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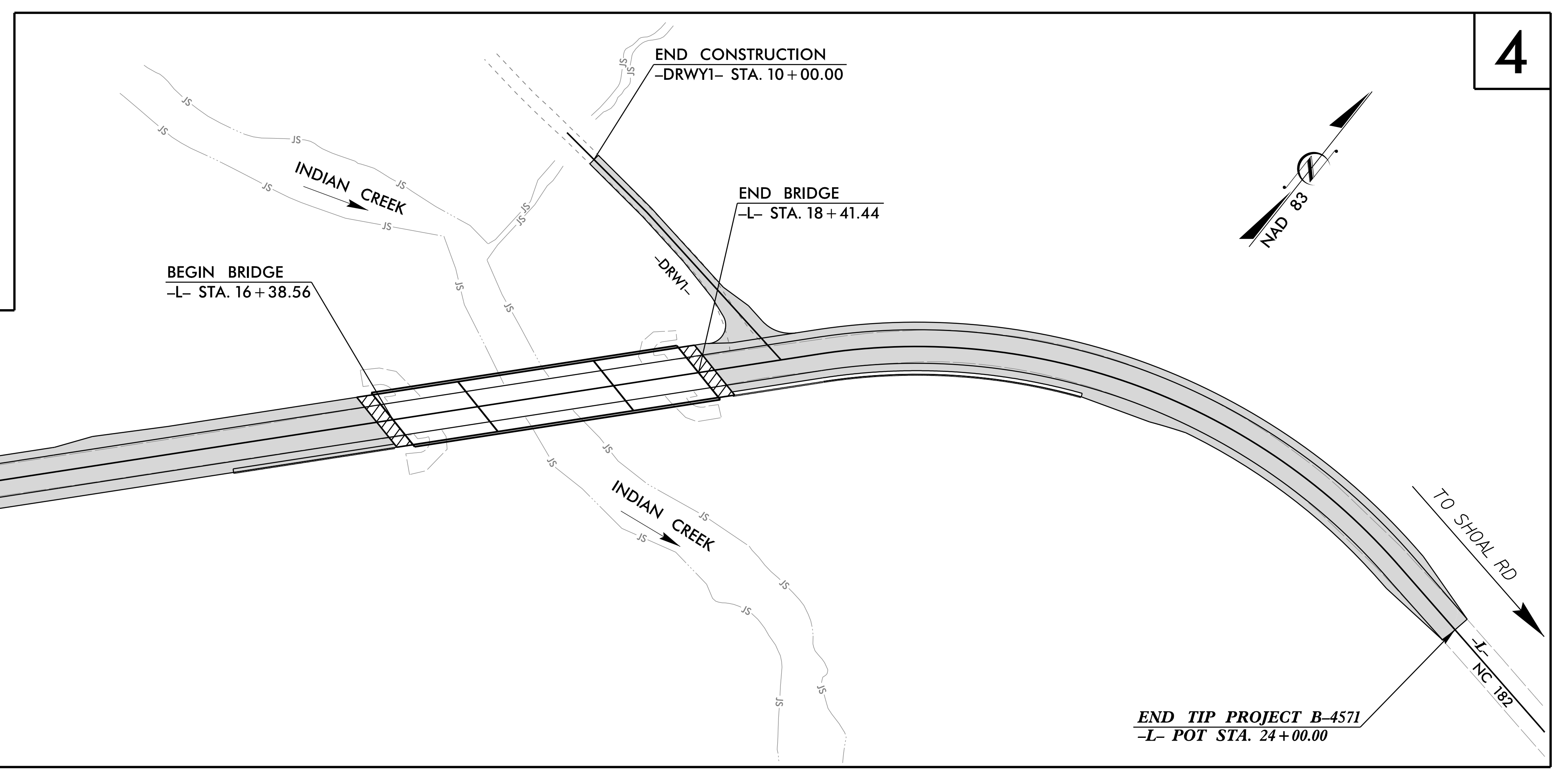
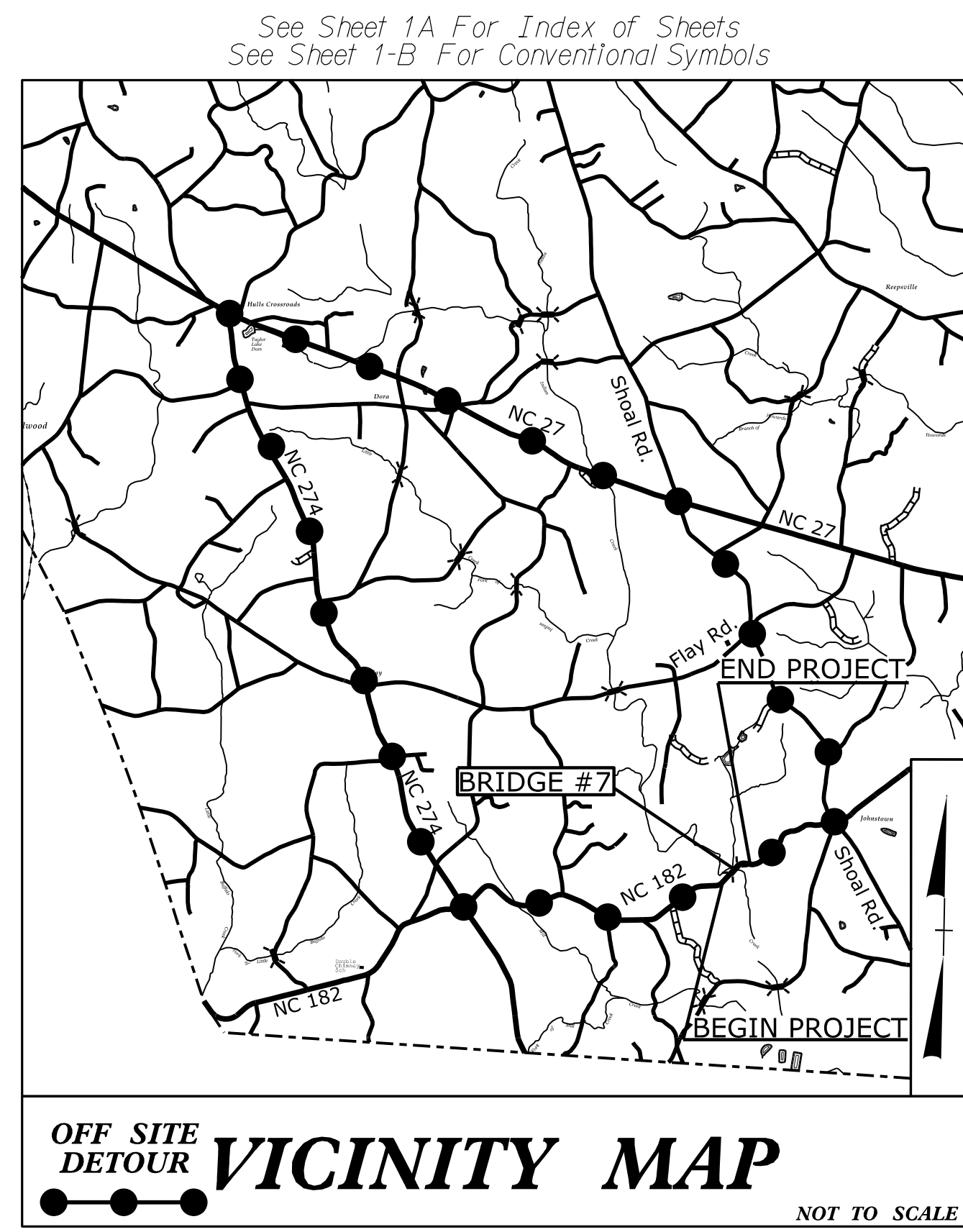
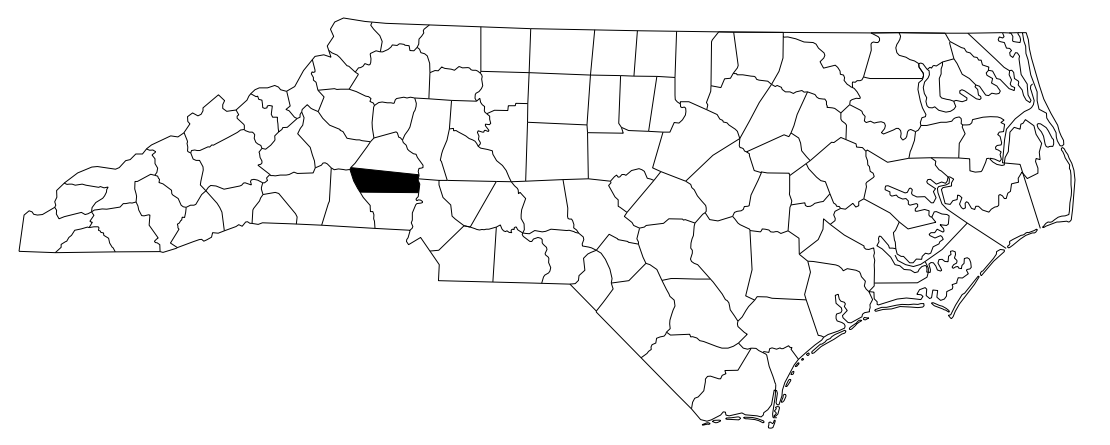
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4571	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38414.1.2	N/A	PE	
38414.2.1	N/A	RW /UTIL.	
38414.3.1	N/A	CONSTR.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LINCOLN COUNTY

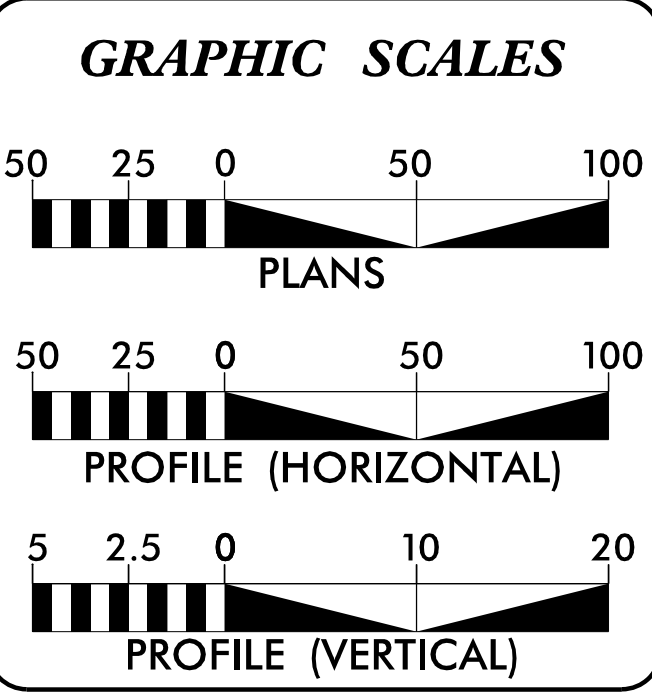
LOCATION: BRIDGE NO. 7 OVER INDIAN CREEK ON NC 182

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



**DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2022 =	1184
ADT 2040 =	1400
K =	12%
D =	75%
T =	6%*
**V =	30 MPH
*(TTST 2%+ DUALS 4%)	
FUNC CLASS =	RURAL
MAJOR COLLECTOR	
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH OF ROADWAY T.I.P. PROJECT B-4571	=	0.175 MI.
LENGTH OF STRUCTURE T.I.P. PROJECT B-4571	=	0.038 MI.
TOTAL LENGTH OF T.I.P. PROJECT B-4571	=	0.213 MI.

NCDOT CONTACT: **DAVID STUTTS, PE**
STRUCTURES MANAGEMENT UNIT

Stantec PREPARED IN THE OFFICE OF:
STANTEC CONSULTING
800 Jones Franklin Road | Suite 300
Raleigh, NC 27606
Tel. (919) 851-8866 | Fax. (919) 851-7024
www.stantec.com
License No. P-0672

SUNGATE DESIGN GROUP, P.A.
900 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
NC COA No. C-0890

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 4, 2019

LETTING DATE:
DECEMBER 20, 2022

MIKE LINDGREN, PE
PROJECT ENGINEER

HYDRAULICS ENGINEER

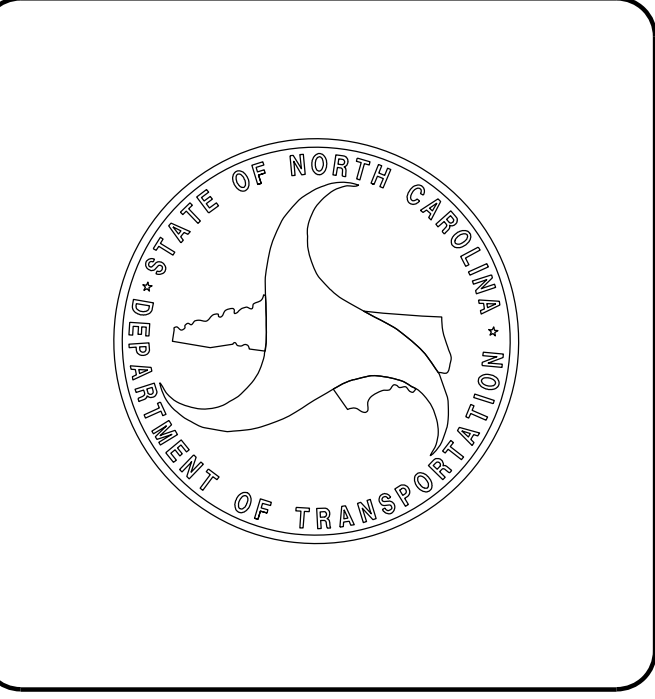
DocuSigned by:
Jeshua G Dalton
SIGNATURE: [Signature]

DocuSigned by:
Mike Lindgren
SIGNATURE: [Signature]

ROADWAY DESIGN ENGINEER

Professional Engineer Seal for Joshua G. Dalton, License No. 26971, P.E. 9/23/2022.

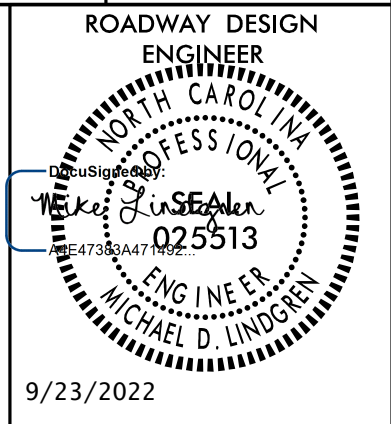
Professional Engineer Seal for Michael D. Lindgren, License No. 025513, P.E. 9/23/2022.



TIP PROJECT: B-4571

CONTRACT: C204361

9/22/2022
L:\B4571\Roadway\Proj\B-4571_Rdy_tsh.dgn
st-smal\wood



**DOCUMENT NOT CONSIDERED FINAL
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SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE, WEDGING DETAILS AND TYPICAL SECTIONS
2C-1	TYPE III GUARDRAIL ANCHOR DETAIL
2C-2	GUARDRAIL INSTALLATION DETAIL
2C-3	AT-1 GUARDRAIL ANCHOR DETAIL
2D-1	DRAINAGE DETAILS
3B-1	SUMMARY OF ROADWAY QUANTITIES, SUMMARY OF EARTHWORK, FENCING, SHOULDER BERM GUTTER, PAVEMENT REMOVAL, BREAKING EXISTING PAVEMENT, GUARDRAIL SUMMARY
3D-1	DRAINAGE SUMMARY
4	PLAN SHEET
RW-01 THRU RW-04	SURVEY CONTROL & R/W CONTROL SHEETS
TMP-1 THRU TMP-4	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-01 THRU EC-05	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
X-A	CROSS-SECTION INDEX
X-B	CROSS-SECTION EARTHWORK SUMMARY
X-1 THRU X-14	CROSS-SECTIONS
UO-1 THRU UO-2	UTILITIES BY OTHERS
S-01 THRU S-29	STRUCTURE PLANS

EFF. 01-16-2018
REV.

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
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 4 - MAJOR STRUCTURES	
422.02	Bridge Approach Fills - Type II Modified Approach Fill
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
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
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
866.04	Barbed Wire Fence with Wood Posts (2 - 7 Strands)
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

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

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

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.

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 Rutherfordton EMC
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

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

ROCK
ROCK IS ANTICIPATED BETWEEN -L- STA 20+50 TO 23+75. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

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

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	-----
Property Monument	□ EDM
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	○
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	-----

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

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	----- (RW)
New Right of Way Line with Pin and Cap	----- (RW) ▲
New Right of Way Line with Concrete or Granite RW Marker	----- (RW) ●
New Control of Access Line with Concrete CA Marker	----- (CA) ●
Existing Control of Access	----- (CA)
New Control of Access	----- (CA)
Existing Easement Line	----- E
New Temporary Construction Easement	----- E
New Temporary Drainage Easement	----- TDE
New Permanent Drainage Easement	----- PDE
New Permanent Drainage / Utility Easement	----- DUE
New Permanent Utility Easement	----- PUE
New Temporary Utility Easement	----- TUE
New Aerial Utility Easement	----- AUE

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	☼
Single Shrub	☼

Hedge	-----
Woods Line	-----
Orchard	☼ ☼ ☼ ☼
Vineyard	----- Vineyard

EXISTING STRUCTURES:

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

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

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.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

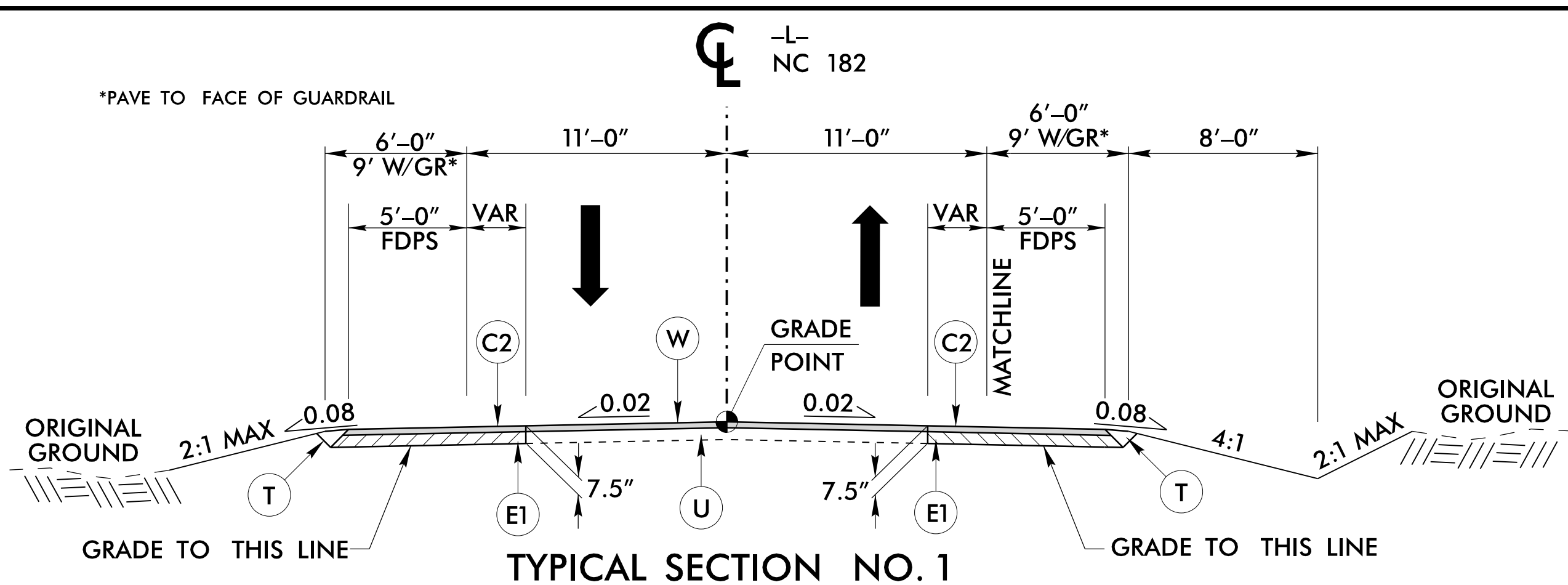
MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	⊠
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	----- 70TL
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	⊠ UST
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.

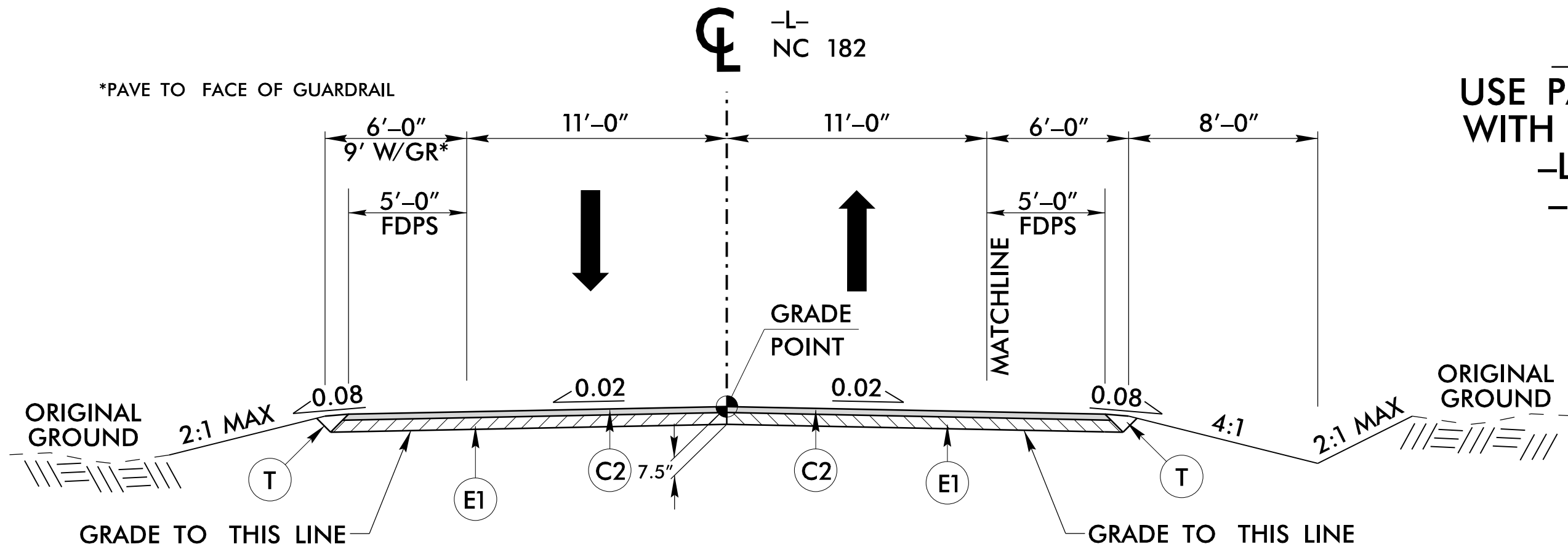
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PAVEMENT SCHEDULE FINAL PAVEMENT DESIGN	
C1	PROP. APPROX. 1.5", ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3", ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	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 1.5" IN DEPTH.
E1	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
J	PROP. 6" AGGREGATED BASE COURSE
P	PRIME COAT, 0.35 GAL/SQ. YD.
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING (SEE DETAIL THIS SHEET)

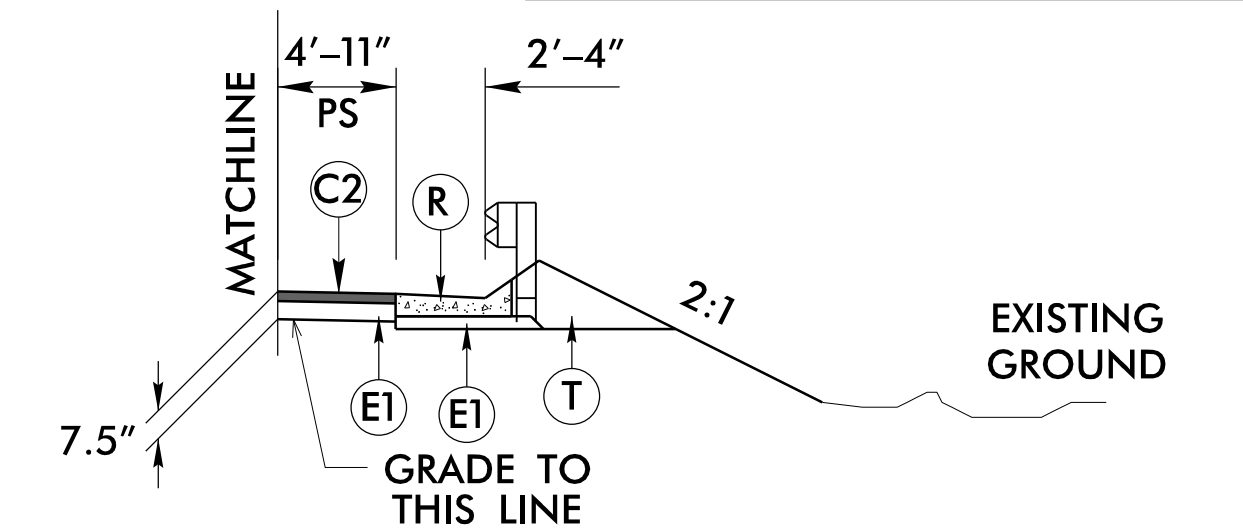
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



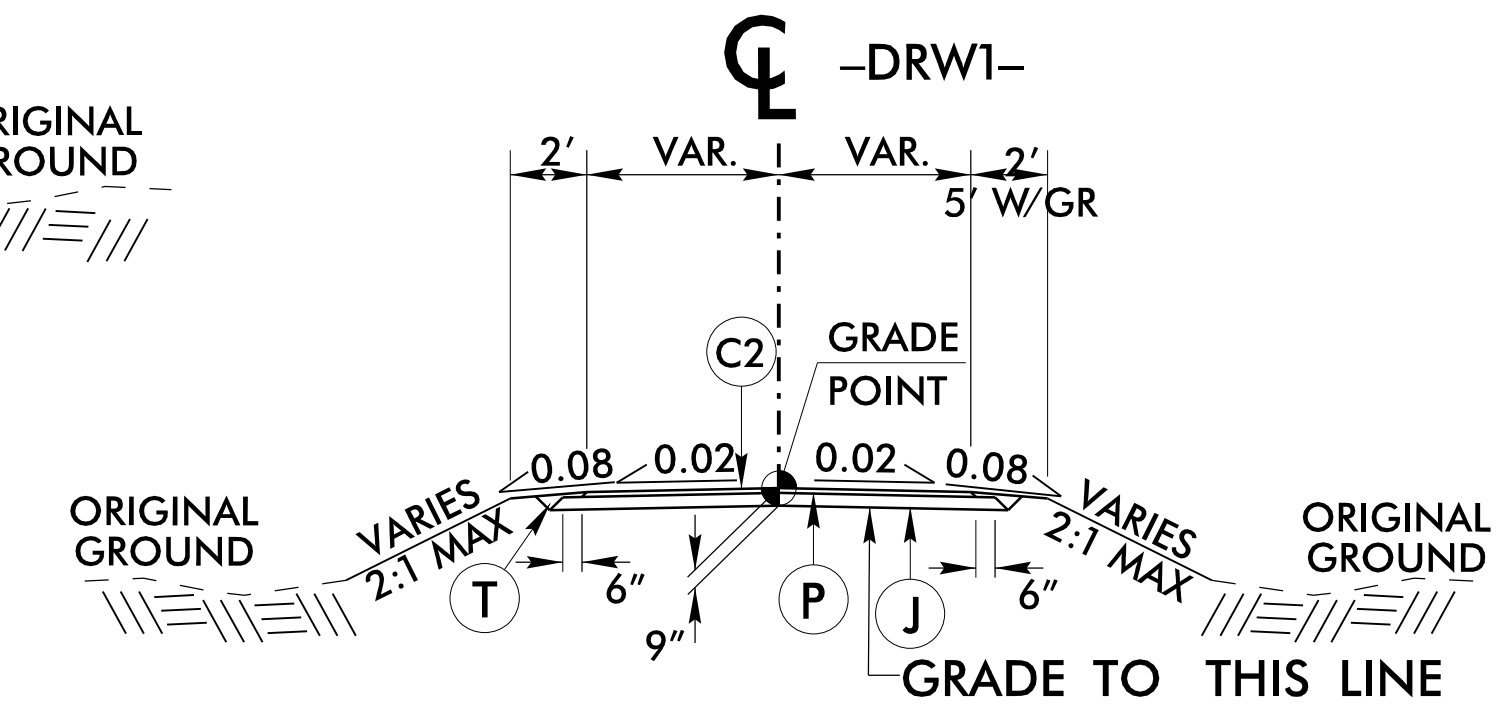
TYPICAL SECTION NO. 1
-L- STA. 12+75.00 TO STA. 16+38.56 (BEGIN BRIDGE)
-L- STA. 20+30.00 TO STA. 24+00.00



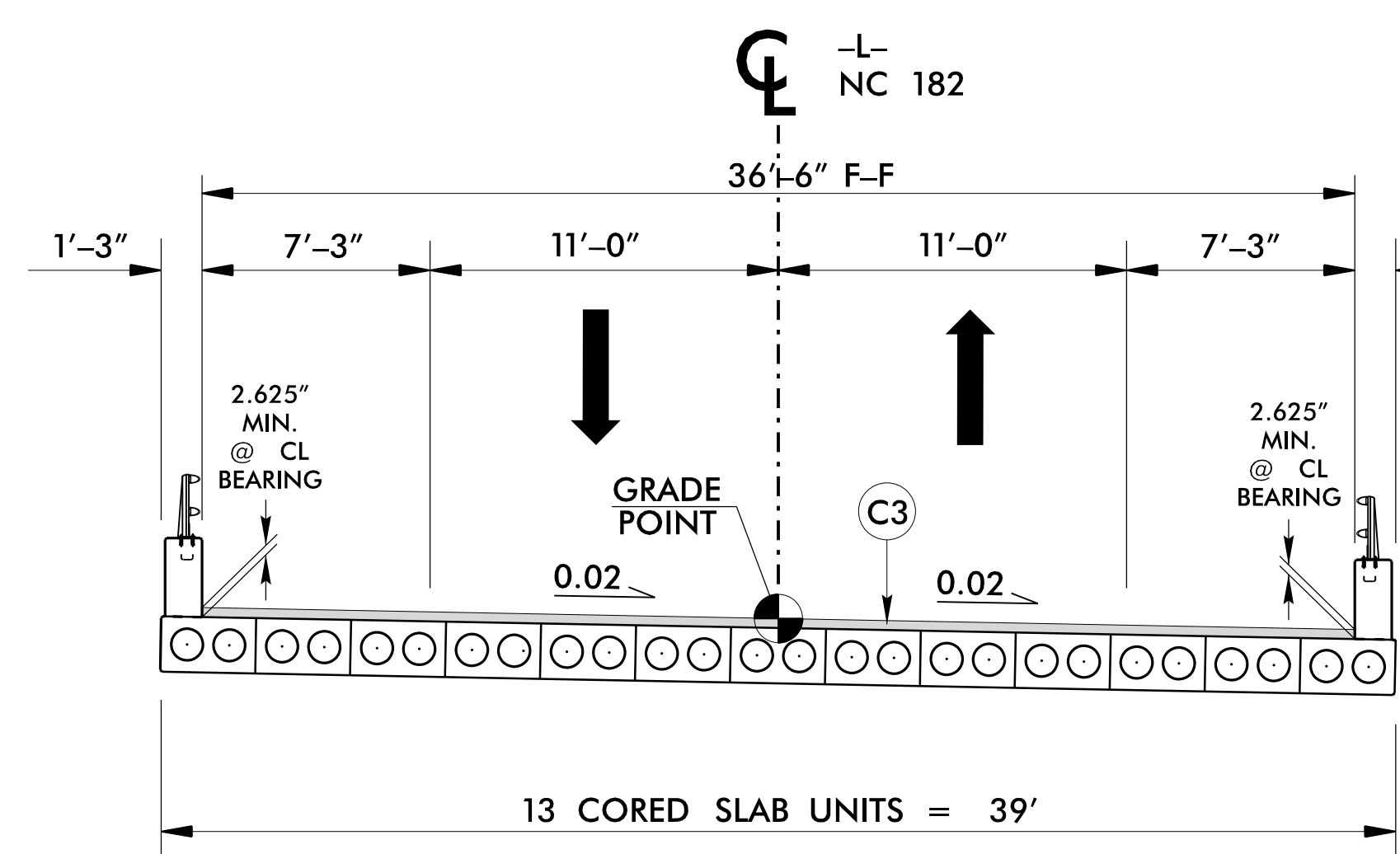
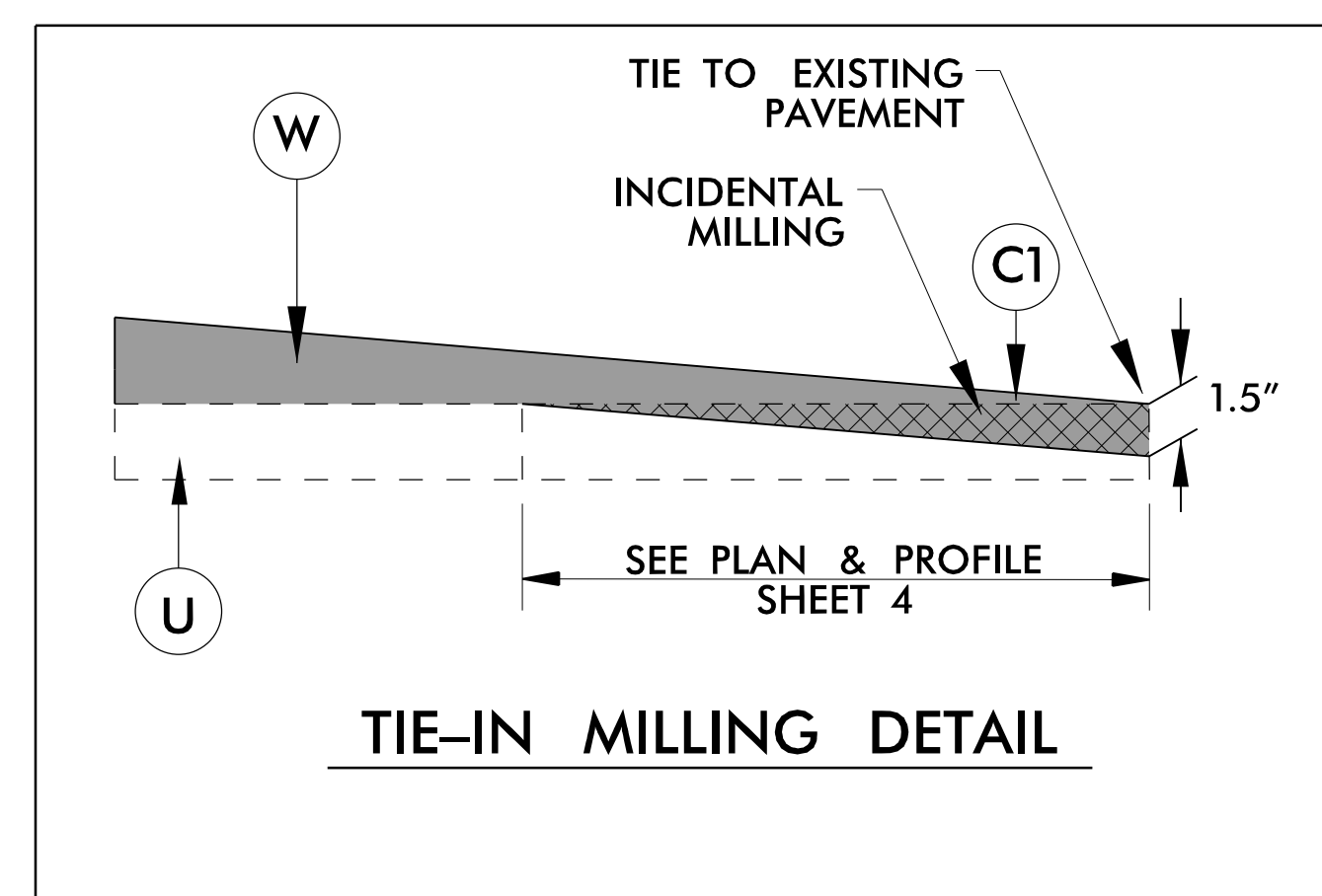
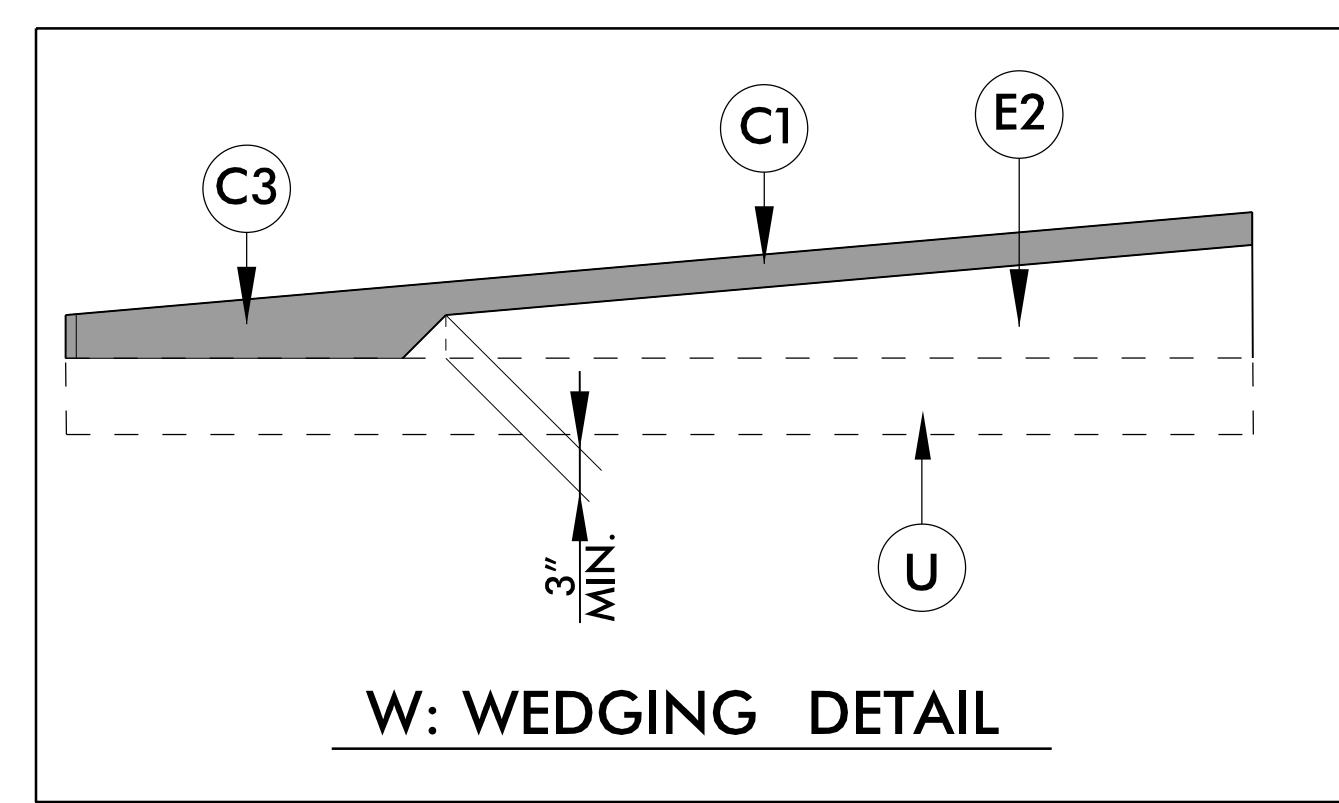
TYPICAL SECTION NO. 2
-L- STA. 18+41.44 (END BRIDGE) TO STA. 20+30.00



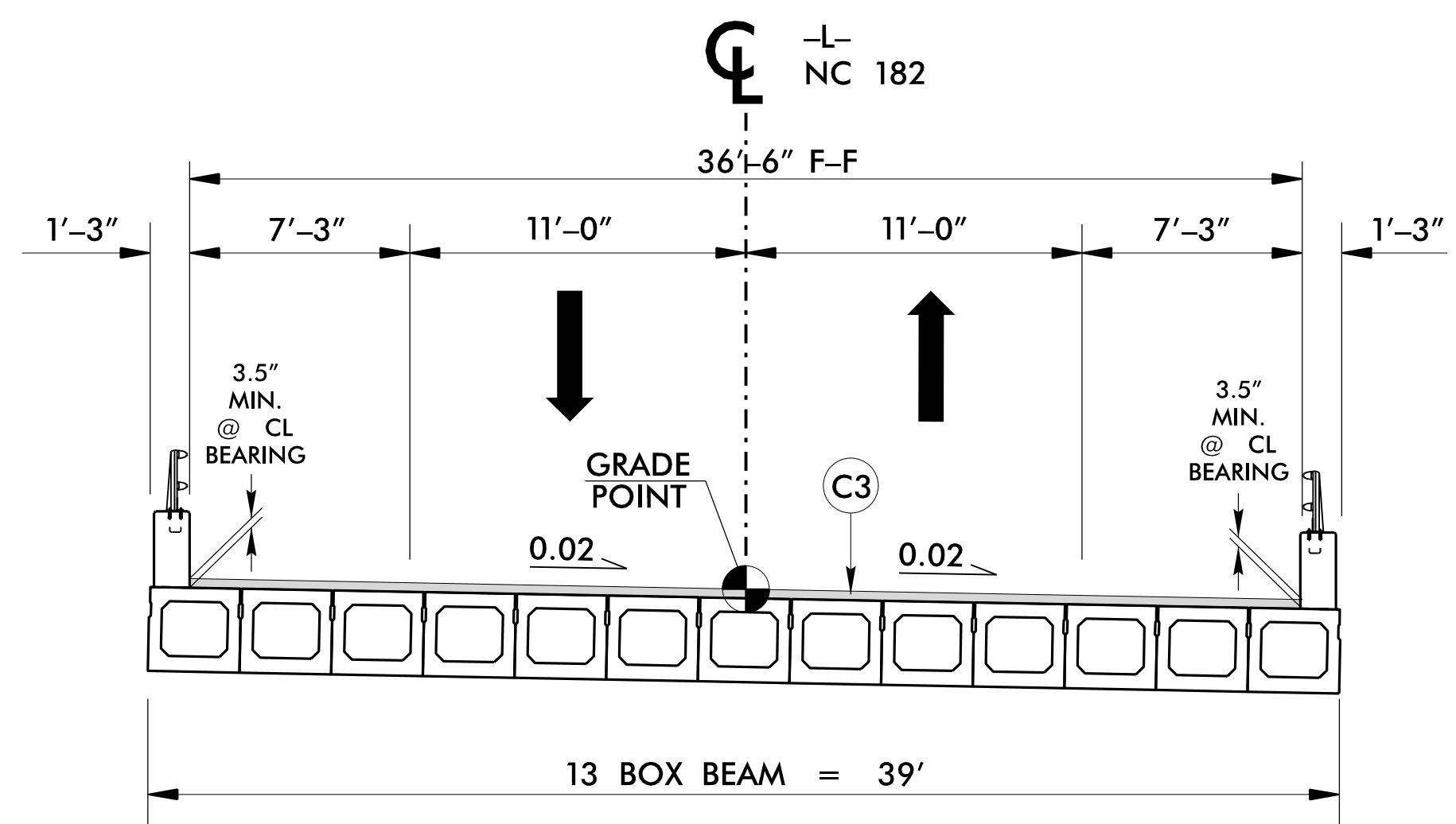
PARTIAL TYPICAL SECTION NO. 1A /2A
USE PARTIAL TYPICAL SECTION IN CONJUNCTION WITH TYPICAL SECTION NO. 1 & 2 AS FOLLOWS:
-L- STA. 15+30.00 TO STA. 16+37.04 RT.
-L- STA. 18+61.31 TO STA. 21+00.00 RT.



TYPICAL SECTION NO. 5
-DRW1- STA. 10+00.00 TO STA. 11+60.70



TYPICAL SECTION NO. 3
-L- STA. 16+38.56 TO STA. 16+94.93
-L- STA. 17+85.07 TO STA. 18+41.44



TYPICAL SECTION NO. 4
-L- STA. 16+94.93 TO STA. 17+85.07

NOTE: NC 182 AT THIS LOCATION IS PART OF THE SOUTHERN HIGHLANDS STATE BICYCLE ROUTE (NC BIKE ROUTE 8)



PROJECT REFERENCE NO. B-4571	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER MICHAEL D. LINDSEY 025513	PAVEMENT DESIGN ENGINEER CLAYTON S. MORRISON 022896
10/26/2022	10/26/2022
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

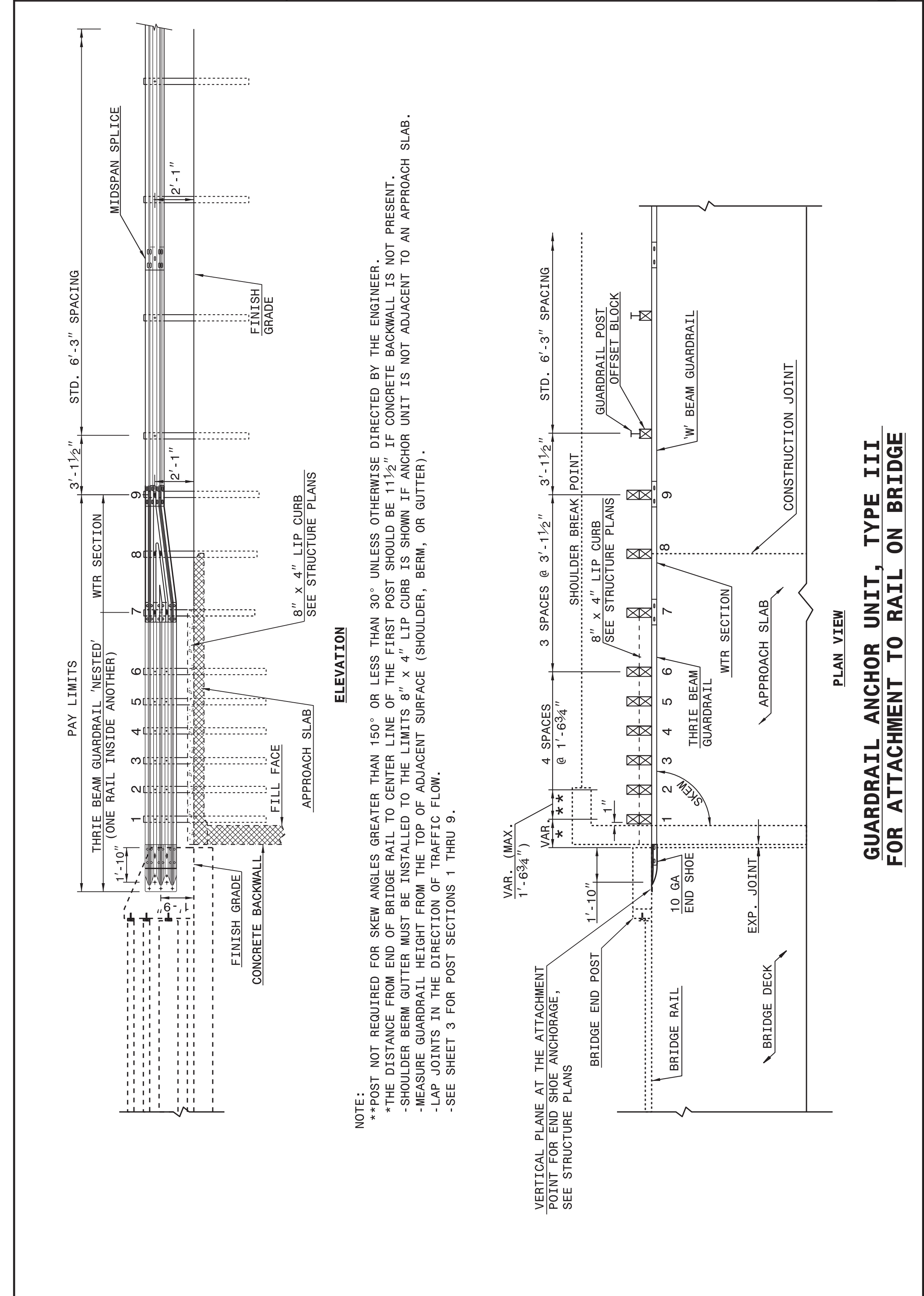
10/25/2022
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 Jhowerton AT: USD-292595

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

ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE

SHEET 1 OF 7
862D03



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

ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE

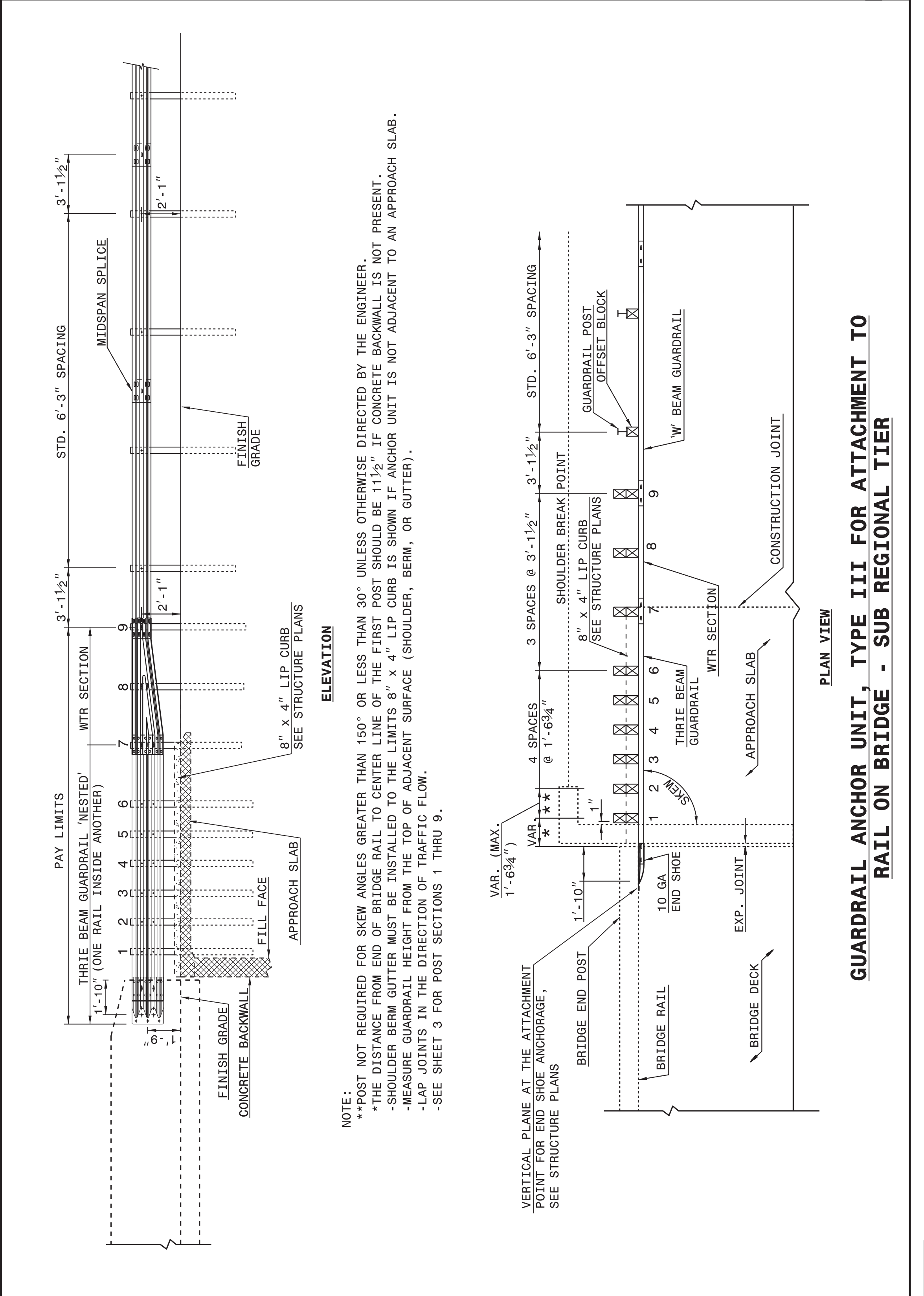
SHEET 1 OF 7
862D03

NOTE:
 **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.
 -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
 -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 -SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.

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

ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862D03



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

ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

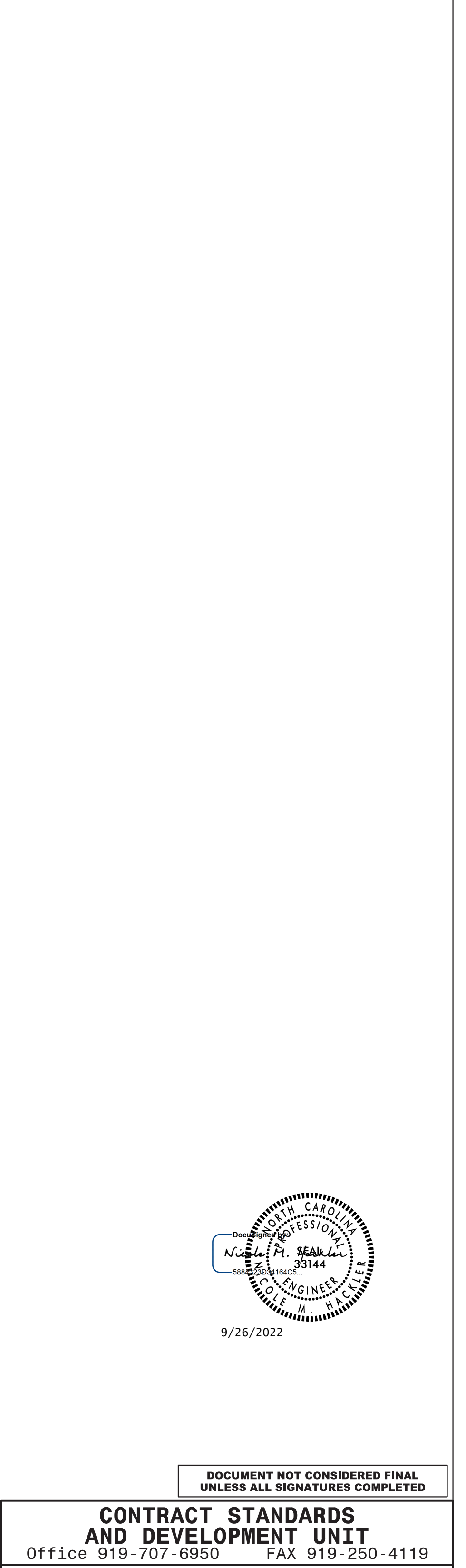
SHEET 2 OF 7
862D03

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 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 -SEE SHEET 3 FOR POST SECTIONS 1 THRU 9.

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

ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

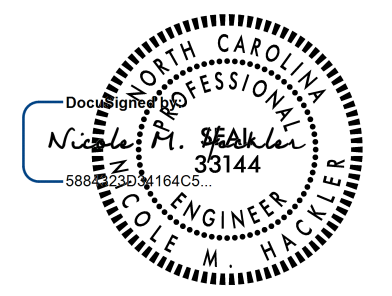
SHEET 2 OF 7
862D03



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

ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862D03



9/26/2022

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

SEE TITLE BLOCK

ORIGINAL BY: J HOWERTON DATE: 06-22-12
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: DATE:

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

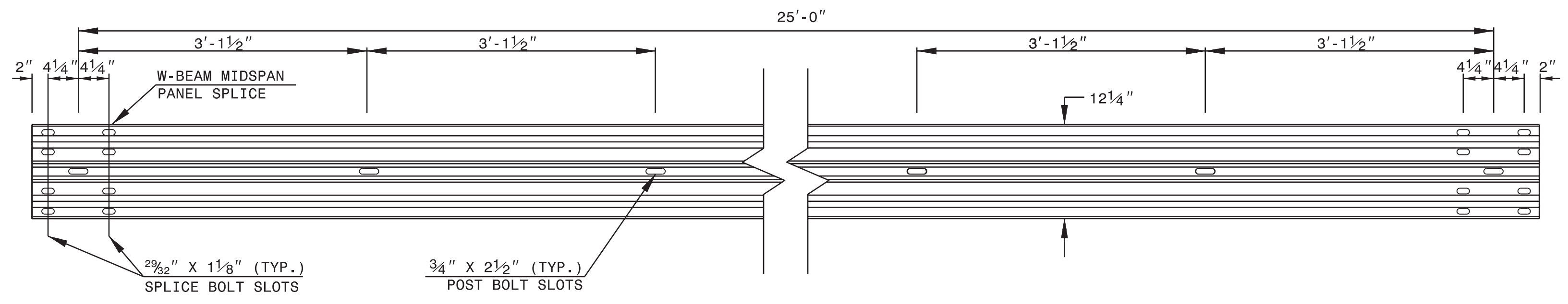
ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

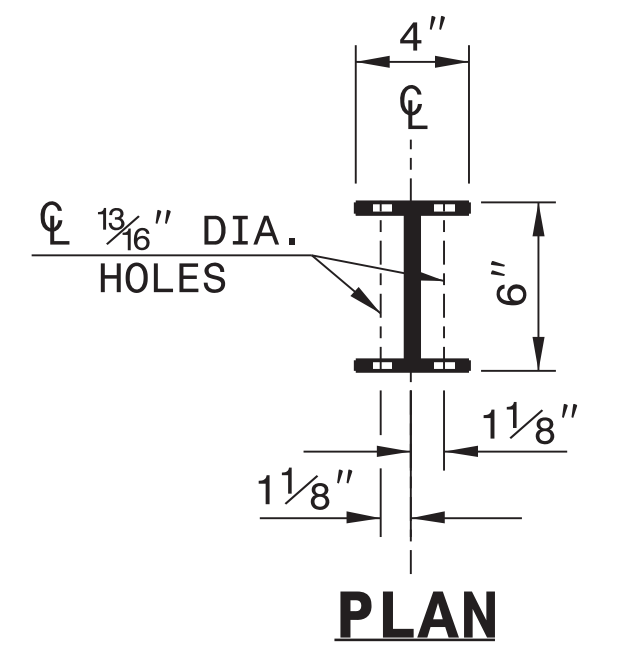
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

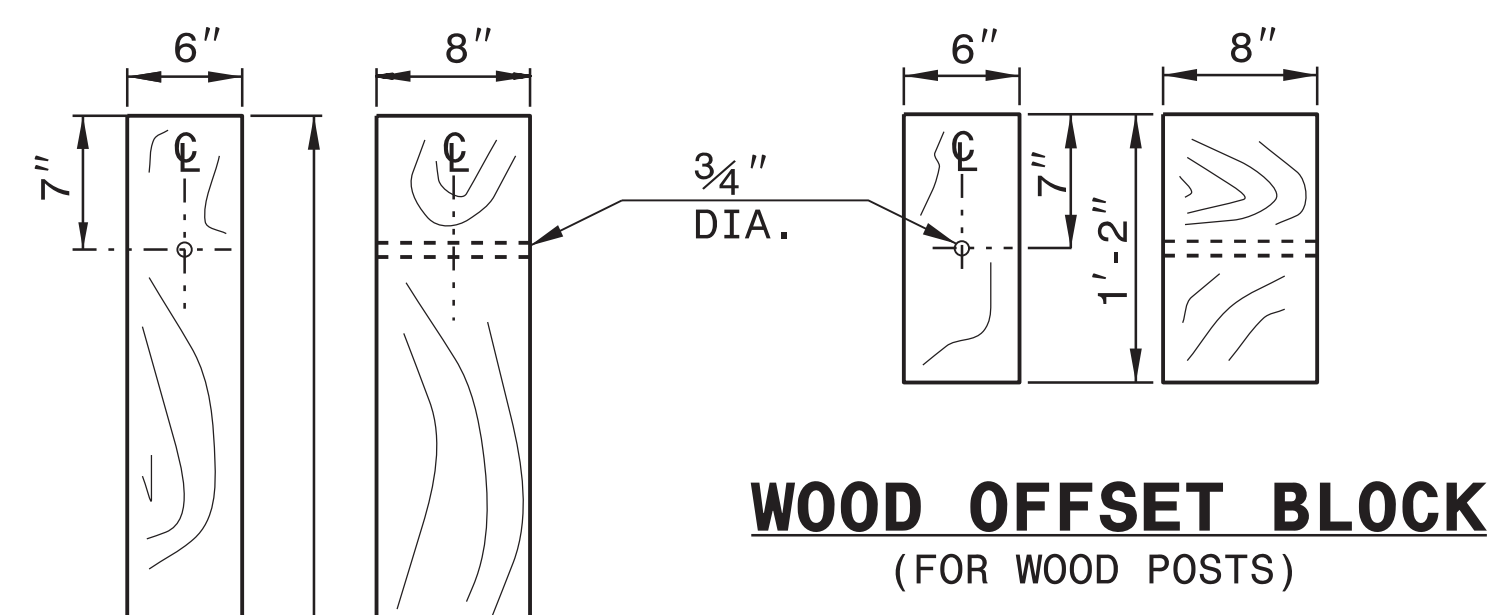
SHEET 6 OF 8
862D02



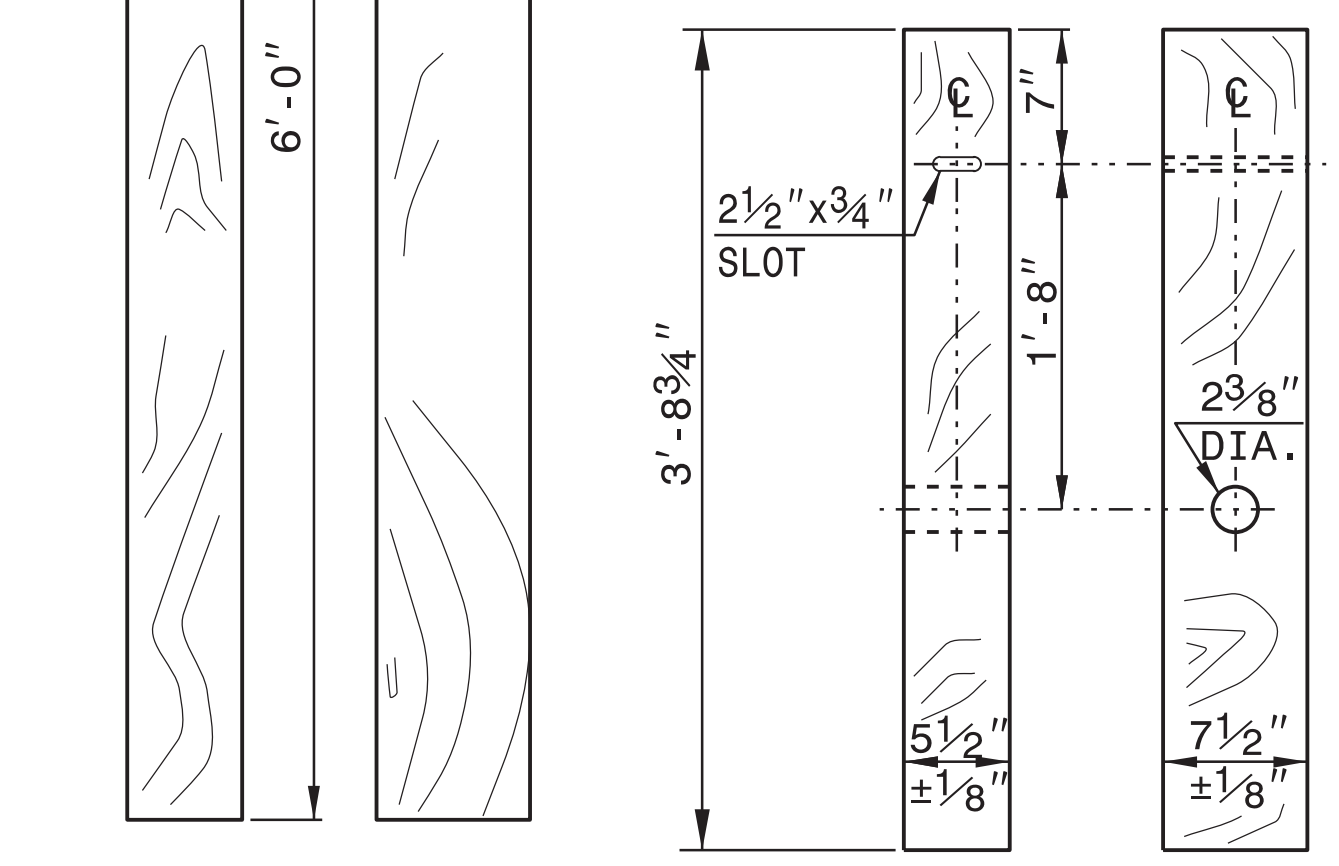
STANDARD W-BEAM GUARDRAIL



PLAN

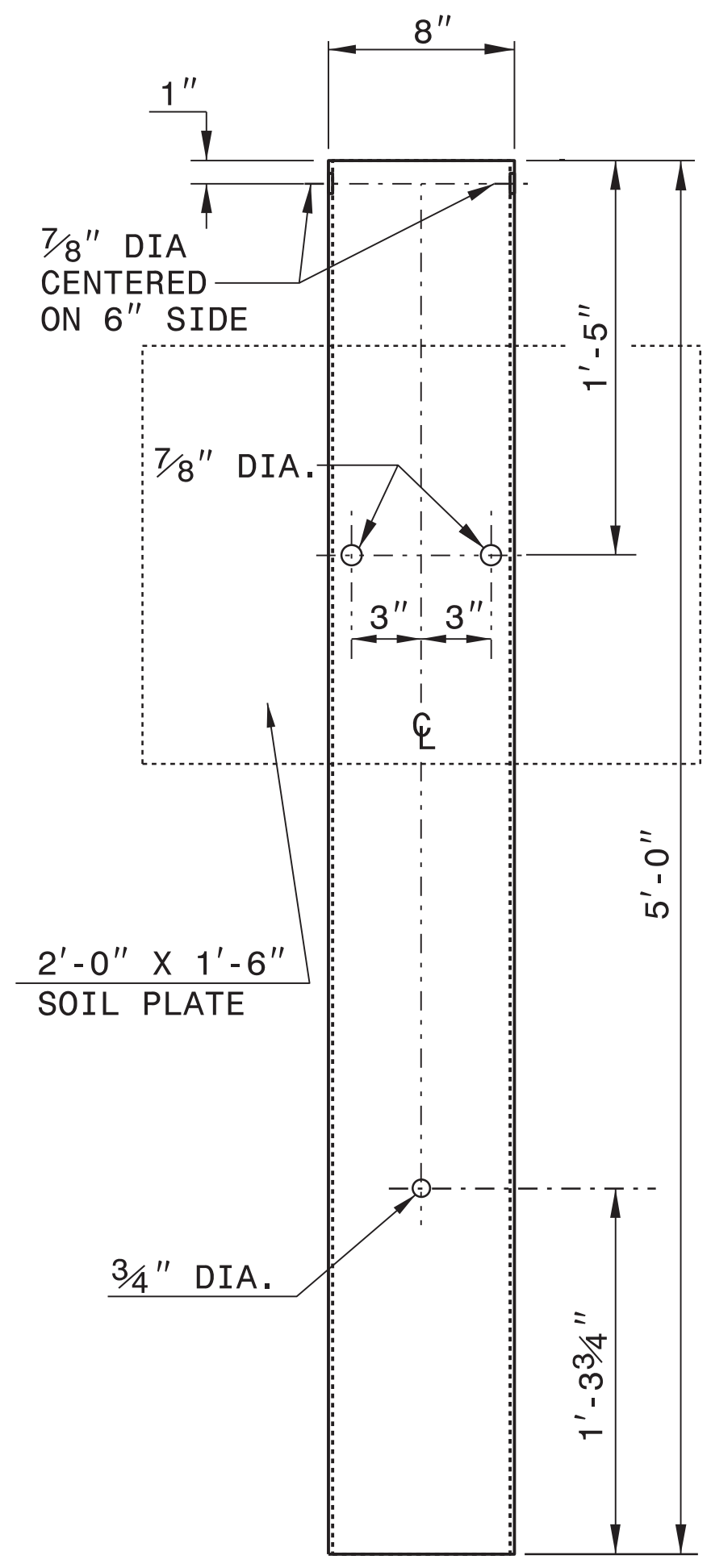


**WOOD OFFSET BLOCK
(FOR WOOD POSTS)**

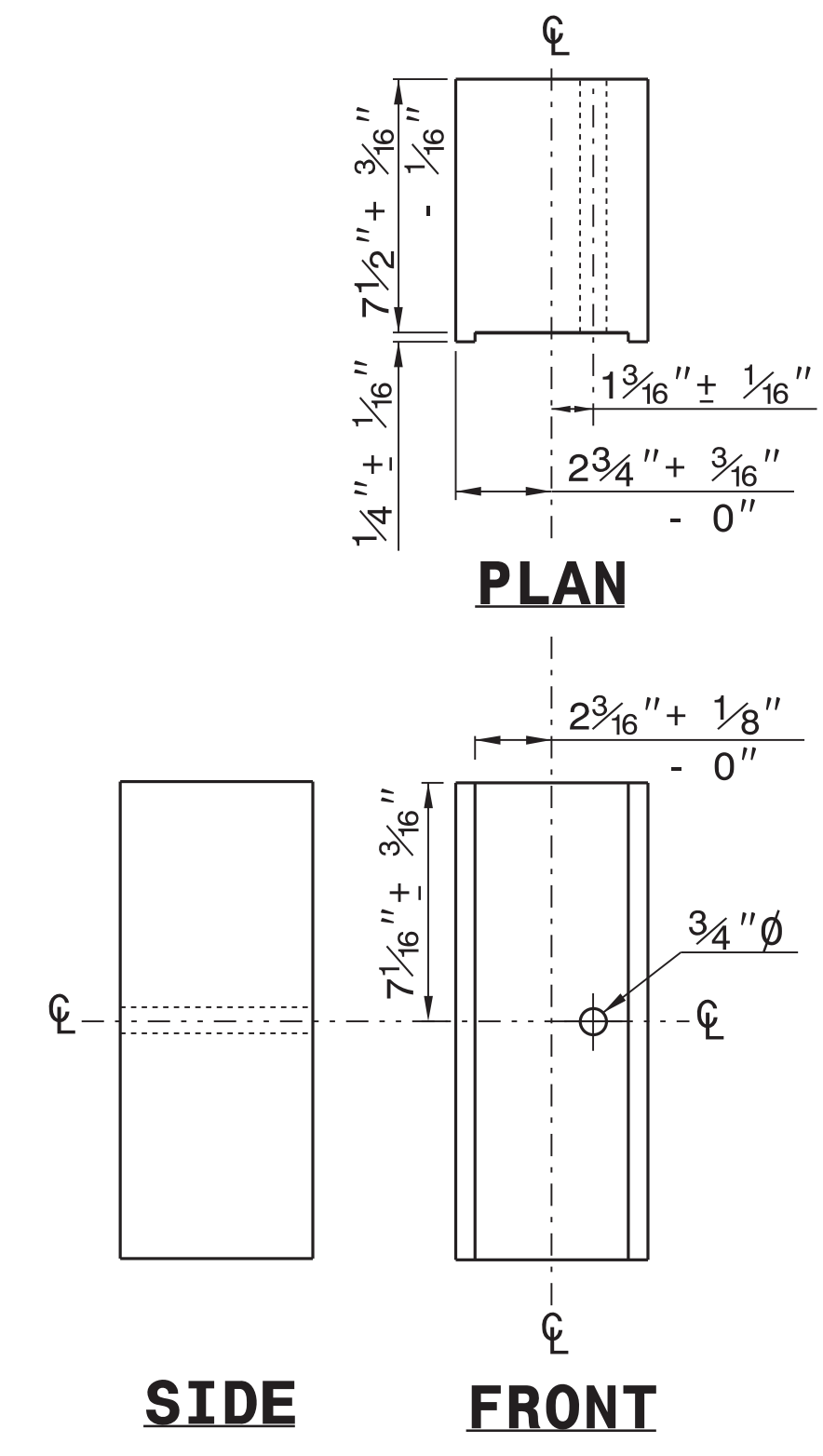


**STANDARD
LINE POST**

**SHORT WOOD
BREAKAWAY POST**



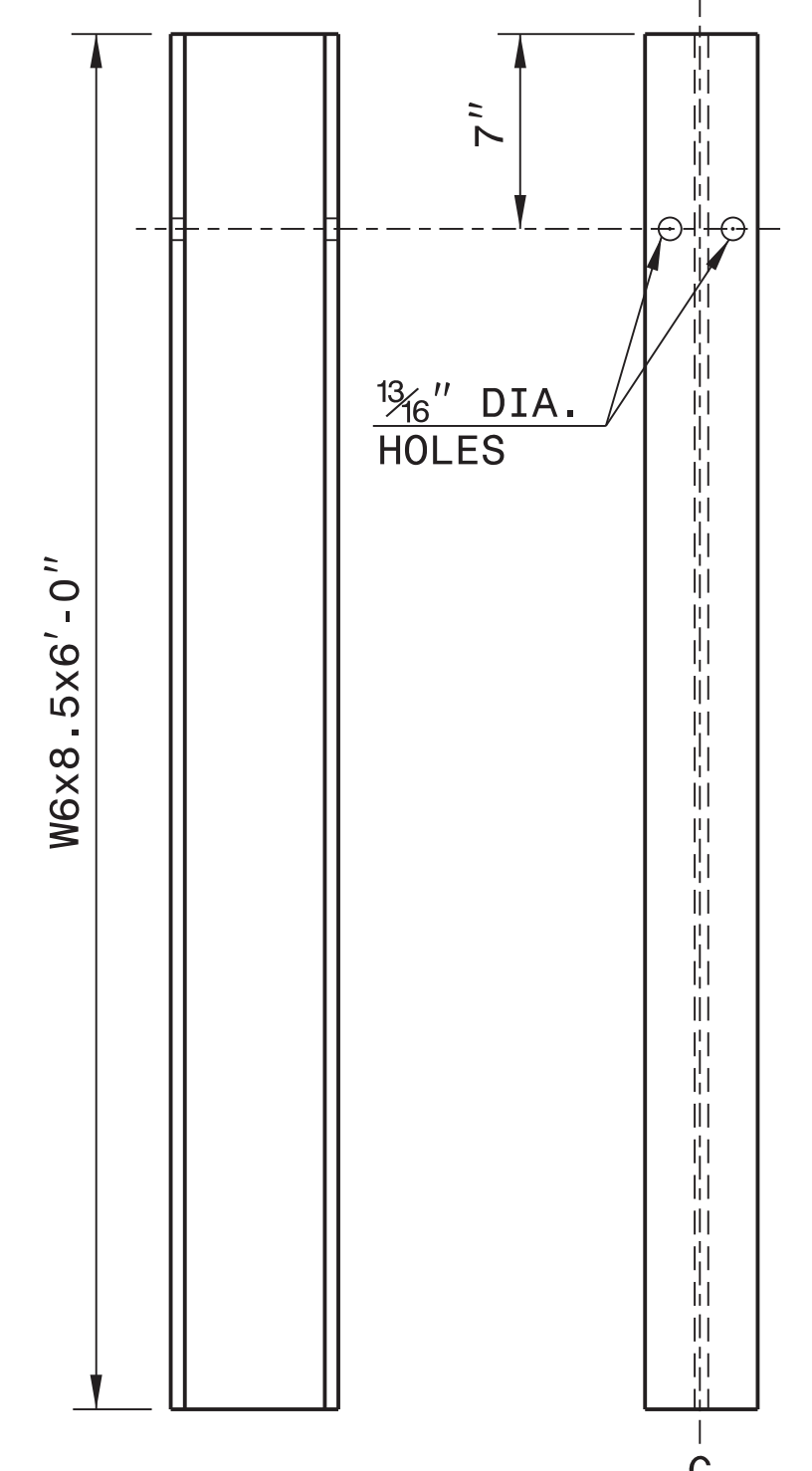
**STEEL TUBE
TS 6"x8"x0.1875"**



SIDE

FRONT

**ROUTED
OFFSET BLOCK**

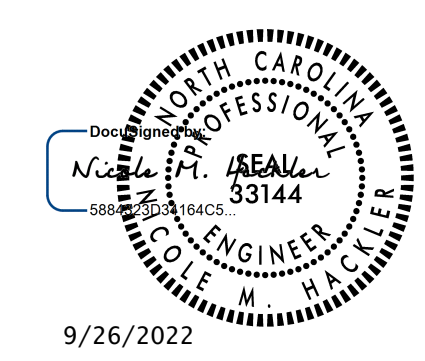


SIDE

FRONT

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

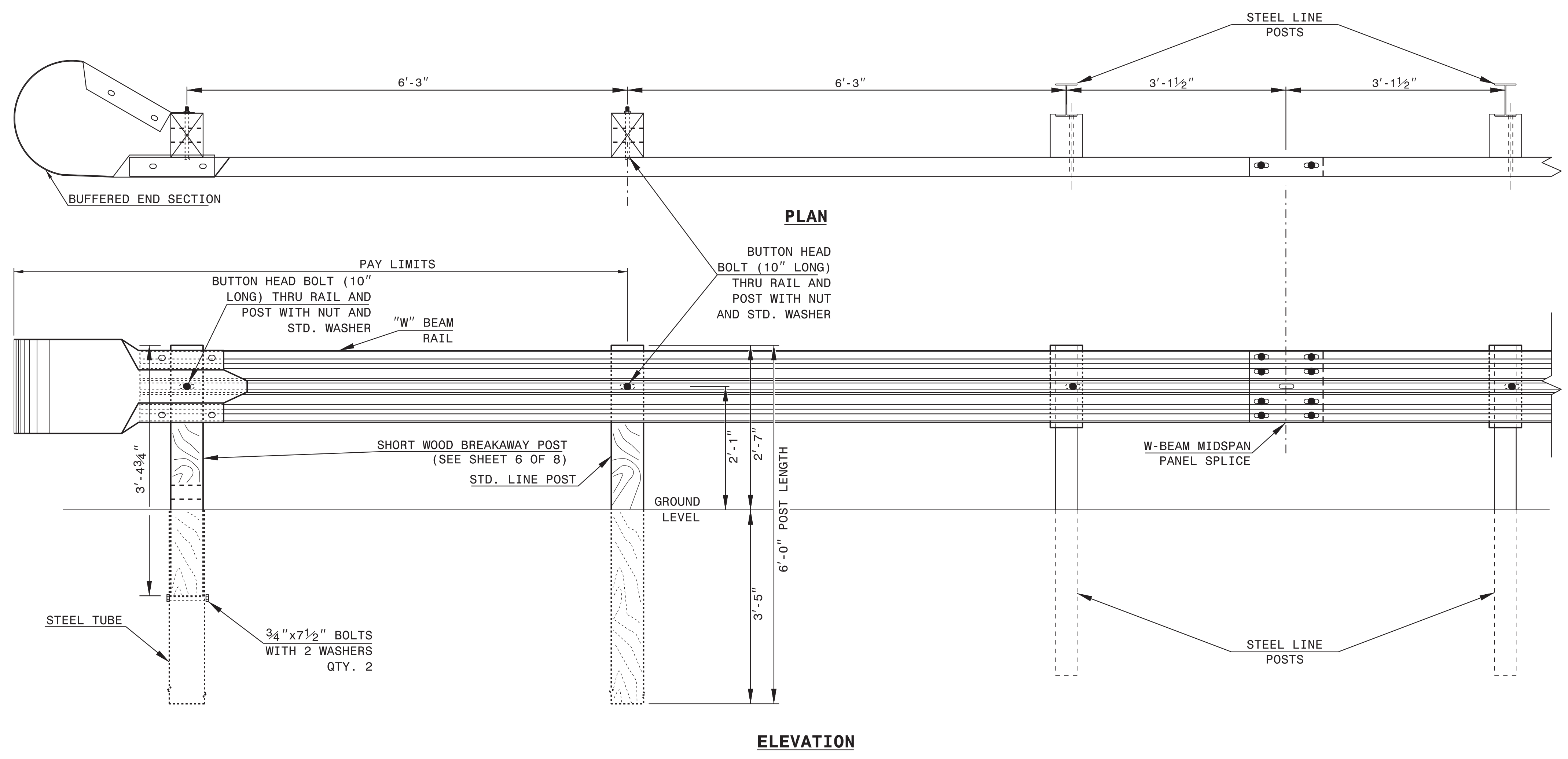
ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET OF

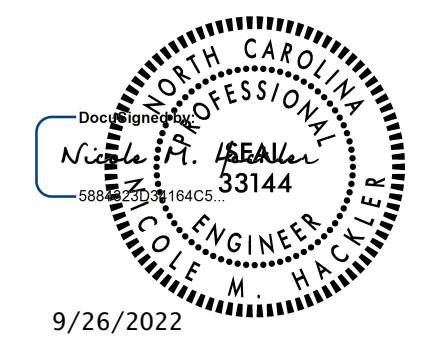
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET OF



TRAILING END UNIT ASSEMBLY
A.T. - 1 SYSTEM

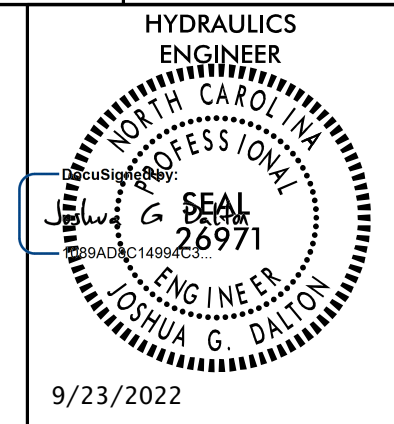


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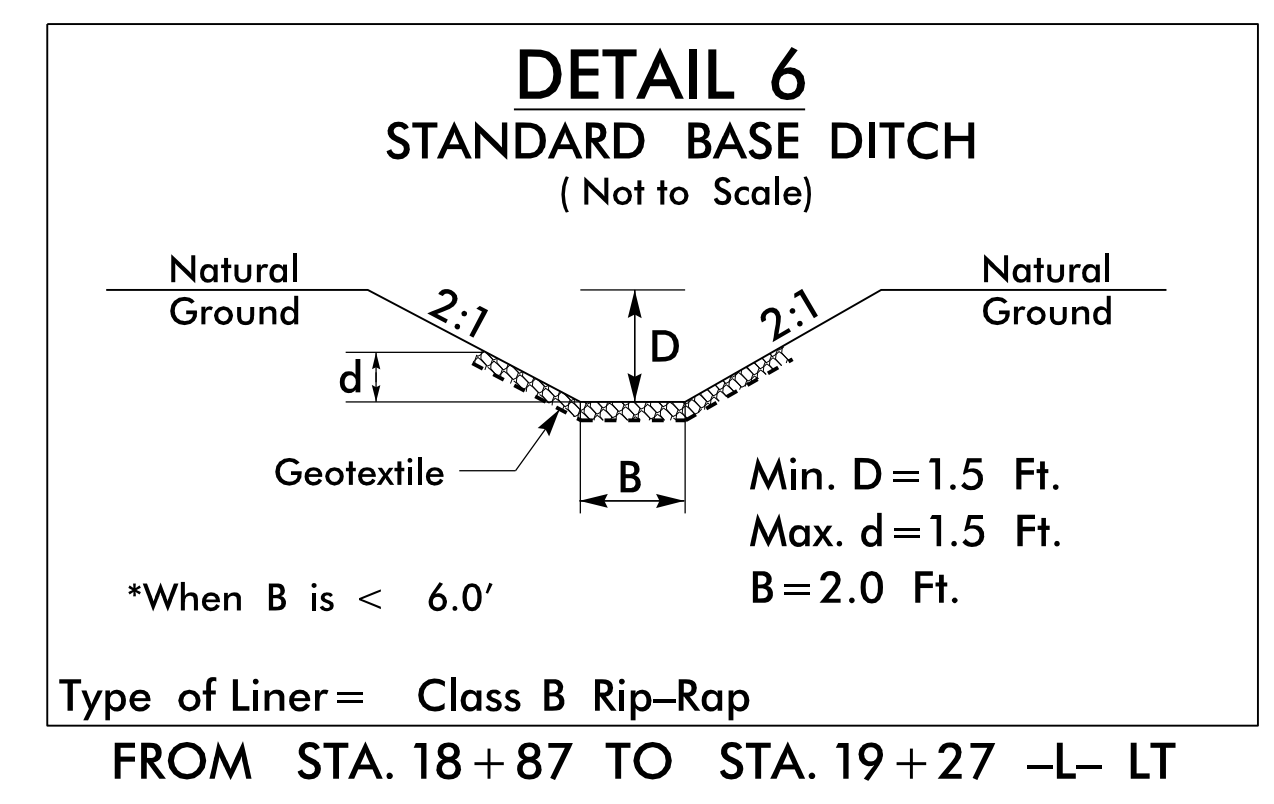
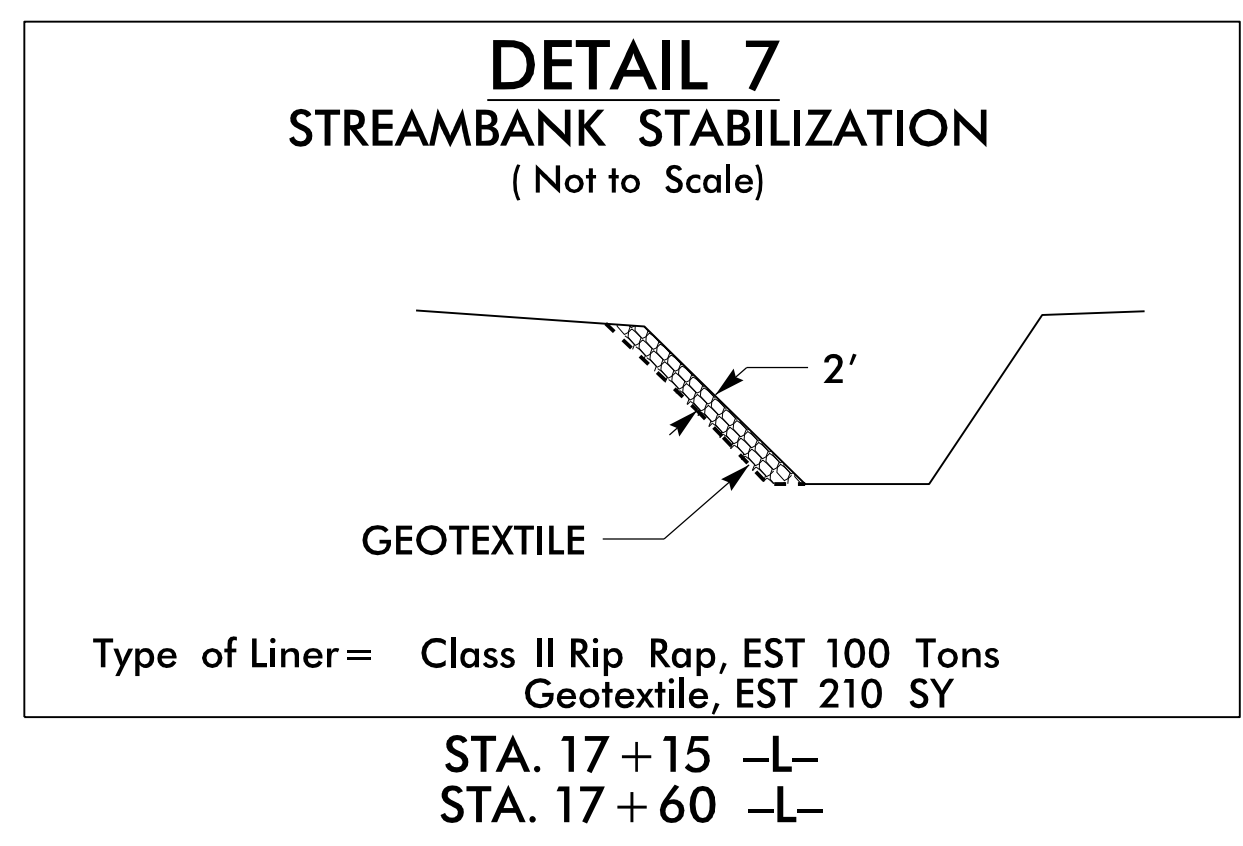
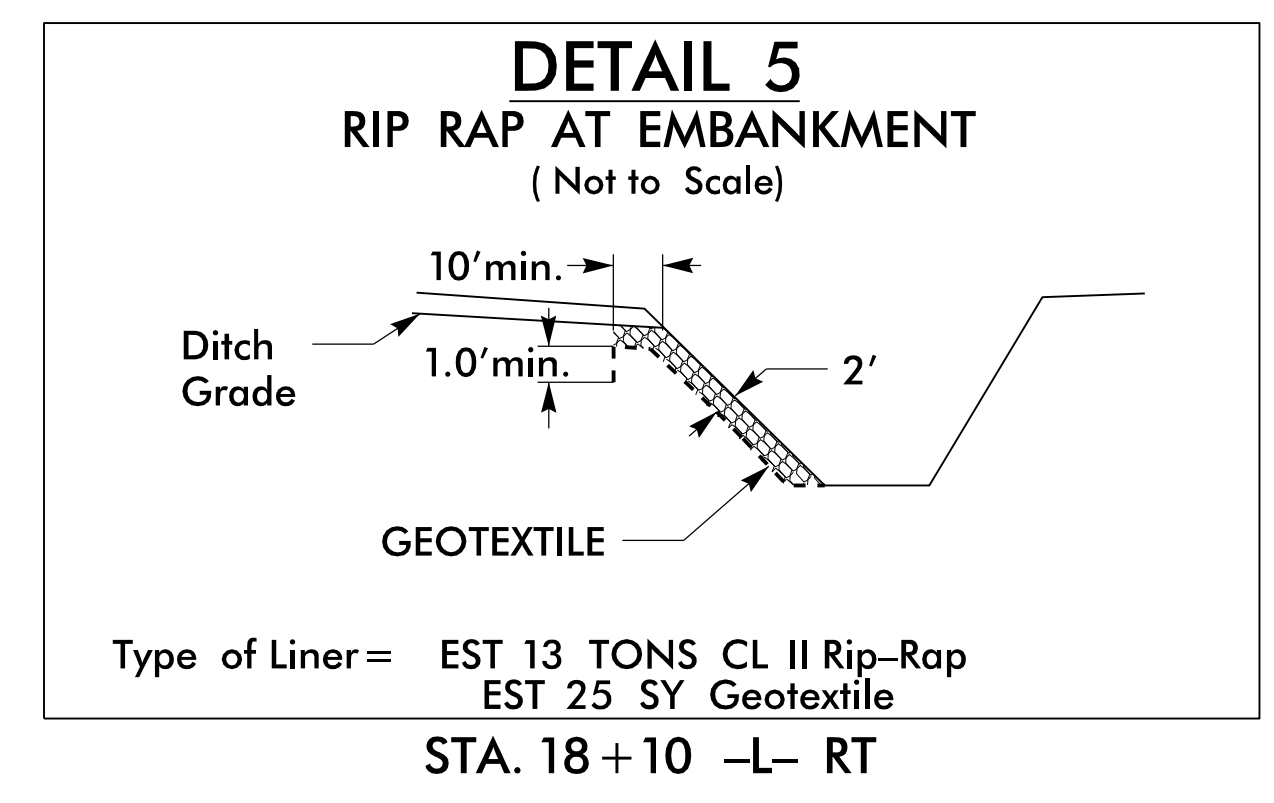
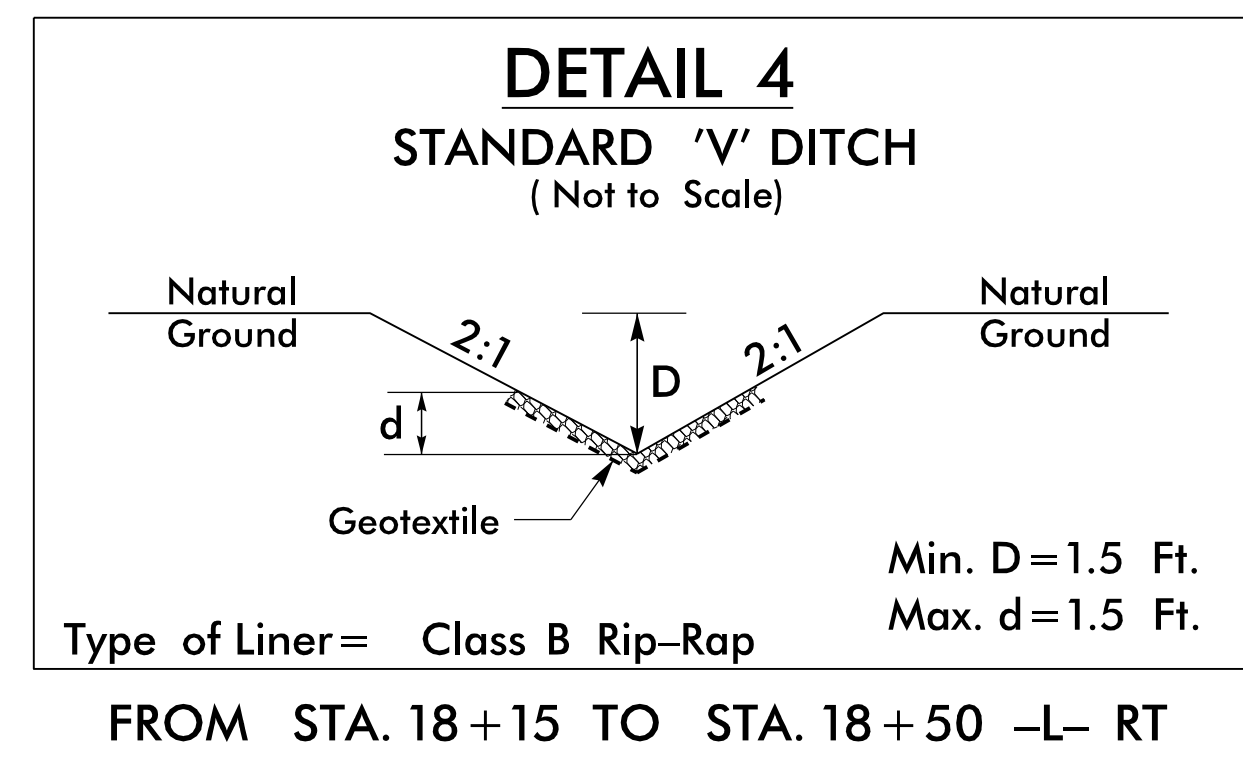
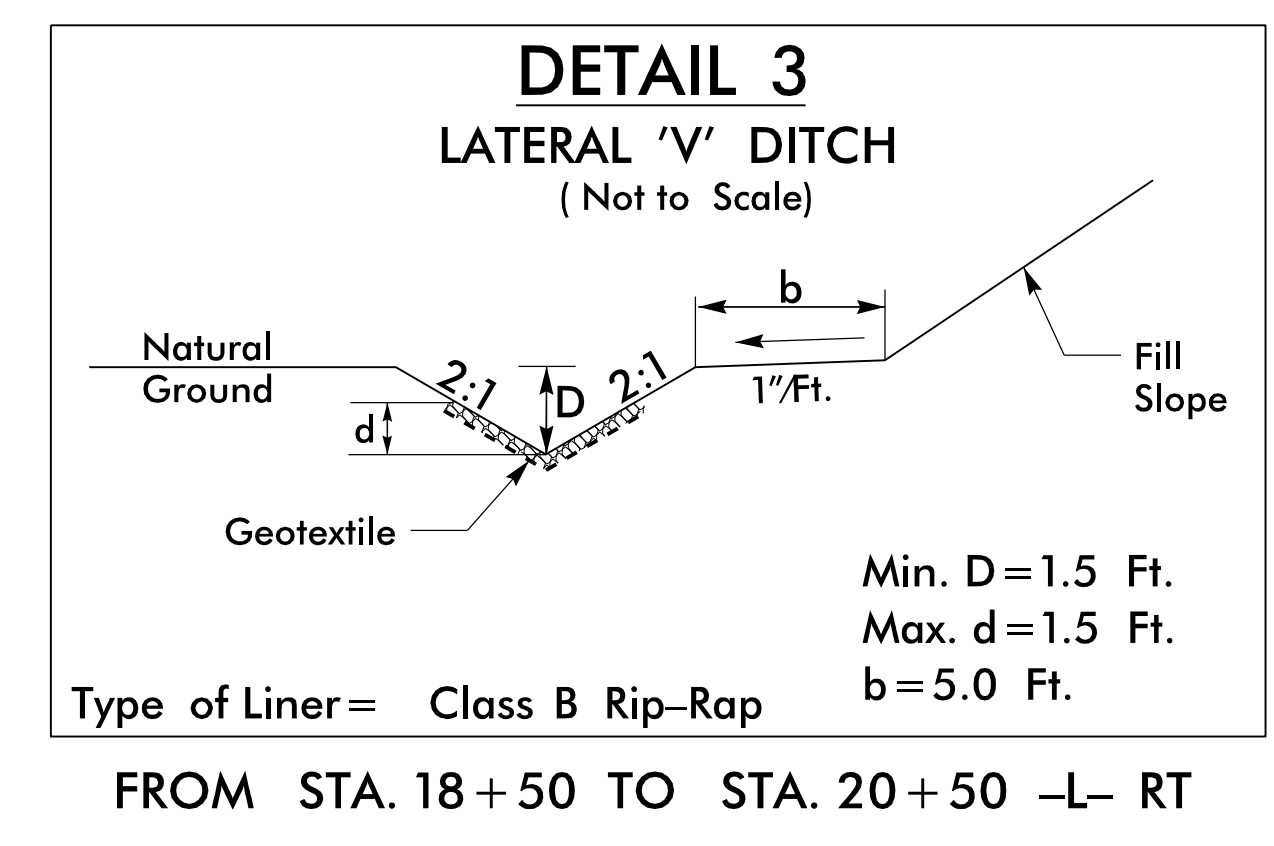
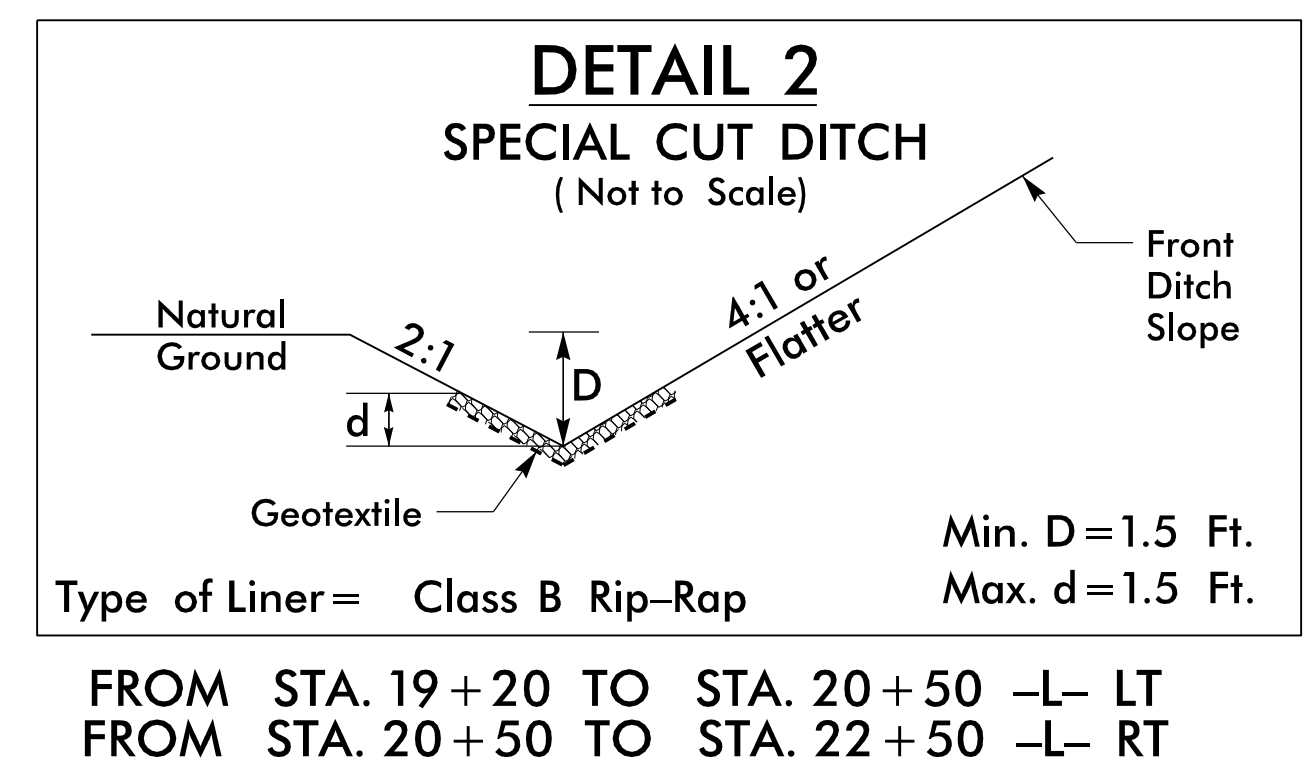
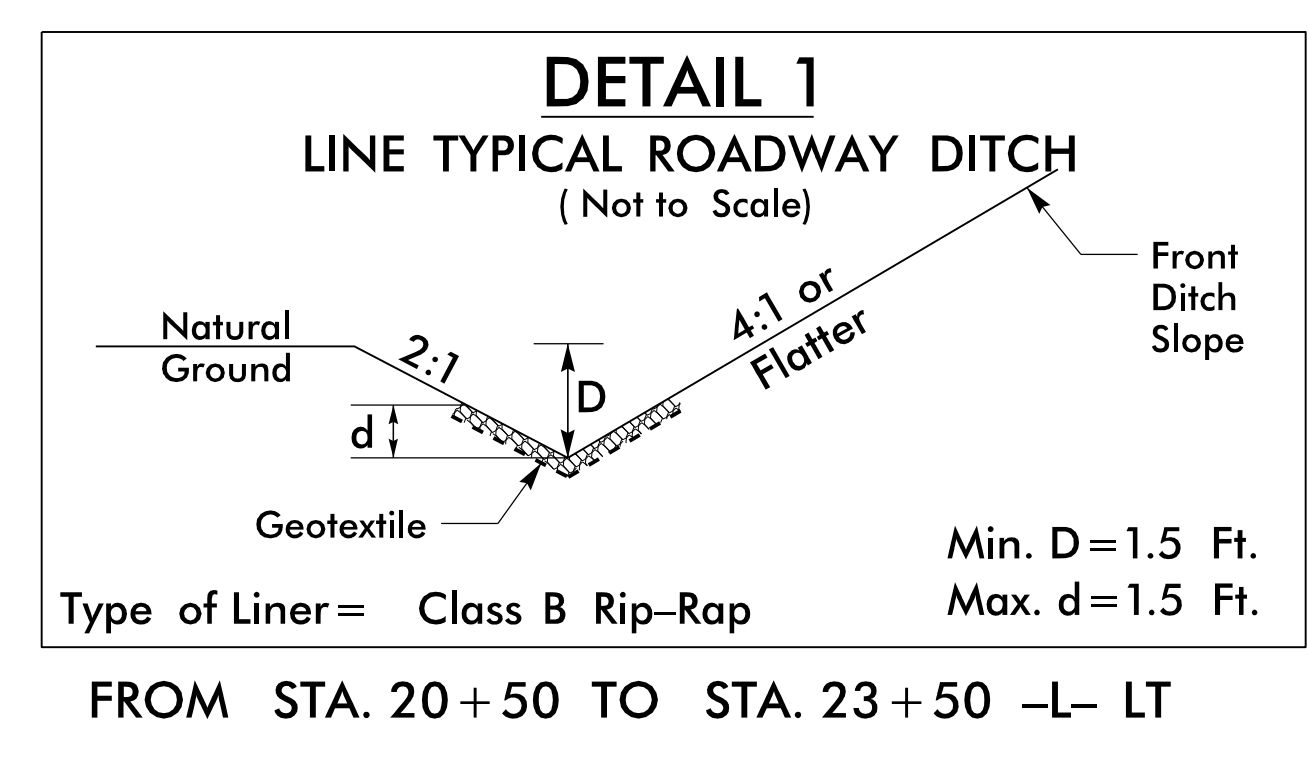
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

A.T. - 1 SYSTEM

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



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8/17/99

7/18/2019
D:\Roadway\Proj\B-4571\Rdy_psh_2D-1.dgn
cnszldg

8/17/2019

NOTE: THE EXISTING PAVEMENT IS TO BE REMOVED AND THE ROADBED SCARIFIED TO A MINIMUM DEPTH OF 2'-0" (610MM) BELOW ORIGINAL SURFACE IN THE AREA WHERE PILES ARE TO BE DRIVEN THROUGH THE PROPOSED EMBANKMENT, AS DIRECTED BY THE ENGINEER.

BEGIN TIP PROJECT B-4571
-L- POT STA. 12+75.00
MATCH EXISTING

JIMMY R. LAIL
DORIS L. LAIL
DB 1652 PG 502

ROBERT W. AVERY
LANA T. AVERY
DB 1797 PG 397

BEGIN CONSTRUCTION
-DRWI- POT STA. 10+00.00
MATCH EXISTING
AHD BRG = S 80° 31' 27.9" E
Δ = 2' 50' 47.7" (RT)
AHD BRG = S 83° 22' 15.6" E

SUNGATE DESIGN GROUP, P.A.
806 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27604
NC COA NO. C-2880



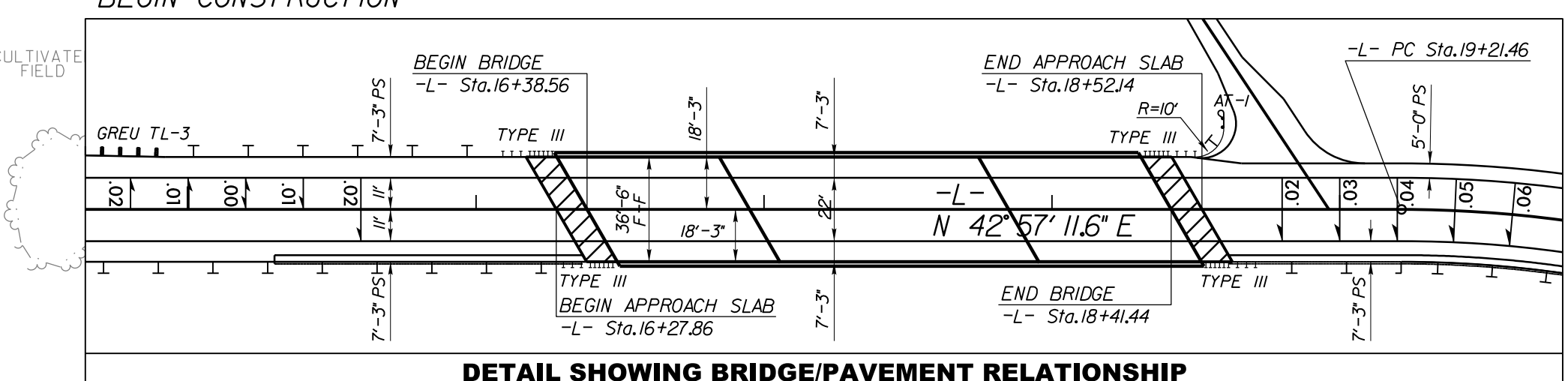
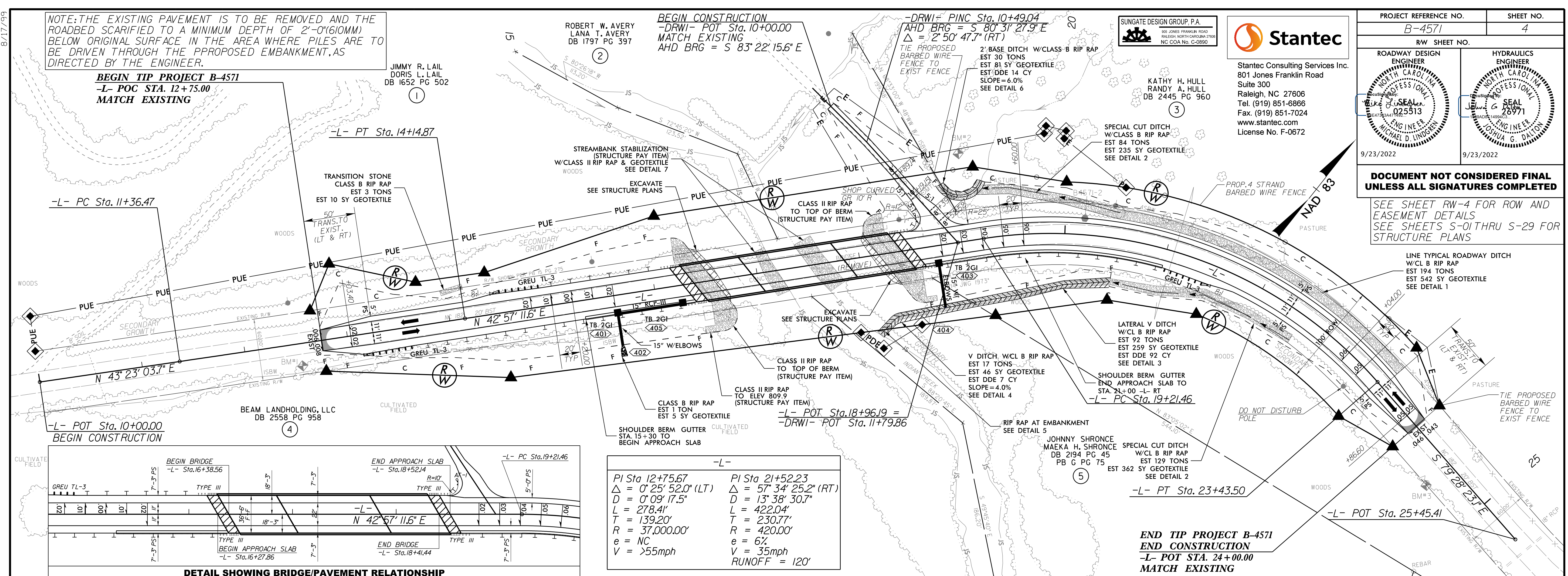
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO. B-4571	SHEET NO. 4
ROADWAY DESIGN ENGINEER JIMMY R. LAIL SEAL 025313	HYDRAULICS ENGINEER DORIS L. LAIL SEAL 26971
9/23/2022	9/23/2022

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UNLESS ALL SIGNATURES COMPLETED

SEE SHEET RW-4 FOR ROW AND EASEMENT DETAILS
SEE SHEETS S-01 THRU S-29 FOR STRUCTURE PLANS

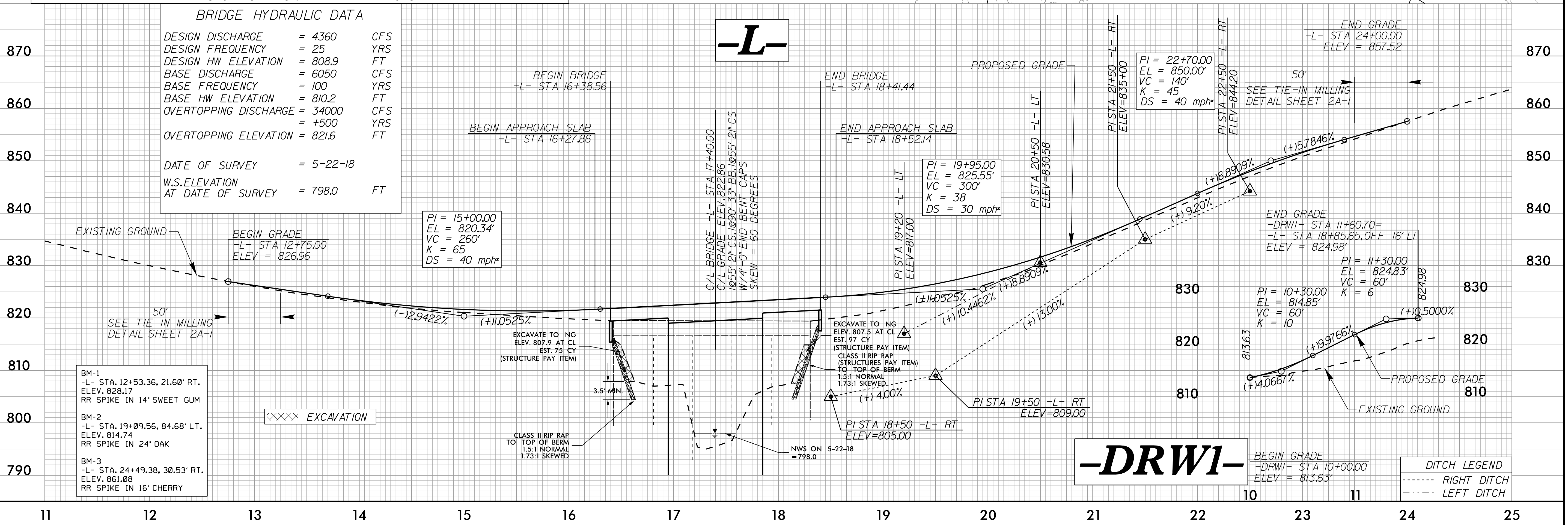
LINE TYPICAL ROADWAY DITCH
W/CL B RIP RAP
EST 194 TONS
EST 542 SY GEOTEXTILE
SEE DETAIL 1



PI STA 12+75.67 Δ = 0° 25' 52.0" (LT) D = 0' 09' 17.5" L = 278.41' T = 139.20' R = 37,000.00' e = NC V = >55mph	PI STA 21+52.23 Δ = 57° 34' 25.2" (RT) D = 13' 38' 30.7" L = 422.04' T = 230.77' R = 420.00' e = 6% V = 35mph RUNOFF = 120'
--	---

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 4360	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 808.9	FT
BASE DISCHARGE	= 6050	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 810.2	FT
OVERTOPPING DISCHARGE	= 34000	CFS
OVERTOPPING ELEVATION	= +500	YRS
OVERTOPPING ELEVATION	= 821.6	FT
DATE OF SURVEY	= 5-22-18	
W.S. ELEVATION AT DATE OF SURVEY	= 798.0	FT



BM-1 -L- STA. 12+53.36, 21.60' RT. ELEV. 828.17 RR SPIKE IN 14' SWEET GUM
BM-2 -L- STA. 19+09.56, 84.68' LT. ELEV. 814.74 RR SPIKE IN 24' OAK
BM-3 -L- STA. 24+49.38, 30.53' RT. ELEV. 861.08 RR SPIKE IN 16' CHERRY

-DRWI-

DITCH LEGEND

---	RIGHT DITCH
---	LEFT DITCH

U:\Roadway\Proj\B-4571\Rdy_esh_04.dgn