV = 2836.7'

SITE 4
BEGIN CONSTRUCTION
-EL6- STA 22+74.00

SITE-4
DF18314.2045405

SITE 4
END CONSTRUCTION
-EL6- STA 23+56.00

INV = 2828.6'

CL-I RIPRAP
EST. 40 TONS
EST. 75 SY GFD

ROBERT LEE BOOTH
DB 2023E PG 237

CAROLYN W ALLEY
DB 13E PG 1031
PC 2006 PG 5900

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9/30/2025

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

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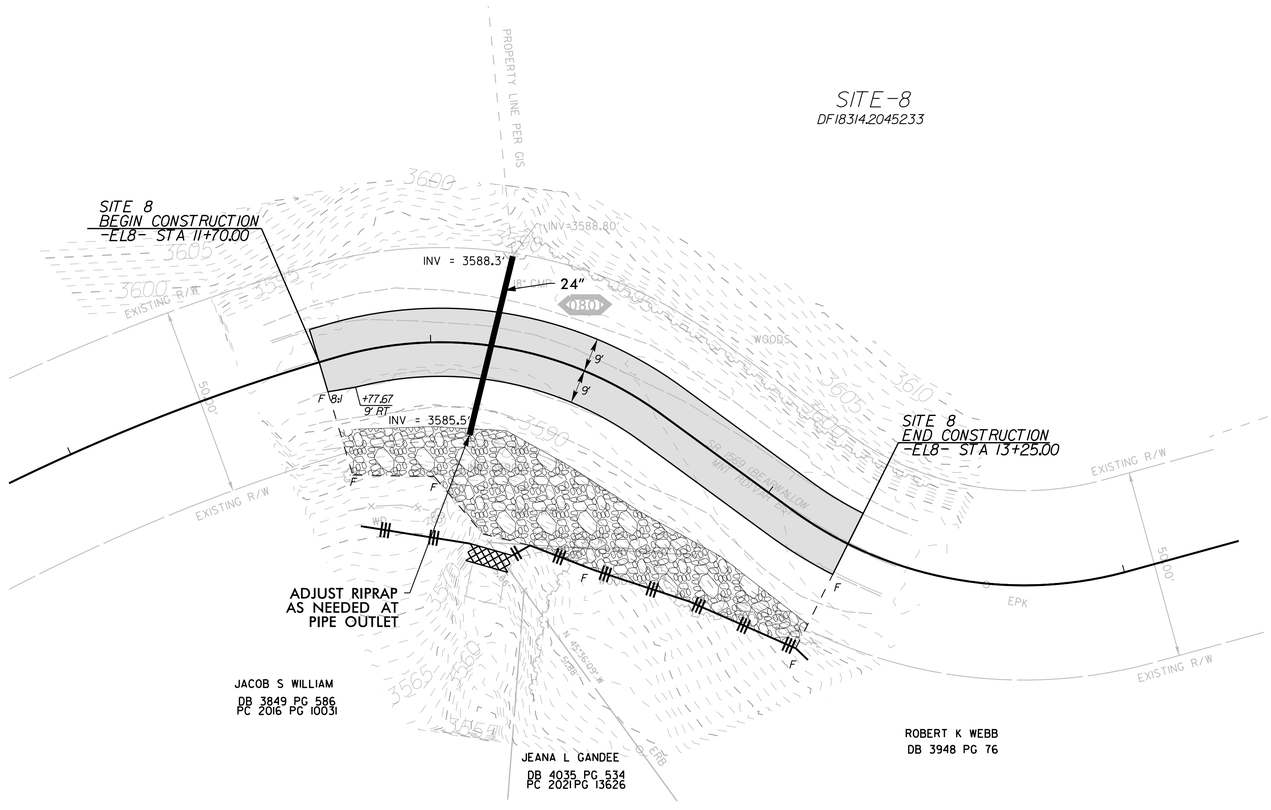
RALEIGH, NC 27601

0 10 20
PLANS

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045233	EC-7/CONST.7

NC GRID
NAD 83/NA 2011

SITE-8
DF18314.2045233



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9/30/2025

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

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0 10 20
PLANS

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045234	EC-8/CONST.8

SITE 9
END CONSTRUCTION
-EL9- STA 14+42.00

5' BASE DITCH @15%
EST 3 CY DDE

CL-I RIPRAP
EST 35 TONS
EST 50 SY GFD
GFD ON BANKS ONLY

SPECIAL ENDWALL
SEE SPECIAL DETAIL
SEE SHEET 2D-1

COLLAR AND EXTEND w/11 LF of 60" CMP

RETAIN (PIPE IN GOOD CONDITION DURING SITE VISIT)

CONTRACTOR TO CLEAR DEBRIS AT UPSTREAM END

SITE 9
BEGIN CONSTRUCTION
-EL9- STA 13+40.00

SITE-9
DF18314.2045234

PROPERTY LINE PER GIS

SR 1569 (BEARWALLOW MNT RD)VAR WIDTH

EXISTING R/W

NC GRID
NAD 83/NA 2011

BEARTOP HOLDINGS, LLC
DB 3186 PG 713
PC 2018 PG 11498

JACOB S WILLIAM
DB 3942 PG 316
PC 2022 PG 14285

JANE COATES OWEN
REVOCABLE LIVING TRUST
DB 3008 PG 233

8
BRUCE W. PITILLO TRUST
TERESA PITILLO
DB 3928 PG 151

S 40°32'21" W 475'
S 80°38'10" E 299.15'
S 81°29'28" E 252.92'

INV=3340.
INV=3348.88'
INV=3348.16'
INV=3350.16'

WOODS

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9/30/2025

CLEARING AND GRUBBING AND FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 9

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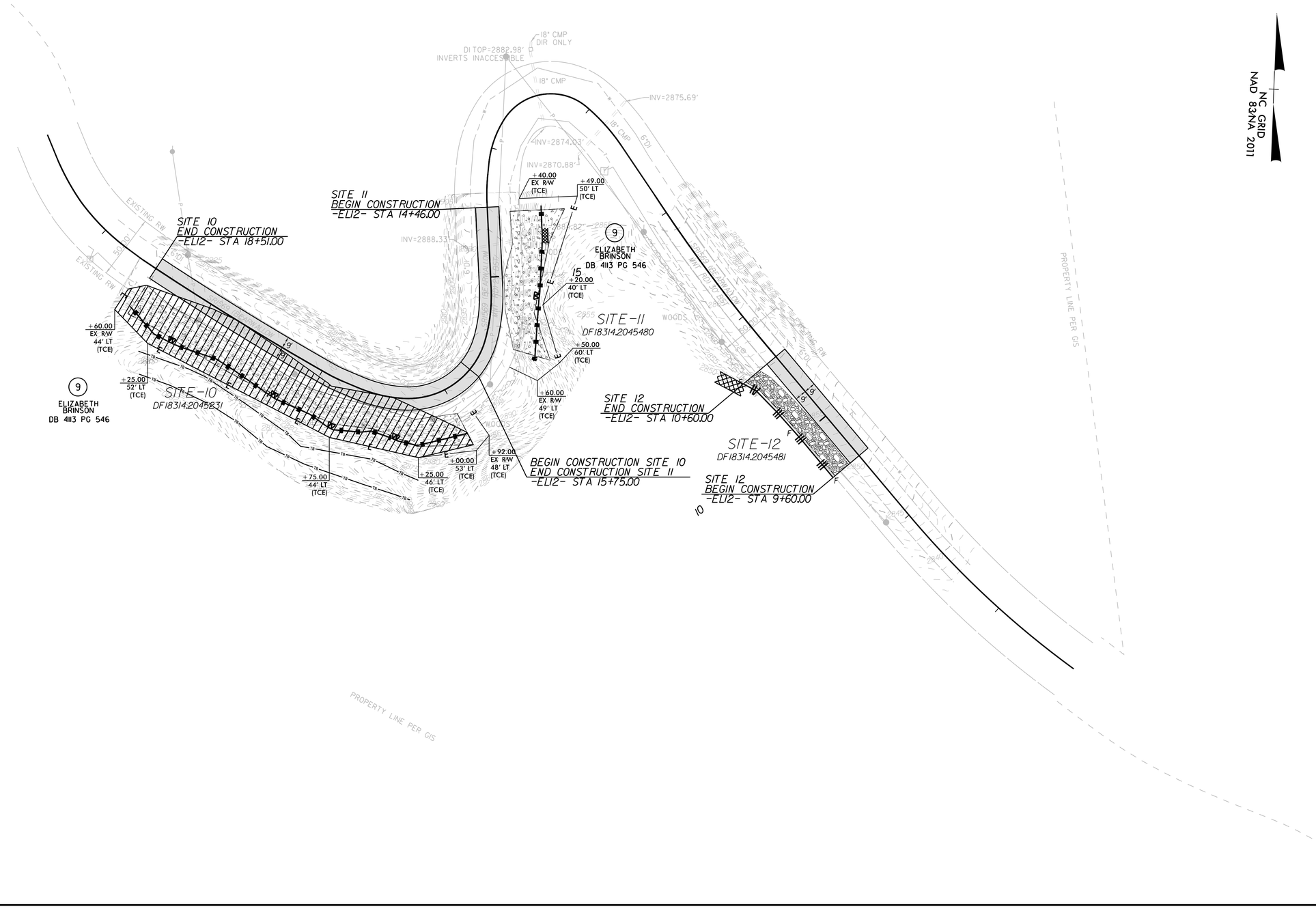
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045231	EC-9/CONST.9
DF18314.2045480	
DF18314.2045481	

0 20 40
PLANS



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9/30/2025

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

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RALEIGH, NC 27601

0 10 20
PLANS

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045230	EC-10/CONST.10

SITE-13
DF18314.2045230

RETAIN
INV=2688.99

15' LANE TAPER LT & RT
+85.71
+10.71

BEGIN CONSTRUCTION
-L13- STA 10+75.00

LANE L PLUMLEY
B 1620 PG 299
PC C PG 191

REPLACE 12 LF OF 18" CMP

BEGIN GRADE
-L13- STA 11+26.05

30' LANE TAPER LT & RT
+85.55

BEGIN EXP.GUTTER
-L13- STA 12+85.00

COILED UTILITY CABLE IN THIS AREA MAY TRACE IN ANY DIRECTION

+61.05
12.5' (TYP)
+73.55

DETAIL 3
TOE PROTECTION
(Not to Scale)
NATURAL GROUND
d
2:1 OR FLATTER
FILL SLOPE
GEOTEXTILE
d= 1.0 Ft.
Type of Liner= CL-B Rip-Rap
FROM STA. 13+78 TO STA. 14+40 -L13- LT

9
ELIZABETH BRINSON
DB 4113 PG 546

EXPRESSWAY GUTTER

TB 2GI
TOP = 2708.7'
INV = 2705.7'

END EXP.GUTTER
-L13- STA 13+65.00

18" CMP

2GI
TOP = 2711.9'
INV = 2708.9'

INV = 2705.0'

10
LAURIE A FENTON
DB 3660 PG 203
PC 2006 PG 6052

+25.08
12.5' (TYP)
+37.56

18" CMP

CL-B RIPRAP
EST 2 TONS
EST 7 SY GFD

+70.89
RT LANE TAPER
LT & RT
+85.89

INSTALL RIST-C IN FINAL PHASE

60" CMP w/HW
STD. 838.27 HW SKEWED AT 60^
(BURIED 1' UPSTREAM w/INLET SILL)

INV = 2717.3'

TOE PROTECTION
SEE DETAIL 3
EST. 36 TONS CL-B RIPRAP
EST. 80 SY GFD

END GRADE
END CONSTRUCTION
-L13- STA 15+73.40

+68.40
12.5' (TYP)
+55.90

INV = 2716.8'

BEDROCK PRESENT AT OUTLET

+88.35
12.5' (TYP)
+75.85

11
UNKNOWN

ALICE YOUMANS
DB 616 PG 459

NC GRID
NAD 83/NA 2011

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9/30/2025

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

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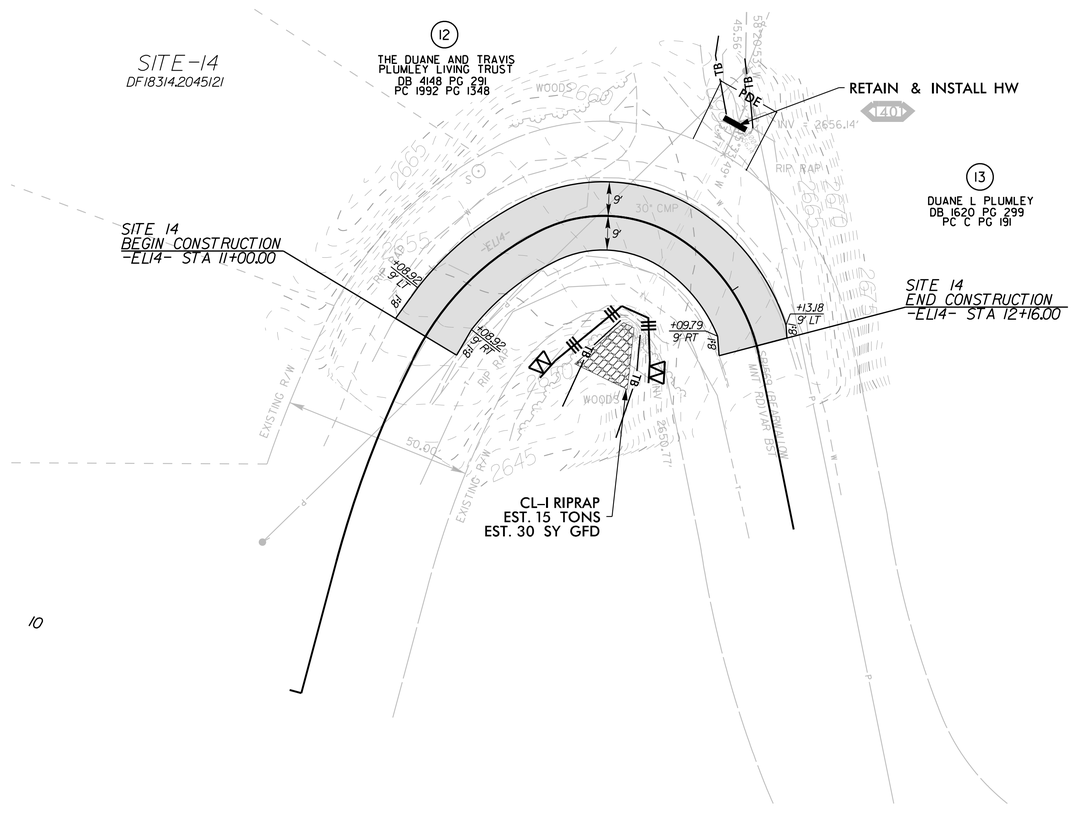
RALEIGH, NC 27601

0 10 20
PLANS

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045121	EC-11/CONST.11



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ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045126	EC-12/CONST.12

9/30/2025

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9/30/2025

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 5

Kimley»Horn ©2024
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045413	EC-13/CONST.5

0 10 20
PLANS

SITE-1
DF18314.2045413

NC GRID
NAD 83/NA 2011

MATCHLINE -L3- STA 16+00 (SEE SHEET 4)

END CONSTRUCTION
-Y1- STA 11+79.35

BEGIN CONSTRUCTION
-Y1- STA 10+30.00

EXISTING R/W

SR 1624 (BEARWALLOW MNT RD) 120' RW

1 TARIN TRULUCK
DB 3652 PG 439

2 RICHARD AMATRIAIN
DB 3418 PG 118
PC B PG 390A

3 GRAHAM H STURGIS
DB 1341 PG 471
PC 2018 PG 11030

4 UNKNOWN

5 BRYAN METTIE E.
DB 1341 PG 471

INLET CHANNEL IMPROVEMENTS SEE DETAIL 1

OUTLET CHANNEL IMPROVEMENTS SEE DETAIL 2

CHANNEL FILL

14'-0" x 8'-7" ASPPA w/HW & EW (BURIED 1') INLET SILLS AT INLET, OUTLET, AND MIDPOINT (SILLS INSET AT 2.0' AT FACE)

CABLE TV CUT AT POLE

GPS 2

WOODS

GATE

8" CONC WW

PDE

TB

F

T FO

GR

P

EXISTING R/W

BEARWALLOW MNT RD 165.8' RW

EXISTING R/W DB 5816 PG 971

44.30'

+66.50
12.5%
17 LF
+54.00

+36.3
+42.50

N 54°51'59" E 37.79'
N 72°52'21" E 34.56'
N 04°25'24" E 41.81'
S 71°40'33" E 115.76'
N 35°29'52" E 46.17'
N 70°28'22" E 20.89'
N 58°15'52" E 42.25'
N 63°10'05" E 68.74'
N 70°13'24" E 64.03'
N 43°12'33" E 138.42'
N 71°24'42" W 173.04'

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