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12/05/11

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
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	--- NLB ---
Proposed Wetland Boundary	--- NLB ---
Existing Endangered Animal Boundary	--- EAB ---
Existing Endangered Plant Boundary	--- EPB ---
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ? ☠ ?

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	← FLOW
False Sump	▽

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○ R/W ▲
Proposed Right of Way Line with Concrete or Granite R/W Marker	○ R/W ▲
Proposed Control of Access Line with Concrete CA Marker	○ C/A
Existing Control of Access	○ C/A
Proposed Control of Access	○ C/A
Existing Easement Line	--- E ---
Proposed Temporary Construction Easement	--- E ---
Proposed Temporary Drainage Easement	--- TDE ---
Proposed Permanent Drainage Easement	--- PDE ---
Proposed Permanent Drainage / Utility Easement	--- DUE ---
Proposed Permanent Utility Easement	--- PUE ---
Proposed Temporary Utility Easement	--- TUE ---
Proposed Aerial Utility Easement	--- AUE ---
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

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	○ S
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	⊗
H-Frame Pole	● ●
Recorded U/G Power Line	----- P -----
Designated U/G Power Line (S.U.E.*)	----- P -----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	□
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	□
Recorded U/G Telephone Cable	----- T -----
Designated U/G Telephone Cable (S.U.E.*)	----- T -----
Recorded U/G Telephone Conduit	----- TC -----
Designated U/G Telephone Conduit (S.U.E.*)	----- TC -----
Recorded U/G Fiber Optics Cable	----- T FO -----
Designated U/G Fiber Optics Cable (S.U.E.*)	----- T FO -----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	----- W -----
Designated U/G Water Line (S.U.E.*)	----- W -----
Above Ground Water Line	----- A/G Water -----

TV:

TV Satellite Dish	☼
TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
Recorded U/G TV Cable	----- TV -----
Designated U/G TV Cable (S.U.E.*)	----- TV -----
Recorded U/G Fiber Optic Cable	----- TV FO -----
Designated U/G Fiber Optic Cable (S.U.E.*)	----- TV FO -----

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	----- G -----
Designated U/G Gas Line (S.U.E.*)	----- G -----
Above Ground Gas Line	----- A/G Gas -----

SANITARY SEWER:

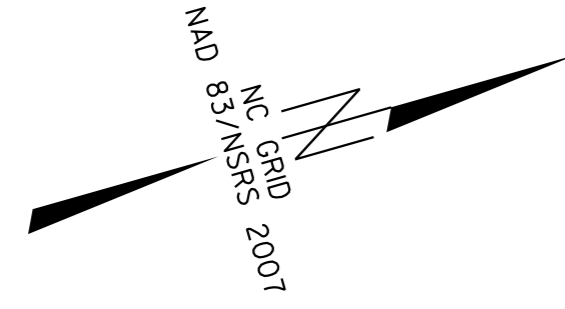
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS -----
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer -----
Recorded SS Forced Main Line	----- FSS -----
Designated SS Forced Main Line (S.U.E.*)	----- FSS -----

MISCELLANEOUS:

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

SURVEY CONTROL SHEET B-5331

6/2/99



BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B5331-1	198791.2759	2235467.7676	49.43	OUTSIDE PROJECT LIMITS	
2	B5331-2	199869.0514	2236168.7371	48.28	OUTSIDE PROJECT LIMITS	
5	B5331-5	200696.1798	2236655.4652	36.74	10+04.46	19.94 RT
6	B5331-6	201140.5621	2236751.6105	35.38	14+57.28	17.45 LT
7	B5331-7	201691.4441	2236952.5949	37.37	20+42.65	16.82 RT
3	B5331-3	202630.8200	2237218.5186	47.38	OUTSIDE PROJECT LIMITS	
4	B5331-4	203594.7633	2237122.8463	53.41	OUTSIDE PROJECT LIMITS	

.....
 BM1 ELEVATION = 36.94
 N 201364 E 2237121
 L STATION 17+78.00 273 RIGHT
 NAIL IN BASE OF 17" MAPLE TREE

FINAL ROW MARKER IRON PIN AND CAP-E

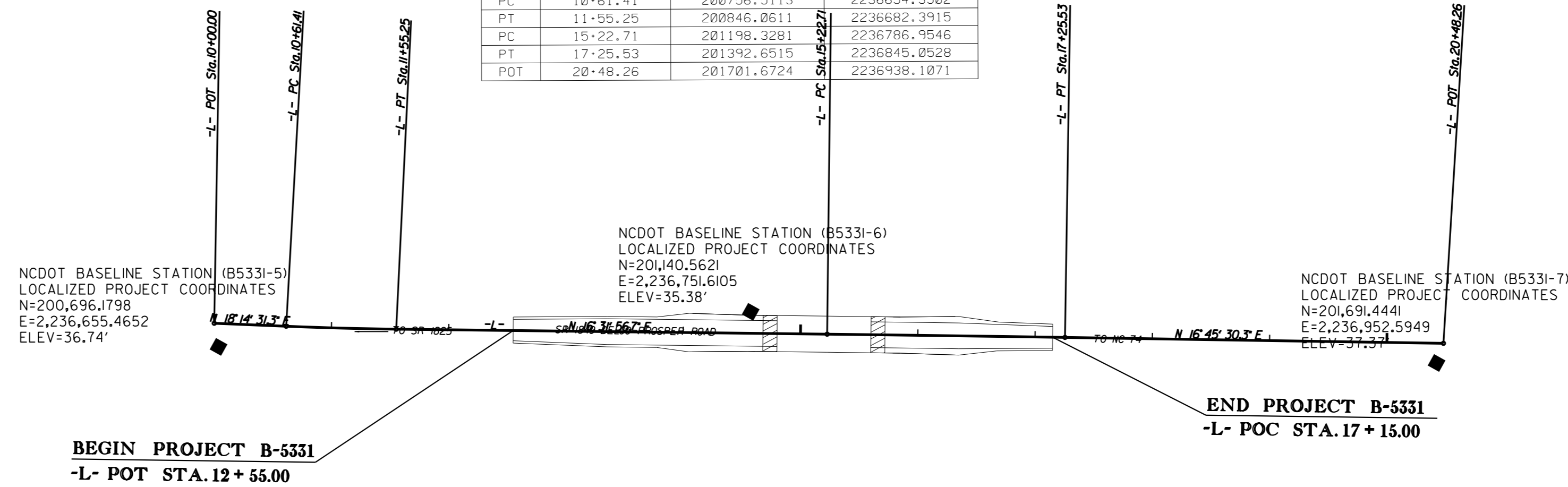
ALIGN	STATION	OFFSET	NORTH	EAST
L	12+25.00	-50.00	200927.1515	2236654.3853
L	12+25.00	-30.00	200921.4603	2236673.4784
L	12+25.00	50.00	200898.6957	2236750.1711
L	12+25.00	30.00	200904.3868	2236730.9980
L	17+25.53	-50.00	201407.0683	2236797.1763
L	17+32.00	50.00	201384.4296	2236894.7947
L	17+75.00	-50.00	201454.4326	2236811.4389
L	17+75.00	-30.00	201448.6658	2236830.5895
L	17+25.53	50.00	201378.2346	2236892.9292

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+37.00	-63.00	200942.3546	2236645.2574
L	12+58.00	-57.00	200960.7791	2236656.9851
L	12+35.00	-50.00	200936.7395	2236657.1513
L	12+56.00	-50.00	200956.8745	2236663.1279
L	13+46.00	50.00	201014.6926	2236784.6824
L	13+66.00	63.00	201030.1673	2236802.7564
L	13+63.00	80.00	201022.4538	2236818.1999
L	13+83.00	85.00	201040.2042	2236828.6844
L	13+87.00	69.00	201048.5918	2236814.4841
L	16+89.00	69.00	201337.8162	2236900.6144
L	16+93.00	85.00	201337.0382	2236917.0870
L	17+13.00	80.00	201357.6002	2236918.0479
L	17+10.00	63.00	201359.6286	2236900.9855
L	18+51.00	-30.00	201521.4391	2236852.5834
L	18+72.00	-30.00	201541.5507	2236858.5596
L	18+64.00	-63.00	201543.4010	2236824.6530
L	18+43.00	-58.00	201521.8512	2236823.3856

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	200698.1846	2236635.1259
PC	10+61.41	200756.5113	2236654.3502
PT	11+55.25	200846.0611	2236682.3915
PC	15+22.71	201198.3281	2236786.9546
PT	17+25.53	201392.6515	2236845.0528
POT	20+48.26	201701.6724	2236938.1071



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5331-1" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 198791.2759(ft) EASTING: 2235467.7676(ft) ELEVATION: 49.43(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999872400

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5331-1" TO -L- STATION 12+55.00 IS
 N 30° 01' 45.65" E 2483.8115'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION](https://connect.ncdot.gov/resources/location)

THE FILES TO BE FOUND ARE AS FOLLOWS:
 TIP###_LS_CONTROL_DATE.HTML

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

© INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

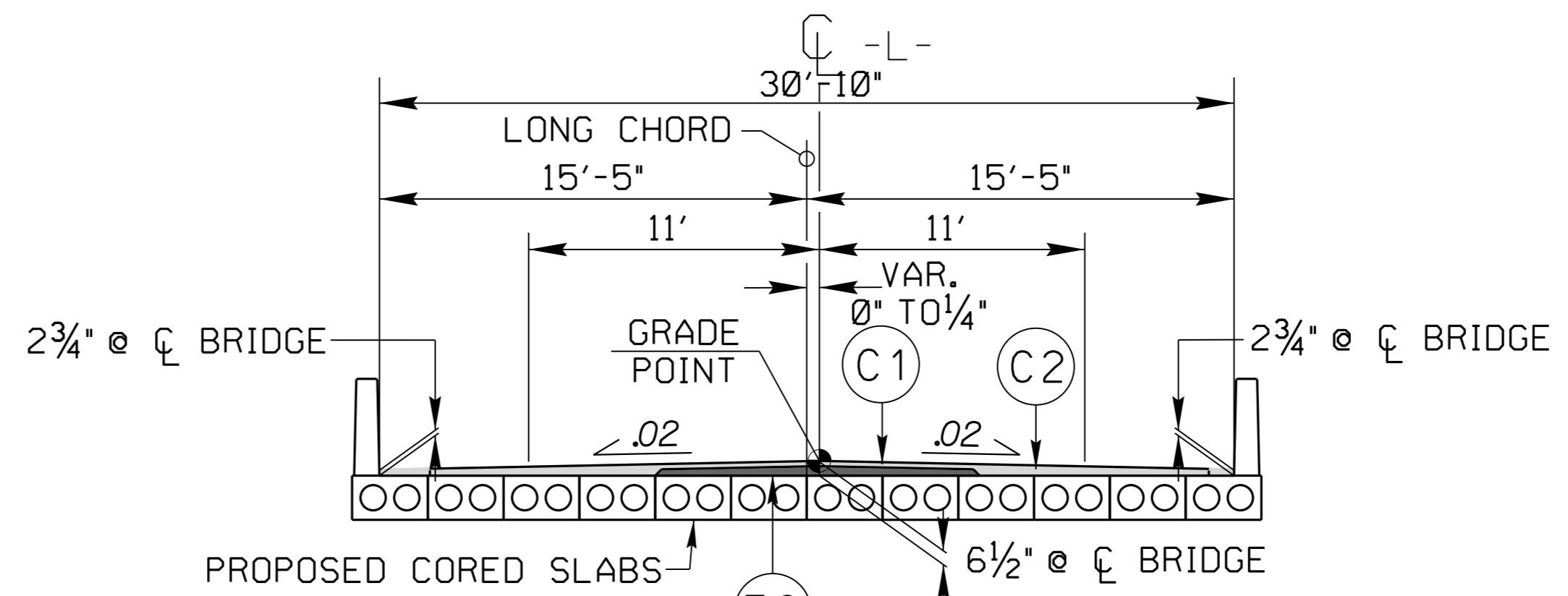
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6/2/09

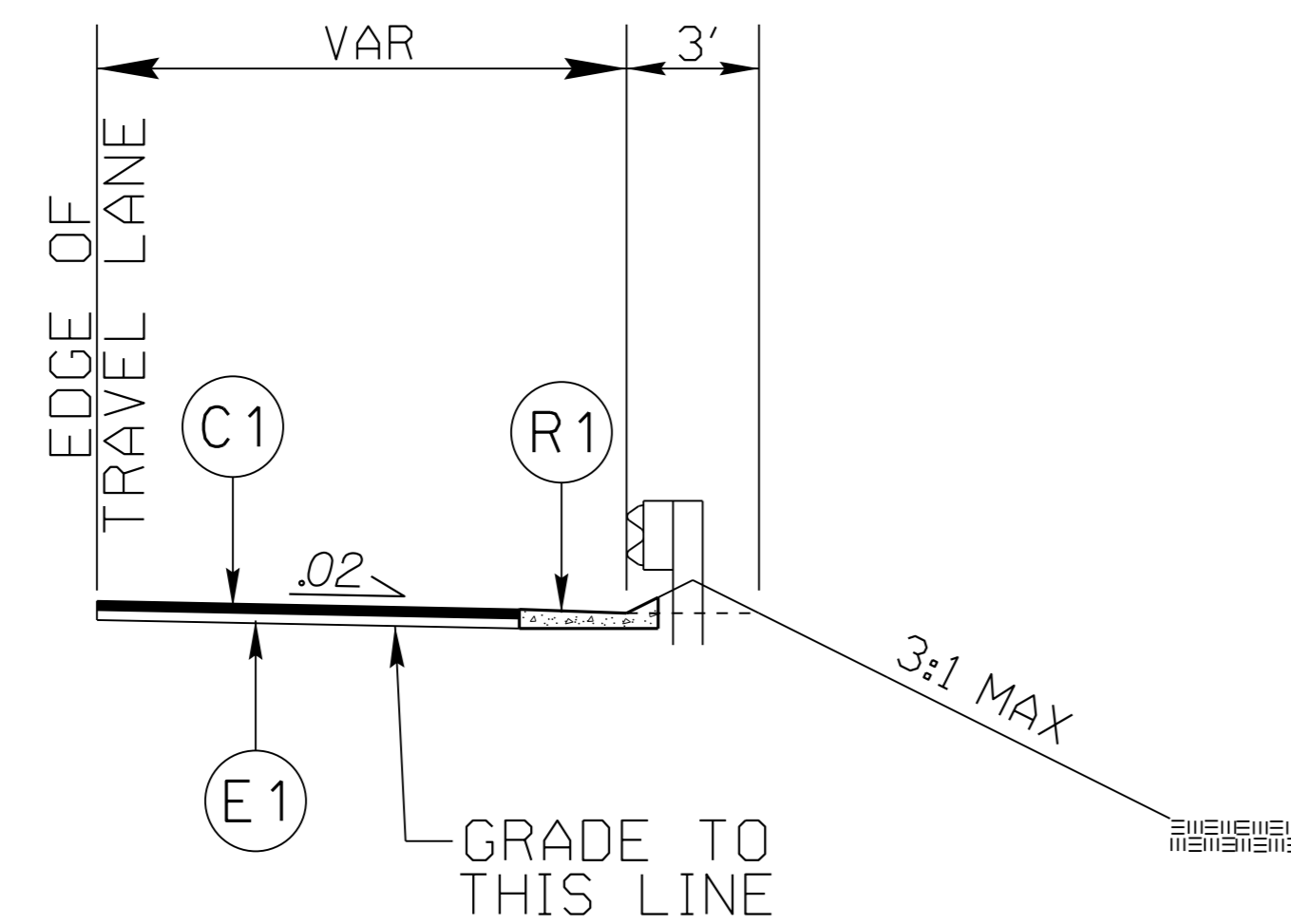
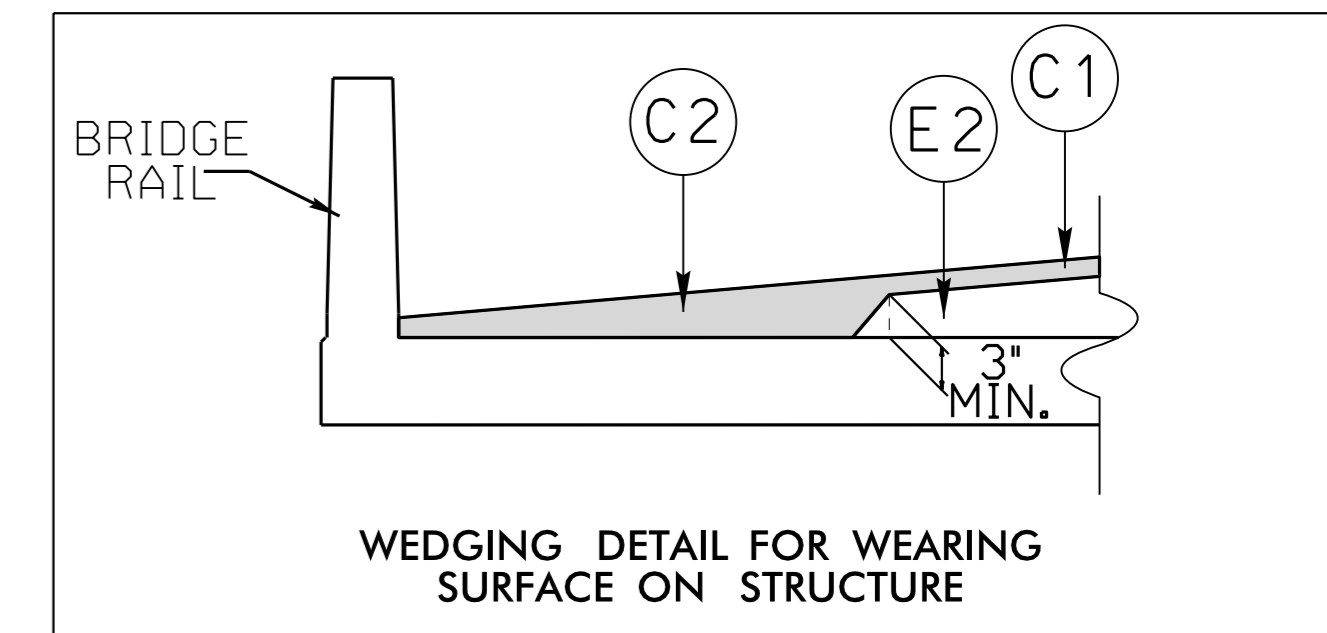
PAVEMENT SCHEDULE	
(FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT GREATER THAN 5½" IN DEPTH OR LESS THAN 3" IN DEPTH.
R1	CONCRETE SHOULDER BERM GUTTER
T	EARTH MATERIAL

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

PROJECT REFERENCE NO. B-5331	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 016378 ANGELA V. PATEL	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 022896 CLARK S. MORRISON
DocuSigned by: Angela V. Patel	DocuSigned by: Clark Morrison



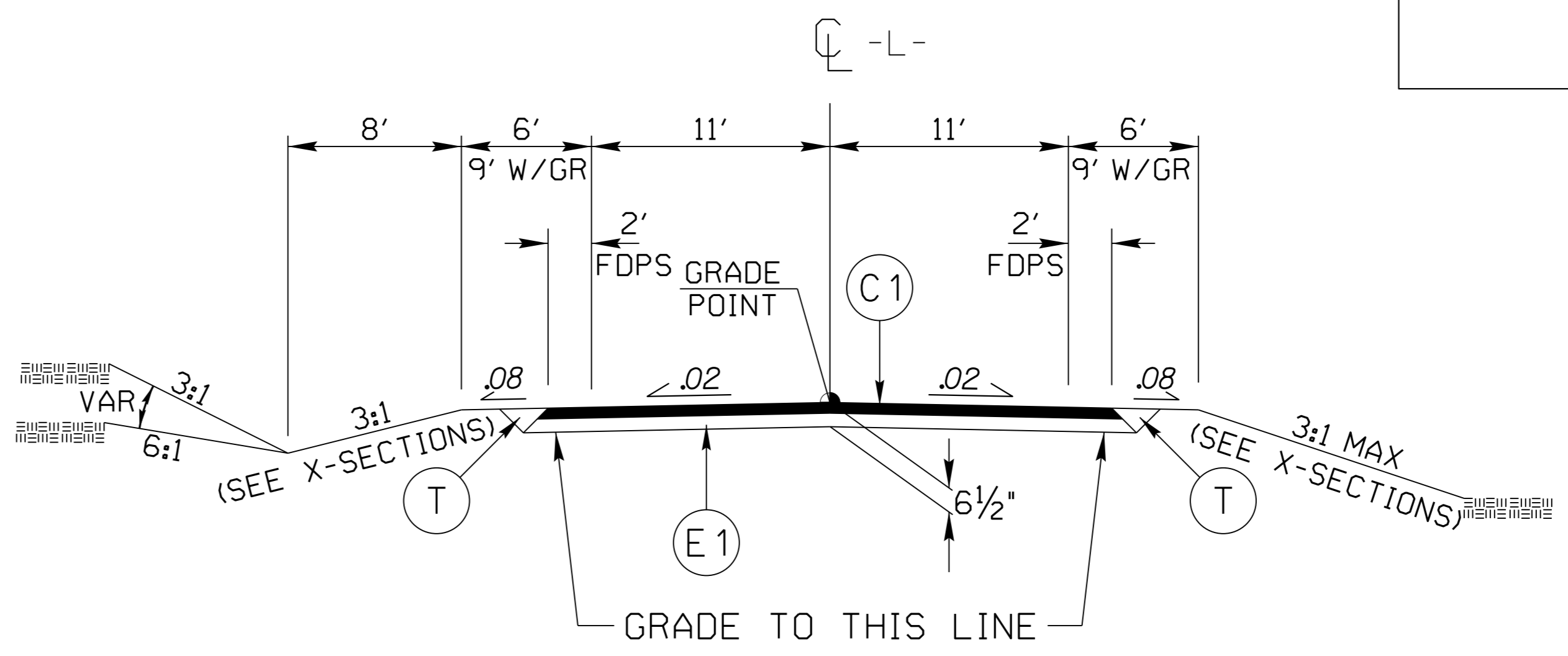
TYPICAL SECTION ON STRUCTURE
(SEE STRUCTURE PLANS)
-L- STA. 14+73.75 TO -L- STA. 15+66.25



INSET NO. 1

INSET NO. 1

Use with Typical Section No. 1
 -L- STA. 14+44.00 TO -L- STA. 14+62.75 (RT.)
 -L- STA. 14+44.00 TO -L- STA. 14+62.75 (LT.) REVERSE
 -L- STA. 15+77.25 TO -L- STA. 15+96.00 (RT.)
 -L- STA. 15+77.25 TO -L- STA. 15+96.00 (LT.) REVERSE



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-L- STA. 13+35.00 TO -L- STA. 14+73.75 (BEGIN BRIDGE)
 -L- STA. 15+66.25 (END BRIDGE) TO -L- STA. 16+35.00

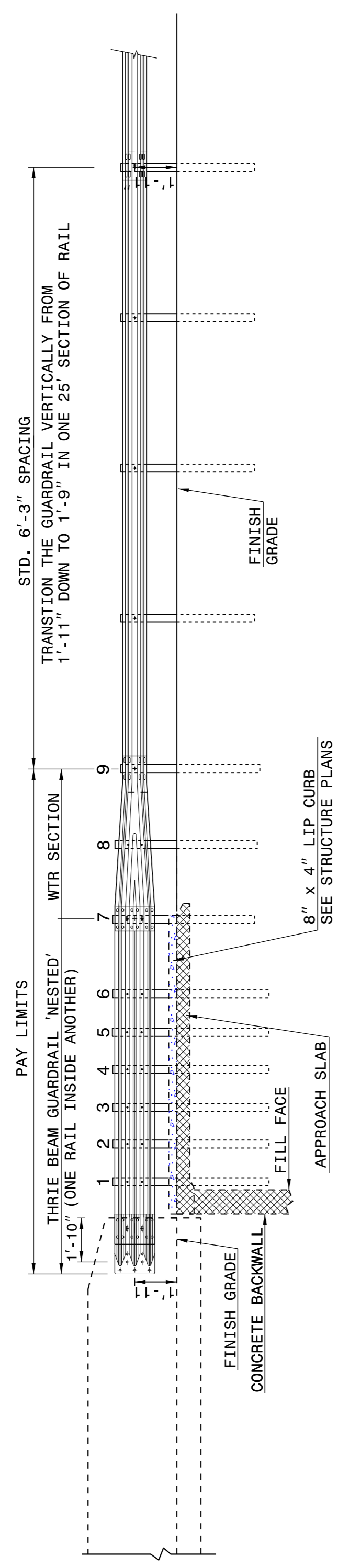
NOTES:
 (1) TRANSITION FROM EXISTING TO T.S.NO.1
 -L- STA. 12+55.00 TO -L- STA. 13+35.00
 (2) TRANSITION FROM T.S.NO.1 TO EXISTING
 -L- STA. 16+35.00 TO -L- STA. 17+15.00

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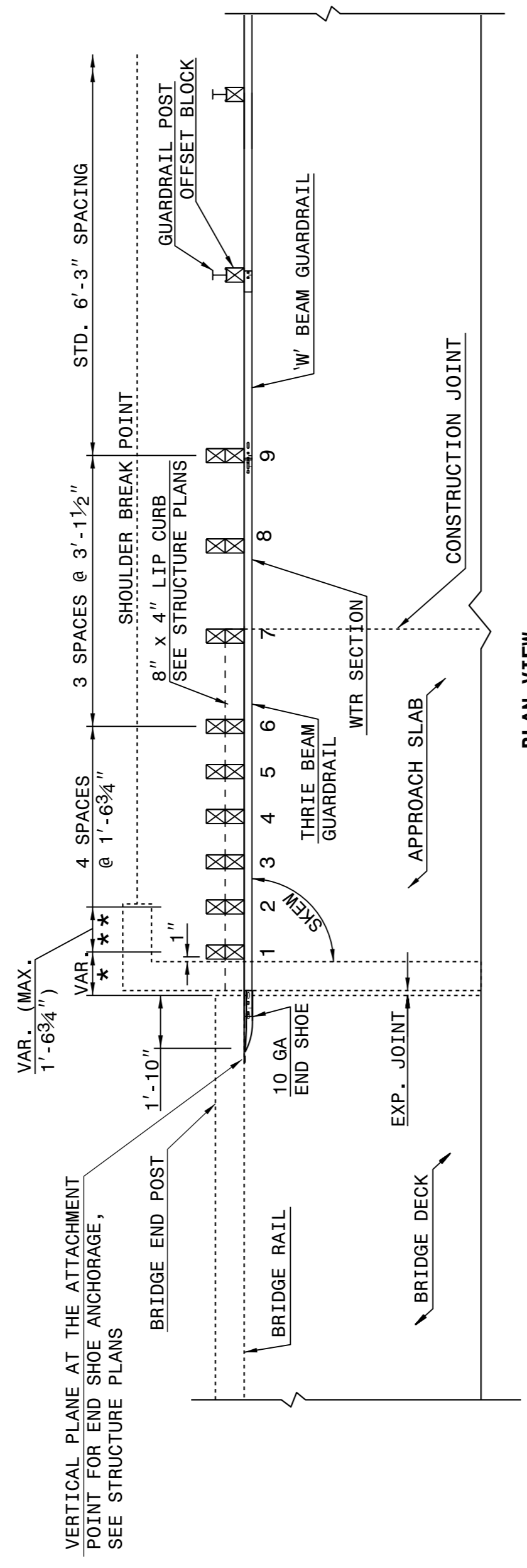
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH 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



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 11½". 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 5 FOR POST SECTIONS 1 THRU 9.



**GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER**

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

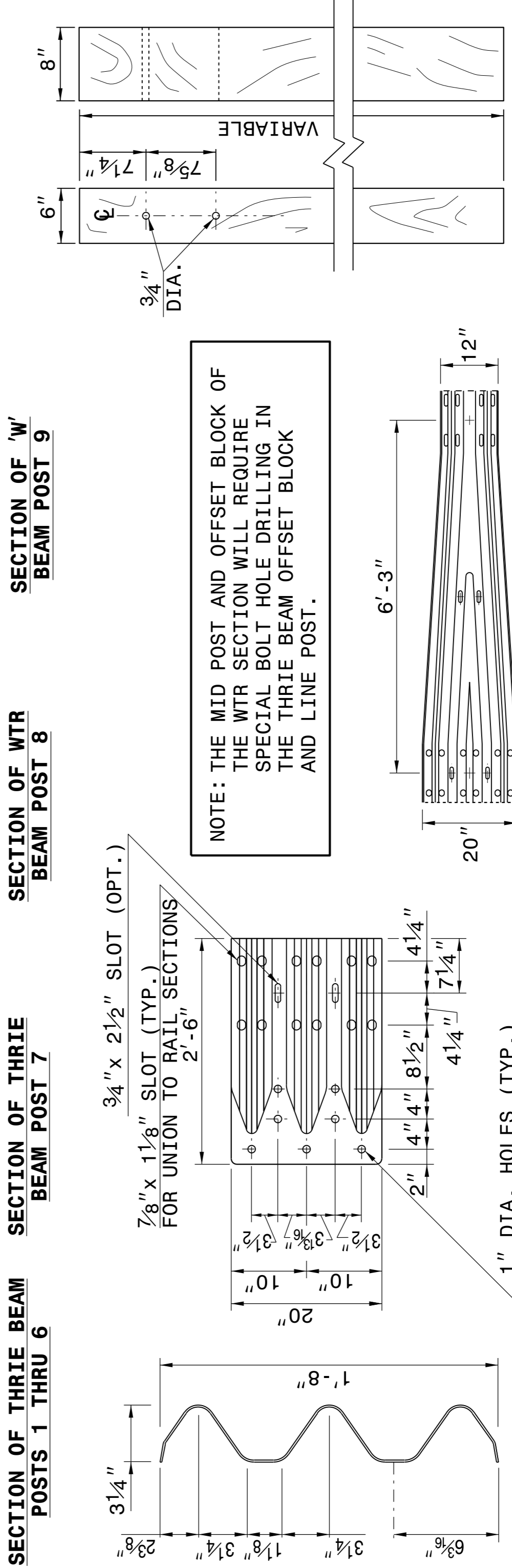
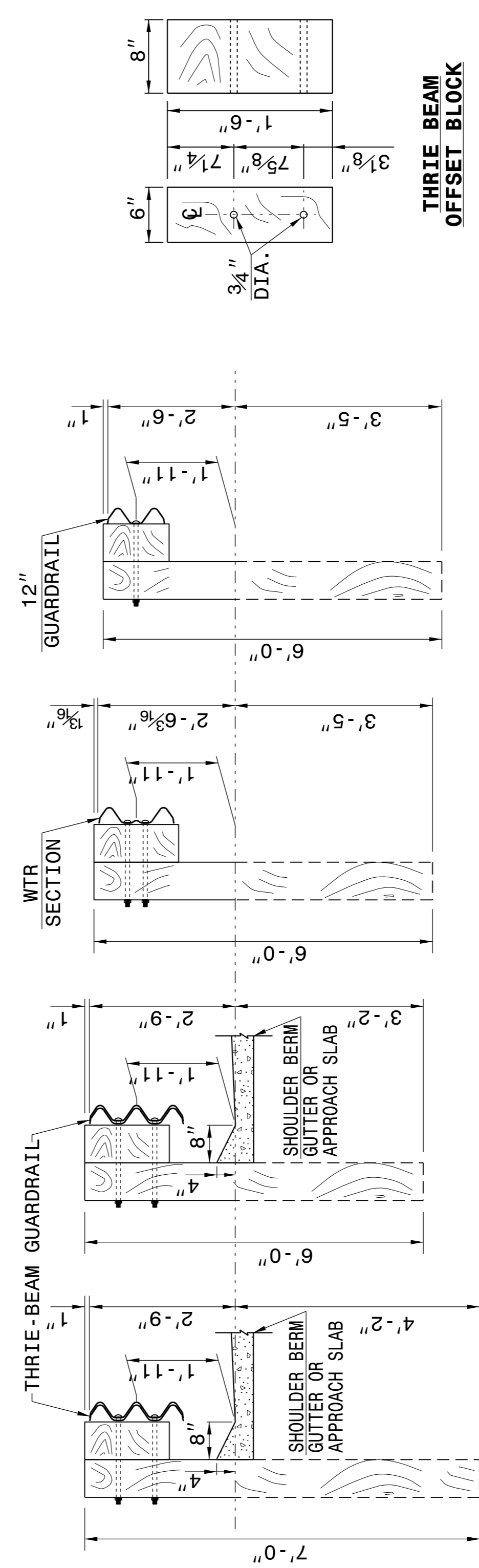
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03

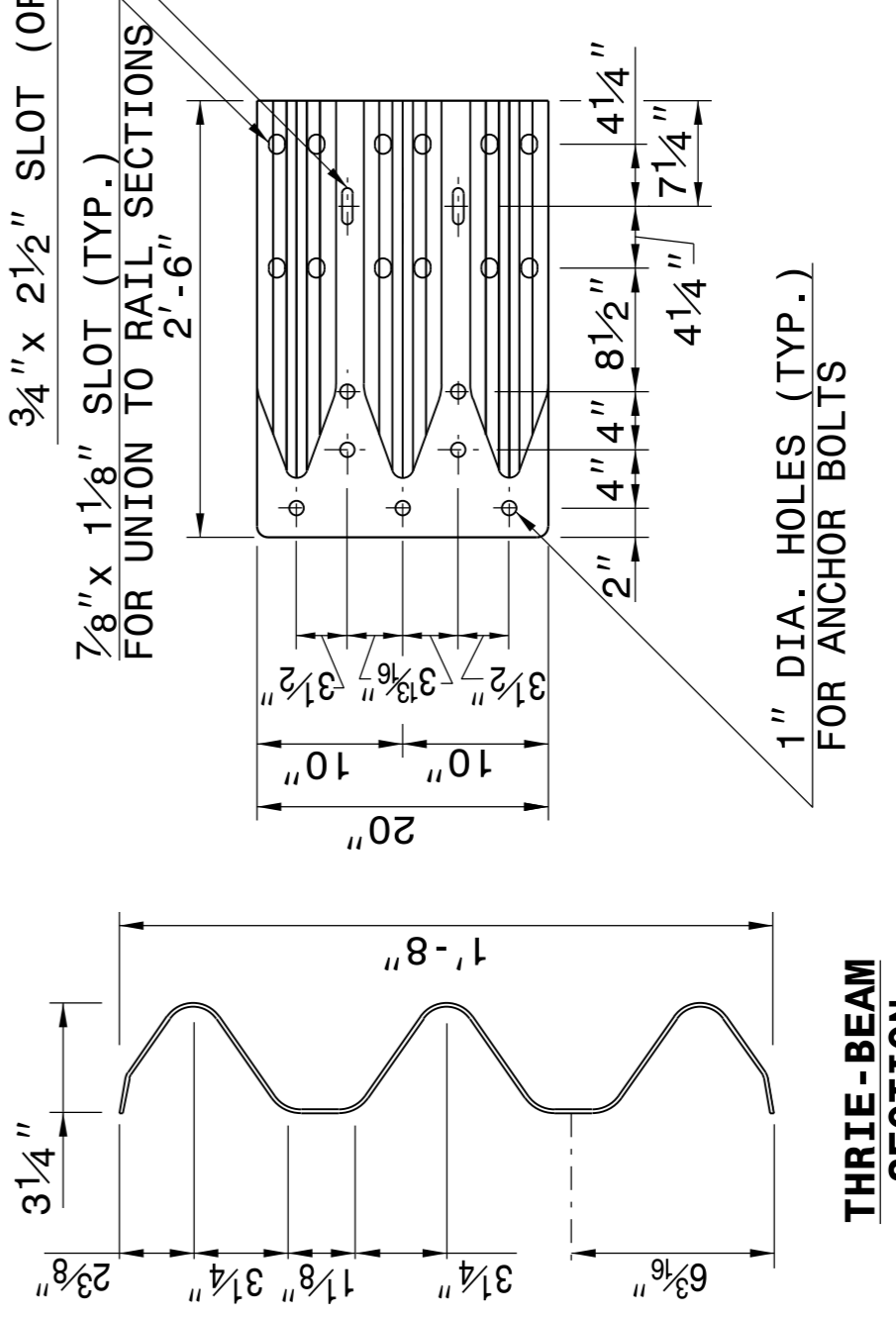
STATE OF
NORTH CAROLINA
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7
862d03



NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRILE BEAM OFFSET BLOCK AND LINE POST.



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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7
862d03

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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.:

COMPUTED BY: TTZ DATE: 8-4-2015
 CHECKED BY: JRB DATE: 8-4-2015

(4-21-15)

PROJECT NO.
B-5331

SHEET NO.
3G-1

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	500
				TOTAL LF:	500

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

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU	12	500	950	500		
					TOTAL CY/TONS/SY:	500	950	500*	0

ASU = Aggregate Subgrade, AST = Aggregate Stabilization

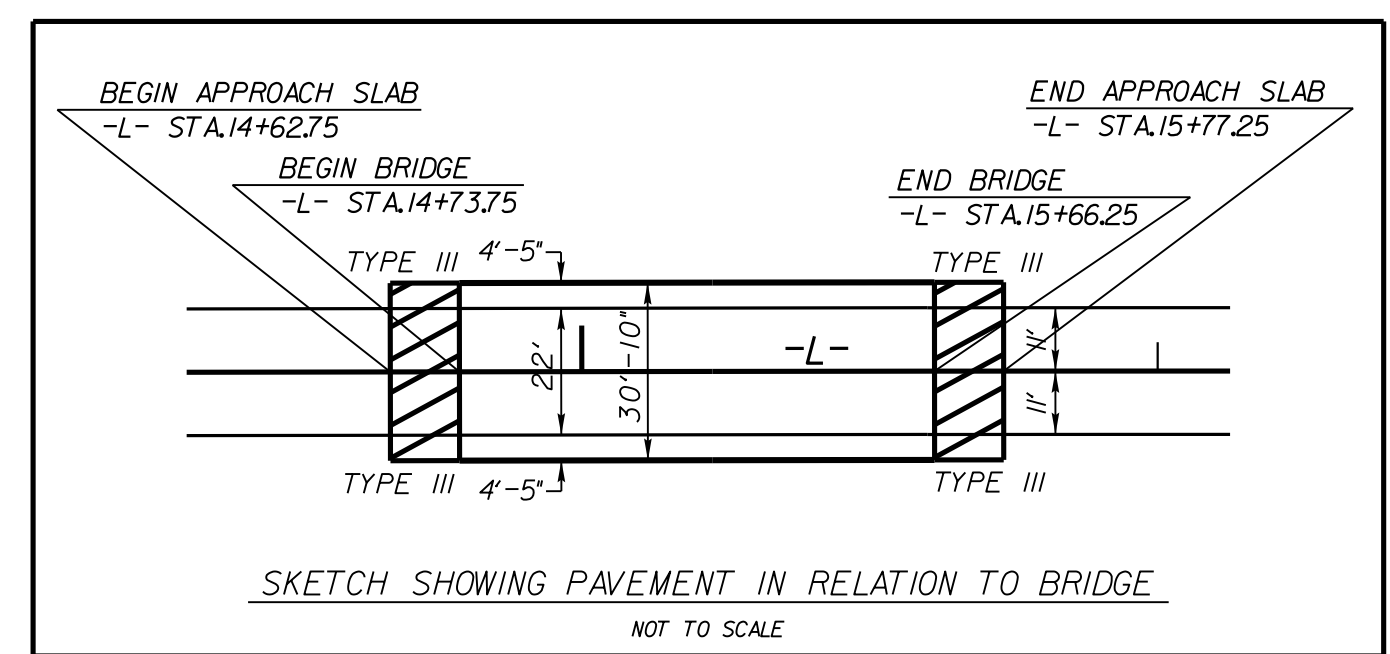
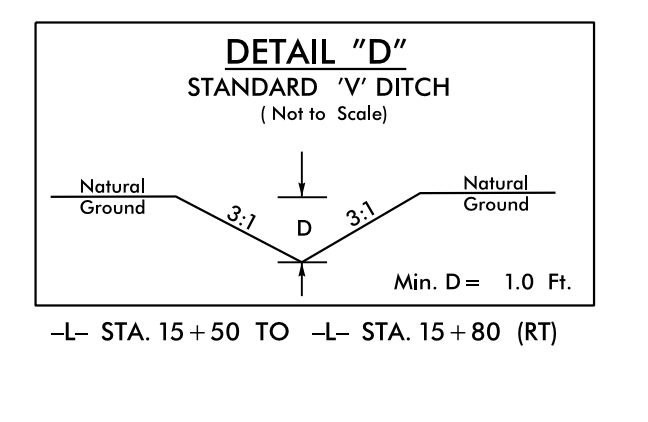
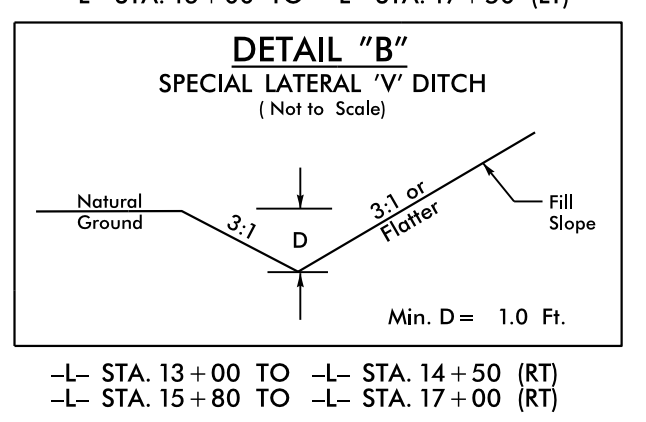
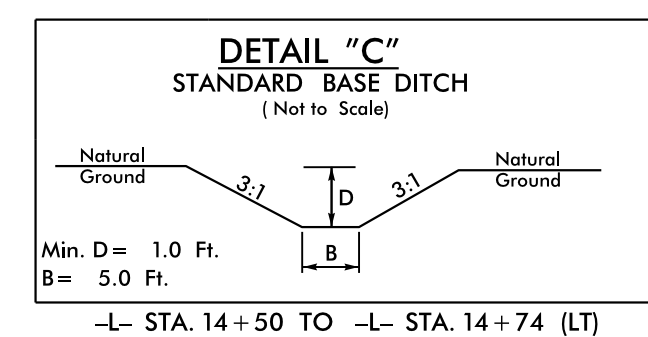
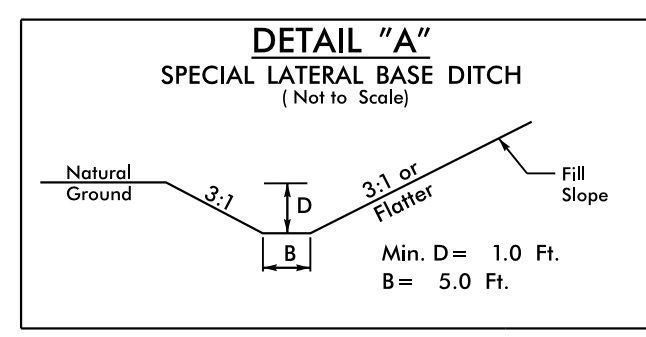
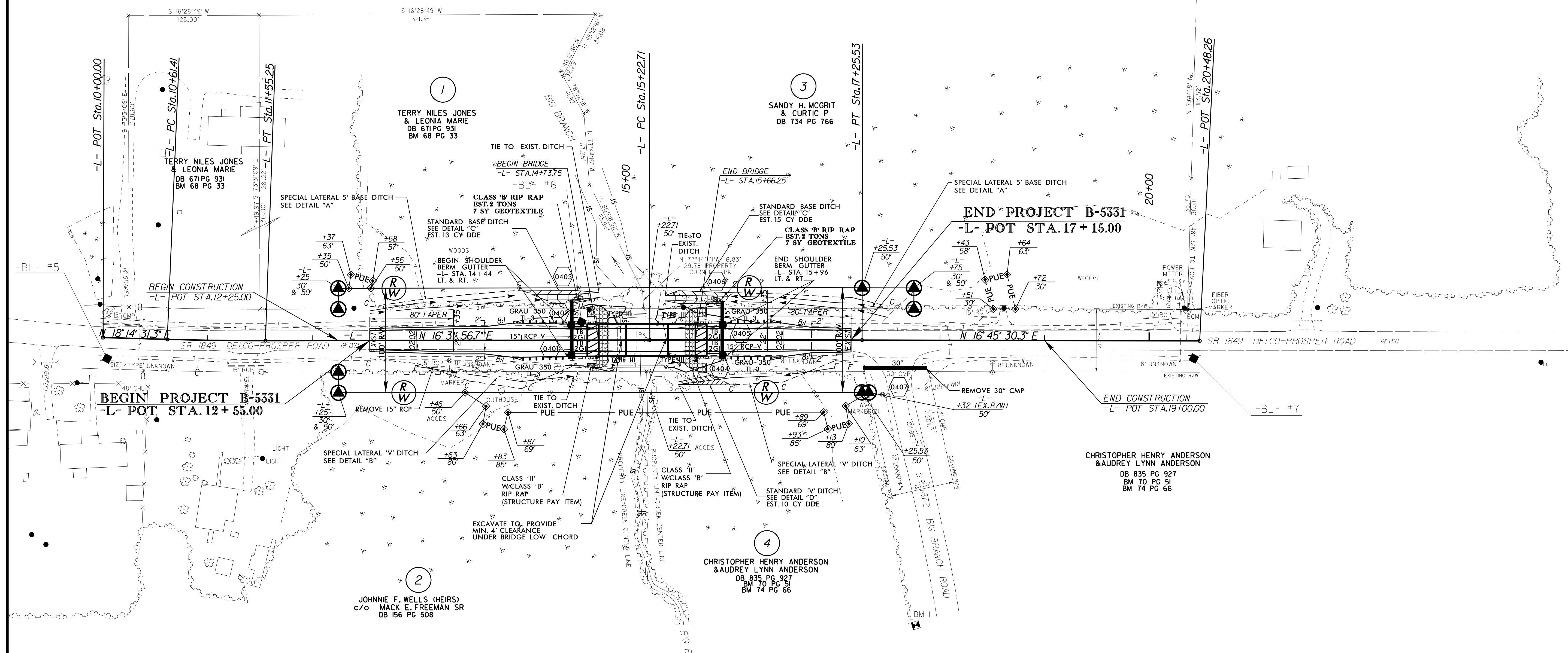
*Total square yards of Geotextile for Soil Stabilization is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

-L- CURVE DATA

PI Sta 11+08.34	PI Sta 16+24.12
$\Delta = 1^{\circ}42'34.6"$ (LT)	$\Delta = 0^{\circ}13'33.6"$ (RT)
D = 149'18.5"	D = 0'06'41.1"
L = 93.84'	L = 202.82'
T = 46.92'	T = 101.41'
R = 3,145.00'	R = 51,420.00'

NAD 83/NSRS 2007

REVISIONS



NOTES: (1) SEE SHEET 5 FOR -L- PROFILE
(2) SEE SHEETS S-1 TO S-18 FOR STRUCTURE PLANS

17-AUG-2015 14:20 B5331.Rdy.psh.edg
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