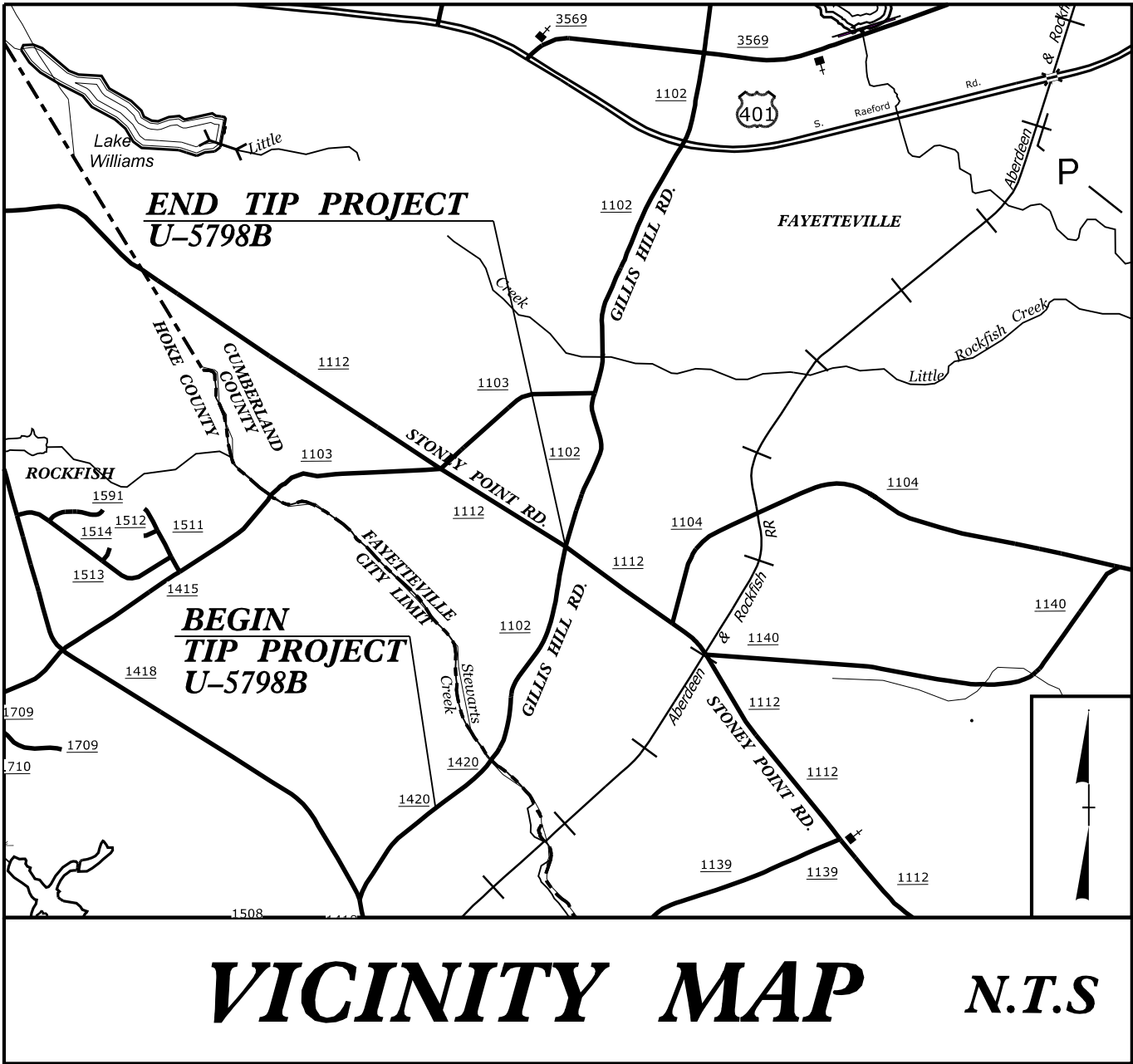


09.08/23

10-JUN-2025 12:13
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TIP PROJECT: U-5798B

CONTRACT: C205076



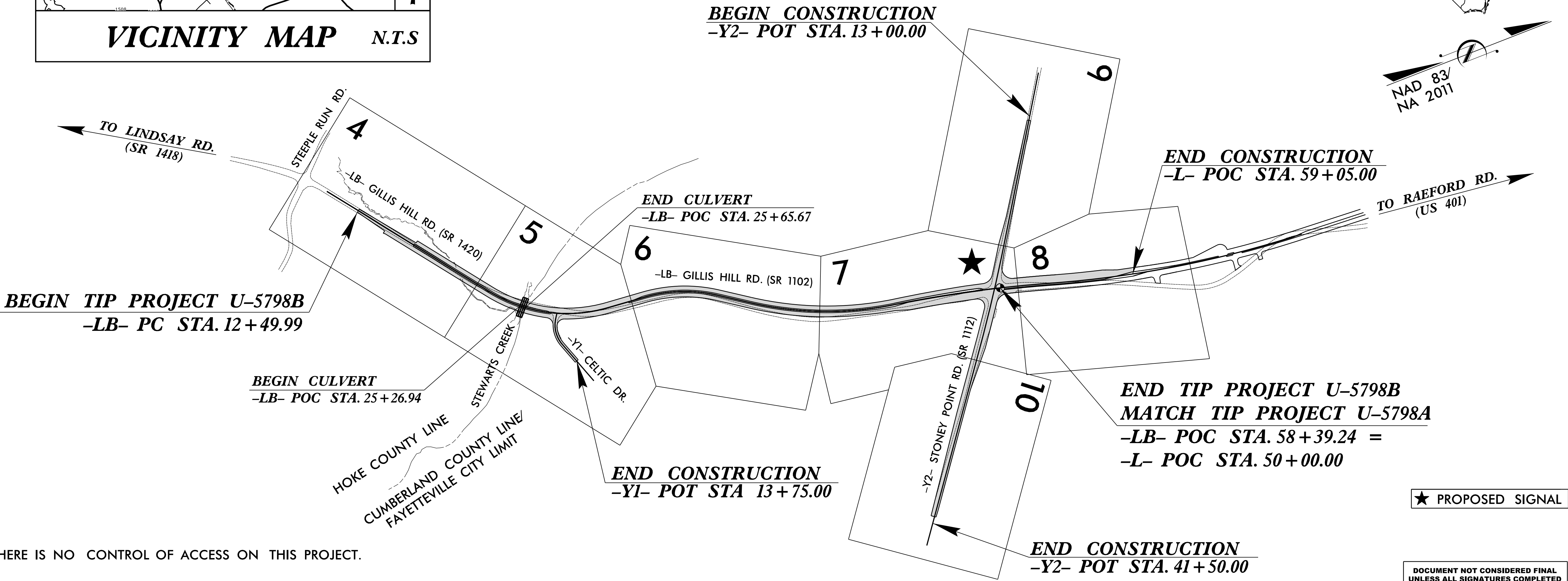
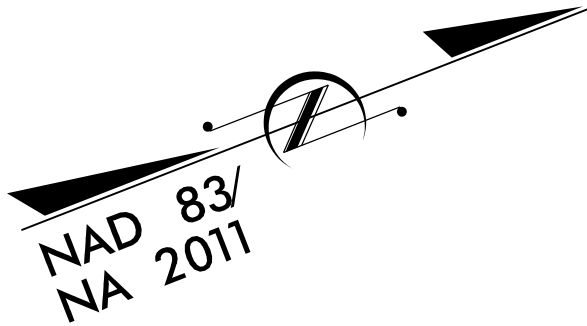
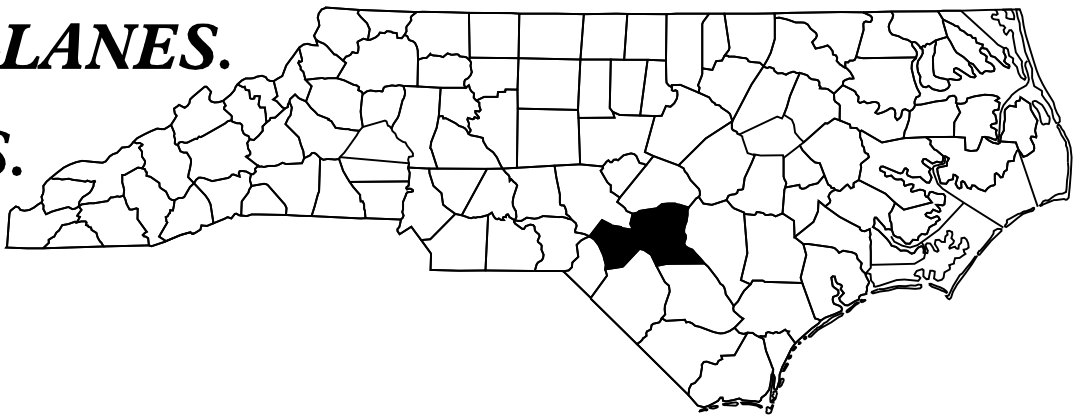
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HOKE AND CUMBERLAND
COUNTIES

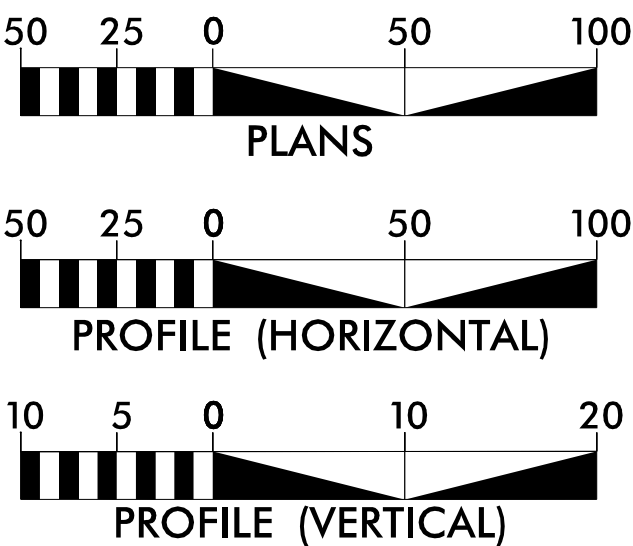
LOCATION: SR 1102 (GILLIS HILL ROAD) FROM SR 1418 (LINDSAY ROAD)
TO NORTH OF SR 1112 (STONEY POINT ROAD). WIDEN TO MULTI-LANES.

TYPE OF WORK: PAVING, GRADING, DRAINAGE, CULVERT, WALLS, AND SIGNALS.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5798B	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44369.1.3	N/A	PE	
44369.2.3	N/A	ROW	
44369.2.4	N/A	UTL.	
44369.3.3	N/A	CONST.	



GRAPHIC SCALES



DESIGN DATA

ADT 2025 = 10,800
ADT 2045 = 17,500
K = 7 %
D = 55 %
T = 3 % *
V = 50 MPH
(TTST=1 + DUAL=2)
FUNC CLASS =
MINOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-5798B = 0.862 MILES
LENGTH CULVERT TIP PROJECT U-5798B = 0.007 MILES
TOTAL LENGTH TIP PROJECT U-5798B = 0.869 MILES

-LB- USED TO CALCULATE PROJECT LENGTH.

PREPARED IN THE OFFICE OF:

RS&H

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

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 13, 2023

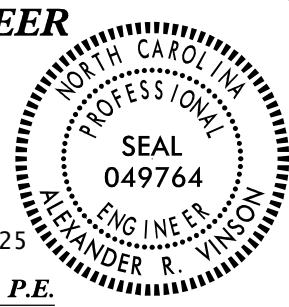
LETTING DATE:
AUGUST 19, 2025

SEAN KORTOVICH, PE
PROJECT ENGINEER

DANA M. PACZEK, PE
PROJECT DESIGN ENGINEER

KHALED A. ALAKHDAR
NCDOT CONTACT

HYDRAULICS ENGINEER

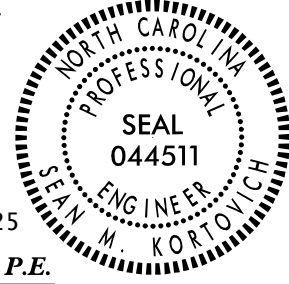


DocuSigned by:
Alexander R Vinson
SIGNATURE

6/10/2025

P.E.

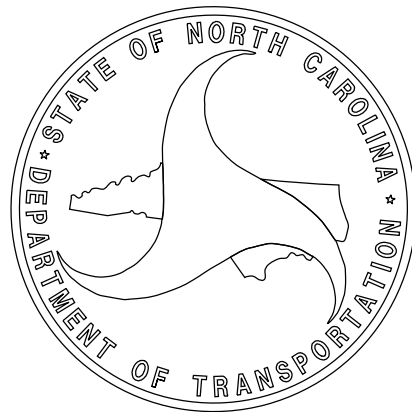
ROADWAY DESIGN
ENGINEER



Signed by:
Khaled A. Alakhdar
SIGNATURE

6/10/2025

P.E.



8/17/99

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INDEX OF SHEETS

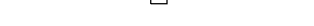
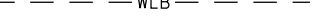
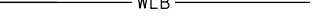
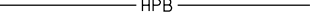
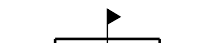
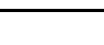
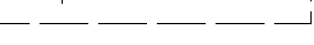
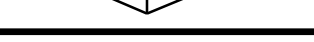
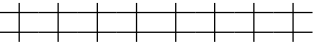
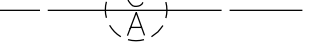
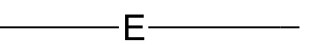
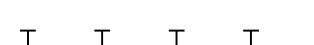
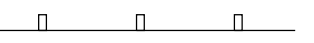
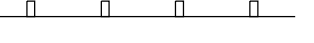
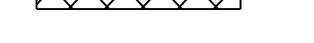
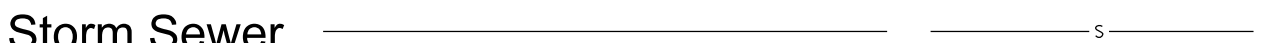
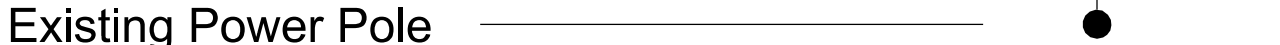
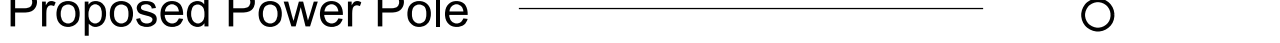
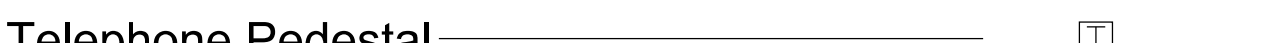
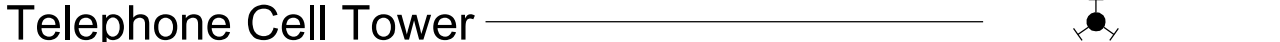
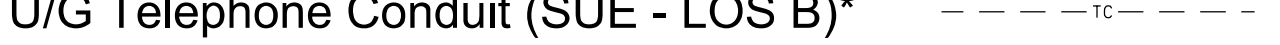
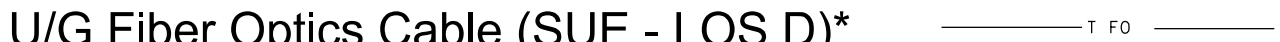
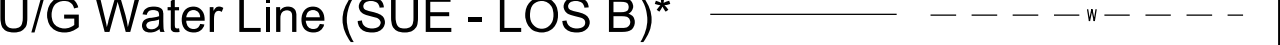
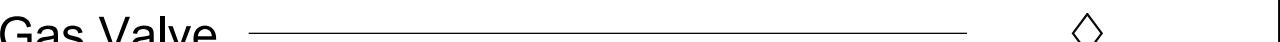
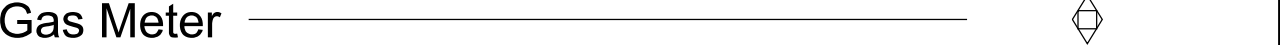
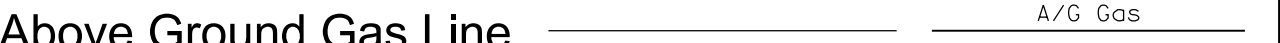
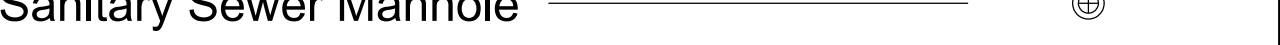
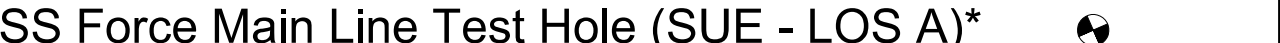
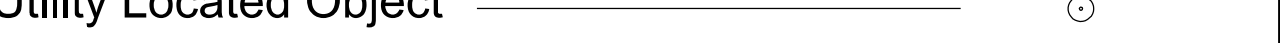
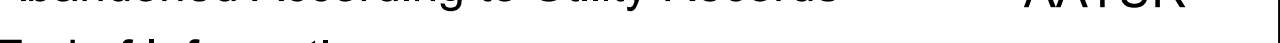
SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-7	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1	-Y1- ONSITE DETOUR
2C-1 THRU 2C-6	ROADWAY DETAILS
2G-1 THRU 2G-3	TEMPORARY WALL SHEETS
3B-1	GUARDRAIL SUMMARY, CONCRETE BARRIER, EARTHWORK SUMMARY, AND PAVEMENT REMOVAL
3D-1 THRU 3D-3	DRAINAGE SUMMARY SHEETS
3G-1	GEOTECHNICAL SUMMARY SHEET
3P-1	PARCEL INDEX SHEET
4 THRU 10	PLAN SHEETS
11 THRU 19	PROFILE SHEETS
RW-1 THRU RW-10	SURVEY CONTROL SHEETS
TMP-1 THRU TMP-28	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-8	PAVEMENT MARKING PLANS
EC-1 THRU EC-18	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
SIG-1 THRU SIG-6	SIGNAL PLANS
SIG.M-1 THRU SIG.M-9	SIGNAL METAL POLE PLANS
UC-1 THRU UC-14	UTILITY CONSTRUCTION PLANS
UC-1 THRU UC-5	UTILITY CONSTRUCTION PLANS
UD-1 THRU UD-10	UTILITY BY OTHERS PLANS
X-1	CROSS SECTION INDEX
X-1A THRU X-1B	CROSS SECTION SUMMARY
X-2 THRU X-31	CROSS-SECTIONS
C-1 THRU C-8	CULVERT PLANS
SN	STRUCTURE STANDARD NOTES SHEET
W-1 THRU W-2	WALL PLANS

GENERAL NOTES

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.
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".
UTILITIES:	UTILITY OWNERS ON THIS PROJECT ARE LUMBEE RIVER ELECTRIC, HOKE COUNTY WATER, FAYETTEVILLE WATER, BRIGHTSPEED, PNG, METRONET ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.
RIGHT-OF-WAY MARKERS:	ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.
CURB RAMPS	CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.06.

STANDARD DRAWINGS

2024 ROADWAY ENGLISH STANDARD DRAWINGS	EFF. 01-16-2024 REV.
The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:	
STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
275.01	Rock Paving
DIVISION 3 - PIPE CULVERTS	
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
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
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
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
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.45	Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.06	Curb Ramp (Use Details in Lieu of Standards for Sheets 9 and 10 of 13)
852.01	Concrete Islands
852.04	Method for Placement of Drop Inlets in Grassed Median - Using 1'-6" Curb and Gutter
852.06	Method for Placement of Drop Inlets in Concrete Islands
857.01	Precast Reinforced Concrete Barrier - 41" Single Faced
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 6 and 12 of 15)
862.02	Guardrail Installation
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

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS			PROJECT REFERENCE NO. <i>U-5798B</i>	SHEET NO. <i>1B</i>
<i>Note: Not to Scale</i>				
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:				
<i>* SUE - Subsurface Utility Engineering</i>				
<i>LOS - Level of Service - A,B,C or D (Accuracy)</i>				
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				

FINAL PAVEMENT SCHEDULE (NOVEMBER 21, 2024)			
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R2	2'-6" CURB AND GUTTER
C2	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.	R3	2'-9" CURB AND GUTTER
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 IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2.0" IN DEPTH.	R4	VALLEY GUTTER
C4	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R5	PRECAST CONCRETE BARRIER, SINGLE FACED
C5	PROP. APPROX. 2.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R6	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
C6	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1.0" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1.0" IN DEPTH OR GREATER THAN 1.5" IN DEPTH.	S1	4" SIDEWALK CONCRETE
D1	PROP. APPROX. 4.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	T	EARTH MATERIAL
D2	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
D3	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 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH.	V1	MILLING EXISTING PAVEMENT (0"-3")
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V2	MILLING EXISTING PAVEMENT (3.0")
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1.0" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3.0" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.	W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL 1)
J	6" AGGREGATE BASE COURSE	W2	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL 2)
K	CLASS IV SUBGRADE STABILIZATION	W3	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL 3)
N	GEOTEXTILE FOR SUBGRADE STABILIZATION	W4	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL 4)
P	PRIME COAT	W5	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL 5)
R1	1'-6" CURB AND GUTTER		

NOTE: PAVEMENT EDGES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO.
U-5798B

SHEET NO.
2A-1

RW SHEET NO.

ROADWAY DESIGN ENGINEER
6/16/2025

Signed By: 

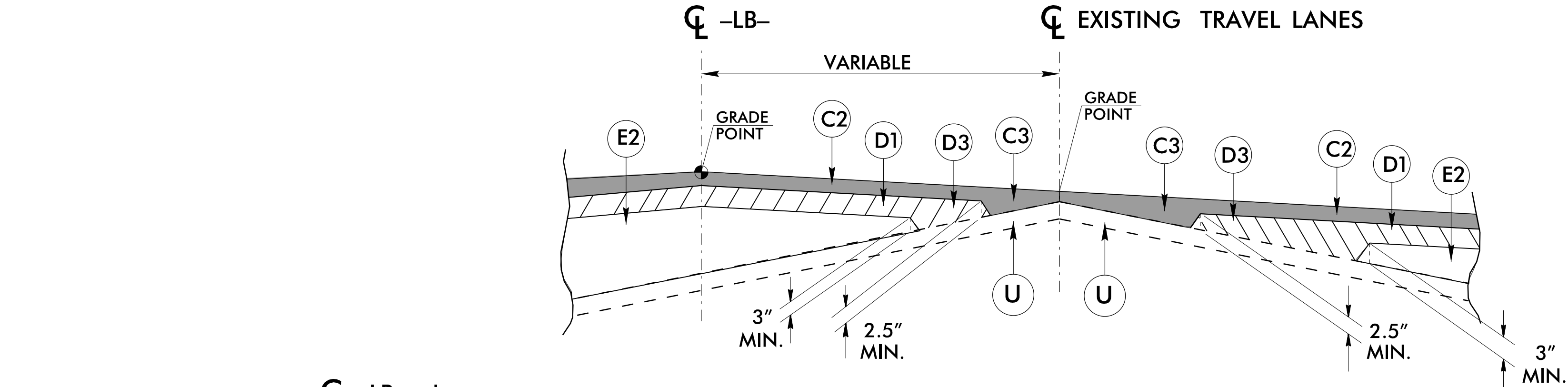
PAVEMENT DESIGN ENGINEER
6/16/2025

Signed By: 

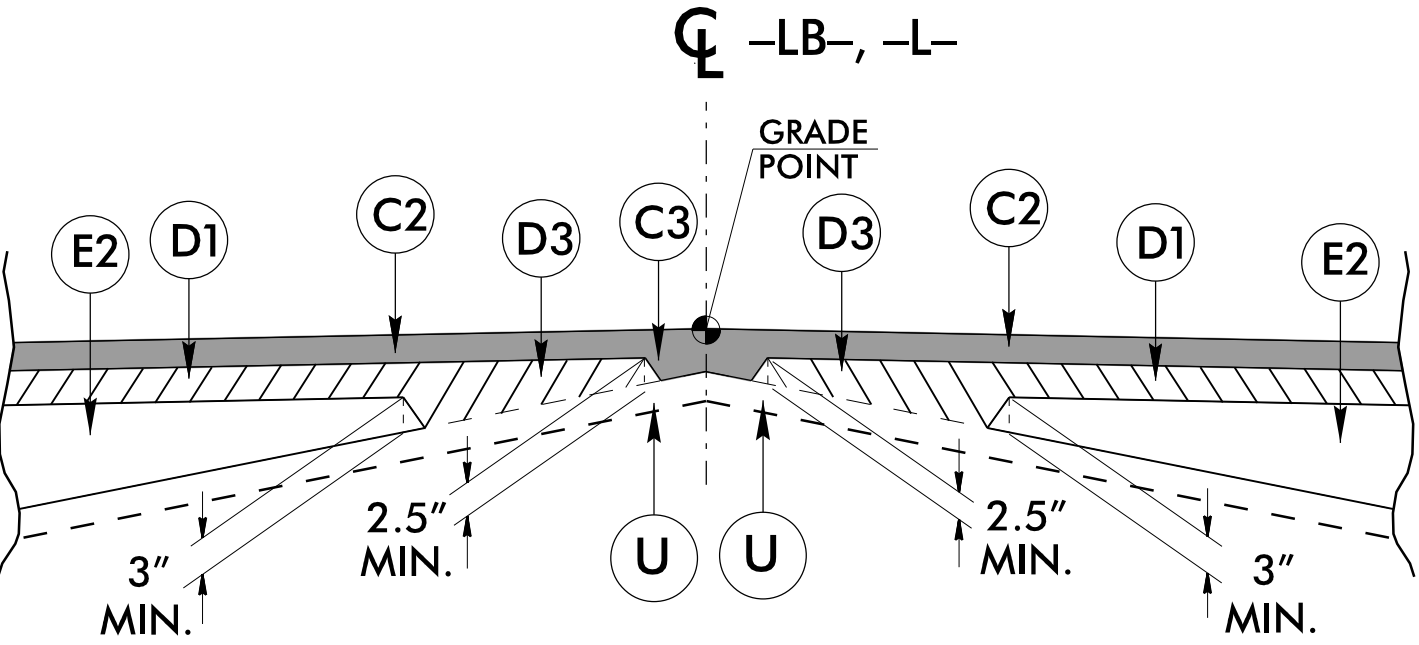
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UNLESS ALL SIGNATURES COMPLETED



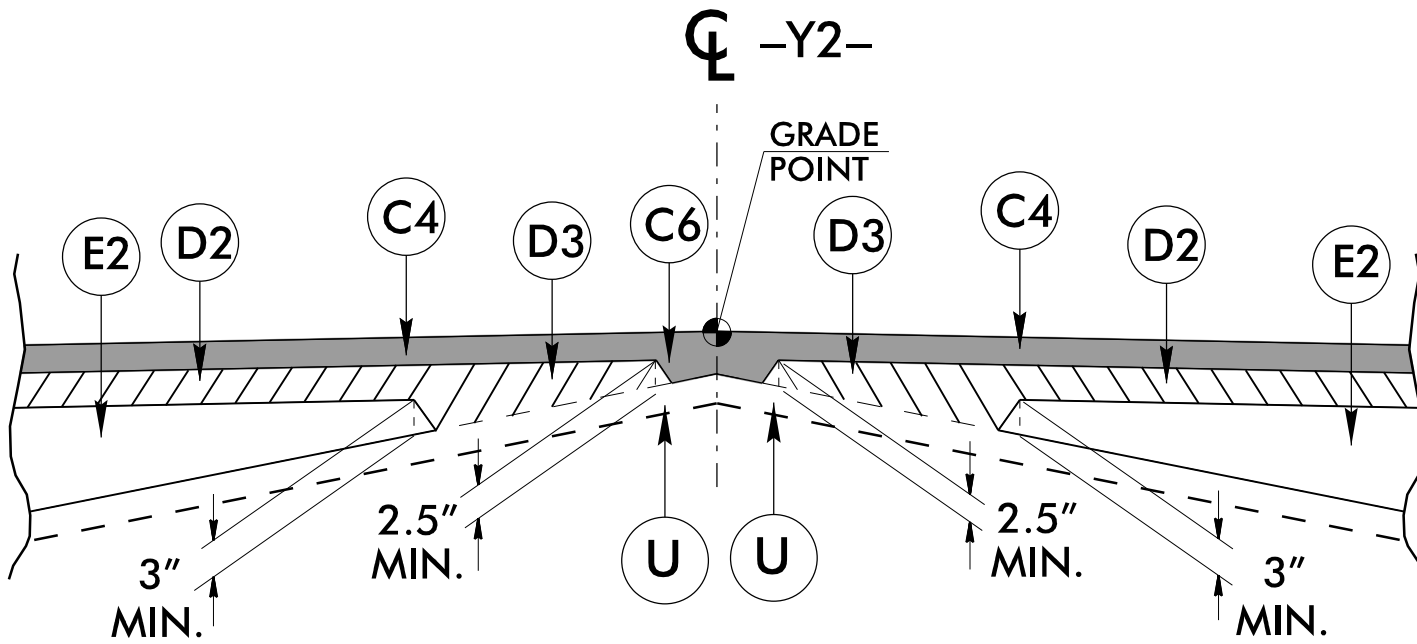
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493



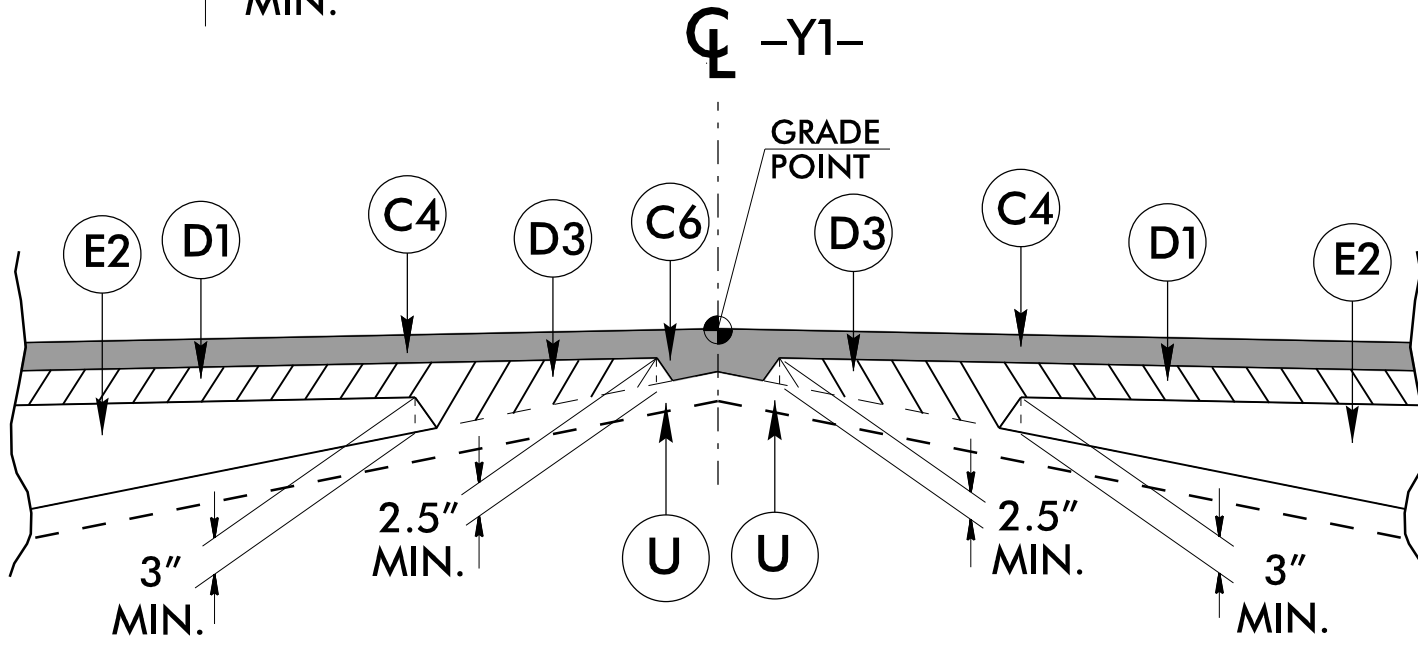
DETAIL SHOWING METHOD OF WEDGING 1



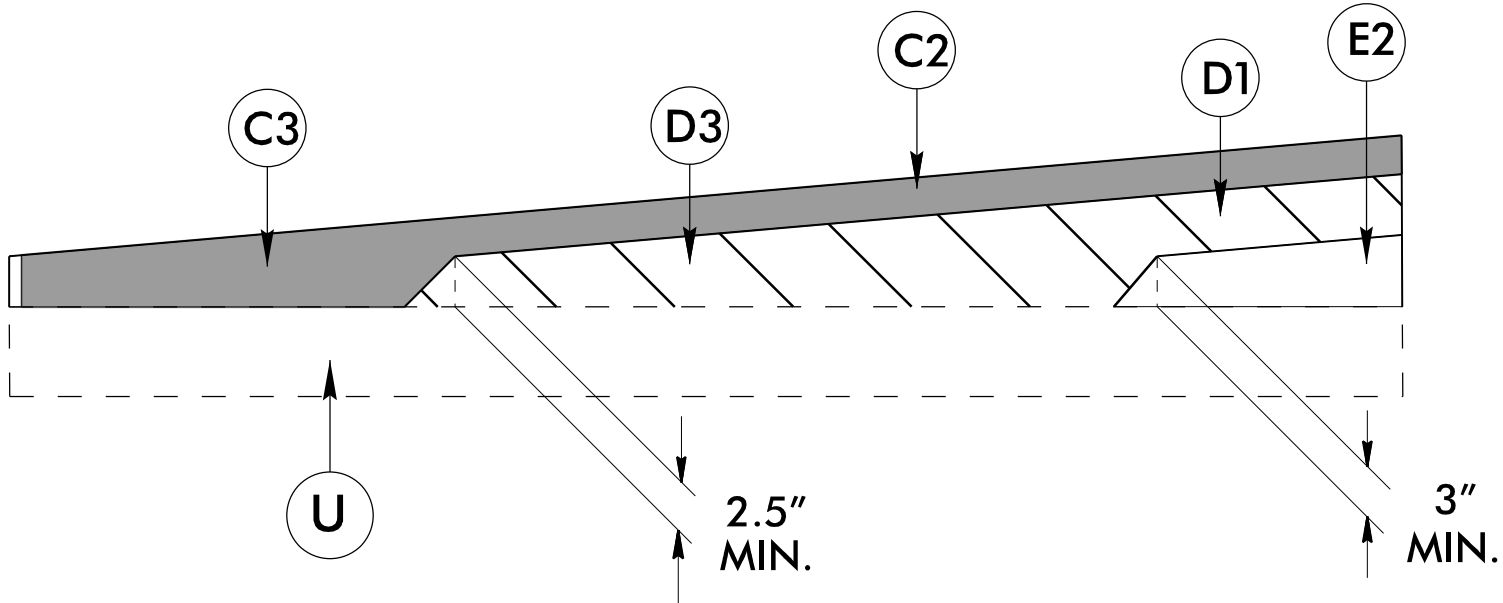
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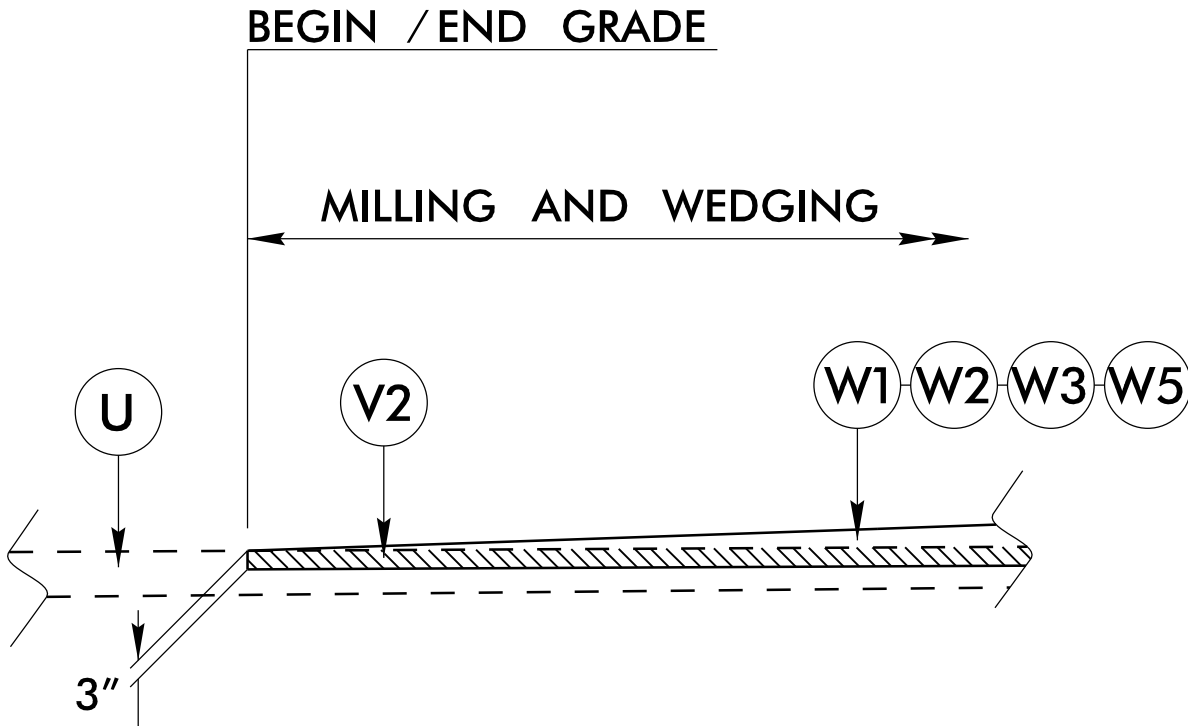
DETAIL SHOWING METHOD OF WEDGING 3



DETAIL SHOWING METHOD OF WEDGING 4

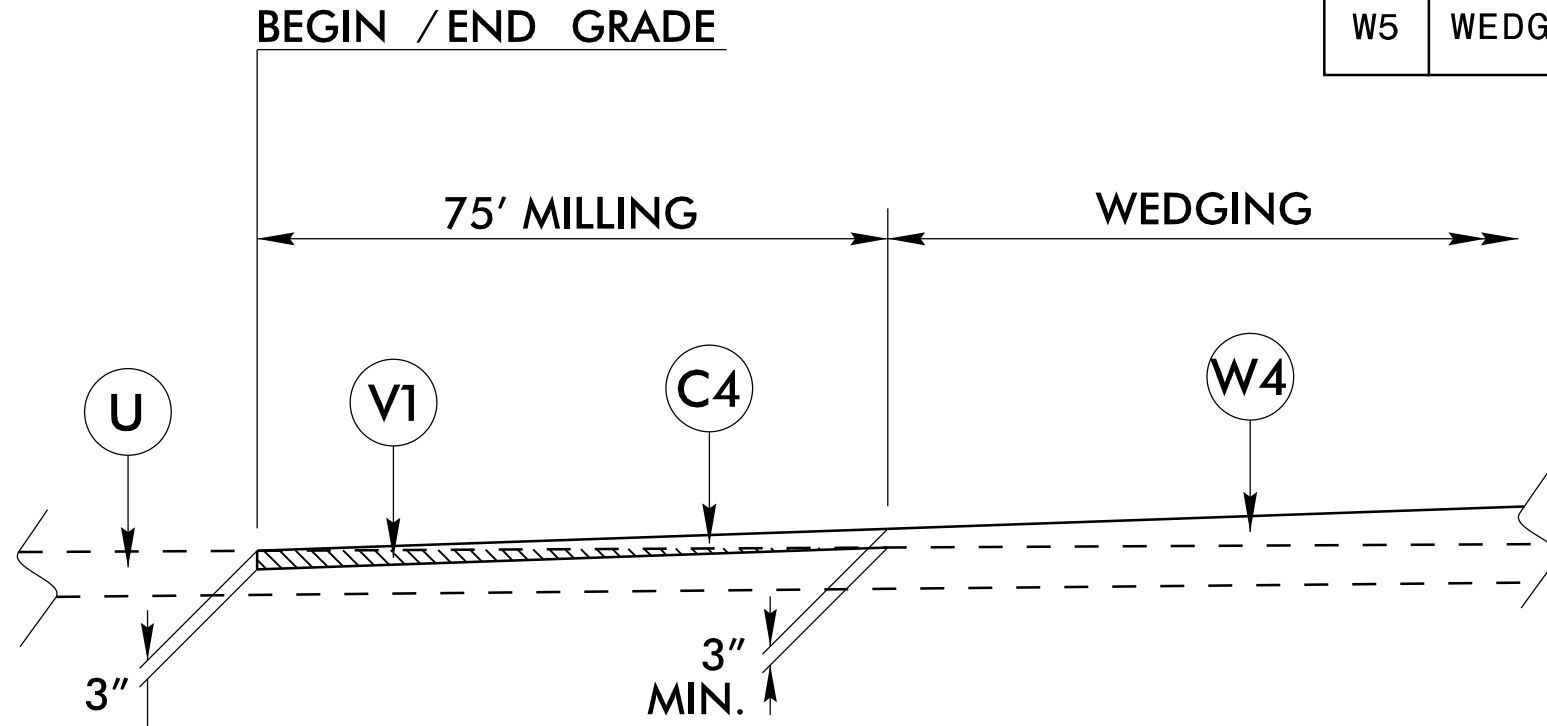


DETAIL SHOWING METHOD OF WEDGING 5
TO BE USED ON -LB- AND -L-.



DETAIL OF MILLING AT PAVEMENT -LB- AND -Y2- TIE-INS

-LB- STA. 52+80.00 TO -LB- STA. 58+39.24
-Y2- STA. 13+30.00 TO -Y2- STA. 24+51.66
-Y2- STA. 25+42.47 TO -Y2- STA. 41+00.00



DETAIL OF MILLING AT PAVEMENT TIE-INS
-Y1- STA. 13+00.00 TO -Y1- STA. 13+75.00

PROJECT REFERENCE NO.
U-5798B

SHEET NO.
2A-2

RW SHEET NO.

ROADWAY DESIGN ENGINEER
6/16/2025

PAVEMENT DESIGN ENGINEER
6/16/2025

SEAL
044511
ANDREW M. KORTOLICH
PROFESSIONAL ENGINEER

SEAL
044590
ANDREW D. WARGO
PROFESSIONAL ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

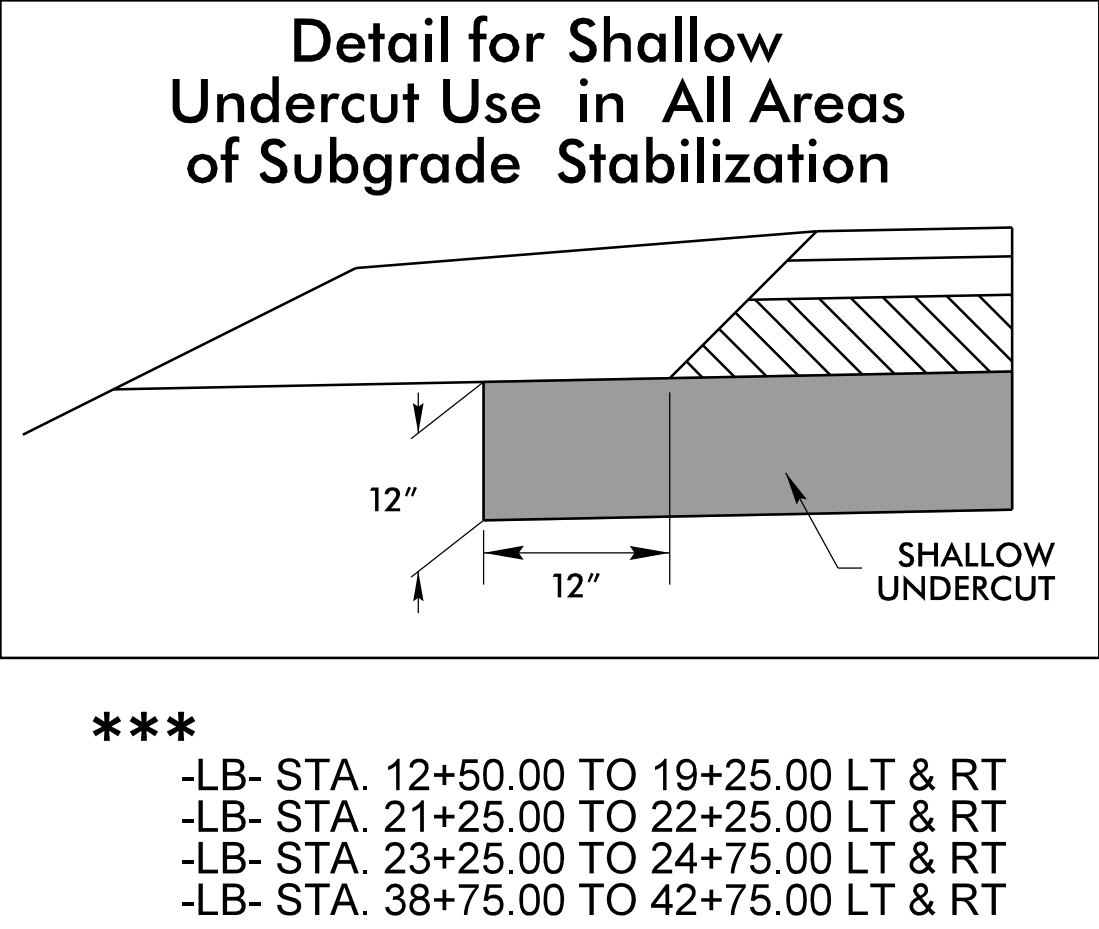
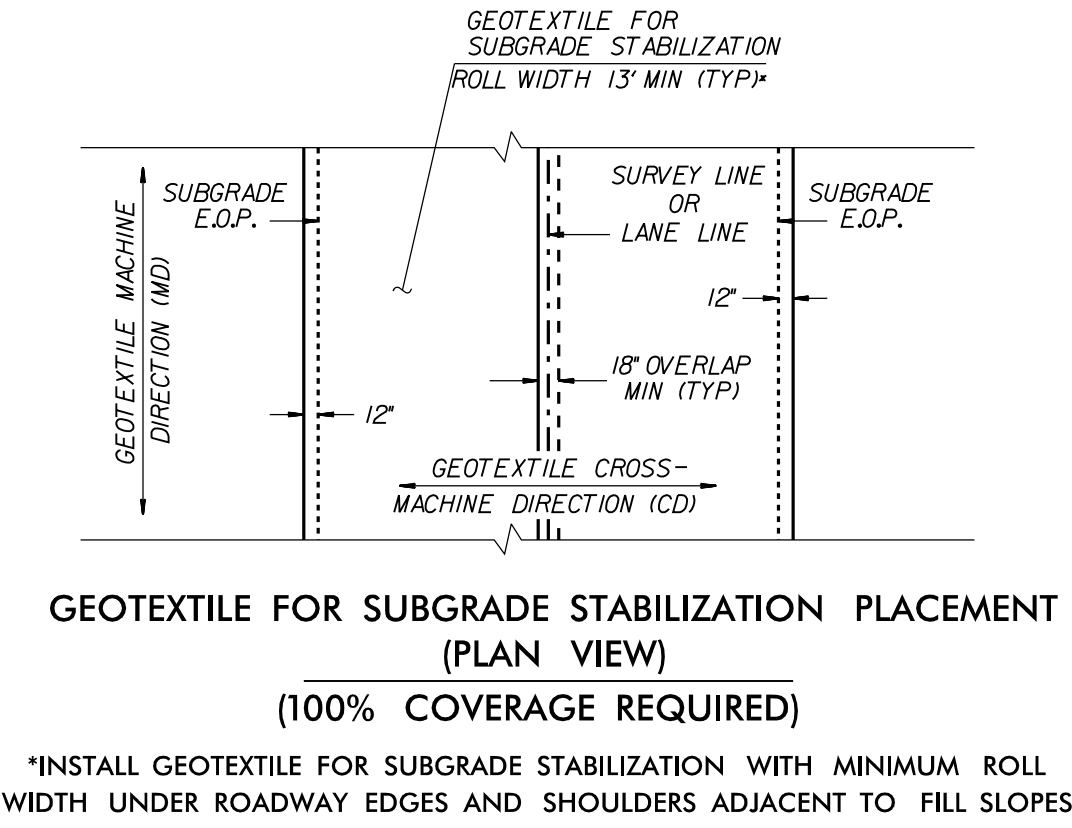
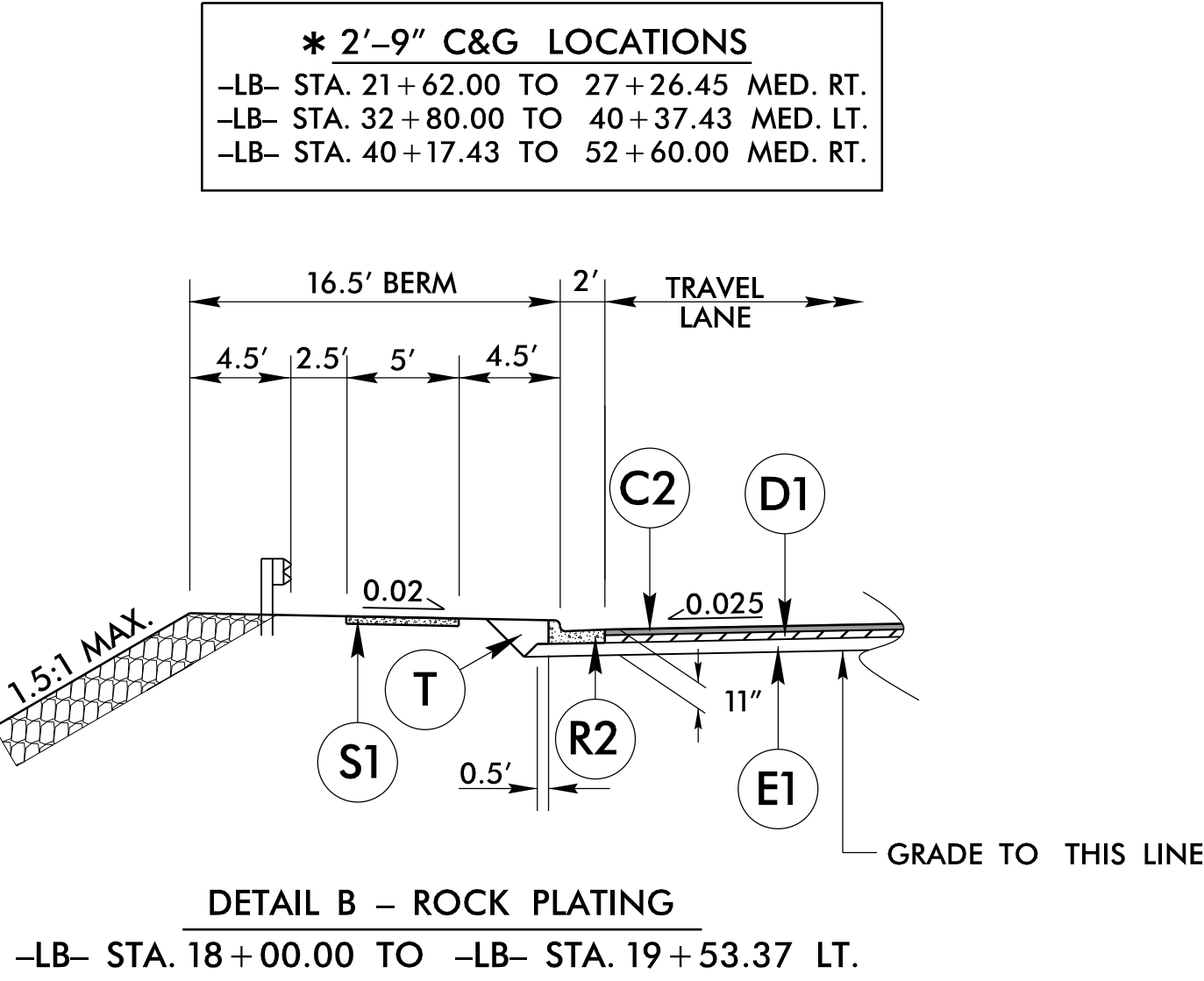
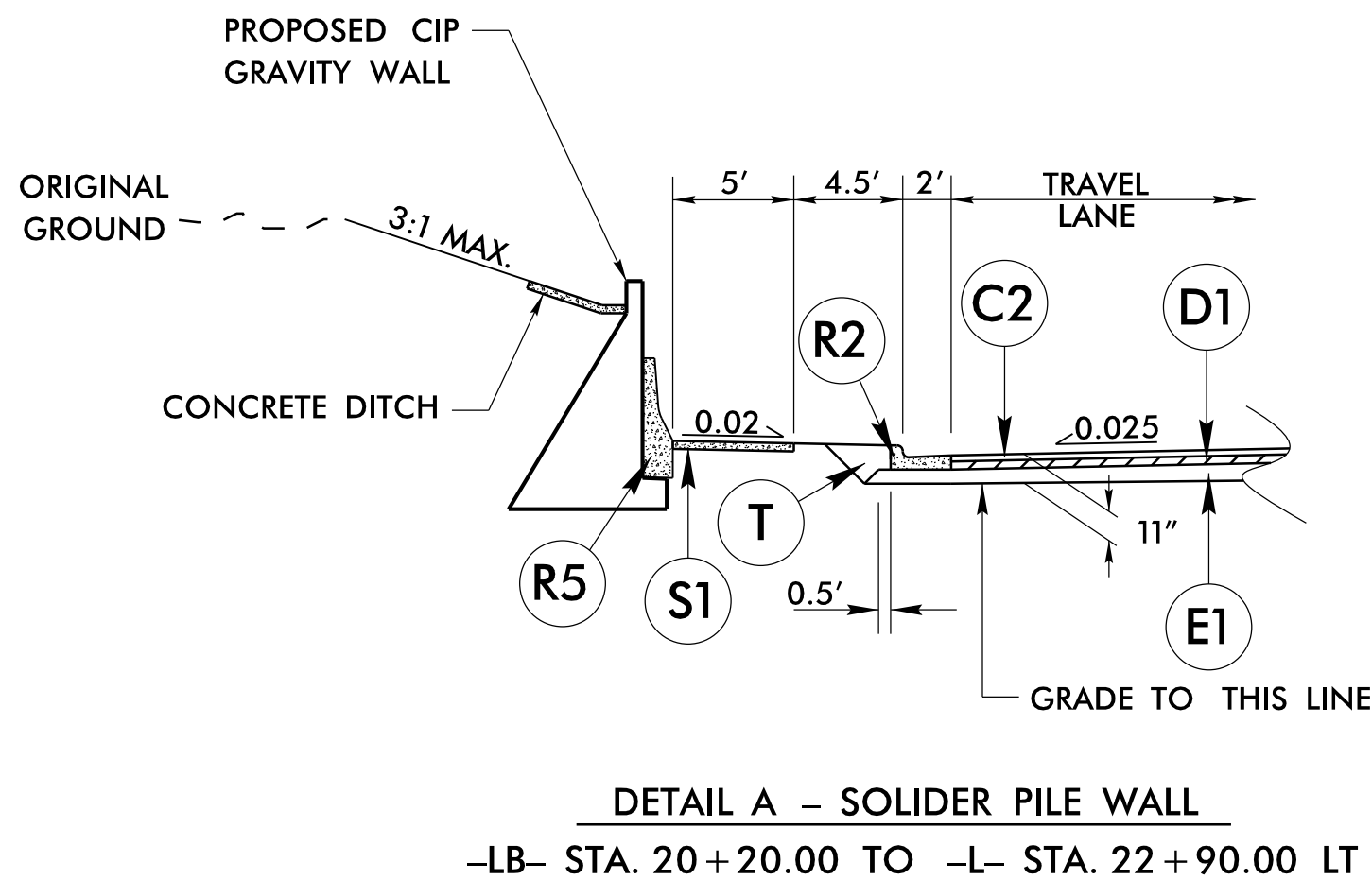
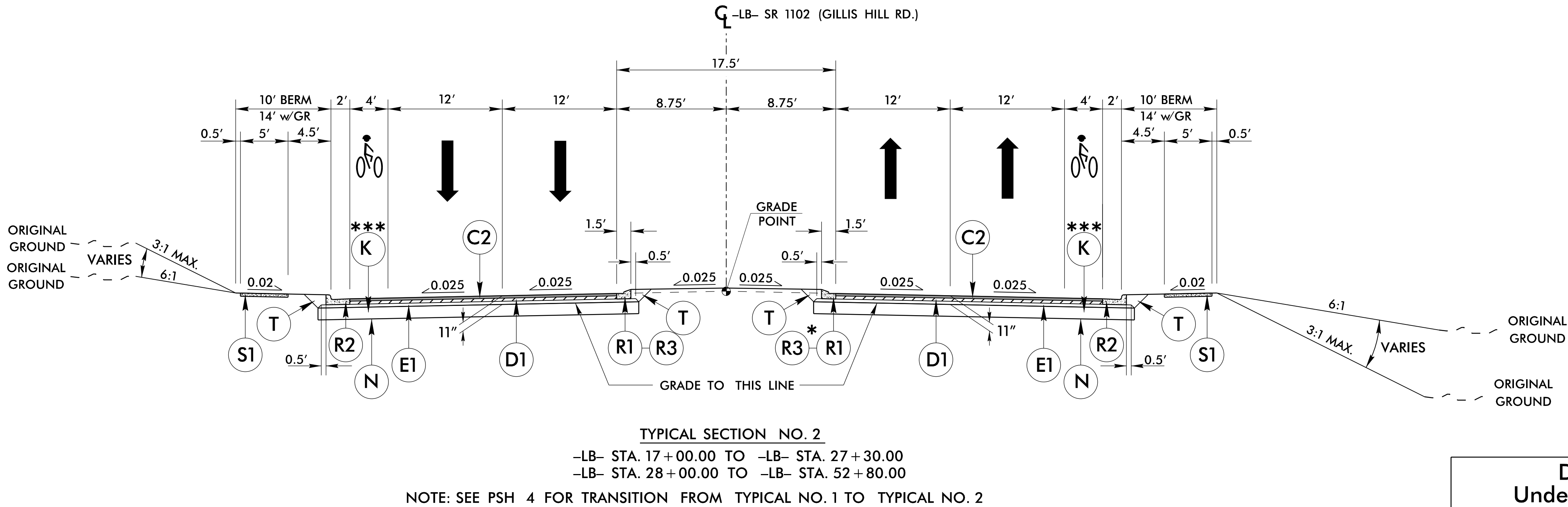
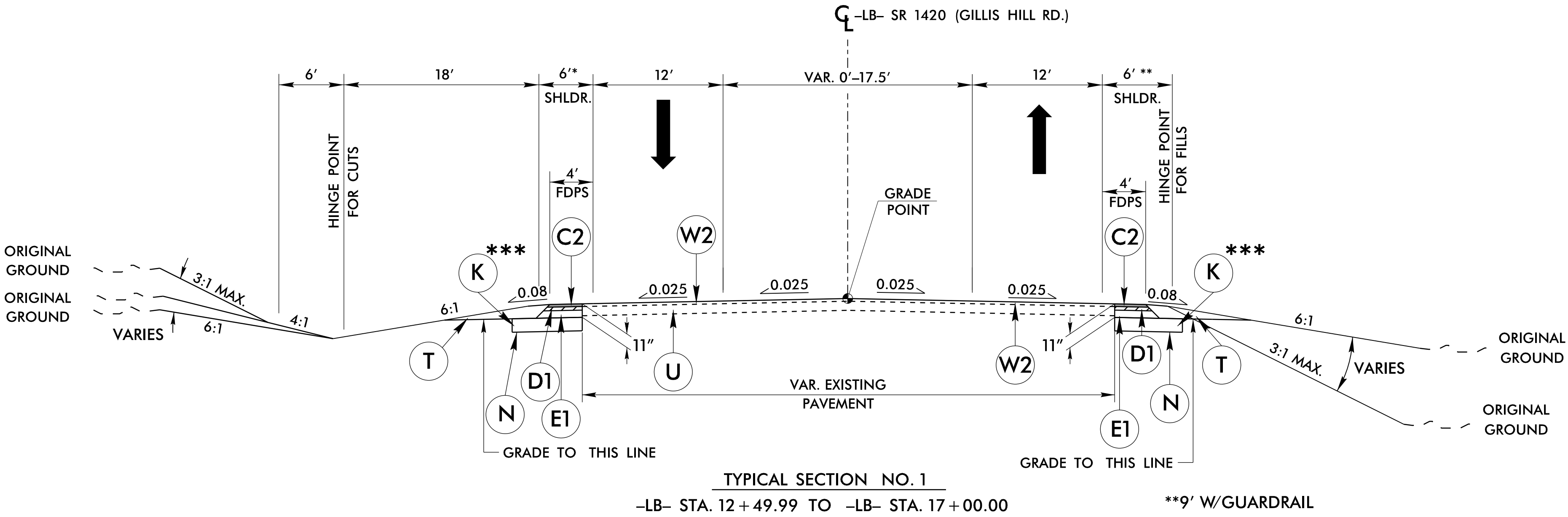
RS&H 8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

C2	3.0" S9.5C
C3	VAR. DEPTH S9.5C
C4	3.0" S9.5B
C6	VAR. DEPTH S9.5B
D1	4.0" I19.0C
D3	VAR. DEPTH I19.0C
D2	2.5" I19.0C
E2	VAR. DEPTH B25.0C
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	0"-3" MILLING
V2	3" MILLING
W1	WEDGING DETAIL 1
W2	WEDGING DETAIL 2
W3	WEDGING DETAIL 3
W4	WEDGING DETAIL 4
W5	WEDGING DETAIL 5

8/17/99

REVISIONS

05-JUN-2025 12:15
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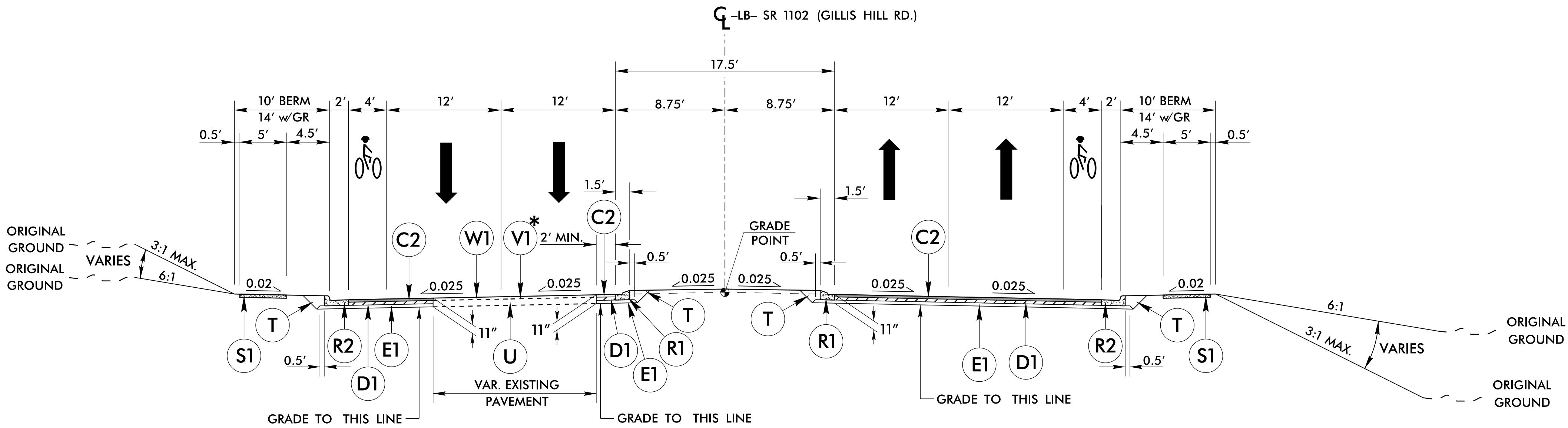
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RW SHEET NO.			
ROADWAY DESIGN ENGINEER 6/16/2025		PAVEMENT DESIGN ENGINEER 6/16/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

C2	3.0" S9.5C
D1	4.0" I19.0C
E1	4.0" B25.0C
K	CLASS IV SUBGRADE STAB.
N	GEOTEXTILE FOR SUBGRADE STAB.
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R5	CONCRETE BARRIER WALL
S1	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W2	WEDGING DETAIL 2

8/17/99

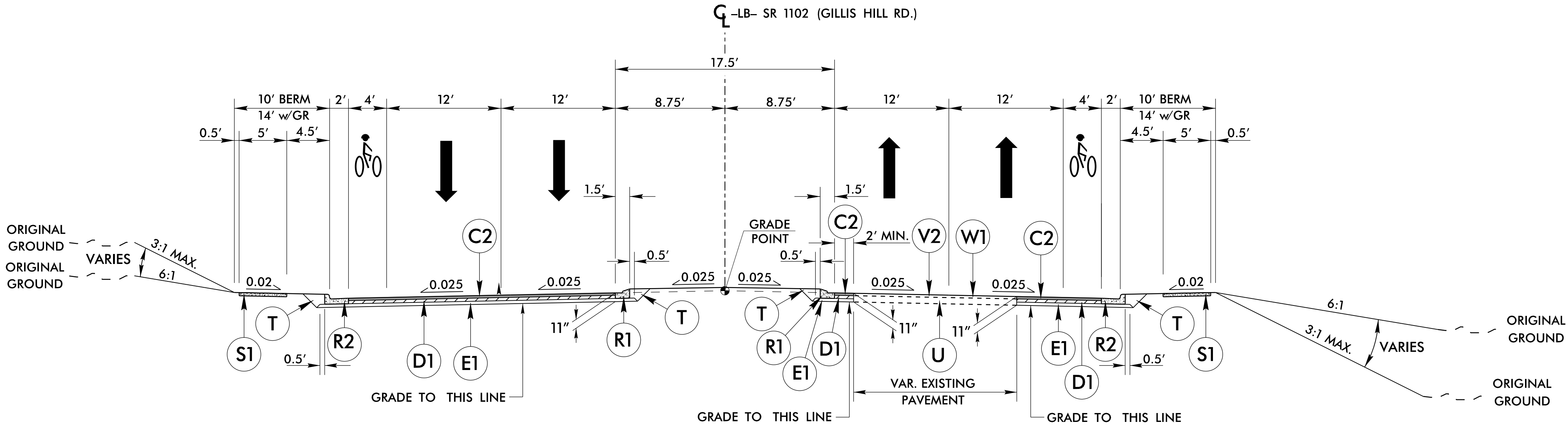
REVISIONS

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TYPICAL SECTION NO. 3
-LB- STA. 27+30.00 TO -LB- STA. 28+00.00

*SEE CROSS SECTIONS



TYPICAL SECTION NO. 4
-LB- STA. 52+80.00 TO -LB- STA. 58+39.24

PROJECT REFERENCE NO. <i>U-5798B</i>		SHEET NO. <i>2A-4</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER 6/16/2025		PAVEMENT DESIGN ENGINEER 6/16/2025	
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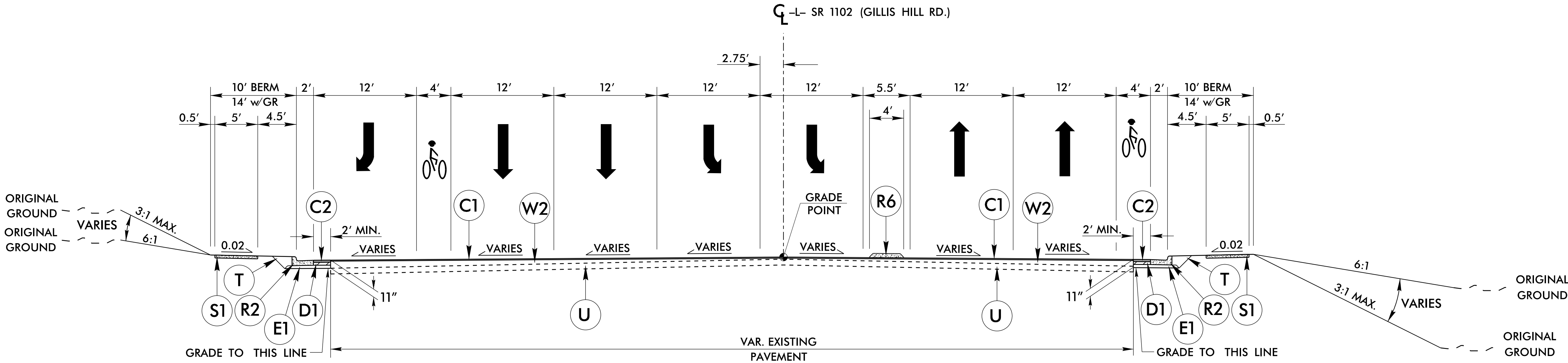
RS&H 8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

C2	3.0" S9.5C
D1	4.0" I19.0C
E1	4.0" B25.0C
R1	1'-6" C&G
R2	2'-6" C&G
S1	4" CONC. SW
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	0"-3" MILLING
V2	3.0" MILLING
W1	WEDGING DETAIL 1

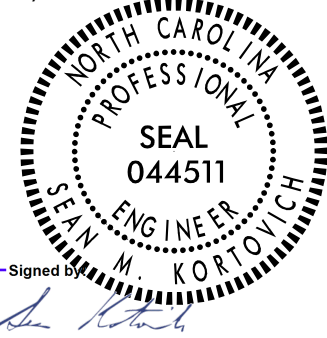
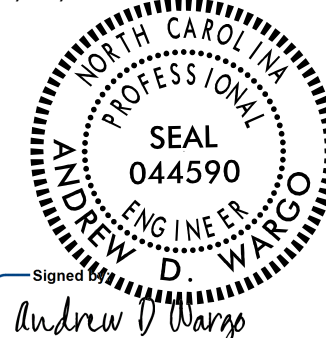
8/17/99

REVISIONS

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TYPICAL SECTION NO. 5
-L- STA. 50+00.00 TO -L- STA. 51+01.60 LT.
-L- STA. 50+00.00 TO -L- STA. 51+44.00 RT.

PROJECT REFERENCE NO. <i>U-5798B</i>		SHEET NO. <i>2A-5</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER 6/16/2025		PAVEMENT DESIGN ENGINEER 6/16/2025	
			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

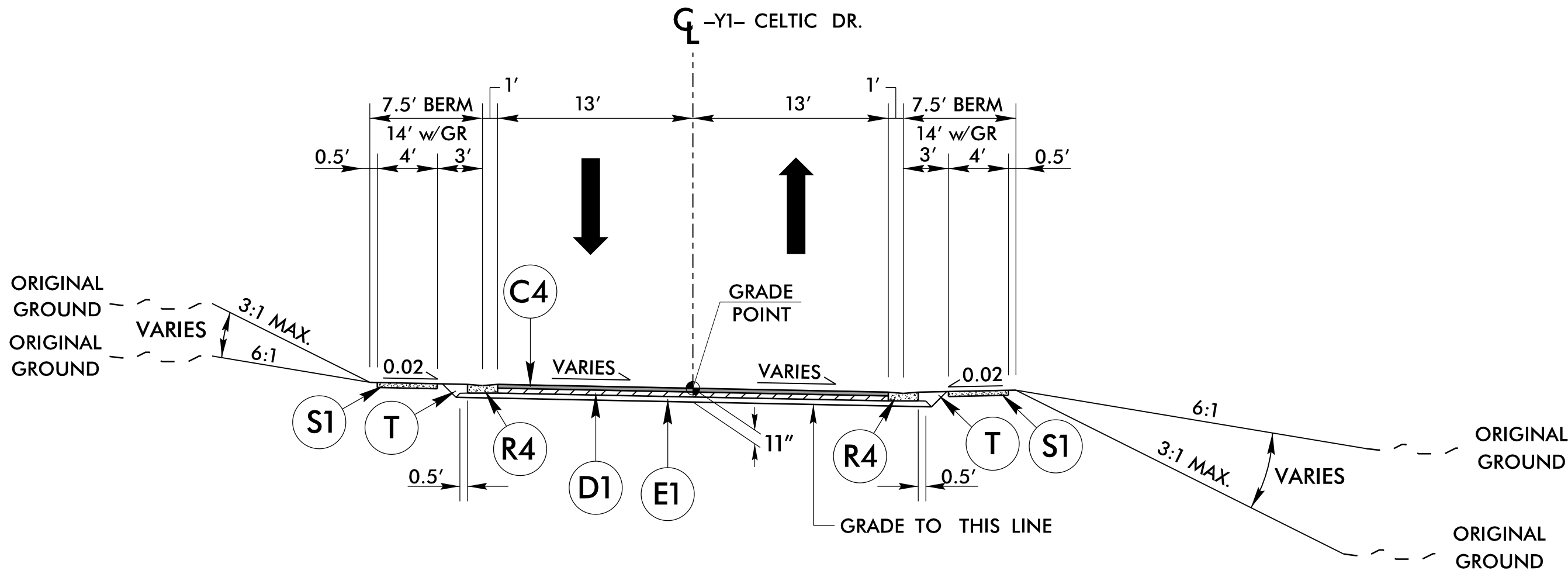
RS&H 8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

C1	1.5" S9.5C
C2	3.0" S9.5C
D1	4.0" I19.0C
E1	4.0" B25.0C
R2	2'-6" C&G
R6	5" CONC. ISLAND
S1	4" CONC. SW
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W2	WEDGING DETAIL 2

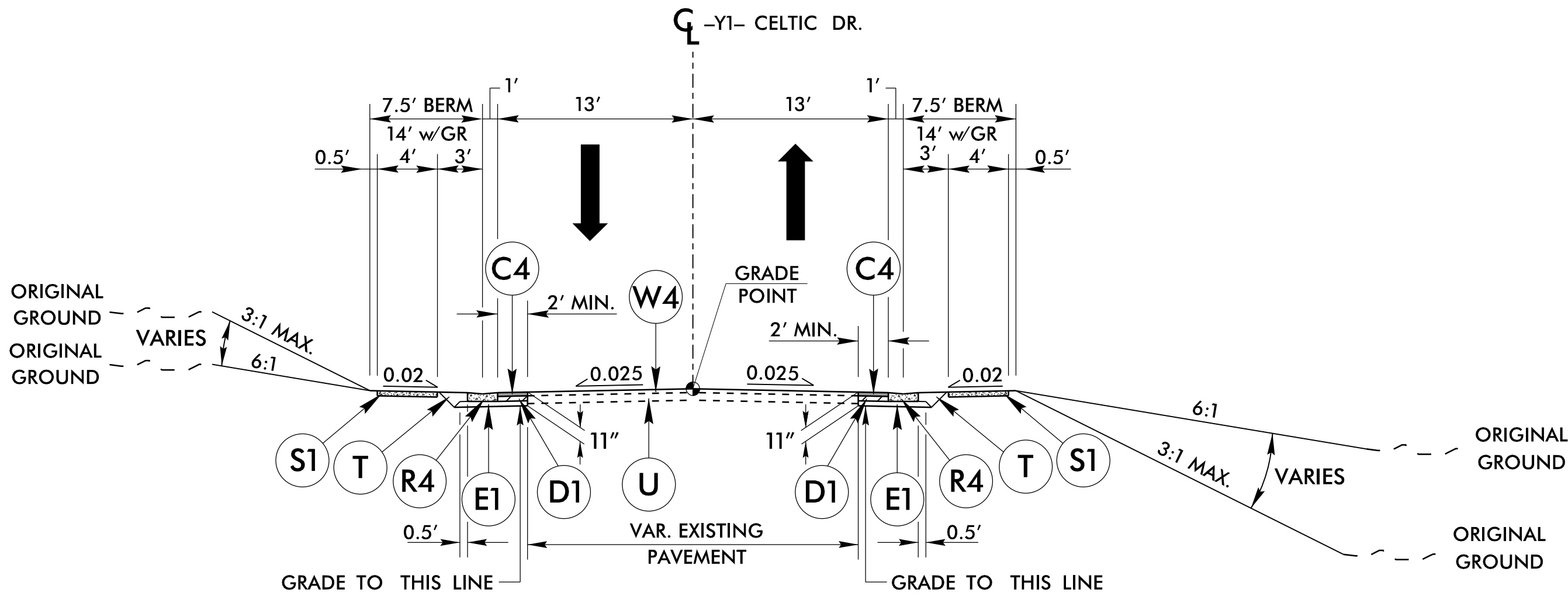
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REVISIONS

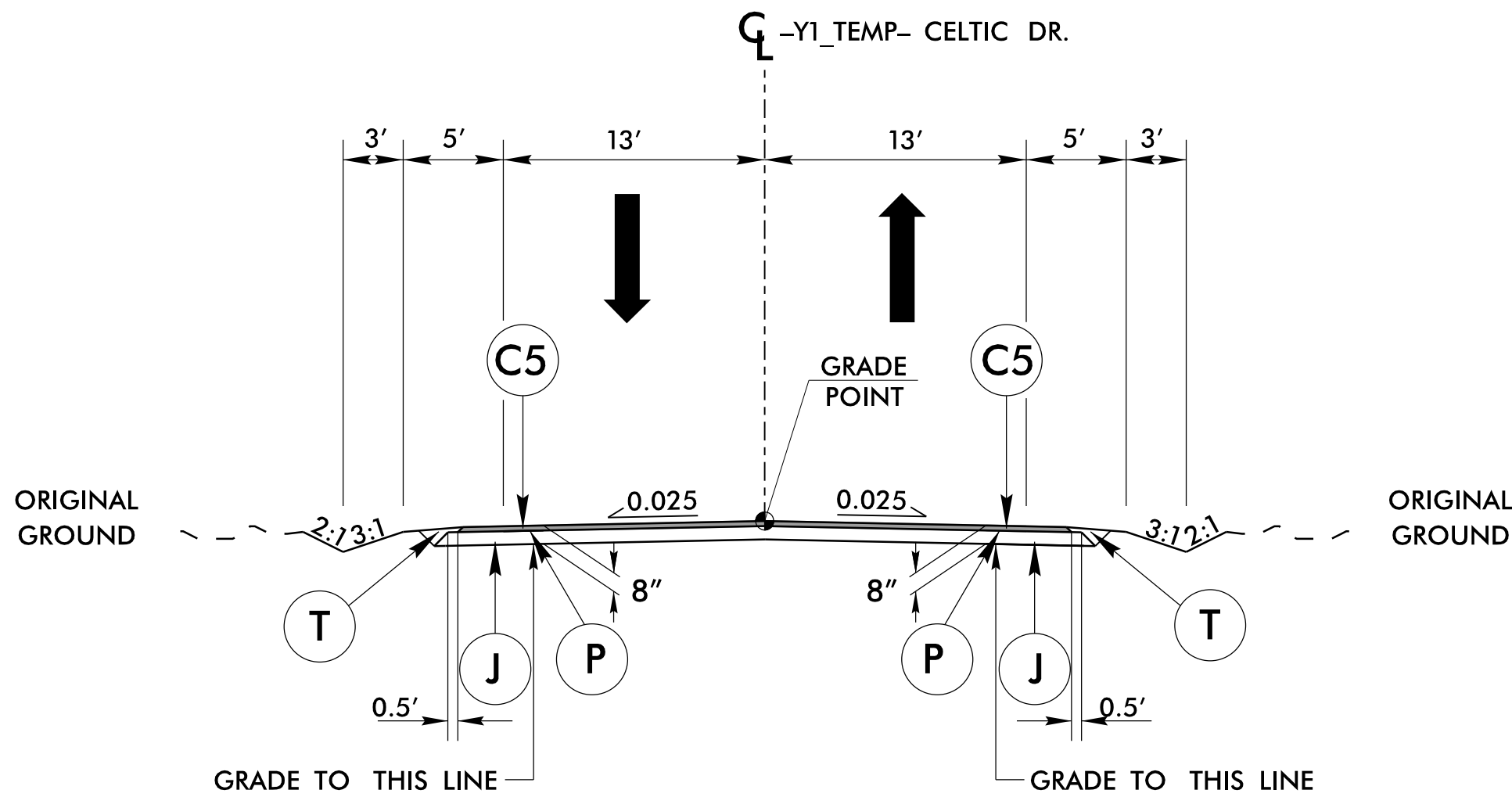
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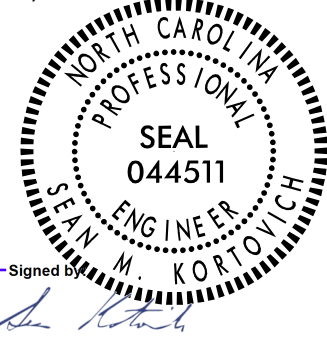
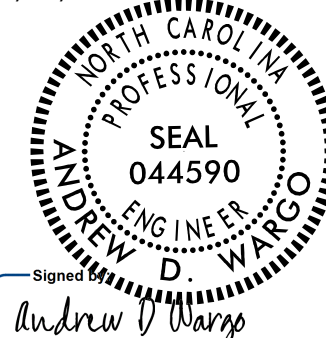
TYPICAL SECTION NO. 6
-Y1- STA. 10 + 37.19 TO -Y1- STA. 12 + 00.00



TYPICAL SECTION NO. 7
-Y1- STA. 12 + 00.00 TO -Y1- STA. 13 + 75.00



TYPICAL SECTION NO. 8
-Y1_TEMP- STA. 10 + 07.66 TO -Y1_TEMP- STA. 12 + 68.44

PROJECT REFERENCE NO. <i>U-5798B</i>	SHEET NO. <i>2A-6</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 6/16/2025 	PAVEMENT DESIGN ENGINEER 6/16/2025 
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

C4	3.0" S9.5B
C5	2.0" S9.5B
D1	4.0" I19.0C
E1	4.0" B25.0C
J	6.0" ABC
P	PRIME COAT
R4	VALLEY GUTTER
S1	4" CONC. SW
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W4	WEDGING DETAIL 4

8/17/99

REVISIONS

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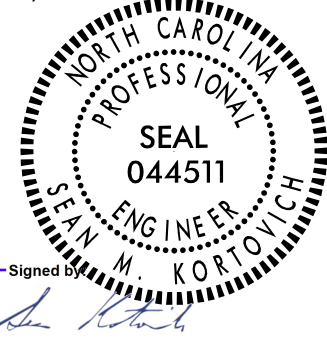
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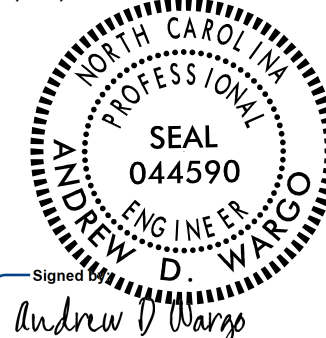
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2A-7

RW SHEET NO.

ROADWAY DESIGN ENGINEER
6/16/2025

PAVEMENT DESIGN ENGINEER
6/16/2025

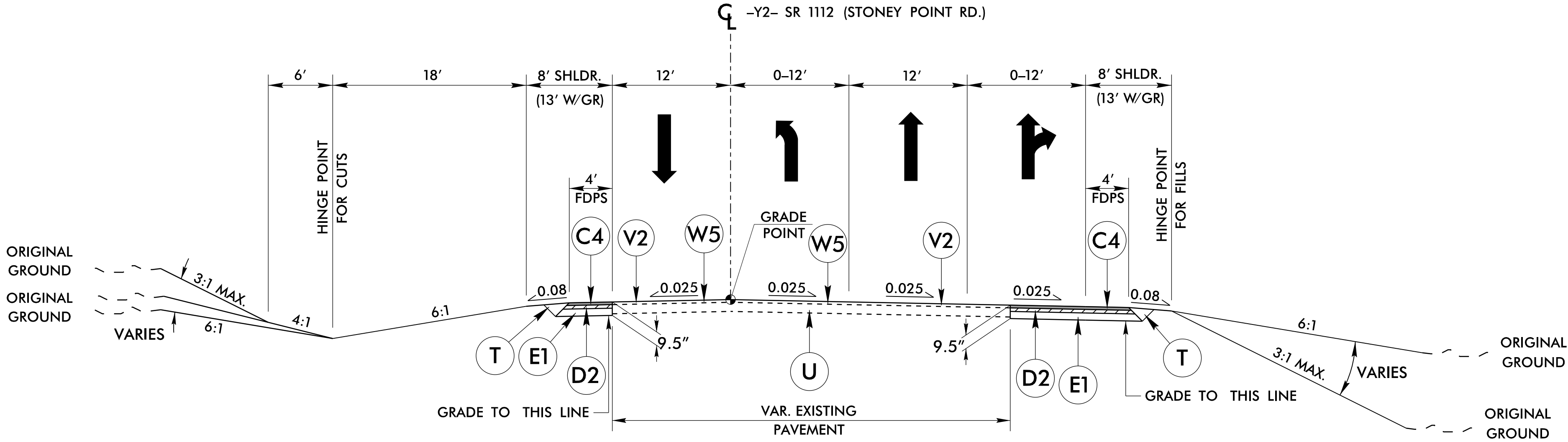

Signed by *Sean M. Kortolich*


Signed by *Andrew D. Wargo*

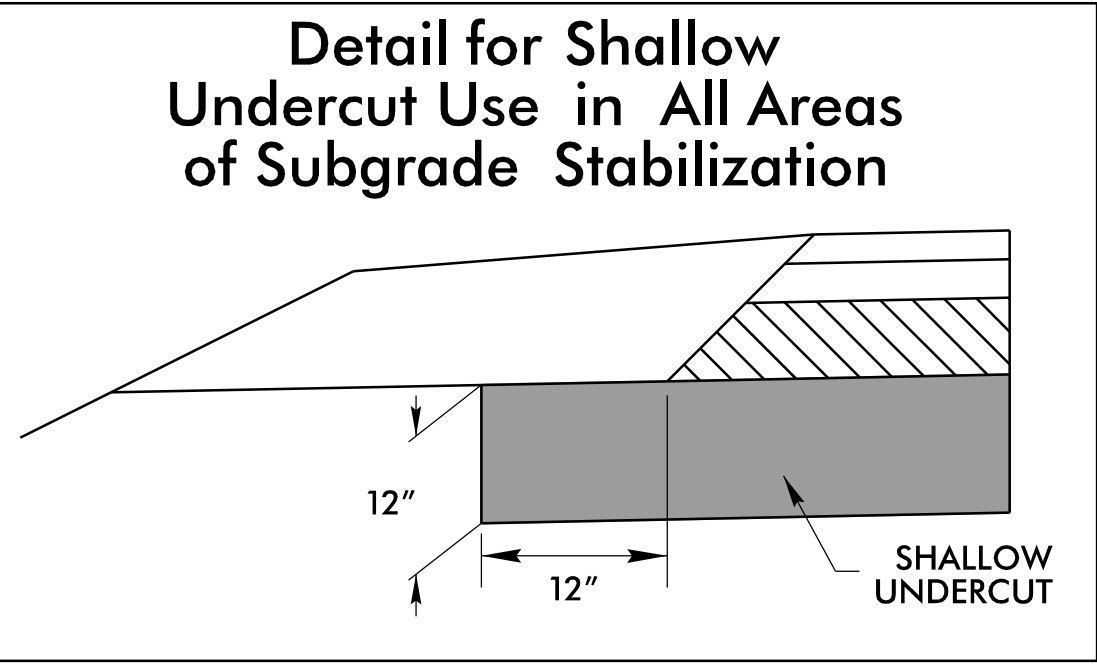
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RS&H 8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

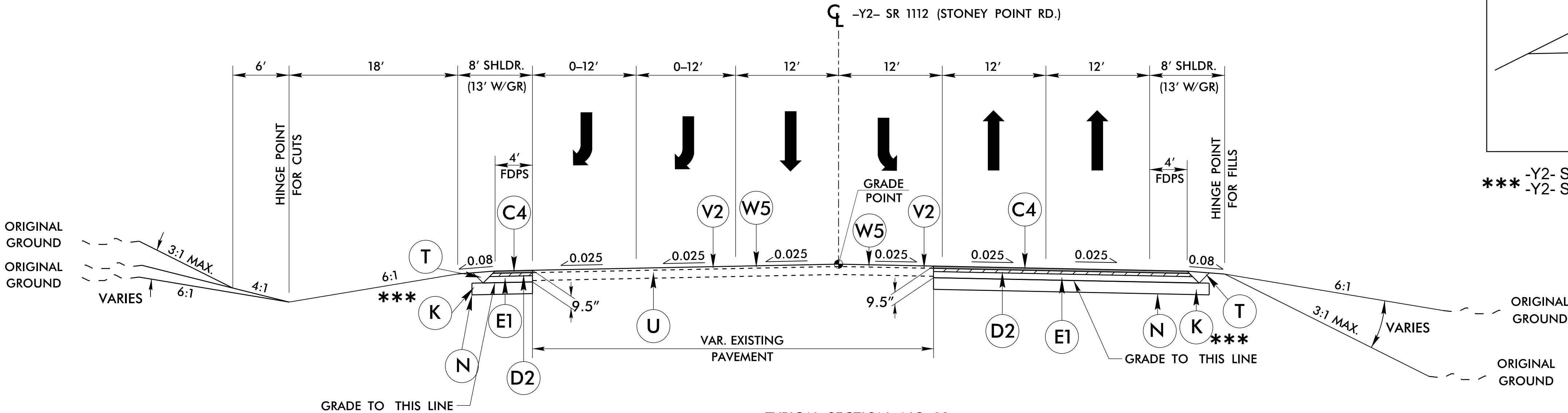
C4	3.0" S9.5B
D2	2.5" I19.0C
E1	4.0" B25.0C
K	CLASS IV SUBGRADE STAB.
N	GEOTEXTILE FOR SUBGRADE STAB.
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V2	3" MILLING
W5	WEDGING DETAIL 5



TYPICAL SECTION NO. 9
-Y2- STA. 13+30.00 TO -Y2- STA. 24+51.66

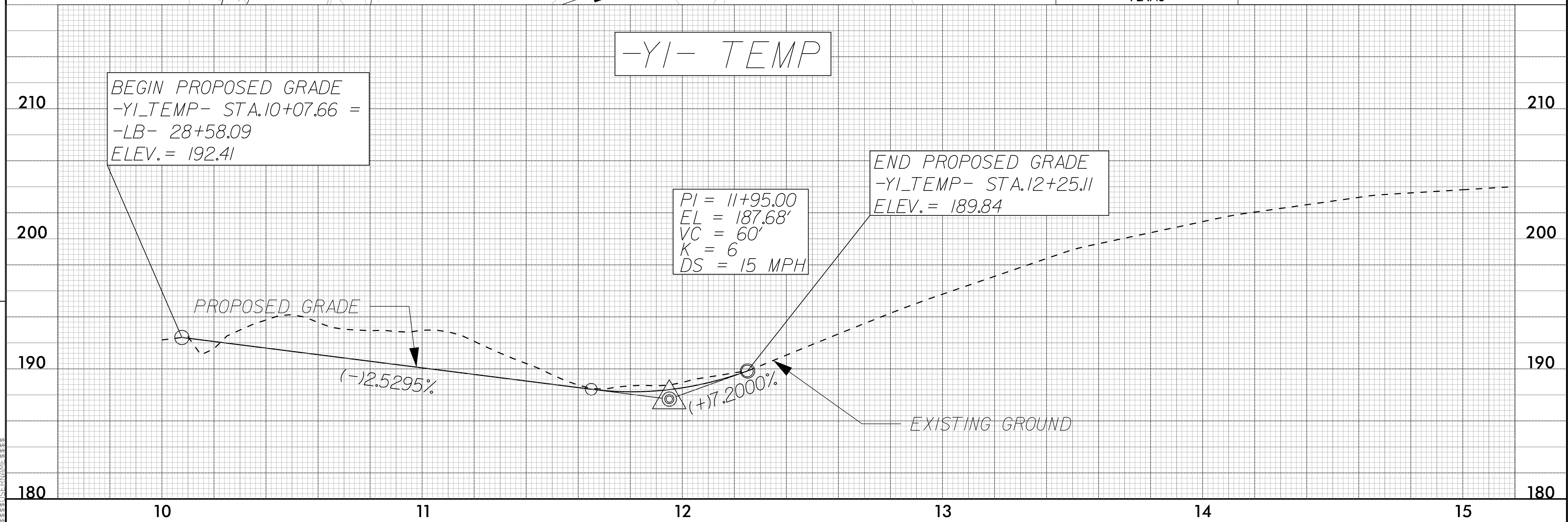


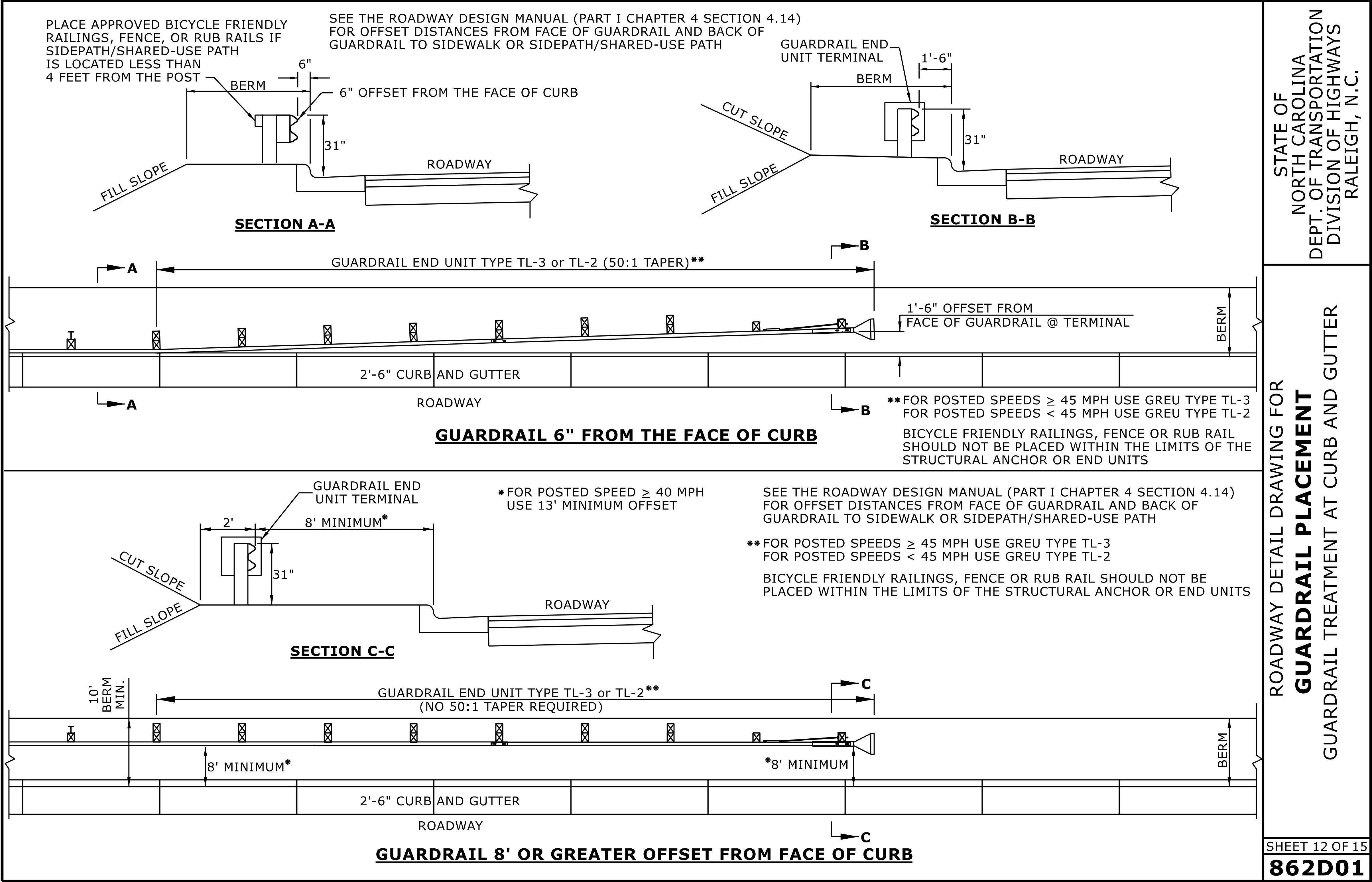
*** -Y2- STA. 25+10.00 TO 30+25.00 LT & RT
*** -Y2- STA. 34+25.00 TO 41+50.00 LT & RT



TYPICAL SECTION NO. 10
-Y2- STA. 25+42.47 TO -Y2- STA. 41+00.00

PROJECT REFERENCE NO. <i>U-5798B</i>		SHEET NO. <i>2B-1</i>	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER 6/11/2025 Signature _____ <i>(Signature)</i> C:\NORTH\5798B\DWG1		HYDRAULICS ENGINEER 5/11/2025 Document # _____ <i>Alexander R. Vinson</i> C:\NORTH\5798B\DWG2	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			





6/11/2025



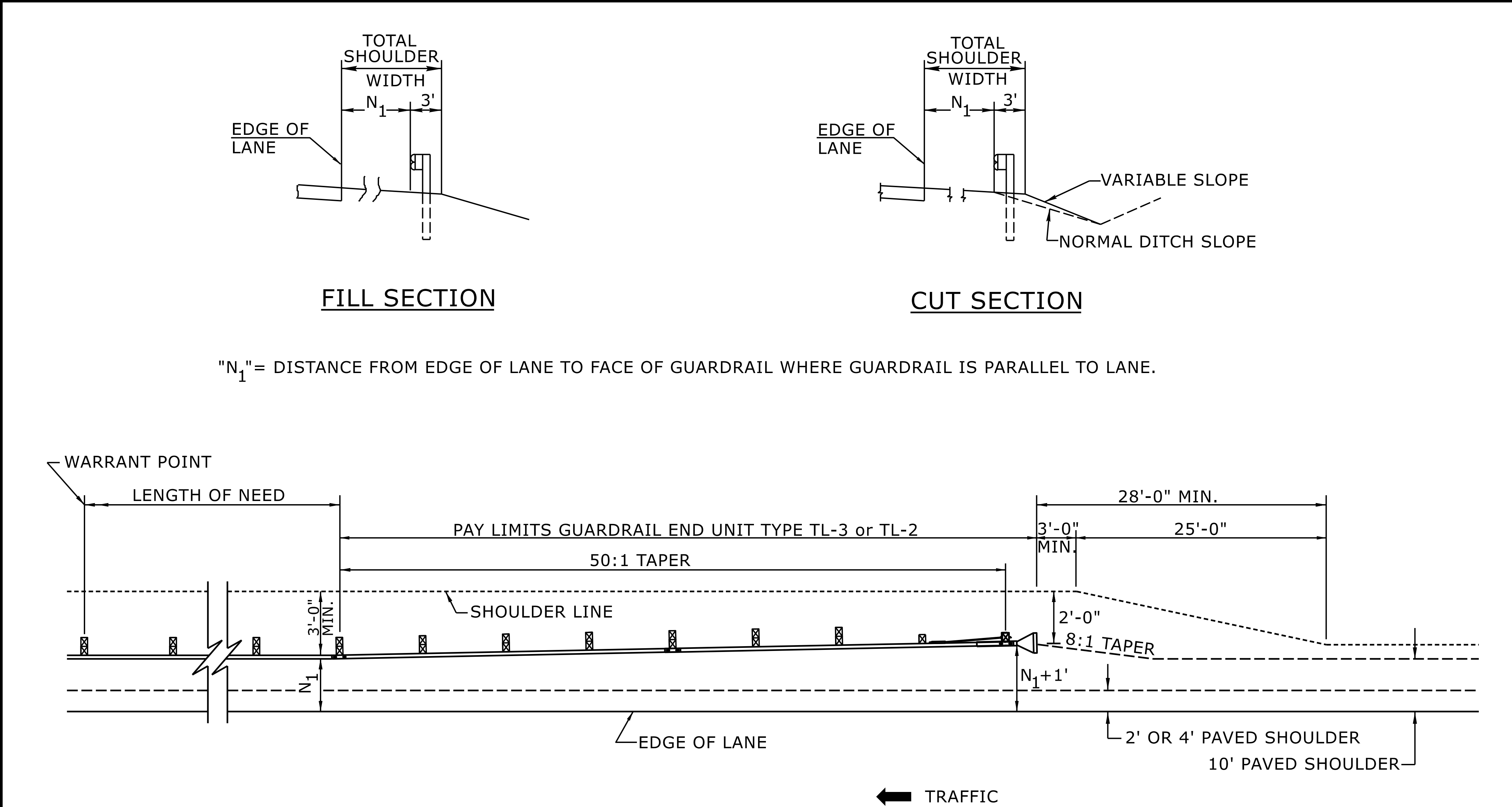
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UNLESS ALL SIGNATURES COMPLETED

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.:	



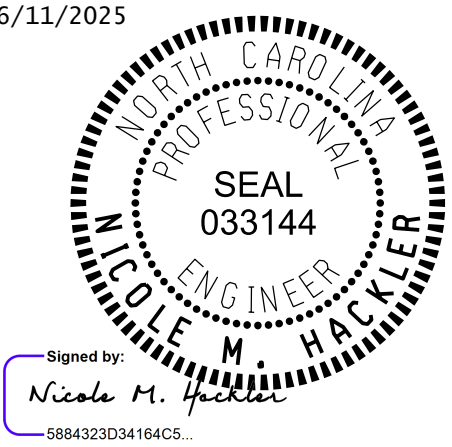
"N₁"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.

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

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

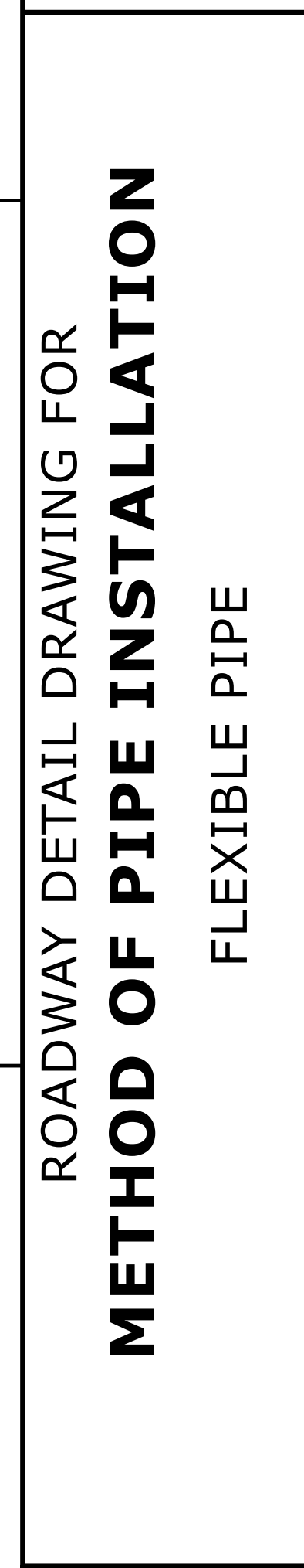
ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15
862D01



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

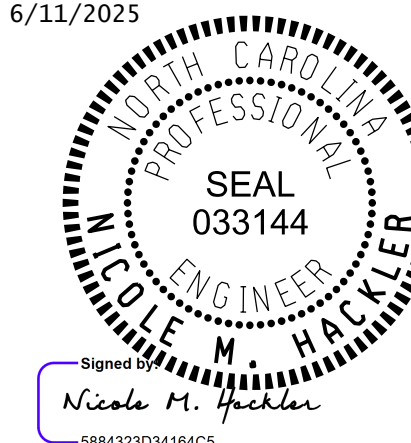
CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
SEE TITLE BLOCK	
ORIGINAL BY: S.CALHOUN	DATE: 7-25-2024
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	



	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.

SHEET 1 OF 2
300.01

6/11/202



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

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

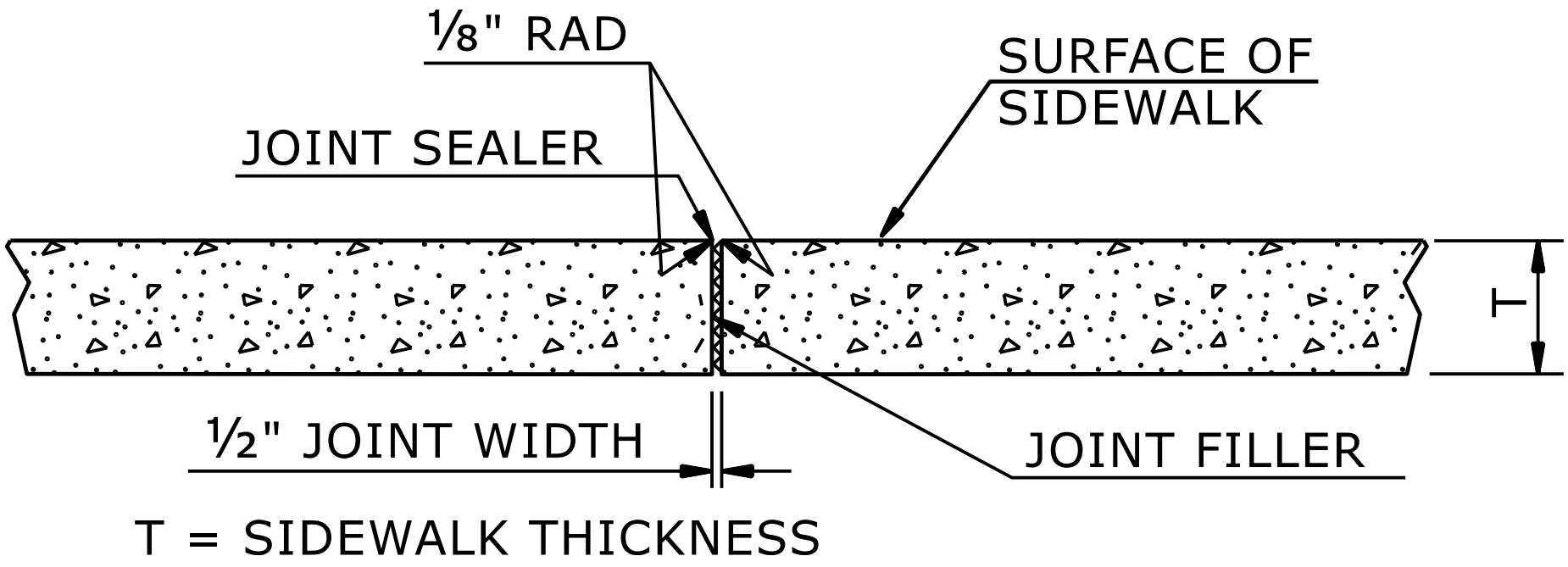
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U-5798B	2C-5

NOTES:

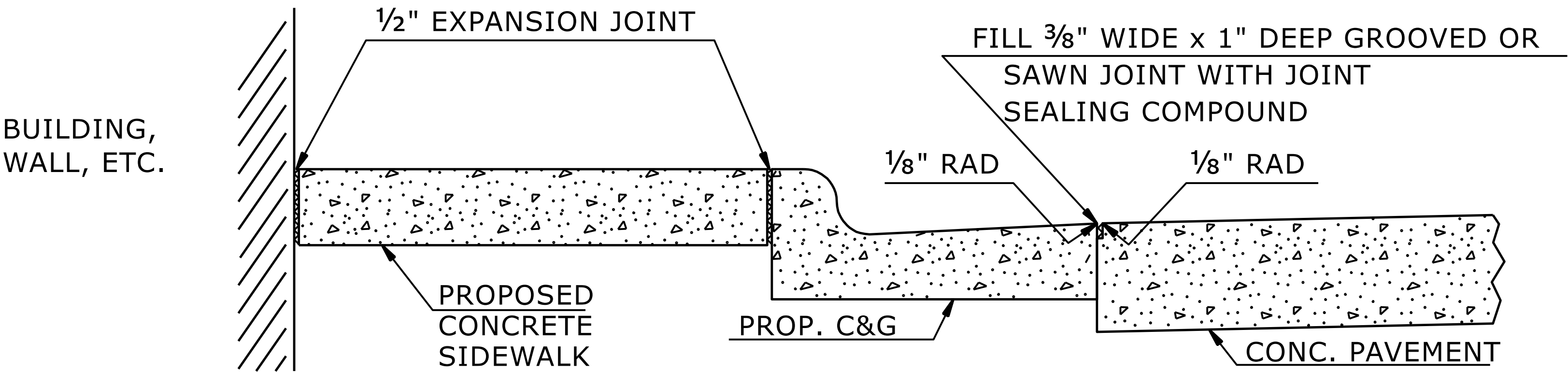
CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

SEE STD. DWG. 848.06 FOR CURB RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



TRANSVERSE EXPANSION JOINT
IN SIDEWALK



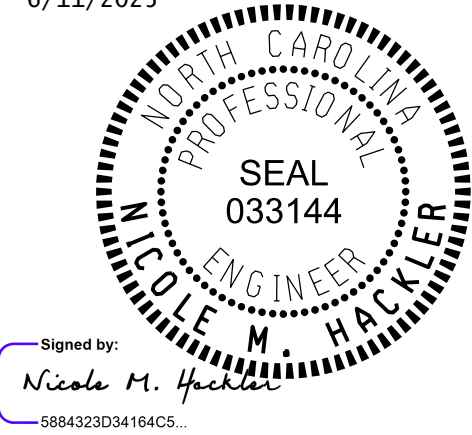
DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

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

ROADWAY DETAIL DRAWING FOR
CONCRETE SIDEWALK

SHEET 1 OF 1
848D01

6/11/2025



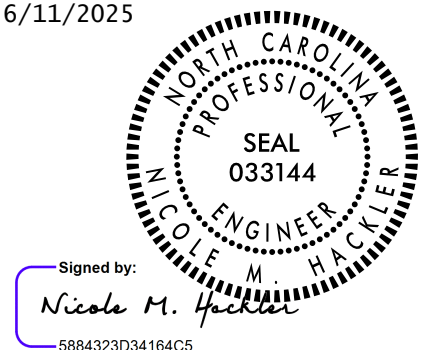
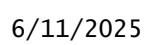
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**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.: DATE:



Signed by:
Nicole
5884323D34

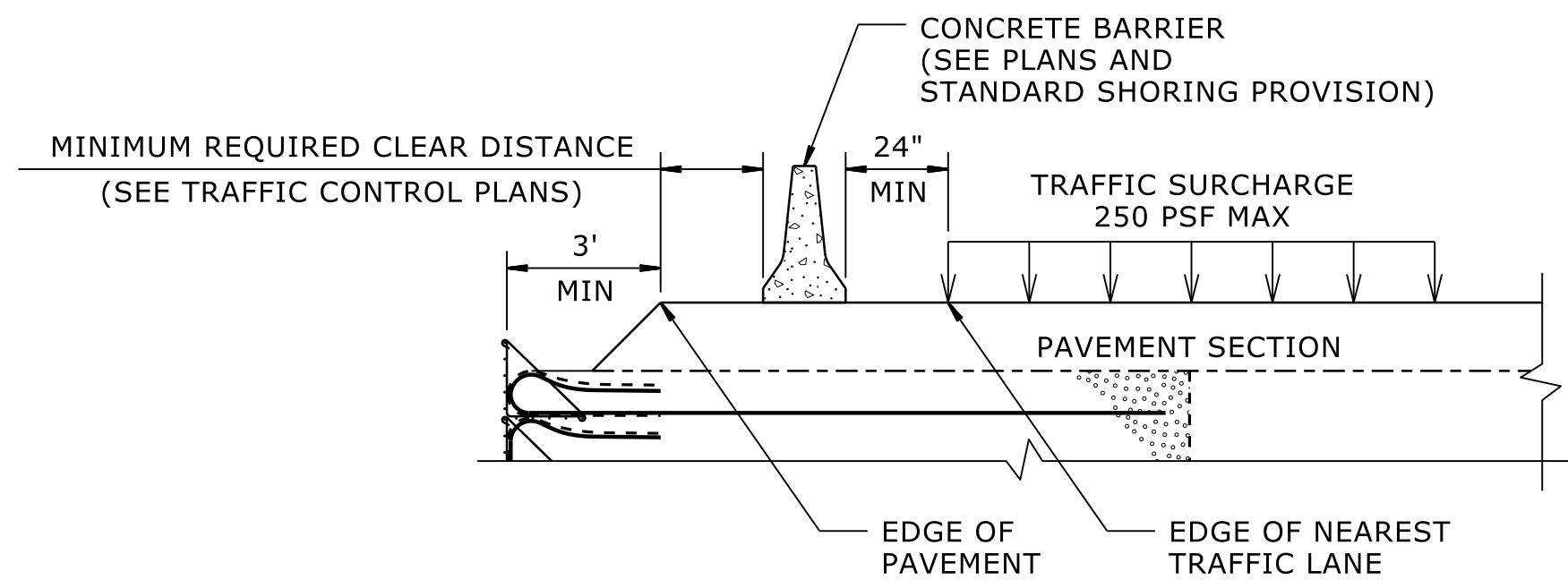
SHEET 1 OF 1
852D07

**DOCUMENT NOT CONSIDERED FINAL
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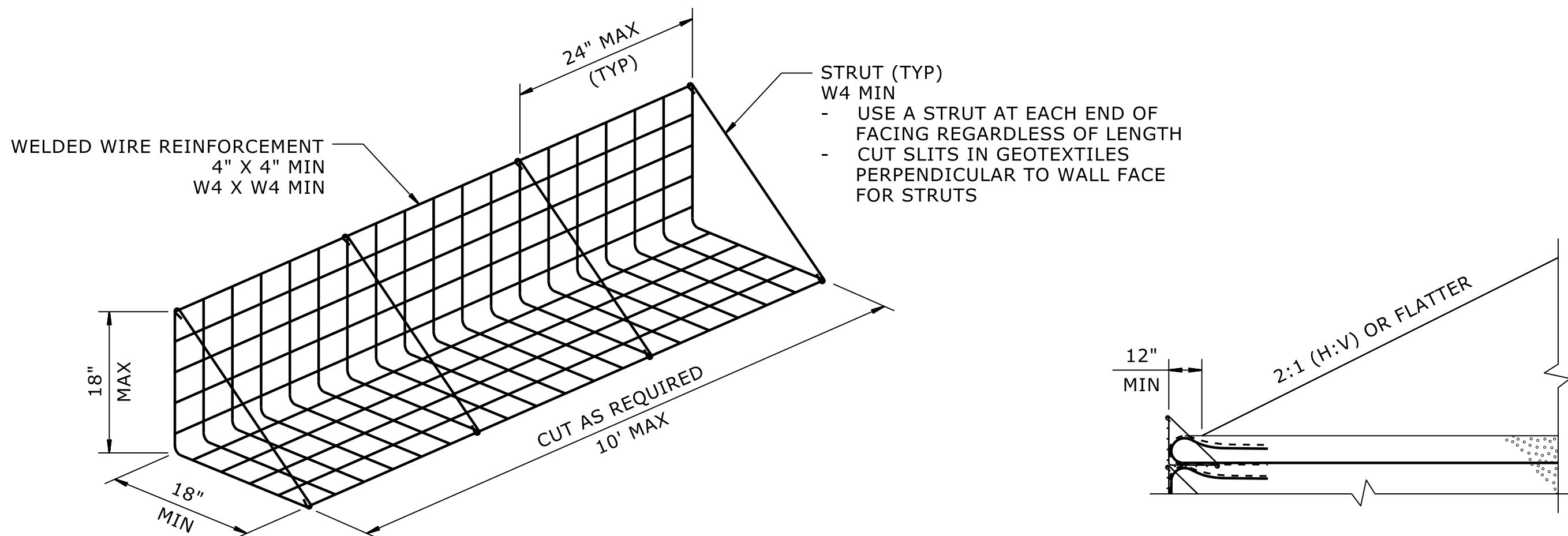
**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

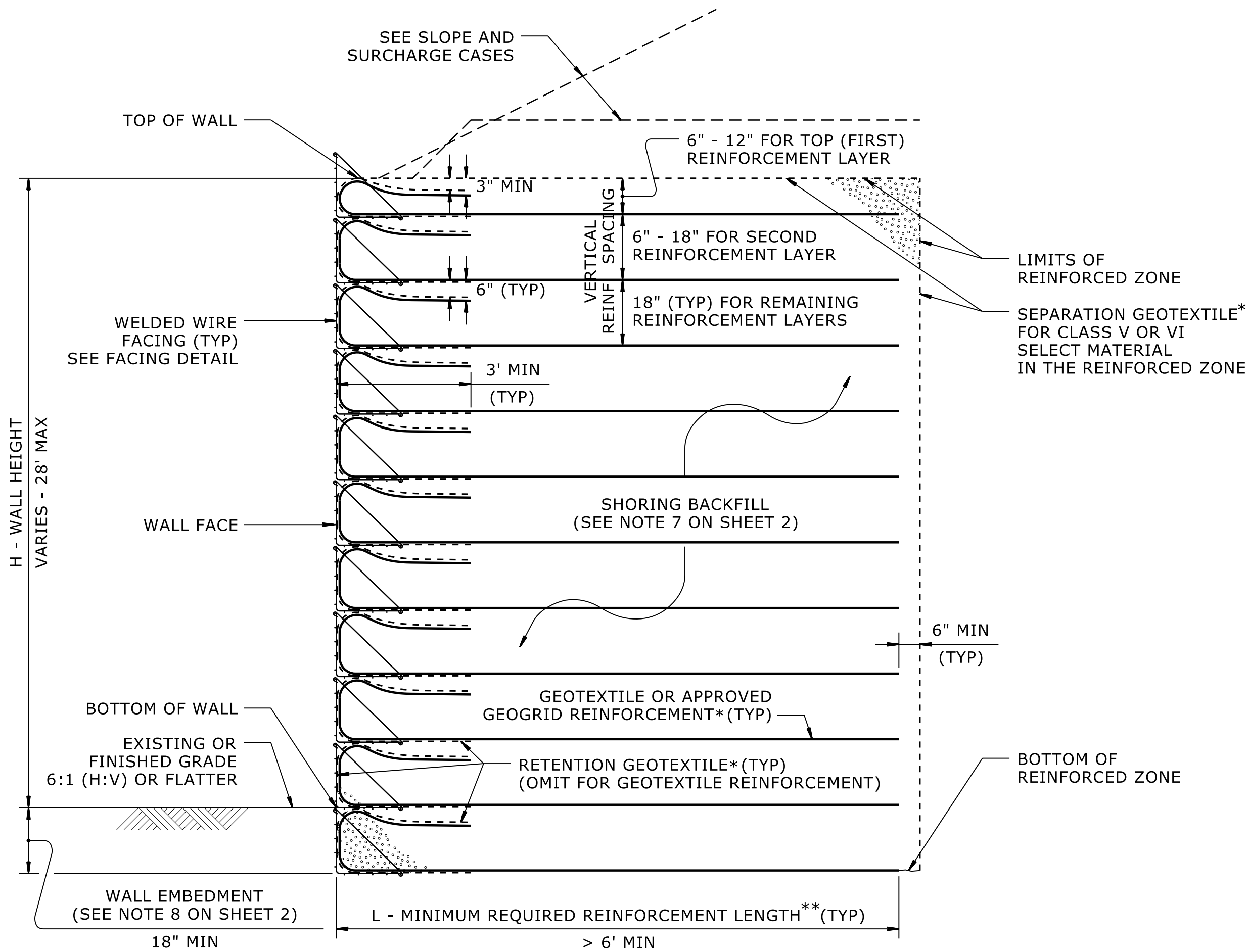
ORIGINAL BY: K.A. KEMPf	DATE: 7-20-23
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: 2024 details in lieu\852D0701.dgn	



SURCHARGE CASE



FACING DETAIL

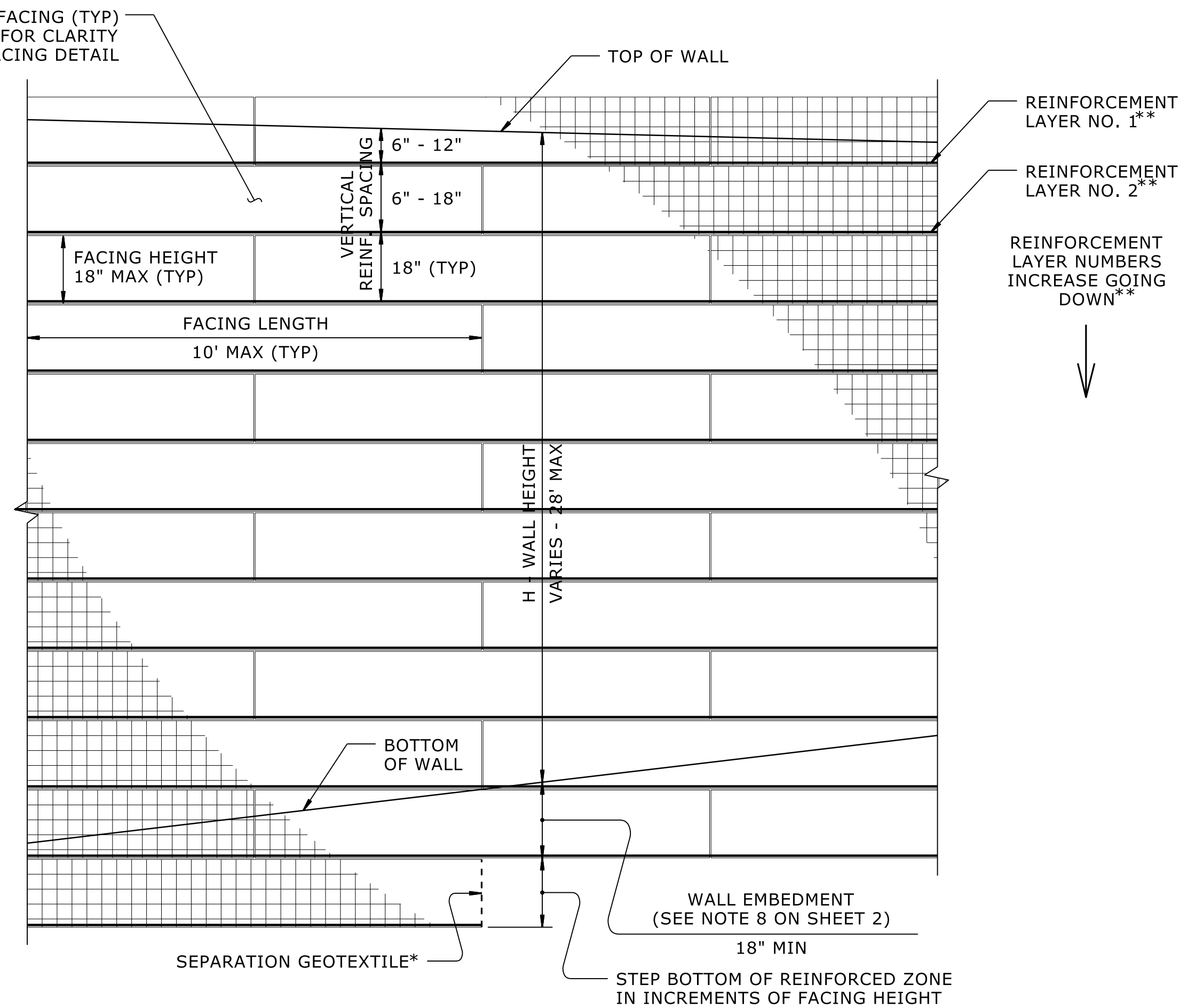


STANDARD TEMPORARY WALL

(FOR STANDARD TEMPORARY WALLS ON STRUCTURES, SEE TEMPORARY WALL ON STRUCTURE DETAIL ON SHEET 2.)

*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.

**SEE REINFORCEMENT TABLES ON SHEET 3.



STANDARD TEMPORARY WALL - PARTIAL ELEVATION

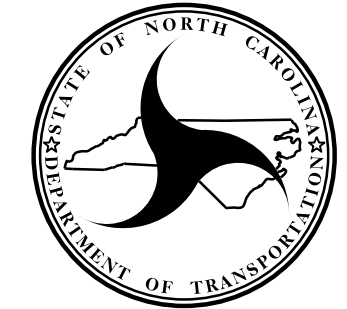
*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.

**SEE REINFORCEMENT TABLES ON SHEET 3.

U-5798B

2G-1 -

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



GEOTECHNICAL
ENGINEERING UNIT

GEOTECHNICAL
ENGINEER
Scott A. Hildebrand
24/2025

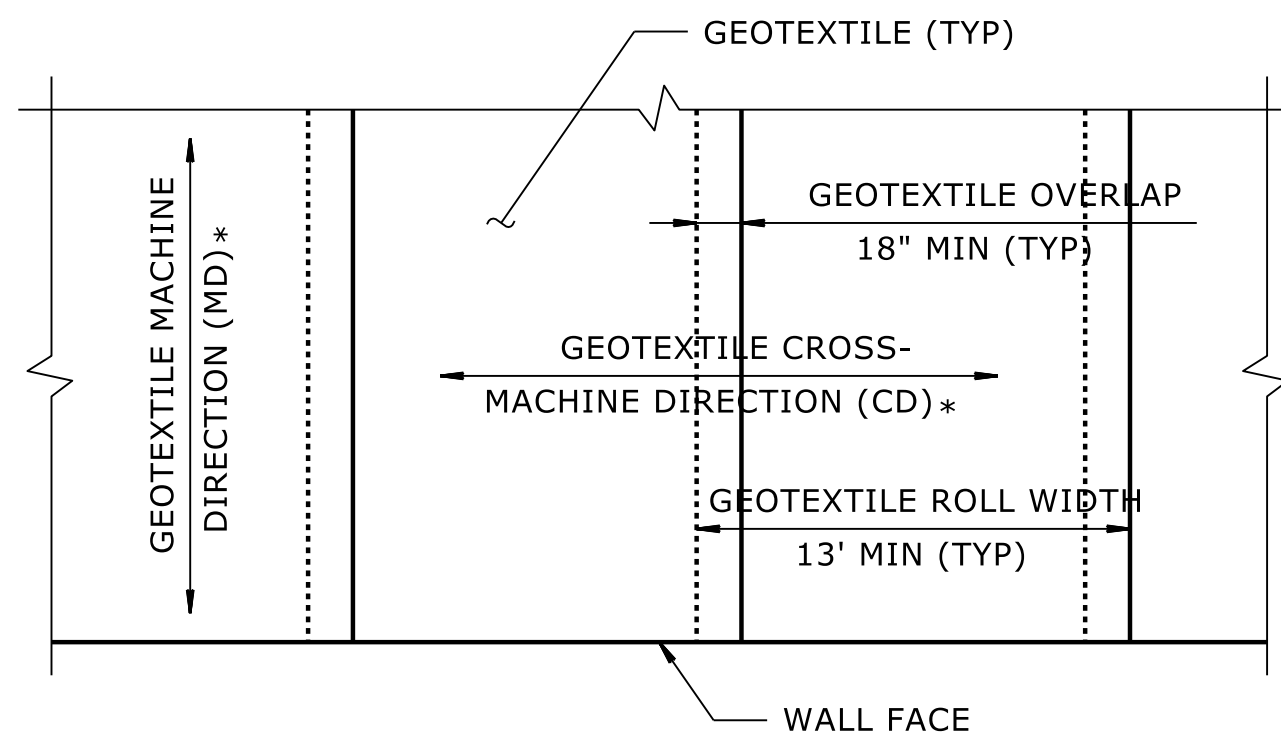


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STANDARD
DETAIL NO. 1801.02

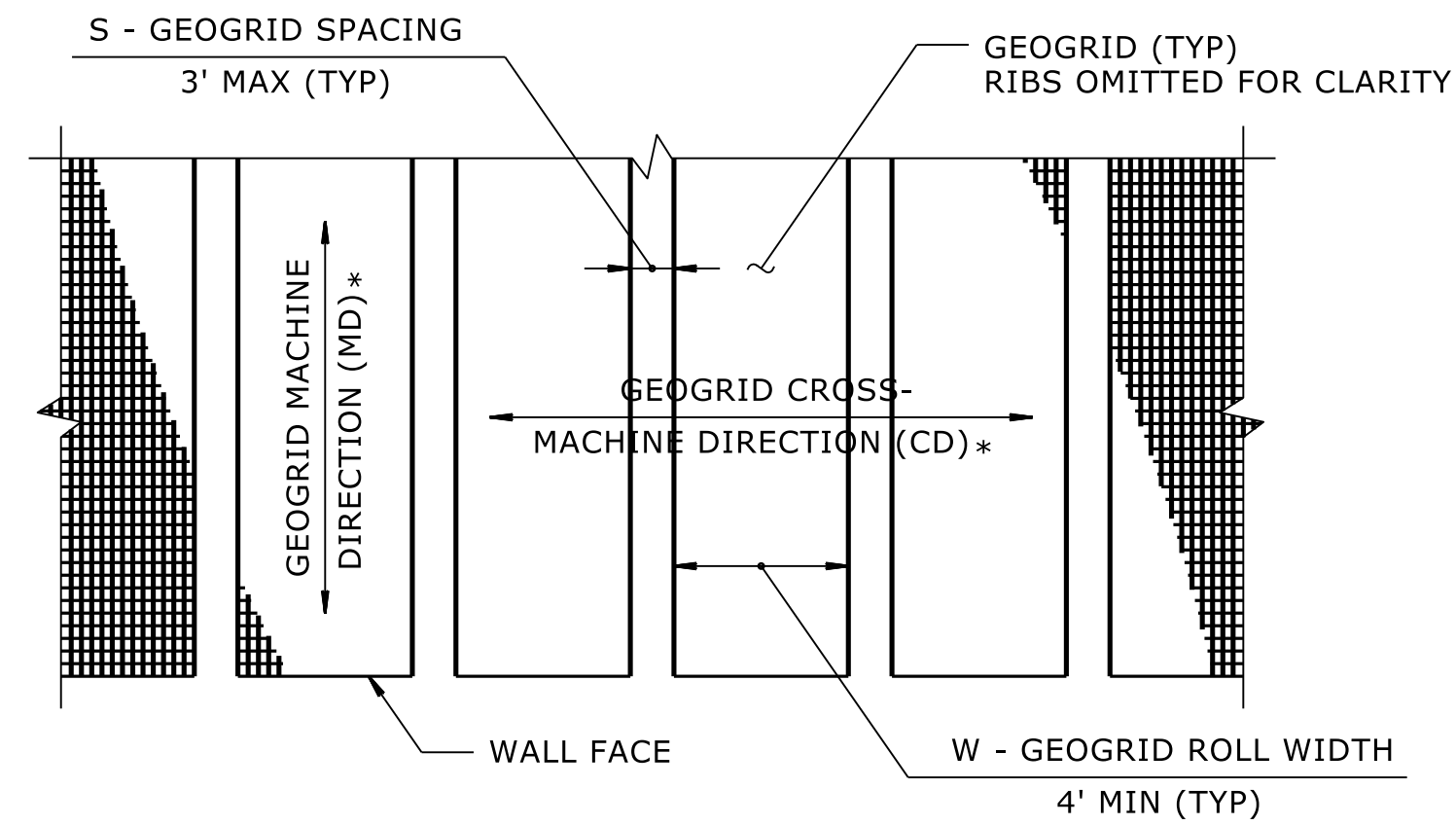
GEOTECHNICAL STANDARD DETAIL FOR

TEMPORARY WALL (SHEET 1 OF 3)



GEOTEXTILE PLACEMENT

(100% COVERAGE MIN FOR
GEOTEXTILE REINFORCEMENT)

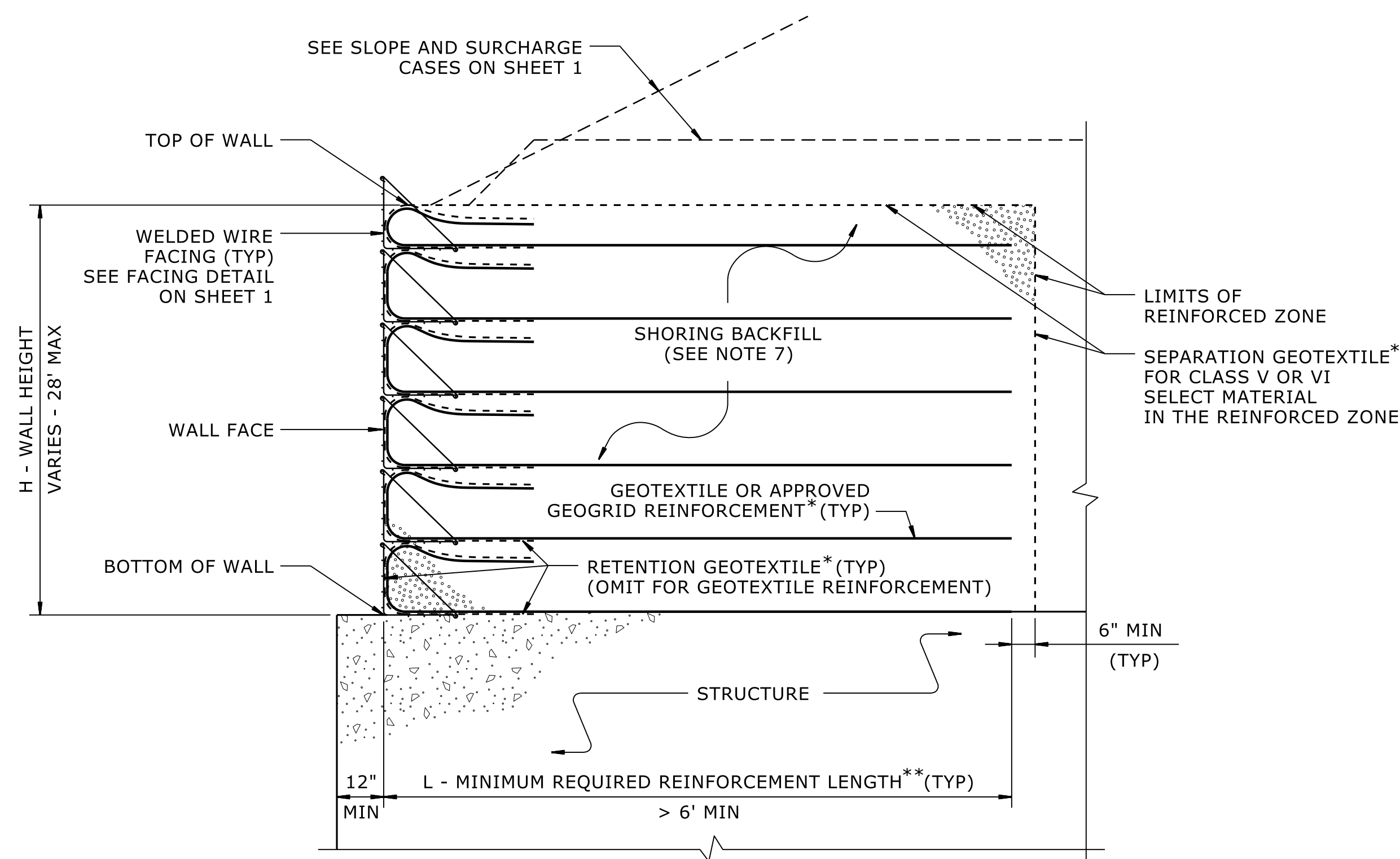


GEOGRID PLACEMENT

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

GEOSYNTHETIC PLACEMENT DETAILS

(PLAN VIEW)
*SEE NOTE 12.



TEMPORARY WALL ON STRUCTURE DETAIL

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

NOTES:

1. AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY WALLS AS NOTED IN THE PLANS.
2. FOR STANDARD TEMPORARY WALLS, SEE STANDARD SHORING PROVISION.
3. STANDARD TEMPORARY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ PCF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ PSF
4. DO NOT USE STANDARD TEMPORARY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
5. DO NOT USE STANDARD TEMPORARY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW TEMPORARY WALLS.
6. USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, ASSUME GROUNDWATER DEPTH IS LESS THAN 7' BELOW BOTTOM OF REINFORCED ZONE. DO NOT USE STANDARD TEMPORARY WALLS IF GROUNDWATER OR FLOOD ELEVATION IS ABOVE BOTTOM OF REINFORCED ZONE.
7. DO NOT USE A-2-4 SOIL FOR STANDARD TEMPORARY WALLS AROUND CULVERTS OR IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS FOR SLOPE CASES. DO NOT USE CLASS VI SELECT MATERIAL IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS WITH GEOTEXTILE REINFORCEMENT.
8. WALL EMBEDMENT IS NOT REQUIRED FOR STANDARD TEMPORARY WALLS ON STRUCTURES OR ROCK AS DETERMINED BY THE ENGINEER.
9. DO NOT USE MORE THAN 4 DIFFERENT REINFORCEMENT STRENGTHS FOR EACH STANDARD TEMPORARY WALL.
10. GEOGRIDS FOR GEOGRID REINFORCEMENT ARE APPROVED FOR SHORT TERM DESIGN STRENGTHS (3-YEAR DESIGN LIFE) IN THE MD AND CD BASED ON MATERIAL TYPE. THE LIST OF APPROVED GEOGRIDS WITH DESIGN STRENGTHS IS AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Products.aspx
DEFINE MATERIAL TYPE FROM THE WEBSITE ABOVE FOR SHORING BACKFILL AS FOLLOWS:

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

11. FOR GEOGRID REINFORCEMENT WITH LESS THAN 100% COVERAGE, STAGGER REINFORCEMENT SO GEOGRIDS ARE CENTERED OVER GAPS IN THE REINFORCEMENT LAYER BELOW.
12. AT THE CONTRACTOR'S OPTION, REINFORCEMENT MAY BE INSTALLED WITH THE MD PARALLEL TO THE WALL FACE IF BOTH OF THE FOLLOWING CONDITIONS OCCUR:
 - W (REINFORCEMENT ROLL WIDTH) > (MINIMUM REQUIRED REINFORCEMENT LENGTH) + 4.5' AND
 - REINFORCEMENT STRENGTH IN CD > MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD.
13. SUBMIT A "STANDARD TEMPORARY WALL SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY WALL CONSTRUCTION. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM:
connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
14. DO NOT PLACE SHORING BACKFILL OR REINFORCEMENT UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
15. FOR STANDARD TEMPORARY WALLS WITH PILE FOUNDATIONS IN THE REINFORCED ZONE, DRIVE PILES THROUGH REINFORCEMENT AFTER CONSTRUCTING TEMPORARY WALLS.
16. DO NOT SPLICE OR OVERLAP REINFORCEMENT SO SEAMS ARE PARALLEL TO THE WALL FACE.
17. CONTACT THE ENGINEER WHEN EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT.
18. FOR STANDARD TEMPORARY WALLS WITH INTERIOR ANGLES LESS THAN 90 DEGREES, WRAP GEOSYNTHETICS AT ACUTE CORNERS AS DIRECTED BY THE ENGINEER.
19. FOR STANDARD TEMPORARY WALLS WITH TOP OF WALL WITHIN 5' OF FINISHED GRADE, REMOVE TOP FACING AND INCORPORATE TOP REINFORCEMENT LAYER INTO FILL WHEN PLACING FILL IN FRONT OF WALL.

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

*BASED ON VERTICAL REINFORCEMENT
SPACING SHOWN ON SHEET 1.

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

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

U-5798B

2G-3 -

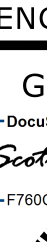
NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



**GEOTECHNICAL
ENGINEERING UNIT**

**GEOTECHNICAL
ENGINEER**

Docusign |
Scott A. Hidden / 2/4/2021
F780CABD8A


NORTH CAROLINA
PROFESSIONAL
SEAL
022246
ENGINEER
SCOTT A. HIDDEN

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UNLESS ALL SIGNATURES COMPLETE

**STANDARD
DETAIL NO. 1801.0:**

GEOTECHNICAL STANDARD DETAIL FOR
TEMPORARY WALL (SHEET 3 OF 3)

SURVEY LINE	BEG. STA.	END STA.	LOCALITY
-LB-	17 + 44.25	19 + 58.00	
-LB-	22 + 90.00	23 + 76.03	
-LB-	24 + 87.07	27 + 05.82	
-LB-	23 + 85.27	25 + 91.52	
			SUB
			ANCHOR
			TO

GUARDRAIL SUMMARY

REMARKS	
ROCK PLATING	
GRAVITY WALL	
CULVERT	
CULVERT	

IN CUBIC YARDS

SHALLOW UNDERCUT = 3,500 CY
CLASS IV SUBGRADE STABILIZATION = 7,940 TON
UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FT OF
EMBANKMENT OR BACKFILL = 1,500 CY
-LB- 41+25.00 TO 42+75.00 (40 CY), -LB- 56+95.00 TO 57+70.00 (10 CY),
-Y2- 22+75.00 TO 23+75.00 (5 CY), -Y2- 26+75.00 TO 30+25.00 (1,310 CY), -Y2-
34+25.00 TO 40+75.00 (135 CY)

EARTHWORK QUANTITIES ARE CALCULATED BY RS&H. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY TERRACON.
APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".

SHALLOW UNDERCUT = 3,500 CY
CLASS IV SUBGRADE STABILIZATION = 7,940 TON
UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FT OF
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PROVIDED BY TERRACON.

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW
EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF
EXISTING PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".

CONCRETE BARRIER – SINGLE FACE

SURVEY LINE	STATION	STATION	LOCATION LT/RV/CL	LENGTH
-LB-	20 + 20	22 + 90	LT	270.00
			TOTAL:	270
			SAY:	270

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL. TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT. FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL. W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL. G = GATING IMPACT ATTENUATOR TYPE 350 NG = NON-GATING IMPACT ATTENUATOR TYPE 350																													
GUARDRAIL SUMMARY																													
SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	AT-1	CAT-1	GREU TL-3	B-77							EA				
-LB-	17+44.25	19+58.00	LT	193.75'	56.25'		19+50.00	17+50.00	N/A	N/A	N/A	N/A	N/A	N/A	1	1												ROCK PLATING	
-LB-	22+90.00	23+76.03	LT	85.375'			22+50.00	N/A	N/A	N/A	50'	N/A	1'	N/A				1										GRAVITY WALL	
-LB-	24+87.07	27+05.82	LT	218.75'			25+71.15	25+18.32	12'	14'	50'	N/A	1'	N/A			1	1										CULVERT	
-LB-	23+85.27	25+91.52	RT	206.25'			25+18.92	25+60.27	12'	14'	50'	N/A	1'	N/A			1	1										CULVERT	
			SUBTOTAL	704.125'	56.25'																								
			ANCHOR DEDUCTION	191.625'	6.25'																								
			TOTAL	512.50'	50.00'																								
			SAY	525.00'	50.00'										1	3		3		1									
ANCHOR DEDUCTION - STRAIGHT GREU TL-3: 3 @ 50' = 150.00' CAT-1: 3 @ 6.25' = 18.75' B-77: 1 @ 22.875' = 22.875' GRAND TOTAL = 191.625' ADDITIONAL GUARDRAIL POSTS = 5' ANCHOR DEDUCTION - SHOP CURVE AT-1: 1 @ 6.25' = 6.25' GRAND TOTAL = 6.25'																													

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

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

ABBREVIATIONS

C.A.A.	- CORRUGATED ALUMINUM INLET
C.B.	- CATCH BASIN
C.S.	- CORRUGATED STEEL
D.I.	- DROP INLET
G.D.I.	- GRATED DROP INLET
P.D.P.E.	- HIGH DENSITY POLYETHYLENE
J.B.	- JUNCTION BOX
M.H.	- MANHOLE
N.S.	- NARROW SLOT
P.V.C.	- POLYVINYL CHLORIDE
R.C.	- REINFORCED CONCRETE
T.B.D.I.	- TRAFFIC BEARING DROP INLET
T.B.J.B.	- TRAFFIC BEARING JUNCTION BOX
W.S.	- WIDE SLOT

**Note: Invert Elevations indicated are for Bid Purposes only and shall not be used.
See "Standard Specifications For Roads and Structures, Section 300-5".**

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

See "Standard Specifications For Roads and Structures, Section 300-5".

[illegible]

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

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T.B.D.I.	- TRAFFIC BEARING DROP INLET
T.B.J.B.	- TRAFFIC BEARING JUNCTION BOX
W.S.	- WIDE SLOT

COMPUTED BY: K. PLUMMER DATE: DECEMBER 2024

CHECKED BY: A. RIGGS, JR. DATE: DECEMBER 2024

(9-17-24)

PROJECT NO.

U-5798B

SHEET NO.

3G-1

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

SUMMARY OF GEOTEXTILE
FOR SUBGRADE STABILIZATION

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
LB	17+00	25+25	LT/RT	SD	1650
LB	25+75	27+75	LT/RT	SD	400
Y1	10+37	12+00	LT/RT	SD	350
CONTINGENCY					500
				TOTAL LF:	2900

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

LINE	Station	Station	Geotextile for Subgrade Stabilization SY
CONTINGENCY			500
		TOTAL SY:	500*

*Total square yards of "Geotextile for Subgrade Stabilization" is only the estimated quantity for subgrades and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

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
LB	12+50	19+25	ASU(1)	12	750	1490	2360		
LB	21+25	22+25	ASU(1)	12	150	380	600		
LB	23+25	24+75	ASU(1)	12	220	410	650		
LB	38+75	42+75	ASU(1)	12	950	1800	2860		
Y2	25+10	30+25	ASU(1)	12	230	1240	1960		
Y2	34+25	41+25	ASU(1)	12	400	1020	1620		
CONTINGENCY					500	1000	1500		
			TOTAL CY/TONS/SY:		3200	7340**	11550**	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.

SUMMARY OF ROCK PLATING

LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
LB	(2.5:1)	17+75	(2.5:1)	19+25	LT	1		500
							TOTAL SY:	500

*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.

PROJECT REFERENCE NO.
U-5798B

SHEET NO.
4

RW SHEET NO.

ROADWAY DESIGN ENGINEER
6/11/2025
NORTH CAROLINA PROFESSIONAL SEAL
044511
SIGNED BY
[Signature]
E74100400704071

HYDRAULICS ENGINEER
6/11/2025
NORTH CAROLINA PROFESSIONAL SEAL
049764
SIGNED BY
[Signature]
E739035447089626

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

BRETT MATTHEW ANDERSON
DB 1275 PG 43
PB 367 PG 2

DIANE HARRELL TRUSTEE
DB 1352 PG 740

GILLIS DEVELOPMENT INC.
DB 322 PG 549
-LB- Sta 20+20.00
JOSEPH H. AND BETTY H. GILLIS
DB 799 PG 917
PB 367 PG 2

GRAVITY WALL W/
CONCRETE BARRIER
EST 7 SY GEOTEXTILE
CONCRETE DITCH
BEHIND RETAINING WALL
SEE DETAIL E

SPECIAL BACK OF
CURB CUT DITCH
w/CONCRETE
SEE DETAIL F

DB 1236 PG 330
PB 355 PG 8
JULIA MONTOYA

ELIZABETH HALEY
DB 118 PG 551

DONALD L. THIEL
JUDITH M THIEL

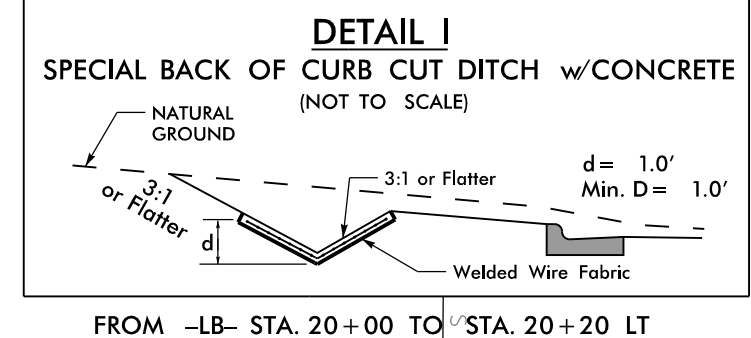
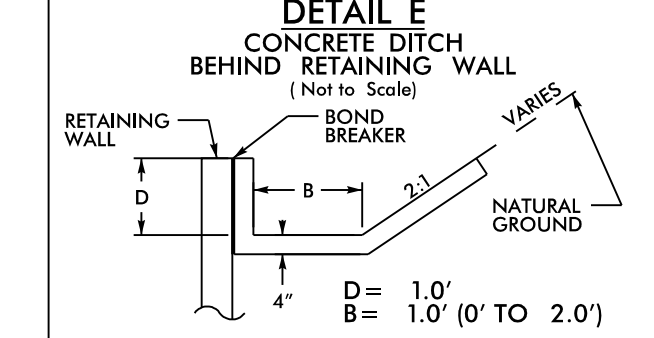
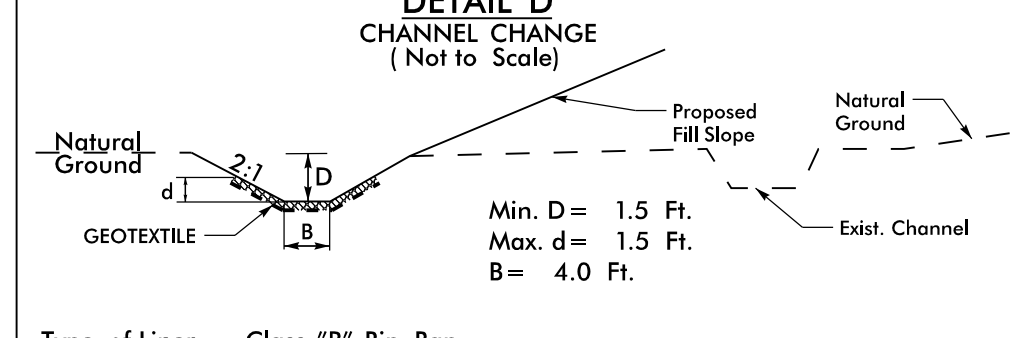
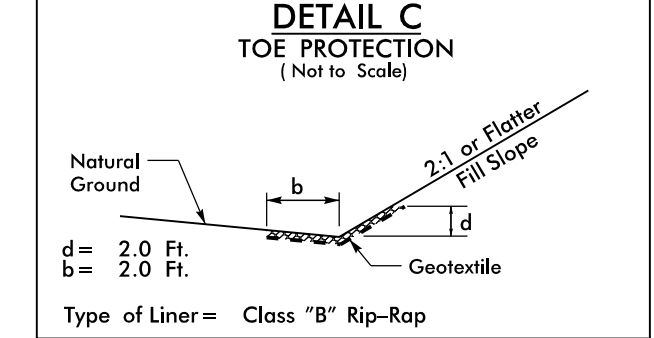
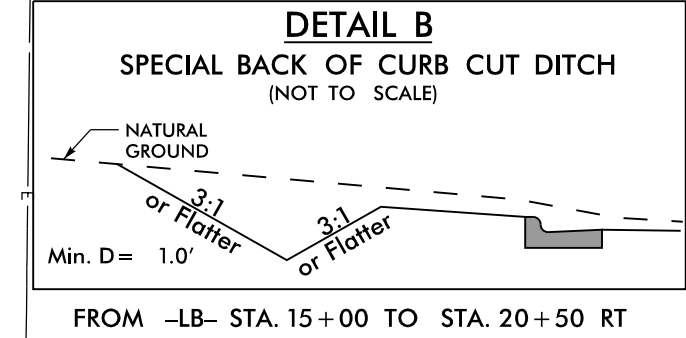
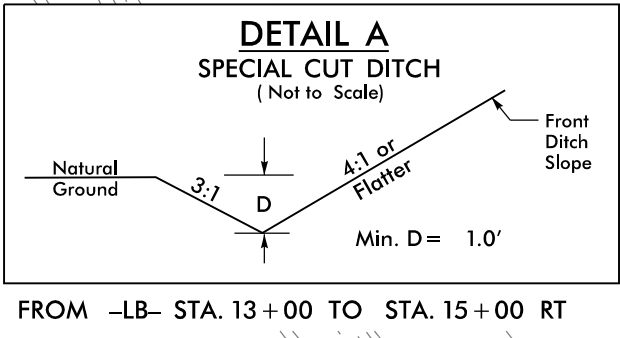
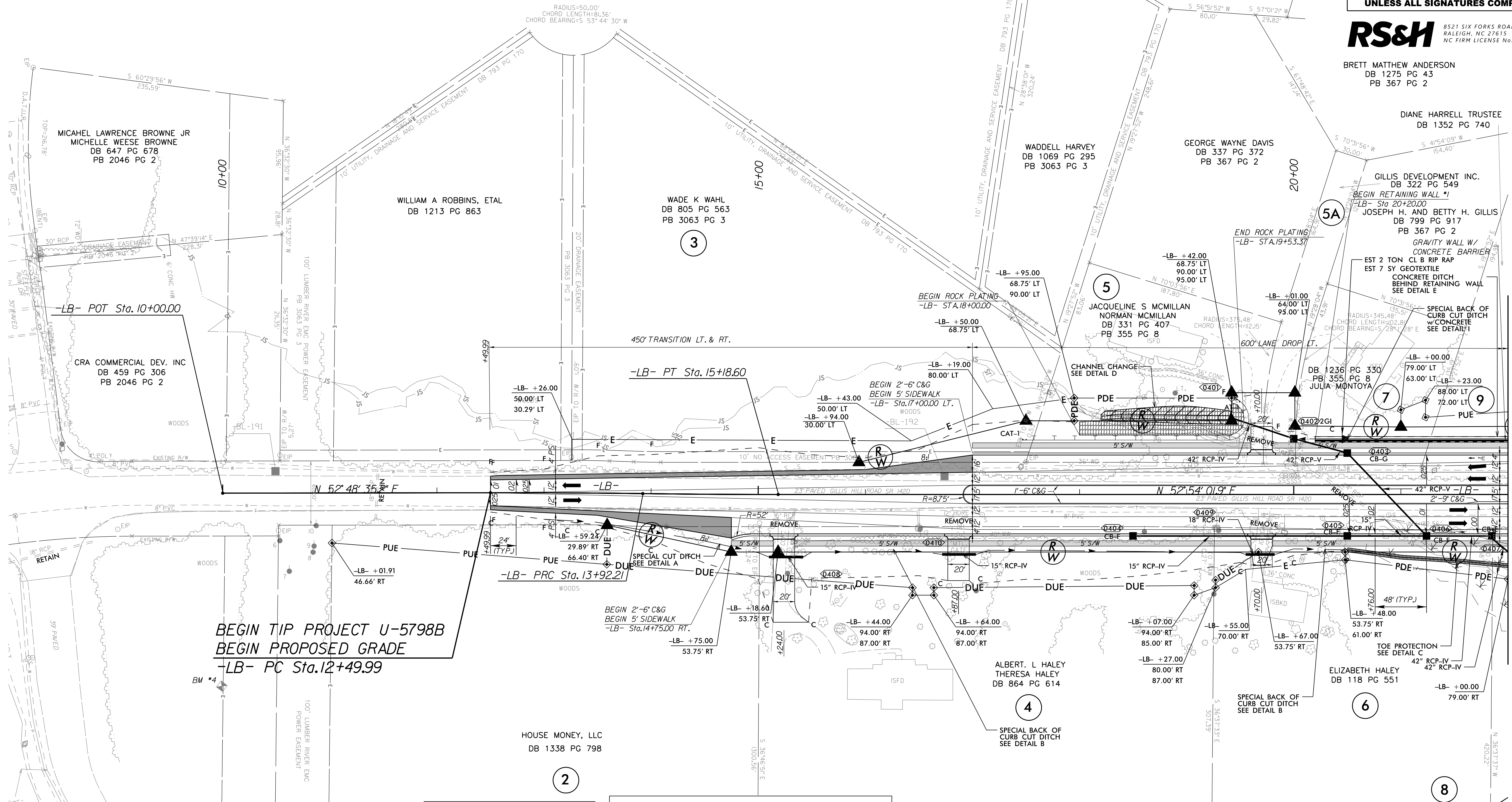
ALBERT. L HALEY
THERESA HALEY
DB 864 PG 614

WADDELL HARVEY
DB 1069 PG 295
PB 3063 PG 3

GEORGE WAYNE DAVIS
DB 337 PG 372
PB 367 PG 2

WILLIAM A ROBBINS, ETAL
DB 1213 PG 863

-LB- CURVE DATA	
PI Sta 13+21.11	PI Sta 14+55.41
$\Delta = 0^{\circ} 48' 53.5''$ (RT.)	$\Delta = 0^{\circ} 43' 26.9''$ (LT.)
$D = 0^{\circ} 34' 22.6''$	$D = 0^{\circ} 34' 22.6''$
$L = 142.22'$	$L = 126.38'$
$T = 71.11'$	$T = 63.19'$
$R = 10,000.00'$	$R = 10,000.00'$
SE = NC	SE = NC

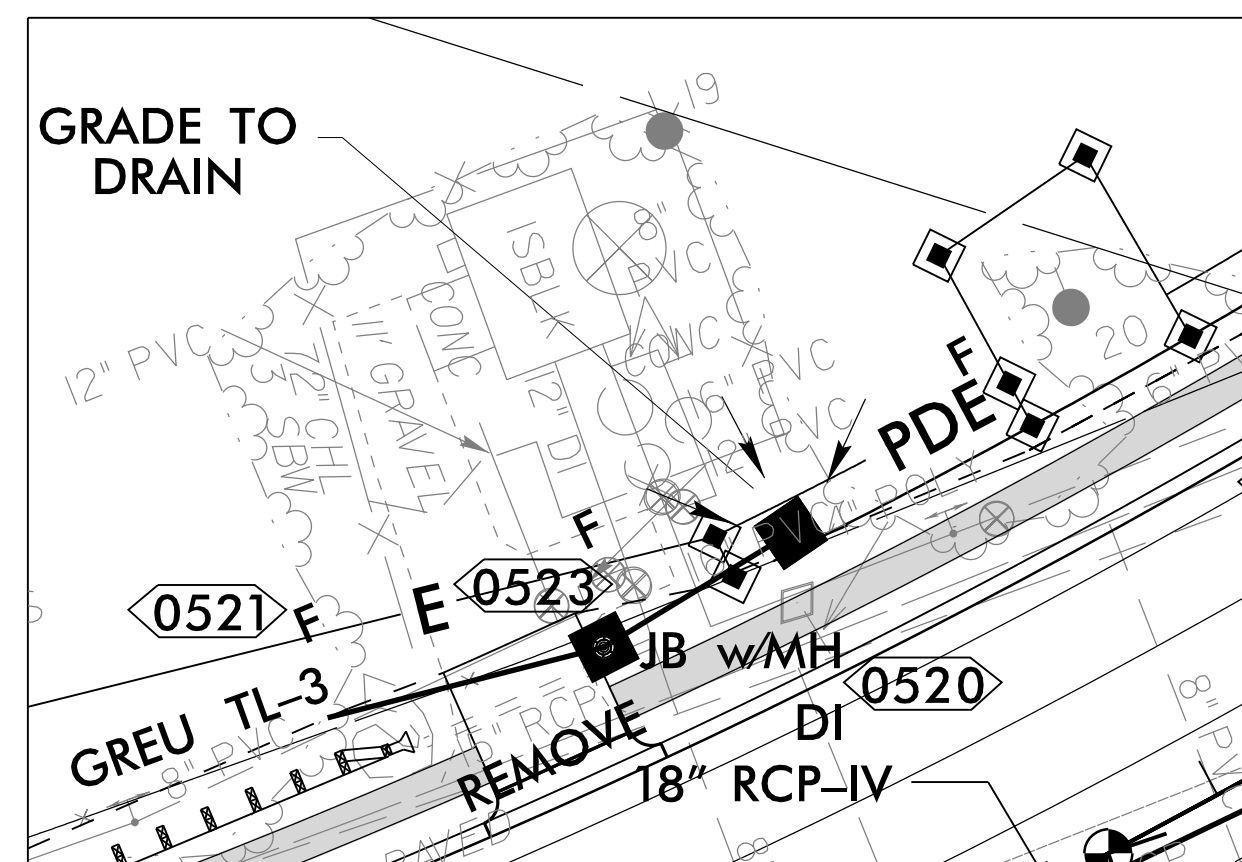


FOR WALL PLANS SEE W-1 THRU W-2

FOR -LB- PROFILE, SEE SHEET NO. 11

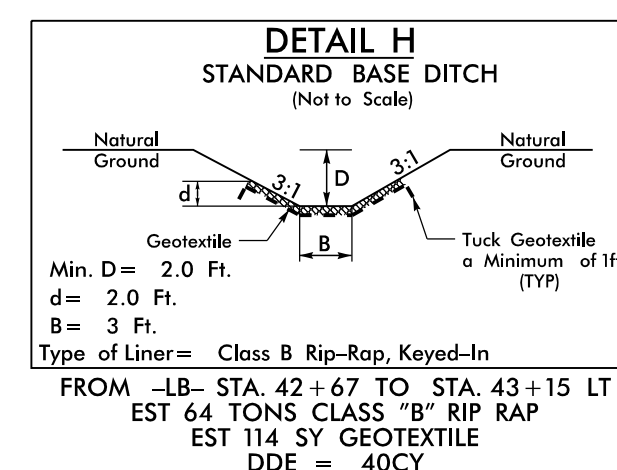
MATCHLINE SHEET 5 -LB- STA. 22+00.00

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



FOR -LB- PROFILE, SEE SHEET NO. 12
FOR -Y1- PROFILE, SEE SHEET NO. 16

RS&H 8521 SIX FORKS ROAD, SUITE 40
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493



FOR -LB- PROFILE, SEE SHEETS NO. 12 AND NO. 13

8/17/99

REVISIONS

PROJECT REFERENCE NO.
U-5798B

SHEET NO.
7

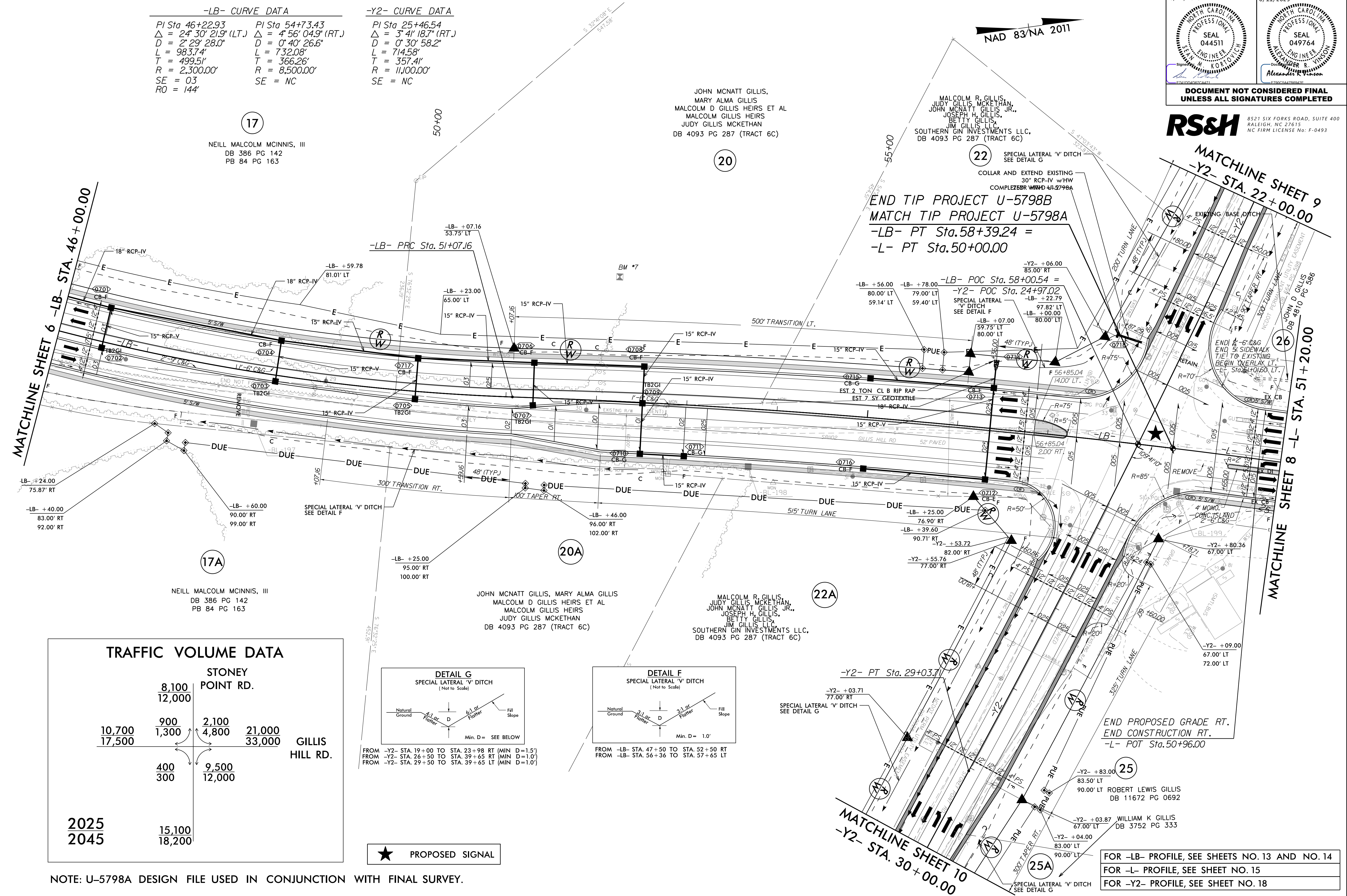
RW SHEET NO.

ROADWAY DESIGN
ENGINEER
6/11/2025

HYDRAULICS
ENGINEER
6/11/2025

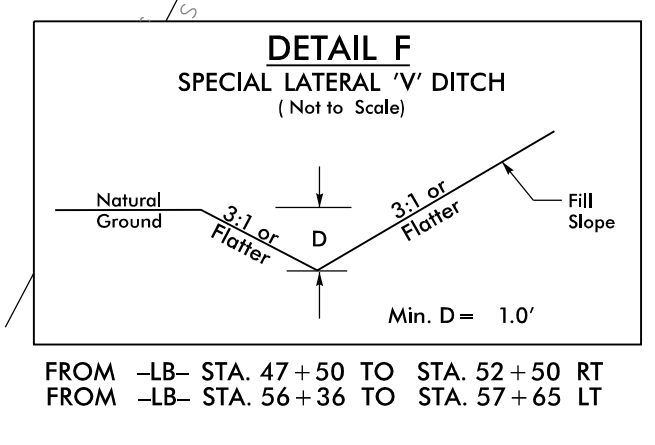
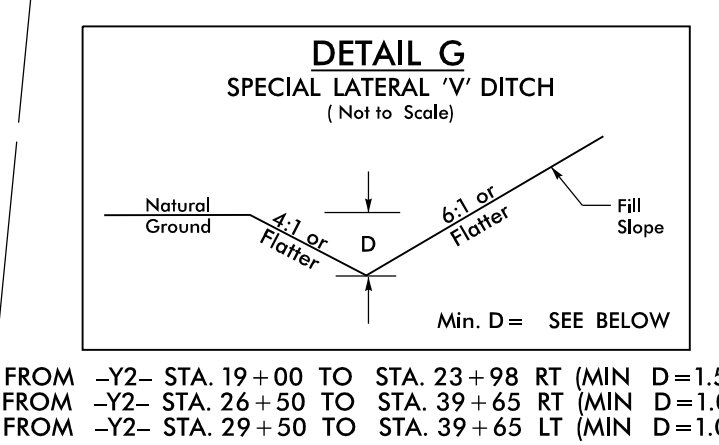
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

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RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493



TRAFFIC VOLUME DATA				
STONEY POINT RD.				GILLIS HILL RD.
	8,100 12,000			
10,700 17,500	900 1,300	2,100 4,800	21,000 33,000	
	400 300	9,500 12,000		
2025 2045	15,100 18,200			

NOTE: U-5798A DESIGN FILE USED IN CONJUNCTION WITH FINAL SURVEY.



★ PROPOSED SIGNAL

FOR -LB- PROFILE, SEE SHEETS NO.13 AND NO.14
FOR -L- PROFILE, SEE SHEET NO.15
FOR -Y2- PROFILE, SEE SHEET NO.18

8/17/99

-L- CURVE DATA

PI Sta 48+37.98	PI Sta 62+27.11
$\Delta = 7^{\circ} 01' 28.2"$ (RT)	$\Delta = 13^{\circ} 43' 19.0"$ (LT)
D = 0' 40' 26.6"	D = 0' 47' 36.9"
L = 1,042.00'	L = 1,729.14'
T = 521.71'	T = 868.73'
R = 8,500.00'	R = 7,220.00'
SE = NC	SE = NC

26

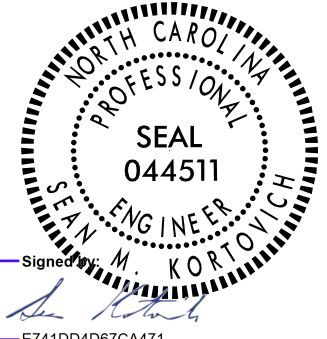
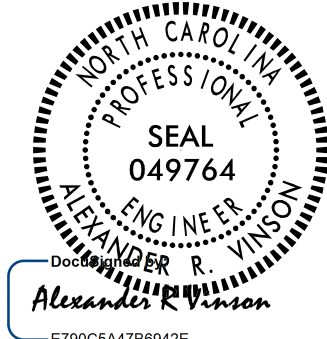
JOHN D GILLIS
DB 4810 PG 586

55+00

60+00

JOHN D GILLIS
DB 4810 PG 586

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
U-5798B	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 6/11/2025	HYDRAULICS ENGINEER 6/11/2025
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

MATCHLINE SHEET 7 -L- STA. 51+20.00

END PROPOSED GRADE RT.
END CONSTRUCTION RT.
TIE TO EXISTING
-L- POC Sta. 51+44.00

END 2'-6" C&G
END 5' SIDEWALK
END 4' CONC. MONOLITHIC ISLAND
TIE TO EXISTING
-L- Sta. 51+44.00 RT.

END OVERLAY LT.
END CONSTRUCTION LT.
TIE TO EXISTING
-L- POT Sta. 59+05.00

ROBERT LEWIS GILLIS
DB 11672 PG 0692

25

ROBERT. LEWIS GILLIS
& WIFE JUNE
MONTGOMERY
DB 6959 PG 374

JOHN DAVIS II
DAVID MILLER GILLIS
DB 8113 PG 669

FRANCIS GILLIS DINKINS
DB 2749 PG 304

BM *8

25A

WILLIAM K GILLIS
DB 3752 PG 333

NOTE: U-5798A DESIGN USED IN CONJUNCTION WITH FINAL SURVEY

FOR -L- PROFILE, SEE SHEET NO. 15

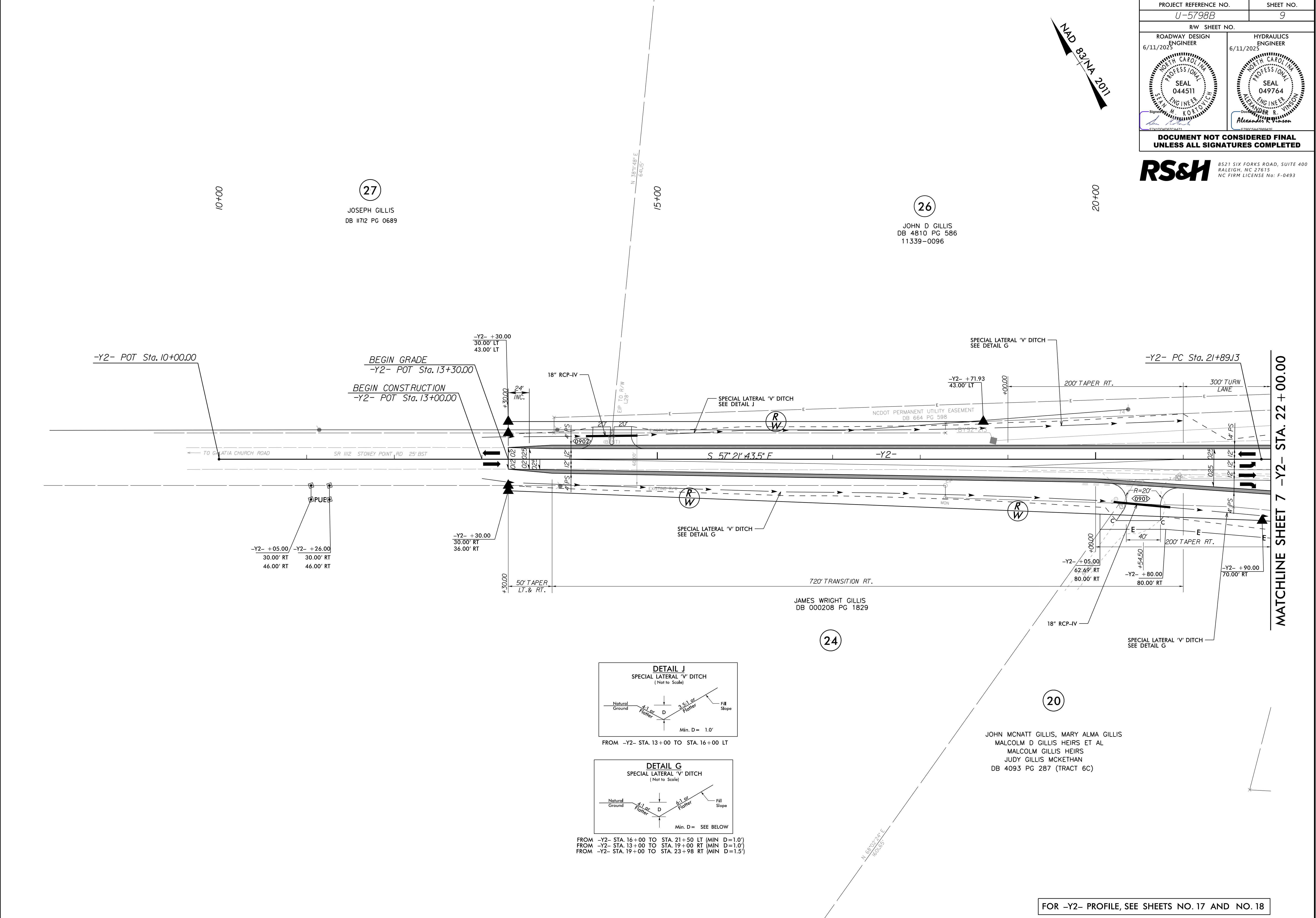
REVISIONS

PC: JUN-2025 07:11
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8/17/99

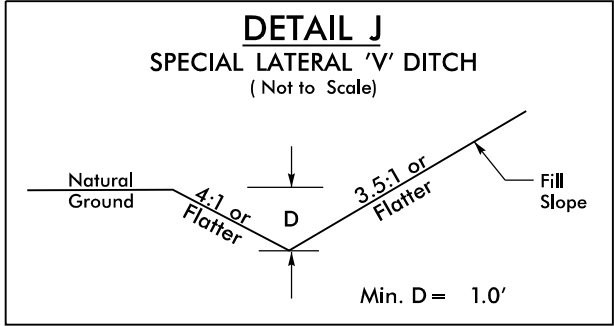
REVISIONS

05-JUN-2025 07:41
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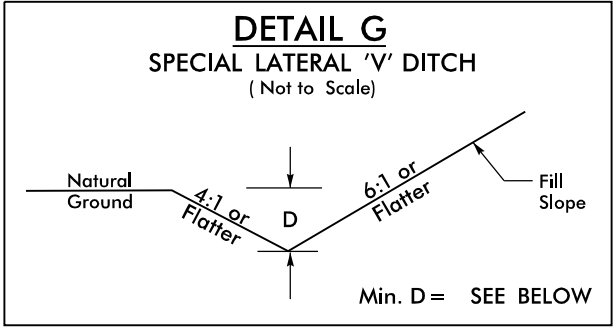


PROJECT REFERENCE NO. <i>U-5798B</i>		SHEET NO. <i>9</i>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER 6/11/2025	HYDRAULICS ENGINEER 6/11/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

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RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493



FROM -Y2- STA. 13+00 TO STA. 16+00 LT



FROM -Y2- STA. 16+00 TO STA. 21+50 LT (MIN D=1.0')
FROM -Y2- STA. 13+00 TO STA. 19+00 RT (MIN D=1.0')
FROM -Y2- STA. 19+00 TO STA. 23+98 RT (MIN D=1.5')

FOR -Y2- PROFILE, SEE SHEETS NO. 17 AND NO. 18

8/17/99

05-JUN-2025 07:41
RS-Roadwork\U-5798B\U-5798B_Rdwy_psh.10.dgn
\$\$\$\$\$SYTIME\$\$\$\$\$

REVISIONS

MATCHLINE SHEET 7 -Y2- STA. 30 + 00.00

117° E
33'

35'

25A

WILLIAM K GILLIS
DB 3752 PG 333

22A

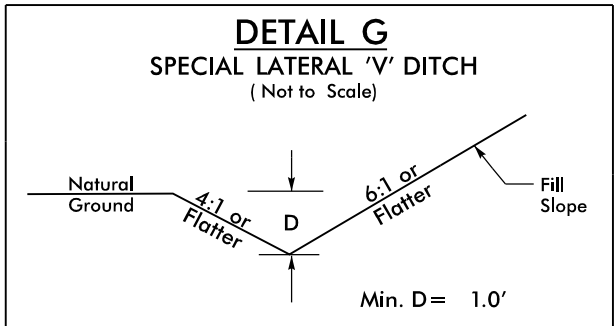
MALCOLM R. GILLIS,
JUDY GILLIS MCKETHAN,
JOHN MCNATT GILLIS JR.,
JOSEPH H. GILLIS,
BETTY GILLIS,
JIM GILLIS LLC,
SOUTHERN QIN INVESTMENTS LLC,
DB 4093 PG 287 (TRACT 6C)

21

JOHN MCNATT GILLIS JR,
JAMES D GILLIS,
MARY GILLIS TURNER,
AND JOSEPH H GILLIS SR
DB 10395 PG 197
DB 10125 PG 489

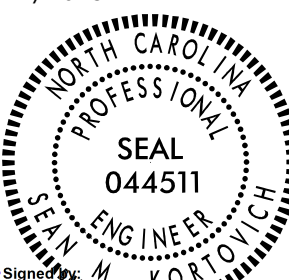
21A

JOHN MCNATT GILLIS JR,
JAMES D GILLIS,
MARY GILLIS TURNER,
AND JOSEPH H GILLIS SR
DB 10395 PG 197
DB 10125 PG 489

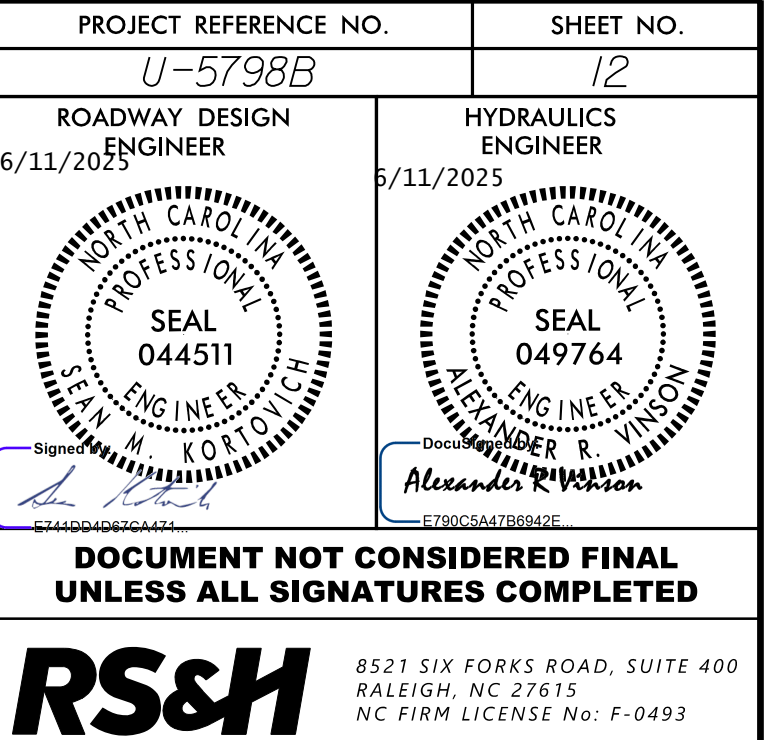


FROM -Y2- STA. 26+50 TO STA. 39+65 RT
FROM -Y2- STA. 29+50 TO STA. 39+35 LT
FROM -Y2- STA. 39+65 TO STA. 41+50 RT
FROM -Y2- STA. 39+70 TO STA. 41+50 LT

FOR -Y2- PROFILE, SEE SHEETS NO. 18 AND NO. 19

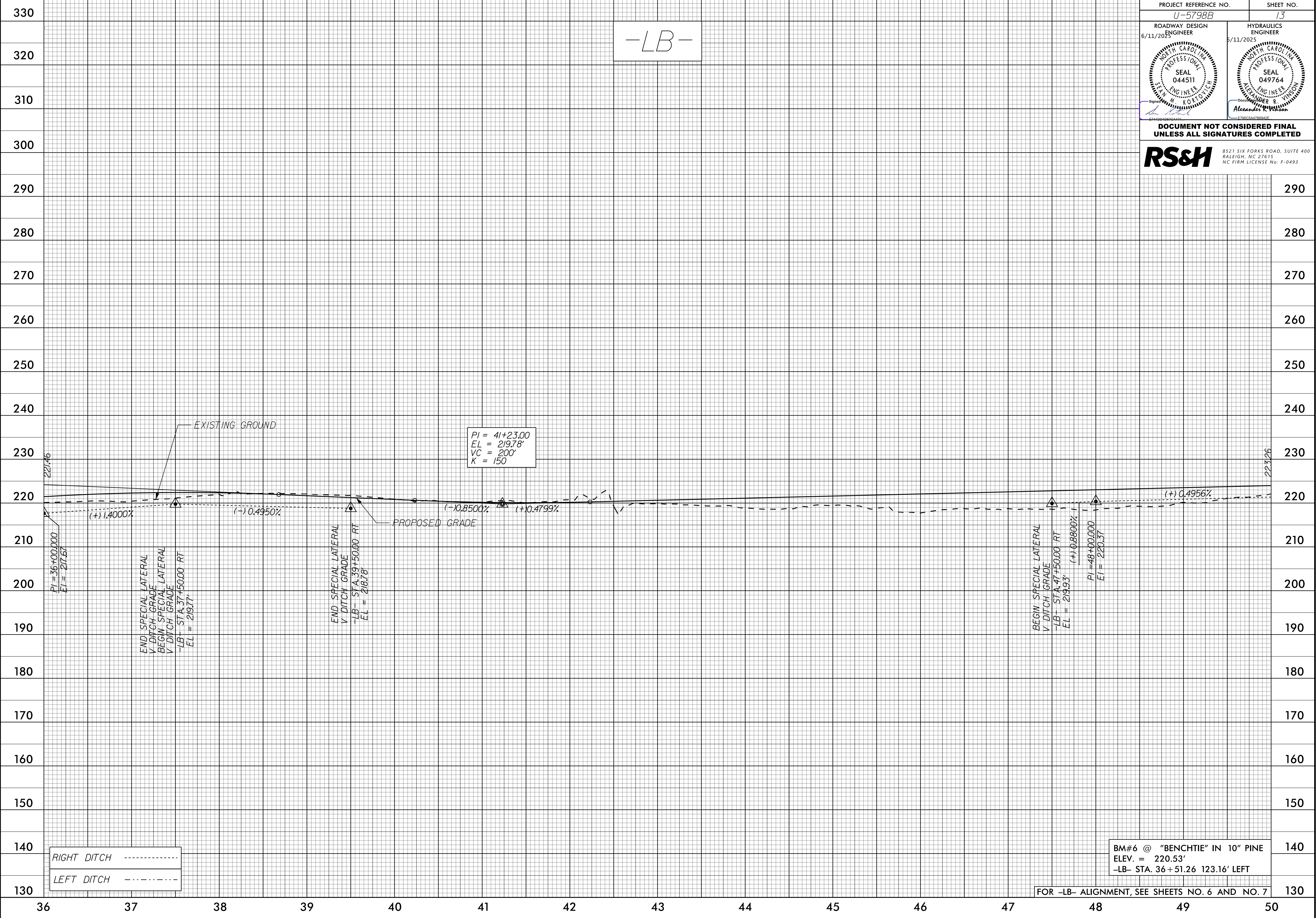
PROJECT REFERENCE NO.		SHEET NO.	
U-5798B		10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
6/11/2025		6/11/2025	
			
Signature: 		Signature: 	
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

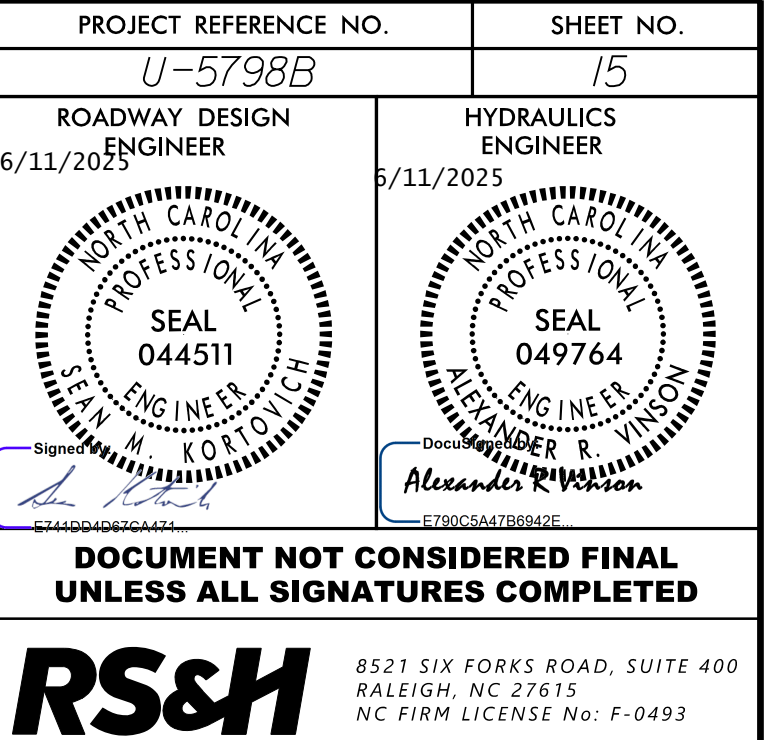
RS&H 8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE NO: F-0493



5/14/99

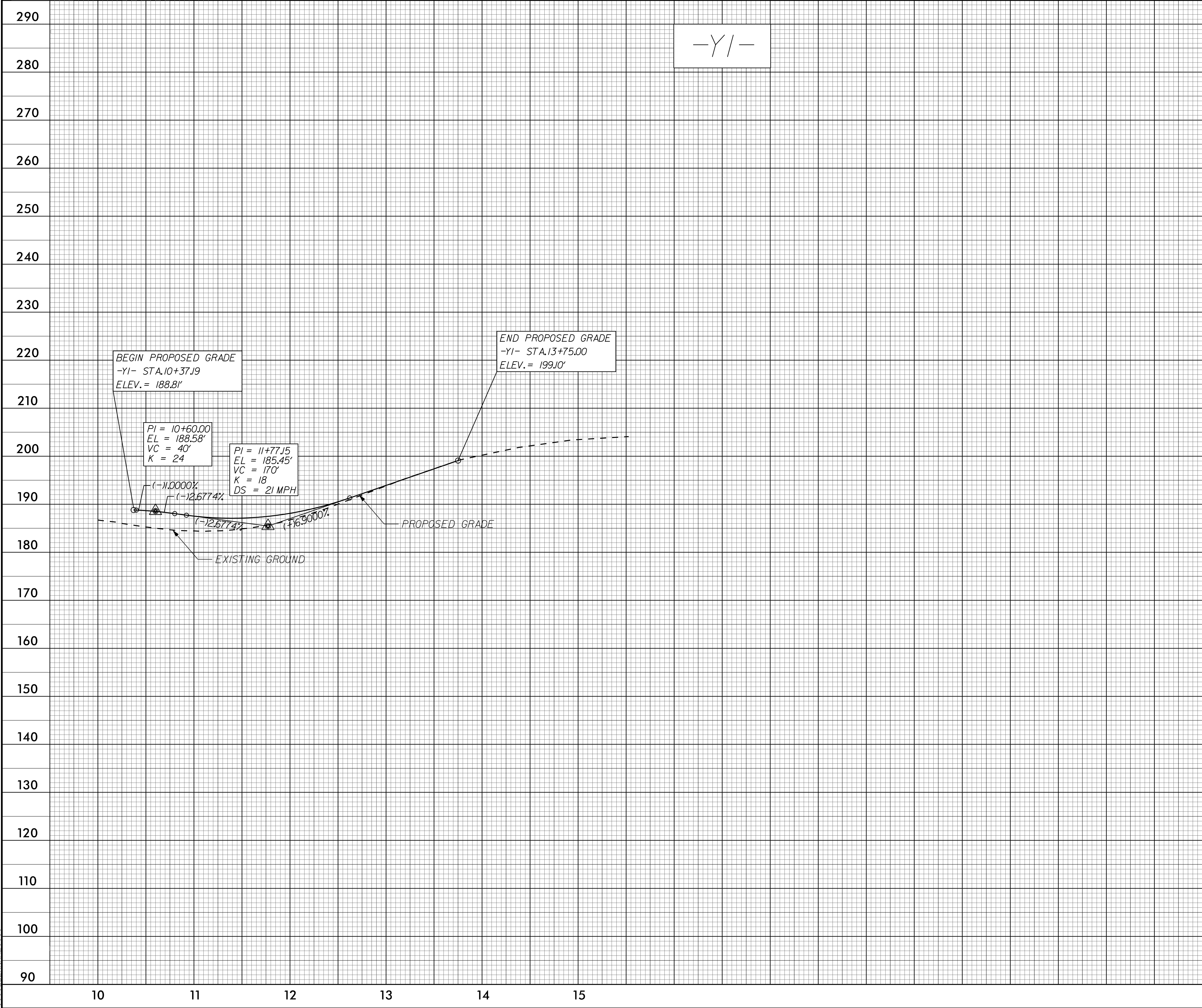
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RS&H





5/14/99

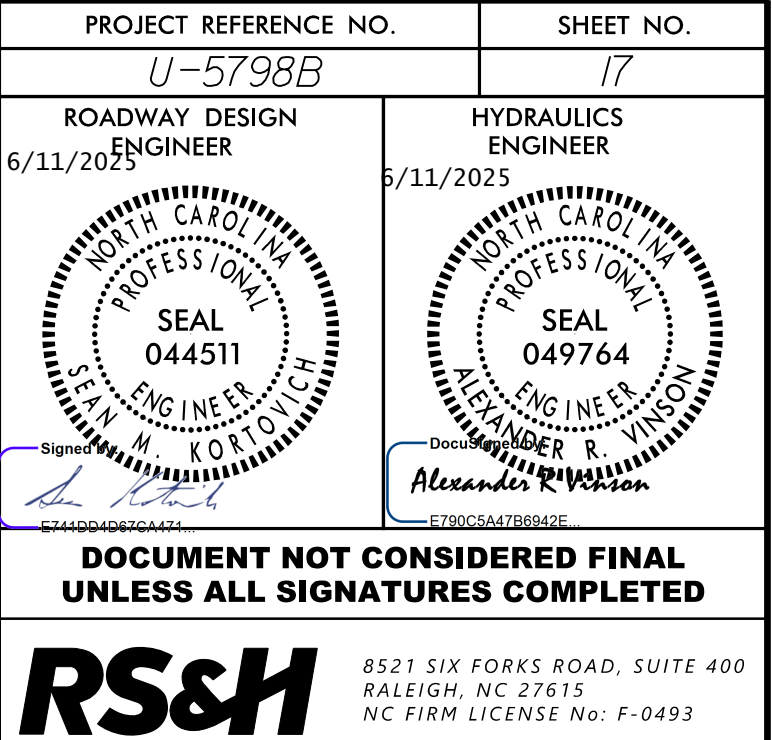
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-Y/-

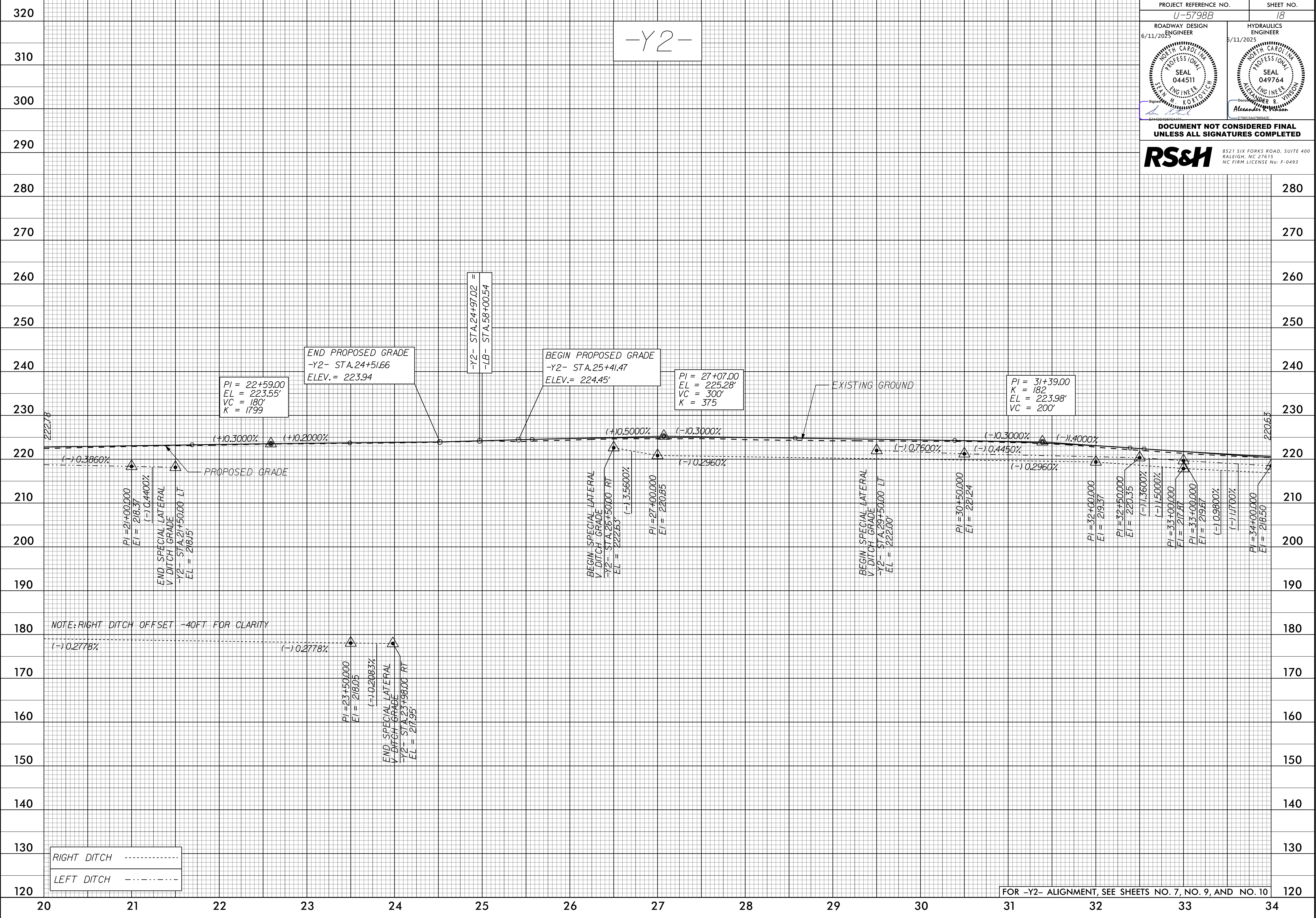
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ROADWAY DESIGN ENGINEER 6/11/2025		HYDRAULICS ENGINEER 5/11/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
8521 SIX FORKS ROAD, SUITE 400 RALEIGH, NC 27615 NC FIRM LICENSE No: F-0493			

FOR -Y1- ALIGNMENT, SEE SHEET NO. 5



5/14/99

10-JUN-2025 09:42
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RS&H



PROJECT REFERENCE NO. U-5798B		HYDRAULICS ENGINEER 6/11/2025
ROADWAY DESIGN ENGINEER 6/11/2025		SEAL 044511 ALEXANDER R. VISION
SEAL 044511 ALEXANDER R. VISION		SEAL 049764 ALEXANDER R. VISION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
RS&H 8521 SIX FORKS ROAD, SUITE 400 RALEIGH, NC 27615 NC FIRM LICENSE No: F-0493		

