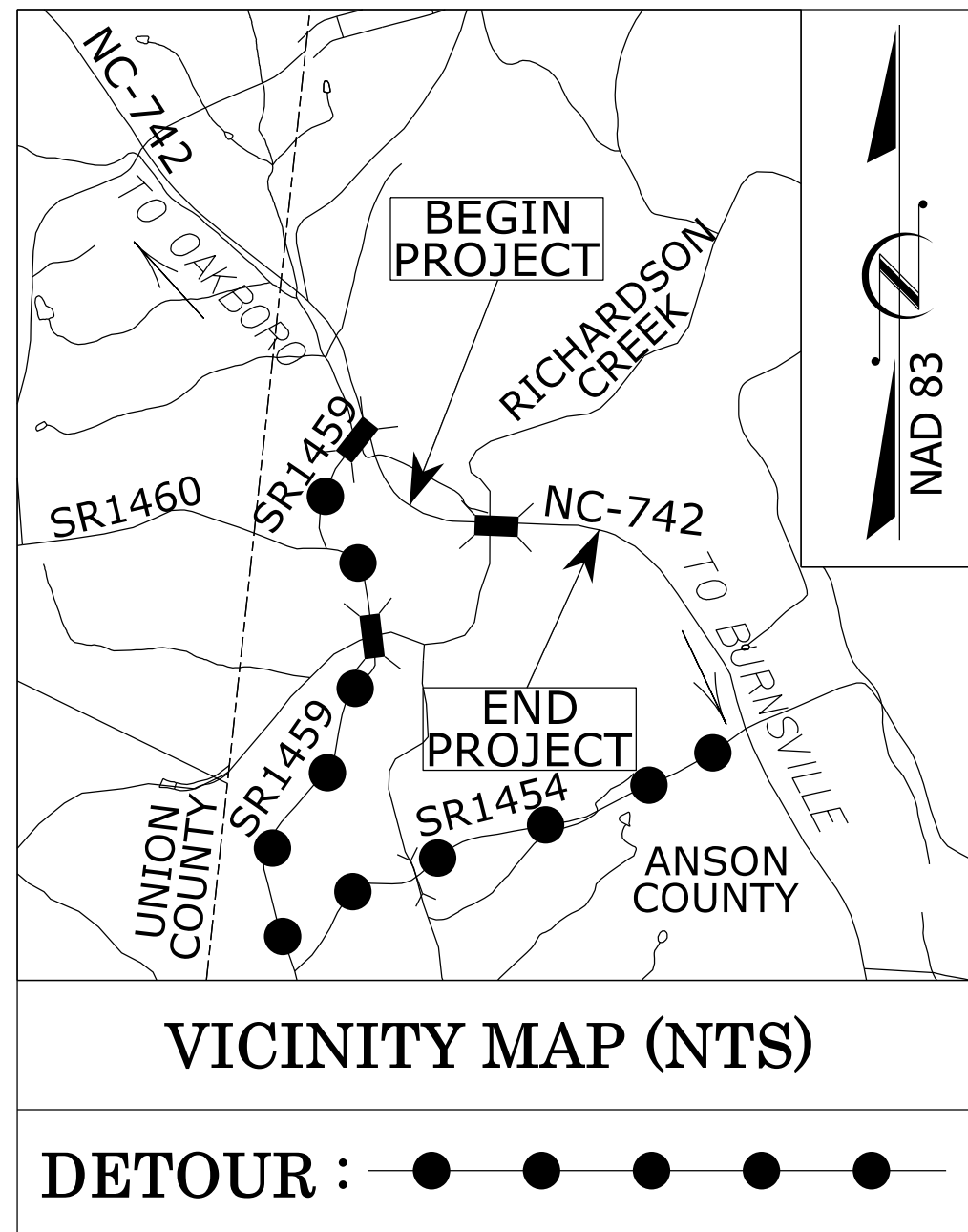


TIP PROJECT: BR-0063

CONTRACT: C204969

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



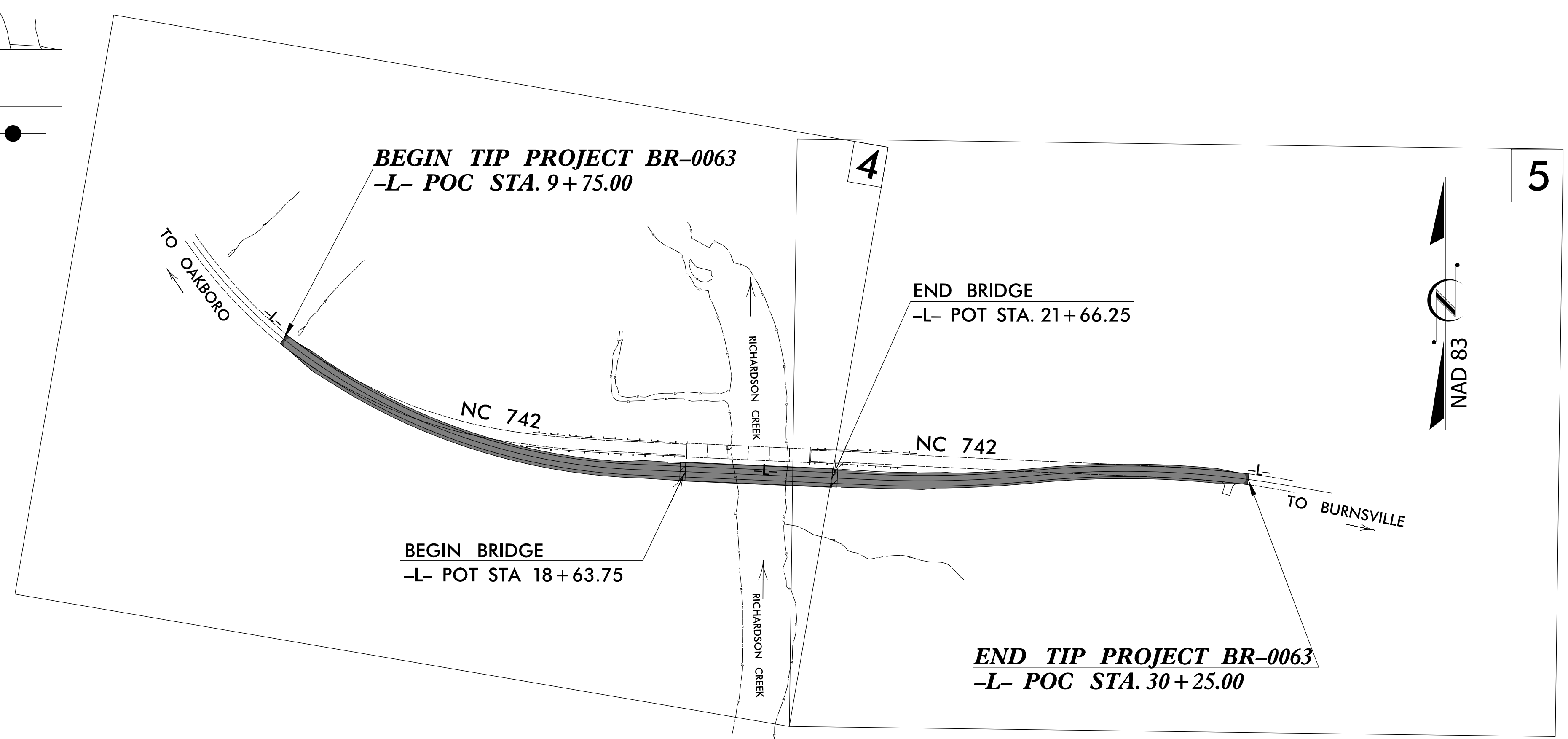
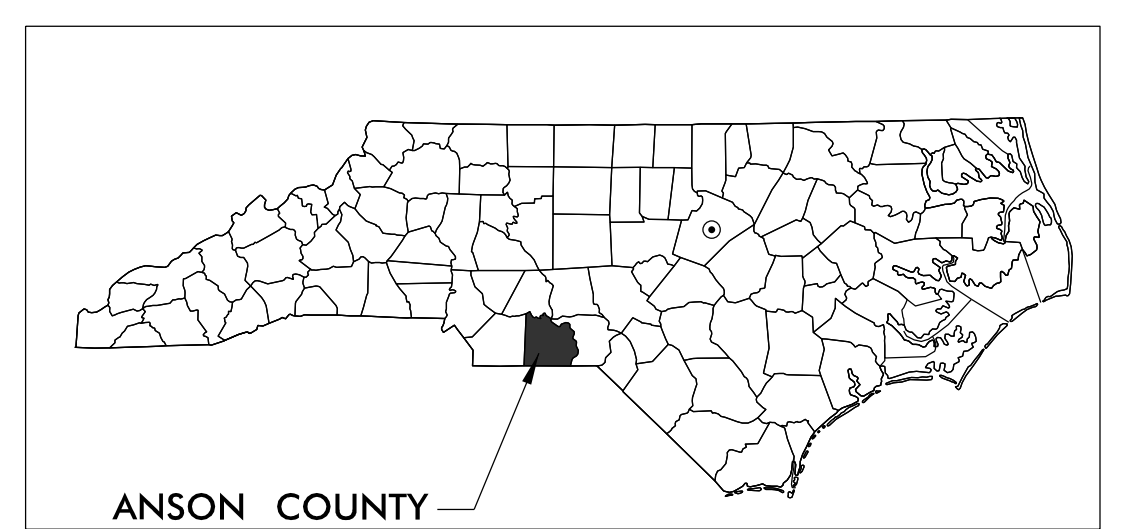
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

ANSON COUNTY

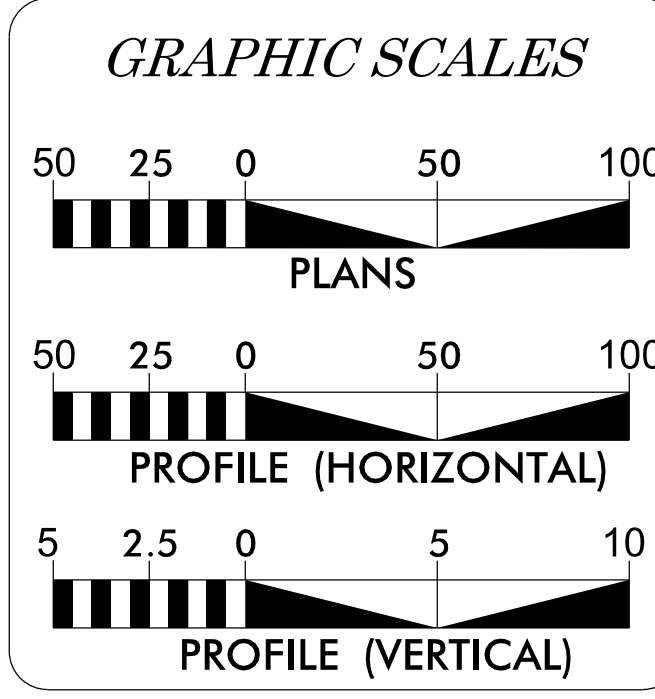
LOCATION: *REPLACEMENT OF BRIDGE 030087 OVER RICHARDSON CREEK ON NC 742*

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0063	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
67063.1.1	N/A	PE	
67063.2.1	N/A	R /W & Util.	
67063.3.1	N/A	CONST.	



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2024 = 2,000
ADT 2044 = 3,050

K = 10 %
D = 60 %
T = 15 % *
V = 50 MPH

* (TTST = 7% + DUAL 8%)

FUNC CLASS =
RURAL COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BR-0063	= 0.331 MI
LENGTH STRUCTURE TIP PROJECT BR-0063	= 0.057 MI
TOTAL LENGTH TIP PROJECT BR-0063	= 0.388 MI

Prepared in the Office of:

ARCADIS
Design & Consultancy
for natural and built assets
175 REGENCY WOODS PLACE, STE 400, CARY, NC 27518
Phone: 919-854-1282, License #: F-0299
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
09-25-2023

LETTING DATE:
12-17-2024

K. ZAK HAMIDI, PE
PROJECT ENGINEER

PRITHIVIRAJ RAJA, PE
PROJECT DESIGN ENGINEER

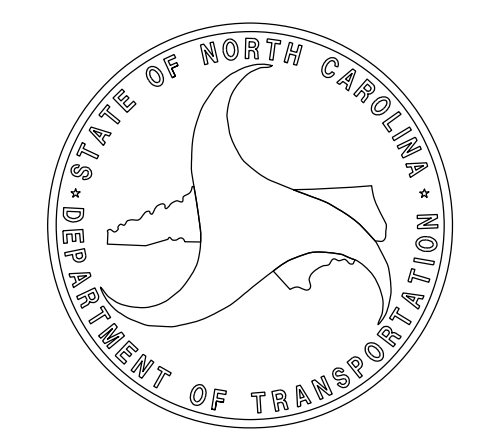
Yanwei Ma, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

Signed by:
Rebekah Higgins
FEF7EFA39E454D6... P.E. 10/2/2024

ROADWAY DESIGN ENGINEER

Signed by:
Prithviraj Raja
1DD6ED5B8291446... P.E. 10/2/2024



5/26/20

INDEX OF SHEETS

EFF. 01-16-2024

GENERAL NOTES:

2024 SPECIFICATIONS

SHEET NUMBER	SHEET	REV.
1	TITLE SHEET	2024 ROADWAY ENGLISH STANDARD DRAWINGS
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS	The following Roadway Standards as appear in "Roadway Standard Drawings"
1B	CONVENTIONAL SYMBOLS	Contracts Standards and Development Unit - N. C. Department of Transportation -
2A-1 THRU 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS	Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:
2B-1 THRU 2B-2	ROADWAY DETAILS	
2D-1 THRU 2D-3	DRAINAGE DETAILS	STD.NO. TITLE
2G-1	GEOTECHNICAL DETAILS	DIVISION 2 - EARTHWORK
3B-1 THRU 3B-2	ROADWAY SUMMARIES	200.03 Method of Clearing - Method III
3D-1	DRAINAGE SUMMARIES	225.02 Guide for Grading Subgrade - Secondary and Local
3G-1	GEOTECHNICAL SUMMARIES	225.04 Method of Obtaining Superelevation - Two Lane Pavement
3P-1	PARCEL INDEX SHEET	STD.NO. TITLE
4 THRU 7	PLAN AND PROFILE SHEET	DIVISION 3 - PIPE CULVERTS
RW-1 THRU RW-5	RIGHT-OF-WAY PLANS	300.01 Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
TMP-1 THRU TMP-7	TRAFFIC MANAGEMENT PLANS	DIVISION 4 - MAJOR STRUCTURES
PMP-1 THRU PMP-6	PAVEMENT MARKING PLANS	423.01 Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment
EC-1 THRU EC-7	EROSION CONTROL PLANS	DIVISION 5 - SUBGRADE, BASES AND SHOULDERS
SIGN-1 THRU SIGN-5	SIGNING PLANS	560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I
UO-1 THRU UO-4	UTILITIES BY OTHERS PLANS	DIVISION 6 - ASPHALT BASES AND PAVEMENTS
X-01	CROSS-SECTIONS INDEX SHEET	654.01 Pavement Repairs
X-02 THRU X-024	CROSS-SECTIONS	DIVISION 8 - INCIDENTALS
S-1 THRU S-18	STRUCTURE PLANS	806.01 Concrete Right-of-Way Marker
SN	STRUCTURE NOTES	806.02 Granite Right-of-Way Marker
		815.02 Subsurface Drain
		840.00 Concrete Base Pad for Drainage Structures
		840.14 Concrete Drop Inlet - 12" thru 30" Pipe
		840.15 Brick Drop Inlet - 12" thru 30" Pipe
		840.16 Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
		840.25 Anchorage for Frames - Brick or Concrete or Precast
		840.35 Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
		840.37 Steel Grate and Frame
		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
		848.04 Street Turnout
		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)
		876.01 Rip Rap in Channels and Ditches
		876.02 Guide for Rip Rap at Pipe Outlets

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

SURFACING:
 THE ROUGH GRADING AND STRUCTURES ON THIS PROJECT HAVE BEEN DONE OR ARE NOW BEING DONE UNDER A PREVIOUS CONTRACT. 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 III.

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

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

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

DRIVEWAYS:
 DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:
 STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

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

TEMPORARY SHORING:
 SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

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


UTILITIES:
 UTILITY OWNERS ON THIS PROJECT ARE
 WINDSTREAM-TELEPHONE
 DUKE ENERGY FIBER-FIBER OPTIC
 ANSON COUNTY WATER-WATER/SEWER
 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 CONTRACT.

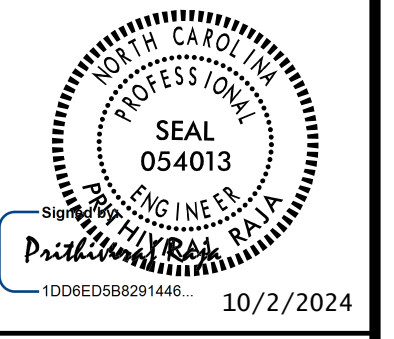
BR-0063

RDY | IA

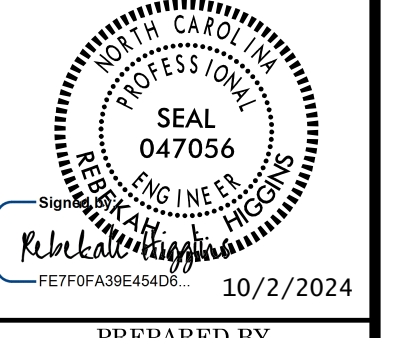
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ANSON COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN ENGINEER



HYDRAULICS ENGINEER



PREPARED BY

ARCADIS

115 RESIDENCY WOODS PLACE STE 400, CARY, NC 27513
Phone: 919-440-2222, Fax: 919-440-2227

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UNLESS ALL SIGNATURES COMPLETED

REVISIONS

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

Note: Not to Scale

BOUNDARIES AND PROPERTY:

State Line	-----	
County Line	-----	
Township Line	-----	
City Line	-----	
Reservation Line	-----	
Property Line	-----	
Existing Iron Pin (EIP)	-----	○ EIP
Computed Property Corner	-----	X
Existing Concrete Monument (ECM)	-----	□ ECM
Parcel / Sequence Number	-----	(23)
Existing Fence Line	-----x-----x-----x-----	
Proposed Woven Wire Fence	-----○-----	
Proposed Chain Link Fence	-----□-----	
Proposed Barbed Wire Fence	-----◇-----	
Existing Wetland Boundary	-----MLB-----	
Proposed Wetland Boundary	-----MLB-----	
Existing Endangered Animal Boundary	-----EAB-----	
Existing Endangered Plant Boundary	-----EPB-----	
Existing Historic Property Boundary	-----HPB-----	
Known Contamination Area: Soil	-----S-----S-----S-----	
Potential Contamination Area: Soil	-----S-----S-----S-----	
Known Contamination Area: Water	-----W-----W-----W-----	
Potential Contamination Area: Water	-----W-----W-----W-----	
Contaminated Site: Known or Potential	-----☠☑-----	

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	-----○-----
Sign	-----○-----
Well	-----♀-----
Small Mine	-----X-----
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	-----
False Sump	-----

RAILROADS:

Standard Gauge	-----	CSX TRANSPORTATION
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	-----E-----	
Proposed Temporary Construction Easement	-----E-----	
Proposed Temporary Drainage Easement	-----TDE-----	
Proposed Permanent Drainage Easement	-----PDE-----	
Proposed Permanent Drainage/Utility Easement	-----DUE-----	
Proposed Permanent Utility Easement	-----PUE-----	
Proposed Temporary Utility Easement	-----TUE-----	
Proposed Aerial Utility Easement	-----AUE-----	

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	-----Vineyard-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----CONC-----
Bridge Wing Wall, Head Wall and End Wall	-----CONC WW-----
MINOR:	
Head and End Wall	-----CONC HW-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----CB-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----S-----
Storm Sewer	-----S-----

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)*	-----P-----
U/G Power Line (SUE - LOS C)*	-----P-----
U/G Power Line (SUE - LOS D)*	-----P-----

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)*	-----T-----
U/G Telephone Cable (SUE - LOS C)*	-----T-----
U/G Telephone Cable (SUE - LOS D)*	-----T-----
U/G Telephone Conduit (SUE - LOS B)*	-----TC-----
U/G Telephone Conduit (SUE - LOS C)*	-----TC-----
U/G Telephone Conduit (SUE - LOS D)*	-----TC-----
U/G Fiber Optics Cable (SUE - LOS B)*	-----TFO-----
U/G Fiber Optics Cable (SUE - LOS C)*	-----TFO-----
U/G Fiber Optics Cable (SUE - LOS D)*	-----TFO-----

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	-----A/G Water-----

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)*	-----TV-----
U/G TV Cable (SUE - LOS C)*	-----TV-----
U/G TV Cable (SUE - LOS D)*	-----TV-----
U/G Fiber Optic Cable (SUE - LOS B)*	-----TVFO-----
U/G Fiber Optic Cable (SUE - LOS C)*	-----TVFO-----
U/G Fiber Optic Cable (SUE - LOS D)*	-----TVFO-----

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

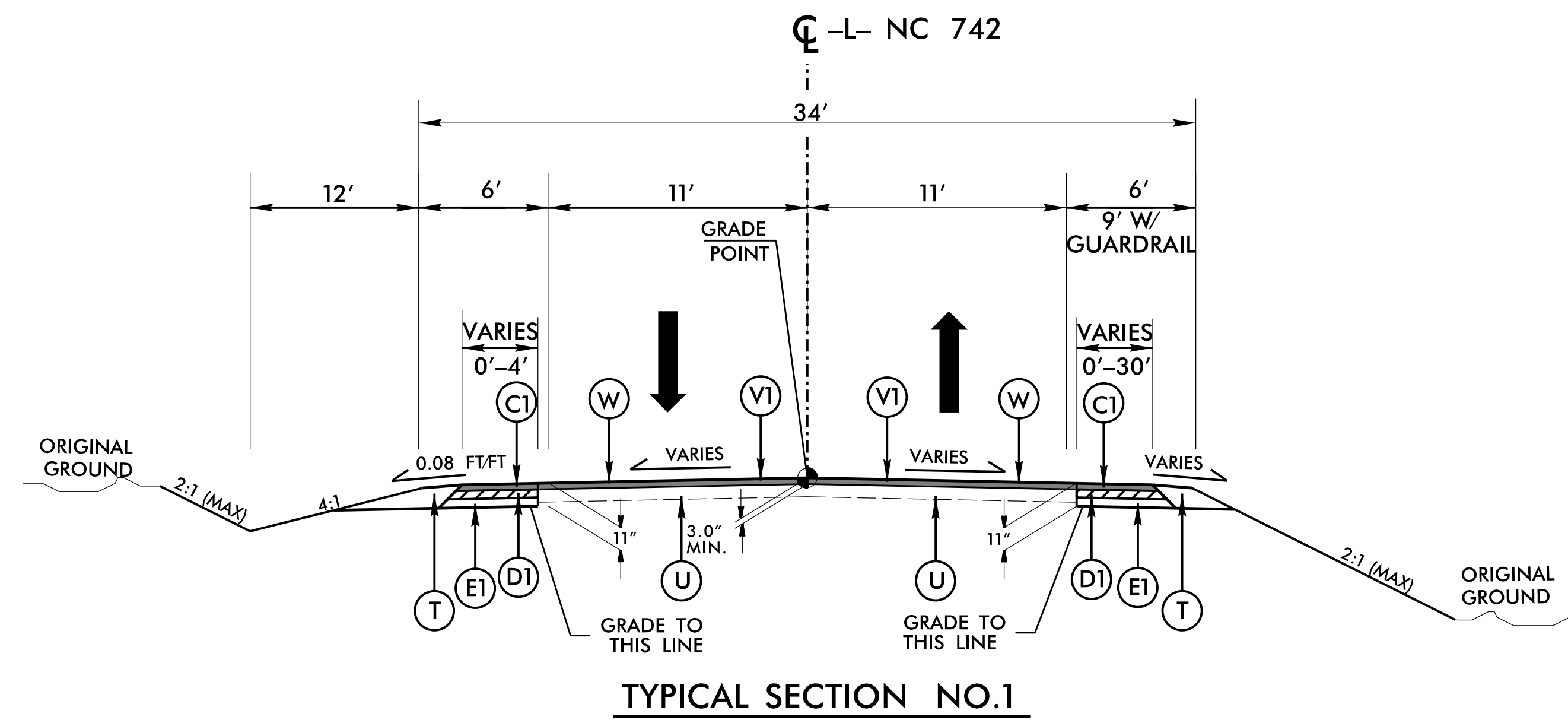
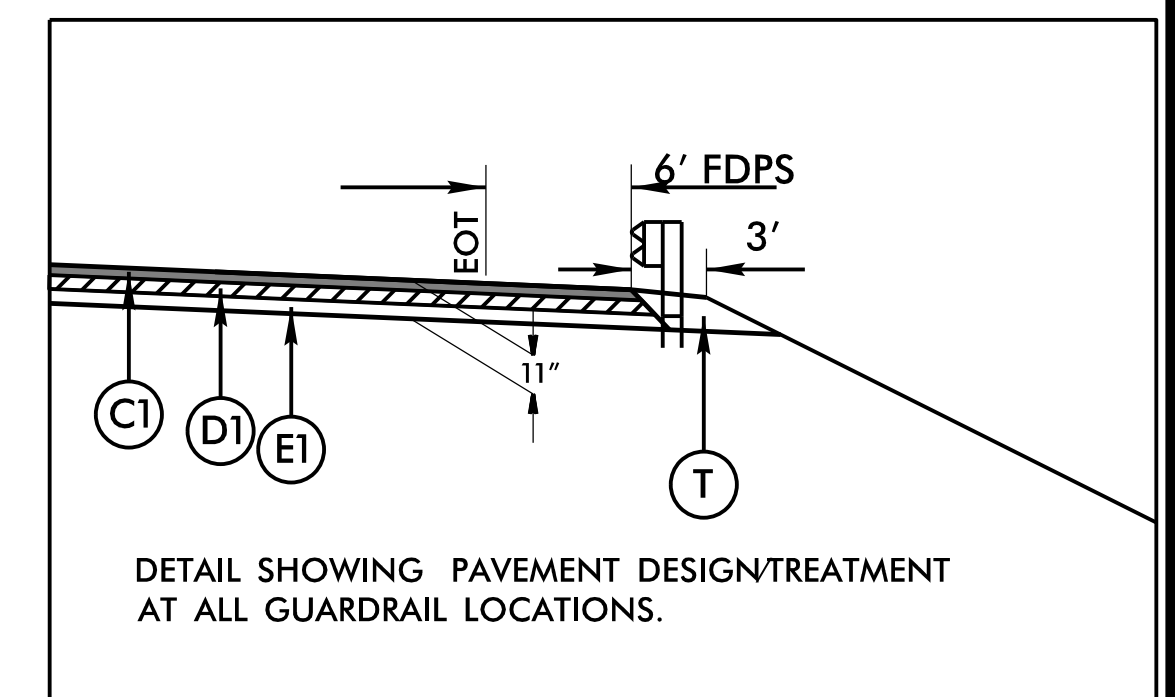
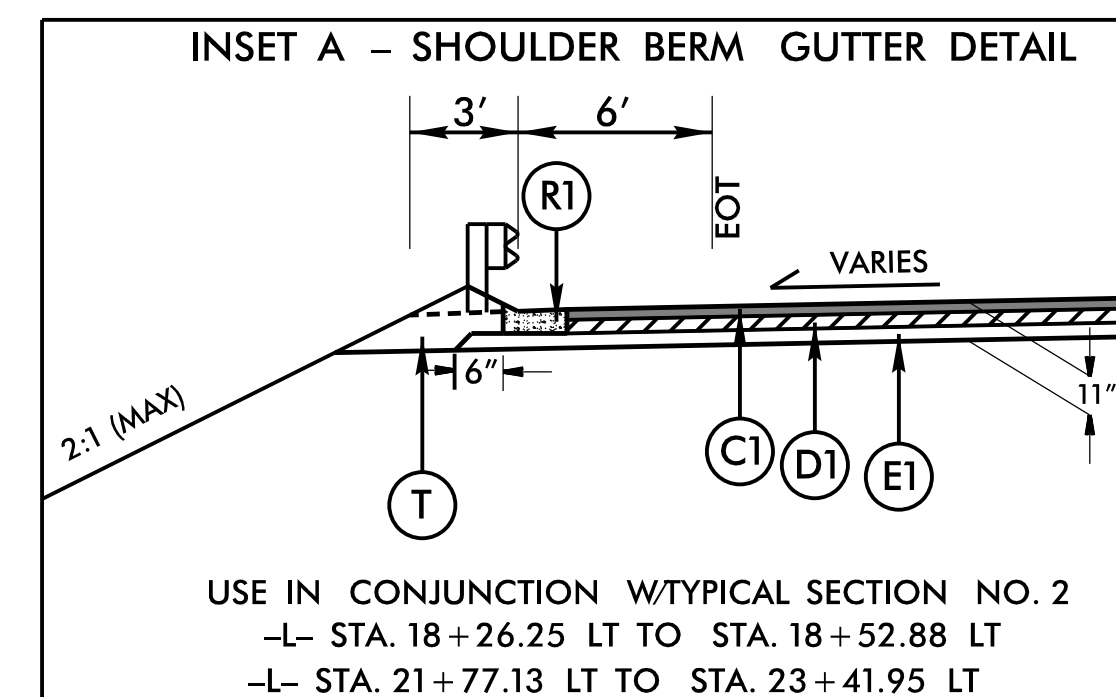
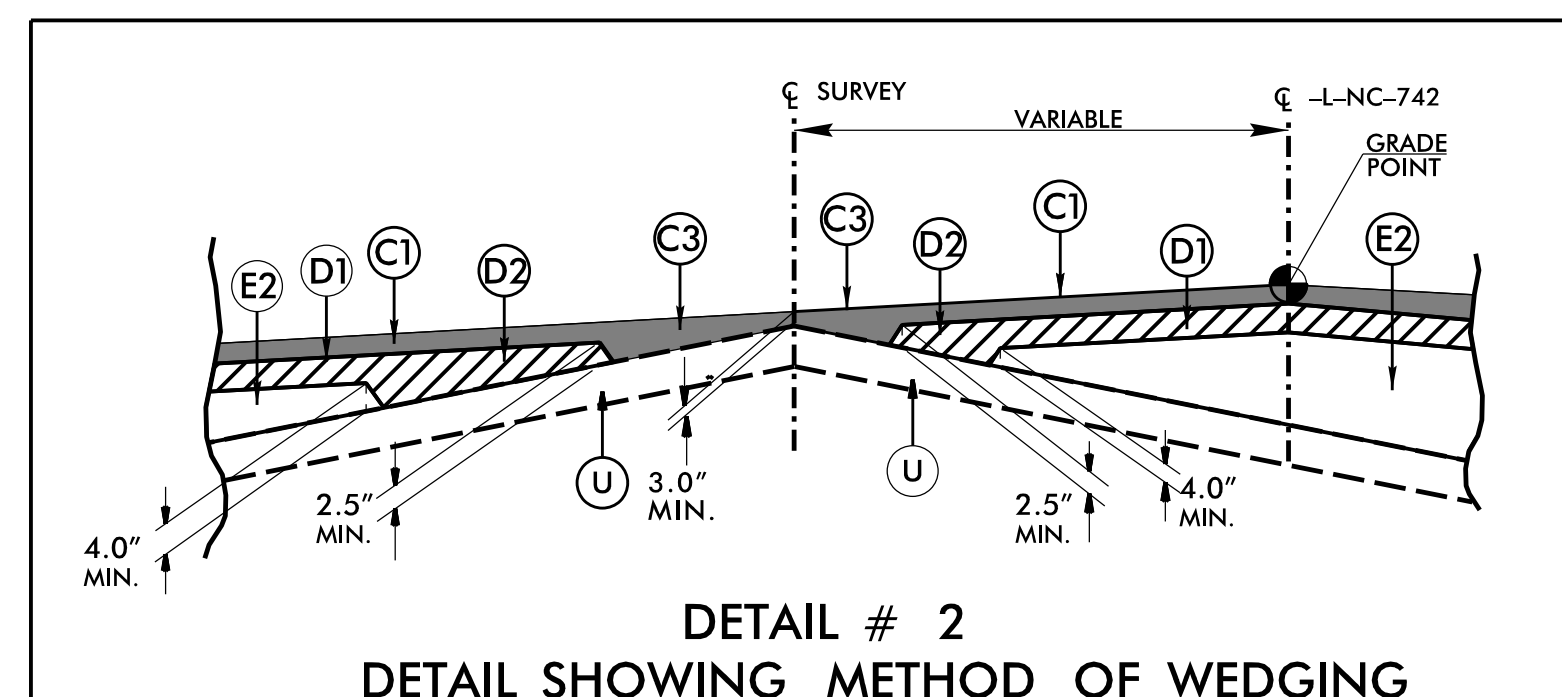
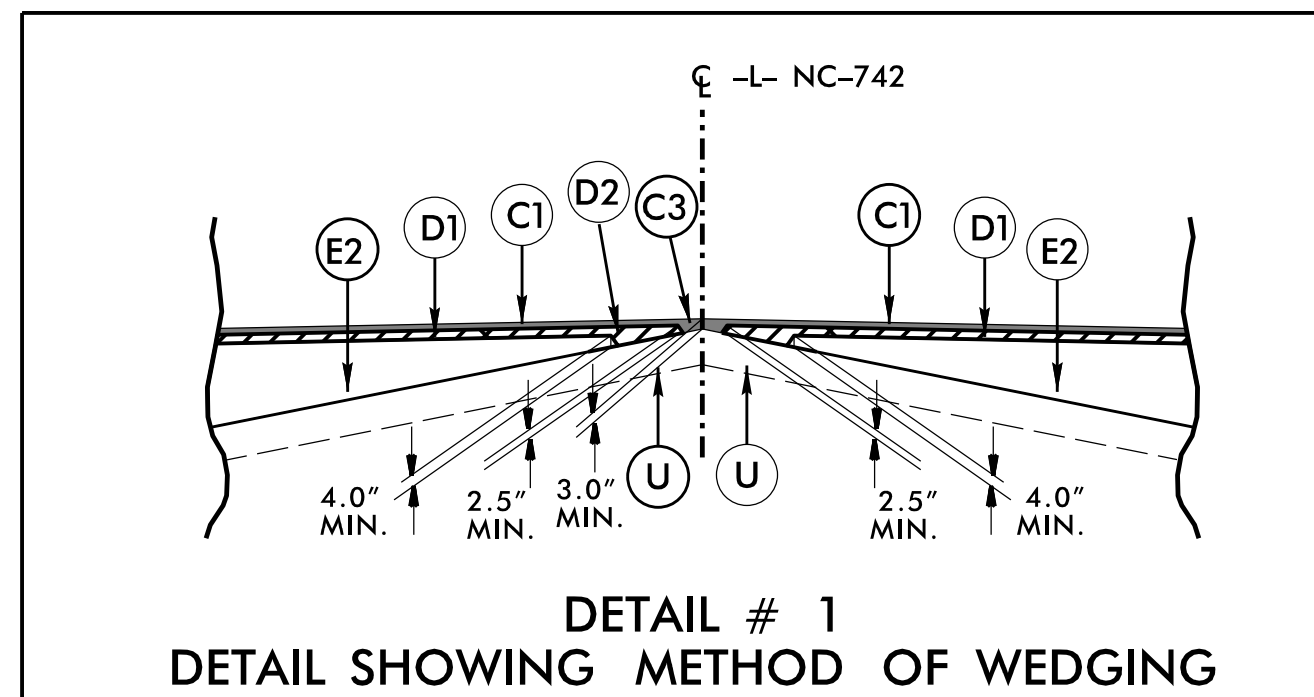
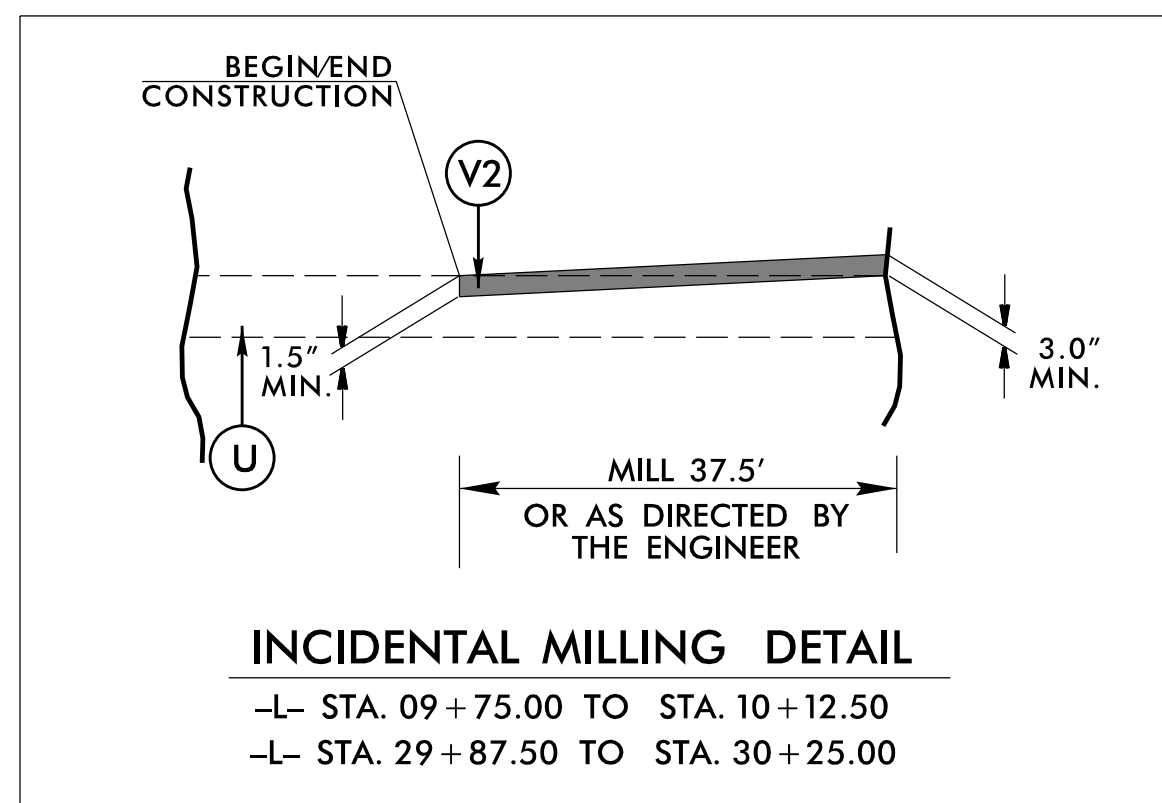
SANITARY SEWER:	
Sanitary Sewer Manhole	-----
Sanitary Sewer Cleanout	-----
U/G Sanitary Sewer Line	-----SS-----
Above Ground Sanitary Sewer	-----A/G Sanitary Sewer-----
SS Force Main Line Test Hole (SUE - LOS A)*	-----
SS Force Main Line (SUE - LOS B)*	-----FSS-----
SS Force Main Line (SUE - LOS C)*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

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

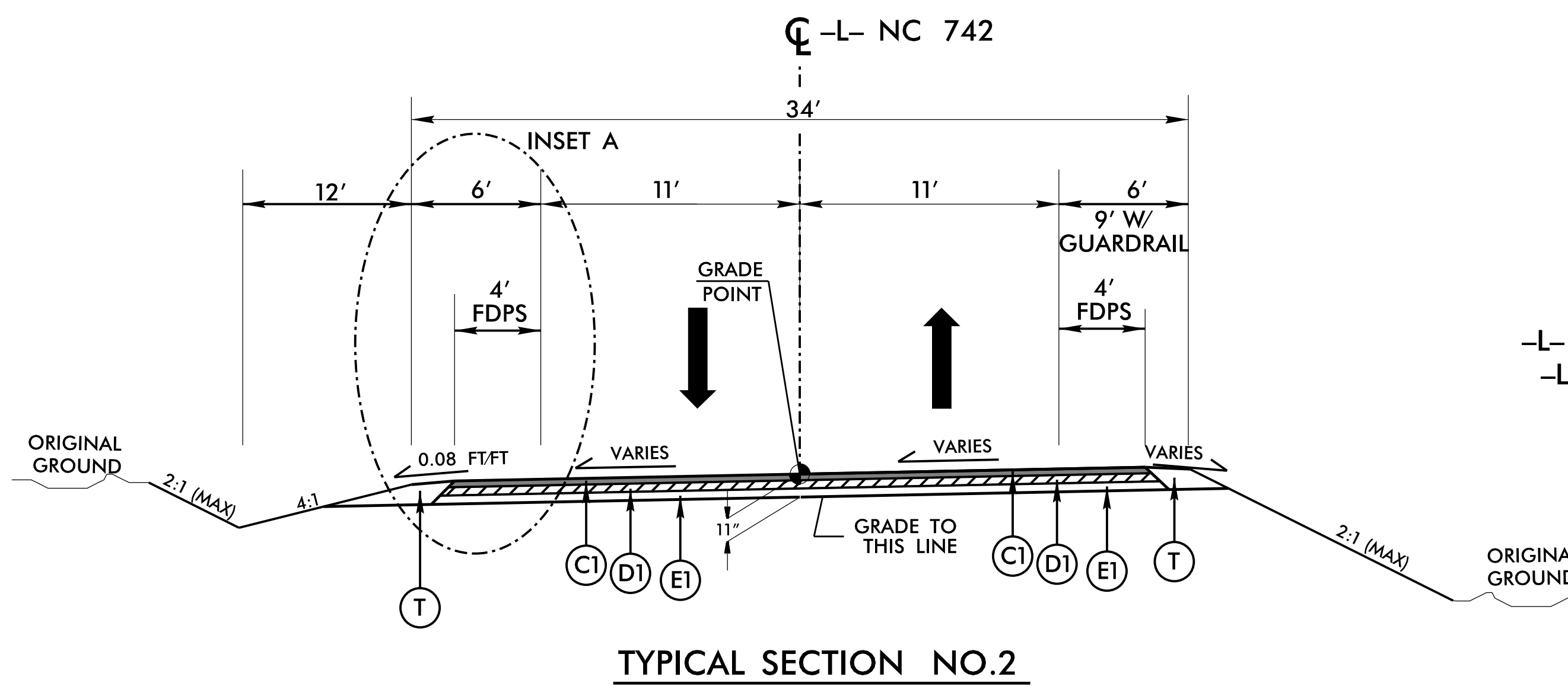
FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 3.0" 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. 3.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 196 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1.0" DEPTH, TO BE PLACED LAYERS NOT TO EXCEED 2.0" IN DEPTH
D1	PROP. APPROX. 4.0" 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 1.0" DEPTH, TO BE PLACED LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4.0" IN DEPTH
E1	PROP. APPROX. 4.0" ASPHALT BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1.0" DEPTH, TO BE PLACED LAYERS NOT LESS THAN 3.0" IN DEPTH OR GREATER THAN 5.5" IN DEPTH
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING: MILL 1.5" OF EXISTING PAVEMENT AND REPLACE WITH C1.
V2	INCIDENTAL MILLING
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAILS 1 AND 2)

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



USE TYPICAL SECTION NO. 1 AS FOLLOWS
 -L- STA. 10+12.50 TO STA. 14+60.00
 -L- STA. 25+30.00 TO STA. 29+87.50



USE TYPICAL SECTION NO. 2 AS FOLLOWS
 -L- STA. 14+60.00 TO STA. 18+63.75 (BEGIN BRIDGE)
 -L- STA. 21+66.25 (END BRIDGE) TO STA. 25+30.00

BR-0063
 RDY 1 2A-1
 NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 ANSON COUNTY

ROADWAY DESIGN UNIT
 ROADWAY DESIGN ENGINEER

SEAL 054013
 10/7/2024

PAVEMENT DESIGN ENGINEER

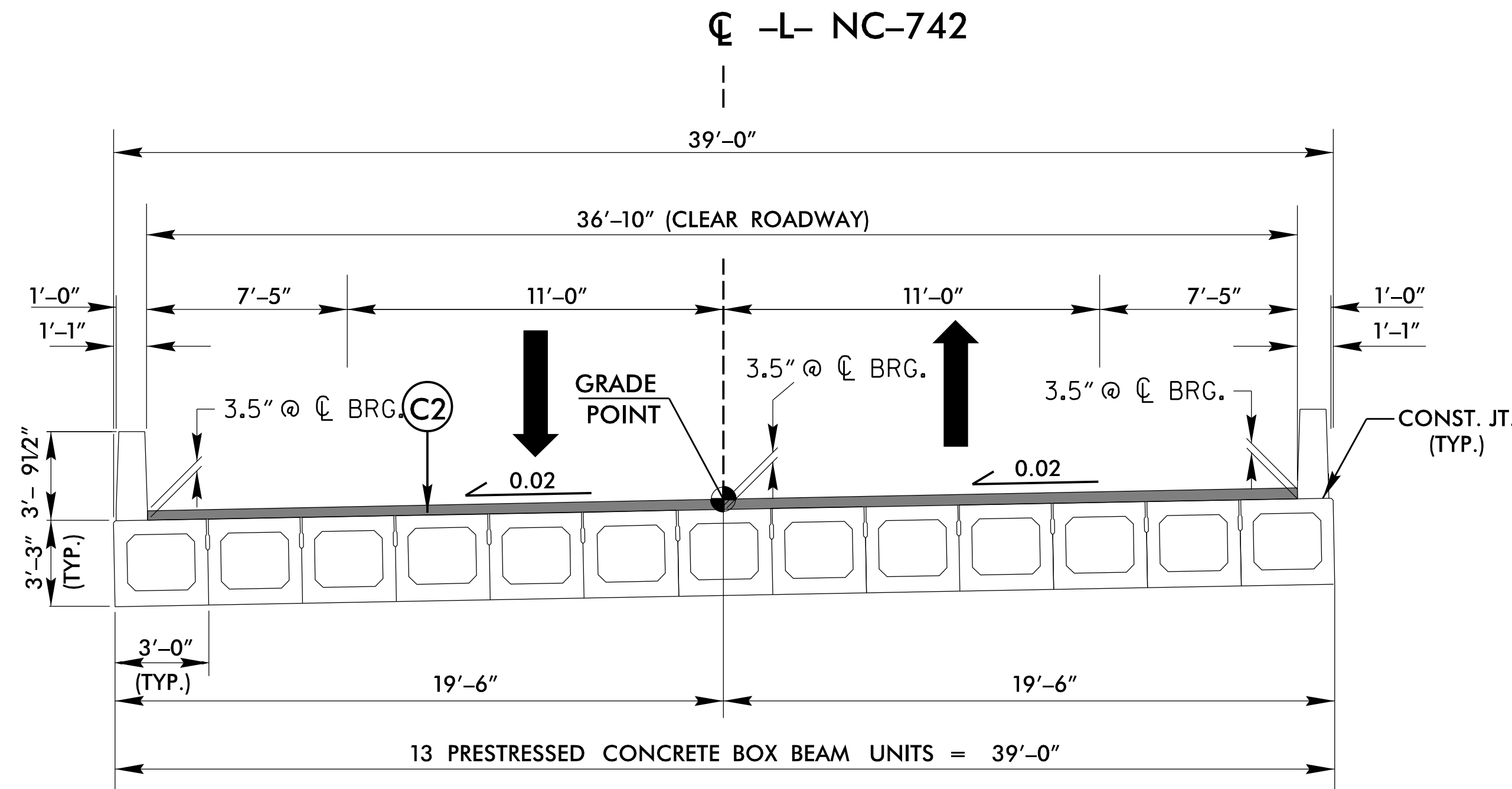
SEAL 044590
 10/7/2024

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 115 REGENCY WOODS PLACE, SUITE 400, CARY, NC 27513
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REVISIONS

PAVEMENT SCHEDULE

C2	3.5" TYPE S9.5C
----	-----------------



USE TYPICAL SECTION NO. 3 AS FOLLOWS
 -L- STA. 18+63.75 TO STA. 21+66.25

TYPICAL SECTION NO.3
BRIDGE TYPICAL SECTION

BR-0063

RDY 12A-2

NORTH CAROLINA

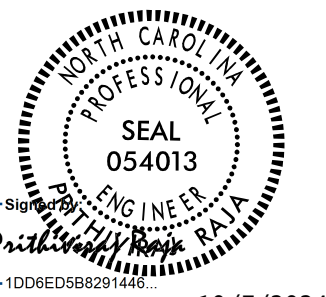
DEPARTMENT OF TRANSPORTATION

ANSON COUNTY



ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER



10/7/2024

PREPARED BY

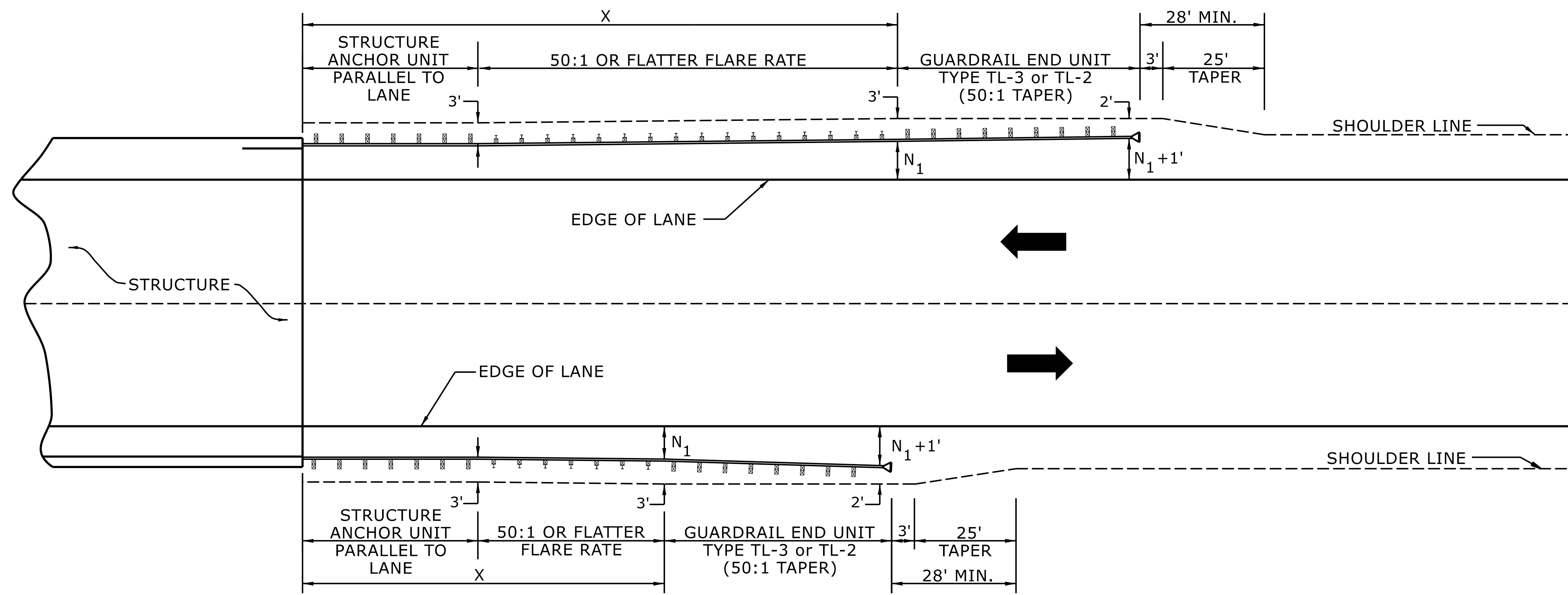


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REVISIONS

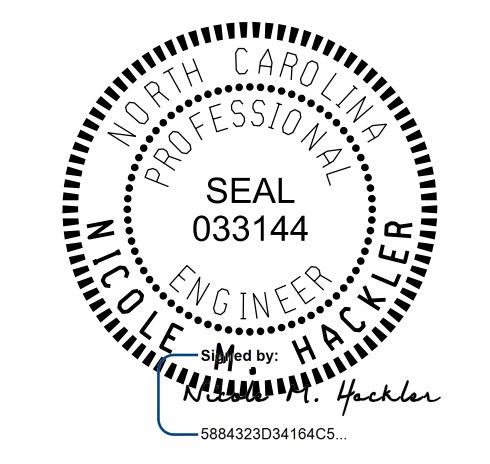


USE FLARE RATE AS THE CONTROL IF THE "N₁" DISTANCE IS NOT OBTAINED.
 ("N₁" IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)
 SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS
 FOR POSTED SPEEDS ≥ 45MPH USE GREU TYPE TL-3
 FOR POSTED SPEEDS < 45MPH USE GREU TYPE TL-2
 GUARDRAIL LENGTH OF NEED (X) IS 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



10/2/2024

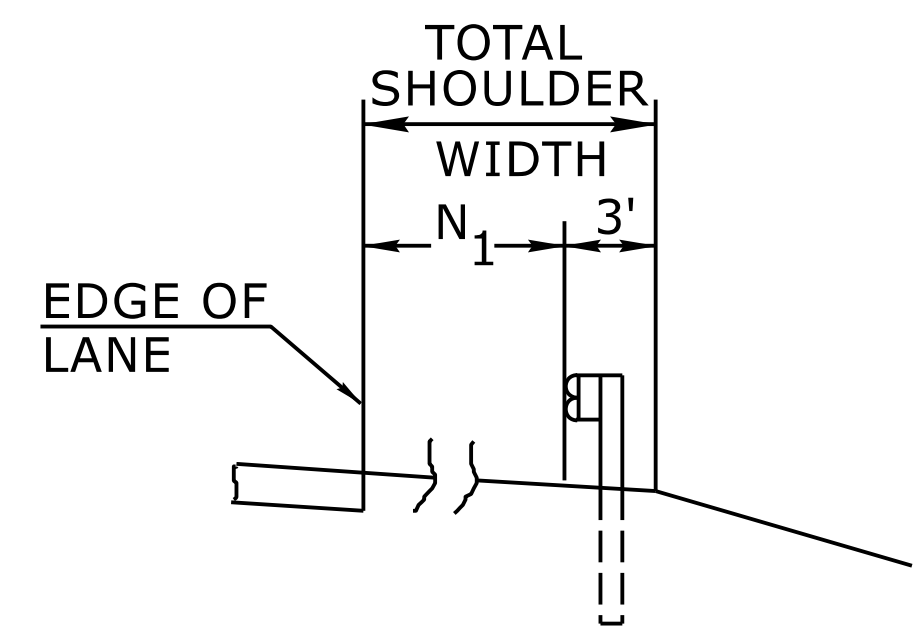
SHEET 4 OF 15
862D01

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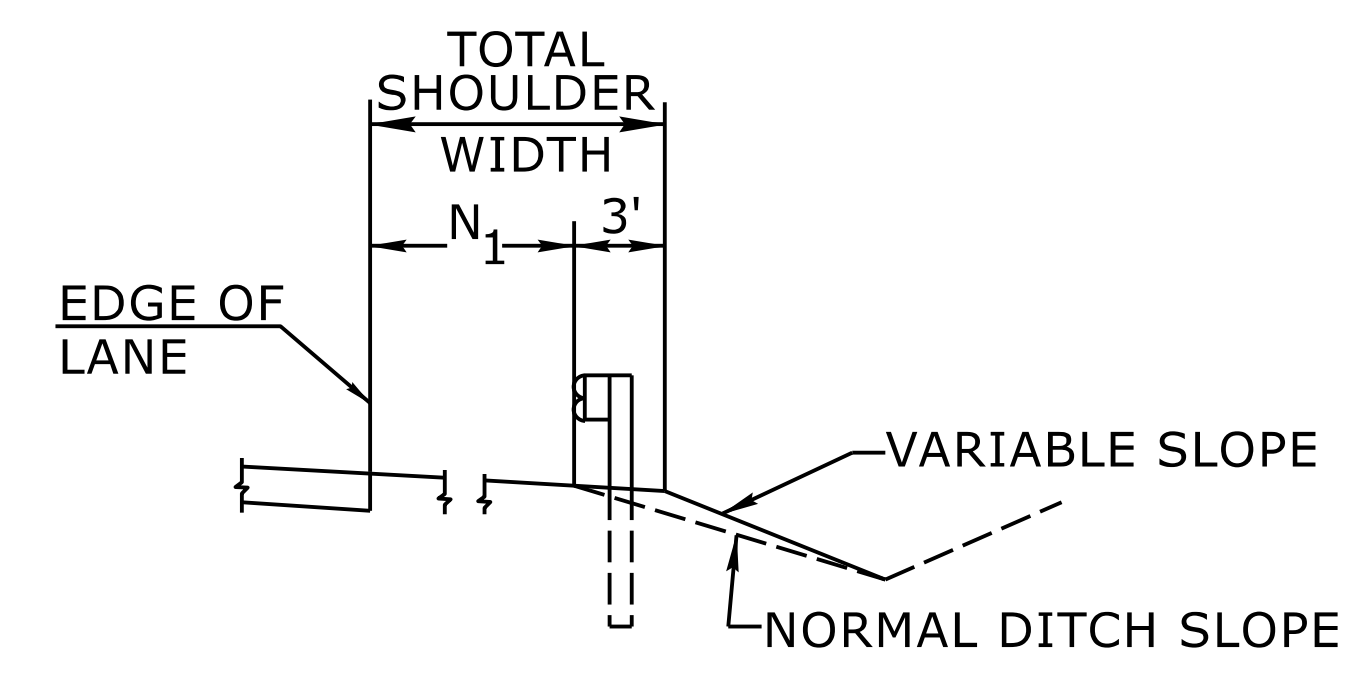
**CONTRACTS STANDARDS
 AND DEVELOPMENT UNIT**
 Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

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

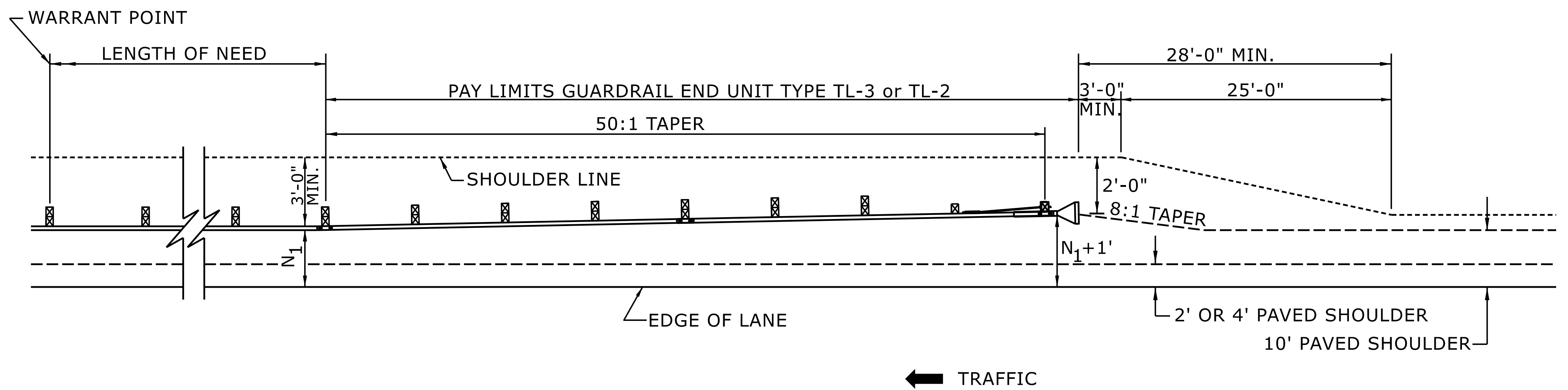


FILL SECTION



CUT SECTION

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

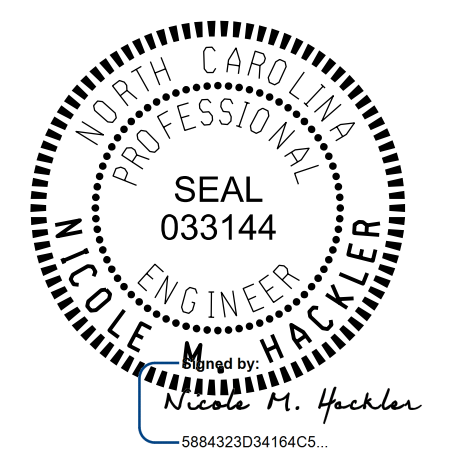


FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



10/2/2024

SHEET 6 OF 15
862D01

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

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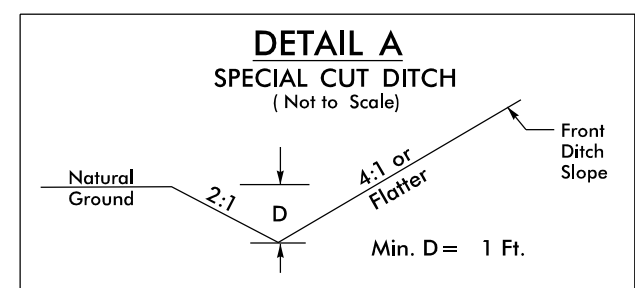
ORIGINAL BY: S.CALHOUN	DATE: 7-25-2024
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

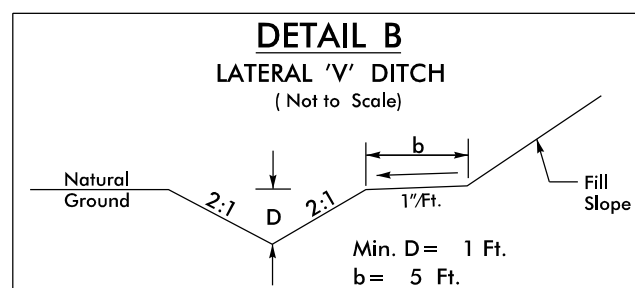
BR-0063
HYD 20-1
 NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 ANSON COUNTY

ROADWAY DESIGN UNIT
 HYDRAULIC DESIGN
 ENGINEER

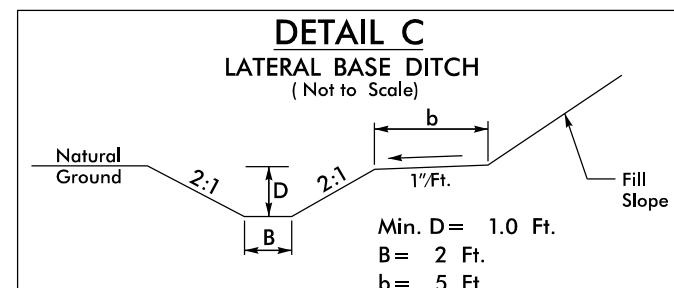
10/2/2024



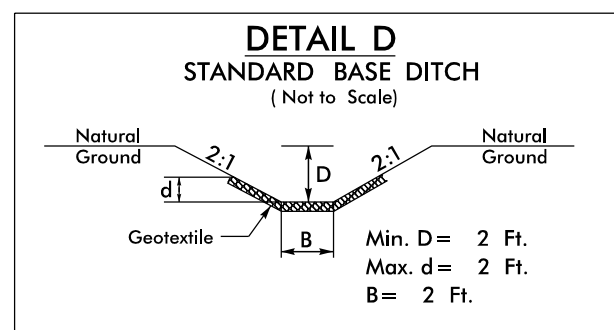
FROM STA. 15+00 TO STA. 17+25 LT



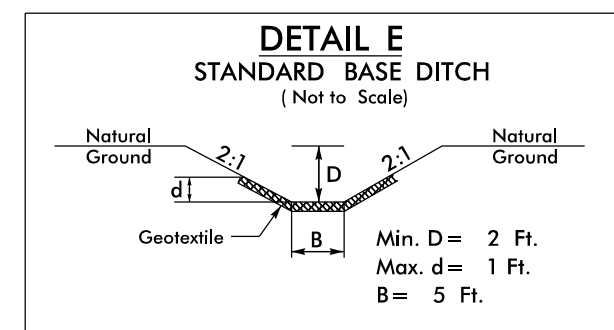
FROM STA. 17+25 TO STA. 18+29 LT
FROM STA. 21+85 TO STA. 25+50 LT



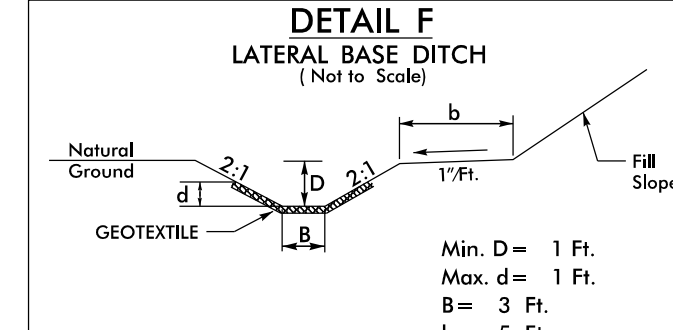
FROM STA. 12+50 TO STA. 18+00 RT



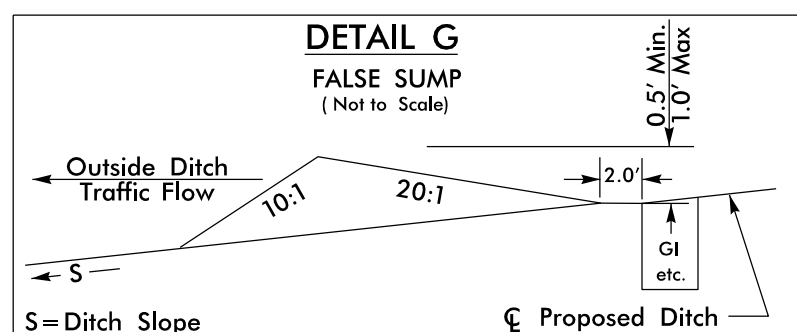
Type of Liner = CLASS I Rip-Rap
FROM STA. 18+00 TO STA. 19+47 RT



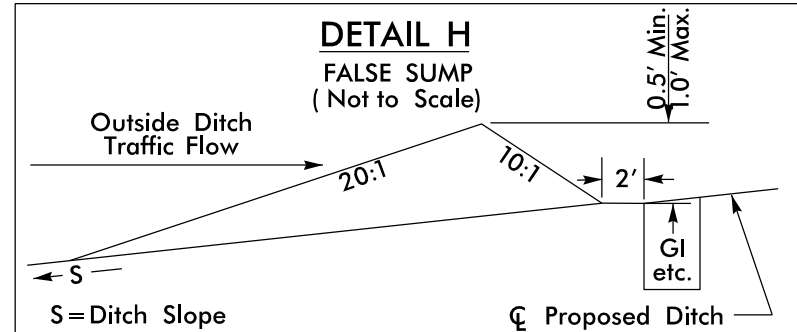
Type of Liner = CLASS I Rip-Rap
FROM STA. 20+88 TO STA. 22+00 RT



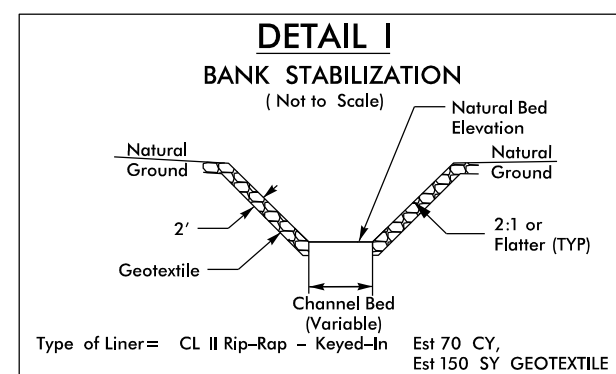
Type of Liner = CLASS I Rip-Rap
FROM STA. 22+00 TO STA. 23+20 RT



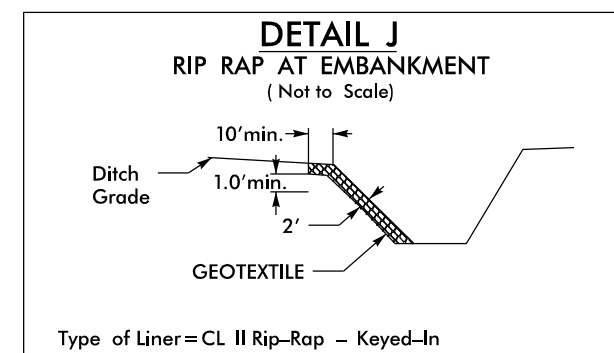
STA. 21+81 LT



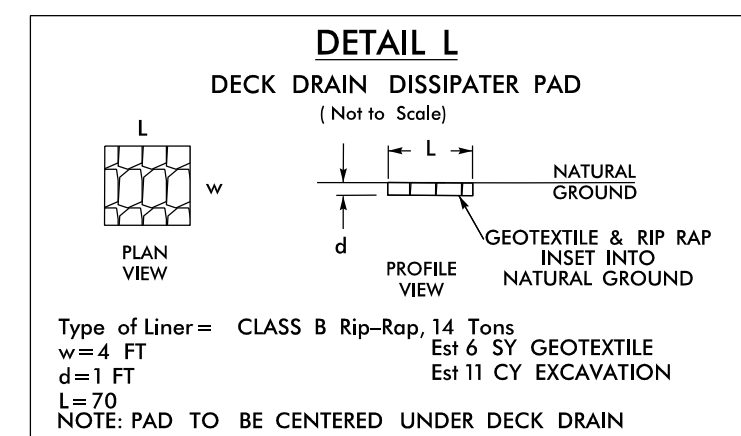
STA. 18+33 LT



STA. 18+52 TO 21+78



FROM STA. 19+47 TO STA. 19+74 RT
FROM STA. 20+73 TO STA. 20+88 RT



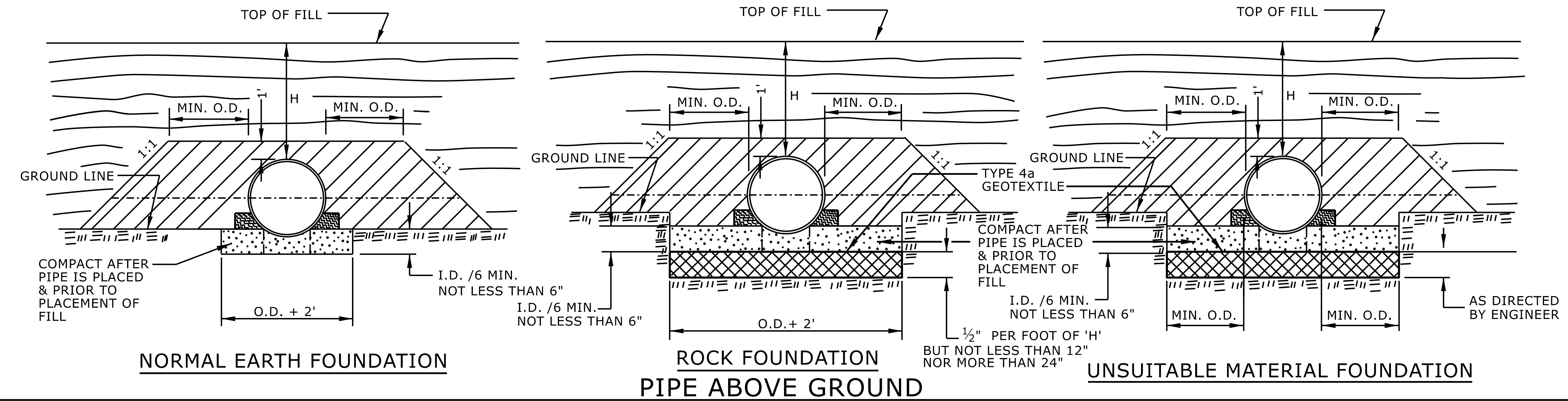
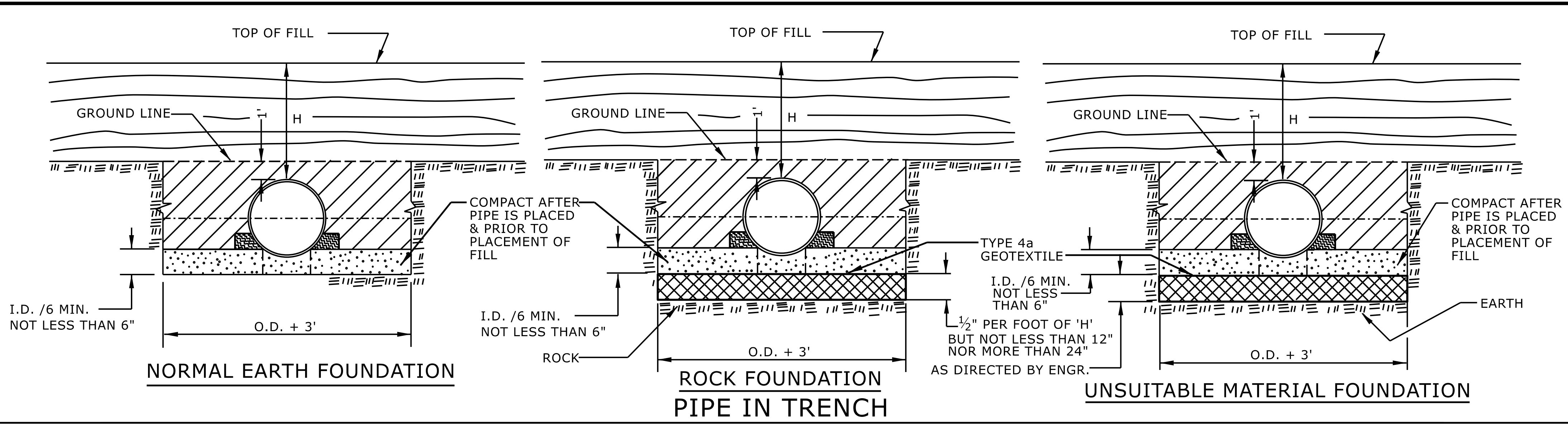
STA. 18+75 TO STA. 19+45, LT
STA. 20+90 TO STA. 21+60, LT

REVISIONS



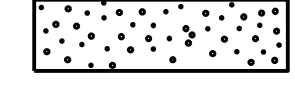
PREPARED BY

 175 REGENCY WOODS PLACE, SUITE 400, CARY, NC 27518
 PHONE: 919-440-1200, FAX: 919-440-1201

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UNLESS ALL SIGNATURES COMPLETED

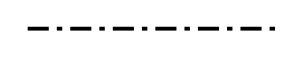
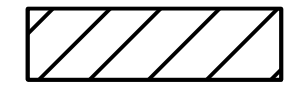
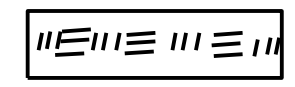



GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

 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.

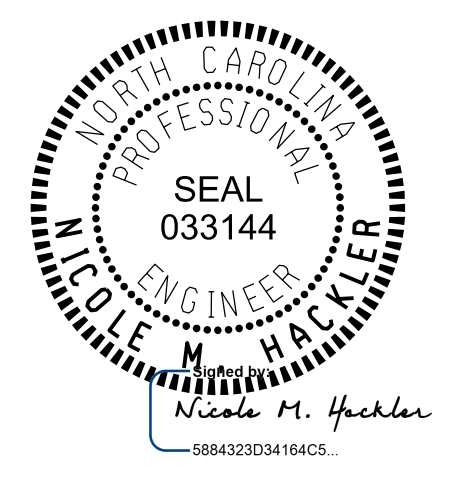
DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

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



10/2/2024

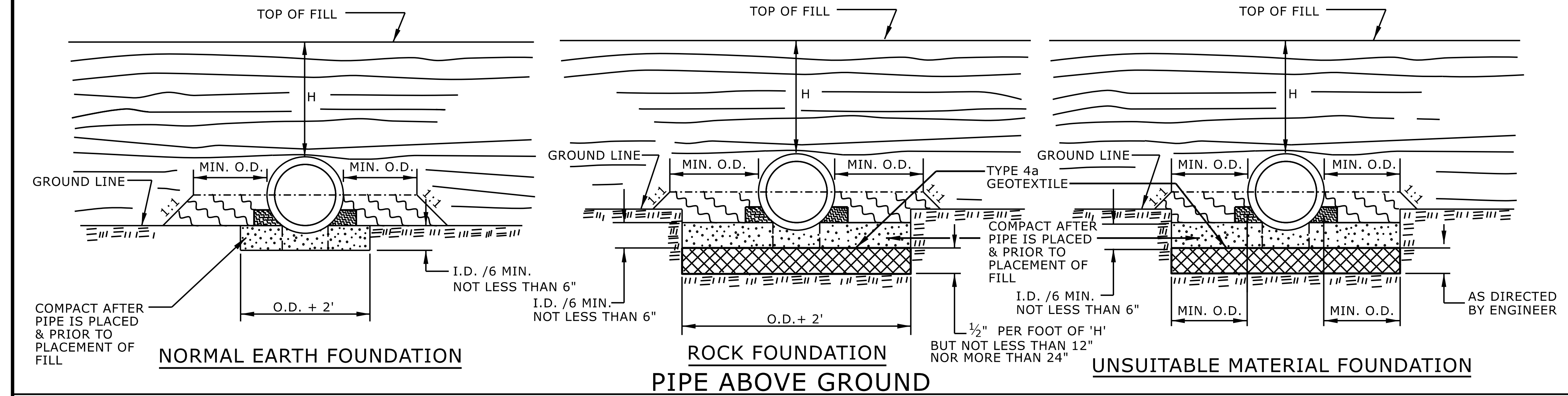
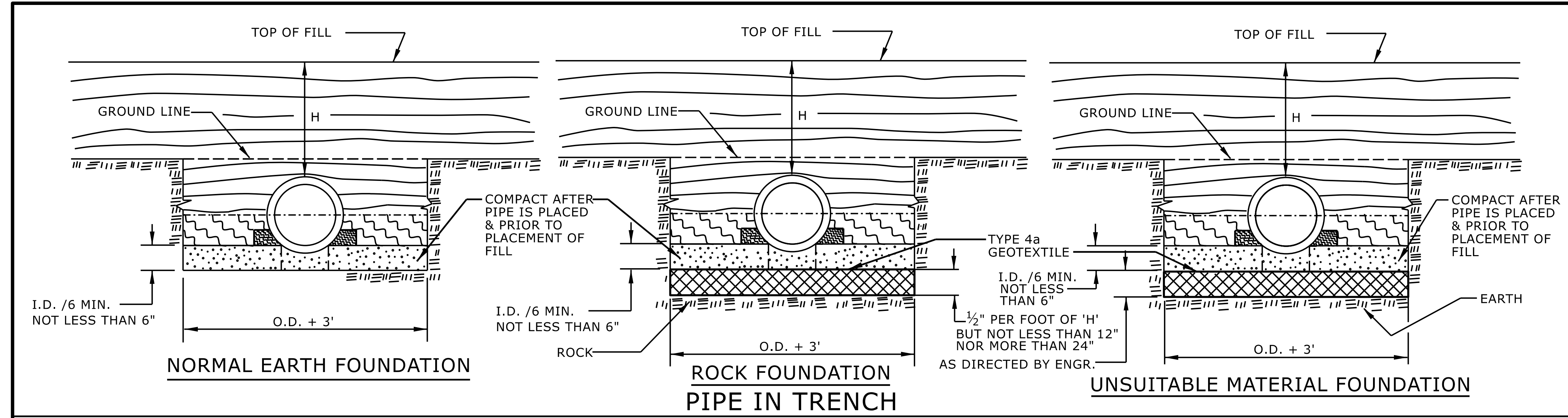
SHEET 1 OF 2
300.01

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

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 FILE SPEC: DATE:



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

- APPROVED SUITABLE LOCAL MATERIAL.
- TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
- LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.
REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

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

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

ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE



10/2/2024

SHEET 2 OF 2
300.01

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

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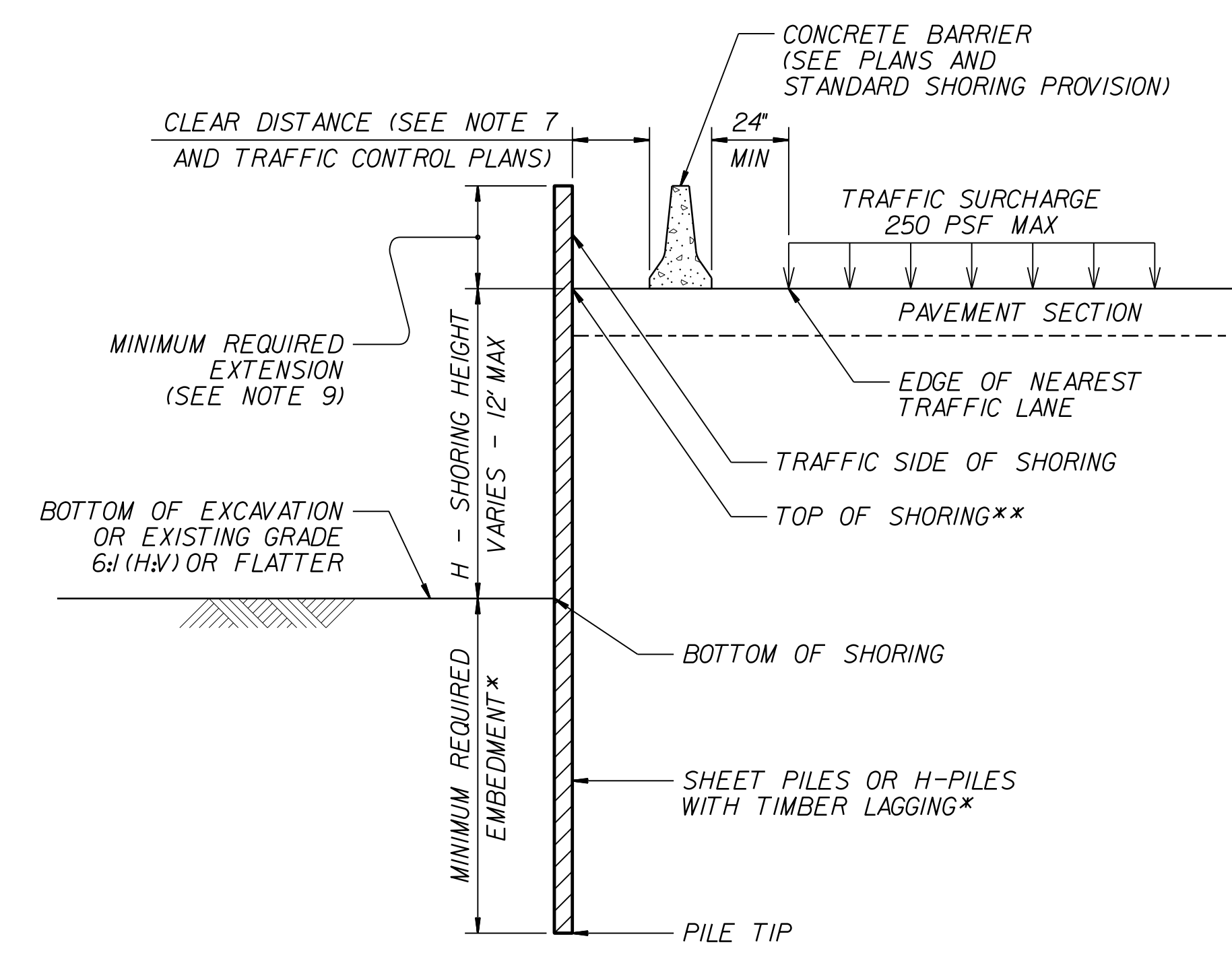
ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: DATE: _____
CHECKED BY: DATE: _____
FILE SPEC.: _____

GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H-PILES WITH TIMBER LAGGING			SHEET PILES		H-PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)			MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)		
				HP 10x42	HP 12x53	HP 14x73			HP 10x42	HP 12x53	HP 14x73
GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5
	8	15.0	10.0	--	15.0	15.0	18.0	17.0	--	15.5	15.5
	9	17.0	14.0	--	17.0	17.0	19.0	20.0	--	17.0	17.0
	10	18.5	19.5	--	--	18.5	20.0	23.5	--	--	18.5
	11	20.5	26.0	--	--	--	21.0	28.0	--	--	20.0
GROUNDWATER ELEVATION BELOW PILE TIP	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5
	9	11.0	9.5	--	12.0	12.0	13.5	16.5	--	12.5	12.5
	10	12.5	13.0	--	--	13.5	14.0	19.5	--	13.5	13.5
	11	13.5	17.0	--	--	14.5	15.0	22.5	--	--	14.5
12	15.0	21.5	--	--	16.0	16.0	25.5	--	--	15.5	

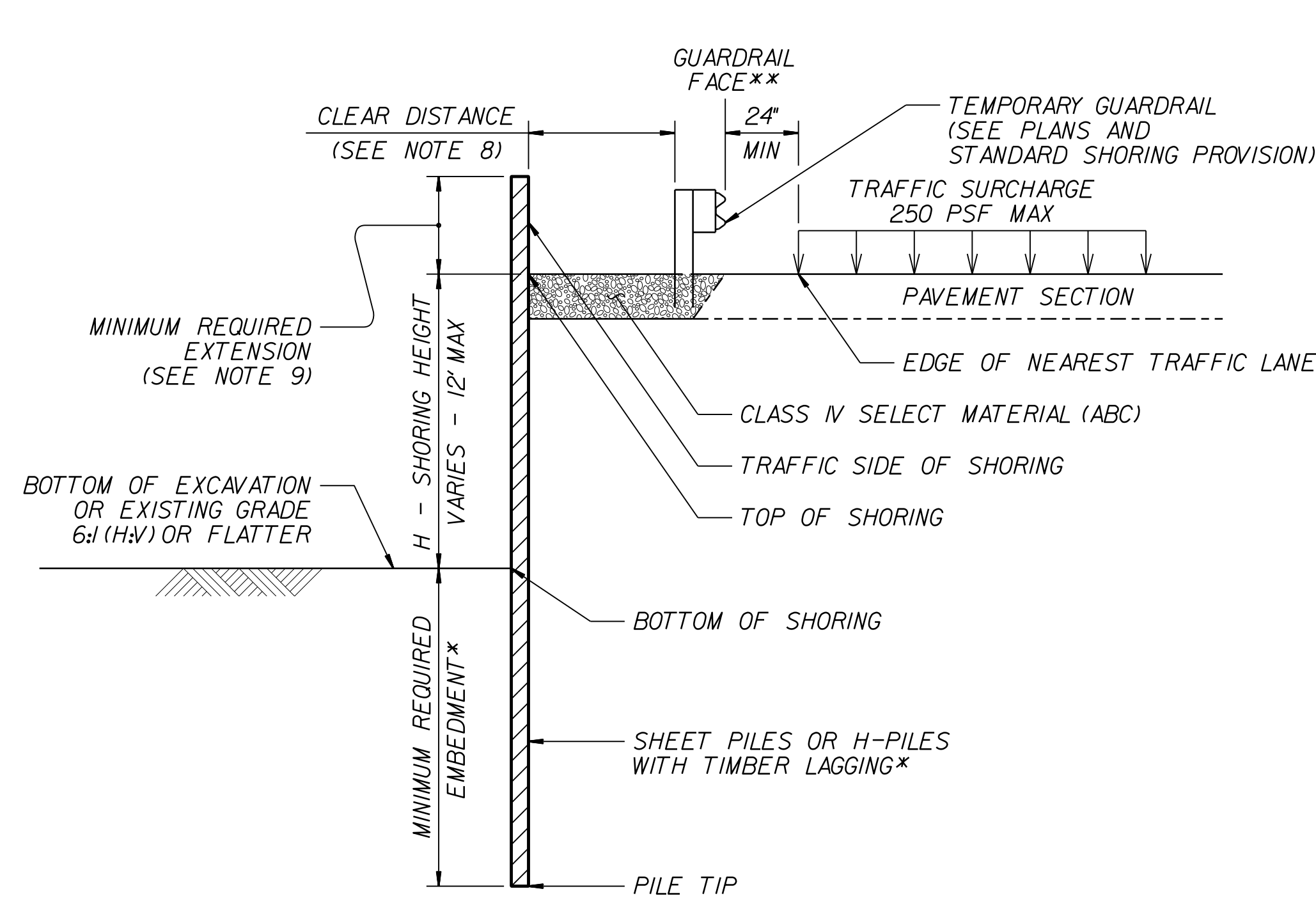
- NOTES:**
- AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
 - FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
 - STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ PCF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ PSF
 - DO NOT USE STANDARD TEMPORARY SHORING IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
 - DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS WITHIN THE EMBEDMENT DEPTH.
 - USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, USE "GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP" FOR GROUNDWATER CONDITION. DO NOT USE STANDARD TEMPORARY SHORING IF GROUNDWATER IS ABOVE BOTTOM OF SHORING.
 - AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN THE MINIMUM REQUIRED FOR CONCRETE BARRIER, SET BARRIER NEXT TO AND UP AGAINST TRAFFIC SIDE OF PILES AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
 - AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN 4' FOR TEMPORARY GUARDRAIL, ATTACH GUARDRAIL TO TRAFFIC SIDE OF PILES AS SHOWN IN THE PLANS AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
 - MINIMUM REQUIRED EXTENSION IS 6' FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32' FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".
 - MINIMUM REQUIRED EMBEDMENT FOR H-PILES WITH TIMBER LAGGING IS BASED ON DRIVEN H-PILES AT MAXIMUM 6' SPACING. AT THE CONTRACTOR'S OPTION, EMBEDMENT DEPTHS MAY BE REDUCED BY 25% FOR DRILLED-IN H-PILES.
 - SUBMIT A "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY SHORING CONSTRUCTION. UP TO 3 SHORING LOCATIONS MAY BE INCLUDED ON EACH FORM. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM:
connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
 - CONTACT THE ENGINEER IF PILES DO NOT ATTAIN THE MINIMUM REQUIRED EMBEDMENT.

MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

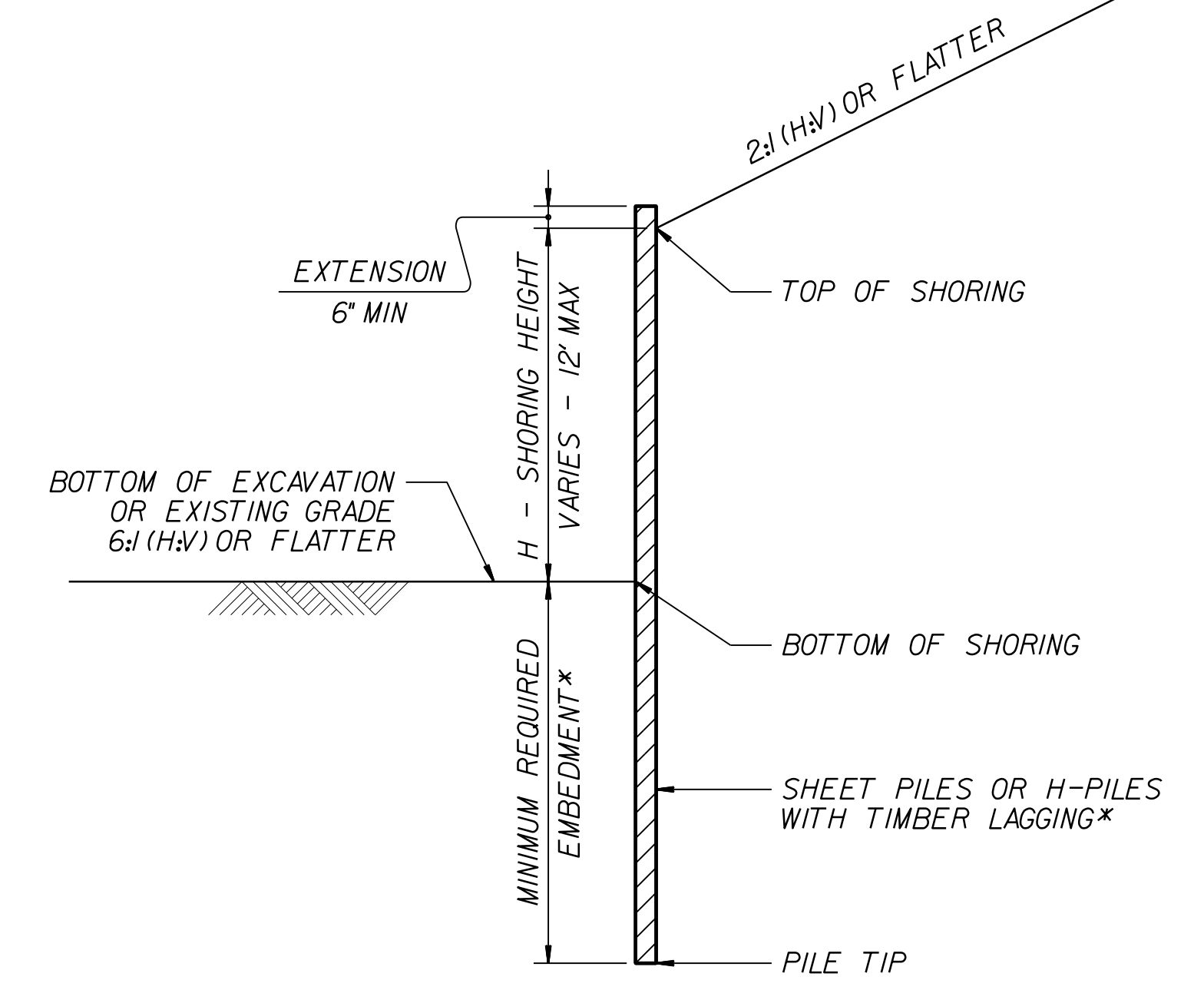
*DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "--".



CONCRETE BARRIER
**TOP OF SHORING =
EDGE OF PAVEMENT

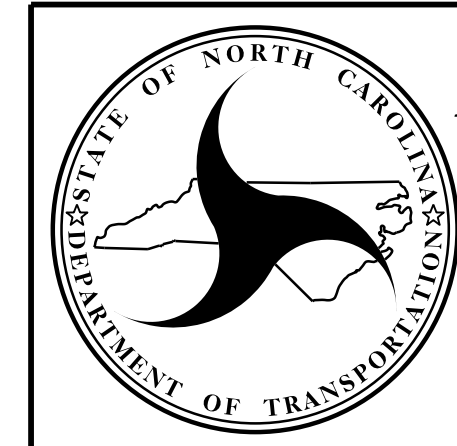


TEMPORARY GUARDRAIL
**GUARDRAIL FACE =
EDGE OF PAVEMENT



STANDARD TEMPORARY SHORING
(SLOPE CASE)
*SEE TABLE ABOVE.

STANDARD TEMPORARY SHORING
(SURCHARGE CASE)
*SEE TABLE ABOVE.



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

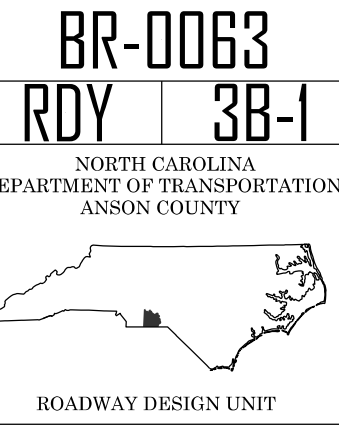
**GEOTECHNICAL
ENGINEERING UNIT**

STANDARD DETAIL NO. 1801.01

STANDARD
TEMPORARY SHORING

COMPUTED BY: PR DATE: 09/26/2024
 CHECKED BY: KZH DATE: 09/26/2024

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA



SUMMARY OF EARTHWORK (In Cubic Yards)

Station	Station	Uncl. Excav.	Undercut	Embank. +%	Borrow	Waste
-L- 9+75.00	-L- 18+63.75 (BEGIN BRIDGE)	825	0	17,196	16,371	0
-L- 21+66.25 (END BRIDGE)	-L- 30+25.00	2,230	700	3,822	1,592	700
SUBTOTALS:		3055	700	21018	17963	700
MATERIAL USED FOR SHOULDER CONSTRUCTION				353	353	
ADDITIONAL UNDERCUT EXCAVATION			400			400
PROJECT TOTALS:		3055	1100	21371	18316	1100
EST. 5% TO REPLACE TOPSOIL ON BORROW PIT					916	
GRAND TOTALS:		3055	1100	21371	19232	
SAY:		3100			19250	

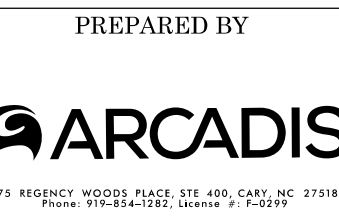
NOTE:
 1. EARTHWORK QUANTITIES ARE CALCULATED BY THE ENGINEER. THESE EARTHWORK QUANTITIES ARE BASED IN PART OF SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.
 2. APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR GRADING.
 3. A PORTION OF THESE UNCLASSIFIED MATERIAL THAT IS ACCEPTABLE, BUT NOT TO BE USED IN THE TOP OF 3' EMBANKMENT OR BACKFILL. THESE SOILS MAY BE UTILIZED IN AREAS OUTSIDE THE PAVEMENT SECTION OR IN LOWER PORTION OF HIGH FILLS AT THE DISCRETION OF THE ENGINEER. PLEASE REFER GEOTECH RECOMMENDATIONS FOR MORE DETAILS.

EST.DDE = 860 CY
 TOTAL SHALLOW UNDERCUT (CONTINGENCY) = 100 CY
 CLASS IV SUBGRADE STABILIZATION = 190 TONS

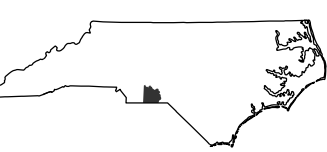
REMOVAL OF EXISTING ASPHALT PAVEMENT				
IN SQUARE YARDS				
SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL
L	11+13	18+64	LT	1218
L	21+20	27+50	LT	1150
TOTAL:				2368
SAY:				2400

SHOULDER BERM GUTTER SUMMARY			
LINE	Station	Station	LENGTH (ft)
L (LT)	18+26.25	18+52.88	26.63
L (LT)	21+77.13	23+41.95	164.82
TOTAL:			191.45
SAY:			200

REVISIONS



DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA



SUMMARY OF SUBSURFACE DRAINAGE

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

*UD = Underdrain

*BD = Blind Drain

*SD = Subsurface Drain

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY					100	190	300		
TOTAL CY/TONS/SY:					100	190**	300**	0	0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)

*AST = Aggregate Stabilization

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

PREPARED BY



175 REGENCY WOODS PLACE, SUITE 400, CARY, NC 27518
Phone: 919.440.1200, Fax: 919.440.1201

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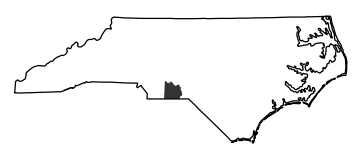
REVISIONS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
PARCEL INDEX SHEET

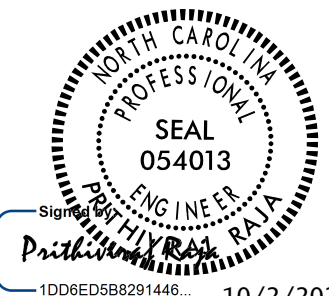
PARCEL NO.	SHEET NO.	PROPERTY OWNER NAME
1	4	ROBERT ROSS
2	4&5	DENNIS PARKER
3	4&5	DENNIS PARKER
4	5	ROCKEY RIVER ORGANIZATION FOR PRESERVATION AND PROTECTION INC

BR-0063
RDY 3P-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ANSON COUNTY




ROADWAY DESIGN UNIT
ROADWAY DESIGN ENGINEER



10/2/2024

PREPARED BY



175 REGENCY WOODS PLACE, SUITE 400, CARY, NC 27518
Phone: 919.440.7200, Fax: 919.440.7201

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REVISIONS

LEGEND

PAVED SHOULDER

CUR DATA -L- P/c 8+56.77 $\Delta c = 18^{\circ}56'14.8''$ (LT) D = 06°05'43.1" Lc = 310.6896" Tc = 156.7746" R = 940.0000" SE = EXIST.	CUR DATA -L- P/c 13+93.64 $\Delta c = 34^{\circ}03'56.3''$ (LT) D = 04°35'01.2" Lc = 743.1970" Tc = 382.9464" R = 1250.0000" V = 50MPH SE = 0.06
--	---

BR-0063
RDY 04

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ANSON COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN ENGINEER

Professional Engineer Seal: SEAL 054013, 10/2/2024

Professional Engineer Seal: SEAL 047056, 10/2/2024

HYDRAULICS ENGINEER

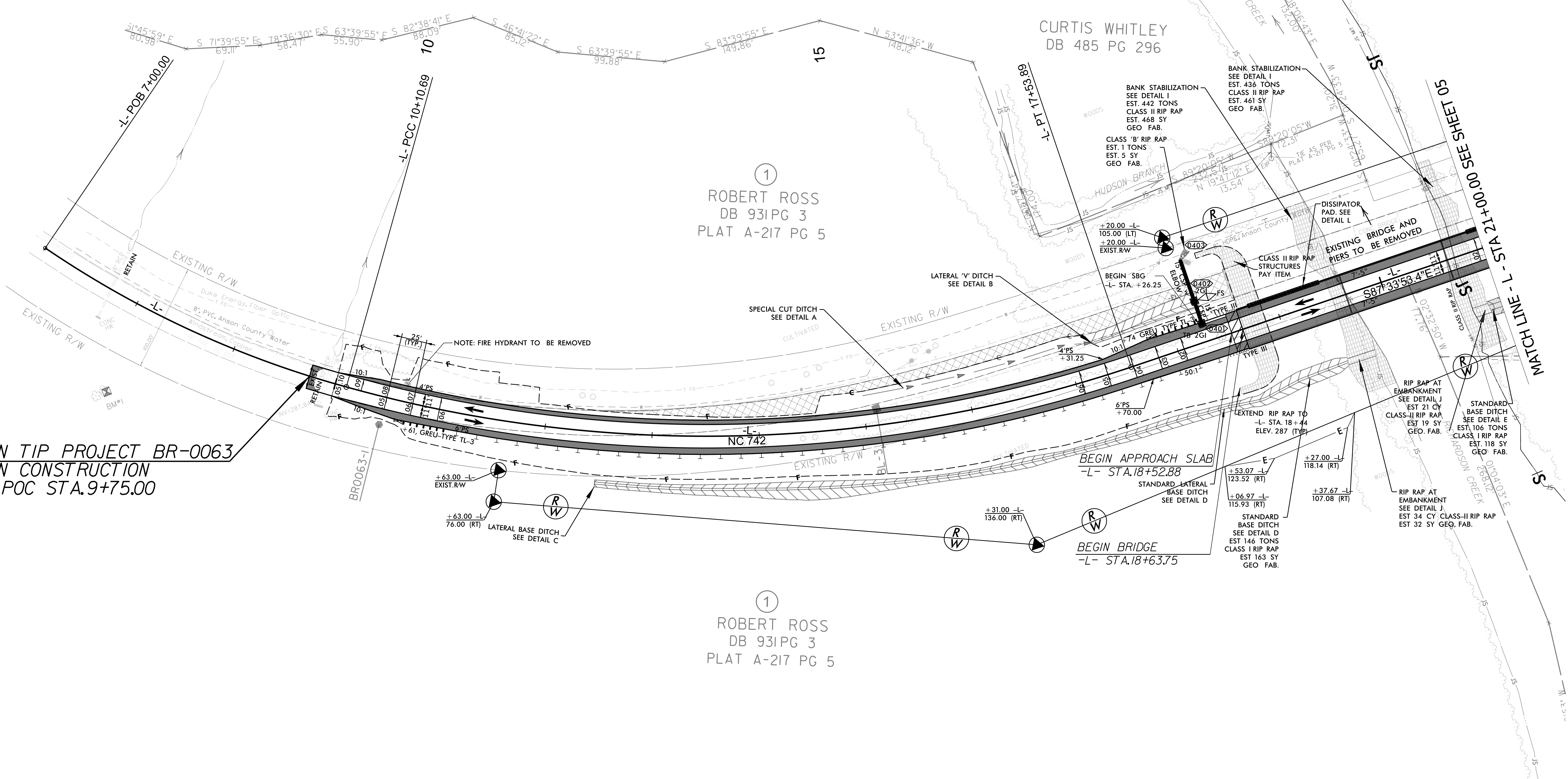
PREPARED BY

ARCADIS

175 REGENCY WOODS PLACE, STE 400, CARY, NC 27513
Phone: 919.447.2200, Fax: 919.447.2297

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

BEGIN TIP PROJECT BR-0063
BEGIN CONSTRUCTION
-L- POC STA. 9+75.00



①
ROBERT ROSS
DB 931 PG 3
PLAT A-217 PG 5

NOTE:
SEE SHEET NO. 06 FOR -L- PROFILE.
SEE SHEETS S-1 THRU S-18 FOR STRUCTURE PLANS.

REVISIONS

LEGEND

PAVED SHOULDER

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BR-0063-1"

WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 511274.2261(ft) EASTING: 1618286.1809(ft) ELEVATION: 298.225(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99986472

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BR-0063-1" TO -L- STATION IS

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

CUR DATA -L-
 Plc 24+35.44
 $\Delta c = 07^{\circ}40'26.8"$ (LT)
 D = 02°23'14.4"
 Lc = 321.4529"
 Tc = 160.9672"
 R = 2400.0000"
 V = 50MPH
 SE = 0.04

CUR DATA -L-
 Plc 28+56.59
 $\Delta c = 15^{\circ}13'39.3"$ (RT)
 D = 02°56'17.7"
 Lc = 518.2542"
 Tc = 260.6632"
 R = 1950.0000"
 V = 50MPH
 SE = 0.045

BR-0063
RDY 05

NORTH CAROLINA
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 ANSON COUNTY

ROADWAY DESIGN UNIT
 ROADWAY DESIGN ENGINEER

Professional Engineer Seal
 SEAL 054013
 10/2/2024

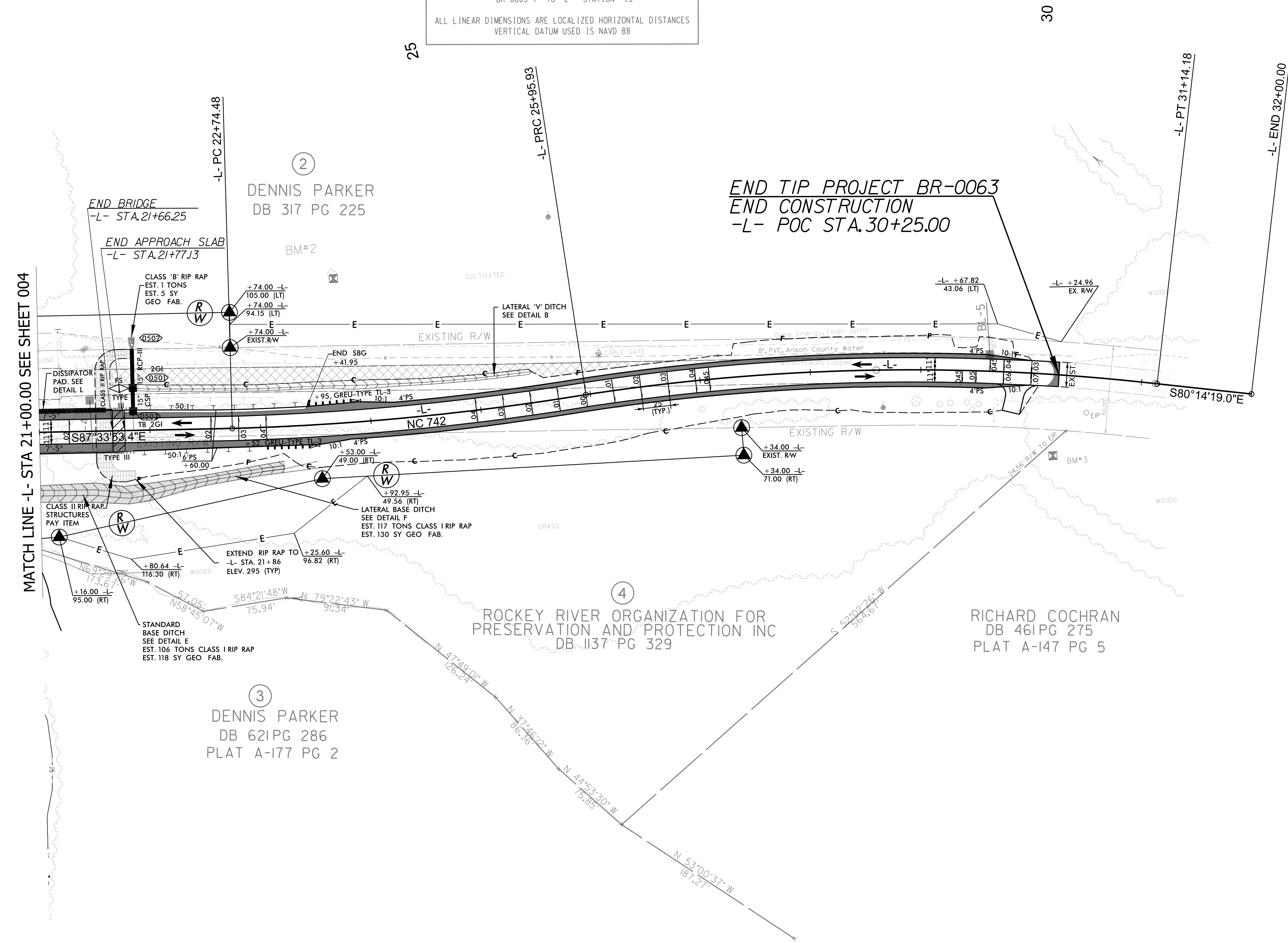
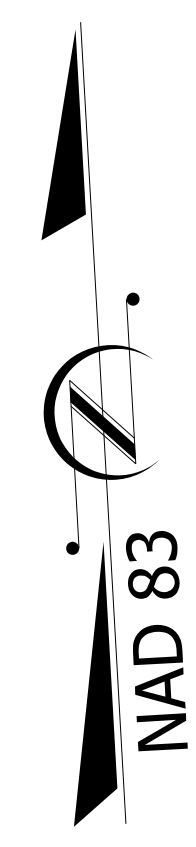
HYDRAULICS ENGINEER

Professional Engineer Seal
 SEAL 047056
 10/2/2024

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MATCH LINE -L- STA 21+00.00 SEE SHEET 004

REVISIONS

NOTE:
 SEE SHEET NO. 07 FOR -L- PROFILE.
 SEE SHEETS S-1 THRU S-18 FOR STRUCTURE PLANS.

BR-0063
RDY 06
 NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 ANSON COUNTY

ROADWAY DESIGN UNIT
 ROADWAY DESIGN ENGINEER

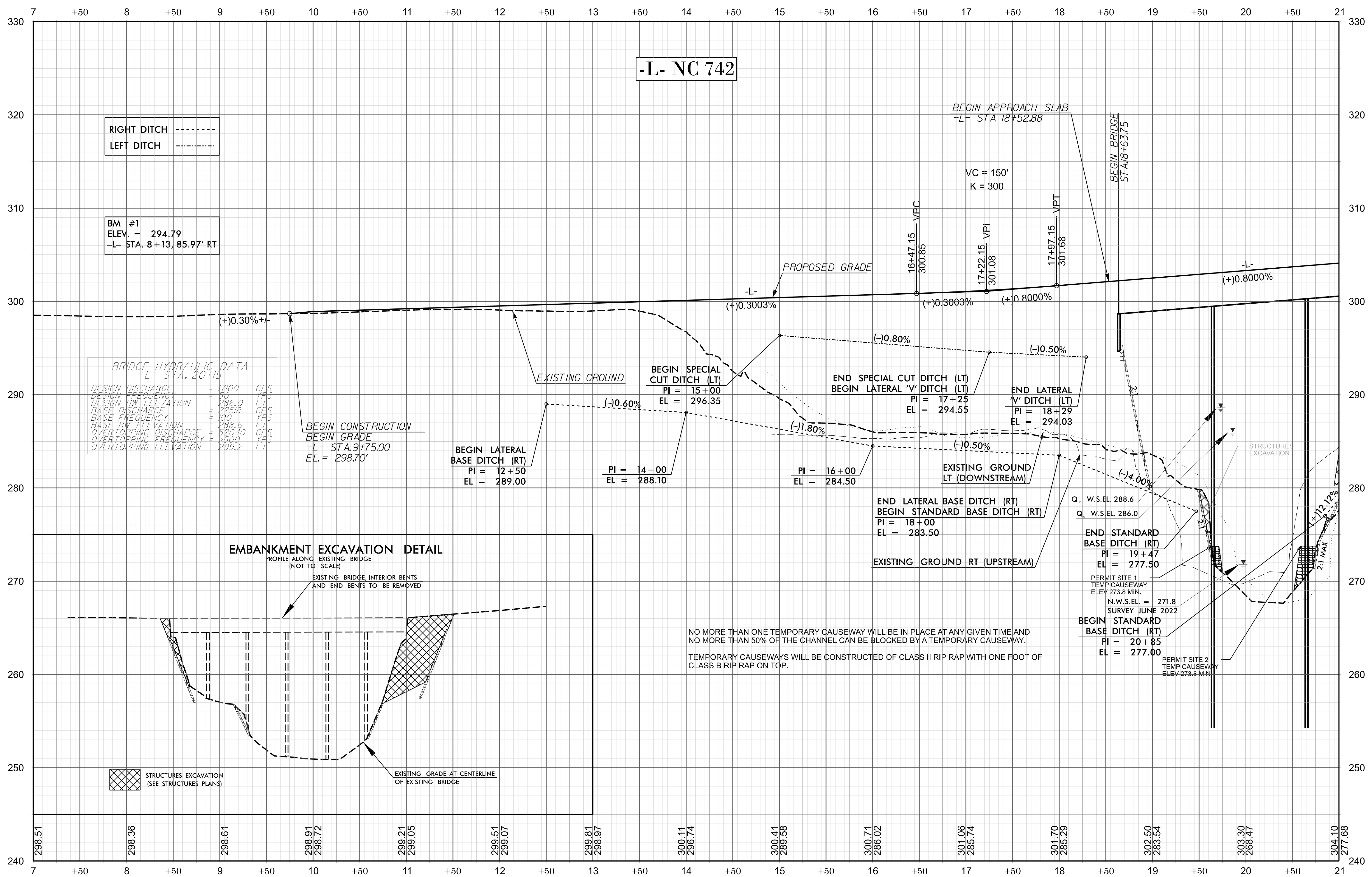
PROFESSIONAL SEAL
 SEAL 054013
 ENGINEER
 10/2/2024

HYDRAULICS ENGINEER

PROFESSIONAL SEAL
 SEAL 047056
 ENGINEER
 10/2/2024

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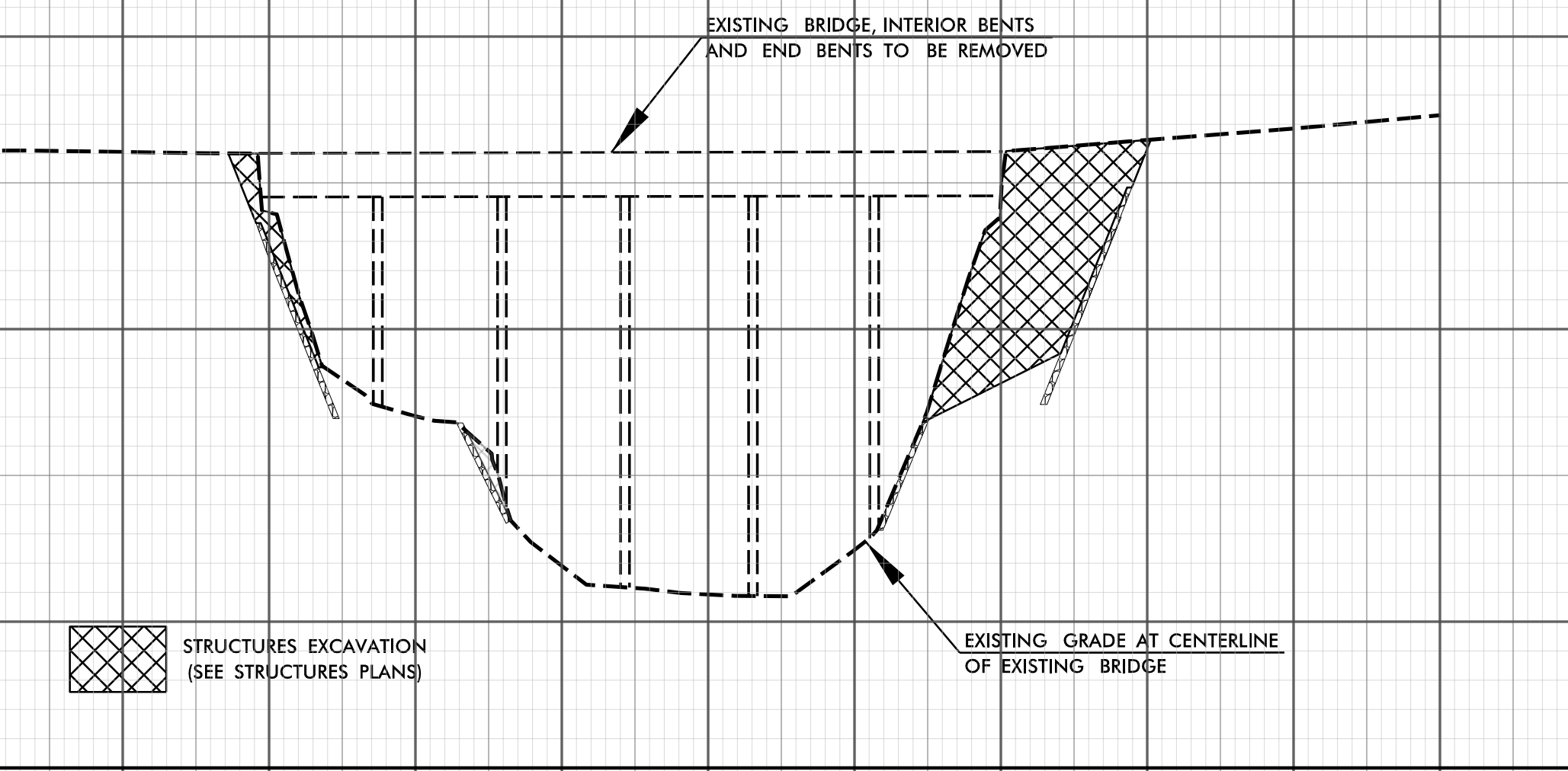
RIGHT DITCH - - - - -
 LEFT DITCH - - - - -

BM #1
 ELEV. = 294.79
 -L- STA. 8+13, 85.97' RT

BRIDGE HYDRAULIC DATA
 -L- STA. 20+15

DESIGN DISCHARGE	= 17100	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 286.0	FT
BASE DISCHARGE	= 22518	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 288.6	FT
BASE DISCHARGE	= 22040	CFS
OVERTOPPING DISCHARGE	= 2500	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 299.2	FT

EMBANKMENT EXCAVATION DETAIL
 PROFILE ALONG EXISTING BRIDGE
 (NOT TO SCALE)



BEGIN CONSTRUCTION
 BEGIN GRADE
 -L- STA. 9+75.00
 EL. = 298.70'

BEGIN LATERAL BASE DITCH (RT)
 PI = 12+50
 EL = 289.00

BEGIN SPECIAL CUT DITCH (LT)
 PI = 15+00
 EL = 296.35

END SPECIAL CUT DITCH (LT)
 PI = 17+25
 EL = 294.55

BEGIN LATERAL 'V' DITCH (LT)
 PI = 18+29
 EL = 294.03

END LATERAL 'V' DITCH (LT)
 PI = 18+29
 EL = 294.03

END LATERAL BASE DITCH (RT)
 PI = 17+25
 EL = 284.50

BEGIN STANDARD BASE DITCH (RT)
 PI = 18+00
 EL = 283.50

END STANDARD BASE DITCH (RT)
 PI = 19+47
 EL = 277.50

BEGIN STANDARD BASE DITCH (RT)
 PI = 20+85
 EL = 277.00

EXISTING GROUND LT (DOWNSTREAM)
 (-)0.50%

EXISTING GROUND RT (UPSTREAM)
 (-)0.50%

EXISTING GROUND LT (UPSTREAM)
 (-)0.60%

EXISTING GROUND RT (DOWNSTREAM)
 (-)1.80%

EXISTING GROUND LT (DOWNSTREAM)
 (-)4.00%

EXISTING GROUND RT (UPSTREAM)
 (+)1.2% MAX

PERMIT SITE 1
 TEMP CAUSEWAY
 ELEV 273.8 MIN.
 N.W.S.EL. = 271.8
 SURVEY JUNE 2022

PERMIT SITE 2
 TEMP CAUSEWAY
 ELEV 273.8 MIN.

STRUCTURES EXCAVATION

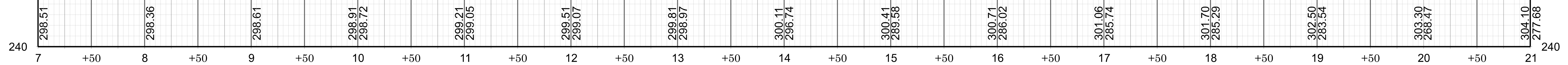
STRUCTURES EXCAVATION
 (SEE STRUCTURES PLANS)

EXISTING BRIDGE INTERIOR BENTS
 AND END BENTS TO BE REMOVED

EXISTING GRADE AT CENTERLINE
 OF EXISTING BRIDGE

NO MORE THAN ONE TEMPORARY CAUSEWAY WILL BE IN PLACE AT ANY GIVEN TIME AND
 NO MORE THAN 50% OF THE CHANNEL CAN BE BLOCKED BY A TEMPORARY CAUSEWAY.
 TEMPORARY CAUSEWAYS WILL BE CONSTRUCTED OF CLASS II RIP RAP WITH ONE FOOT OF
 CLASS B RIP RAP ON TOP.

Q₁ W.S.EL. 288.6
 Q₂ W.S.EL. 286.0



NOTE: SEE SHEET NO.04 FOR -L- PLAN

BR-0063
RDY 07

NORTH CAROLINA
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 ANSON COUNTY

ROADWAY DESIGN UNIT
 ROADWAY DESIGN ENGINEER

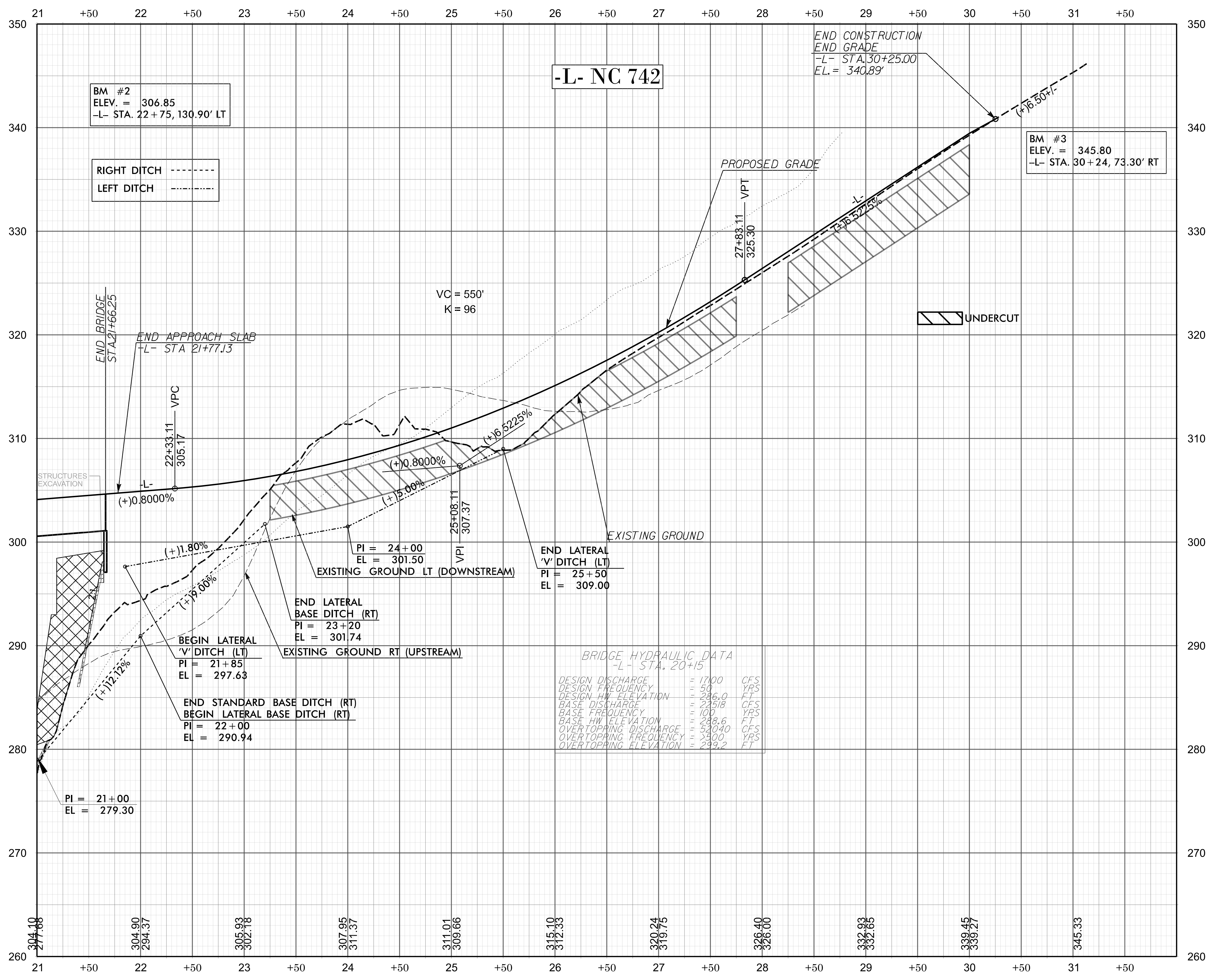
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NOTE: SEE SHEET NO.05 FOR -L- PLAN

REVISIONS