

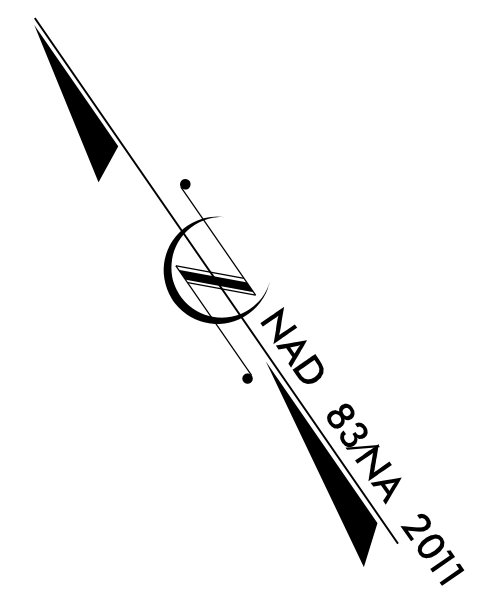
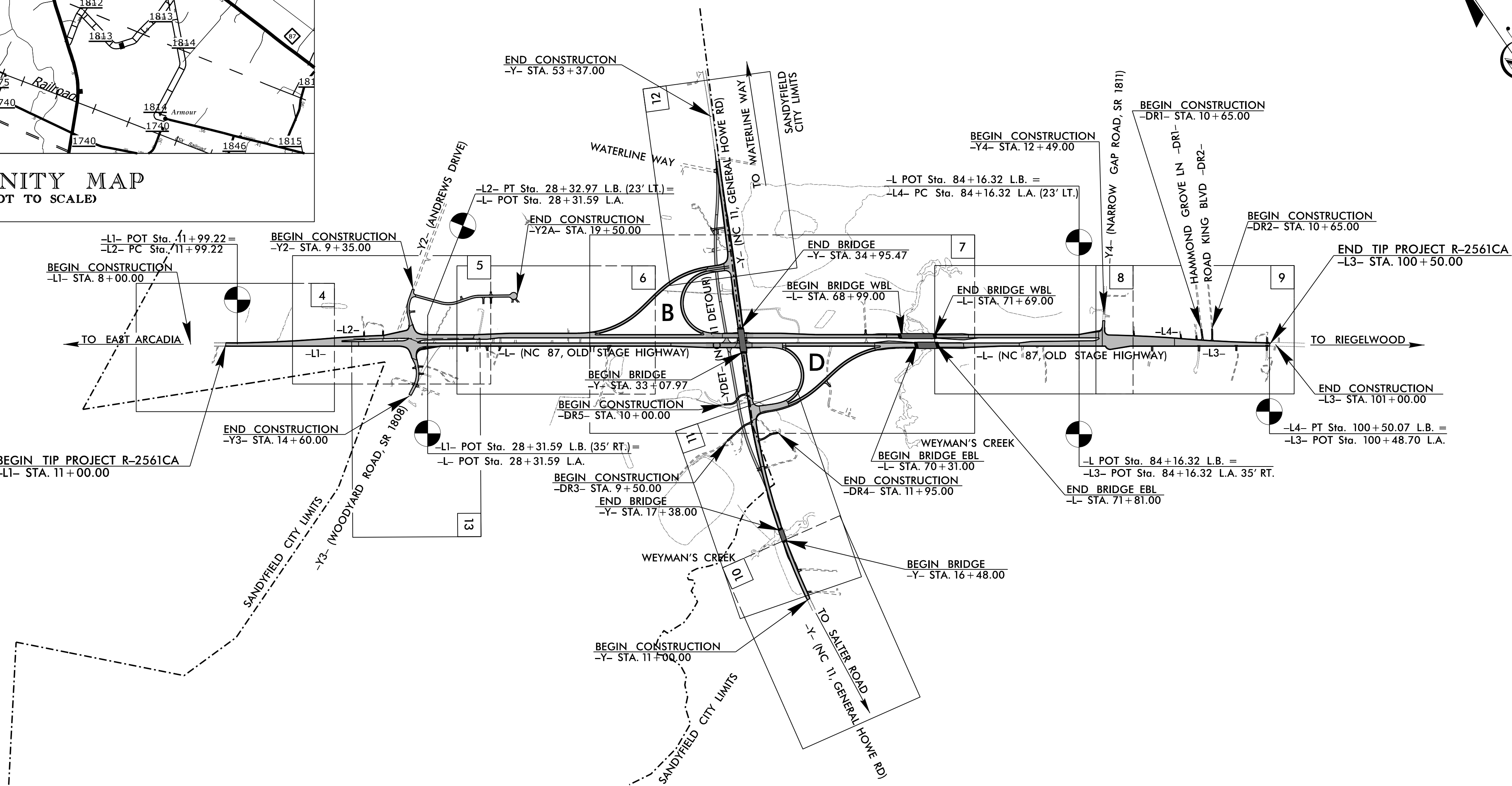
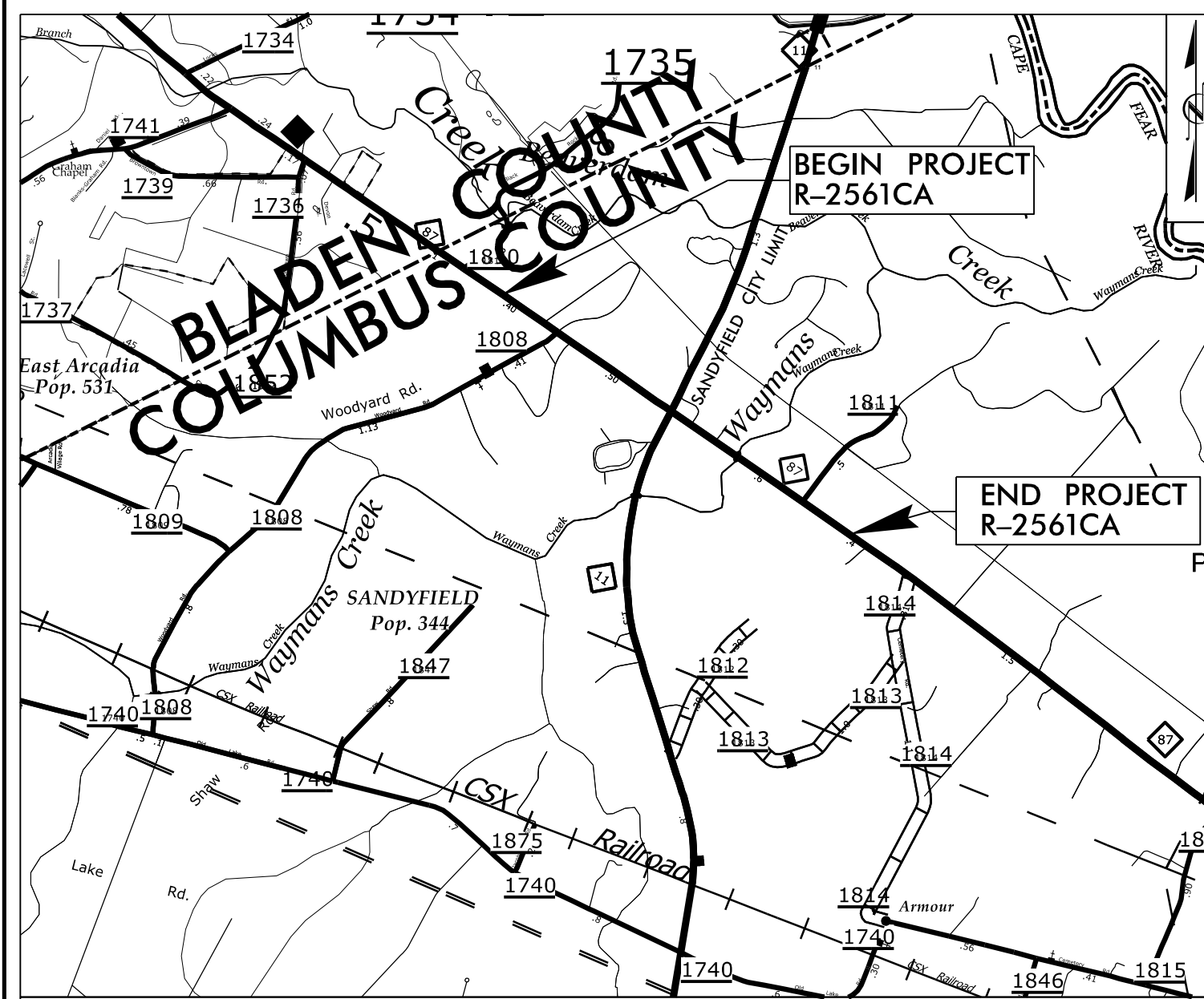
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2561CA	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34466.4.5	N/A	P.E.	
34466.3.8	N/A	RW & UTILITIES	
34466.1.5	0087051	CONST.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

COLUMBUS COUNTY

LOCATION: NC 87 (OLD STAGE RD.)/NC 11 (GENERAL HOWE RD.) INTERCHANGE
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheet RW01 Thru RW13 For Right of Way Plan Sheets

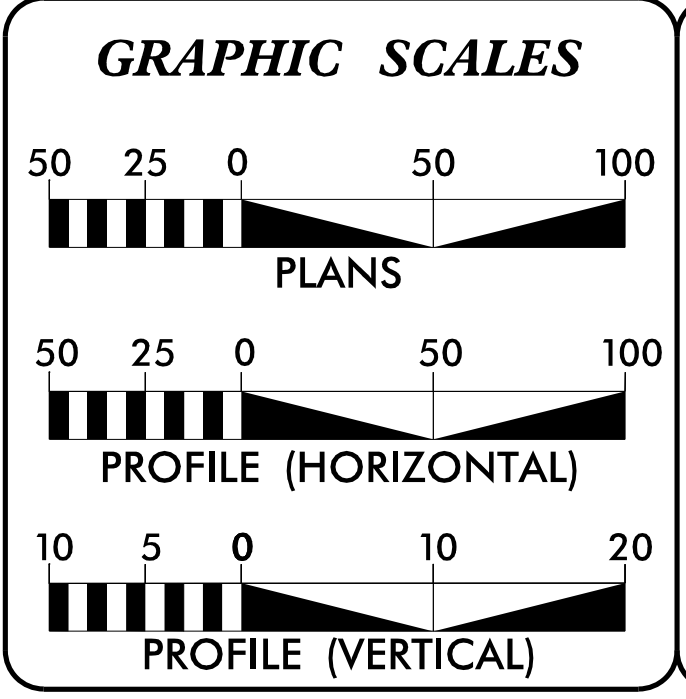


THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

TIP PROJECT: R-2561CA

CONTRACT: C204570



DESIGN DATA

ADT 2022 =	7364
ADT 2040 =	9000
K =	9 %
D =	60 %
T =	24 % *
V =	60 MPH
* TTST=20%	DUAL=4%
FUNC CLASS =	
MINOR ARTERIAL	
"REGIONAL TIER"	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT R-2561CA =	1.644 MILES
LENGTH OF STRUCTURE TIP PROJECT R-2561CA =	0.051 MILES
TOTAL LENGTH OF TIP PROJECT R-2561CA =	1.695 MILES

PLANS PREPARED FOR THE NCDOT BY:

SEPI
A Division of TransSystems
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: F-0453

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 28, 2019

LETTING DATE:
MAY 16, 2023

RAJIT RAMKUMAR, PE, LEED AP
PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE
PROJECT DESIGN ENGINEER

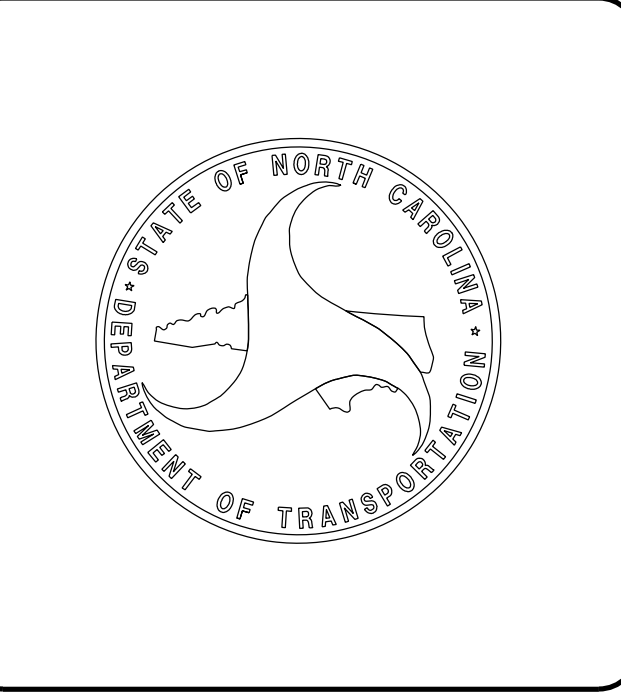
JOHN B. GAUTHIER
NCDOT CONTACT

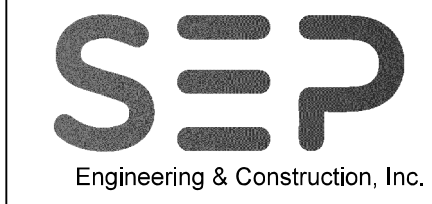
HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

SIGNATURE: _____

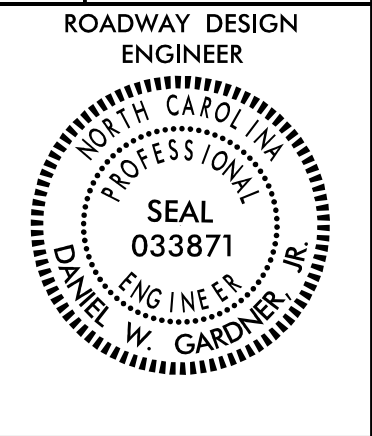
SIGNATURE: _____





1 Glenwood Avenue
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Tel: 919.789.9977
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PROJECT REFERENCE NO. R-256ICA SHEET NO. 1A



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EFF. 01-16-2018
REV.

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL PLAN SHEET SYMBOLS
2A-1 THRU 2A-8	PAVEMENT SCHEDULE, WEDGING DETAIL, AND TYPICAL SECTIONS
2B-1 THRU 2B-3	-YDET- ONSITE DETOUR SHEETS
2B-4 THRU 2B-6	ROADWAY INTERSECTION DETAILS
2B-7	SHEAR POINT DIAGRAM
2C-1	GUARDRAIL INSTALLATION DETAIL
2C-2	GUARDRAIL IMPACT ATTENUATOR DETAIL
2C-3	SPECIAL TEMPORARY TRAFFIC BEARING JUNCTION BOX DETAIL
2C-4	COAL COMBUSTION PRODUCT PLACEMENT DETAIL
2C-5	WOVEN WIRE FENCE WITH DOUBLE GATE DETAIL
2C-6	REINFORCED CONCRETE ENDWALL FOR 54" PIPE 45 DEGREE SKEW DETAIL
2C-7	REINFORCED CONCRETE ENDWALL FOR 54" PIPE 60 DEGREE SKEW DETAIL
2D-1	DRAINAGE DITCH DETAILS
2D-2	STREAM BED DETAILS (BRIDGE NO. 372 & 418)
2D-3	STREAM BED DETAILS (BRIDGE NO. 374)
3B-1	SUMMARY OF EARTHWORK
3B-2	GUARDRAIL SUMMARY, ASPHALT PAVEMENT REMOVAL SUMMARY, BREAKING OF EXISTING ASPHALT PAVEMENT SUMMARY, SHOULDER BERM GUTTER SUMMARY, CABLE GUIDERAIL SUMMARY, PRECAST CONCRETE BARRIER SUMMARY, AND WOVEN WIRE FENCE SUMMARY
3D-1 THRU 3D-8	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEET
4 THRU 13	PLAN SHEETS
14 THRU 30	PROFILE SHEETS
RW 1 THRU RW 13	RIGHT OF WAY PLAN SHEETS
TMP-1 THRU TMP-37	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-11	PAVEMENT MARKING PLANS
EC-1 THRU EC-23	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-19	SIGNING PLANS
UC-1 THRU UC-20	UTILITIES CONSTRUCTION PLANS
UD-1 THRU UD-14	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION INDEX SHEET
X-1A THRU X-1E	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-99	CROSS-SECTIONS
S1-1 THRU S1-28	STRUCTURE PLANS (-Y- STA. 34+01.72)
S2-1 THRU S2-24	STRUCTURE PLANS (-Y- STA. 16+93.00)
S3-1 THRU S3-30	STRUCTURE PLANS (-L- STA. 70+34.00)
S4-1 THRU S4-29	STRUCTURE PLANS (-L- STA. 71+06.00)

GENERAL NOTES: 2018 SPECIFICATIONS EFFECTIVE: 01-16-2018 REVISED:

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

CLEARING: CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION: ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 AND STD. NO. 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION: ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 AND STD. NO. 560.02

SIDE ROADS: THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

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

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

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

TEMPORARY SHORING: SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

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

UTILITIES: UTILITY OWNERS ON THIS PROJECT ARE Communications - AT&T, Charter, Verizon, Windstream, and Focus Broadband; Power Distribution - Four County EMC; Power Transmission - Four County EMC; Water - Town of Sandyfield

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS: ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.01	Guide for Grading Subgrade - Interstate and Freeway
225.02	Guide for Grading Subgrade - Secondary and Local
225.03	Deceleration and Acceleration Lanes
225.04	Method of Obtaining Superlevation - Two Lane Pavement
225.05	Method of Obtaining Superlevation - Divided Highways
225.06	Method of Grading Sight Distance at Intersections
225.07	Grading For False Cut at Grade Separations
225.09	Grade For Shoulder and Ditch Transition at Grade Separations
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.01	Bridge Approach Fills - Type I Standard Approach Fill
422.03	Bridge Approach Fills - Type A Alternate Approach Fill for Integral Abutment
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
560.02	Method of Shoulder Construction - High Side of Superelevated Curve - Method II
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
610.03	Guide for Paving Shoulders Under Bridges - Method III
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.21	Reinforced Concrete Endwall - for Single 54" Pipe 90 Skew
838.22	Reinforced Concrete Endwall - for Double and Triple 54" Pipes 90 Skew
838.51	Reinforced Brick Endwall - for Single 54" Pipe 90 Skew
838.52	Reinforced Brick Endwall - for Double and Triple 54" Pipes 90 Skew
838.75	Notes for Reinforced Brick Endwall - Std. Dwg 838.51 thru 838.70
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.22	Frames and Narrow Slot Sag Grates
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.29	Frame and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
848.04	Street Turnout
850.01	Concrete Paved Ditches
850.10	Guide for Berm Drainage Outlet - 15" and 18" Pipe
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands
857.01	Precast Reinforced Concrete Barrier - 41" Single Faced
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
865.01	Cable Guiderail
866.02	Woven Wire Fence - with Wood Post
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

12/2/2016

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	①23
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	--- WLB ---
Proposed Wetland Boundary	--- WLB ---
Existing Endangered Animal Boundary	--- EAB ---
Existing Endangered Plant Boundary	--- EPB ---
Existing Historic Property Boundary	--- HPB ---
Known Contamination Area: Soil	☠-S-☠
Potential Contamination Area: Soil	☠-S-☠
Known Contamination Area: Water	☠-W-☠
Potential Contamination Area: Water	☠-W-☠
Contaminated Site: Known or Potential	☠?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	▬

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	--- JS ---
Buffer Zone 1	--- BZ 1 ---
Buffer Zone 2	--- BZ 2 ---
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	▽
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	⊠
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	-----
New Right of Way Line with Pin and Cap	-----
New Right of Way Line with Concrete or Granite R/W Marker	-----
New Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	-----
New Temporary Construction Easement	-----
New Temporary Drainage Easement	-----
New Permanent Drainage Easement	-----
New Permanent Drainage / Utility Easement	-----
New Permanent Utility Easement	-----
New Temporary Utility Easement	-----
New Aerial Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	--- C ---
Proposed Slope Stakes Fill	--- F ---
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗

VEGETATION:

Single Tree	○
Single Shrub	○

Note: Not to Scale *S.U.E. = *Subsurface Utility Engineering*

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:

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 LOS B (S.U.E.*)	-----
U/G Power Line LOS C (S.U.E.*)	-----
U/G Power Line LOS D (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊞
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	-----
U/G Telephone Cable LOS B (S.U.E.*)	-----
U/G Telephone Cable LOS C (S.U.E.*)	-----
U/G Telephone Cable LOS D (S.U.E.*)	-----
U/G Telephone Conduit LOS B (S.U.E.*)	-----
U/G Telephone Conduit LOS C (S.U.E.*)	-----
U/G Telephone Conduit LOS D (S.U.E.*)	-----
U/G Fiber Optics Cable LOS B (S.U.E.*)	-----
U/G Fiber Optics Cable LOS C (S.U.E.*)	-----
U/G Fiber Optics Cable LOS D (S.U.E.*)	-----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Pedestal	⊞
TV Tower	⊗
U/G TV Cable Hand Hole	-----
U/G TV Cable LOS B (S.U.E.*)	-----
U/G TV Cable LOS C (S.U.E.*)	-----
U/G TV Cable LOS D (S.U.E.*)	-----
U/G Fiber Optic Cable LOS B (S.U.E.*)	-----
U/G Fiber Optic Cable LOS C (S.U.E.*)	-----
U/G Fiber Optic Cable LOS D (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	-----
U/G Gas Line LOS C (S.U.E.*)	-----
U/G Gas Line LOS D (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Forced Main Line LOS B (S.U.E.*)	-----
SS Forced Main Line LOS C (S.U.E.*)	-----
SS Forced Main Line LOS D (S.U.E.*)	-----

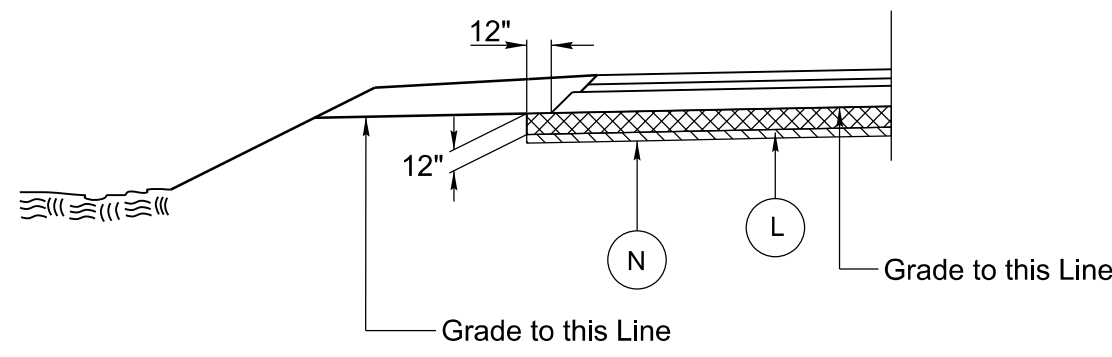
MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊞
Utility Unknown U/G Line LOS B (S.U.E.*)	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	⊞
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	⊗
U/G Test Hole LOS A (S.U.E.*)	-----
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

6/2/99

- NOTES: 1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
 2. SHOULDER ROLLOVER NOT TO EXCEED 0.06 (TYP).
 3. SEE PLANS FOR LOCATION OF TURN LANES AND INTERSECTION TURNOUTS.
 4. SEE PLANS FOR CONC. ISLAND LOCATIONS

SHALLOW UNDERCUT DETAIL



- SHOULDER SECTION**
SHALLOW UNDERCUT STATIONS
 -L1- STA. 23+75.00 TO STA. 26+25.00 LT./RT.
 -L1- STA. 27+75.00 TO STA. 28+32.00 LT./RT.
 -L1- STA. 31+75.00 TO STA. 33+25.00 LT./RT.
 -L1- STA. 40+25.00 TO STA. 41+75.00 LT./RT.
 -L1- STA. 43+75.00 TO STA. 45+75.00 LT./RT.
 -L1- STA. 50+25.00 TO STA. 53+25.00 RT.
 -L1- STA. 56+50.00 TO STA. 57+75.00 RT.
 -L3- STA. 90+75.00 TO STA. 95+75.00 LT./RT.
 -L3- STA. 98+25.00 TO STA. 99+25.00 LT./RT.
 -Y- STA. 11+25.00 TO STA. 13+25.00 LT./RT.
 -Y- STA. 19+75.00 TO STA. 20+25.00 RT.
 -Y3- STA. 12+30.00 TO STA. 14+30.00 RT.

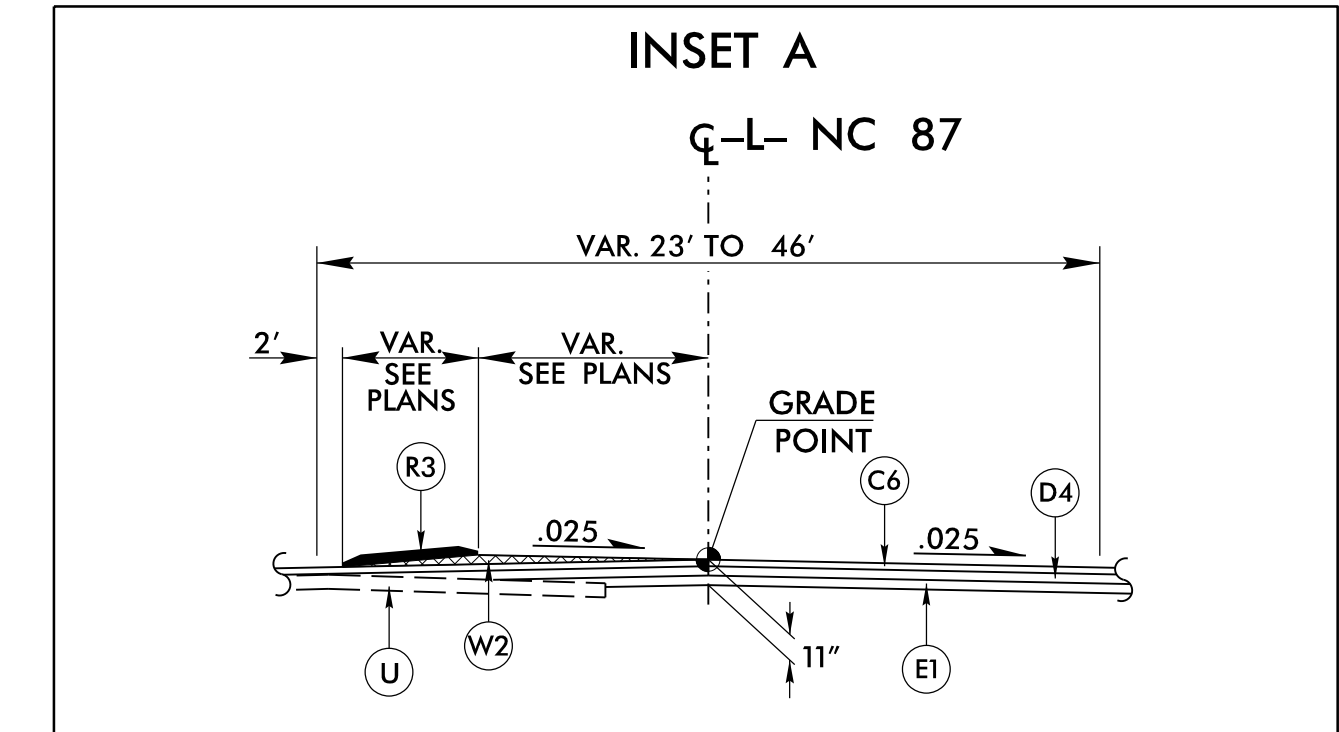
FINAL PAVEMENT SCHEDULE			
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	J1	PROP. 6" AGGREGATE BASE COURSE
C2	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	J2	PROP. 8" AGGREGATE BASE COURSE
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	L	CLASS IV SUBGRADE STABILIZATION
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.	N	GEOTEXTILE FOR SOIL STABILIZATION
C5	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	P	PRIME COAT AT THE RATE OF 0.35 GAL. PER SQ. YD.
C6	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.	R1	2'-6" CONCRETE CURB AND GUTTER
C7	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.	R2	CONCRETE SHOULDER BERM GUTTER
D1	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	R3	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
D2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	T	EARTH MATERIAL
D3	PROP. APPROX. 3.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
D4	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V	MILLING EXISTING ASPHALT PAVEMENT, 3" DEPTH
D5	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.	W1	VAR. DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL NO. 1)
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W2	VAR. DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL NO. 2)
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" OR GREATER THAN 5.5" IN DEPTH.	W3	VAR. DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL NO. 3)

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

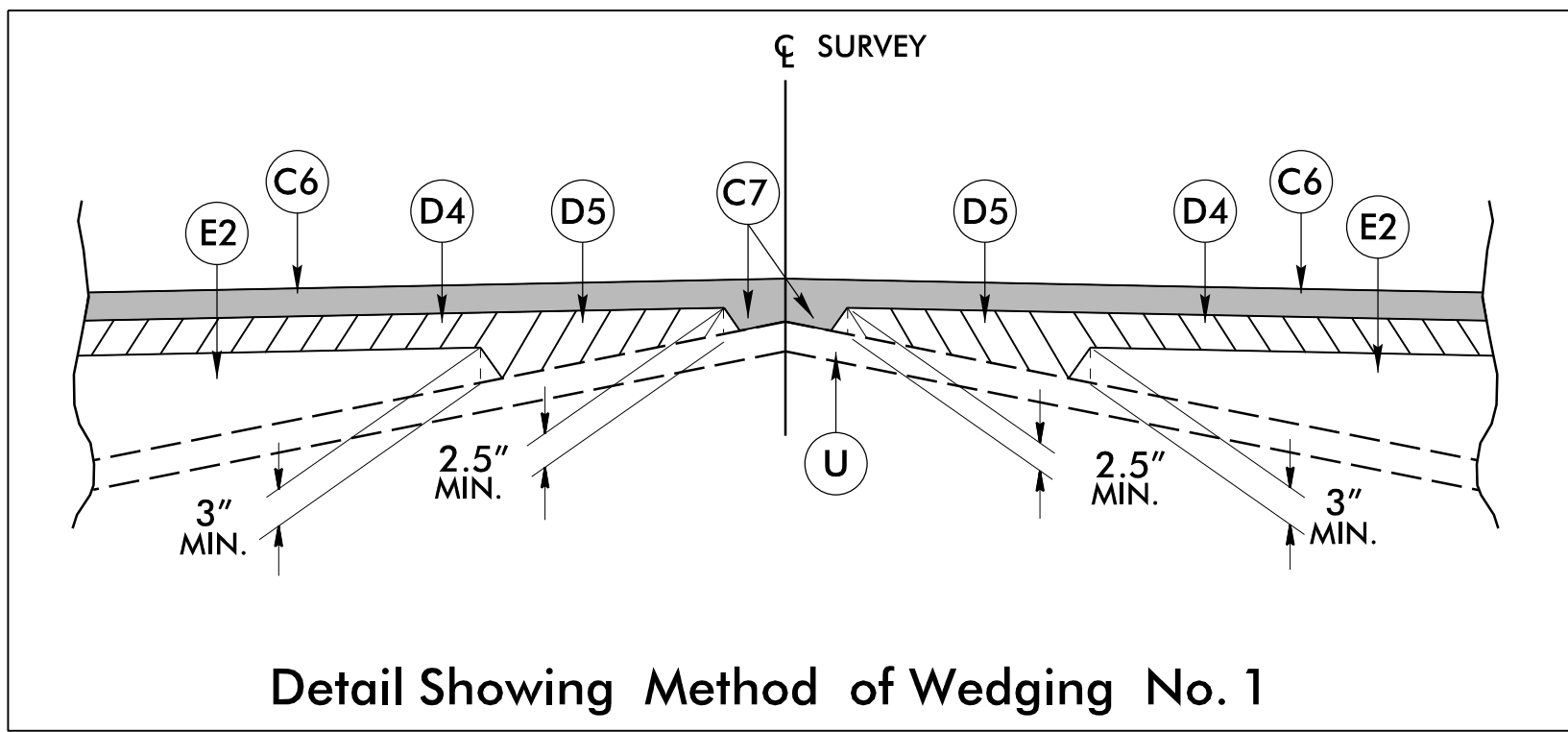
SEPI
 Engineering & Construction, Inc.
 1 Glenwood Avenue
 Raleigh, NC 27603
 Tel: 919.789.9977
 Fax: 919.789.9561
 License: C-2197

PROJECT REFERENCE NO. R-256/ICA	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER DAVID W. GARDNER, JR. SEAL 033871	PAVEMENT DESIGN ENGINEER THOMAS & WELLS SEAL 037998

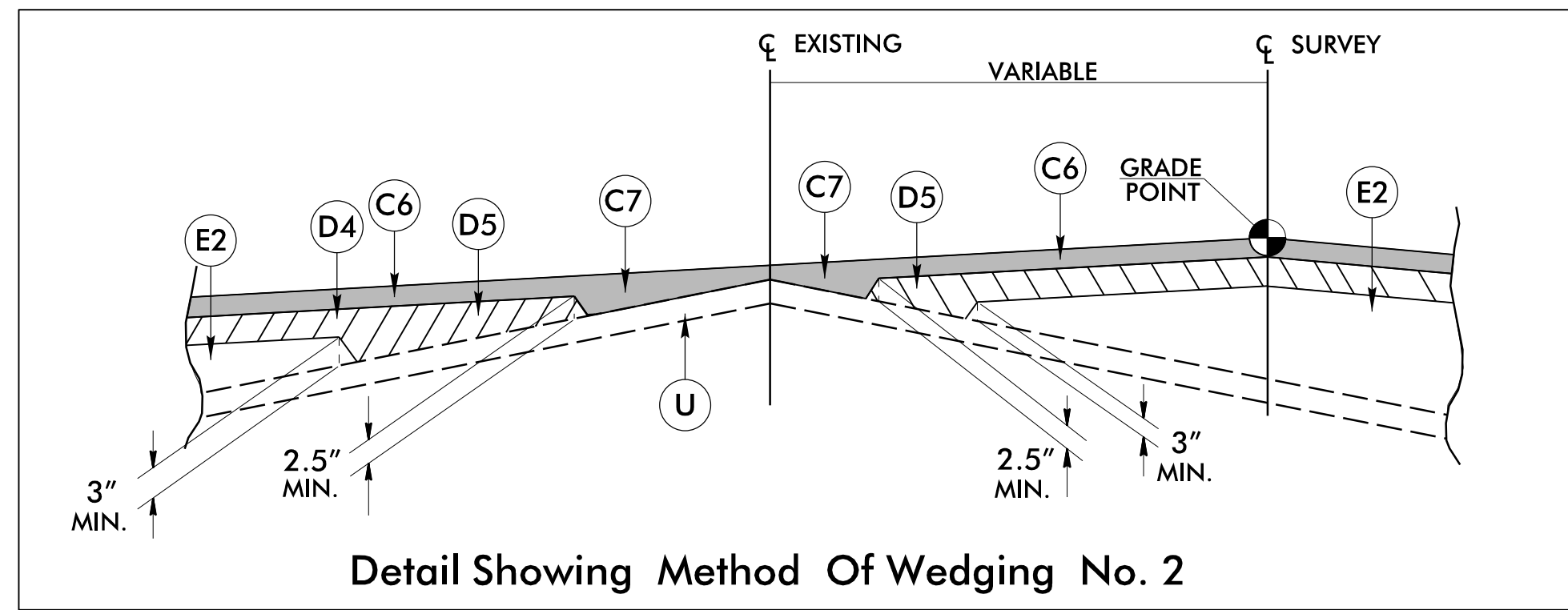
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



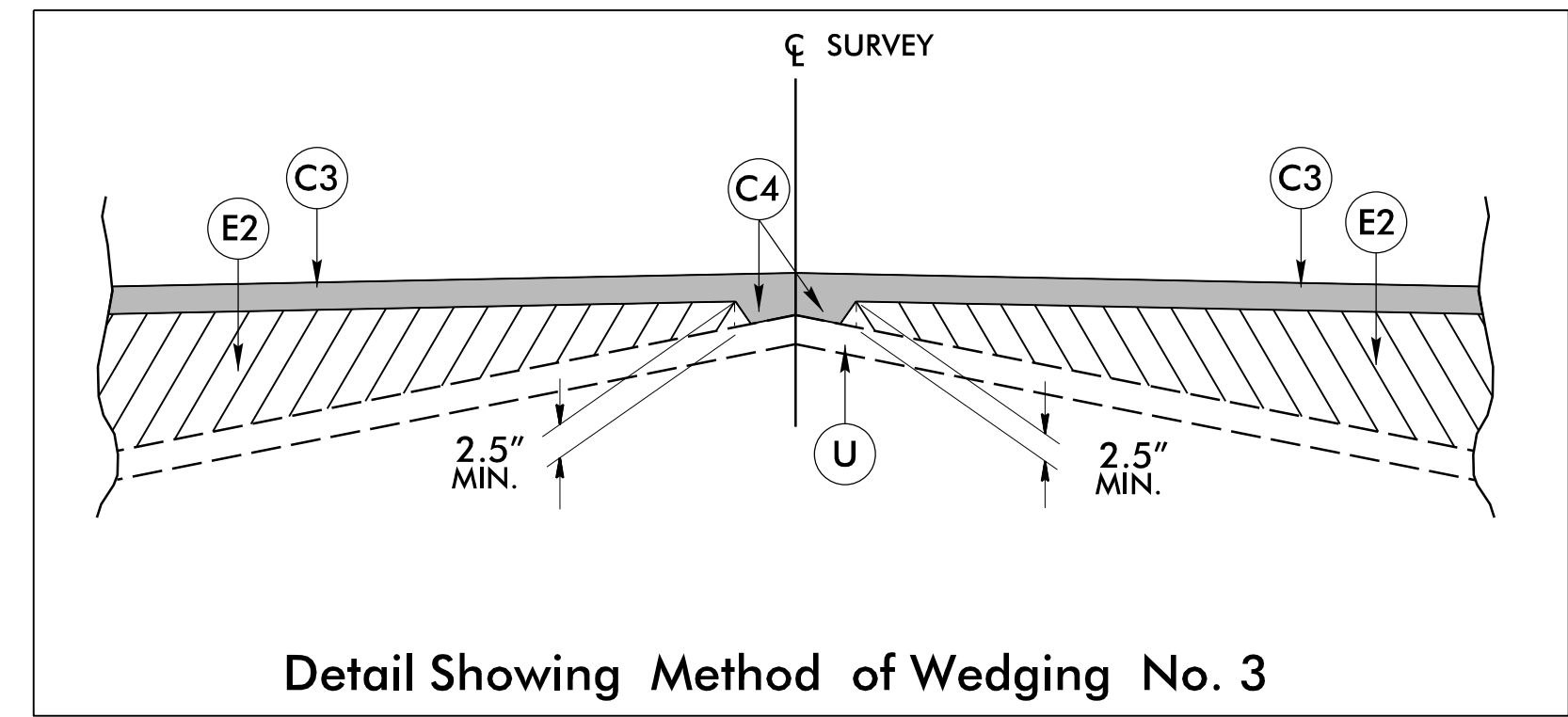
USE WITH TYPICAL SECTION NO. 3 & 6
 MEDIAN DETAIL REVERSE FOR WESTBOUND TURN LANE
 SEE PLANS FOR LOCATIONS
 -L1- STA. 25+94.88 TO -L- STA. 28+33.59
 -L3- STA. 84+91.92 TO STA. 87+61.73



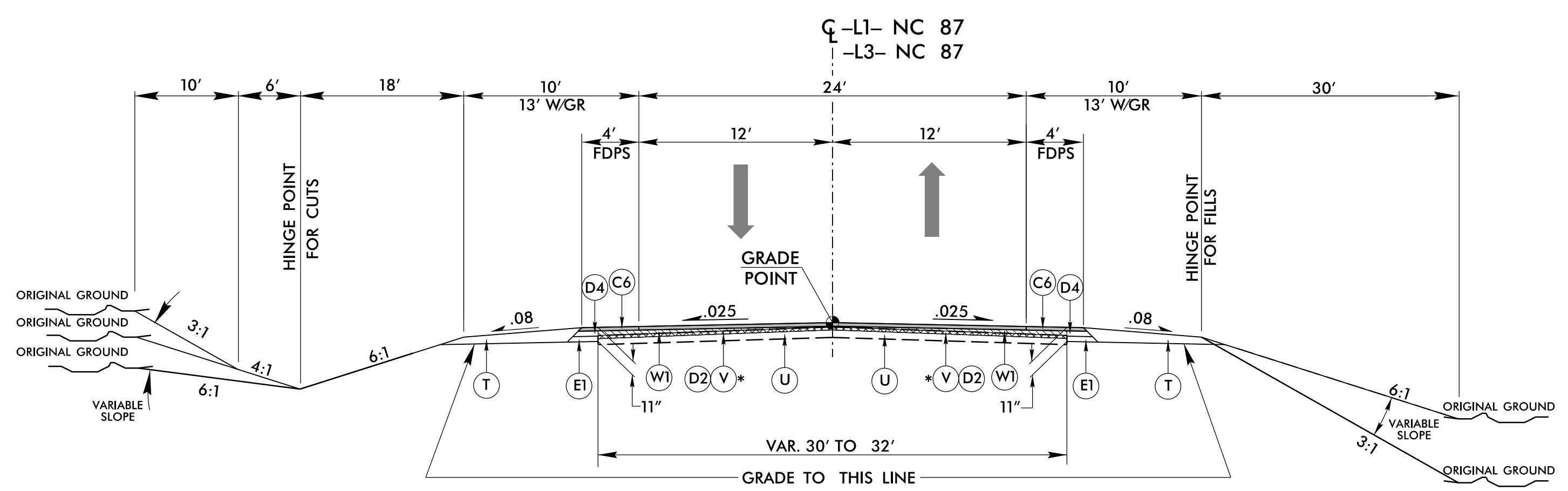
Detail Showing Method of Wedging No. 1



Detail Showing Method Of Wedging No. 2



Detail Showing Method of Wedging No. 3



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AS FOLLOWS
 -L1- STA. 11+00.00 TO STA. 11+99.22
 *-L3- STA. 100+48.70 L.A. TO STA. 100+50.00

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6/2/2019

NOTES: 1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
 2. SHOULDER ROLLOVER NOT TO EXCEED 0.06 (TYP).
 3. SEE PLANS FOR LOCATION OF TURN LANES AND INTERSECTION TURNOUTS.
 4. SEE PLANS FOR CONC. ISLAND LOCATIONS

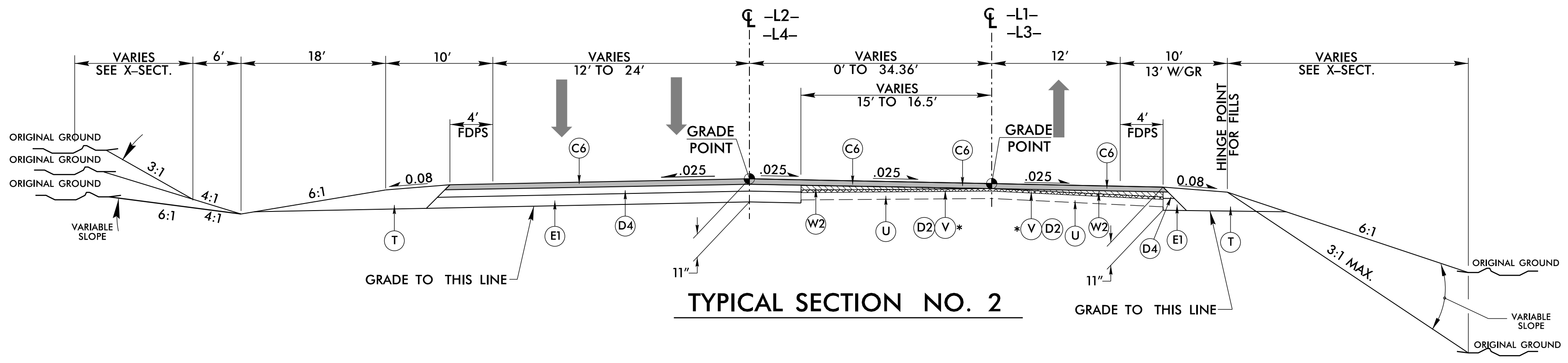
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 1 Glenwood Avenue
 Raleigh, NC 27603
 Tel: 919.789.9977
 Fax: 919.789.9591
 License: C-2197

PROJECT REFERENCE NO. R-256/CA	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER DAVID W. GARDNER	PAVEMENT DESIGN ENGINEER THOMAS R. WELLS
SEAL 033871	SEAL 037998

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

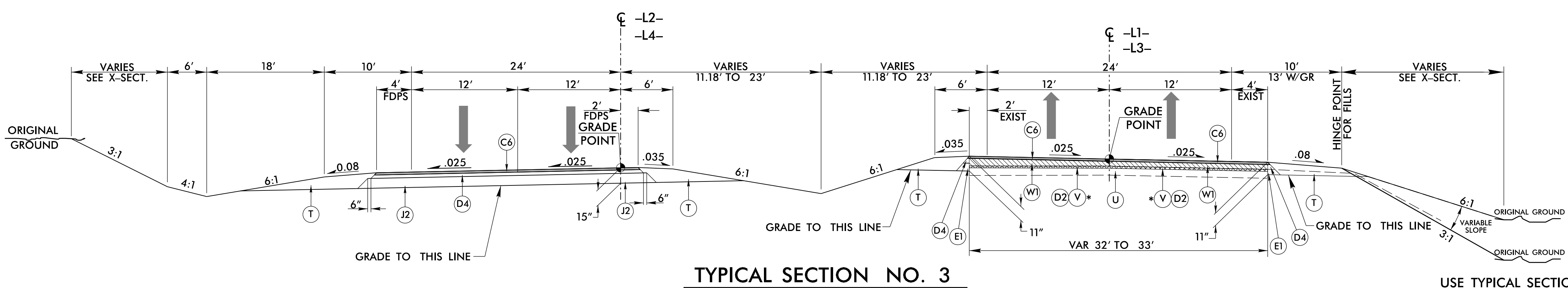
PAVEMENT SCHEDULE

C1	1.5" S9.5B
C2	2.5" S9.5B
C3	3" S9.5B
C4	VAR. DEPTH S9.5B
C5	2" S9.5C
C6	3" S9.5C
C7	VAR. DEPTH S9.5C
D1	2.5" I19.0C
D2	3" I19.0C
D3	3.5" I19.0C
D4	4" I19.0C
D5	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J1	6" ABC
J2	8" ABC
L	CL. IV STABILIZATION
N	GEOTEXTILE FOR SOIL STAB.
P	PRIME COAT
R1	2'-6" C & G
R2	CONC. SHLD. BERM GUTTER
R3	CONCRETE ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING, 3" DEPTH
W1	WEDGING DETAIL NO. 1
W2	WEDGING DETAIL NO. 2
W3	WEDGING DETAIL NO. 3



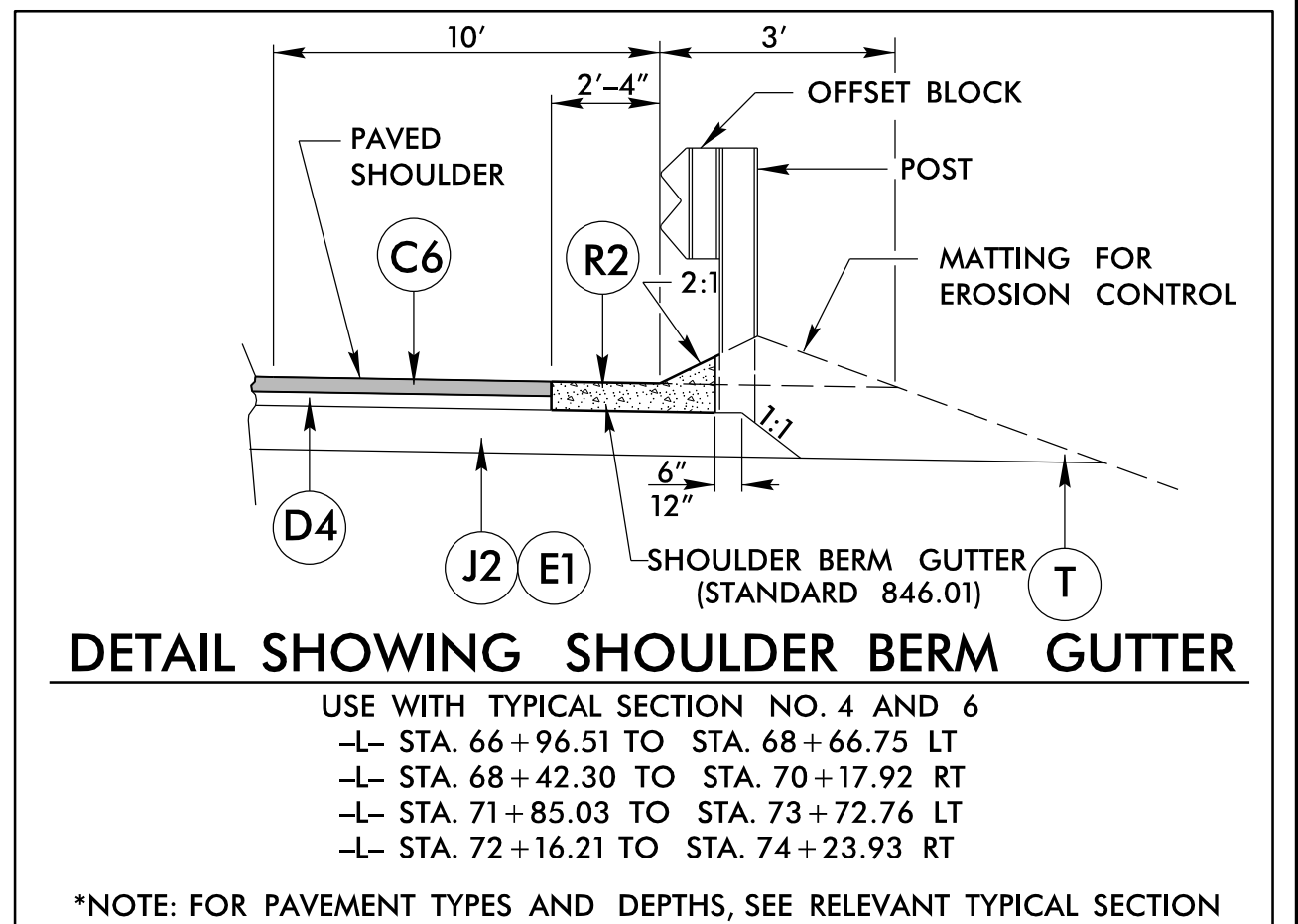
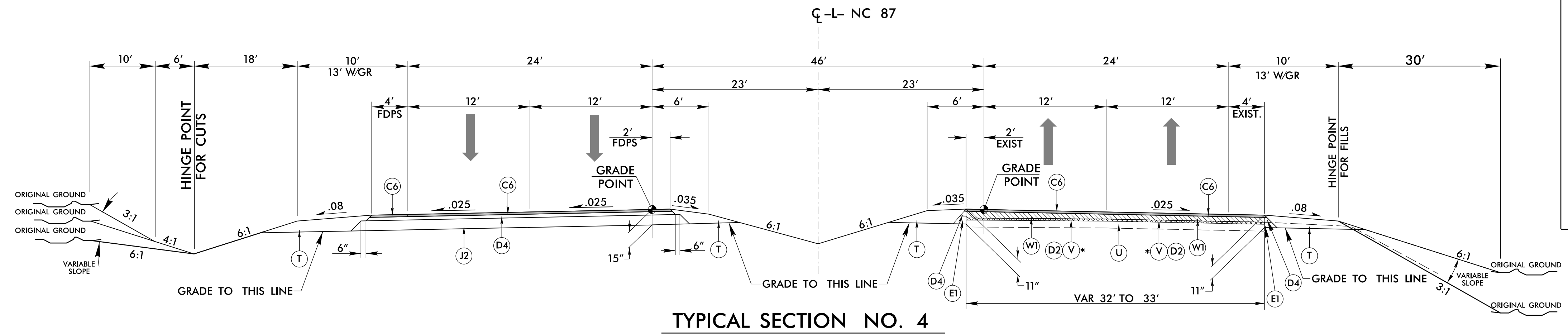
USE TYPICAL SECTION NO. 2 AS FOLLOWS

- L1- STA. 11+99.22 TO STA. 20+94.60
- L2- STA. 11+99.22 TO STA. 20+95.47
- *-L3- STA. 85+89.13 TO STA. 100+48.70 L.A.
- L4- STA. 85+89.21 TO STA. 100+50.07 L.B.



USE TYPICAL SECTION NO. 3 AS FOLLOWS

- L1- STA. 20+94.60 TO STA. 28+31.59 L.B.
- L2- STA. 20+95.47 TO STA. 28+32.97 L.B.
- *-L3- STA. 84+16.32 L.A. TO STA. 85+89.13
- L4- STA. 84+16.32 L.A. TO STA. 85+89.21



USE WITH TYPICAL SECTION NO. 4 AND 6

- L- STA. 66+96.51 TO STA. 68+66.75 LT
- L- STA. 68+42.30 TO STA. 70+17.92 RT
- L- STA. 71+85.03 TO STA. 73+72.76 LT
- L- STA. 72+16.21 TO STA. 74+23.93 RT

*NOTE: FOR PAVEMENT TYPES AND DEPTHS, SEE RELEVANT TYPICAL SECTION

USE TYPICAL SECTION NO. 4 AS FOLLOWS

- L- STA. 28+31.59 L.A. TO STA. 32+50.00
- L- STA. 44+00.00 TO STA. 68+99.00 (BEG BRIDGE WBL)
- L- STA. 44+00.00 TO STA. 62+50.00 (EBL)
- *-L- STA. 62+50.00 TO STA. 69+81.00 (EBL)
- L- STA. 71+69.00 (END BRIDGE WBL) TO STA. 84+16.32 L.B.
- *-L- STA. 72+31.00 TO STA. 84+16.32 L.B. (EBL)

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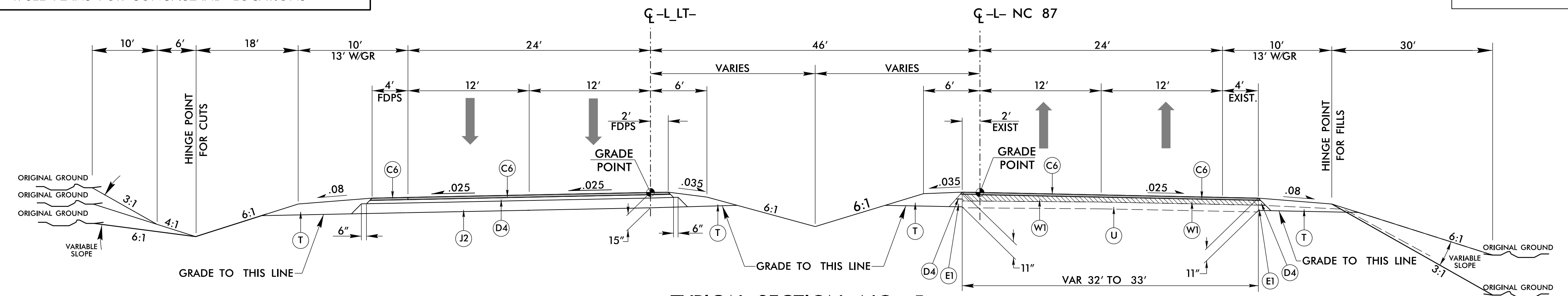
6/2/99

- NOTES: 1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
 2. SHOULDER ROLLOVER NOT TO EXCEED 0.06 (TYP).
 3. SEE PLANS FOR LOCATION OF TURN LANES AND INTERSECTION TURNOUTS.
 4. SEE PLANS FOR CONC. ISLAND LOCATIONS

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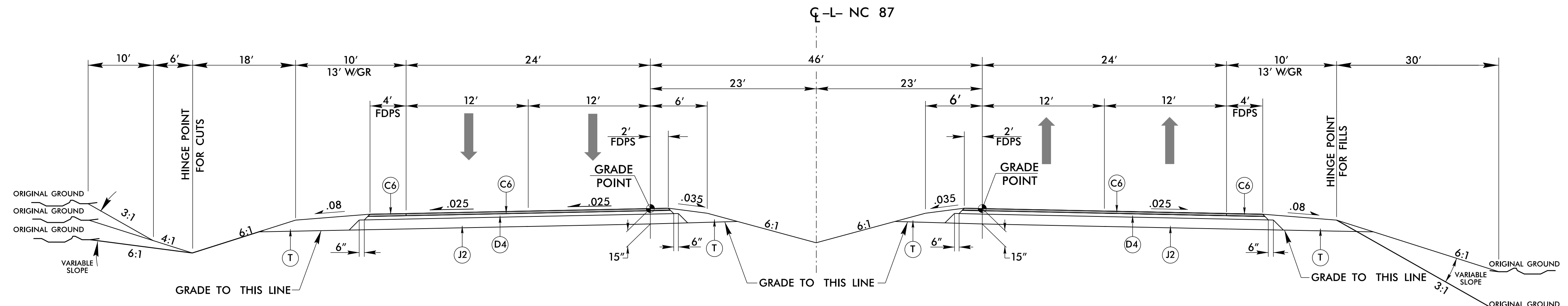
PROJECT REFERENCE NO. R-2561CA	SHEET NO. 2A-3
ROADWAY DESIGN ENGINEER THOMAS W. GARDNER SEAL 033871	PAVEMENT DESIGN ENGINEER THOMAS R. WELLS SEAL 037998

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



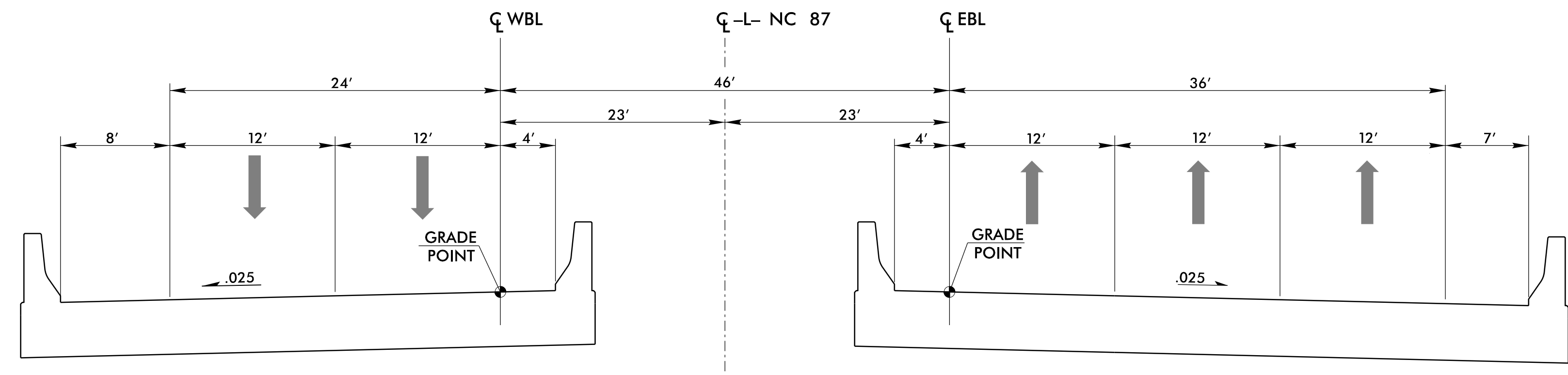
TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5 AS FOLLOWS
 -L- STA. 32+50.00 TO STA. 44+00.00



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6 AS FOLLOWS
 -L- STA. 69+81.00 TO STA. 70+31.00 (BEG BRIDGE EBL)
 -L- STA. 71+81.00 (END BRIDGE EBL) TO STA. 72+31.00



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7 AS FOLLOWS
 -L- STA. 68+99.00 (BEG BRIDGE WBL) TO STA. 71+69.00 (END BRIDGE WBL)
 -L- STA. 70+31.00 (BEG BRIDGE EBL) TO STA. 71+81.00 (END BRIDGE EBL)

PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	2.5" S9.5B
C3	3" S9.5B
C4	VAR. DEPTH S9.5B
C5	2" S9.5C
C6	3" S9.5C
C7	VAR. DEPTH S9.5C
D1	2.5" I19.0C
D2	3" I19.0C
D3	3.5" I19.0C
D4	4" I19.0C
D5	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J1	6" ABC
J2	8" ABC
L	CL. IV STABILIZATION
N	GEOTEXTILE FOR SOIL STAB.
P	PRIME COAT
R1	2'-6" C & G
R2	CONC. SHLD. BERM GUTTER
R3	CONCRETE ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING, 3" DEPTH
W1	WEDGING DETAIL NO. 1
W2	WEDGING DETAIL NO. 2
W3	WEDGING DETAIL NO. 3

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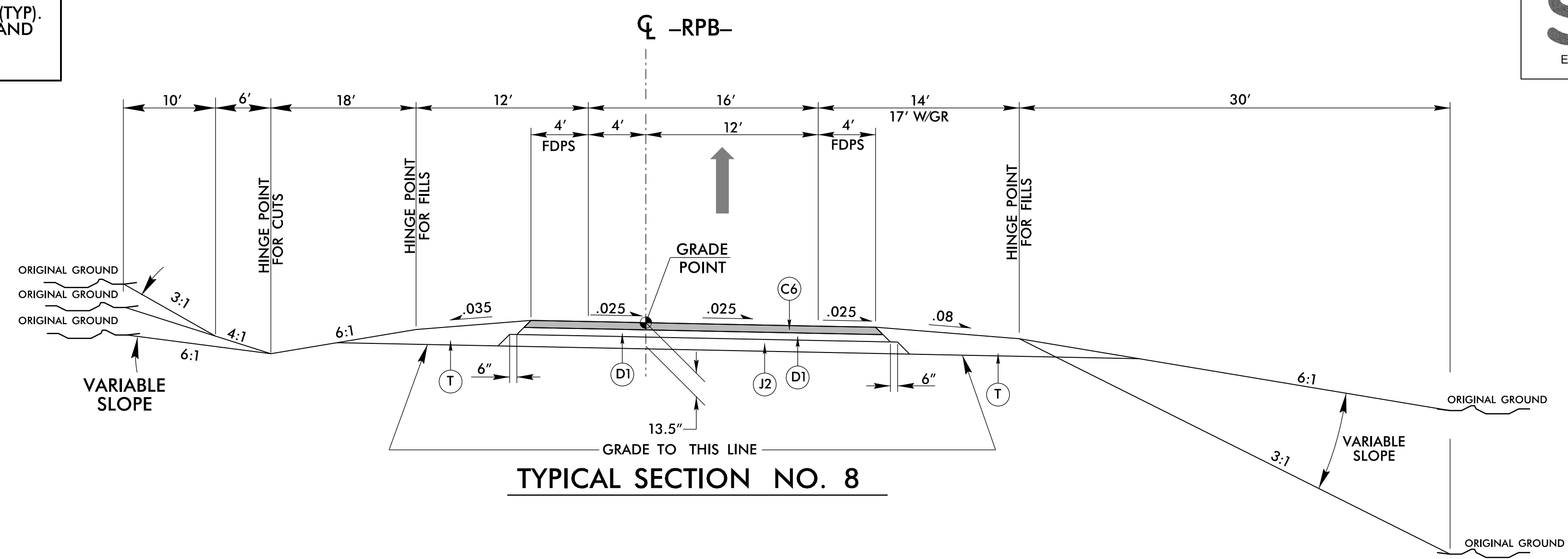
6/2/09

NOTES: 1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
 2. SHOULDER ROLLOVER NOT TO EXCEED 0.06 (TYP).
 3. SEE PLANS FOR LOCATION OF TURN LANES AND INTERSECTION TURNOUTS.
 4. SEE PLANS FOR CONC. ISLAND LOCATIONS

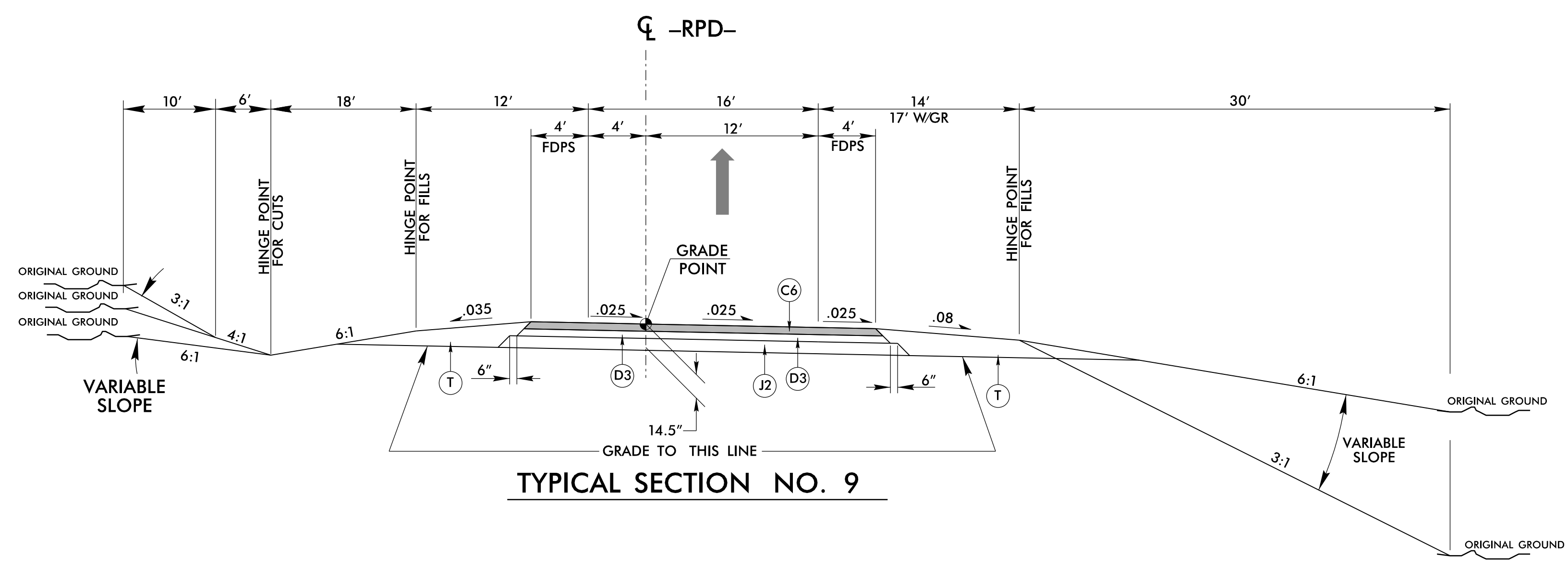
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 1 Glenwood Avenue
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 Fax: 919.789.9561
 License: C-2197

PROJECT REFERENCE NO. R-256/CA	SHEET NO. 2A-4
ROADWAY DESIGN ENGINEER THOMAS R. WILLIAMS SEAL 033871	PAVEMENT DESIGN ENGINEER THOMAS R. WILLIAMS SEAL 037998

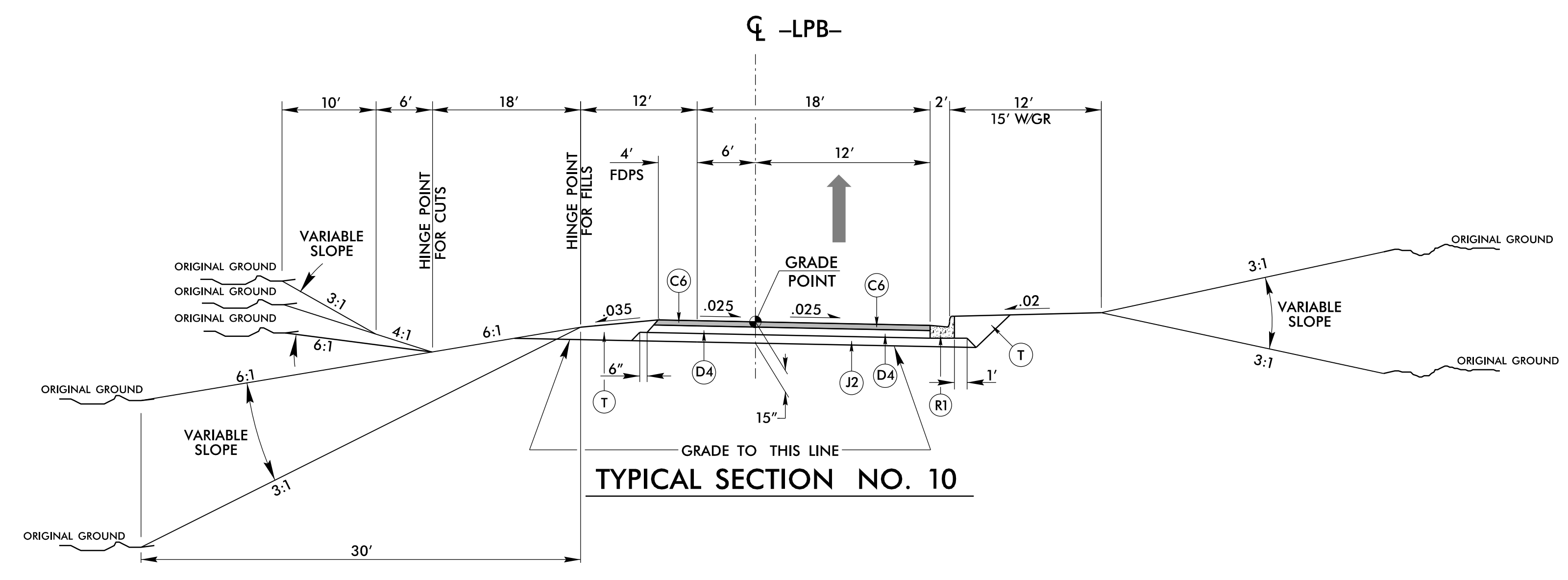
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



USE TYPICAL SECTION NO. 8 AS FOLLOWS
 -RPB- STA. 10+00.00 TO STA. 24+54.30



USE TYPICAL SECTION NO. 9 AS FOLLOWS
 -RPD- STA. 10+00.00 TO STA. 23+68.17



USE TYPICAL SECTION NO. 10 AS FOLLOWS
 -LPB- STA. 10+00.00 TO STA. 20+26.26

PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	2.5" S9.5B
C3	3" S9.5B
C4	VAR. DEPTH S9.5B
C5	2" S9.5C
C6	3" S9.5C
C7	VAR. DEPTH S9.5C
D1	2.5" I19.0C
D2	3" I19.0C
D3	3.5" I19.0C
D4	4" I19.0C
D5	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J1	6" ABC
J2	8" ABC
L	CL. IV STABILIZATION
N	GEOTEXTILE FOR SOIL STAB.
P	PRIME COAT
R1	2'-6" C & G
R2	CONC. SHLD. BERM GUTTER
R3	CONCRETE ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING, 3" DEPTH
W1	WEDGING DETAIL NO. 1
W2	WEDGING DETAIL NO. 2
W3	WEDGING DETAIL NO. 3

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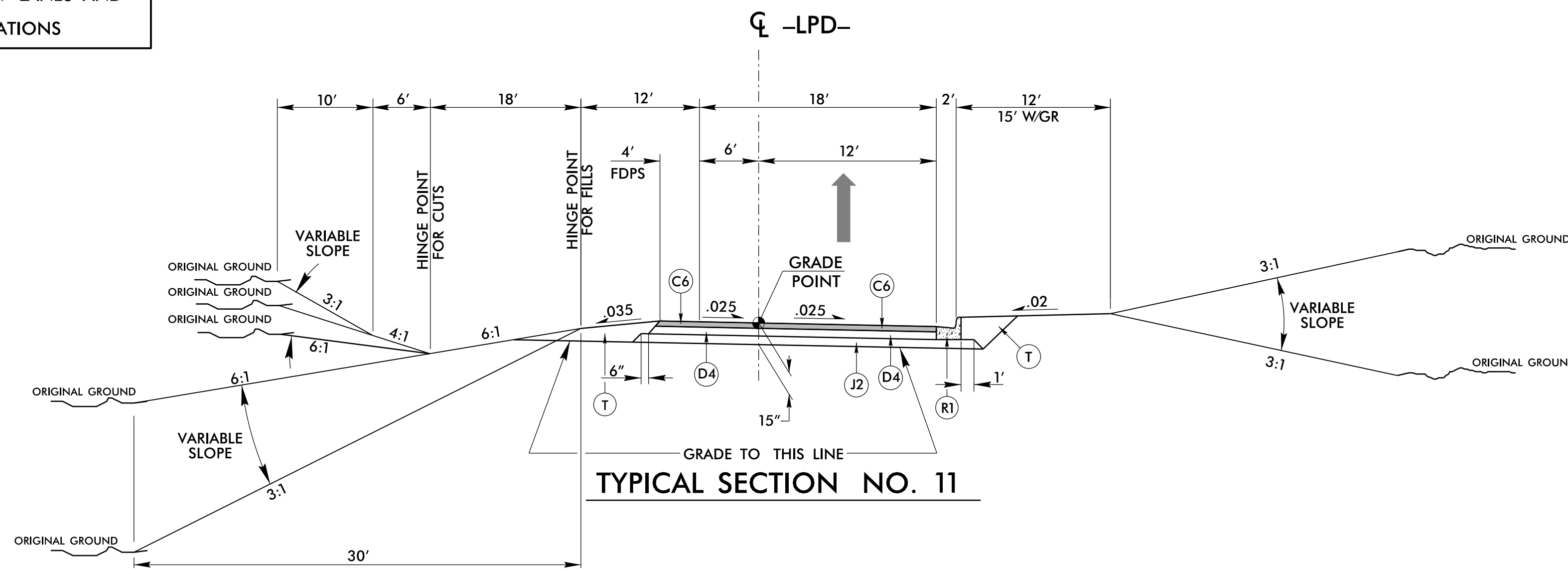
- NOTES: 1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
 2. SHOULDER ROLLOVER NOT TO EXCEED 0.06 (TYP).
 3. SEE PLANS FOR LOCATION OF TURN LANES AND INTERSECTION TURNOUTS.
 4. SEE PLANS FOR CONC. ISLAND LOCATIONS

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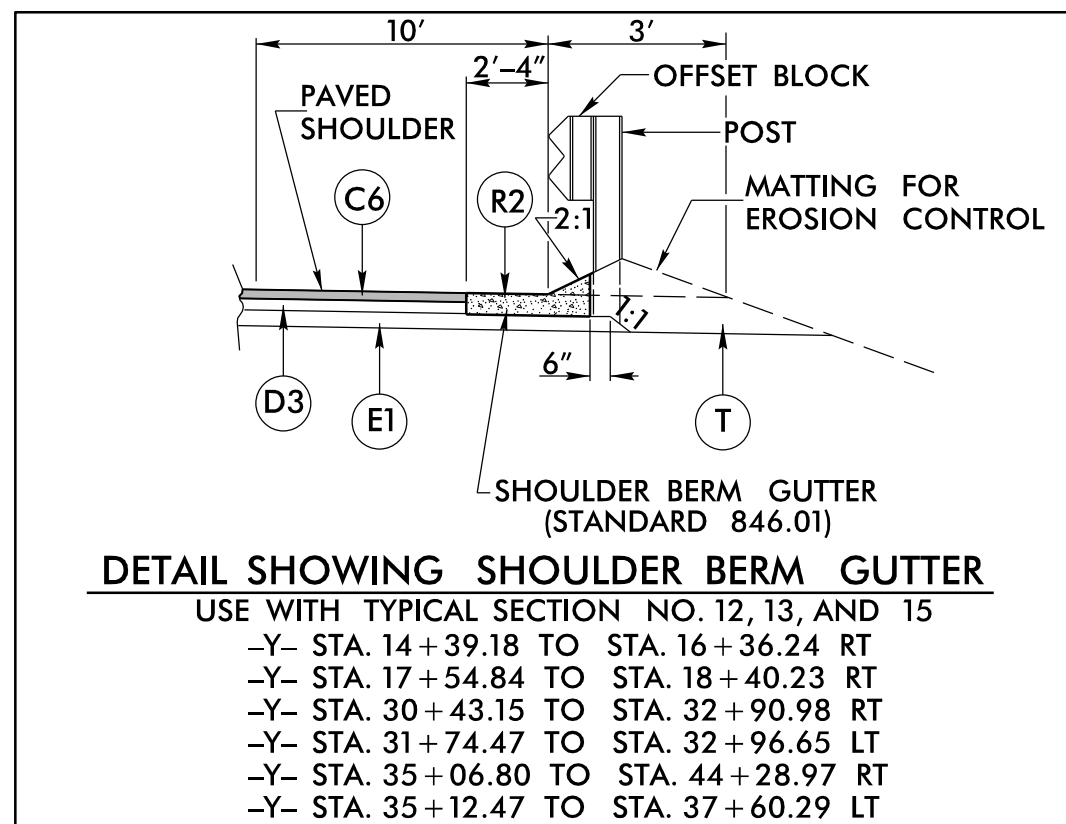
PROJECT REFERENCE NO. R-256/CA	SHEET NO. 2A-5
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER SEAL 033871	PAVEMENT DESIGN ENGINEER TOMAS R. WELLS SEAL 037998

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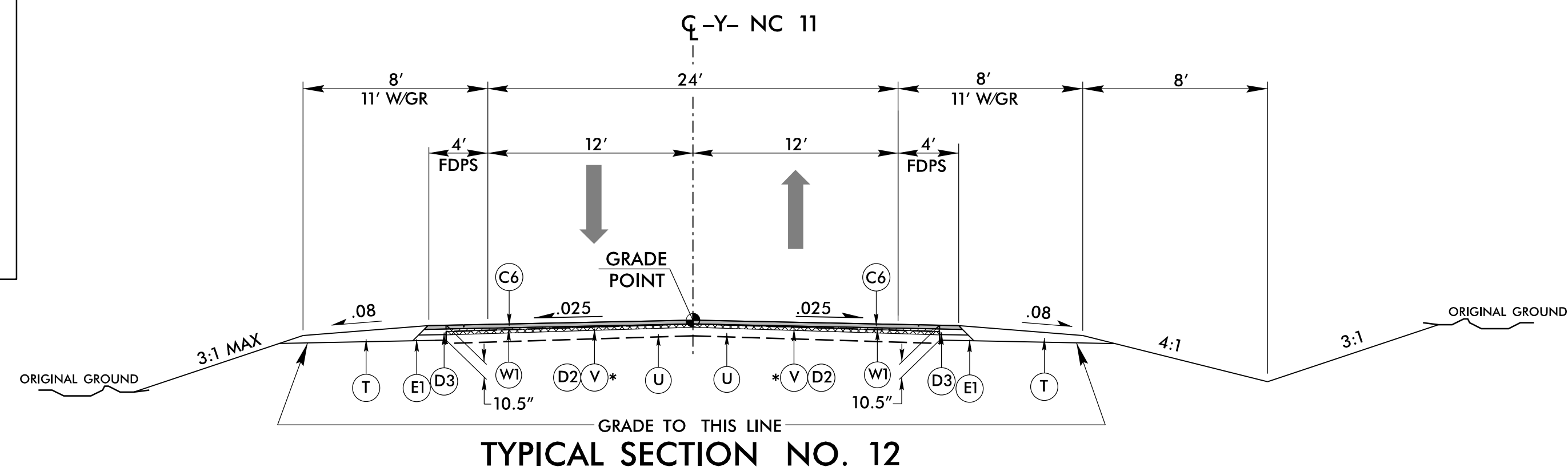
PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	2.5" S9.5B
C3	3" S9.5B
C4	VAR. DEPTH S9.5B
C5	2" S9.5C
C6	3" S9.5C
C7	VAR. DEPTH S9.5C
D1	2.5" I19.0C
D2	3" I19.0C
D3	3.5" I19.0C
D4	4" I19.0C
D5	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J1	6" ABC
J2	8" ABC
L	CL. IV STABILIZATION
N	GEOTEXTILE FOR SOIL STAB.
P	PRIME COAT
R1	2'-6" C & G
R2	CONC. SHLD. BERM GUTTER
R3	CONCRETE ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING, 3" DEPTH
W1	WEDGING DETAIL NO. 1
W2	WEDGING DETAIL NO. 2
W3	WEDGING DETAIL NO. 3



USE TYPICAL SECTION NO. 11 AS FOLLOWS
 -LPD- STA. 10+00.00 TO STA. 19+89.28



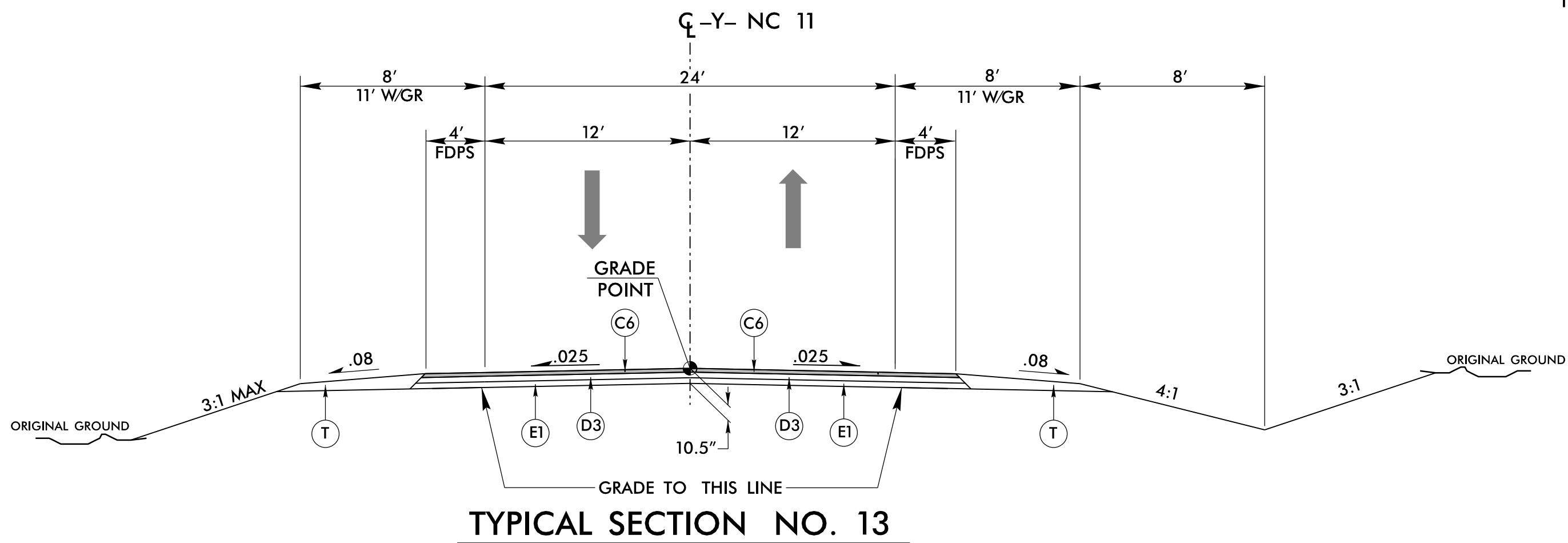
DETAIL SHOWING SHOULDER BERM GUTTER
 USE WITH TYPICAL SECTION NO. 12, 13, AND 15
 -Y- STA. 14+39.18 TO STA. 16+36.24 RT
 -Y- STA. 17+54.84 TO STA. 18+40.23 RT
 -Y- STA. 30+43.15 TO STA. 32+90.98 RT
 -Y- STA. 31+74.47 TO STA. 32+96.65 LT
 -Y- STA. 35+06.80 TO STA. 44+28.97 RT
 -Y- STA. 35+12.47 TO STA. 37+60.29 LT



USE TYPICAL SECTION NO. 12 AS FOLLOWS
 *-Y- STA. 11+50.00 TO STA. 15+75.00
 -Y- STA. 15+75.00 TO STA. 15+98.00
 -Y- STA. 17+88.00 TO STA. 18+20.00
 *-Y- STA. 18+20.00 TO STA. 22+75.00
 -Y- STA. 22+75.00 TO STA. 23+00.00
 *-Y- STA. 47+00.00 TO STA. 49+00.00

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 12
 -Y- STA. 11+00.00 TO STA. 11+50.00

NOTE: TRANSITION FROM TYPICAL SECTION NO. 12 TO EXISTING
 -Y- STA. 49+00.00 TO STA. 49+50.00



USE TYPICAL SECTION NO. 13 AS FOLLOWS
 -Y- STA. 15+98.00 TO STA. 16+48.00 (BEG. BRIDGE)
 -Y- STA. 17+38.00 (END BRIDGE) TO STA. 17+88.00
 -Y- STA. 23+00.00 TO STA. 23+06.54
 -Y- STA. 45+30.88 TO STA. 47+00.00

NOTE: TRANSITION FROM TYPICAL SECTION NO. 13 TO TYPICAL SECTION NO. 15
 -Y- STA. 23+06.54 TO STA. 26+66.54

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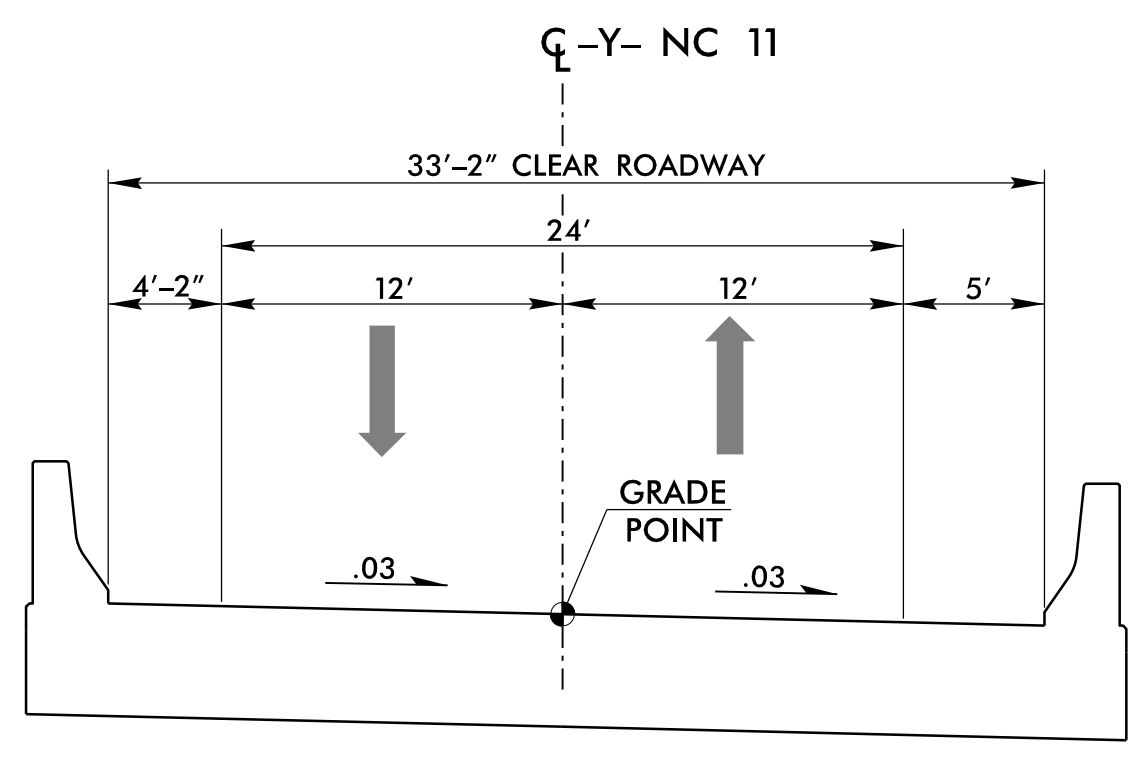
NOTES: 1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
 2. SHOULDER ROLLOVER NOT TO EXCEED 0.06 (TYP).
 3. SEE PLANS FOR LOCATION OF TURN LANES AND INTERSECTION TURNOUTS.
 4. SEE PLANS FOR CONC. ISLAND LOCATIONS

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 License: C-2197

PROJECT REFERENCE NO. R-2561CA	SHEET NO. 2A-6
ROADWAY DESIGN ENGINEER SEAL 033871 DAVID W. GARDNER	PAVEMENT DESIGN ENGINEER SEAL 037998 THOMAS R. WELLS

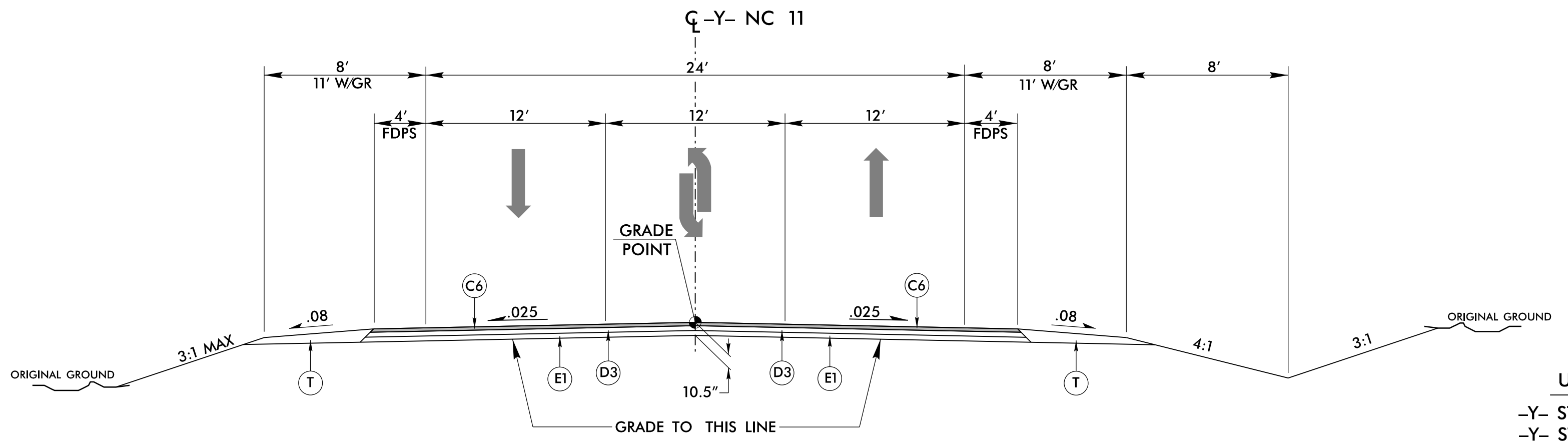
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	2.5" S9.5B
C3	3" S9.5B
C4	VAR. DEPTH S9.5B
C5	2" S9.5C
C6	3" S9.5C
C7	VAR. DEPTH S9.5C
D1	2.5" I19.0C
D2	3" I19.0C
D3	3.5" I19.0C
D4	4" I19.0C
D5	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J1	6" ABC
J2	8" ABC
L	CL. IV STABILIZATION
N	GEOTEXTILE FOR SOIL STAB.
P	PRIME COAT
R1	2'-6" C & G
R2	CONC. SHLD. BERM GUTTER
R3	CONCRETE ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING, 3" DEPTH
W1	WEDGING DETAIL NO. 1
W2	WEDGING DETAIL NO. 2
W3	WEDGING DETAIL NO. 3



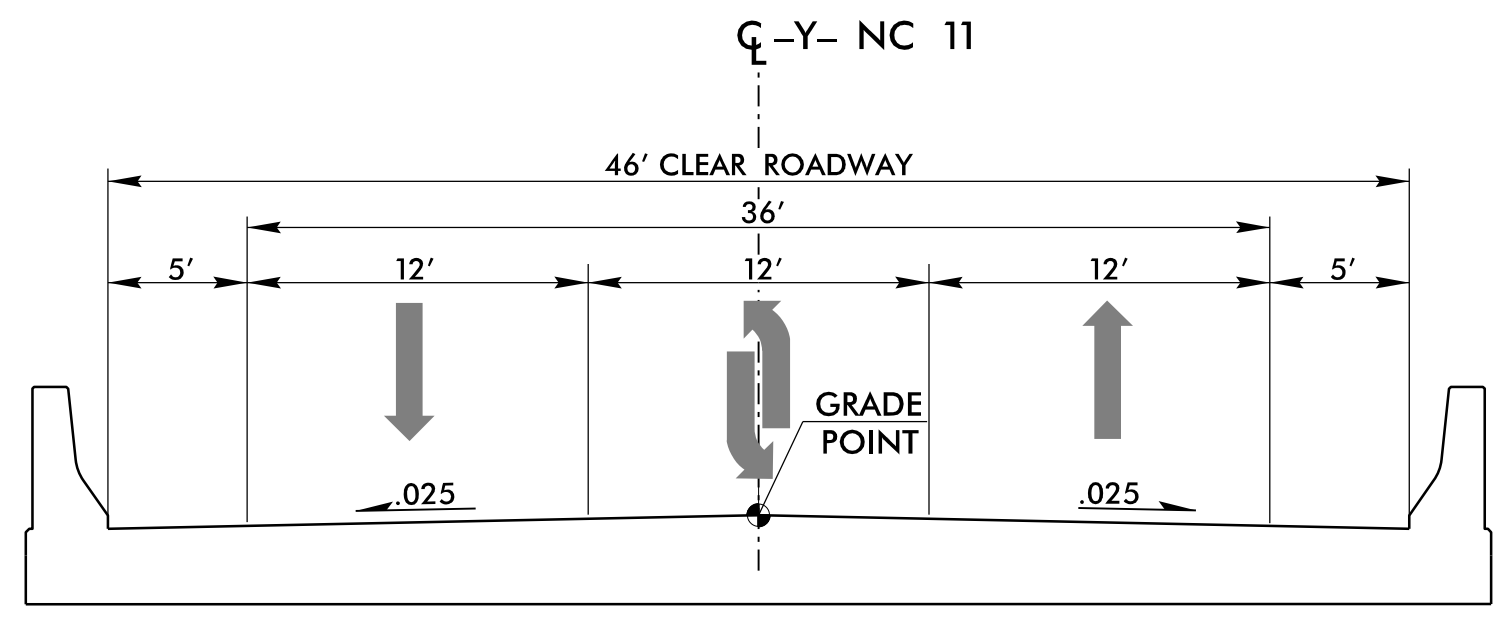
TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14 AS FOLLOWS
 -Y- STA. 16+48.00 (BEG. BRIDGE) TO STA. 17+38.00 (END BRIDGE)



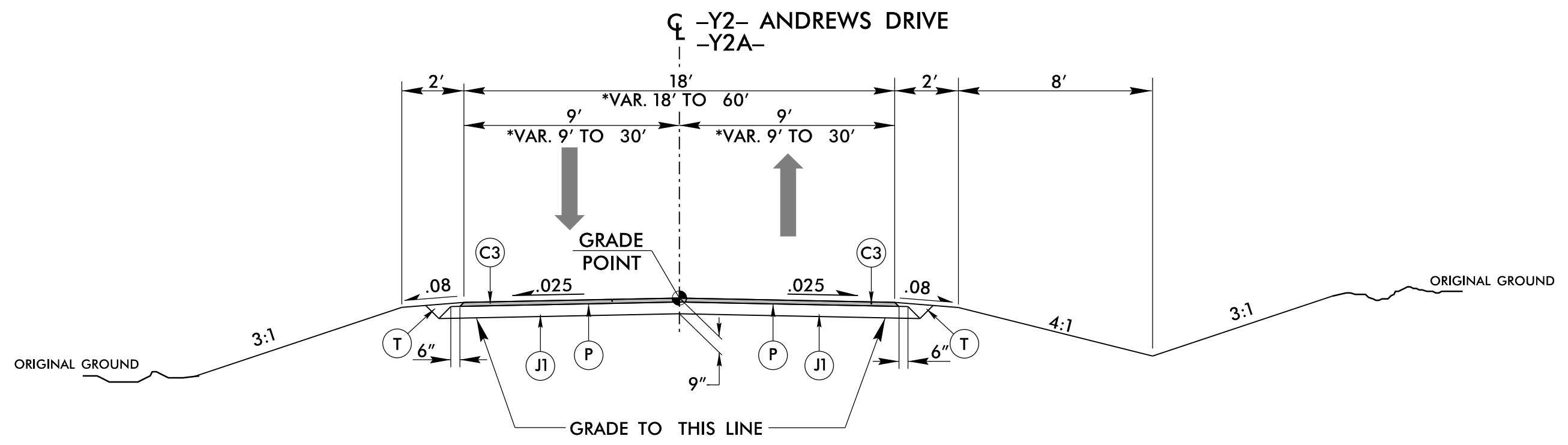
TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15 AS FOLLOWS
 -Y- STA. 26+66.54 TO STA. 33+07.97 (BEG. BRIDGE)
 -Y- STA. 34+95.47 (END BRIDGE) TO STA. 41+70.88
 NOTE: TRANSITION FROM TYPICAL SECTION NO. 15 TO TYPICAL SECTION NO. 13
 -Y- STA. 41+70.88 TO STA. 45+30.88



TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16 AS FOLLOWS
 -Y- STA. 33+07.97 (BEG. BRIDGE) TO STA. 34+95.47 (END BRIDGE)



TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17 AS FOLLOWS
 -Y2- STA. 11+00.00 TO STA. 13+51.85
 *-Y2- STA. 13+51.85 TO STA. 14+09.03
 -Y2A- STA. 10+40.01 TO STA. 18+49.41
 *-Y2A- STA. 18+49.41 TO STA. 19+25.00

6/2/99

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6/2/99

NOTES: 1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
 2. SHOULDER ROLLOVER NOT TO EXCEED 0.06 (TYP).
 3. SEE PLANS FOR LOCATION OF TURN LANES AND INTERSECTION TURNOUTS.
 4. SEE PLANS FOR CONC. ISLAND LOCATIONS

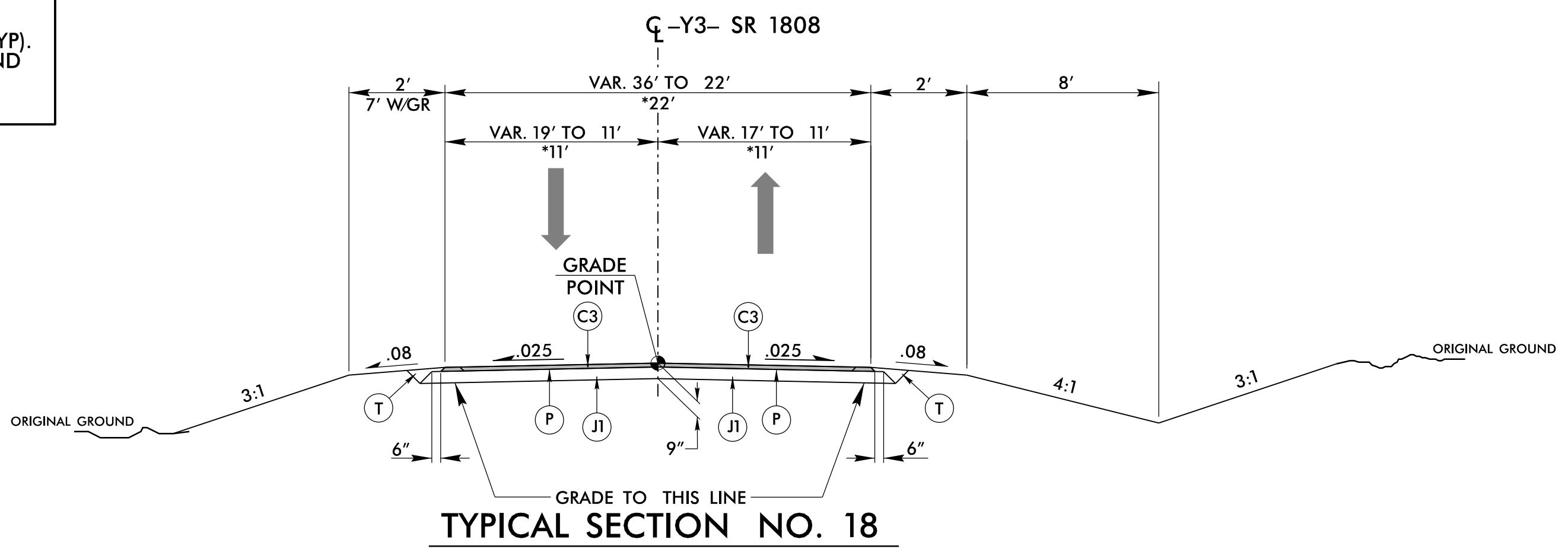
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PROJECT REFERENCE NO. <i>R-2561CA</i>	SHEET NO. <i>2A-7</i>
ROADWAY DESIGN ENGINEER DAVID W. GARDNER SEAL 033871	PAVEMENT DESIGN ENGINEER THOMAS R. WELLS SEAL 037998

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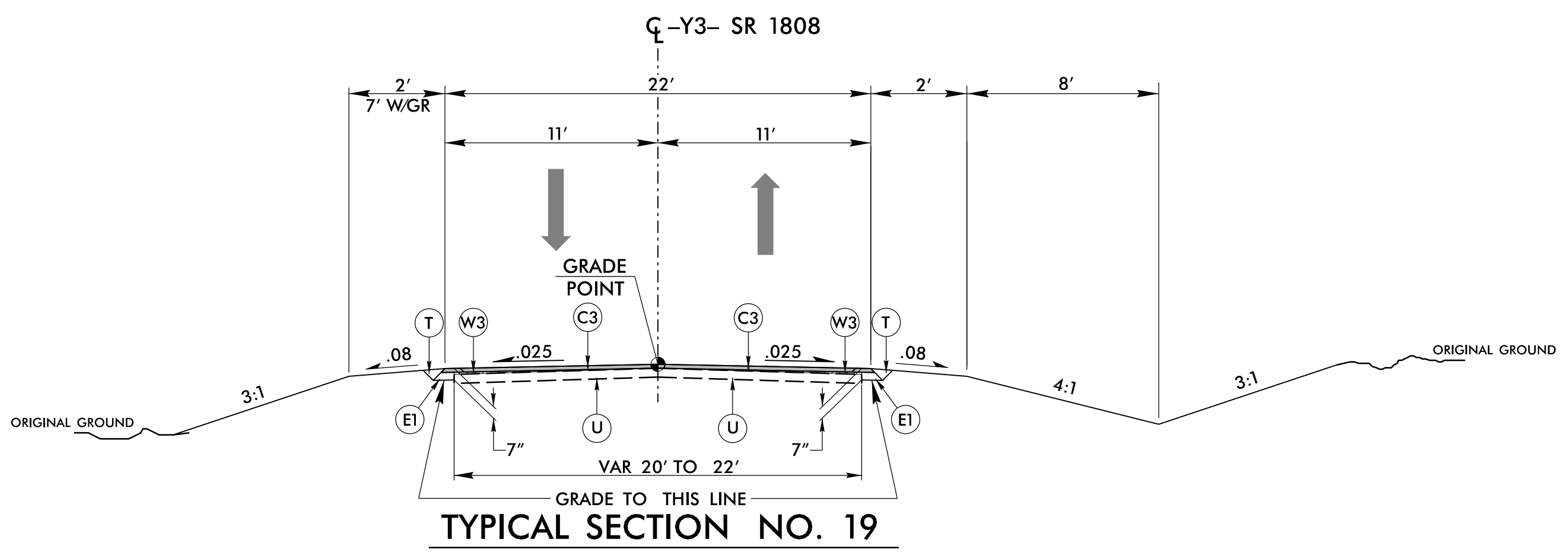
PAVEMENT SCHEDULE

C1	1.5" S9.5B
C2	2.5" S9.5B
C3	3" S9.5B
C4	VAR. DEPTH S9.5B
C5	2" S9.5C
C6	3" S9.5C
C7	VAR. DEPTH S9.5C
D1	2.5" I19.0C
D2	3" I19.0C
D3	3.5" I19.0C
D4	4" I19.0C
D5	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J1	6" ABC
J2	8" ABC
L	CL. IV STABILIZATION
N	GEOTEXTILE FOR SOIL STAB.
P	PRIME COAT
R1	2'-6" C & G
R2	CONC. SHLD. BERM GUTTER
R3	CONCRETE ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING, 3" DEPTH
W1	WEDGING DETAIL NO. 1
W2	WEDGING DETAIL NO. 2
W3	WEDGING DETAIL NO. 3



TYPICAL SECTION NO. 18

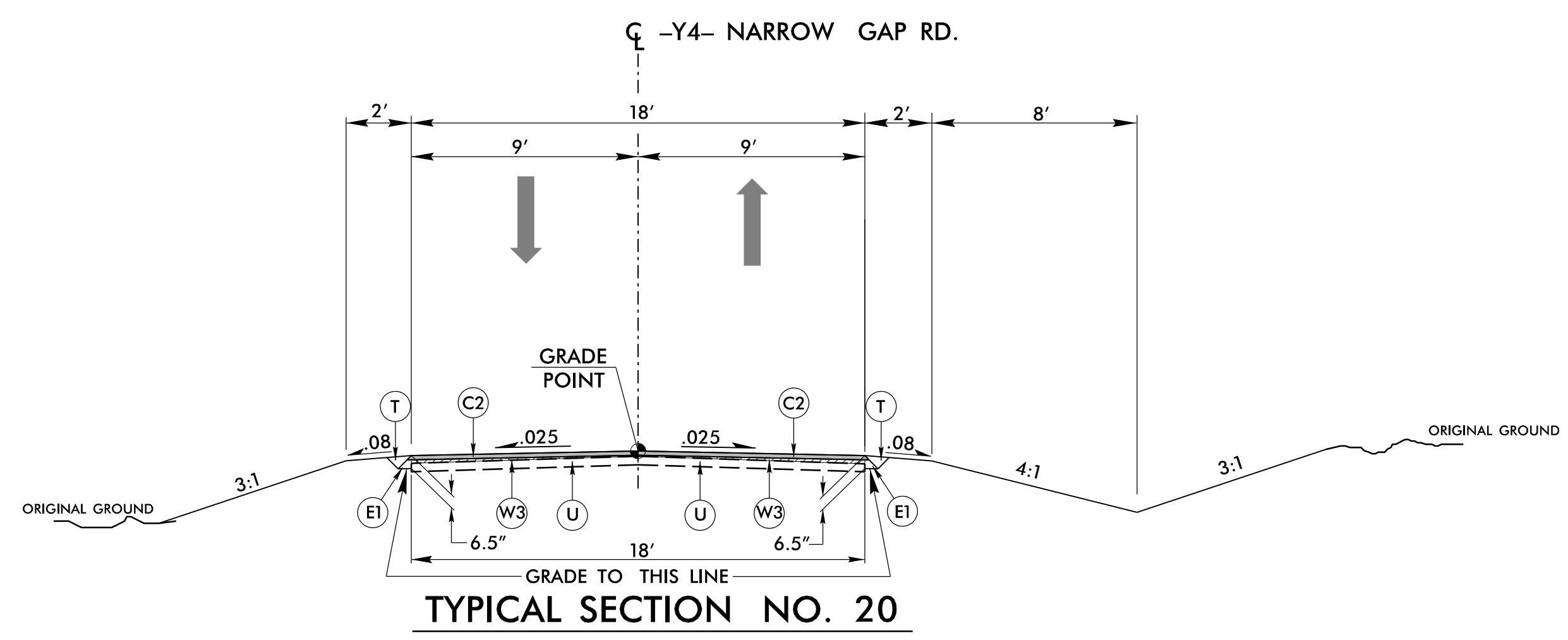
USE TYPICAL SECTION NO. 18 AS FOLLOWS
 -Y3- STA. 11+04.78 TO STA. 11+97.31
 *-Y3- STA. 11+97.31 TO STA. 12+67.22



TYPICAL SECTION NO. 19

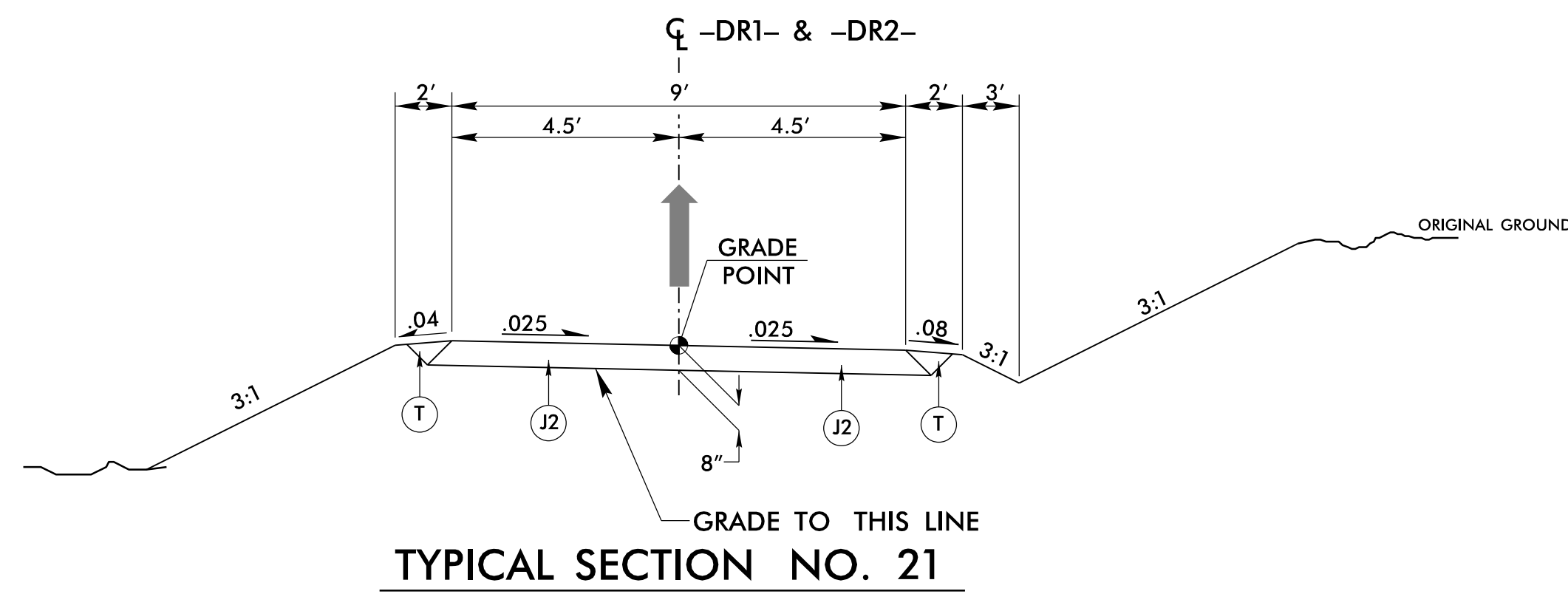
USE TYPICAL SECTION NO. 19 AS FOLLOWS
 -Y3- STA. 12+67.22 TO STA. 14+25.00

NOTE: TRANSITION FROM TYPICAL SECTION NO. 19 TO EXISTING FROM -Y3- STA. 14+25.00 TO STA. 14+50.00



TYPICAL SECTION NO. 20

USE TYPICAL SECTION NO. 20 AS FOLLOWS
 -Y4- STA. 13+00.00 TO STA. 13+67.60



TYPICAL SECTION NO. 21


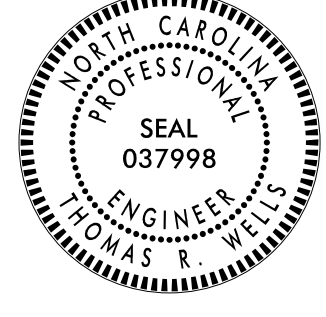
USE TYPICAL SECTION NO. 21 AS FOLLOWS
 -DR1- STA. 10+75.00 TO 11+73.42
 -DR2- STA. 10+75.00 TO 11+78.32

T:\2002\2561CA_Rdy.tup.dgn

6/2/99

- NOTES: 1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
 2. SHOULDER ROLLOVER NOT TO EXCEED 0.06 (TYP).
 3. SEE PLANS FOR LOCATION OF TURN LANES AND INTERSECTION TURNOUTS.
 4. SEE PLANS FOR CONC. ISLAND LOCATIONS

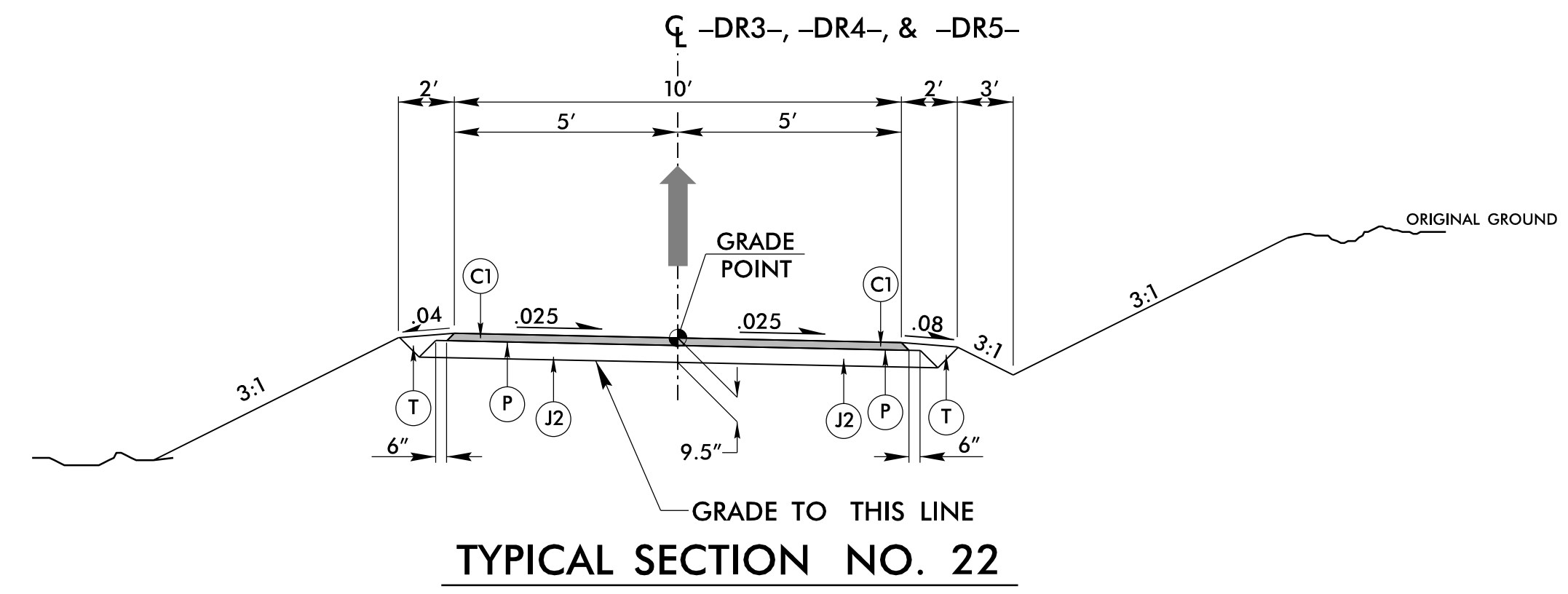
SEPI
 Engineering & Construction, Inc.
 1 Glenwood Avenue
 Raleigh, NC 27603
 Tel: 919.789.9977
 Fax: 919.789.9591
 License: C-2197

PROJECT REFERENCE NO. <i>R-256/CA</i>	SHEET NO. <i>2A-8</i>
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

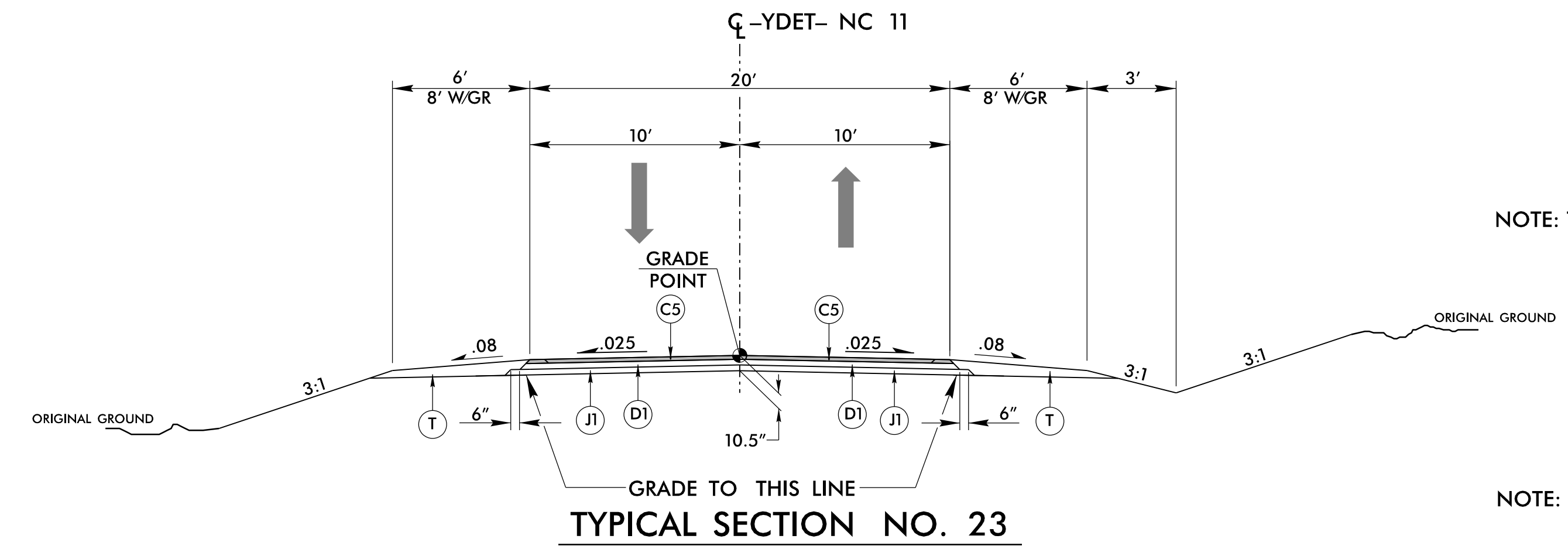
PAVEMENT SCHEDULE

C1	1.5" S9.5B
C2	2.5" S9.5B
C3	3" S9.5B
C4	VAR. DEPTH S9.5B
C5	2" S9.5C
C6	3" S9.5C
C7	VAR. DEPTH S9.5C
D1	2.5" I19.0C
D2	3" I19.0C
D3	3.5" I19.0C
D4	4" I19.0C
D5	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J1	6" ABC
J2	8" ABC
L	CL. IV STABILIZATION
N	GEOTEXTILE FOR SOIL STAB.
P	PRIME COAT
R1	2'-6" C & G
R2	CONC. SHLD. BERM GUTTER
R3	CONCRETE ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING, 3" DEPTH
W1	WEDGING DETAIL NO. 1
W2	WEDGING DETAIL NO. 2
W3	WEDGING DETAIL NO. 3



TYPICAL SECTION NO. 22

USE TYPICAL SECTION NO. 22 AS FOLLOWS
 -DR3- STA. 9+53.00 TO 12+13.14
 -DR4- STA. 10+15.82 TO 11+95.00
 -DR5- STA. 10+00.00 TO 12+32.15



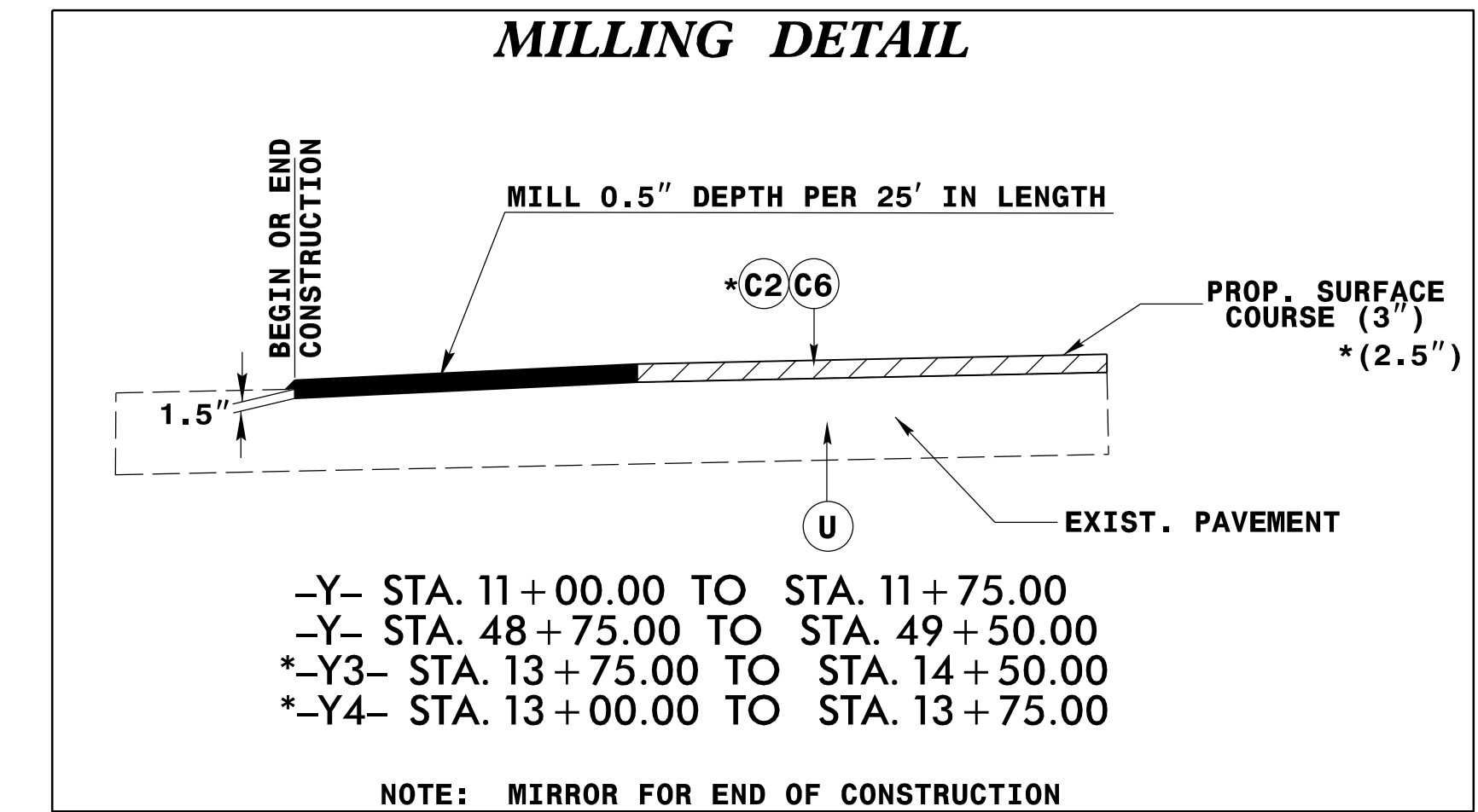
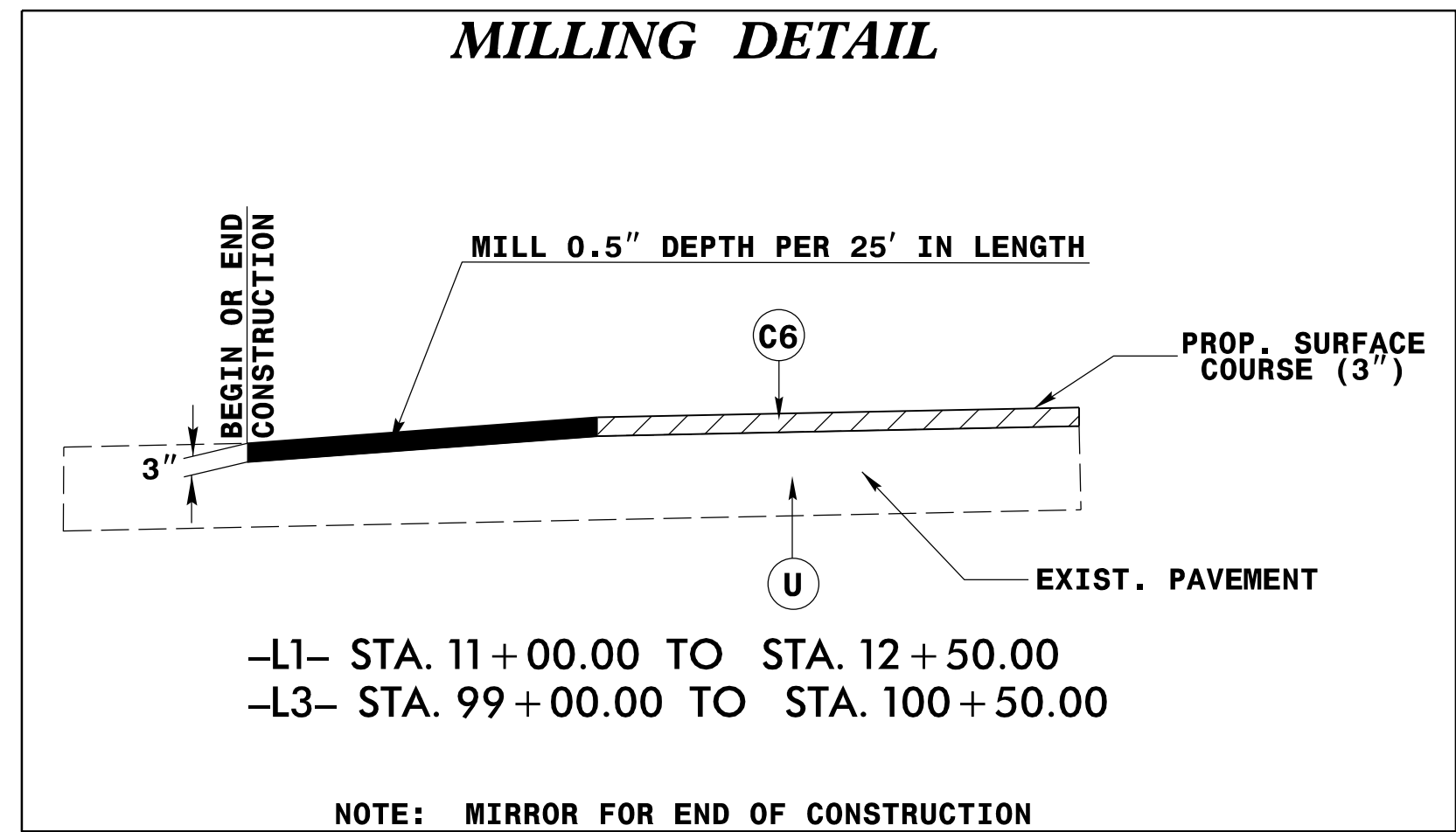
TYPICAL SECTION NO. 23

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 23
 -YDET- STA. 19+69.08 TO STA. 21+56.00

USE TYPICAL SECTION NO. 23 AS FOLLOWS
 -YDET- STA. 21+56.00 TO STA. 33+75.76
 -YDET- STA. 34+95.55 TO STA. 51+11.68

NOTE: TRANSITION FROM TYPICAL SECTION NO. 23 TO EXISTING
 -YDET- STA. 51+11.68 TO STA. 53+26.82

NOTE: USE THE TYPICAL SECTION NO. 23 PAVEMENT DESIGN FOR THE TEMPORARY PAVEMENT LOCATIONS SHOWN ON THE TMP-6, TMP-15, AND TMP-16 SHEETS.



9/28/2002 11:51:04 AM R-256/CA_Rdy.tup.dgn

8/17/99



1 Glenwood Avenue
Raleigh, NC 27603
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Fax: 919.789.9591
License: C-2197

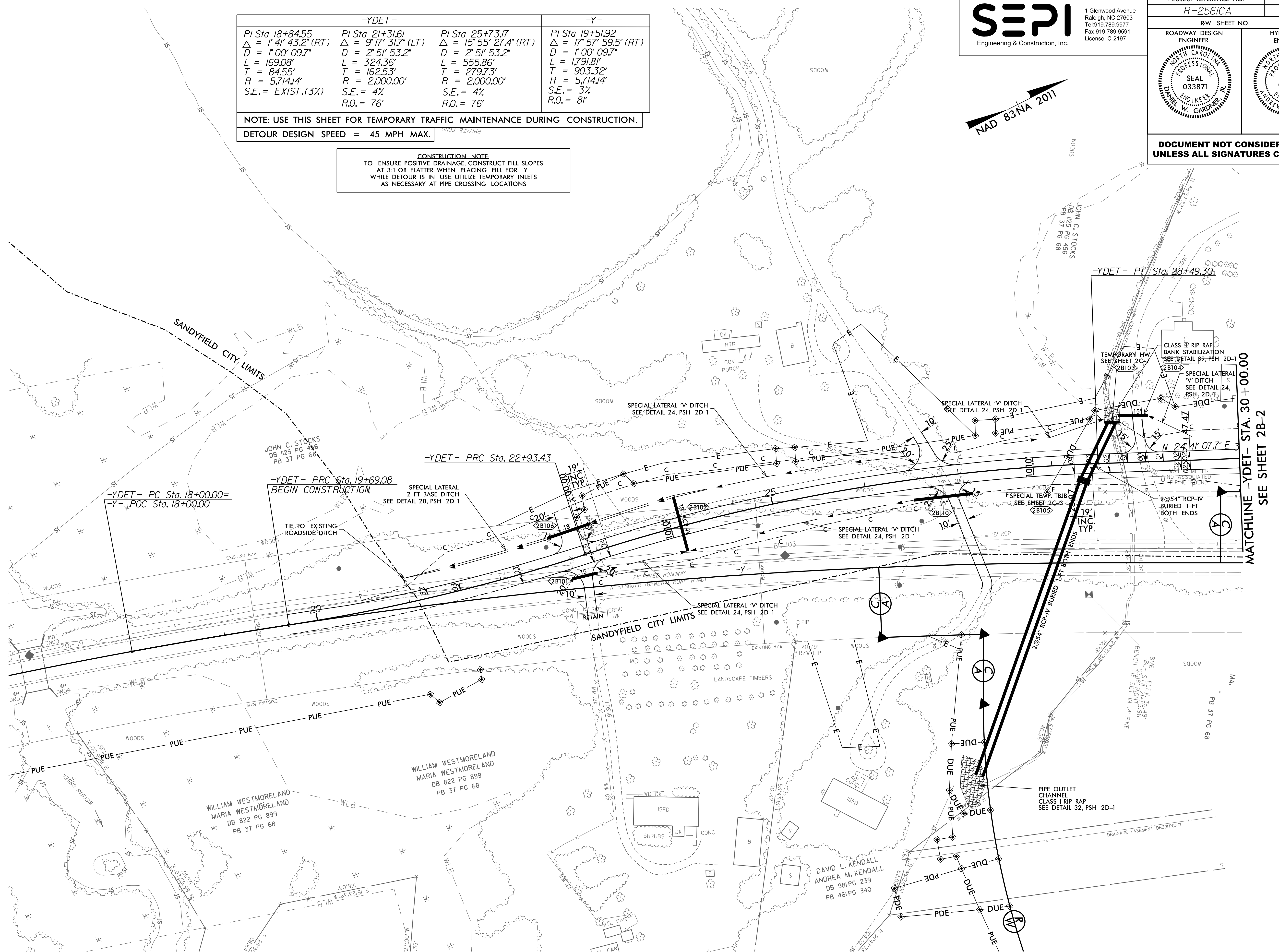
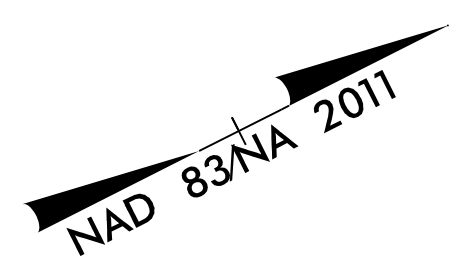
PROJECT REFERENCE NO. <i>R-256/CA</i>	SHEET NO. <i>2B-1</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 DANIEL W. GARDNER ENGINEER	 ANDREW M. HOWELL ENGINEER

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

-YDET-			-Y-
PI Sta 18+84.55	PI Sta 21+31.61	PI Sta 25+73.17	PI Sta 19+51.92
$\Delta = 1' 41' 43.2''$ (RT)	$\Delta = 9' 17' 31.7''$ (LT)	$\Delta = 15' 55' 27.4''$ (RT)	$\Delta = 17' 57' 59.5''$ (RT)
$D = 1' 00' 09.7''$	$D = 2' 51' 53.2''$	$D = 2' 51' 53.2''$	$D = 1' 00' 09.7''$
$L = 169.08'$	$L = 324.36'$	$L = 555.86'$	$L = 1,791.81'$
$T = 84.55'$	$T = 162.53'$	$T = 279.73'$	$T = 903.32'$
$R = 5,714.14'$	$R = 2,000.00'$	$R = 2,000.00'$	$R = 5,714.14'$
S.E. = EXIST. (3%)	S.E. = 4%	S.E. = 4%	S.E. = 3%
	R.O. = 76'	R.O. = 76'	R.O. = 81'

NOTE: USE THIS SHEET FOR TEMPORARY TRAFFIC MAINTENANCE DURING CONSTRUCTION.
DETOUR DESIGN SPEED = 45 MPH MAX.

CONSTRUCTION NOTE:
TO ENSURE POSITIVE DRAINAGE, CONSTRUCT FILL SLOPES AT 3:1 OR FLATTER WHEN PLACING FILL FOR -Y- WHILE DETOUR IS IN USE. UTILIZE TEMPORARY INLETS AS NECESSARY AT PIPE CROSSING LOCATIONS



MATCHLINE -YDET- STA. 30+00.00
SEE SHEET 2B-2

SEE SHEET 29 FOR -YDET- PROFILE
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS

8/25/2002 R-256/CA_Rdy_psh_2B-1.dgn
11:51:40 AM

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

-YDET-
PI Sta 39+36.43
 $\Delta = 6' 28' 45.7" (RT)$
 $D = 1' 58' 32.6"$
 $L = 327.95'$
 $T = 164.15'$
 $R = 2,900.00'$
 $S.E. = 3\%$
 $R.O. = 57'$

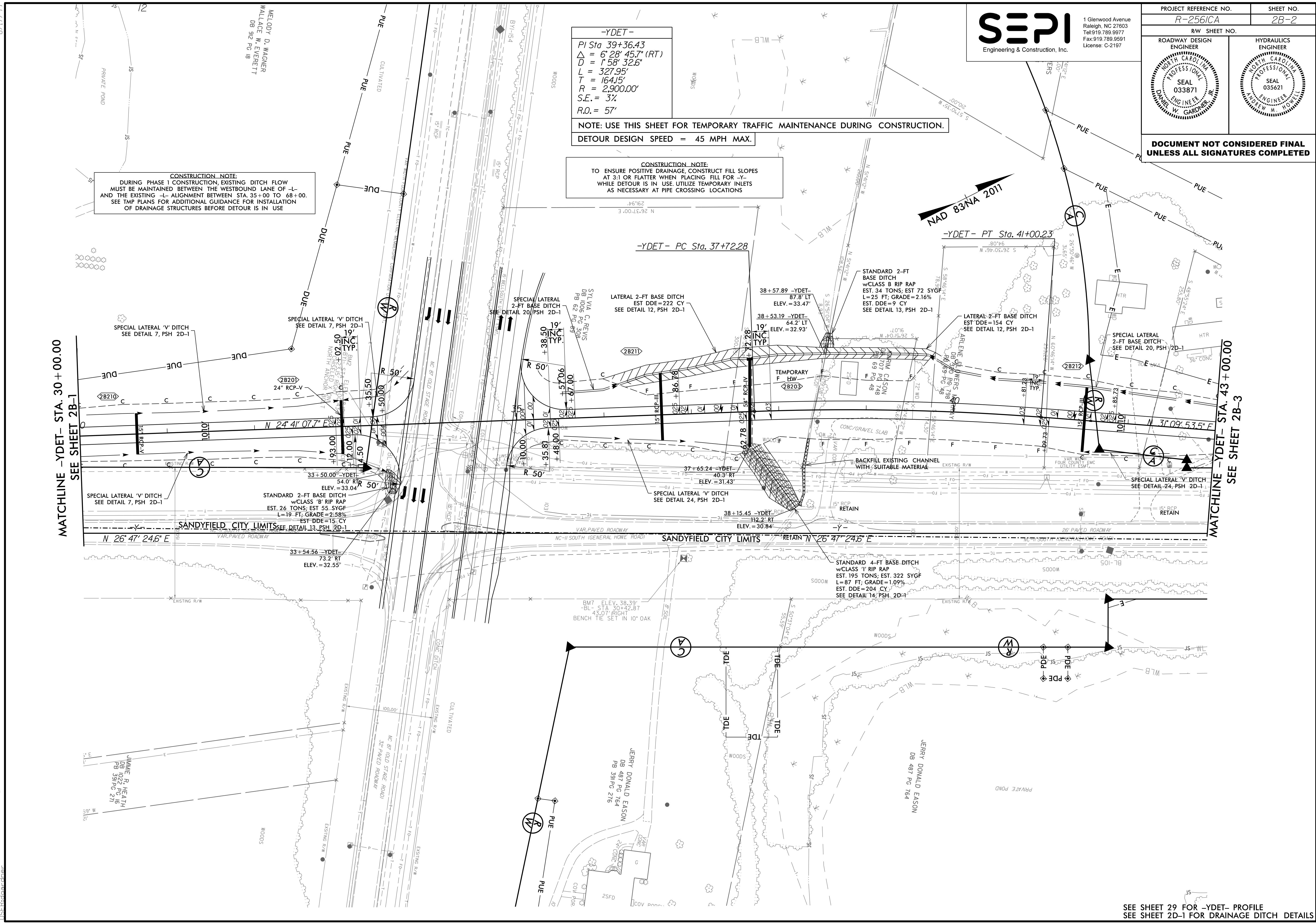
NOTE: USE THIS SHEET FOR TEMPORARY TRAFFIC MAINTENANCE DURING CONSTRUCTION.
DETOUR DESIGN SPEED = 45 MPH MAX.

CONSTRUCTION NOTE:
TO ENSURE POSITIVE DRAINAGE, CONSTRUCT FILL SLOPES AT 3:1 OR FLATTER WHEN PLACING FILL FOR -Y- WHILE DETOUR IS IN USE. UTILIZE TEMPORARY INLETS AS NECESSARY AT PIPE CROSSING LOCATIONS

CONSTRUCTION NOTE:
DURING PHASE I CONSTRUCTION, EXISTING DITCH FLOW MUST BE MAINTAINED BETWEEN THE WESTBOUND LANE OF -L- AND THE EXISTING -L- ALIGNMENT BETWEEN STA 35+00 TO 68+00. SEE TMP PLANS FOR ADDITIONAL GUIDANCE FOR INSTALLATION OF DRAINAGE STRUCTURES BEFORE DETOUR IS IN USE

**MATCHLINE -YDET- STA. 30+00.00
SEE SHEET 2B-1**

**MATCHLINE -YDET- STA. 43+00.00
SEE SHEET 2B-3**



8/25/2014 11:58:14 AM R-2561CA_Rdy_psh_2B-2.dgn

8/17/99



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PROJECT REFERENCE NO. <i>R-2561CA</i>	SHEET NO. <i>2B-3</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER

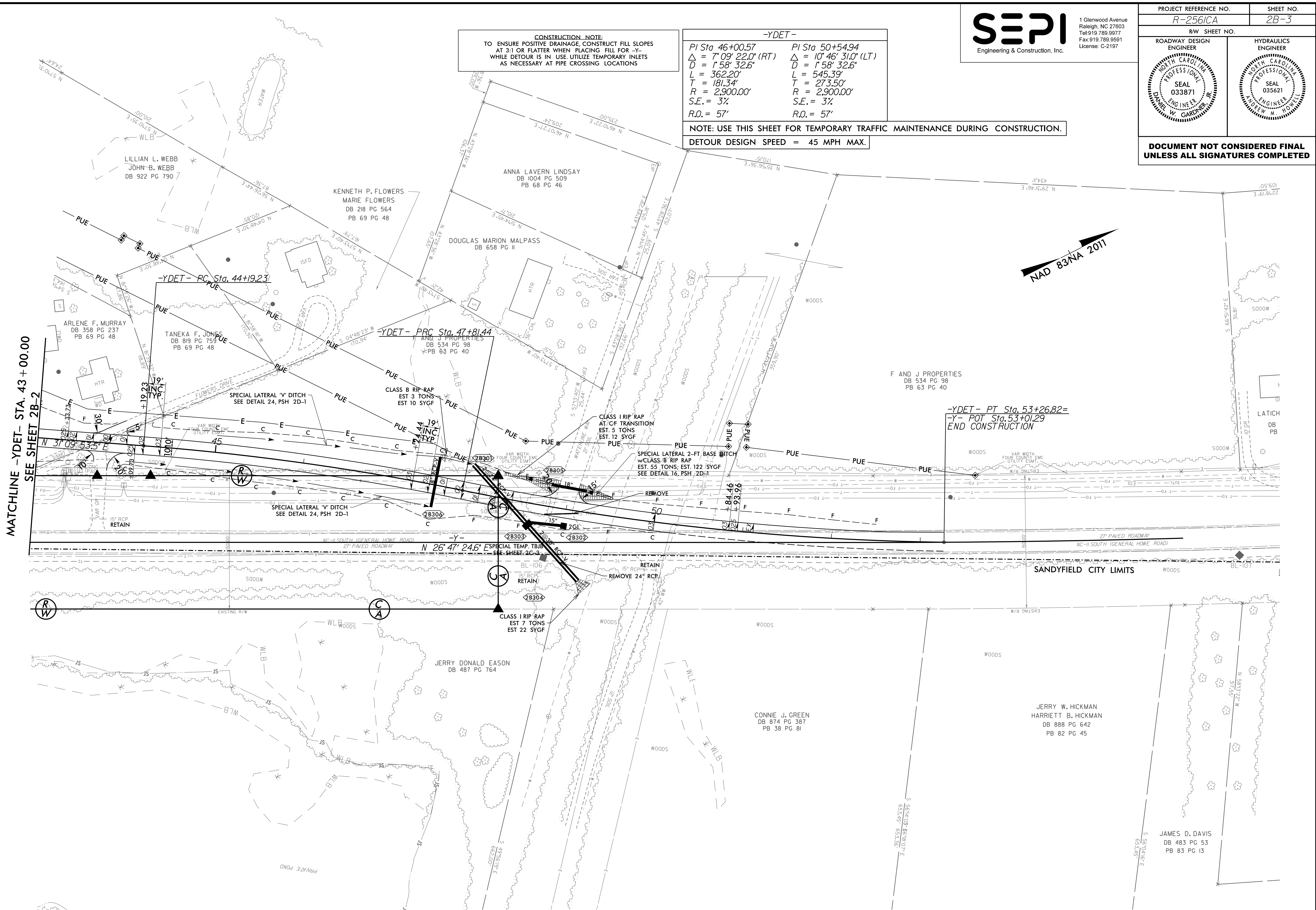
CONSTRUCTION NOTE:
TO ENSURE POSITIVE DRAINAGE, CONSTRUCT FILL SLOPES AT 3:1 OR FLATTER WHEN PLACING FILL FOR X-Y WHILE DETOUR IS IN. USE UTILITY INLETS AS NECESSARY AT PIPE CROSSING LOCATIONS

-YDET-

<i>PI Sta 46+00.57</i>	<i>PI Sta 50+54.94</i>
$\Delta = 7^{\circ}09'22.0''$ (RT)	$\Delta = 10^{\circ}46'31.0''$ (LT)
$D = 1^{\circ}58'32.6''$	$D = 1^{\circ}58'32.6''$
$L = 362.20'$	$L = 545.39'$
$T = 181.34'$	$T = 273.50'$
$R = 2,900.00'$	$R = 2,900.00'$
$S.E. = 3\%$	$S.E. = 3\%$
$R.O. = 57'$	$R.O. = 57'$

NOTE: USE THIS SHEET FOR TEMPORARY TRAFFIC MAINTENANCE DURING CONSTRUCTION.
DETOUR DESIGN SPEED = 45 MPH MAX.

MATCHLINE -YDET- STA. 43+00.00
SEE SHEET 2B-2



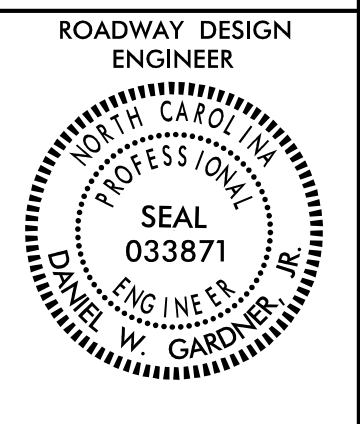
SEE SHEET 29 & 30 FOR -YDET- PROFILE
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS

8/25/2002 R-2561CA_Rdy_psh_2B-3.dgn
JIS:frick:dwg

8/17/99

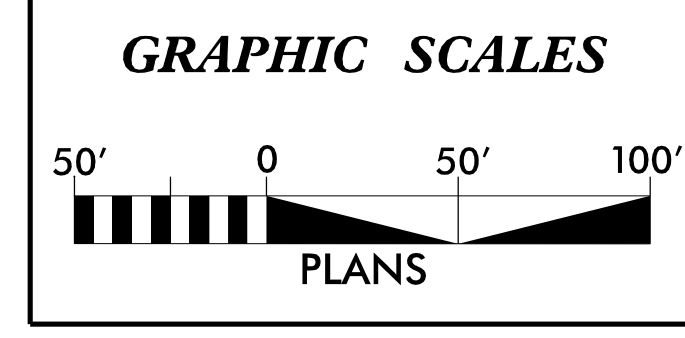
SEPI
 Engineering & Construction, Inc.
 1 Glenwood Avenue
 Raleigh, NC 27603
 Tel: 919.789.9977
 Fax: 919.789.9591
 License: C-2197

PROJECT REFERENCE NO. <i>R-256/CA</i>	SHEET NO. <i>2B-4</i>
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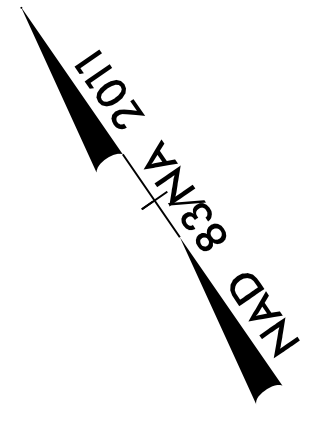
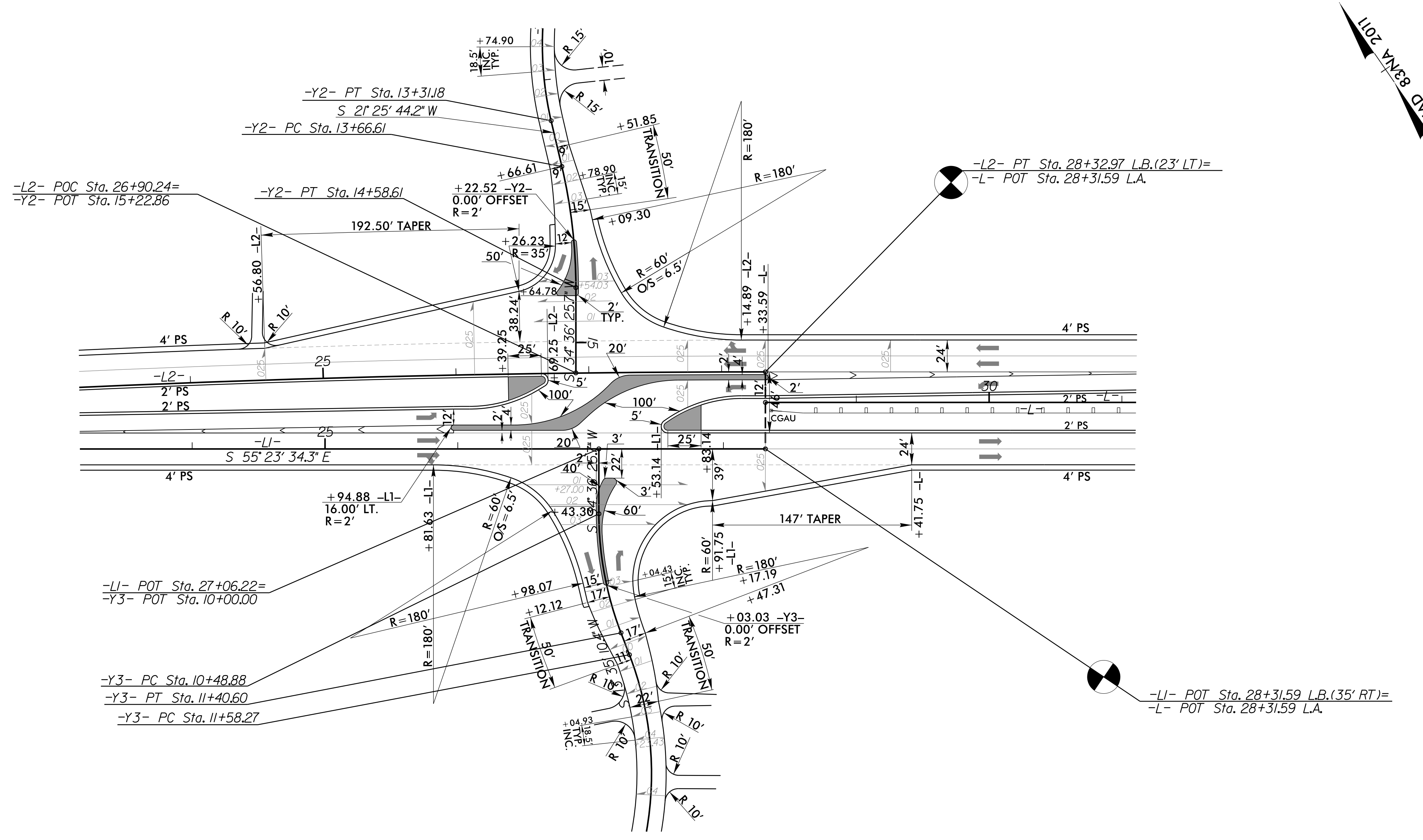


INTERSECTION DETAIL

-L2-/-Y2- AND -L1-/-Y3-



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5" MONOLITHIC CONC. ISLAND

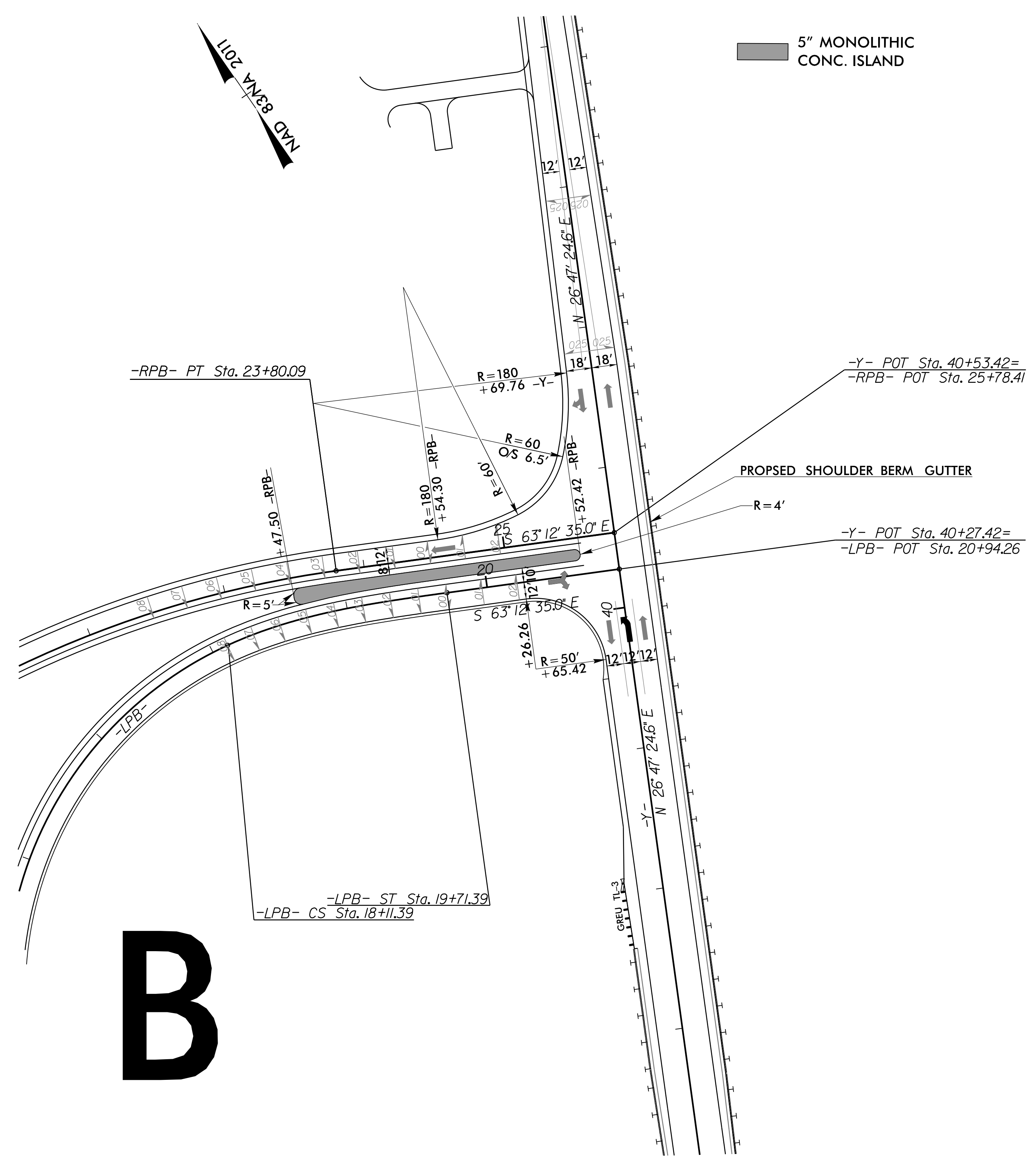
SEE SHEET 5 FOR PLAN VIEW

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 11/20/02
 WSG

8/17/99

T:\2002\2561CA_Rdy_psh_2B-5.dgn
11/15/02

INTERSECTION DETAIL -Y- /-RPB-/-LPB-

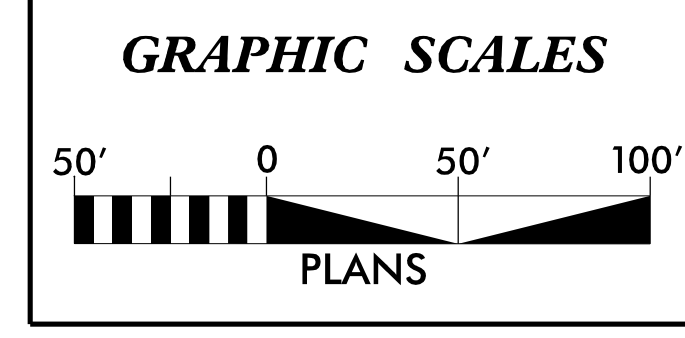
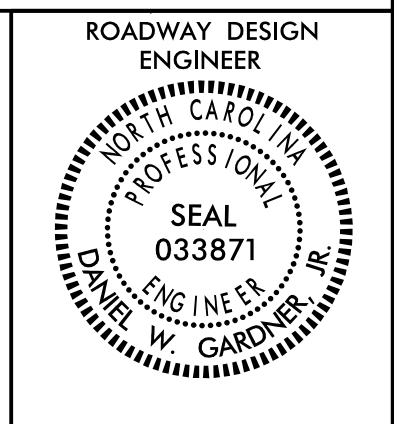


B

SEE SHEET 7 FOR PLAN VIEW

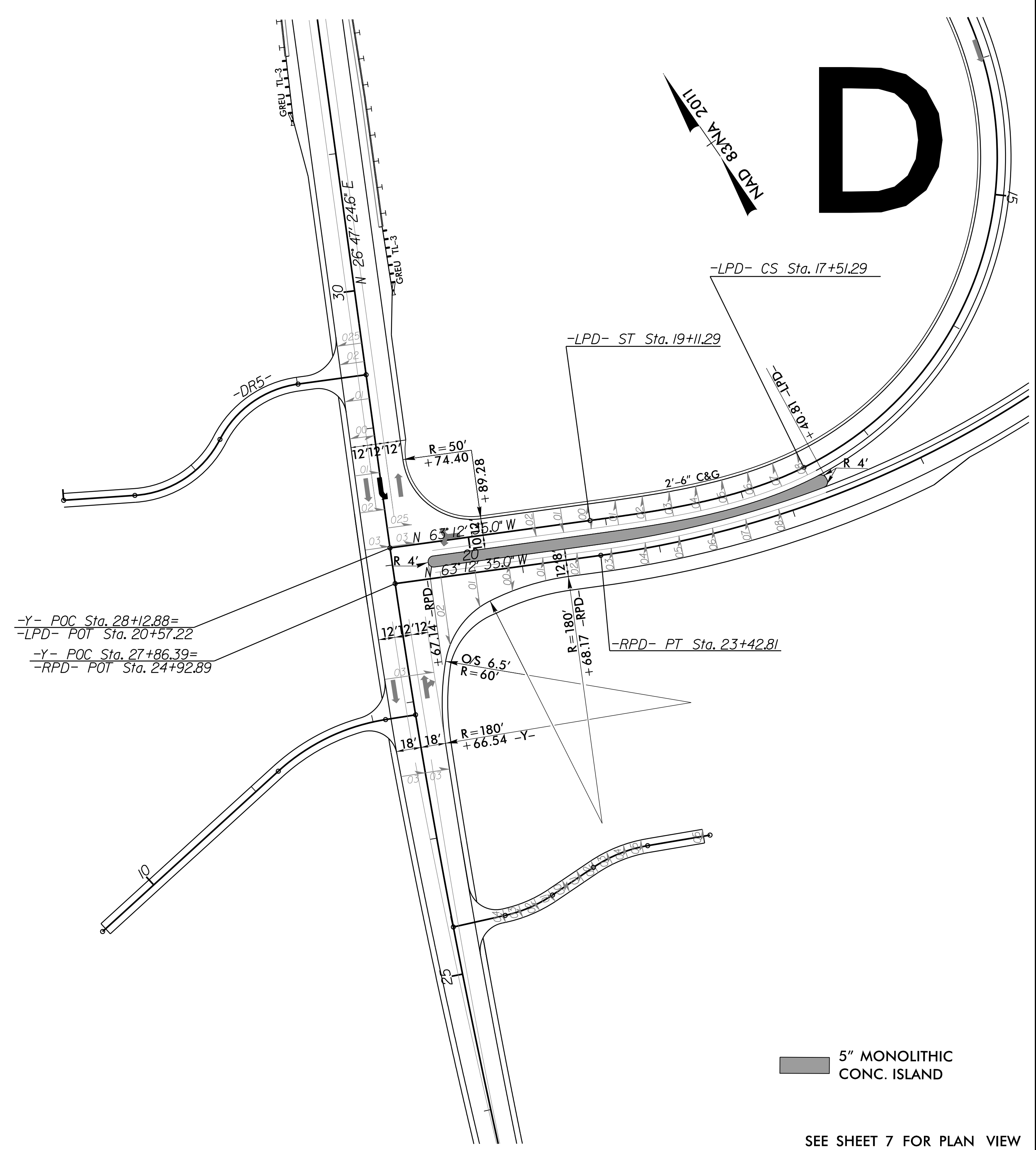
SEPI
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INTERSECTION DETAIL -Y- /-RPD-/-LPD-



D

5" MONOLITHIC CONC. ISLAND

SEE SHEET 7 FOR PLAN VIEW

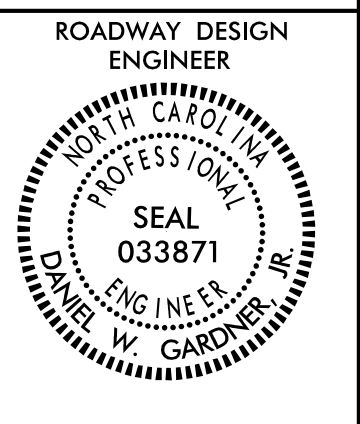
8/17/99

INTERSECTION DETAIL

-L3- , -L4- /-Y4-

SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: C-2197

PROJECT REFERENCE NO. <i>R-256/CA</i>	SHEET NO. <i>2B-6</i>
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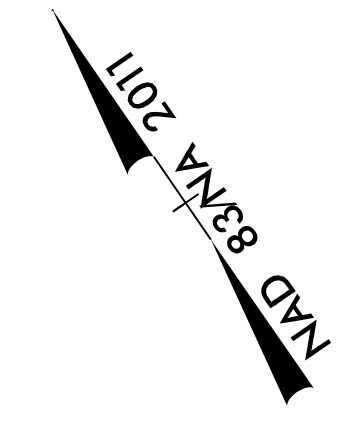
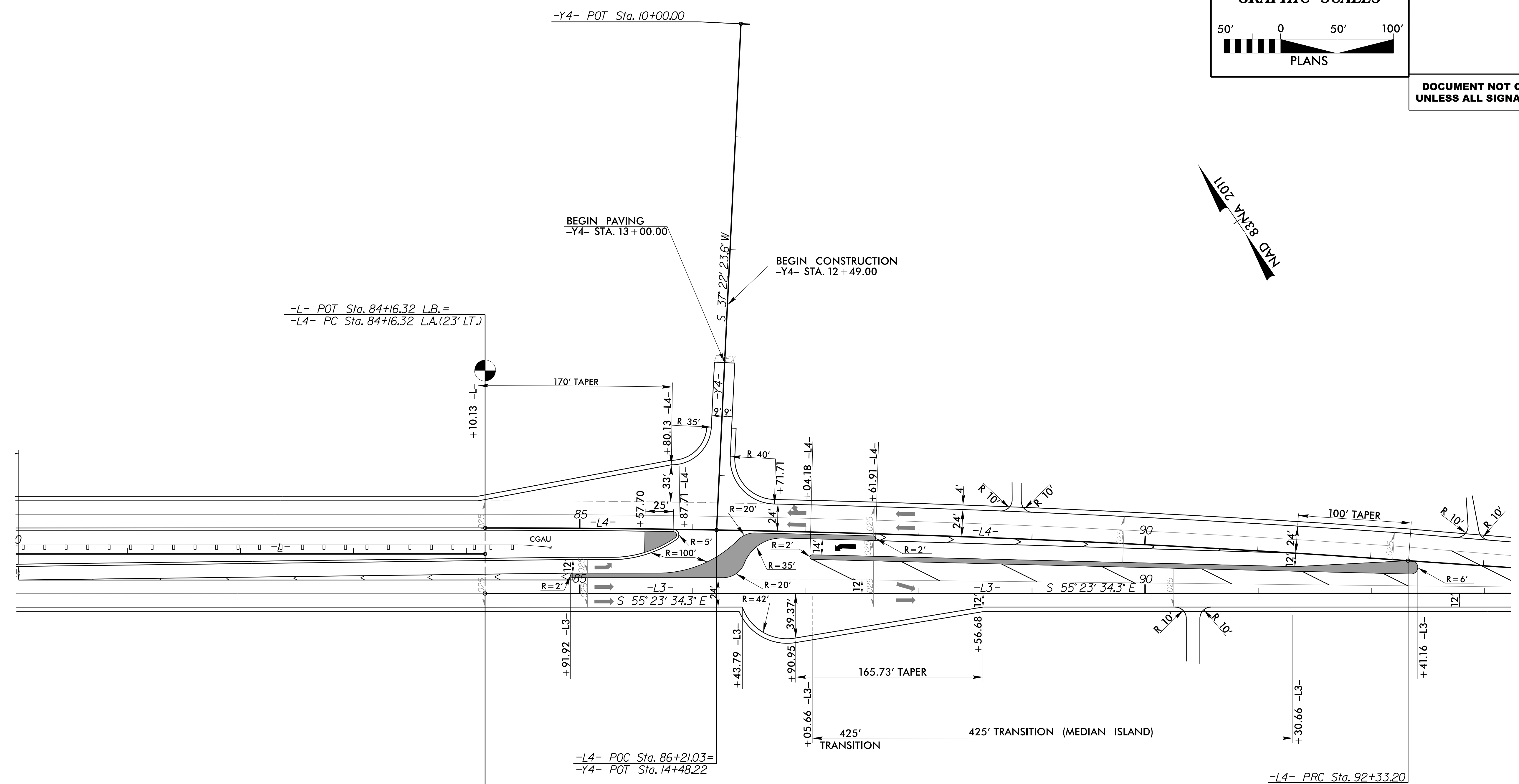


GRAPHIC SCALES

50' 0 50' 100'

PLANS

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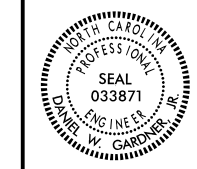


<i>-L4-</i>
<i>PI Sta 88+24.93</i>
<i>Δ = 4° 04' 11.5" (RT)</i>
<i>D = 0° 29' 53.6"</i>
<i>L = 816.87'</i>
<i>T = 408.61'</i>
<i>R = 11,500.00'</i>
<i>SE = NC</i>

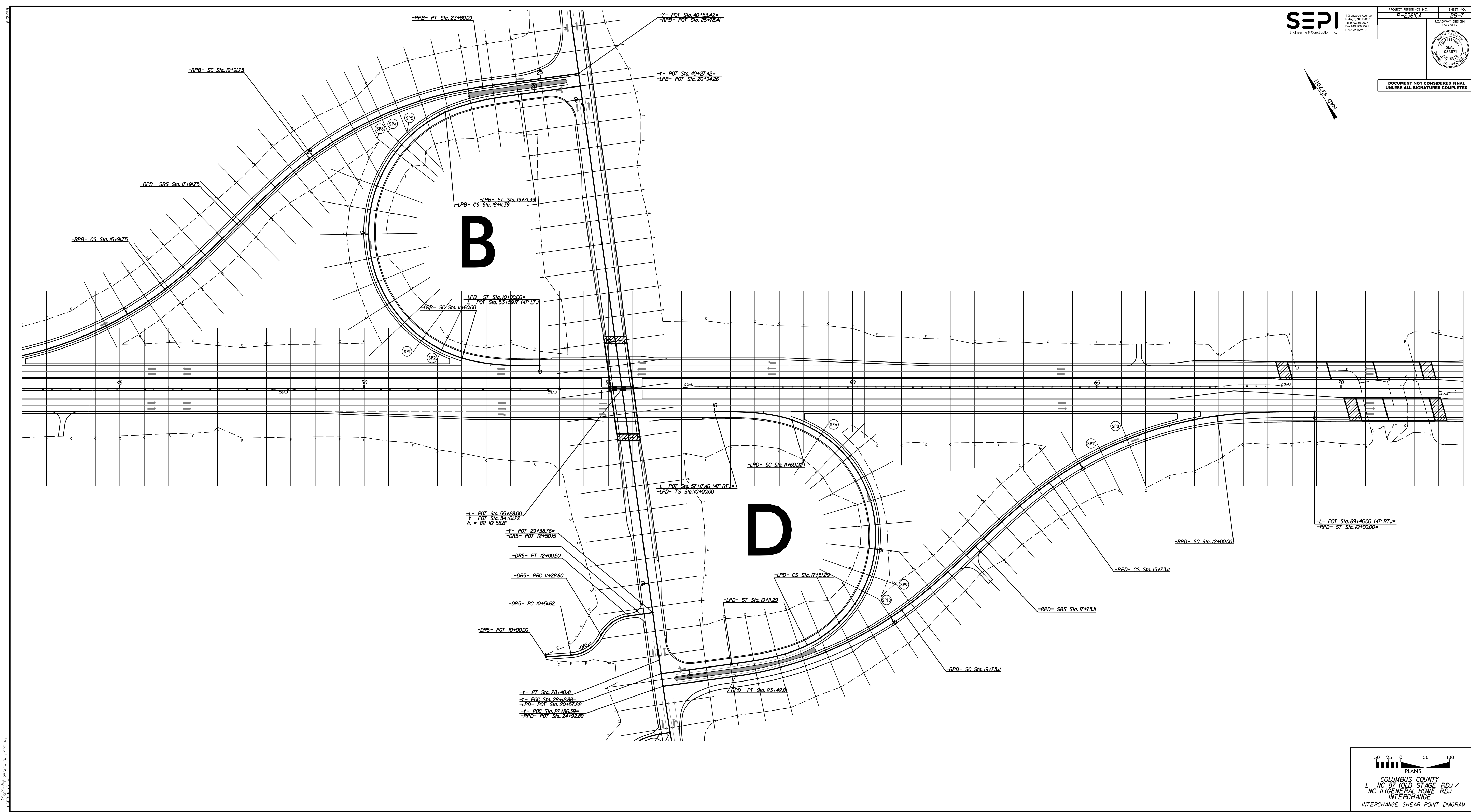
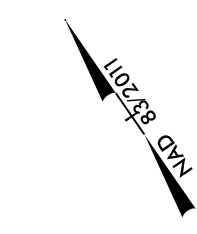
5" MONOLITHIC CONC. ISLAND

SEE SHEET 8 FOR PLAN VIEW

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1/20/2018 - 10:00 AM
 1/20/2018 - 10:00 AM
 1/20/2018 - 10:00 AM

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

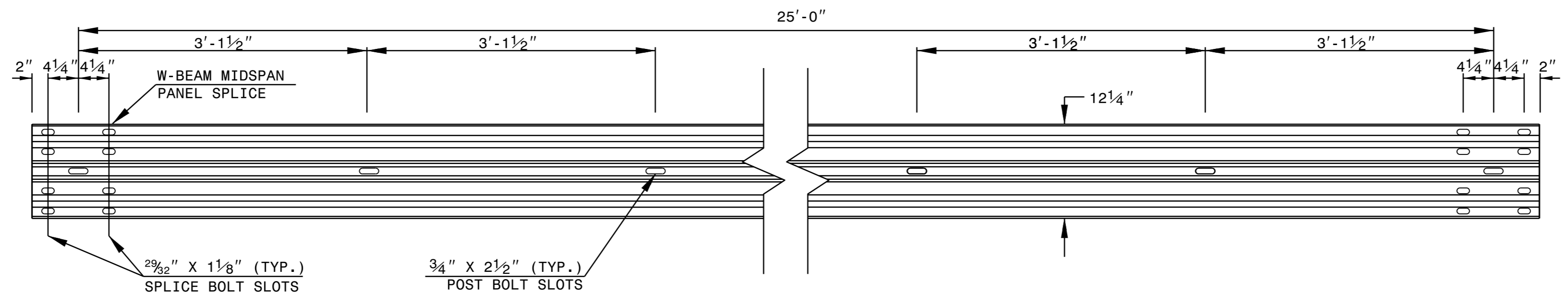
ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

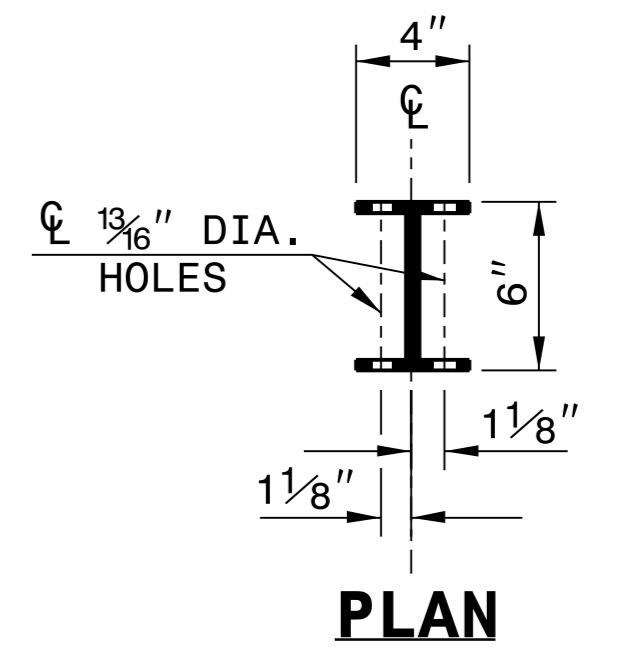
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

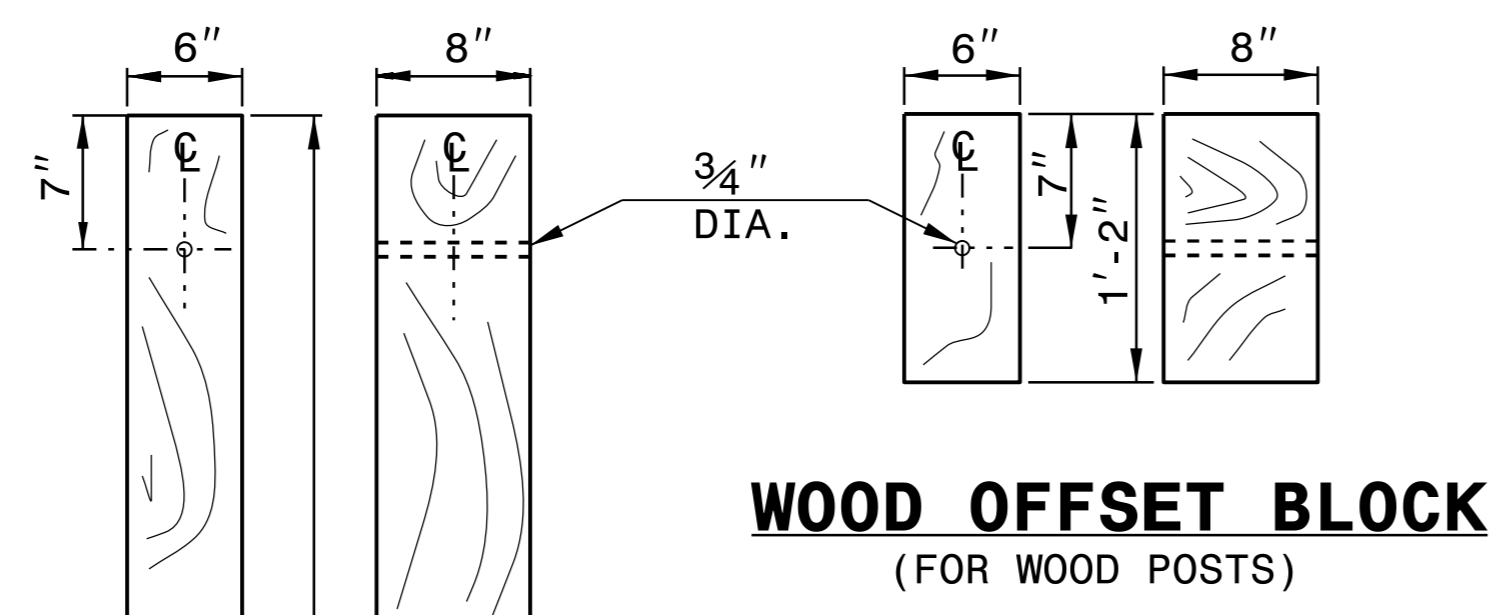
SHEET 6 OF 8
862D02



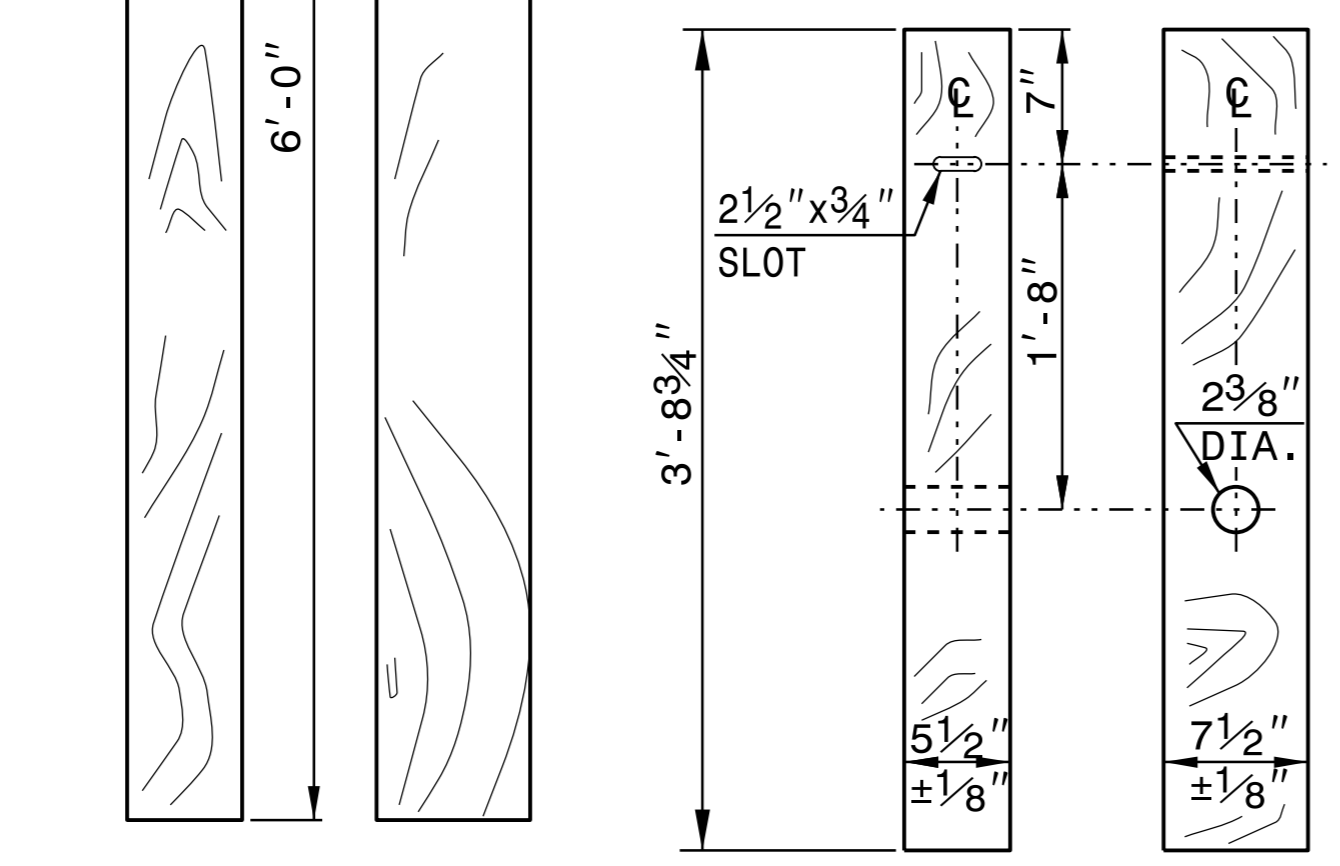
STANDARD W-BEAM GUARDRAIL



PLAN

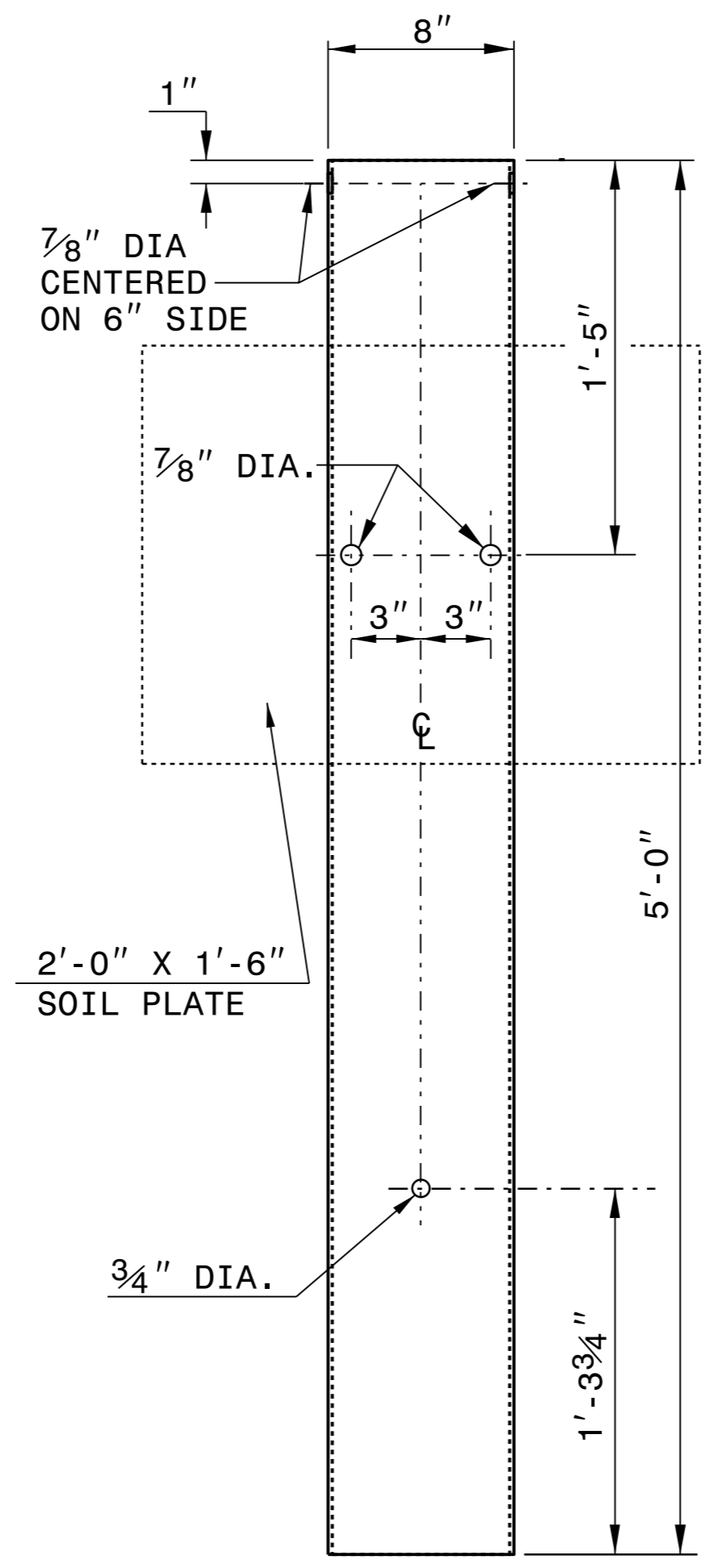


WOOD OFFSET BLOCK (FOR WOOD POSTS)

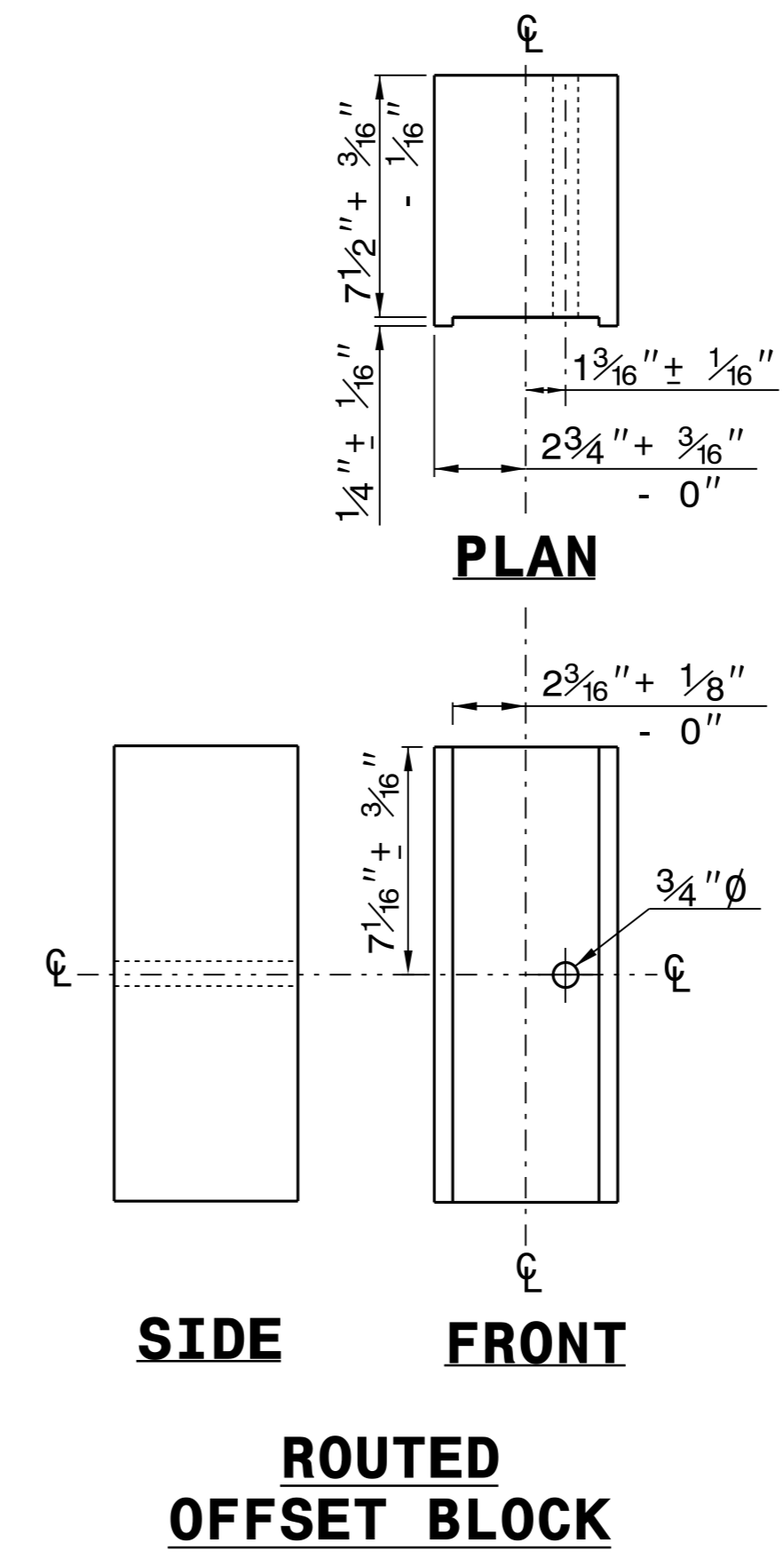


STANDARD LINE POST

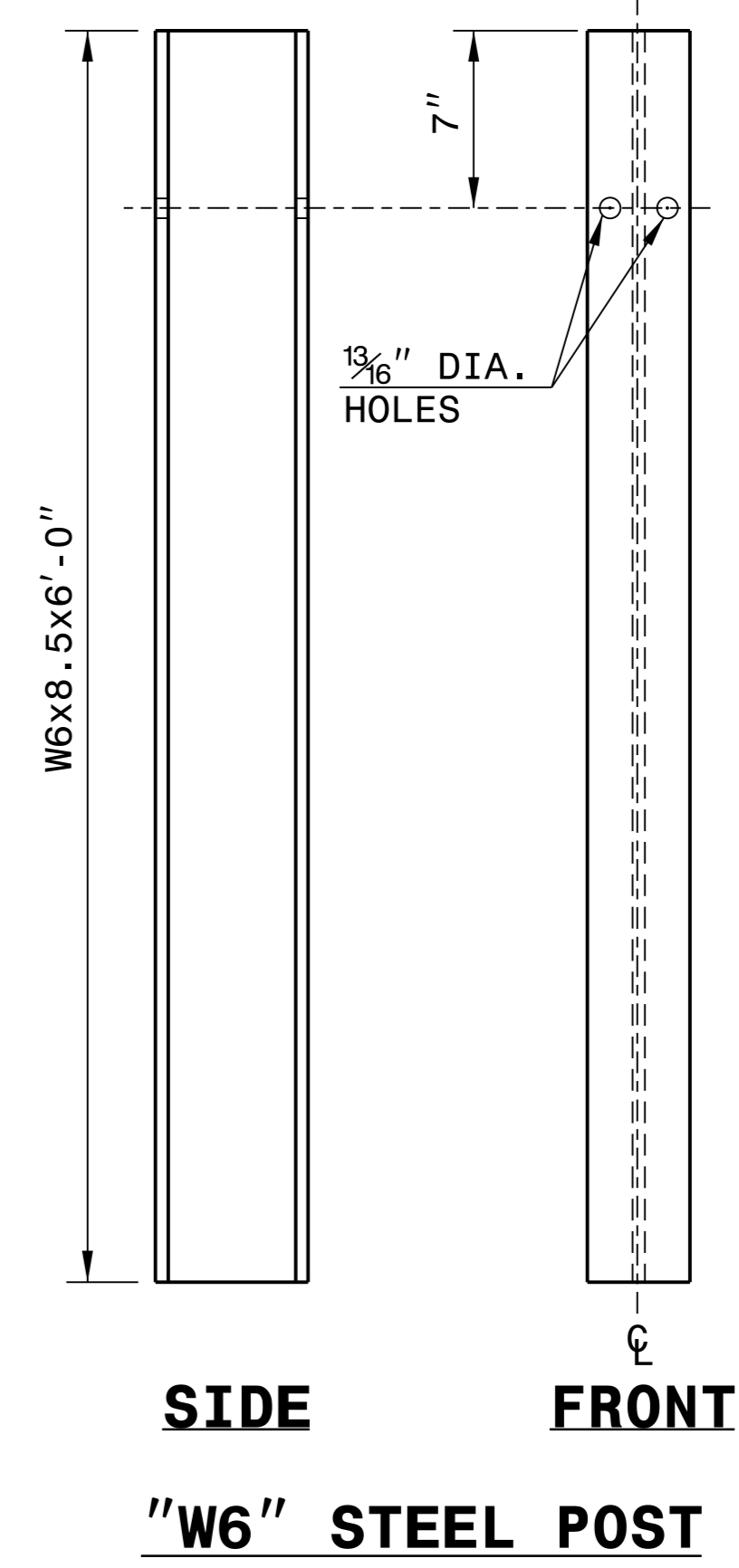
SHORT WOOD BREAKAWAY POST



STEEL TUBE
 TS 6"x8"x0.1875"



ROUTED OFFSET BLOCK



"W6" STEEL POST

SYSTEM PARTS



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

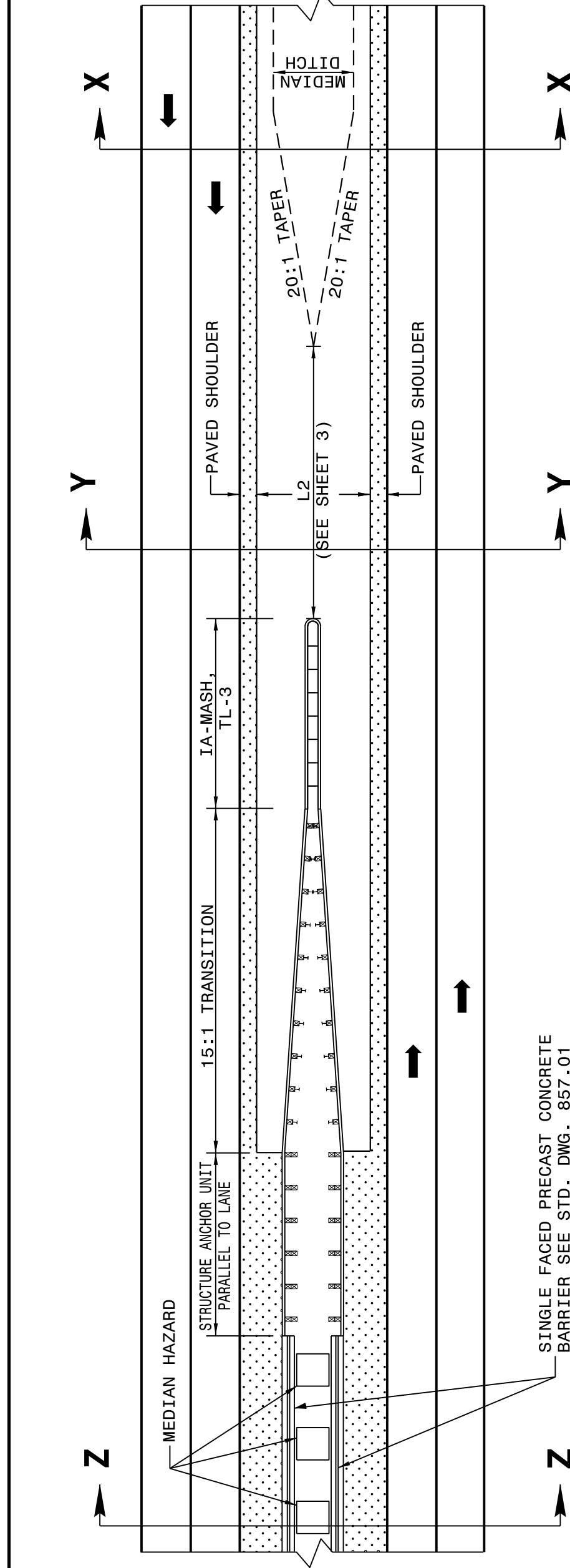
SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 3-7-2018
 MODIFIED BY: DATE: _____
 CHECKED BY: DATE: _____
 FILE SPEC.: _____

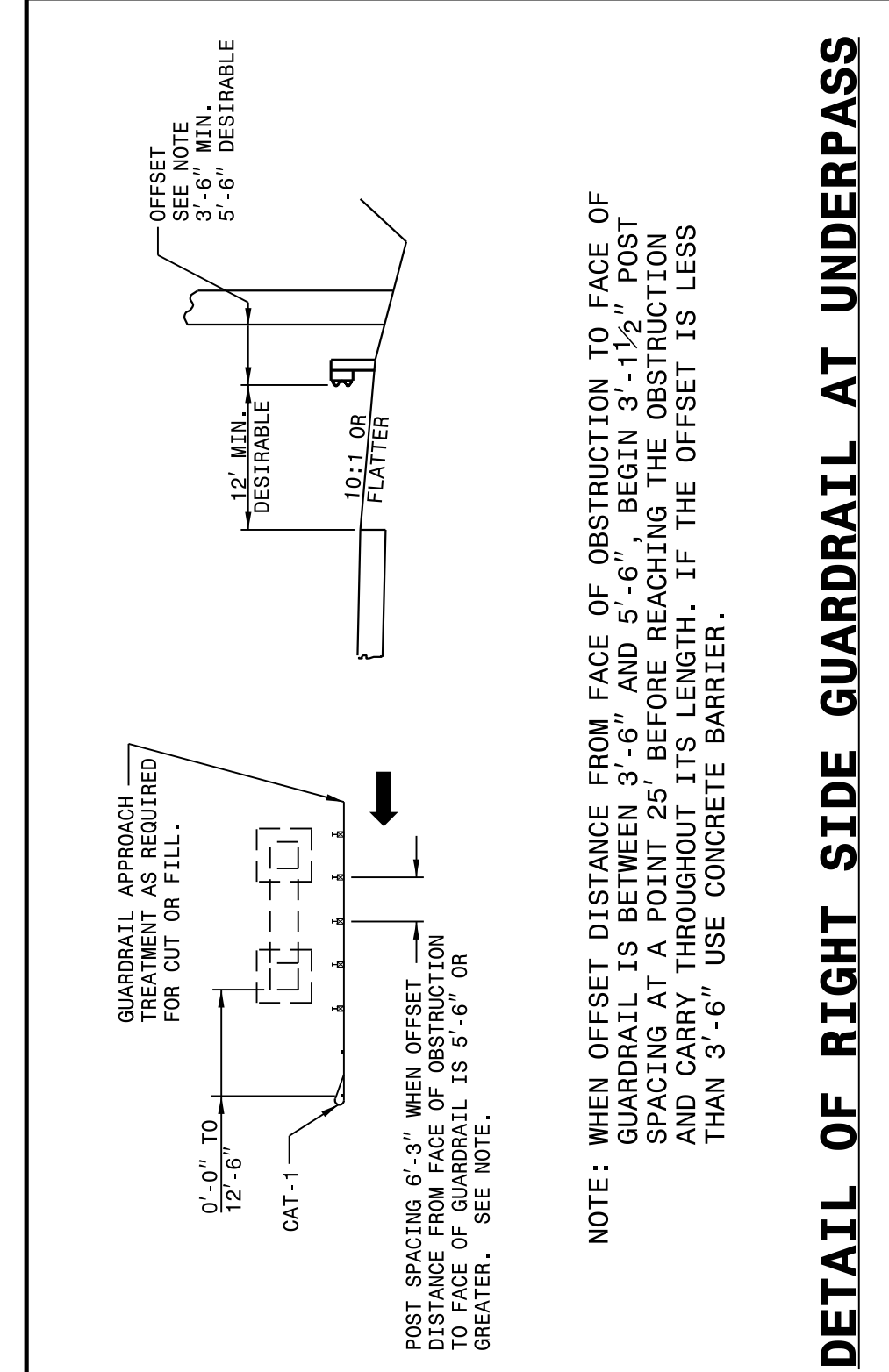
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 1 OF 11
862D01



SINGLE FACED PRECAST CONCRETE BARRIER SEE STD. DWG. 857.01

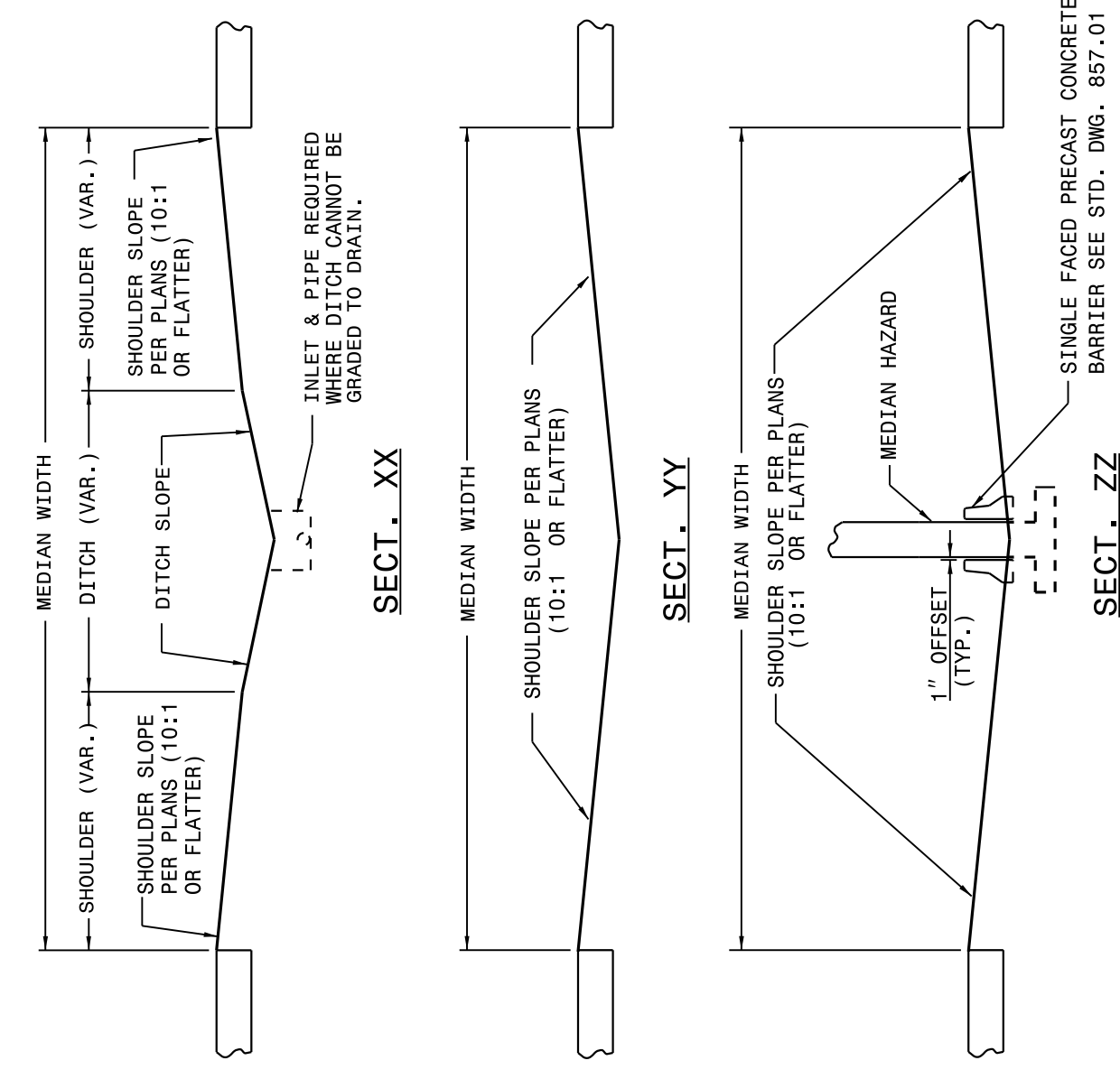


DETAIL OF RIGHT SIDE GUARDRAIL AT UNDERPASS

SHEET 1 OF 11
862D01

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



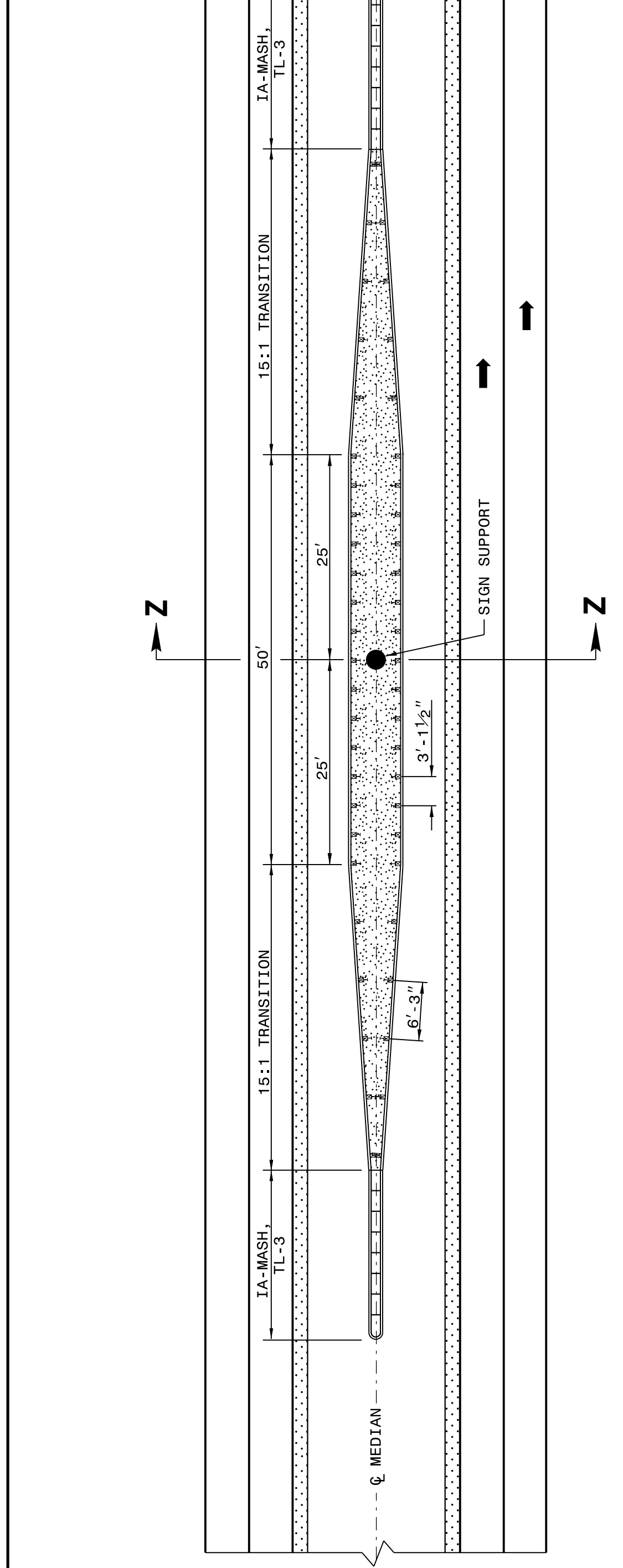
DETAIL OF MEDIAN TREATMENT AT UNDERPASS

SHEET 1 OF 11
862D01

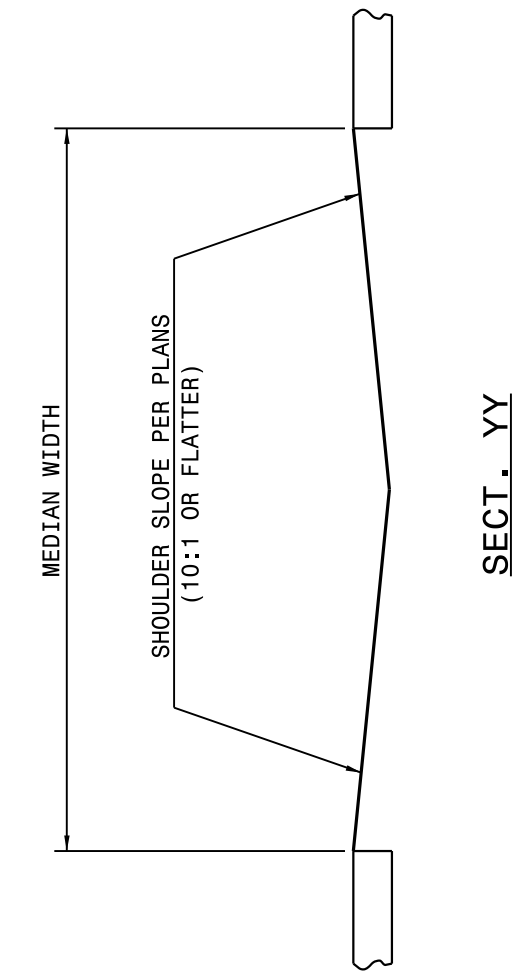
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 2 OF 11
862D01



NOTE SPECIAL LAYER OF PAVEMENT
 USE 3'-1 1/2" POST SPACING ON THE 50' OF GUARDRAIL PARALLEL TO LANES AND 6'-3" POST SPACING ON 15:1 TRANSITION SECTIONS.
 GRADE MEDIAN IN THE VICINITY OF THE SIGN SUPPORT AS ILLUSTRATED IN THE ROADWAY STANDARD DRAWINGS (STANDARD 862.01 SHEET 1 OF 12).

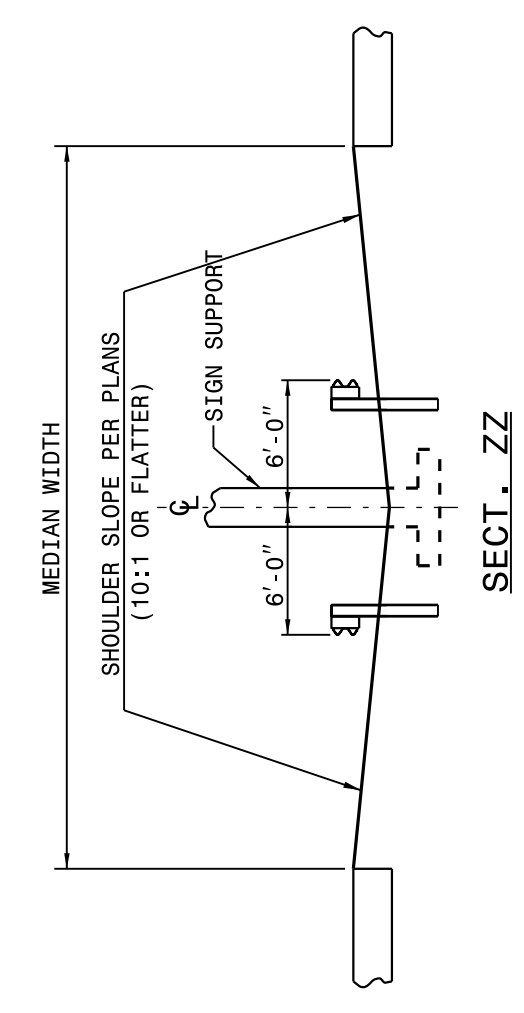


DETAIL OF GUARDRAIL AT MEDIAN SIGN SUPPORT

SHEET 2 OF 11
862D01

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



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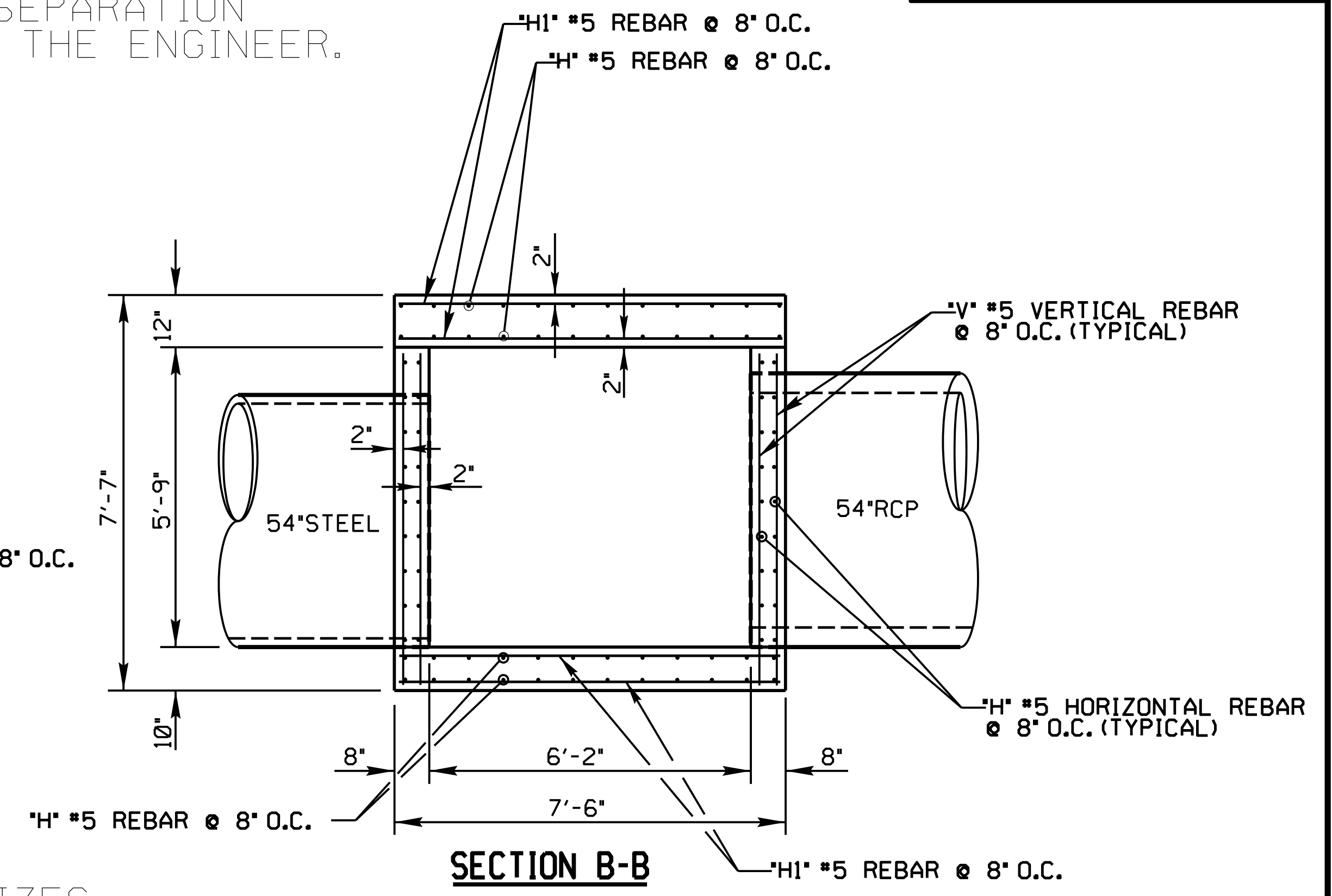
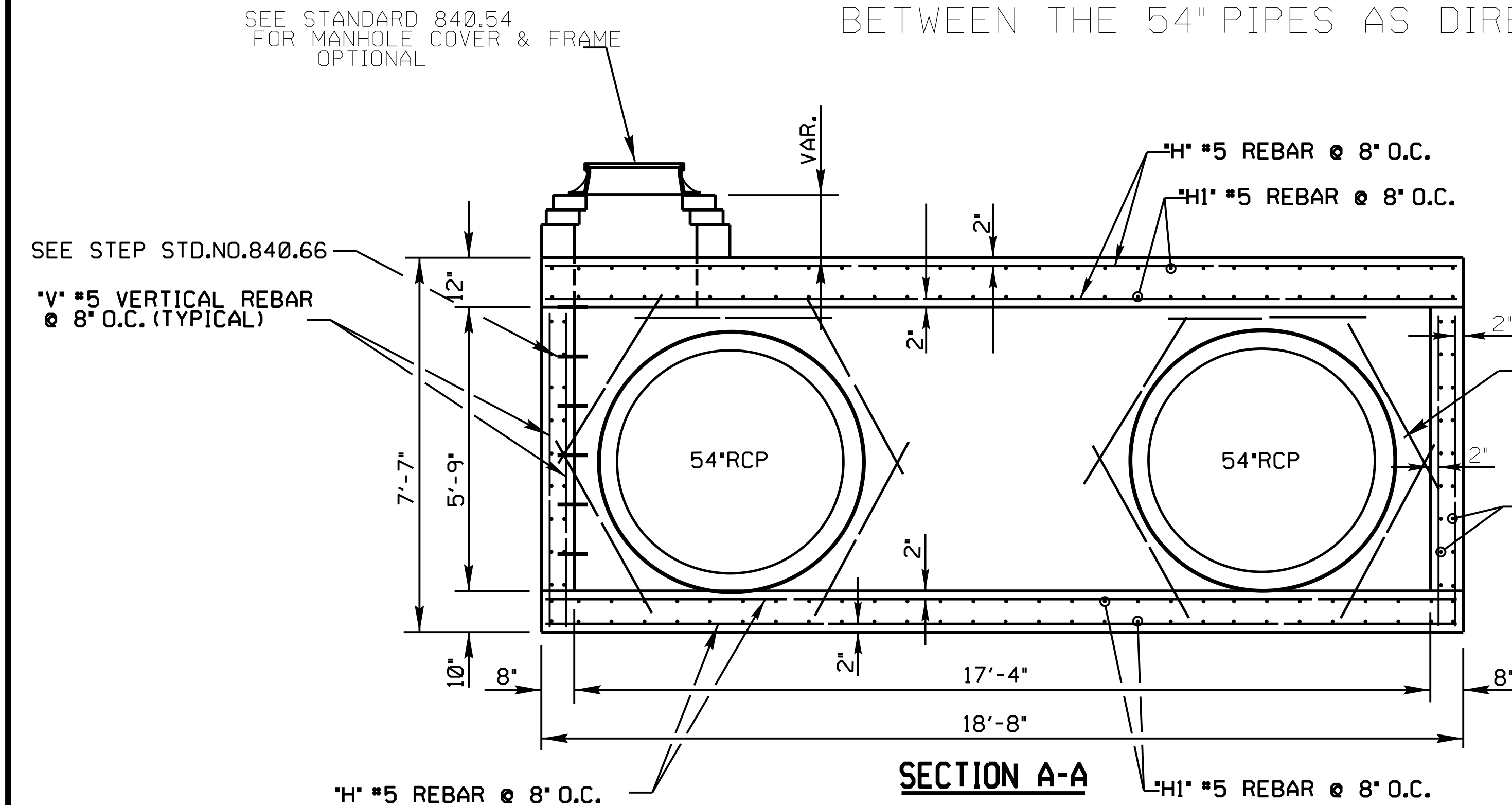
CONTRACT STANDARDS AND DEVELOPMENT UNIT
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SEE TITLE BLOCK

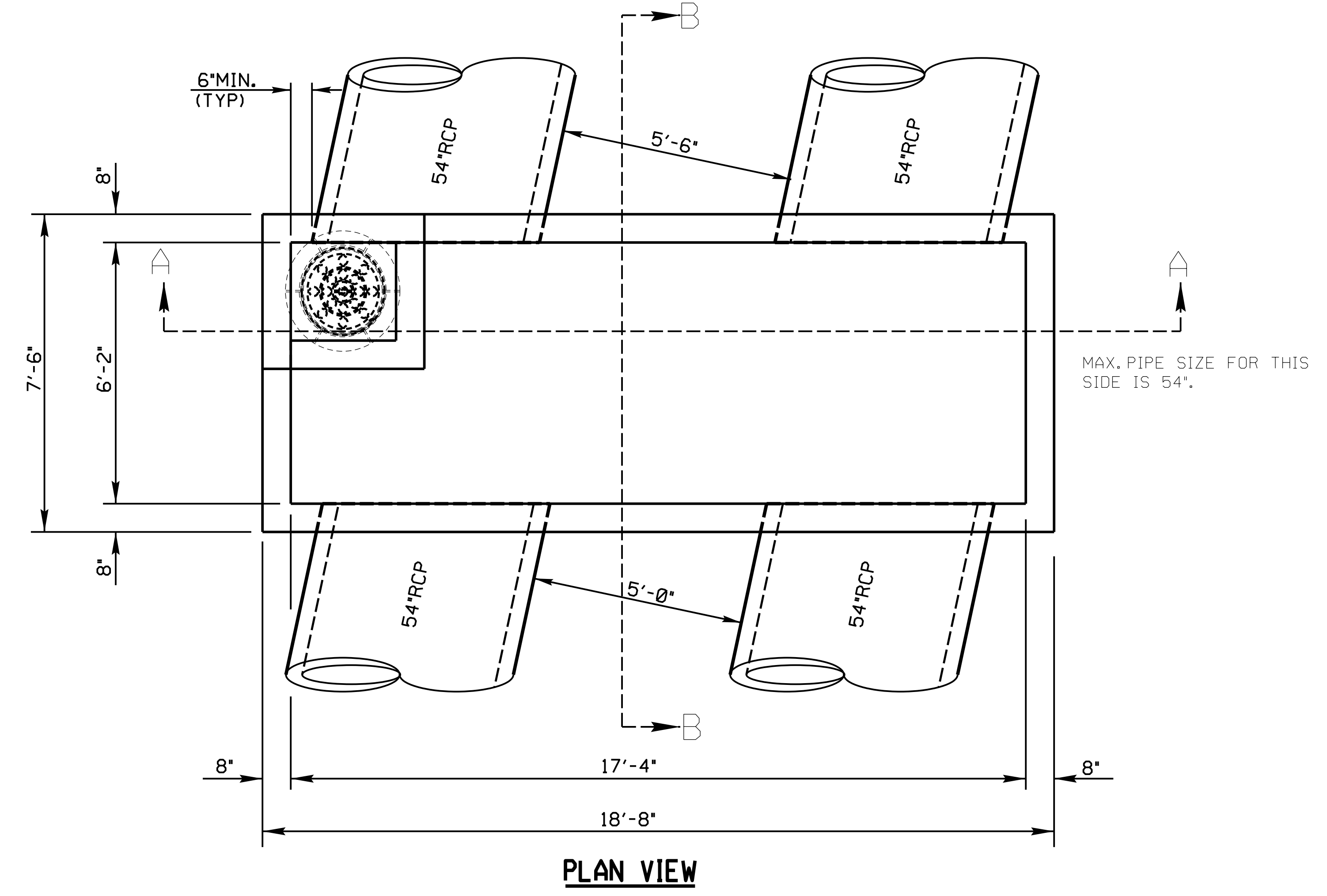
ORIGINAL BY: J HOWERTON DATE: 08-23-18
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: DATE:



* DIMENSIONS MAY BE ADJUSTED FOR THE SEPARATION BETWEEN THE 54" PIPES AS DIRECTED BY THE ENGINEER.



* THIS DESIGN MAY BE USED FOR OTHER STRUCTURES WITH SMALLER PIPE SIZES. ADJUST DIMENSIONS AS NEEDED AND AS DIRECTED BY THE ENGINEER.



GENERAL NOTES:

USE CLASS "AA" CONCRETE THROUGHOUT.

PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

INSTALL MANHOLE IN POSITION AS DIRECTED BY THE ENGINEER. CUT OR BEND ALL REBAR CROSSING THIS OPENING TO ALLOW 2" MINIMUM CONCRETE COVERAGE.

CHAMFER ALL EXPOSED CORNERS 1".

2" MINIMUM CONCRETE COVERAGE ON ALL REBAR.

BILL OF MATERIALS				
BAR	NO.	SIZE	LENGTH	WEIGHT
H	84	#5	18'-4"	1607
H1	152	#5	7'-2"	1137
V	160	#5	6'-3"	1043
Z	20	#5	4'-0"	84
TOTAL REINF. STEEL (LBS.)			3871	
TOTAL CONCRETE (CU. YDS.)			16.6	

- * NO DEDUCTIONS MADE FOR PIPES
- * 0.30 CU. YD. PER FOOT OF RISER HEIGHT
- * 0.46 CU. YD. DEDUCTION FOR 1@ 54" STEEL PIPE
- * 1.64 CU. YD. DEDUCTION FOR 3@ 54" RC PIPE ON 12" SKEW



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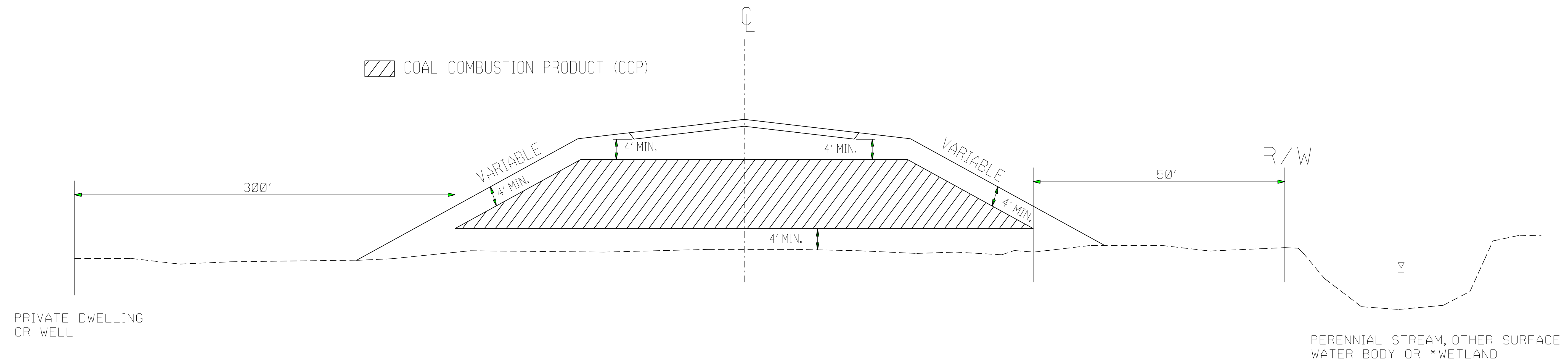
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STANDARDS AND SPECIAL DESIGN
Office 919-707-6950 FAX 919-250-4119

SPECIAL TEMPORARY
TBJB

ORIGINAL BY: nbritt DATE: 07/22/05
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: detail/nbritt/english/hydro/rowan_54tb.tbj

5/14/99
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\$\$\$\$\$USERNAME\$\$\$\$\$

COAL COMBUSTION PRODUCT PLACEMENT



PLACE CCP IN HATCHED AREA IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS

PLACE CCP A MINIMUM OF 5' ABOVE SEASONAL HIGH GROUND WATER

PLACE AT LOCATIONS AS APPROVED BY THE ENGINEER

PLACE SOIL BORROW MATERIAL ON THE OUTSIDE OF CCP AS EACH LIFT OF CCP IS PLACED

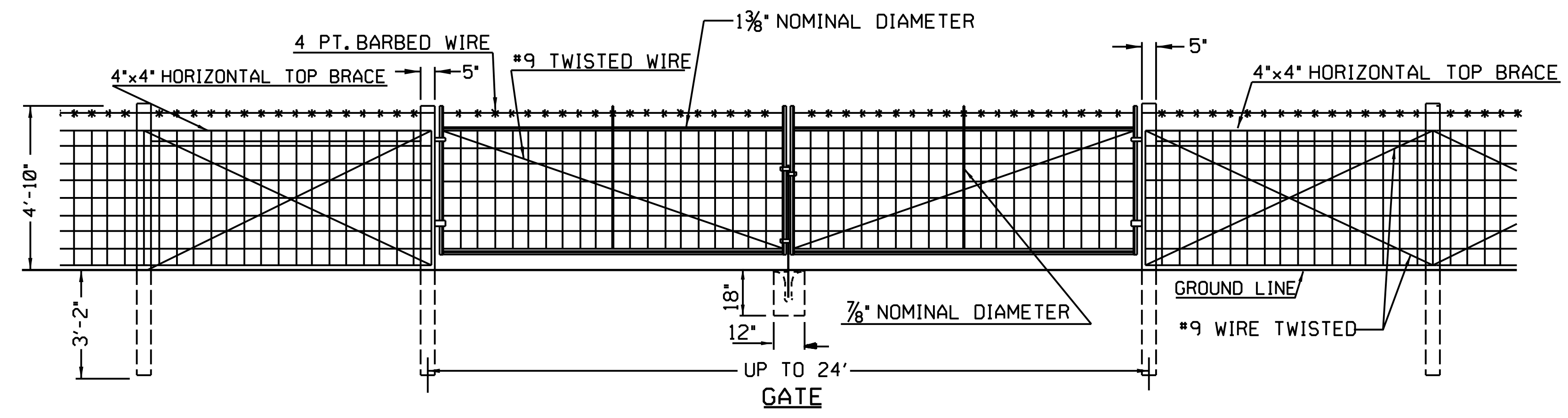
*(OBTAIN PERMISSION FROM ARMY CORPS OF ENGINEERS)

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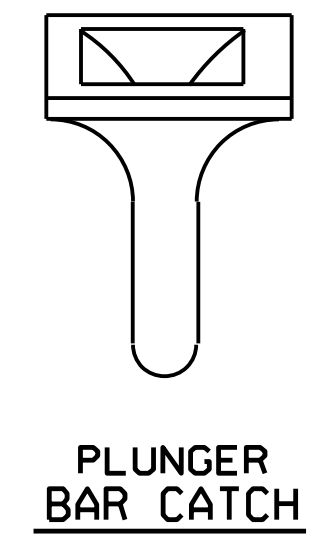
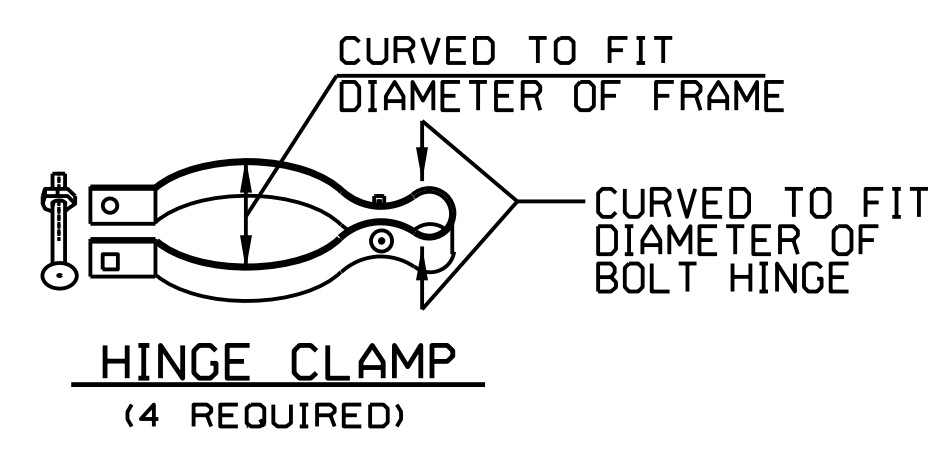
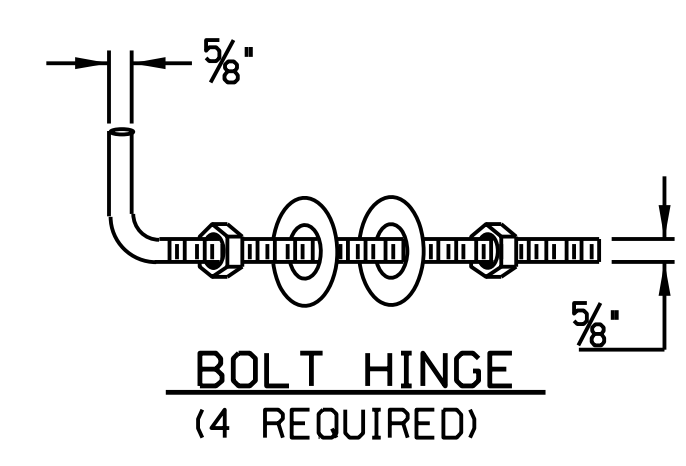


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CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
COAL COMBUSTION PRODUCT PLACEMENT DETAIL	
ORIGINAL BY: J.S.H.	DATE: 3/16/15
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: joel/coal combustion material detail.dgn	



CONSTRUCT ACCORDING TO STANDARD DRAWING 866.02.
 USE LATCH DEVICE APPROVED BY THE ENGINEER. HINGE ASSEMBLY, AS DETAILED, IS SUGGESTED.
 SUBSTITUTION MAY BE MADE SUBJECT TO APPROVAL BY THE ENGINEER. USE 1 3/8" DIAMETER
 GALVANIZED STEEL PIPE GATE FRAME EXCEPT AS SHOWN HERE.



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**WOVEN WIRE FENCE
 WITH DOUBLE GATE**

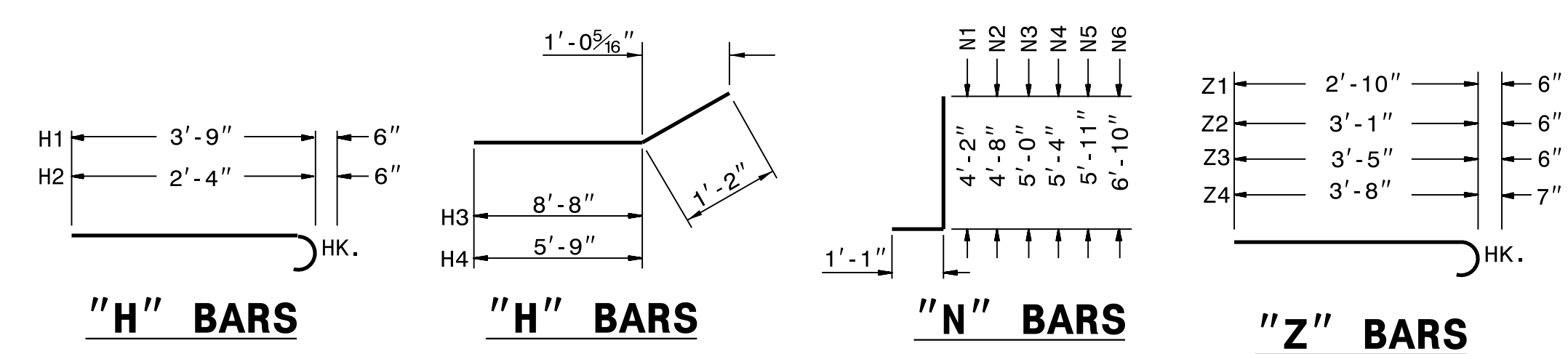
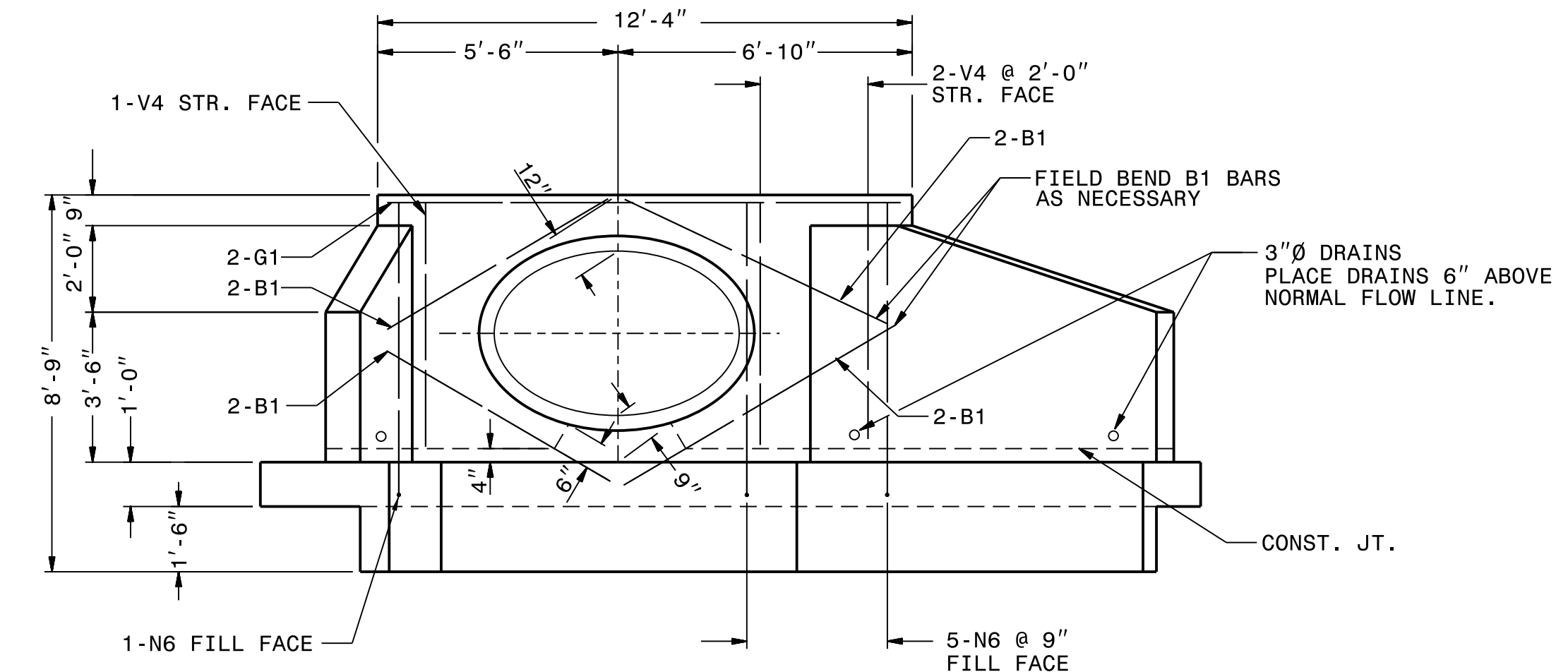
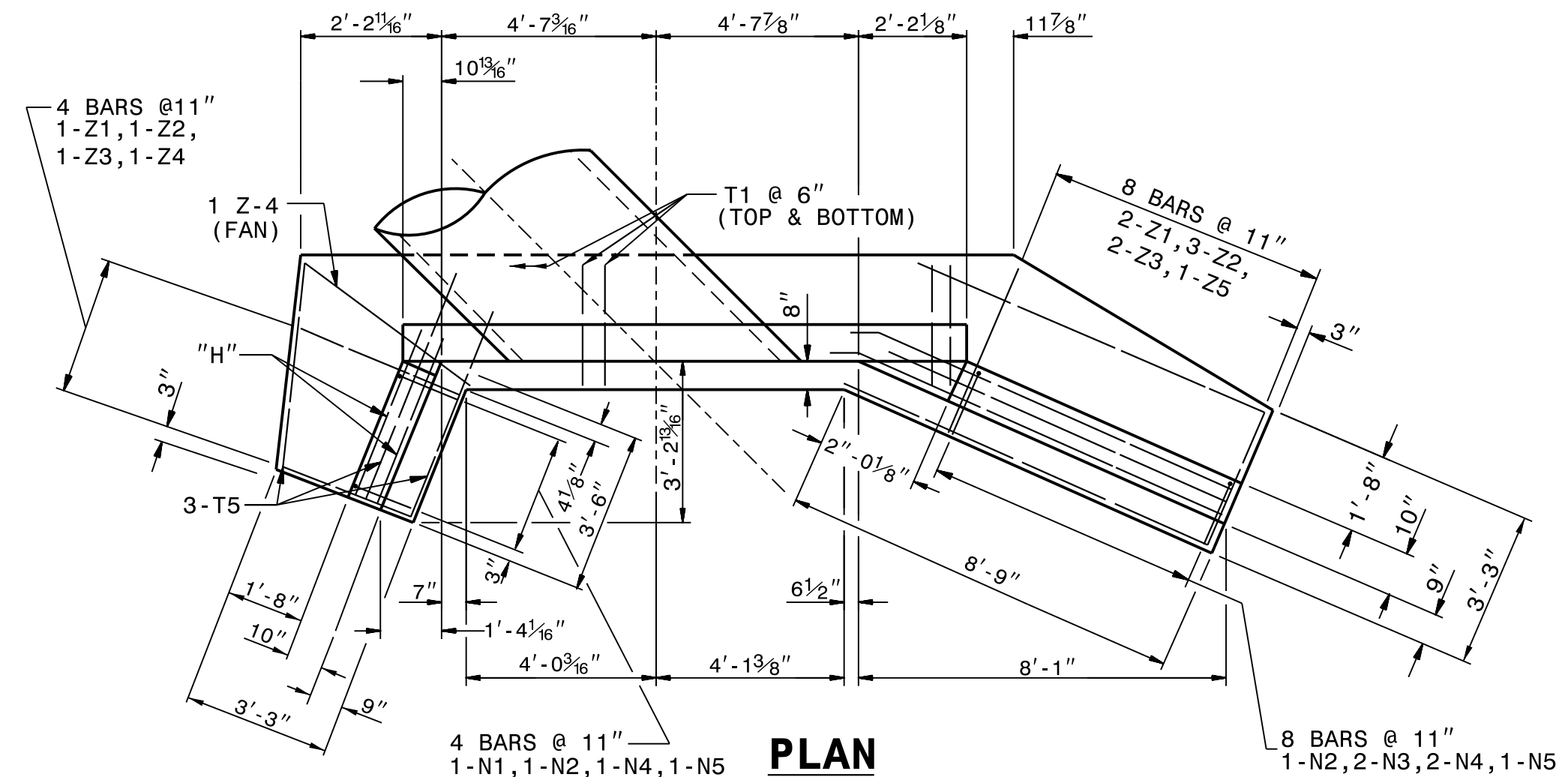
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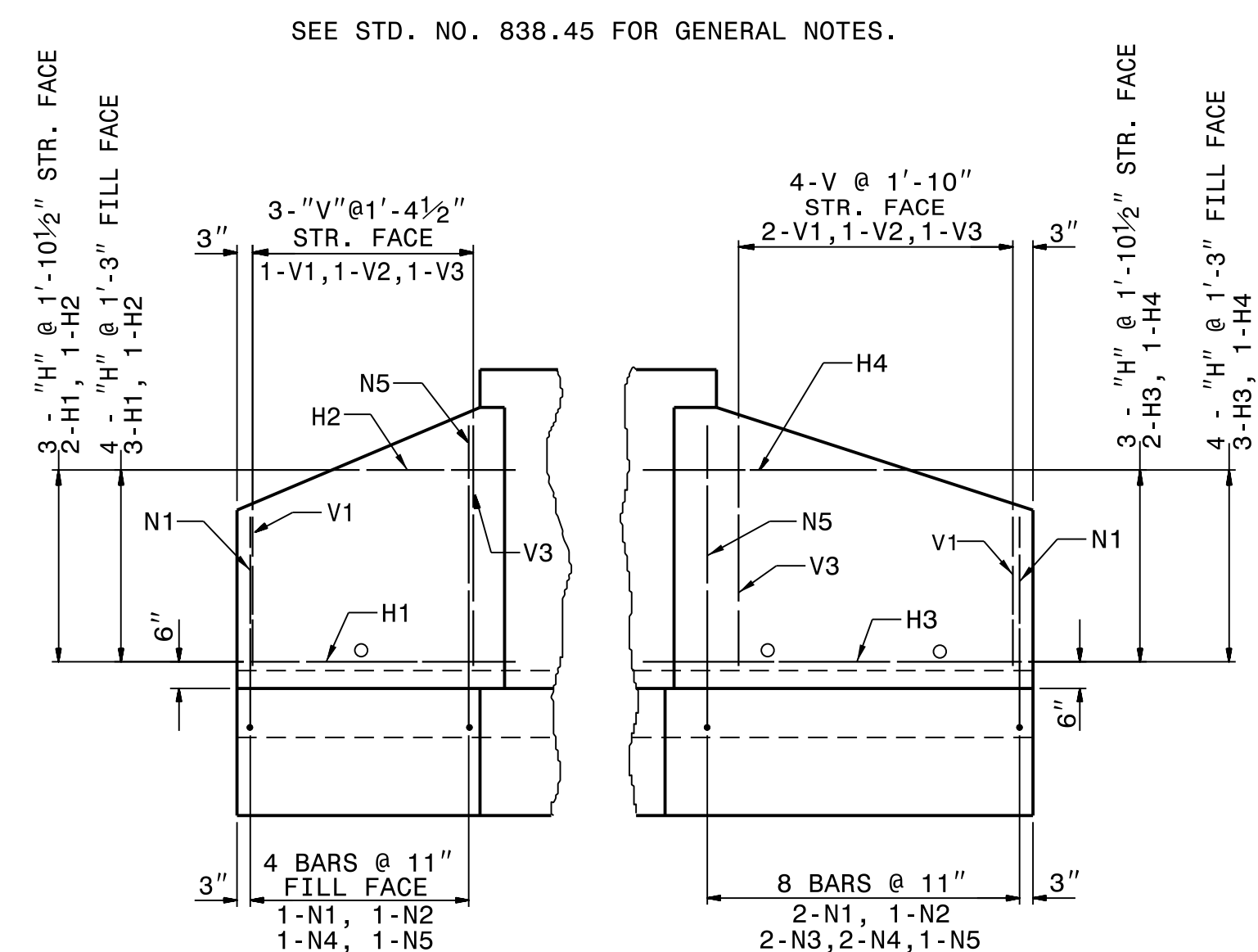
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED CONCRETE ENDWALL
FOR 54" PIPE 45° OR 135° SKEW

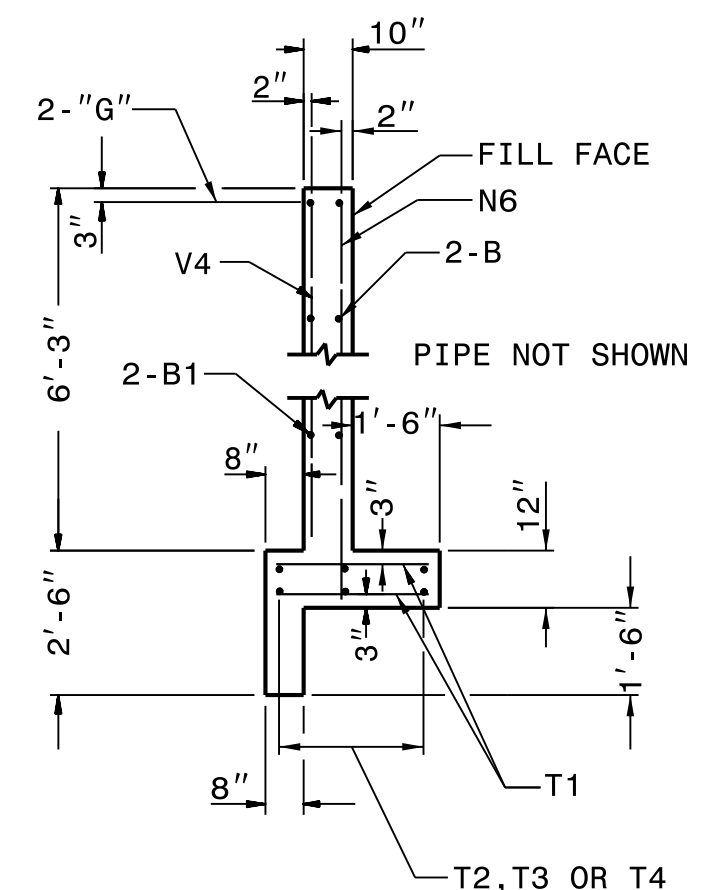
SHEET 1 OF 1
838D25



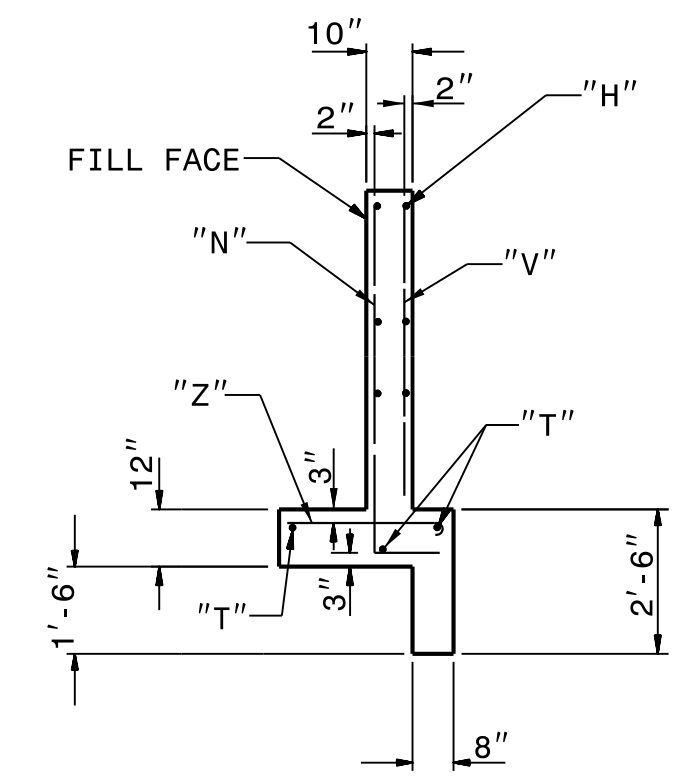
"H", "N", & "Z" BAR DIMENSIONS ARE OUT TO OUT.



WING ELEVATION



SECTION - BB



SECTION - AA

BILL OF MATERIAL FOR ENDWALLS				
REINFORCING STEEL				
BAR	SIZE	LENGTH	NO.	WEIGHT
Z1	#4	3'-4"	3	7
Z2	#4	3'-7"	4	10
Z3	#4	3'-11"	3	8
Z4	#5	4'-3"	3	13
N1	#4	5'-3"	3	11
N2	#4	5'-9"	2	8
N3	#4	6'-1"	2	8
N4	#4	6'-5"	3	13
N5	#5	7'-0"	2	15
N6	#4	7'-11"	6	32
V1	#4	3'-1"	3	6
V2	#4	3'-11"	2	5
V3	#4	4'-8"	2	6
V4	#4	5'-9"	3	12
H1	#4	4'-3"	5	14
H2	#4	2'-10"	2	4
H3	#4	9'-10"	5	33
H4	#4	6'-11"	2	9
G1	#7	12'-0"	2	49
T1	#4	2'-6"	50	84
T2	#4	15'-2"	6	61
T5	#4	4'-3"	3	9
T6	#4	8'-0"	3	16
B1	#4	5'-9"	8	31
REINF. STEEL LBS.			464	
CONC/C.M. CU. YDS.			6.9	
CONC/R.C. CU. YDS.			6.6	

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

ENGLISH DETAIL DRAWING FOR
REINFORCED CONCRETE ENDWALL
FOR 54" PIPE 45° OR 135° SKEW

SHEET 1 OF 1
838D25

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SEE PLATE FOR TITLE

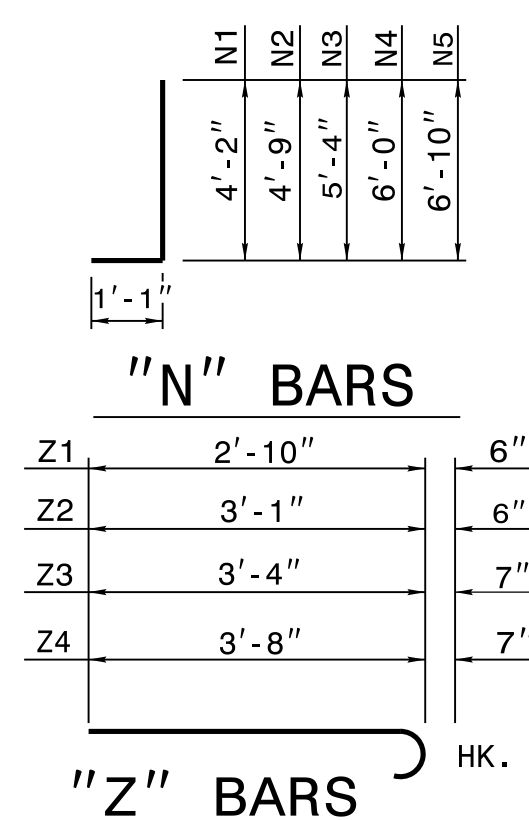
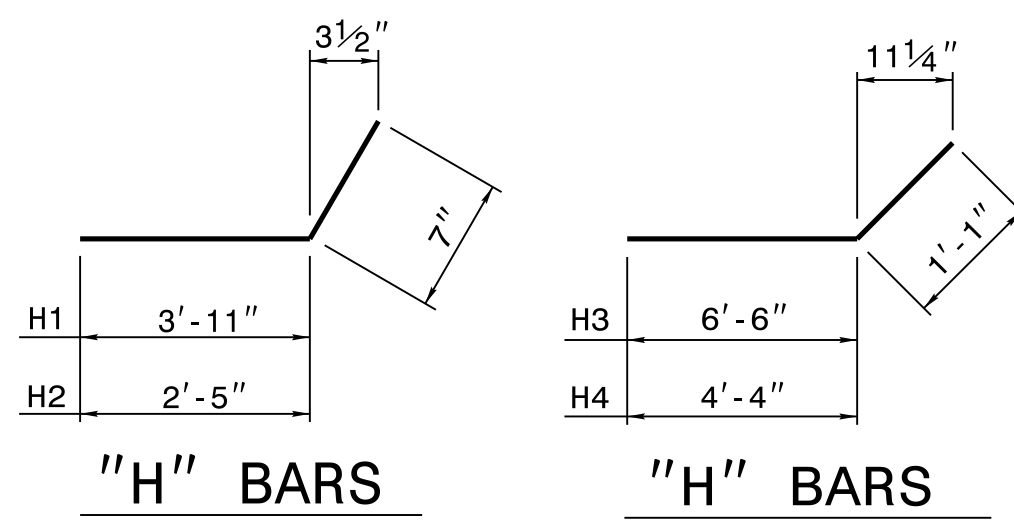
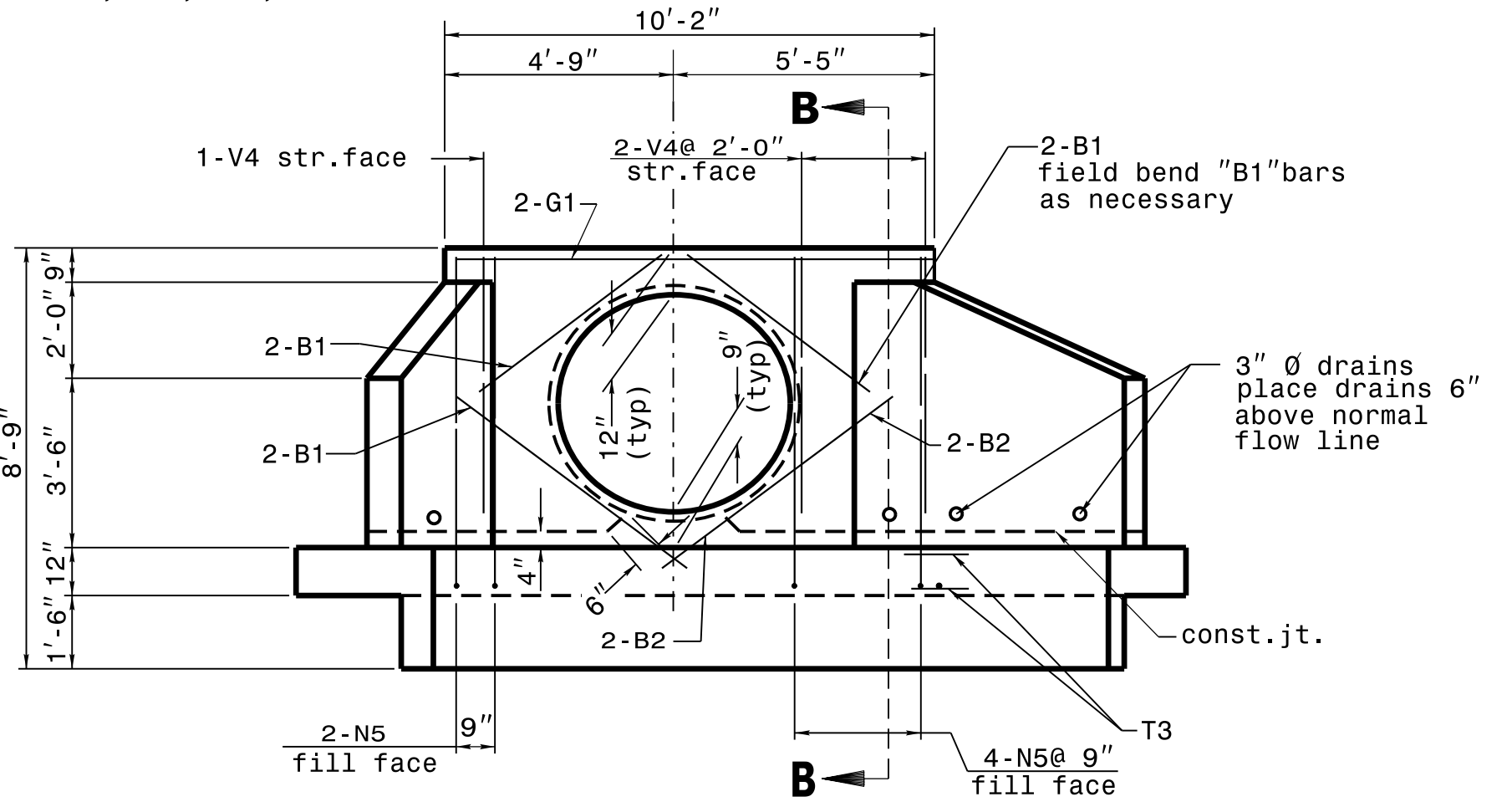
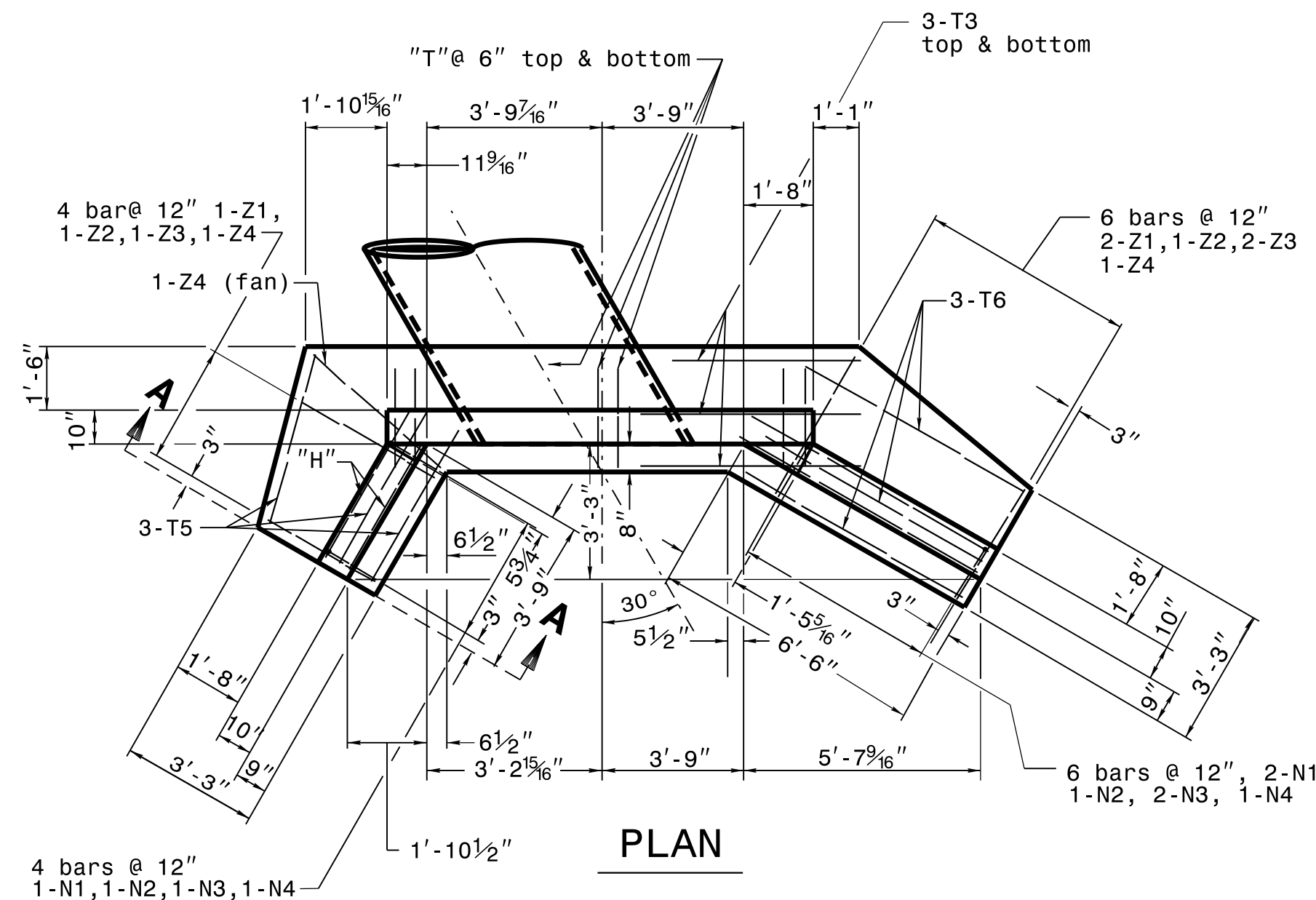
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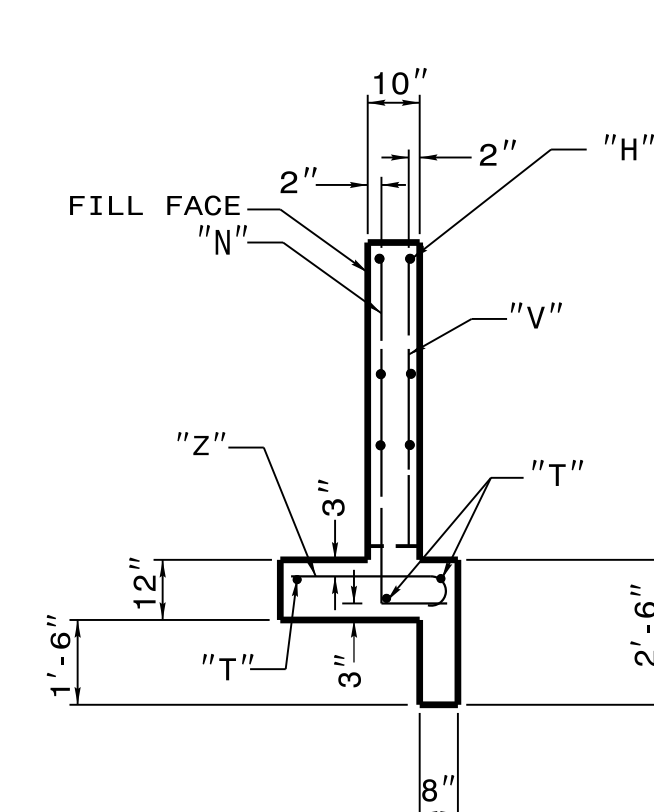
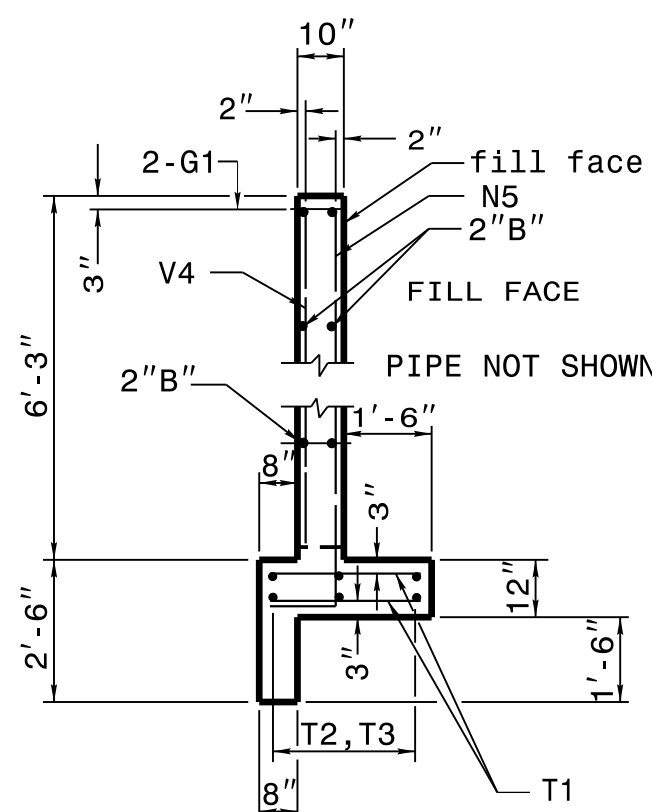
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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED CONCRETE ENDWALL
SINGLE 54" PIPE 60° OR 120° SKEW

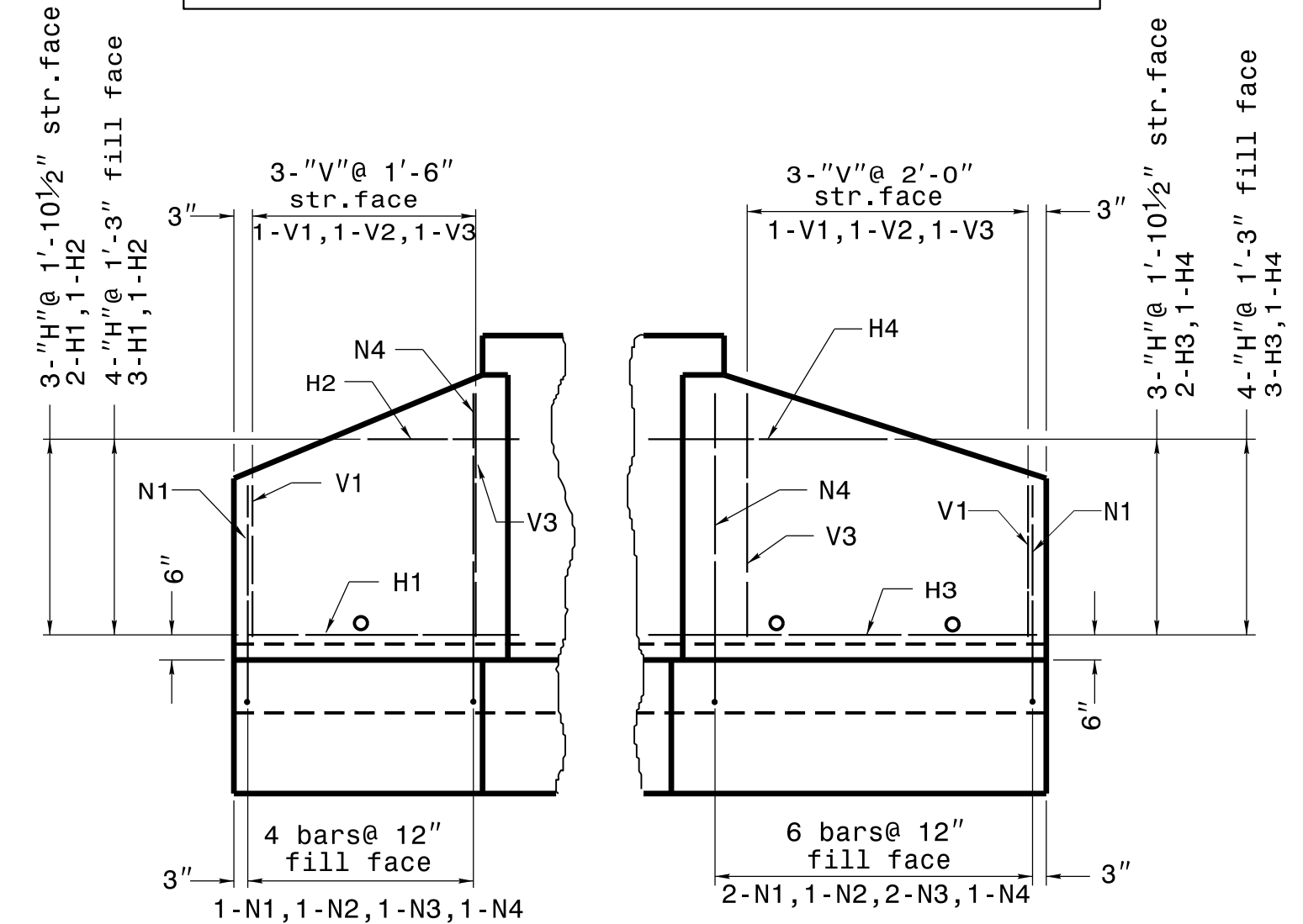
SHEET 1 OF 1
838D24



"H", "N", & "Z" BAR DIMENSIONS ARE OUT TO OUT.



SEE STD. NO. 838.45 FOR GENERAL NOTES.



BILL OF MATERIAL FOR ENDWALLS

REINF. STEEL			1-PIPE	
BAR	SIZE	LENGTH	NO.	WEIGHT
Z1	#4	3'-4"	3	7
Z2	#4	3'-7"	2	5
Z3	#5	3'-11"	3	12
Z4	#5	4'-3"	3	13
N1	#4	5'-3"	3	11
N2	#4	5'-10"	2	8
N3	#4	6'-5"	3	13
N4	#5	7'-1"	2	15
N5	#4	7'-11"	6	32
V1	#4	3'-0"	2	4
V2	#4	3'-10"	2	5
V3	#4	4'-8"	2	6
V4	#4	5'-9"	3	12
H1	#4	4'-6"	5	15
H2	#4	3'-0"	2	4
H3	#4	7'-7"	5	25
H4	#4	5'-5"	2	7
G1	#7	9'-10"	2	40
T1	#4	2'-6"	40	67
T2	#4	12'-10"	6	51
T5	#4	4'-2"	3	8
T6	#4	6'-0"	3	12
B1	#4	4'-9"	6	19
B2	#4	6'-0"	2	8
REINF. STEEL LBS.			399	
CONC./C.M. CU. YDS.			5.8	
CONC./R.C. CU. YDS.			5.6	

STATE OF NORTH CAROLINA
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED CONCRETE ENDWALL
SINGLE 54" PIPE 60° OR 120° SKEW

SHEET 1 OF 1
838D24

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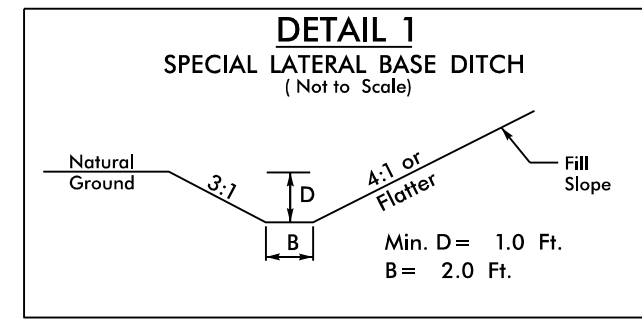
CONTRACT STANDARDS & DEVELOPMENT UNIT
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Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

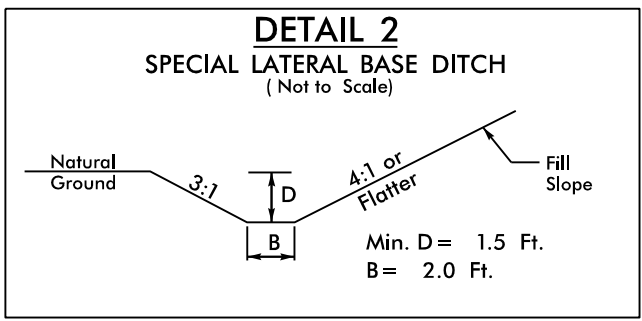
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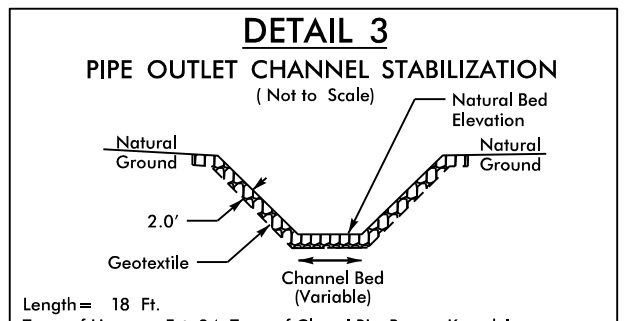
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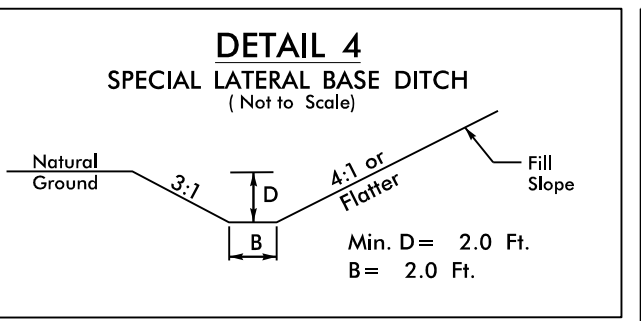
DETAIL 1 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 11+00 TO STA. 15+52 -L2- LT FROM STA. 78+50 TO STA. 80+00 -L- LT FROM STA. 19+54 TO STA. 21+00 -RPB- LT FROM STA. 14+75 TO STA. 20+00 -RPD- RT FROM STA. 41+45 TO STA. 45+00 -Y- LT



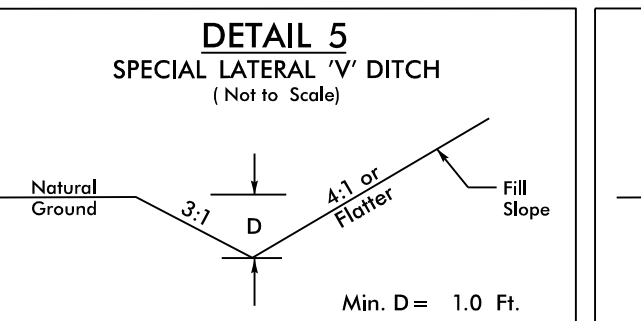
DETAIL 2 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 12+00 TO STA. 15+42 -L1- RT FROM STA. 22+00 TO STA. 26+54 -L1- RT FROM STA. 27+55 TO STA. 28+32 -L1- RT FROM STA. 28+32 TO STA. 37+18 -L- RT FROM STA. 81+00 TO STA. 84+16 -L- RT FROM STA. 84+16 TO STA. 100+75 -L3- RT FROM STA. 93+00 TO STA. 96+00 -L4- LT FROM STA. 10+85 TO STA. 13+54 -LPD- RT FROM STA. 14+26 TO STA. 18+00 -RPB- LT FROM STA. 22+00 TO STA. 24+90 -RPB- LT FROM STA. 11+00 TO STA. 14+00 -Y- RT FROM STA. 19+50 TO STA. 22+00 -Y- RT FROM STA. 20+25 TO STA. 26+00 -Y- LT



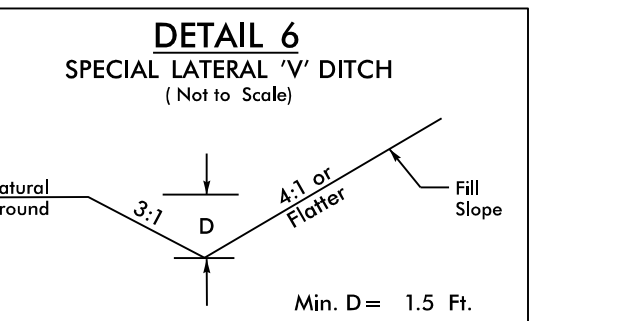
DETAIL 3 PIPE OUTLET CHANNEL STABILIZATION (Not to Scale) STA. 15+62 -L2- LT



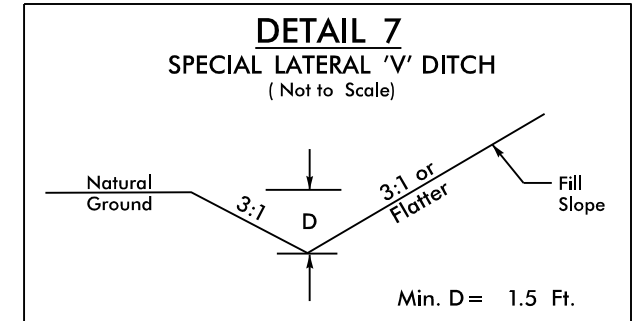
DETAIL 4 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 15+42 TO STA. 22+00 -L1- RT FROM STA. 38+00 TO STA. 46+92 -L- RT FROM STA. 74+00 TO STA. 78+50 -L- LT FROM STA. 18+00 TO STA. 19+54 -RPB- LT



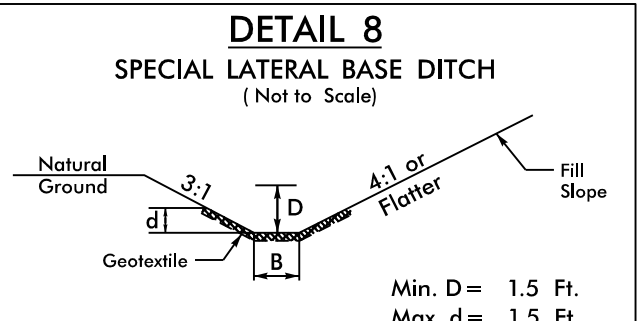
DETAIL 5 SPECIAL LATERAL 'V' DITCH (Not to Scale) FROM STA. 15+75 TO STA. 18+50 -L2- LT FROM STA. 21+50 TO STA. 23+50 -L2- LT FROM STA. 56+56 TO STA. 57+17 -L- RT FROM STA. 64+65 TO STA. 65+50 -L- RT FROM STA. 17+70 TO STA. 18+82 -LPB- RT FROM STA. 10+00 TO STA. 10+85 -LPD- LT FROM STA. 16+87 TO STA. 19+14 -LPD- RT FROM STA. 18+00 TO STA. 21+62 -RPB- RT FROM STA. 21+62 TO STA. 22+00 -RPB- LT FROM STA. 14+75 TO STA. 17+50 -RPD- LT FROM STA. 25+61 TO STA. 26+00 -Y- RT FROM STA. 45+50 TO STA. 47+78 -Y- LT FROM STA. 13+25 TO STA. 14+50 -Y3- RT FROM STA. 13+00 TO STA. 13+75 -Y4- LT FROM STA. 86+57 TO STA. 87+00 -L4- LT FROM STA. 87+30 TO STA. 88+50 -L4- LT FROM STA. 89+00 TO STA. 91+00 -L4- LT FROM STA. 91+50 TO STA. 92+50 -L4- LT FROM STA. 100+50 TO STA. 101+00 -L4- LT



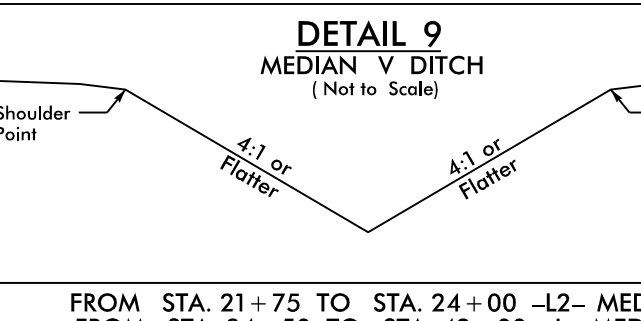
DETAIL 6 SPECIAL LATERAL 'V' DITCH (Not to Scale) FROM STA. 27+50 TO STA. 28+33 -L2- LT FROM STA. 28+33 TO STA. 29+00 -L- LT FROM STA. 29+50 TO STA. 35+00 -L- LT FROM STA. 44+50 TO STA. 50+50 -L- LT FROM STA. 51+50 TO STA. 54+00 -L- RT FROM STA. 10+00 TO STA. 15+50 -LPB- LT FROM STA. 12+88 TO STA. 15+50 -LPB- RT FROM STA. 12+50 TO STA. 14+00 -LPB- RT FROM STA. 96+00 TO STA. 99+50 -L4- LT FROM STA. 22+00 TO STA. 25+00 -Y- RT FROM STA. 27+27 TO STA. 28+22 -Y- LT FROM STA. 30+00 TO STA. 32+75 -Y- LT



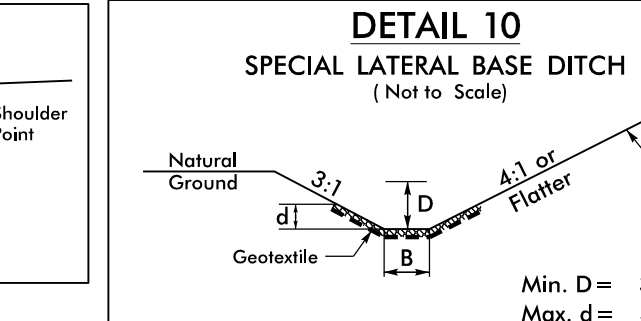
DETAIL 7 SPECIAL LATERAL 'V' DITCH (Not to Scale) FROM STA. 23+70 TO STA. 26+57 -L2- LT FROM STA. 56+32 TO STA. 60+00 -L- LT FROM STA. 43+50 TO STA. 48+00 -Y- RT FROM STA. 12+50 TO STA. 14+20 -Y2- RT FROM STA. 11+71 TO STA. 14+54 -Y2- LT FROM STA. 30+00 TO STA. 33+50 -YDET- RT FROM STA. 30+00 TO STA. 33+78 -YDET- LT



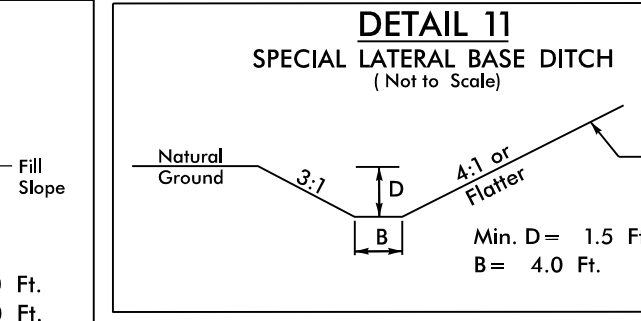
DETAIL 8 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 10+50 TO STA. 12+00 -L1- RT FROM STA. 77+00 TO STA. 81+00 -L- RT FROM STA. 80+90 TO STA. 84+16 -L- LT FROM STA. 84+16 TO STA. 86+00 -L4- LT



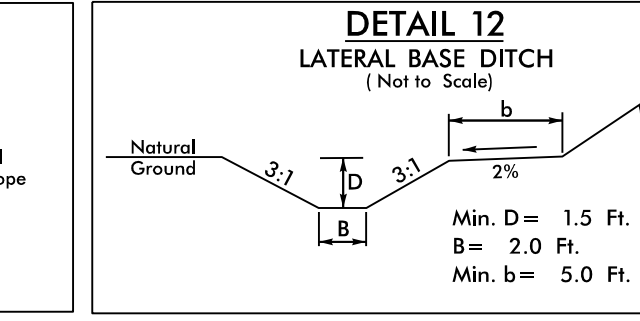
DETAIL 9 MEDIAN 'V' DITCH (Not to Scale) FROM STA. 21+75 TO STA. 24+00 -L2- MED FROM STA. 34+50 TO STA. 42+00 -L- MED FROM STA. 72+00 TO STA. 73+00 -L- MED



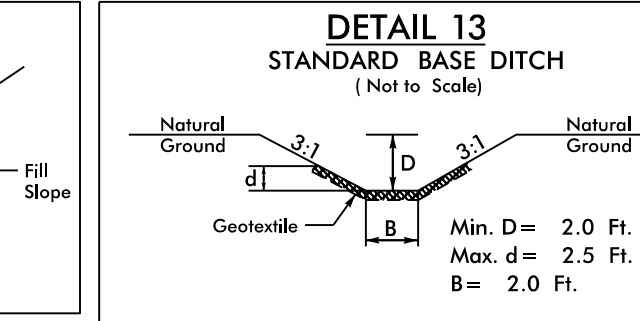
DETAIL 10 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 12+07 TO STA. 14+75 -RPD- LT



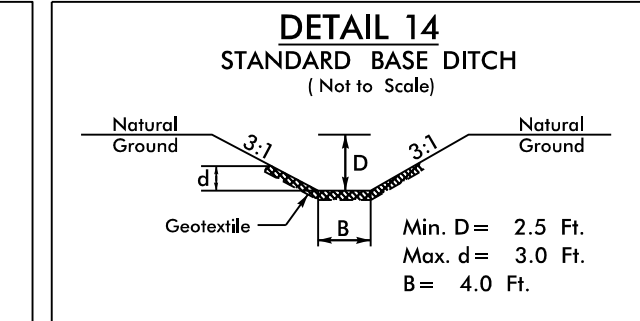
DETAIL 11 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 48+00 TO STA. 48+89 -Y- RT



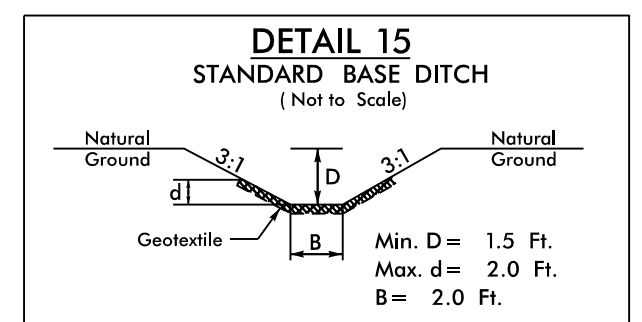
DETAIL 12 LATERAL BASE DITCH (Not to Scale) FROM STA. 35+32 TO STA. 39+55 -Y- LT FROM STA. 36+19 TO STA. 39+70 -YDET- LT



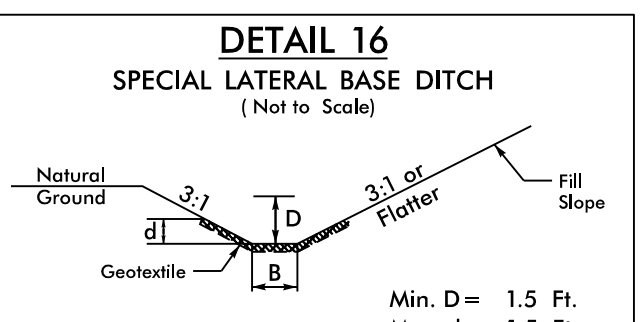
DETAIL 13 STANDARD BASE DITCH (Not to Scale) STA. 12+50 -LPB- RT STA. 16+94 -LPB- RT STA. 13+54 -LPD- LT STA. 33+50 -YDET- RT STA. 38+58 -YDET- LT



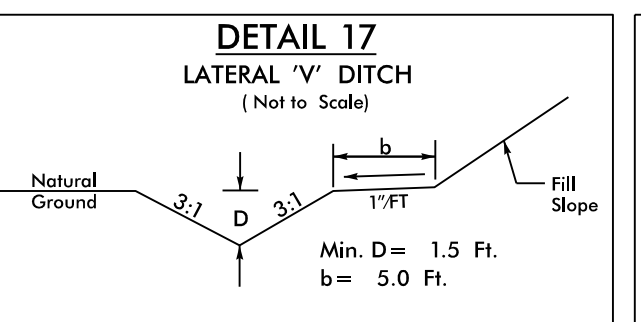
DETAIL 14 STANDARD BASE DITCH (Not to Scale) STA. 19+79 -RPB- RT STA. 15+90 -LPB- RT STA. 37+65 -YDET- RT



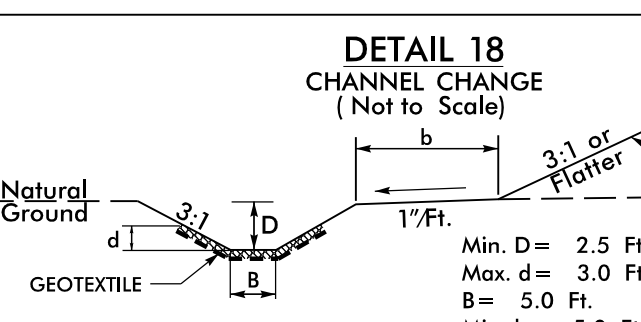
DETAIL 15 STANDARD BASE DITCH (Not to Scale) STA. 11+58 -Y3- LT STA. 30+55 -Y- RT



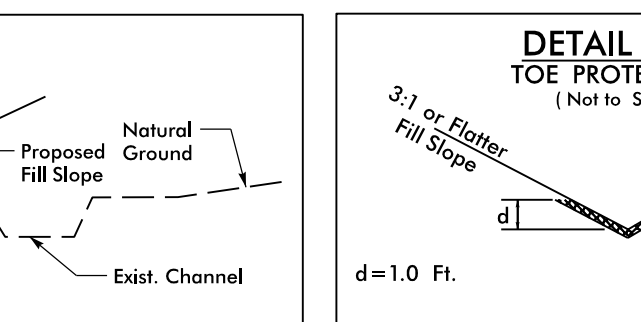
DETAIL 16 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 69+46 TO STA. 70+19 -L- RT FROM STA. 10+00 TO STA. 10+97 -RPD- LT FROM STA. 16+00 TO STA. 16+60 -Y- RT FROM STA. 48+50 TO STA. 49+50 -YDET- LT



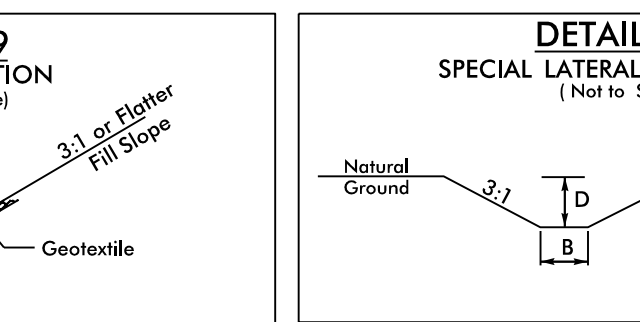
DETAIL 17 LATERAL 'V' DITCH (Not to Scale) FROM STA. 35+23 TO STA. 36+50 -Y- RT



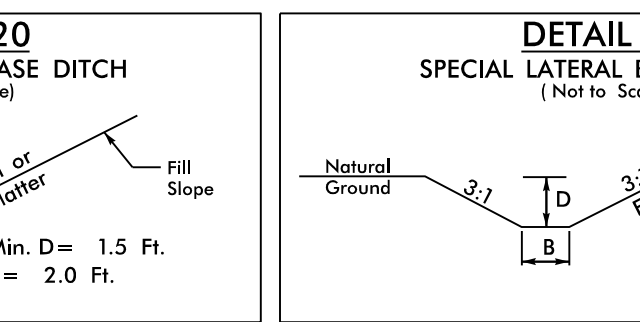
DETAIL 18 CHANNEL CHANGE (Not to Scale) STA. 28+18 -Y- LT



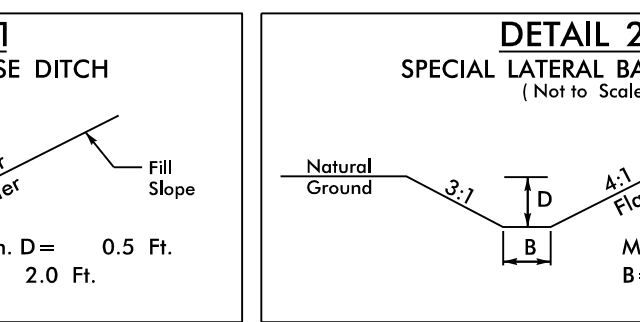
DETAIL 19 TOE PROTECTION (Not to Scale) FROM STA. 20+00 TO STA. 20+50 -RPD- RT



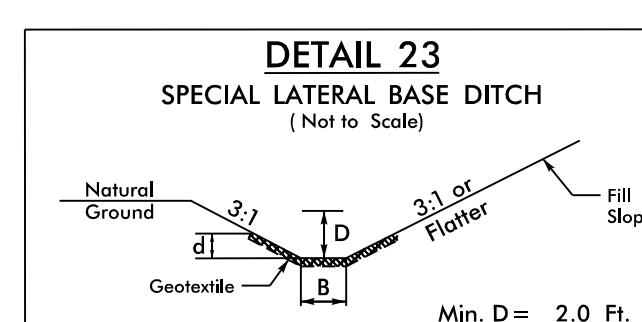
DETAIL 20 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 66+50 TO STA. 67+30 -L- LT FROM STA. 14+00 TO STA. 16+00 -Y- RT FROM STA. 35+50 TO STA. 36+19 -YDET- LT FROM STA. 39+70 TO STA. 43+00 -YDET- LT



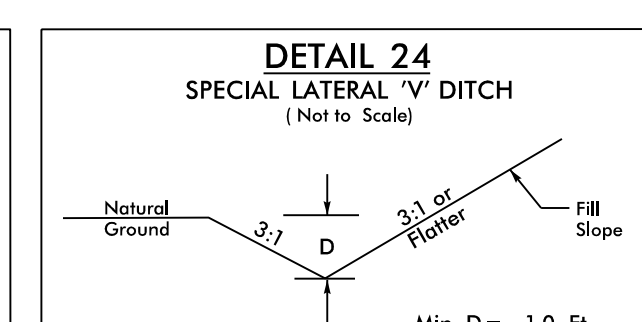
DETAIL 21 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 9+50 TO STA. 11+17 -Y2- LT FROM STA. 16+00 TO STA. 18+25 -Y2A- RT



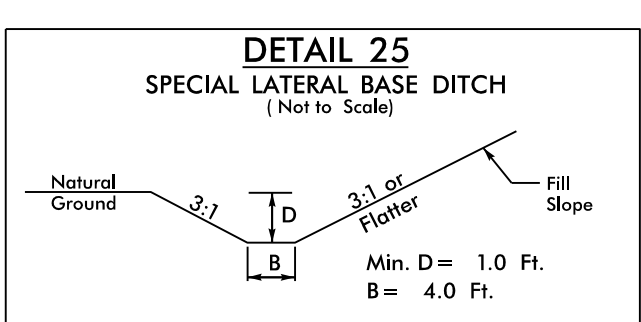
DETAIL 22 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 60+25 TO STA. 64+65 -L- RT



DETAIL 23 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 71+30 TO STA. 74+00 -L- LT



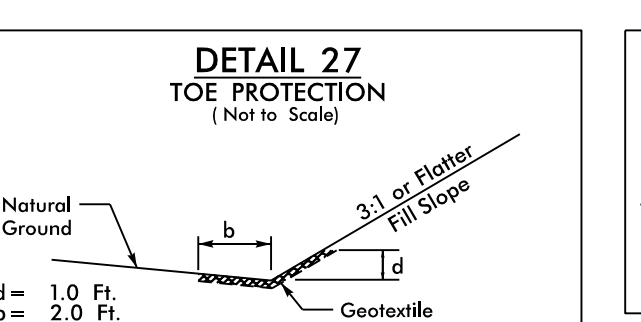
DETAIL 24 SPECIAL LATERAL 'V' DITCH (Not to Scale) FROM STA. 13+50 TO STA. 16+00 -Y2A- RT FROM STA. 10+60 TO STA. 13+25 -Y3- RT FROM STA. 10+80 TO STA. 14+25 -Y3- LT FROM STA. 13+00 TO STA. 13+50 -Y4- RT FROM STA. 10+00 TO STA. 11+58 -DR3- LT FROM STA. 10+00 TO STA. 11+16 -DR3- RT FROM STA. 10+25 TO STA. 11+50 -DR3- LT FROM STA. 24+00 TO STA. 26+50 -YDET- LT FROM STA. 27+50 TO STA. 28+58 -YDET- LT FROM STA. 29+04 TO STA. 29+50 -YDET- LT FROM STA. 45+00 TO STA. 47+88 -YDET- LT FROM STA. 23+00 TO STA. 26+50 -YDET- RT FROM STA. 35+50 TO STA. 37+65 -YDET- RT FROM STA. 41+50 TO STA. 42+50 -YDET- RT FROM STA. 44+00 TO STA. 47+50 -YDET- RT



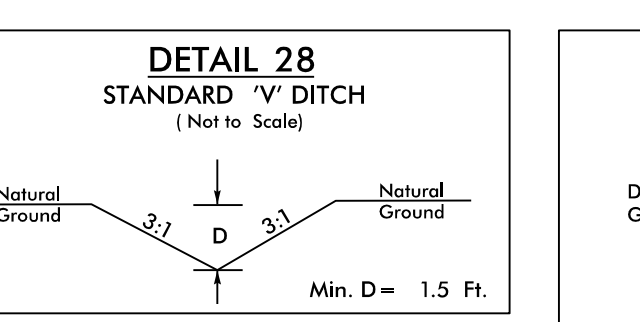
DETAIL 25 SPECIAL LATERAL BASE DITCH (Not to Scale) FROM STA. 18+25 TO STA. 19+00 -Y2A- LT



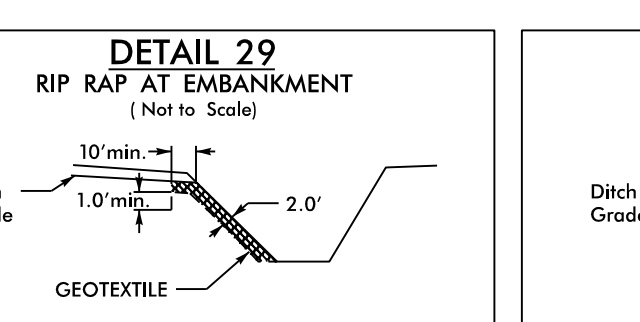
DETAIL 27 TOE PROTECTION (Not to Scale) FROM STA. 36+40 TO STA. 39+00 -L- LT FROM STA. 74+00 TO STA. 77+00 -L- RT FROM STA. 12+73 TO STA. 13+26 -Y- LT FROM STA. 17+56 TO STA. 19+00 -Y- RT FROM STA. 15+00 TO STA. 18+25 -Y2A- LT FROM STA. 18+25 TO STA. 18+80 -Y2A- RT



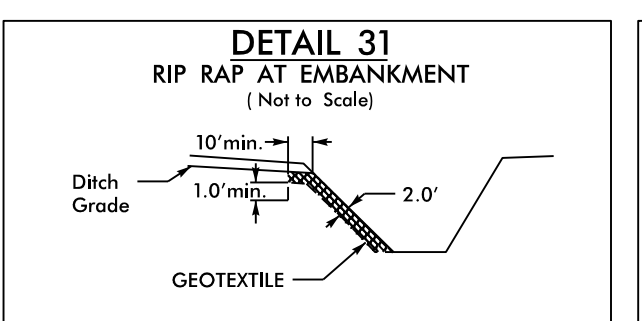
DETAIL 28 STANDARD 'V' DITCH (Not to Scale) STA. 29+25 -L- RT STA. 21+63 -RPD- LT



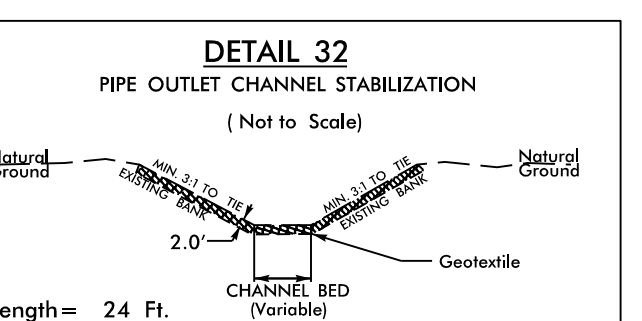
DETAIL 29 RIP RAP AT EMBANKMENT (Not to Scale) FROM STA. 15+52 TO STA. 15+62 -L2- LT



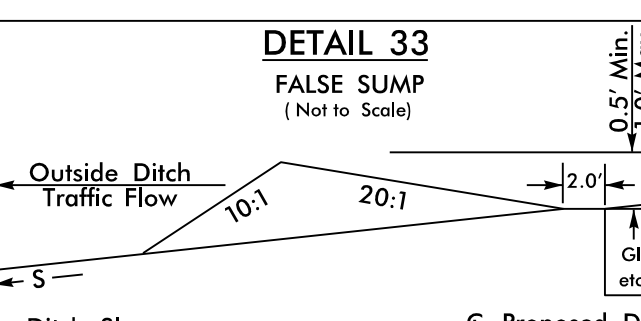
DETAIL 30 RIP RAP AT EMBANKMENT (Not to Scale) FROM STA. 15+65 TO STA. 15+75 -L2- LT



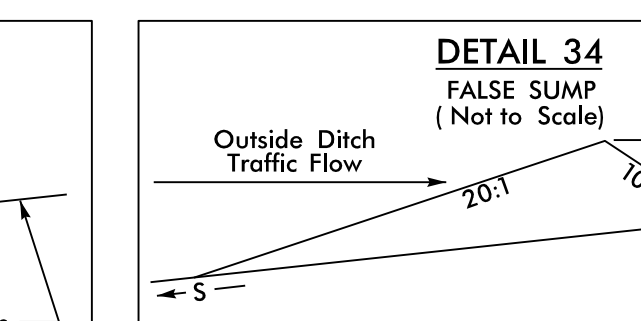
DETAIL 31 RIP RAP AT EMBANKMENT (Not to Scale) FROM STA. 16+60 TO STA. 16+85 -Y- LT



DETAIL 32 PIPE OUTLET CHANNEL STABILIZATION (Not to Scale) AT STA. 22+75 -RPD- LT



DETAIL 33 FALSE SUMP (Not to Scale) FROM STA. 60+00 TO STA. 60+20 -L- LT FROM STA. 64+00 TO STA. 64+20 -L- LT



DETAIL 34 FALSE SUMP (Not to Scale) FROM STA. 52+80 TO STA. 53+00 -L- RT FROM STA. 67+30 TO STA. 67+50 -L- RT

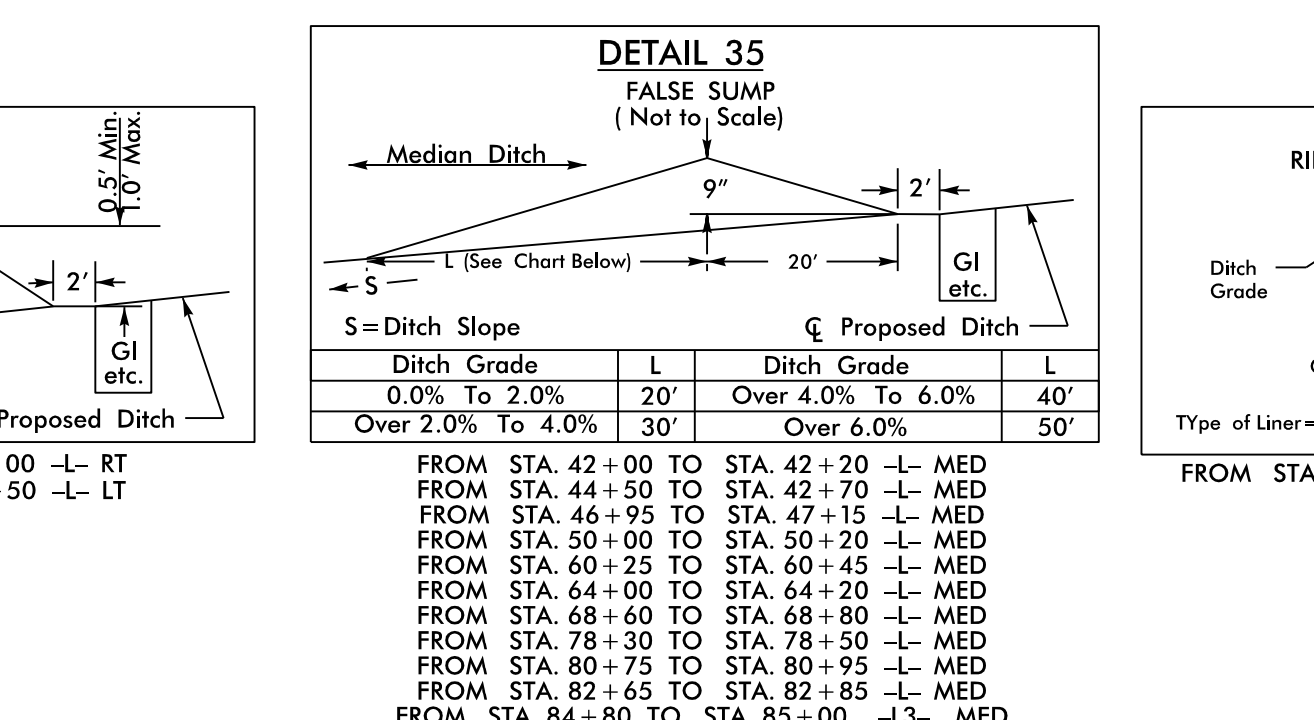
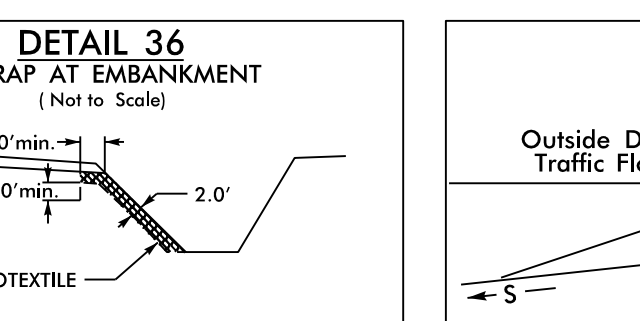
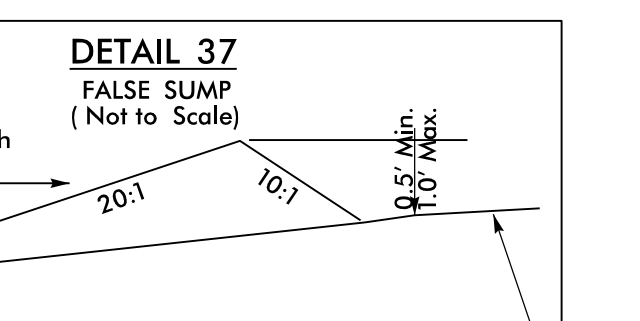


Table with 2 columns: Ditch Grade and Ditch Grade. Rows include 0.0% to 2.0%, Over 2.0% to 4.0%, and Over 4.0% to 6.0%.

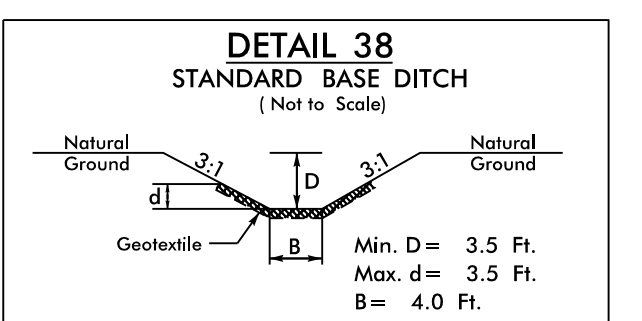
DETAIL 35 FALSE SUMP (Not to Scale) FROM STA. 42+00 TO STA. 42+20 -L- MED FROM STA. 44+50 TO STA. 42+70 -L- MED FROM STA. 46+95 TO STA. 47+15 -L- MED FROM STA. 50+00 TO STA. 50+20 -L- MED FROM STA. 60+25 TO STA. 60+45 -L- MED FROM STA. 64+00 TO STA. 64+20 -L- MED FROM STA. 68+60 TO STA. 68+80 -L- MED FROM STA. 78+30 TO STA. 78+50 -L- MED FROM STA. 80+75 TO STA. 80+95 -L- MED FROM STA. 82+65 TO STA. 82+85 -L- MED FROM STA. 84+80 TO STA. 85+00 -L3- MED



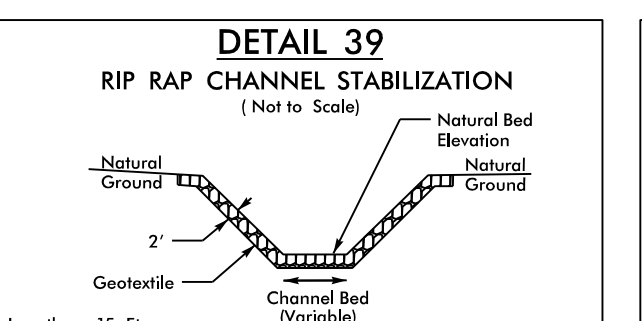
DETAIL 36 RIP RAP AT EMBANKMENT (Not to Scale) FROM STA. 71+16 TO STA. 71+30 -L- LT



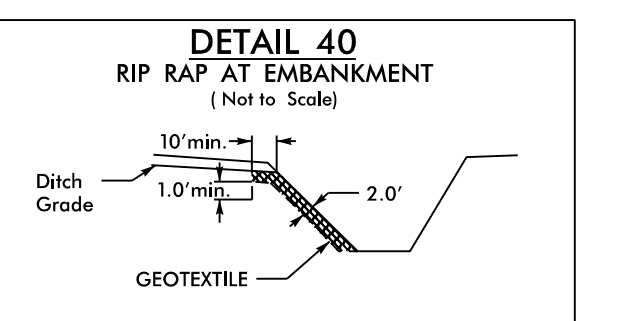
DETAIL 37 FALSE SUMP (Not to Scale) FROM STA. 23+50 TO STA. 23+70 -L1- LT FROM STA. 37+30 TO STA. 37+50 -L- RT FROM STA. 46+92 TO STA. 47+10 -L- RT FROM STA. 60+06 TO STA. 60+26 -L- LT



DETAIL 38 STANDARD BASE DITCH (Not to Scale) STA. 12+07 -RPD- LT STA. 37+50 -Y- LT STA. 37+50 -Y- RT



DETAIL 39 RIP RAP CHANNEL STABILIZATION (Not to Scale) FROM STA. 28+58 TO STA. 28+70 -YDET- LT



DETAIL 40 RIP RAP AT EMBANKMENT (Not to Scale) FROM STA. 70+19 TO STA. 70+41 -L- RT

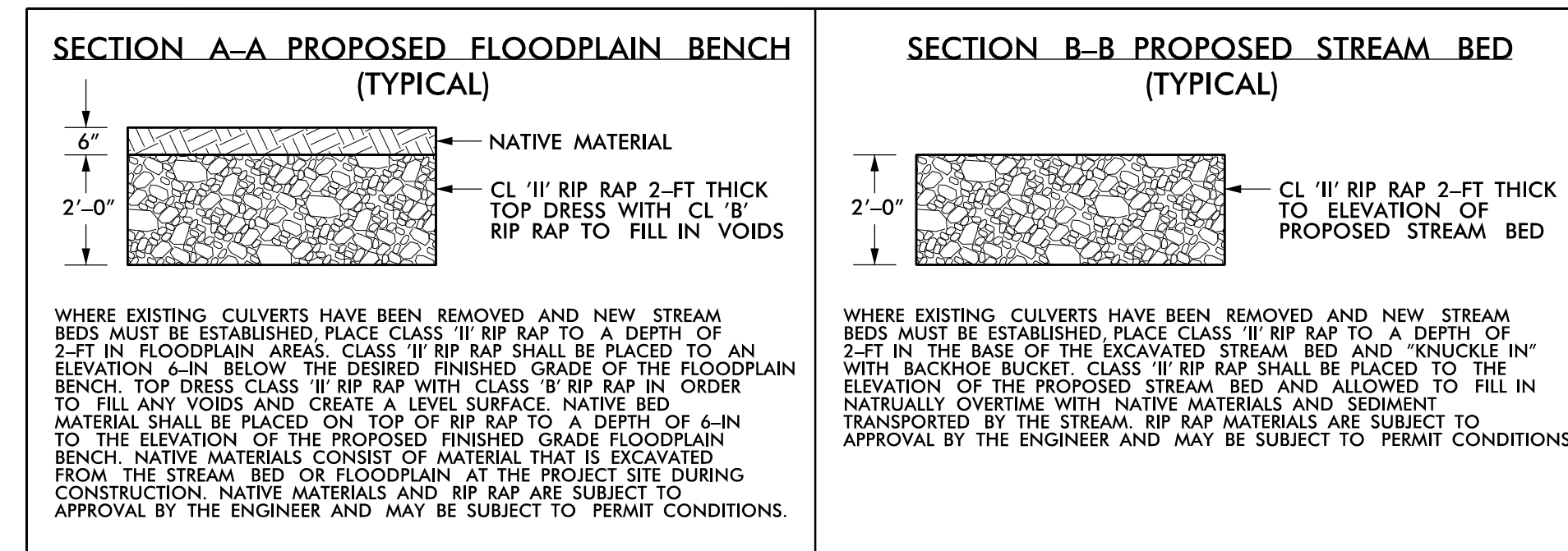
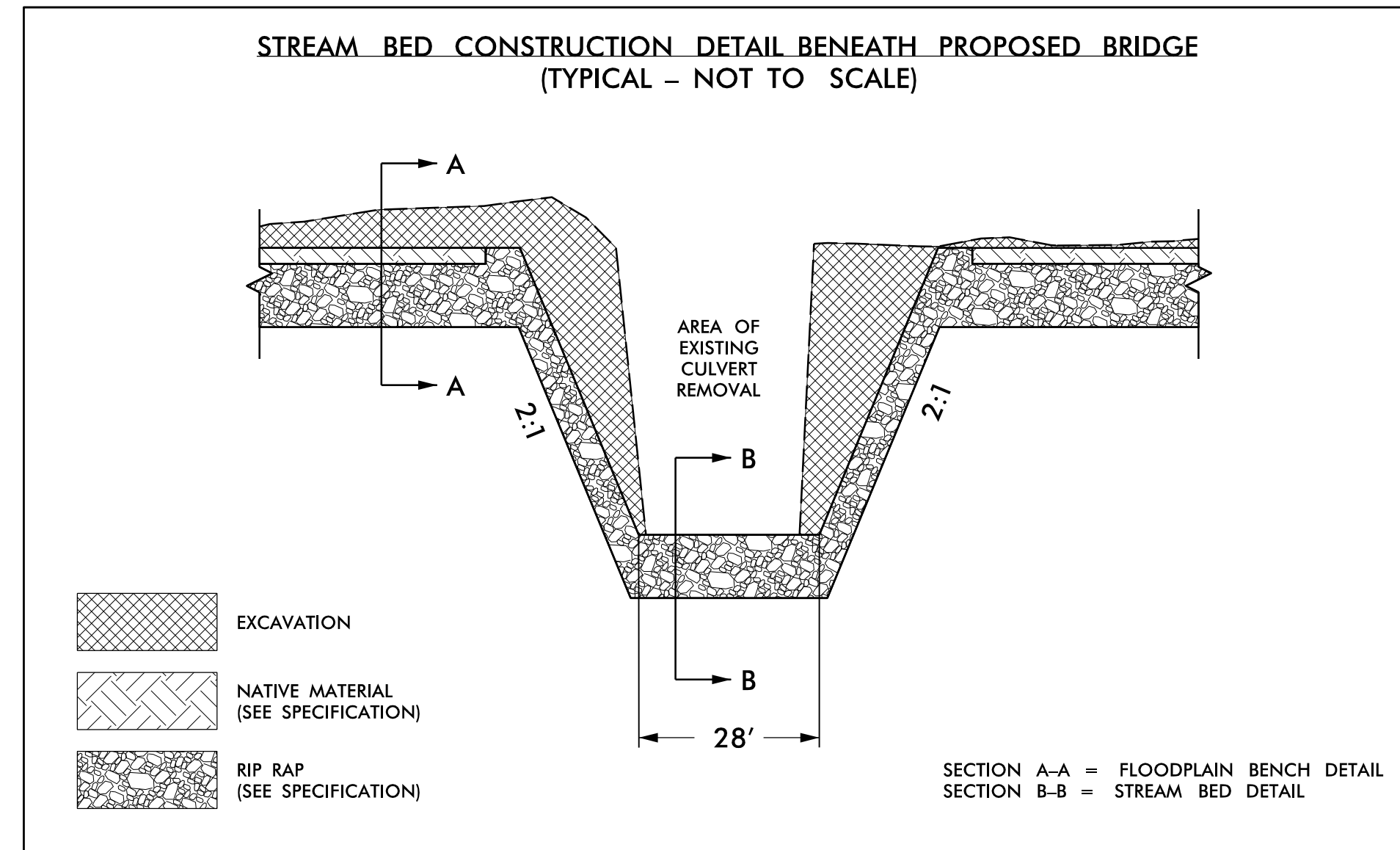
8/17/99

PROPOSED STREAM BED DETAILS BRIDGE NO. 372 (-L- STA. 71+06.00) BRIDGE NO. 418 (-L- STA. 70+34.00)

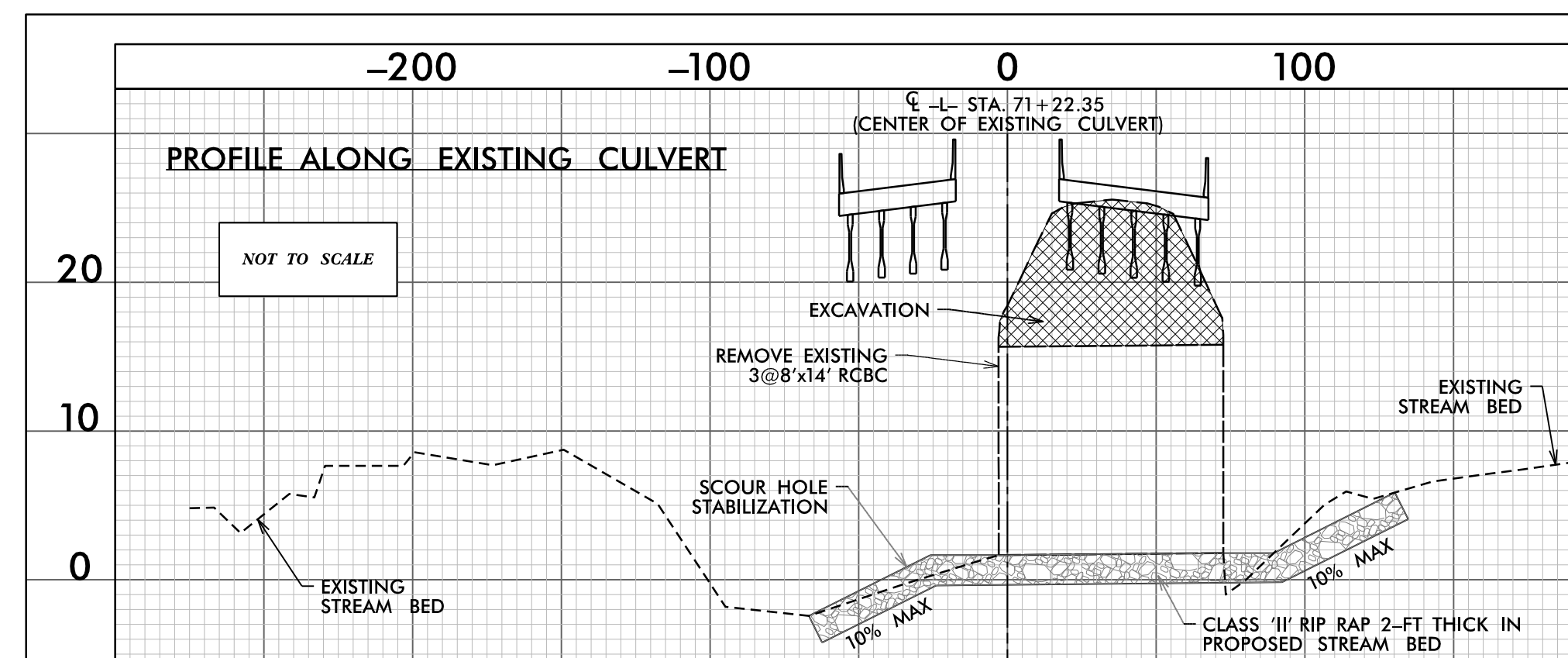
SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: C-2197

PROJECT REFERENCE NO. <i>R-256/CA</i>	SHEET NO. <i>2D-2</i>
RW SHEET NO.	HYDRAULICS ENGINEER

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



ROADWAY PAY ITEMS
CLASS 'II' RIP RAP AND GEOTEXTILE
CL. II RIP RAP = 2035 TONS
GEOTEXTILE FABRIC = 2240 SY



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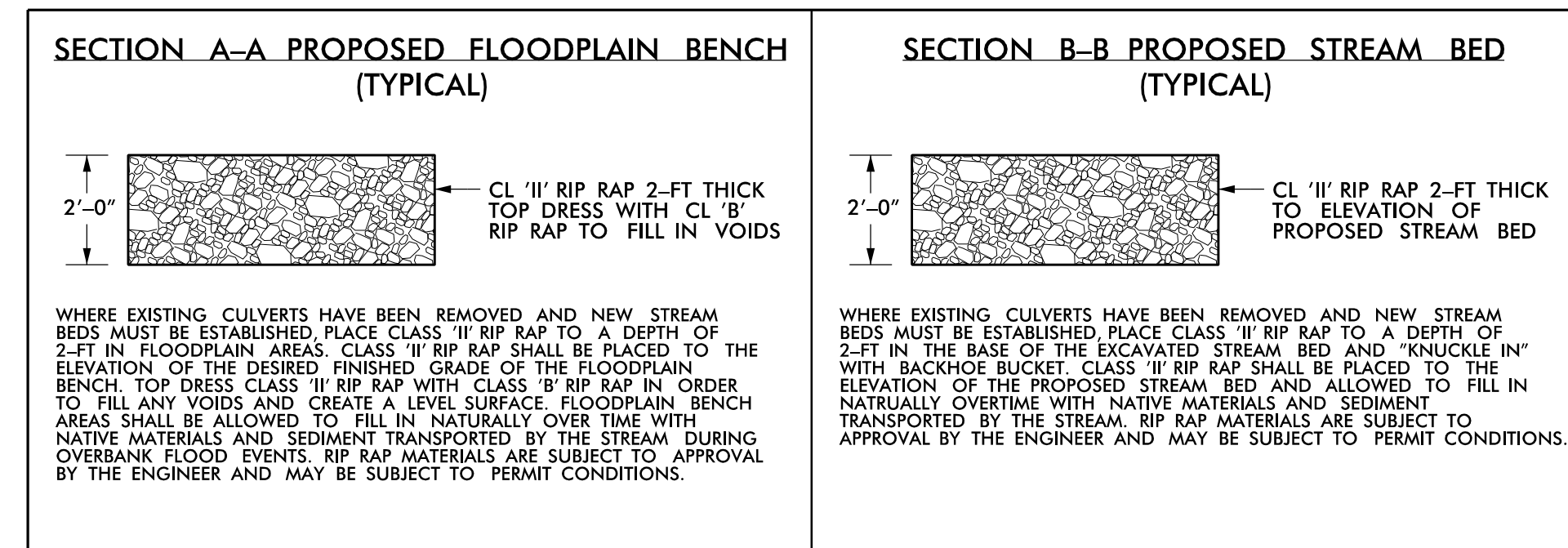
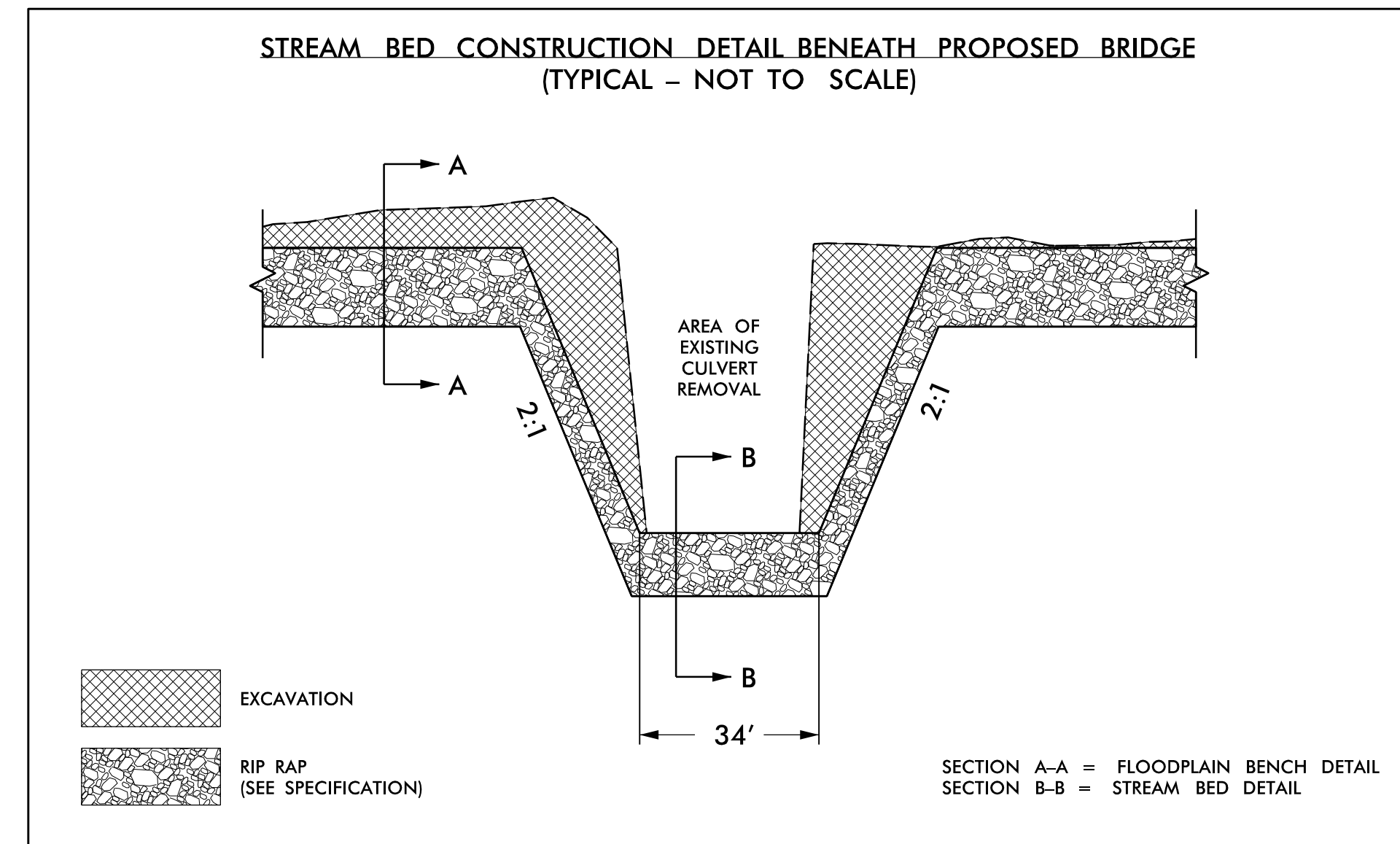
8/17/99

SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: C-2197

PROJECT REFERENCE NO. <i>R-2561CA</i>	SHEET NO. <i>2D-3</i>
RW SHEET NO.	
HYDRAULICS ENGINEER	

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

PROPOSED STREAM BED DETAILS BRIDGE NO. 374 (-Y- STA. 16 + 93.00)



ROADWAY PAY ITEMS
CLASS 'II' RIP RAP AND GEOTEXTILE
 CL. II RIP RAP = 595 TONS
 GEOTEXTILE FABRIC = 635 SY

8/25/00 PSH/R2561CA_hyd_203.dgn
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SUMMARY OF EARTHWORK
 IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. + %	BORROW	WASTE
SUMMARY NO. 1						
-YDET- STA. 19 + 69.08	-YDET- STA. 33 + 75.76	3,493		1,351		2,142
-YDET- STA. 34 + 95.55	-YDET- STA. 53 + 26.82	1,436	979	8,169	7,183	1,429
TOTAL SUMMARY NO. 1		4,929	979	9,520	7,183	3,571
SUMMARY NO. 2 (LT.)						
-L1- STA. 11 + 00.00	-L1- STA. 28 + 31.59	1,593	832	7,099	5,856	1,182
-Y2- STA. 9 + 50.00	-Y2- STA. 14 + 99.03	658	230	940	382	330
-Y2A- STA. 10 + 08.25	-Y2A- STA. 19 + 25.00	191		2,198	2,007	
TOTAL SUMMARY NO. 2		2,442	1,062	10,237	8,245	1,512
SUMMARY NO. 3 (LT.)						
-L- STA. 28 + 31.59	-L- STA. 59 + 00.00	4,026	4,541	17,943	15,617	6,241
-RPB- STA. 14 + 25.98	-RPB- STA. 25 + 60.41	4,081	1,140	26,938	25,607	3,800
-LPB- STA. 12 + 76.23	-LPB- STA. 16 + 18.61	520		1,381	1,061	200
-Y- STA. 34 + 95.47 (EB)	-Y- STA. 40 + 50.00			67,465	67,465	
-Y- STA. 40 + 50.00	-Y- STA. 49 + 50.00	981		15,691	14,710	
TOTAL SUMMARY NO. 3		9,608	5,681	129,418	124,460	10,331
SUMMARY NO. 4 (LT.)						
-L- STA. 59 + 00.00	-L- STA. 68 + 95.62 (BB)	1,413	737	7,908	6,910	1,152
TOTAL SUMMARY NO. 4		1,413	737	7,908	6,910	1,152
SUMMARY NO. 5 (LT.)						
-L- STA. 71 + 65.62 (EB)	-L- STA. 84 + 16.32	2,762		17,620	14,883	25
-L3- STA. 84 + 16.32	-L3- STA. 100 + 50.07	1,774	550	6,604	5,800	1,520
-Y4- STA. 12 + 75.00	-Y4- STA. 14 + 24.21	184		73		112
-DR1- STA. 10 + 75.00	-DR1- STA. 11 + 73.42	7	107	29	22	107
-DR2- STA. 10 + 75.00	-DR2- STA. 11 + 78.32	7	104	29	22	104
TOTAL SUMMARY NO. 5		4,734	761	24,355	20,727	1,868
SUMMARY NO. 6 (RT.)						
-L1- STA. 11 + 00.00	-L1- STA. 28 + 31.59	2,262		601		1,661
-Y3- STA. 10 + 12.00	-Y3- STA. 14 + 50.00	307	50	1,226	969	100
TOTAL SUMMARY NO. 6		2,569	50	1,827	969	1,761

DDE = 4,335 CY
 SELECT GRANULAR MATERIAL = 12,980 CY
 GEOTEXTILE FOR SOIL STABILIZATION = 23,625 SY
 CLASS IV SUBGRADE STABILIZATION = 4,950 TONS
 CLASS IV AGGREGATE STABILIZATION = 500 TONS
 SHALLOW UNDERCUT = 1,000 CY
 SHALLOW UNDERCUT BY STATIONS = 1,350 CY
 TOTAL SHALLOW UNDERCUT = 2,350 CY
 PAVEMENT STRUCTURE VOLUME (-L1-, -L-, -L3-) = 3,461 CY
 PAVEMENT STRUCTURE VOLUME (-Y-) = 602 CY

Earthwork quantities are calculated by SEPI Engineering. These earthwork quantities are based in part on subsurface data provided by Kleinfelder.

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. + %	BORROW	WASTE
SUMMARY NO. 7 (RT.)						
-L- STA. 28 + 31.59	-L- STA. 59 + 00.00	4,800		11,245	8,345	1,900
-RPD- STA. 14 + 50.00	-RPD- STA. 24 + 74.89	3,804	406	35,533	31,729	406
-LPD- STA. 12 + 27.00	-LPD- STA. 15 + 55.00	728	866	306		1,288
-Y- STA. 11 + 00.00	-Y- STA. 16 + 48.00 (BB)	1,473		503	330	1,300
-Y- STA. 17 + 38.00 (EB)	-Y- STA. 28 + 00.00	2,496		14,210	12,249	535
-Y- STA. 28 + 00.00	-Y- STA. 33 + 07.97 (BB)	346		61,873	61,527	
-DR3- STA. 9 + 53.00	-DR3- STA. 12 + 13.32	113		2,745	2,707	75
-DR4- STA. 10 + 15.82	-DR4- STA. 11 + 95.00	25		461	461	25
-DR5- STA. 10 + 00.00	-DR5- STA. 12 + 32.15	54	51	4,580	4,576	101
TOTAL SUMMARY NO. 7		13,839	1,323	131,456	121,924	5,630
SUMMARY NO. 8 (RT.)						
-L- STA. 59 + 00.00	-L- STA. 70 + 34.38 (BB)	6,118		5,201		917
TOTAL SUMMARY NO. 8		6,118		5,201		917
SUMMARY NO. 9 (RT.)						
-L- STA. 71 + 84.38 (EB)	-L- STA. 84 + 16.32	2,112		6,844	5,132	400
-L3- STA. 84 + 16.32	-L3- STA. 100 + 48.70	2,561		1,356		1,205
TOTAL SUMMARY NO. 9		4,673		8,200	5,132	1,605
SUMMARY NO. 10						
-YDET- STA. 19 + 69.08	-YDET- STA. 33 + 75.76	1,056		4,365		
-YDET- STA. 34 + 95.55	-YDET- STA. 53 + 26.82	6,536		1,571		4,965
TOTAL SUMMARY NO. 10		7,592		5,936		4,965
SUMMARY TOTALS						
		57,917	10,593	334,058	298,859	33,312
WASTE IN LIEU OF BORROW					-4,554	-4,554
LOSS DUE TO CLEARING AND GRUBBING					19,700	
UNDERCUT CONTINGENCY			3,800	4,750	4,750	3,800
SHOULDER MATERIAL				15,625	15,625	
PROJECT TOTALS		38,217	14,393	354,433	334,380	32,558
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					16,719	
GRAND TOTALS		38,217	14,393	354,433	351,099	32,558
SAY		38,500	15,000		351,500	

NOTE: UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN TOP 3' OF EMBANKMENT OR BACKFILL:
 -L- STA. 33 + 75 TO STA. 35 + 75 LT./RT.
 -L- STA. 37 + 75 TO STA. 39 + 75 RT.
 -RPB- STA. 14 + 90 TO STA. 18 + 75 LT./RT.
 -LPD- STA. 12 + 50 TO STA. 13 + 75 LT./RT.
 -RPD- STA. 14 + 90 TO STA. 19 + 75 LT./RT.
 -YDET- STA. 45 + 75 TO STA. 47 + 25 LT./RT.
 TOTAL QUANTITY = 5,025 CY

Note: "Quantities are approximate only. The Resident Engineer will re-cross-section the work accurately when the project is staked out. These cross-section notes will be used in computing the final quantities for which the contractor will be paid."

8/17/99
 7/1/2022 R-256/CA_Rdy_sum_3B-1.dgn
 Kleinfelder

RAJ:TOVEI

COMPUTED BY: TDO DATE: 8/25/2022
CHECKED BY: AMH DATE: 8/25/2022

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. R-2561CA SHEET NO. 3D-7

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

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

Table with columns for Station, Structure No., Top Elevation, Invert Elevation, Slope Critical, Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC), R.C. Pipe Class (V, III, IV), Endwalls, Quantities for Drainage Structures, Frame, Grates, and Hood Standard, Concrete Transitional Section, Drop Inlet, Catch Basin, D.I. STD., D.I. Frame and Grate, G.D.I. Type A/B, G.D.I. Type D, G.D.I. (W/S Flat), G.D.I. (W/S Sag), G.D.I. (N/S Flat), G.D.I. (N/S Flat) Frame with Two Grates, J.B. STD., T.B.D.I. STD., M.H. Frame and Cover, Concrete Paved Ditch, Special Temporary T.B.J.B., 15" Drainage Pipe Elbows, 18" Drainage Pipe Elbows, Flowable Fill, Pipe Removal Lin. Ft., and Abbreviations.

SHEET TOTALS and PROJECT TOTALS summary rows.

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

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 SOIL STABILIZATION SY	STABILIZER AGGREGATE TONS	CLASS IV AGGREGATE STABILIZATION TONS
-L1-	23+75	26+25	ASU(1)	12	75	175	250		
-L1-	27+75	28+32	ASU(1)	12	100	175	275		
-L-	31+75	33+25	ASU(1)	12	50	100	150		
-L-	40+25	41+75	ASU(1)	12	50	75	125		
-L-	43+75	45+75	ASU(1)	12	75	125	200		
-L-	50+25	53+25	ASU(1)	12	250	475	725		
-L-	56+50	57+75	ASU(1)	12	75	125	200		
-L3-	90+75	95+75	ASU(1)	12	425	1275	1550		
-L3-	98+25	99+25	ASU(1)	12	50	100	150		
-Y-	11+25	13+25	ASU(1)	12	100	200	300		
-Y-	19+75	20+25	ASU(1)	12	25	50	50		
-Y3-	12+30	14+30	ASU(1)	12	75	175	250		
CONTINGENCY					1000	1900	3000		
TOTAL CY/TONS/SY:					2350	4950	7225		

*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 SOIL STABILIZATION" ARE ONLY THE ESTIMATED QUANTITIES FOR ASU(1/2)/AST AND MAY ONLY REPRESENT A PORTION OF THE SUBGRADE STABILIZATION AND GEOTEXTILE QUANTITIES SHOWN IN THE ITEM SHEETS OF THE PROPOSAL.

SUMMARY OF SUBSURFACE DRAINAGE

LINE	STATION	STATION	LOCATION L/RT/CL	DRAIN TYPE* UD/BD/SD	LF
-L1-	13+50	28+25	LT, RT	SD	2950
-L-	28+50	65+50	LT, RT	SD	7400
-L-	68+00	84+00	LT, RT	SD	3200
-L3-	93+00	96+00	LT, RT	SD	600
-LPB-	12+50	16+00	RT	SD	350
-RPB-	14+50	25+00	RT	SD	1050
-LPD-	12+75	15+00	LT	SD	225
-RPD-	15+00	23+50	RT	SD	850
-Y-	12+75	33+25	RT	SD	2050
-Y2-	11+00	15+00	LT	SD	400
-Y2A-	10+00	19+50	RT	SD	950
-Y3-	10+00	12+75	LT	SD	275
-YDET-	28+50	29+75	RT	SD	125
-YDET-	32+25	36+25	RT	SD	400
-DR3-	9+50	12+25	RT	SD	275
-DR5-	10+00	11+00	RT	SD	100
CONTINGENCY					11000
SUBTOTAL:					32200
TOTAL LF:					32200

*UD = UNDERDRAIN
 *BD = BLIND DRAIN
 *SD = SUBSURFACE DRAIN

SUMMARY OF BRIDGE WAITING PERIODS

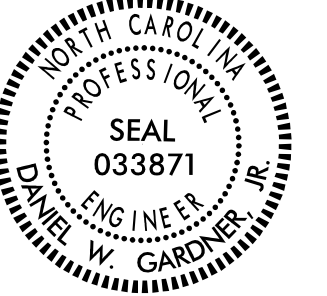
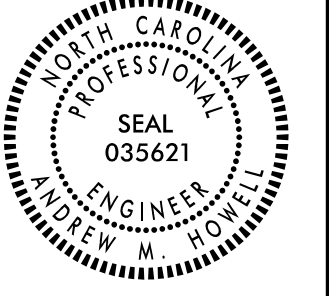
Bridge Description	End Bent/ Bent No.	MONTHS
Bridge No. 418; Bridge on NC 87 (-L-)	1	2
Bridge No. 418; Bridge on NC 87 (-L-)	2	2
Bridge No. 419; Bridge on NC 11 (-Y-) over NC 87 (-L-)	1	2
Bridge No. 419; Bridge on NC 11 (-Y-) over NC 87 (-L-)	2	2

8/17/99
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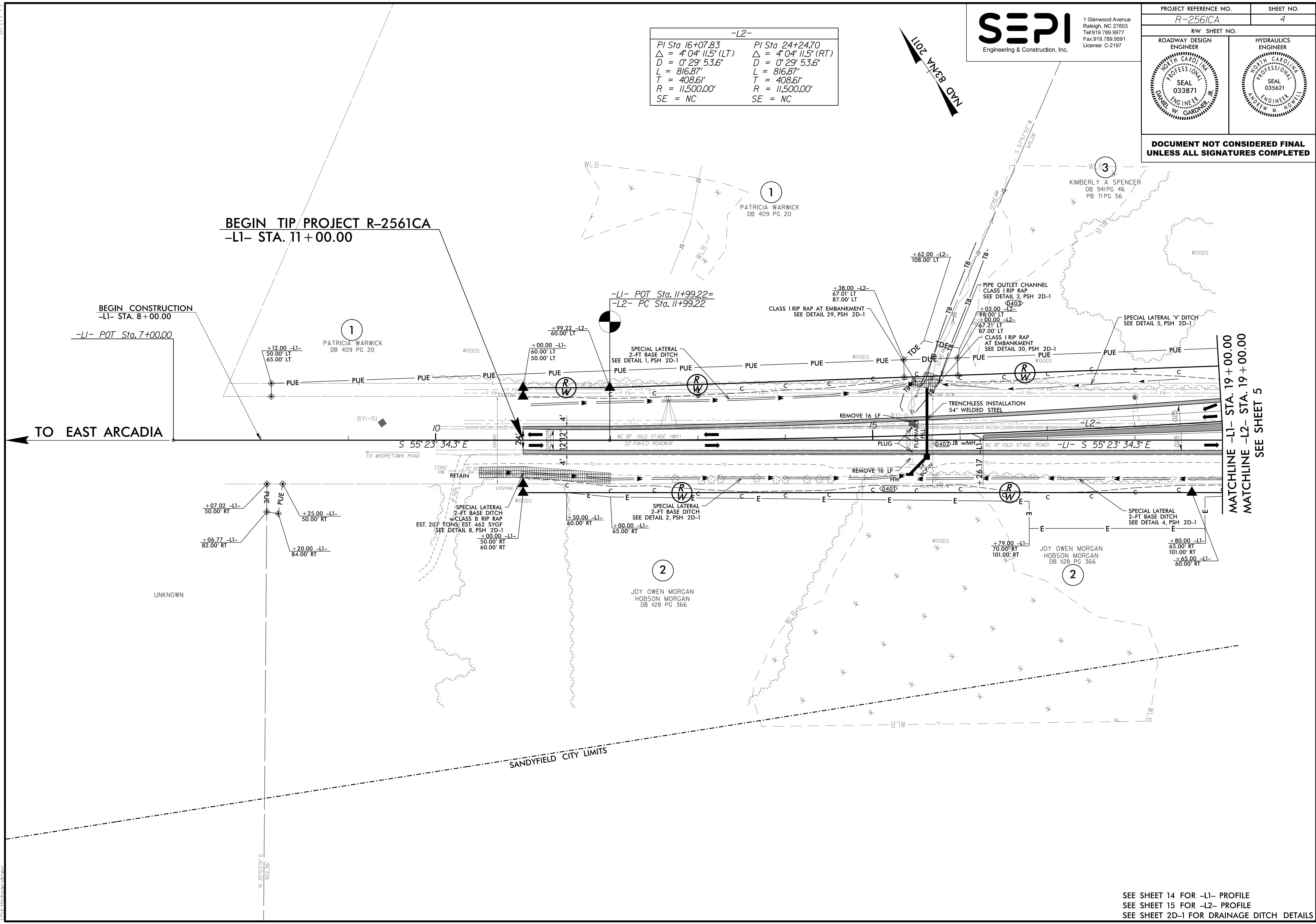
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8/25/2002
R-2561CA_Rdy_psh_4.dgn
11/15/2002

-L2-	
PI Sta 16+07.83	PI Sta 24+24.70
$\Delta = 4' 04' 11.5" (LT)$	$\Delta = 4' 04' 11.5" (RT)$
$D = 0' 29' 53.6"$	$D = 0' 29' 53.6"$
$L = 816.87'$	$L = 816.87'$
$T = 408.6'$	$T = 408.6'$
$R = 11,500.00'$	$R = 11,500.00'$
SE = NC	SE = NC

SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: C-2197

PROJECT REFERENCE NO. R-2561CA	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 

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



SEE SHEET 14 FOR -L1- PROFILE
SEE SHEET 15 FOR -L2- PROFILE
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS

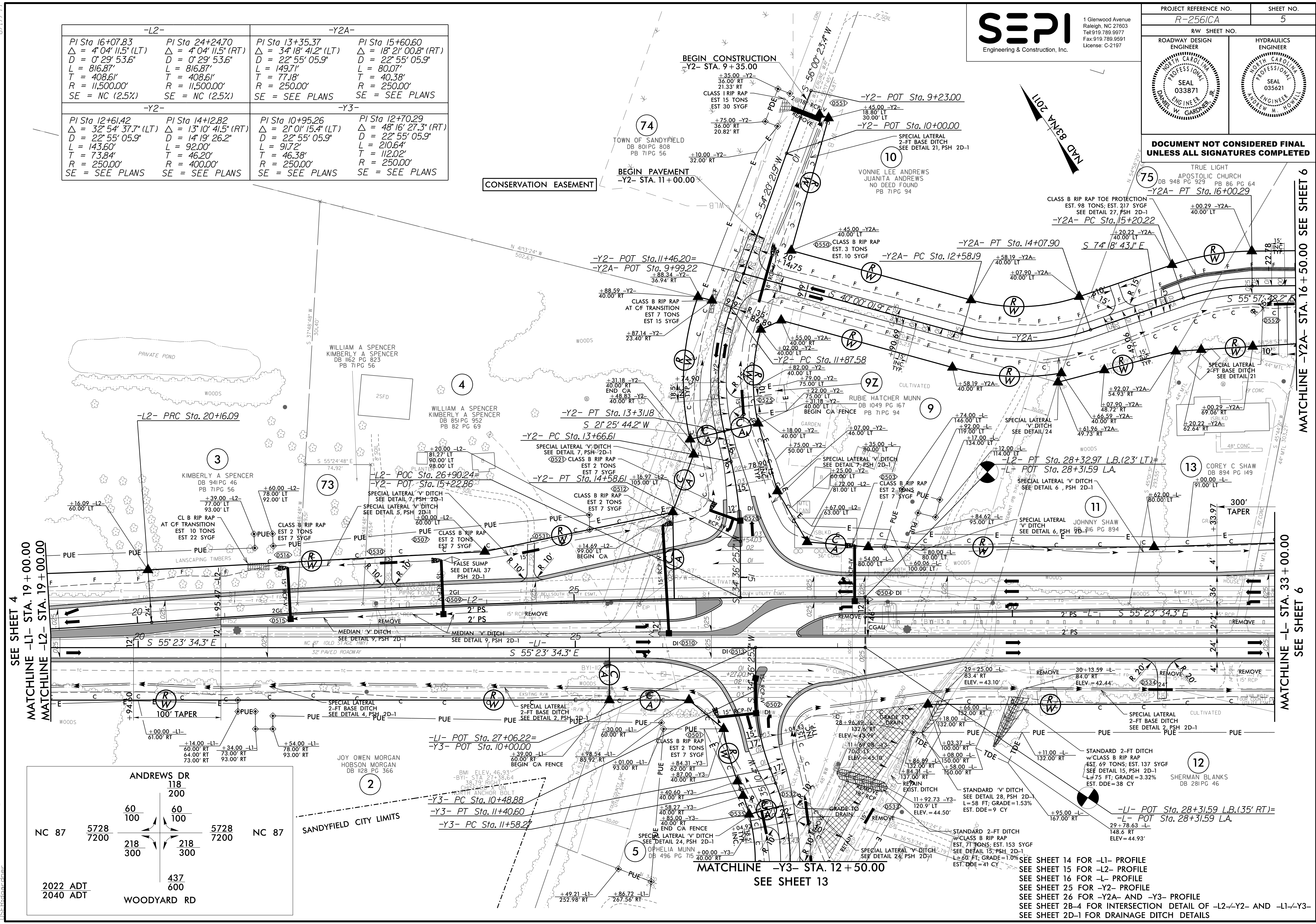


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PROJECT REFERENCE NO. R-2561CA	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-L2-		-Y2A-	
PI Sta 16+07.83 Δ = 4° 04' 11.5" (LT) D = 0' 29' 53.6" L = 816.87' T = 408.61' R = 11,500.00' SE = NC (2.5%)	PI Sta 24+24.70 Δ = 4° 04' 11.5" (RT) D = 0' 29' 53.6" L = 816.87' T = 408.61' R = 11,500.00' SE = NC (2.5%)	PI Sta 13+35.37 Δ = 34° 18' 41.2" (LT) D = 22' 55' 05.9" L = 149.71' T = 77.18' R = 250.00' SE = SEE PLANS	PI Sta 15+60.60 Δ = 18° 21' 00.8" (RT) D = 22' 55' 05.9" L = 80.07' T = 40.38' R = 250.00' SE = SEE PLANS
-Y2-		-Y3-	
PI Sta 12+61.42 Δ = 32° 54' 37.7" (LT) D = 22' 55' 05.9" L = 143.60' T = 73.84' R = 250.00' SE = SEE PLANS	PI Sta 14+12.82 Δ = 13° 10' 41.5" (RT) D = 14' 19' 26.2" L = 92.00' T = 46.20' R = 400.00' SE = SEE PLANS	PI Sta 10+95.26 Δ = 2° 01' 15.4" (LT) D = 22' 55' 05.9" L = 91.72' T = 46.38' R = 250.00' SE = SEE PLANS	PI Sta 12+70.29 Δ = 48° 16' 27.3" (RT) D = 22' 55' 05.9" L = 210.64' T = 112.02' R = 250.00' SE = SEE PLANS

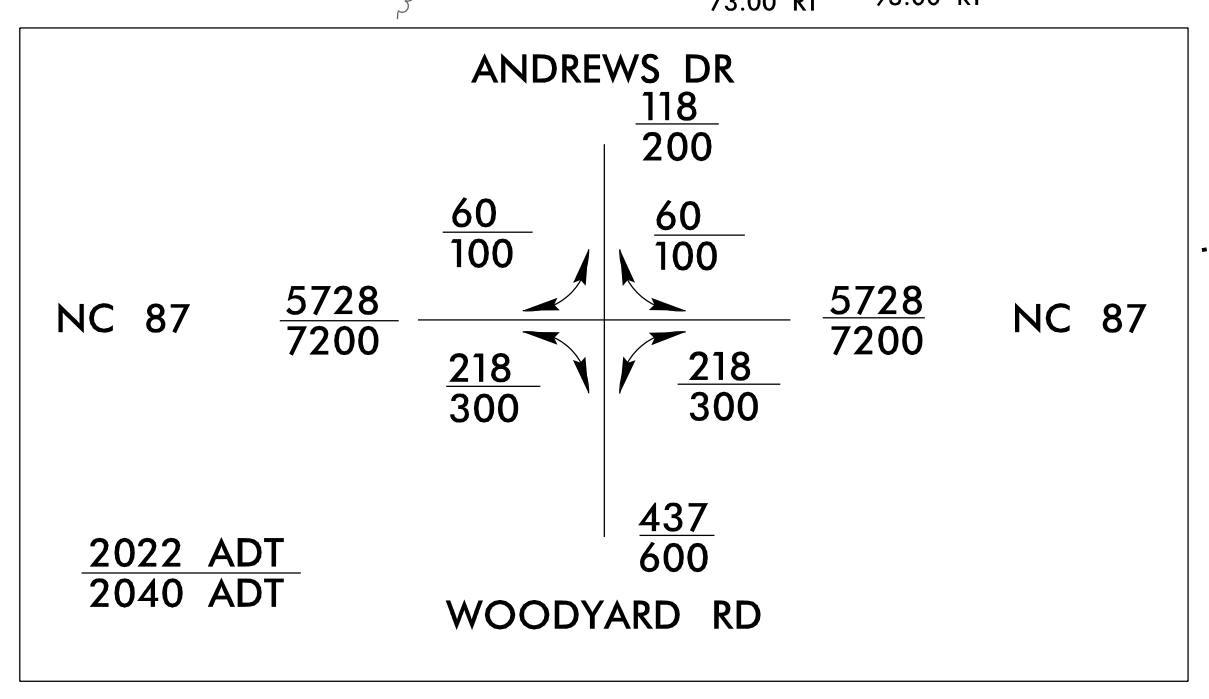


SEE SHEET 4
MATCHLINE -L1- STA. 19+00.00
MATCHLINE -L2- STA. 19+00.00

MATCHLINE -Y2A- STA. 16+50.00 SEE SHEET 6

MATCHLINE -L- STA. 33+00.00
SEE SHEET 6

MATCHLINE -Y3- STA. 12+50.00
SEE SHEET 13



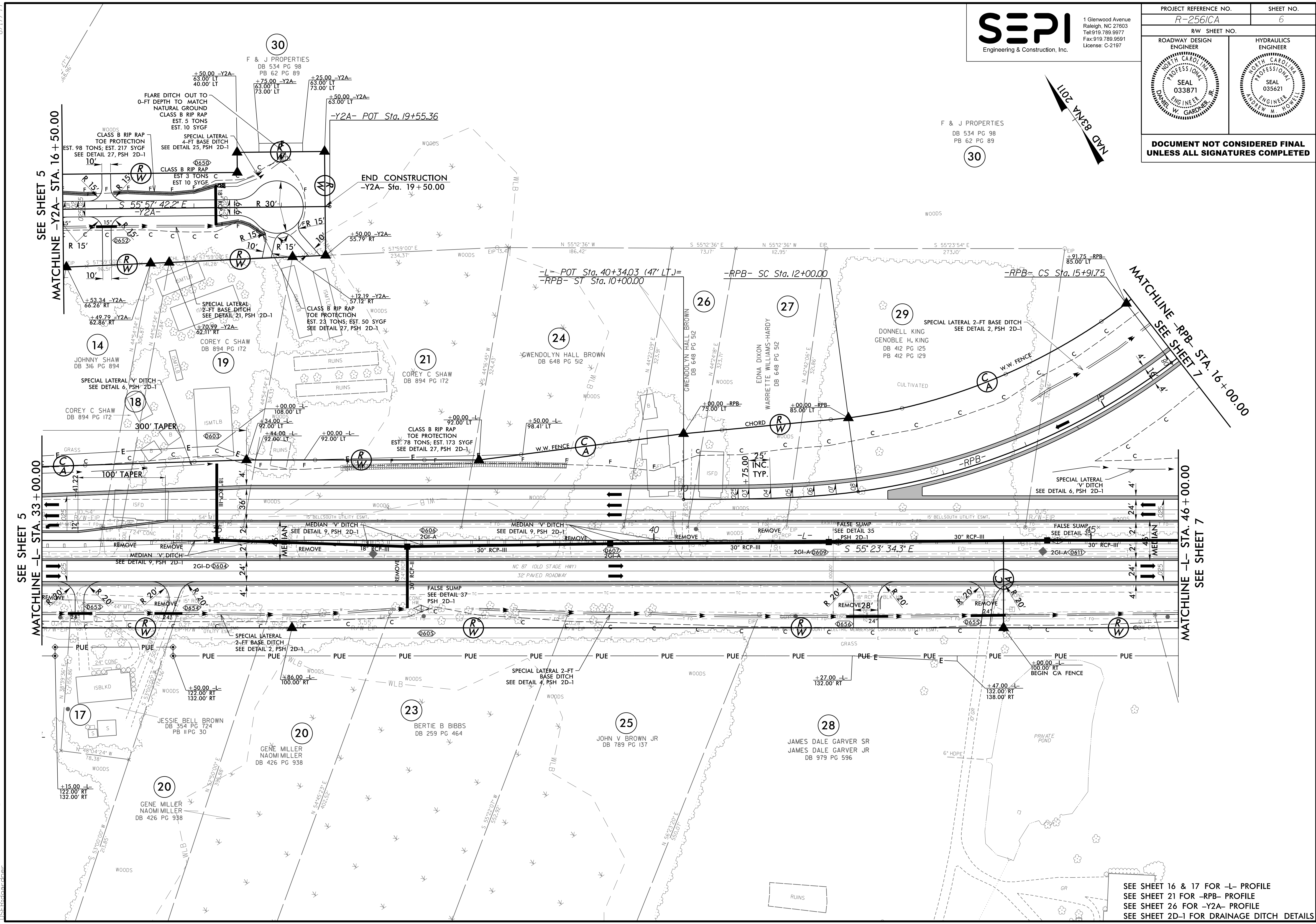
SEE SHEET 14 FOR -L1- PROFILE
SEE SHEET 15 FOR -L2- PROFILE
SEE SHEET 16 FOR -L- PROFILE
SEE SHEET 25 FOR -Y2- PROFILE
SEE SHEET 26 FOR -Y2A- AND -Y3- PROFILE
SEE SHEET 2B-4 FOR INTERSECTION DETAIL OF -L2--Y2- AND -L1--Y3-
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS

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8/17/99
8/25/2014
R-2561CA_Rdy_psh_6.dgn
11:51:40 AM

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PROJECT REFERENCE NO. R-2561CA	SHEET NO. 6
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER SEAL 033871	HYDRAULICS ENGINEER KENNETH W. HOFFEL SEAL 035621
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



SEE SHEET 16 & 17 FOR -L- PROFILE
SEE SHEET 21 FOR -RPB- PROFILE
SEE SHEET 26 FOR -Y2A- PROFILE
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS