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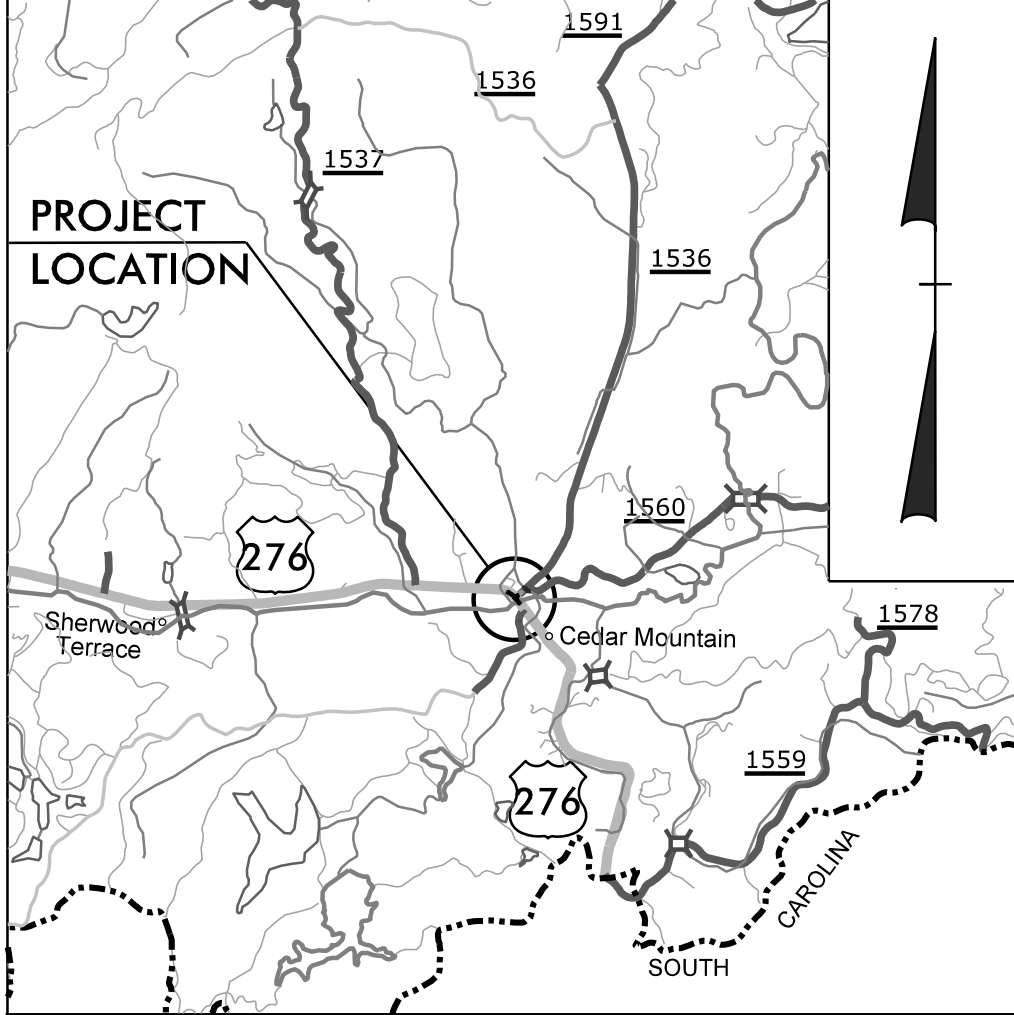
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TIP PROJECT: HN-0031

CONTRACT: DN01155

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



VICINITY MAP (NTS)

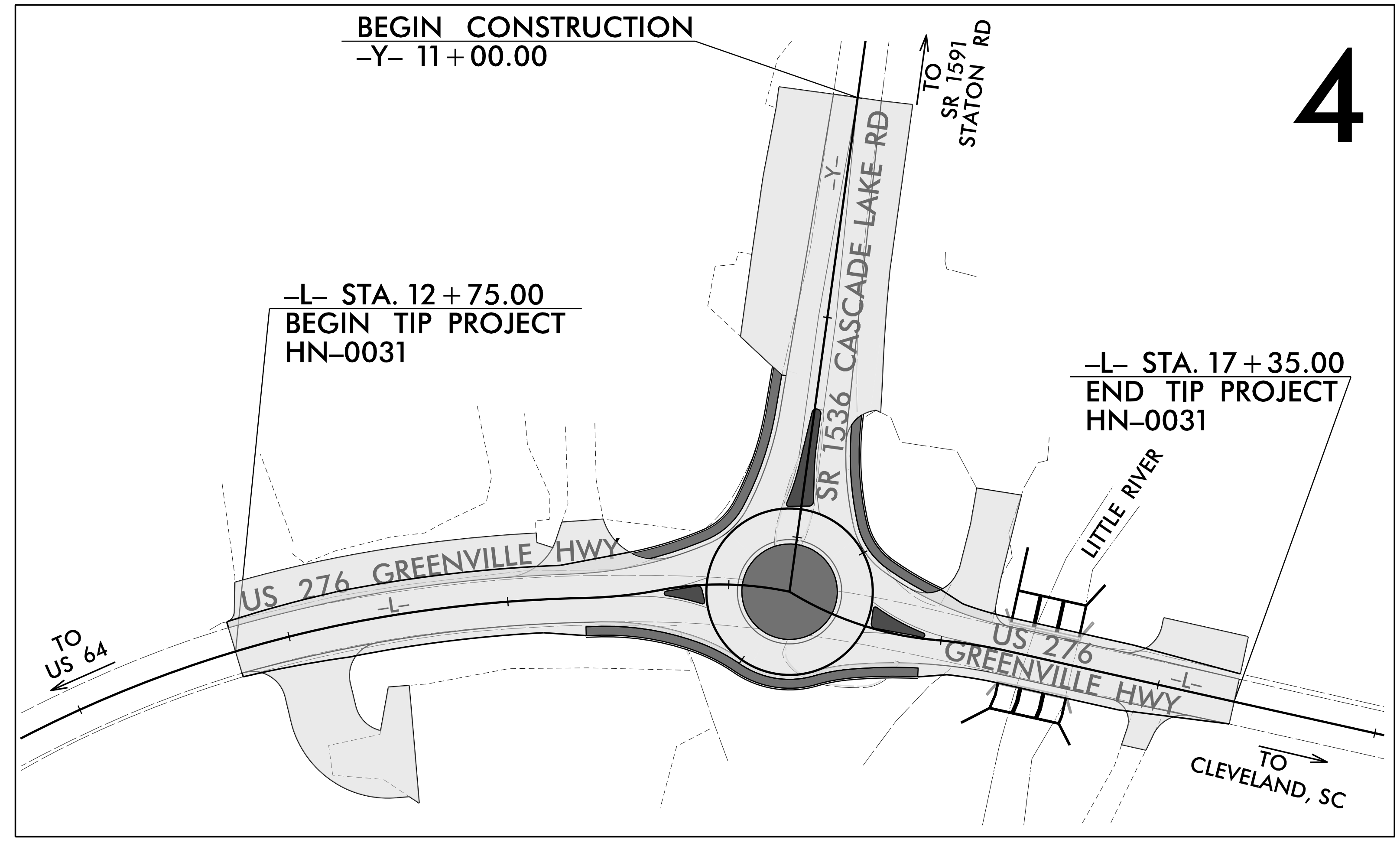
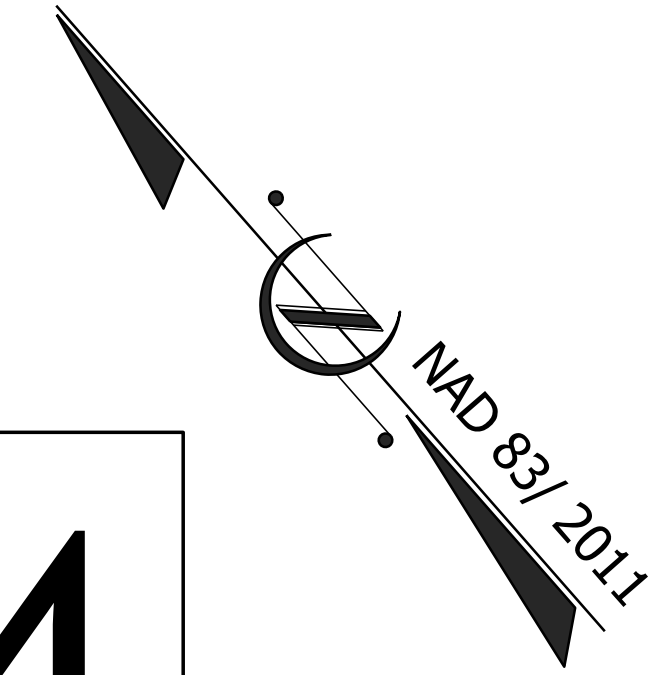
# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## TRANSYLVANIA COUNTY

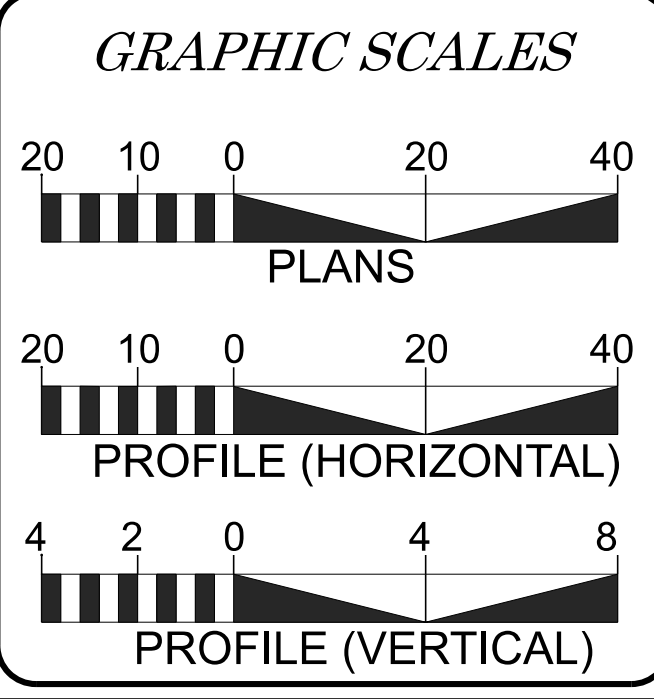
LOCATION: *US 276 AT SR 1536 (CASCADE LAKE RD)*

TYPE OF WORK: *GRADING, PAVING, DRAINAGE & CULVERT*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HN-0031	11	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
51513.1.1	5151301	PE	
51513.2.1	5151301	ROW	
51513.2.2	5151301	UTIL.	
51513.3.1	5151301	CONST.	



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UNLESS ALL SIGNATURES COMPLETED



**DESIGN DATA**

ADT 2026 = 2,480  
ADT 2050 = 3,140

V = 50 MPH

FUNC CLASS =  
MINOR ARTERIAL  
REGIONAL TIER

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT HN-0031 = 0.081 MILES  
LENGTH OF STRUCTURE TIP PROJECT HN-0031 = 0.006 MILES  
TOTAL LENGTH OF TIP PROJECT HN-0031 = 0.087 MILES

**TGS ENGINEERS**  
201 W. MARION ST.  
SHELBY, NC 28150  
PH (704) 476-0003  
CORP. LICENSE NO. 1 C-0275

2024 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
DEC. 1, 2025

**LETTING DATE:**  
JUN. 23, 2026

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**

DIVISION 14  
253 WEBSTER ROAD  
SYLVA, NC 28779

**JIMMY TERRY, PE**  
PROJECT ENGINEER

**AUSTIN R. TURNER, PE**  
PROJECT DESIGN ENGINEER

**BARRY MOSTELLER**  
NCDOT CONTACT

**HYDRAULICS ENGINEER**

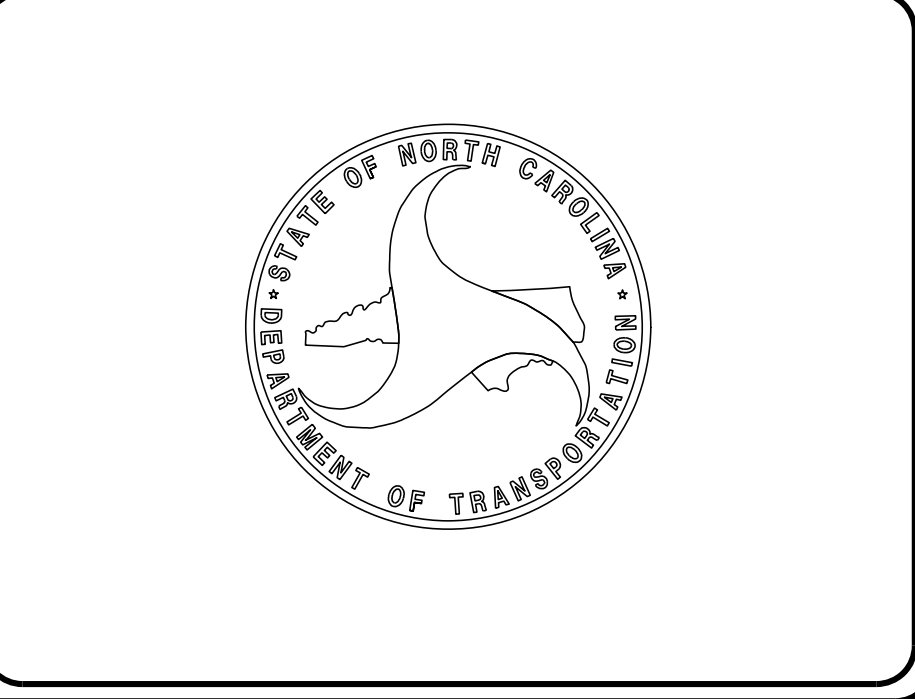
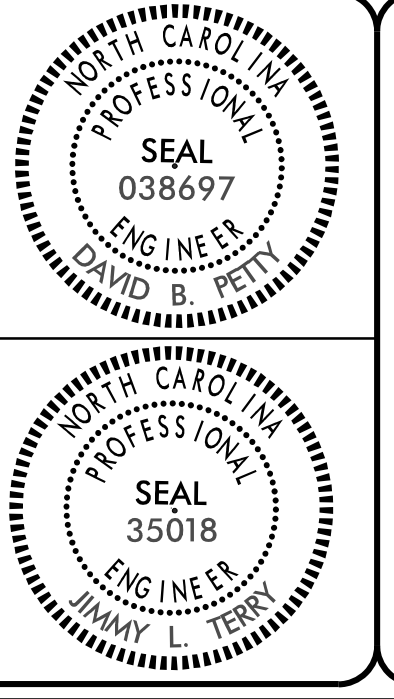
4/22/2026

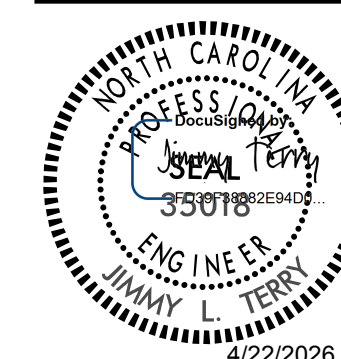
Signed by: *David B. Petty* P.E.  
SIGNATURE

**ROADWAY DESIGN ENGINEER**

4/22/2026

DocuSigned by: *Jimmy Terry* P.E.  
SIGNATURE





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

GRADE LINE:  
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED 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

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

SUBSURFACE DRAINS:

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

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY AND COMPORIUM.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

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 Superlevation - 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)
- 310.10 Driveway Pipe Construction

DIVISION 5 - SUBGRADE, BASES AND SHOULDERS

- 560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I

DIVISION 6 - ASPHALT BASES AND PAVEMENTS

- 654.01 Pavement Repairs

DIVISION 8 - INCIDENTALS

- 815.02 Subsurface Drain
- 840.00 Concrete Base Pad for Drainage Structures
- 840.18 Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
- 840.24 Frames and Narrow Slot Sag Grates
- 840.27 Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
- 840.35 Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
- 840.39 Steel Grate and Frame - Bicycle Safe
- 840.45 Precast Drainage Structure
- 840.46 Traffic Bearing Precast Drainage Structure
- 840.66 Drainage Structure Steps
- 846.01 Concrete Curb, Gutter and Curb & Gutter
- 852.01 Concrete Islands
- 876.01 Rip Rap in Channels and Ditches

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1	ROUNDAABOUT LAYOUT
2C-1 THRU 2C-2	SPECIAL DETAILS - METHOD OF PIPE INSTALLATION
3B-1	ROADWAY SUMMARY
3D-1	DRAINAGE SUMMARY
3G-1	GEOTECHNICAL SUMMARY
4	PLAN SHEET
5 THRU 6	PROFILE SHEETS
RW-01 THRU RW-04	RIGHT OF WAY PLANS
TMP-1 THRU TMP-6	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-5	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS SECTION INDEX
X-1A	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-17	CROSS SECTIONS
C-1 THRU C-12	CULVERT PLANS

Note: Not to Scale

# STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

HN-0031  
3R01 0018

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin (EIP)	○ EIP
Computed Property Corner	×
Existing Concrete Monument (ECM)	◻ ECM
Parcel / Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	▣
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---WLB---
Proposed Wetland Boundary	---WLB---
Existing Endangered Animal Boundary	---EAB---
Existing Endangered Plant Boundary	---EPB---
Existing Historic Property Boundary	---HPB---
Known Contamination Area: Soil	---S---S---
Potential Contamination Area: Soil	---S---S---
Known Contamination Area: Water	---W---W---
Potential Contamination Area: Water	---W---W---
Contaminated Site: Known or Potential	☠ ?

## BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	▣
Area Outline	▭
Cemetery	▣ +
Building	▣
School	▣
Church	▣
Dam	▣

## HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	---JS---
Buffer Zone 1	---BZ 1---
Buffer Zone 2	---BZ 2---
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⌵
Proposed Lateral, Tail, Head Ditch	← FLOW
False Sump	◁

## RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	▣ 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	---C---
Proposed Slope Stakes Fill	---F---
Proposed Curb Ramp	○ CR
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	-----

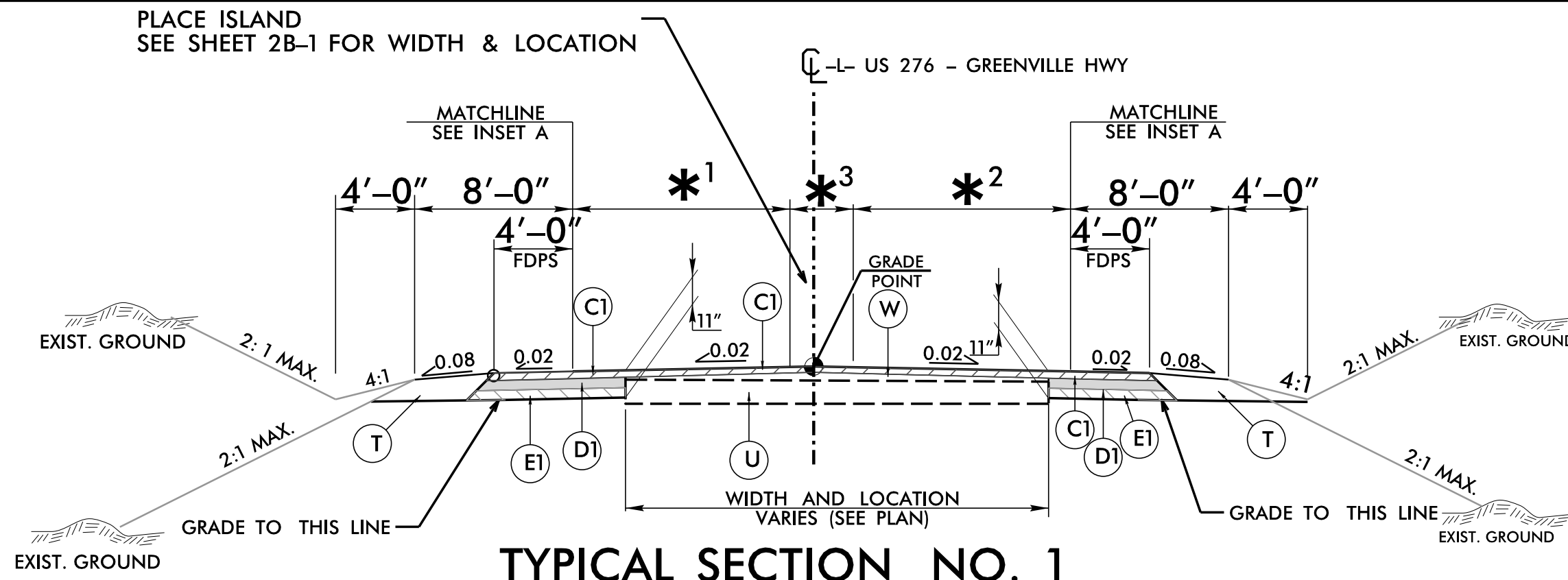
## SANITARY SEWER:

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	AATUR
End of Information	E.O.I.

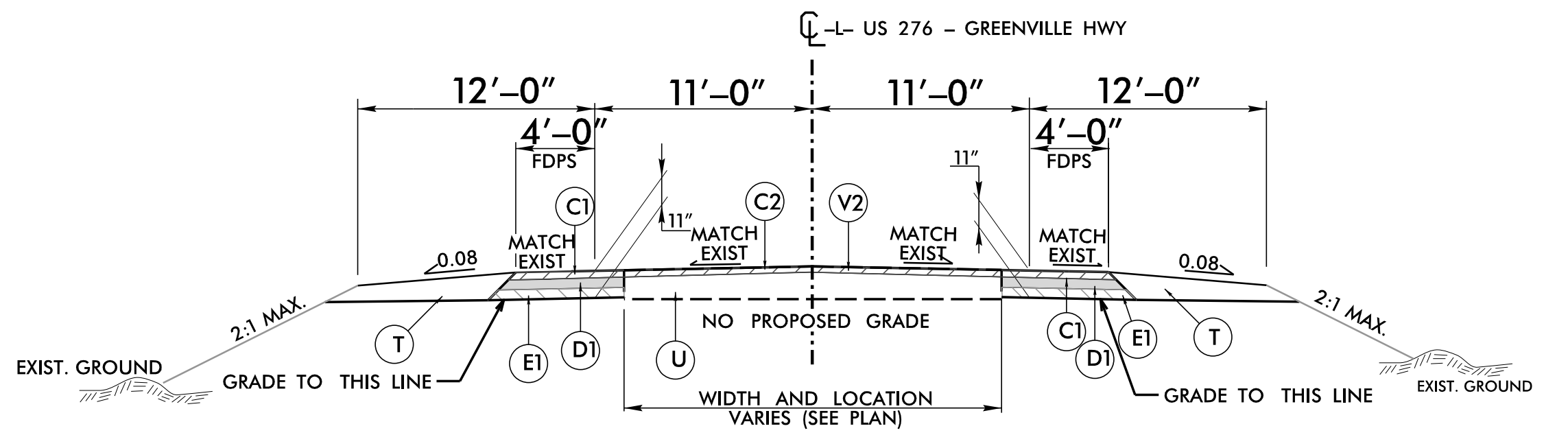
FINAL PAVEMENT SCHEDULE		04/24/2026
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	
C2	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	
C3	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" 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 THAN 5 1/2" IN DEPTH.	
J1	8" AGGREGATE BASE COURSE	
R1	2'-0" CONCRETE CURB AND GUTTER WITH ROLLED CURB (SEE THIS SHEET FOR DETAIL)	
R2	10" CONCRETE TRUCK APRON (WITH WIRED MESH)	
R3	9"x18" CONCRETE CURB	
R4	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)	
R5	STAMPED AND STAINED 10" CONCRETE TRUCK APRON (WITH WIRED MESH)	
T	EARTH MATERIAL.	
U	EXISTING PAVEMENT.	
V1	INCIDENTAL MILLING, SEE THIS SHEET FOR DETAIL	
V2	1 1/2" MILLING	
W	WEDGING EXISTING PAVEMENT, SEE THIS SHEET FOR DETAIL	



**TYPICAL SECTION NO. 1**

USE TYPICAL SECTION NO. 1  
 -L- STA. 13+25.00 TO -L- STA. 14+90.00  
 -L- STA. 15+65.19 TO -L- STA. 16+25.00

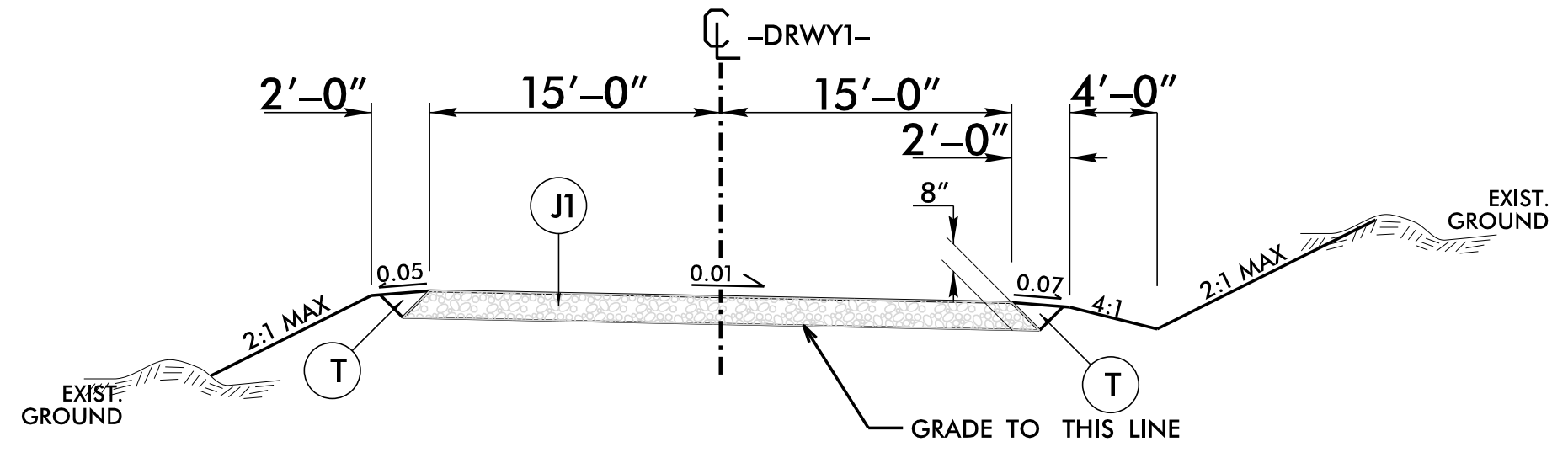
NOTE: TRANSITION BETWEEN EXISTING AND TYP. SECT. NO. 1 AS FOLLOWS:  
 -L- STA. 12+75.00 TO -L- STA. 13+25.00



**TYPICAL SECTION NO. 2**

USE TYPICAL SECTION NO. 2  
 -L- STA. 16+25.00 TO -L- STA. 16+85.00

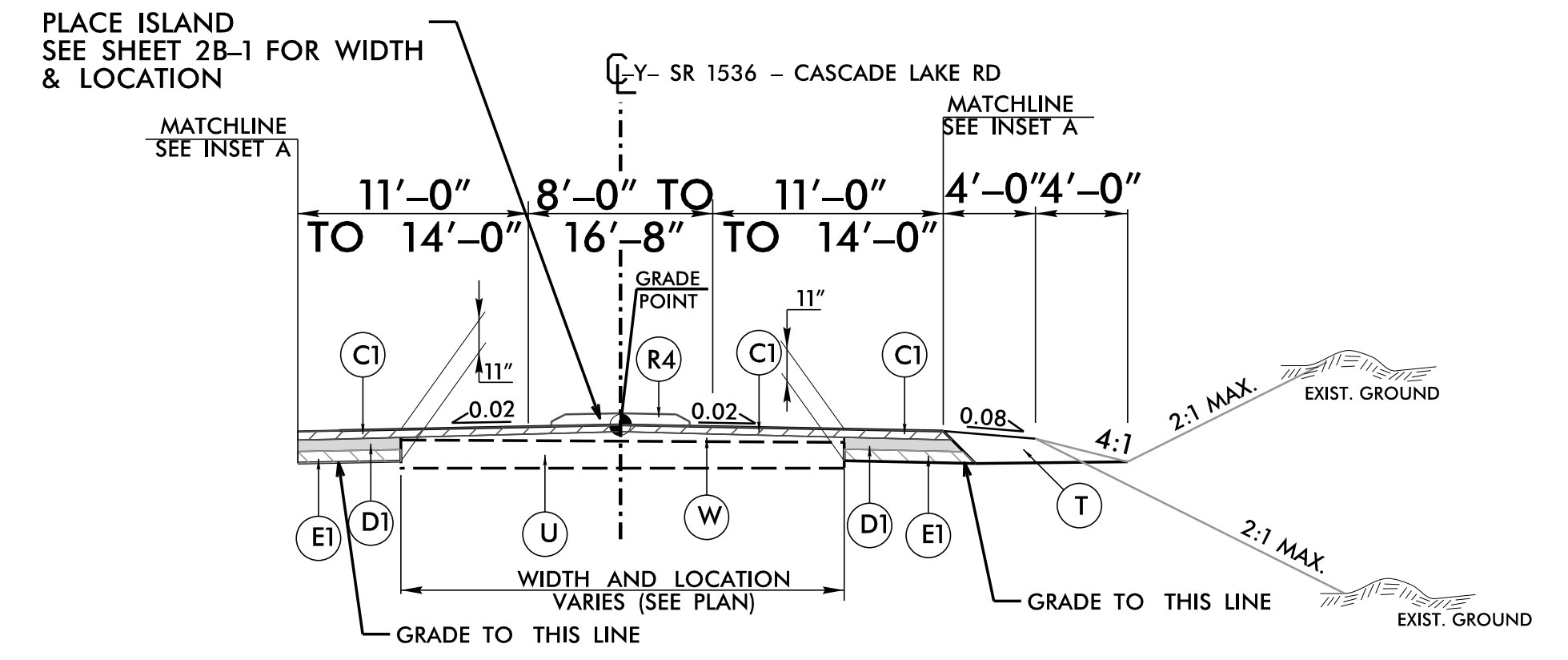
NOTE: TRANSITION BETWEEN EXISTING AND TYP. SECT. NO. 2 AS FOLLOWS:  
 -L- STA. 16+85.00 TO -L- STA. 17+35.00



**TYPICAL SECTION NO. 3**

USE TYPICAL SECTION NO. 3  
 -DRWY1- STA. 10+10.80 TO -DRWY1- 10+90.00

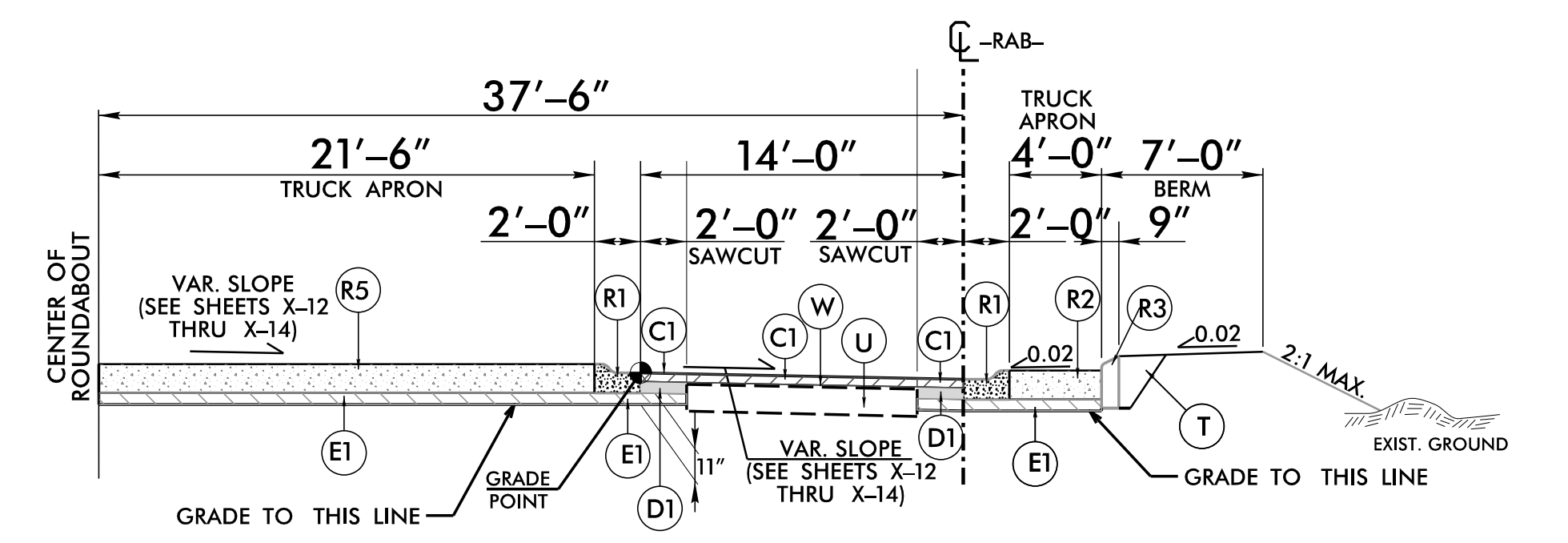
*1	11'-0" THRU 14'-0"	-L- STA. 13+25.00 TO -L- STA. 14+28.71, LT
	14'-0" THRU 14'-2"	-L- STA. 14+28.71 TO -L- STA. 14+90.00, LT
	14'-0" THRU 14'-2"	-L- STA. 15+65.19 TO -L- STA. 15+95.00, LT
*2	11'-0" THRU 14'-0"	-L- STA. 13+25.00 TO -L- STA. 14+35.00, RT
	14'-0" THRU 11'-3"	-L- STA. 14+35.00 TO -L- STA. 14+90.00, RT
	14'-0" THRU 11'-3"	-L- STA. 15+65.19 TO -L- STA. 15+95.00, RT
*3	0'-0" THRU 13'-10"	-L- STA. 13+25.00 TO -L- STA. 14+48.22
	14'-11" THRU 2'-9"	-L- STA. 14+48.22 TO -L- STA. 14+90.00
	14'-11" THRU 2'-9"	-L- STA. 15+65.19 TO -L- STA. 15+95.00



**TYPICAL SECTION NO. 4**

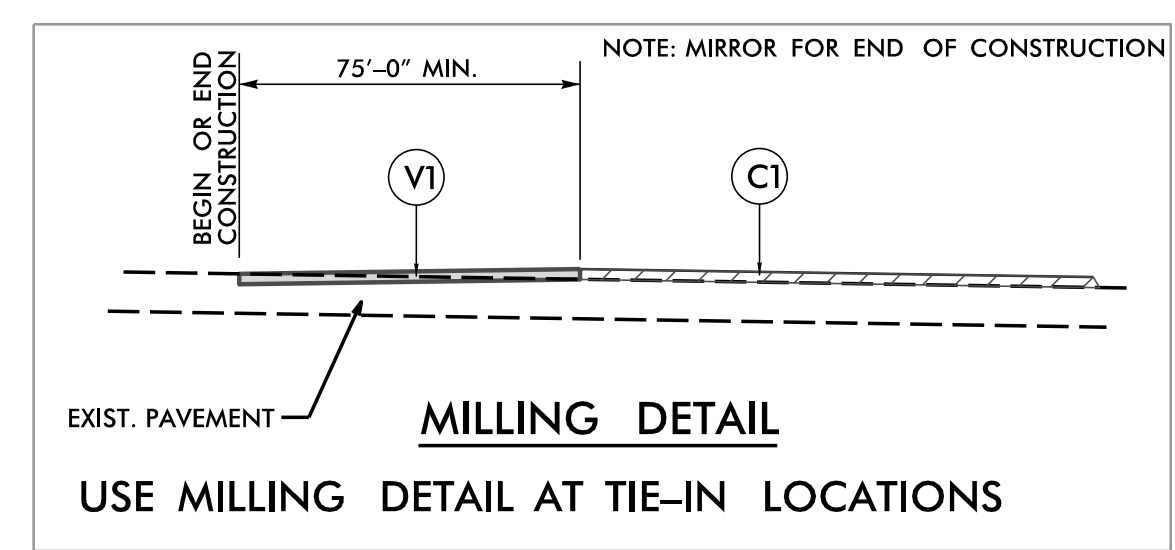
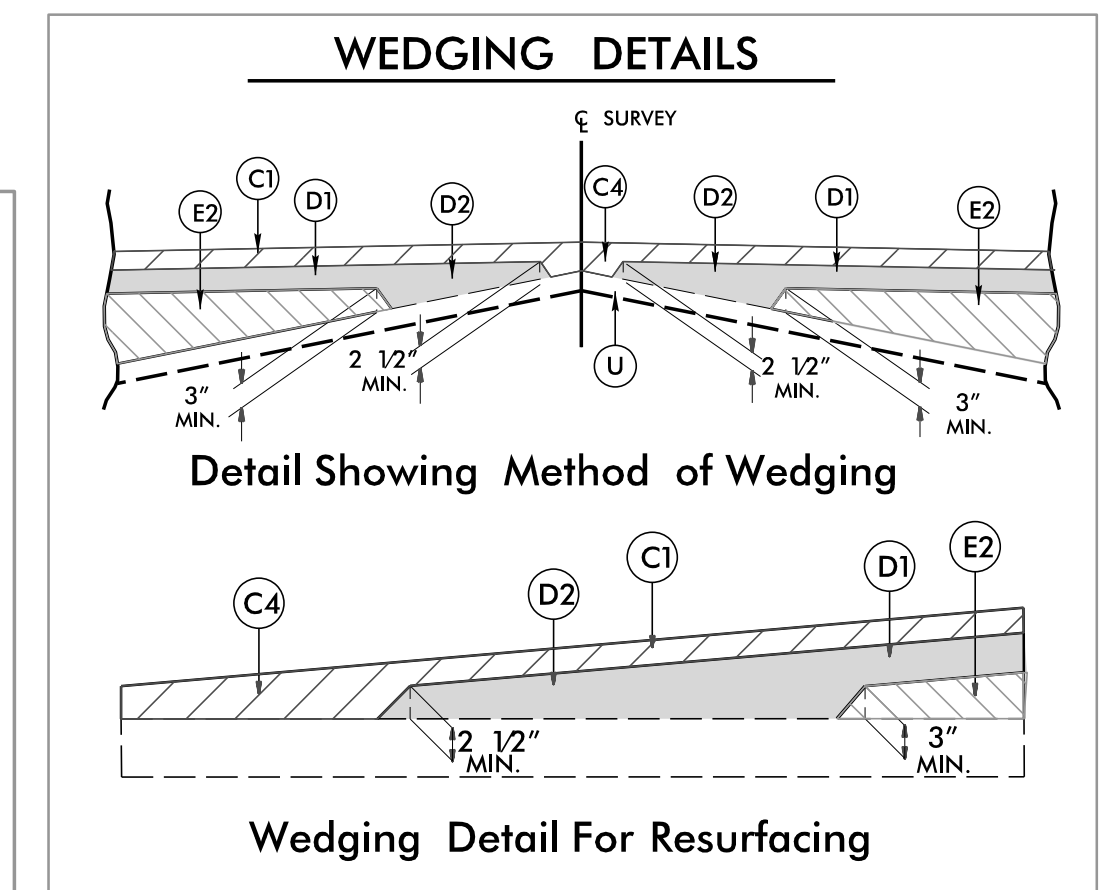
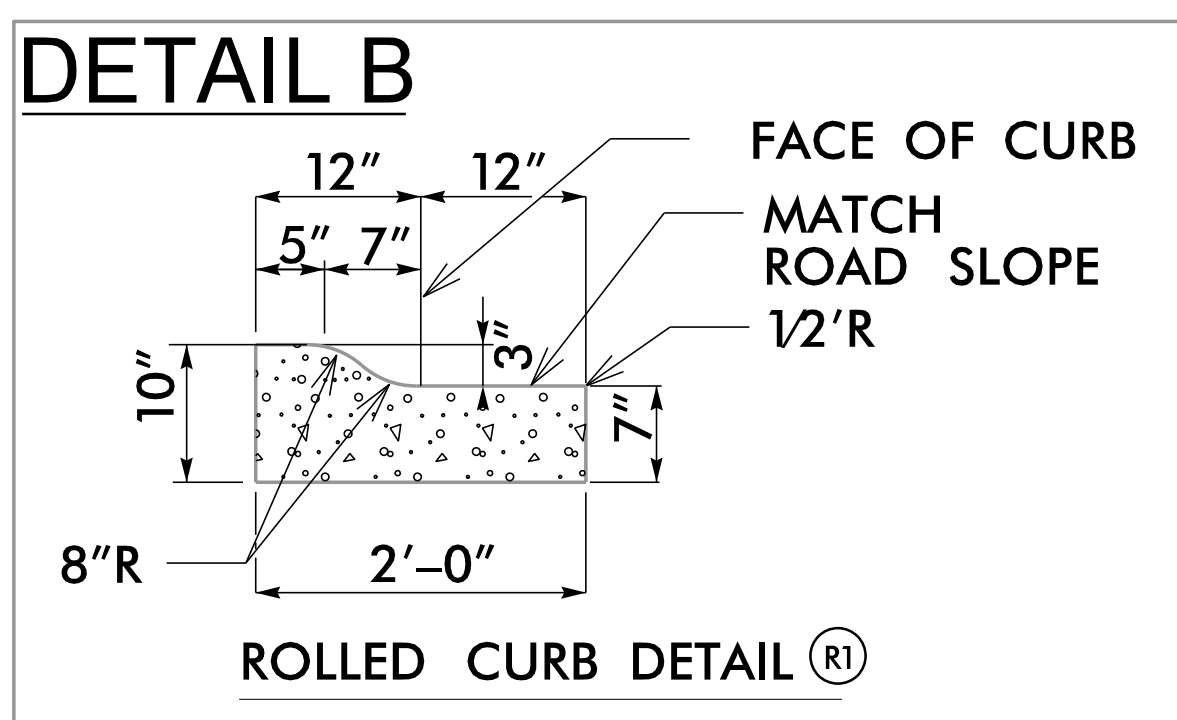
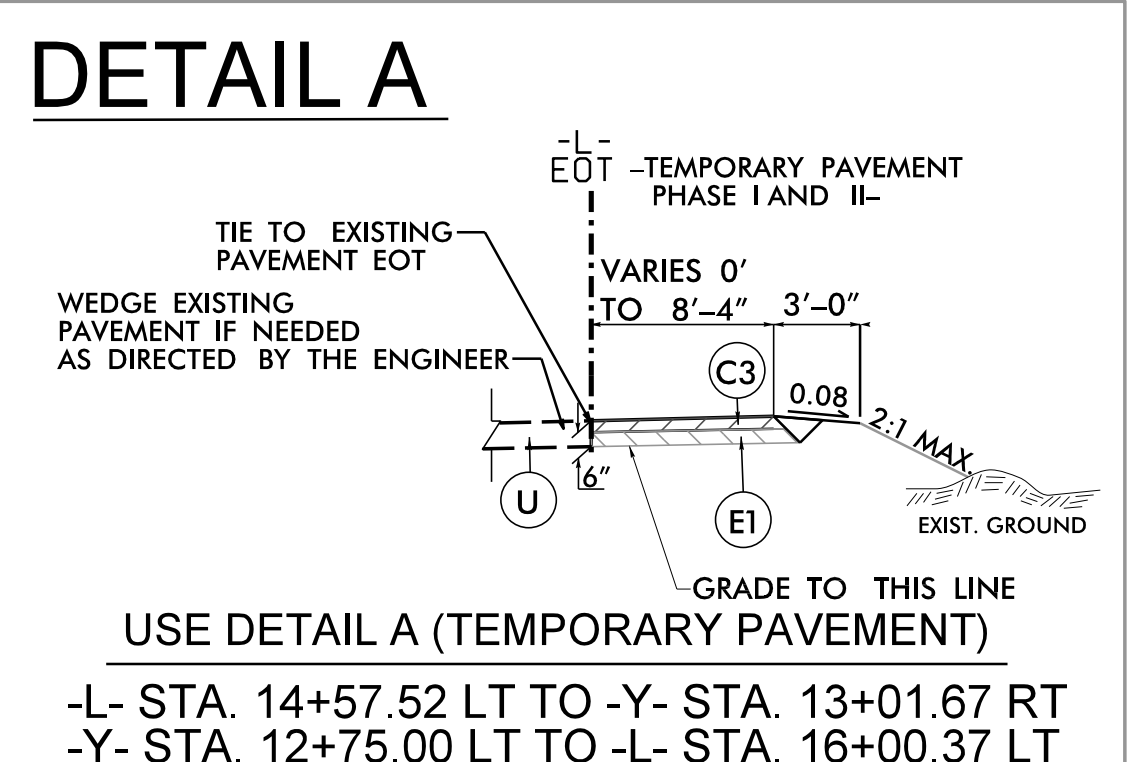
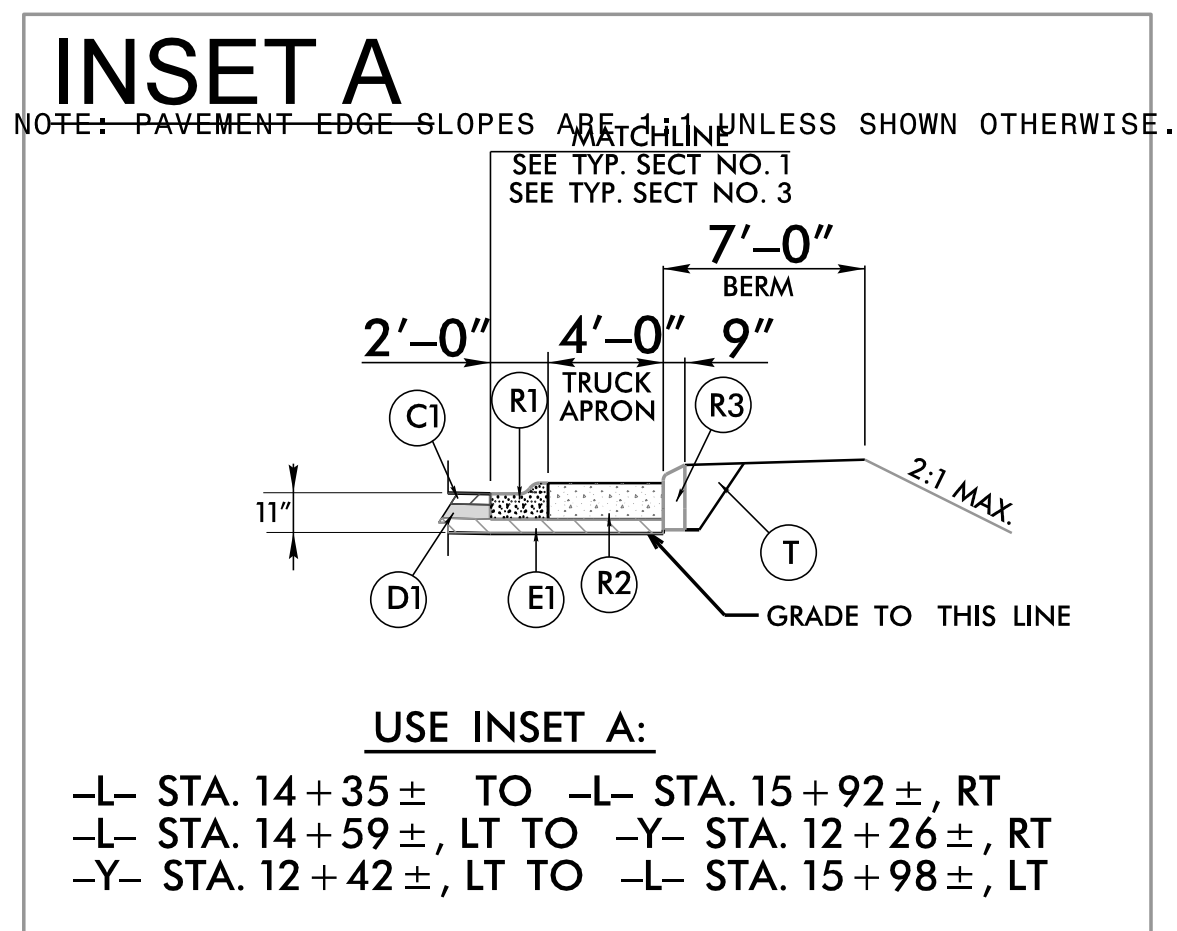
USE TYPICAL SECTION NO. 4  
 -Y- STA. 12+00.00 TO -Y- STA. 12+87.22

NOTE: TRANSITION BETWEEN EXISTING AND TYP. SECT. NO. 4 AS FOLLOWS:  
 -Y- STA. 11+00.00 TO -Y- STA. 12+00.00



**TYPICAL SECTION NO. 5**

USE TYPICAL SECTION NO. 5  
 -RAB- STA. 10+00.00 TO -RAB- STA. 12+35.61



HN-0031  
 3RD 2A-1  
 NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 TRANSYLVANIA COUNTY

ROADWAY DESIGN UNIT  
 ROADWAY DESIGN ENGINEER  
 JIMMY L. TERRY  
 LICENSE NO. 35018  
 STATE OF NORTH CAROLINA  
 04/24/2026

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PAVEMENT DESIGN ENGINEER  
 JIMMY L. TERRY  
 LICENSE NO. 35018  
 STATE OF NORTH CAROLINA  
 04/24/2026

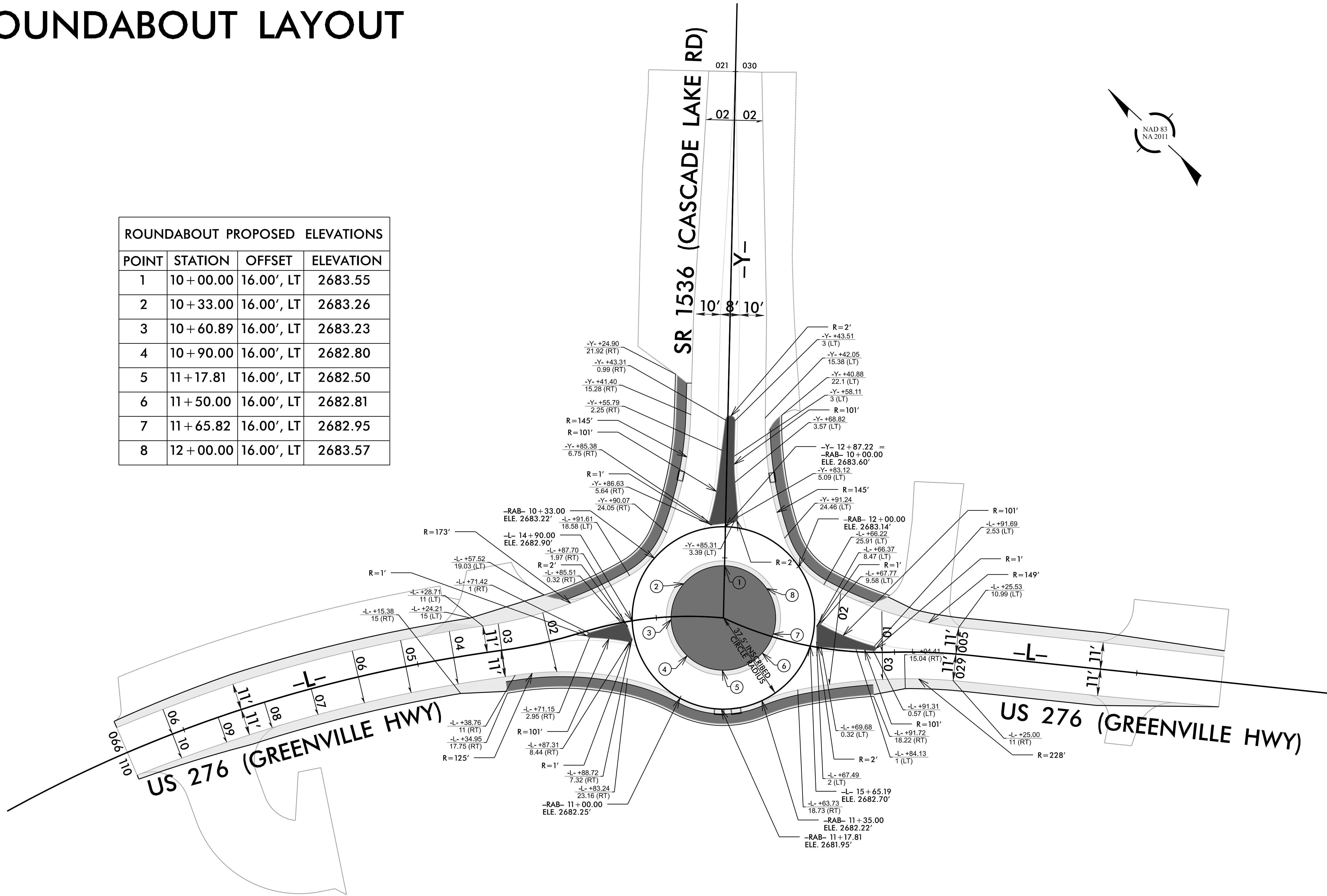
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PREPARED BY  
 TGS ENGINEERS  
 201 W. MARKET ST., STE. 200  
 CHARLOTTE, NC 28203  
 TEL: 704.375.0000  
 FAX: 704.375.0001  
 CORP. LICENSE NO.: C-02729

REVISIONS

# ROUNDABOUT LAYOUT

ROUNDABOUT PROPOSED ELEVATIONS			
POINT	STATION	OFFSET	ELEVATION
1	10+00.00	16.00', LT	2683.55
2	10+33.00	16.00', LT	2683.26
3	10+60.89	16.00', LT	2683.23
4	10+90.00	16.00', LT	2682.80
5	11+17.81	16.00', LT	2682.50
6	11+50.00	16.00', LT	2682.81
7	11+65.82	16.00', LT	2682.95
8	12+00.00	16.00', LT	2683.57



**HN-0031**  
**3R01 2B-1**

NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 TRANSYLVANIA COUNTY

ROADWAY DESIGN UNIT  
 ROADWAY DESIGN  
 ENGINEER

**Professional Seal**  
 NORTH CAROLINA  
 JIMMY L. TERRY  
 ENGINEER  
 35018  
 12/22/2026

DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED

HYDRAULICS  
 ENGINEER

**Professional Seal**  
 NORTH CAROLINA  
 DAVID B. PETT  
 ENGINEER  
 038697  
 12/22/2026

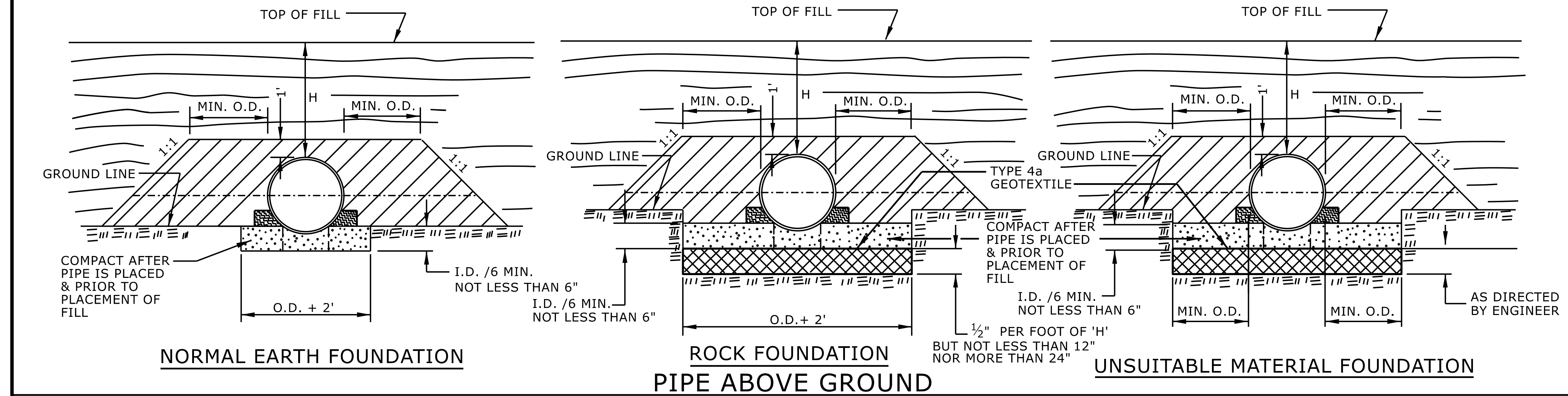
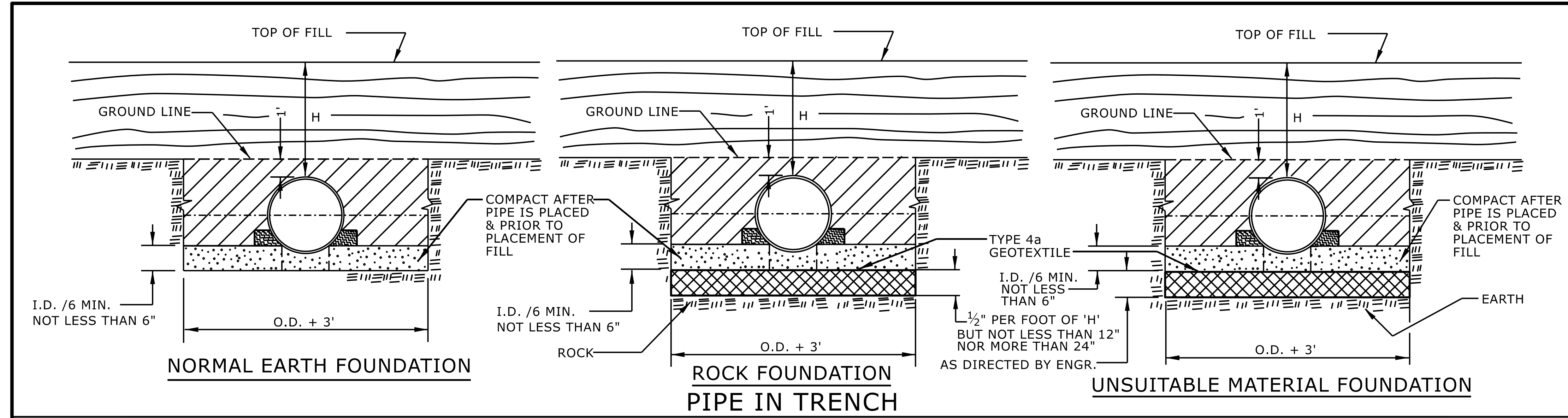
DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED

PREPARED BY



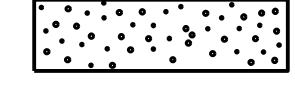
TGS ENGINEERS  
 201 W. MAIN ST. 215  
 SHELBY, NC 27810  
 PH: 704.472.2800  
 FAX: 704.472.2801  
 CORP. LICENSE NO.: C-02729

REVISIONS

FOR -RAB- PROFILE SEE SHEET 5

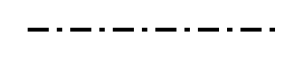
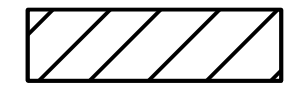
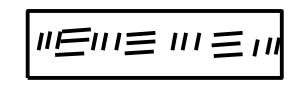



**GENERAL NOTES:**  
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.  
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.  
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

 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.

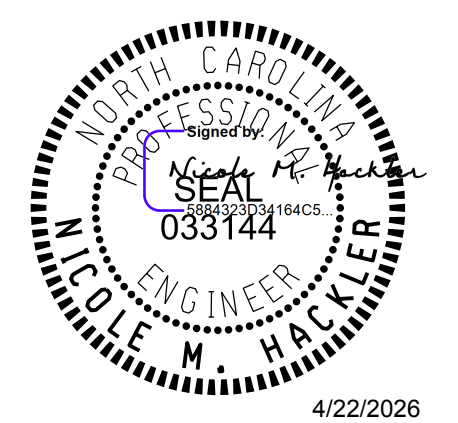
REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

 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  
 NORTH CAROLINA  
 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**

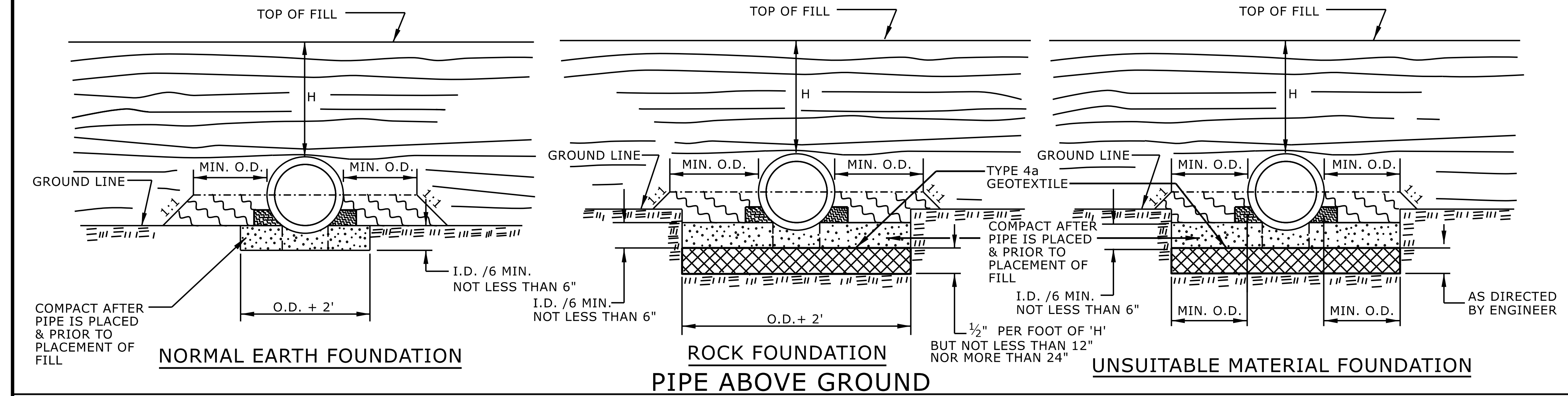
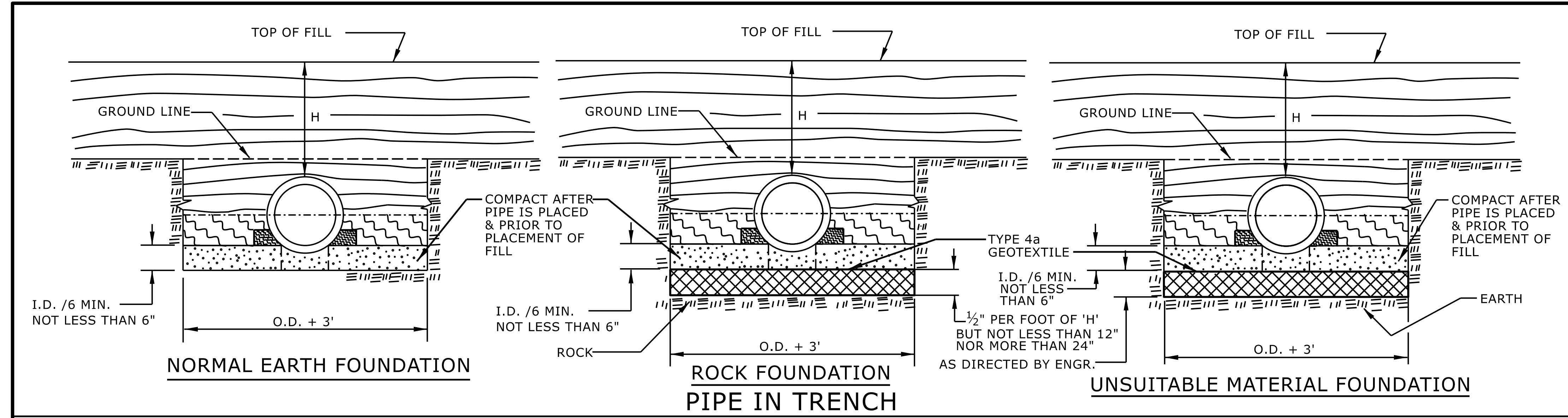


DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED


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


**SEE TITLE BLOCK**

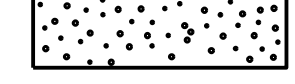
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 MODIFIED BY: DATE:  
 CHECKED BY: DATE:  
 FILE SPEC.: DATE:



**GENERAL NOTES:**  
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.  
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.  
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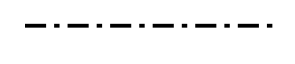

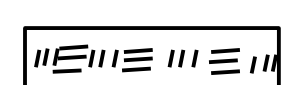

 APPROVED SUITABLE LOCAL MATERIAL.

 TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

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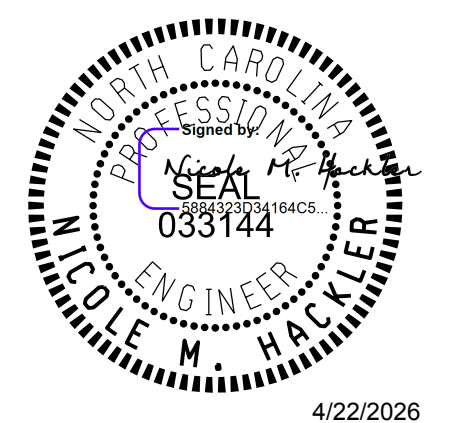
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STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
 RIGID PIPE



SHEET 2 OF 2  
**300.01**

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.: \_\_\_\_\_

COMPUTED BY: KSA DATE: 3/16/26  
 CHECKED BY: JLT DATE: 3/18/2026

PROJECT NO. SHEET NO.  
 HN-0031 3B-1

### STATE OF NORTH CAROLINA

#### SUMMARY OF EARTHWORK

IN CUBIC YARDS					
Station	Station	Uncl. Excav.	Embank. +15%	Borrow	Waste
-L- 12+75.00	-L- 14+90.00	59	137	78	
-RAB- 10+00.00	-RAB- 12+35.61	5	78	73	
-L- 15+65.19	-L- 17+35.00	39	262	223	
-Y- 11+00.00	-Y- 12+87.22	21	71	50	
-DRWY1- 10+10.80	-DRWY1- 10+90.00	31	3		28
<b>TOTALS:</b>		155	551	424	28
ESTIMATED SHOULDER MATERIAL			84	84	
ROCK WASTE TO REPLACE BORROW					
ADJUST FOR ROCK WASTE					
WASTE IN LIEU OF BORROW				-28	
<b>PROJECT TOTALS:</b>		155	635	480	0
Est. 5% to Replace Top Soil on Borrow Pit				24	
<b>GRAND TOTALS:</b>		155	635	504	0
<b>SAY</b>		<b>175</b>		<b>555</b>	

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Shoulder Material, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for grading.

Note: Earthwork quantities are calculated by TGS Engineers. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

SELECT GRANULAR MATERIAL = 400 CUBIC YARDS  
 EST. SHALLOW UNDERCUT = 100 CUBIC YARDS  
 DRAINAGE DITCH EXCAVATION = 200 CUBIC YARDS  
 PER GEOTECH RECOMMENDATION, ESTIMATED 450 CUBIC YARDS OF UNDERCUT TO BE USED IN THE DISCRETION OF THE RESIDENT ENGINEER.

#### PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS							
SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-RAB-	10+00.00	12+35.61	CL	192.22			
<b>TOTAL:</b>				192.22			
<b>SAY</b>				<b>200</b>			





NOTE: ALL DRIVES SHALL BE PAVED TO THE EXISTING RIGHT OF WAY LINE

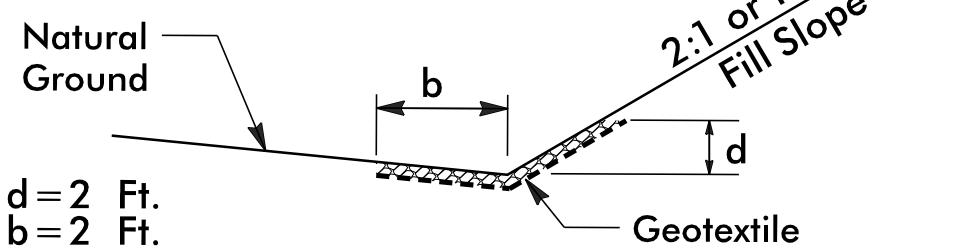
CUR DATA -L-		
Plc 12+17.86	Plc 13+92.45	Plc 14+51.60
$\Delta c = 27^{\circ}48'24.0"$ (RT)	$\Delta c = 07^{\circ}44'29.1"$ (RT)	$\Delta c = 09^{\circ}31'13.7"$ (LT)
D = 10'19'24.8"	D = 09'05'40.4"	D = 28'38'52.4"
Lc = 269.35	Lc = 85.12	Lc = 33.23
Tc = 137.38	Tc = 42.63	Tc = 16.65
R = 555	R = 630	R = 200
SE = EXIST.	SE = 07	SE = - 02
	DS = 45 mph	DS = 25 mph

CUR DATA -L-		
Plc 14+98.28	Plc 15+63.28	Plc 16+14.49
$\Delta c = 22^{\circ}41'43.1"$ (RT)	$\Delta c = 26^{\circ}45'41.9"$ (LT)	$\Delta c = 07^{\circ}42'12.6"$ (RT)
D = 38'11'49.9"	D = 38'11'49.9"	D = 22'55'05.9"
Lc = 59.42	Lc = 70.06	Lc = 33.61
Tc = 30.10	Tc = 35.68	Tc = 16.83
R = 150	R = 150	R = 250
	SE = See Plans	DS = 25 mph

### BEGIN CONSTRUCTION

-Y- STA. 11 + 00.00

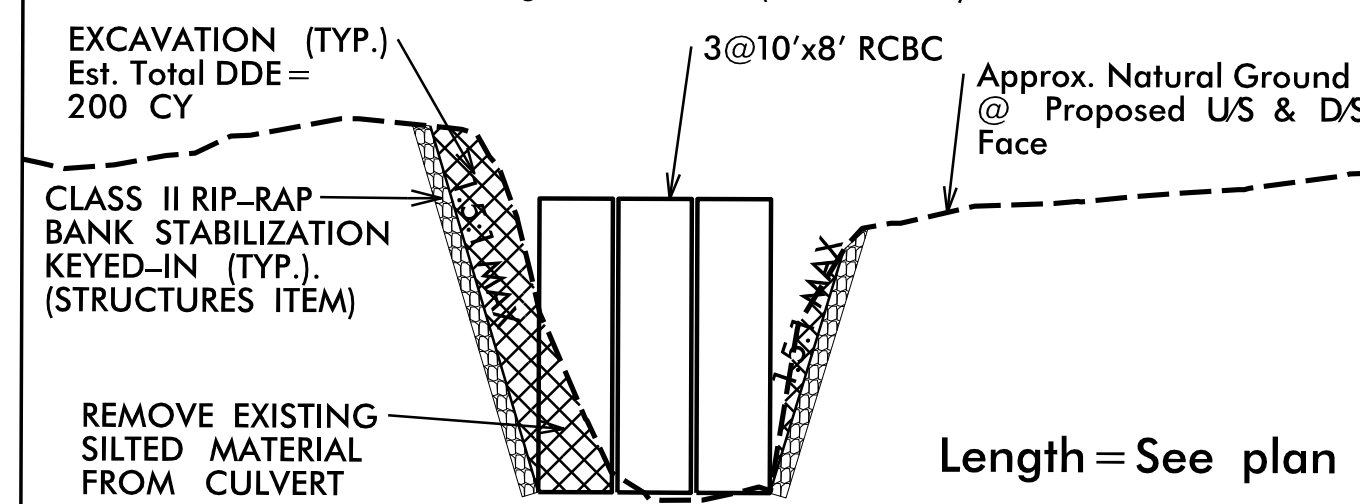
DETAIL 4A  
TOE PROTECTION  
(Not to Scale)



Type of Liner=Class B Rip-Rap  
FROM -Y- STA. 12+49 TO 12+72 RT

### DETAIL 4B

CULVERT INLET/OUTLET CHANNEL DETAIL  
Looking Downstream (Not to Scale)



Length=See plan

### CUR DATA -DRWY 1-

Plc 10+63.18
$\Delta c = 81^{\circ}30'23.3"$ (LT)
D = 190'59'09.4"
Lc = 42.68
Tc = 25.85
R = 30
SE=0.01

CHARLES L. BRUCE & JANE B. SMITH  
Deed Book/Page (438/410)

### BEGIN PROJECT HN-0031

-L- STA. 12 + 75.00

NOTE: CONTRACTOR IS NOT ALLOWED TO UTILIZE EASEMENTS ON PARCEL 03 FOR LAYDOWN OR STAGING AREAS

### END CONSTRUCTION

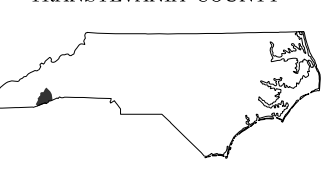
-DRWY1- STA. 10 + 90.00

SEE SHEET 2B-1 FOR ROUNDABOUT LAYOUT. SEE SHEET 2B-1 FOR CONCRETE ISLAND LAYOUT.

HN-0031

3R01 004

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
TRANSYLVANIA COUNTY



ROADWAY DESIGN UNIT

ROADWAY DESIGN  
ENGINEER



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

HYDRAULICS  
ENGINEER

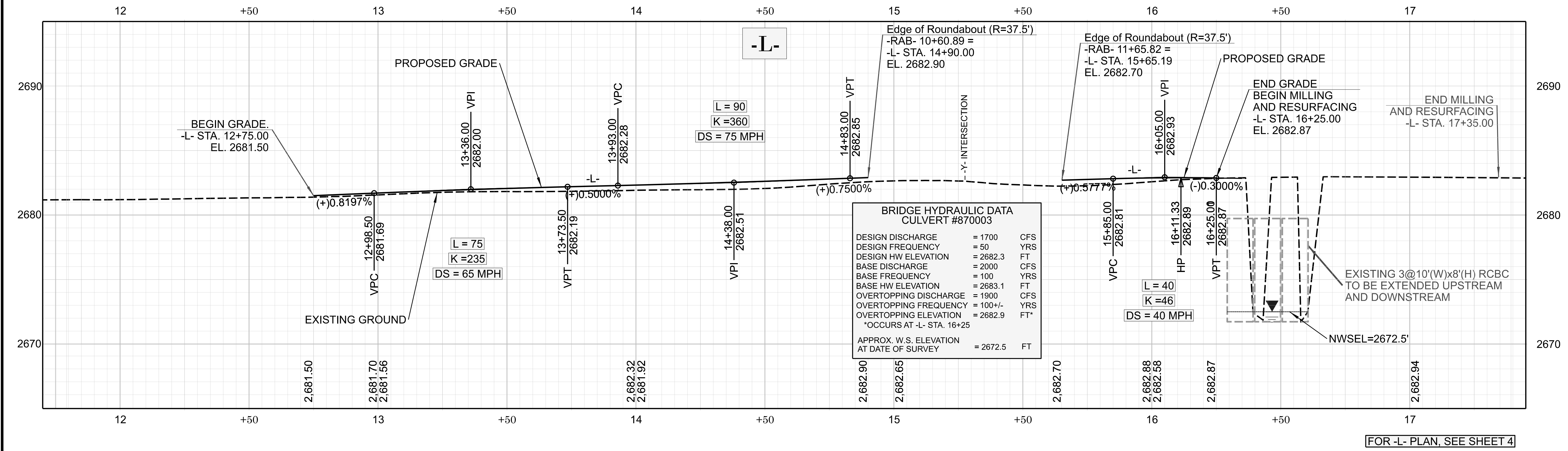
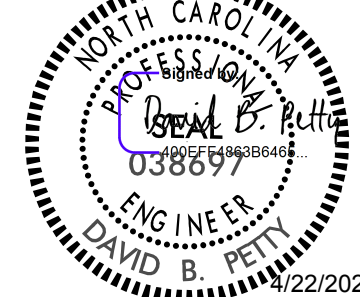
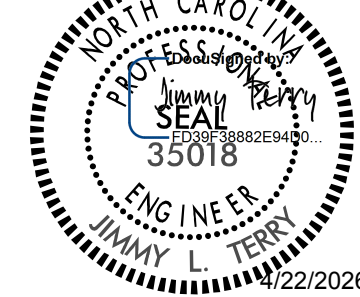
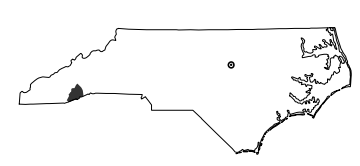


DOCUMENT NOT CONSIDERED FINAL  
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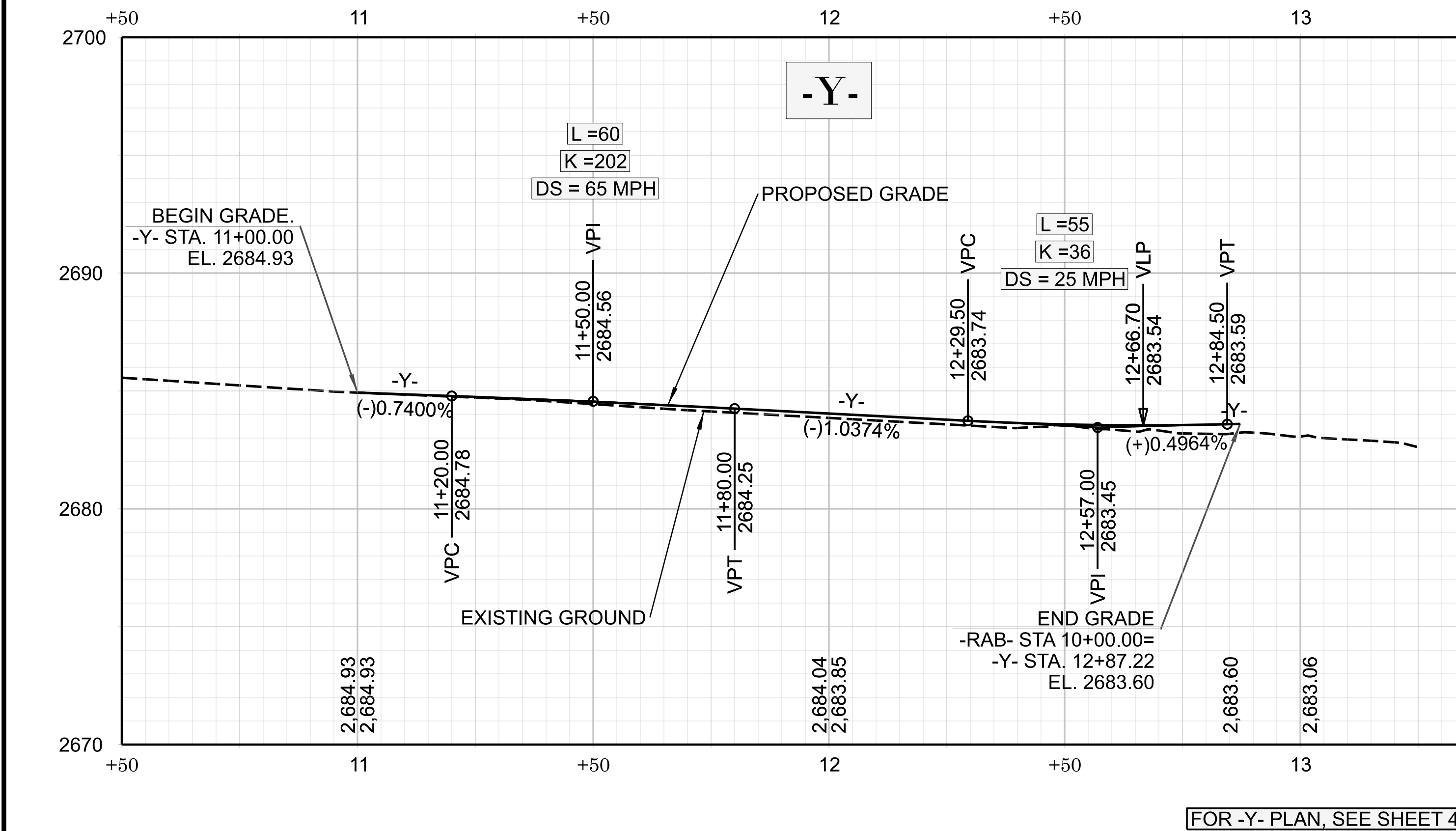
PREPARED BY

TGS ENGINEERS  
201 W. MAIN ST., 3RD FLOOR  
SHELBY, NC 28150  
CORP. LICENSE NO. C-02729

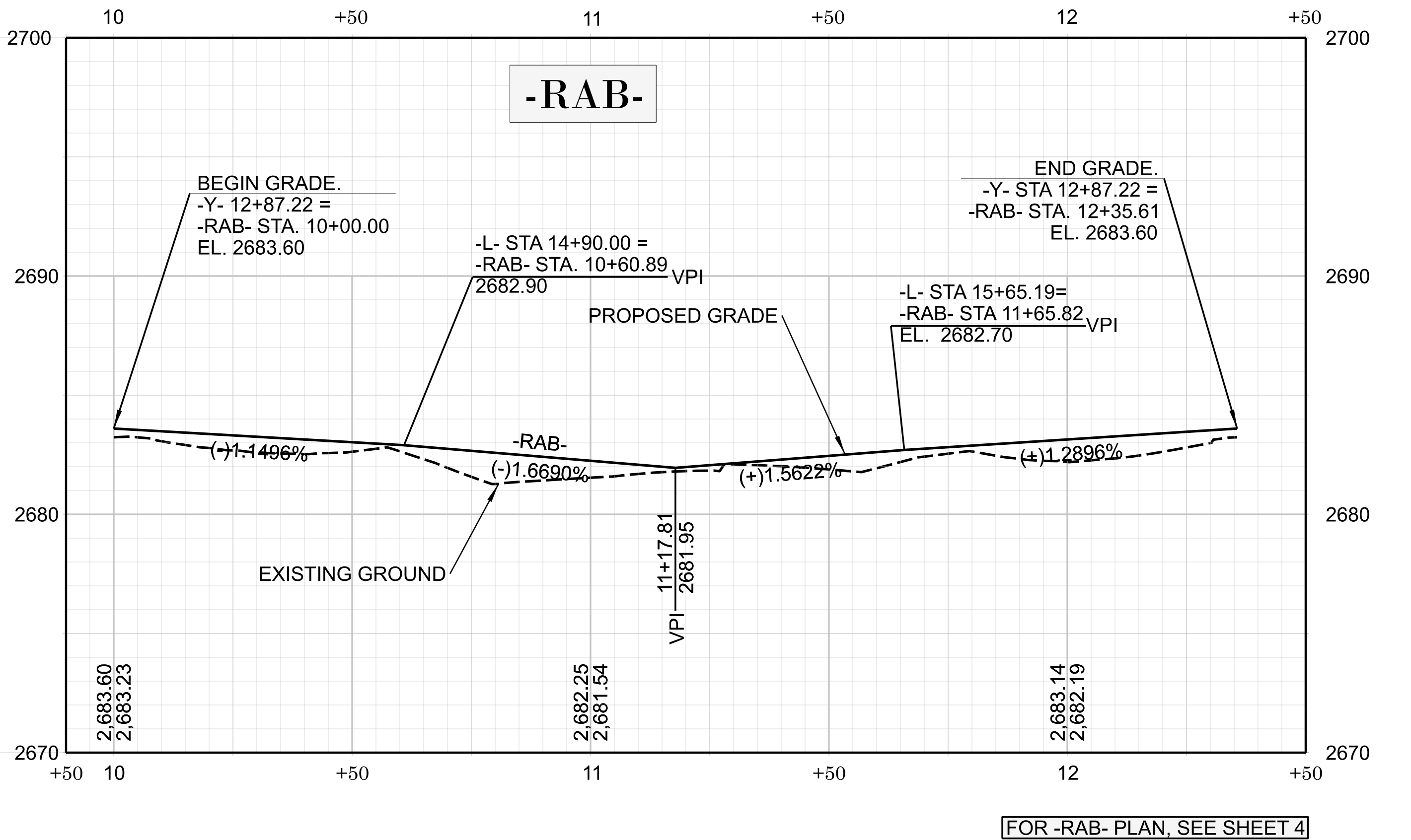
REVISIONS



FOR -L- PLAN, SEE SHEET 4

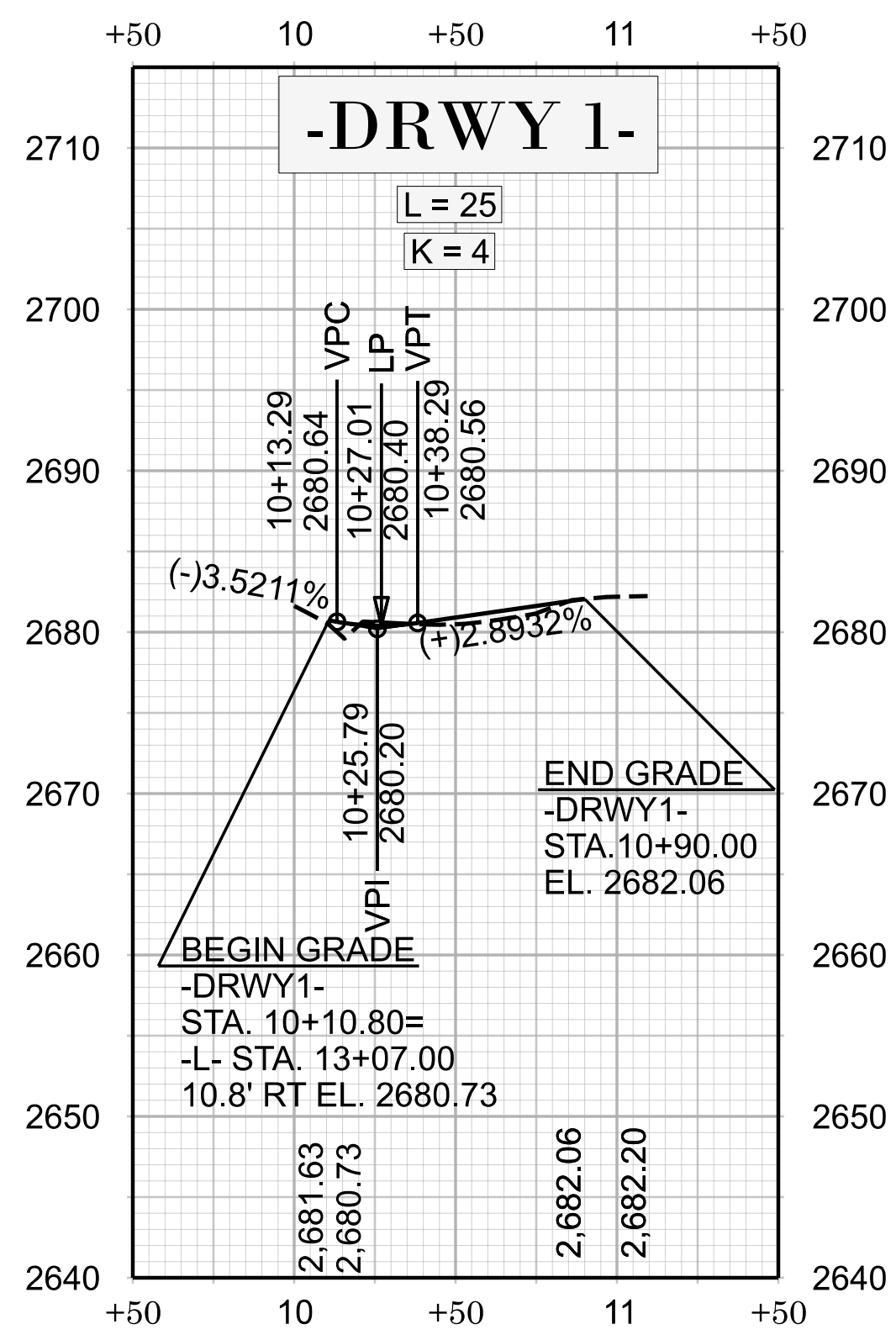


FOR -Y- PLAN, SEE SHEET 4



FOR -RAB- PLAN, SEE SHEET 4

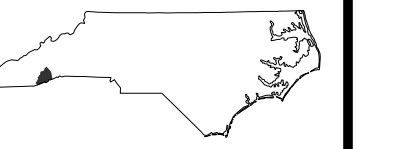
REVISIONS



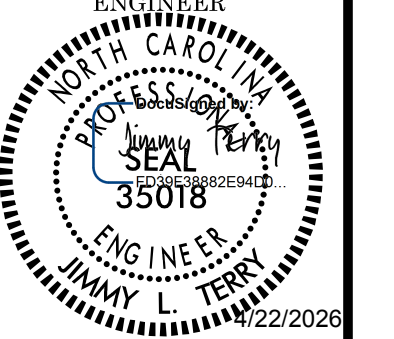
FOR -DRWY1- PLAN, SEE SHEET 4

HN-0031  
3R01 006

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
TRANSYLVANIA COUNTY

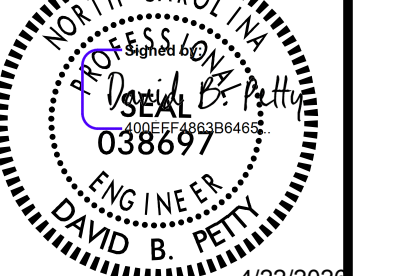


ROADWAY DESIGN UNIT  
ROADWAY DESIGN  
ENGINEER



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

HYDRAULICS  
ENGINEER



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

PREPARED BY

TGS ENGINEERS  
201 W. MAIN ST. 3RD FLOOR  
SHELY, NC 28150  
CORP. LICENSE NO. C-0279

REVISIONS

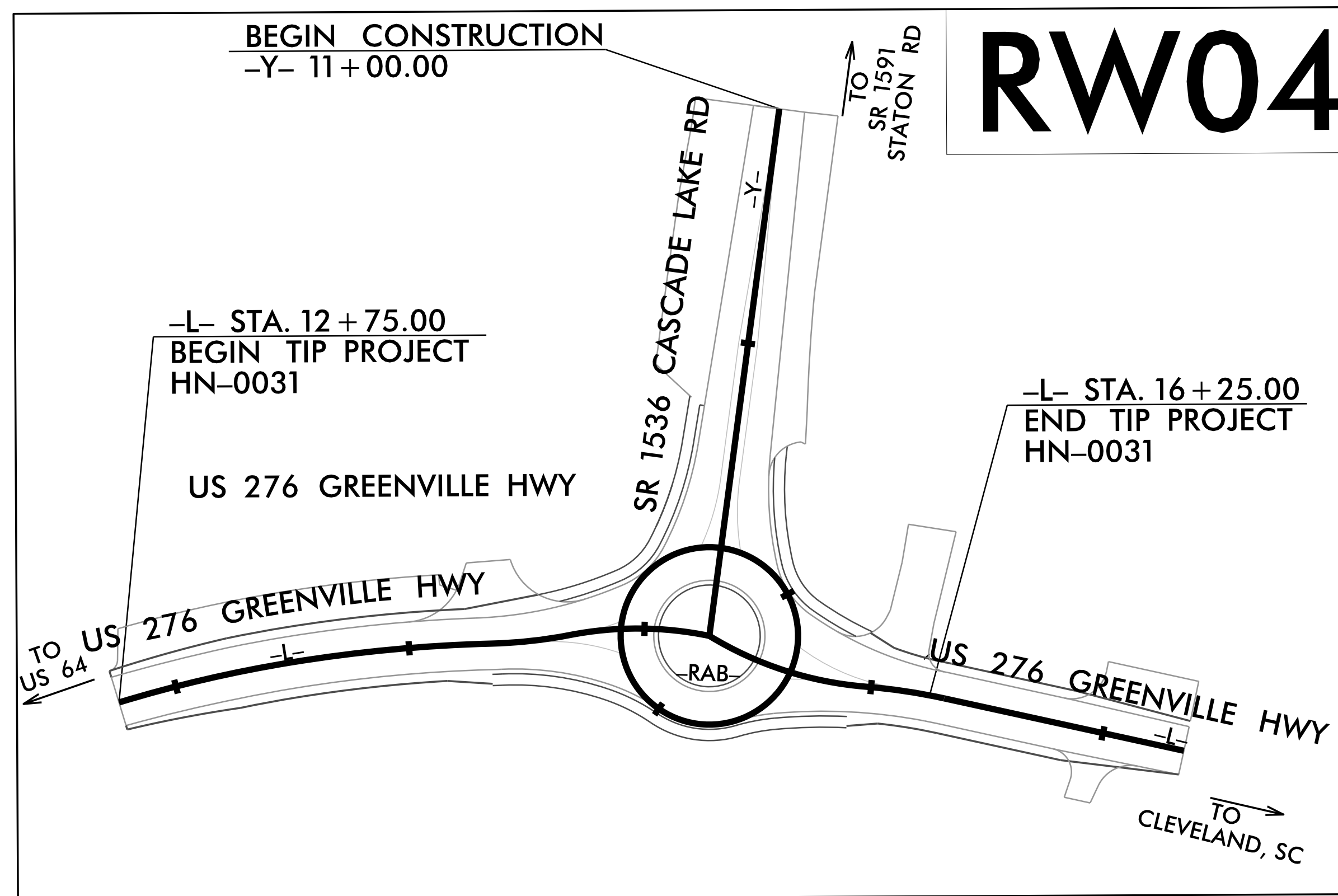
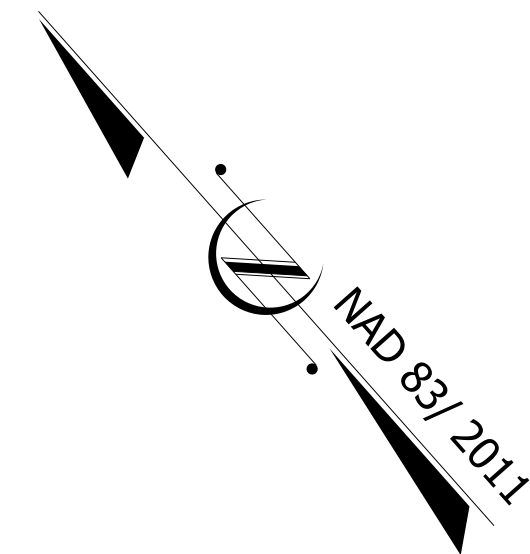
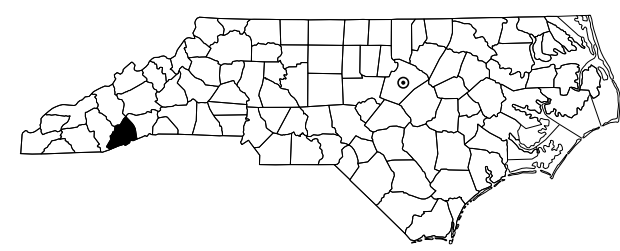
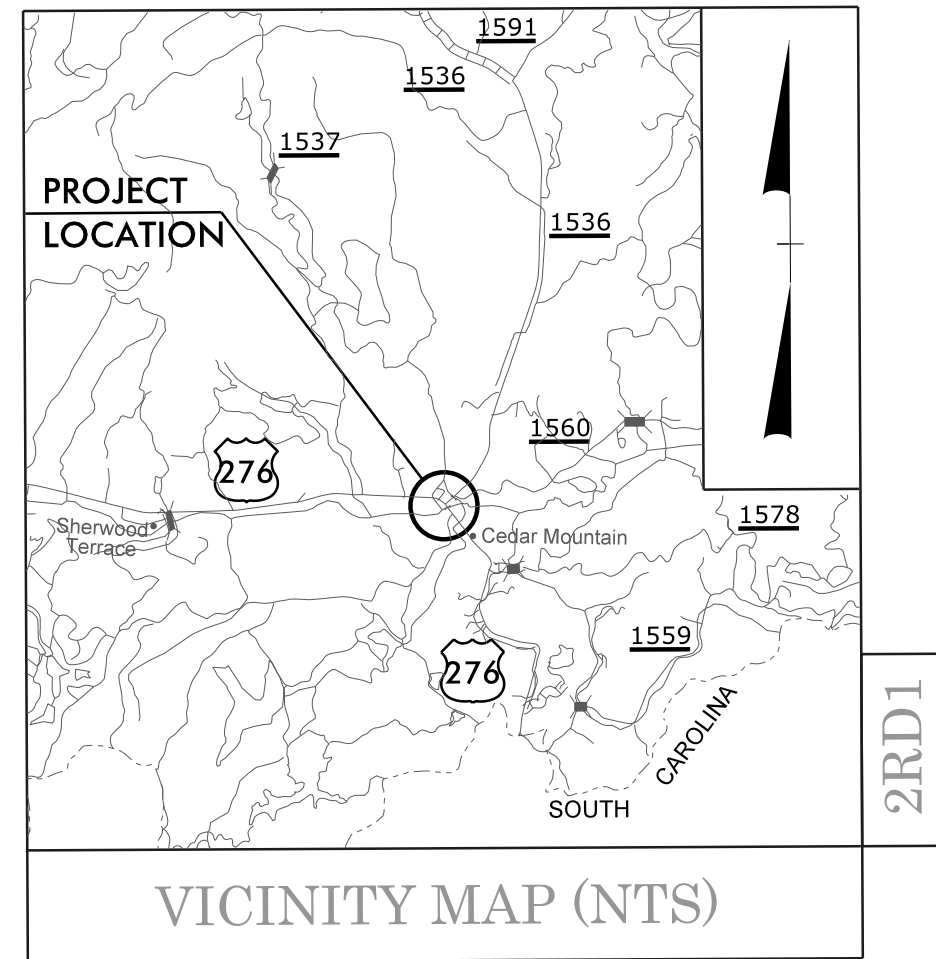
MARCH 05, 2026 - RIGHT OF WAY REVISION #1 - DRIVEWAY AND TCE ADDED TO PARCEL #3

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STATE NO.	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HN-0031	RW01	7

## SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

# TRANSYLVANIA COUNTY



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

### GRAPHIC SCALES



### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT G-102 WITH NAD83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 529,101.5070' EASTING: 909,473.9720' ELEVATION: 2,681.89'

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99975076

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

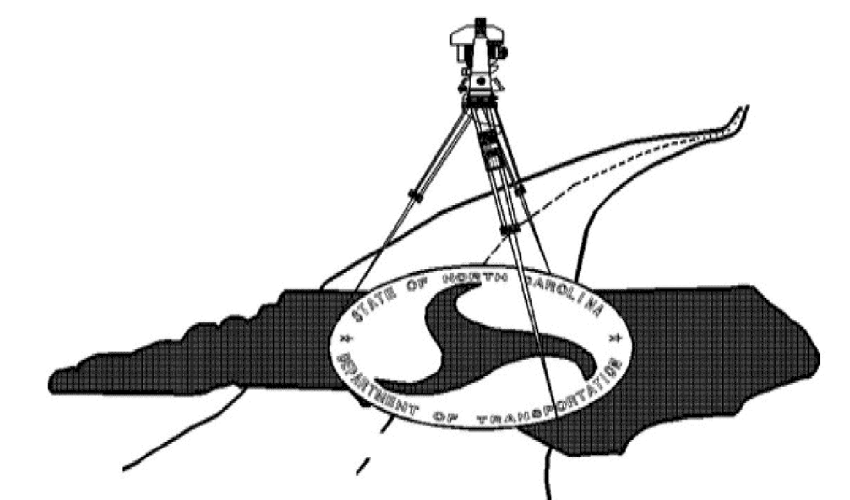
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:  
LOCATION AND SURVEYS  
DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

### PROFESSIONAL LAND SURVEYOR



Signed by: *Brian Barritt* 02/24/2026  
ASSISTANCE: \_\_\_\_\_ DATE: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_

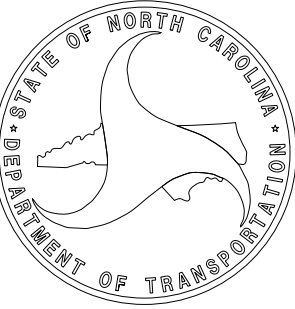


# PRIMARY SURVEY CONTROL SHEET

HN-0031

R/W 02G-1

NORTH CAROLINA  
DEPARTMENT  
OF TRANSPORTATION



PROFESSIONAL LAND  
SURVEYOR



DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL SIGNATURES  
ARE COMPLETED

2024 STANDARD  
SPECIFICATIONS

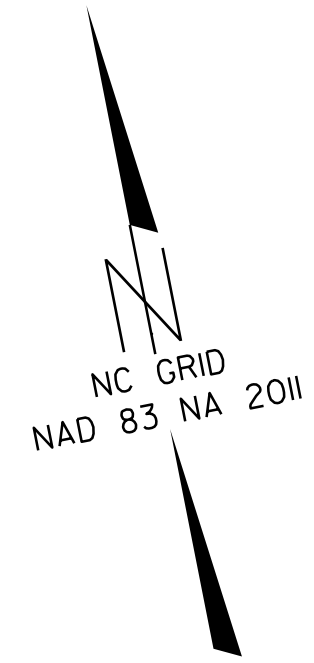
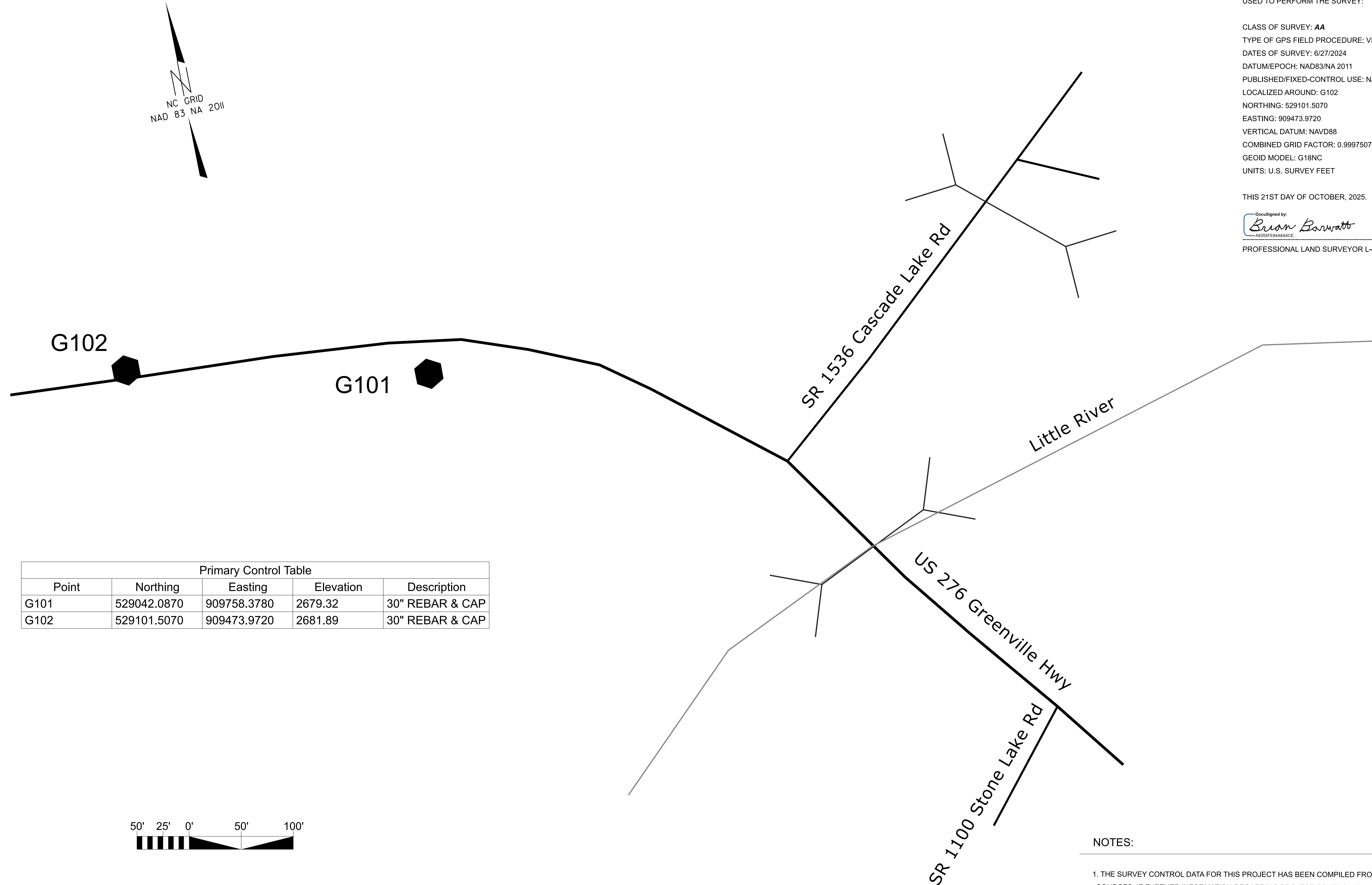
I, BRIAN BARWATT, PLS, CERTIFY THAT THE PRIMARY PROJECT CONTROL  
WAS PERFORMED UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY  
MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS  
USED TO PERFORM THE SURVEY:

CLASS OF SURVEY: AA  
TYPE OF GPS FIELD PROCEDURE: VRS  
DATES OF SURVEY: 6/27/2024  
DATUM/EPOCH: NAD83/NA 2011  
PUBLISHED/FIXED-CONTROL USE: N/A  
LOCALIZED AROUND: G102  
NORTHING: 529101.5070  
EASTING: 909473.9720  
VERTICAL DATUM: NAVD88  
COMBINED GRID FACTOR: 0.99975076  
GEOID MODEL: G18NC  
UNITS: U.S. SURVEY FEET

THIS 21ST DAY OF OCTOBER, 2025.

DocuSigned by:  
*Brian Barwatt*  
ASSURANCE

PROFESSIONAL LAND SURVEYOR L-4727



Primary Control Table				
Point	Northing	Easting	Elevation	Description
G101	529042.0870	909758.3780	2679.32	30" REBAR & CAP
G102	529101.5070	909473.9720	2681.89	30" REBAR & CAP

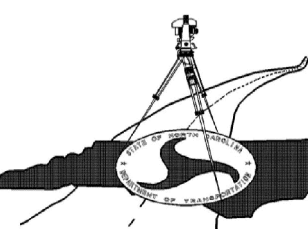


NOTES:

1. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

**TIP PROJECT: HN-0031**  
County: Transylvania

PREPARED FOR



LOCATION AND  
SURVEYS UNIT

PREPARED BY:

LOCATION AND SURVEYS  
DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

SEE SHEET RW02C-3 FOR FURTHER ALIGNMENT AND CONTROL DETAILS

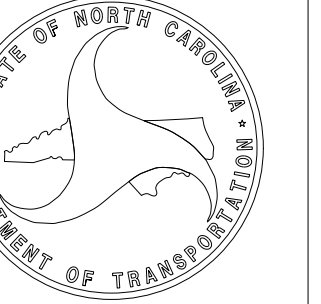
# SECONDARY SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

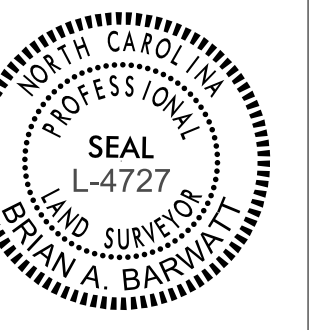
HN-0031

R/W 02C-2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION



PROFESSIONAL LAND SURVEYOR



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

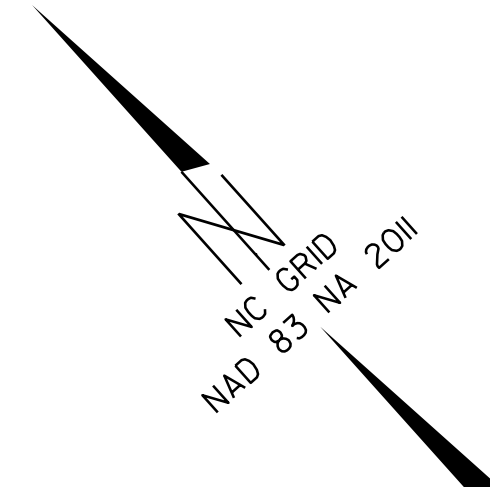
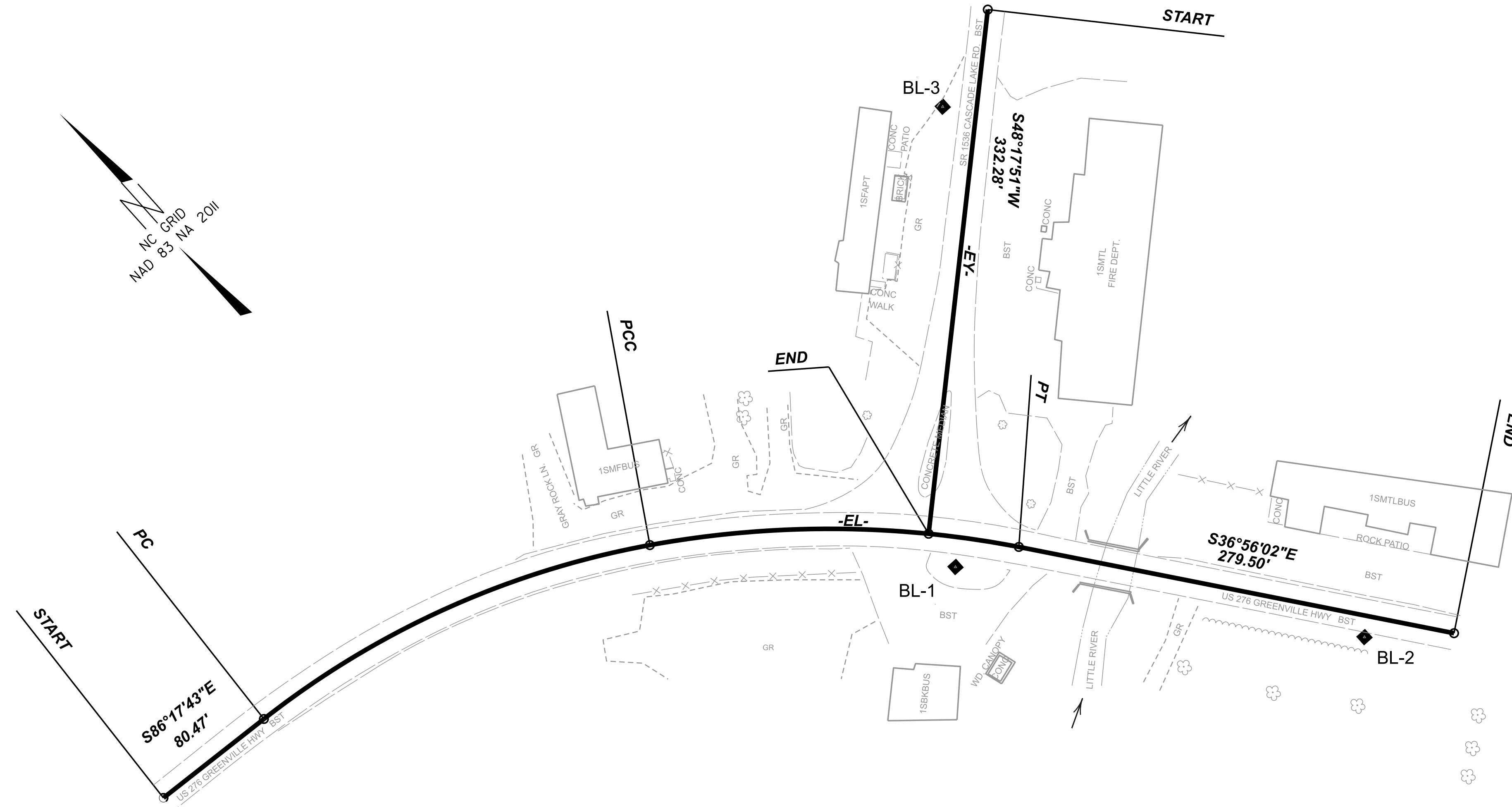
2024 STANDARD SPECIFICATIONS

I, BRIAN BARWATT, PLS, CERTIFY THAT THE SECONDARY BASELINE CONTROL FOR THIS PROJECT WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION UTILIZING PRIMARY GPS CONTROL SET BY OTHERS; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:20,000 (CLASS AA) AND VERTICAL ACCURACY TO 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED IN JUNE OF 2024, AND ALL COORDINATES ARE BASED ON NAD 83/NA 2011 AND ALL ELEVATIONS ARE BASED ON NAVD 88; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 21ST DAY OF OCTOBER, 2025.

DocuSigned by:  
*Brian Barwatt*

PROFESSIONAL LAND SURVEYOR L-4727

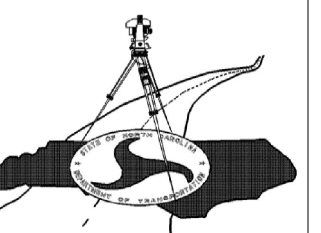


NOTES:

- 1. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

**TIP PROJECT: HN-0031**  
County: Transylvania

PREPARED FOR



LOCATION AND SURVEYS UNIT

PREPARED BY:  
LOCATION AND SURVEYS  
DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

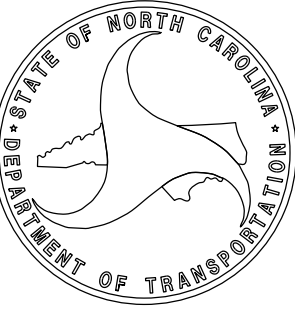
# SECONDARY SURVEY CONTROL SHEET

*W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION*

HN-0031

R/W 02C-3

NORTH CAROLINA  
DEPARTMENT  
OF TRANSPORTATION



PROFESSIONAL LAND  
SURVEYOR



DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL SIGNATURES  
ARE COMPLETED

2024 STANDARD  
SPECIFICATIONS

I, BRIAN BARWATT, PLS, CERTIFY THAT THE SECONDARY BASELINE CONTROL FOR THIS PROJECT WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION UTILIZING PRIMARY GPS CONTROL SET BY OTHERS; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:20,000 (CLASS AA) AND VERTICAL ACCURACY TO 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED JUNE OF 2024, AND ALL COORDINATES ARE BASED ON NAD 83/NA 2011 AND ALL ELEVATIONS ARE BASED ON NAVD 88; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 21ST DAY OF OCTOBER, 2025.

DocuSigned by:  
*Brian Barwatt*

PROFESSIONAL LAND SURVEYOR L-4727

Baseline Points Table				
Point	Northing	Easting	Elevation	Description
BL-1	528855.9850	910061.6230	2682.30	30" REBAR & CAP
BL-2	528651.1500	910224.0580	2682.45	30" REBAR & CAP
BL-3	529077.2970	910249.0730	2684.43	30" REBAR & CAP

EXISTING ALIGNMENT NAME:EL									
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R
START	529080.6041	909592.8984							
LINE			S86°17'42.5"E	80.4750					
PC	529075.4041	909673.2052							
CURVE					27°48'24.0" Right	10°19'24.8"	269.3513	137.3828	555.0000
PCC	528994.7210	909927.4246							
CURVE					21°33'16.1" Right	09°05'40.4"	237.0038	119.9195	630.0000
PT	528838.7403	910099.8002							
LINE			S36°56'02.5"E	279.4989					
END	528615.3291	910267.7497							

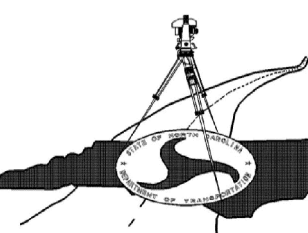
EXISTING ALIGNMENT NAME:EY									
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R
START	529103.9082	910311.0643							
LINE			S48°17'51.0"W	332.2768					
END	528882.8567	910062.9834							

**NOTES:**

1. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

**TIP PROJECT: HN-0031**  
County: Transylvania

PREPARED FOR



LOCATION AND  
SURVEYS UNIT

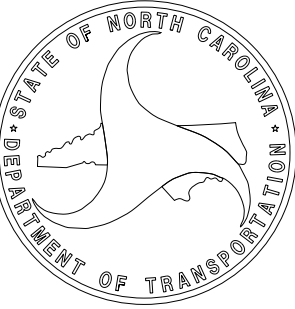
PREPARED BY:  
LOCATION AND SURVEYS  
DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

# PROPOSED ALIGNMENT CONTROL SHEET

HN-0031

R/W 020-1

NORTH CAROLINA  
DEPARTMENT  
OF TRANSPORTATION



I, BRIAN BARWATT, PLS, CERTIFY THAT THE DATA COMPILED CAME FROM AVAILABLE SURVEYS/MAPPING PERFORMED BY OTHERS AND PROVIDED TO ME BY NCDOT AND DO NOT CERTIFY TO THE ACCURACY OR QUALITY OF THE INDIVIDUAL DATA SOURCES.

THIS 24TH DAY OF FEBRUARY, 2026.

Signed by: *Brian Barwatt*

PROFESSIONAL LAND SURVEYOR L-4727

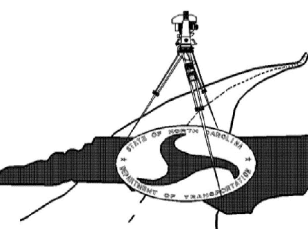
PROFESSIONAL LAND SURVEYOR



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

**TIP PROJECT: HN-0031**  
County: Transylvania

PREPARED FOR



LOCATION AND SURVEYS UNIT

PREPARED BY:  
LOCATION AND SURVEYS  
DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

PROPOSED ALIGNMENT: L												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	529080.6041	909592.8984	S86°17'42.5"E	80.4750							
PC	10+80.47	529075.4041	909673.2052	S72°23'30.6"E	266.7157	27°48'24.0"	10°19'24.8"	269.3513	137.3828	555.0000		
PCC	13+49.83	528994.7210	909927.4246	S54°37'04.0"E	85.0565	07°44'29.1"	09°05'40.4"	85.1212	42.6255	630.0000		
PRC	14+34.95	528945.4709	909996.7718	S55°30'26.4"E	33.1945	09°31'13.7"	28°38'52.4"	33.2327	16.6547	200.0000		
PRC	14+68.18	528926.6728	910024.1307	S48°55'11.7"E	59.0285	22°41'43.1"	38°11'49.9"	59.4162	30.1027	150.0000		
PRC	15+27.60	528887.8844	910068.6259	S31°15'24.1"E	69.4267	26°45'41.9"	38°11'49.9"	70.0618	35.6820	150.0000		
PRC	15+97.66	528828.5349	910104.6495	S40°47'08.8"E	33.5875	07°42'12.6"	22°55'05.9"	33.6129	16.8318	250.0000		
PT	16+31.27	528803.1038	910126.5900	S36°56'02.5"E	234.9158							
END	18+66.19	528615.3291	910267.7497									

PROPOSED ALIGNMENT: Y												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	529103.9082	910311.0643	S48°17'51.0"W	324.7193							
END	13+24.72	528887.8844	910068.6259									

**NOTES:**

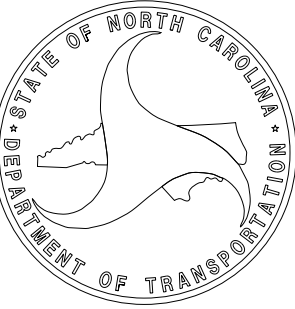
1. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

# RIGHT OF WAY CONTROL SHEET

HN-0031

R/W 03E-1

NORTH CAROLINA  
DEPARTMENT  
OF TRANSPORTATION



PROFESSIONAL LAND  
SURVEYOR



DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL SIGNATURES  
ARE COMPLETED

I, BRIAN BARWATT, PLS, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED IN DECEMBER OF 2025, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 24TH DAY OF FEBRUARY, 2026.

Signed by: *Brian Barwatt*

PROFESSIONAL LAND SURVEYOR L-4727

PERMANENT ROW MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
14+71.00	34.98	528895.2110	910008.6514
15+43.00	52.00	528852.5420	910026.5051
15+87.00	26.75	528818.9849	910077.1188

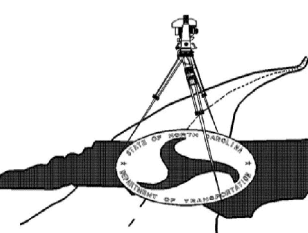
- PK NAIL SET  
- PK NAIL SET

PERMANENT EASEMENT MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
15+56.00	42.05	528841.6265	910042.9688
16+04.00	-73.15	528874.0261	910162.3791
16+11.00	51.00	528784.9512	910075.6144
16+22.00	64.00	528770.0820	910071.1869
16+22.00	-72.00	528855.7780	910176.7909
16+53.00	-95.00	528842.8204	910215.5829
16+64.00	61.00	528740.2882	910097.4976
16+85.00	30.00	528742.1300	910134.8955
16+85.00	-69.00	528801.6186	910214.0290
16+93.00	-30.00	528771.7891	910187.6624

- PK NAIL SET  
  
- PK NAIL SET

**TIP PROJECT: HN-0031**  
County: Transylvania

PREPARED FOR

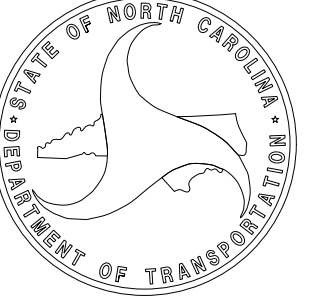


LOCATION AND  
SURVEYS UNIT

PREPARED BY:  
LOCATION AND SURVEYS  
DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

**NOTES:**

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



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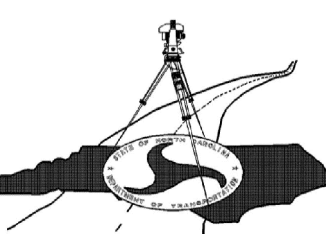
THIS 24TH DAY OF FEBRUARY, 2026.

Signed by: *Brian Barwatt*  
PROFESSIONAL LAND SURVEYOR L-4727

# TIP PROJECT: HN-0031

## County: Transylvania

PREPARED FOR

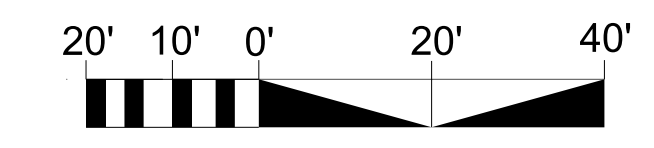
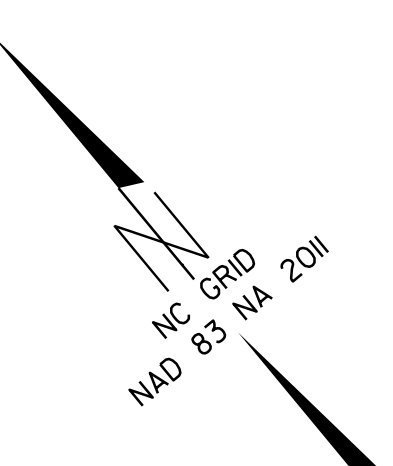
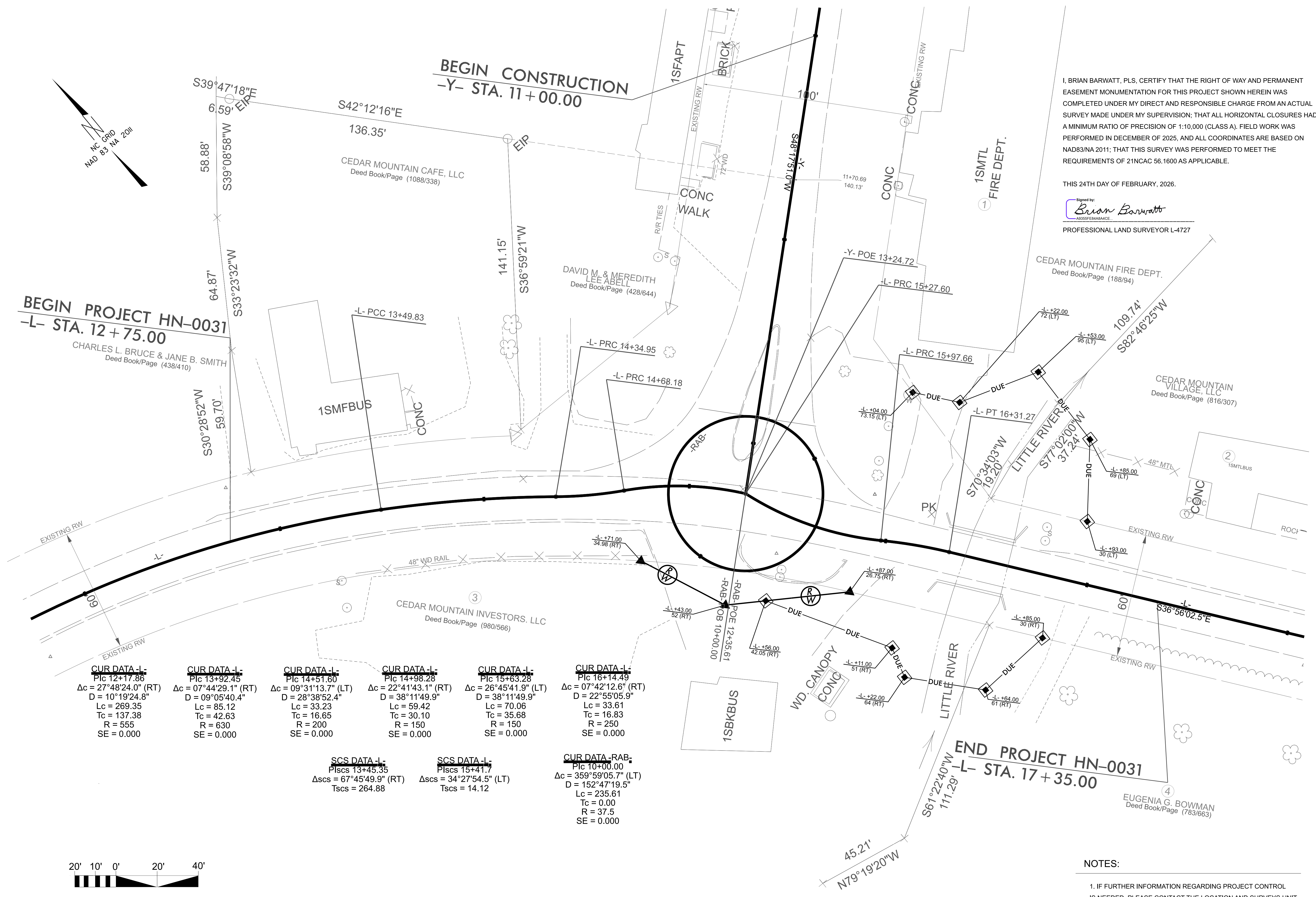


LOCATION AND SURVEYS UNIT

PREPARED BY:  
LOCATION AND SURVEYS  
DIVISION 14  
122 HONNIE LANE  
SYLVA, NC 28779

### NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



Station	Curve Data	Station	Curve Data	Station	Curve Data
Pic 12+17.86	CUR DATA -L- Δc = 27°48'24.0" (RT) D = 10°19'24.8" Lc = 269.35 Tc = 137.38 R = 555 SE = 0.000	Pic 13+92.45	CUR DATA -L- Δc = 07°44'29.1" (RT) D = 09°05'40.4" Lc = 85.12 Tc = 42.63 R = 630 SE = 0.000	Pic 14+51.60	CUR DATA -L- Δc = 09°31'13.7" (LT) D = 28°38'52.4" Lc = 33.23 Tc = 16.65 R = 200 SE = 0.000
Pic 14+98.28	CUR DATA -L- Δc = 22°41'43.1" (RT) D = 38°11'49.9" Lc = 59.42 Tc = 30.10 R = 150 SE = 0.000	Pic 15+63.28	CUR DATA -L- Δc = 26°45'41.9" (LT) D = 38°11'49.9" Lc = 70.06 Tc = 35.68 R = 150 SE = 0.000	Pic 16+14.49	CUR DATA -L- Δc = 07°42'12.6" (RT) D = 22°55'05.9" Lc = 33.61 Tc = 16.83 R = 250 SE = 0.000
Pic 10+00.00	SCS DATA -L- Piscs 13+45.35 Δscs = 67°45'49.9" (RT) Tscs = 264.88	Pic 15+41.7	SCS DATA -L- Piscs 15+41.7 Δscs = 34°27'54.5" (LT) Tscs = 14.12	Pic 10+00.00	CUR DATA -RAB- Pisc 10+00.00 Δc = 359°59'05.7" (LT) D = 152°47'19.5" Lc = 235.61 Tc = 0.00 R = 37.5 SE = 0.000

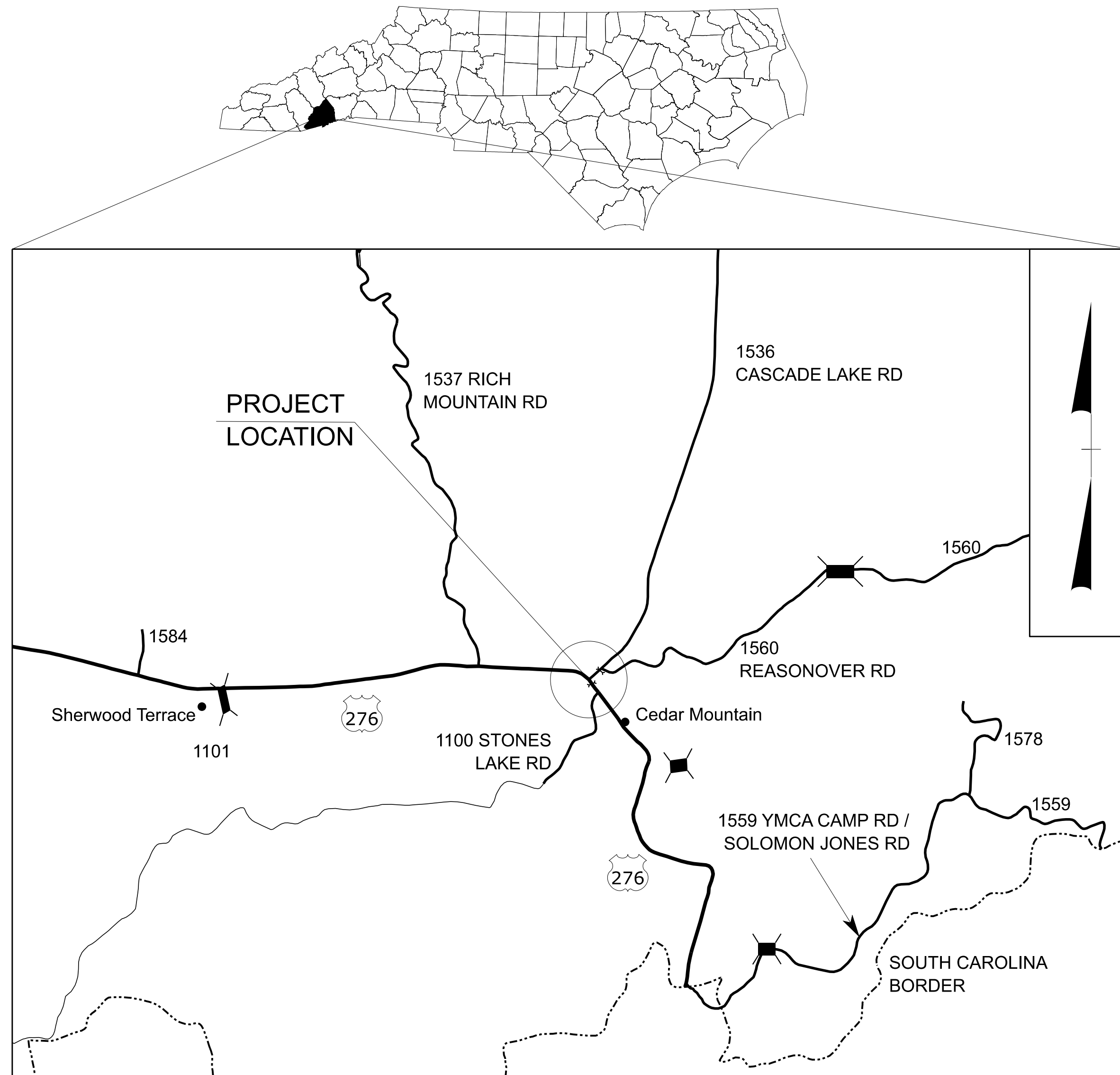
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

TRANSYLVANIA COUNTY

LOCATION: *US 276 AT SR 1536 (CASCADE LAKE RD)*

TYPE OF WORK: *GRADING, PAVING, DRAINAGE, & CULVERT*



VICINITY MAP

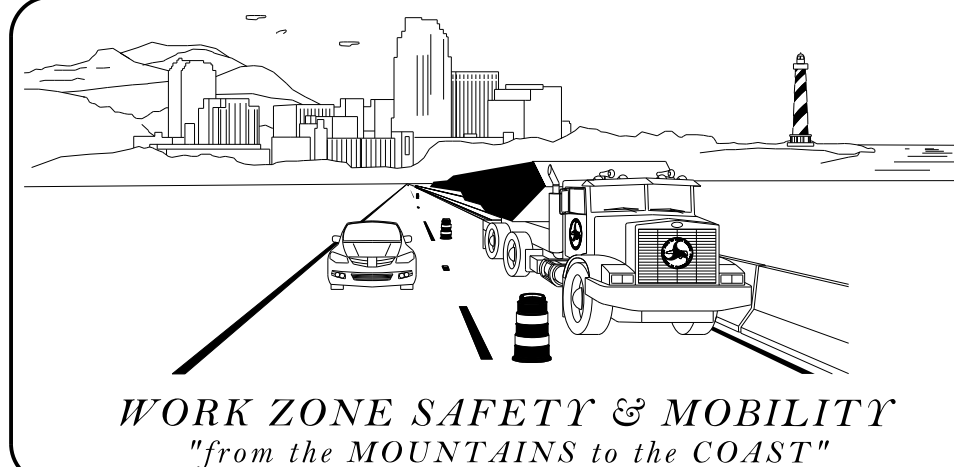
INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)
TMP-2	TEMPORARY TRAFFIC CONTROL PHASING
TMP-3	TEMPORARY TRAFFIC CONTROL PHASE I
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE II
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE III
TMP-6	TEMPORARY TRAFFIC CONTROL PHASE IV

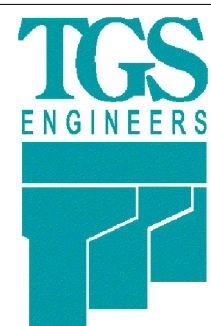
SHEET NO.

TMP-1

3/9/2026  
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User:jjlaplan



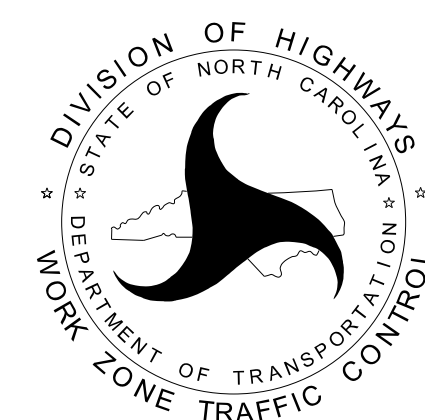
PLANS PREPARED FOR N.C.D.O.T. BY: **TGS ENGINEERS**



TGS ENGINEERS  
706 HILLSBOROUGH ST. SUITE 200  
RALEIGH, NC 27603  
PH (919) 773-8887  
CORP. LICENSE NO.: C-0275

DON A. PARKER, P.E.  
PROJECT ENGINEER

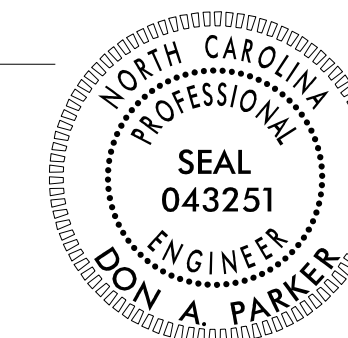
JAMES J. LAPLANTE, E.I.  
DESIGN ENGINEER



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

APPROVED: 

DATE: 4/22/2026



TIP PROJECT: HN-0031



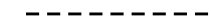


## ROADWAY STANDARD DRAWINGS



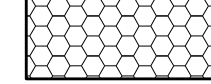
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS (SEE PMP-1B FOR DETAIL IN LIEU OF STANDARDS 1205D01 SHEET 1 OF 2)
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING








## LEGEND

### GENERAL




-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.

-  WORK AREA
-  REMOVAL
-  TEMPORARY PAVEMENT

### TRAFFIC CONTROL DEVICES

-  BARRICADE (TYPE III)
-  CONE
-  DRUM
-  SKINNY DRUM
-  TUBULAR MARKER
-  TEMPORARY CRASH CUSHION
-  FLAGGER

### TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

### SIGNALS

-  EXISTING
-  PROPOSED
-  PORTABLE

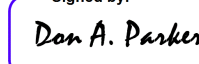
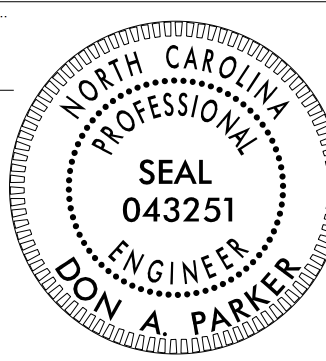
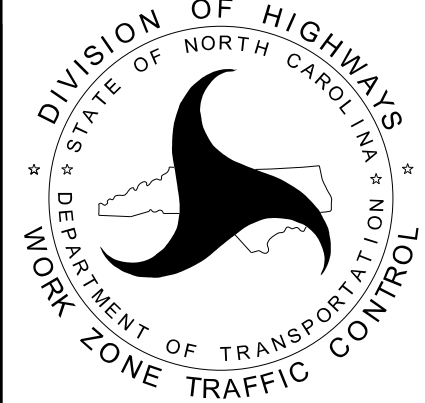
### PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

### TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
P1	WHITE EDGELINE (4")
P5	2 FT. - 6 FT./SP WHITE MINISKIP (4")
P13	YELLOW DOUBLE CENTER (4")
P61	WHITE STOPBAR (24")

3/9/2026  
 X:\NCDOT\HN-0031\Cedar Mtn RAB\Work Zone Traffic Control\Design\HN-0031\_TC\_TMP\_01A.dgn  
 User: jlapante

APPROVED:  DATE: 4/22/2026			<h2>ROADWAY STANDARD DRAWINGS &amp; LEGEND</h2>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			

## 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 UNDESIREED 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.

- A) 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

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

- E) 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.
- F) 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

- G) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 350 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

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

### SIGNING

- I) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- K) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 50 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

### TRAFFIC BARRIER

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

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

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

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

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

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

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

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

### TRAFFIC CONTROL DEVICES

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

### PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	NONE

- P) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- Q) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- R) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

## MANAGEMENT STRATEGIES

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

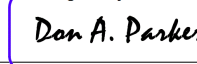
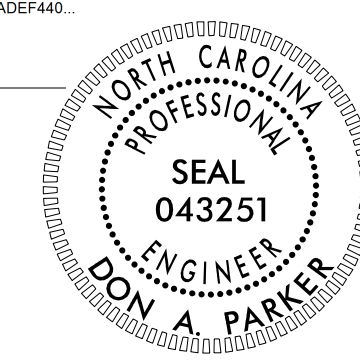
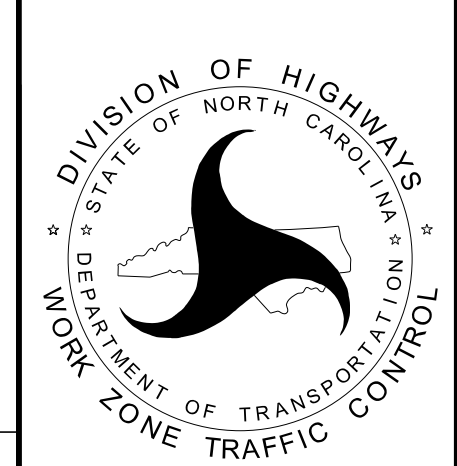
RECOMMENDED STRATEGIES:


- TRAFFIC MANAGEMENT STRATEGIES:
  - LANE SHIFTS OR CLOSURES
  - ONE-LANE, TWO WAY OPERATION (FLAGGING)
  - ONE-LANE, TWO WAY OPERATION (SIGNALIZED)
- WORK ZONE SAFETY & MOBILITY STRATEGIES:
  - TEMPORARY TRAFFIC SIGNALS

## LOCAL NOTES

- 1. THE TEMPORARY PORTABLE TRAFFIC SIGNAL SYSTEM SHALL BE ACTUATED, NOT PRETIMED. THE SIGNALS ARE TO REST IN ALL RED UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

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APPROVED:  DATE: 4/22/2026 		<h1 style="margin: 0;">TRANSPORTATION OPERATIONS PLAN</h1>
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

PROJ. REFERENCE NO.	SHEET NO.
HN-0031	TMP-2
 TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

NOTES:

- FOR FLAGGING OPERATIONS, SEE RSD 1101.02.
- MAINTAIN ACCESS TO ALL RESIDENCES, BUSINESS, AND EMERGENCY SERVICES.
- CONDUCT OPERATIONS IN A MANNER THAT DOES NOT POND WATER.

## PHASING

PHASE I

STEP 1 — INSTALL ADVANCE WARNING SIGNS (SEE RSD 1101.01 AND TMP-4.) COVER SIGNS PERTAINING TO TEMPORARY PORTABLE SIGNAL.

STEP 2 — USE FLAGGERS TO PERFORM THE FOLLOWING (SEE TMP-3):

- A. INSTALL PROPOSED DRAINAGE SYSTEM 401 THRU 405. STRUCTURES 402 AND 403 SHALL BE PRE-FABRICATED, TRAFFIC BEARING AND INSTALLED TO A TEMPORARY ELEVATION. COVER WITH STEEL PLATE, BACKFILL, AND PAVE.
- B. INSTALL PROPOSED DRAINAGE SYSTEM 406 THRU 408.
- C. PAVE SHOULDERS FROM -L- STA. 12+75 +/- TO -L- STA. 14+58 +/- (LT) AND -L- STA. 12+75 +/- TO -L- STA. 14+25 +/- (RT) UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT. PERFORM LEFT SIDE PAVING DURING NON-OPERATING HOURS OF CEDAR MOUNTAIN CAFÉ UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- D. INSTALL TEMPORARY PAVEMENT FROM EDGE AND ELEVATION OF EXISTING PAVEMENT FROM -L- STA. 14+58 +/- TO -Y- STA. 13+02 +/- AND FROM -Y- STA 12+75 +/- TO -L- STA. 16+00 +/- TO ACCOMODATE UPCOMING PHASE II TRAFFIC PATTERN.
- E. REMOVE AND PATCH EXISTING CONCRETE ISLAND UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT.

STEP 3 — MOBILIZE TEMPORARY PORTABLE SIGNAL SYSTEM FOR PHASE II PATTERN WITH HEADS COVERED (SEE SPECIAL PROVISION AND LOCAL NOTE 1).

PHASE II

STEP 1 — USING FLAGGERS, INSTALL TEMPORARY PAVEMENT MARKINGS IN THE PHASE II PATTERN. UNCOVER SIGNAL WARNING SIGNS, ACTIVATE TEMPORARY SIGNAL AND SHIFT TRAFFIC TO THE PHASE II TRAFFIC PATTERN (SEE TMP-4).

STEP 2 — USING FLAGGERS, INSTALL PCB (ANCHORED) AND CRASH CUSHIONS FROM -L- STA. 15+96 +/- TO -L- STA. 16+87 +/-.

STEP 3 — BEHIND ANCHORED PCB, CONSTRUCT THE RIGHT-SIDE CULVERT EXTENSION.

STEP 4 — AWAY FROM TRAFFIC AND USING FLAGGERS AS NECESSARY CONSTRUCT:

- A. RIGHT SIDE WIDENING CURB AND PAVED SHOULDER UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA. 14+25 +/- TO -L- STA. 17+35 +/- . (SEE TMP-4).
- B. SOUTHERN HALF OF CENTER ISLAND AND BOTH SPLITTER ISLANDS ON US 276.

PHASE III

STEP 1 — USING FLAGGERS, REMOVE ANCHORED PCB.

STEP 2 — USING FLAGGERS, INSTALL TEMPORARY PHASE III MARKINGS AND SHIFT TRAFFIC TO THE PHASE III PATTERN (SEE TMP-5).

STEP 3 — USING FLAGGERS, RESET ANCHORED PCB TO -L- STA. 16+04 +/- TO -L- STA. 16+95 +/- (SEE TMP-5).

STEP 4 — BEHIND ANCHORED PCB, CONSTRUCT THE LEFT-SIDE CULVERT EXTENSION.

STEP 5 — AWAY FROM TRAFFIC AND USING FLAGGERS AS NECESSARY, CONSTRUCT THE FOLLOWING (SEE TMP-5):

- A. COMPLETE AND MAKE FUNCTIONAL DRAINAGE STRUCTURE 403.
- B. REMOVE TEMPORARY PAVEMENT AND CONSTRUCT CURB AND SHOULDER PAVING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COUSE FROM -Y-STA. 12+40 +/- TO -L- STA. 16+60 +/-.
- C. CONSTRUCT NE QUADRANT OF CENTER ISLAND AND SPLITTER ISLAND ON CASCADE LAKE RD.

PHASE IV

STEP 1 — USING FLAGGERS, REMOVE ANCHORED PCB.

STEP 2 — USING FLAGGERS, INSTALL TEMPORARY PHASE IV MARKINGS AND SHIFT TRAFFIC TO THE PHASE IV PATTERN (SEE TMP-6).

STEP 3 — AWAY FROM TRAFFIC AND USING FLAGGERS AS NECESSARY, CONSTRUCT THE FOLLOWING (SEE TMP-6):

- A. COMPLETE AND MAKE FUNCTIONAL DRAINAGE STRUCTURE 402.
- B. REMOVE TEMPORARY PAVEMENT AND CONSTRUCT CURB AND SHOULDER PAVING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COUSE FROM -Y-STA. 12+25 +/- TO -L- STA. 14+58 +/-.
- C. CONSTRUCT NW QUADRANT OF CENTER ISLAND.

STEP 4 — INSTALL AND COVER PROPOSED SIGNING FOR ROUNDABOUT PATTERN (SEE SIGNING PLAN).

PHASE V

STEP 1 -- WORK IN A CONTINUOUS MANNER TO COMPLETE THE FOLLOWING IN A SINGLE WORK PERIOD:

- A. COVER OR REMOVE SIGNAL WARNING SIGNS AND REMOVE TEMPORARY PORTABLE SIGNAL SYSTEM.
- B. USING FLAGGERS AND RSD 1101.02, SHEET 18, INSTALL TEMPORARY PAINT MARKINGS IN THE FINAL PATTERN (SEE FINAL PMP).
- C. UNCOVER PROPOSED SIGNING AND SHIFT TRAFFIC INTO THE FINAL PATTERN.

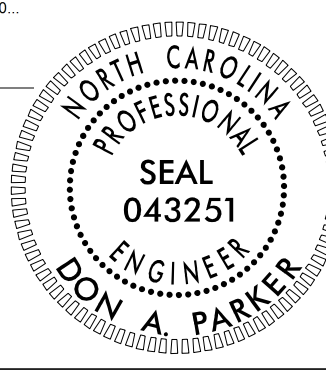
STEP 2 — USING FLAGGERS AND RSD 1101.02, SHEET 18, COMPLETE PAVING AND INSTALL FINAL PAVEMENT MARKINGS (SEE FINAL PMP).

STEP 3 – REMOVE ALL TRAFFIC CONTROL DEVICES.

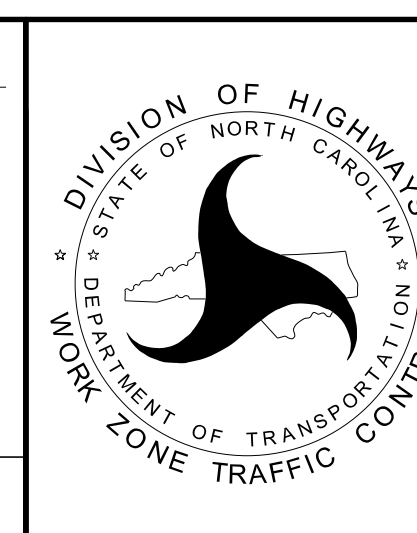
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APPROVED: Don A. Parker  
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DATE: 4/22/2026



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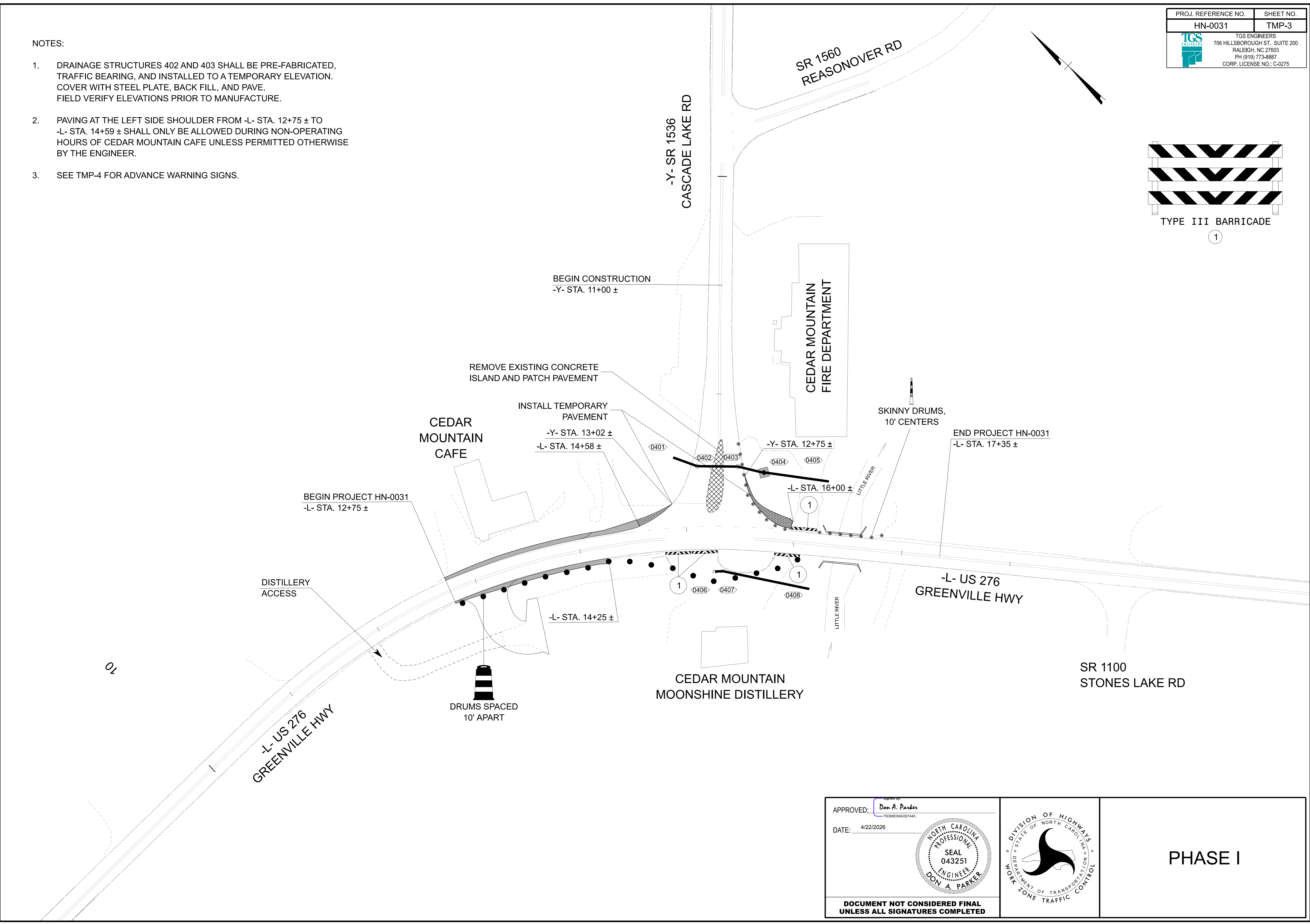
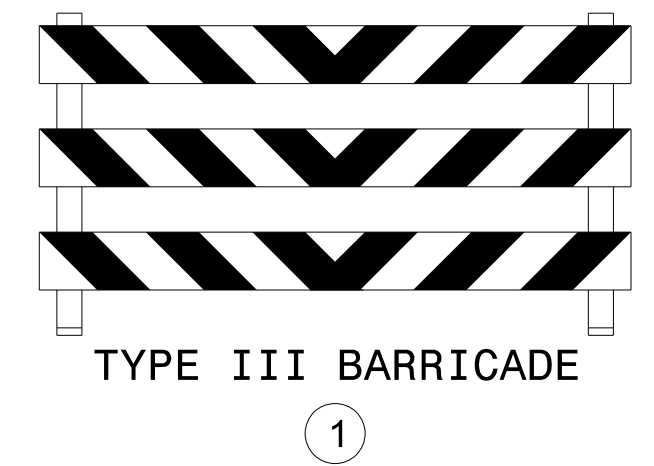
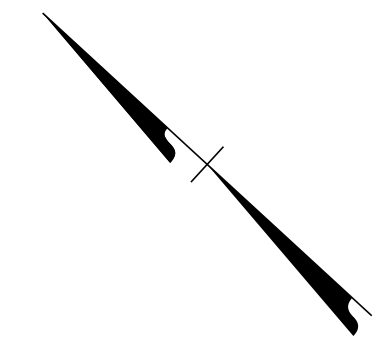


**PHASING**

PROJ. REFERENCE NO. HN-0031	SHEET NO. TMP-3
 TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

NOTES:

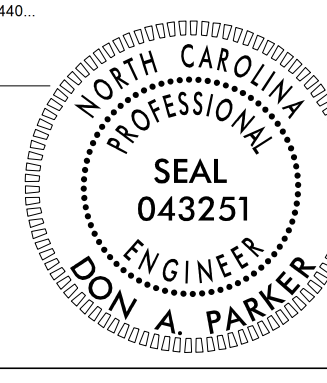
1. DRAINAGE STRUCTURES 402 AND 403 SHALL BE PRE-FABRICATED, TRAFFIC BEARING, AND INSTALLED TO A TEMPORARY ELEVATION. COVER WITH STEEL PLATE, BACK FILL, AND PAVE. FIELD VERIFY ELEVATIONS PRIOR TO MANUFACTURE.
2. PAVING AT THE LEFT SIDE SHOULDER FROM -L- STA. 12+75 ± TO -L- STA. 14+59 ± SHALL ONLY BE ALLOWED DURING NON-OPERATING HOURS OF CEDAR MOUNTAIN CAFE UNLESS PERMITTED OTHERWISE BY THE ENGINEER.
3. SEE TMP-4 FOR ADVANCE WARNING SIGNS.



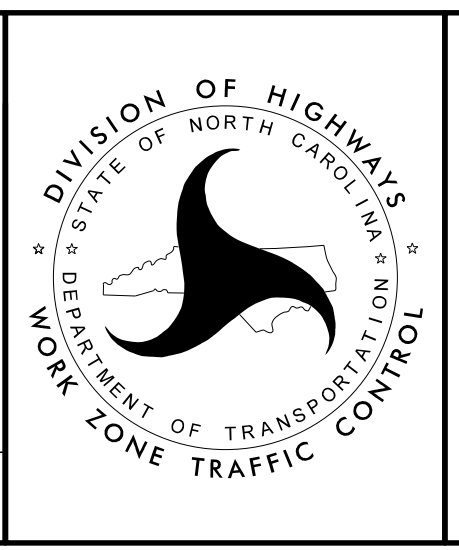
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APPROVED: *Don A. Parker*  
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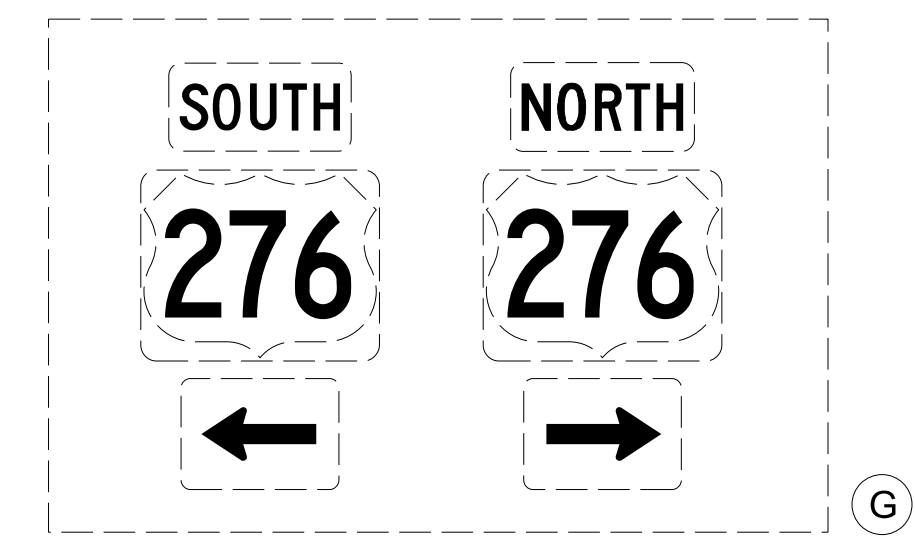
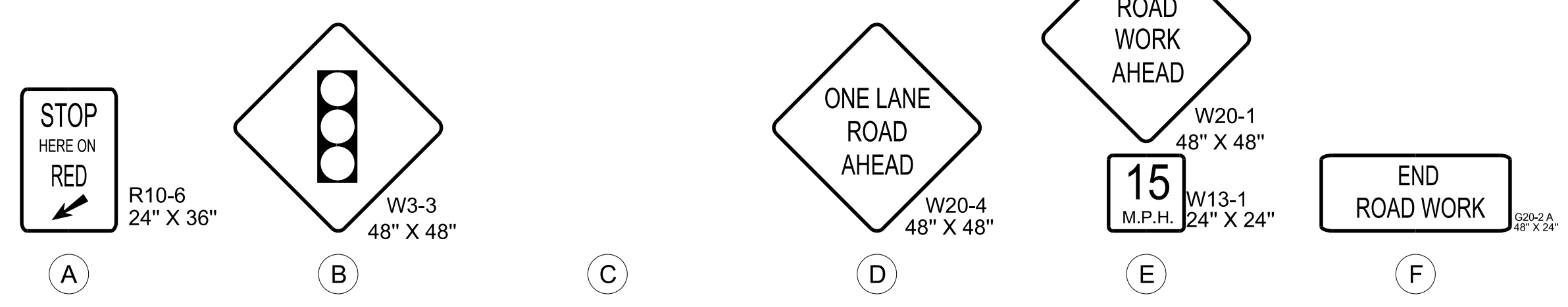
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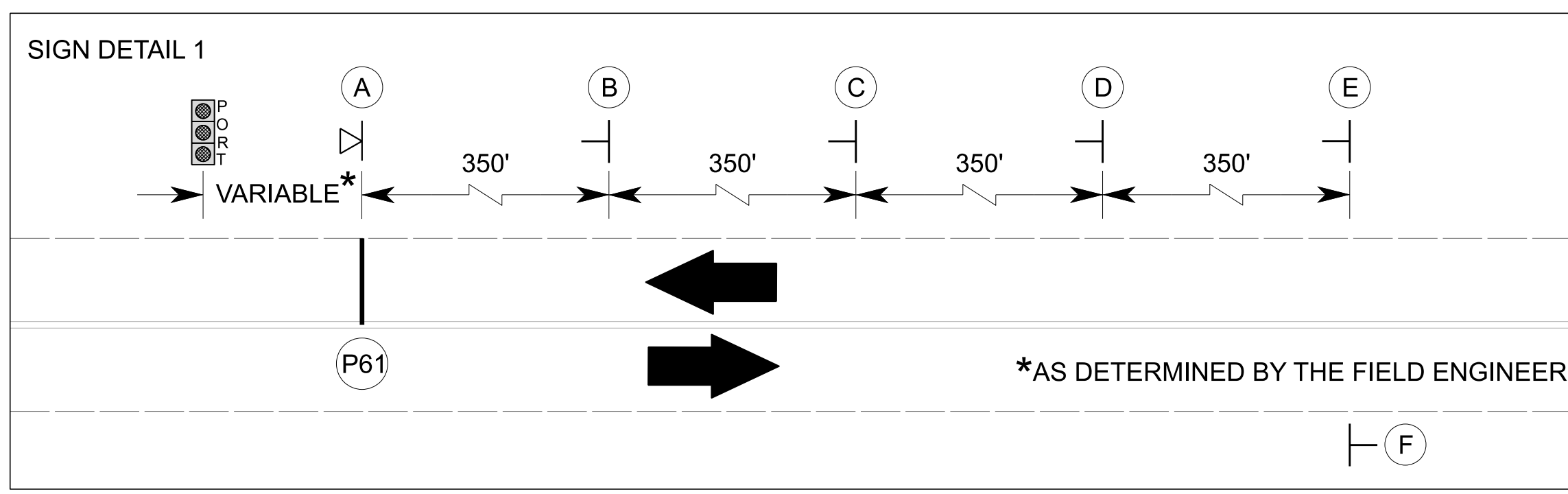
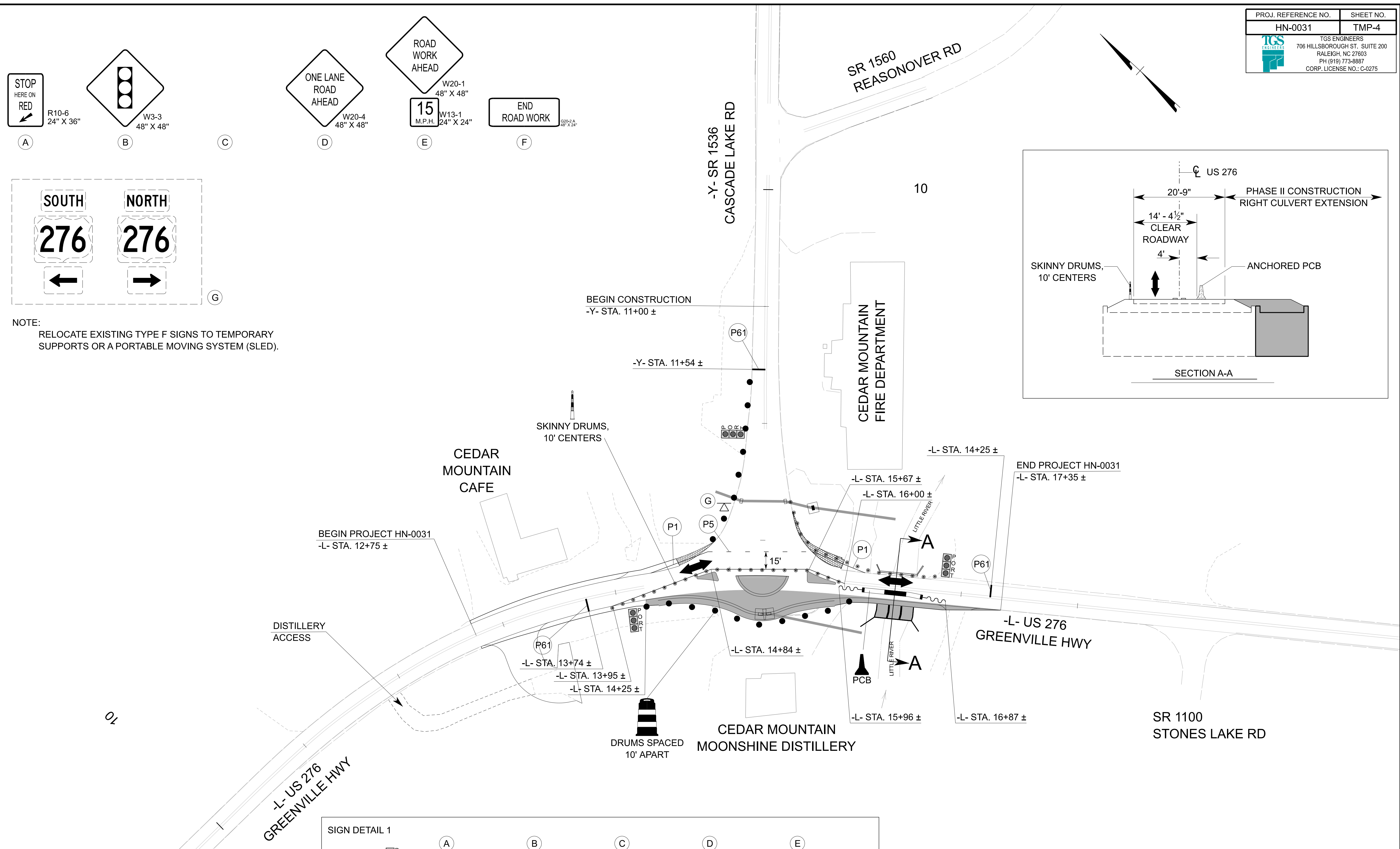
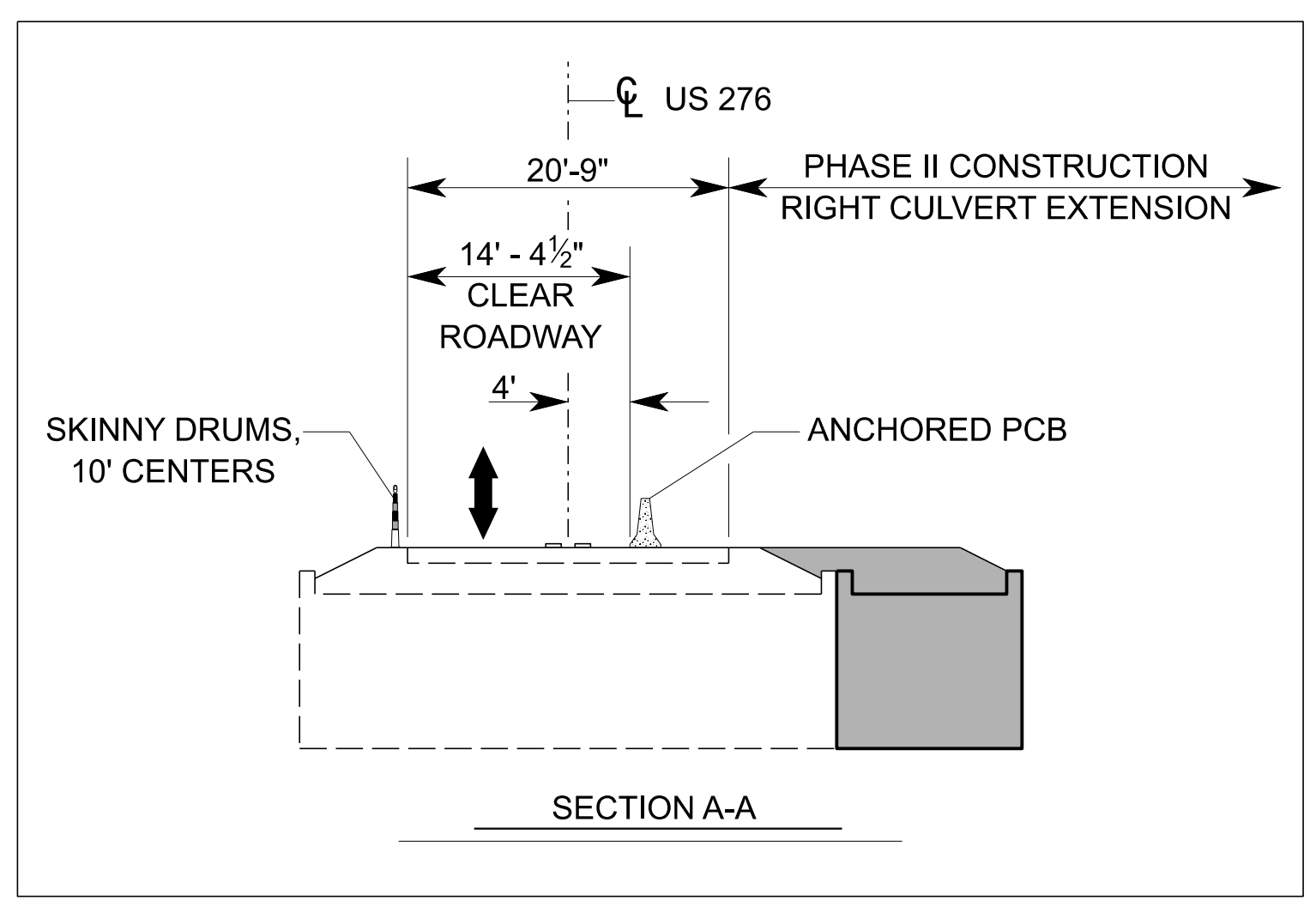
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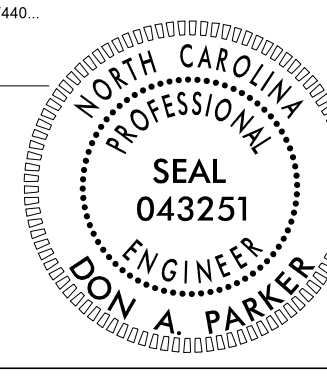
PHASE I

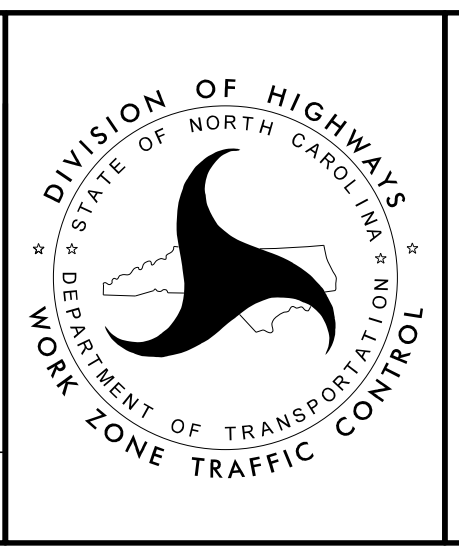


NOTE:  
RELOCATE EXISTING TYPE F SIGNS TO TEMPORARY SUPPORTS OR A PORTABLE MOVING SYSTEM (SLED).



NOTES: ADJUST SIGNAL HEADS AS NECESSARY TO MAKE VISIBLE FROM DRIVEWAYS

APPROVED: *Don A. Parker*  
 DATE: 4/22/2026  


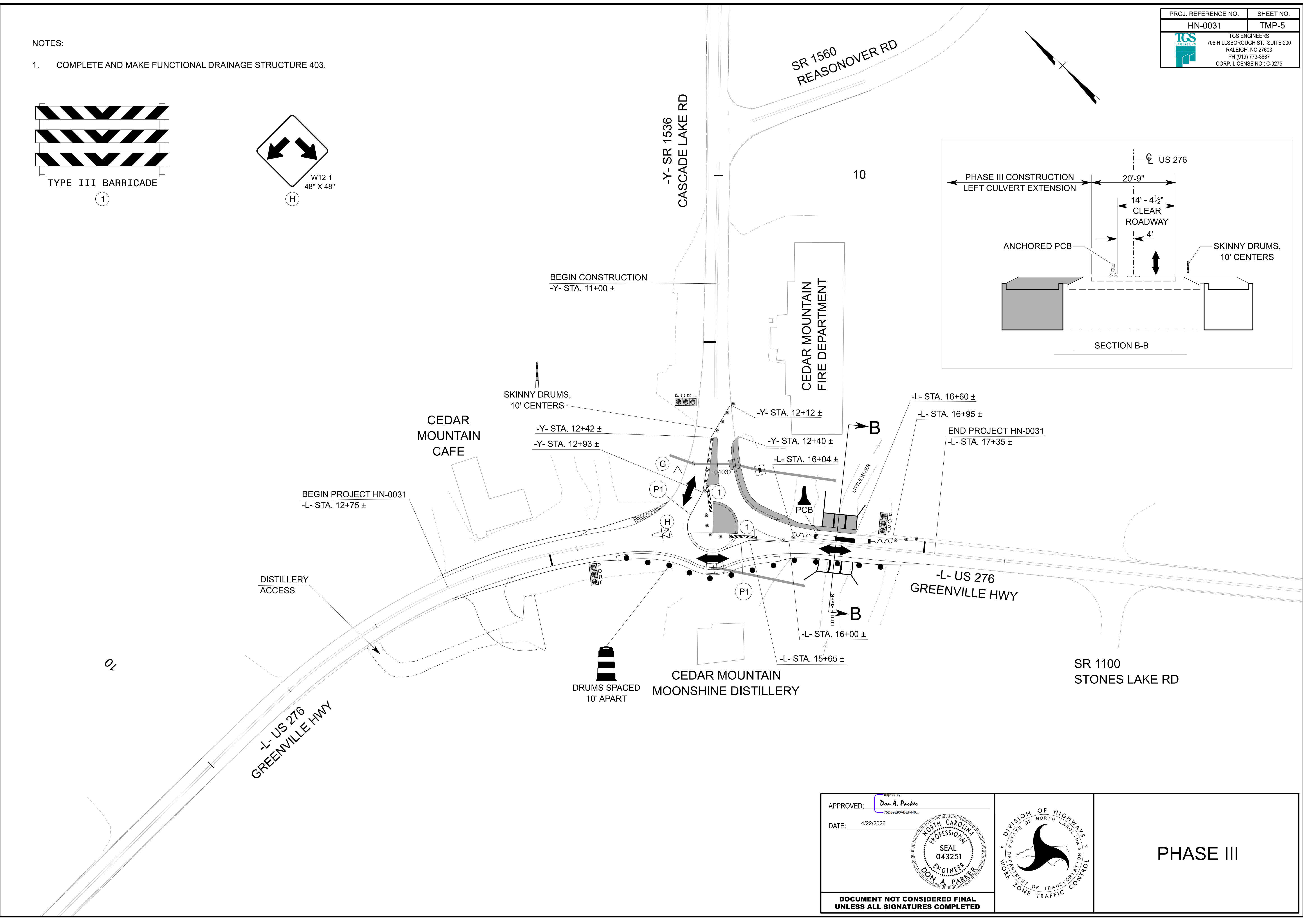
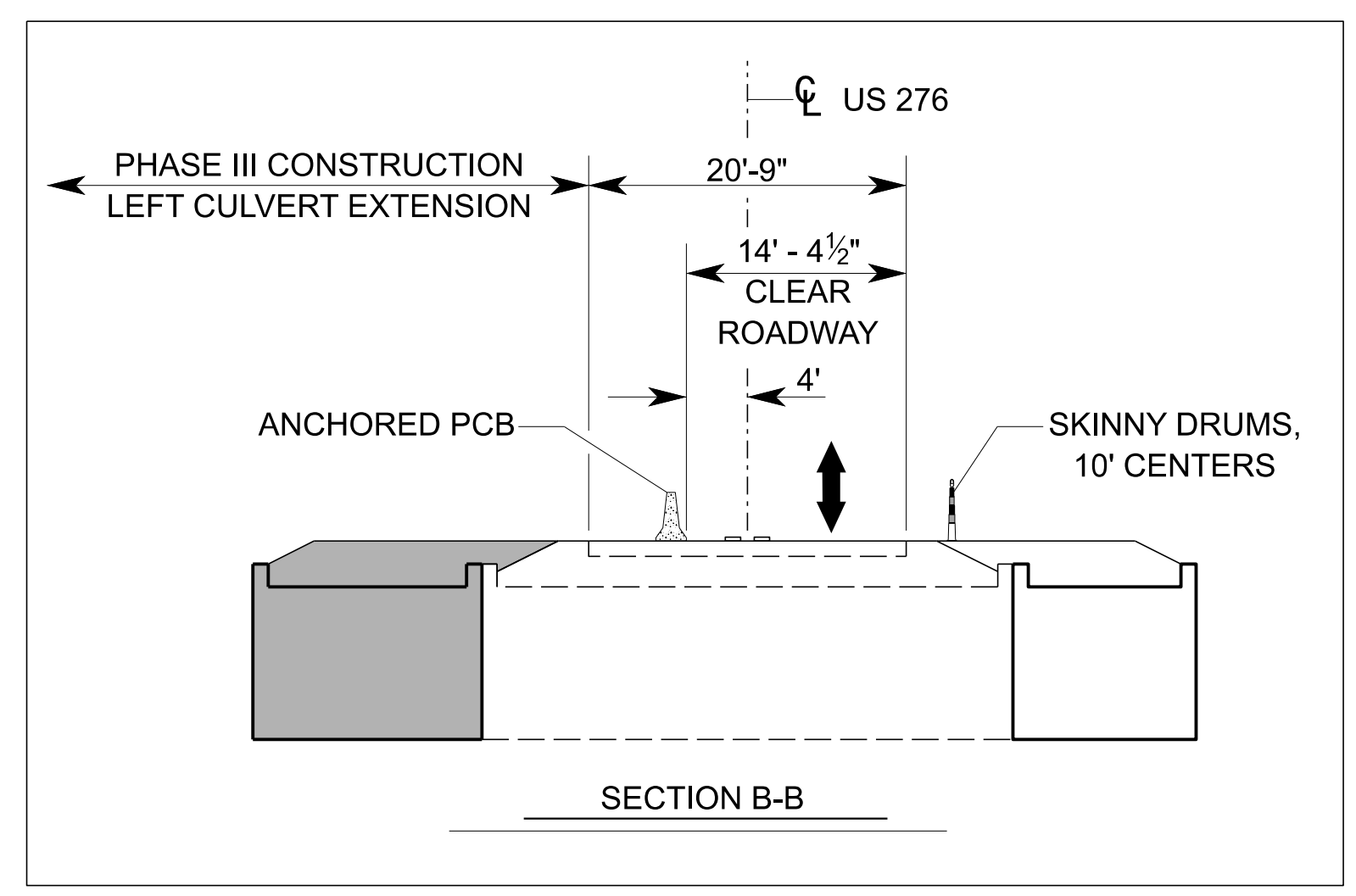
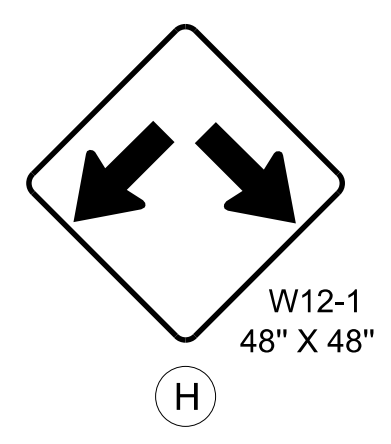
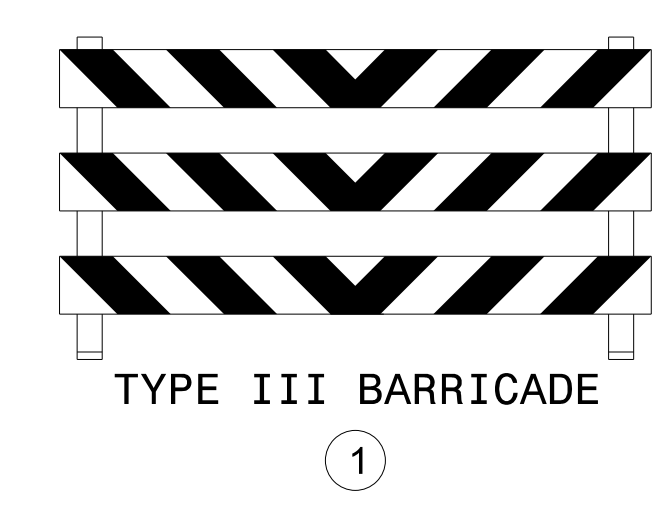


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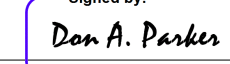
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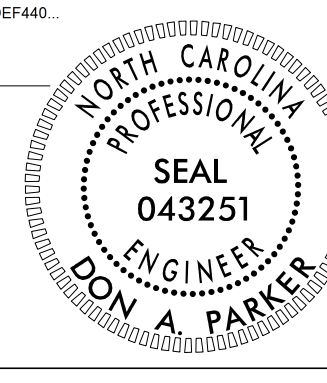
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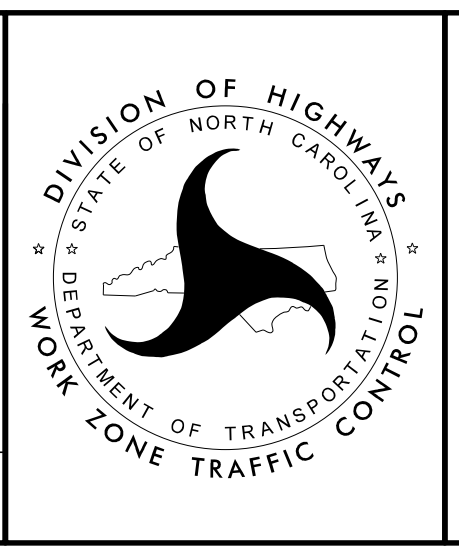


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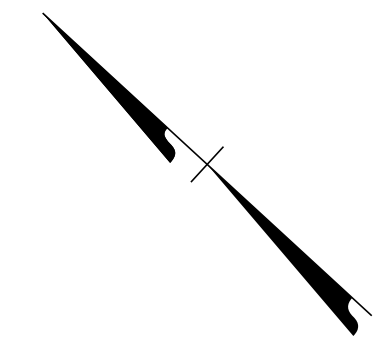
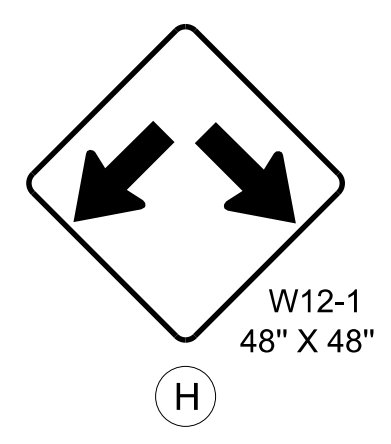
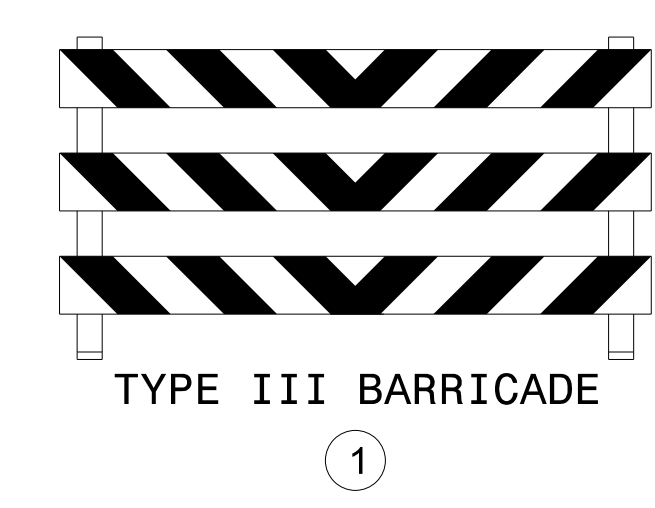
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PHASE III

NOTES:

1. COMPLETE AND MAKE FUNCTIONAL DRAINAGE STRUCTURE 402.



10

L- US 276  
GREENVILLE HWY

DISTILLERY  
ACCESS

BEGIN PROJECT HN-0031  
-L- STA. 12+75 ±

CEDAR  
MOUNTAIN  
CAFE

-L- STA. 14+30 ±

-Y- STA. 12+42 ±

-Y- STA. 12+25 ±

-Y- STA. 12+05 ±

BEGIN CONSTRUCTION  
-Y- STA. 11+00 ±

-L- STA. 14+94 ±

DRUMS SPACED  
10' APART

CEDAR MOUNTAIN  
MOONSHINE DISTILLERY

P1

G

H

P1

-Y- STA. 13+00 ±

CEDAR MOUNTAIN  
FIRE DEPARTMENT

10

SR 1560  
REASONOVER RD

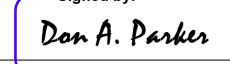
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CASCADE LAKE RD

-L- US 276  
GREENVILLE HWY

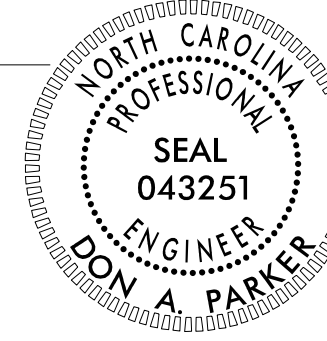
END PROJECT HN-0031  
-L- STA. 17+35 ±

SR 1100  
STONES LAKE RD

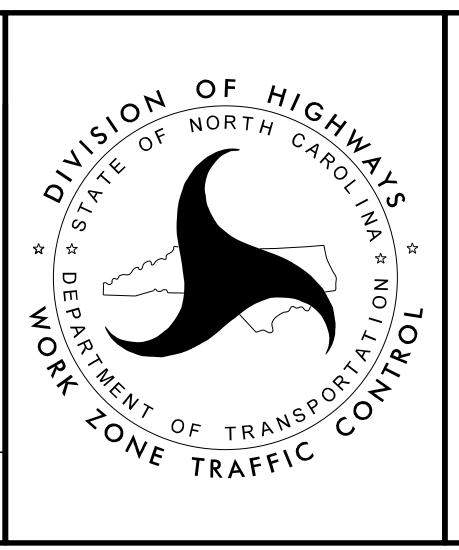
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APPROVED:   
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DATE: 4/22/2026



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PHASE IV