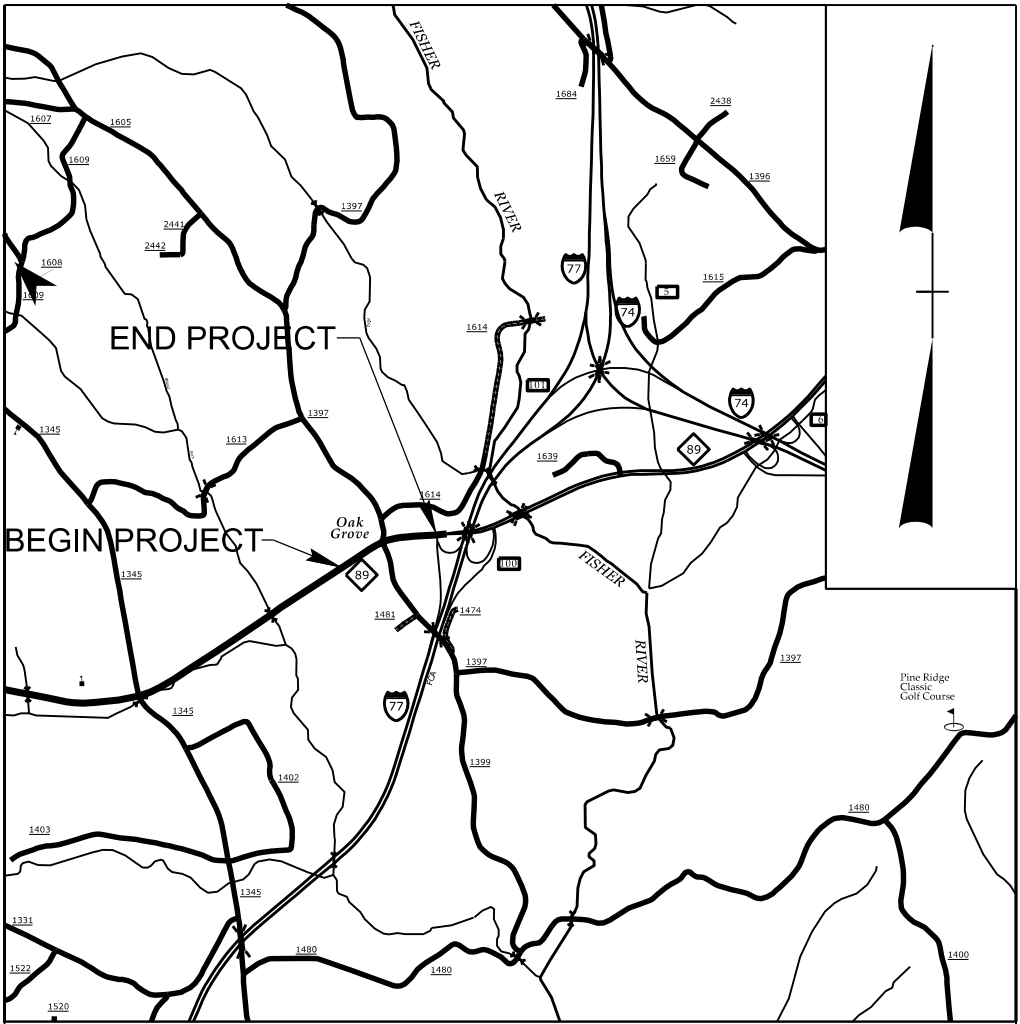


TIP PROJECT: R-5901

CONTRACT: C205099



VICINITY MAP (NTS)

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SURRY COUNTY

LOCATION: *INTERSECTION IMPROVEMENTS AT NC 89
(W. PINE ST) AND SR 1397 (ROUND PEAK
CHURCH RD/OAK GROVE CHURCH RD)*

TYPE OF WORK: *GRADING, PAVING, DRAINAGE, SIGNALS*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5901	11	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
48416.1.1		PE	
48416.2.1	4841601	ROW	
48416.2.2	4841601	UTIL	
48416.3.1	4841601	CONST	

BEGIN PROJECT R-5901
-L1- POT STA 12+00.00

BEGIN CONSTRUCTION
-L1- PC STA 10+00.00

BEGIN CONSTRUCTION
-Y1- POT STA 12+30.00

-L1- PT STA 18+78.14
= -L2- PC STA 10+00.00

END PROJECT R-5901
-L2- POT STA 20+10.00

END CONSTRUCTION
-L2- POT STA 24+05.00

END CONSTRUCTION
-Y2- POC STA 18+15.00

NAD 83/ 2011

DESIGN EXCEPTIONS REQUIRED FOR -L1- and -L2- MAXIMUM GRADE; -Y1- AND -Y2- VERTICAL SSD.
THIS PROJECT HAS EXISTING AND PROPOSED CONTROL OF ACCESS LIMITS (SEE SHEETS 4 AND 5 FOR LOCATIONS).

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

ADT 2025 = 11,520
ADT 2050 = 13,000
K = 8 %
D = 67.5%
T = 6 % *
V = 50 MPH
* TTST =3% DUAL 3%
FUNC CLASS =
MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT R-5901 = 0.320 MILES
TOTAL LENGTH OF TIP PROJECT R-5901 = 0.320 MILES



Prepared in the Office of:
NC FIRM LICENSE No: C-1506
301 Fayetteville St.,
Suite 1500
Raleigh, NC 27601
(919)882-7839

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 22, 2024

LETTING DATE:
SEPTEMBER 16, 2025

DEBORAH M. BARBOUR, P.E.
PROJECT ENGINEER

ANDREA B. GORDON, P.E.
PROJECT DESIGN ENGINEER

DONALD O. NANCE
NCDOT CONTACT

HYDRAULICS ENGINEER

7/1/2025

Signed by:

John McNulty

P.E.

SIGNATURE:

ROADWAY DESIGN ENGINEER

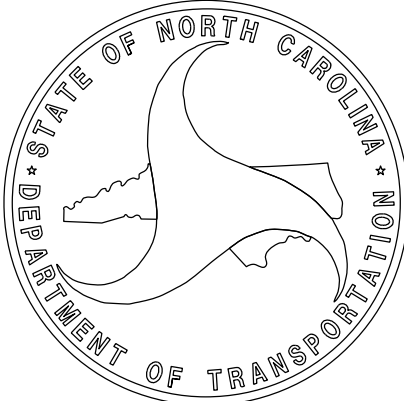
7/1/2025

Signed by:

Andrea B. Gordon

P.E.

SIGNATURE:



			R-5901	
			FINAL	1A
			NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SURRY COUNTY	
				
			ROADWAY DESIGN UNIT ENGINEER	
			7/1/2025	
				
			Signed <i>Andrew B. Gordon</i> 3A7A836647154C1	
			DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
			PREPARED BY  KISINGER CAMPO & ASSOCIATES NC FIRM LICENSE No: C-1506 301 Fayetteville Street, Suite 1500 Raleigh, NC 27601 (919) 882-7839	
			REVISTIONS	
INDEX OF SHEETS			EFF. 01-16-2024 REV.	
SHEET NUMBER SHEET			2024 ROADWAY ENGLISH STANDARD DRAWINGS	
1	TITLE SHEET	CLEARING:	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:	
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.	STD.NO. TITLE	
1B	CONVENTIONAL SYMBOLS	SUPERELEVATION:	DIVISION 2 - EARTHWORK	
2A-1 THRU 2A-6	PAVEMENT SCHEDULE AND TYPICAL SECTIONS	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.	200.03 Method of Clearing - Method III	
2B-1 THRU 2B-3	ROADWAY DETAILS	SHOULDER CONSTRUCTION:	225.02 Guide for Grading Subgrade - Secondary and Local	
2C-1 THRU 2C-3	SPECIAL DETAILS	ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 AND 560.02	225.04 Method of Obtaining Superelevation - Two Lane Pavement	
2D-1	DRAINAGE DETAILS	SIDE ROADS:	DIVISION 3 - PIPE CULVERTS	
2G-1 THRU 2G-3	GEOTECHNICAL DETAILS	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.	300.01 Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)	
3B-1 THRU 3B-2	ROADWAY SUMMARIES	SUBSURFACE DRAINS:	310.10 Driveway Pipe Construction	
3D-1 THRU 3D-3	DRAINAGE SUMMARIES	SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.	DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
3G-1	GEOTECHNICAL SUMMARIES	DRIVEWAYS:	560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I	
3P-1	PARCEL INDEX SHEET	STREET TURNOUT:	560.02 Method of Shoulder Construction - High Side of Superelevated Curve - Method II	
4 THRU 6	PLAN SHEETS	STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.	DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
7 THRU 11	PROFILE SHEETS	GUARDRAIL:	654.01 Pavement Repairs	
RW-01 THRU RW-06	RIGHT OF WAY SHEETS	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.	DIVISION 8 - INCIDENTALS	
TMP-1 THRU TMP-25	TRAFFIC MANAGEMENT PLANS	TEMPORARY SHORING:	806.01 Concrete Right-of-Way Marker	
PMP-1 THRU PMP-2C	PAVEMENT MARKING PLANS	SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".	806.02 Granite Right-of-Way Marker	
EC-1 THRU EC-9	EROSION CONTROL PLANS	SUBSURFACE PLANS:	806.03 Concrete Contol of Access Marker	
SIGN-1 THRU SIGN-7	SIGNING PLANS	NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.	815.02 Subsurface Drain	
SIG-1.0 THRU SIG-2.1	SIGNAL PLANS	UTILITIES:	840.00 Concrete Base Pad for Drainage Structures	
UC-1 THRU UC-4C	UTILITIES CONSTRUCTION PLANS	UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY, SURRY-YADKIN ELECTRIC (SYEMC), CITY OF MOUNT AIRY, TOWN OF DOBSON, SURRY COMMUNICATIONS, CHARTER	840.01 Brick Catch Basin - 12" thru 54" Pipe	
UO-1 THRU UO-4	UTILITIES BY OTHERS PLANS	ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.	840.02 Concrete Catch Basin - 12" thru 54" Pipe	
X-001	CROSS-SECTION INDEX	RIGHT-OF-WAY MARKERS:	840.03 Frame, Grates and Hood - for Use on Standard Catch Basin	
X-1A	CROSS-SECTION SUMMARY	ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.	840.14 Concrete Drop Inlet - 12" thru 30" Pipe	
X-002 THRU X-079	CROSS-SECTIONS		840.15 Brick Drop Inlet - 12" thru 30" Pipe	
DESIGN NOTES:			840.16 Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15	
1. CONTROL OF ACCESS FOR PROJECT R-5901 IS DESCRIBED AS FOLLOWS: THERE ARE EXISTING CONTROL OF ACCESS LIMITS ALONG L-2. PROPOSED CONTROL OF ACCESS LIMITS WILL EXTEND FROM THE EXISTING CONTROL OF ACCESS ALONG L-2 TO THE EAST SIDES OF Y-1 AND Y-2. WITHIN THE PROPOSED CONTROL OF ACCESS LIMITS, THERE ARE NO ACCESS POINTS.			840.18 Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe	
GENERAL NOTES: 2024 SPECIFICATIONS			840.20 Frames and Wide Slot Flat Grates	
EFFECTIVE: 01-16-2024			840.22 Frames and Wide Slot Sag Grates	
REVISED:			840.25 Anchorage for Frames - Brick or Concrete or Precast	
GRADING AND SURFACING OR RESURFACING AND WIDENING:			840.27 Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe	
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.			840.29 Frames and Narrow Slot Flat Grates	
			840.34 Traffic Bearing Junction Box - for Use with Pipes 42" and Under	
			840.35 Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates	
			840.37 Steel Grate and Frame	
			840.45 Precast Drainage Structure	
			840.46 Traffic Bearing Precast Drainage Structure	
			840.54 Manhole Frame and Cover	
			840.66 Drainage Structure Steps	
			840.71 Concrete and Brick Pipe Plug	
			840.72 Pipe Collar	
			846.01 Concrete Curb, Gutter and Curb & Gutter	
			848.02 Driveway Turnout - Radius Type	
			848.04 Street Turnout	
			852.01 Concrete Islands	
			852.04 Method for Placement of Drop Inlets in Grassed Median - Using 1'-6" Curb and Gutter	
			852.05 Median Curb for Catch Basin - for Use with 1'-6" Curb and Gutter	
			852.06 Method for Placement of Drop Inlets in Concrete Islands	
			852.10 Median Construction - with Curb and Gutter	
			862.01 Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 12, and 14 of 15)	
			862.02 Guardrail Installation	
			866.02 Woven Wire Fence - with Wood Post	
			876.01 Rip Rap in Channels and Ditches	
			876.02 Guide for Rip Rap at Pipe Outlets	
			876.04 Drainage Ditches with Class 'B' Rip Rap	

Note: Not to Scale

BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin (EIP)	
Computed Property Corner	
Existing Concrete Monument (ECM)	
Parcel / Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
Contaminated Site: Known or Potential	
<i>BUILDINGS AND OTHER CULTURE:</i>	
Gas Pump Vent or U/G Tank Cap	
Sign	
Well	
Small Mine	
Foundation	
Area Outline	
Cemetery	
Building	
School	
Church	
Dam	
<i>HYDROLOGY:</i>	
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	
<i>VEGETATION:</i>	
Single Tree	
Single Shrub	
Hedge	

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

Woods Line	
Orchard	
Vineyard	

EXISTING STRUCTURES:

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

UTILITIES:

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

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

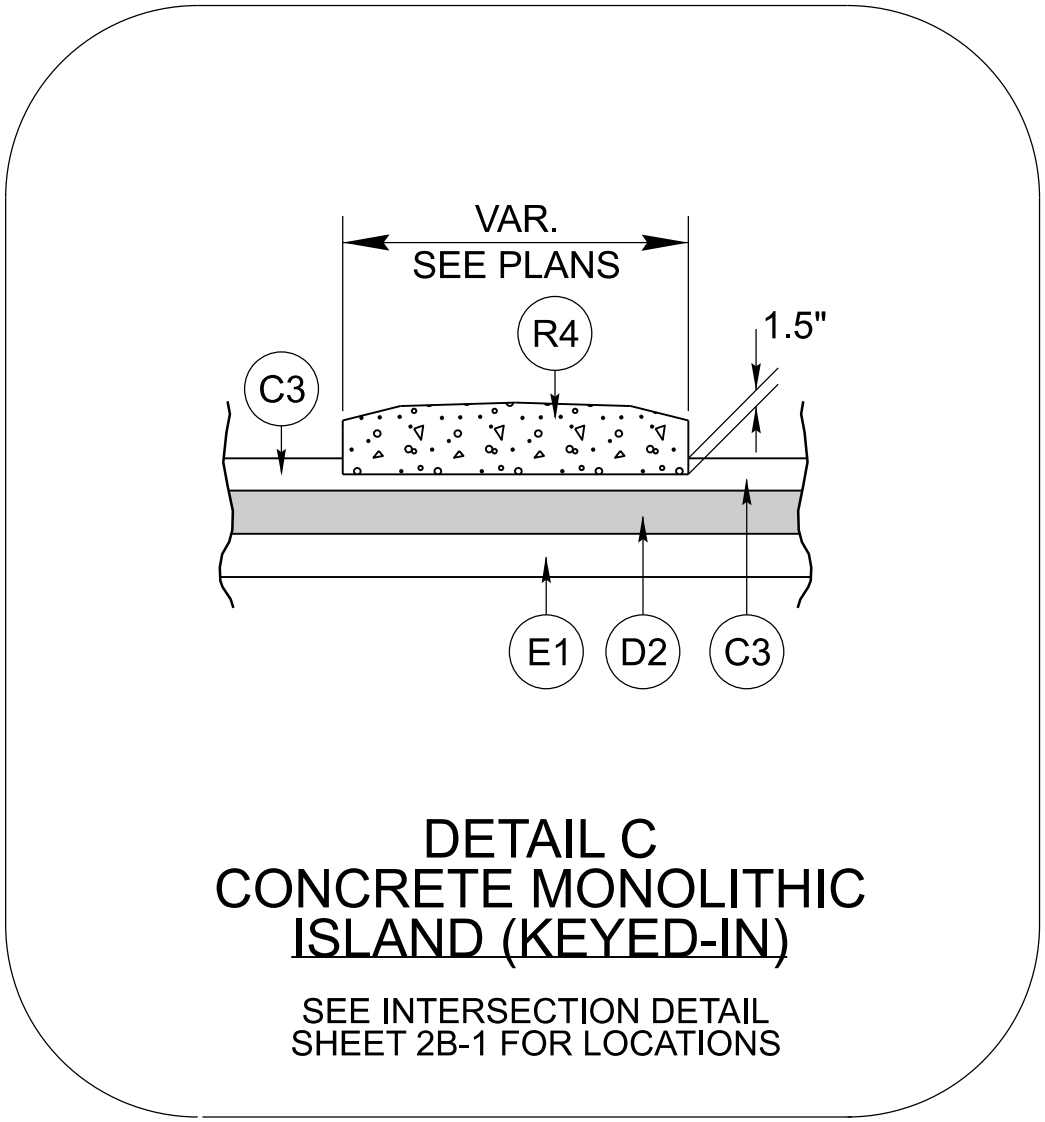
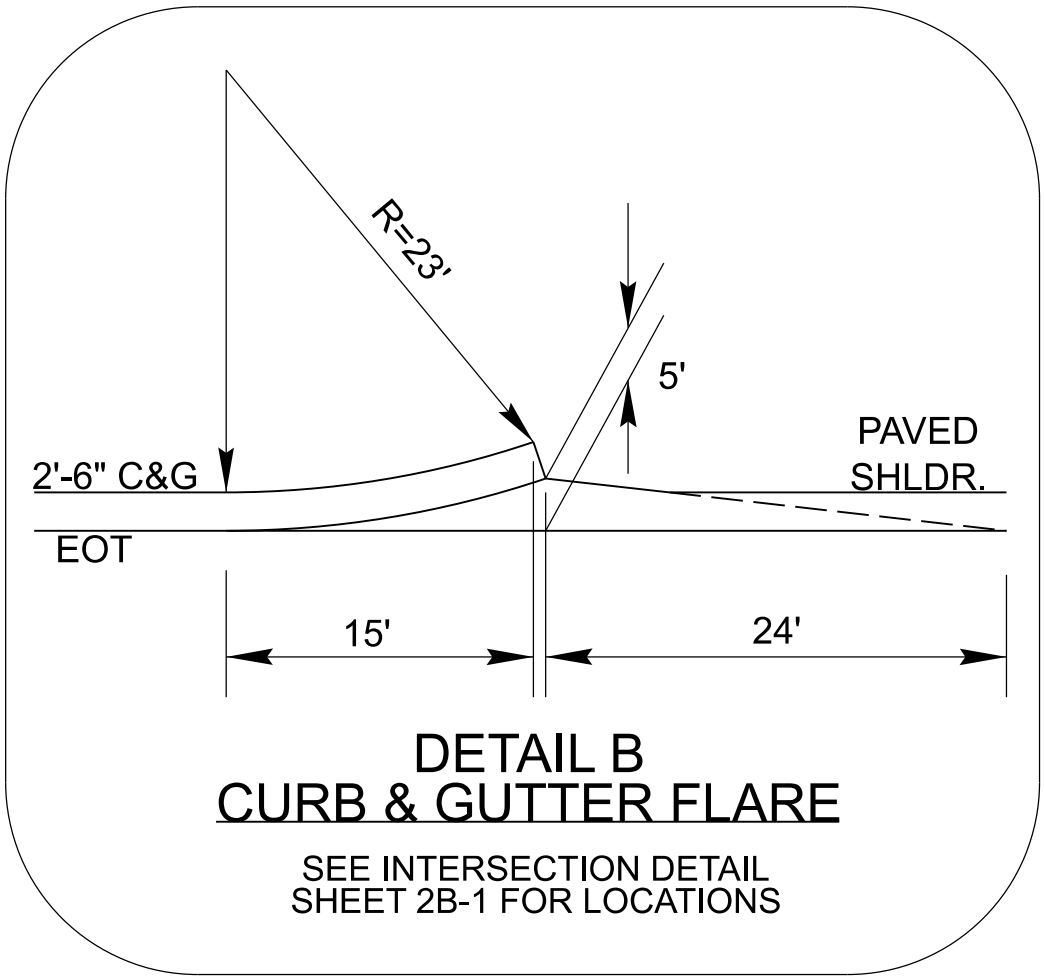
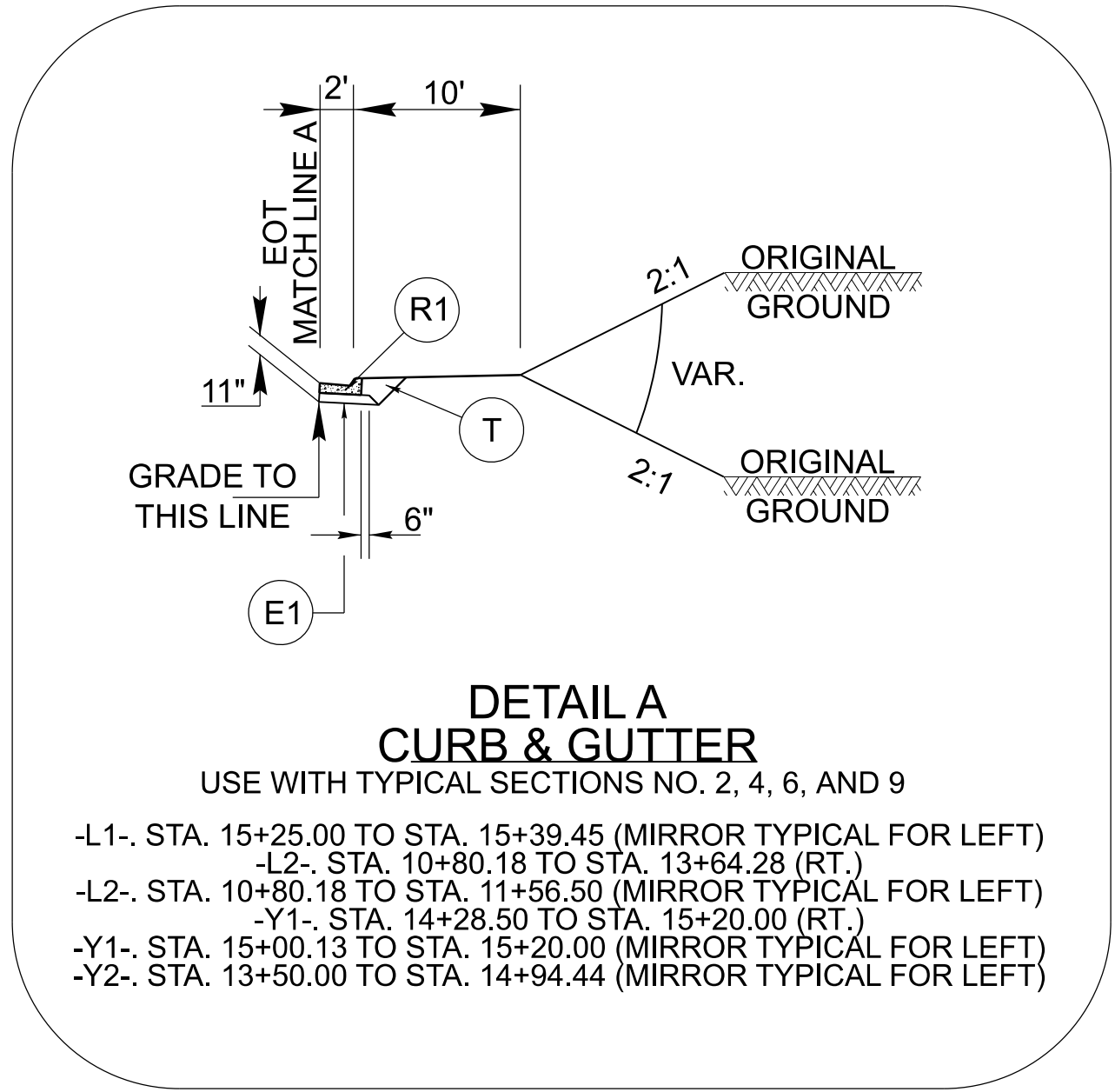
SANITARY SEWER:

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

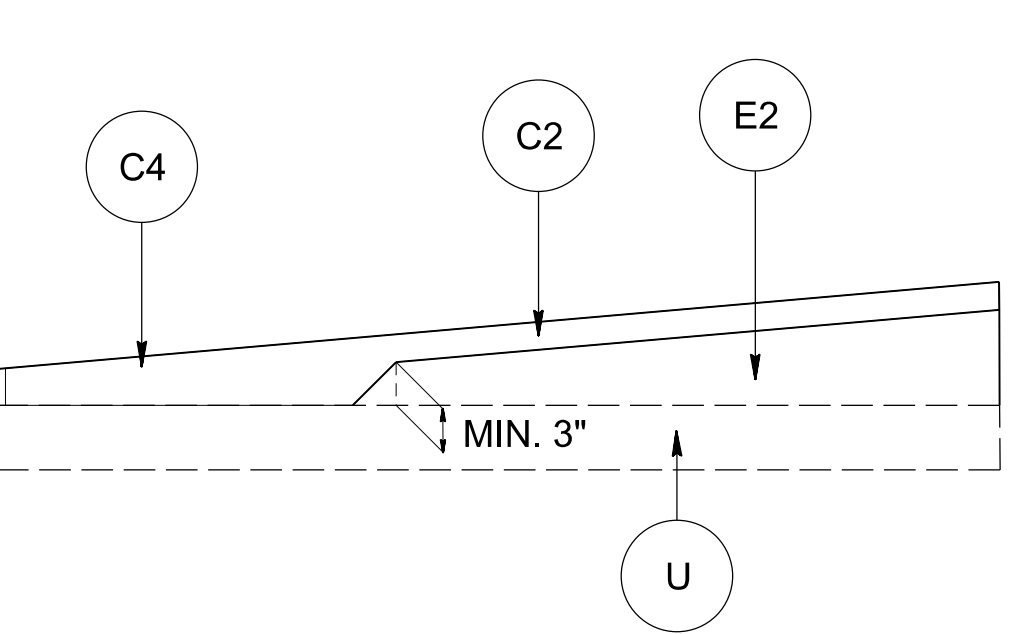
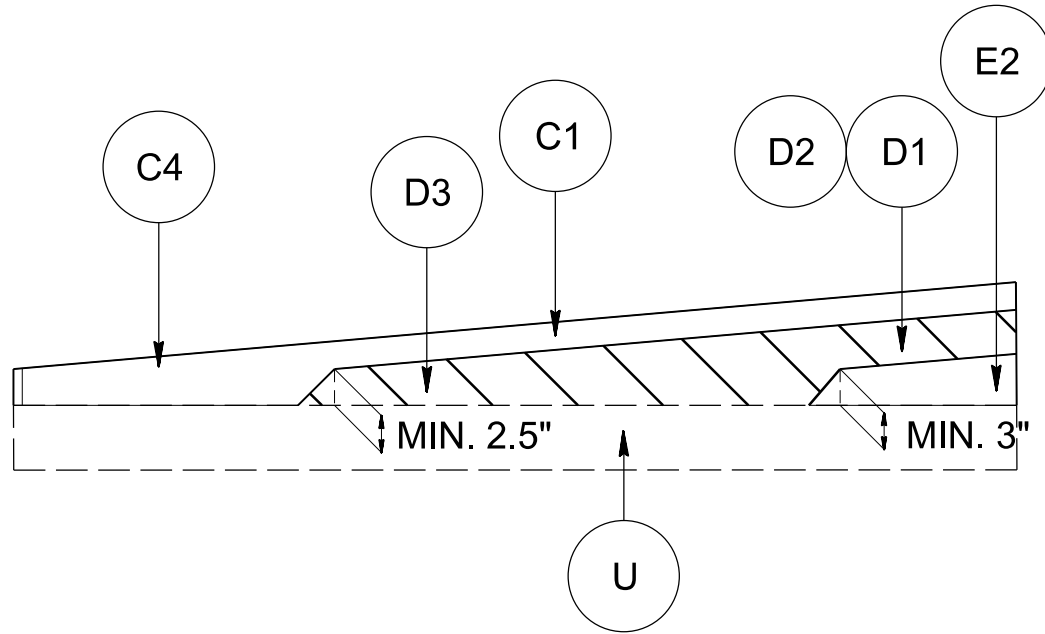
MISCELLANEOUS:

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

FINAL PAVEMENT SCHEDULE					
A1	12" CONCRETE TRUCK APRON	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 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	R2	EXPRESSWAY GUTTER
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	8"X18" CONCRETE CURB
C2	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.	R4	5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	J1	PROP. 6" AGGREGATE BASE COURSE	R5	1'-6" CURB AND GUTTER
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	J2	PROP. 8" AGGREGATE BASE COURSE	T	EARTH MATERIAL
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	P1	PRIME COAT AT THE RATE OF 0.35 GAL/SQ. YD.	U	EXISTING PAVEMENT
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R1	2'-6" CONCRETE CURB AND GUTTER.	V	INCIDENTAL MILLING (SEE MILLING DETAIL)
				W	WEDGING (SEE WEDGING DETAILS)

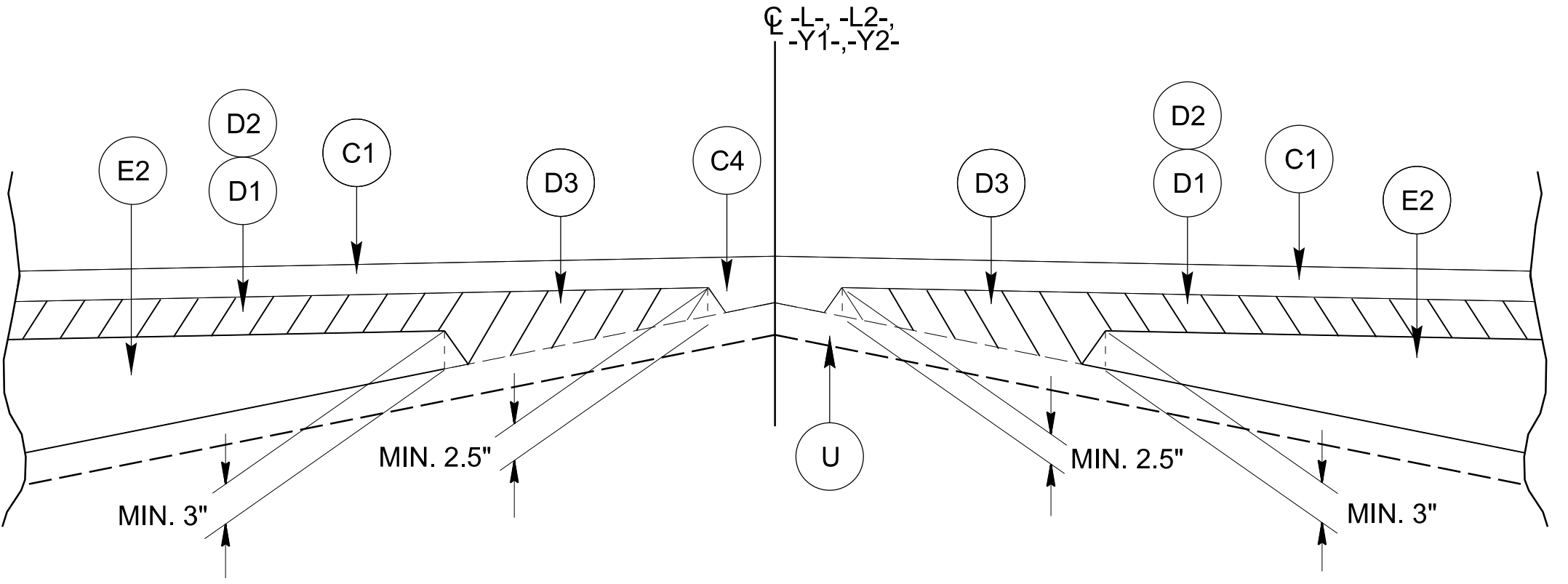


NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

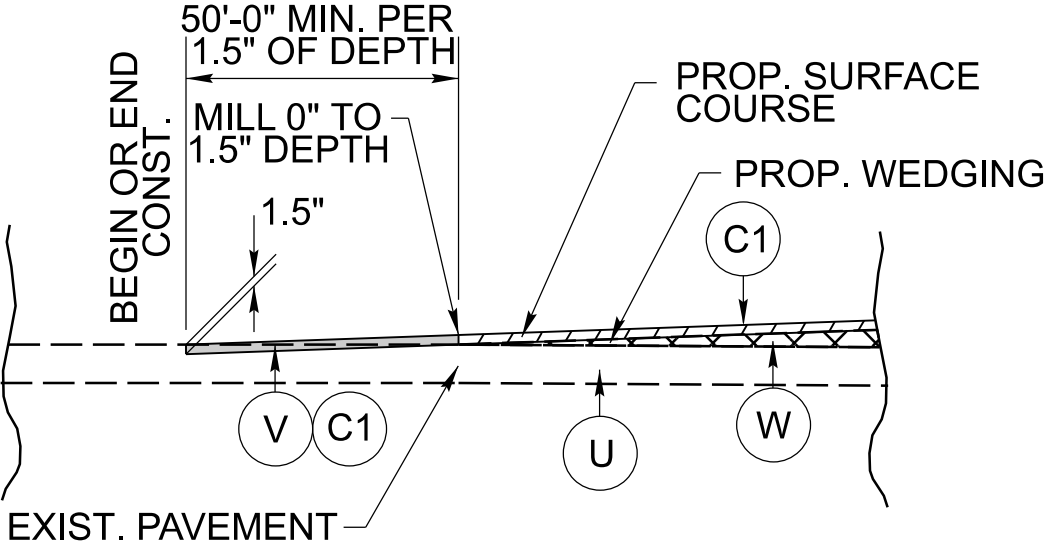


Wedging Detail For Resurfacing

Wedging Detail For Temporary Pavement



Detail Showing Method of Wedging



Incidental Milling Detail

R-5901

FINAL

2A-I

NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

SURRY COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

7/16/2025

Signed: *Andrea B. Gordon*

3A7A33667156C1

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT DESIGN ENGINEER

7/16/2025

Signed: *Ramir A. Shaw*

C660234655416

PREPARED BY

KISINGER CAMPO & ASSOCIATES

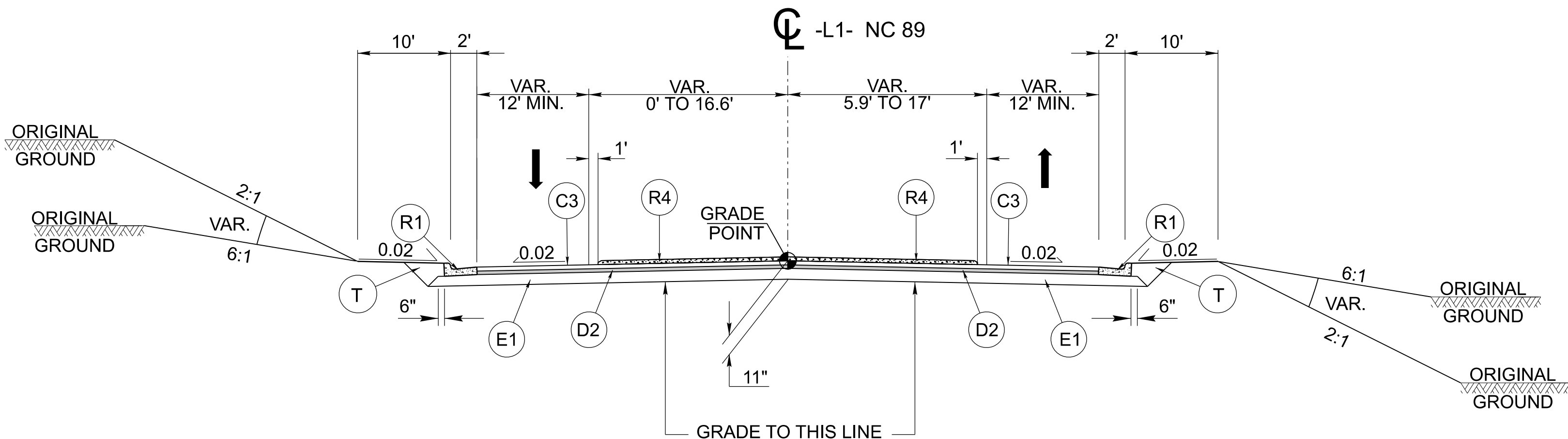
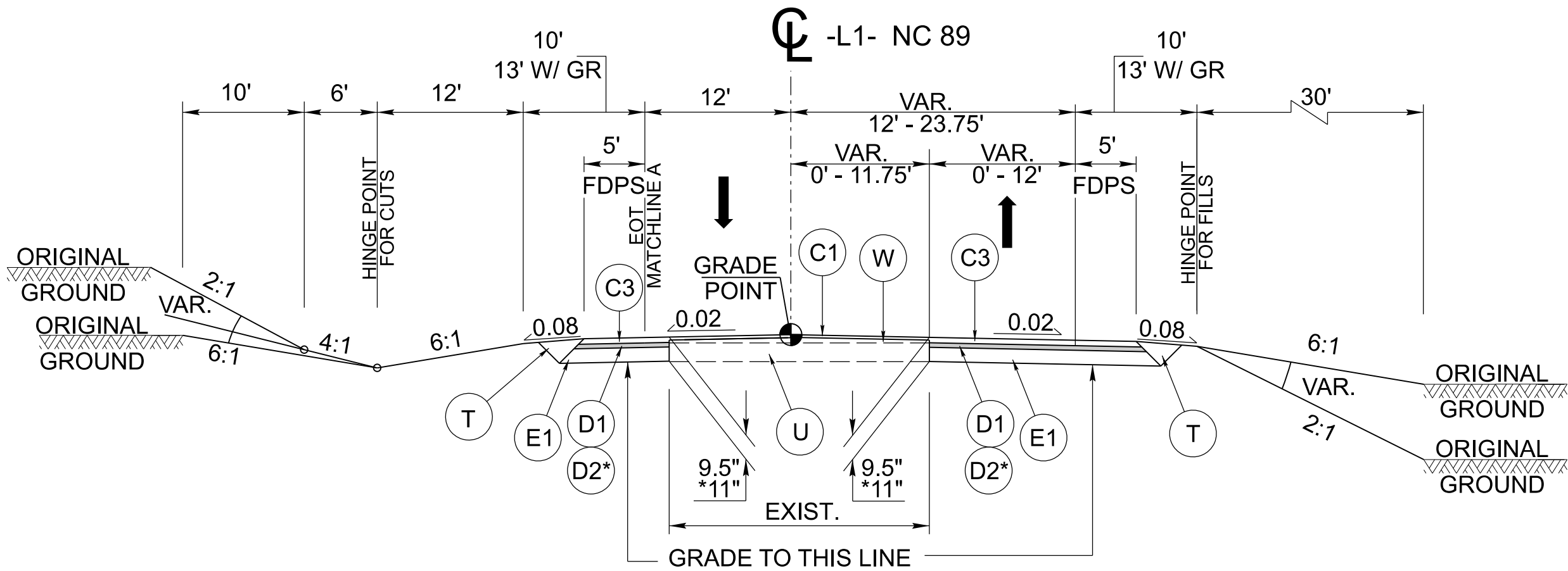
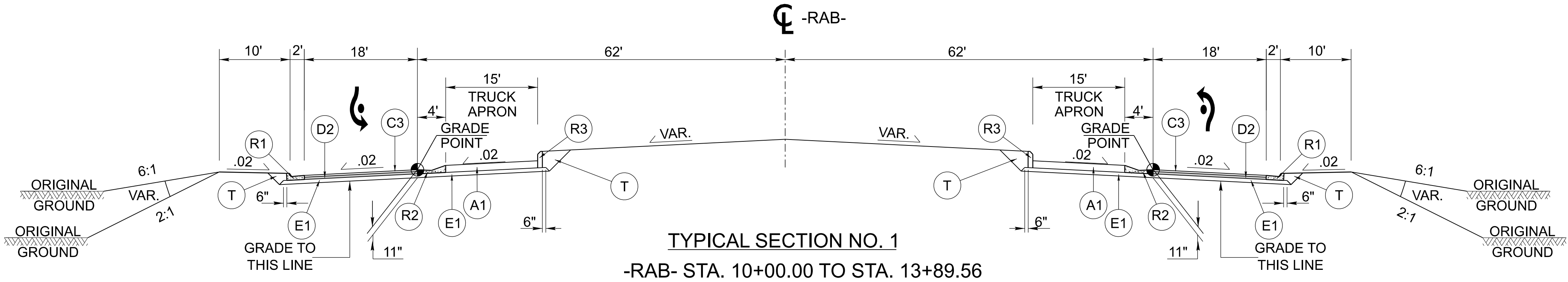
NC FIRM LICENSE No: C-1506

301 Fayetteville Street, Suite 1500

Raleigh, NC 27601

(919)882-7839

REVISIONS



PAVEMENT SCHEDULE	
A1	12" CONC. TRUCK APRON
C1	1 1/2" S9.5C
C3	3" S9.5C
D1	2 1/2" I19.0C
D2	4" I19.0C
E1	4" B25.0C
R1	2'-6" C&G
R2	EXPRESSWAY GUTTER
R3	8"X18" CONC. CURB
R4	5" MONO. CONC. ISLAND (KEYED-IN)
T	EARTH MATERIAL
U	EXIST. PAVT.
W	WEDGING

NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

R-5901

FINAL2A-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

7/16/2025

Andrew B. Gordon

3A7A836647154C1

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PAVEMENT DESIGN ENGINEER

7/16/2025

Ramir A. Shaw

C59C8738457E4E5

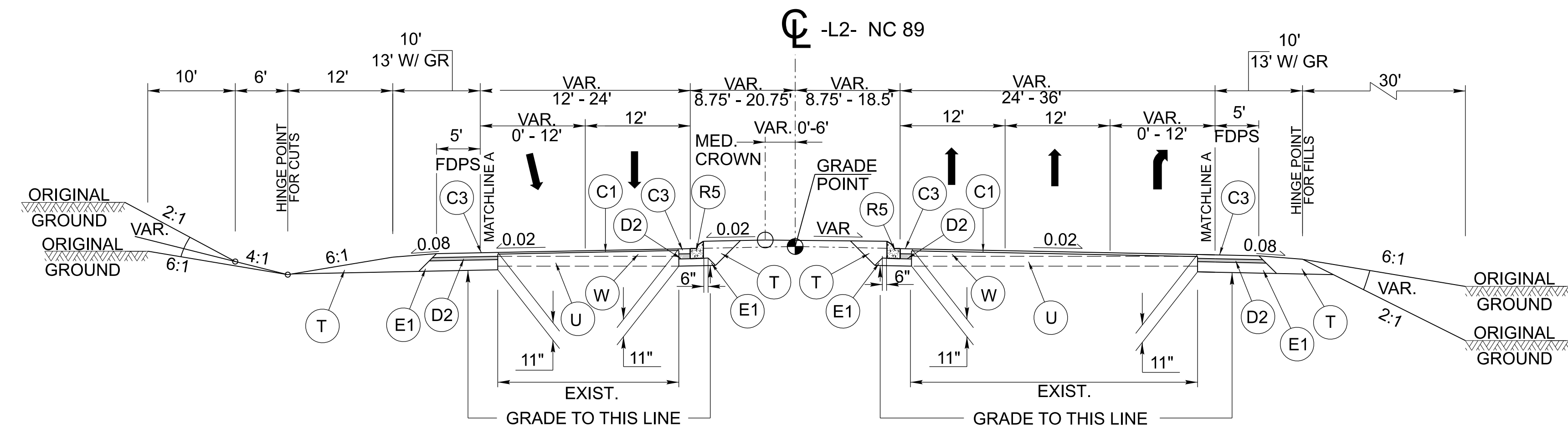
PREPARED BY

KISINGER CAMPO & ASSOCIATES

NC FIRM LICENSE No: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919)882-7839

REVISIONS

11/14/23

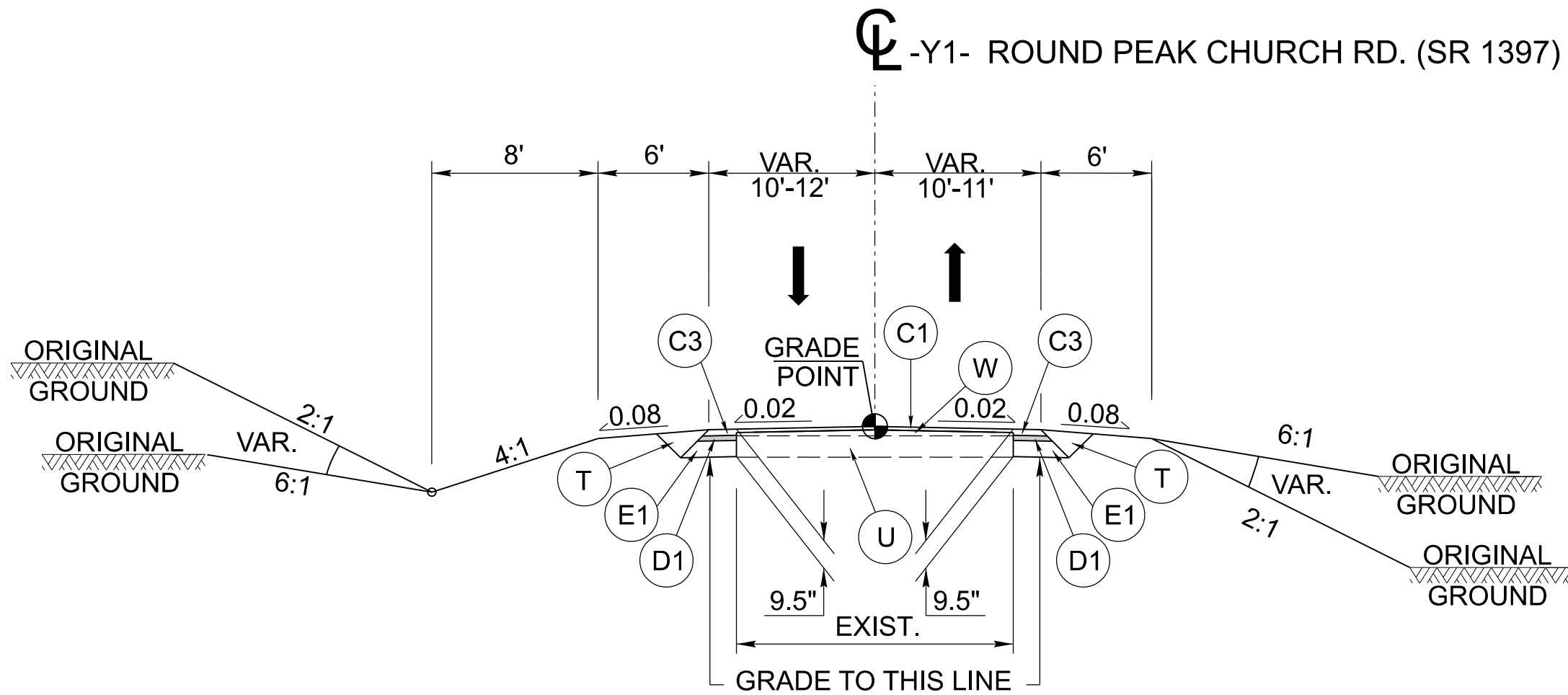


TYPICAL SECTION NO. 4
(SEE DETAIL A SHEET 2A-1)

-L2- STA. 10+80.18 TO STA. 20+10.00*

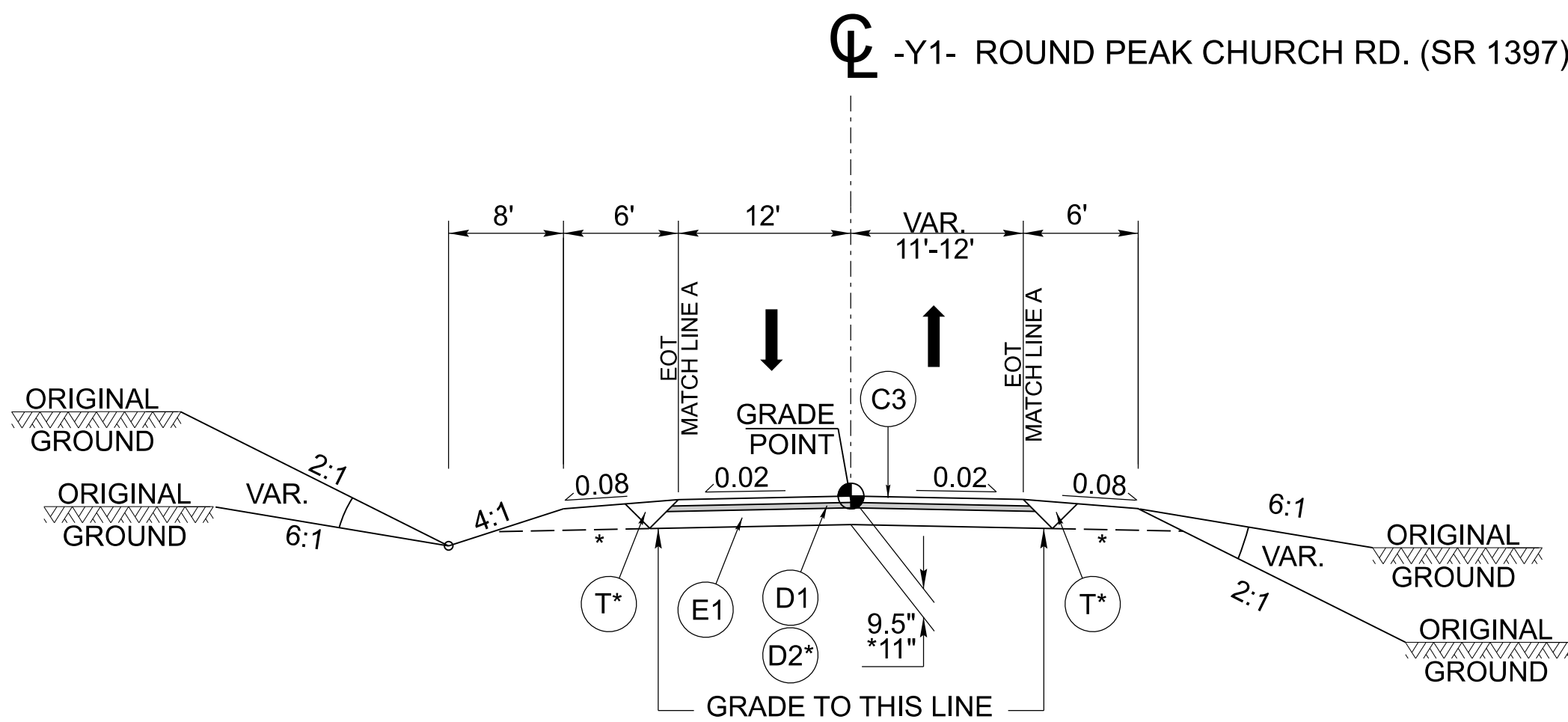
*-L2- STA. 10+80.18 TO STA. 12+00.00

USE STD. 852 FOR PAVED CONC. ISLAND WITH 4" CONC. COVER



TYPICAL SECTION NO. 5

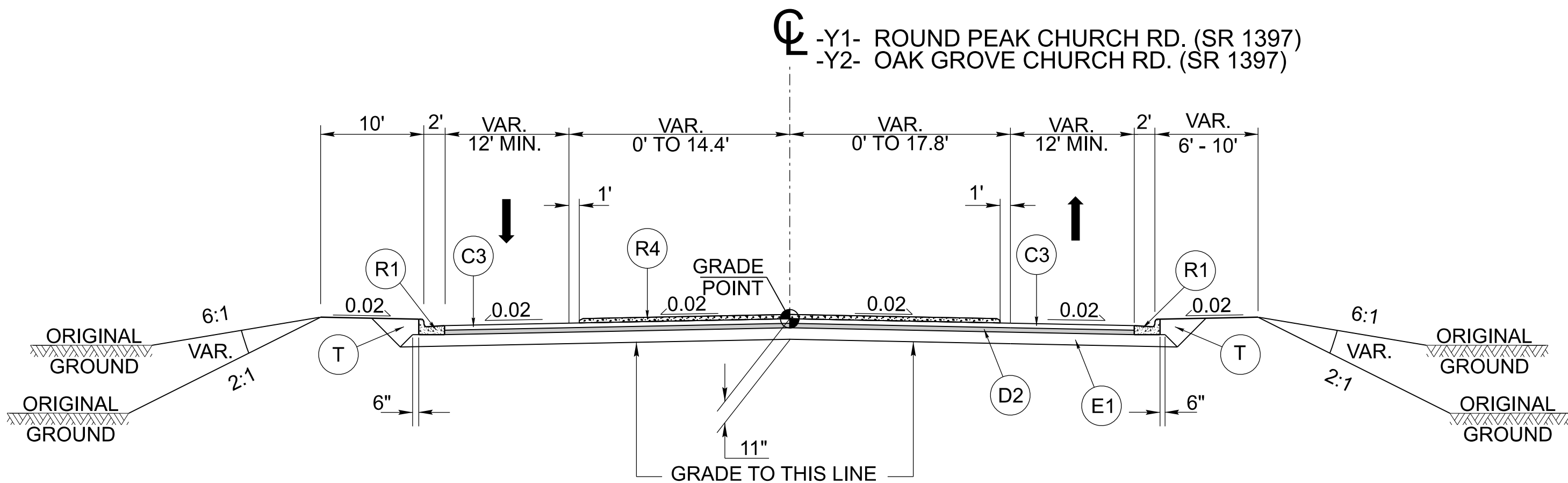
-Y1- STA. 12+30.00 to STA. 13+50.00



TYPICAL SECTION NO. 6
(SEE DETAIL A SHEET 2A-1)

-Y1- STA. 13+50.00 TO STA. 14+28.50

*-Y1- STA. 14+28.50 TO STA. 15+20.00



TYPICAL SECTION NO. 7

-Y1- STA. 15+20.00 TO STA. 16+81.56

-Y2- STA. 10+80.02 TO STA. 11+46.36

PAVEMENT SCHEDULE	
C1	1½" S9.5C
C3	3" S9.5C
D1	2½" I19.0C
D2	4" I19.0C
E1	4" B25.0C
R1	2'-6" C&G
R4	5" MONO. CONC. ISLAND (KEYED-IN)
R5	1'-6" C&G
T	EARTH MATERIAL
U	EXIST. PAVT.
W	WEDGING

NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

R-5901

FINAL2A-3

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT

7/1/2025

ROADWAY DESIGN
ENGINEER

SEAL
056183

ANDREA B. GORDON

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PAVEMENT DESIGN
ENGINEER

7/1/2025

SEAL
049851

RAMONA A. STAN

PREPARED BY

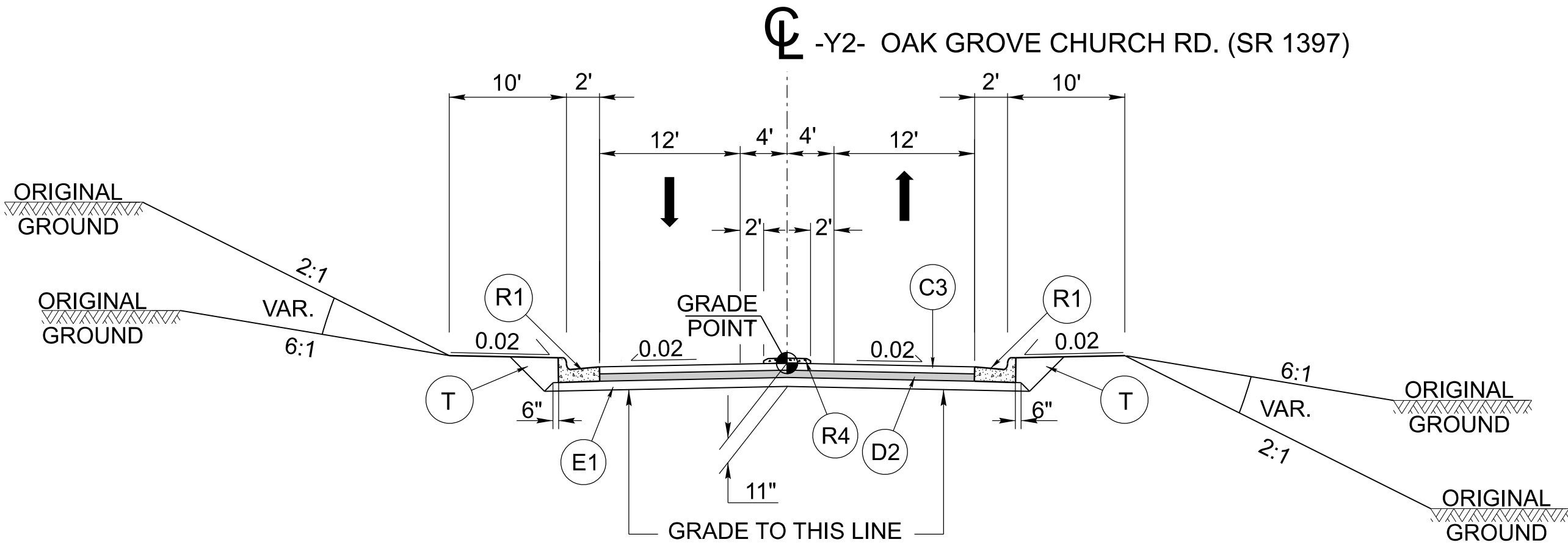
KCA

KISINGER CAMPO
& ASSOCIATES

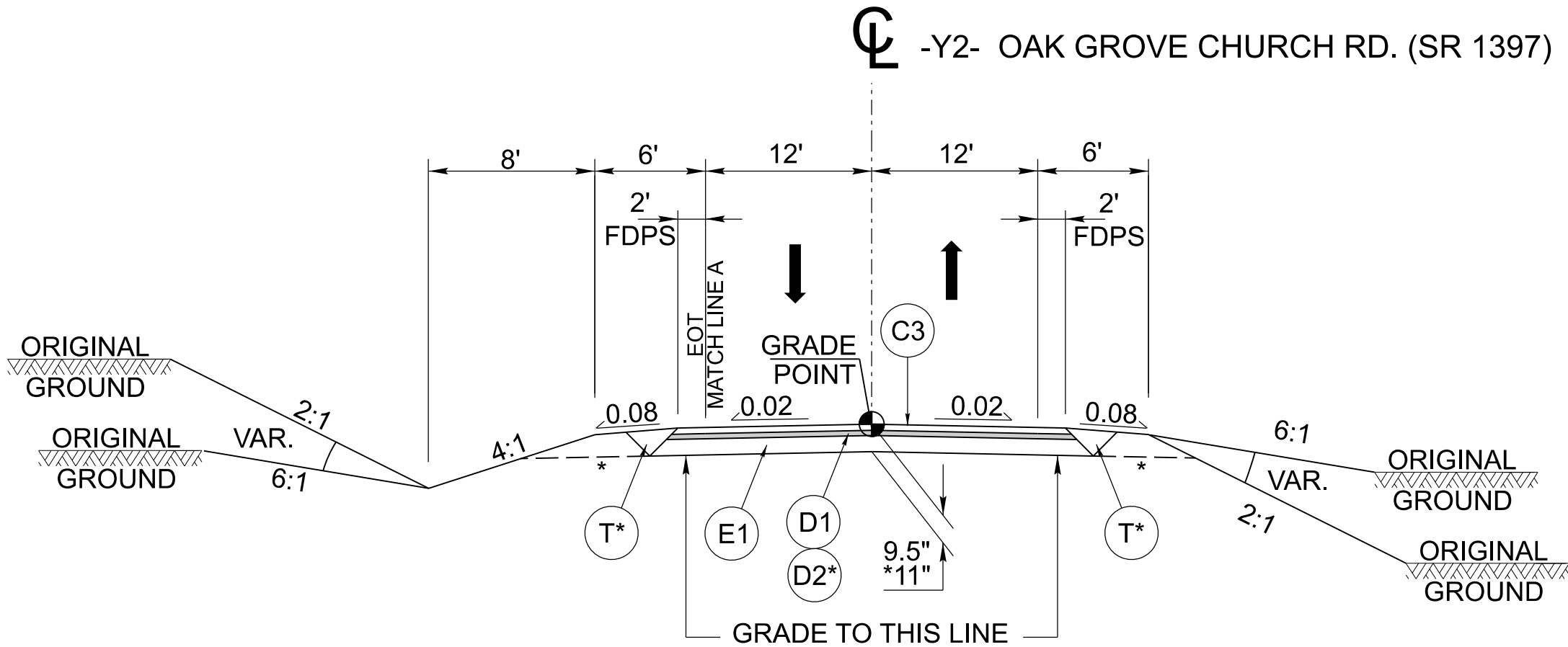
NC FIRM LICENSE No: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919)882-7839

REVISIONS

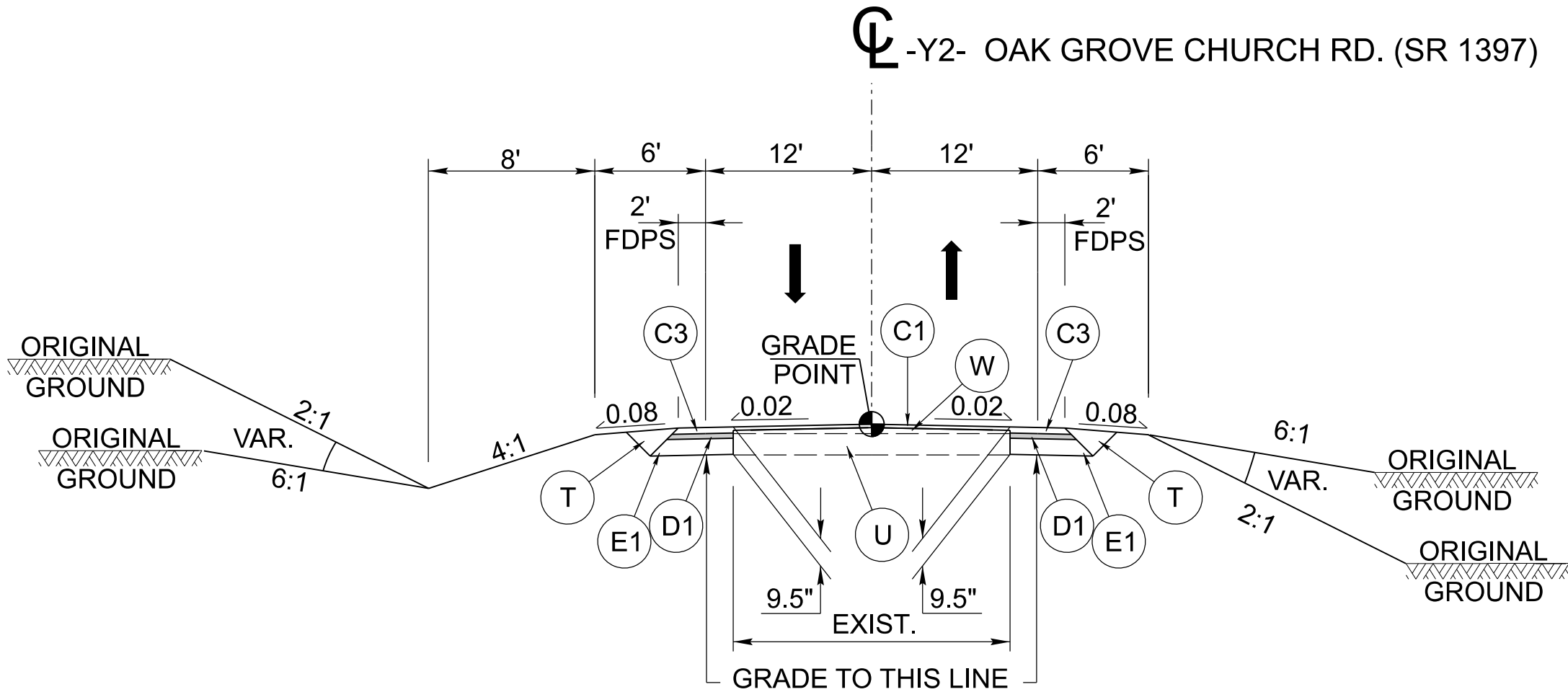
11/14/23



TYPICAL SECTION NO. 8
-Y2- STA. 11+46.36 TO STA. 13+50.00



TYPICAL SECTION NO. 9
(SEE DETAIL A SHEET 2A-1)
* -Y2- STA. 13+50.00 TO STA. 14+94.44
-Y2- STA. 14+94.44 TO STA. 17+00.00



TYPICAL SECTION NO. 10
-Y2- STA. 17+00.00 TO STA. 18+15.00

PAVEMENT SCHEDULE	
C1	1½" S9.5C
C3	3" S9.5C
D1	2½" I19.0C
D2	4" I19.0C
E1	4" B25.0C
R1	2'-6" C&G
R4	5" MONO. CONC. ISLAND (KEYED-IN)
T	EARTH MATERIAL
U	EXIST. PAVT.
W	WEDGING

NOTE: ALL PAVEMENT EDGE SLOPES
ARE 1:1 UNLESS OTHERWISE NOTED.

R-5901

FINAL

2A-4

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

7/1/2025

Andrea B. Gordon

3A7A336647154C1

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PAVEMENT DESIGN
ENGINEER

7/1/2025

Ramie A. Shaw

CS0007364545454

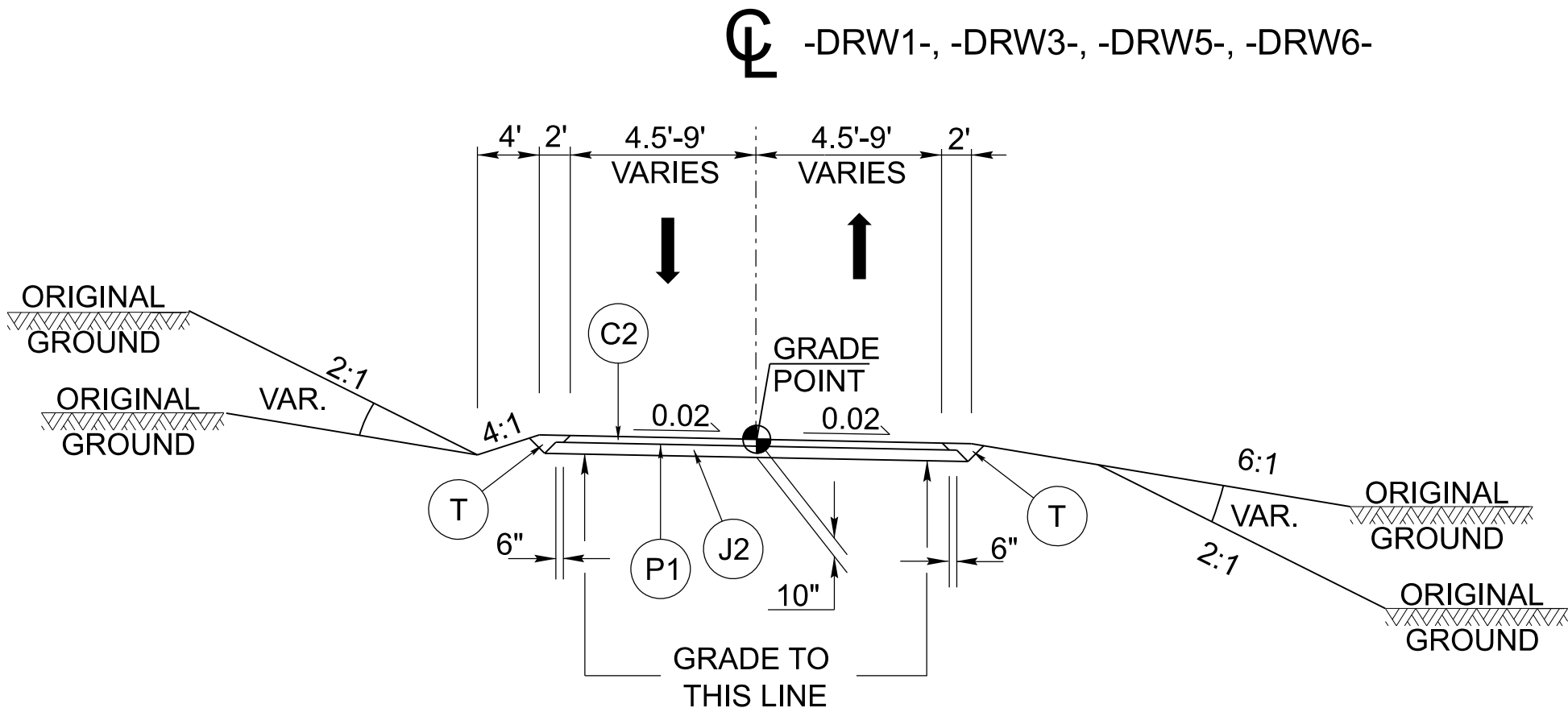
PREPARED BY

KISINGER CAMPO
& ASSOCIATES

NC FIRM LICENSE No: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919)882-7839

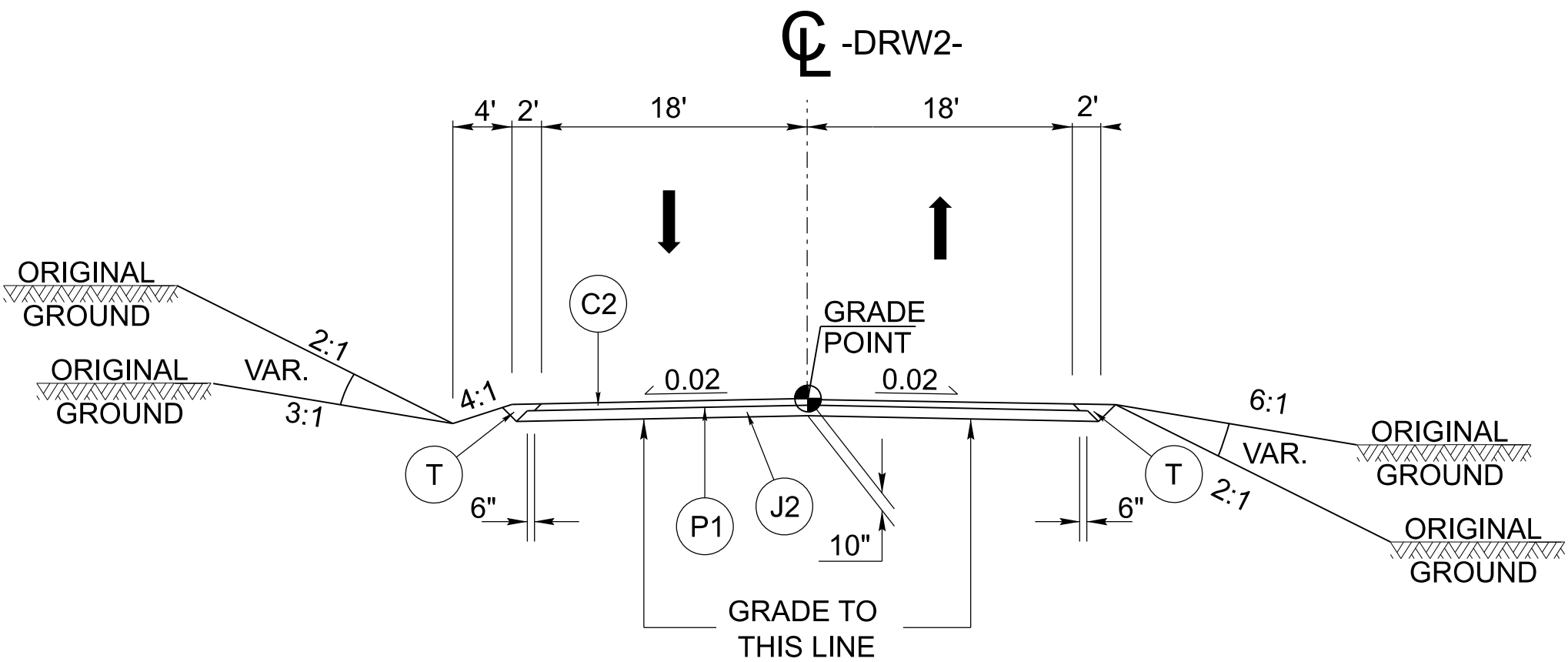
REVISIONS

11/14/23



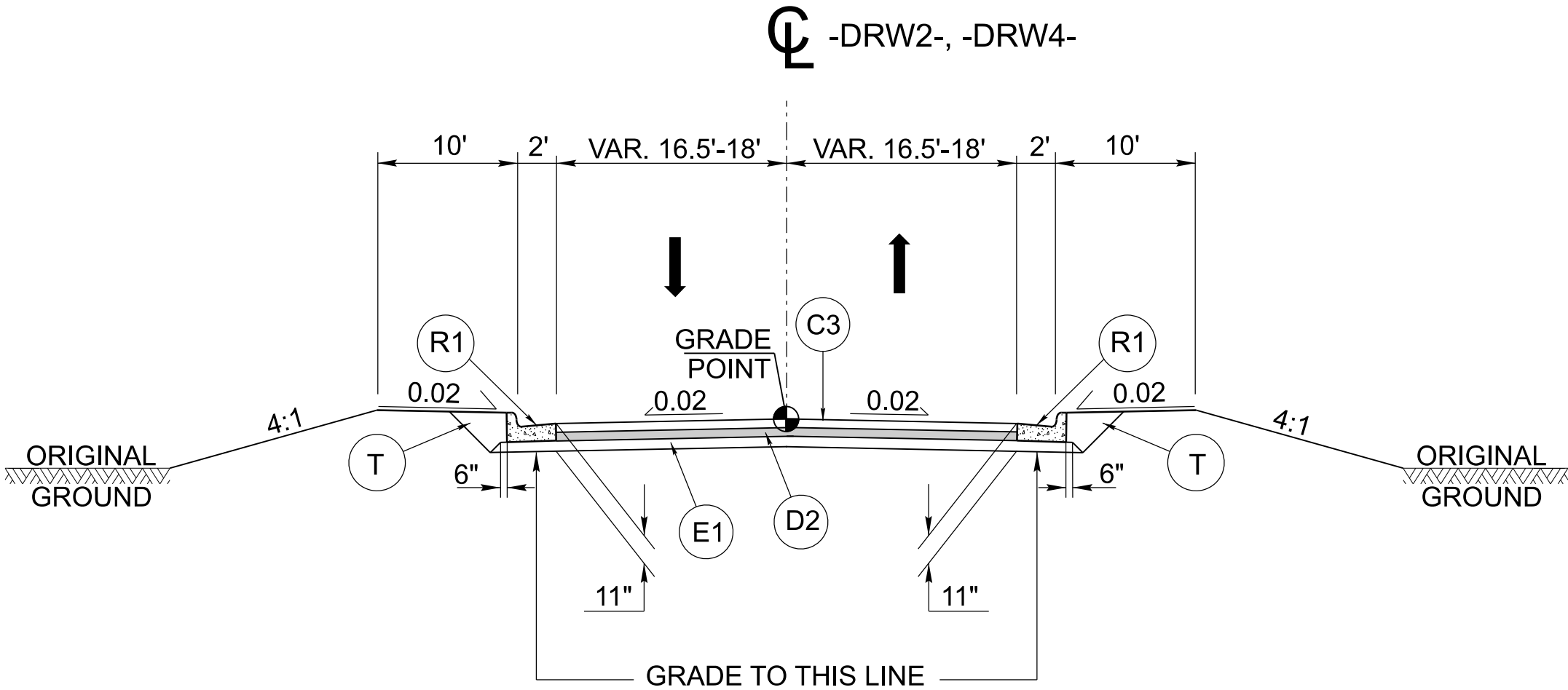
TYPICAL SECTION NO. 11

-DRW1- STA. 10+12.00 TO STA. 11+60.00
-DRW3- STA. 10+17.72 TO STA. 10+74.85
-DRW5- STA. 10+13.28 TO STA. 10+75.00
-DRW6- STA. 10+00.00 TO STA. 10+43.34



TYPICAL SECTION NO. 12

-DRW2- STA. 10+42.00 TO STA. 11+31.50



TYPICAL SECTION NO. 13

-DRW2- STA. 10+12.00 TO STA. 10+42.00
-DRW4- STA. 10+13.73 TO STA. 10+95.00

PAVEMENT SCHEDULE	
C2	2" S9.5C
C3	3" S9.5C
D2	4" I19.0C
E1	4" B25.0C
P1	PRIME COAT
J2	8" ABC
R1	2'-6" C&G
T	EARTH MATERIAL

NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

R-5901

FINAL2A-5

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

7/1/2025

Seal
Andrea B. Gordon
3A7A33647154C1

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PAVEMENT DESIGN ENGINEER

7/1/2025

Seal
Ramon A. Shaw
3390B7364754F4

PREPARED BY

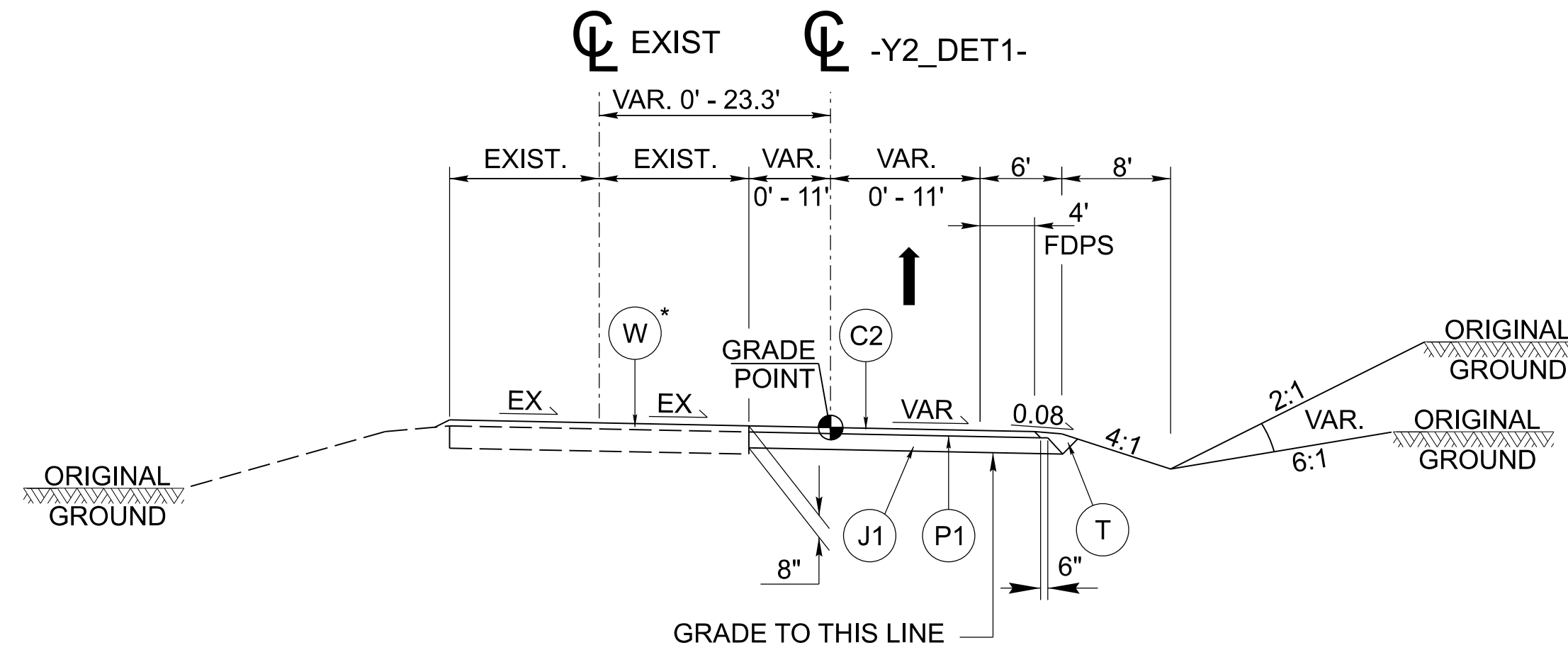
KISINGER CAMPO
& ASSOCIATES

NC FIRM LICENSE No: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919)882-7839

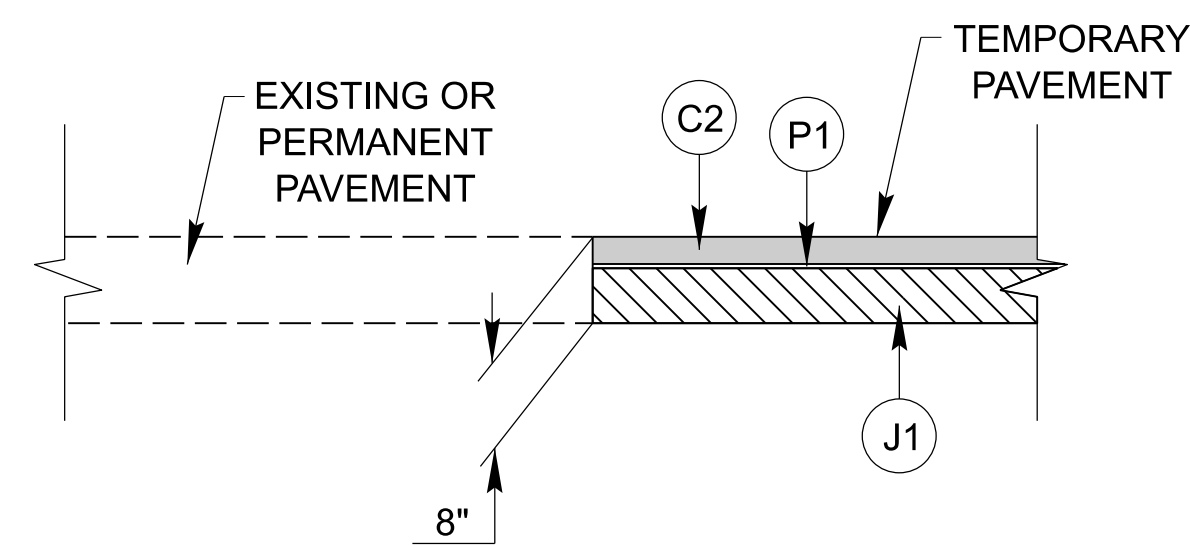
REVISIONS

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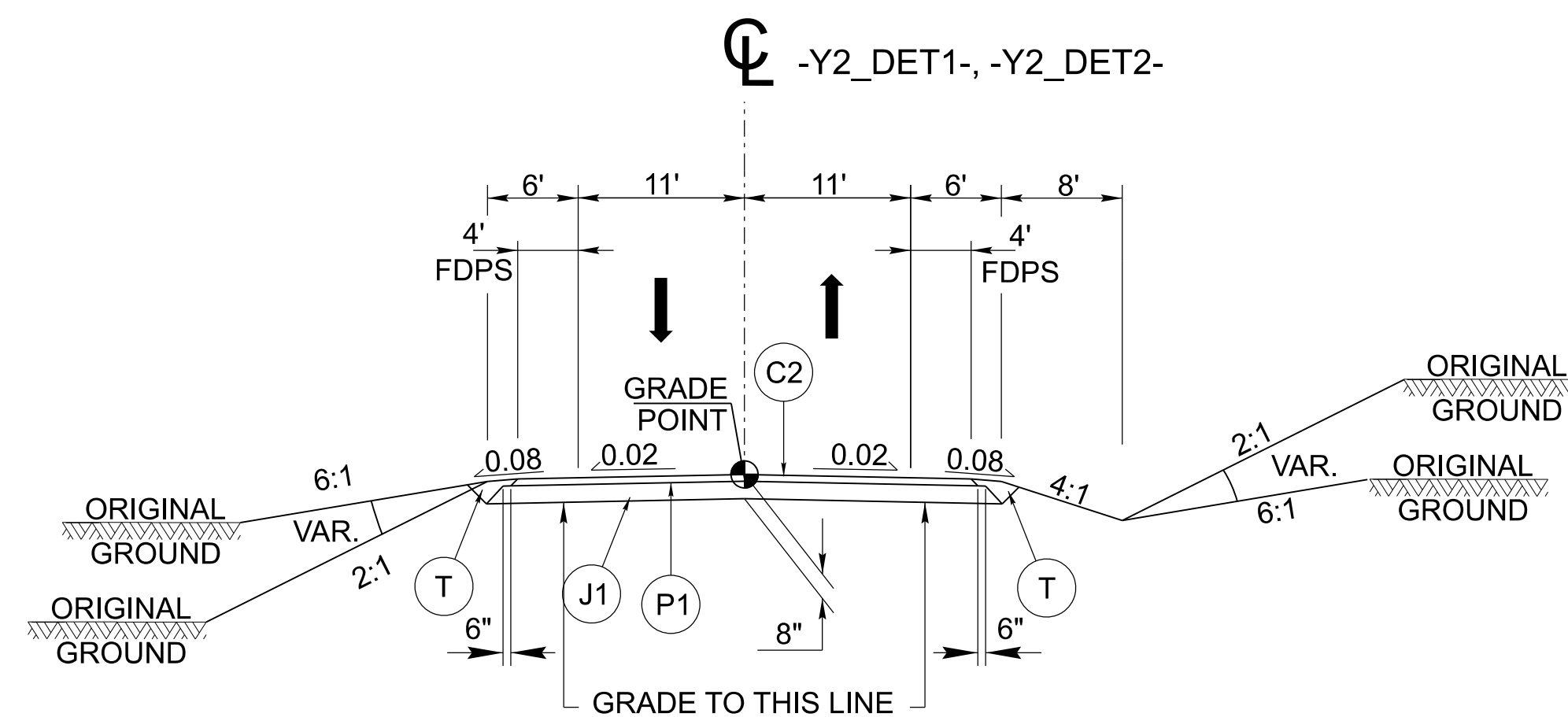
MIRROR TYPICAL FOR NC 89 WESTBOUND



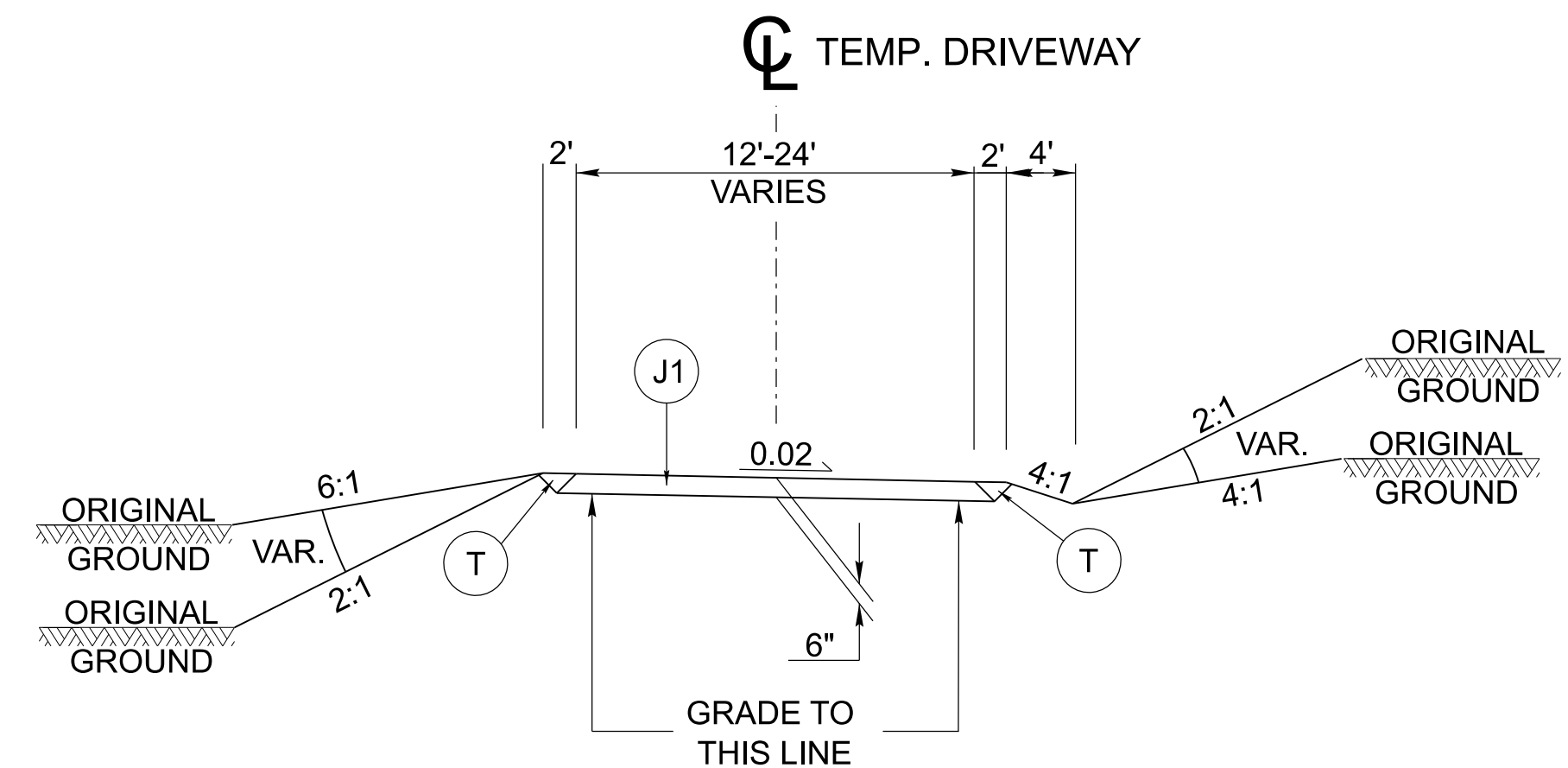
*WEDGE EXISTING PAVEMENT AS NEEDED TO PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING AND TEMPORARY PAVEMENT



FOR NC 89 TEMP. PAVEMENT
NOT TO SCALE
(SEE TMP PLANS FOR LOCATIONS)



-Y2_DET1- STA. 12+54.09 TO STA. 17+60.42
-Y2_DET2- STA. 10+21.49 TO STA. 14+93.42



TYPICAL SECTION NO. 16 TO BE USED FOR
TEMPORARY DRIVEWAY CONNECTIONS.
(SEE TMP PLANS FOR LOCATIONS)

PAVEMENT SCHEDULE	
C2	2" S9.5C
P1	PRIME COAT
J1	6" ABC
T	EARTH MATERIAL
W	WEDGING

NOTE: ALL PAVEMENT EDGE SLOPES
ARE 1:1 UNLESS OTHERWISE NOTED.

PREPARED BY



KCA

LCF

SINGER CAMPO

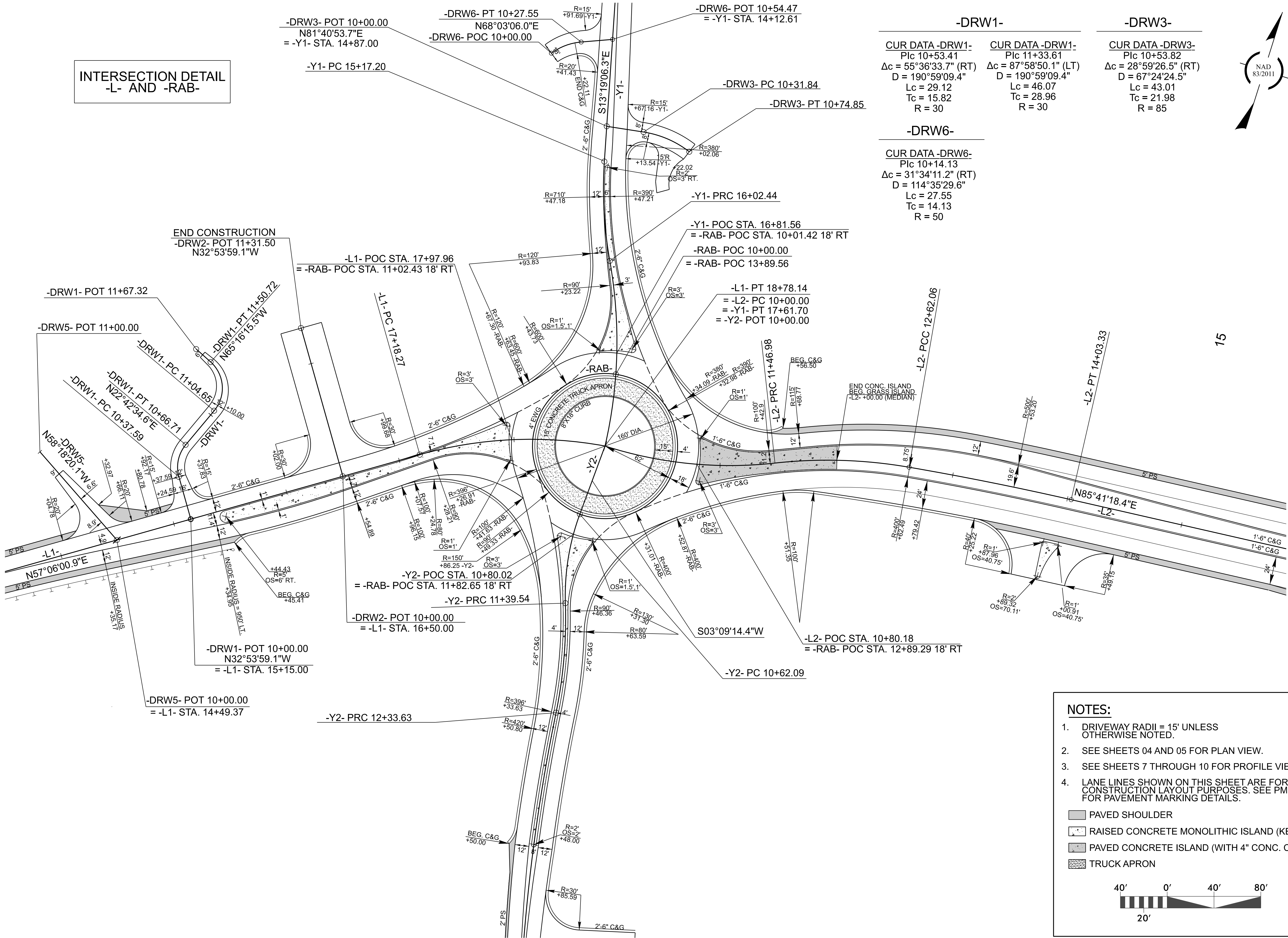
ASSOCIATES

FORM LICENSE No: C-15

Rayetteville Street
Suite 1500

Raleigh, NC 27601
(919)882-7839

CONTRACT AGENCY



INTERSECTION DETAIL
-L- AND -RAB-

-DRW1-	-DRW3-
CUR DATA -DRW1- Plc 10+53.41 $\Delta c = 55^\circ 36' 33.7''$ (RT) D = $190^\circ 59' 09.4''$ Lc = 29.12 Tc = 15.82 R = 30	CUR DATA -DRW3- Plc 10+53.82 $\Delta c = 28^\circ 59' 26.5''$ (RT) D = $67^\circ 24' 24.5''$ Lc = 43.01 Tc = 21.98 R = 85

-DRW6-
CUR DATA -DRW6- Plc 10+14.13 $\Delta c = 31^\circ 34' 11.2''$ (RT) D = $114^\circ 35' 29.6''$ Lc = 27.55 Tc = 14.13 R = 50



R-5901

FINAL28-I

NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

SURRY COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN

ENGINEER

7/1/2023

NORTH CAROLINA

PROFESSIONAL

SEAL

056183

ENGINEER

Signature

ANDREA B. GORDON

347A83664714561

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PREPARED BY

KCA

KISINGER CAMPO

& ASSOCIATES

NC FIRM LICENSE No: C-1506

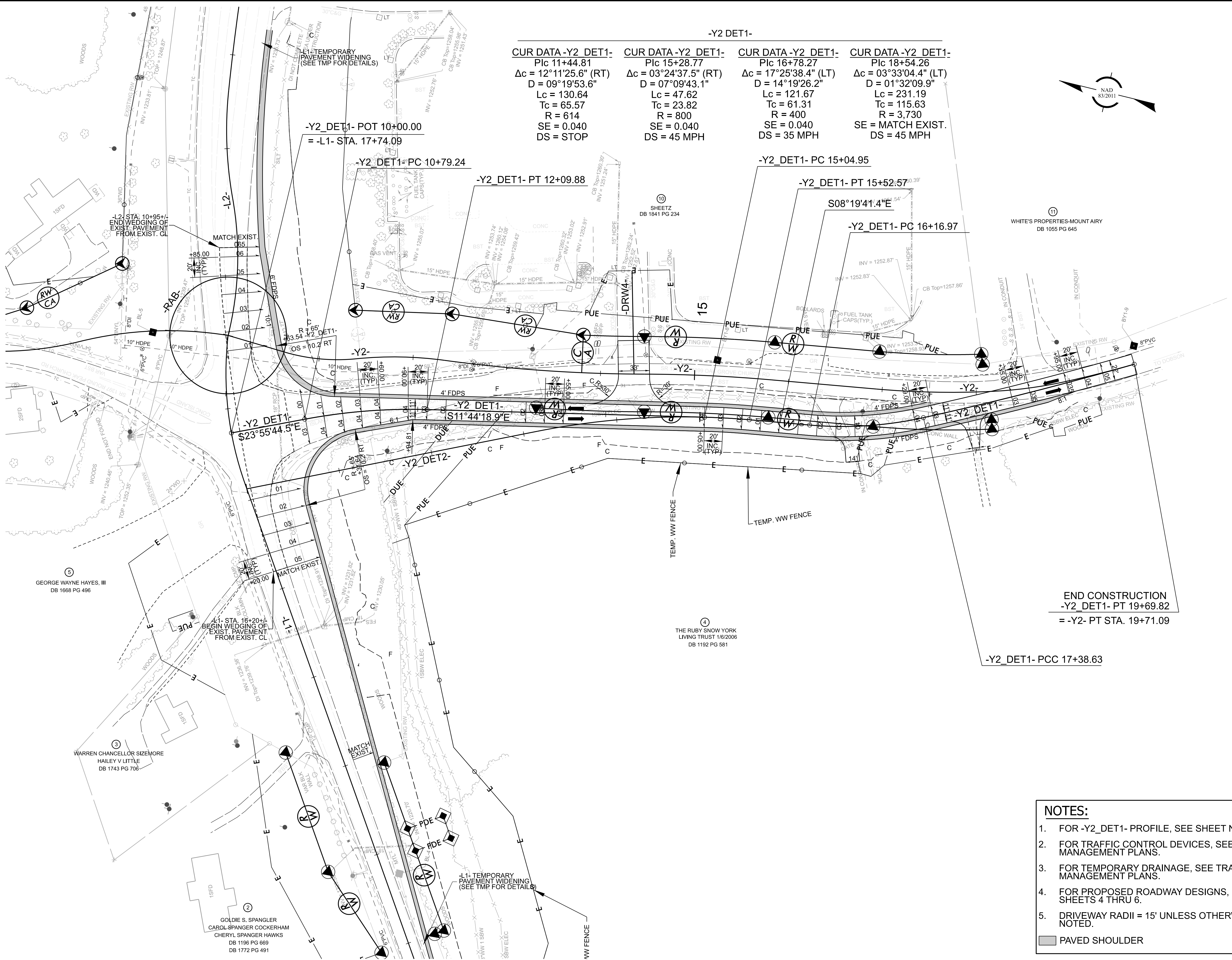
301 Fayetteville Street,

Suite 1500

Raleigh, NC 27601

(919)882-7839

REVISIONS



-Y2 DET1-			
CUR DATA -Y2 DET1-	CUR DATA -Y2 DET1-	CUR DATA -Y2 DET1-	CUR DATA -Y2 DET1-
Plc 11+44.81	Plc 15+28.77	Plc 16+78.27	Plc 18+54.26
$\Delta c = 12^{\circ}11'25.6''$ (RT)	$\Delta c = 03^{\circ}24'37.5''$ (RT)	$\Delta c = 17^{\circ}25'38.4''$ (LT)	$\Delta c = 03^{\circ}33'04.4''$ (LT)
D = 09°19'53.6"	D = 07°09'43.1"	D = 14°19'26.2"	D = 01°32'09.9"
Lc = 130.64	Lc = 47.62	Lc = 121.67	Lc = 231.19
Tc = 65.57	Tc = 23.82	Tc = 61.31	Tc = 115.63
R = 614	R = 800	R = 400	R = 3,730
SE = 0.040	SE = 0.040	SE = 0.040	SE = MATCH EXIST.
DS = STOP	DS = 45 MPH	DS = 35 MPH	DS = 45 MPH

R-5901

FINAL2B-2

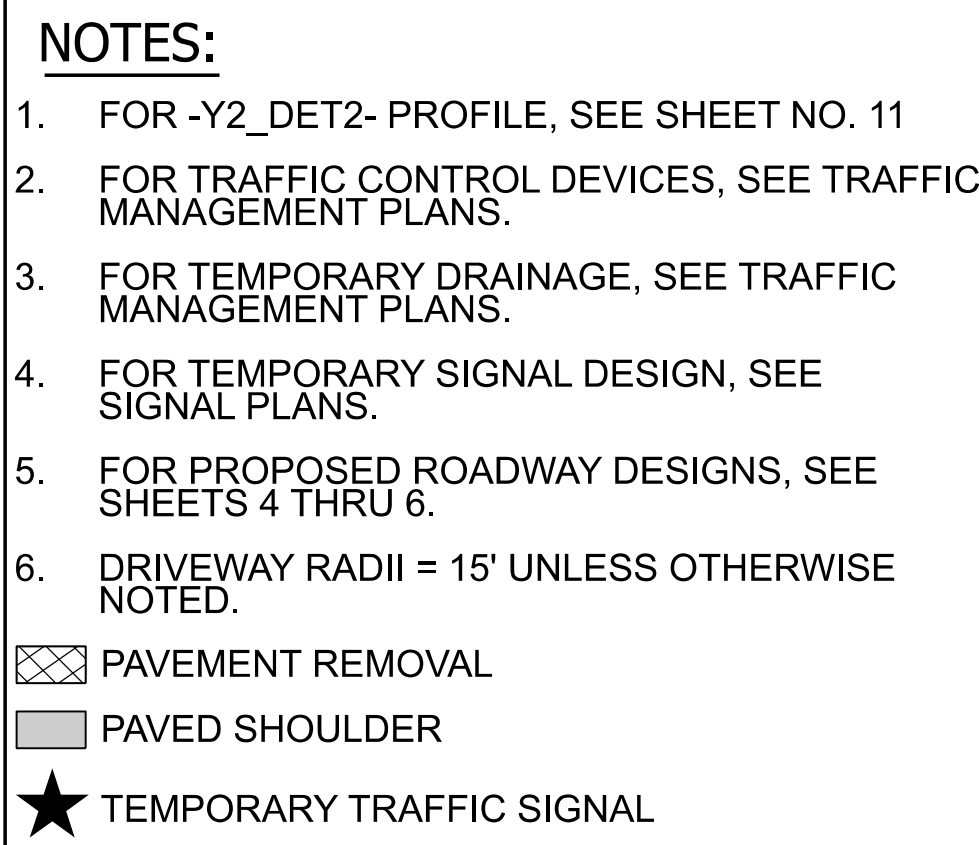
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT
ENGINEER
7/1/2025
NORTH CAROLINA
PROFESSIONAL
ENGINEER
SEAL
056183
ANDREA B. GORDON
Signature
43474336847547C1
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

HYDRAULICS
ENGINEER
7/1/2025
NORTH CAROLINA
PROFESSIONAL
ENGINEER
SEAL
057747
JOHN MCNUALLY
Signature
6E81A8D224E4F6C1

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KCA
KISINGER CAMPO
& ASSOCIATES
NC FIRM LICENSE No: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919)882-7839

REVISIONS

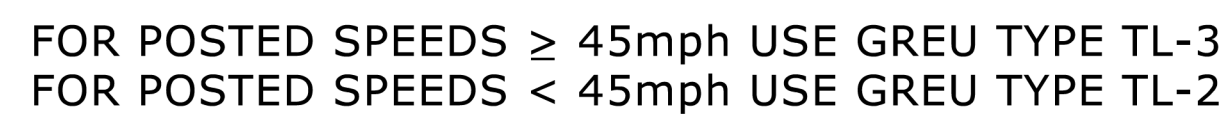


REVISIONS

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301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919)882-7839



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



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

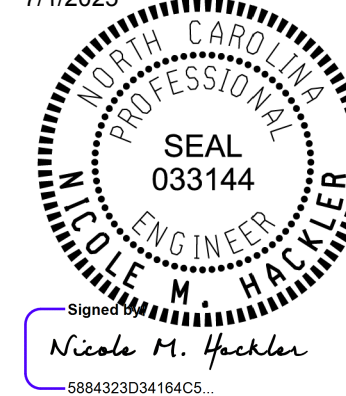
SHEET 6 OF 15

862D01

PROJECT REFERENCE NO.

SHEET NO.

7/1/2025



Signed by
Nicole M. Hackler
5884323D34164C5...

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

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
919-707-6950 FAX 919-250-41

Office 919-707-6950

MENT UNIT
FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY:	<u>S.CALHOUN</u>	DATE:	<u>7-25-2024</u>
MODIFIED BY:	<u> </u>	DATE:	<u> </u>
CHECKED BY:	<u> </u>	DATE:	<u> </u>
FILE SPEC.:	<u> </u>		

R-5901

FINAL	2C-1
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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY



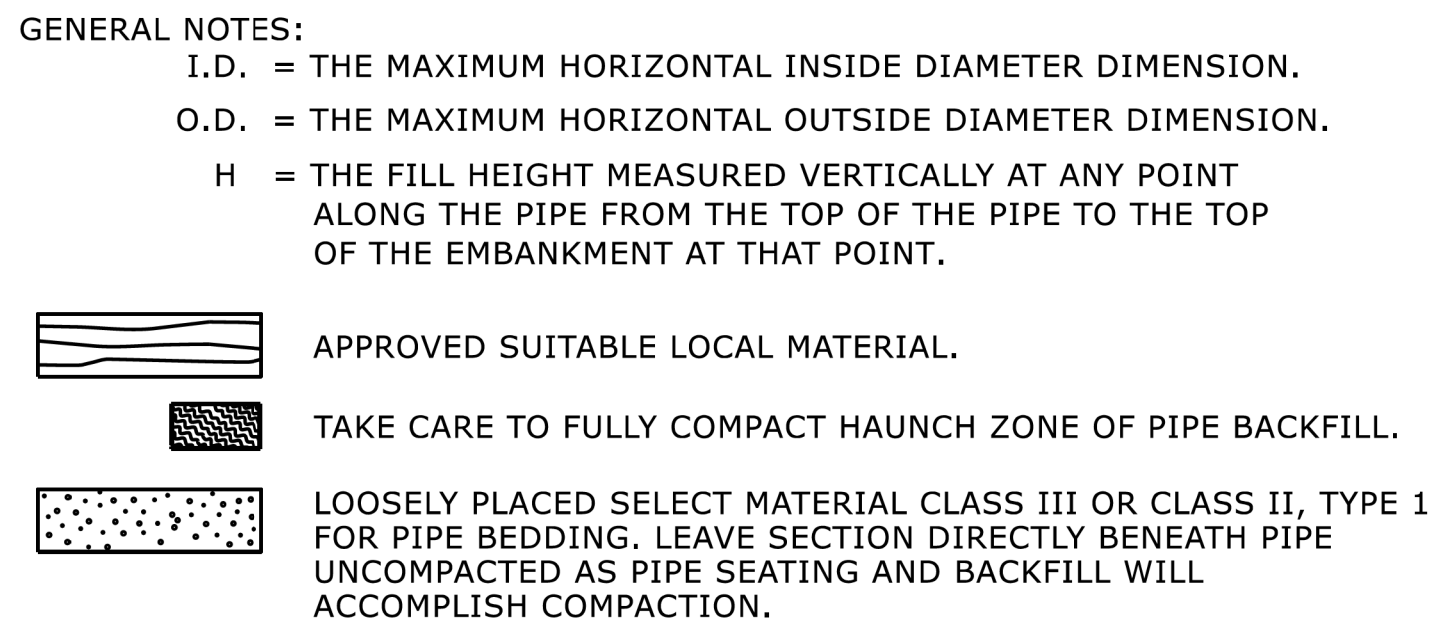
ROADWAY DESIGN UNIT

REPREPARED BY



C FIRM LICENSE No: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919)882-7839

REVIEWS



	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.

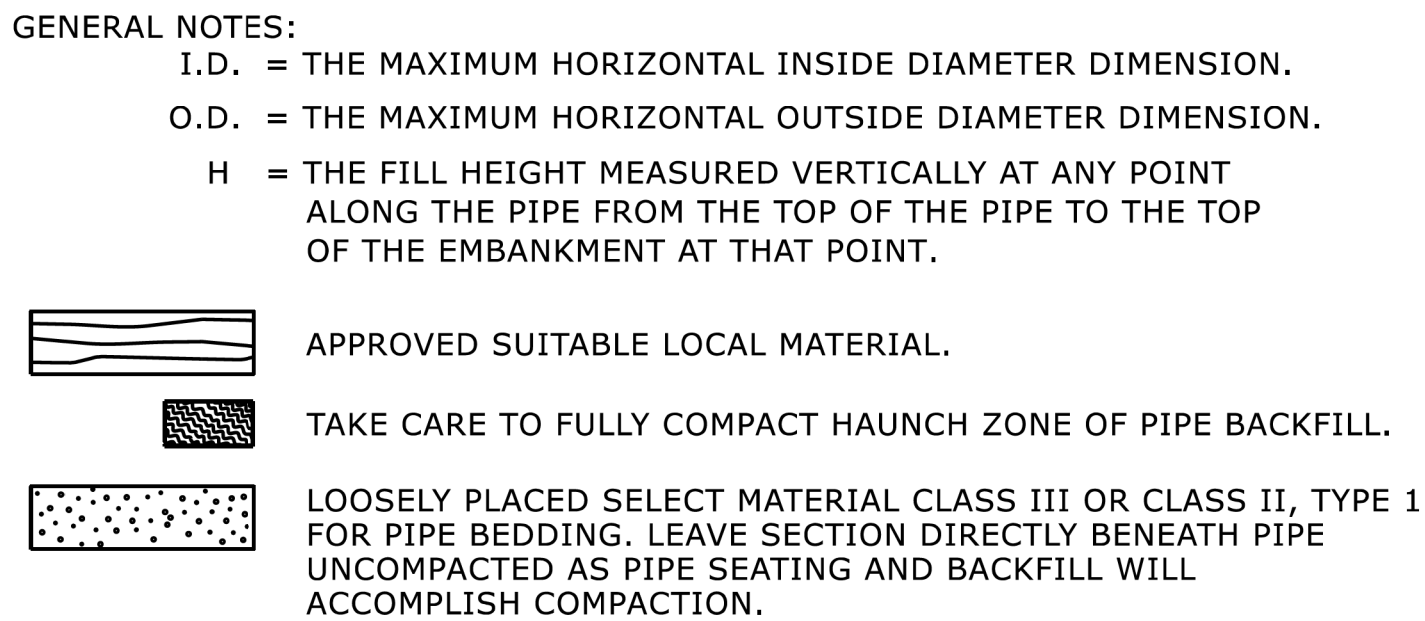
SHEET 1 OF 2
300.01

7/1/2025



Signed by
Nicole M. Hackler
588432D3D34164C5...

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



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

SHEET 2 OF 2

300.01

RIGID PIPE

7/1/2025

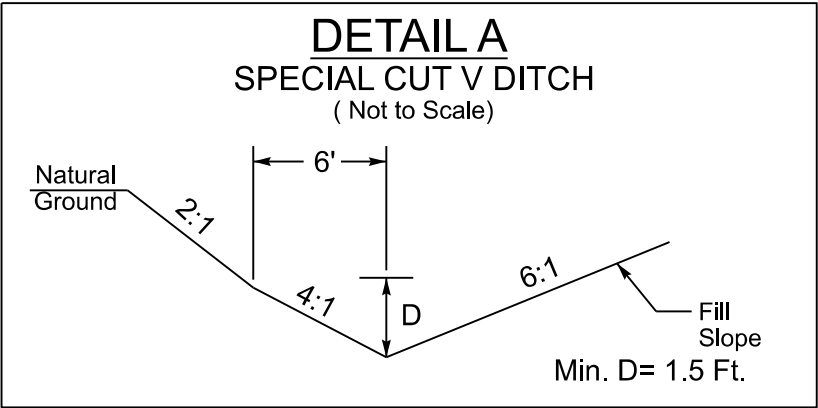


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UNLESS ALL SIGNATURES COMPLETED**

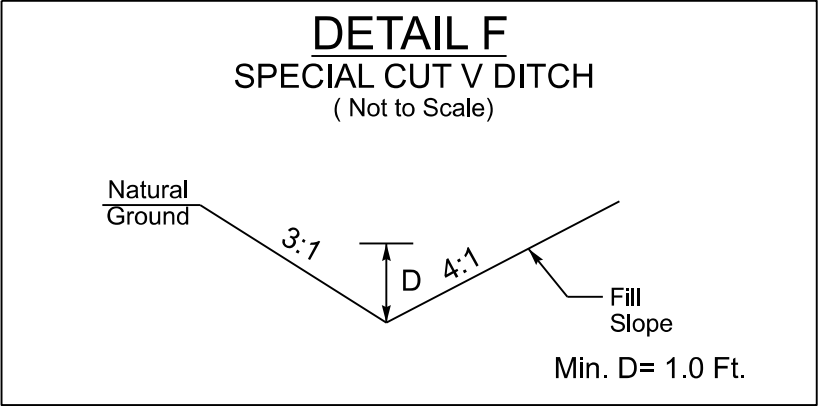
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

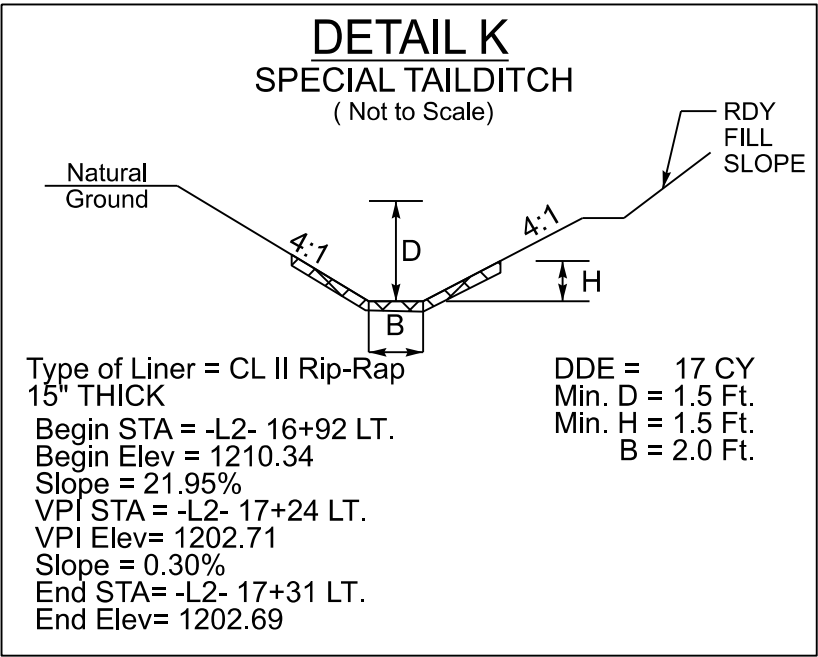
ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: _____



FROM STA. TO STA.
-L1- 12+00 TO 15+00 LT.
-L2- 11+49 TO 14+05 LT.

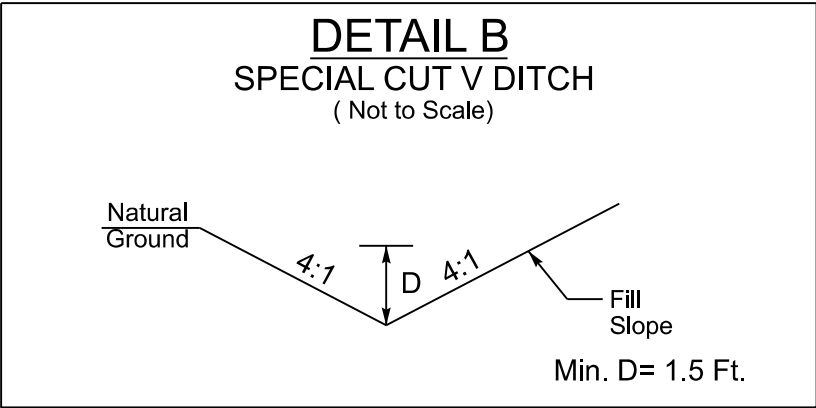


FROM STA. TO STA.
-DRW1- 10+40 TO 11+60 LT.
-DRW1- 11+23 TO 11+60 RT.
-DRW2- 10+43 TO 11+25 LT.
-DRW2- 10+38 TO 11+32 RT.
-DRW3- 10+29 TO 10+75 LT.

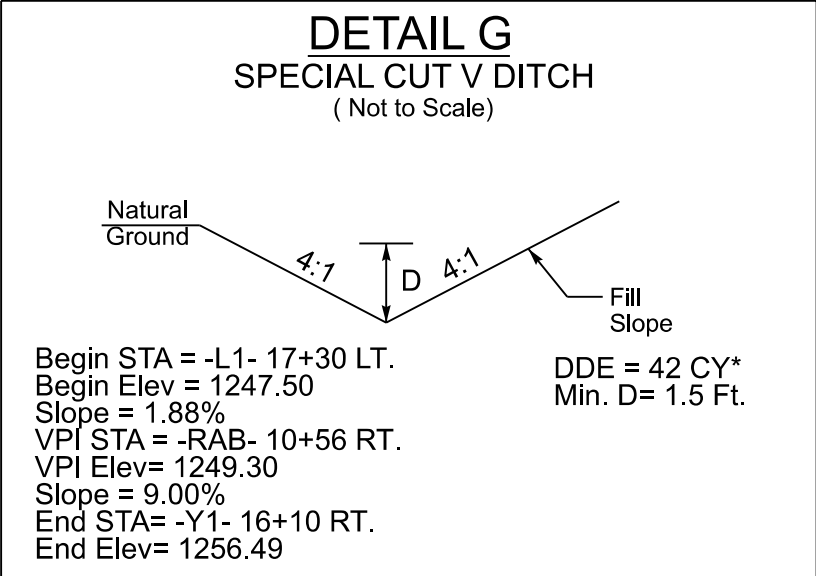


Type of Liner = CL II Rip-Rap
15" THICK
Begin STA = -L2- 16+92 LT.
Begin Elev = 1210.34
Slope = 21.95%
VPI STA = -L2- 17+24 LT.
VPI Elev = 1202.71
Slope = 0.30%
End STA = -L2- 17+31 LT.
End Elev = 1202.69

DDE = 17 CY
Min. D = 1.5 Ft.
Min. H = 1.5 Ft.
B = 2.0 Ft.



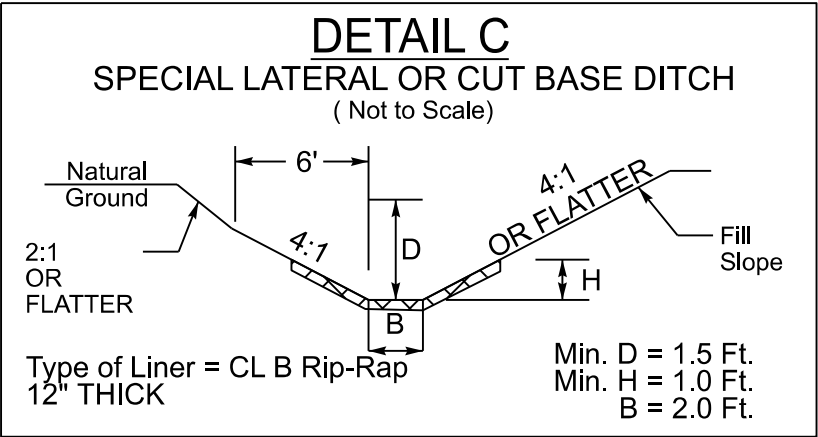
FROM STA. TO STA.
-L1- 15+50 TO 16+02 LT.
-L1- 16+92 TO 17+30 LT.



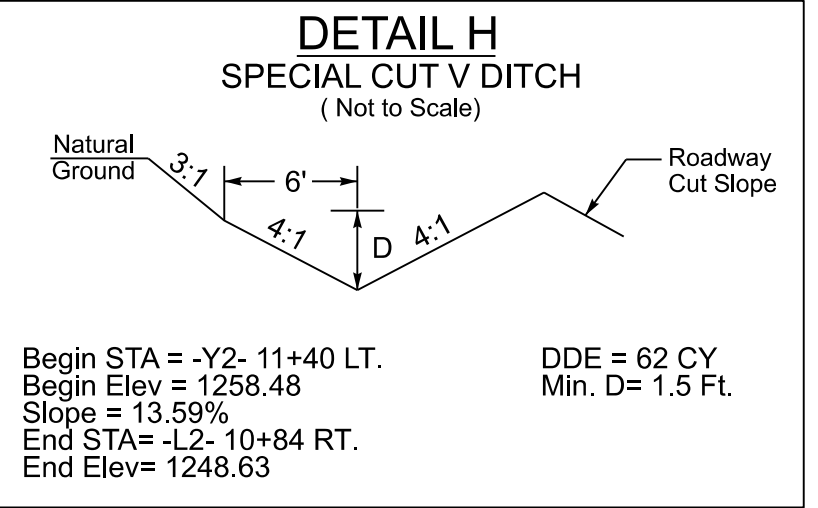
Begin STA = -L1- 17+30 LT.
Begin Elev = 1247.50
Slope = 1.88%
VPI STA = -RAB- 10+56 RT.
VPI Elev = 1249.30
Slope = 9.00%
End STA = -Y1- 16+10 RT.
End Elev = 1256.49

DDE = 42 CY*
Min. D = 1.5 Ft.

*LIMITS OF DDE: -Y1- 16+10 TO 16+90 RT

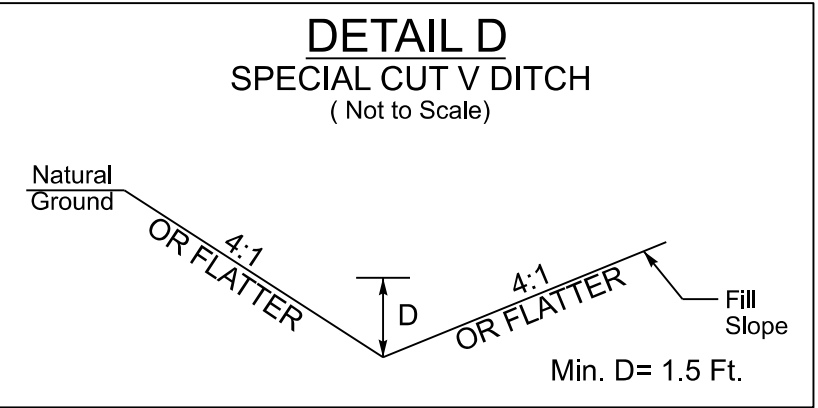


FROM STA. TO STA.
-L1- 15+45 TO 17+18 RT.
-L2- 14+66 TO 19+95 RT.

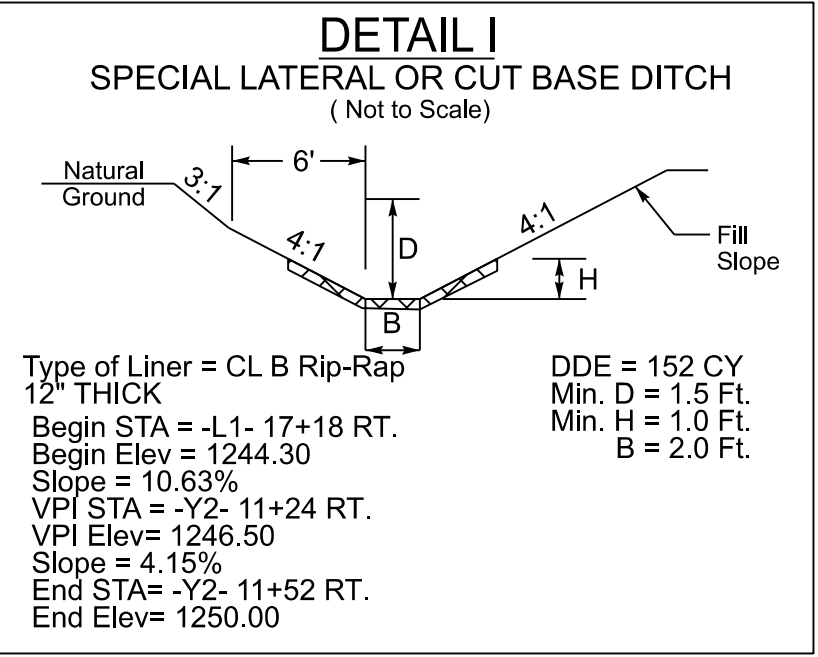


Begin STA = -Y2- 11+40 LT.
Begin Elev = 1258.48
Slope = 13.59%
End STA = -L2- 10+84 RT.
End Elev = 1248.63

DDE = 62 CY
Min. D = 1.5 Ft.

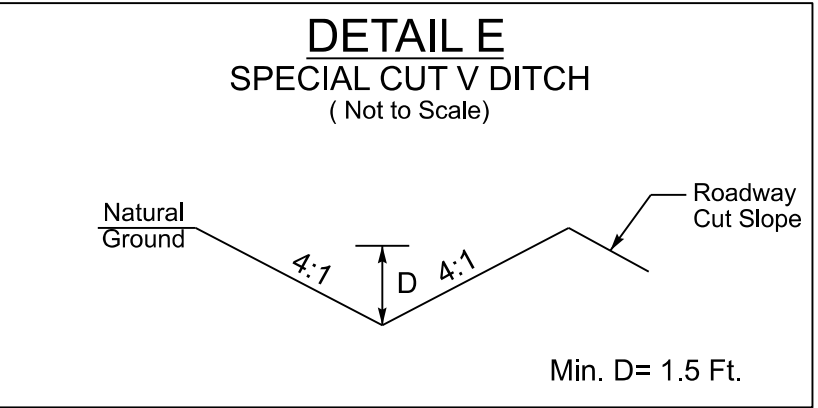


FROM STA. TO STA.
-Y1- 13+95 TO 14+67 LT.
-Y1- 13+30 TO 13+94 RT.
-Y2- 13+61 TO 16+35 RT.
-Y2- 16+60 TO 18+14 RT.

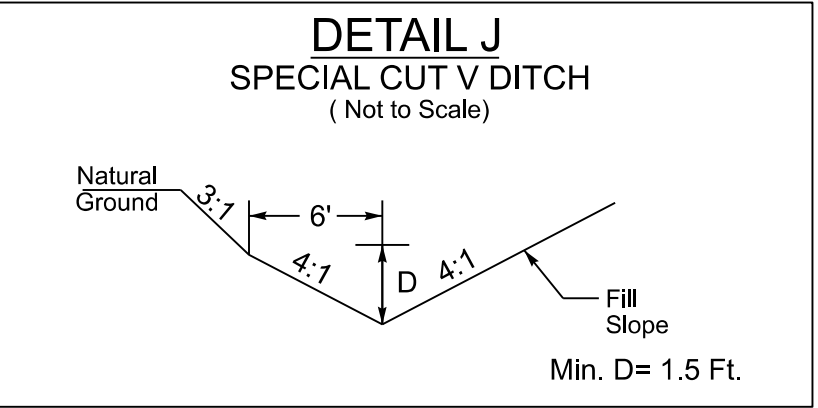


Type of Liner = CL B Rip-Rap
12" THICK
Begin STA = -L1- 17+18 RT.
Begin Elev = 1244.30
Slope = 10.63%
VPI STA = -Y2- 11+24 RT.
VPI Elev = 1246.50
Slope = 4.15%
End STA = -Y2- 11+52 RT.
End Elev = 1250.00

DDE = 152 CY
Min. D = 1.5 Ft.
Min. H = 1.0 Ft.
B = 2.0 Ft.



FROM STA. TO STA.
-Y1- 15+75 TO 16+10 RT. (DDE = 4 CY)
-Y2- 11+06 TO 11+40 LT. (DDE = 4 CY)
-Y2- 13+02 TO 13+61 RT. (DDE = 22 CY)



FROM STA. TO STA.
-L2- 10+84 TO 14+66 RT.

R-5901

FINAL20-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT

HYDRAULICS DESIGN
ENGINEER

7/11/2023

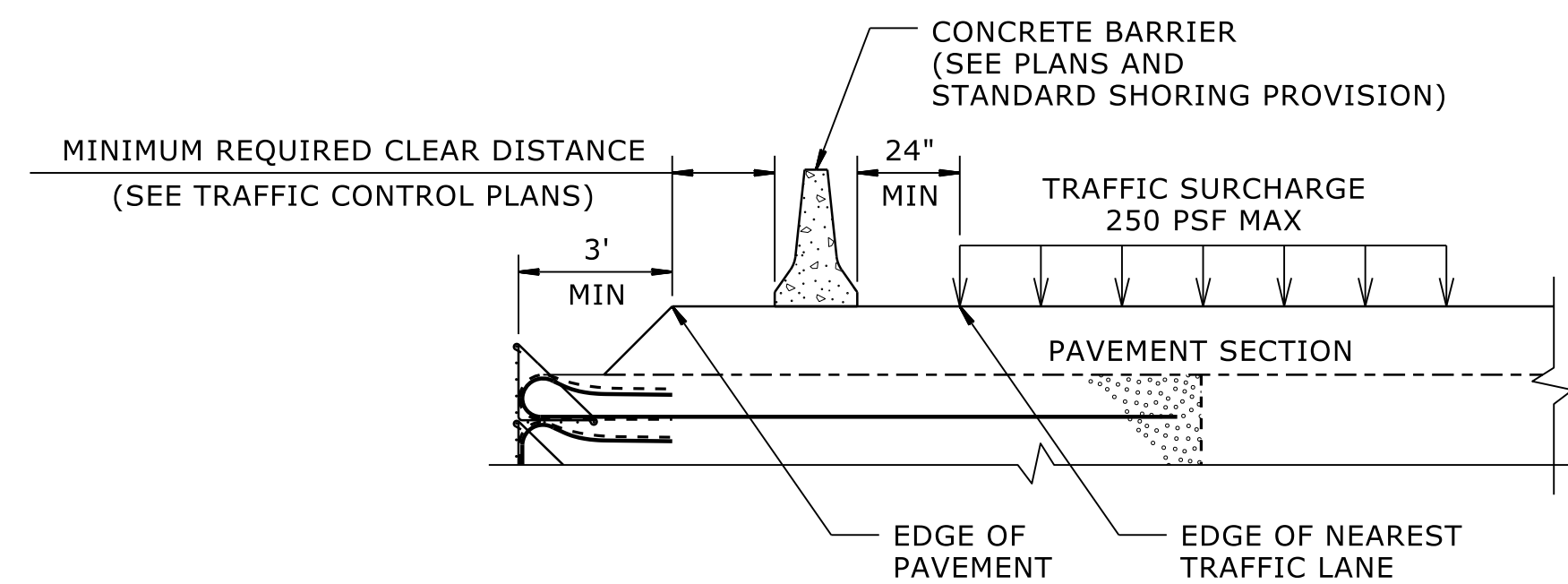
SEAL
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ENGINEER
JOHN MCNULTY
SINCE 2018

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UNLESS ALL SIGNATURES COMPLETED

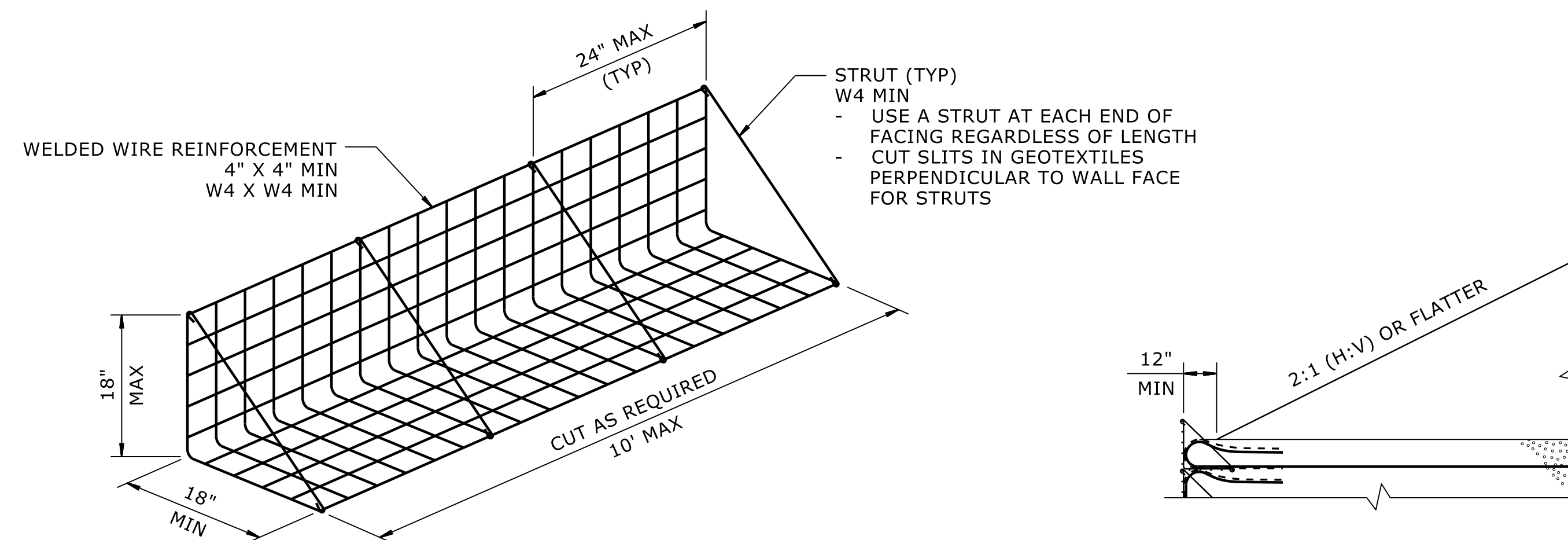
PREPARED BY

KISINGER CAMPO
& ASSOCIATES
NC FIRM LICENSE No: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919) 882-7839

REVISIONS

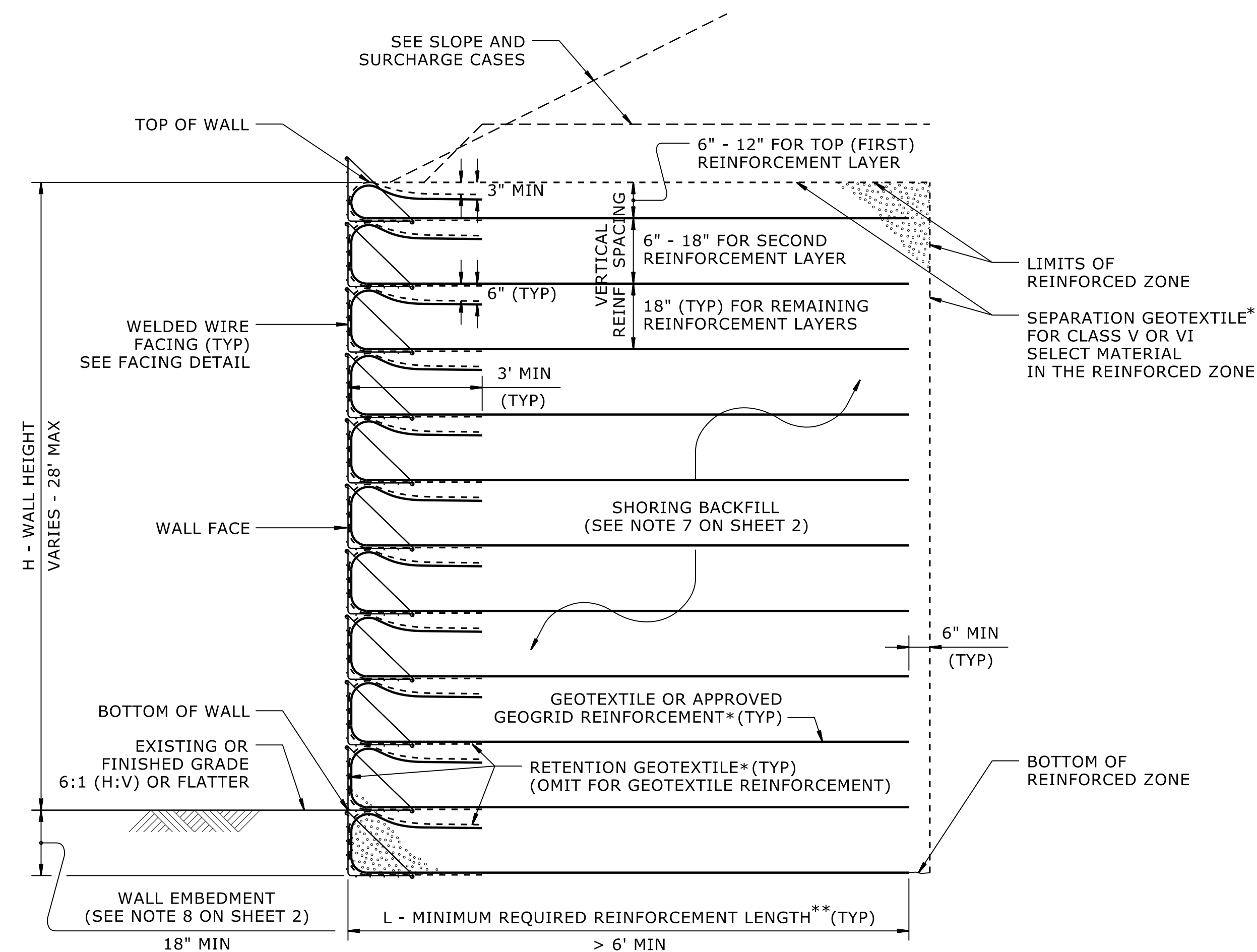


SURCHARGE CASE



FACING DETAIL

SLOPE CASE

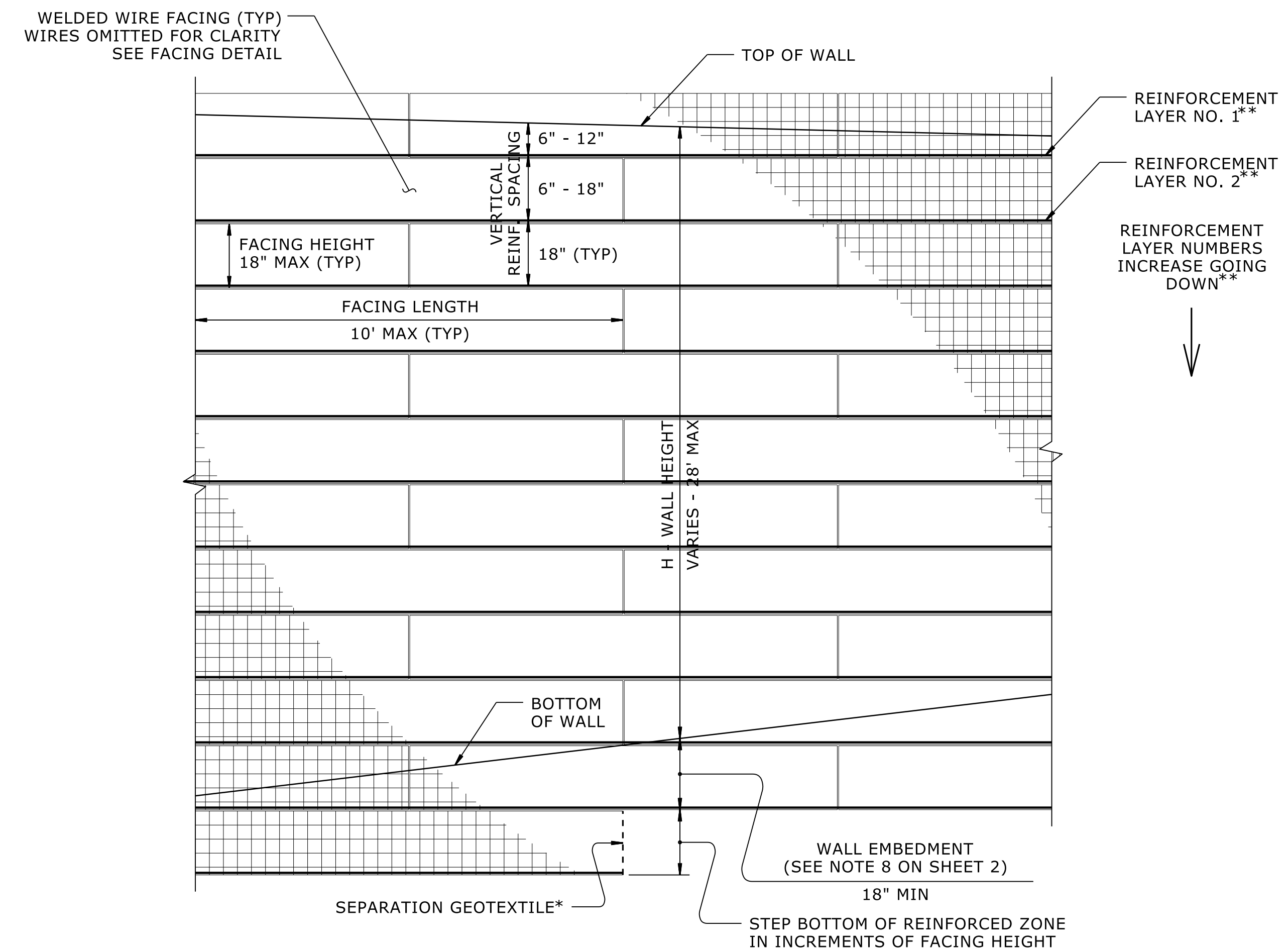


STANDARD TEMPORARY WALL

(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

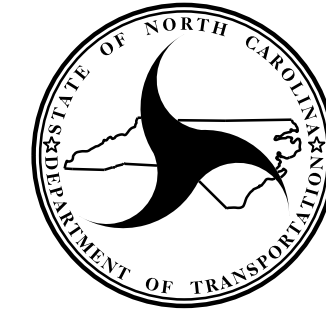
*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.

**SEE REINFORCEMENT TABLES ON SHEET 3.

R-5901

2G-1 -

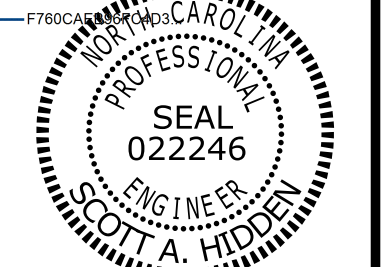
NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



GEOTECHNICAL
ENGINEERING UNIT

GEOTECHNICAL
ENGINEER

Scott A. Hildebrand, P.E.
02/2025

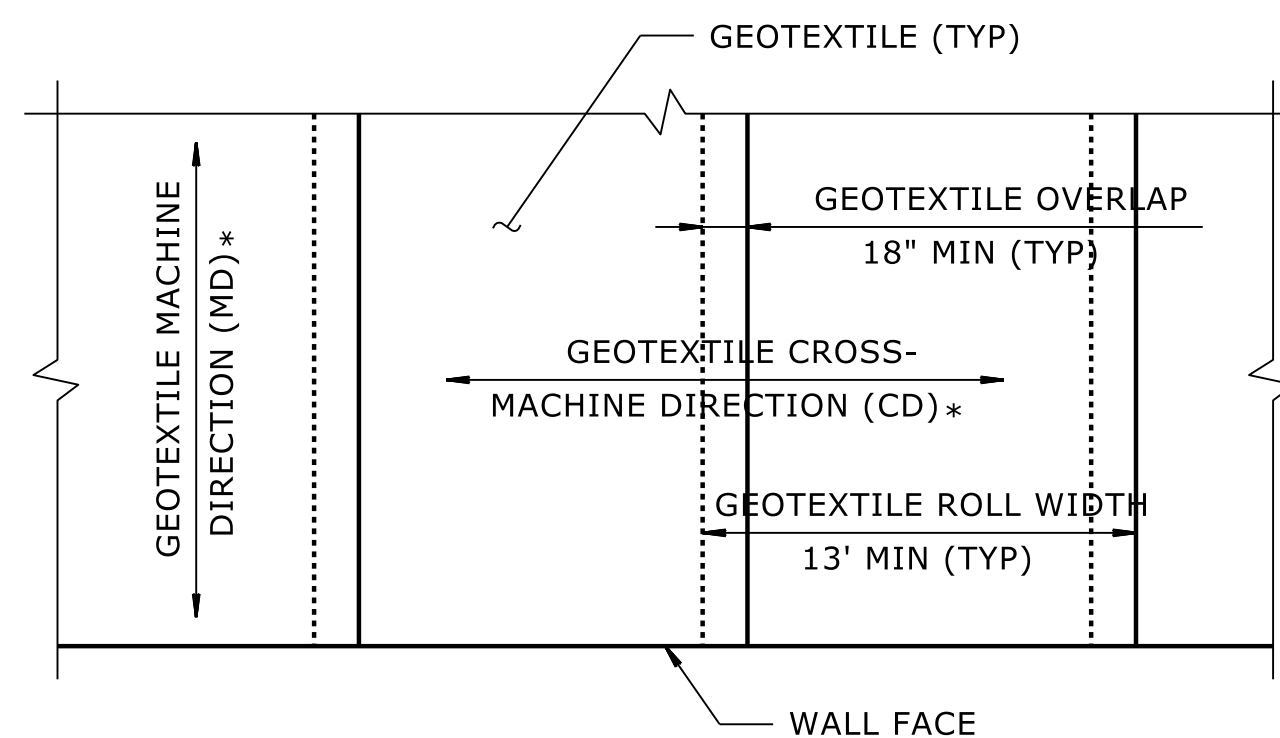


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

STANDARD
DETAIL NO. 1801.02

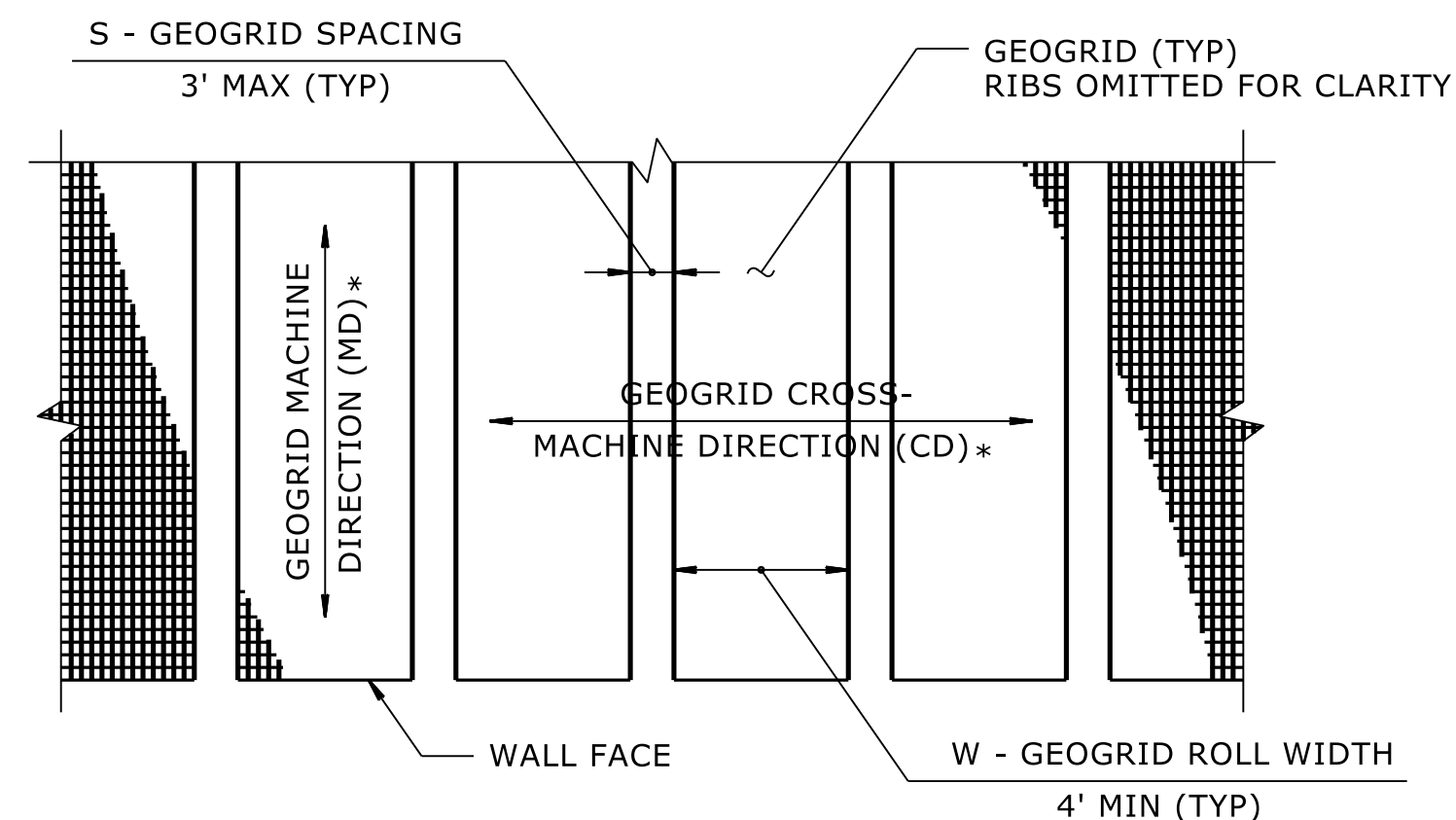
GEOTECHNICAL STANDARD DETAIL FOR

TEMPORARY WALL (SHEET 1 OF 3)



GEOTEXTILE PLACEMENT

(100% COVERAGE MIN FOR
GEOTEXTILE REINFORCEMENT)

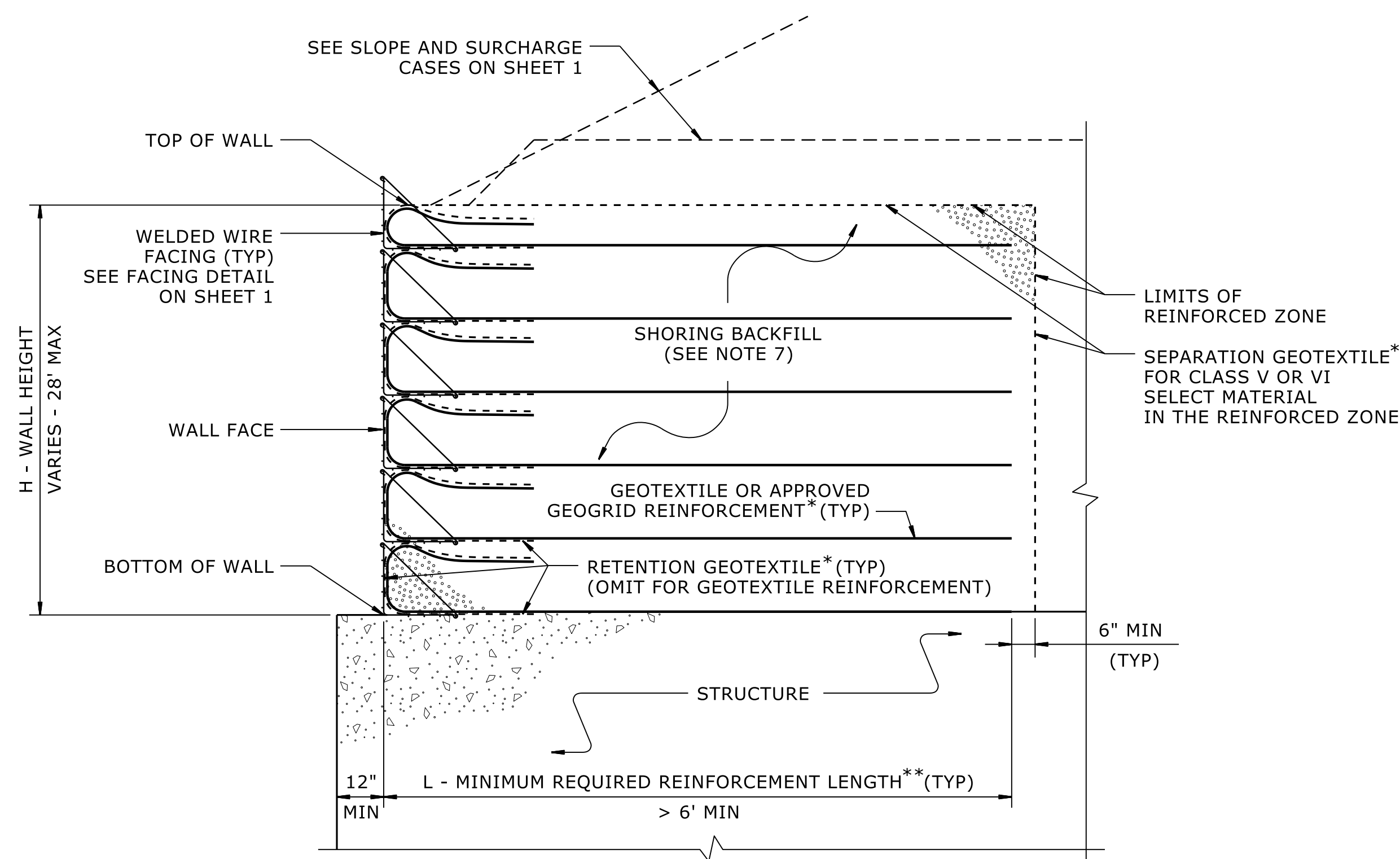


GEOGRID PLACEMENT

(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.

SLOPE OR SURCHARGE CASE	GROUNDWATER DEPTH BELOW BOTTOM OF REINFORCED ZONE (SEE NOTE 6 ON SHEET 2) (FT)	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)	H - WALL HEIGHT (FT)																											
			< 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
SLOPE CASE	> 0	CLASS II, TYPE 1, CLASS III, CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	8	9	11	12	13	13	14	15	16	17	18	19	20	21	22	23	24	24	25	26	27	27			
SURCHARGE CASE	> 0 TO 7 FOR H < 20' > 0 TO 10 FOR H > 20'	ALL SHORING BACKFILL TYPES	6	7	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	17	17	18	19	19	20	21	22			
	> 7 FOR H < 20' > 10 FOR H > 20'	A-2-4 SOIL	6	6	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	16	17	18	18	19	20	20	21			
		CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	6	6	7	7	8	8	9	10	10	11	11	12	12	13	14	15	15	16	16	17	17	18	18	19	20			
		CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	7	7	8	8	9	9	10	10	11	12	13	13	14	14	15	15	16	17	17	18	19	19			

L - MINIMUM REQUIRED REINFORCEMENT LENGTH (FT)
(FOR ALL REINFORCEMENT TYPES)

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 SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL
1	2400	2400	2400	2400	2400
2	2400	2400	2400	2400	2400
3	2400	2400	2400	2400	2400
4	2400	2400	2500	2400	2400
5	2500	2400	3000	2400	2400
6	3000	2400	3500	2800	2400
7	3500	2700	4000	3200	2600
8	4000	3100	4500	3600	2900
9	4500	3500	5000	4000	3200
10	5000	3900	5500	4400	3500
11	5500	4300	6000	4800	3800
12	6000	4700	6500	5200	4100
13	6500	5100	7000	5600	4400
14	7000	5400	7500	6000	4700
15	7500	5800	8000	6400	5000
16	8000	6200	8500	6800	5300
17	8500	6600	9000	7200	5600
18	9000	7000	9500	7600	5900
19	9500	7400	10000	8000	6200
20	10000	7800	10500	8400	6500

GEOTEXTILE REINFORCEMENT
ULTIMATE TENSILE STRENGTH (LB/FT)

MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD

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

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

GEOGRID REINFORCEMENT
SHORT-TERM DESIGN STRENGTH (LB/FT)

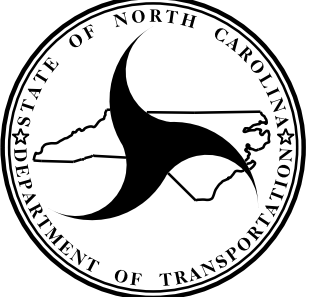
(SEE NOTE 10 ON SHEET 2.)

R-5901

2G-3

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION



GEOTECHNICAL ENGINEERING UNIT

GEOTECHNICAL ENGINEER

DocuSigned by



2025



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STANDARD
DETAIL NO. 1801.02

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

SUMMARY OF EARTHWORK
IN CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
Phase 1					
-EL1- 10+00 (L Temp)	-EL1- 22+06.61	1681	1155	0	526
-Y2-DET1- 10+67.19	-Y2-DET1- 19+69.82	987	398	0	589
	SUBTOTAL	2668	1553	0	1115
Phase 2					
-Y2-DET2- 10+21.49	-Y2-DET2- 14+93.42	1459	810	0	649
-L1- 12+00.00 (LT)	-L1- 17+97.96 (LT)	2948	813	0	2135
-L2- 10+80.18 (LT)	-L2- 20+10.00 (LT)	754	926	172	0
-RAB- 10+00.00	-RAB- 11+13.08	127	535	408	0
-RAB- 13+02.92	-RAB- 13+89.55	259	216	0	43
-Y1- 14+60.00	-Y1- 16+81.56	3619	0	0	3619
-Y2- 11+75.00	-Y2- 18+15.00	4063	67	0	3996
-DRW1- 10+12.00	-DRW1- 11+60.00	131	70	0	61
-DRW2- 10+12.00	-DRW2- 11+31.50	119	100	0	19
-DRW3- 10+17.72	-DRW3- 10+74.85	142	1	0	141
-DRW5- 10+13.28	-DRW5- 10+75.00	206	2	0	204
	SUBTOTAL	13827	3540	580	10867
Phase 3					
-L1- 10+38 (RT)	-L1- 17+97.96 (RT)	600	1194	594	0
-L2- 10+80.18 (RT)	-L2- 20+10.00 (RT)	2198	1264	0	934
-RAB- 11+13.08	-RAB- 13+02.92	132	1462	1330	0
-Y1- 12+30.00	-Y1- 14+60.00	455	70	0	385
-Y2- 10+80.02	-Y2- 11+75.00	1250	140	0	1110
-DRW4- 10+13.73	-DRW4- 10+95.00	506	3	0	503
-DRW6- 10+00.00	-DRW6- 10+43.34	63	0	0	63
	SUBTOTAL	5204	4133	1924	2995
Phase 4					
-Y2-	Detour Removal	1254	38	0	1216
	SUBTOTAL	1254	38	0	1216
PROJECT TOTALS:		22953	9264	2504	16193
Waste in Lieu of Borrow				-2504	-2504
GRAND TOTALS:		22953	9264	0	13689
SAY:		23000			

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

Note: Earthwork quantities are calculated by the Roadway Designer utilizing named boundaries in ORD. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

EST. DDE = 310 CUBIC YARDS
SHOULDER BORROW = 280 CUBIC YARDS
EST. SHALLOW UNDERCUT = 200 CY (PER GEOTECH RECOMMENDATION)
EST. UNDERCUT FOR SUBGRADE STABILITY = 200 CY (PER GEOTECH RECOMMENDATION)
EST. GRADE POINT UNDERCUT = 50 CY (PER GEOTECH RECOMMENDATION)
CLASS IV SUBGRADE STABILIZATION = 400 TONS (PER GEOTECH RECOMMENDATION)
PER GEOTECH RECOMMENDATION, EST. 200 CY OF UNDERCUT TO BE USED IN THE DISCRETION OF THE RESIDENT ENGINEER

PAVEMENT REMOVAL SUMMARY
IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L1-	15+40	18+78	LT/RT	2106.86			
-L2-	10+00	10+80	LT/RT	433.67			
-Y1-	13+50	15+56	LT/RT	449.56			
-Y1-	15+56	14+14	RT	530.23			
-Y2-	10+73	13+06	RT	960.15			
-Y2-	13+06	17+00	LT/RT	995.20			
Removal of Temporary Pavement							
-L1-	10+00	12+42	LT	86.22			
-L1-	10+38	16+75	RT	1611.5			
-L1-	15+27	16+17	LT	44.73			
-L2-	10+00	13+31	RT	532.52			
-L2-	10+72	13+18	LT	333.02			
-L2-	12+04	13+20	LT	109.43			
-L2-	13+31	14+85	RT	333.52			
-L2-	14+22	16+03	RT	130.21			
-Y2_DET1-	10+28	19+02	LT/RT	2667.92			
-Y2_DET2-	10+22	14+93	LT/RT	1464.71			
-RAB-	13+03	11+13	LT	650.06			
TOTAL:				13439.51			
SAY:				13440			

WOVEN WIRE FENCE SUMMARY

STATION	STATION	LT. OR RT.	FABRIC L.F.	4" POSTS (EA)	5" POSTS (EA)
-Y1- 15+10	-L2- 18+75	LT.	967.21	62	13
-L2- 19+55	-L2- 24+05	LT.	464.47	29	8
-Y2- 13+80	-L2- 13+57.19	LT/RT	556.55	36	7
-L2- 14+19.27	-L2- 18+75.67	RT.	467.81	27	11
TOTAL			2456.04	154	39
SAY			2460	155	39

2'-6" CURB AND GUTTER SUMMARY

LINE	Station	Station	LENGTH (FT.)
-L1- (LT)	15+25.00	16+30.00	126.56
-L1- (RT)	15+45.41	18+02.03	267.22
-L1- (LT)	16+70.00	18+08.26	166.91
-L2- (LT)	10+33.09	11+56.50	127.7
-L2- (RT)	10+69.09	13+64.28	318.49
-Y1- (RT)	14+28.50	17+17.33	313.14
-Y1- (LT)	15+00.13	16+80.25	192.28
-Y2- (LT)	10+37.39	13+85.65	353.8
-Y2- (RT)	10+87.31	13+50.00	272.14
-DRW4- (LT)	10+19.22	10+95.00	94.29
-DRW4- (RT)	10+13.20	10+95.00	110.62
TOTAL:			2343.15
SAY:			2350

1'-6" CURB AND GUTTER SUMMARY

LINE	Station	Station	LENGTH (FT.)
-L2- (LT)	10+81.80	20+08.52	935
-L2- (RT)	10+83.30	20+08.52	929
TOTAL:			1864
SAY:			1870

EXPRESSWAY GUTTER SUMMARY

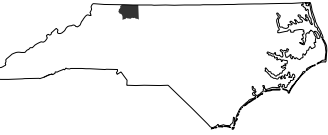
LINE	Station	Station	LENGTH (FT.)
-RAB-	10+00.00	13+89.56	389.56
TOTAL:			389.56
SAY:			390

REVISIONS

FINAL

38-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY



ROADWAY DESIGN UNIT

PREPARED BY

KCA

KISINGER CAMPO & ASSOCIATES

NC FIRM LICENSE No: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919)882-7839

COMPUTED BY: <u>ABG</u>	DATE: <u>07/2025</u>
CHECKED BY: <u>REO</u>	DATE: <u>07/2025</u>

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

GUARDRAIL SUMMARY

"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

[illegible]

COMPUTED BY:	<u>JMD</u>	DATE:	<u>06/2025</u>
CHECKED BY:	<u>ABG</u>	DATE:	<u>06/2025</u>

TEMPORARY GUARDRAIL SUMMARY

"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

[illegible]

R-5901

FINAL	3B-2
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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY



ROADWAY DESIGN UNIT

PREPARED BY

KCA

**KISINGER CAMPO
& ASSOCIATES**

NC FIRM LICENSE NO: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919) 882-7839

REVISIONS

[illegible]

[illegible]

[illegible]

REVISIONS

COMPUTED BY: Eddie Beverly	DATE: 3/27/24		
CHECKED BY: Shane Clark	DATE: 3/27/24		

(2-3-23)

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
R-5901	3G-1

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
-RAB-	10+00.00	13+89.56	LT	SD	260
CONTINGENCY				SD	200
				TOTAL LF:	460

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

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU(1)	12	200	400	600		
TOTAL CY/TONS/SY:					200	400**	600**	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.

R-5901

FINAL3G-1

NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

SURRY COUNTY

ROADWAY DESIGN UNIT

PREPARED BY

KCA

KISINGER CAMPO
& ASSOCIATES

NC FIRM LICENSE No: C-1506

301 Fayetteville Street,
Suite 1500

Raleigh, NC 27601

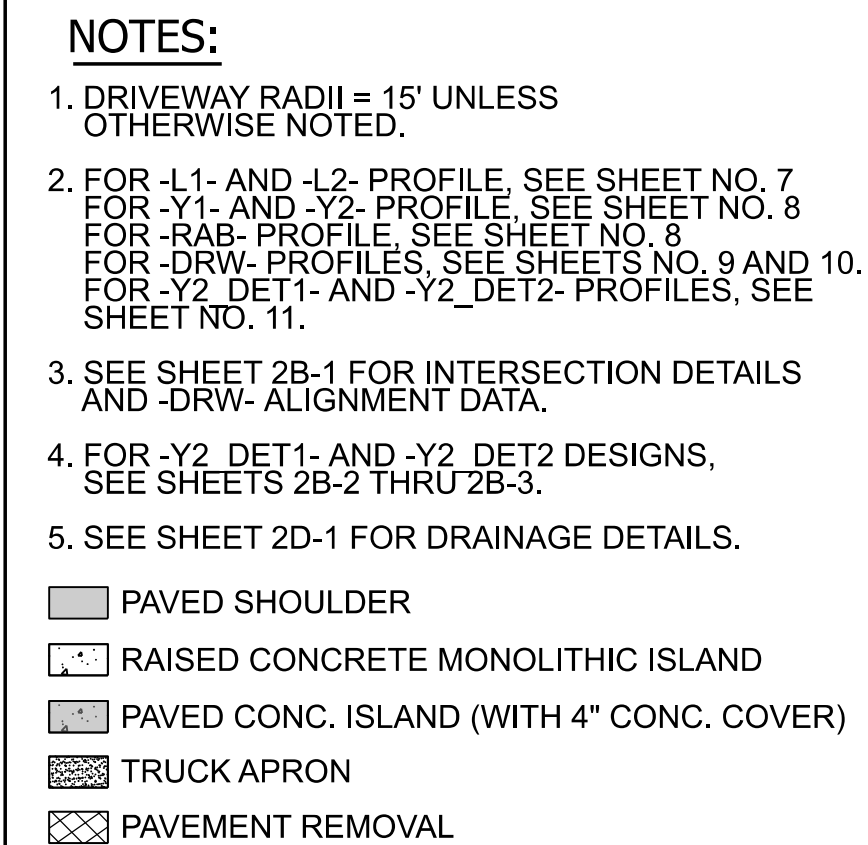
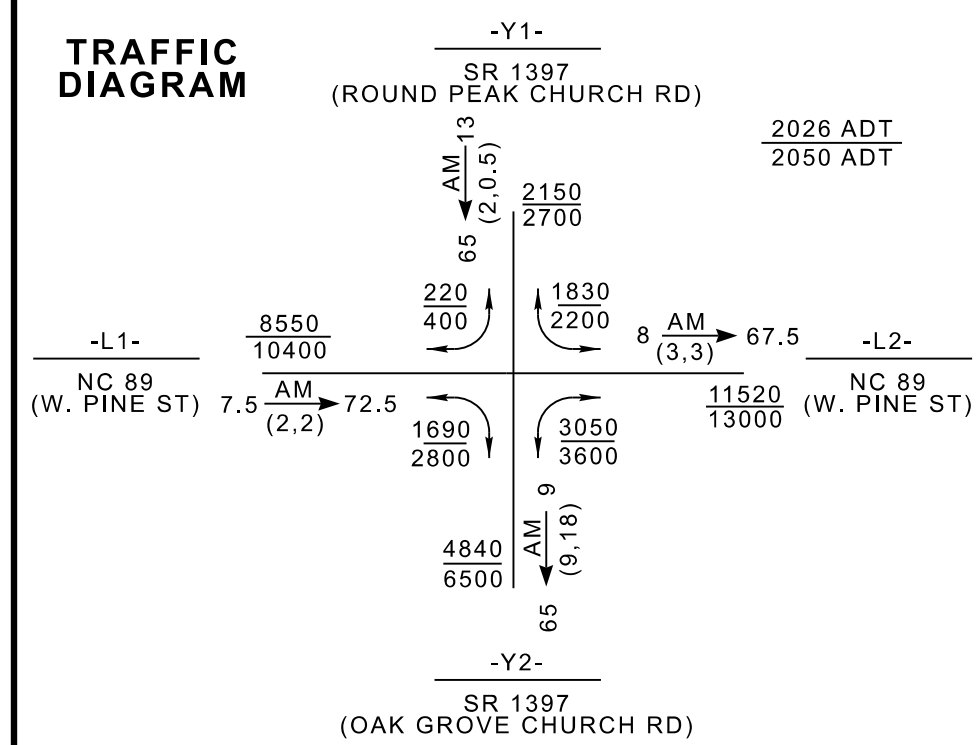
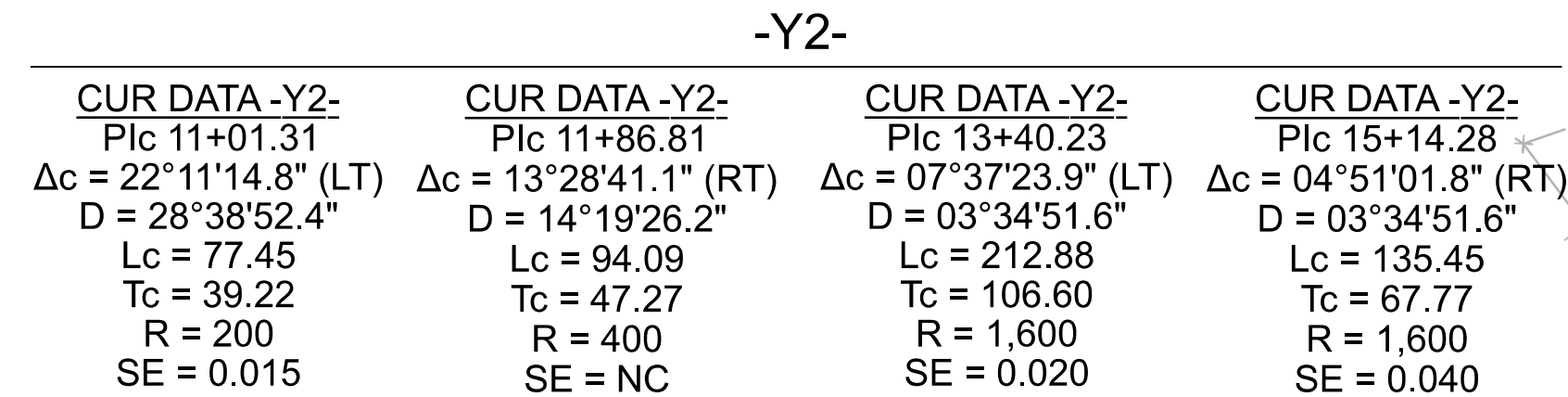
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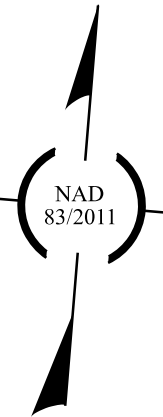
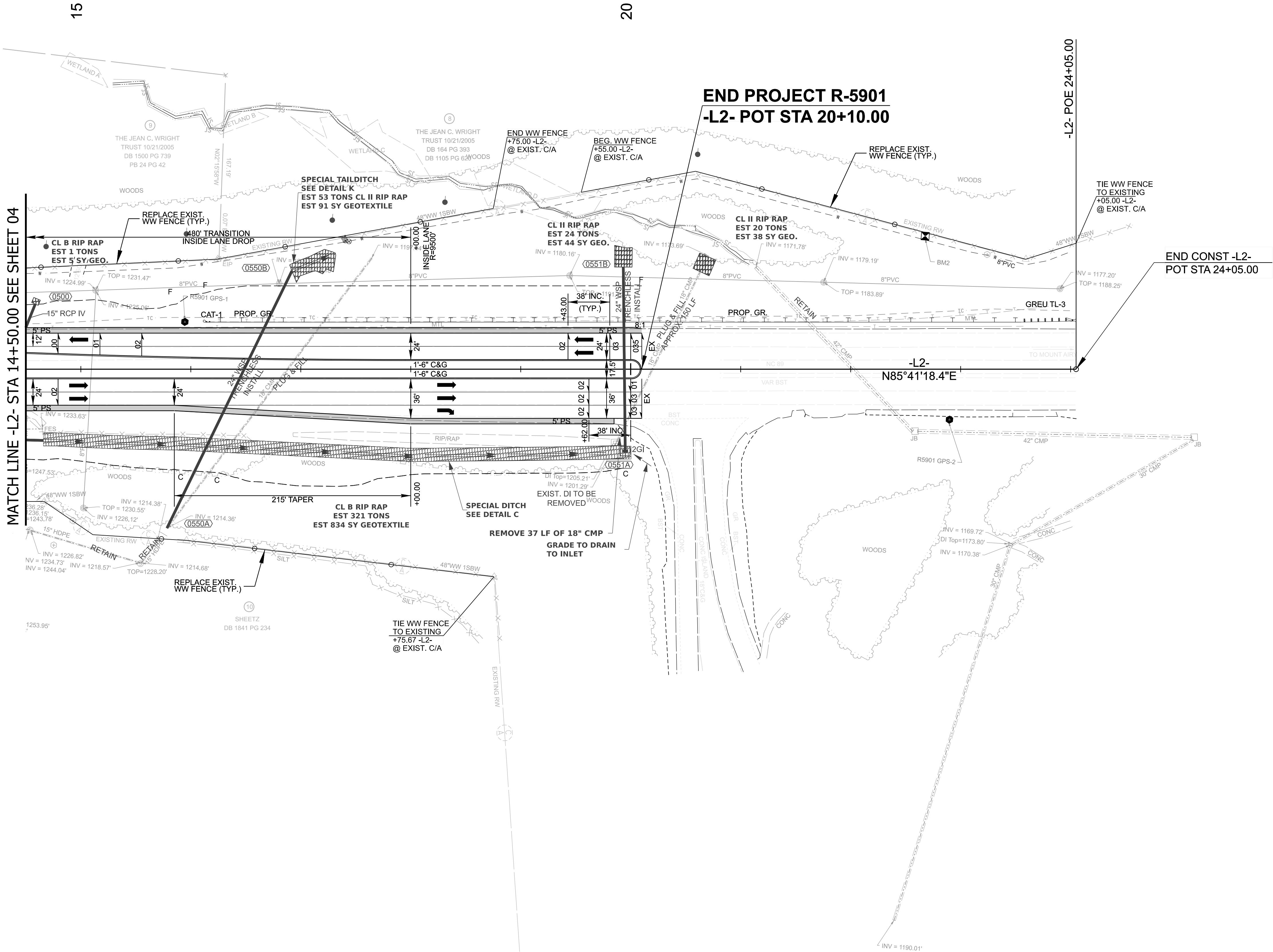
REVISIONS

PARCEL INDEX SHEET

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REVISIONS





MATCH LINE -L2- STA 14+50.00 SEE SHEET 04

END PROJECT R-5901
-L2- POT STA 20+10.00

END CONST -L2-
POT STA 24+05.00

NOTES:

- FOR -L2- PROFILE, SEE SHEET NO. 7
- SEE SHEET 2B-1 FOR INTERSECTION DETAILS.
- SEE SHEET 2D-1 FOR DRAINAGE DETAILS.

PAVED SHOULDER

REVISIONS

R-5901

FINAL05

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER
7/1/2025

SEAL
056183

ENGINEER
ANDREA B. GORDON

Signature
Andrea B. Gordon
3A7A336647154C1

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UNLESS ALL SIGNATURES COMPLETED

HYDRAULICS
ENGINEER
7/1/2025

SEAL
057747

ENGINEER
JOHN MCNUALLY

Signature
John McNully
6E81A862484F4FC

PREPARED BY
KCA
KISINGER CAMPO
& ASSOCIATES
NC FIRM LICENSE No. C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919)882-7839



CUR DATA -Y1-
Plc 11+15.71
 $\Delta c = 14^{\circ}11'05.5''$ (RT)
D = $06^{\circ}09'39.0''$
Lc = 230.24
Tc = 115.71
R = 930
SE = EXIST.



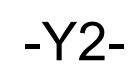
-Y1-PT 12+30.24

-Y1- POC 10+00.00

MAINTAIN EX. POSITIVE DRAINAGE

PL
@ 45.00
(RT) -Y1-

PL
@ EXIST.
R/W -Y1-

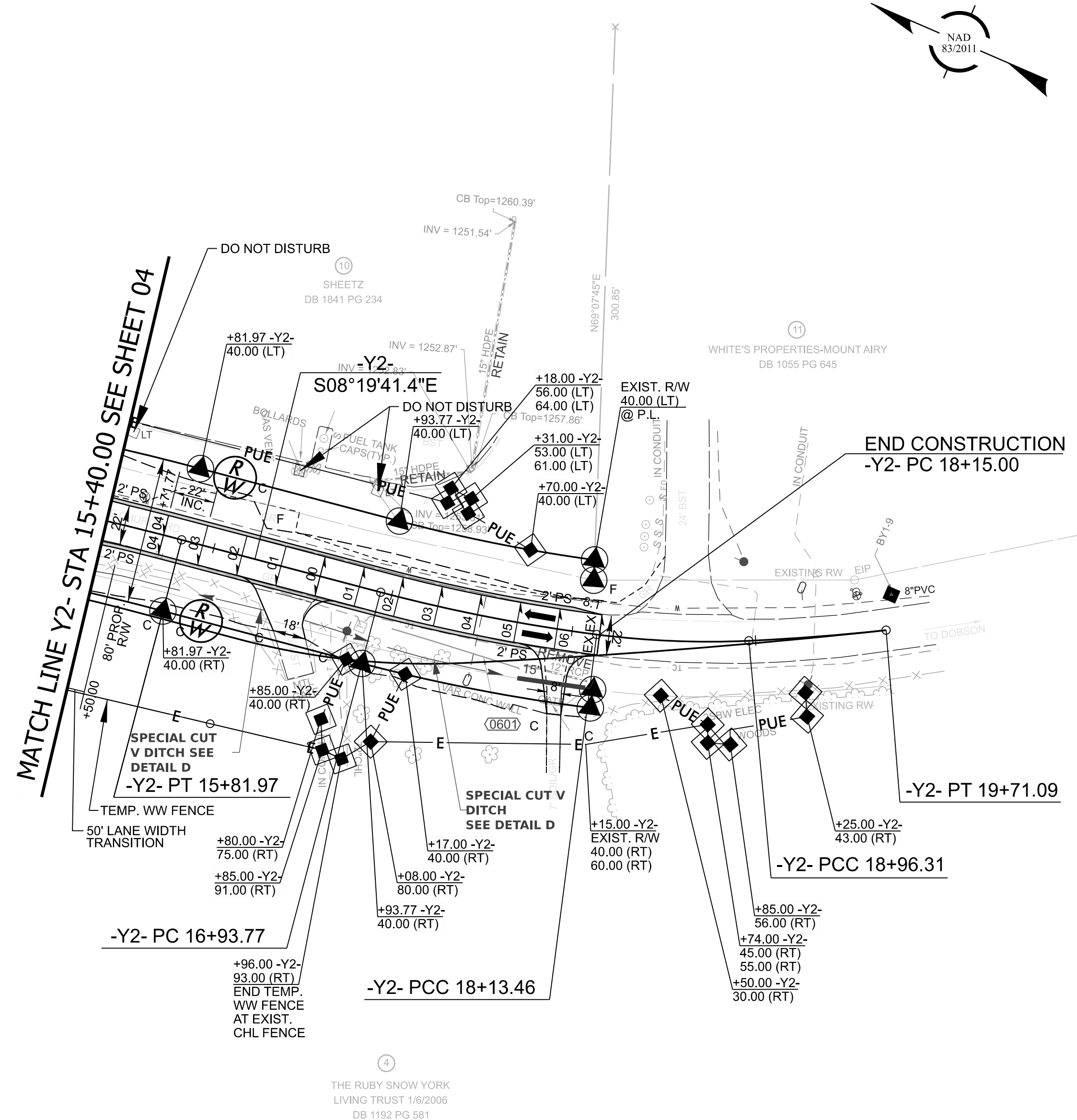


CUR DATA -Y2-
Plc 15+14.28
 $\Delta c = 04^{\circ}51'01.8''$ (RT)
D = $03^{\circ}34'51.6''$
Lc = 135.45
Tc = 67.77
R = 1,600
SE = 0.040

CUR DATA -Y2-
Plc 17+53.70
 $\Delta c = 07^{\circ}24'50.3''$ (LT)
D = $06^{\circ}11'38.9''$
Lc = 119.69
Tc = 59.93
R = 925
SE = 0.060

CUR DATA -Y2-
Plc 18+54.99
 $\Delta c = 09^{\circ}59'39.0''$ (LT)
D = $12^{\circ}03'44.2''$
Lc = 82.85
Tc = 41.53
R = 475
SE = EXIST.

CUR DATA -Y2-
Plc 19+33.72
 $\Delta c = 03^{\circ}34'13.5''$ (LT)
D = $04^{\circ}46'28.7''$
Lc = 74.78
Tc = 37.40
R = 1,200



END CONSTRUCTION
-Y2- PC 18+15.00

3+96.31

NOTES:

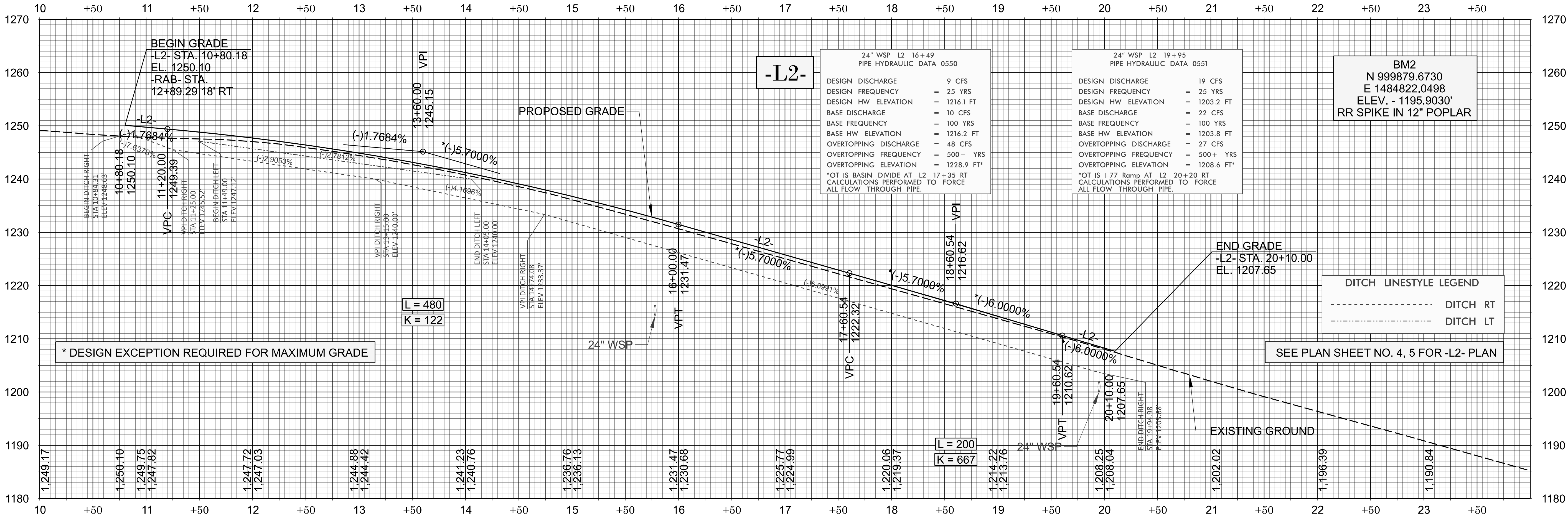
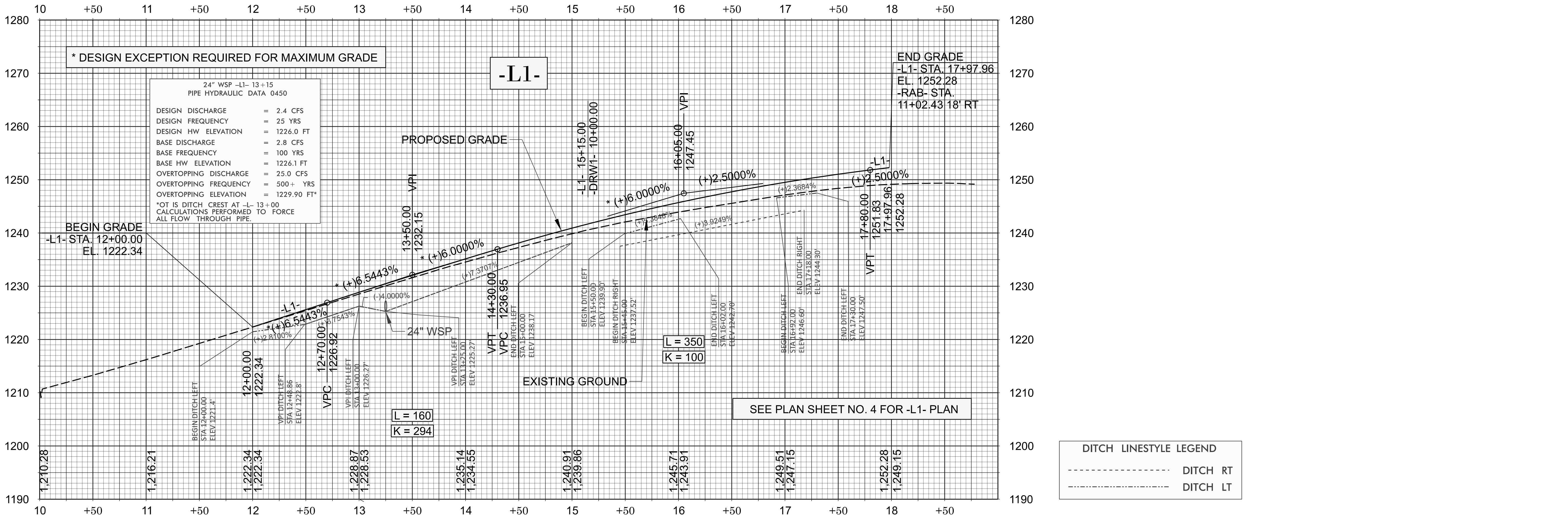
1. DRIVEWAY RADII = 15' UNLESS OTHERWISE NOTED.
2. FOR -Y1- AND -Y2- PROFILE, SEE SHEET NO. 8.
FOR -Y2_DET1- AND -Y2_DET2- PROFILES, SEE SHEET NO. 11.
3. FOR -Y2_DET1- AND -Y2_DET2- DESIGNS, SEE SHEET NO. 3B-2 THRU 3B-3.

 PAVED SHOULDER

REVISIONS

R-5901	
FINAL	06
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SURVEY COUNTY	
	
ROADWAY DESIGN UNIT	
ROADWAY DESIGN ENGINEER	
7/1/2025	
Signed _____ <i>Andrew B. Gordon</i>	
05/28/2025 09:36:27-4FC1	
NOTARIZATION NOT CONSIDERED FINAL UNLESS ALL REQUIREMENTS COMPLETED	
HYDRAULICS ENGINEER	
7/1/2025	
Signed _____ <i>John McNulty</i>	
06/11/2025 08:02:48-4FC1	
PREPARED BY	
KCA	
KISINGER CAMPO & ASSOCIATES	
NC FIRM LICENSE NO: C-1506 301 Fayetteville Street, Suite 1500 Raleigh, NC 27601 (919) 882-7839	

11/14/23



R-5901

FINAL	07
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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT
ENGINEER
7/1/2025

SEAL 056183
ANDREA B. GORDON
Professional Engineer
Signature: [Signature]

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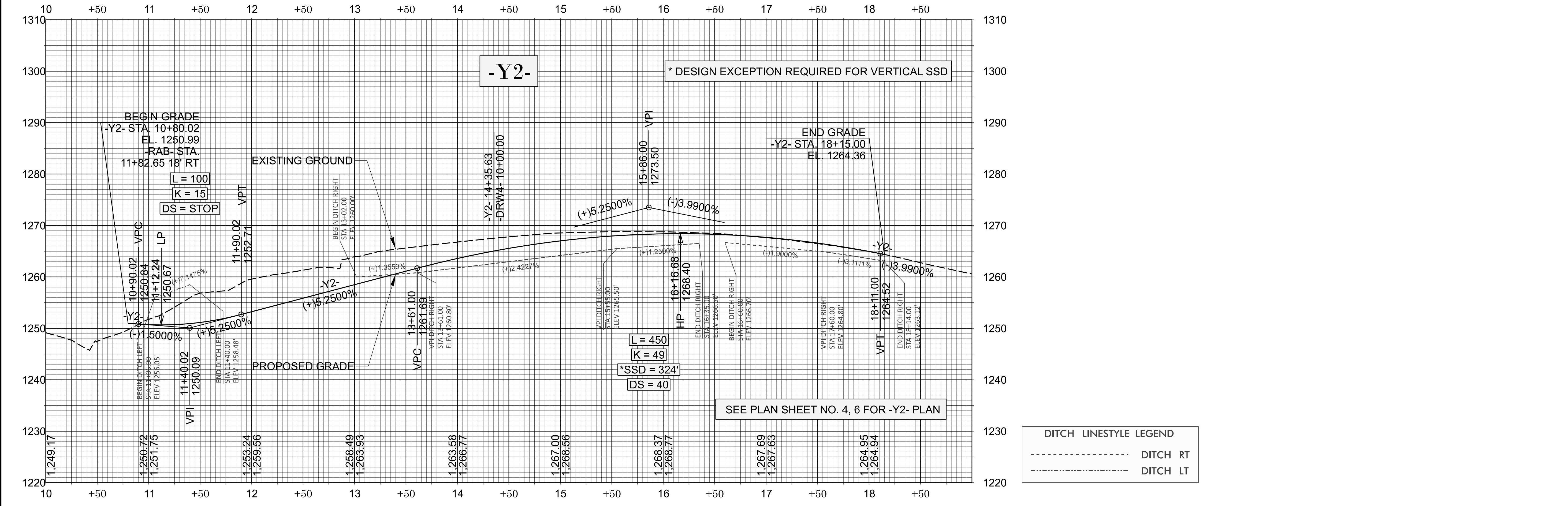
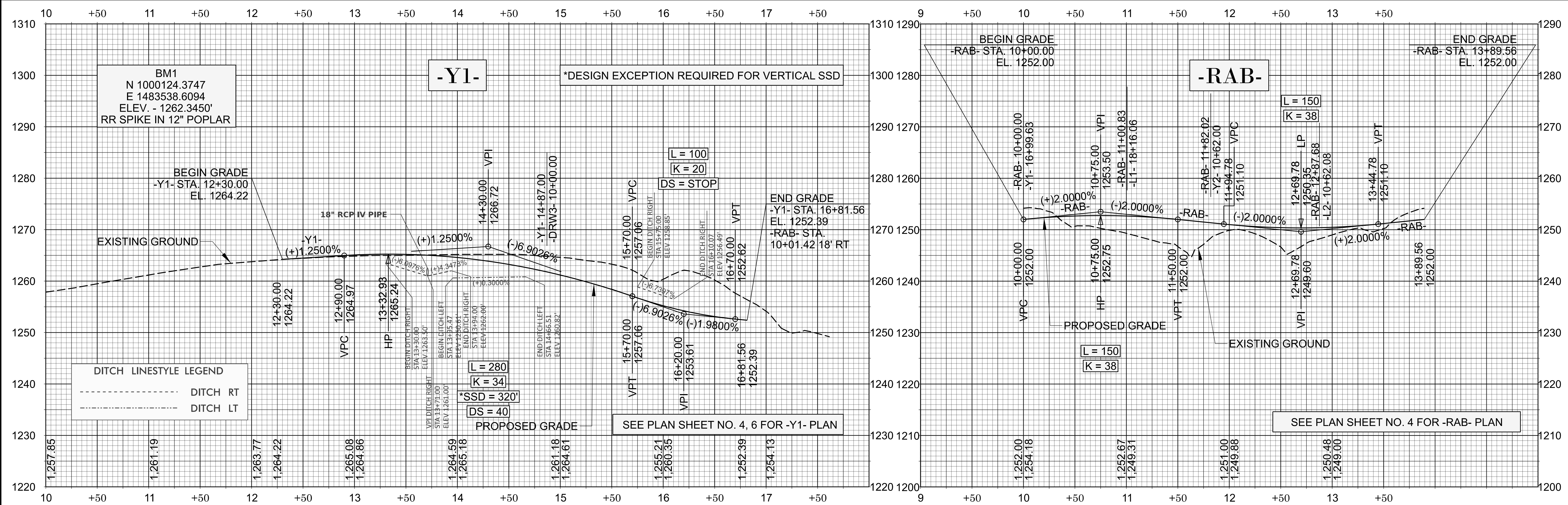
HYDRAULICS
ENGINEER
7/1/2025

SEAL 057747
JOHN MCNUALLY
Professional Engineer
Signature: [Signature]

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REVISIONS

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R-5901

FINAL	08
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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT
ENGINEER
7/1/2025

PROFESSIONAL ENGINEER
SEAL 056183
ANDREA B. GORDON

Signed: *Andrea B. Gordon*
3A7A336647152C1

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HYDRAULICS
ENGINEER
7/1/2025

PROFESSIONAL ENGINEER
SEAL 057747
JOHN MCNUALLY

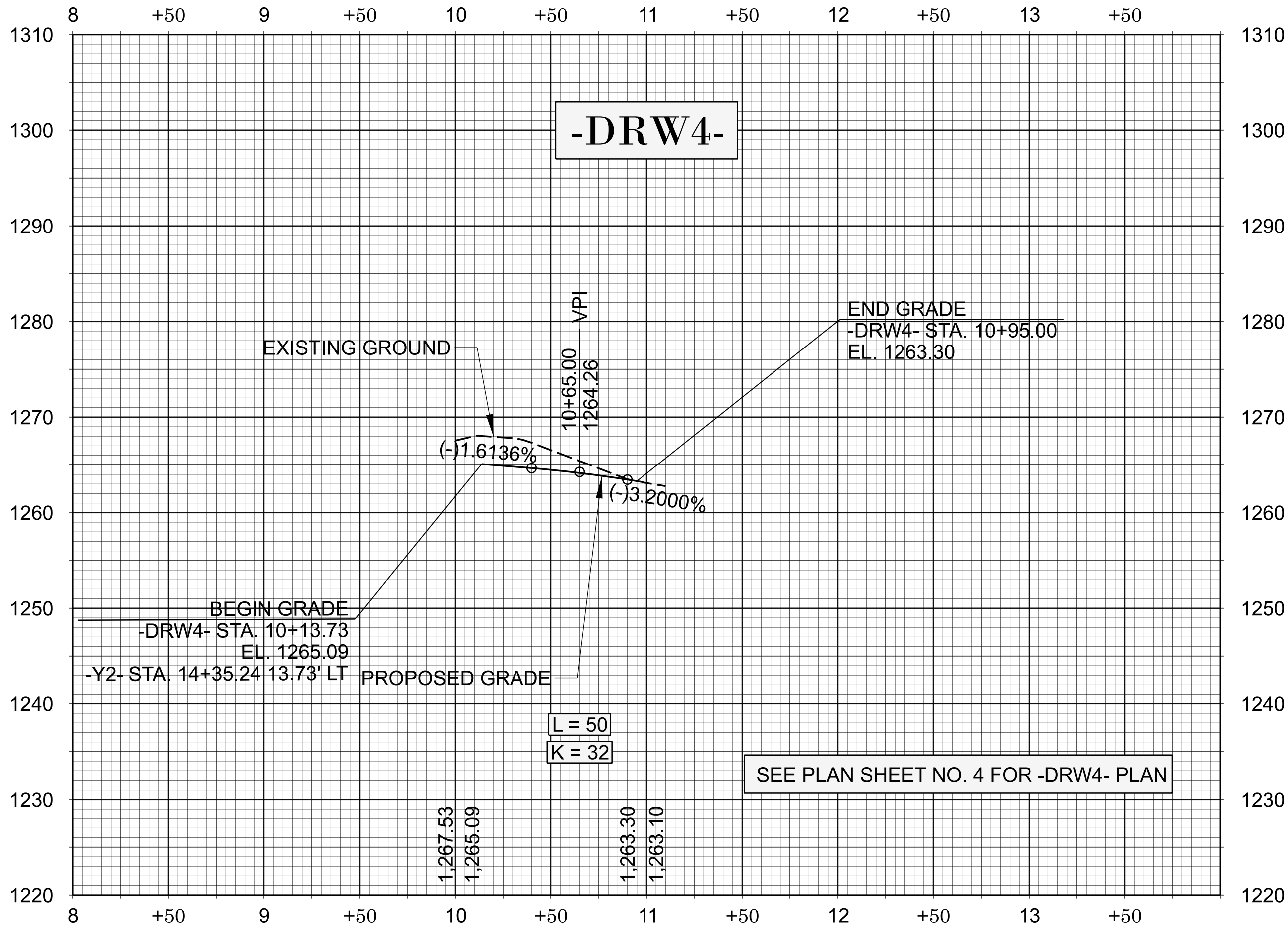
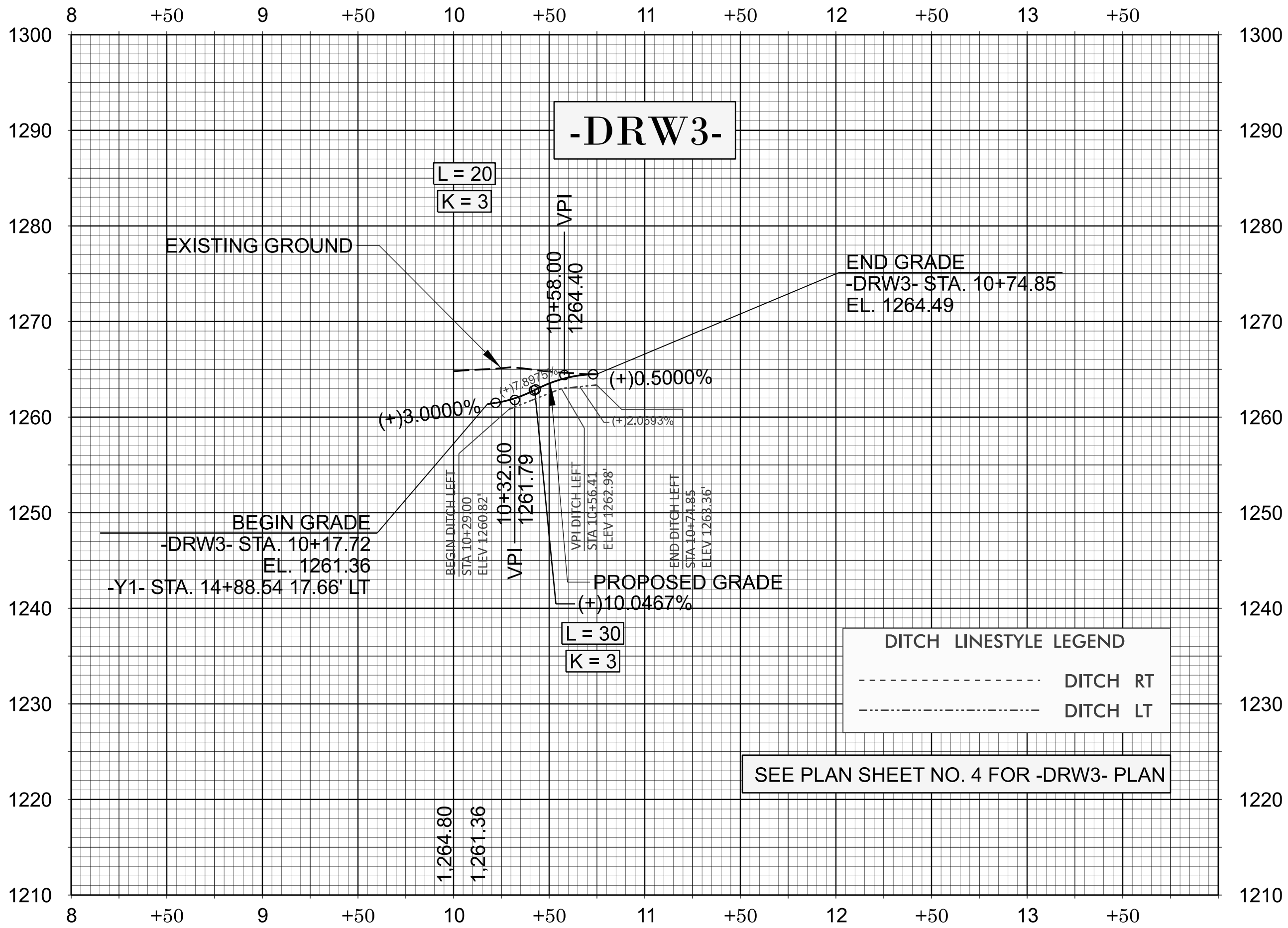
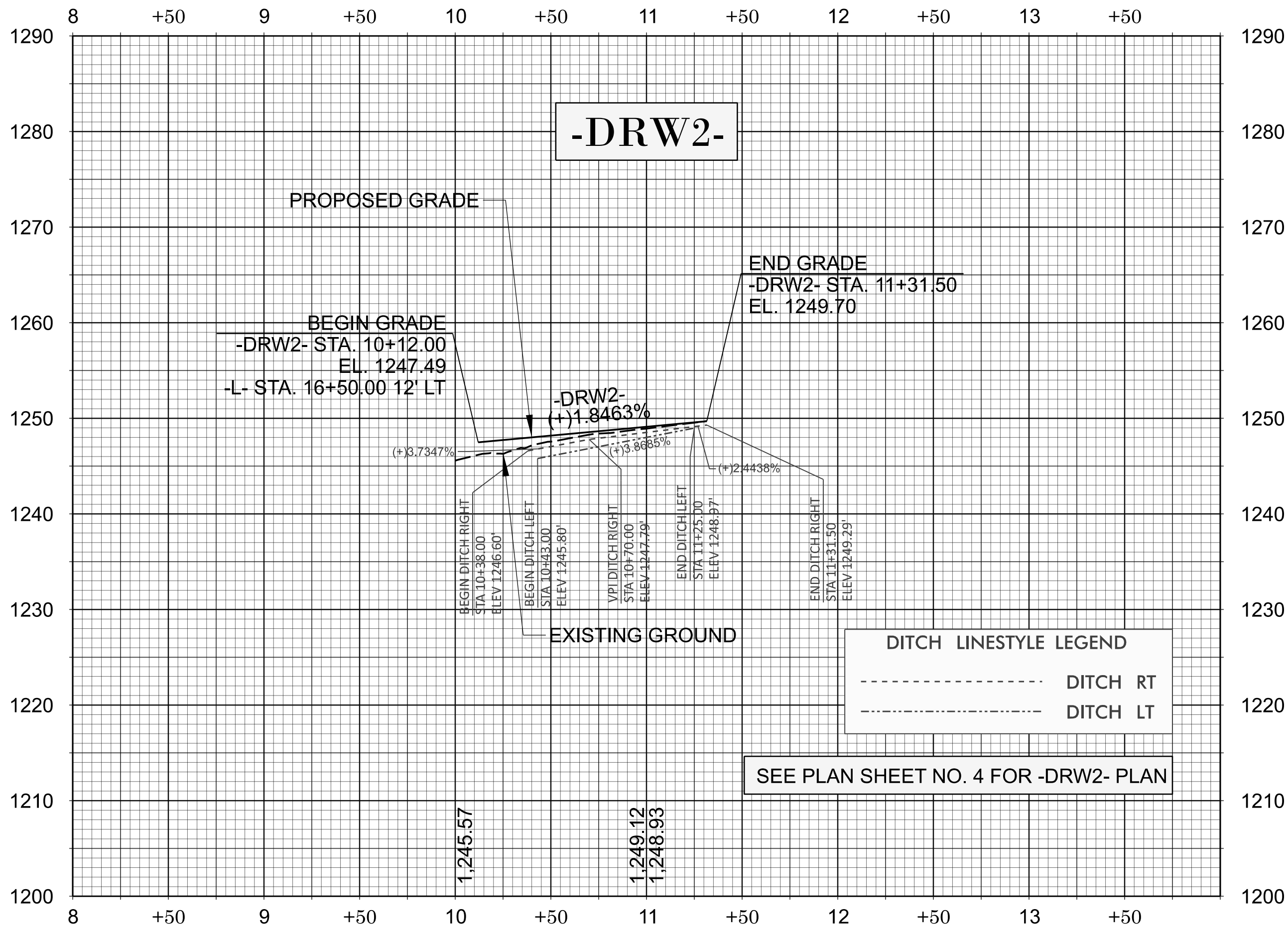
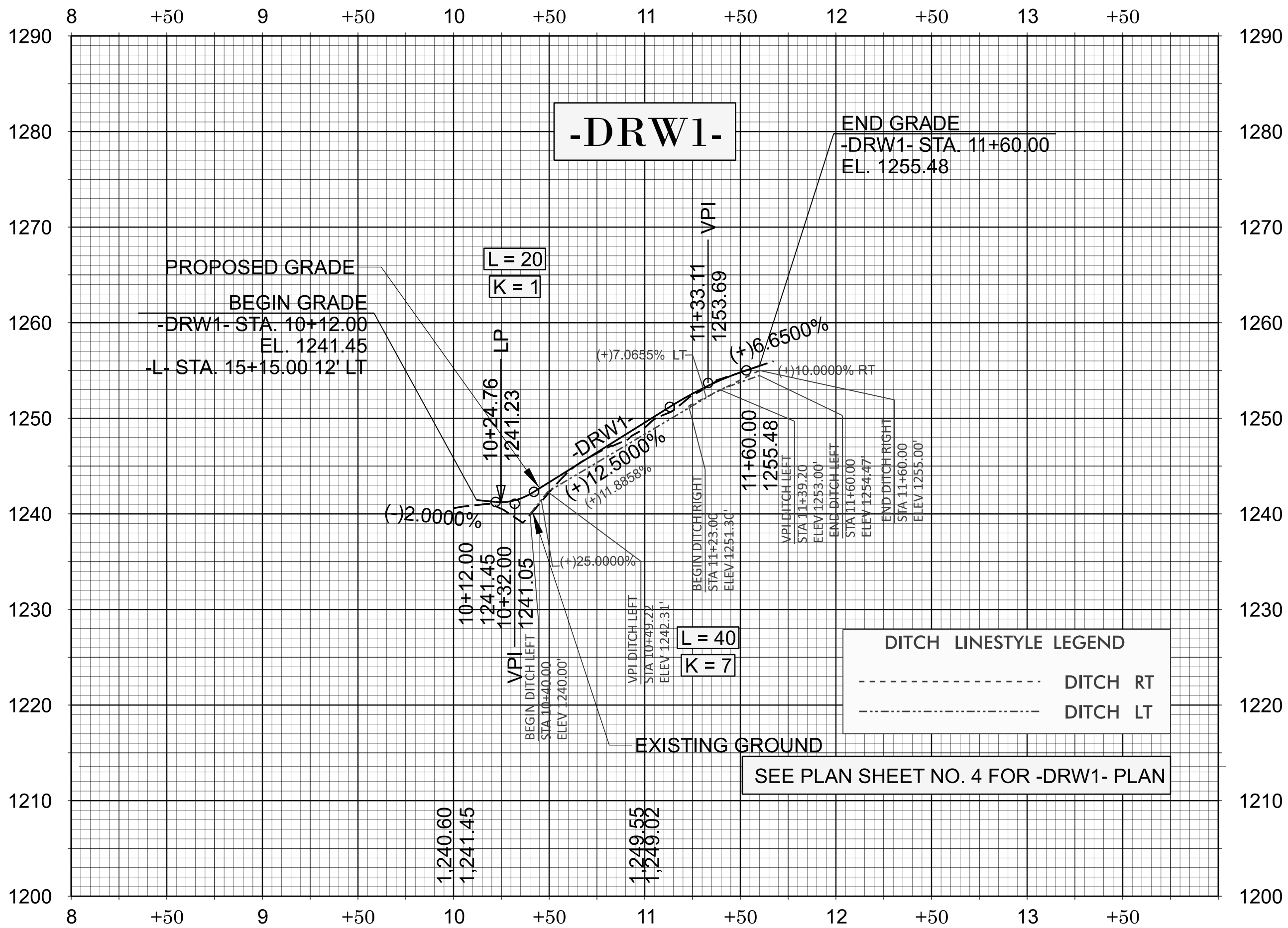
Signed: *John McNully*
6E81A862248E4FC

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KISINGER CAMPO
& ASSOCIATES

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R-5901

FINAL09

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT

7/1/2025

ROADWAY DESIGN
ENGINEER

Signature: Andrew B. Gordon

3A7A33647154C7

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HYDRAULICS
ENGINEER

Signature: John McNulty

6E81A8622484F7C

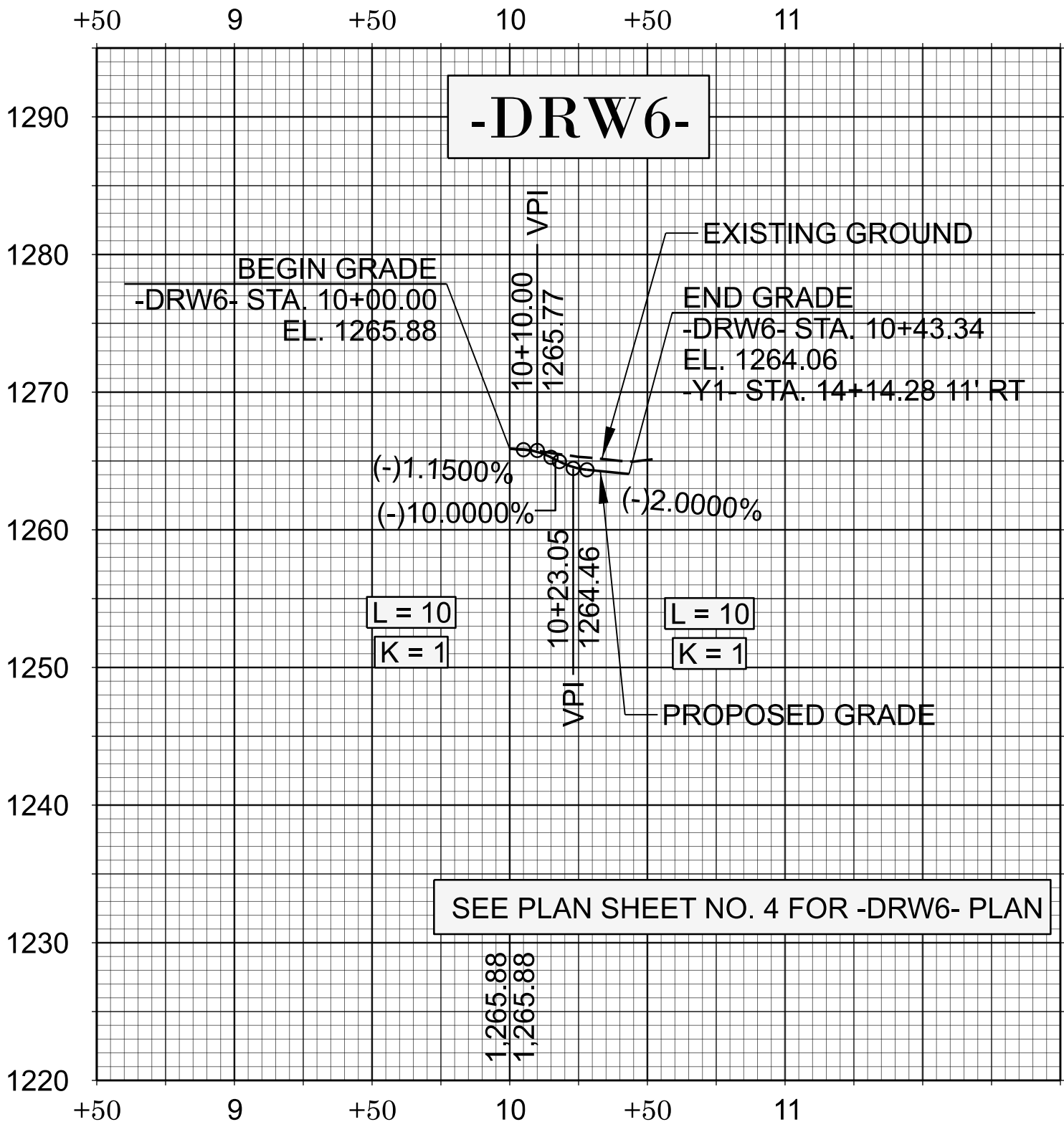
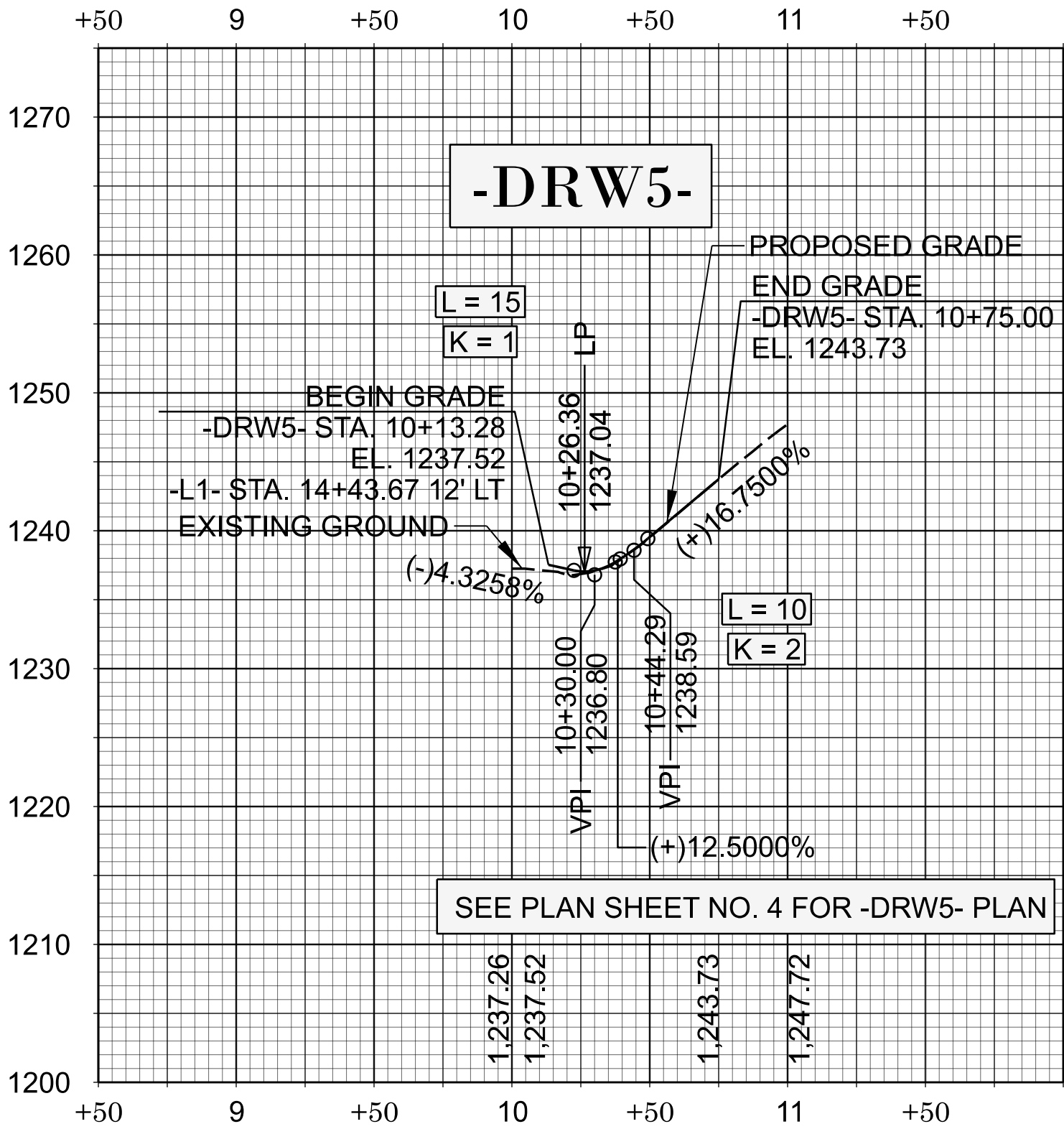
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REVISIONS

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R-5901

FINAL10

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER
7/1/2025

Andrea B. Gordon
3A7A33667154C1

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ENGINEER
7/1/2025

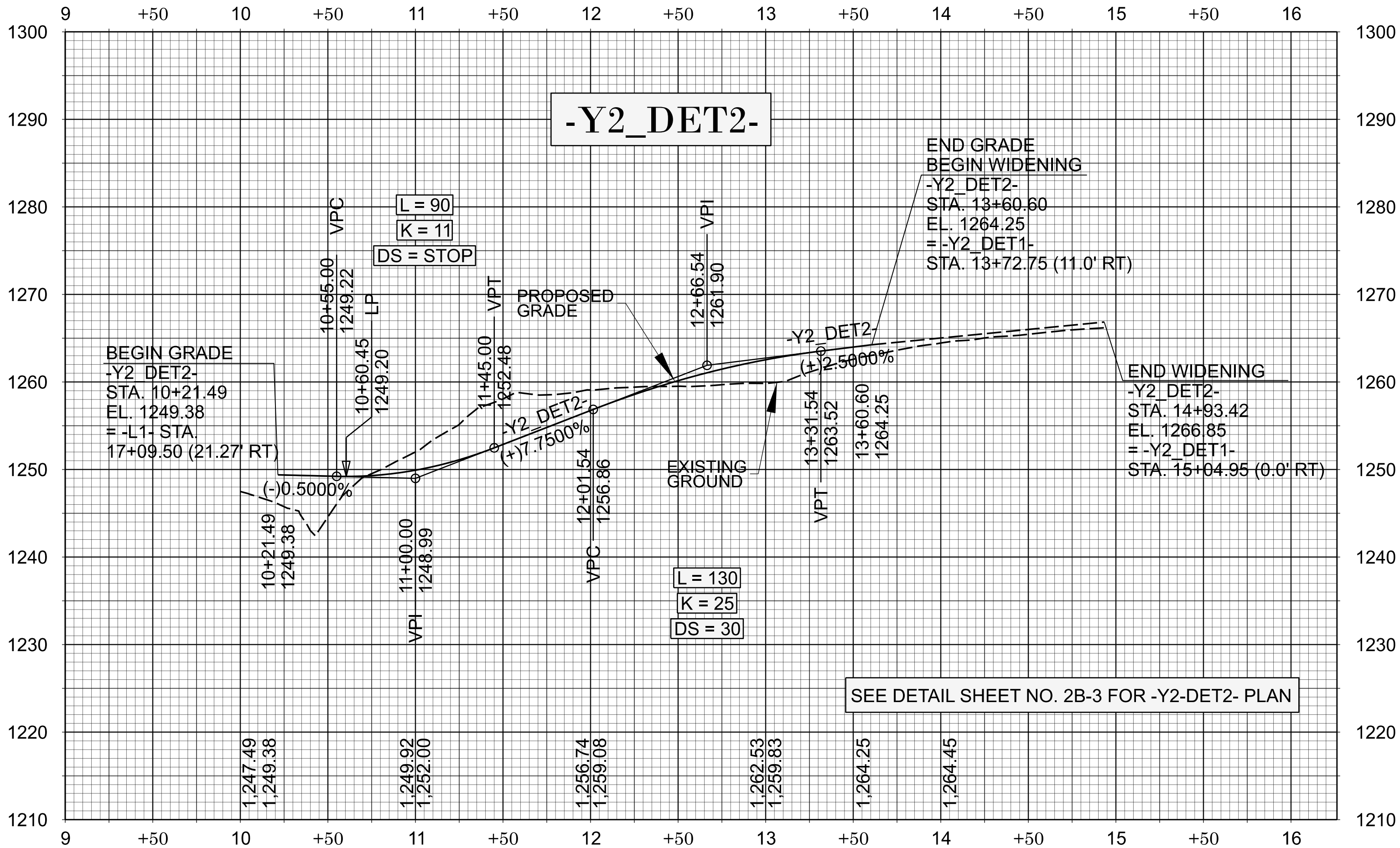
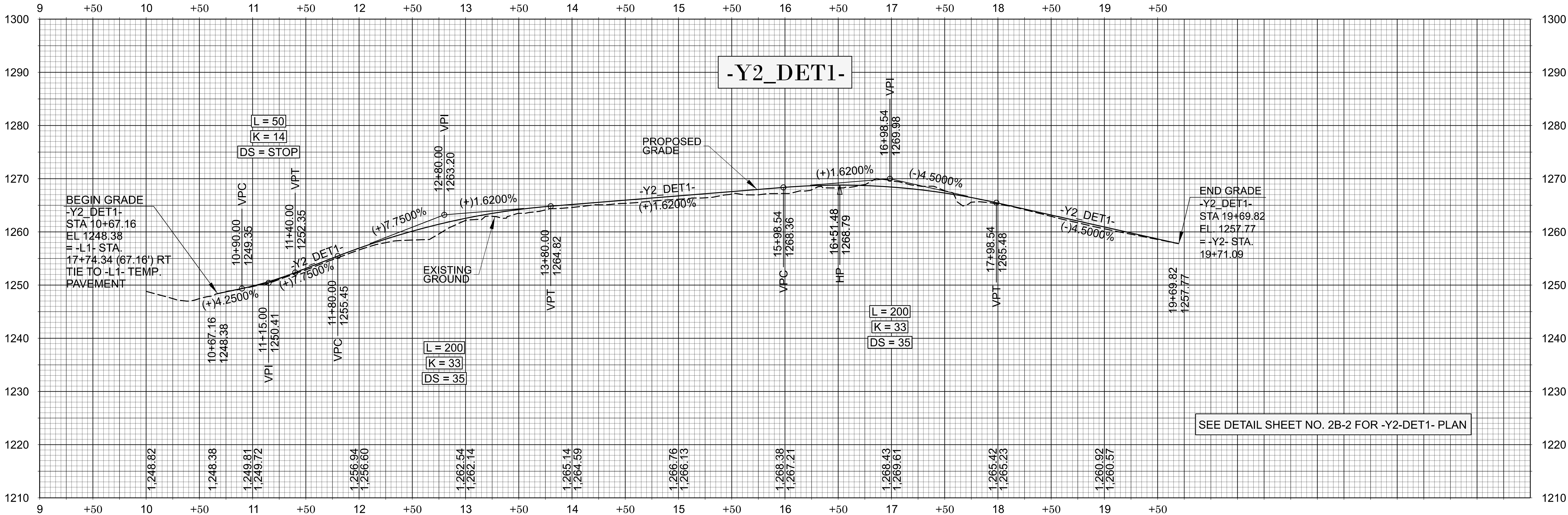
John McNulty
6E81A862248E4F0C

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REVISIONS

11/14/23



R-5901

FINAL

II

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SURRY COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

7/1/2025

Signed: *Andrea B. Gordon*

3A7A33661715C1

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HYDRAULICS ENGINEER

7/1/2025

Signed: *John McNulty*

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