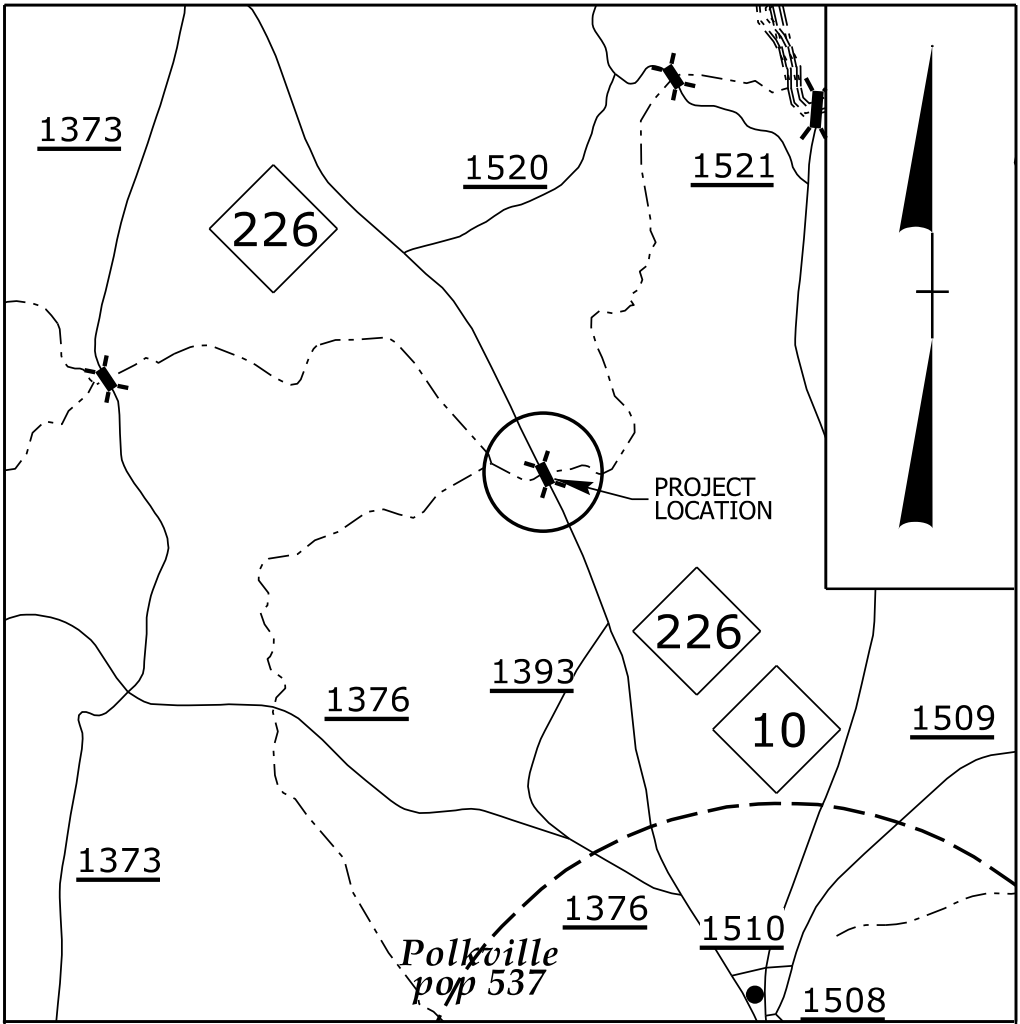


PROJECT: BP12-R002

CONTRACT: C205132

See Sheet 1A For Index of Sheets



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CLEVELAND COUNTY

LOCATION: *BRIDGE NO. 220075 ON NC 226 (POLKVILLE ROAD)
OVER HINTON CREEK*

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

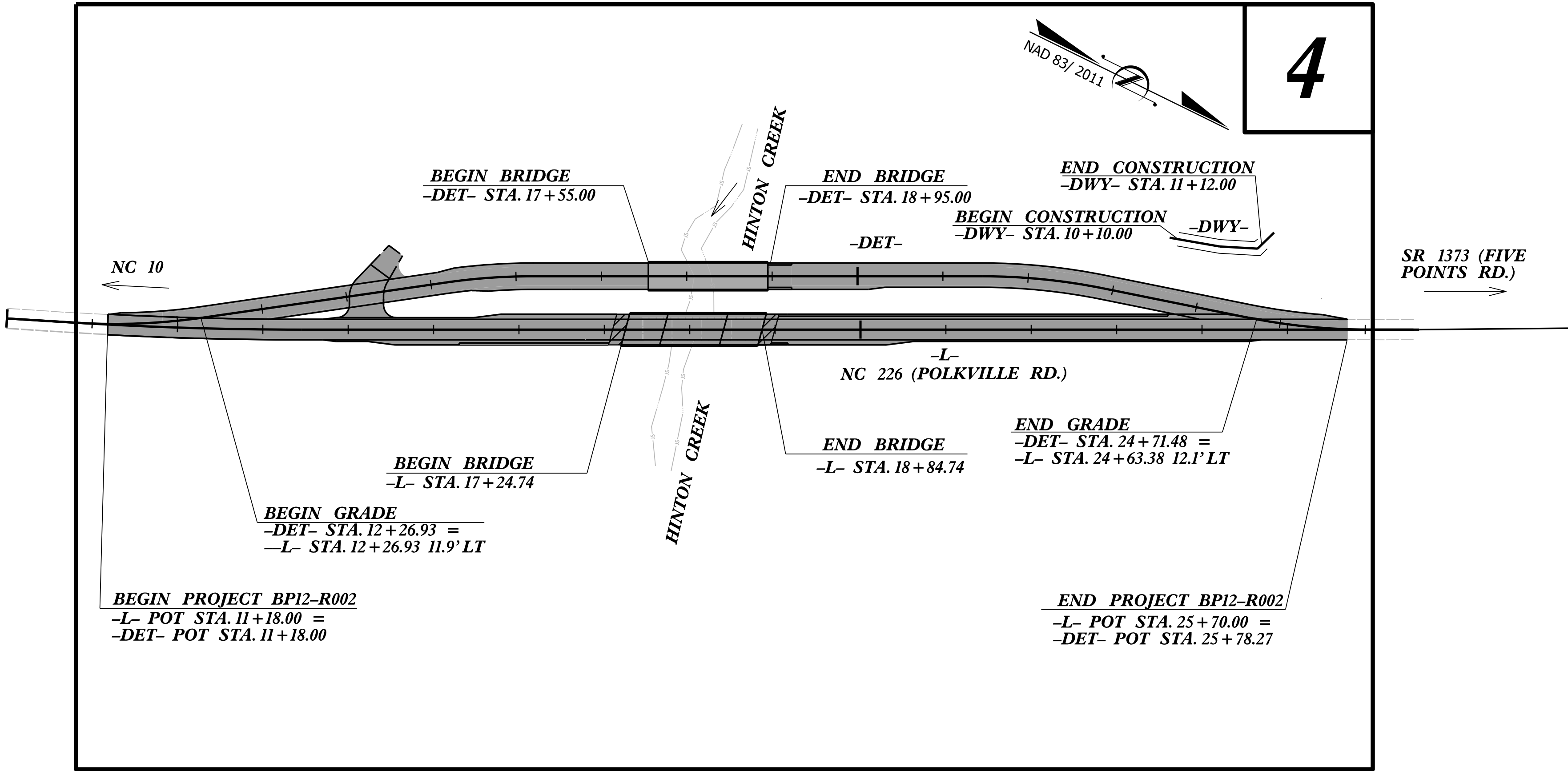
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP12-R002	11	
STATE PROJ. NO.		F. A. PROJ. NO.	DESCRIPTION
BP12.R002.1			PE
BP12.R002.2			UTL & R/W
BP12.R002.3			CONST



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Raleigh, NC 27606
(919) 851-8077

NCBELS F-0377



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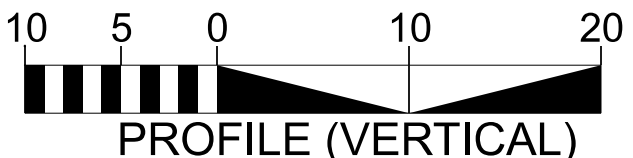
GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

ADT 2026 = 3100
ADT 2045 = 4500

T = 7 % *
V = 60 MPH
* TTST =3.5% DUAL =3.5%
FUNC CLASS =
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT BP12-R002 = 0.245 MILES
LENGTH STRUCTURE PROJECT BP12-R002 = 0.030 MILES

TOTAL LENGTH PROJECT BP12-R002 = 0.275 MILES

NCDOT CONTACT: JOSHUA WHITE, PE, PLS
DIVISION 12 DIVISION BRIDGE MANAGER

Prepared for the Office of:

DIVISION OF HIGHWAYS - DIV. 12

1710 E. Marion St., Shelby NC, 28151

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
6/14/24

LETTING DATE:
1/20/26

GREG S. PURVIS, PE
PROJECT ENGINEER

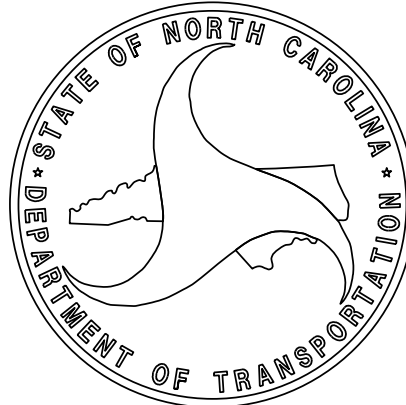
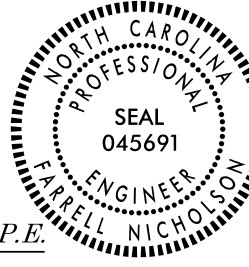
FARRELL NICHOLSON, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
10/28/2025

Signed by: Haminder Singh
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
10/28/2025

Signed by: Farrell Nicholson
SIGNATURE: P.E.



INDEX OF SHEETS

GENERAL NOTES

STANDARD DRAWINGS

SHEET NUMBER	SHEET	GENERAL NOTES:	2024 SPECIFICATIONS	EFF. 01-16-2024
1	TITLE SHEET		EFFECTIVE: 01-16-2024	REV.
		REVISED:		
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS	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.	
1B	CONVENTIONAL SYMBOLS	CLEARING:		
2A-1 THRU 2A- 2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.		
2C-1 THRU 2C-4	SPECIAL DETAILS	SUPERELEVATION:		
3B-1	ROADWAY SUMMARIES	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.		
3D-1	DRAINAGE SUMMARIES	SHOULDER CONSTRUCTION:		
3G-1	GEOTECHNICAL SUMMARIES	ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01		
4 THRU 10	PLAN AND PROFILE SHEETS	SIDE ROADS:		
RW01 THRU RW04A	RIGHT OF WAY PLANS	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.		
TMP-1 THRU TMP-10	TRAFFIC MANAGEMENT PLANS	SUBSURFACE DRAINS:		
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS	SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.		
EC-1 THRU EC-9	EROSION CONTROL PLANS	GUARDRAIL:		
RF-1 THRU RF-2	REFORESTATION PLANS	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.		
UO-1 THRU UO-5	UTILITIES BY OTHERS PLANS	END BENTS:		
X-1	CROSS-SECTION INDEX	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.		
X-1A	CROSS-SECTION SUMMARY SHEET	UTILITIES:		
X-2 THRU X-32	CROSS-SECTIONS	UTILITY OWNERS ON THIS PROJECT ARE AT&T (FIBER), REMC (ELECTRIC), AND CLEVELAND COUNTY (WATER).		
S-1 THRU S-35	STRUCTURE PLANS	ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.		
SN	STRUCTURE NOTES	RIGHT-OF-WAY MARKERS:		
		ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.		

BP12-R002

R0Y

IA

NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

CLEVELAND COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN

Signed by: ENGINEER

PREPARED BY

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Raleigh, NC 27606

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NC License F-0377

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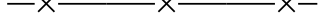
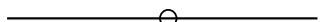
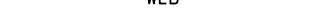
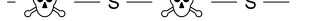
2024 ROADWAY ENGLISH STANDARD DRAWINGS

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:

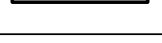
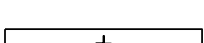
STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
310.10	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
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
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
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
848.02	Driveway Turnout - Radius Type
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 12, and 14 of 15)
862.02	Guardrail Installation
862.03	Structure Anchor Units (Use Detail in Lieu of Standard for Sheet 8 of 9)
862.04	Anchoring End of Guardrail - for B-77 and B-83 Anchor Units
876.01	Rip Rap in Channels and Ditches
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class B Rip Rap

Note: Not to Scale

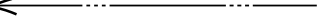
BOUNDARIES AND PROPERTY:

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	

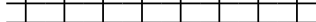
BUILDINGS AND OTHER CULTURE:

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

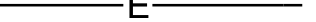
HYDROLOGY:

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	

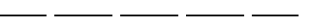
RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

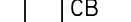
Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent 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	

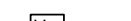
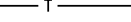
EXISTING STRUCTURES:

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)*	

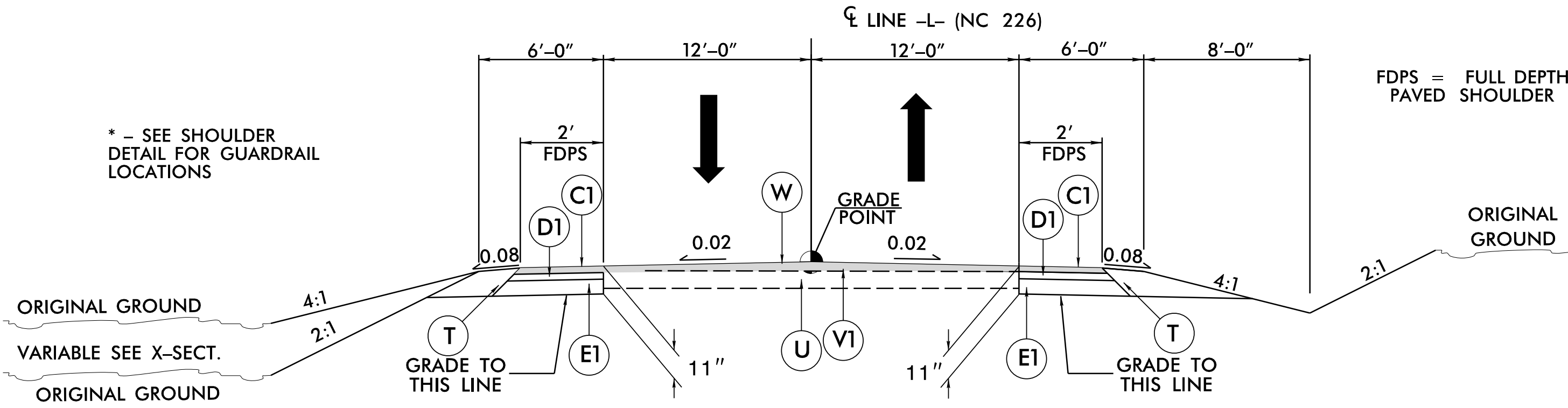
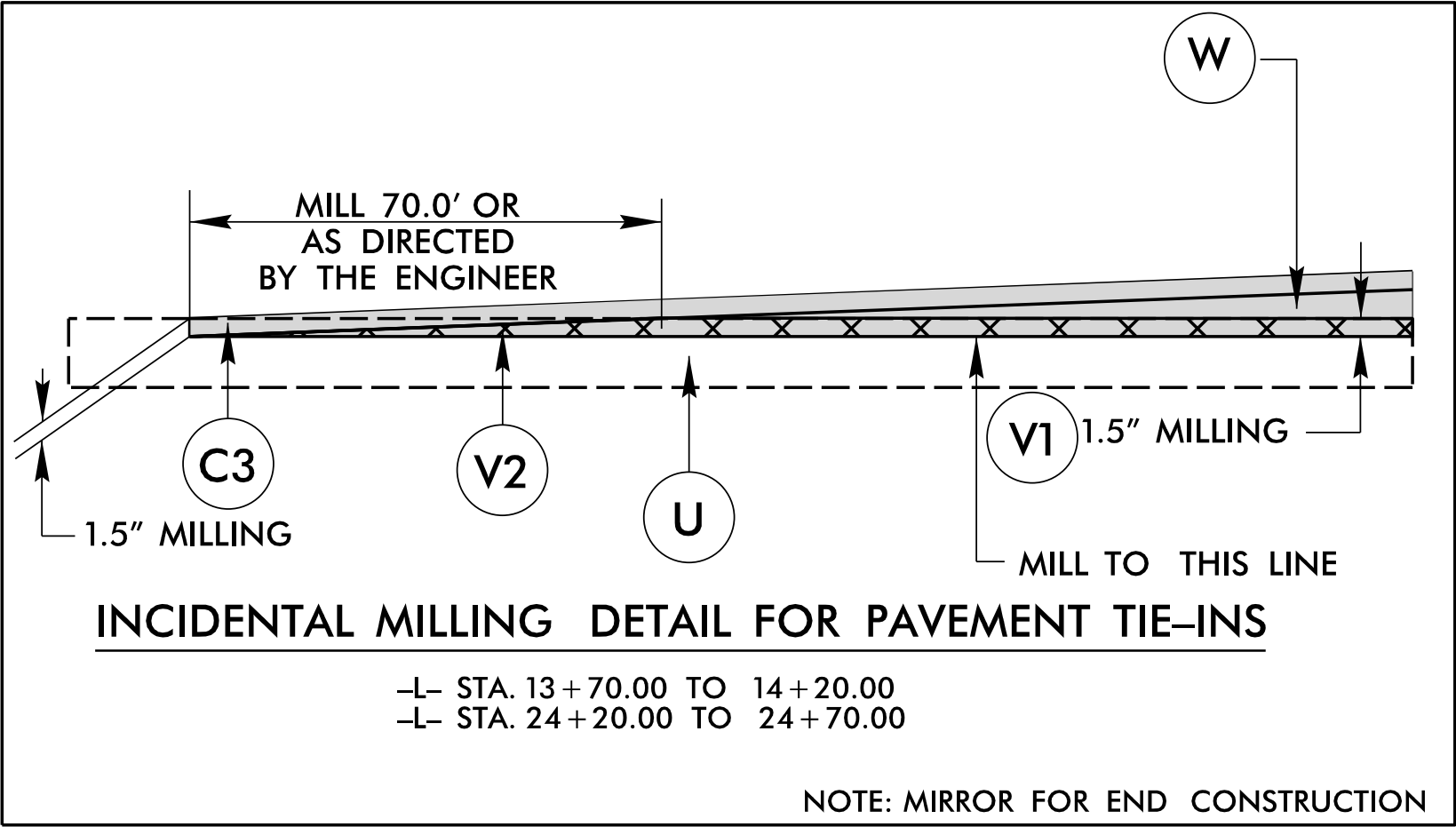
GAS:	
Gas Valve	
Gas Meter	
U/G Gas Line Test Hole (SUE - LOS A)*	
U/G Gas Line (SUE - LOS B)*	
U/G Gas Line (SUE - LOS C)*	
U/G Gas Line (SUE - LOS D)*	
Above Ground Gas Line	

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	

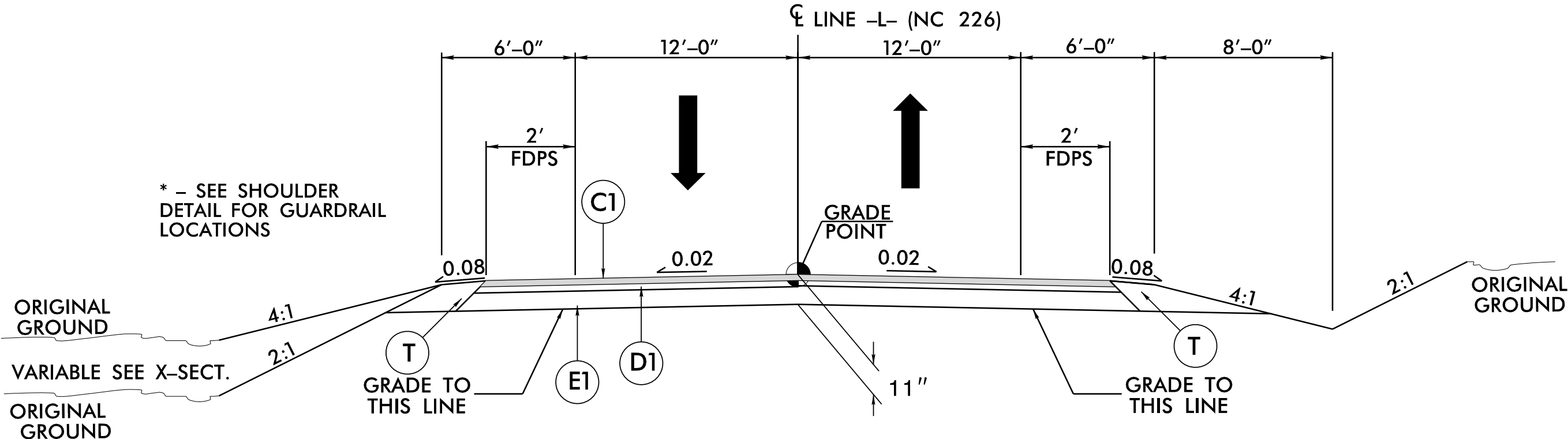
PAVEMENT SCHEDULE (FINAL)	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
C3	PROP. APPROX. 1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
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" 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 5½" IN DEPTH.
J1	PROP. 6" AGGREGATE BASE COURSE.
J2	PROP. 8" AGGREGATE BASE COURSE.
P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
R1	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	1.5" MILLING BITUMINOUS PAVEMENT.
V2	INCIDENTAL MILLING. (SEE MILLING DETAIL)
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



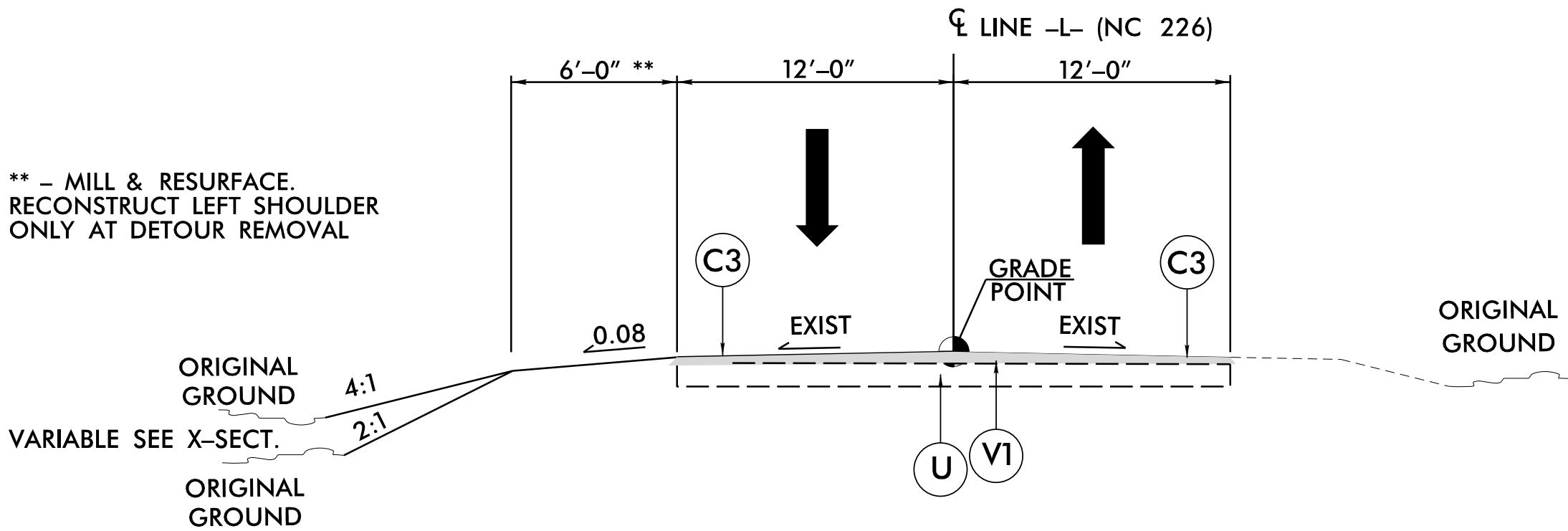
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AS FOLLOWS:
-L- STA. 13+70.00 TO -L- STA. 14+30.00
-L- STA. 24+00.00 TO -L- STA. 24+70.00



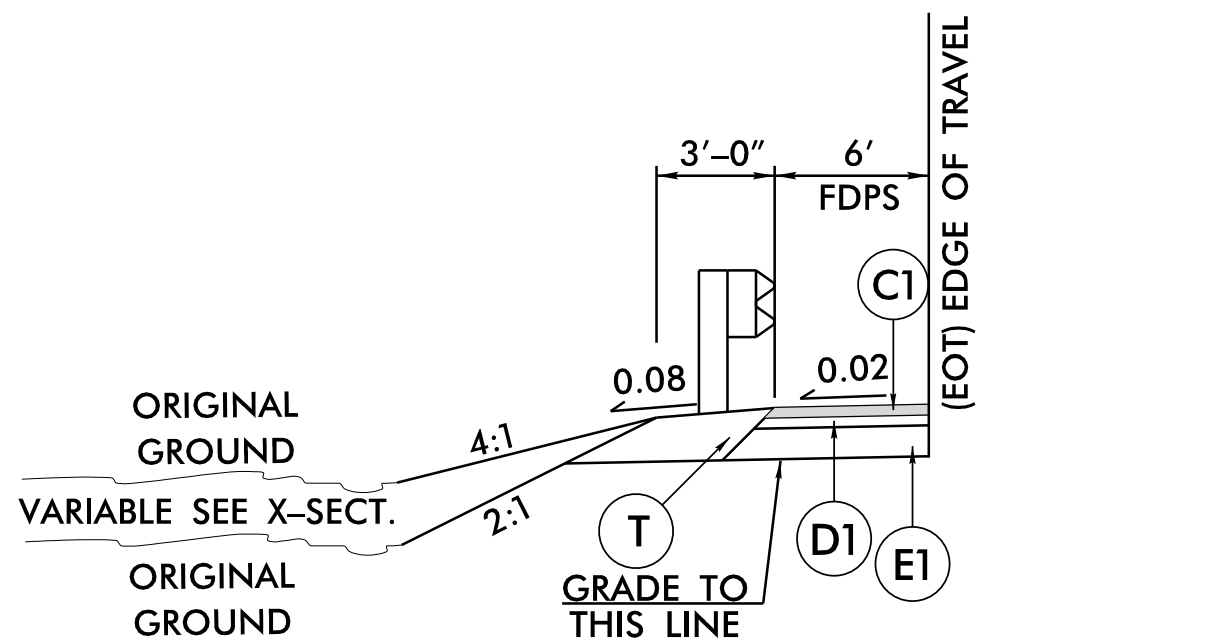
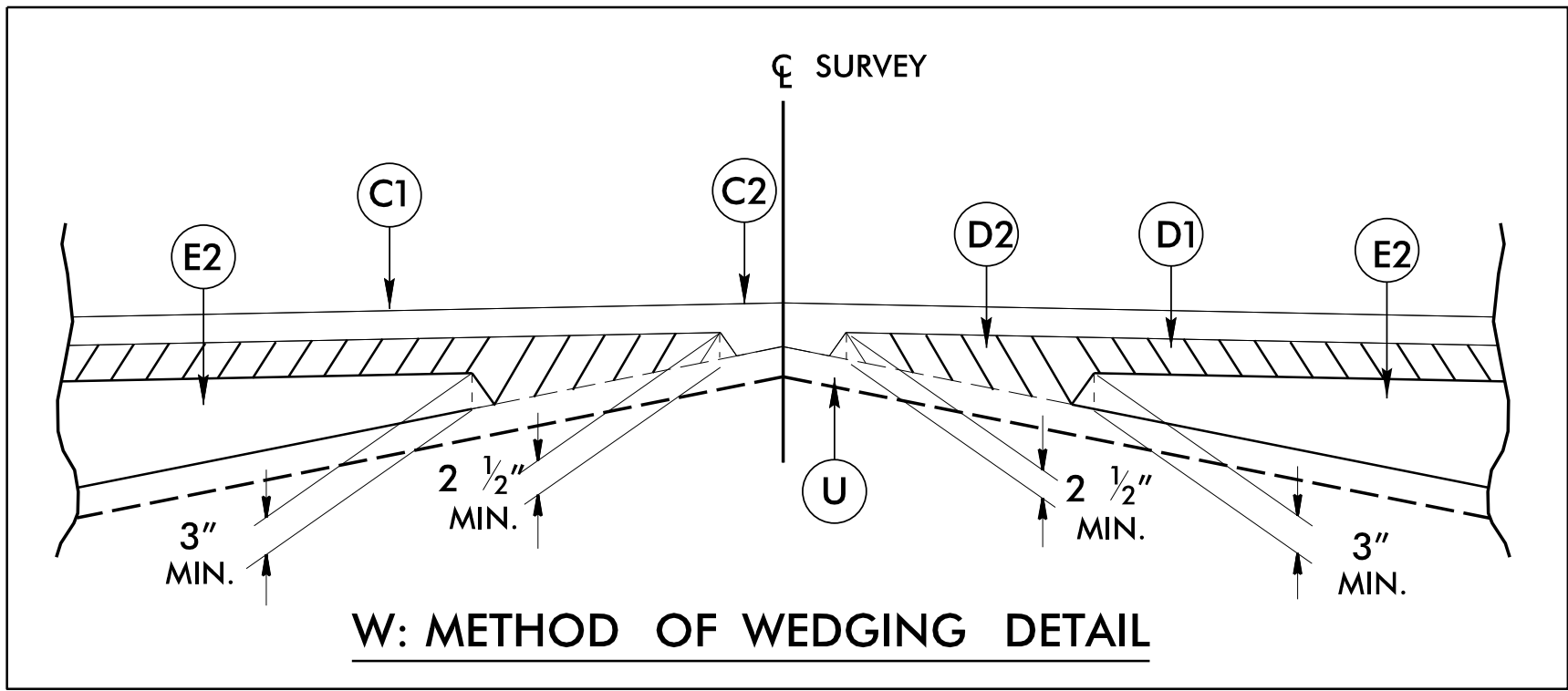
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AS FOLLOWS:
-L- STA. 14+30.00 TO -L- STA. 17+24.74 (BEGIN BRIDGE)
-L- STA. 18+84.74 (END BRIDGE) TO -L- STA. 24+00.00



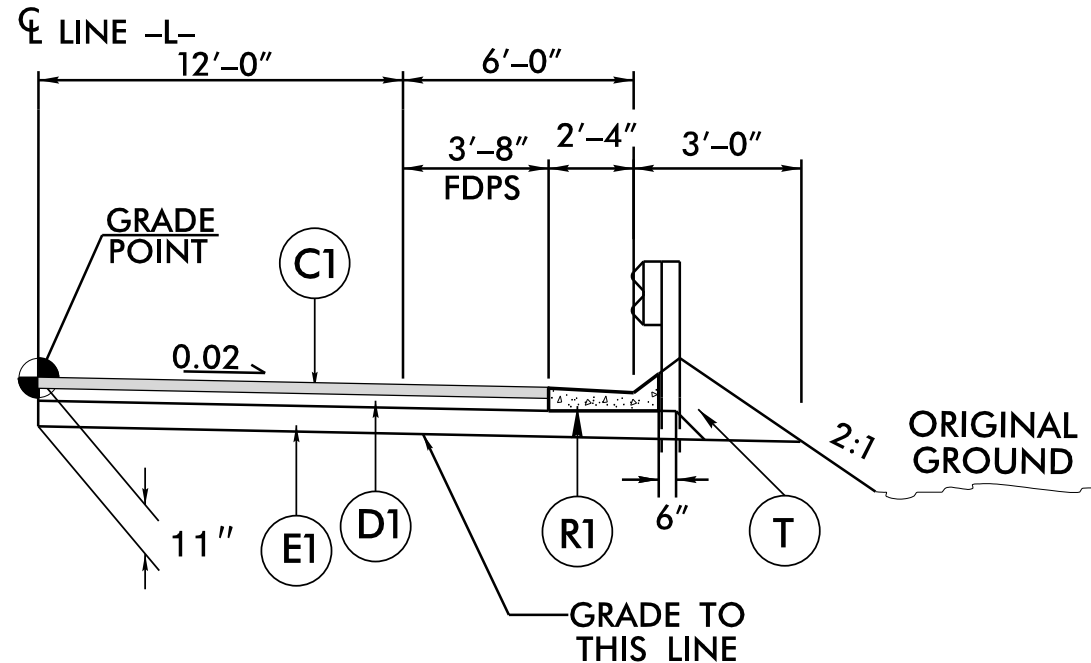
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AS FOLLOWS:
-L- STA. 11+18.00 TO -L- STA. 13+70.00
-L- STA. 24+70.00 TO -L- STA. 25+70.00



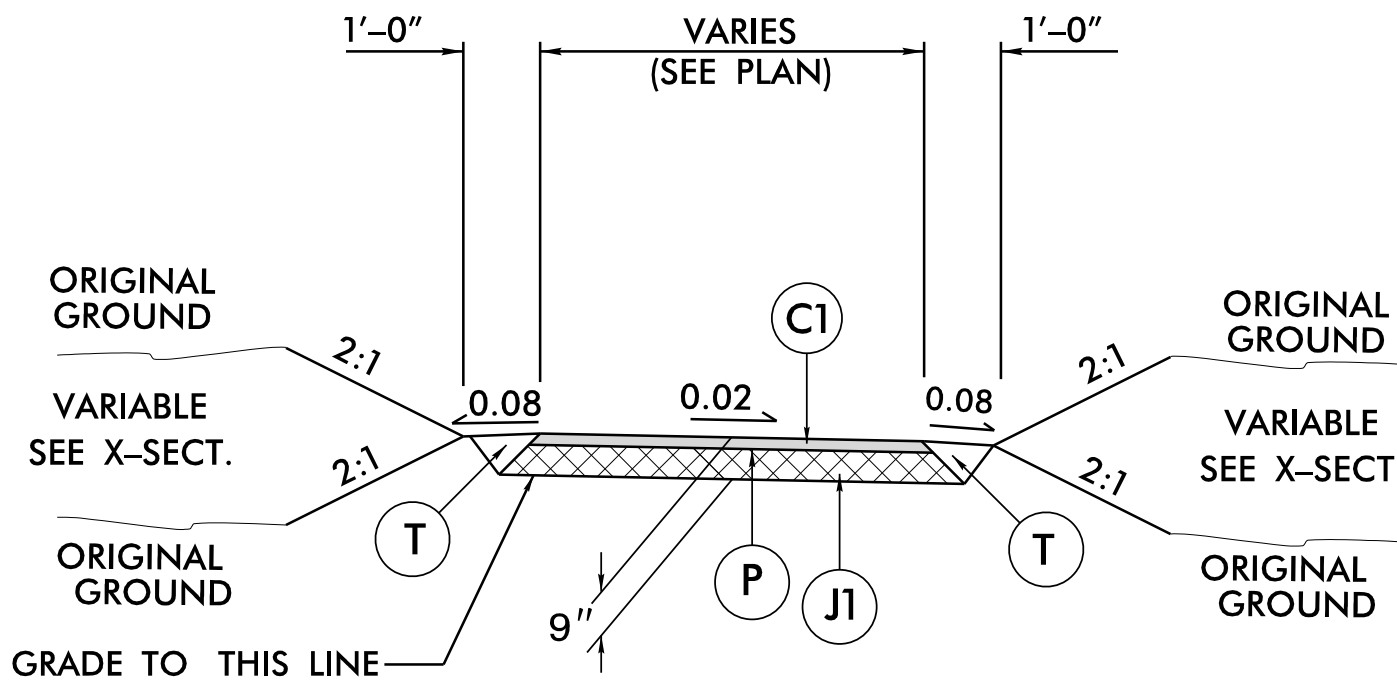
SHOULDER DETAIL NO. 1

USE SHOULDER DETAIL IN CONJUNCTION WITH TYPICAL SECTIONS NO. 1 & 2:
-L- STA. 14+59.55 TO -L- STA. 15+30.00 RT.
-L- STA. 15+77.00 TO -L- STA. 17+29.56 LT.
-L- STA. 19+15.00 TO -L- STA. 20+25.38 RT.
-L- STA. 23+60.00 TO -L- STA. 24+24.94 LT.



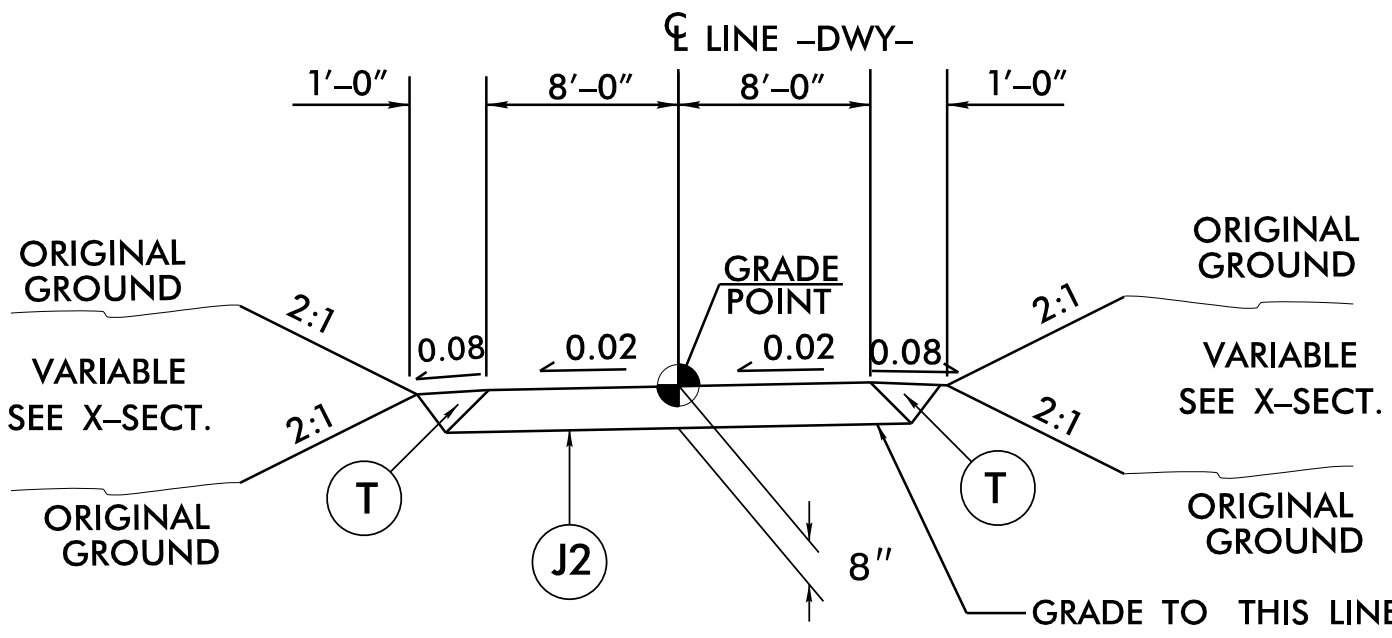
SHOULDER BERM GUTTER DETAIL

USE SHOULDER DETAIL IN CONJUNCTION WITH TYPICAL SECTIONS NO. 2:
-L- STA. 15+30.00 TO -L- STA. 17+04.92 RT.
-L- STA. 18+94.92 TO -L- STA. 19+15.00 RT.
-L- STA. 19+04.56 TO -L- STA. 23+60.00 LT.



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 FOR DRIVEWAY AT PARCEL 3



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5 AS FOLLOWS:
-DWY- STA. 10+10.00 TO -DWY- STA. 11+12.00

BP12-R002

R0Y 2A-I

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
CLEVELAND COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

Signed by: *Farrill Nicholas*
10/27/2025



PAVEMENT DESIGN
ENGINEER
Designed by: *Andrew D. Wargo*
10/27/2025



PREPARED BY
WETHERILL ENGINEERING

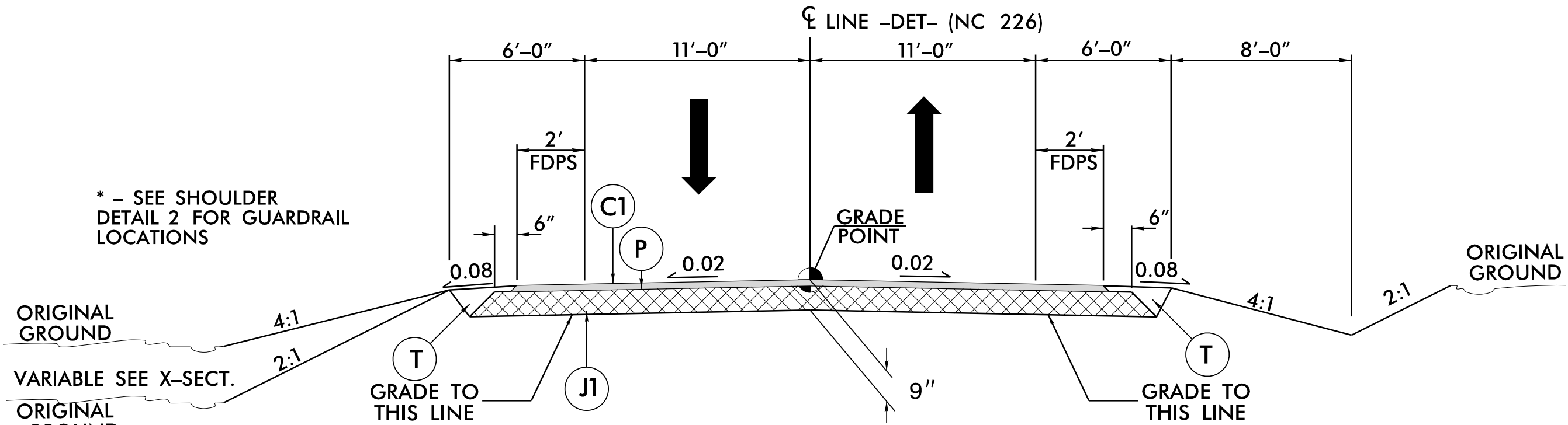
WE Design your Tomorrow ...
1223 Jones Franklin Road
Raleigh, NC 27606
(919) 851-8077

NCBELS F-0377

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

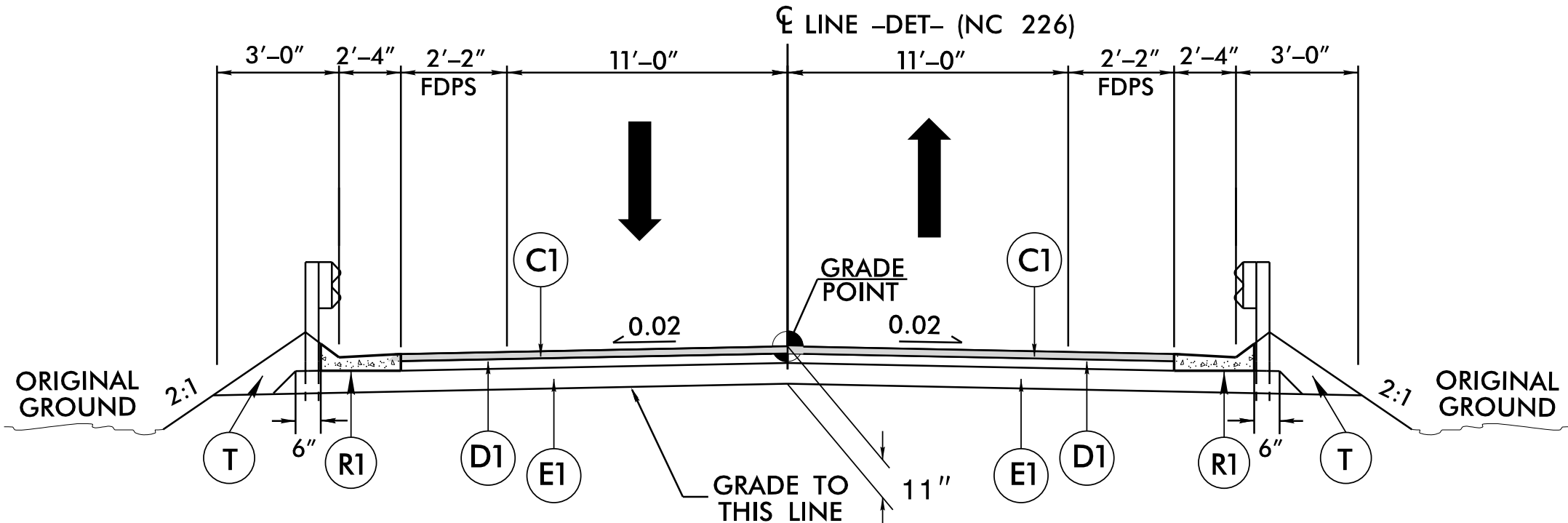
PAVEMENT SCHEDULE (FINAL)	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
J1	PROP. 6" AGGREGATE BASE COURSE.
J2	PROP. 8" AGGREGATE BASE COURSE.
P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
R1	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



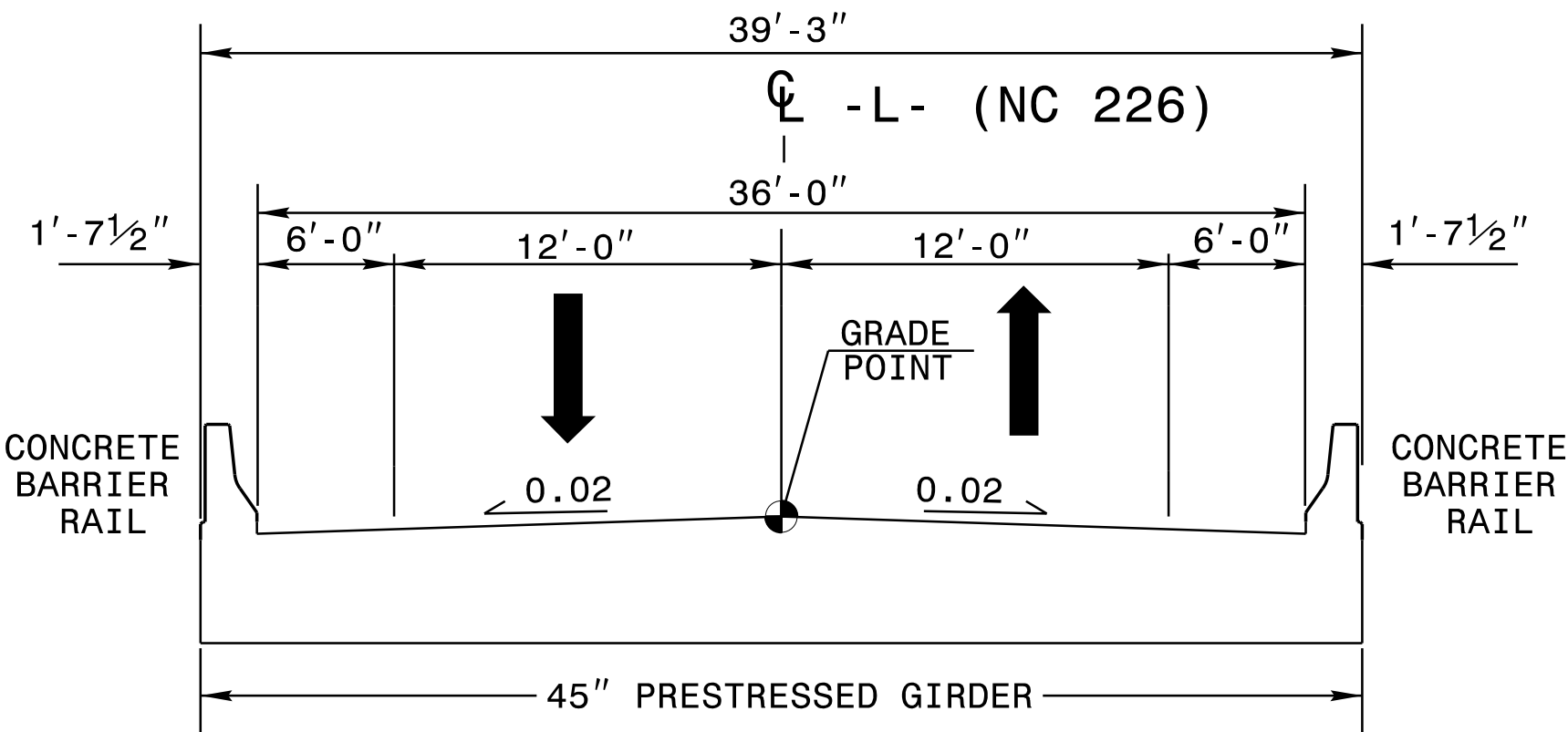
TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6 AS FOLLOWS:
-DET- STA. 12 + 26.93 TO -DET- STA. 17 + 55.00 (BEGIN BRIDGE)
-DET- STA. 19 + 23.00 TO -DET- STA. 24 + 71.48



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7 AS FOLLOWS:
-DET- STA. 18 + 95.00 TO -DET- STA. 19 + 23.00

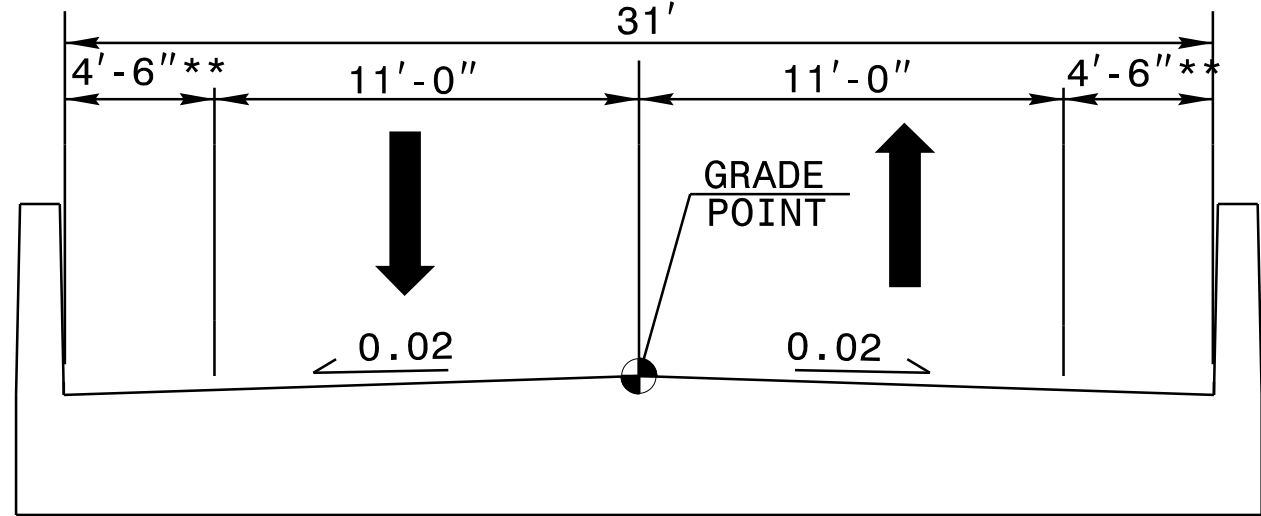


TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8 AS FOLLOWS:
-L- STA. 17 + 24.74 (BEGIN BRIDGE) TO -L- STA. 18 + 84.74 (END BRIDGE)

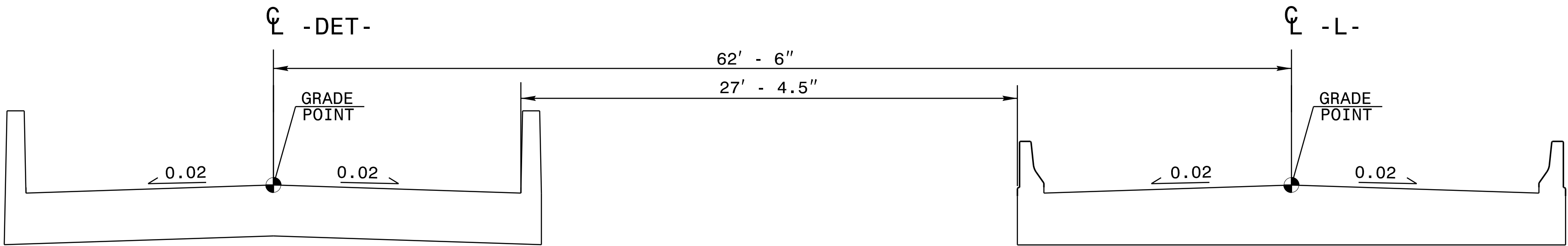
** EXTRA WIDTH PROVIDED DUE TO HYDRAULIC SPREAD

CL -DET- (NC 226)

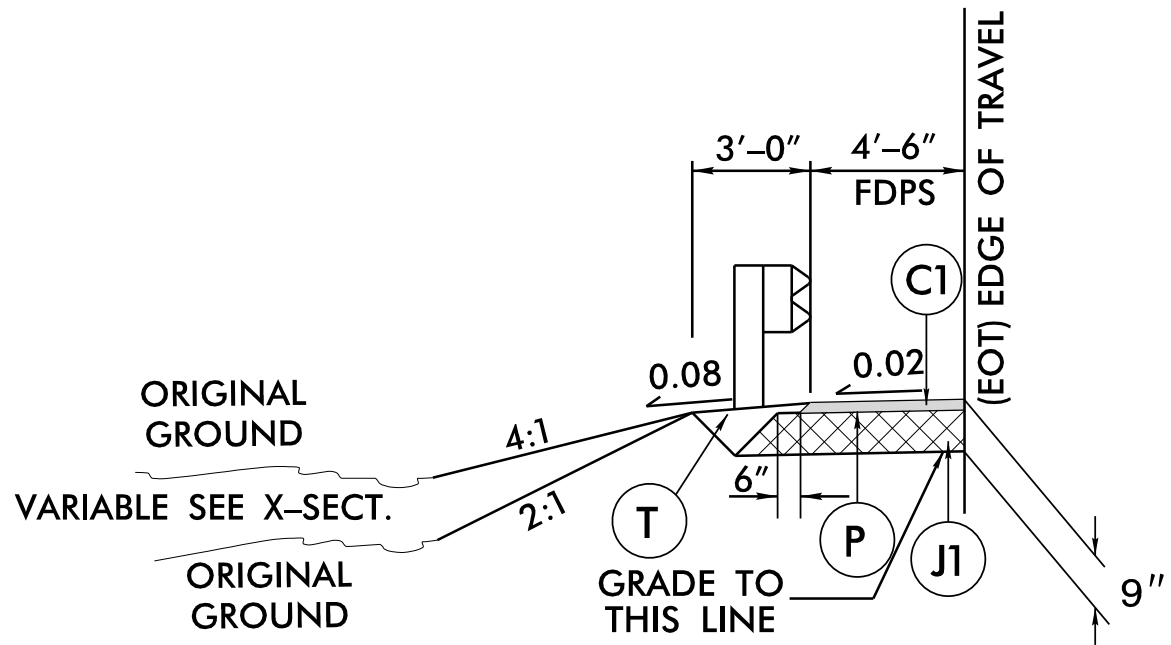


TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9 AS FOLLOWS:
-DET- STA. 17 + 55.00 (BEGIN BRIDGE) TO -DET- STA. 18 + 95.00 (END BRIDGE)



BRIDGE DETAIL SKETCH SHOWING DIMENISIONS BETWEEN -L- AND -DET-



SHOULDER DETAIL NO. 2

USE SHOULDER DETAIL IN CONJUNCTION WITH TYPICAL SECTION NO. 6:
-DET- STA. 15 + 67.78 TO -DET- STA. 17 + 55.00 RT
-DET- STA. 15 + 33.28 TO -DET- STA. 17 + 55.00 LT
-DET- STA. 19 + 23.00 TO -DET- STA. 20 + 05.37 RT
-DET- STA. 19 + 23.00 TO -DET- STA. 25 + 45.65 LT

BP12-R002

RDY2A-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
CLEVELAND COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

Signed by:
Farrell Nicholson
10/27/2025

10/27/2025

PAVEMENT DESIGN
ENGINEER

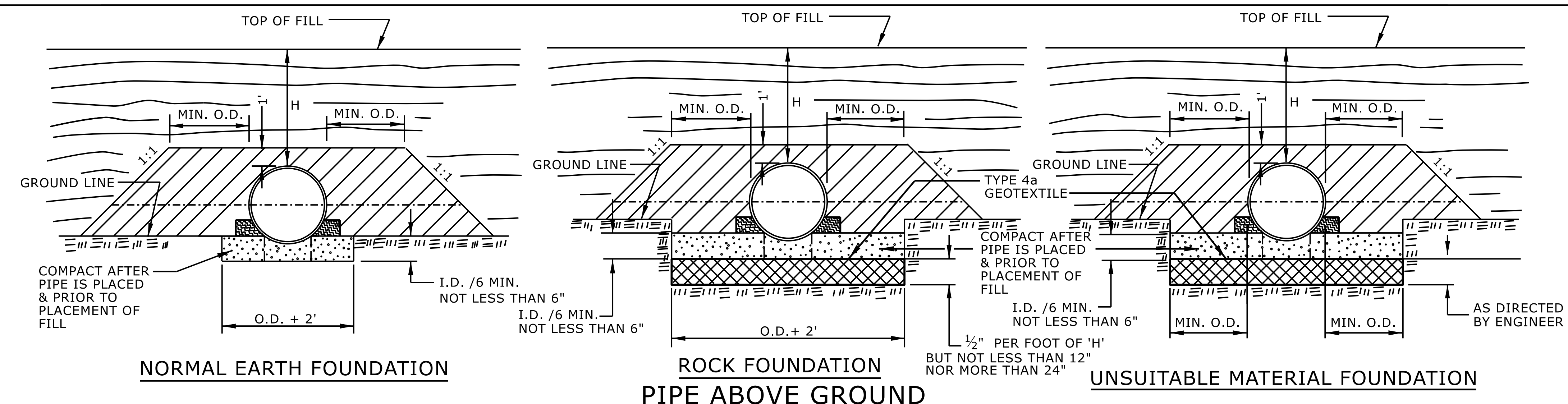
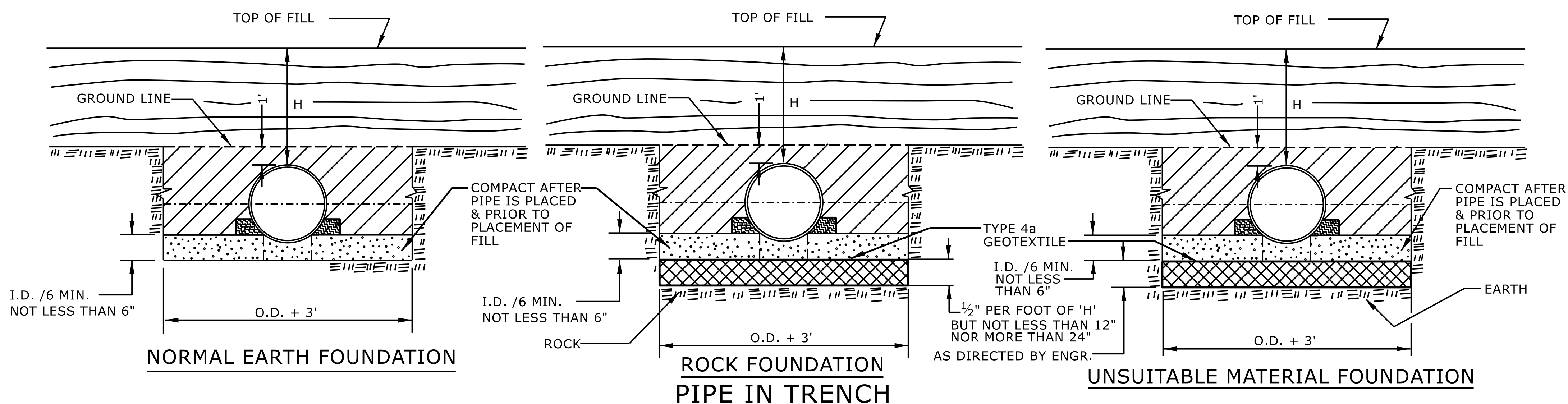
DocuSigned by:
Andrew D. Wargo
202509090920

10/27/2025

PREPARED BY
**WETHERILL
ENGINEERING**

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Raleigh, NC 27606
(919) 851-8077
NCBELS F-0377

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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.

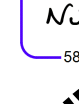
	SPRINGLINE OF PIPE
	SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
	UNDISTURBED EARTH MATERIAL
	SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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

Signed by:
Nicole M. Hackler
5884323024



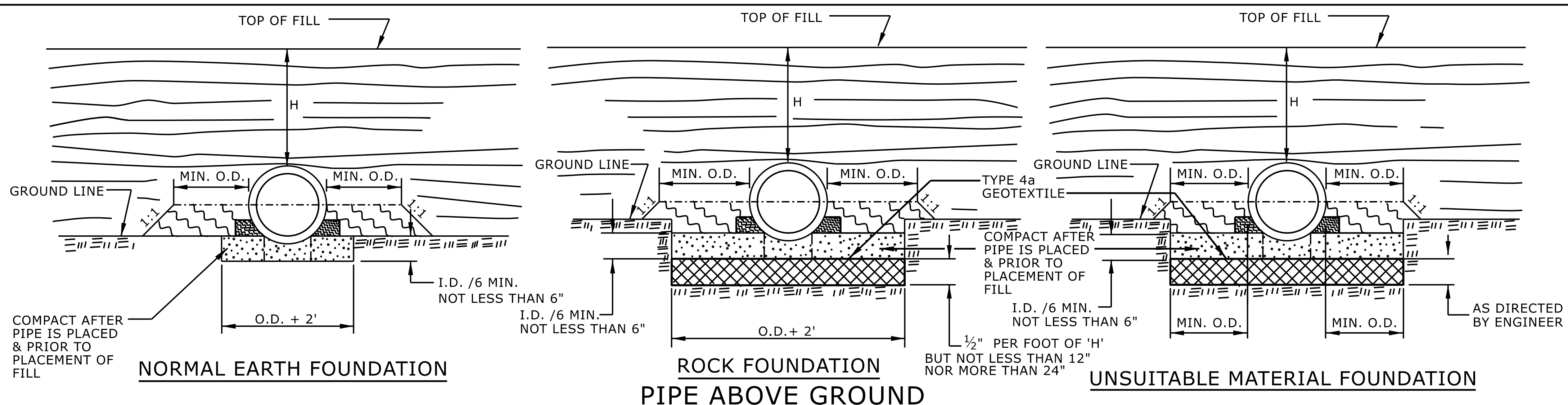
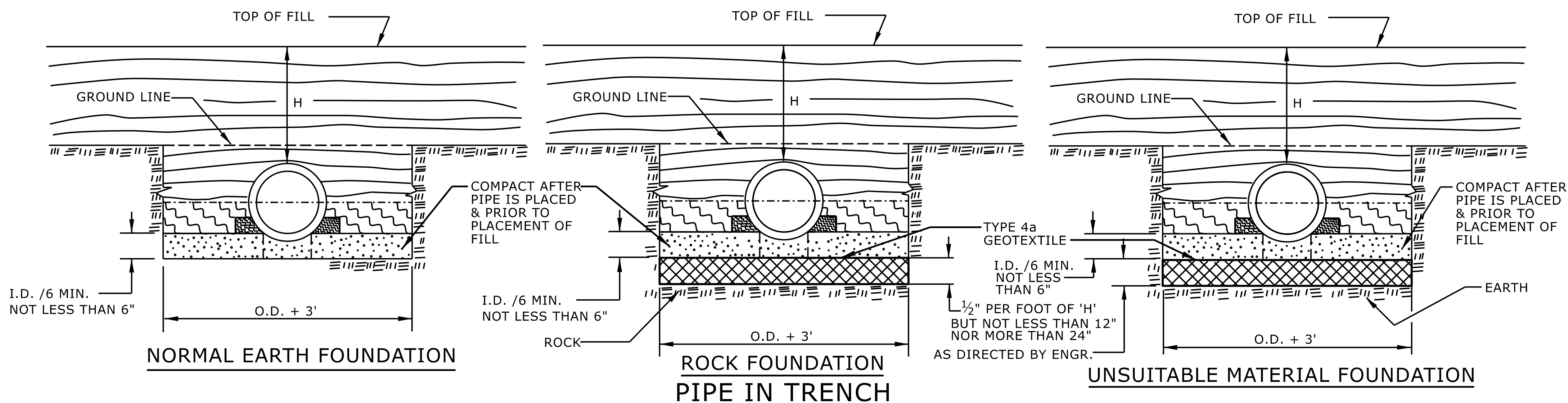
The seal is circular with a dashed outer border. Inside the border, the text "NORTH CAROLINA" is at the top, "PROFESSIONAL" is on the left, "ENGINEER" is on the right, and "NICOLE M. HACKLER" is at the bottom. In the center, it says "SEAL" above "033144". At the very bottom, the expiration date "10/21/2025" is printed.

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
919-707-6950 FAX 919-250-4

SEE TITLE BLOCK

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



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.

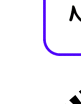
REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

	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.

ROADWAY DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION RIGID PIPE	STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
---	---

SHEET 2 OF 2
300.01

Signed by:
Nicole M. Hackler
5884370967



The seal is circular with a double-lined border. The outer ring contains the text "NORTH CAROLINA" at the top and "NICOLE M. HACKLER" at the bottom. The inner ring contains the text "PROFESSIONAL ENGINEER". In the center, it says "SEAL" above "033144". At the very bottom, the expiration date "10/21/2025" is printed.

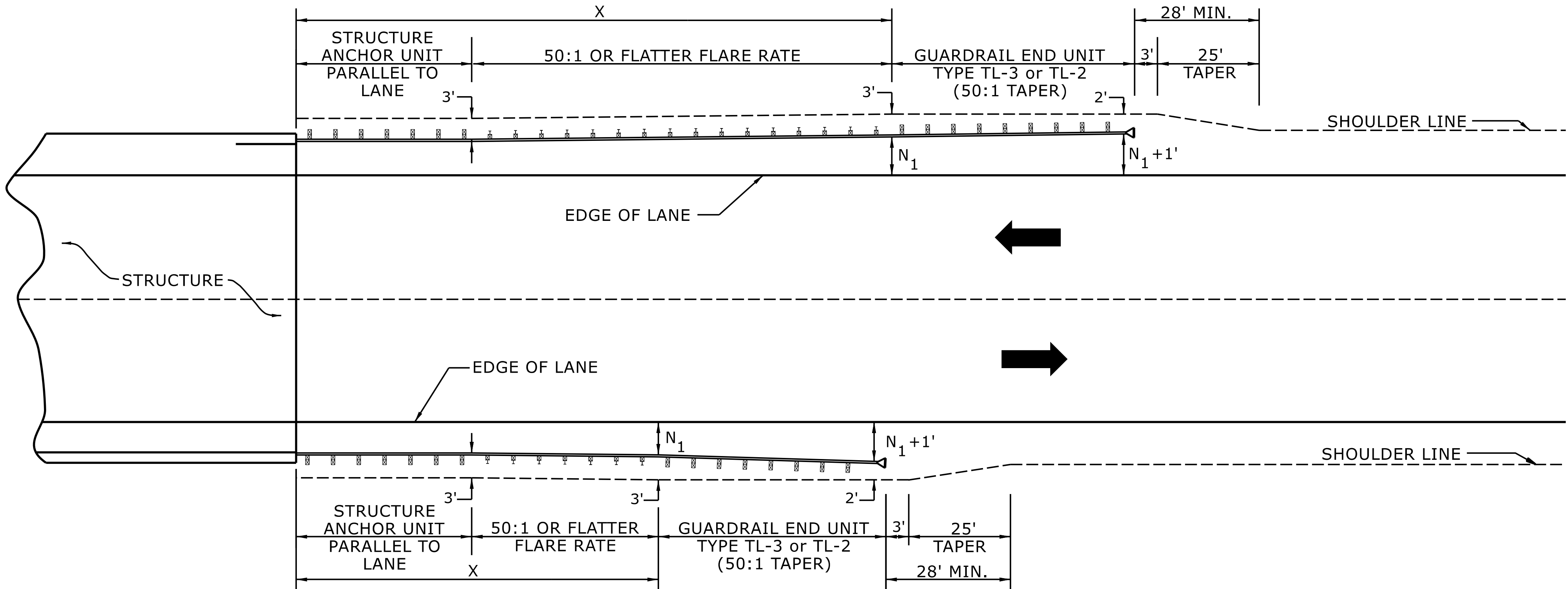
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
919-707-6950 FAX 919-250-4

SEE TITLE BLOCK

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

PROJECT REFERENCE NO.	SHEET NO.
BP12-R002	2C-3



USE FLARE RATE AS THE CONTROL IF THE "N₁" DISTANCE IS NOT OBTAINED.
("N₁" 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



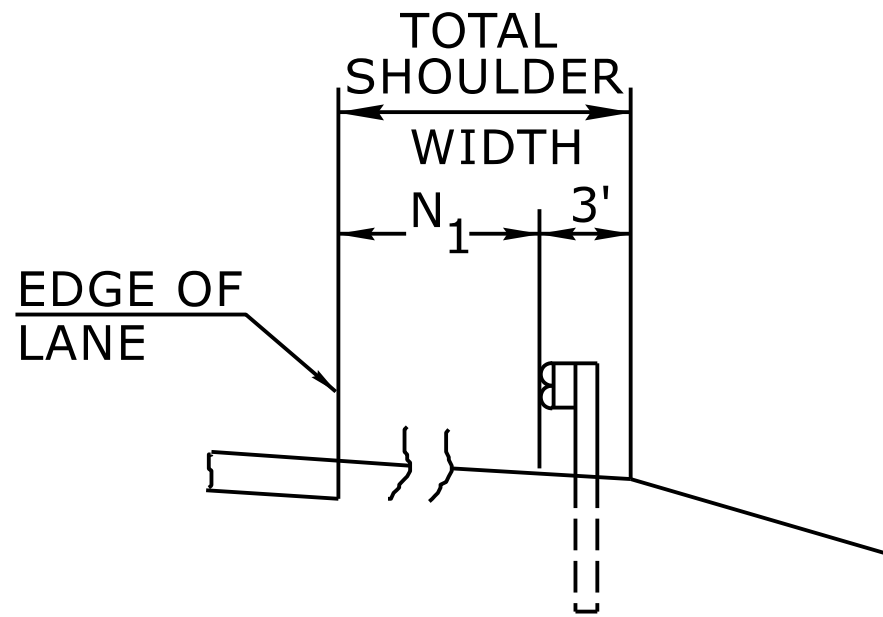
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

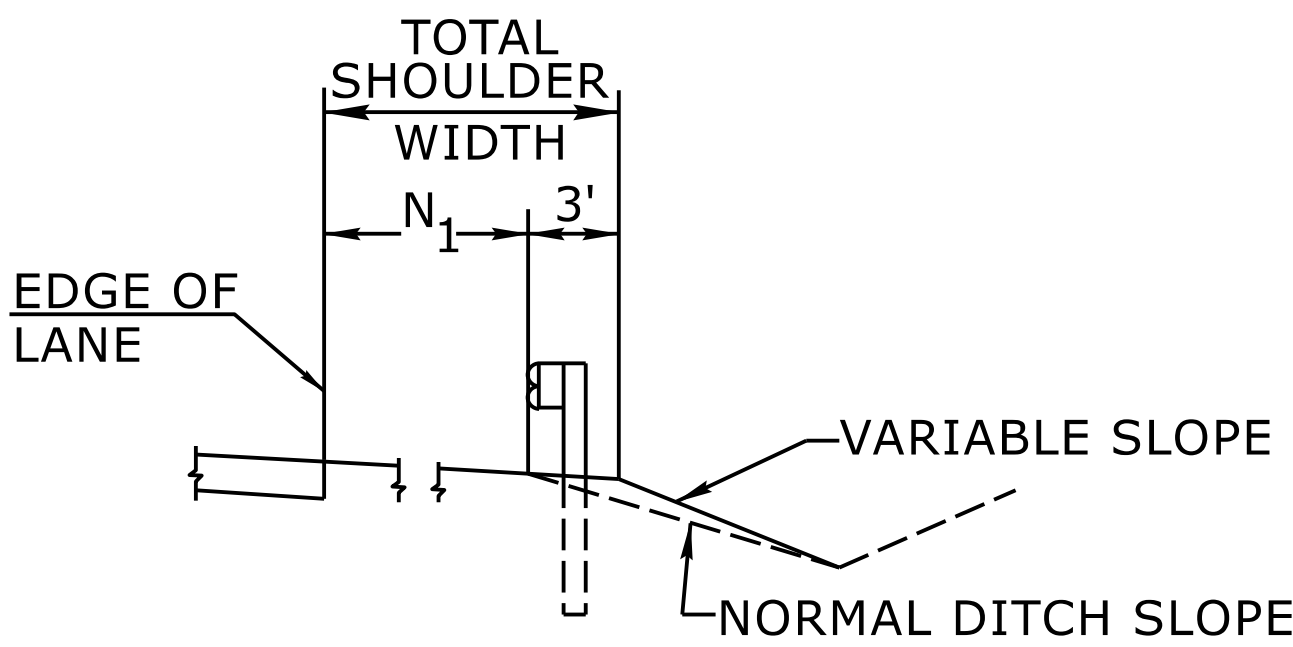
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

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

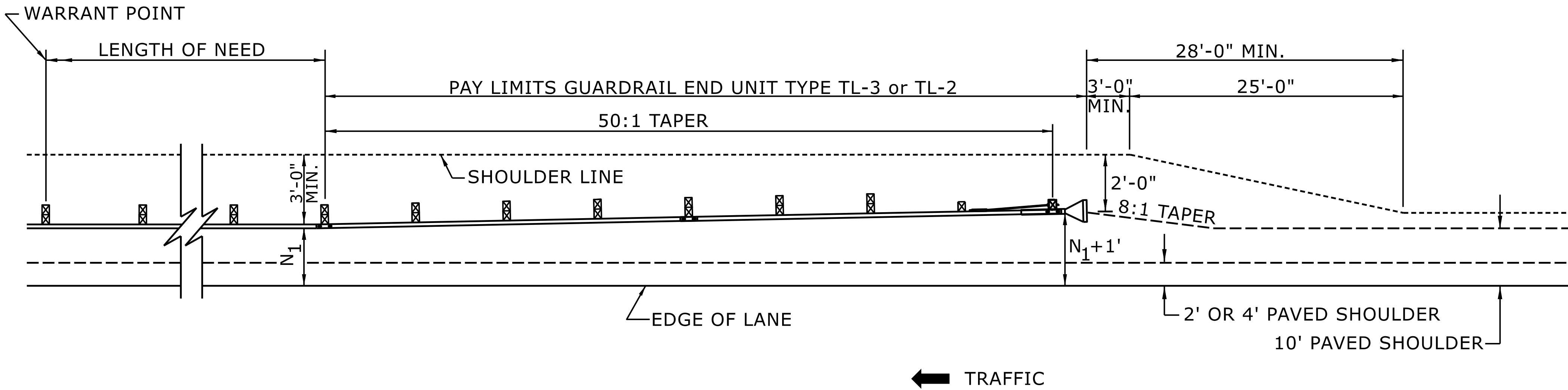


FILL SECTION



CUT SECTION

"N₁"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.



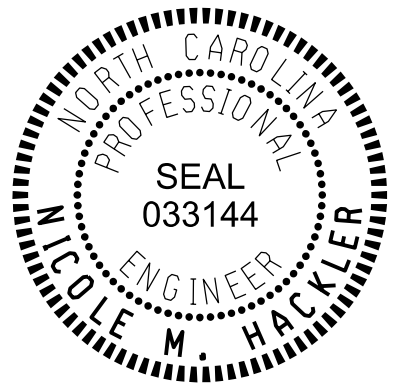
FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15
862D01

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



Signed by:
Nicole M. Hackler
5884323234164C5...

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: _____ FSN _____ DATE: 2/24
 CHECKED BY: _____ GP _____ DATE: 3/18/24

SUMMARY OF EARTHWORK IN CUBIC YARDS

PHASE	LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
PHASE 1 DETOUR CONST.	–DET– STA 12+26.93 TO –DET– STA 17+55	572	0	4,002	3,430	–
	–DET– STA 18+95 TO –DET– STA 24+71.48	8	0	15,859	15,851	–
	SUBTOTAL:	580	0	19,861	19,281	–
PHASE 2 MAINLINE CONST.						
	–L– STA 11+18 TO –L– STA 17+24.74	82	0	3,551	3,469	–
	–L– STA 18+84.74 TO –EL– STA 25+70	17	0	4,618	4,601	–
	SUBTOTAL:	99	0	8,169	8,070	–
PHASE 3 DET REMOVAL & GRADE MAINLINE DITCH LT.						
	–DET– STA 12+26.93 TO –DET– STA 17+55	3,482	0	645	–	2,837
	–DET– STA 18+95 TO –DET– STA 24+71.48	13,755	0	2	–	13,753
	SUBTOTAL:	17,237	0	647	–	16,590
	PROJECT SUBTOTAL:	17,916	0	28,677	27,351	16,590
	LOSS DUE TO CLEARING & GRUBBING	–800			800	
	ADDITIONAL UNDERCUT		450	518	518	450
	MATERIAL FOR SHOULDER CONSTRUCTION			267	267	
	PROJECT TOTAL	17,116	450	29,462	28,936	17,040
	EST. TO REPLACE TOP SOIL ON BORROW PITS				1,447	
	GRAND TOTAL	17,116	450	29,462	30,383	17,040
	SAY	18,000			31,000	

UNDERCUT FOR EMBANKMENT STABILIZATION = 200 CY CONTINGENCY
 GEOTEXTILE FOR EMBANKMENT STABILIZATION = 200 SY CONTINGENCY
 UNDERCUT FOR SUBGRADE STABILITY = 200 CY CONTINGENCY
 GEOTEXTILE FOR SUBGRADE STABILIZATION = 200 SY CONTINGENCY
 SHALLOW UNDERCUT FOR AGGREGATE SUBGRADE = 100 CY CONTINGENCY

CLASS IV SUBGRADE STABILIZATION = 200 TONS CONTINGENCY
GEOTEXTILE FOR SUBGRADES STABILIZATION TYPE 5a = 300 SY CONTINGENCY
UNDERCUT EXCAVATION FOR GRADE POINT = 50 CY CONTINGENCY
6" PERFORATED DRAIN PIPE = 200 LF CONTINGENCY
SELECT GRANULAR MATERIAL = 200 CY CONTINGENCY

NOTE: APPROXIMATE QUANTITIES ONLY, UNCLASSIFIED EXCAVATION, FINE GRADING, AND CLEARING & GRUBBING AND REMOVAL OF EXISTING ASPHALT PAVEMENT AND BREAKING OF EXISTING ASPHALT PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE OF "GRADING".

GUARDRAIL SUMMARY

[illegible]

TEMPORARY GUARDRAIL SUMMARY

[illegible]

ASPHALT PAVEMENT REMOVAL SUMMARY

[illegible]

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

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH (LF)
-L-	15 + 30.00	17 + 04.92	175
-L-	18 + 94.92	19 + 15.00	21
-L-	19 + 04.56	23 + 60.00	456
-DET-	18 + 95.00	19 + 23.00	28
-DET-	18 + 95.00	19 + 23.00	28
TOTAL:			708 LF
SAY:			710 LF

SUMMARY OF BREAKING EXISTING ASPHALT PAVEMENT

SURVEY LINE	STATION	STATION	LOCATION LV/RV/CL	YD ²
-L-	14 + 30.00	17 + 45.00	CL	881
-L-	18 + 84.00	24 + 00.00	CL	1388
TOTAL:				2269
SAY:				2270

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350
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 FLARE.
"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.

COMPUTED BY: B. Kebea DATE: 4/12/2024 CHECKED BY: J. Daily DATE: 4/12/2024		(2-3-23)					PROJECT NO. BP12.R002		SHEET NO. 3G-1						
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS															
SUMMARY OF SUBSURFACE DRAINAGE						SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION									
LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF	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				SD	200										
				TOTAL LF:	200				ASU	12	100	200	300		
									TOTAL CY/TONS/SY:		100	200**	300**	0	0
*UD = Underdrain *BD = Blind Drain *SD = Subsurface Drain															
*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.															

-L-

Plc 12+14.30
Dc = 03°28'53.3" (LT)
D = 01°19'58.8"
Lc = 261.18
Tc = 130.63
R = 4,298.3
SE = EXIST

JONATHAN A. ESPOSITO
DB 1820 PG 2170, TRACT ONE

TYLER ROYSTER &
JULIE E. ROYSTER
DB 1802 PG 2784, TRACT ONE

DAN-D LAND LLC
DB 1791 PG 1583

THE CARMICHAEL FARM
LIMITED PARTNERSHIP
DB 1285 PG 899

NAD
83/2011

BP12-R002

RDY 004

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
CLEVELAND COUNTY

ROADWAY DESIGN UNIT

Engineer

Professional Engineer

Seal

Professional Engineer

Seal

Professional Engineer

Seal

Professional Engineer

Seal

Professional Engineer

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Professional Engineer

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Professional Engineer

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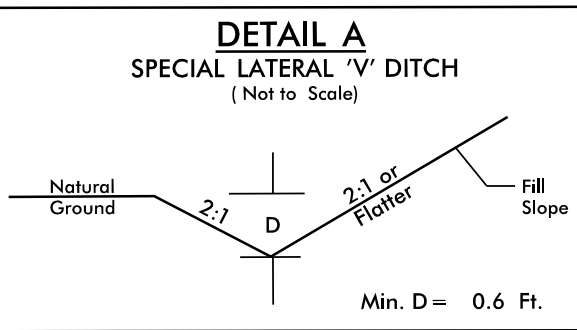
Seal

Professional Engineer

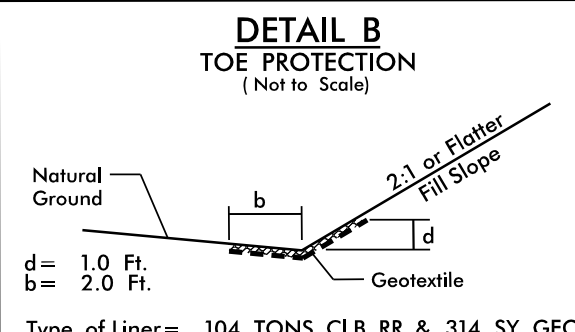
END PROJECT BP12-R002
-L- STA. 25+70.00

END GRADE
-L- STA. 24+70.00

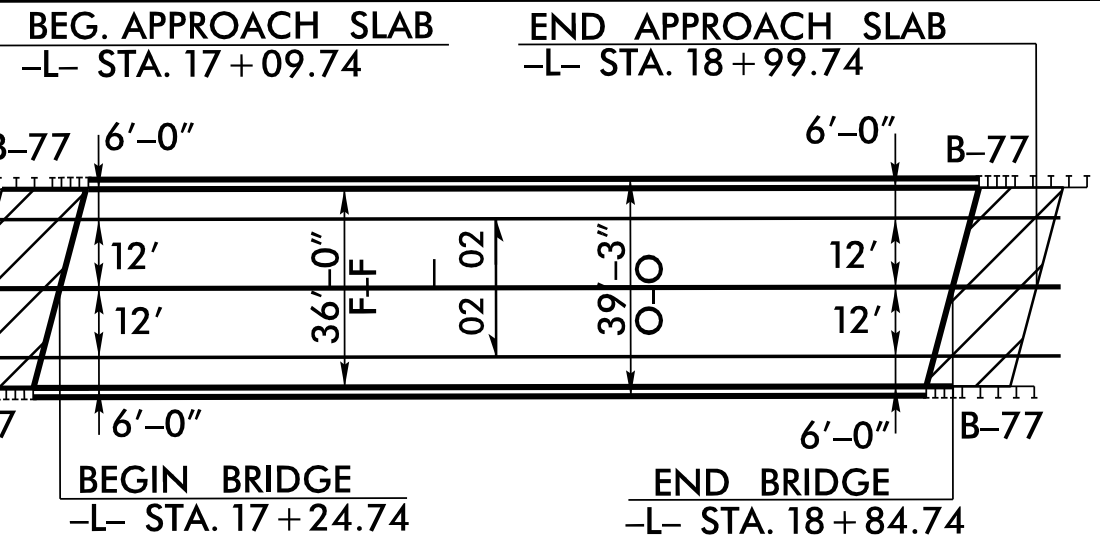
DANIEL GOLD LATTIMORE
DB 107 PG 1004



FROM STA. 13+70 TO STA. 14+80 -L- RT
FROM STA. 13+70 TO STA. 17+05 -L- LT



Type of Liner = 104 TONS C1B RR & 314 SY GEO
FROM STA. 20+00 TO STA. 23+00 -L- RT



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

FOR -L- PROFILE, SEE SHEET NO. 7

FOR -DWY- PROFILE, SEE SHEET NO. 10

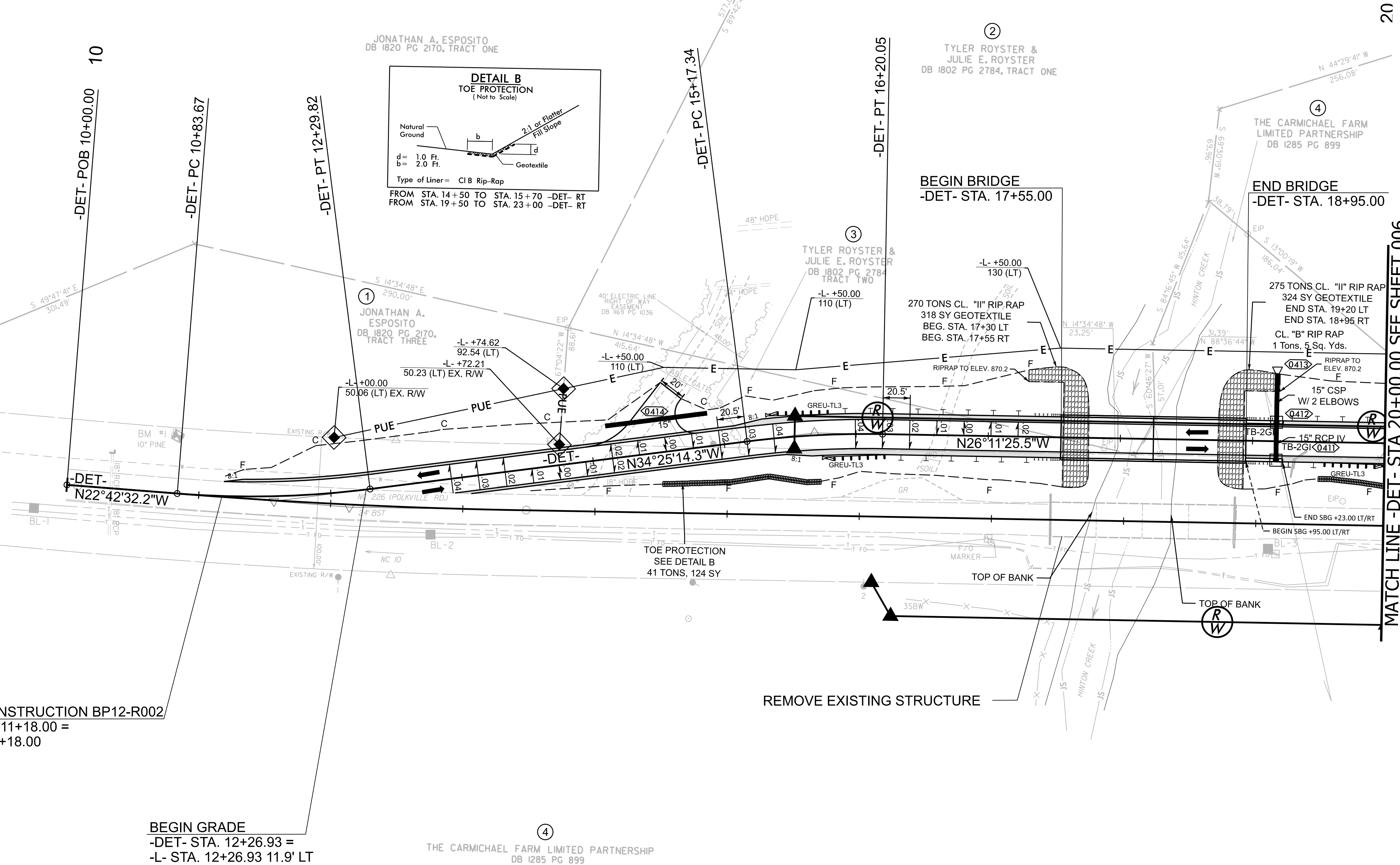
FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-35

-DET-			
Plc 11+57.00		Plc 15+68.78	
Dc = 11°42'42.1" (LT)		Dc = 08°13'48.9" (RT)	
D = 08°00'48.2"		D = 08°00'48.2"	
Lc = 146.15'		Lc = 102.71'	
Tc = 73.33'		Tc = 51.44'	
R = 715'		R = 715'	
SE = 04		SE = 04	
Lr = 82'		Lr = 82'	

BEGIN CONSTRUCTION BP12-R002
-DET- STA. 11+18.00 =
-L- STA. 11+18.00

BEGIN GRADE
-DET- STA. 12+26.93 =
-L- STA. 12+26.93 11.9' LT

BEGIN BRIDGE			
4'-6" -DET- STA. 17+55.00			
4'-6" TYPE III			
TEMP	11'	11'	TEMP
TYPE III	11'	11'	TYPE III
END BRIDGE			
4'-6" -DET- STA. 18+95.00			
4'-6" TYPE III			
SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP			



MATCH LINE -DET- STA 20+00.00 SEE SHEET 006

BP12-R002

RDY005

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
CLEVELAND COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

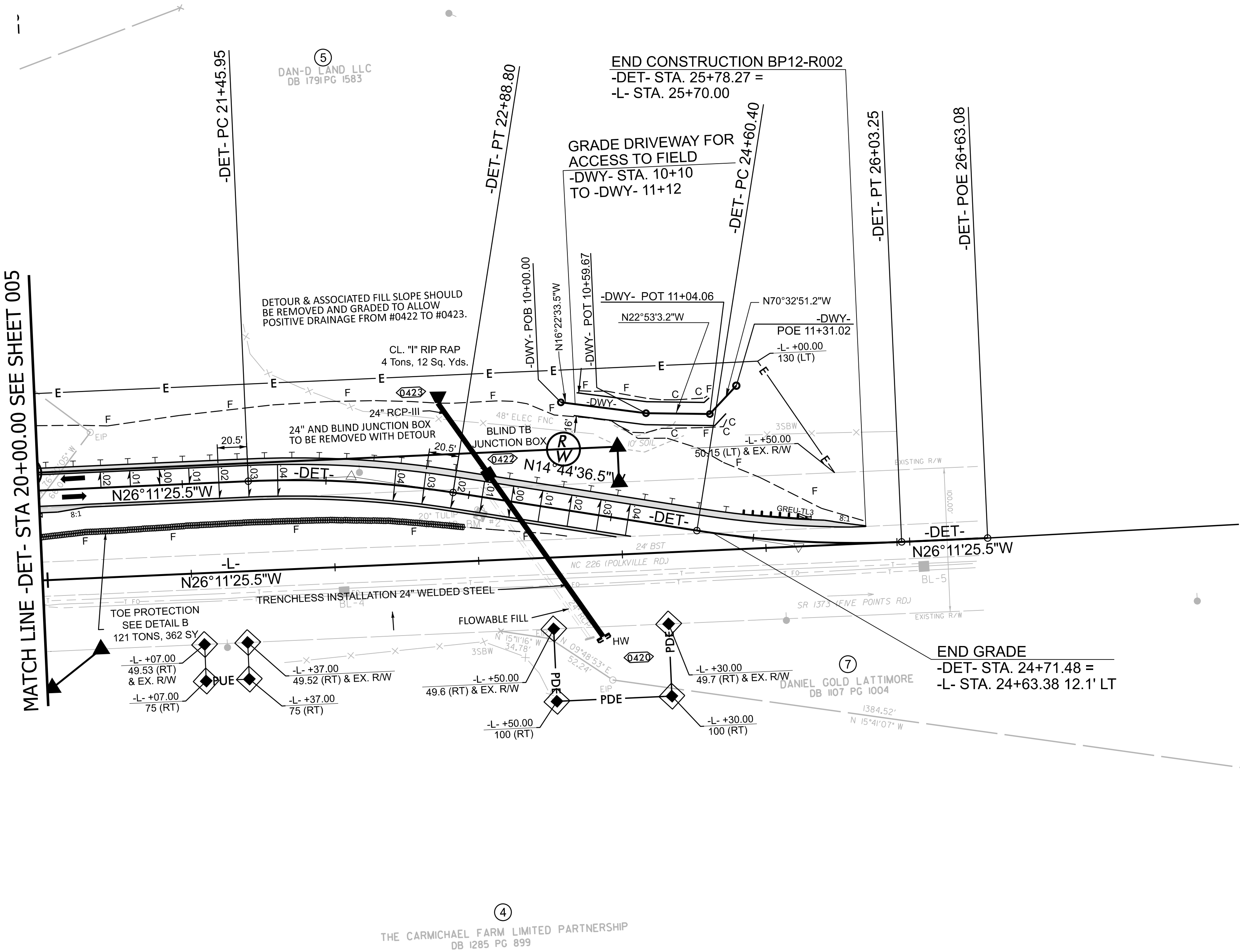
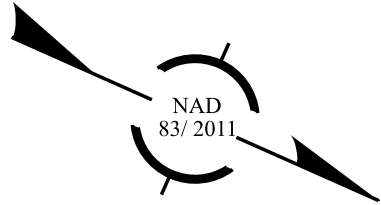
Signed by:
Farrell Nicholson
0445691
NORTH CAROLINA
PROFESSIONAL
ENGINEER
SEAL
045691
FARRELL NICHOLSON

HYDRAULICS
ENGINEER

Signed by:
Haminder Singh
044561
NORTH CAROLINA
PROFESSIONAL
ENGINEER
SEAL
044561
HAMINDER SINGH

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-DET-	
Plc 22+17.62	Plc 25+32.06
Dc = 11°26'49.0" (RT)	Dc = 11°26'49.0" (LT)
D = 08°00'48.2"	D = 08°00'48.2"
Lc = 142.85'	Lc = 142.85'
Tc = 71.66'	Tc = 71.66'
R = 715'	R = 715'
SE = 04	SE = 04
Lr = 82'	Lr = 82'



BP12-R002

RDY006

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DEPARTMENT OF TRANSPORTATION
CLEVELAND COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

Signed by
Farrell Nicholson
PROFESSIONAL ENGINEER

10/21/2025

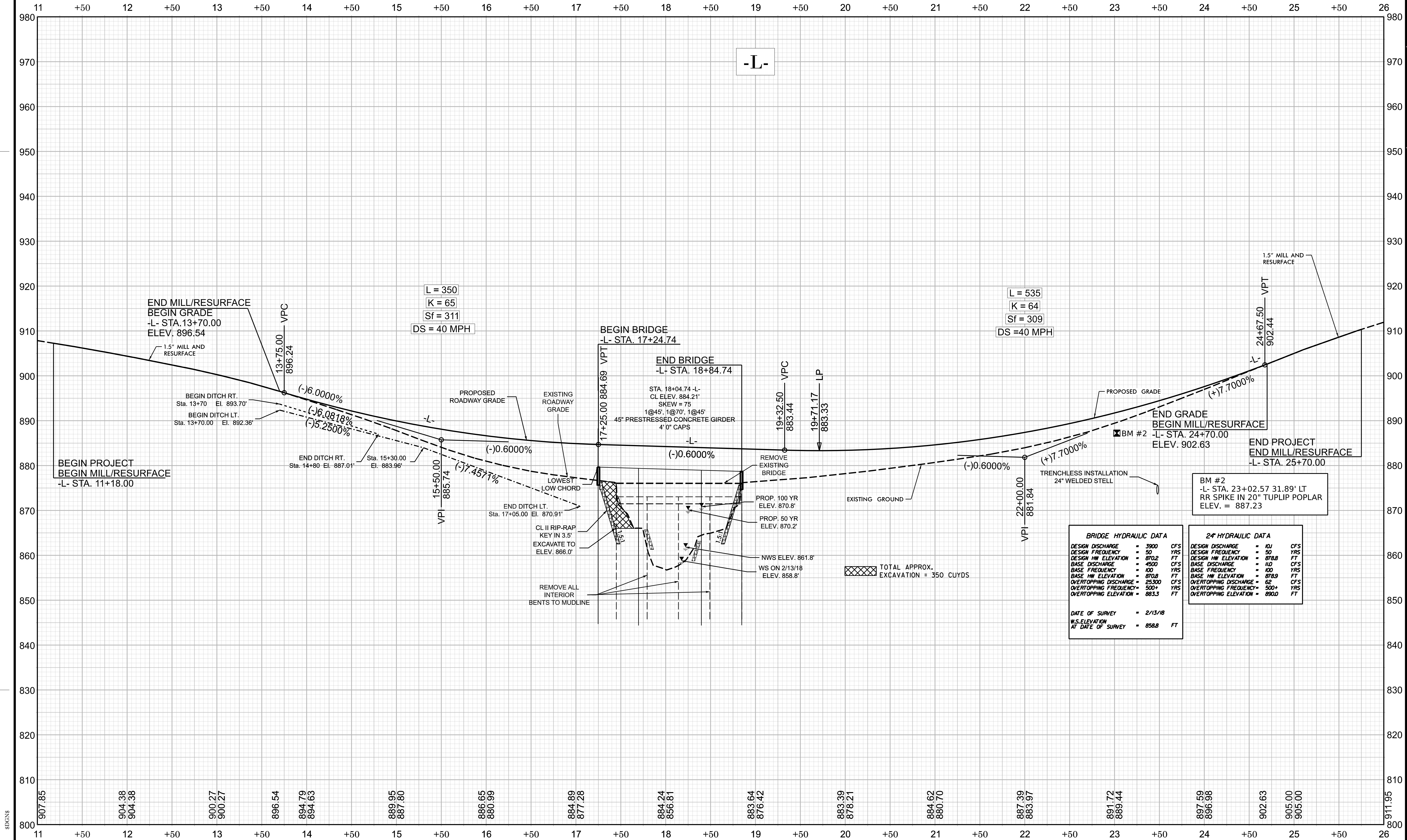
HYDRAULICS
ENGINEER

Signed by
Harinder Singh
PROFESSIONAL ENGINEER

10/21/2025

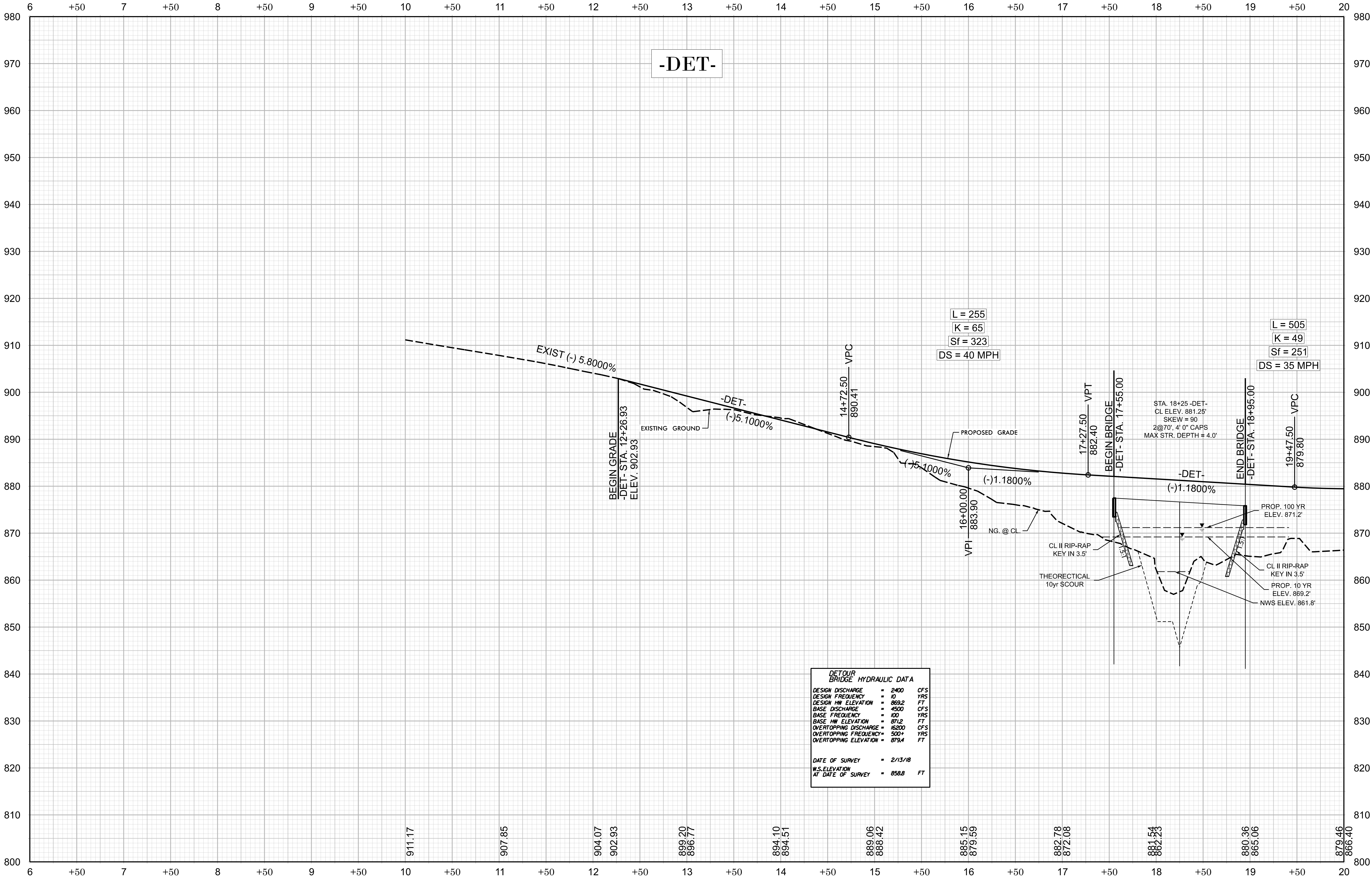
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FOR -L- PLAN, SEE SHEET NO. 4
FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-35

BP12-R002	
RDY	007
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION CLEVELAND COUNTY	
	
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ROADWAY DESIGN ENGINEER	
Signed by:  DCCC00621502406 Farrell Nicholson SEAL NORTH CAROLINA PROFESSIONAL SEAL 045691 ENGINEER FARRELL NICHOLSON	
10/21/2025	
HYDRAULICS ENGINEER	
Signed by:  DCCC00621502406 Harinder Singh SEAL NORTH CAROLINA PROFESSIONAL SEAL 044561 ENGINEER HARINDER SINGH	
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BP12-R002

RDY 008

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CLEVELAND COUNTY



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ROADWAY DESIGN
ENGINEER

Signed by: *Farrell Nicholson*



HYDRAULICS
ENGINEER

Signed by: *Raminder Singh*



PREPARED BY

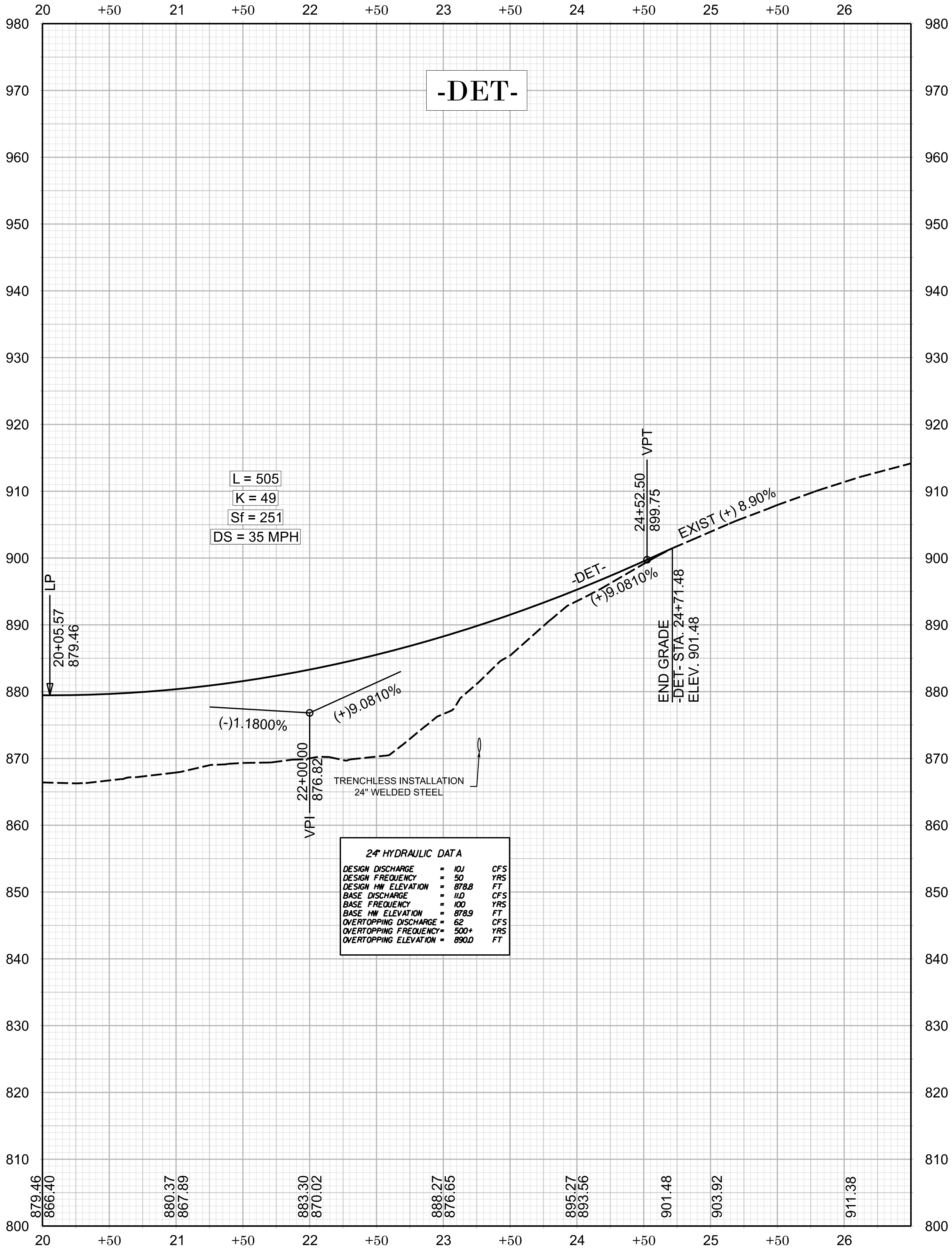


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CLEVELAND COUNTY

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ROADWAY DESIGN
ENGINEER

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10/21/2025

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ENGINEER

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10/21/2025

10/21/2025

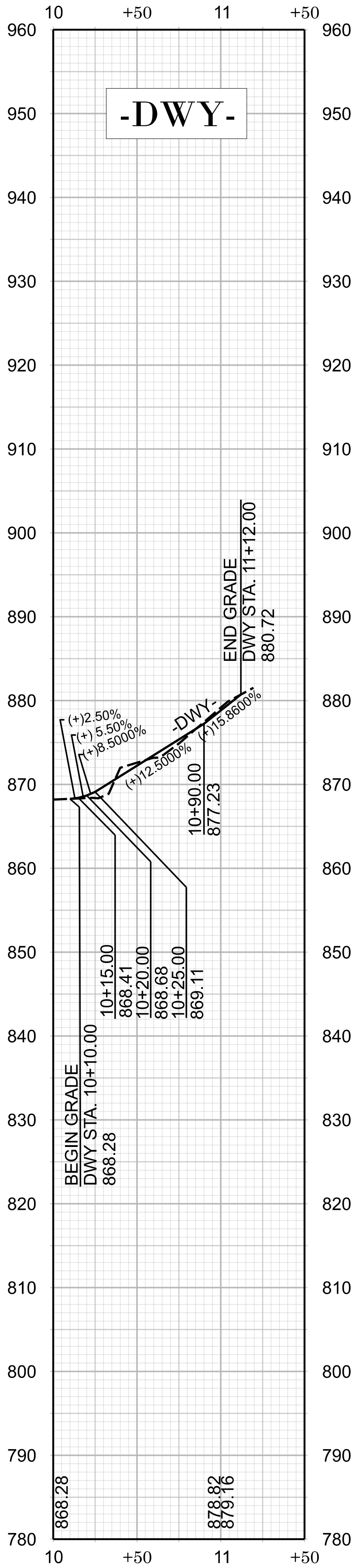
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RDY10

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FOR -DWY- PLAN, SEE SHEET NO. 4 & 6