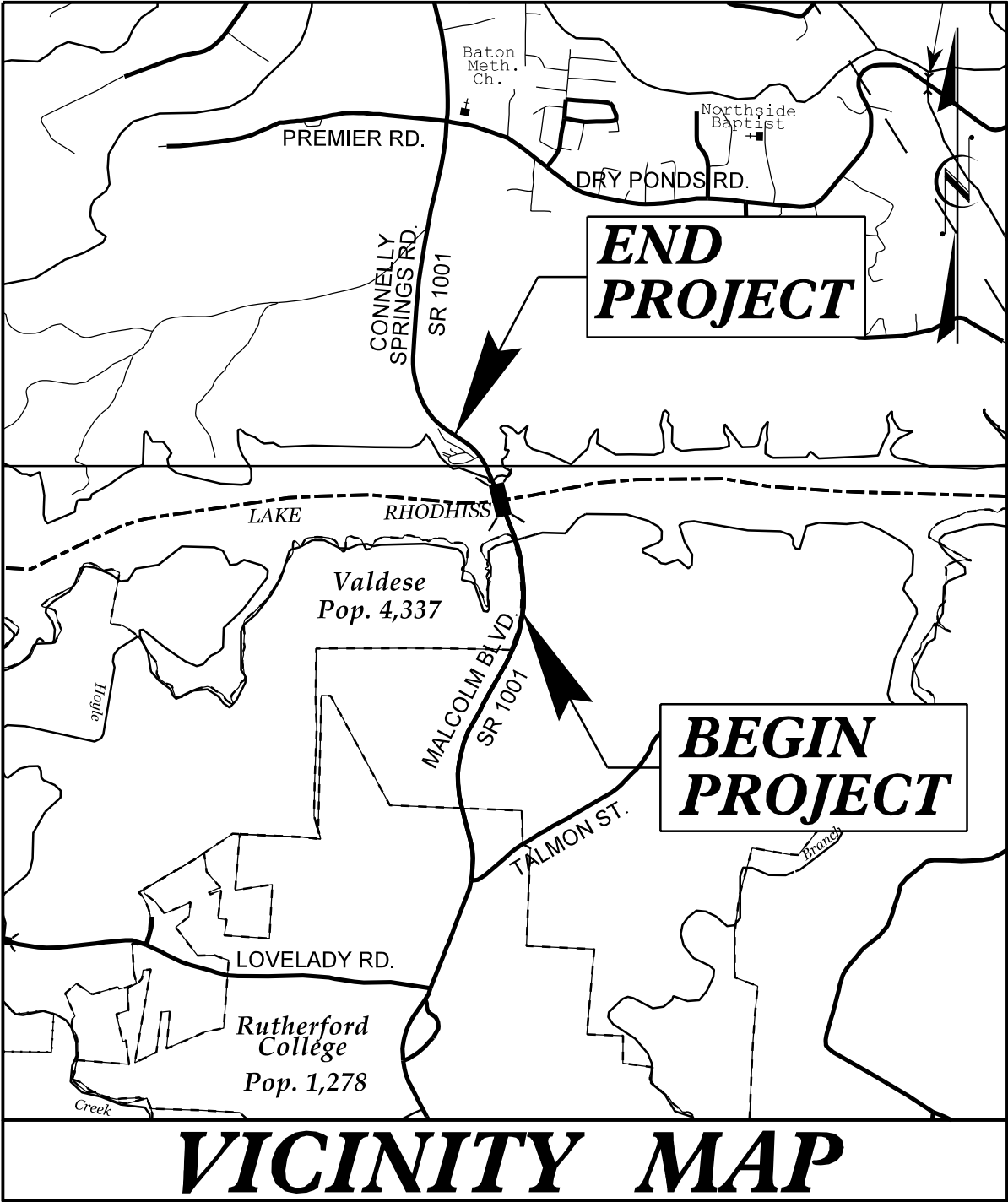


TIP PROJECT: R-3430B

CONTRACT: C204956

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See RW Sheet Series For Survey Control

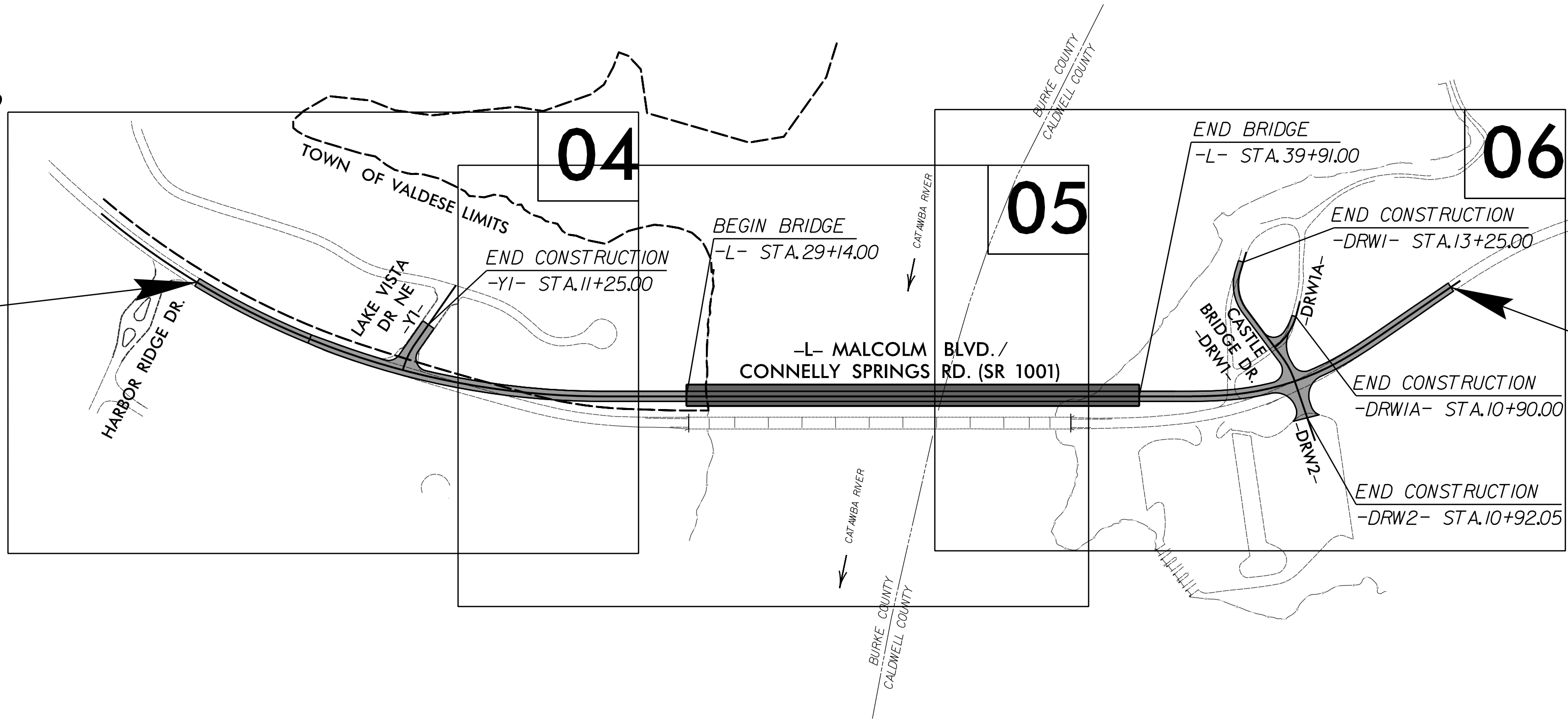


VICINITY MAP

NOT TO SCALE

TO
RUTHERFORD
COLLEGE

BEGIN TIP PROJECT R-3430B
-L- STA. 17 + 00.00

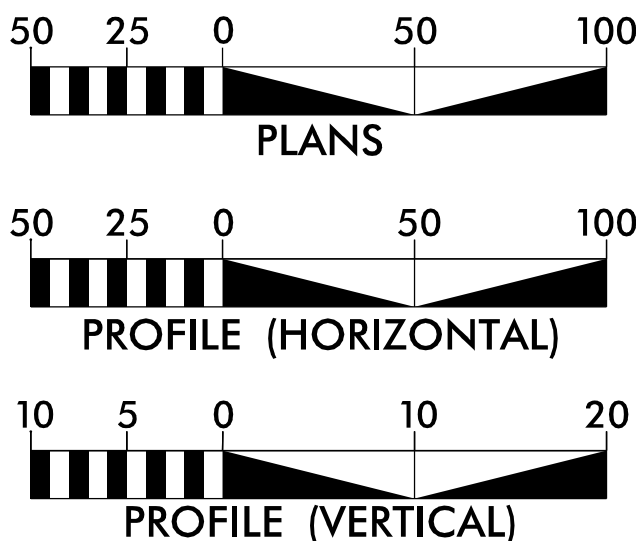


END TIP PROJECT R-3430B
-L- STA. 48 + 00.00

TO CAJAH'S
MOUNTAIN

THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.

GRAPHIC SCALES



DESIGN DATA

ADT 2025 = 10,693
ADT 2045 = 12,100
K = 9 %
D = 60 %
T = 5 % *
V = 50 MPH
* TTST = 1% DUAL 4%
FUNC CLASS =
MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3430B = 0.383 MILES
LENGTH STRUCTURE TIP PROJECT R-3430B = 0.204 MILES
TOTAL LENGTH TIP PROJECT R-3430B = 0.587 MILES

PLANS PREPARED BY:



DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NORTH CAROLINA 27609
(919) 872-5115
NC LICENSE NO. F-1524

FOR
NCDOT PROJECT MANAGEMENT UNIT

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 21, 2022

LETTING DATE:
AUGUST 19, 2025

CHRISTOPHER K. HAIRE, PE
PROJECT ENGINEER

TIMOTHY A. KLOTZ, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT:
OLIVIA PILKINGTON, PE
SENIOR PROJECT MANAGER

HYDRAULICS
ENGINEER

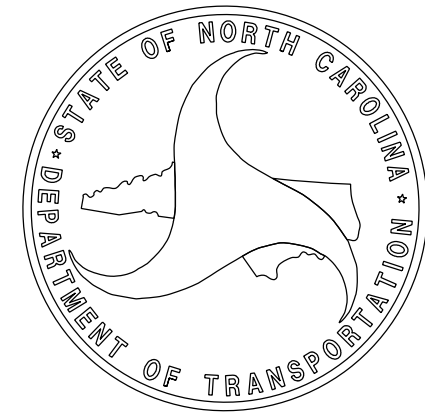
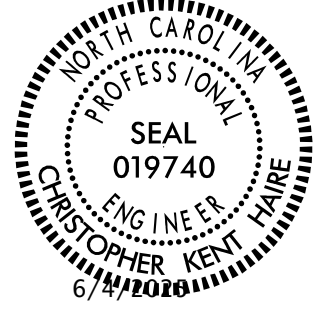
DocuSigned by:

SIGNATURE: P.E.



ROADWAY DESIGN
ENGINEER

DocuSigned by:
Christopher K. Haire
SIGNATURE: P.E.



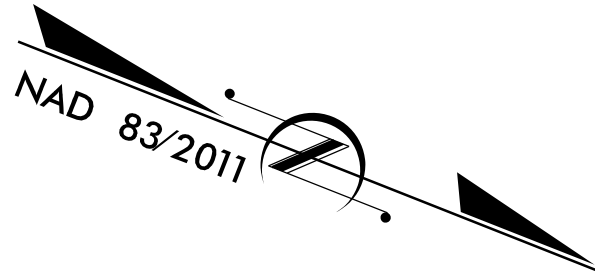
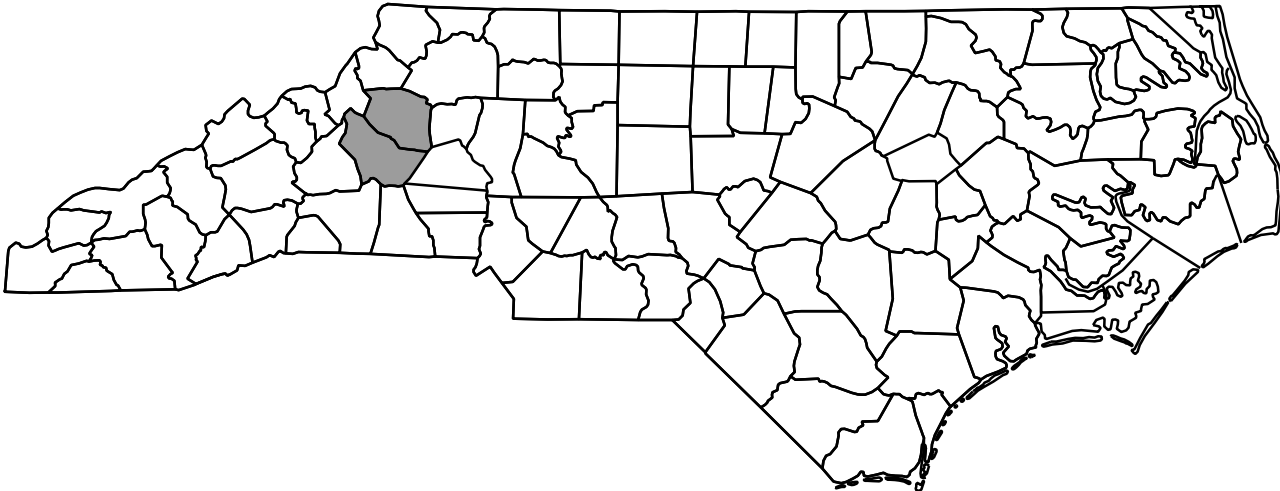
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BURKE/CALDWELL COUNTY

LOCATION: BRIDGE #110010 OVER CATAWBA RIVER ON
SR-1001 (CONNELLY SPRINGS RD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE
& STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3430B	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34544.1.6	N/A	P.E.	
34544.2.3	N/A	R/W	
34544.2.5	N/A	UTILITIES	
34544.3.3	N/A	CONST.	



8/17/99

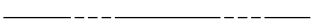
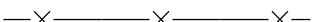
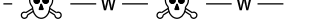
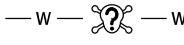
E:\28\2005
R-3430B\Roadway\Proj\N3430B-PdJ-tsh.dgn
tklotz

		PROJECT REFERENCE NO.		SHEET NO.	
		R-3430B		1A	
				ROADWAY DESIGN ENGINEER	
					
				DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
INDEX OF SHEETS		GENERAL NOTES:		EFF. 01-16-2024	
		2024 SPECIFICATIONS		REV.	
		EFFECTIVE: 01-16-2024			
		REVISED:			
SHEET NUMBER				2024 ROADWAY ENGLISH STANDARD DRAWINGS	
SHEET				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:	
1	TITLE SHEET	GRADING AND SURFACING OR RESURFACING AND WIDENING:		STD.NO. TITLE	
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS	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.		DIVISION 2 - EARTHWORK	
1B	CONVENTIONAL SYMBOLS			200.02 Method of Clearing - Method II	
2A-1 THRU 2A-3	TYPICAL SECTIONS			225.02 Guide for Grading Subgrade - Secondary and Local	
2B-1	TEMPORARY DETOUR LAYOUT			225.04 Method of Obtaining Superelevation - Two Lane Pavement	
2C-1	1'-6" CURB & GUTTER DETAIL	CLEARING:		DIVISION 4 - MAJOR STRUCTURES	
2C-2	CURB & GUTTER TRANSITION SECTION DETAIL	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.		423.01 Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment	
2C-3	CONCRETE SIDEWALK			DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
2C-4	METHOD OF PIPE INSTALLATION - FLEXIBLE PIPE			560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I	
2C-5	METHOD OF PIPE INSTALLATION - RIGID PIPE			DIVISION 8 - INCIDENTALS	
2C-6	GUARDRAIL PLACEMENT - LENGTHS AND OFFSETS FOR PROPOSED GUARDRAIL AT TWO LANE - TWO WAY LOCATIONS	SUPERELEVATION:		806.01 Concrete Right-of-Way Marker	
2C-7	GUARDRAIL PLACEMENT - DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION	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.		806.02 Granite Right-of-Way Marker	
2C-8	GUARDRAIL PLACEMENT - GUARDRAIL TREATMENT AT CURB AND GUTTER			815.02 Subsurface Drain	
2D-1	DRAINAGE DETAILS	SHOULDER CONSTRUCTION:		840.00 Concrete Base Pad for Drainage Structures	
2G-1	STANDARD TEMPORARY SHORING DETAIL	ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01		840.01 Brick Catch Basin - 12" thru 54" Pipe	
3B-1	ROADWAY SUMMARIES			840.02 Concrete Catch Basin - 12" thru 54" Pipe	
3D-1	DRAINAGE SUMMARIES			840.03 Frame, Grates and Hood - for Use on Standard Catch Basin	
3G-1	GEOTECHNICAL SUMMARIES			840.04 Concrete Open Throat Catch Basin - 12" thru 48" Pipe	
3P-1	PARCEL INDEX SHEET			840.05 Brick Open Throat Catch Basin - 12" thru 48" Pipe	
4 THRU 6	PLAN SHEETS	SIDE ROADS:		840.14 Concrete Drop Inlet - 12" thru 30" Pipe	
7 THRU 10	PROFILE SHEETS	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.		840.15 Brick Drop Inlet - 12" thru 30" Pipe	
RW01 THRU RW06	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENT AND PROPERTY TIES			840.16 Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15	
TMP-1 THRU TMP-22	TRANSPORTATION MANAGEMENT PLANS			840.18 Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe	
PMP-1 THRU PMP-4	PAVEMENT MARKING PLANS	SUBSURFACE DRAINS:		840.19 Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe	
EC-1 THRU EC-9	EROSION CONTROL PLANS	SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.		840.22 Frames and Wide Slot Sag Grates	
RF-1	REFORESTATION PLANS			840.25 Anchorage for Frames - Brick or Concrete or Precast	
SIGN-1 THRU SIGN-6	SIGNING PLANS			840.27 Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe	
UO-1 THRU UO-4	UTILITIES BY OTHERS PLANS	STREET TURNOUT:		840.28 Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe	
X-1	CROSS-SECTION INDEX			840.29 Frames and Narrow Slot Flat Grates	
X-1A	CROSS-SECTION SUMMARY SHEET	STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADIUS NOTED ON PLANS.		840.31 Concrete Junction Box - 12" thru 66" Pipe	
X-2 THRU X-37	CROSS-SECTIONS			840.32 Brick Junction Box - 12" thru 66" Pipe	
S-1 THRU S-61	STRUCTURE PLANS	GUARDRAIL:		840.45 Precast Drainage Structure	
		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.		840.54 Manhole Frame and Cover	
				840.55 Manhole Frame and Cover (Flush with Slab for Open Throat Catch Basin)	
		TEMPORARY SHORING:		840.66 Drainage Structure Steps	
		SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".		846.01 Concrete Curb, Gutter and Curb & Gutter	
				848.04 Street Turnout	
		END BENTS:		848.07 Concrete Sidepath / Shared Use Path / Greenway Construction	
		THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.		862.01 Guardrail Placement	
				862.02 Guardrail Installation	
		UTILITIES:		862.03 Structure Anchor Units	
		UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY, PIEDMONT NATURAL GAS		876.02 Guide for Rip Rap at Pipe Outlets	
		ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.		876.04 Drainage Ditches with Class 'B' Rip Rap	
		RIGHT-OF-WAY MARKERS:			
		ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.			

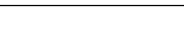
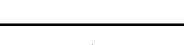
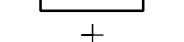
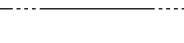
STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

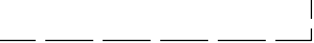
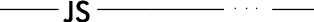
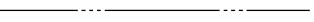
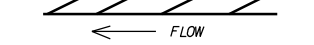
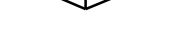
BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin (EIP)	
Computed Property Corner	
Existing Concrete Monument (ECM)	
Parcel/Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
Contaminated Site: Known or Potential	

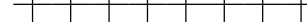
BUILDINGS AND OTHER CULTURE:

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

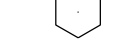
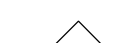
HYDROLOGY:

Stream or Body of Water	
Hydro, Pool or Reservoir	
Jurisdictional Stream	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	

RAILROADS:

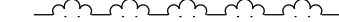
Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

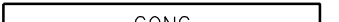
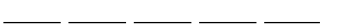
Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent Easement Monument (Rebar and Cap)	
Existing C/A Monument	
Proposed C/A Monument (Rebar and Cap)	
Proposed C/A Monument (Concrete)	
Existing Right of Way Line	
Proposed Right of Way Line	
Existing Control of Access Line	
Proposed Control of Access Line	
Proposed ROW and CA Line	
Existing Easement Line	
Proposed Temporary Construction Easement	
Proposed Temporary Drainage Easement	
Proposed Permanent Drainage Easement	
Proposed Permanent Drainage/Utility Easement	
Proposed Permanent Utility Easement	
Proposed Temporary Utility Easement	
Proposed Aerial Utility Easement	

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	
VEGETATION:	
Single Tree	
Single Shrub	
Hedge	

Woods Line	
Orchard	
Vineyard	

EXISTING STRUCTURES:

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

UTILITIES:

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

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

TELEPHONE:

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

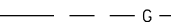
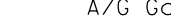
WATER:

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

TV:

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

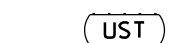
GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

PROJECT REFERENCE NO.		SHEET NO.	
R-3430B		2A-1	
ROADWAY DESIGN ENGINEER		PAVEMENT DESIGN ENGINEER	
			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
PLANS PREPARED BY:  DRMP DRMP INC. 5808 FARMINGTON PLACE RALEIGH, NC 27609 TEL: 919-872-5115 LIC. LICENSE NO. P-1624 (1919) 872-5115			

TIE-IN MILLING DETAIL (NOT TO SCALE)

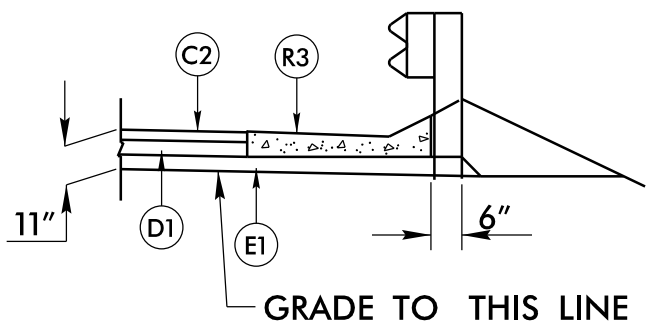
FOR PROFILE CONNECTIONS TYING PROPOSED PAVEMENTS TO EXISTING PAVEMENTS
(PAID FOR AS INCIDENTAL MILLING)

—L— STA. 17 + 00.00 TO —L— STA. 17 + 25.00
—L— STA. 47 + 75.00 TO —L— STA. 48 + 00.00

[illegible]

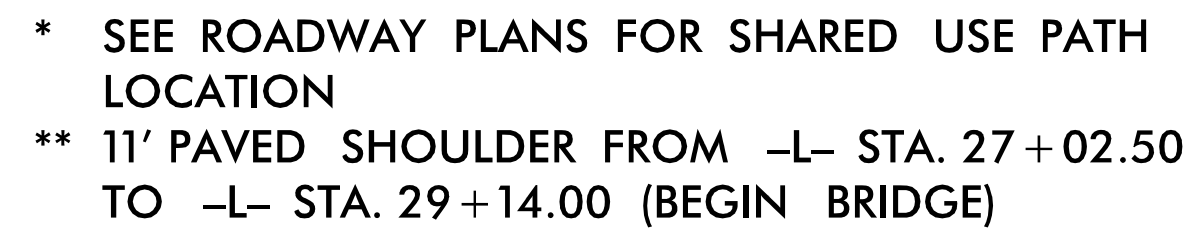
TYPICAL SECTION NO. 2

-L- STA. 20+00.00 TO -L- STA. 22+34.00
 -L- STA. 43+50.00 TO -L- STA. 47+50.00



SHOULDER BERM GUTTER DETAIL

-L- STA. 40+15.00 (END APPROACH SLAB) TO STA. 40+35.00 (RT)



PLANS PREPARED BY:

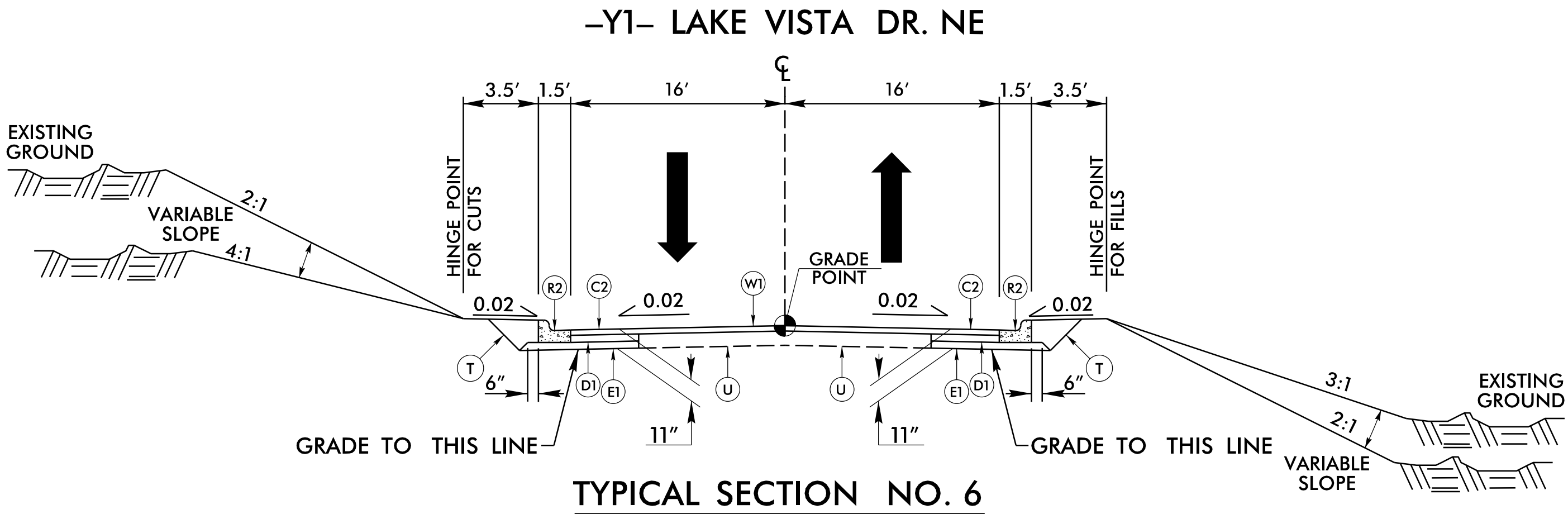
 **DRMP**

DRMP, INC.
5808 FARINGDON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1524 (919) 872-5115

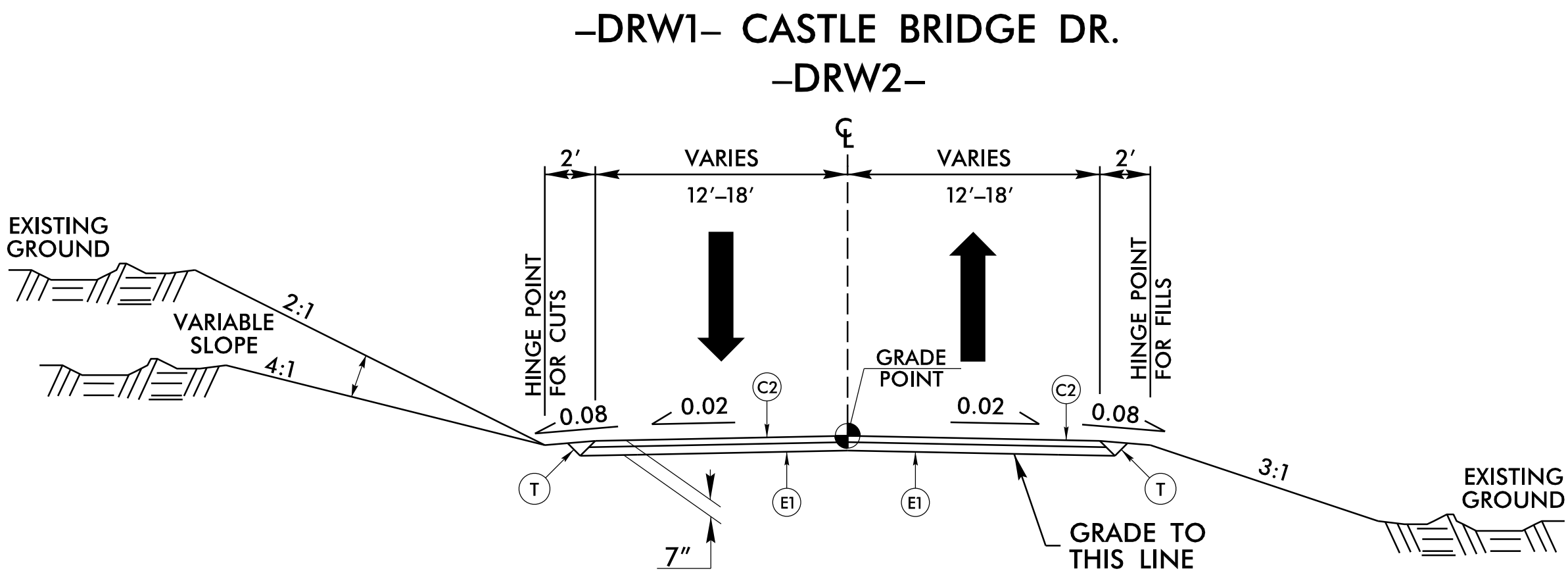
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
C4	2.5" S9.5B
D1	4" I19.0C
D2	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J1	6" ABC
P1	.35 PRIME COAT
R1	2'-6" C&G
R2	1'-6" C&G
R3	SHLD. BERM GUTTER
S1	6" CONC. SUP
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	INCIDENTAL MILLING
W1	WEDGING

6/2/99

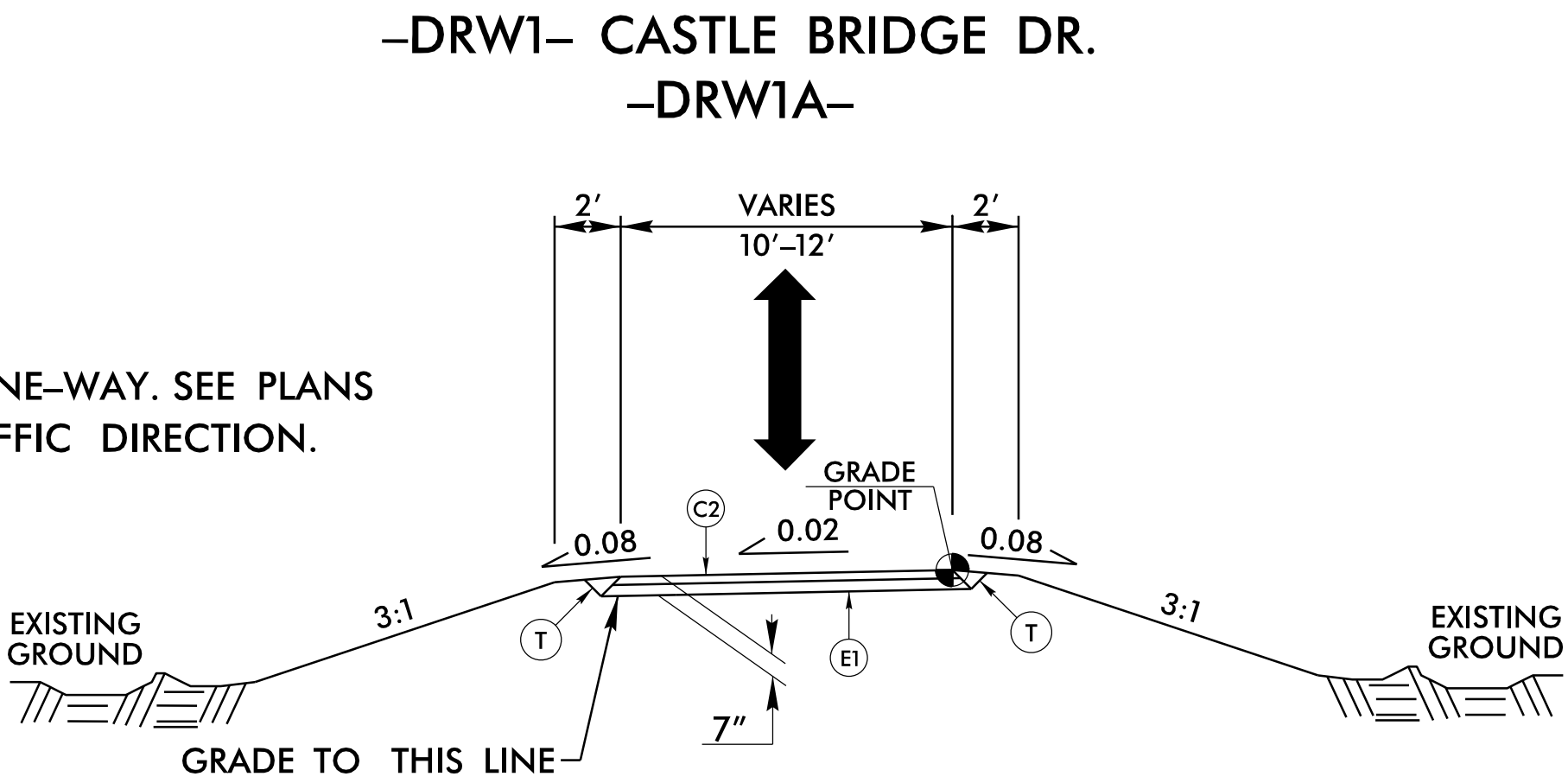
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TH012



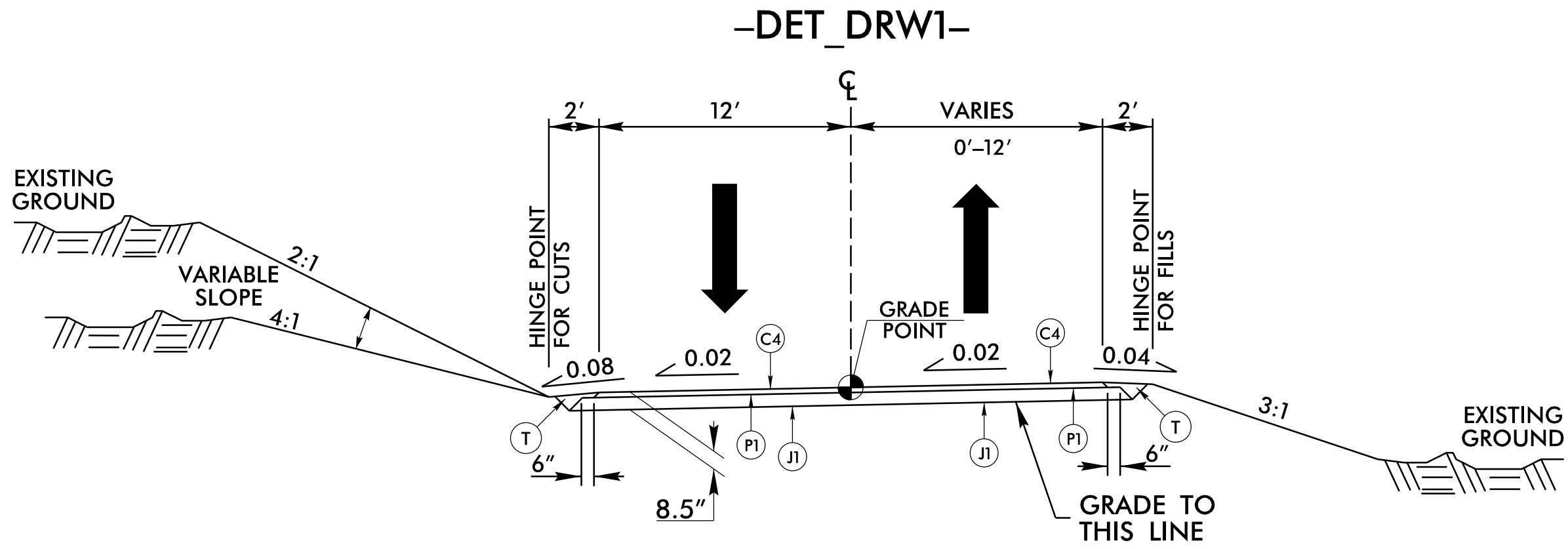
-Y1- STA. 10+17.00 TO -Y1- STA. 11+25.00



-DRW1- STA. 10+17.00 TO -DRW1- STA. 10+94.30
-DRW2- STA. 10+17.00 TO -DRW2- STA. 10+92.05



-DRW1- STA. 10+94.30 TO -DRW1- STA. 13+25.00
-DRW1A- STA. 10+00.00 TO -DRW1A- STA. 10+90.00



-DET_DRW1- STA. 10+10.32 TO -DET_DRW1- STA. 13+80.00

PROJECT REFERENCE NO.
R-3430B

SHEET NO.
2A-3

ROADWAY DESIGN
ENGINEER

PAVEMENT DESIGN
ENGINEER

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PLANS PREPARED BY:
 DRMP

DRMP, INC.
5808 FARMINGTON PLACE
RALEIGH, NC 27609
NC LICENSE NO. P-1524 (919) 872-5115

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
C4	2.5" S9.5B
D1	4" I19.0C
D2	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J1	6" ABC
P1	.35 PRIME COAT
R1	2'-6" C&G
R2	1'-6" C&G
R3	SHLD. BERM GUTTER
S1	6" CONC. SUP
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	INCIDENTAL MILLING
W1	WEDGING

8/17/99

TEMP. DETOUR LAYOUT

DUKE ENERGY CORPORATION

8A

POT Sta. 14+00.00

PT Sta. 13+82.94
N 88° 47' 46.5" W

END CONSTRUCTION

-DET_DRWI- POT Sta. 13+80.00

PUBLIC WORKS PROPERTIES LLC
DB 2003 PG 2183
PB 38 PG 53

PT Sta. 11+10.18
S 9° 23' 02.8" W

PC Sta. 10+54.18
S 38° 0' 55.4" W

TAHITI LLC
DB 2045 PG 1818
PB 31 PG 197

NAD 832011

PROJECT REFERENCE NO.

R-3430B

SHEET NO.

2B-1

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER



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DRMP, INC.
5808 FARMGARDEN PLACE
RALEIGH, NC 27609
NC LICENSE NO. P-1524 (919) 872-5115

995.1' CONTOUR
(FERC LIMIT)

995.1' CONTOUR
(FERC LIMIT)

PC Sta. 12+54.42

REMOVE 41 LF OF
EXIST. 12" HDPE AND
INSTALL 12" RCP-IV
(RETAIN AFTER TEMP.
DRIVEWAY REMOVAL)

INSTALL 15" RCP-IV
FOR TEMP. DRAINAGE
(INV=1021.52' (REMOVE WITH
CONC. TEMP. DRIVEWAY))

SEE TRAFFIC MANAGEMENT PLANS
FOR WZTC DETAILS

SEE ROADWAY PLANS FOR PROPOSED DESIGN,
DRAINAGE, AND RIGHT OF WAY DETAIL

-DET_DRWI-

PI Sta 10+82.78	PI Sta 13+32.40
$\Delta = 28^{\circ} 38' 52.5"$ (LT)	$\Delta = 81^{\circ} 49' 10.7"$ (RT)
D = 51' 09' 25.0"	D = 63' 39' 43.1"
L = 56.00'	L = 128.52'
T = 28.60'	T = 77.99'
R = 112.00'	R = 90.00'

-DET_DRWI- POT Sta. 10+00.00 =
-L- POT Sta. 45+00.00

BEGIN GRADE

-DET_DRWI- STA. 10+10.32 =
-L- STA. 45+00.00, 10.32' LT
ELEV. = 1,030.75'

PI = 11+01.50
EL = 1,026.50'
VC = 45'
K = 10
V = 20mph

PI = 13+00.00
EL = 1,008.20'
VC = 45'
K = 11
V = 20mph

PI = 13+50.00
EL = 1,001.50'
VC = 55'
K = 5
V = 15mph

END GRADE

-DET_DRWI- STA. 13+80.00
ELEV. = 1,001.07'

EXISTING GROUND

PROPOSED GRADE

-DET_DRWI-

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PROJECT REFERENCE NO.	SHEET NO.
R-3430B	2C-1

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

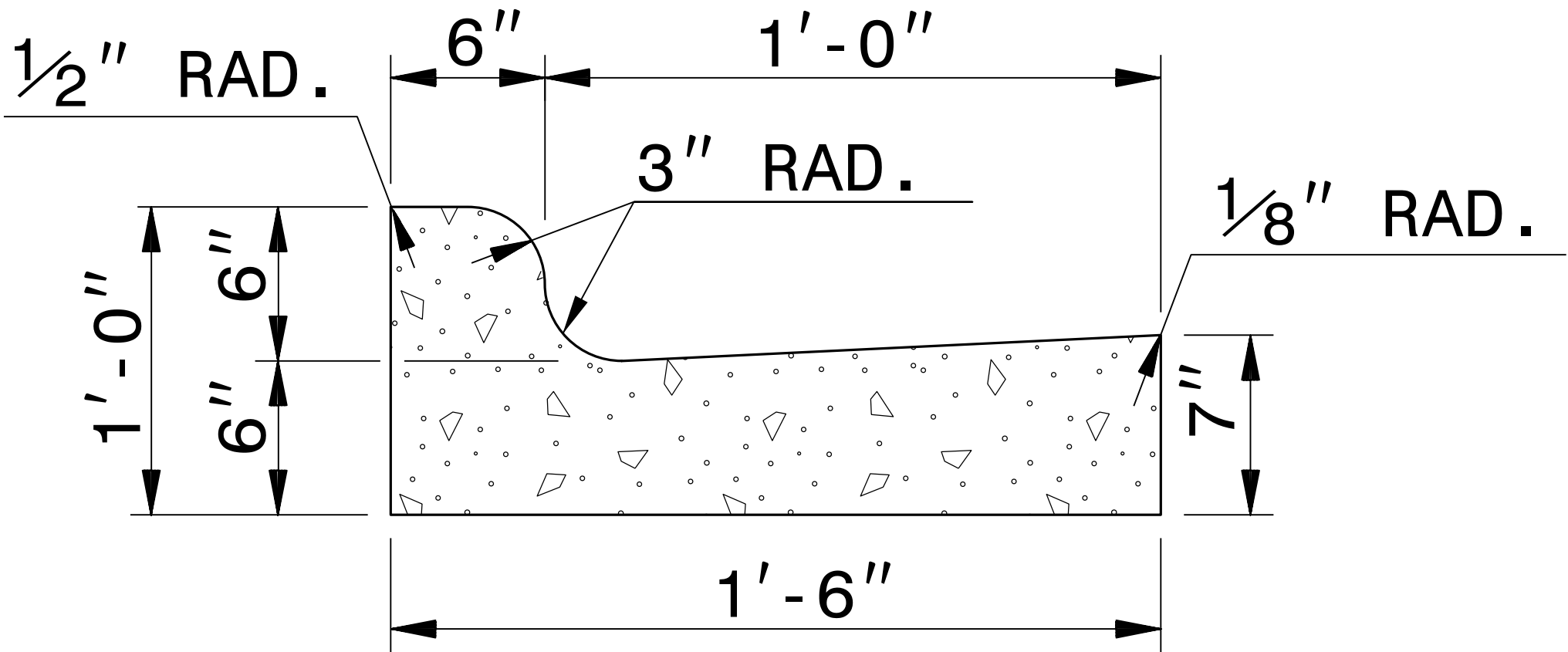
ROADWAY DETAIL DRAWING FOR
1'-6" CONCRETE CURB & GUTTER

SHEET 1 OF 3
846d01

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

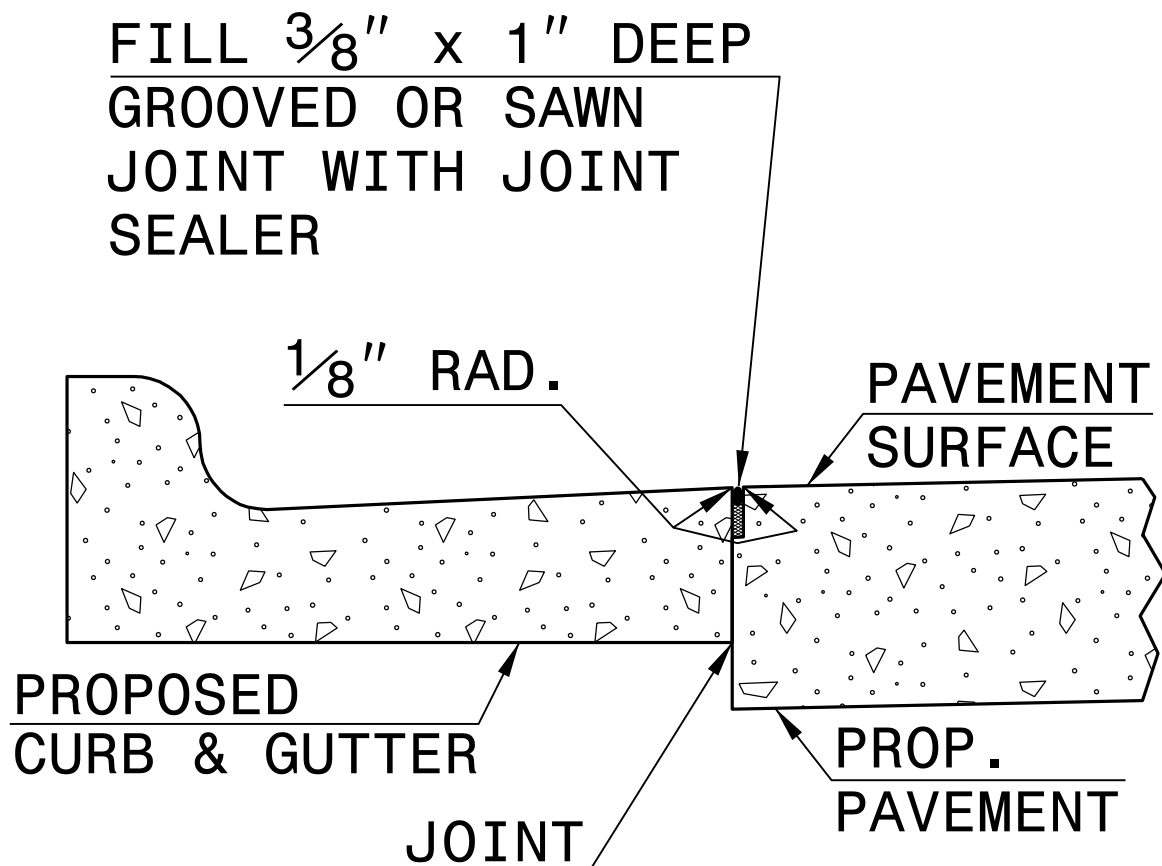
ROADWAY DETAIL DRAWING FOR
1'-6" CONCRETE CURB & GUTTER

SHEET 1 OF 3
846d01

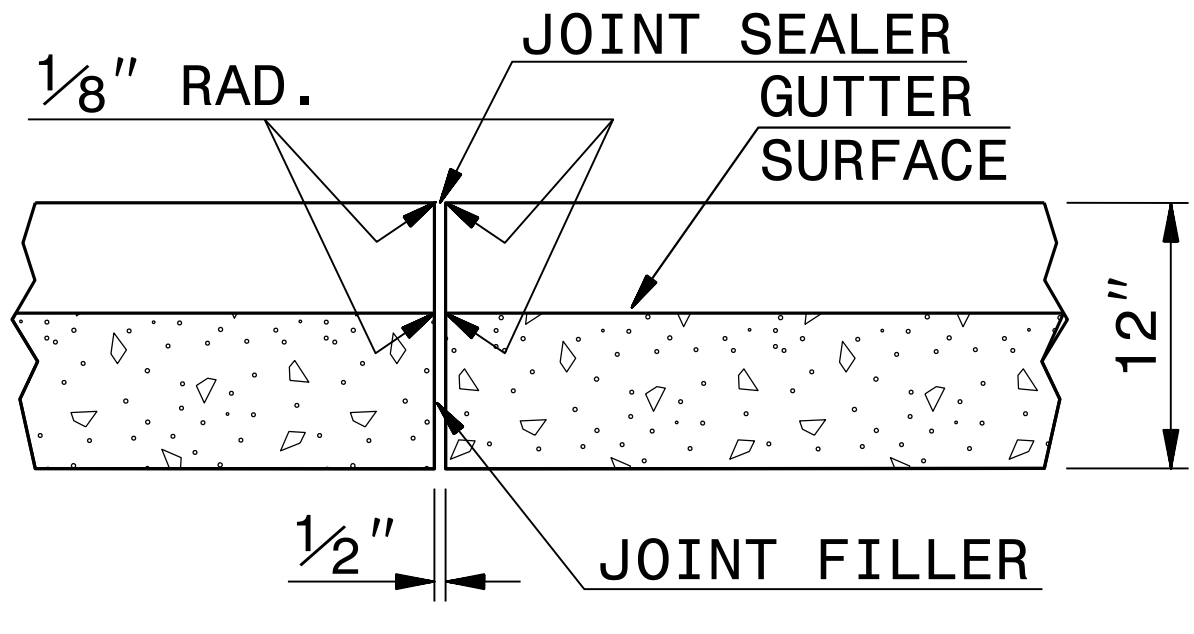


1'-6" CURB AND GUTTER
SECTION VIEW

GENERAL NOTES:
-PLACE CONTRACTION JOINTS AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
-JOINT SPACING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
-CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS.
-CONSTRUCT NON-TEMPLATE FORMED JOINTS A MIN. OF 1 1/2" DEEP.
-FILL ALL CONSTRUCTION JOINTS WITH JOINT FILLER AND SEALER.
-SPACE EXPANSION JOINTS AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.

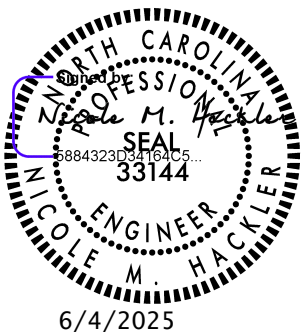


LONGITUDINAL JOINT



TRANSVERSE EXPANSION JOINT
IN CURB AND GUTTER

SECTION VIEW OF JOINTS



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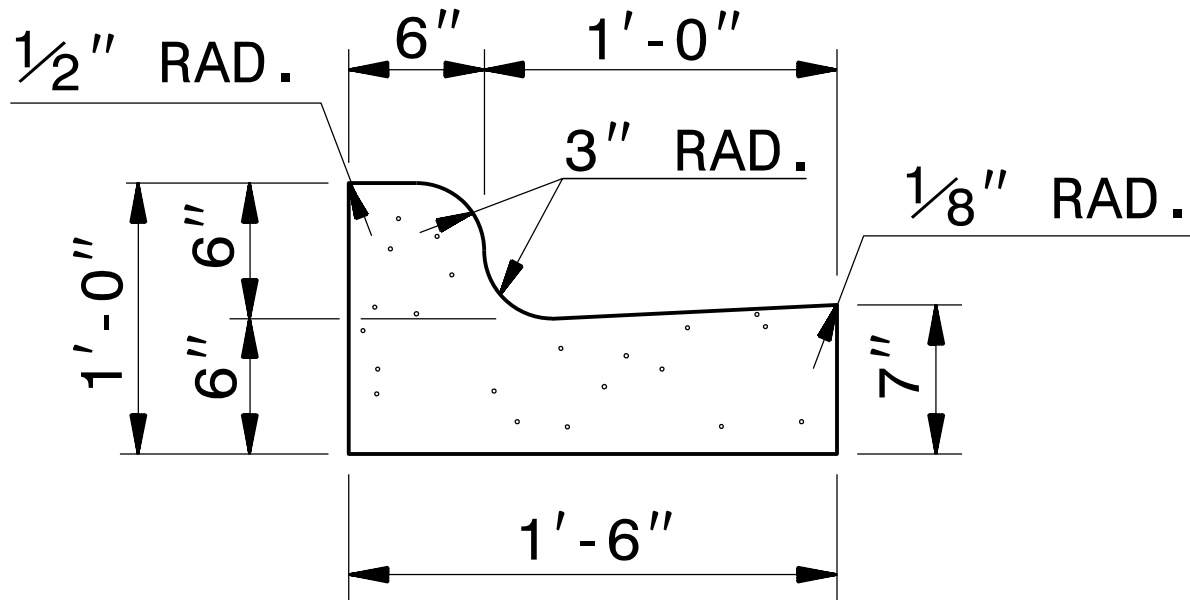
**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

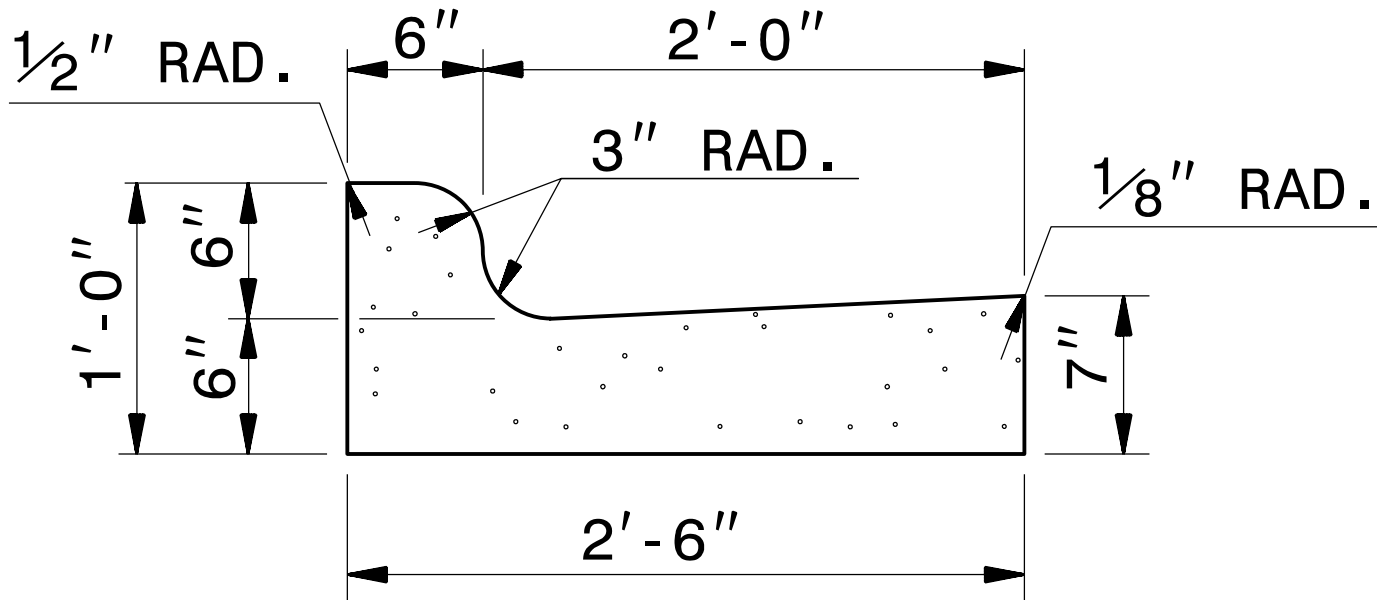
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MODIFIED BY: DATE:
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TH012



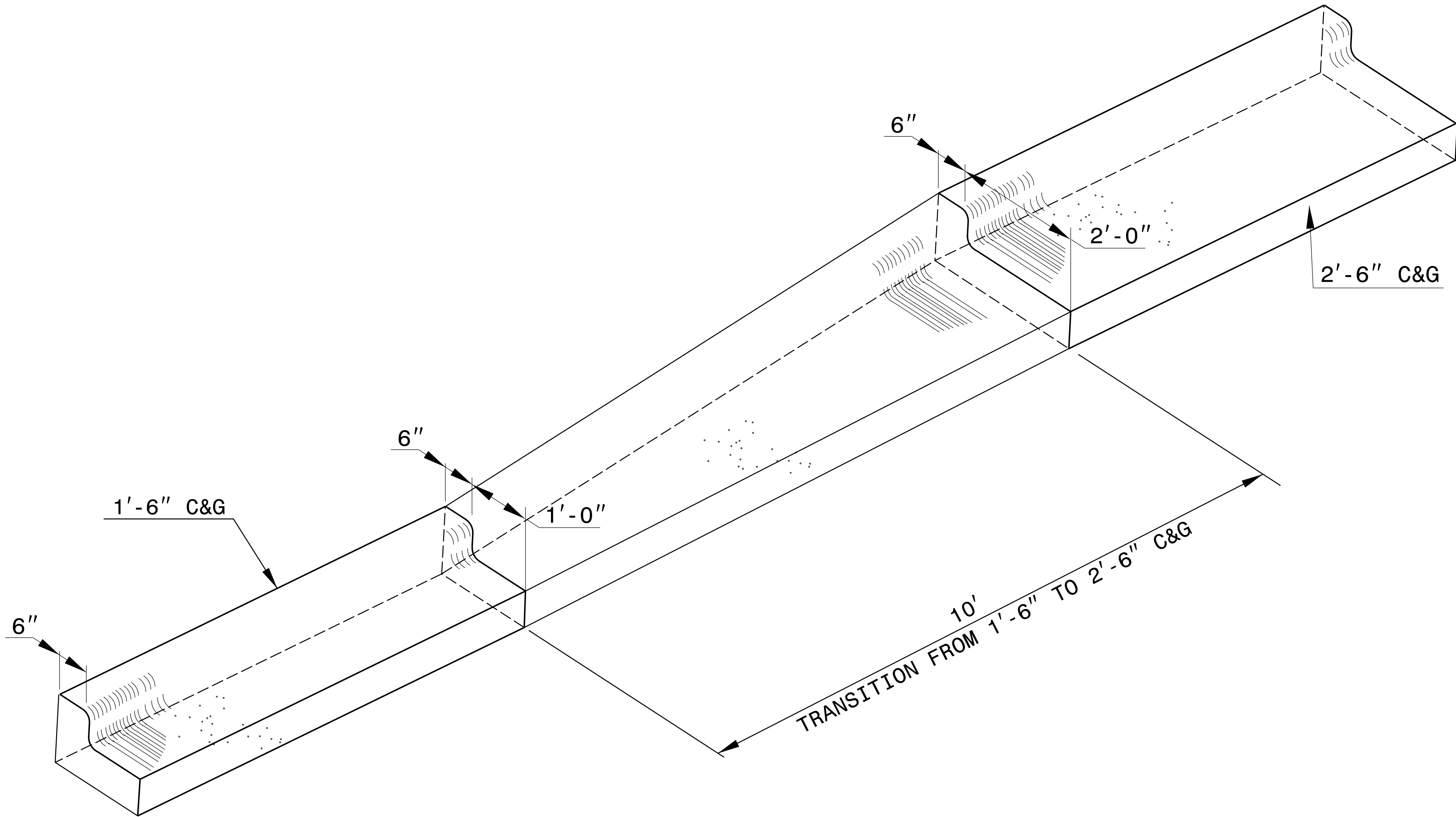
1'-6" CURB AND GUTTER



2'-6" CURB AND GUTTER

NOTE: SEE STD. DWG. 846.01 AND SHEET 2C-1 FOR ADDITIONAL CURB AND GUTTER INFORMATION.

SEE ROADWAY PLANS FOR LOCATION OF CURB TRANSITION.



ISOMETRIC VIEW OF
TRANSITIONING CURB & GUTTER

DETAIL OF 1'-6"
TO 2'-6" CURB & GUTTER
TRANSITION SECTION

PROJECT REFERENCE NO. <i>R-3430B</i>	SHEET NO. <i>2C-2</i>
ROADWAY DESIGN ENGINEER	
	
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PLANS PREPARED BY:  DRMP	
DEMP, INC. 5808 FARMINGTON PLACE SALEIGH, NC 27669 NC LICENSE NO. F-1524 (919) 872-5115	

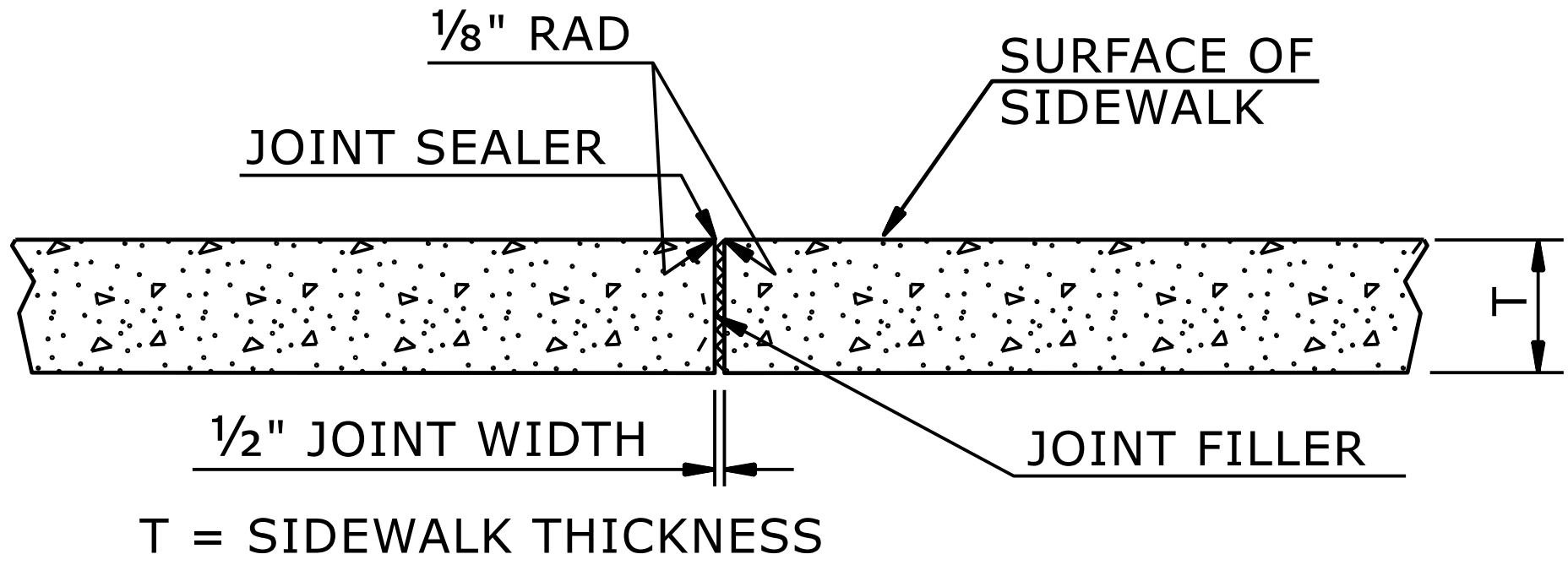
PROJECT REFERENCE NO.	SHEET NO.
R-3430B	2C-3

NOTES:

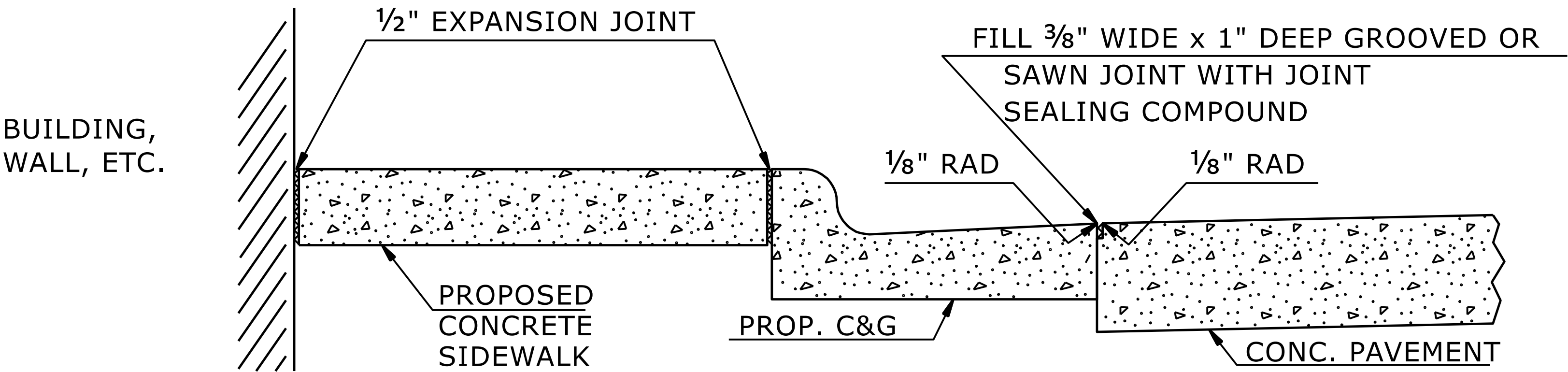
CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

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.



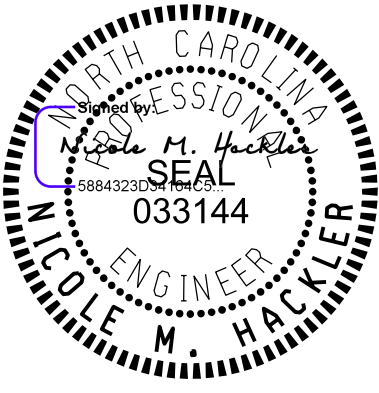
TRANSVERSE EXPANSION JOINT
IN SIDEWALK



DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
CONCRETE SIDEWALK



6/4/2025

SHEET 1 OF 1

848D01

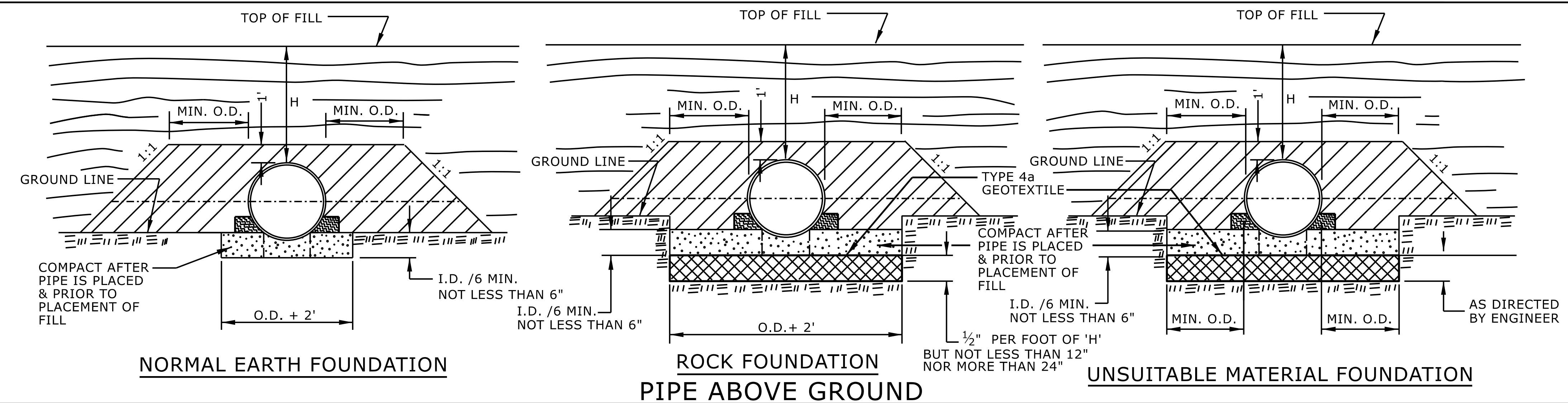
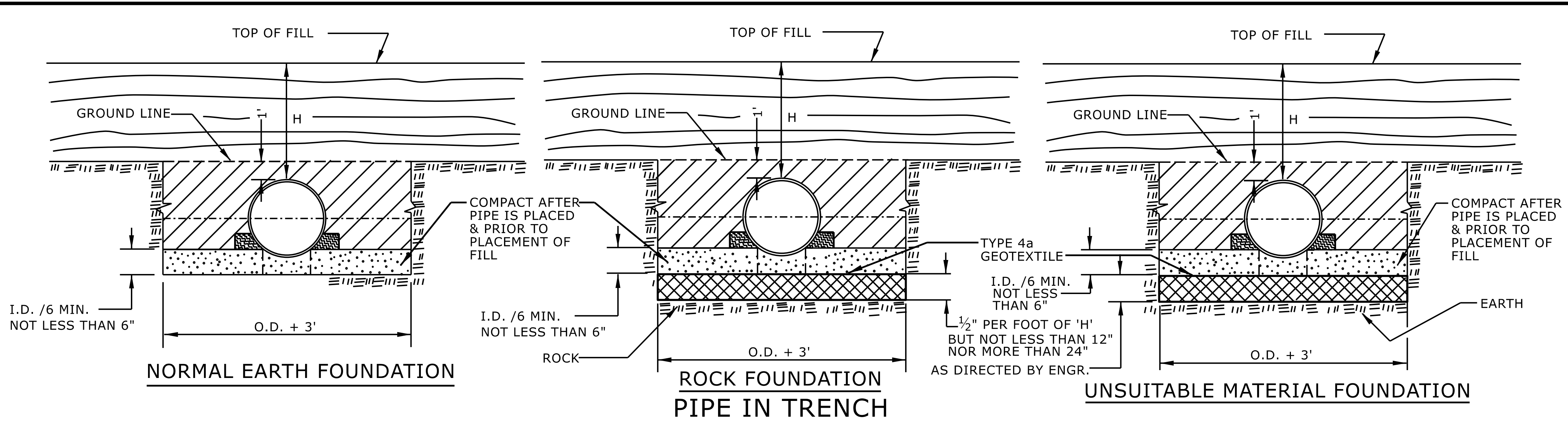
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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

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GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT
ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP
OF THE EMBANKMENT AT THAT POINT.

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

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

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

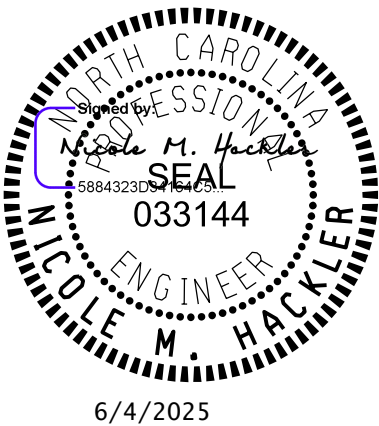
	SPRINGLINE OF PIPE
	SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
	UNDISTURBED EARTH MATERIAL
	SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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ROADWAY DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION FLEXIBLE PIPE

SHEET 1 OF 2

300.01

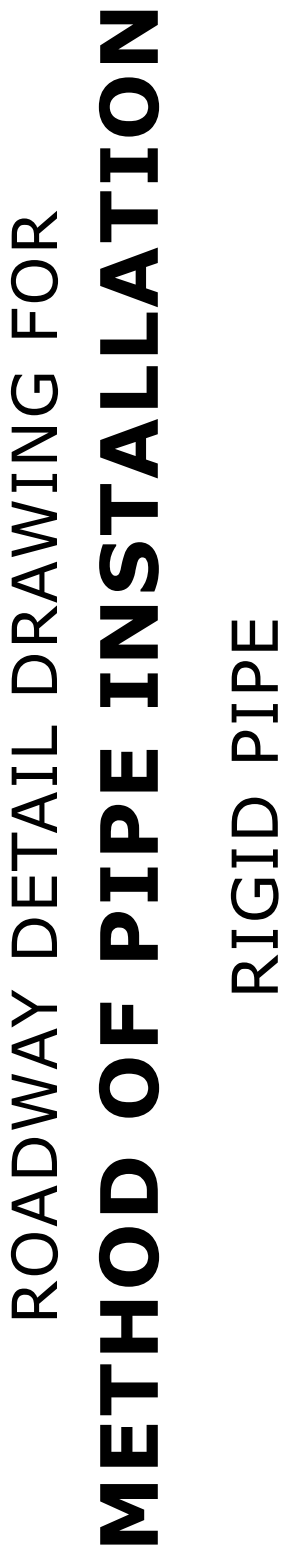
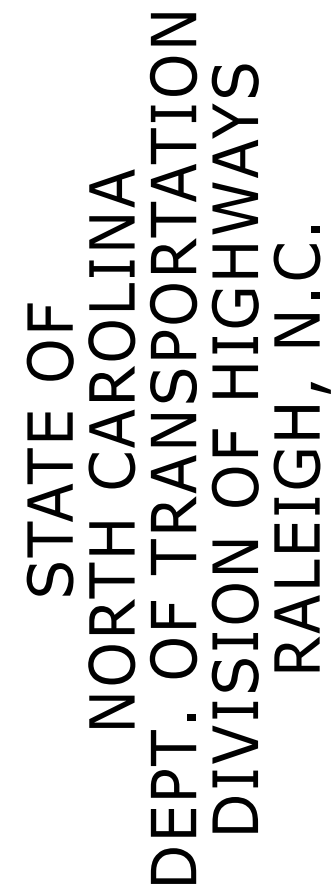


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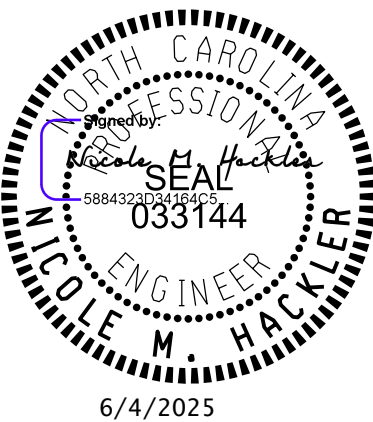
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
19-707-6950 FAX 919-250-4

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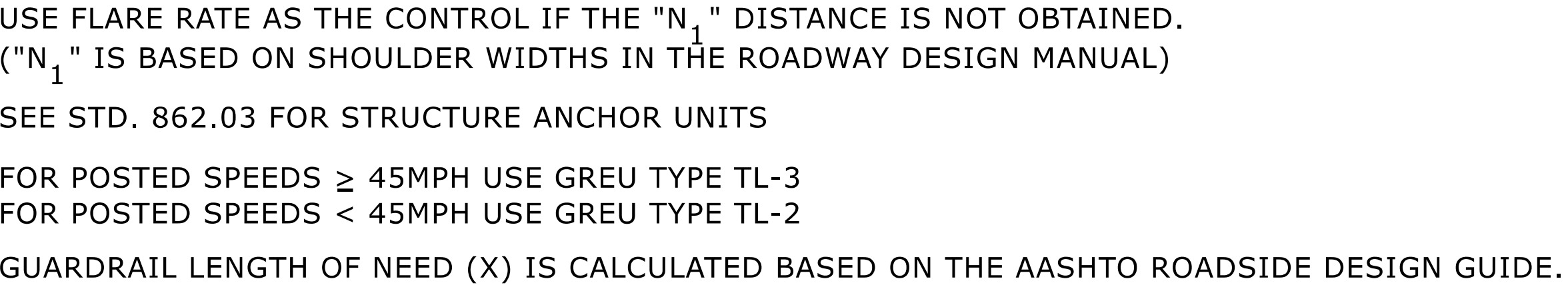


	SPRINGLINE OF PIPE
	SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.
	UNDISTURBED EARTH MATERIAL
	SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.



SHEET 2 OF 2
300.01

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LENGTHS AND OFFSETS FOR PROPOSED GUARDRAIL AT TWO LANE - TWO WAY LOCATIONS

SHEET 4 OF 15

862D01

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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR GUARDRAIL PLACEMENT



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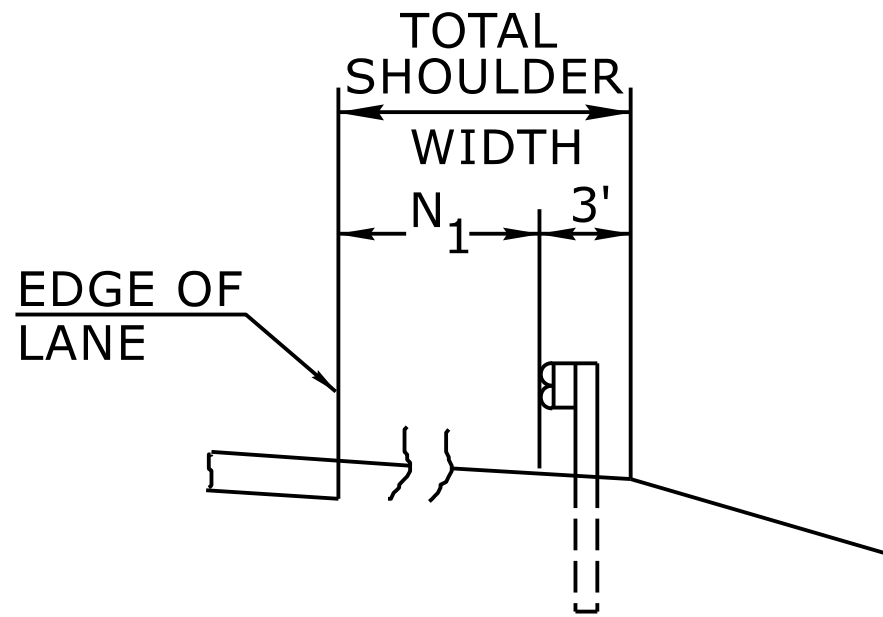
CONTRACTS STANDARDS AND DEVELOPMENT UNIT

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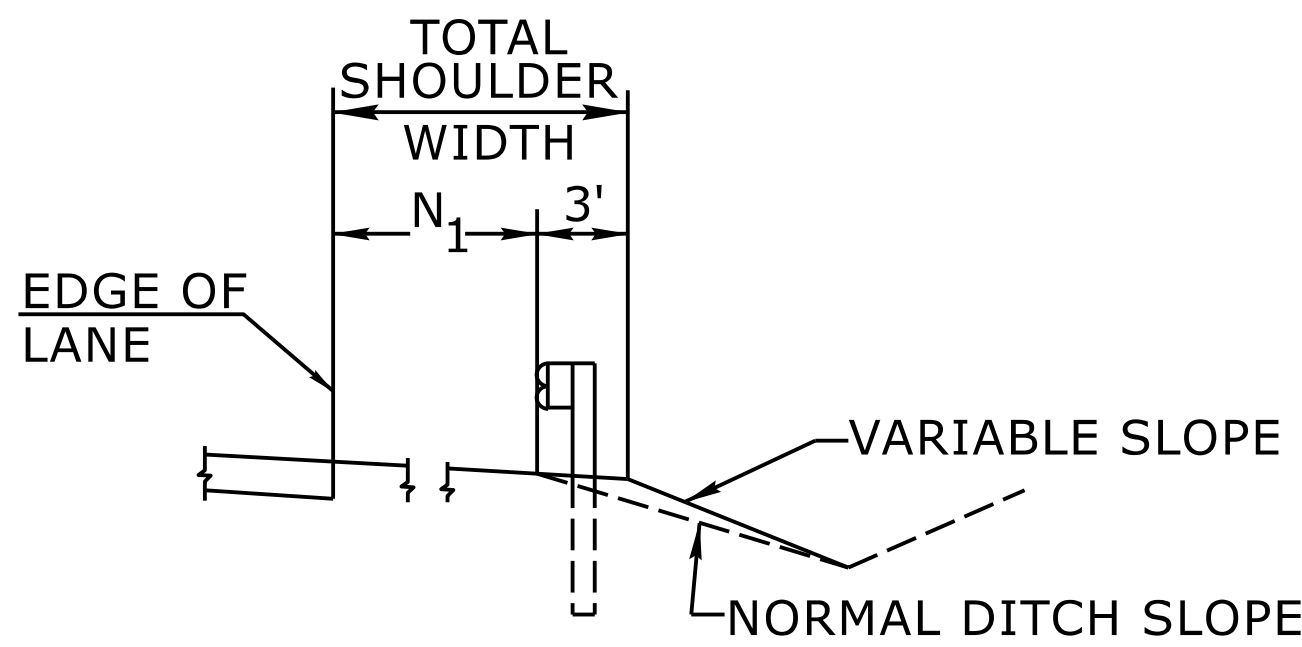
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PROJECT REFERENCE NO.	SHEET NO.
R-3430B	2C-7

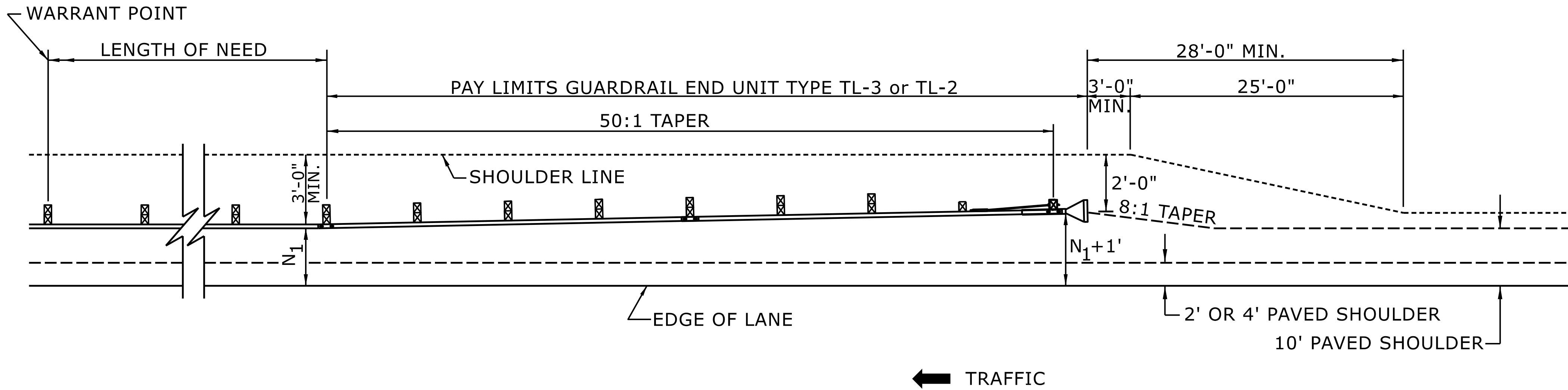


FILL SECTION



CUT SECTION

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



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

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



6/4/2025

SHEET 6 OF 15
862D01

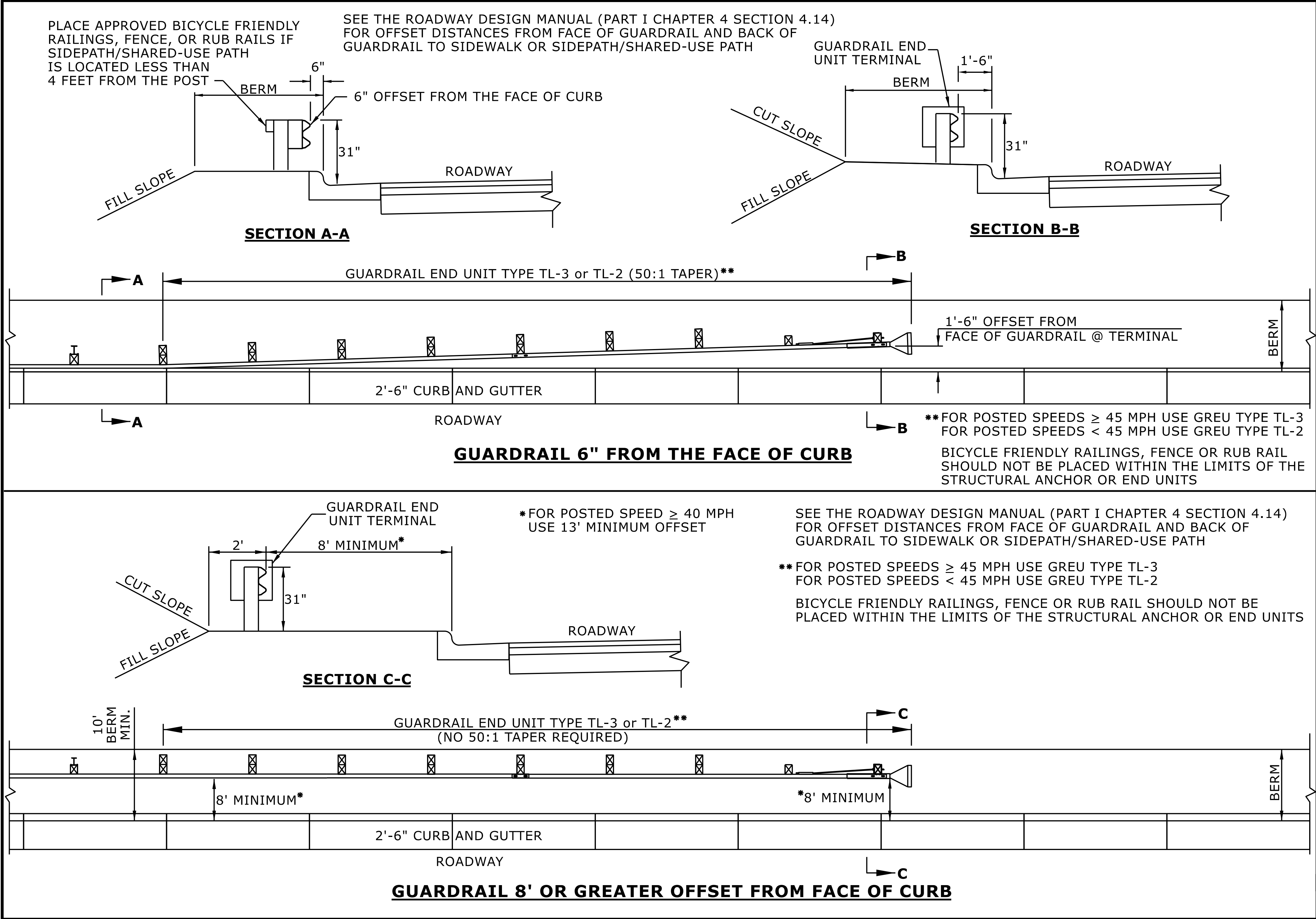
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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

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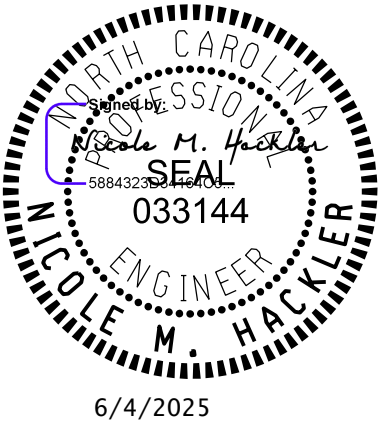
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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT
GUARDRAIL TREATMENT AT CURB AND GUTTER

SHEET 12 OF 15
862D01



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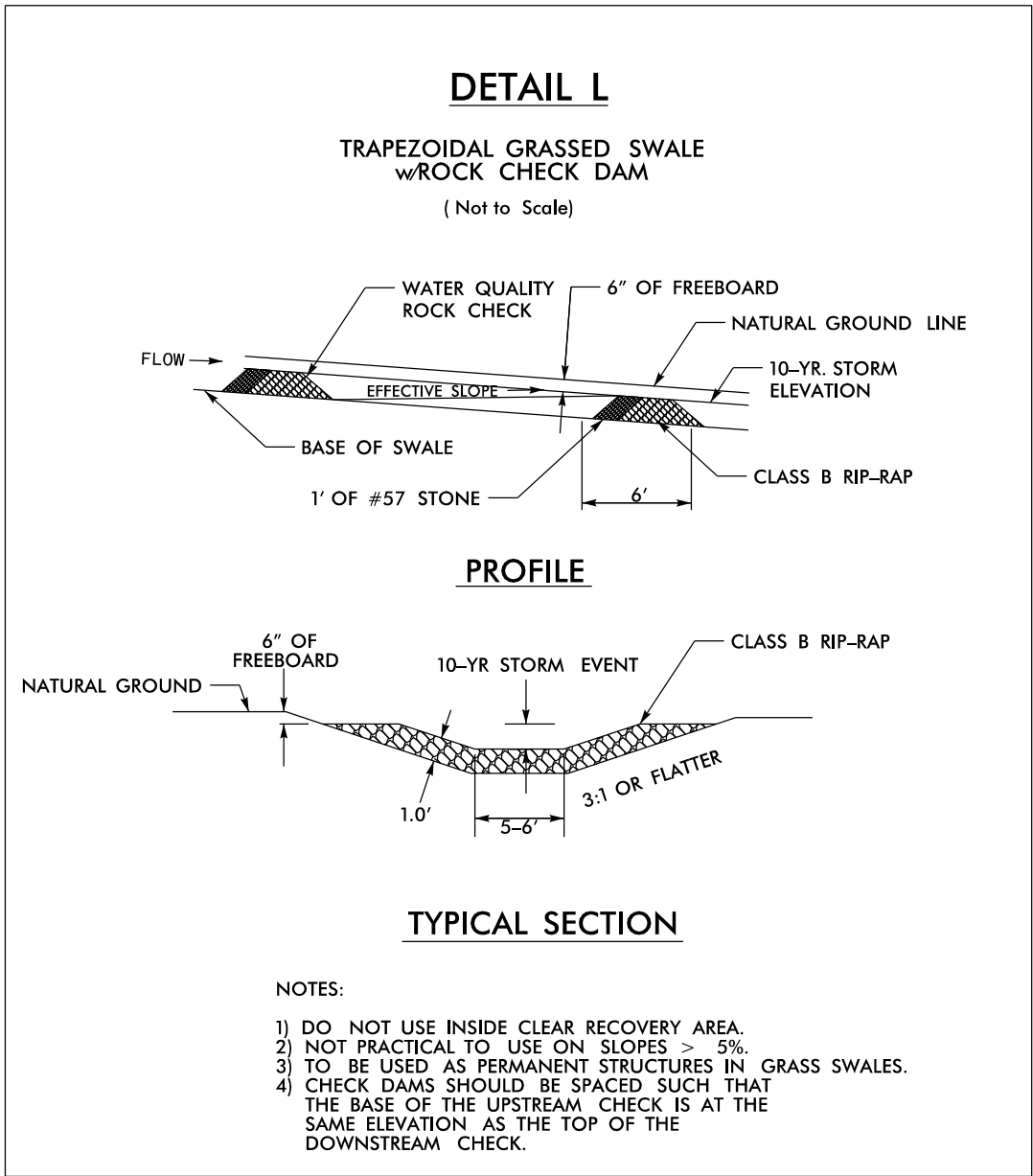
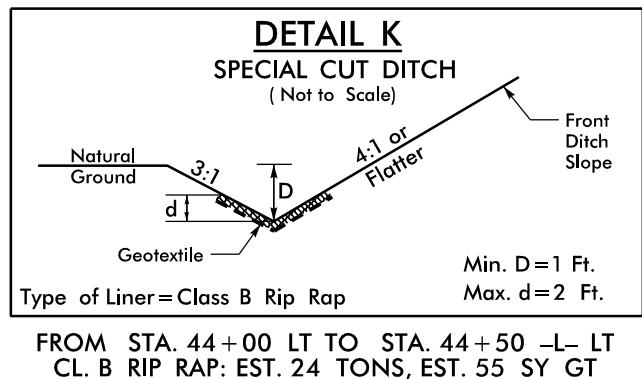
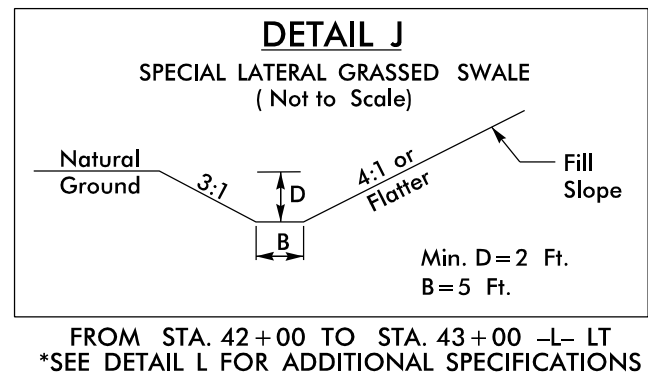
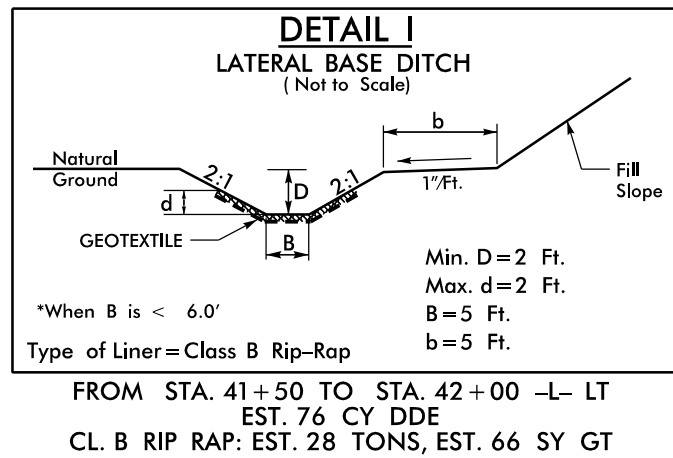
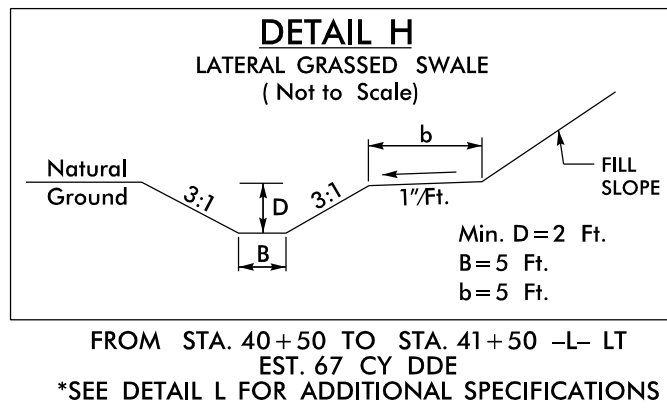
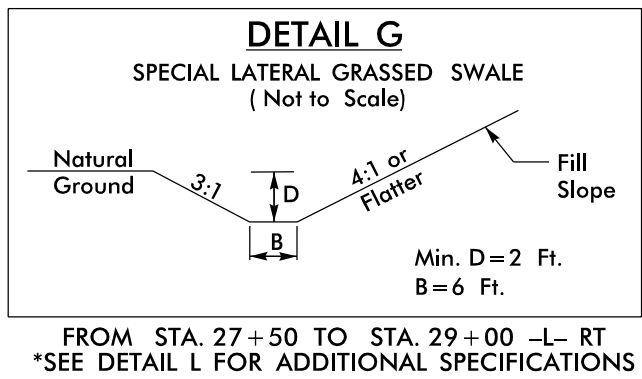
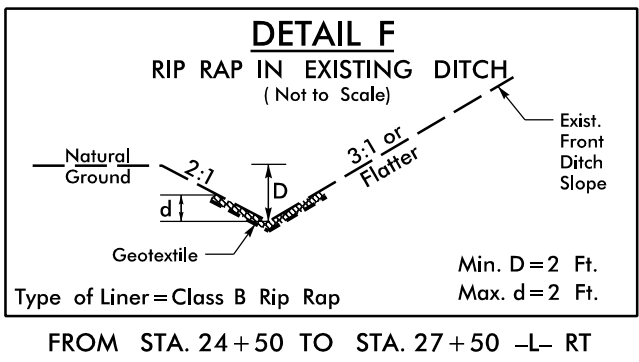
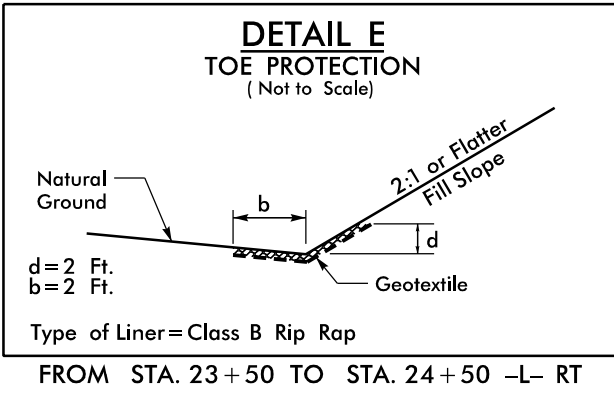
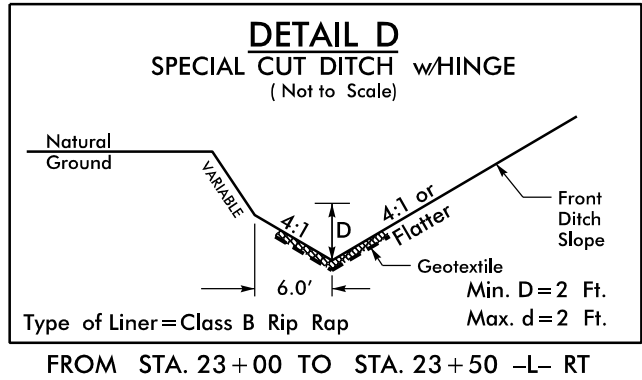
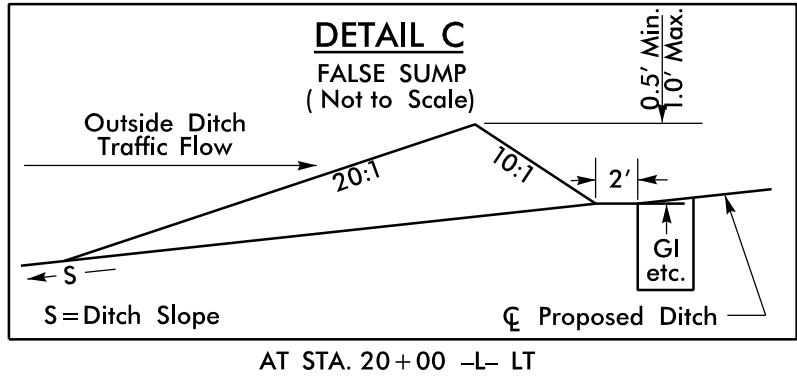
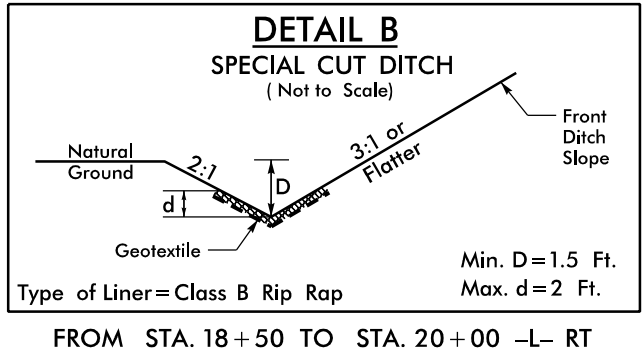
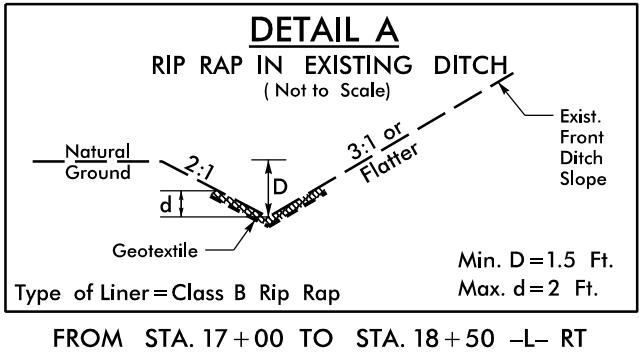
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
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CHECKED BY: DATE:
FILE SPEC.: DATE:

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PROJECT REFERENCE NO.	SHEET NO.
R-3430B	2D-1
RW SHEET NO.	
HYDRAULICS ENGINEER	

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PLANS PREPARED BY:

DRMP INC.
4235 SOUTH STREAM BLVD., SUITE 150
CHARLOTTE, NC 28217
NC LICENSE NO. C-2213 (T&E) 332-2289

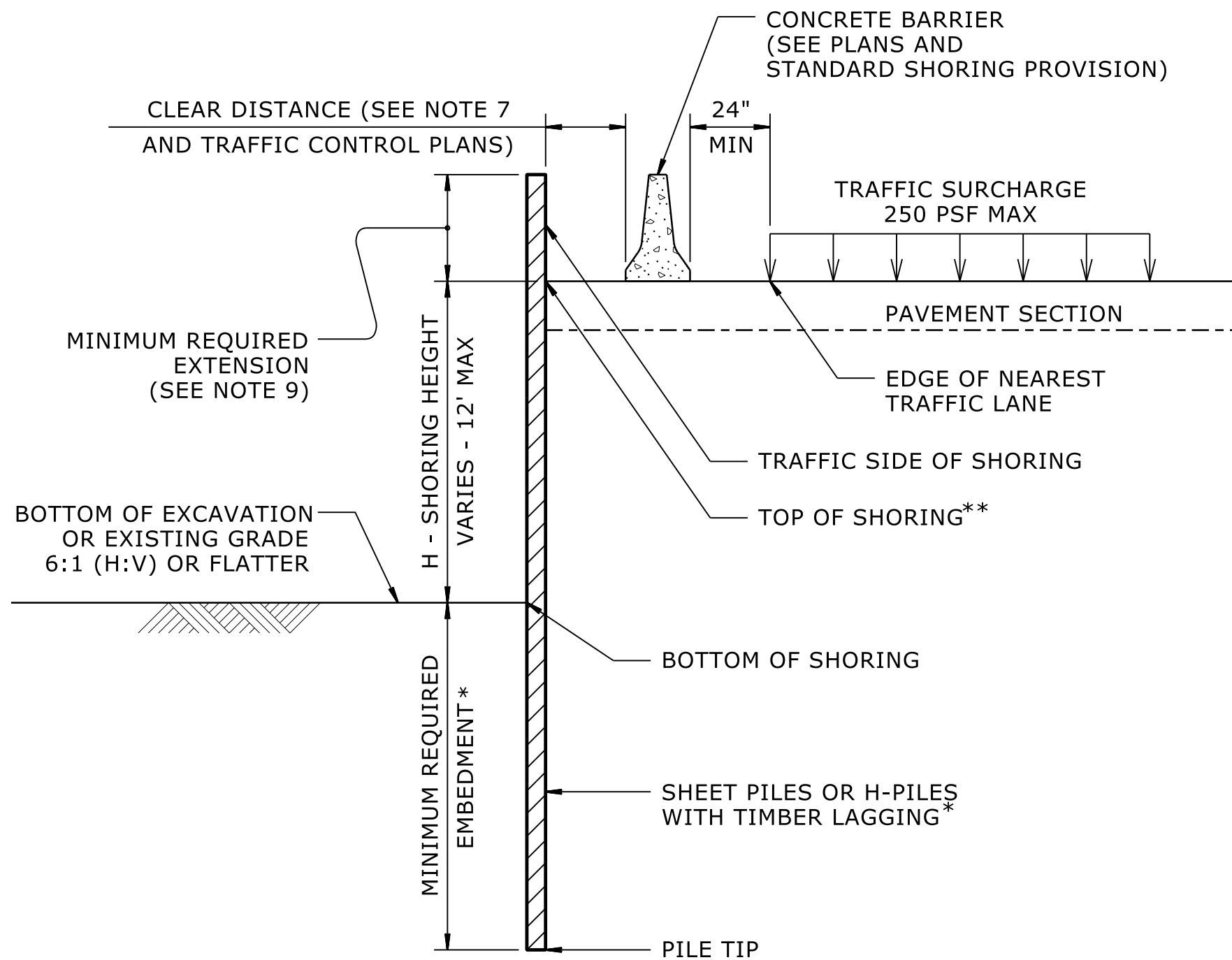
GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H-PILES WITH TIMBER LAGGING			SHEET PILES		H-PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ⁴ /FT)	MINIMUM REQUIRED EMBEDMENT * (FT) (SEE NOTE 10)			MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ⁴ /FT)	MINIMUM REQUIRED EMBEDMENT * (FT) (SEE NOTE 10)		
GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5
	8	15.0	10.0	--	15.0	15.0	18.0	17.0	--	15.5	15.5
	9	17.0	14.0	--	17.0	17.0	19.0	20.0	--	17.0	17.0
	10	18.5	19.5	--	--	18.5	20.0	23.5	--	--	18.5
	11	20.5	26.0	--	--	--	21.0	28.0	--	--	20.0
	12	22.5	33.0	--	--	--	22.0	33.0	--	--	21.5
GROUNDWATER ELEVATION BELOW PILE TIP	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5
	9	11.0	9.5	--	12.0	12.0	13.5	16.5	--	12.5	12.5
	10	12.5	13.0	--	--	13.5	14.0	19.5	--	13.5	13.5
	11	13.5	17.0	--	--	14.5	15.0	22.5	--	--	14.5
	12	15.0	21.5	--	--	16.0	16.0	25.5	--	--	15.5

MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

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

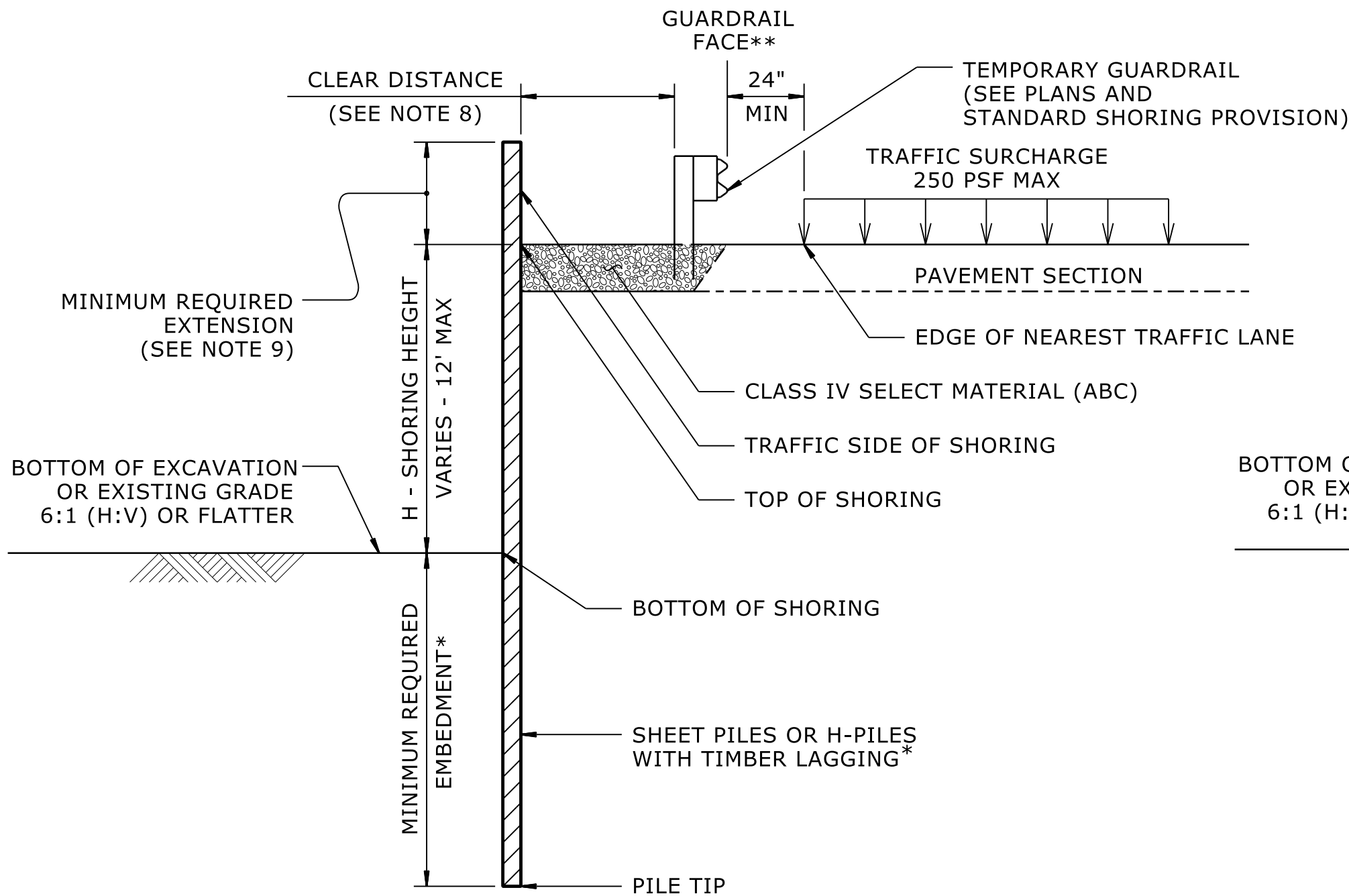
NOTES:

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



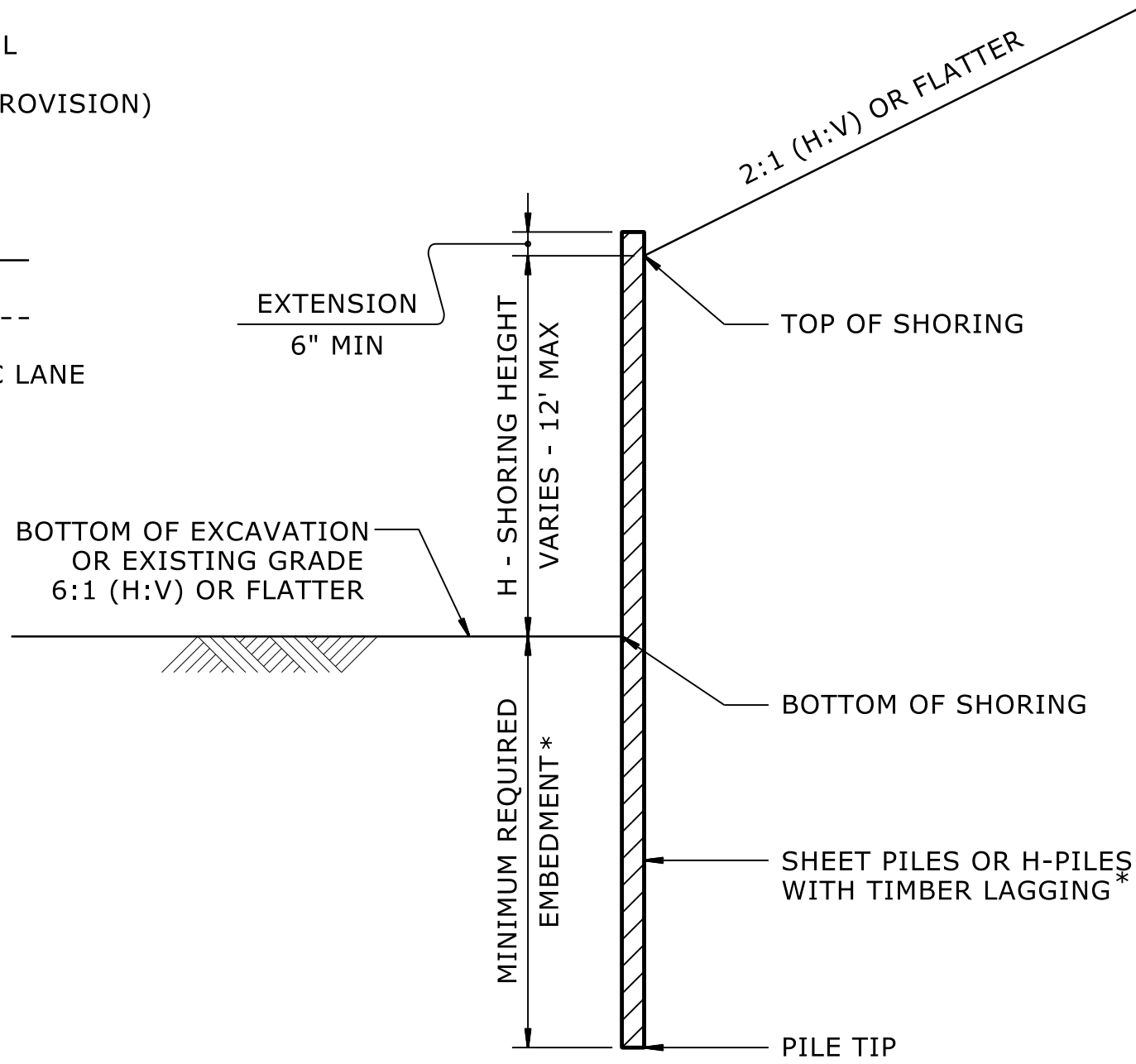
CONCRETE BARRIER

**TOP OF SHORING =
EDGE OF PAVEMENT



TEMPORARY GUARDRAIL

**GUARDRAIL FACE =
EDGE OF PAVEMENT



STANDARD TEMPORARY SHORING

(SLOPE CASE)
*SEE TABLE ABOVE.

STANDARD TEMPORARY SHORING

(SURCHARGE CASE)
*SEE TABLE ABOVE.

R-3430B

2G-1 -

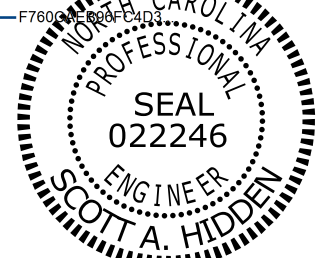
NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



GEOTECHNICAL
ENGINEERING UNIT

GEOTECHNICAL
ENGINEER

Document by: *Scott A. Hiden* / 2025



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STANDARD
DETAIL NO. 1801.01

GEOTECHNICAL STANDARD DETAIL FOR
TEMPORARY SHORING

COMPUTED BY: TAK DATE: 6/5/2025

CHECKED BY: CKH DATE: 6/5/2025

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-DET_DRW1- Sta. 10+10.00	-DET_DRW1- Sta. 14+00.00	76	334	258	
SUBTOTALS:		76	334	258	
-L- Sta. 17+00.00	-L- Sta. 29+14.00 (Begin Bridge)	18,787	6,759		12,029
-Y1- Sta. 10+17.00	-Y1- Sta. 11+25.00	3	26	23	
SUBTOTALS:		18,790	6,785	23	12,029
-L- Sta. 39+91.00 (End Bridge)	-L- Sta. 48+00.00	3,226	9,086	5,860	
-DRW1- Sta. 10+17.00	-DRW1- Sta. 13+25.00	13	376	363	
-DRW1A- Sta. 10+12.00	-DRW1A- Sta. 10+90.00	6	2		4
-DRW2- Sta. 10+17.00	-DRW2- Sta. 10+92.05	133	15		118
SUBTOTALS:		3,379	9,479	6,223	122
-DET_DRW1- Removal		258			258
SUBTOTALS:		258			258
TOTALS:		22,503	16,598	6,504	12,409
MATERIAL FOR SHOULDER CONSTRUCTION			391		
LOSS DUE TO CLEARING & GRUBBING		-20		20	
WASTE IN LIEU OF BORROW				-6,266	-6,266
PROJECT TOTALS:		22,483	16,989	649	6,143
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				32	
GRAND TOTALS:		22,483		681	6,143
SAY:		22,500		700	
PAVEMENT STRUCTURE VOLUME = 1,800 CY					

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

Note: Earthwork quantities are calculated using the Roadway Design Unit guidelines. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

DDE = 440 CY
UNDERCUT EXCAVATION = 450 CY
SELECT GRANULAR MATERIAL = 400 CY
SHALLOW UNDERCUT = 100 CY
CLASS IV SUBGRADE STABILIZATION = 200 TONS

SUMMARY OF BREAKING OF EXISTING ASPHALT PAVEMENT

IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	SY
-L-	22+00	29+00	RT	970
-L-	40+50	43+36	RT	428
-DRW1-	10+00	11+15	LT	260
TOTAL:				1,658
SAY:				1,660

SUMMARY OF REMOVAL OF EXISTING ASPHALT PAVEMENT

IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	SY
-L-	25+00	29+19	RT	454
-L-	38+29	43+00	RT	1,319
-DRW1-	10+90	10+98	LT	70
-DRW1-	11+07	13+00	LT	258
-DET_DRW1-	10+10	11+75	CL	475
-DET_DRW1-	11+74	13+75	CL	296
TOTAL:				2,872
SAY:				2,880

SHOULDER BERM GUTTER SUMMARY

IN LINEAR FEET

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	LF
-L-	40+15	40+35	RT	20
TOTAL:				20
SAY:				20

SUMMARY OF GUARDRAIL

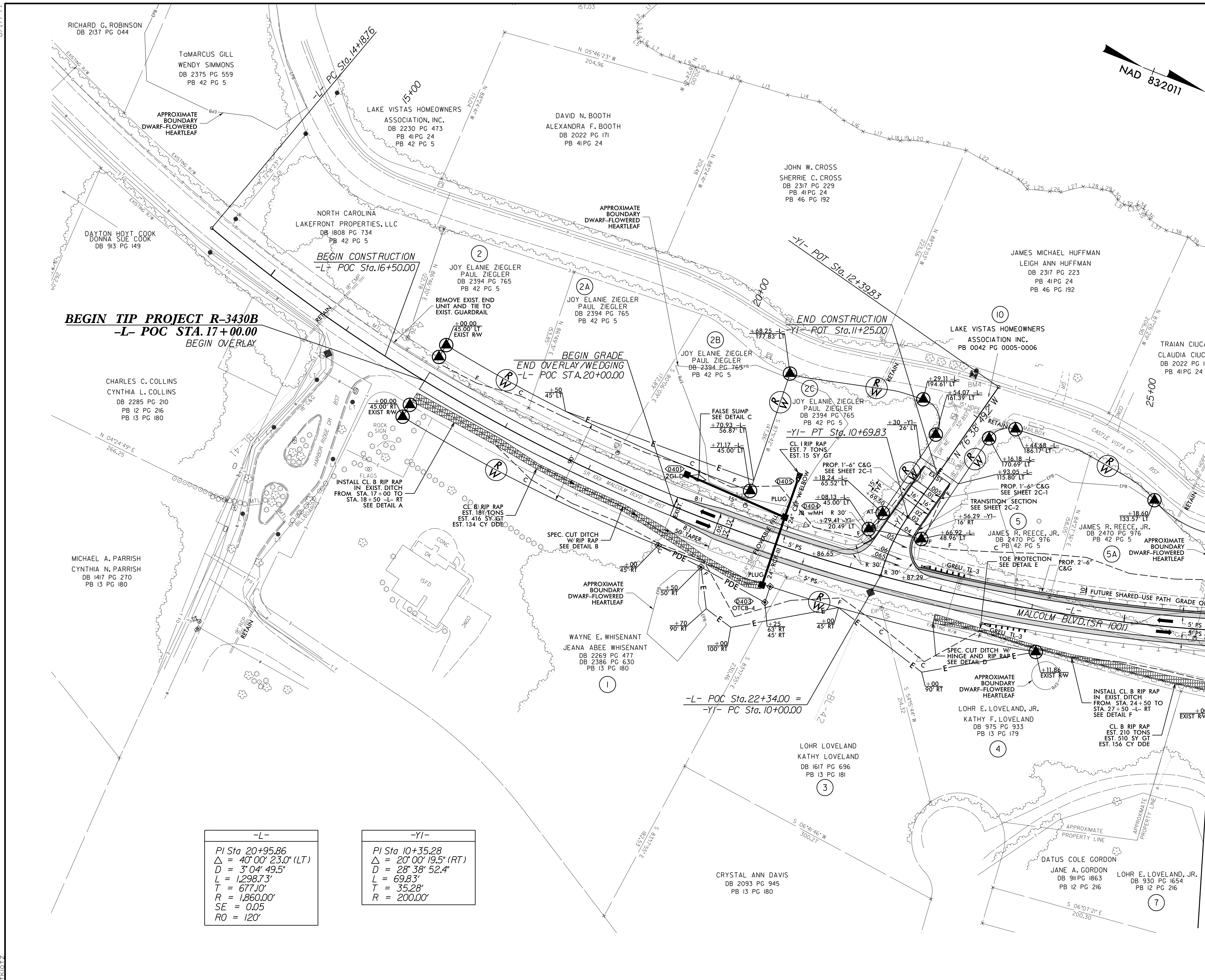
SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS								IA TL-3		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III	B-77	GREU, TL-3	GREU, TL-2	CAT-1	AT-1	Type III SC	B-77 SC	G	NG				
-L-	23+50.00	29+14.00 (Bridge)	RT	564.00			29+14.00 (Bridge)		11	11	50		1		1		1								307.80			
-L-	39+91.00 (Bridge)	43+06.00	RT	315.00				39+91.00 (Bridge)	11	11		50		1	1		1								633.66			
-L-	16+50.00	22+15.00	LT	565.00	50			16+50.00 (Fill Slope)	11	11		250		5					1						50		Remove existing end unit and tie to existing guardrail	
-L-	22+75.00	28+56.00 (Bridge)	LT	581.00				28+56.00 (Bridge)	7	7		50		1	1		1											
-L-	40+49.00 (Bridge)	43+19.30	LT	270.30			40+49.00 (Bridge)		7	7	50		1		1		1											
SUBTOTAL				2,295.30	50.00										4		4			1					991.46			
ANCHOR UNIT DEDUCTIONS																												
	GREU, TL-3	4 @ 50.00' EACH		-200.00																								
	Type III	4 @ 18.75' EACH		-75.00																								
	AT-1	1 @ 6.25' EACH		-6.25																								
ADDITIONAL GUARDRAIL POSTS = 10 EACH																												
TOTAL				2,014.05	50.00										4		4			1					991.46			
SAY				2,025	50										4		4			1					1,000			

PROJ. REFERENCE NO.	SHEET NO.
R-3430B	3P-1

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-L- MATCH LINE STA. 26+00 SEE SHEET 5

PROJECT REFERENCE NO. R-3430B		SHEET NO. 04	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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PLANS PREPARED BY: DRMP			

DRMP INC.
5808 FARMINGTON PLACE
RALEIGH, NC 27609
NC LICENSE NO. F-1524 (919) 872-5115

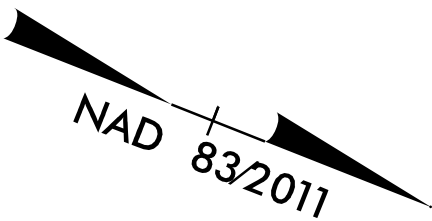
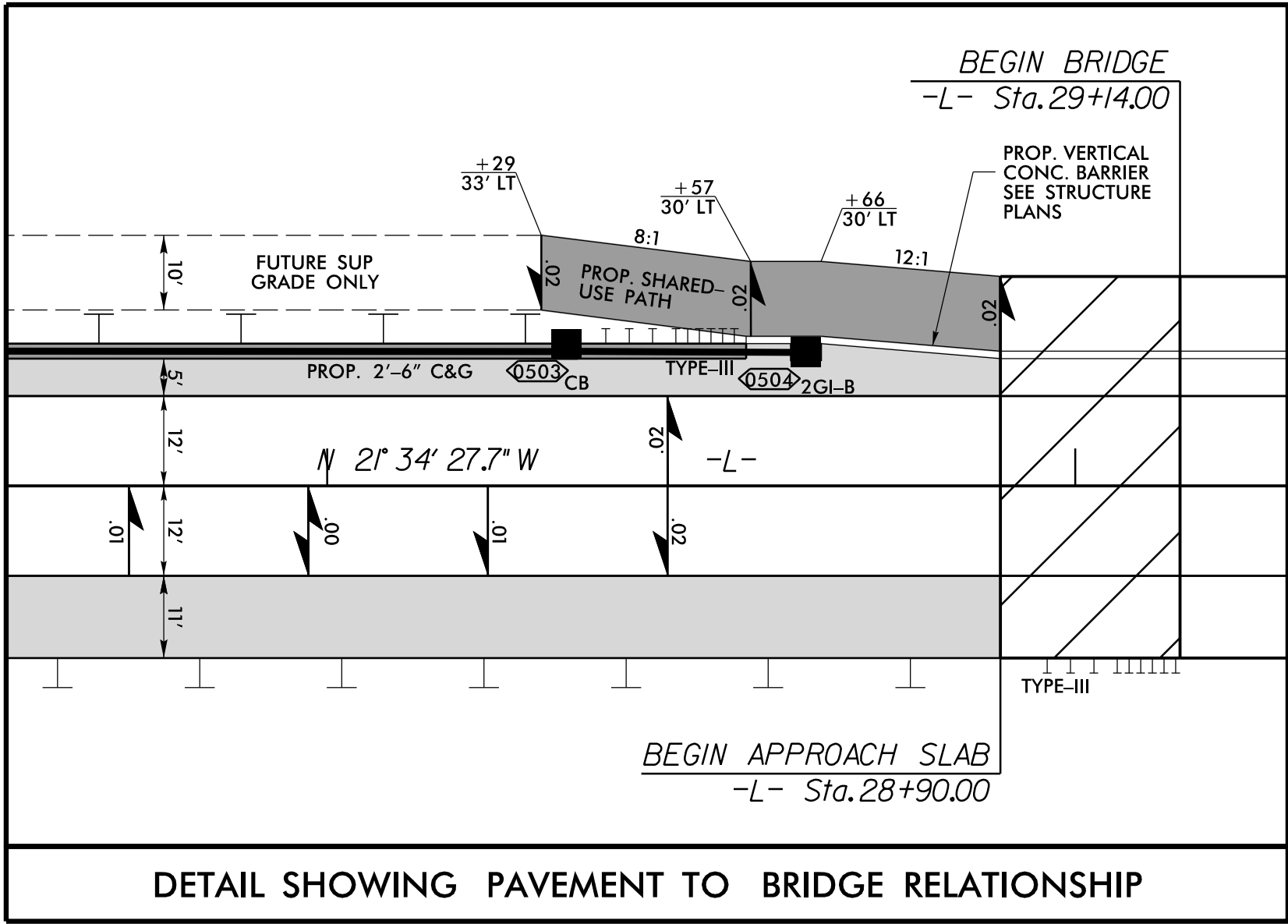
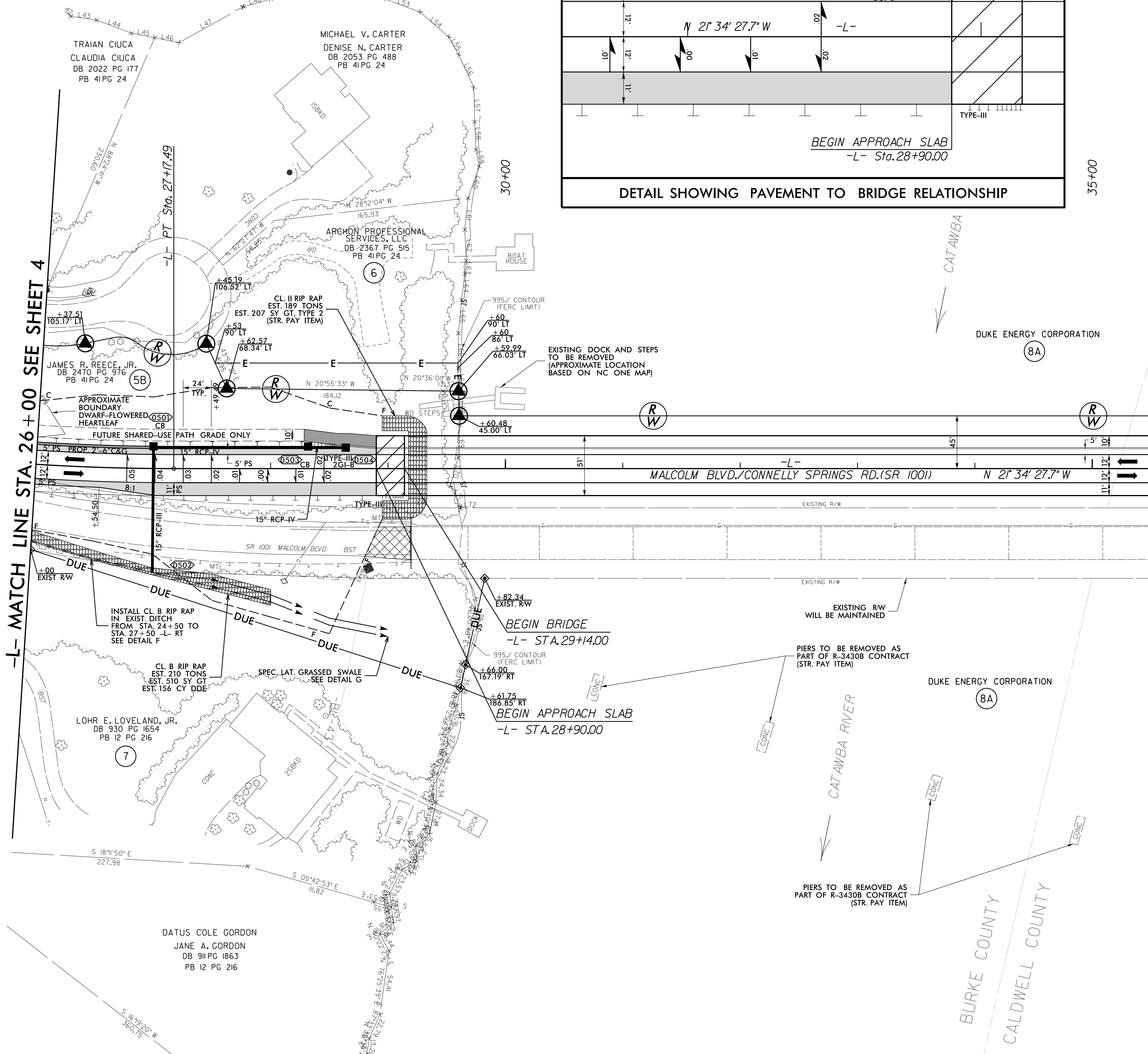
-L-
PI Sta 20+95.86
$\Delta = 40^{\circ}00'23.0"$ (LT)
$D = 3^{\circ}04'49.5"$
$L = 1,298.73'$
$T = 677.10'$
$R = 1,860.00'$
$SE = 0.05$
$RO = 120'$

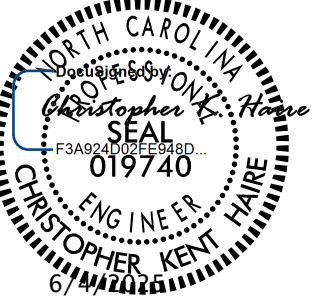
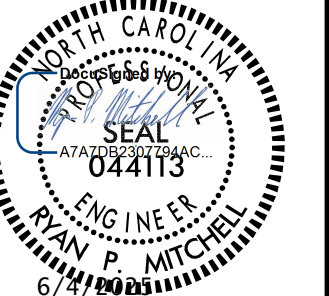
-YI-
PI Sta 10+35.28
$\Delta = 20^{\circ}00'19.5"$ (RT)
$D = 28^{\circ}38'52.4"$
$L = 69.83'$
$T = 35.28'$
$R = 200.00'$

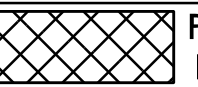
- FOR DRAINAGE DITCH DETAILS
SEE SHEET 2D-1
- FOR TRAFFIC MANAGEMENT
PLANS SEE SHEETS TMP-1
THROUGH TMP-16
- FOR -L- PROFILE SEE SHEET 07
- FOR -YI- PROFILE SEE SHEET 10

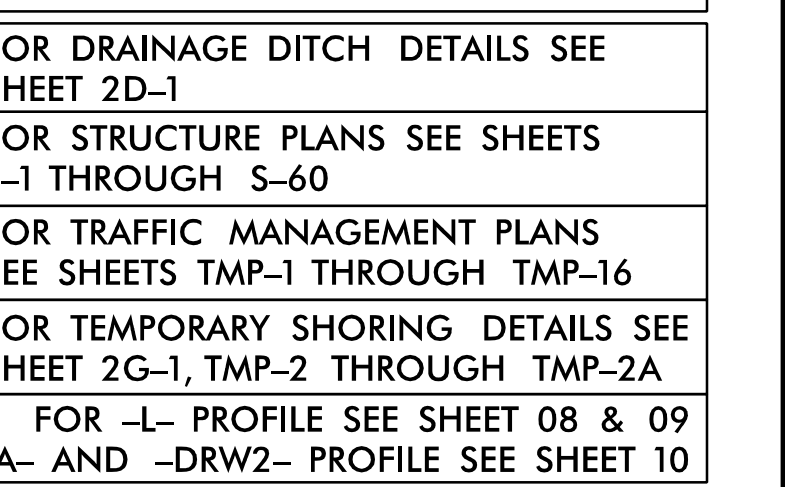
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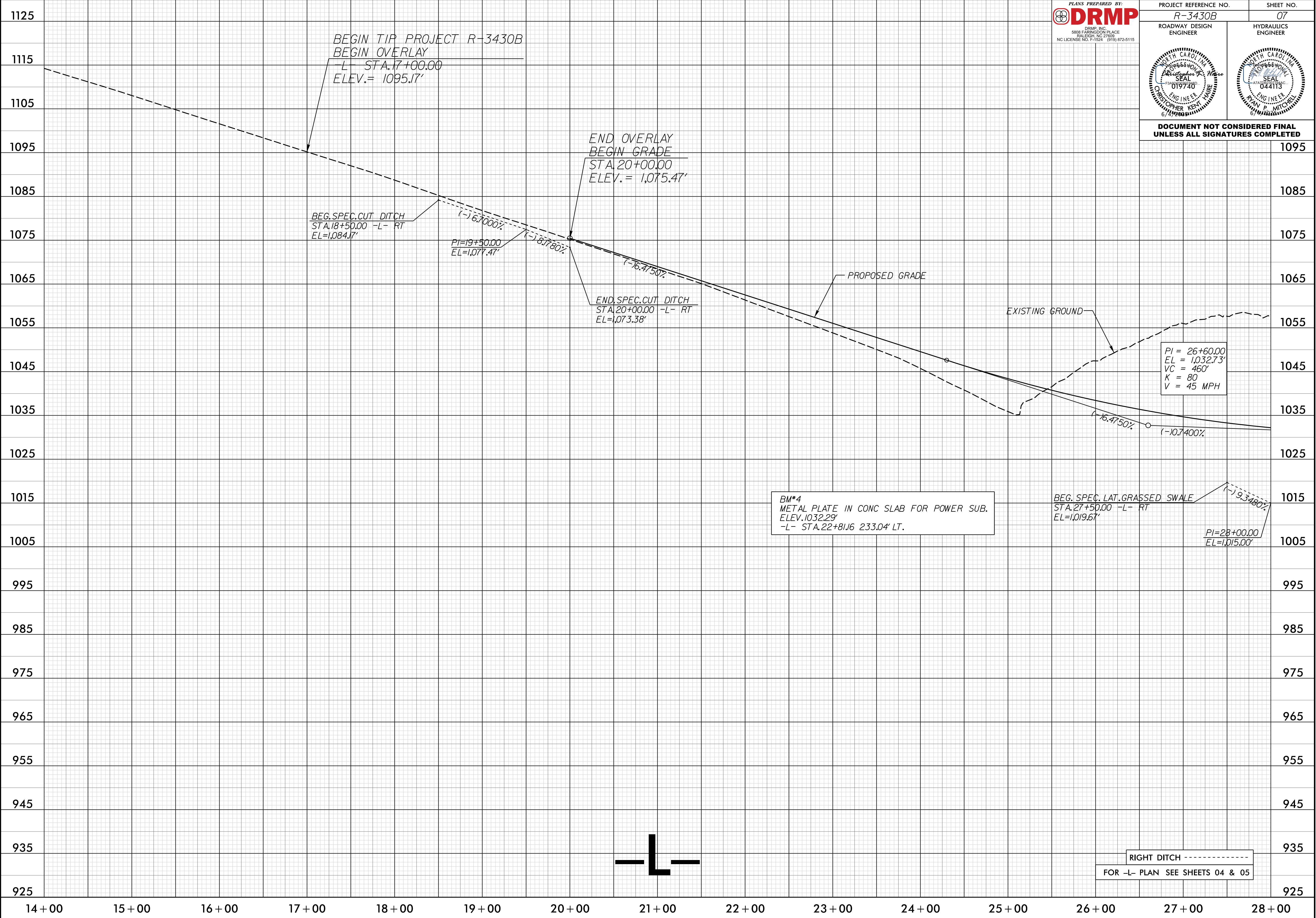


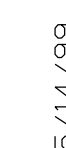
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-  PAVEMENT REMOVAL
- FOR DRAINAGE DITCH DETAILS SEE SHEET 2D-1
- FOR STRUCTURE PLANS SEE SHEETS S-1 THROUGH S-60
- FOR TRAFFIC MANAGEMENT PLANS SEE SHEETS TMP-1 THROUGH TMP-16
- FOR -L- PROFILE SEE SHEETS 07 & 08

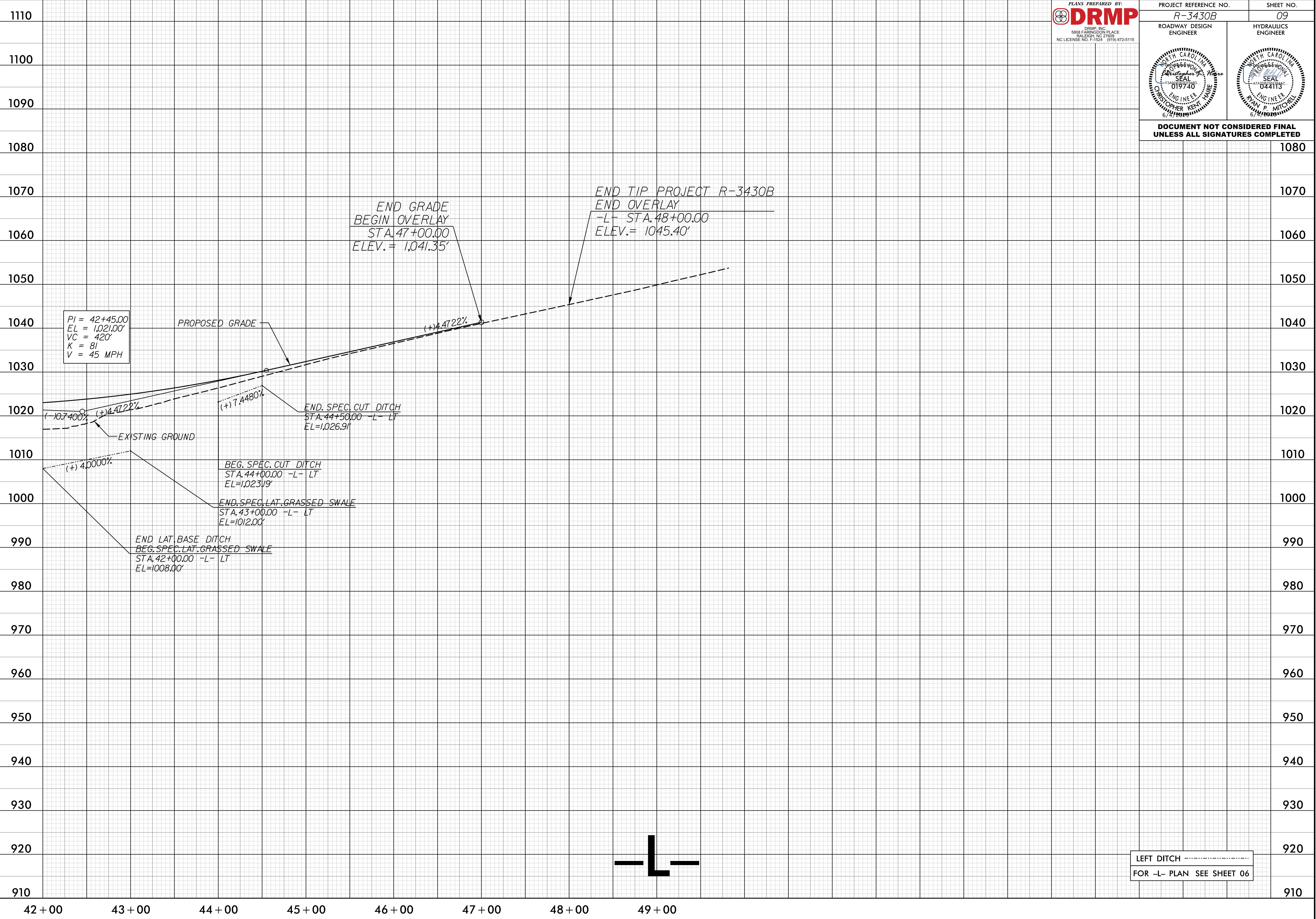


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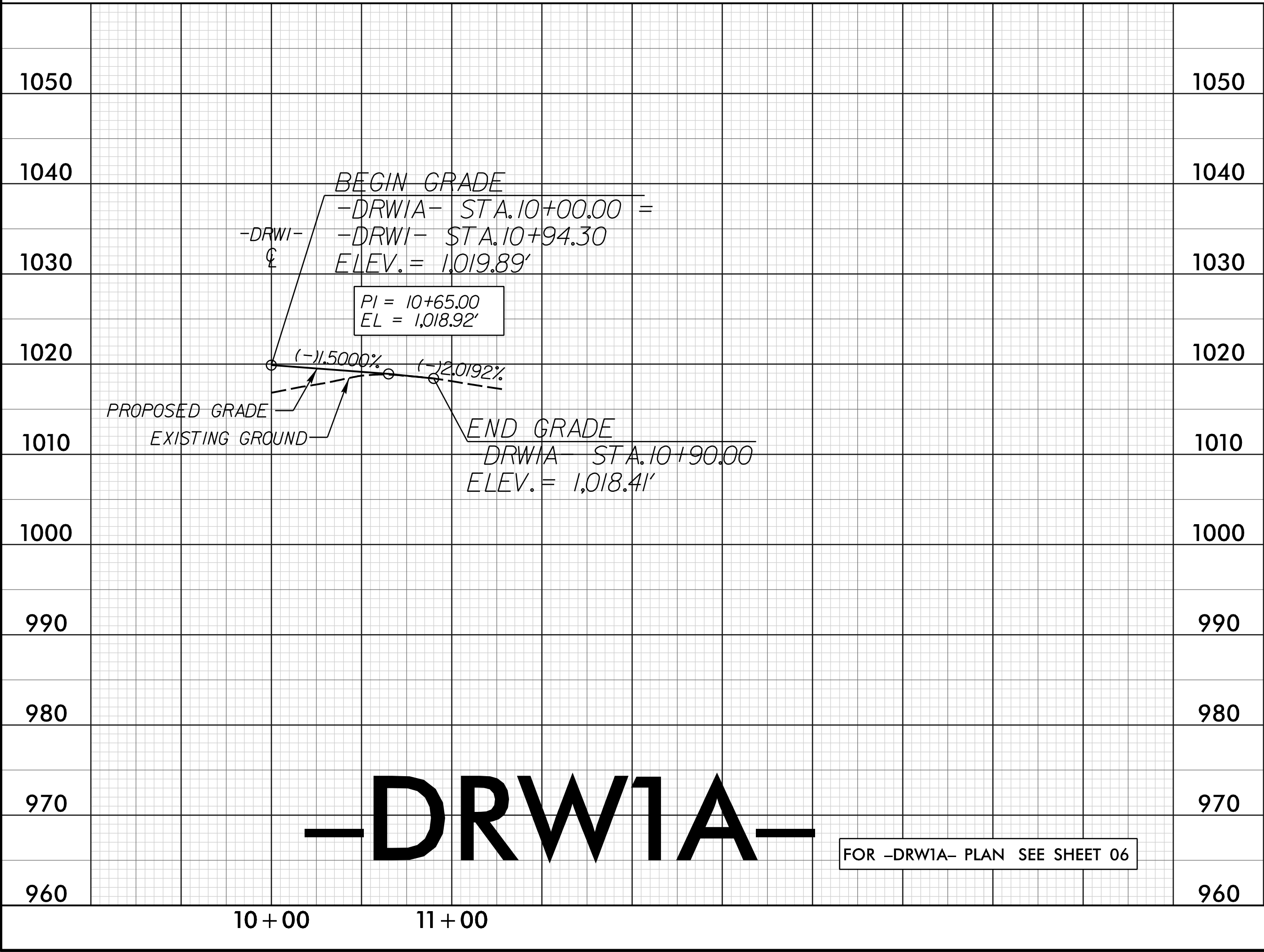
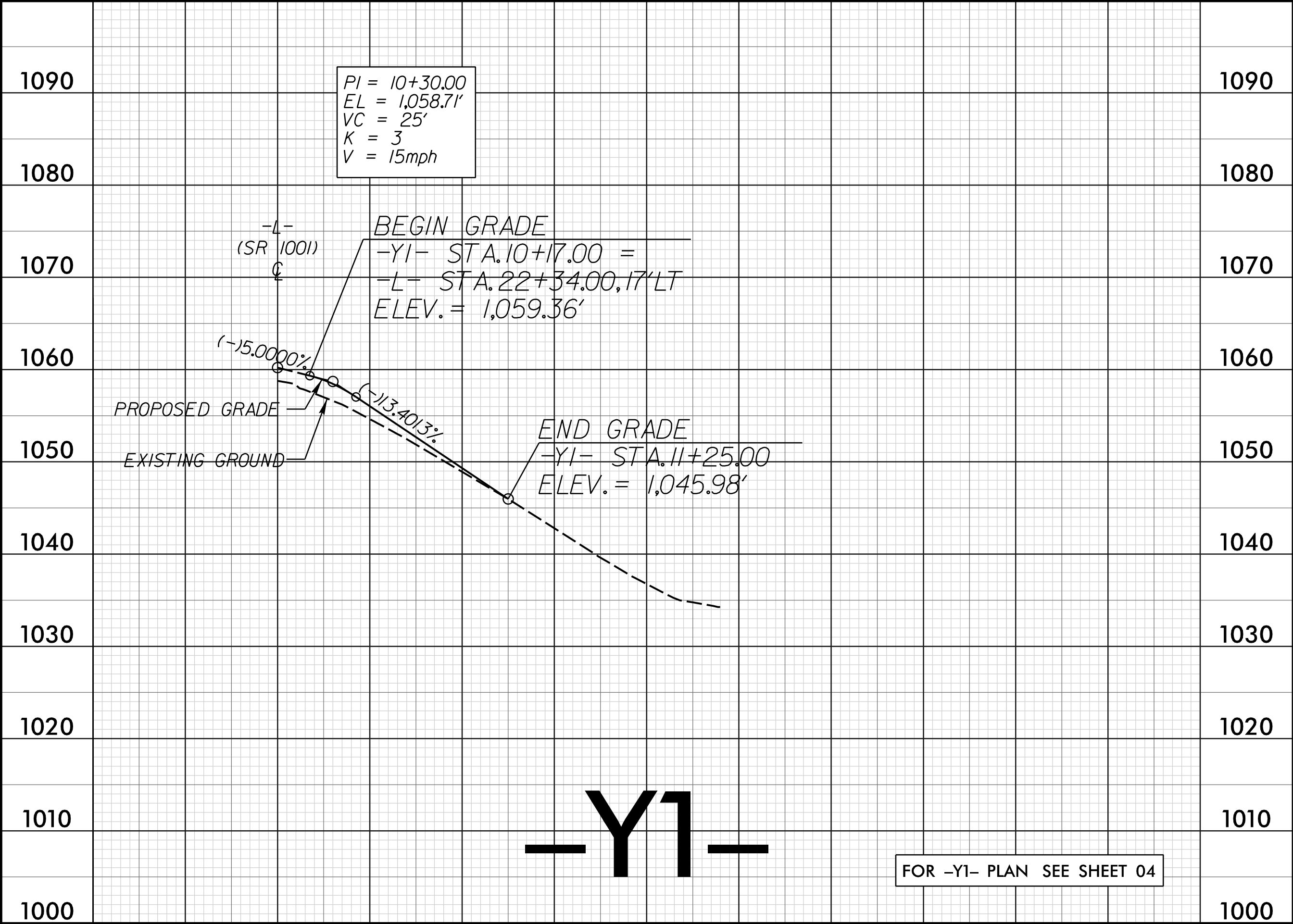


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DRMP, INC.
5808 FARMINGTON PLACE
RALEIGH, NC 27608
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

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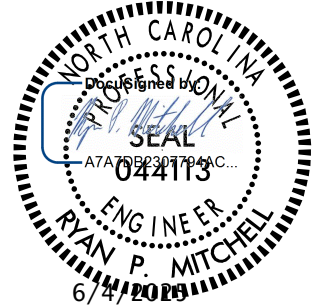
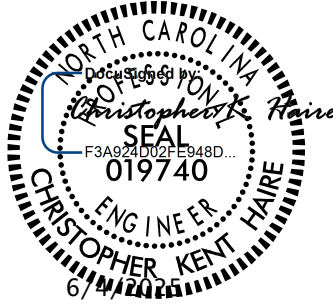
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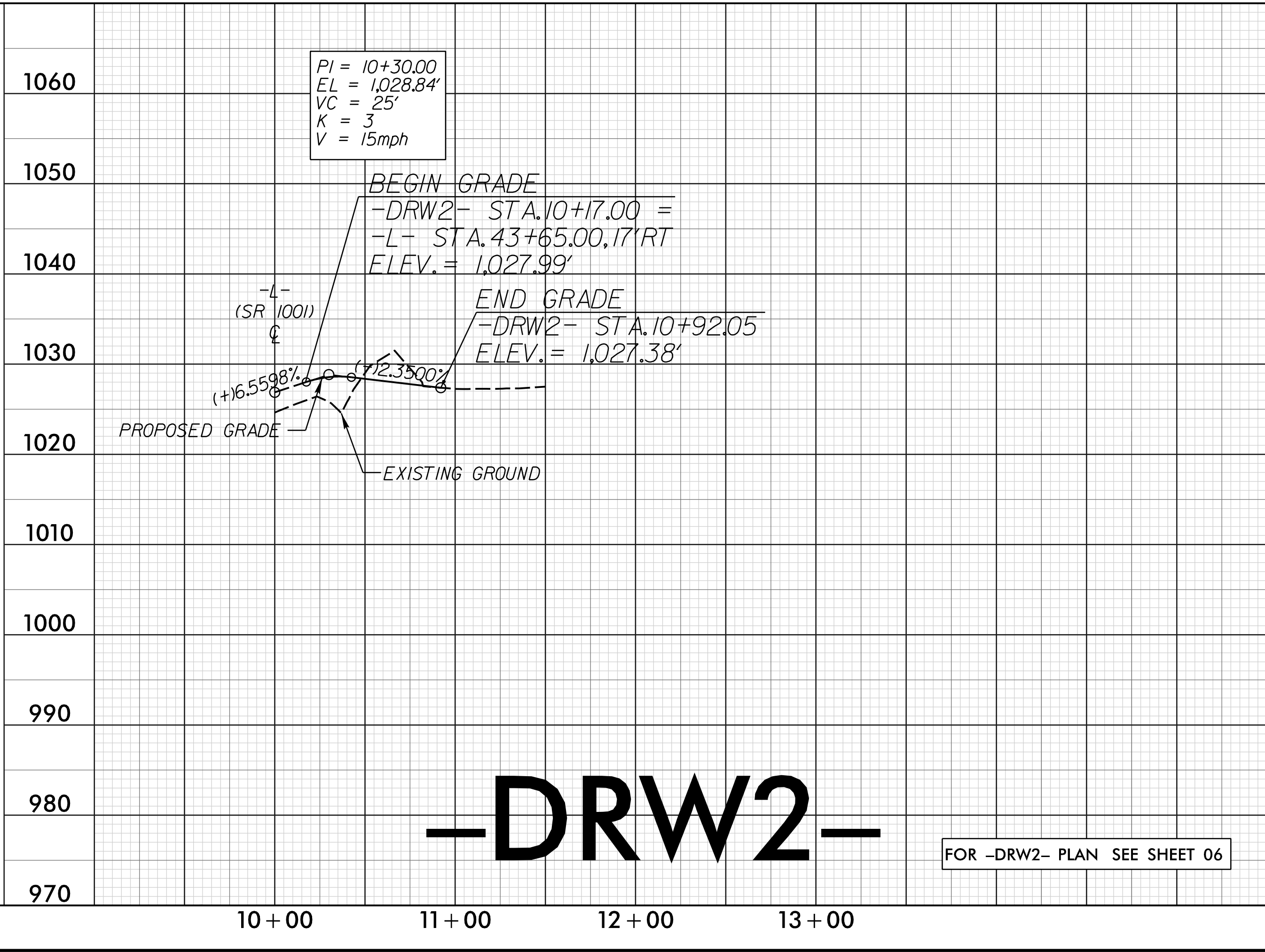
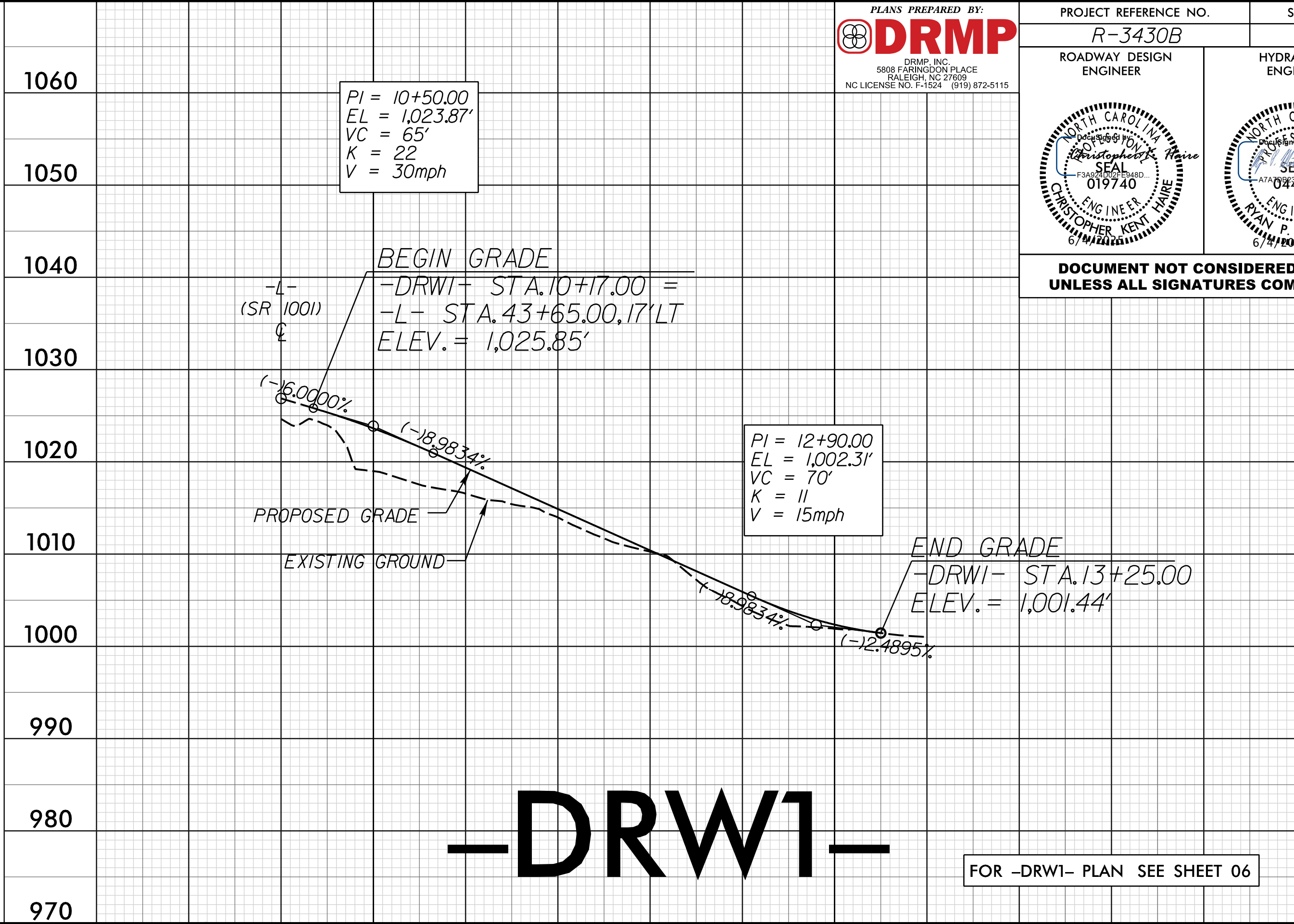
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10

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER



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