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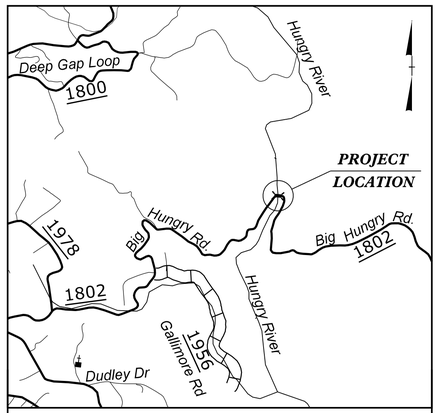
09/08/99

PROJECT TIP: DF18314.2045332

CONTRACT: DN01118

See Sheet 1A For Index of Sheets
See Sheet 1B for Conventional Symbols



VICINITY MAP N.T.S.

100% PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

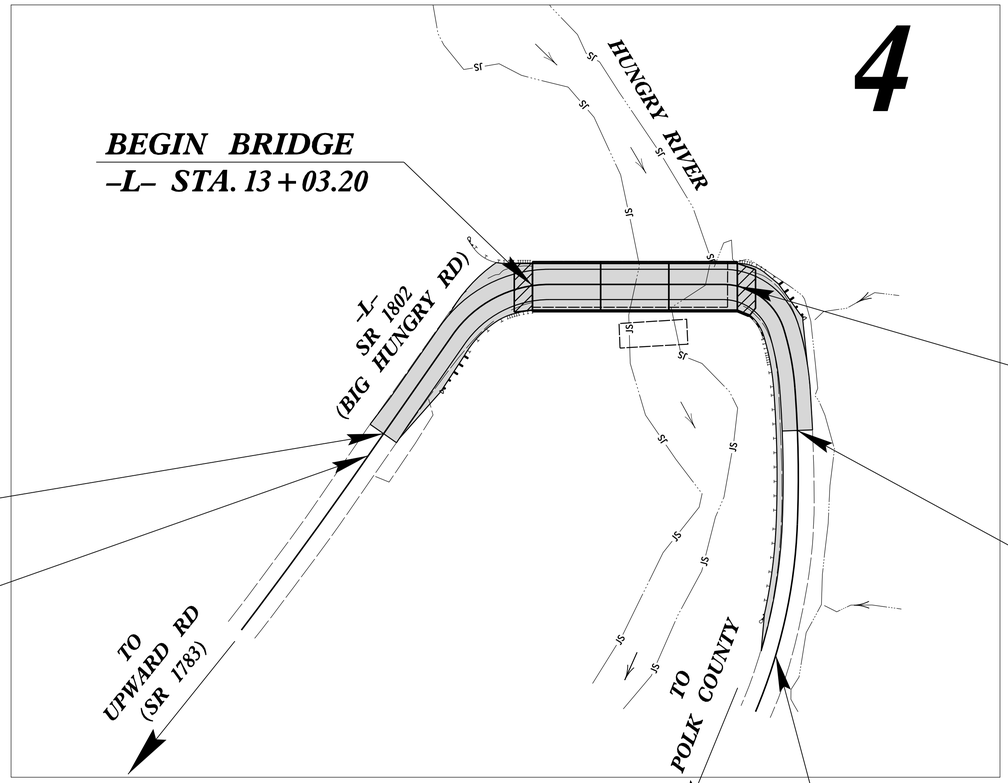
HENDERSON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18314.2045332	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
DF18314.2045332	N/A	PE
DF18314.2045332	N/A	R/W
DF18314.2045332	N/A	CONST.

LOCATION: BRIDGE 440055 OVER HUNGRY RIVER ON SR 1802 (BIG HUNGRY ROAD)

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



DESIGN EXCEPTION FOR DESIGN SPEED, 15 MPH.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2025 = < 400
ADT 2045 = < 400

V = 35 MPH

FUNC CLASS = LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT DF18314.2045332 = 0.048 MILES
LENGTH STRUCTURE PROJECT DF18314.2045332 = 0.026 MILES
TOTAL LENGTH PROJECT DF18314.2045332 = 0.074 MILES

PREPARED IN THE OFFICE OF:

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 14, 2025

LETTING DATE:
JUNE 9, 2026

DAVID B. TAYLOR, PE
PROJECT ENGINEER

JENNY YANG
PROJECT DESIGN ENGINEER

ZACHARY T. SHULER, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

DocuSigned by: Alexander R Vinson E790C5A47B6B47E...
4/13/2026 P.E.
SIGNATURE:

NORTH CAROLINA PROFESS(ION)AL SEAL 049764 ENGINEER ALEXANDER R VINSON

ROADWAY DESIGN ENGINEER

Signed by: David B. Taylor 4AD5F3B8B3D84F7...
4/13/2026 P.E.
SIGNATURE:

NORTH CAROLINA PROFESS(ION)AL SEAL 029336 ENGINEER DAVID B TAYLOR

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

09-APR-2026 09:25
R:\Roadway\Proj\440055_Rdy_tsh.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
DF1831420453 32	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040136 ENGINEER DAVID B. TAYLOR
4/13/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H 1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

INDEX OF SHEETS

GENERAL NOTES

GENERAL NOTES: 2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

STANDARD DRAWINGS

EFF. 01-16-2024
REV.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
310.02	Parallel Pipe End Section - Precast Concrete Section for 15" to 24" Pipe
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
423.01	Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.22	Frames and Wide Slot Sag Grates
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
854.07	Single Slope Concrete Barrier
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, and 11)
862.02	Guardrail Installation
862.03	Structure Anchor Units (Use Detail in Lieu of Standard for Sheet 1 of 1)
876.02	Guide for Rip Rap at Pipe Outlets

9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
DF1831.4.2045332	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed Property Corner
- Existing Concrete Monument (ECM)
- Parcel/Sequence Number
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary
- Existing Historic Property Boundary
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign
- Well
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream
- Buffer Zone 1
- Buffer Zone 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch
- False Sump

RAILROADS:

- Standard Gauge
- RR Signal Milepost
- Switch
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line
- Existing Control of Access Line
- Proposed Control of Access Line
- Proposed ROW and CA Line
- Existing Easement Line
- Proposed Temporary Construction Easement
- Proposed Temporary Drainage Easement
- Proposed Permanent Drainage Easement
- Proposed Permanent Drainage/Utility Easement
- Proposed Permanent Utility Easement
- Proposed Temporary Utility Easement
- Proposed Aerial Utility Easement

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut
- Proposed Slope Stakes Fill
- Proposed Curb Ramp
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert
- Bridge Wing Wall, Head Wall and End Wall

MINOR:

- Head and End Wall
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB
- Paved Ditch Gutter
- Storm Sewer Manhole
- Storm Sewer

UTILITIES:

** SUE – Subsurface Utility Engineering*
LOS – Level of Service – A,B,C or D (Accuracy)

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H–Frame Pole
- U/G Power Line Test Hole (SUE – LOS A)*
- U/G Power Line (SUE – LOS B)*
- U/G Power Line (SUE – LOS C)*
- U/G Power Line (SUE – LOS D)*

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole
- Telephone Pedestal
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Test Hole (SUE – LOS A)*
- U/G Telephone Cable (SUE – LOS B)*
- U/G Telephone Cable (SUE – LOS C)*
- U/G Telephone Cable (SUE – LOS D)*
- U/G Telephone Conduit (SUE – LOS B)*
- U/G Telephone Conduit (SUE – LOS C)*
- U/G Telephone Conduit (SUE – LOS D)*
- U/G Fiber Optics Cable (SUE – LOS B)*
- U/G Fiber Optics Cable (SUE – LOS C)*
- U/G Fiber Optics Cable (SUE – LOS D)*

WATER:

- Water Manhole
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line Test Hole (SUE – LOS A)*
- U/G Water Line (SUE – LOS B)*
- U/G Water Line (SUE – LOS C)*
- U/G Water Line (SUE – LOS D)*
- Above Ground Water Line

TV:

- TV Pedestal
- TV Tower
- U/G TV Cable Hand Hole
- U/G TV Test Hole (SUE – LOS A)*
- U/G TV Cable (SUE – LOS B)*
- U/G TV Cable (SUE – LOS C)*
- U/G TV Cable (SUE – LOS D)*
- U/G Fiber Optic Cable (SUE – LOS B)*
- U/G Fiber Optic Cable (SUE – LOS C)*
- U/G Fiber Optic Cable (SUE – LOS D)*

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE – LOS A)*
- U/G Gas Line (SUE – LOS B)*
- U/G Gas Line (SUE – LOS C)*
- U/G Gas Line (SUE – LOS D)*
- Above Ground Gas Line

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line
- Above Ground Sanitary Sewer
- SS Force Main Line Test Hole (SUE – LOS A)*
- SS Force Main Line (SUE – LOS B)*
- SS Force Main Line (SUE – LOS C)*
- SS Force Main Line (SUE – LOS D)*

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box
- Utility Unknown U/G Line (SUE – LOS B)*
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc.
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records
- End of Information

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
DF1831.2045332	2A-1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 023236 DAVID B. TAYLOR 4/13/2026

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042464 JOSEPH T. HOLLAND 4/13/2026

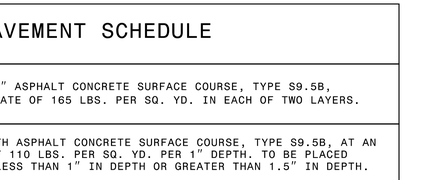
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H 1520 SOUTH BOULEVARD, SUITE 200 CHARLOTTE, NC 28203 NC FIRM LICENSE No: F-0493

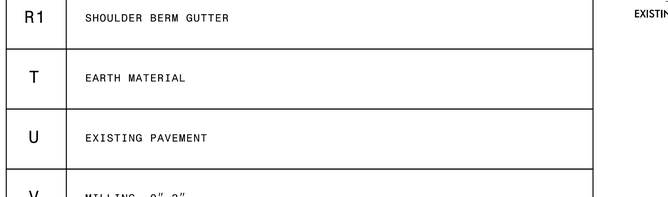
PAVEMENT SCHEDULE

C1	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1″ IN DEPTH OR GREATER THAN 1.5″ IN DEPTH.
E1	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAT 5.5″ IN DEPTH.
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING, 0″-3″
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

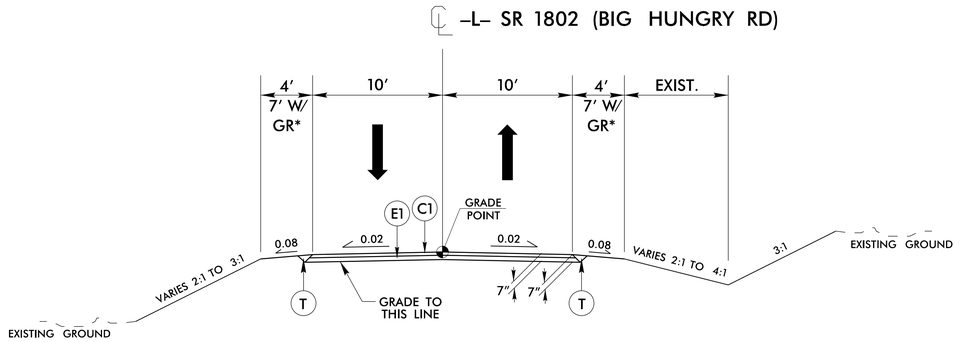
NOTE: ALL PAVEMENT SLOPES 1:1 UNLESS NOTED OTHERWISE



STANDARD WEDGING DETAIL

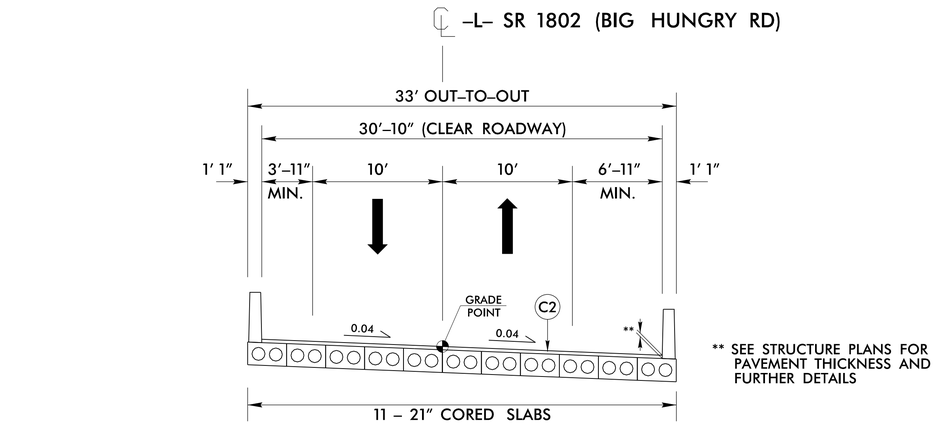


DETAIL OF 3.0″ MILLING AT PAVEMENT TIE–INS AS NEEDED



TYPICAL SECTION NO. 01

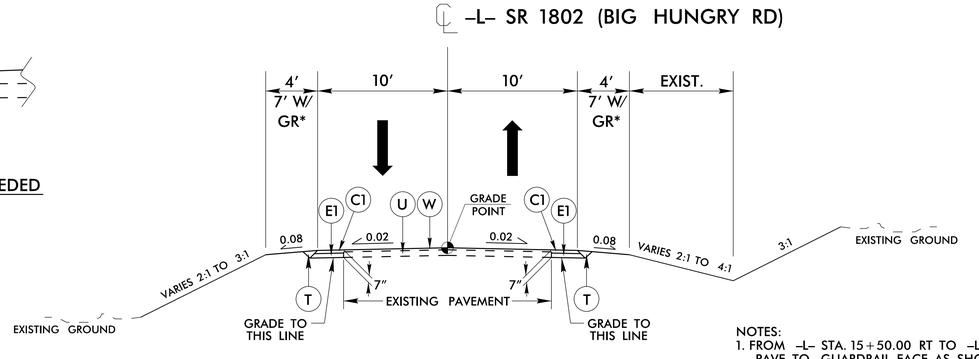
–L– STA. 11+60.00 TO –L– STA. 13+03.20 (BEGIN BRIDGE)



** SEE STRUCTURE PLANS FOR PAVEMENT THICKNESS AND FURTHER DETAILS

TYPICAL SECTION NO. 02

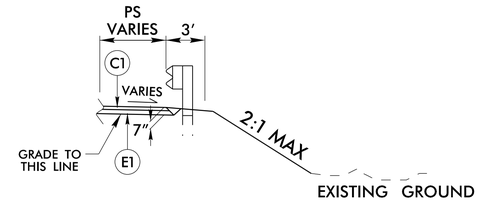
–L– STA. 13+03.20 (BEGIN BRIDGE) TO –L– STA. 14+38.56 (END BRIDGE)



TYPICAL SECTION NO. 03

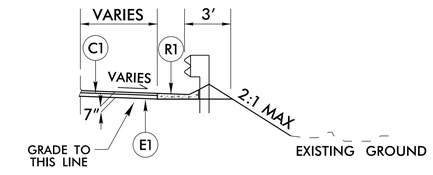
–L– STA. 14+38.56 (END BRIDGE) TO –L– STA. 15+50.00

NOTES:
1. FROM –L– STA. 15+50.00 RT TO –L– 17+00.00 RT PAVE TO GUARDRAIL FACE AS SHOWN ON GUARDRAIL DETAIL ON THIS SHEET
2. FROM –L– STA. 15+07 +/– RT TO –L– STA. 16+75 +/– RT SEE WIRE MESH SLOPE PROTECTION DETAIL (SHEETS 2G–1 & 2G–2)



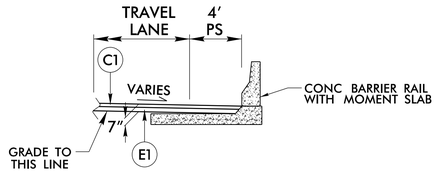
*DETAIL WITH GUARDRAIL

USE IN CONJUNCTION WITH GUARDRAIL ON –L– (SEE PLAN SHEET 04 AND CROSS SECTIONS)



DETAIL WITH SHOULDER BERM GUTTER AND GUARDRAIL

USE IN CONJUNCTION WITH TYPICAL SECTION NO. 01 –L– STA. 12+75.00 TO 13+01.00 RT



*DETAIL FOR CONC BARRIER WITH MOMENT SLAB

USE IN CONJUNCTION WITH TYPICAL SECTION NO. 01 –L– STA. 14+57.70 TO 14+85.00 RT (SEE PLAN SHEET 04, CROSS SECTIONS AND STRUCTURE PLANS)

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	2C-1

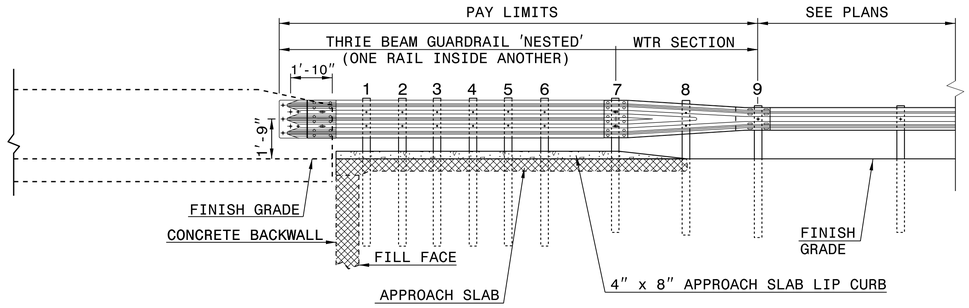
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

TYPE III - SHOP CURVED
STRUCTURE ANCHOR UNIT

SHEET 1 OF 1

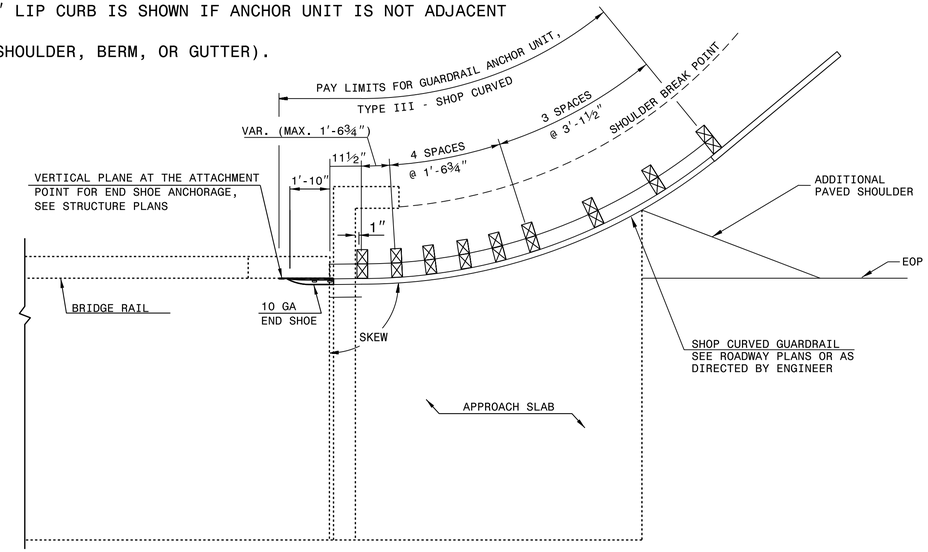
TYPE III SC



ELEVATION

SEE ROADWAY PLANS FOR END TREATMENT

NOTE:
**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
-SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
-USE NO STEEL POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
-SEE STANDARD 862.03 SHEET 4 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III - SHOP CURVED FOR ATTACHMENT TO RAIL ON BRIDGE

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

TYPE III - SHOP CURVED
STRUCTURE ANCHOR UNIT

SHEET 1 OF 1

TYPE III SC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33144 Kevin M. Hayden 4/13/2026

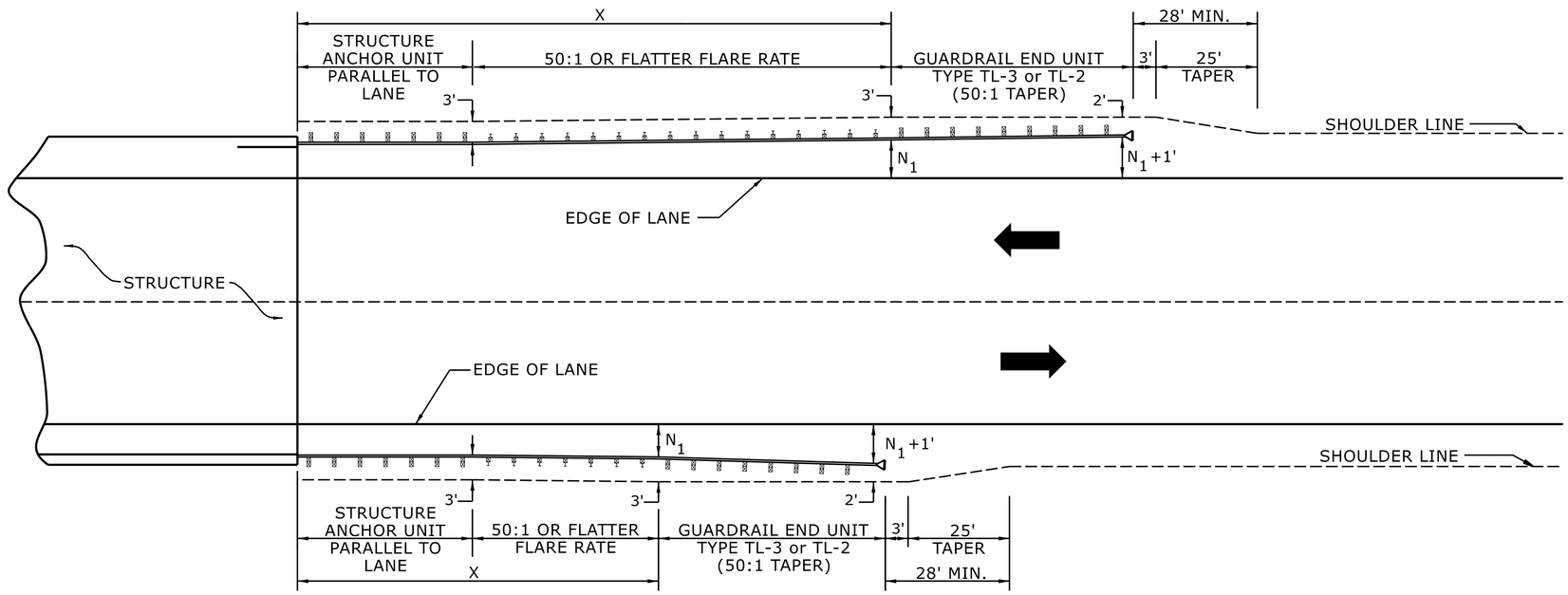
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: E.E.Ward DATE: 4-4-02
MODIFIED BY: T.S.Spell DATE: 5-29-09
CHECKED BY: DATE:
FILE SPEC.: ward:\usr\details\stand\862stds\typeiiisc.dgn

29-SEP-2011 09:30
S:\Contracts\Contracts\Special Details\ericward\usr\details\stand\862stds\type_iii_sc.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	2C-2



USE FLARE RATE AS THE CONTROL IF THE "N_1" DISTANCE IS NOT OBTAINED.
("N_1" IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)

SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

FOR POSTED SPEEDS ≥ 45MPH USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45MPH USE GREU TYPE TL-2

GUARDRAIL LENGTH OF NEED (X) IS CALCULATED BASED ON THE AASHTO ROADSIDE DESIGN GUIDE.

LENGTHS AND OFFSETS FOR PROPOSED GUARDRAIL AT TWO LANE - TWO WAY LOCATIONS

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 4 OF 15

862D01

SEAL
033444
NORTH CAROLINA PROFESSIONAL ENGINEER
NICOLE M. HACKLER
4/13/2026

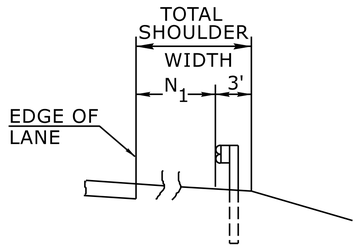
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

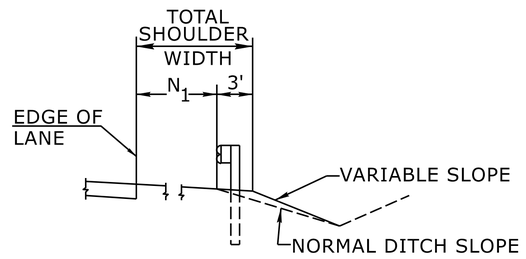
SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	2C-3

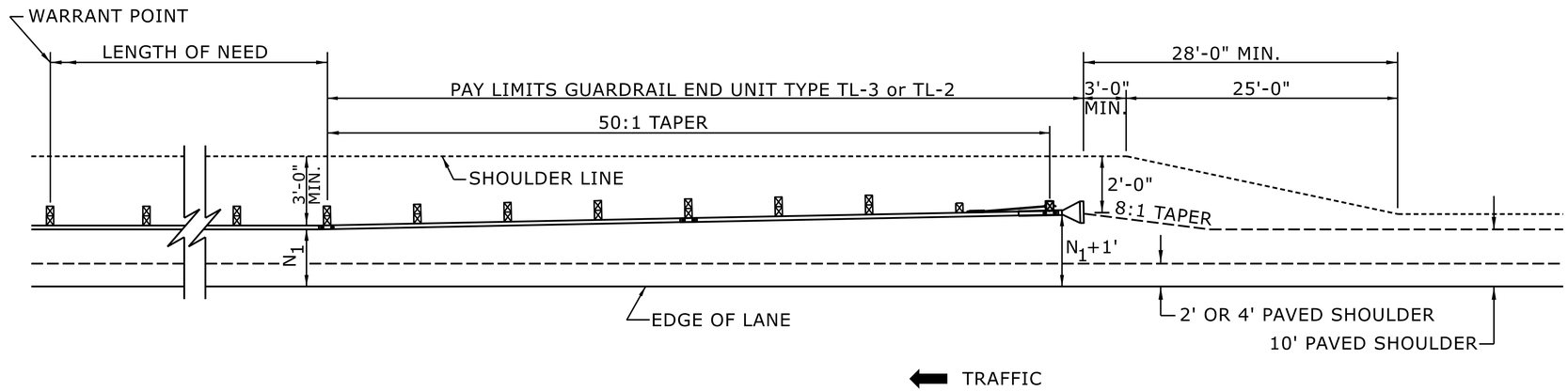


FILL SECTION



CUT SECTION

"N_1"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.



FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15

862D01

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033444 NICOLE M. HACKLEY
4/13/2026

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ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
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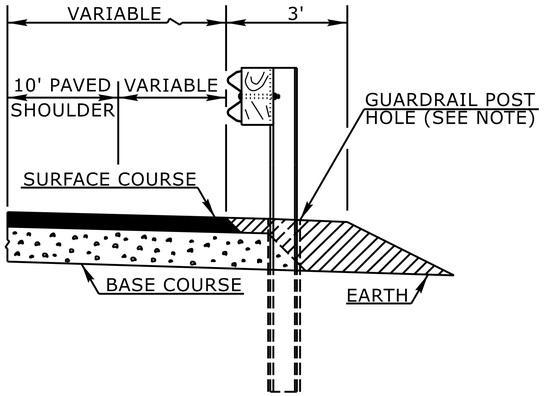
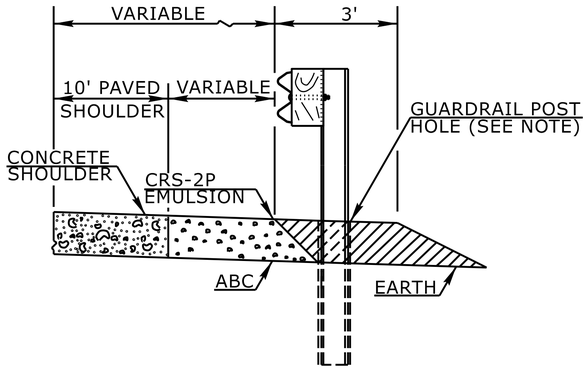
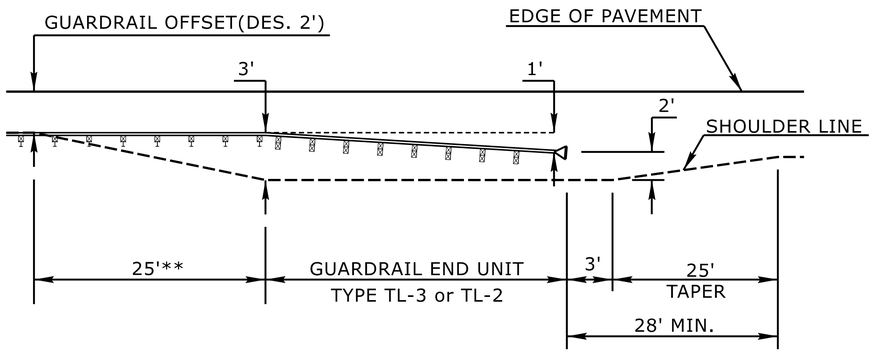
PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	2C-4



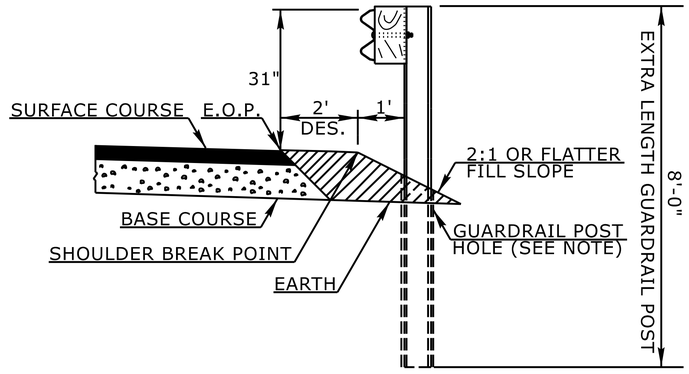
FLEXIBLE PAVED SHOULDER



CONCRETE PAVED SHOULDER



8' GUARDRAIL POST ON 2:1 SLOPE-END UNIT TRANSITION*
PLAN VIEW



8' GUARDRAIL POST ON 2:1 SLOPE*

* THE 8' GUARDRAIL POST ON 2:1 SLOPE DETAIL IS INTENDED FOR USE ONLY IN SEVERELY CONSTRAINED AREAS WITH A POSTED SPEED ≤ 60 MPH. GUARDRAIL END UNITS MAY NOT BE PLACED ON THE 2:1 SLOPE AND MUST TRANSITION TO THE SHOULDER.
** 8' GUARDRAIL POST SHOULD BE USED IN THIS RANGE

NOTE:
WHEN WOODEN GUARDRAIL POSTS ARE USED, DRILL HOLES THROUGH EARTH MATERIAL AND BASE COURSE.THE POST MAY THEN BE DRIVEN TO THE PROPER DEPTH. DRILL THE HOLE OF SUFFICIENT SIZE TO ACCOMMODATE THE PARTICULAR POST BEING USED. BACKFILL AND TAMP HOLES USING THE EXCAVATED MATERIAL.

STATE OF
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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 11OF 15

862D01

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ORIGINAL BY: L.SMITH DATE: 10-14-2025
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PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	2C-5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039236 DAVID B TAYLOR
4/13/2026

STRUCTURAL ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 052672 MATTHEW R ACORD
4/13/2026

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RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

NAD 83/NA 2011

-L-

P.O.C.
STA. 14+82.69 -L-

END APPROACH SLAB
ON EXTENDED TAN.
STA. 14+48.87 -L-
OFFSET 5.147' LT.

EXTENDED TANGENT

59°-20'-03"
(TAN. TO CURVE)

FOR APPROACH SLAB DETAILS,
SEE SHEETS S-31 AND S-32

20'-0 13/16" (ALONG ARC)
(INSIDE EDGE OF SLAB)

2'-2 1/2" (ALONG ARC)
(INSIDE EDGE OF SLAB)

*8'-1 1/2"

#6 A1 (T.O.S.)
#6 A2 (B.O.S.)
(TYP.)

1" EXP. JT.
MATERIAL

19-#4 B2
(SEE SECTION OF MOMENT SLAB)

*5'-10 1/2"

#5 S3
(TYP.)

#5 S2
(TYP.)

10-#4 B1

GUTTERLINE

#5 S1
(TYP.)

18-#5 S1 & #5 S2 @ 1'-0" MAX. CTS.
(#5 S2 TO BE SPACED WITH #5 A2)

44-#6 A1 (T.O.S.) & #6 A2 (B.O.S.) @ 6" CTS.

22-#5 S3 @ 1'-0" CTS. (PLACED ALTERNATED AT 6" A2)

15'-11 15/16" (ALONG ARC)
(OUTSIDE EDGE OF BARRIER

1'-0"

*1'-0"

4"

6"

*1 1/2"

SEE END OF RAIL DETAILS
SHEET 2 OF 3

2'-1 7/16" (ALONG ARC)
(OUTSIDE EDGE OF BARRIER)

NOTES:

FOR END OF RAIL DETAILS, SEE SHEET 2 OF 3.

FOR ADDITIONAL NOTES, SEE SHEET 2 OF 3.

FOR GUARDRAIL ANCHORAGE DETAILS, SEE SHEET 3 OF 3.

FOR HORIZONTAL CURVE DATA, SEE ROADWAY PLANS.

PLAN OF MOMENT SLAB

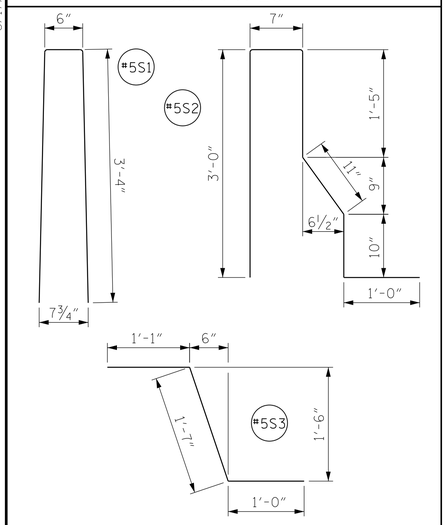
*RADIAL DIMENSION
END BENT 2 WINGWALL NOT SHOWN FOR CLARITY.

8/17/99

P:\NCDOT\10034734005_Henderson_55\03.00 Project Execution\03.04 Design\Structures\CAD\401_065_DF18314.2045332_SMU_MS_S-33_440055.dgn
3/11/2026
dcastro

8/17/99

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

EPOXY COATED REINFORCING STEEL	1,871 LBS.
CLASS AA CONCRETE	9.3 C.Y.

NOTES:

THE BARRIER RAIL SHALL NOT BE CAST UNTIL ALL MOMENT SLAB CONCRETE HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

MOMENT SLAB AND BARRIER RAIL SHALL BE CLASS AA CONCRETE.

ALL REINFORCING STEEL IN THE VERTICAL CONCRETE BARRIER RAIL AND THE MOMENT SLAB SHALL BE EPOXY COATED.

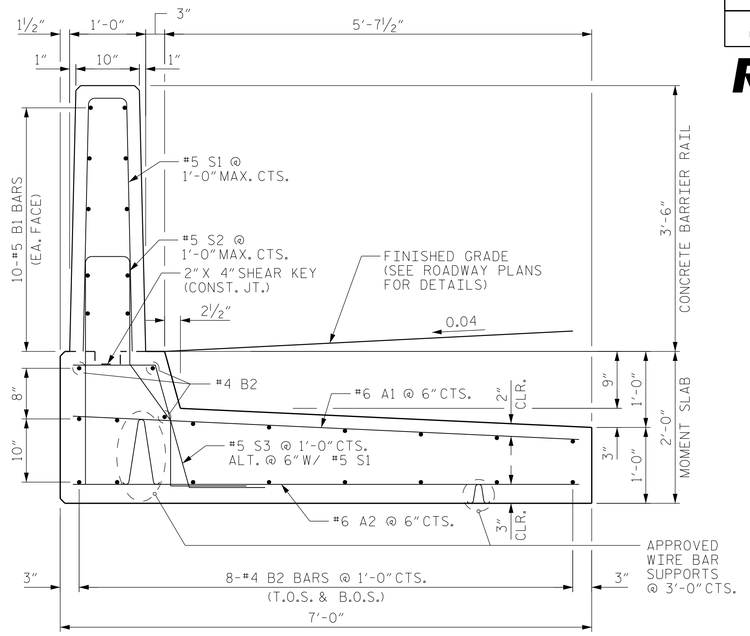
GROOVED CONTRACTION JOINTS, ½" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND MOMENT SLAB IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINTS SHALL BE LOCATED APPROXIMATELY AT EACH QUARTER POINT OF THE TOTAL LENGTH OF THE BARRIER RAIL.

FIELD BEND BARS AS NECESSARY.

FIELD CUT "B" BARS AS NECESSARY.

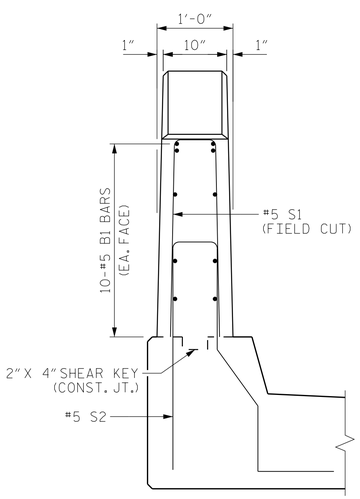
BELOW THE MOMENT SLAB, PROVIDE 6" MINIMUM THICKNESS OF CLASS VI SELECT MATERIAL FOUNDATION CONDITIONING MATERIAL.

CONCRETE BARRIER RAIL ON MOMENT SLAB SHALL BE A STRUCTURE PAY ITEM.

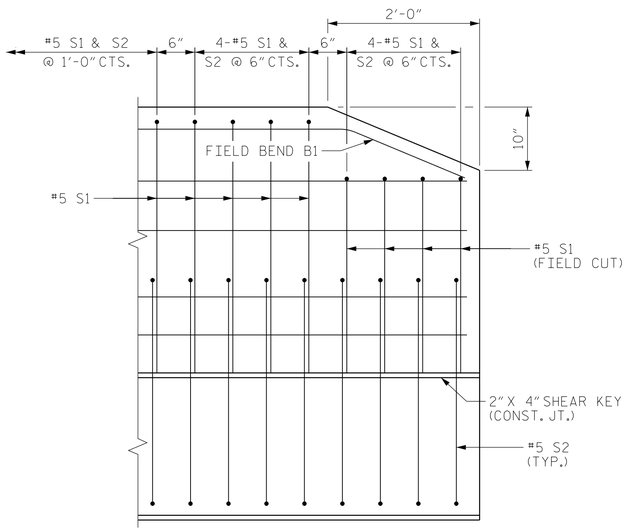


SECTION THROUGH MOMENT SLAB

LOOKING DOWNSTATION

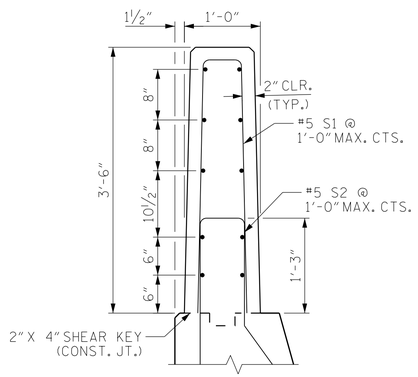


END VIEW



SIDE VIEW

END OF RAIL DETAILS



SECTION THRU RAIL

BARRIER RAIL DETAILS

LOOKING DOWNSTATION

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	2C-6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029866 DAVID B. TAYLOR
4/13/2026

STRUCTURAL ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 052672 MATTHEW R. ACOSTA
4/13/2026

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CHARLOTTE, NC 28203
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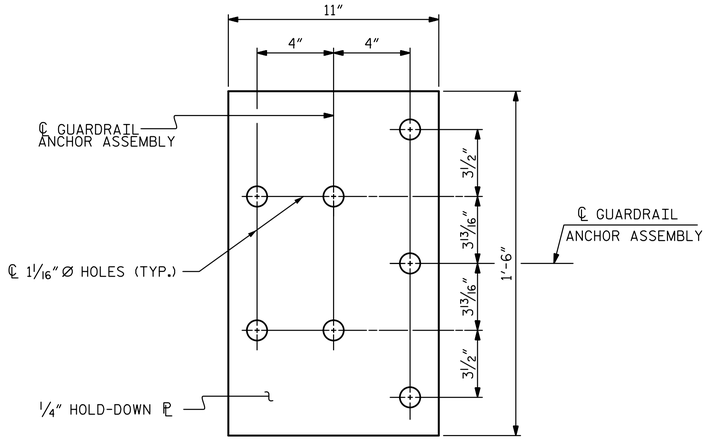
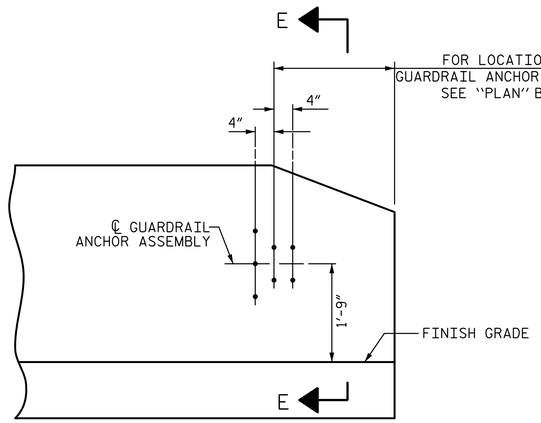
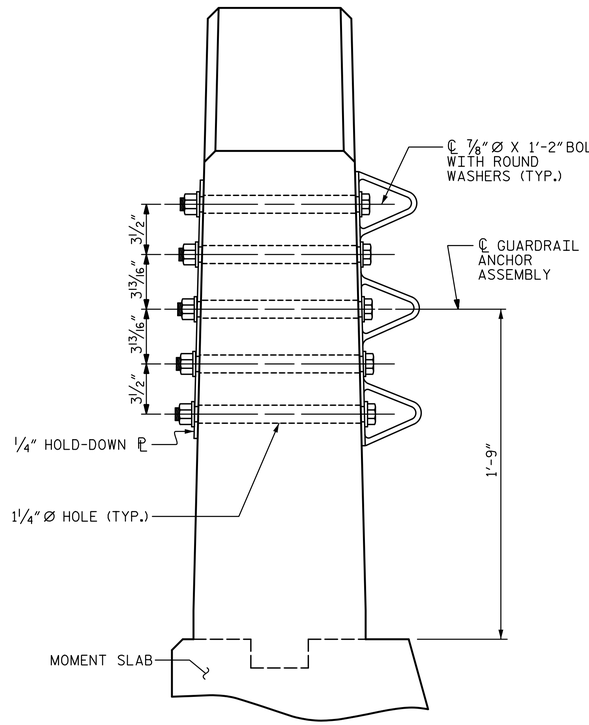


PLAN

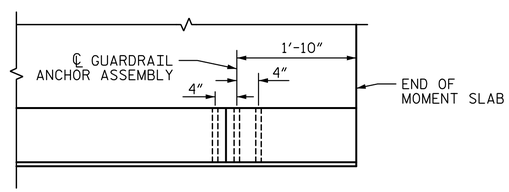


ELEVATION



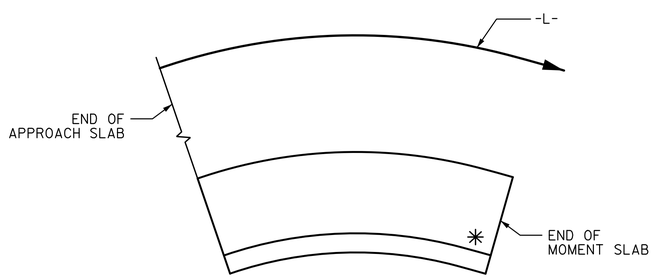
SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL



SKETCH SHOWING POINTS OF ATTACHMENT

✳ DENOTES GUARDRAIL ANCHOR ASSEMBLY

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4″ HOLD DOWN PLATE AND 7 - 7/8″ Ø BOLTS WITH NUTS AND WASHERS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8″ Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

THE 1 1/4″ Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
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ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 052672 DAVID B. TAYLOR
4/13/2026

STRUCTURAL ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 052672 MATTHEW R. ACOSTA
4/13/2026

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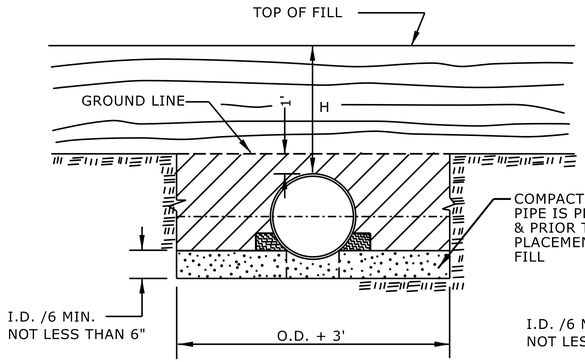
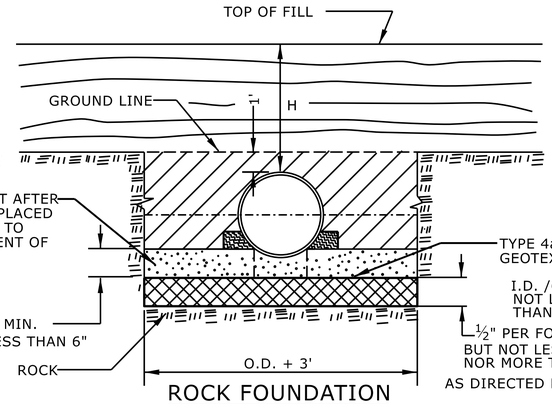
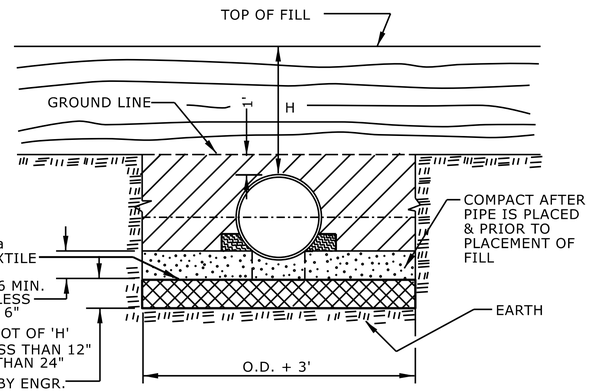
DF18314.2045332	2C-8



NORMAL EARTH FOUNDATION

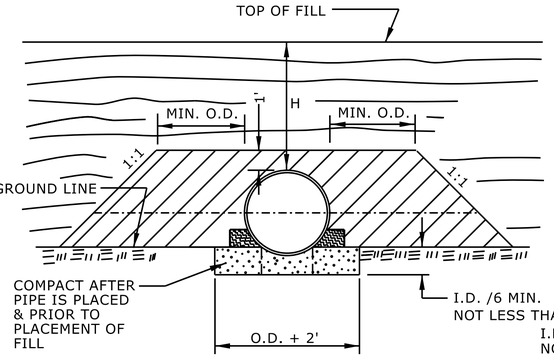


ROCK FOUNDATION

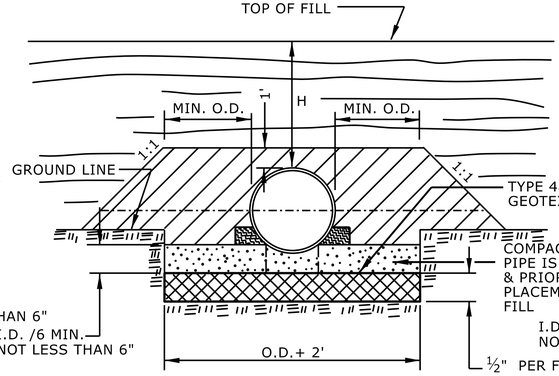


UNSUITABLE MATERIAL FOUNDATION

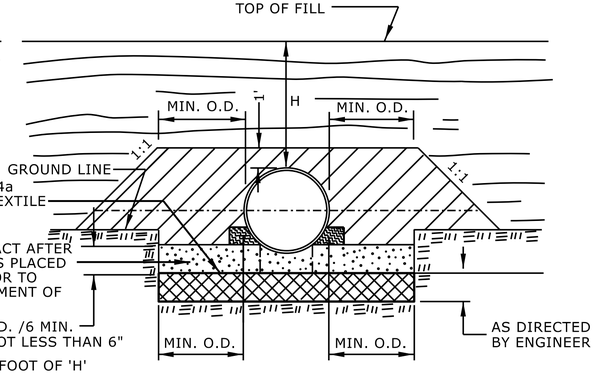
PIPE IN TRENCH



NORMAL EARTH FOUNDATION



ROCK FOUNDATION



UNSUITABLE MATERIAL FOUNDATION

PIPE ABOVE GROUND

GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF
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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

FLEXIBLE PIPE

SHEET 1 OF 2

300.01

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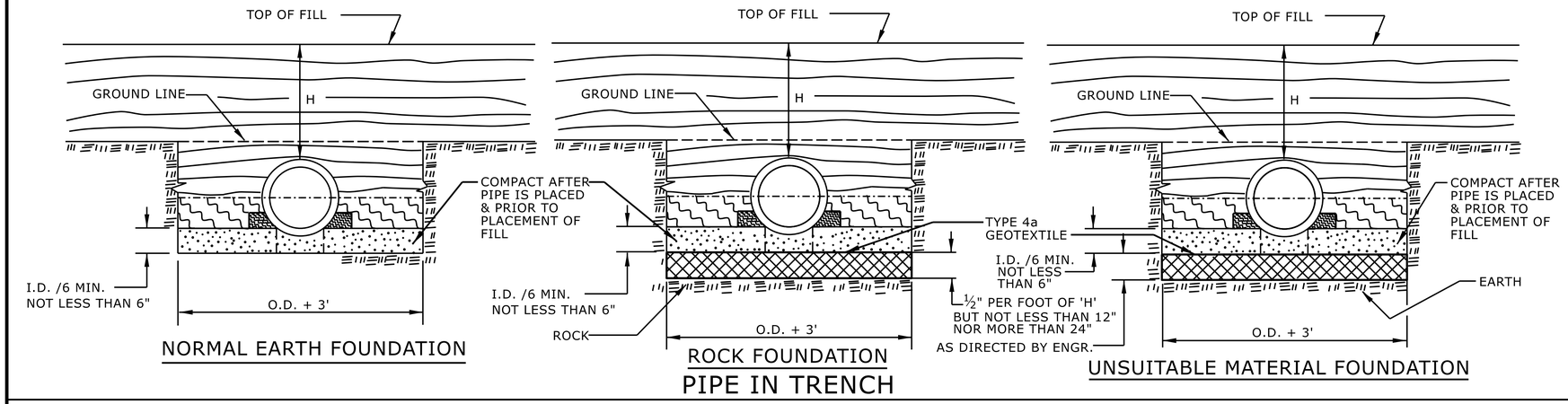
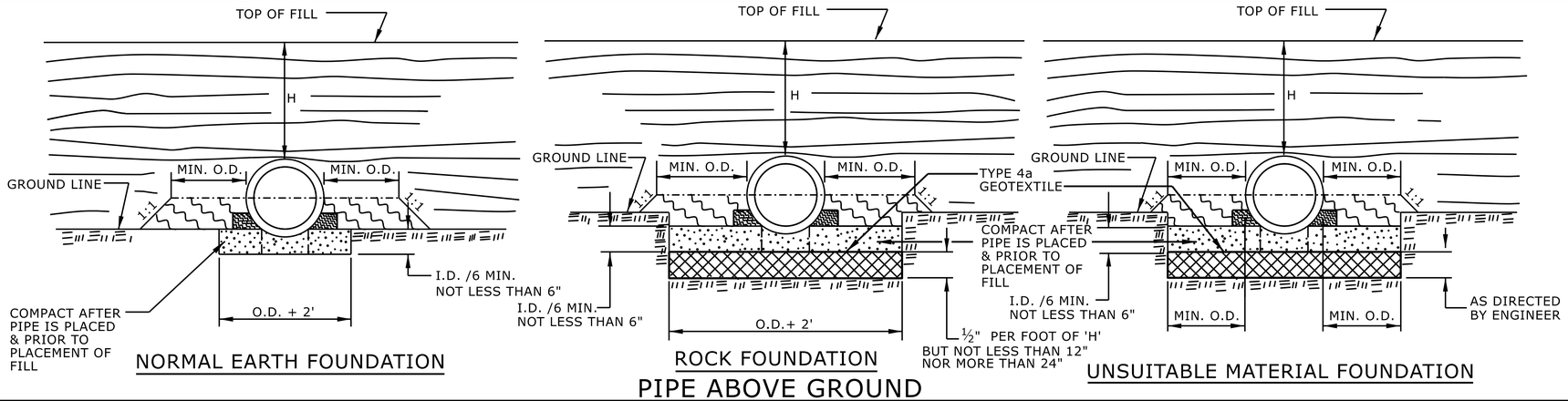
DF18314.2045332	2C-9



PIPE IN TRENCH



PIPE ABOVE GROUND

GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

RIGID PIPE

SHEET 2 OF 2

300.01

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PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	2G-1

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. SIEFKES

Signed by: 01/16/2026

C44768209231 4CC...

SIGNATURE DATE

ENGINEER

SIGNATURE DATE

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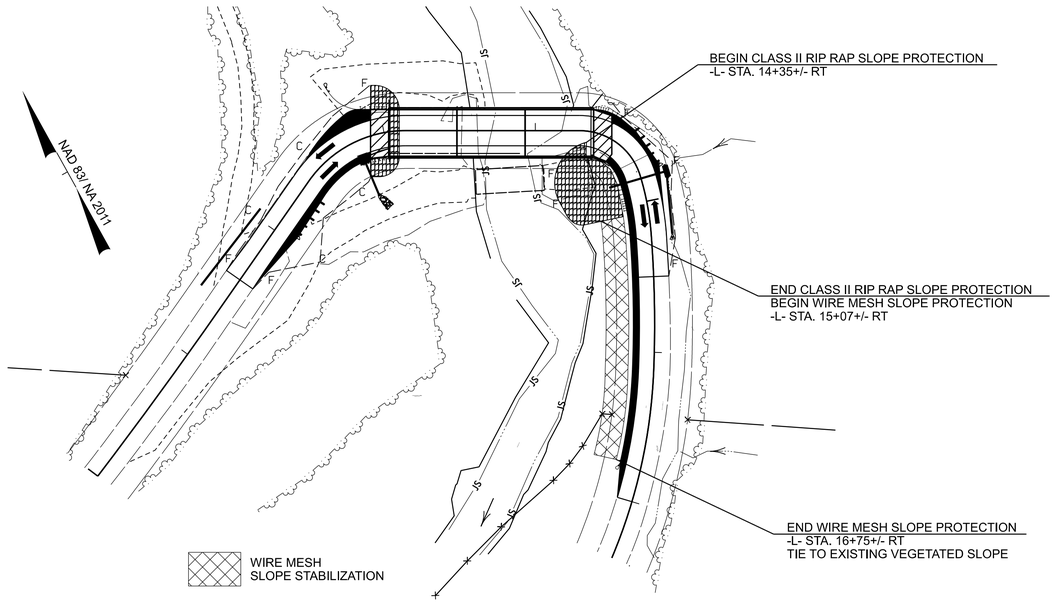
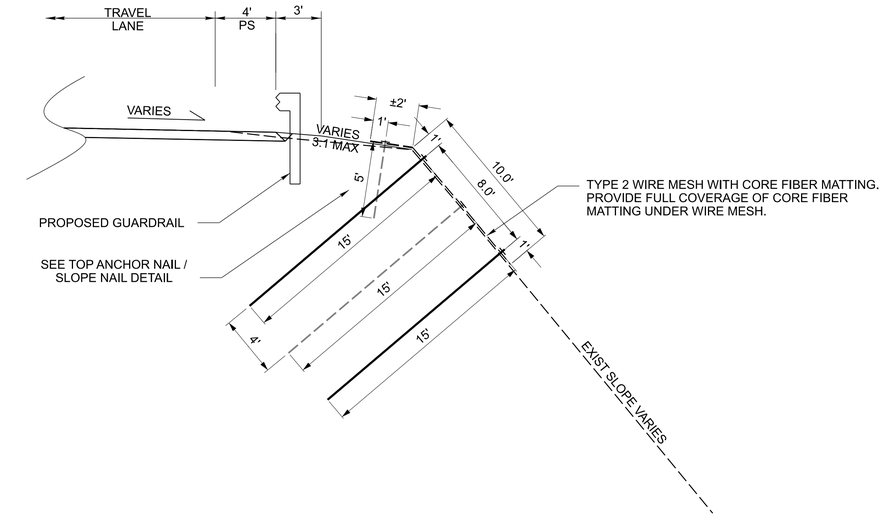
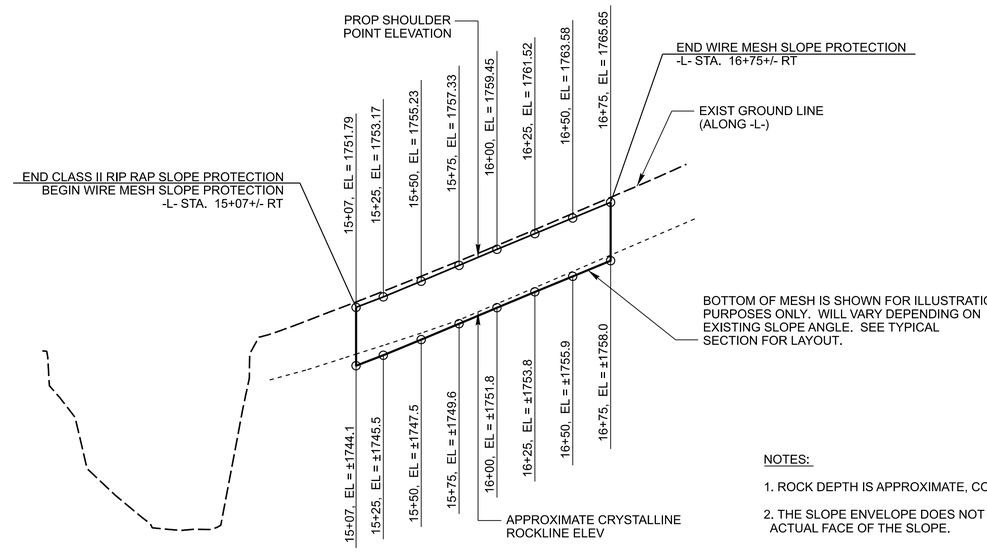


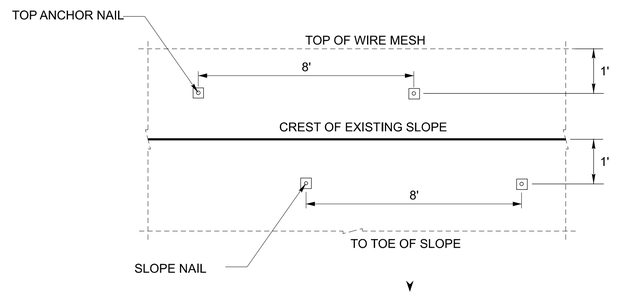
WIRE MESH SLOPE PROTECTION
PLAN VIEW



TYPICAL SECTION - WIRE MESH SLOPE PROTECTION
-L- STA. 15+07+/- RT TO -L- STA. 16+75+/- RT



WIRE MESH SLOPE PROTECTION
ENVELOPE VIEW



TOP ANCHOR NAIL / SLOPE NAIL DETAIL

NOTES:

1. ROCK DEPTH IS APPROXIMATE, CONTRACTOR TO FIELD VERIFY.
2. THE SLOPE ENVELOPE DOES NOT ACCURATELY DEPICT THE ACTUAL FACE OF THE SLOPE.

PREPARED BY: MHS	DATE: 1/26
REVIEWED BY: SCC	DATE: 1/26

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

WIRE MESH SLOPE PROTECTION

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	-	-	3	-	-
2	-	-	4	-	-

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	2G-2

GEOTECHNICAL ENGINEER

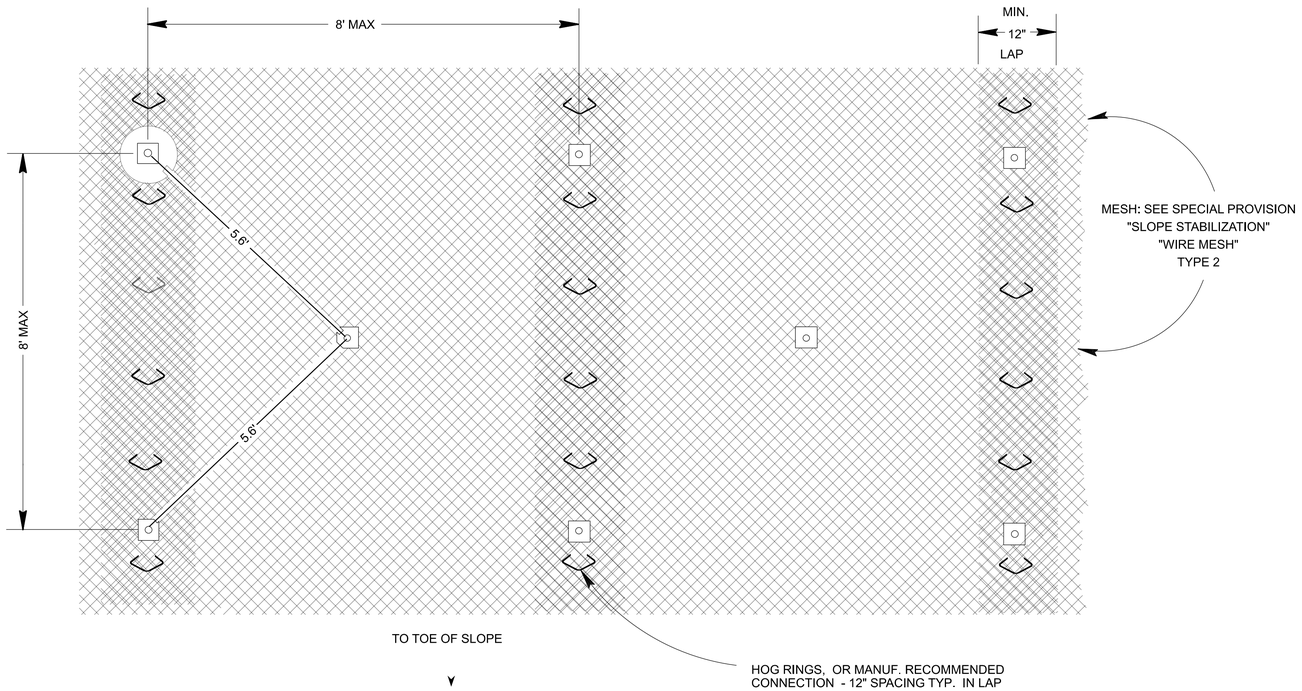
NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. SHEARIN

Signed by: 01/16/2026
C44768209214CC...
SIGNATURE DATE

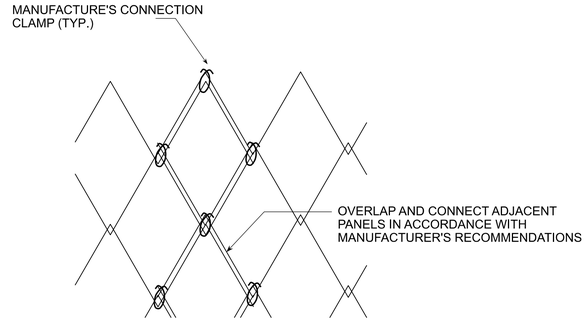
ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



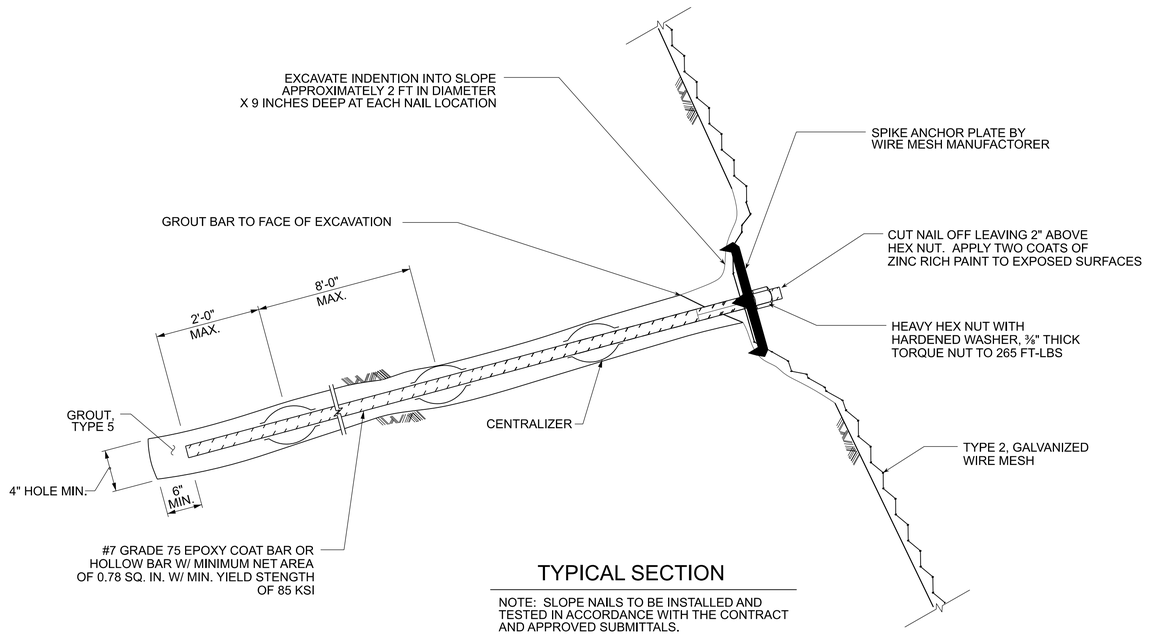
FACING DETAIL OF WIRE MESH



MESH OVERLAP & CONNECTION DETAIL

NOTES:

1) FOR WIRE MESH SLOPE PROTECTION, SEE WIRE MESH SLOPE PROTECTION SPECIAL PROVISION.
2) TYPE 2 WIRE MESH SHALL BE INSTALLED EXISTING AT THE LOCATIONS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
3) CUT OFF EXISTING SLOPE REINFORCEMENT AT GROUND SURFACE.
4) TOP NAIL LENGTH = 5 FT
   SLOPE NAIL LENGTH = 15 FT
5) DESIGN TEST LOAD (DTL) = 20 KIPS
6) INSTALL NAILS PERPENDICULAR TO THE SLOPE FACE.



TYPICAL SECTION

NOTE: SLOPE NAILS TO BE INSTALLED AND TESTED IN ACCORDANCE WITH THE CONTRACT AND APPROVED SUBMITTALS.

WIRE MESH SLOPE PROTECTION ESTIMATED QUANTITIES

TYPE 2 WIRE MESH	240 SY
TOP NAIL	22 EA
SLOPE NAIL	65 EA
CORE FIBER MAT	240 SY

WIRE MESH SLOPE PROTECTION BID QUANTITIES

WIRE MESH SLOPE PROTECTION	240 SY
SUPPLEMENTAL SLOPE NAIL	5 EA
PROOF TEST NAILS	3 EA

PREPARED BY: MHS	DATE: 1/26
REVIEWED BY: SCC	DATE: 1/26

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

WIRE MESH SLOPE PROTECTION

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	-	-	3	-	-
2	-	-	4	-	-

12/06/07

COMPUTED BY: SGK DATE: 2/6/2026
CHECKED BY: DBT DATE: 2/6/2026

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	3B-1

RS&H 1520 SOUTH BOULEVARD, SUITE 200 CHARLOTTE, NC 28203 NC FIRM LICENSE No: F-0493

SUMMARY OF EARTHWORK

IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. +15%	BORROW	WASTE
–L– 11+60.00	–L– 13+03.20	167		33		134
–L– 14+38.56	–L– 17+00.00	33		515	482	
SUBTOTALS:		200		548	482	134
PROJECT TOTALS:		200		548	482	134
WASTE IN LIEU OF BORROW					–134	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					17	
GRAND TOTALS:		200		548	365	
SAY:		200			370	

Earthwork quantities are calculated by the Roadway Designer. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Note: Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the contract lump sum price for Grading.

EST. SHALLOW UNDERCUT = 100 CY

EST. CLASS IV SUBGRADE STABILIZATION = 200 TON

PER GEOTECH RECOMMENDATION, ESTIMATED 450 CY OF UNDERCUT TO BE USED IN THE DISCRETION OF THE RESIDENT ENGINEER

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH
–L– RT	12+75.00	13+01.00	26.0
TOTAL:			26
SAY:			30

ASPHALT PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD²
–L–	11+60	12+91	CL	336.50
–L–	14+52	17+00	CL	40.11
TOTAL:				376.61
SAY:				380

NOTE:
INVERT ELEVATIONS INDICATED ARE FOR BID PURPOSES ONLY AND SHALL NOT BE USED FOR PROJECT CONSTRUCTION STAKE OUT. SEE "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, SECTION 300–5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	MINIMUM REQUIRED SLOPE	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE	DRAINAGE PIPE THICKNESS OR GAUGE	C.S. PIPE SIZE	C.S. PIPE THICKNESS OR GAUGE	R.C. PIPE (CLASS IV) SIZE	R.C. PIPE (CLASS V) SIZE	ENDWALLS STD. 838.01 OR STD. 838.11	REINFORCED ENDWALLS	MASONRY DRAINAGE STRUCTURE	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. PER EACH (0' THRU 5.0')	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. A 5.0' THRU 10.0'	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE	CONCRETE TRANSITIONAL SECTION CATCH BASIN	CONCRETE TRANSITIONAL SECTION DROP INLET	G.D.I. TYPE "A" STD. 840.17	G.D.I. (W.S. FLAT) FRAME W/2 GRATES STD. 840.29	G.D.I. (W.S. SAG) FRAME W/4 GRATES STD. 840.22	T.B.G.D.I. STD. 840.35	15" C.S. ELBOW		PARRALLEL PIPE END SECTION STD. 310.02	FLOWABLE FILL, C.Y.	CONC. & BRICK PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
–L– 11+74	17 LT	0401			1755.00	1750.00																														
		0405	0406		1752.50	1745.10																														
–L– 15+23	13 LT	0405		1752.50																																FES
		0406	0402		1744.60	1742.50																														PLUG AND FILL 30 LF OF 18" CMP
–L– 14+85	17 LT	0406		1749.60																																
		0407	0404		1743.20	1738.00																														
–L– 12+81	13 RT	0407		1746.37																																
TOTAL																																				

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH EXTRA LENGTH GUARDRAIL POST (8' STEEL)	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS TYPE III	ANCHORS GREU, TL–2	ANCHORS CAT–1	ANCHORS AT–1	IMPACT ATTENUATOR TYPE 350 EA	IMPACT ATTENUATOR TYPE 350 G	IMPACT ATTENUATOR TYPE 350 NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
–L–	12+04.06	13+00.29 (BR)	RT.	25.00	56.23		13+02.20 (BR)		4	7	50'		1.0		1	1									SHOP CURVED TYPE III
–L–	12+78.32	13+07.97 (BR)	LT.	25.00	25.00			13+02.20 (BR)	4	7		50'		1.0	1			1							
–L–	14+36.07 (BR)	14+80.92	LT.		18.75	37.50		14+58.76 (BR)	4'10"	7'10"		50'		1.0	1	1									SHOP CURVED TYPE III, EXTRA LENGTH POSTS
–L–	14+85.00	16+81.25	RT.	189.17			14+85.00		4'10"	7'10"	50'		1.0		1		1								
			SUBTOTALS	239.17	99.98	37.50																			
			ANCHOR DEDUCTION	75.00	37.50	25.00																			
			TOTAL	164.17	62.48	12.50																			
			SAY	175.00	62.50	12.50																			

ANCHOR DEDUCTION – STRAIGHT
TYPE III: 2 @ 18.75' = 37.50'
CAT–1: 1 @ 6.25' = 6.25'
AT–1: 1 @ 6.25' = 6.25'
GREU, TL–2: 2 @ 25' = 50'

ANCHOR DEDUCTION – CURVED
TYPE III: 2 @ 18.75' = 37.50'

ADDITIONAL POSTS – 5

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.G.D.I.	TRAFFIC BEARING GRATED DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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kcowens

COMPUTED BY: _CRYSTAL D. JOHNSON, PG___ DATE: _03/04/2025___ CHECKED BY: _MICHAEL H. STEPHENS, PE__ DATE: __03/04/2025___	(9-17-24)	PROJECT NO. DF18314.2045332	SHEET NO. 3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	200
				TOTAL LF:	200

*UD = Underdrain
*BD = Blind Drain
*SD = Subsurface Drain

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU (1)	12	100	200	300		
			TOTAL CY/TONS/SY:		100	200**	300**	0	0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
*AST = Aggregate Stabilization
**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	04

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029338 DAVID B TAYLOR
4/13/2026

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 47900 ALEXANDER R VINSON
4/13/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

NAD 83/NA 2011

-L- CURVE DATA

PI Sta 10+68.20
△ = 2° 21' 38.4" (LT)
D = 1° 43' 51.6"
L = 136.38'
T = 68.20'
R = 3,310.00'
SE = EXIST

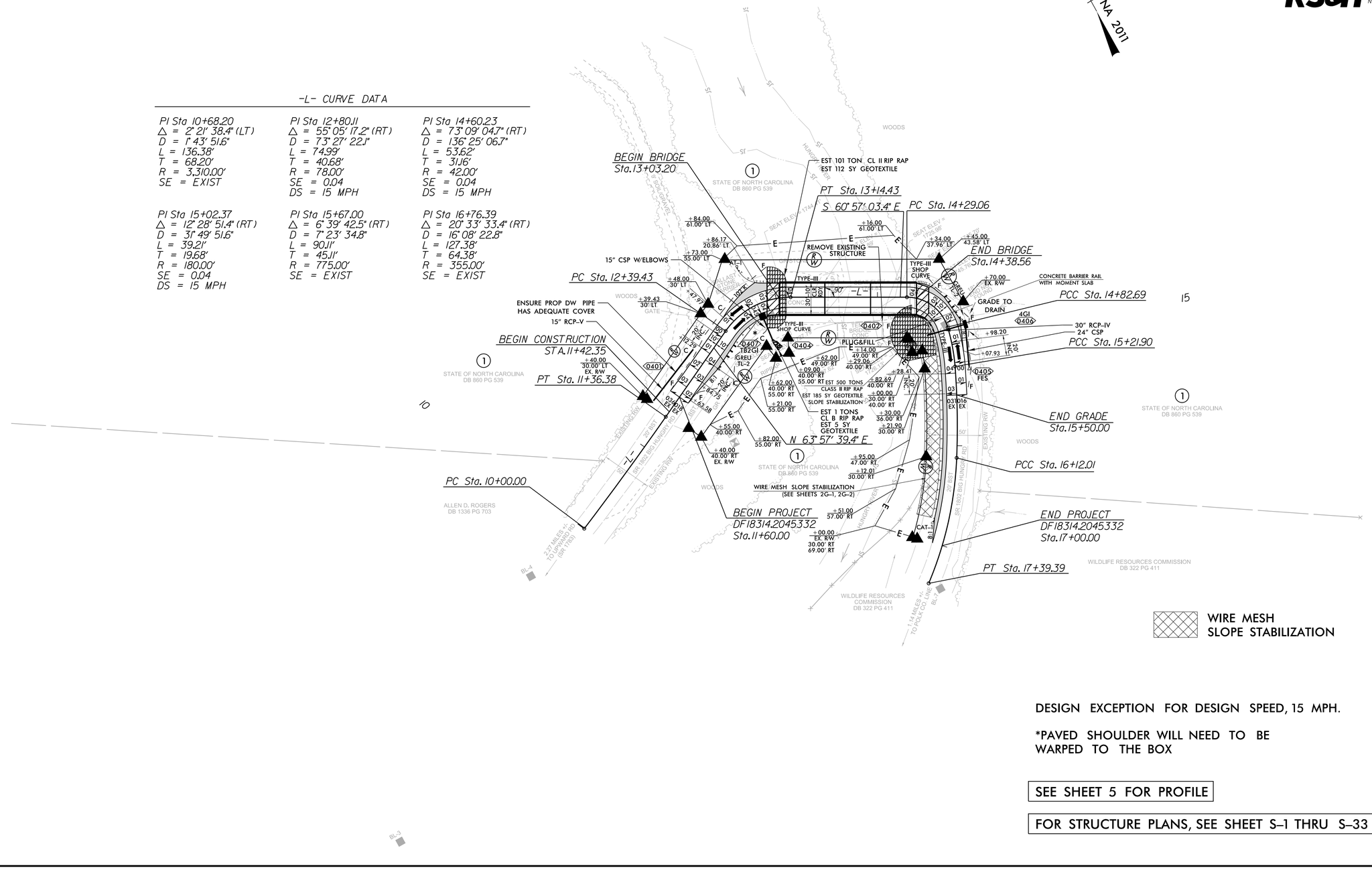
PI Sta 12+80.11
△ = 55° 05' 17.2" (RT)
D = 73° 27' 22.1"
L = 74.99'
T = 40.68'
R = 78.00'
SE = 0.04
DS = 15 MPH

PI Sta 14+60.23
△ = 73° 09' 04.7" (RT)
D = 136° 25' 06.7"
L = 53.62'
T = 31.16'
R = 42.00'
SE = 0.04
DS = 15 MPH

PI Sta 15+02.37
△ = 12° 28' 51.4" (RT)
D = 31° 49' 51.6"
L = 39.21'
T = 19.68'
R = 180.00'
SE = 0.04
DS = 15 MPH

PI Sta 15+67.00
△ = 6° 39' 42.5" (RT)
D = 7° 23' 34.8"
L = 90.11'
T = 45.11'
R = 775.00'
SE = EXIST

PI Sta 16+76.39
△ = 20° 33' 33.4" (RT)
D = 16° 08' 22.8"
L = 127.38'
T = 64.38'
R = 355.00'
SE = EXIST



WIRE MESH SLOPE STABILIZATION

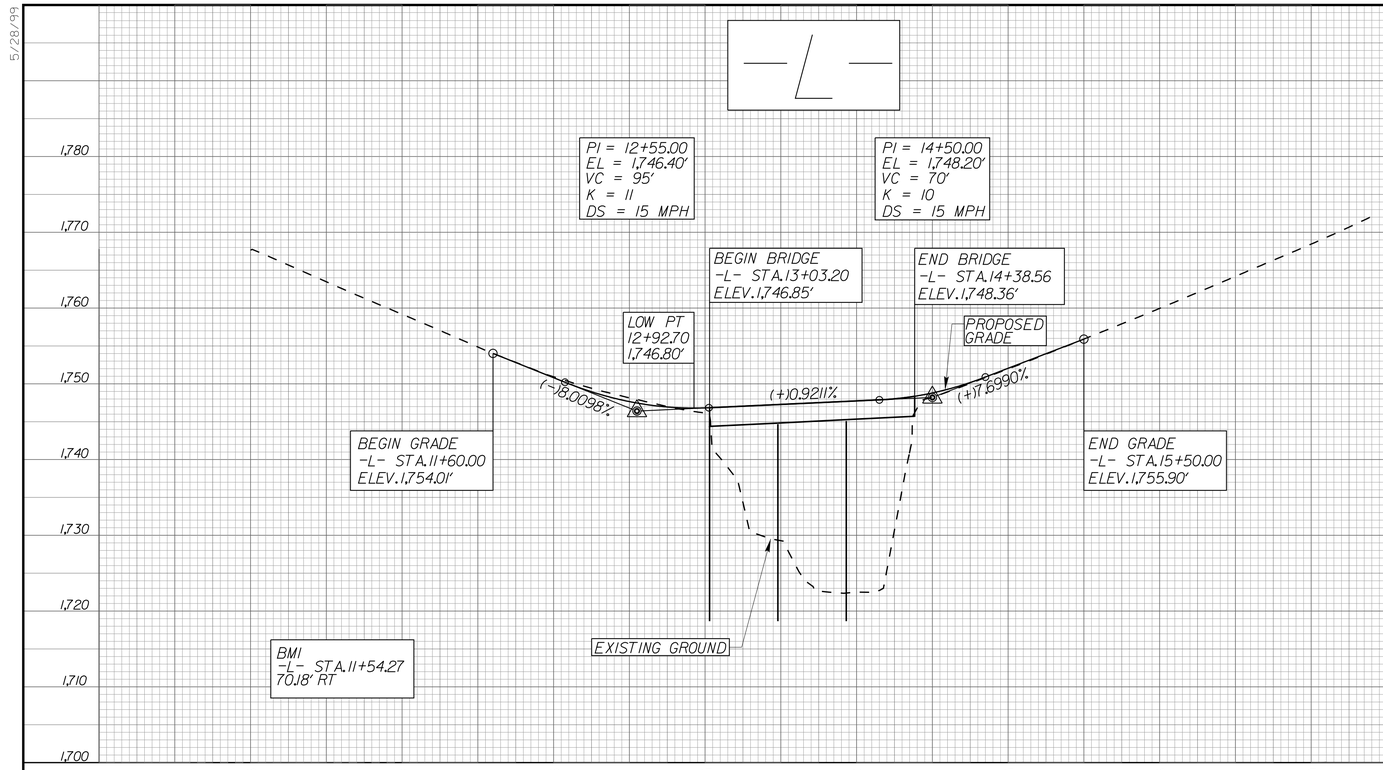
DESIGN EXCEPTION FOR DESIGN SPEED, 15 MPH.

*PAVED SHOULDER WILL NEED TO BE WARPED TO THE BOX

SEE SHEET 5 FOR PROFILE

FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-33

5/28/99



STRUCTURE HYDRAULIC DATA

DRAINAGE AREA	= 19.4	SQ MI
DESIGN DISCHARGE	= 2900	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 1730.7	FT
BASE DISCHARGE	= 4200	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1731.9	FT
OVERTOPPING DISCHARGE	= 17950	CFS
OVERTOPPING FREQUENCY	= 1000+	YRS
OVERTOPPING ELEVATION	= 1746.8	FT

SEE SHEET 04 FOR PLAN

PROJECT REFERENCE NO.	SHEET NO.
DF1831420453 32	05

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 029033 ENGINEER DAVID B. TAYLOR
4/13/2026

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 049784 ENGINEER KEVIN R. VINSON
4/13/2026

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RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

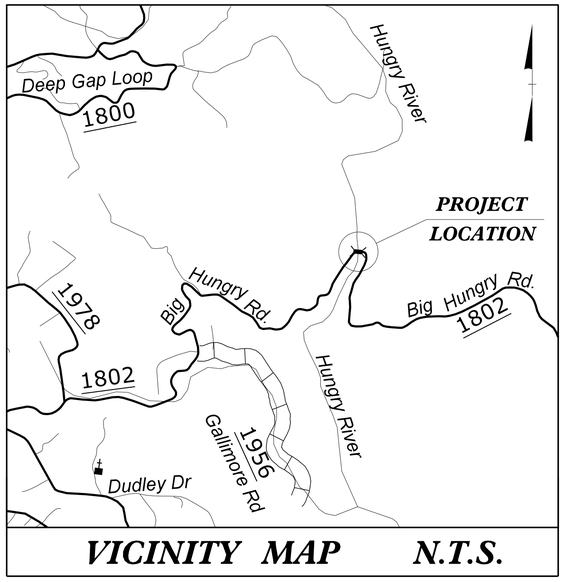
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

HENDERSON COUNTY

LOCATION: BRIDGE 440055 OVER HUNGRY RIVER ON SR 1802 (BIG HUNGRY ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, WALLS, AND STRUCTURE



VICINITY MAP N.T.S.

INDEX OF SHEETS

SHEET NO.
TMP-1

PROJECT REFERENCE NO.: DF18314.2045332

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

PLANS PREPARED BY:

SEAN KORTOVICH, PE
PROJECT ENGINEER

REBECCA WRIGHT, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACTS:

ZACHARY SHULER, PE
NCDOT PROJECT CONTACT

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

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RS&H
NC FIRM LICENSE No: F-0493
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203

APPROVED: Signed by: Rebecca E. Wright 4FABCA3CEEBA04F3...

DATE: 4/13/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 057350 ENGINEER REBECCA E. WRIGHT

4/9/2026
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PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045332	TMP-1A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - 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
1101.01	WORK ZONE 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
1135.01	CONES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1180.01	SKINNY - DRUMS
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL
- TEMPORARY GRAVEL

SIGNALS

EXISTING PROPOSED TEMPORARY PORTABLE

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

APPROVED: Signed by: Rebecca E. Wright EF6BCA3CEB0A4F3...

DATE: 4/13/2026

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER REBECCA E. WRIGHT SEAL 057350

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

ROADWAY STANDARD DRAWINGS & LEGEND

GENERAL 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
-L- BIG HUNGRY RD	MONDAY THRU SUNDAY 6:00 A.M. - 8:00 P.M.

B) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

C) 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 OR AS DIRECTED BY THE ENGINEER.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

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

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 10 FT OF AN OPEN TRAVEL LANE ON A DIVIDED FACILITY, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, 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.

G) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

H) 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.

PAVEMENT EDGE DROP OFF REQUIREMENTS CONTINUED

I) 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 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

K) 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.

L) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE.

M) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

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NC FIRM LICENSE No: F-0493

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DATE: 4/13/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 057350 ENGINEER REBECCA E. WRIGHT

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GENERAL NOTES AND MANAGEMENT STRATEGIES

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045332	TMP-2A

GENERAL NOTES

TRAFFIC BARRIER

P) 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.

Q) 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
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

TRAFFIC CONTROL DEVICES

R) 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.

S) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

T) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

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

MISCELLANEOUS

W) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

X) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 200 FT AND 400 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

MANAGEMENT STRATEGIES

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

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:
- FULL ROADWAY CLOSURES
- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (SIGNALIZED)

WORK ZONE SAFETY & MOBILITY STRATEGIES:
- AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADS)

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
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APPROVED: Rebecca E. Wright (Signed by) 4FA6CA3CEBA04F3...

DATE: 4/13/2026

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NORTH CAROLINA PROFESSIONAL SEAL 057350 ENGINEER REBECCA E. WRIGHT

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

GENERAL NOTES AND MANAGEMENT STRATEGIES

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045332	TMP-3

PHASING NOTES

NOTES:

RSD REFERS TO ROADWAY STANDARD DRAWINGS.

ALL PROPOSED ASPHALT ROADWAY CONSTRUCTION IS UP TO, BUT NOT INCLUDING, THE FINAL LAYER OR SURFACE COURSE UNTIL OTHERWISE NOTED.

COMPLETE ANY PROPOSED OR TEMPORARY WIDENING IN SUCH A MATTER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE.

PORTABLE SIGNAL LOCATIONS MAY BE SHIFTED DURING PHASING BASED ON LENGTH OF WATER FILLED BARRIER NEEDED.

PHASE I STEP 1

USING RSD 1101.01 (SHEET 3 OF 3) PLACE ALL ADVANCE WARNING SIGNS ALONG -L- (BIG HUNGRY RD).

PHASE I STEP 2

USING RSD 1101.02 (SHEET 1 OF 19) AND A LANE CLOSURE ALONG -L- (BIG HUNGRY RD), CONSTRUCT TEMPORARY GRAVEL AND INSTALL TEMPORARY GUARDRAIL AND WATER FILLED BARRIER (SEE SHEET TMP-4).

-L- STA. 11+89± (LT) TO STA. 13+03± (LT) (TEMPORARY GRAVEL)

INSTALL PORTABLE SIGNAL AND SHIFT TRAFFIC INTO A ONE LANE, TWO WAY PATTERN ALONG -L- (LT) (BIG HUNGRY RD). USING RSD 1101.02 (SHEETS 1 AND 17 OF 19) AND WORKING BEHIND WATER FILLED BARRIER AND TEMPORARY GUARDRAIL, BEGIN PARTIAL REMOVAL OF THE TEMPORARY STRUCTURE (SEE SHEET TMP-4).

-L- STA. 13+03± (RT) TO STA. 14+39± (RT) (EXISTING STRUCTURE REMOVAL)

PHASE II

WITH TRAFFIC IN A ONE LANE, TWO WAY PATTERN ALONG -L- (LT) (BIG HUNGRY RD), USE RSD 1101.02 (SHEETS 1 AND 17 OF 19), WEDGING, AND RESETTING AND PLACING WATER FILLED BARRIER AND TEMPORARY GUARDRAIL, CONSTRUCT THE RIGHT SIDE OF THE PROPOSED STRUCTURE, ROADWAY, DRAINAGE, GUARDRAIL, AND WIRE MESH SLOPE PROTECTION (SEE ROADWAY SHEETS 2G-1 AND 2G-2) (SEE SHEET TMP-5).

-L- STA. 11+60± (RT) TO STA. 17+00± (RT)

PHASE III

SHIFT TRAFFIC INTO A ONE LANE, TWO WAY PATTERN ALONG -L- (RT) (BIG HUNGRY RD). USE RSD 1101.02 (SHEETS 1 AND 17 OF 19) AND RESETTING WATER FILLED BARRIER AND TEMPORARY GUARDRAIL TO REMOVE THE REMAINDER OF THE EXISTING STRUCTURE. REMOVE TEMPORARY GRAVEL (SEE TMP-6).

-L- STA. 11+89± (LT) TO STA. 13+03± (LT) (TEMPORARY GRAVEL REMOVAL)
-L- STA. 13+03± (LT) TO STA. 14+39± (LT) (EXISTING STRUCTURE REMOVAL)

PHASE IV

WITH TRAFFIC IN A ONE LANE, TWO WAY PATTERN ALONG -L- (RT) (BIG HUNGRY RD), USE RSD 1101.02 (SHEETS 1 AND 17 OF 19), WEDGING, AND RESET WATER FILLED BARRIER AND TEMPORARY GUARDRAIL TO CONSTRUCT THE LEFT SIDE OF THE PROPOSED STRUCTURE, ROADWAY, DRAINAGE, AND GUARDRAIL (SEE TMP-7).

-L- STA. 11+60± (LT) TO STA. 15+50± (LT)

PHASE V

REMOVE PORTABLE SIGNAL SYSTEM. THEN, USING RSD 1101.02 (SHEET 1 OF 19), PLACE FINAL PAVEMENT MARKINGS AND FINAL SURFACE COURSE. REMOVAL ALL TRAFFIC CONTROL DEVICES AND OPEN TRAFFIC TO FINAL PATTERN.

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
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APPROVED: Signed by: Rebecca E. Wright 4FA6CA3CEBA04F3...
DATE: 4/13/2026
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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

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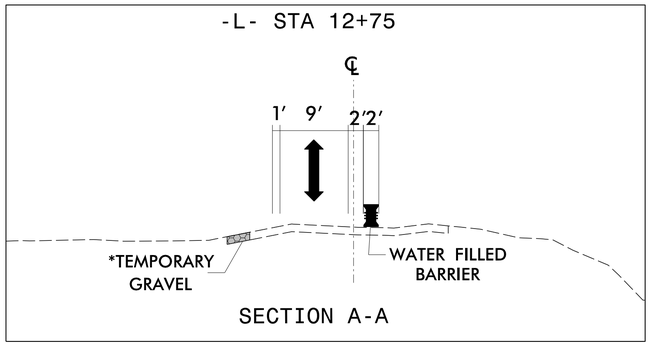
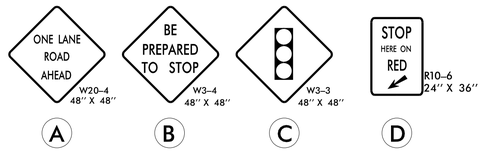
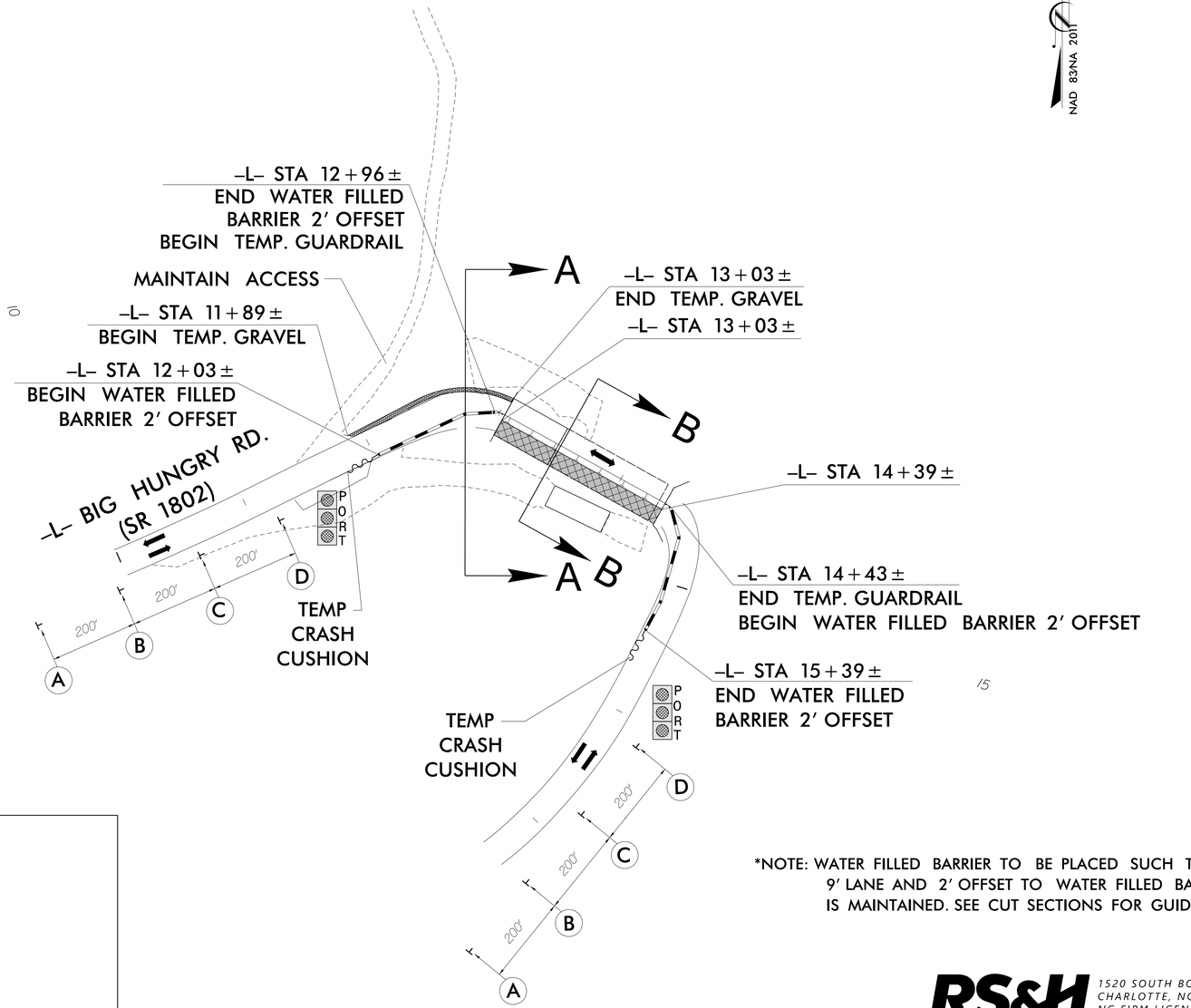
PHASING NOTES

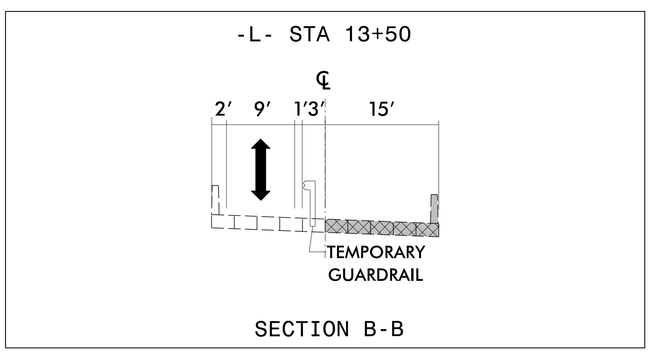
PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045332	TMP-4



*NOTE: DEPTH AND WIDTH OF TEMPORARY GRAVEL TO BE FIELD VERIFIED.







*NOTE: WATER FILLED BARRIER TO BE PLACED SUCH THAT A 9′ LANE AND 2′ OFFSET TO WATER FILLED BARRIER IS MAINTAINED. SEE CUT SECTIONS FOR GUIDANCE.

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1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

APPROVED: Signed by: Rebecca E. Wright 4FA9CA3CEB0A4F3...

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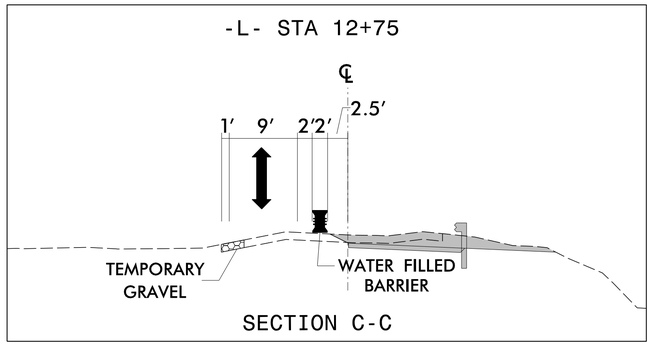
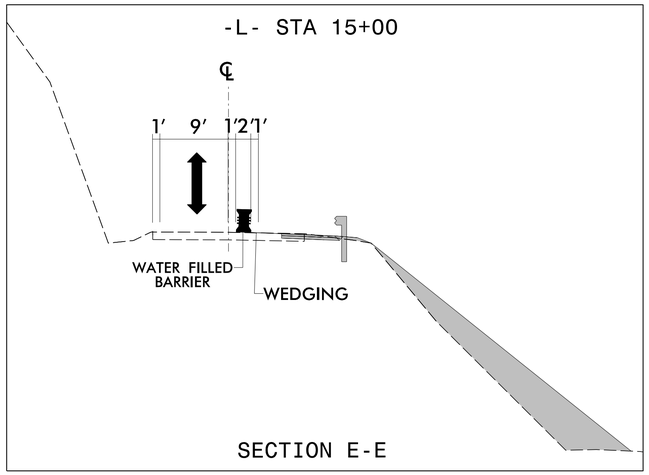
PHASE I DETAIL

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045332	TMP-5



SECTION C-C



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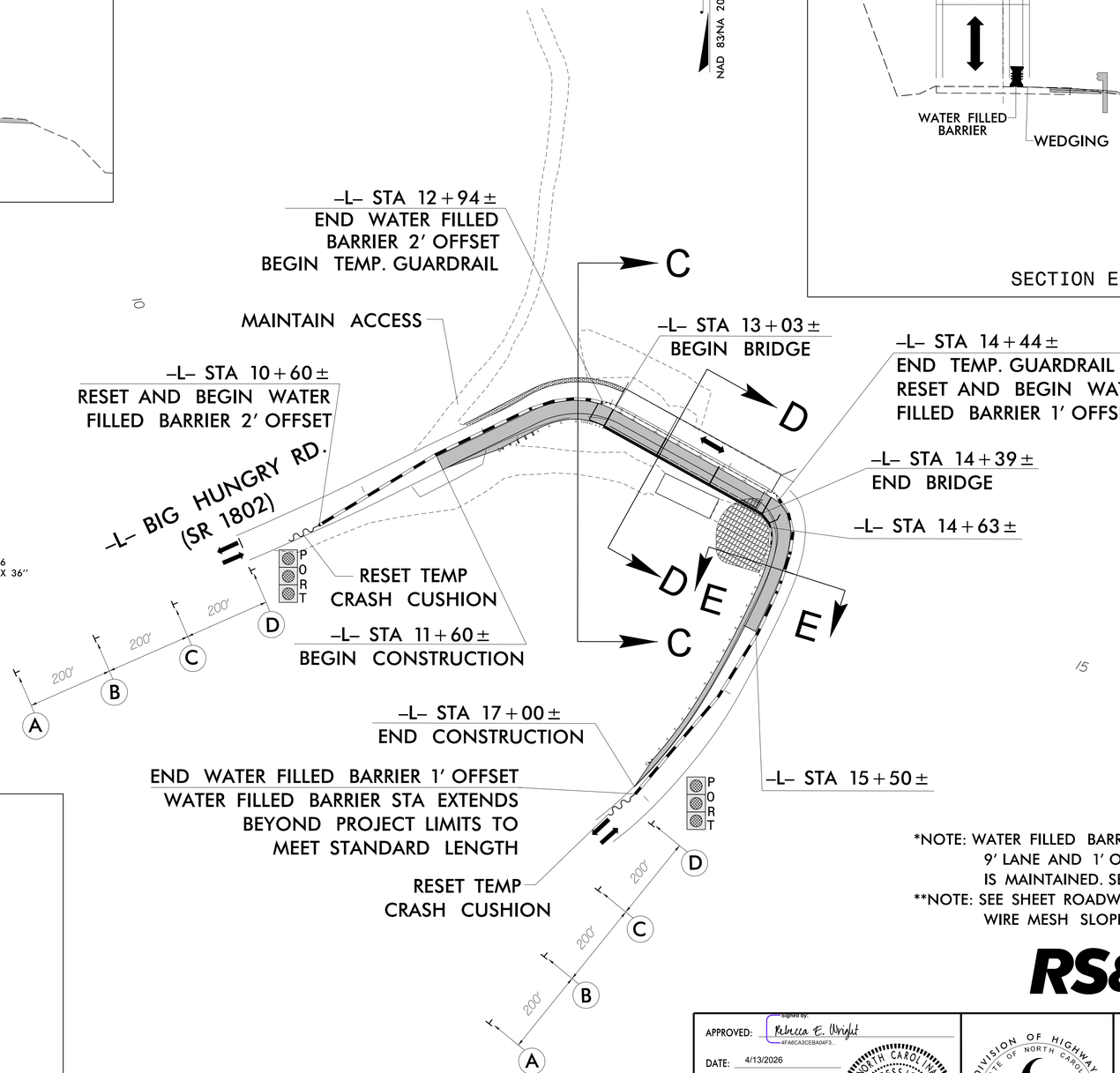

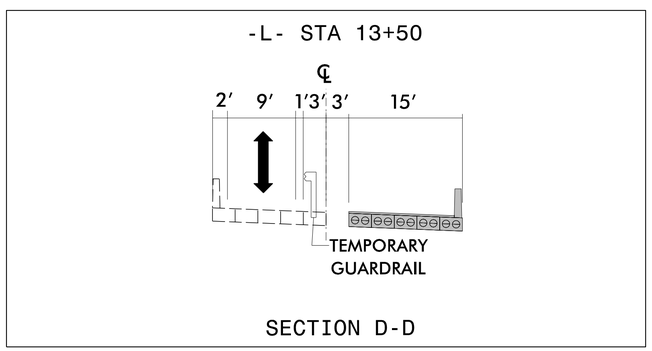

SECTION D-D

*NOTE: WATER FILLED BARRIER TO BE PLACED SUCH THAT A 9′ LANE AND 1′ OFFSET TO WATER FILLED BARRIER IS MAINTAINED. SEE CUT SECTIONS FOR GUIDANCE.
**NOTE: SEE SHEET ROADWAY SHEET 2G–1 AND 2G–2 FOR WIRE MESH SLOPE PROTECTION DETAILS.

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
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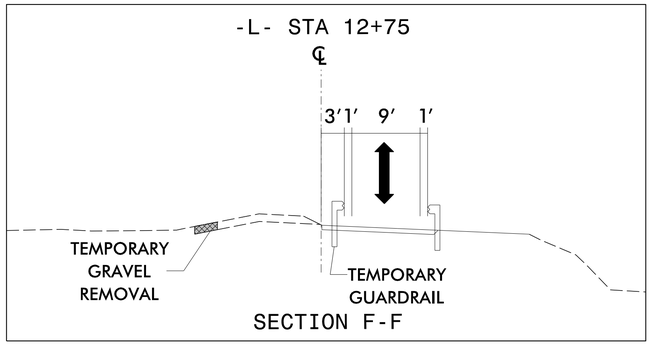
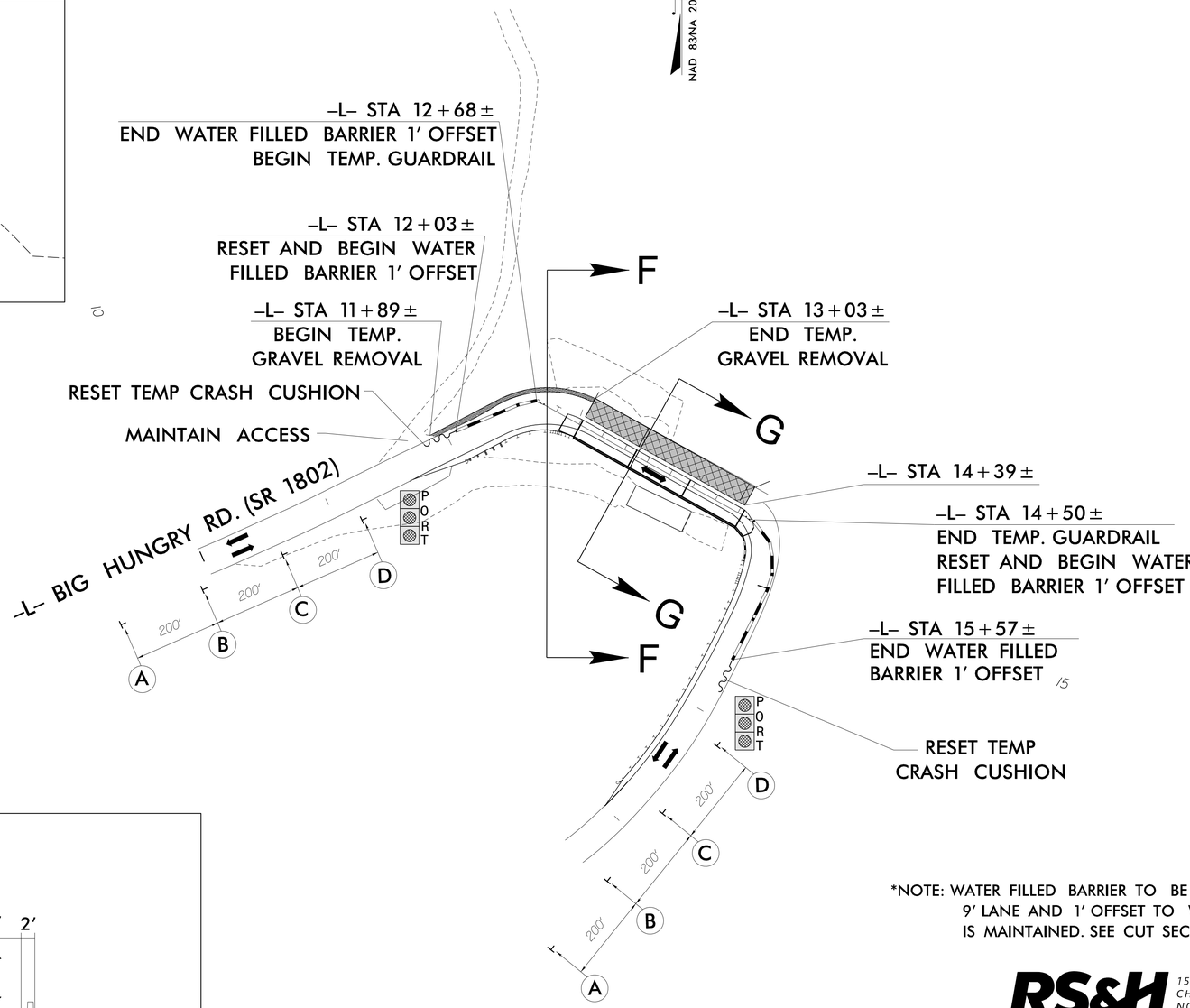
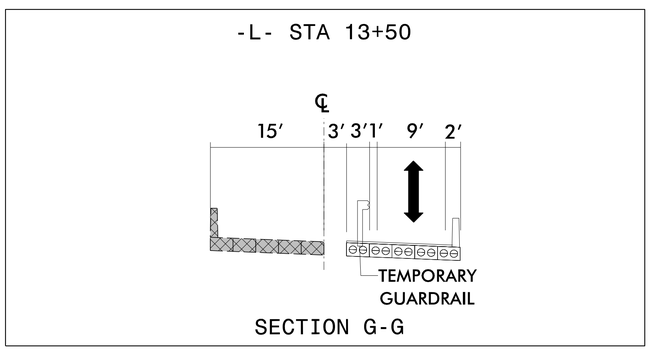
PHASE II DETAIL

PROJ. REFERENCE NO.	SHEET NO.
DF18314.2045332	TMP-6







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1520 SOUTH BOULEVARD, SUITE 200
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PHASE III DETAIL

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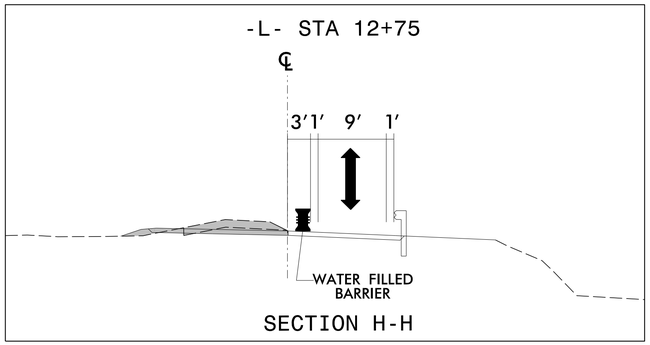
DF18314.2045332	TMP-7



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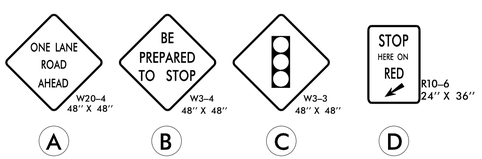

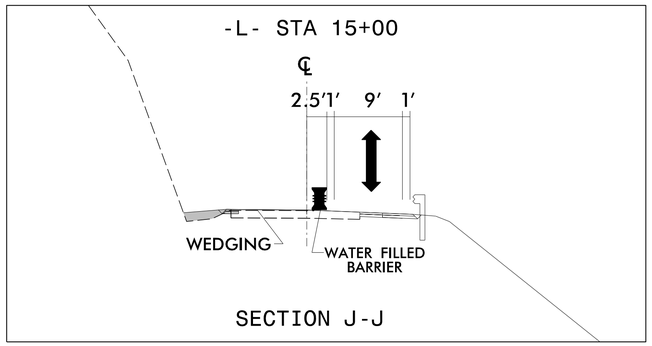

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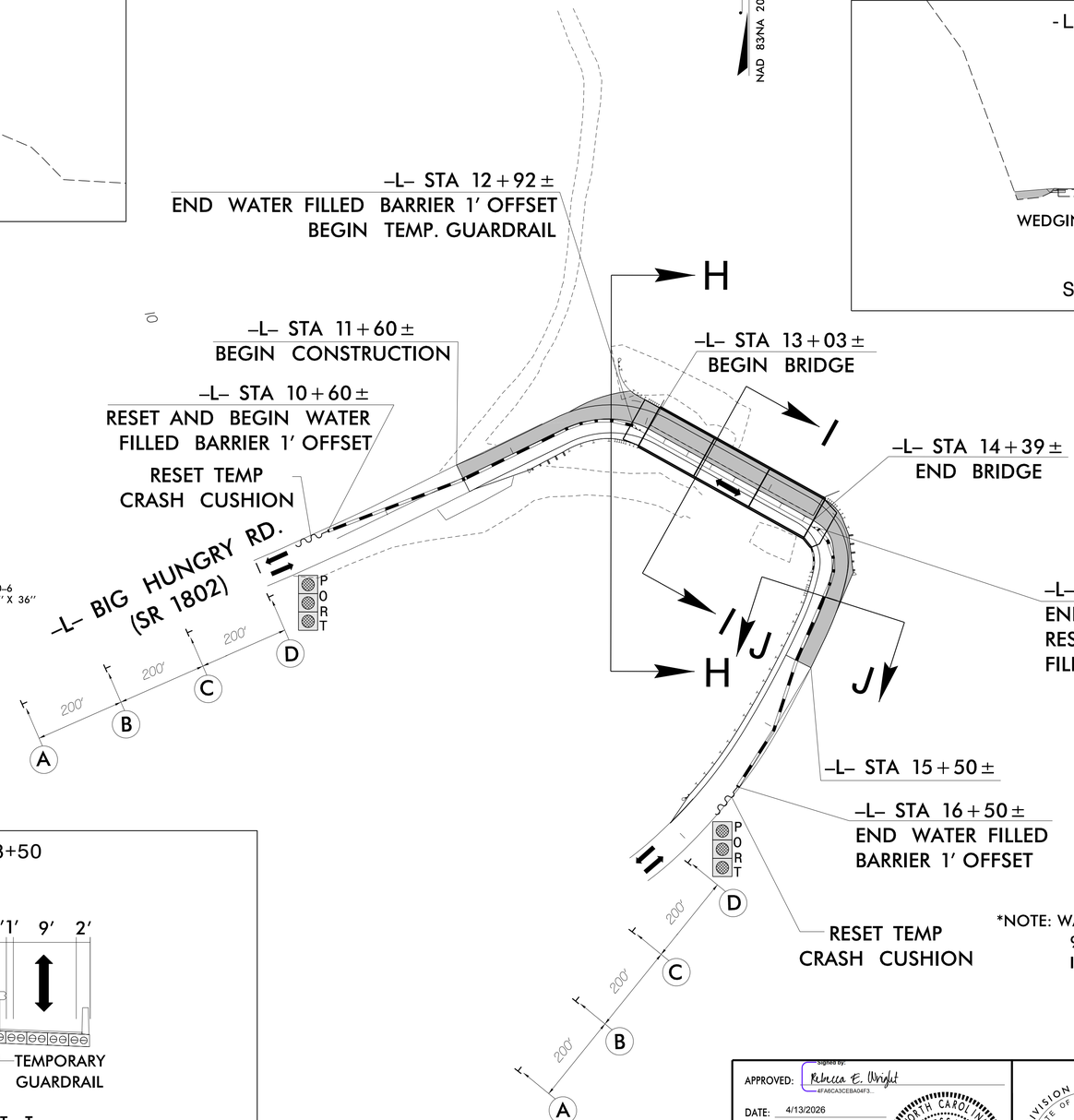

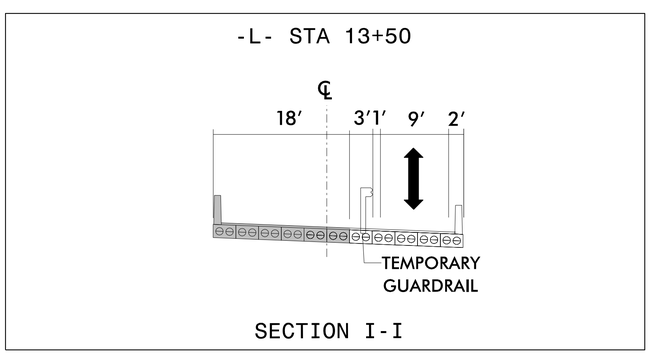

SECTION I-I

*NOTE: WATER FILLED BARRIER TO BE PLACED SUCH THAT A 9′ LANE AND 1′ OFFSET TO WATER FILLED BARRIER IS MAINTAINED. SEE CUT SECTIONS FOR GUIDANCE.

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

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PHASE IV DETAIL

TIP: DF18314.2045332

PROJECT

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
HENDERSON COUNTY

LOCATION: BRIDGE NO. 440055 OVER HUNGRY RIVER
ON SR 1802 (BIG HUNGRY ROAD)
TYPE OF WORK: GRADING, DRAINAGE, PAVING, WALLS, AND STRUCTURE

TIP NO.	SHEET NO.
DF18314.2045332	PMP-1

APPROVED: Signed by: Rebecca E. Wright 4F46CA3CEBA04F3...
DATE: 4/13/2026

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INDEX

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
1205D01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250D01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

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
BIG HUNGRY RD	PAINT	POLYCARBONATE H-SHAPED

B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

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

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

E) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

PAVEMENT MARKING SCHEDULE

P1	WHITE EDGELINE	PAINT (4″)
P13	YELLOW DOUBLE CENTER	PAINT (4″)

PLAN SUBMITTED TO: NCDOT

ZACHARY SHULER, PE NCDOT CONTACT

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

PLAN PREPARED BY: RS&H

SEAN M. KORTOVICH, PE PROJECT ENGINEER

REBECCA E. WRIGHT, PE PROJECT DESIGNER

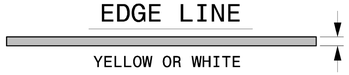
RS&H
8521 SIX FORKS RD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

4/9/2026
R:\Traffic\Delineation\440055_pmp_tsh.dgn
User:mclaughr

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	PMP-1A

CONTINUOUS LINES

EDGE LINE



YELLOW OR WHITE

LANE LINE

WHITE

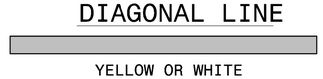
CENTER LINE

YELLOW

GORE LINE

WHITE

DIAGONAL LINE

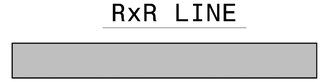


YELLOW OR WHITE

CROSSWALK LINE

WHITE

RxR LINE



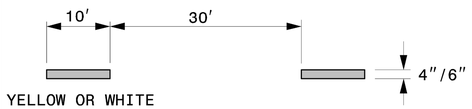
WHITE

STOP OR TRANSVERSE BAR

WHITE

10′-30′/SP SKIP LINE

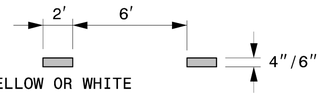
UNLESS OTHERWISED SHOWN, USE 10′-30′/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.



YELLOW OR WHITE

2′-6′/SP MINI-SKIP LINE

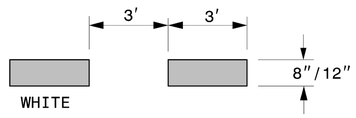
UNLESS OTHERWISED SHOWN, USE 2′-6′/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND BICYCLE LANE EXTENSIONS.



YELLOW OR WHITE

3′-3′/SP MINI-SKIP LINE

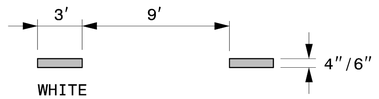
UNLESS OTHERWISED SHOWN, USE 3′-3′/SP MINI-SKIPS FOR THE WHITE EDGE LINE ENTENSIONS AT ROUNDABOUTS.



WHITE

3′-9′/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3′-9′/SP MINI-SKIPS FOR MINI-SKIP LANE LINES, LINE EXTENSIONS THROUGH TAPERS, AND MINI-SKIPS USED FOR BICYCLE LANE LINES.



WHITE

GENERAL NOTES:

1- USE 6″ LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.

2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

PAVEMENT MARKINGS

LINE TYPES AND OFFSETS

SHEET 1 OF 2

1205D01

SEAL
042548
NORTH CAROLINA PROFESSIONAL ENGINEER MATTHEW V. SPRINGER
Matthew V. Springer
4/13/2026

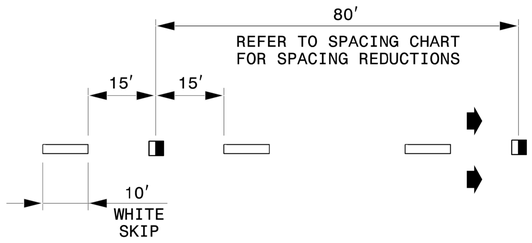
CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

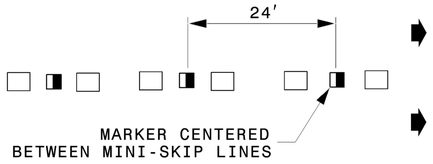
ORIGINAL BY: M.V. SPRINGER DATE: 2-15-24
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	PMP-1B

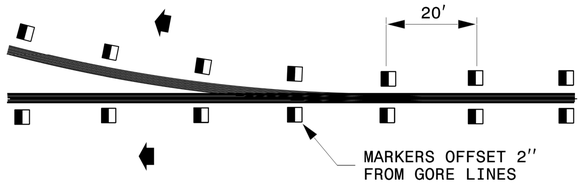
10′-30′/SP SKIP LINE



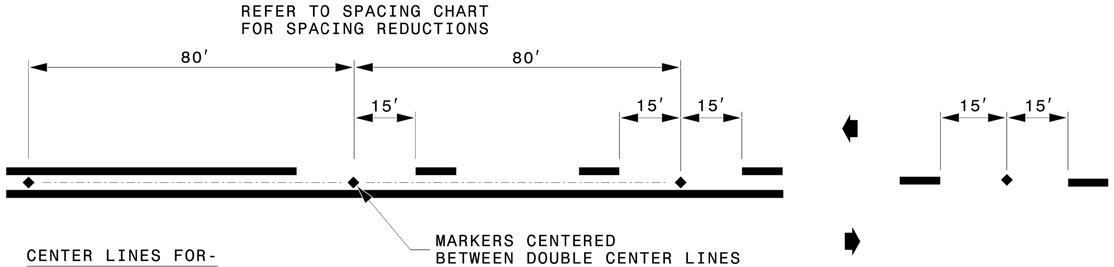
3′-9′/SP MINI-SKIP LINE



GORE LINES



YELLOW CENTER LINES

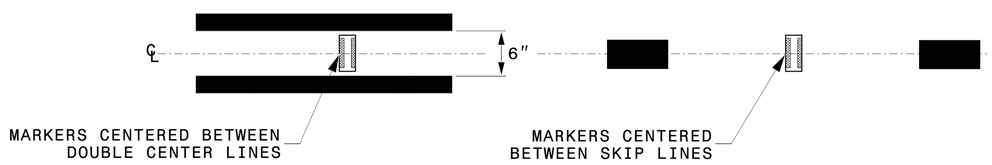


CENTER LINES FOR-

TWO-LANE, TWO-WAY ROADWAYS
UNDIVIDED ROADWAYS
TWO-WAY LEFT TURN LANES

DETAIL OF PAVEMENT MARKER PLACEMENT

RAISED REFLECTIVE PAVEMENT MARKERS



LEGEND

- CRYSTAL/RED PAVEMENT MARKER
- YELLOW/YELLOW PAVEMENT MARKER
- DIRECTION OF TRAFFIC FLOW

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

RAISED PAVEMENT MARKERS

INSTALLATION SPACING

SHEET 2 OF 3

1250D01

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042846 MATTHEW V. SPRINGER
Matthew V. Springer
4/13/2026

CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: M.V. SPRINGER DATE: 2-15-24
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

TIP NO.	SHEET NO.
DF18314.2045332	PMP-2

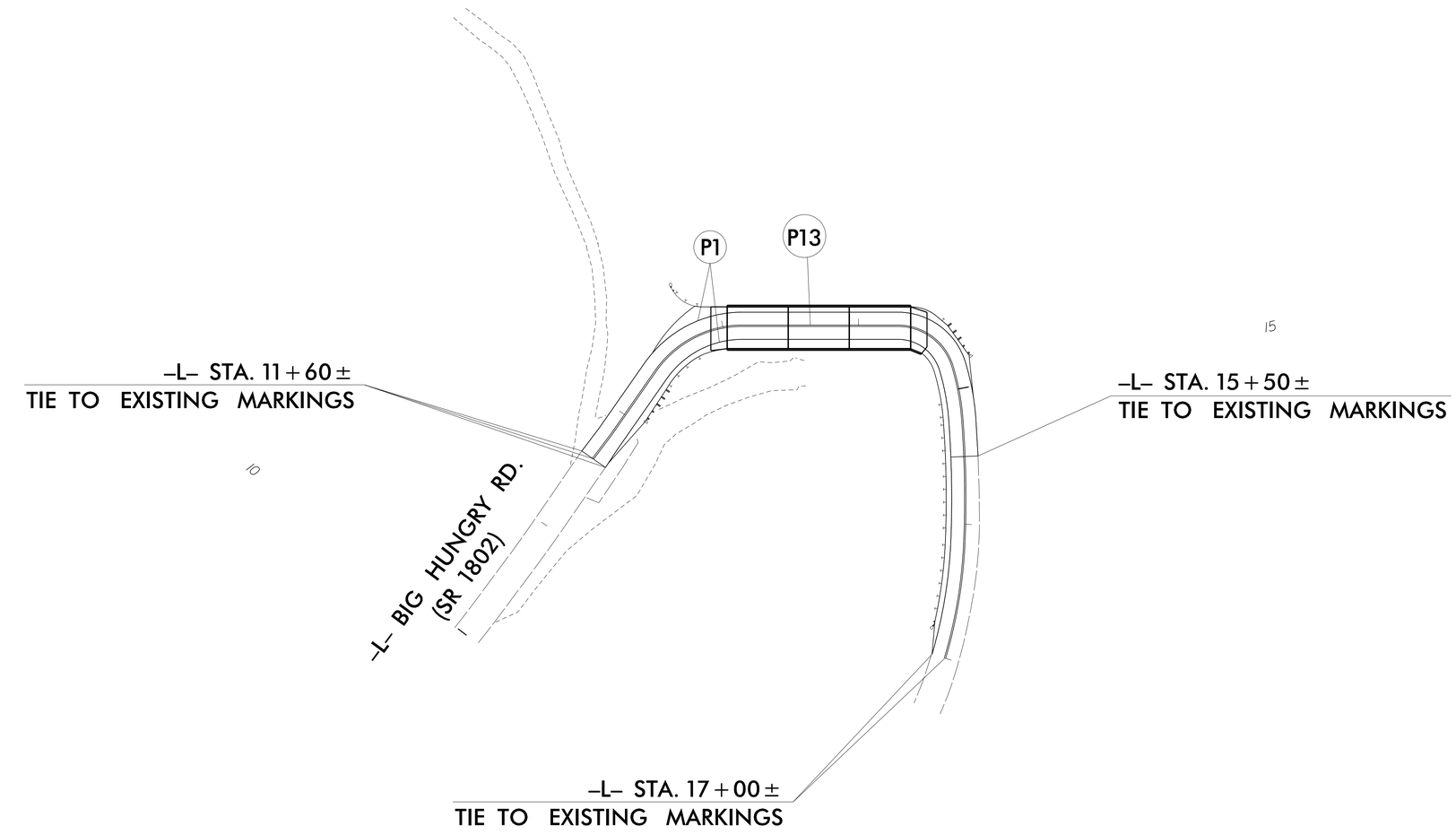
APPROVED: Signed by: Rebecca E. Wright 4FA6CA3CEBA04F3...

DATE: 4/13/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 057350 ENGINEER REBECCA E. WRIGHT

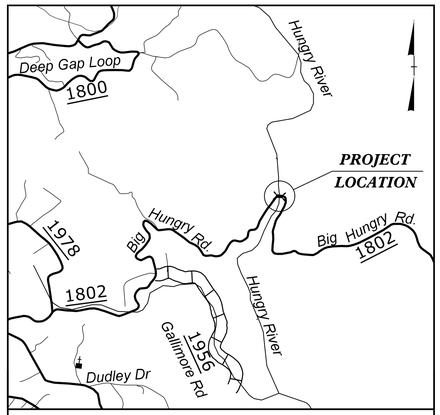
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

PAVEMENT MARKING DETAIL

PROJECT TIP: DF18314.2045332



VICINITY MAP N.T.S.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

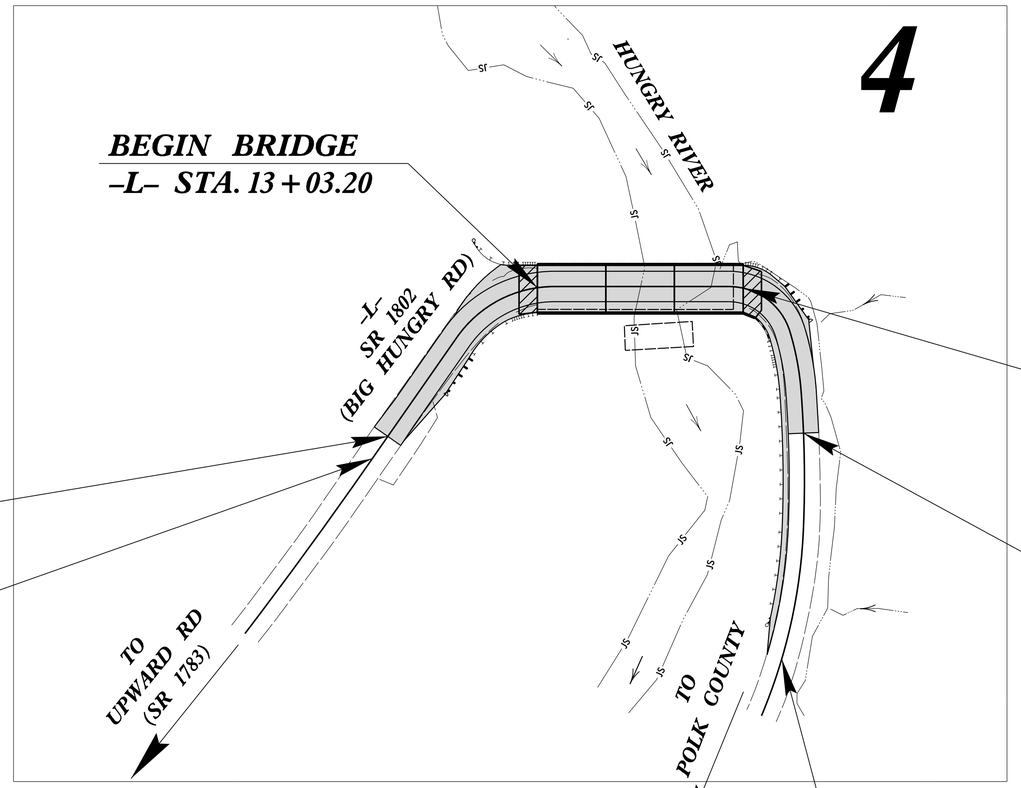
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

HENDERSON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18314.2045332	EC-1	

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

NAD 83/2011



LOCATION: *BRIDGE 440055 OVER BIG HUNGRY RIVER*
ON SR 1802 (BIG HUNGRY ROAD)

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

BEGIN BRIDGE
–L– STA. 13 + 03.20

END BRIDGE
–L– STA. 14 + 38.56

BEGIN PROJECT DF18314.2045332
–L– STA. 11 + 60.00

BEGIN CONSTRUCTION
–L– STA. 11 + 42.35

END PROJECT DF18314.2045332
–L– STA. 15 + 50.00

END CONSTRUCTION
–L– STA. 17 + 00.00

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.

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

GRAPHIC SCALE

50 25 0 50 100
PLANS

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

RS&H

Prepared In the Office of:
RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

Designed by:

LILY MCKINNEY *4559*
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.
DF18314.2045332	EC-02

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

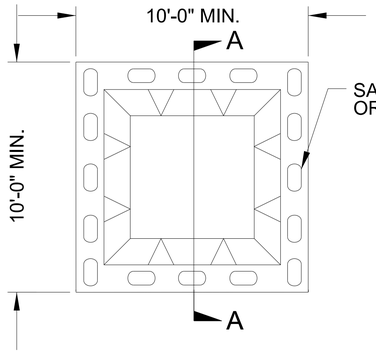
EROSION & SEDIMENT CONTROL LEGEND

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

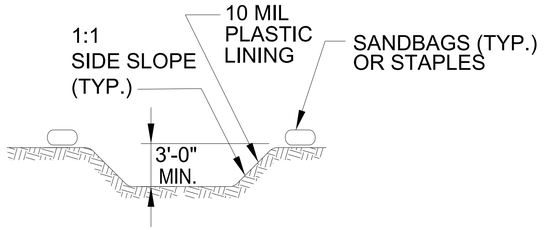
Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet 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.
DF18314.2045332	EC-2A

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A

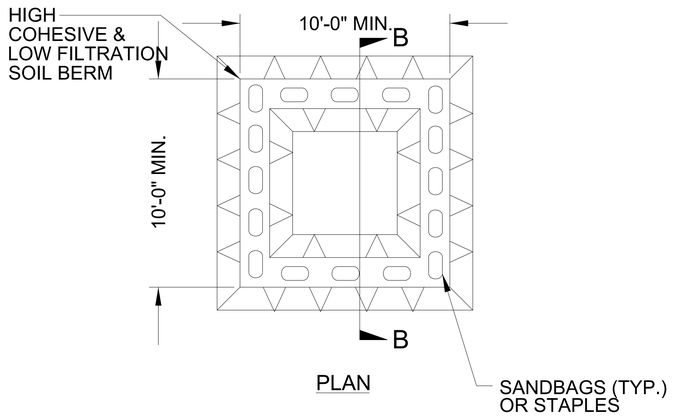
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

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.

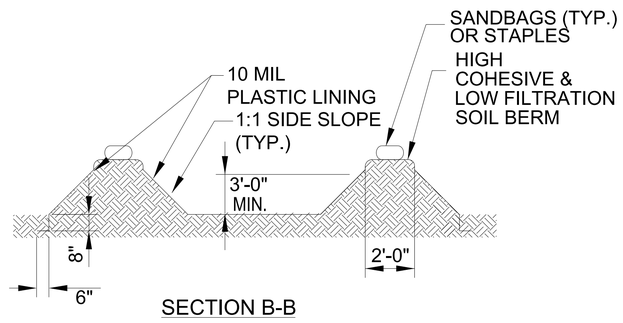
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

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.
DF18314.2045332	EC-3

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

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	EC-4/CONST.4

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

-L- CURVE DATA

PI Sta 10+68.20
△ = 2° 21' 38.4" (LT)
D = 1° 43' 51.6"
L = 136.38'
T = 68.20'
R = 3,310.00'
SE = EXIST

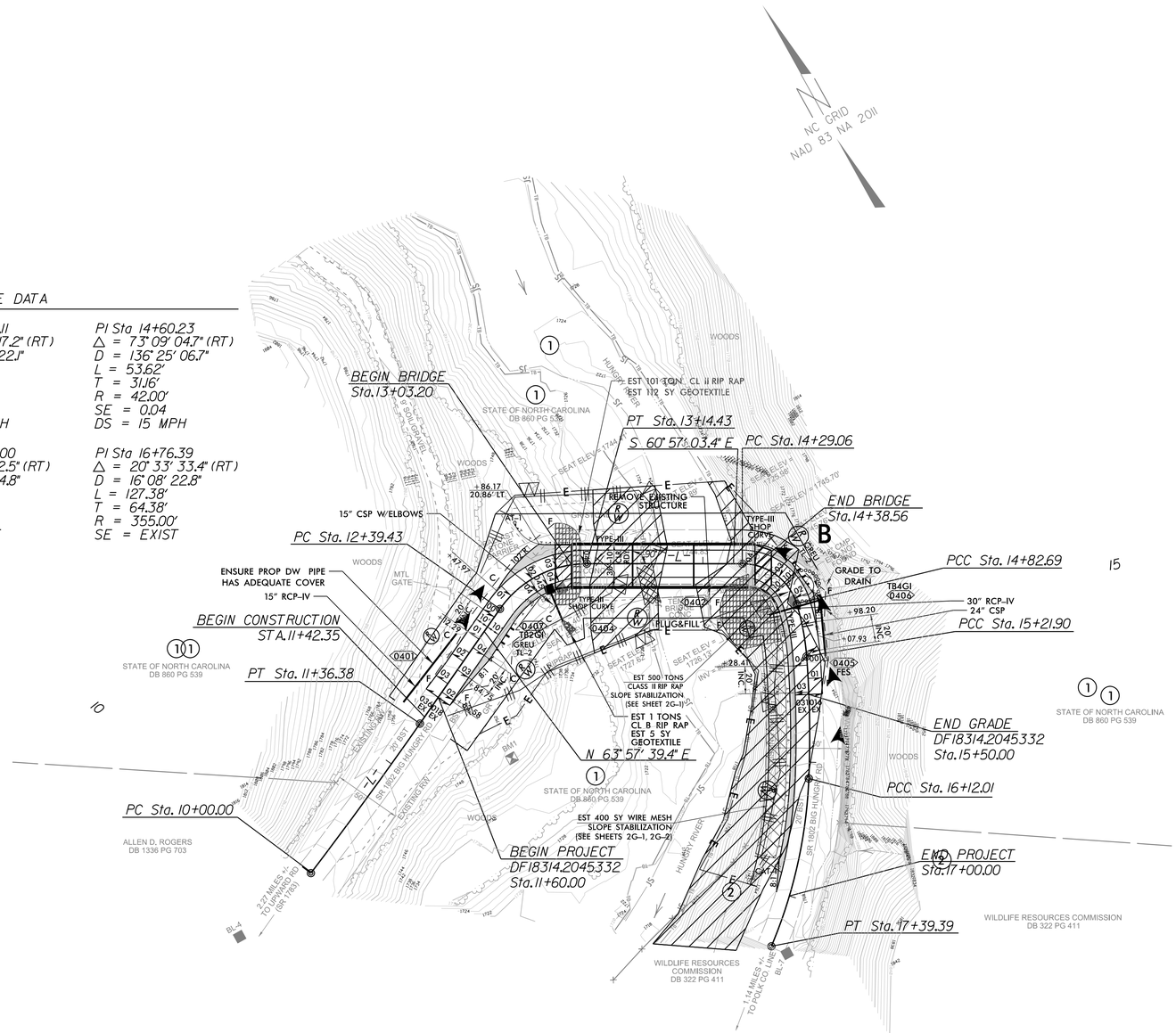
PI Sta 12+80.11
△ = 55° 05' 17.2" (RT)
D = 73° 27' 22.1"
L = 74.99'
T = 40.68'
R = 78.00'
SE = 0.04
DS = 15 MPH

PI Sta 14+60.23
△ = 73° 09' 04.7" (RT)
D = 136° 25' 06.7"
L = 53.62'
T = 31.16'
R = 42.00'
SE = 0.04
DS = 15 MPH

PI Sta 15+02.37
△ = 12° 28' 51.4" (RT)
D = 31° 49' 51.6"
L = 39.21'
T = 19.68'
R = 180.00'
SE = 0.04
DS = 15 MPH

PI Sta 15+67.00
△ = 6° 39' 42.5" (RT)
D = 7° 23' 34.8"
L = 90.11'
T = 45.11'
R = 775.00'
SE = EXIST

PI Sta 16+76.39
△ = 20° 33' 33.4" (RT)
D = 16° 08' 22.8"
L = 127.38'
T = 64.38'
R = 355.00'
SE = EXIST



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
DF18314.2045332	EC-5/CONST.4

RS&H
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE No: F-0493

-L- CURVE DATA

PI Sta 10+68.20
△ = 2° 21' 38.4" (LT)
D = 1° 43' 51.6"
L = 136.38'
T = 68.20'
R = 3,310.00'
SE = EXIST

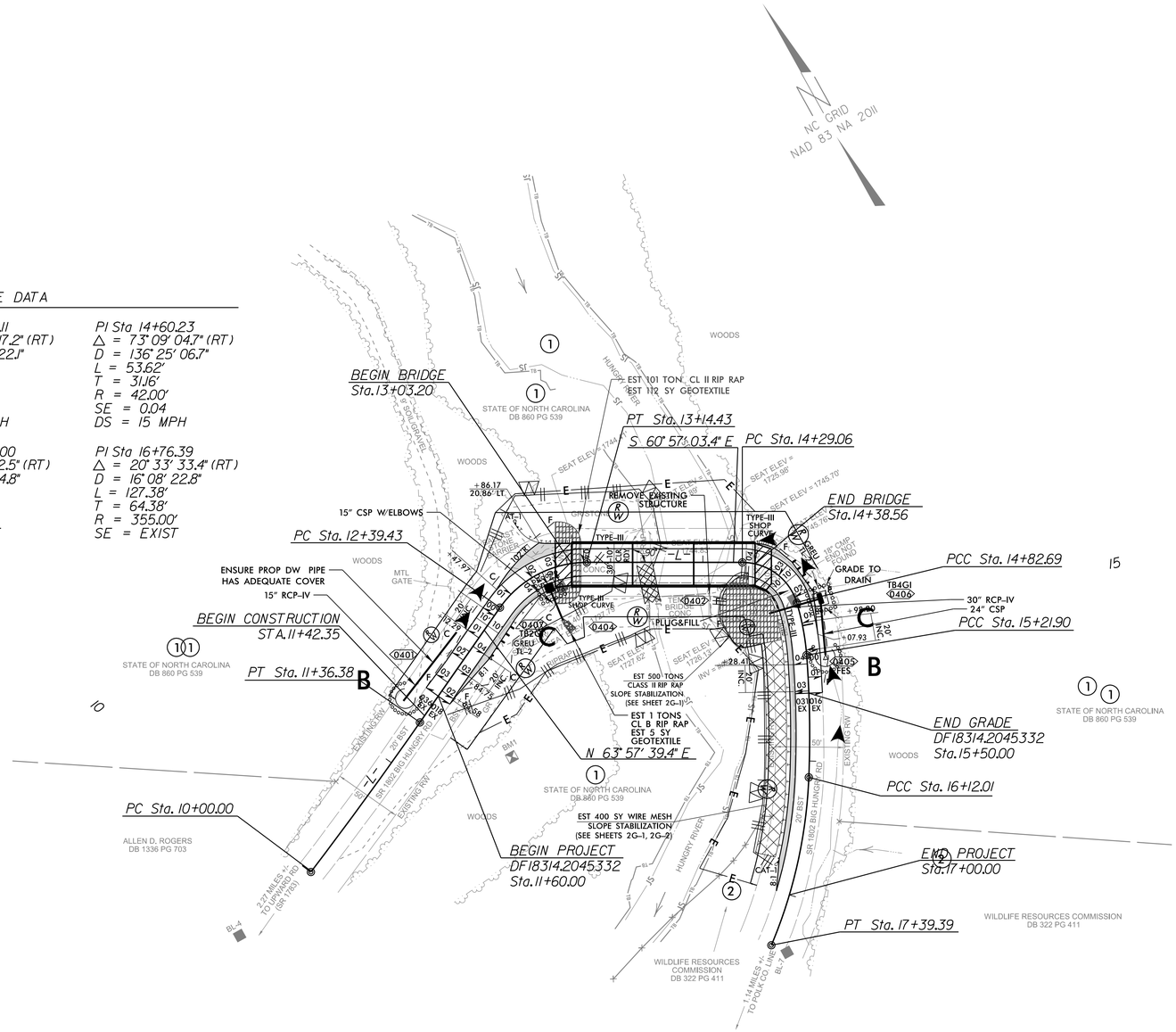
PI Sta 12+80.11
△ = 55° 05' 17.2" (RT)
D = 73° 27' 22.1"
L = 74.99'
T = 40.68'
R = 78.00'
SE = 0.04
DS = 15 MPH

PI Sta 14+60.23
△ = 73° 09' 04.7" (RT)
D = 136° 25' 06.7"
L = 53.62'
T = 31.16'
R = 42.00'
SE = 0.04
DS = 15 MPH

PI Sta 15+02.37
△ = 12° 28' 51.4" (RT)
D = 3° 49' 51.6"
L = 39.21'
T = 19.68'
R = 180.00'
SE = 0.04
DS = 15 MPH

PI Sta 15+67.00
△ = 6° 39' 42.5" (RT)
D = 7° 23' 34.8"
L = 90.11'
T = 45.11'
R = 775.00'
SE = EXIST

PI Sta 16+76.39
△ = 20° 33' 33.4" (RT)
D = 16° 08' 22.8"
L = 127.38'
T = 64.38'
R = 355.00'
SE = EXIST



NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

17-MAR-2026 10:20
R:\Environmental\Design\PSH\440055_EC-5.dgn
$$$$USERNAME$$$$

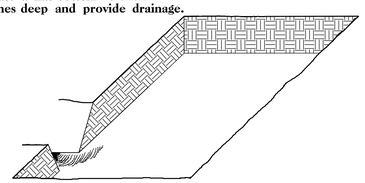
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18314.2045332	RF-1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	

PLANTING DETAILS

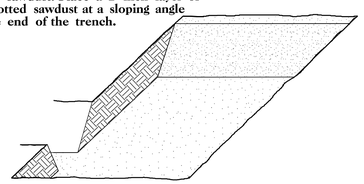
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

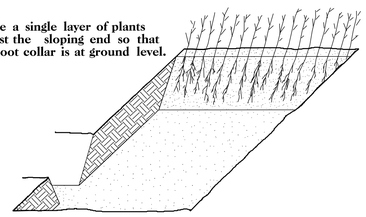
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



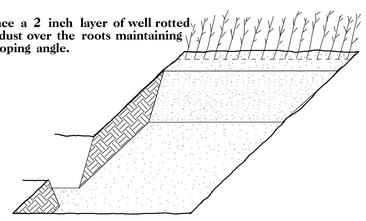
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

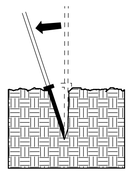


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

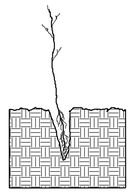


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

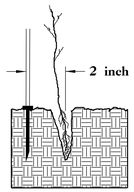
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



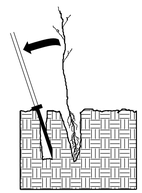
1. Insert planting bar as shown and pull handle toward planter.



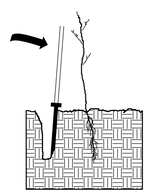
2. Remove planting bar and place seedling at correct depth.



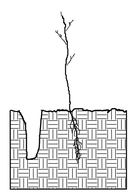
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.

ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

☐ TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in – 18 in BR
25% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in – 18 in BR
25% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in – 18 in BR
25% BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

PROJECT TIP: DF18314.2045332

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
DF18314.2045332	SIGN-1

APPROVED: Signed by: Rebecca E. Wright 4FABCA3CEBA04F3...

DATE: 4/13/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 057350 ENGINEER REBECCA E. WRIGHT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIGNING PLAN
HENDERSON COUNTY

LOCATION: BRIDGE NO. 440055 OVER HUNGRY RIVER ON SR 1802 (BIG HUNGRY ROAD)

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

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 POSTS

GENERAL NOTES

- SIGNS FURNISHED BY DEPARTMENT.
- CONFIRM IN WRITING AT LEAST 2 WEEKS IN ADVANCE, THE ACTUAL DATE THE DEPARTMENT FURNISHED SIGNS WILL BE REQUIRED.
- 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 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	20	L.F.
4102000000	904	SIGN ERECTION, TYPE E	4	EA.

INDEX

PLAN SUBMITTED TO:	NCDOT	
ZACHARY SHULER, PE	NCDOT CONTACT	

PLAN PREPARED BY:	RS&H	
SEAN M. KORTOVICH, PE	PROJECT ENGINEER	RS&H NC FIRM LICENSE No: F-0493 8521 SIX FORKS ROAD, SUITE 400 RALEIGH, NC 27615
REBECCA WRIGHT, PE	PROJECT DESIGN ENGINEER	

4/10/2026
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User:tmclaughr

PROJECT NO.	SHEET NO.
DF18314.2045332	SIGN-2

APPROVED: Signed by: Rebecca E. Wright 4FA8CA3CEBA04F3...

DATE: 4/13/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 057350 ENGINEER REBECCA E. WRIGHT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

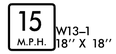
(401) QUANTITY REQ'D 1

ONE "U" POST PER SIGN

(402) QUANTITY REQ'D 1

ONE "U" POST PER SIGN

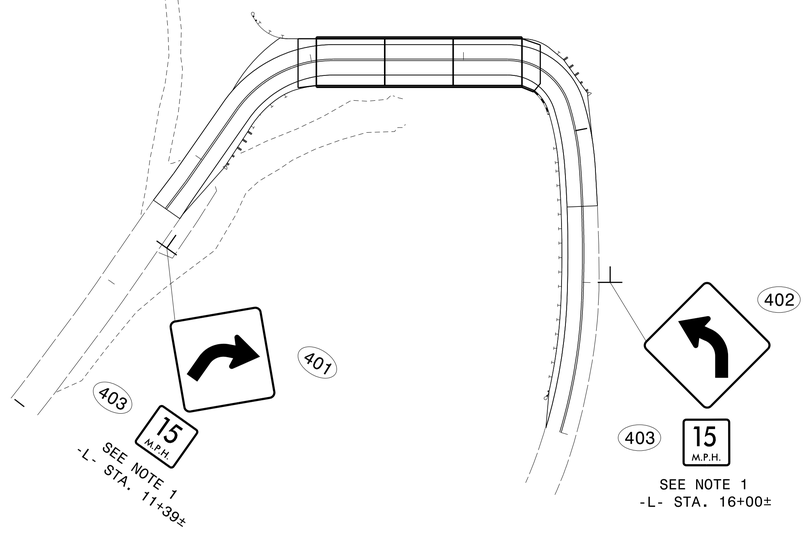
(403) QUANTITY REQ'D 2



MOUNT BELOW SIGN 401
IN ONE INSTALLATION

MOUNT BELOW SIGN 402
IN ONE INSTALLATION

NAD 83/NSRS 2007



PROJECT NOTES

1 SIGN ERECTION, TYPE E

RS&H 8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

PROPOSED SIGNS