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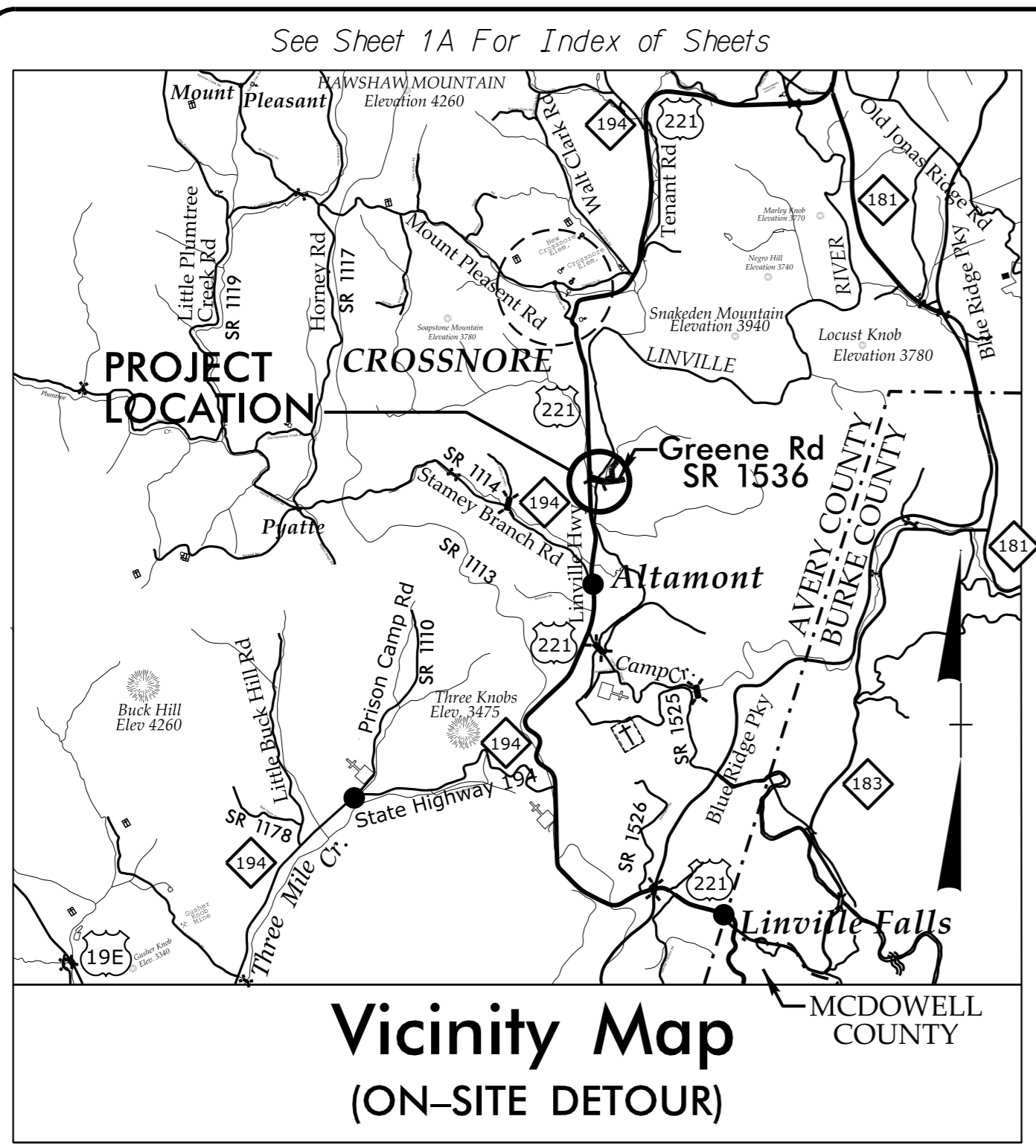
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09/08/99

21-DEC-2016 15:53
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 \$\$\$USERNAME\$\$\$

TIP PROJECT: B-5383
CONTRACT: C203848



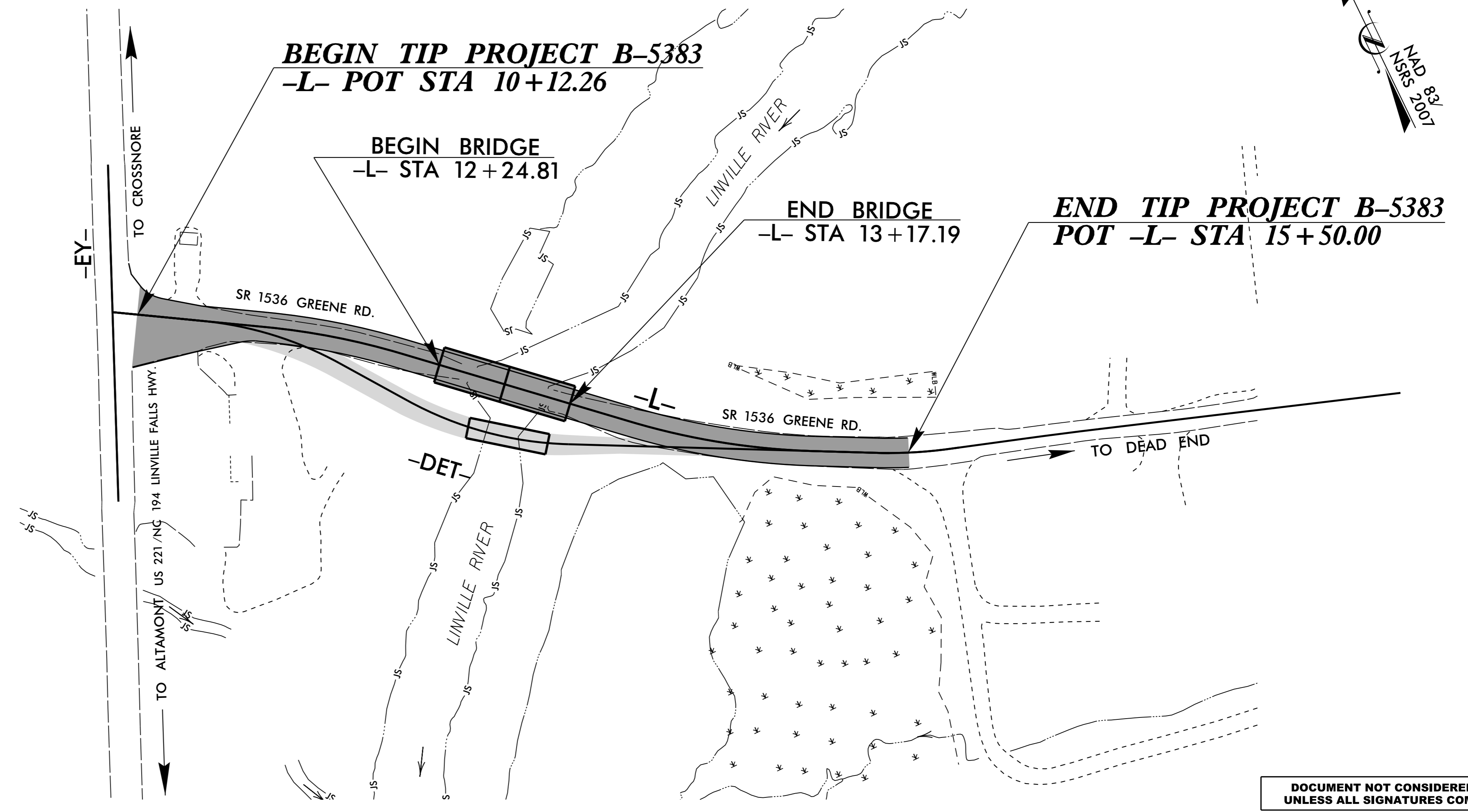
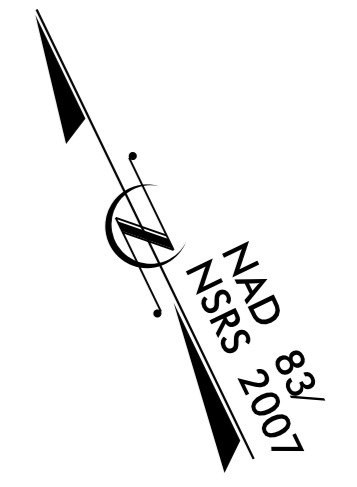
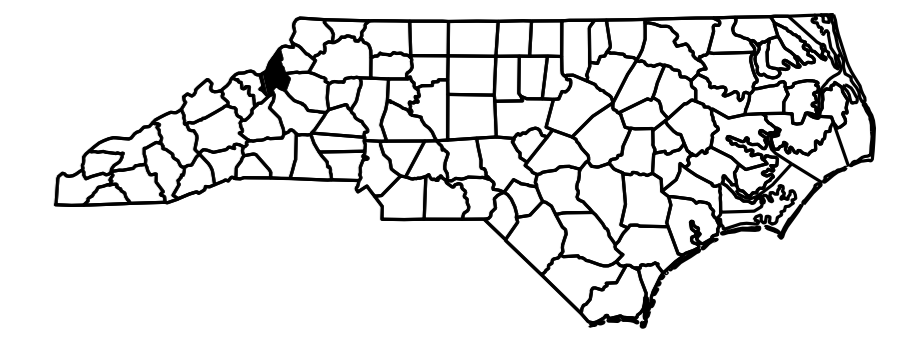
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

AVERY COUNTY

LOCATION: BRIDGE NO. 143 OVER LINVILLE RIVER ON SR 1536 (GREENE ROAD)

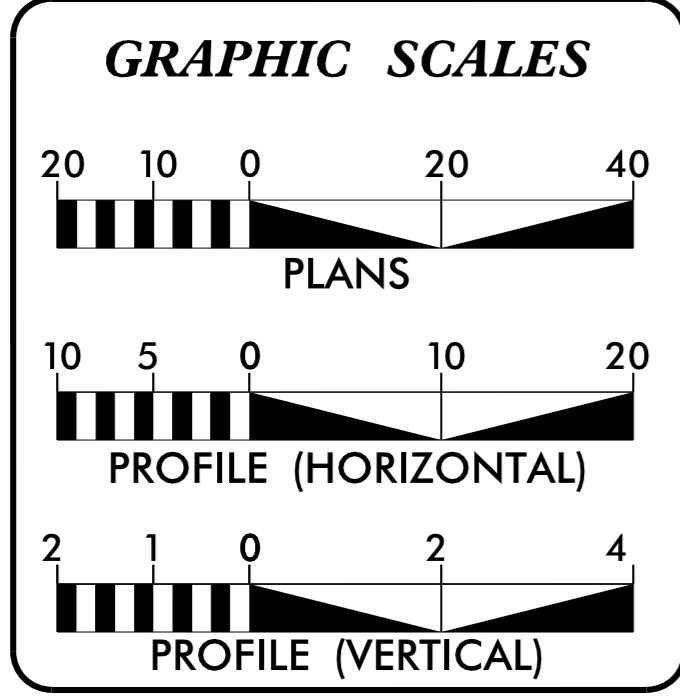
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5383	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46098.1.1	BRZ-1536 (5)	P.E.	
46098.2.1		RW	
46098.2.2		UTIL.	
46098.3.1		CONST.	



SEE SHEET 4A FOR DETOUR.

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2017 =	118
ADT 2037 =	189
K =	14 %
D =	60 %
T =	8 % *
V =	40 MPH
* TTST = 1 % DUAL 7 %	
FUNC CLASS =	LOCAL
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5383 =	0.084 MI
LENGTH STRUCTURE TIP PROJECT B-5383 =	0.018 MI
TOTAL LENGTH TIP PROJECT B-5383 =	0.102 MI

Prepared in the Office of:
DIVISION OF HIGHWAYS
 1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 FEBRUARY 25, 2016

LETTING DATE:
 FEBRUARY 21, 2017

GARY LOVERING, PE
 PROJECT ENGINEER

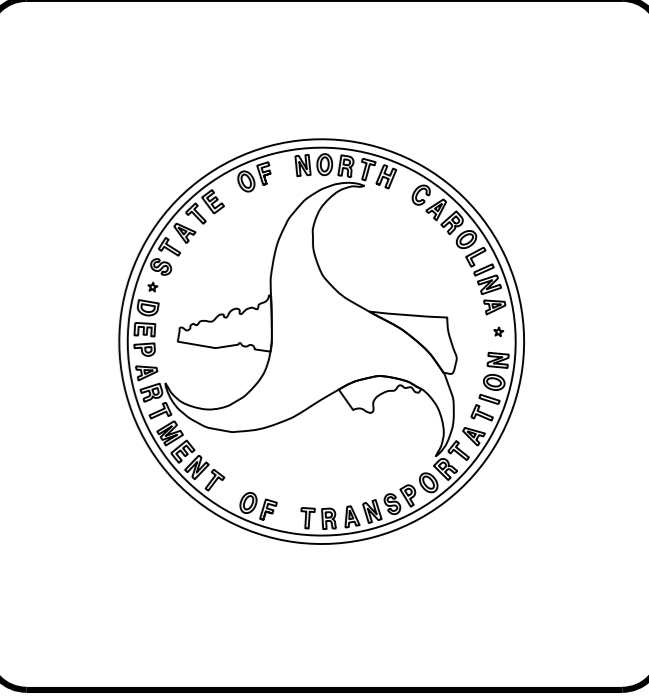
BRYAN KEY, PE
 PROJECT DESIGN ENGINEER

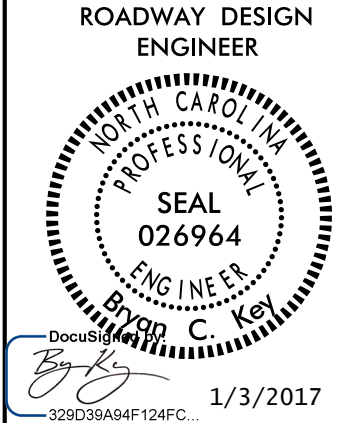
HYDRAULICS ENGINEER

DocuSigned by:
Christopher R. Lewis
 12/28/2016

ROADWAY DESIGN ENGINEER

DocuSigned by:
Bryan C. Key
 12/30/2016





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SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1	SURVEY CONTROL SHEET
2A-1 THRU 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1	T-101 ANCHOR UNIT DETAIL
2G-1	ROCK PLATING DETAIL
3B-1	GUARDRAIL, PAVEMENT REMOVAL & EARTHWORK SUMMARIES
3D-1	DRAINAGE SUMMARY SHEET, 48 INCHES OR LESS
3G-1	GEOTECHNICAL SUMMARIES
4 THRU 5	PLAN AND PROFILE SHEETS
TMP-1 THRU TMP-6	TRAFFIC MANAGEMENT PLANS
EC-1 THRU EC-7	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-0	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-7	CROSS-SECTIONS
S-1 THRU S-16	STRUCTURE PLANS

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 10-31-2014

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.

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: MOUNTAIN ELECTRIC - POWER
AT&T - COMMUNICATIONS
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.

2012 ROADWAY ENGLISH STANDARD DRAWINGS
EFF. 01-17-2012
REV. 02-29-2016

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 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
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 4 - MAJOR STRUCTURES	
422.11	Bridge Approach Fills - Sub Regional Tier
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

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

04/06/15

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
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	☠ ☠
Potential Contamination Area: Soil	?? ??
Known Contamination Area: Water	☠ ☠
Potential Contamination Area: Water	?? ??
Contaminated Site: Known or Potential	☠ ?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ 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	--- WLB ---
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ 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	○ R W
Proposed Right of Way Line with Iron Pin and Cap Marker	○ R W ▲
Proposed Right of Way Line with Concrete or Granite RW Marker	▲ R W
Proposed Control of Access Line with Concrete C/A 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	--- S ---

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	○ P
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	○ T
Telephone Pedestal	□
Telephone Cell Tower	□
U/G Telephone Cable Hand Hole	○ TH
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	○ W
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	○ TH
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:

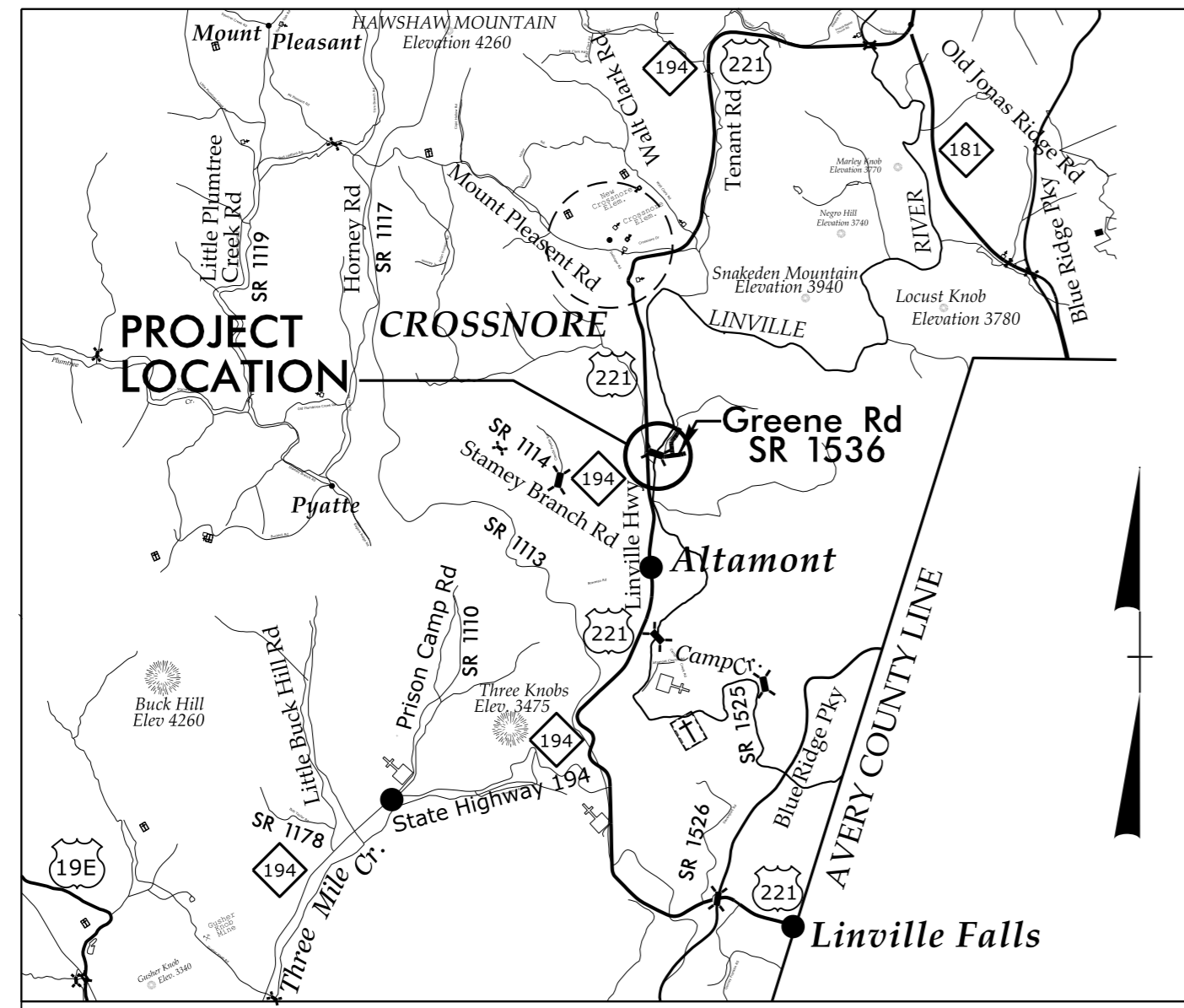
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	--- SS ---
Above Ground Sanitary Sewer	--- A/G Sanitary Sewer ---
SS Forced Main Line LOS B (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS C (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS D (S.U.E.*)	--- FSS ---

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line LOS B (S.U.E.*)	--- ZUTL ---
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.

SURVEY CONTROL SHEET B-5383

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	B53831	GPS B5383-1	833202.4218	1131594.0450	3275.29	10+41.70	14.28 LT
	B53832	GPS B5383-2	832877.0648	1131989.6253	3271.30	15+50.92	15.68 RT



Vicinity Map
(ON-SITE DETOUR)

**NC DOT GPS STATION B-5383-1
LOCALIZED PROJECT COORDINATES**

N = 833202.4218
E = 1131594.0450

**BEGIN TIP PROJECT B-5383
-L- POT STA 10+12.26**

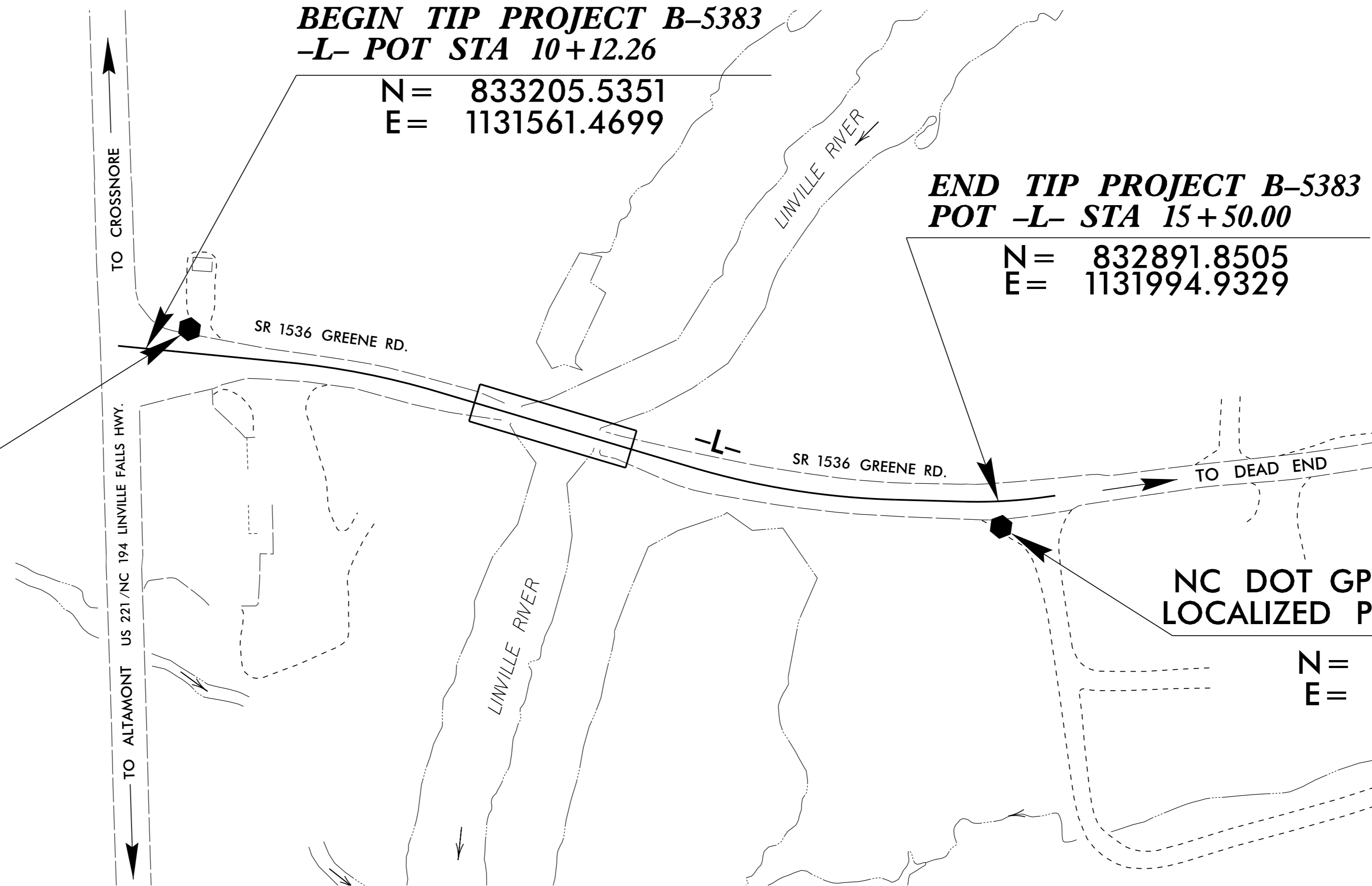
N = 833205.5351
E = 1131561.4699

**END TIP PROJECT B-5383
POT -L- STA 15+50.00**

N = 832891.8505
E = 1131994.9329

**NC DOT GPS STATION B-5383-2
LOCALIZED PROJECT COORDINATES**

N = 832877.0648
E = 1131989.6253



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-5383-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 832877.0648(±) EASTING: 1131989.6253(±) ELEVATION: 3271.2963(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998071990 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-5383-2" TO -L- STATION 10+12.26 IS N 52°30'20" W 539.64' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTES:

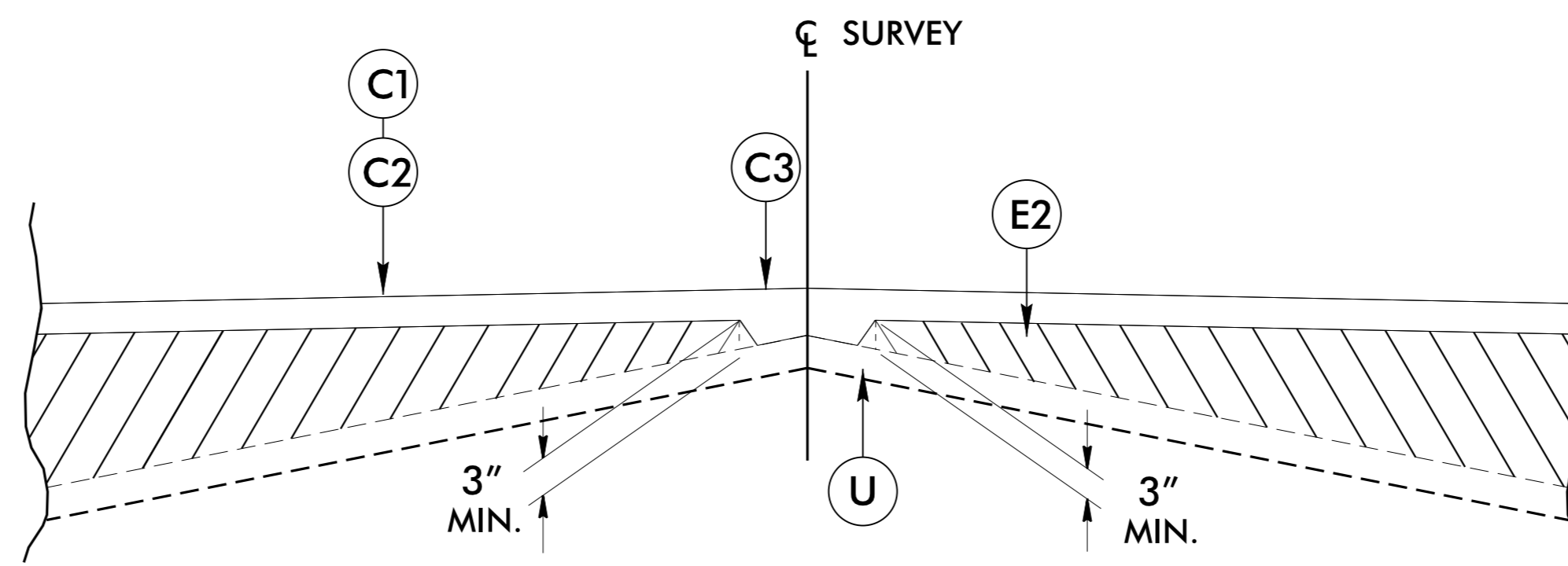
- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)
THE FILES TO BE FOUND ARE AS FOLLOWS:
B5383_LS_CONTROL.TXT
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED 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.
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

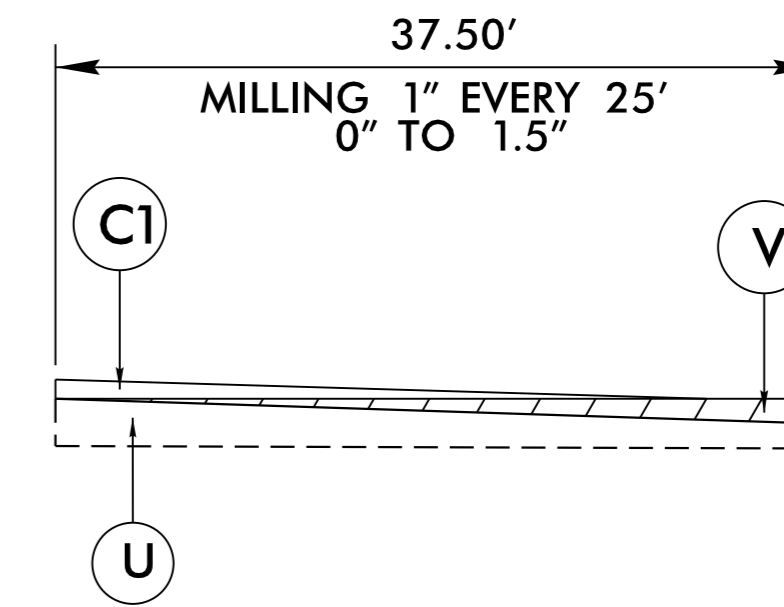
6/2/09

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165.0 LBS. PER SQ. YD.
C2	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	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 TO EXCEED 1 1/2" 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 LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
J	PROP. 6" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	VARIABLE DEPTH MILLING (SEE MILLING DETAIL).
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

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



Detail Showing Method of Wedging

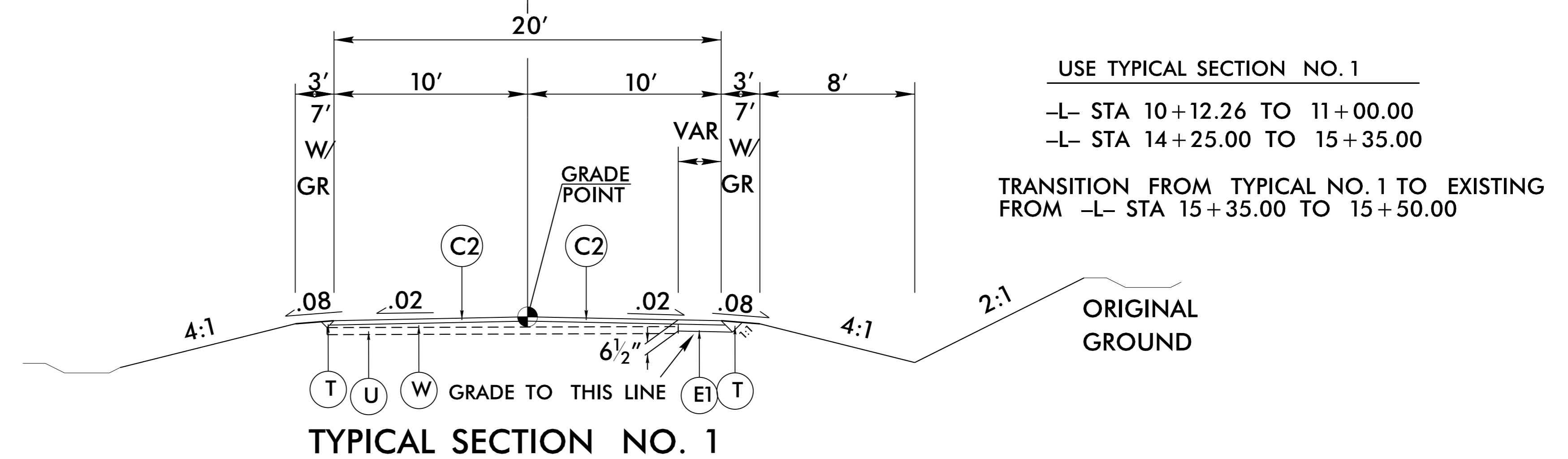


Incidental Milling Detail

PROJECT REFERENCE NO. B-5383	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER SEAL 026964 12/30/2016 Bryon C. Key	PAVEMENT DESIGN ENGINEER SEAL 022896 12/22/2016 Clark S. Morrison
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USE MILLING DETAIL AT RESURFACING TIES

CL -L- (SR 1536)

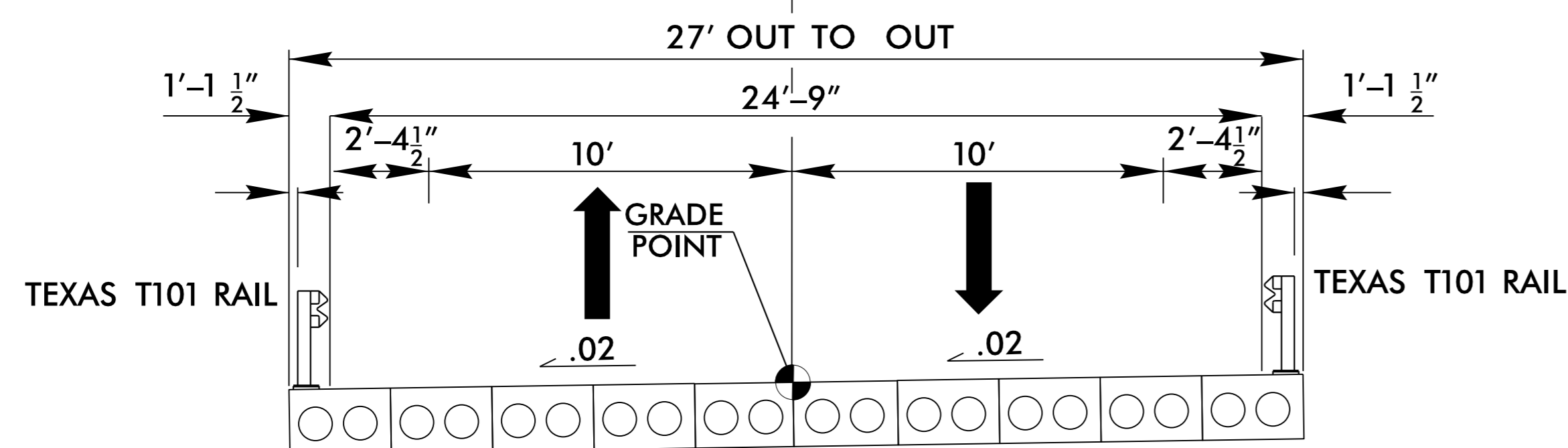


USE TYPICAL SECTION NO. 1

-L- STA 10+12.26 TO 11+00.00
-L- STA 14+25.00 TO 15+35.00

TRANSITION FROM TYPICAL NO. 1 TO EXISTING
FROM -L- STA 15+35.00 TO 15+50.00

CL -L- (SR 1536)

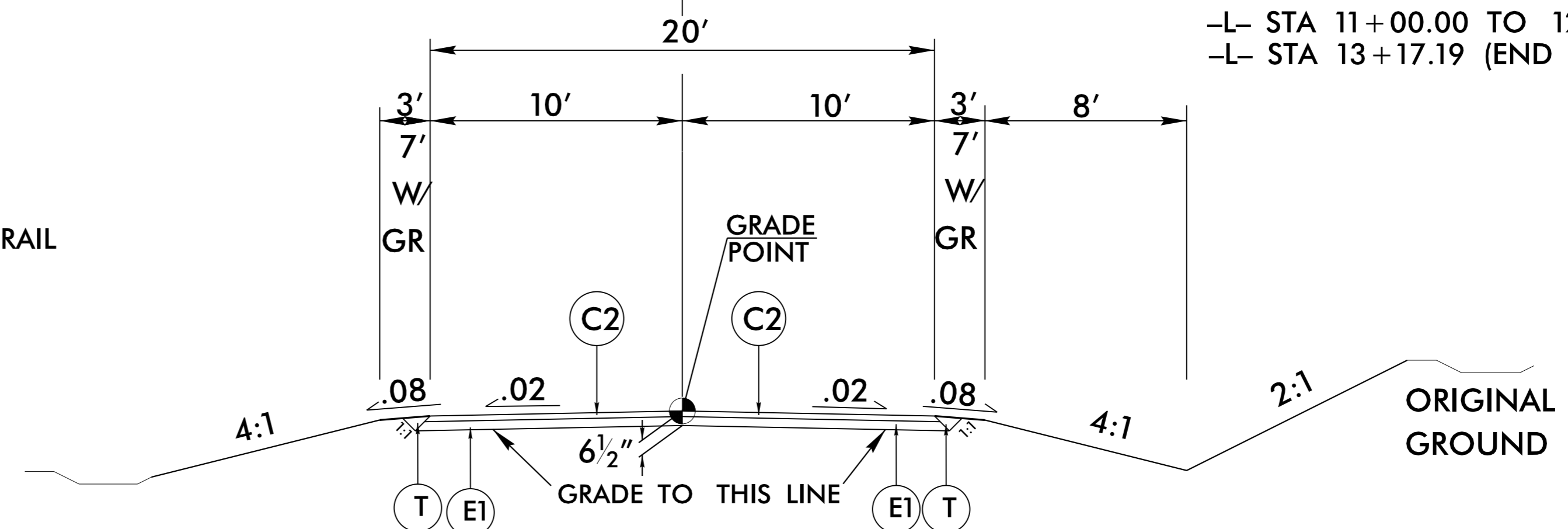


TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-L- STA 12+24.81 TO 13+17.19
(BEGIN BRIDGE) (END BRIDGE)

CL -L- (SR 1536)



USE TYPICAL SECTION NO. 2

-L- STA 11+00.00 TO 12+24.81 (BEGIN BRIDGE)
-L- STA 13+17.19 (END BRIDGE) TO 14+25.00

TYPICAL SECTION NO. 2

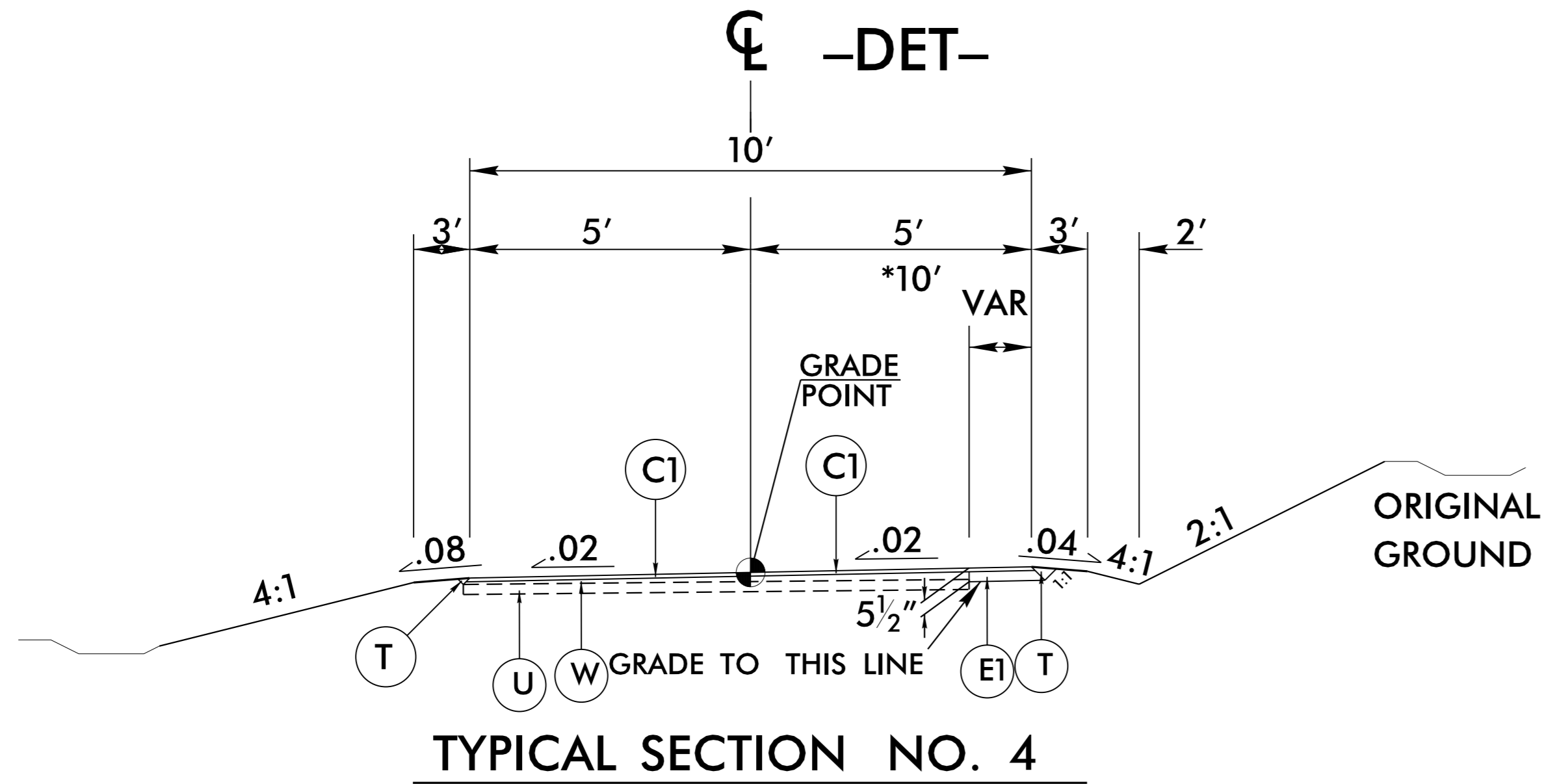
REVISIONS

21-DEC-2016 16:23 B5383.Rdy_tup.dgn

6/2/99

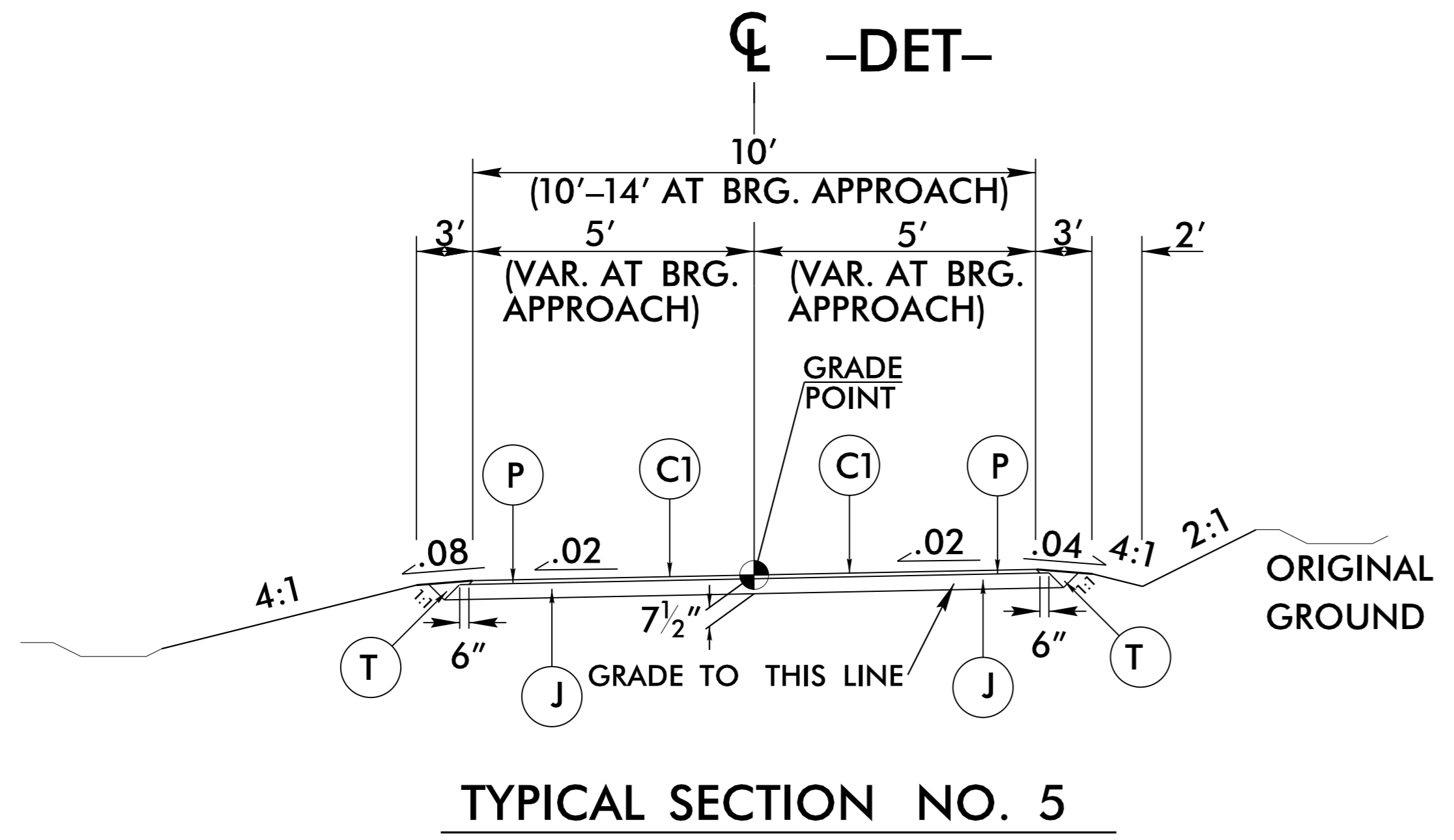
PROJECT REFERENCE NO. B-5383	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 026964 C. Key	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 022896 Clark S. Morrison

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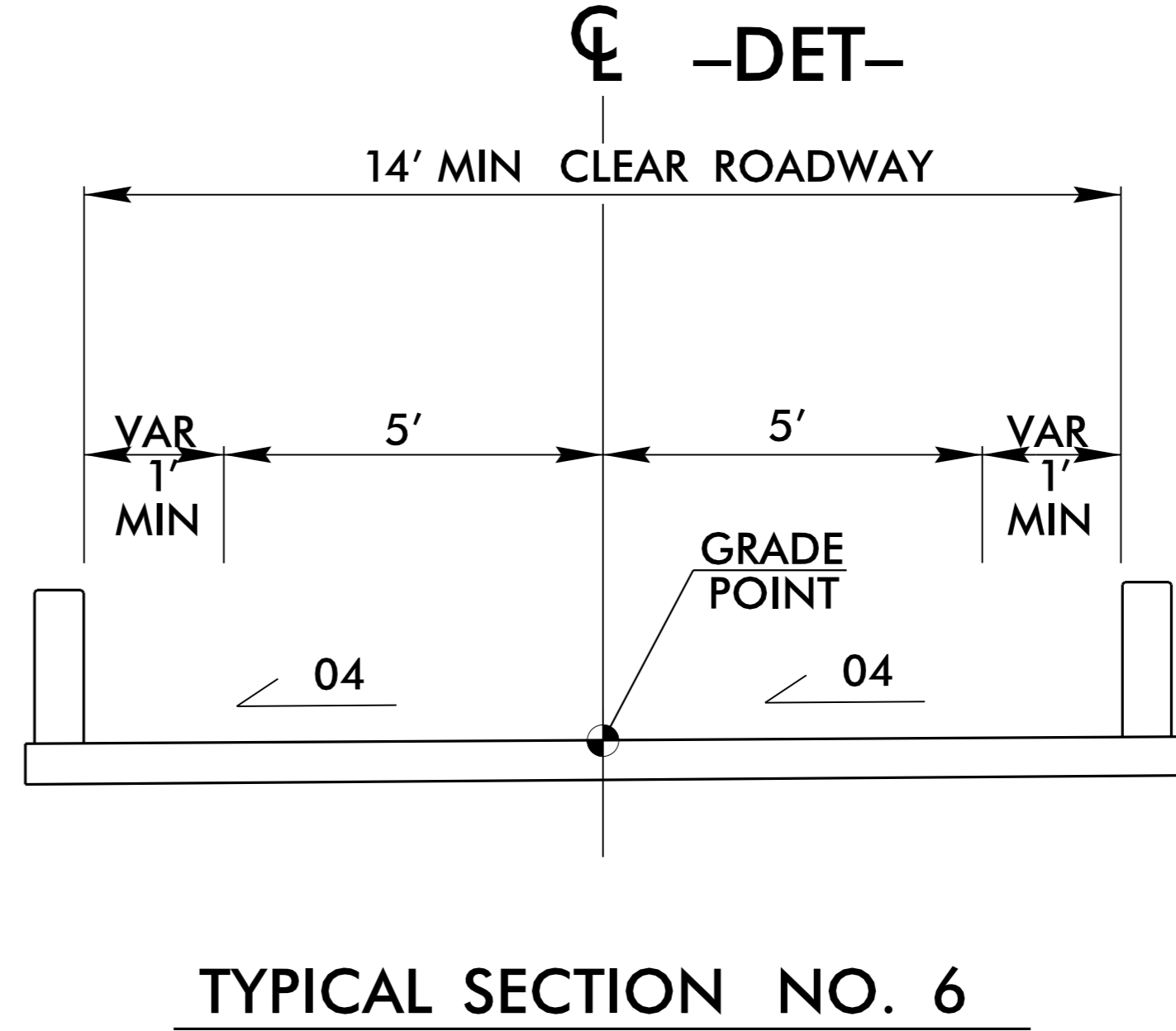


TRANSITION FROM EXISTING TO TYPICAL NO. 4
FROM -DET- STA 10+40.00 TO 11+00.00
TRANSITION FROM TYPICAL NO. 4 TO EXISTING
FROM -DET- STA 14+50.00 TO 15+00.00

USE TYPICAL SECTION NO. 4
-DET- STA 11+00.00 TO 11+54.46
-DET- STA 13+82.44 TO 14+50.00
* -DET- STA 10+90.30 TO 12+11.62



USE TYPICAL SECTION NO. 5
-DET- STA 11+54.46 TO 12+56.41 (BEGIN BRIDGE)
-DET- STA 13+11.54 (END BRIDGE) TO 13+82.44

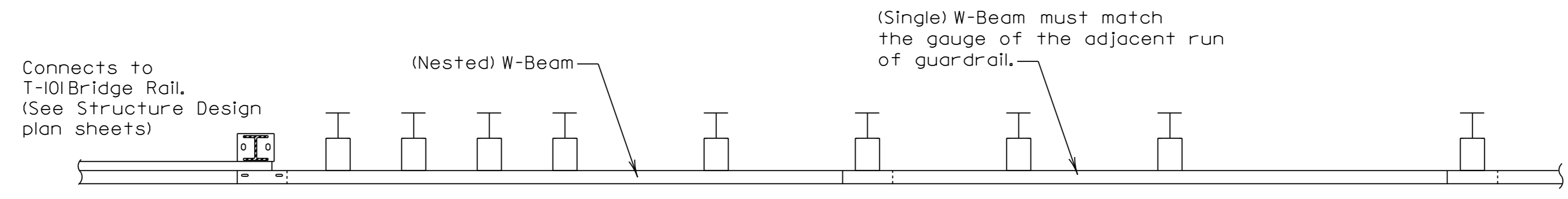


USE TYPICAL SECTION NO. 6
-DET- STA 12+56.41 TO 13+11.54
(BEGIN BRIDGE) (END BRIDGE)

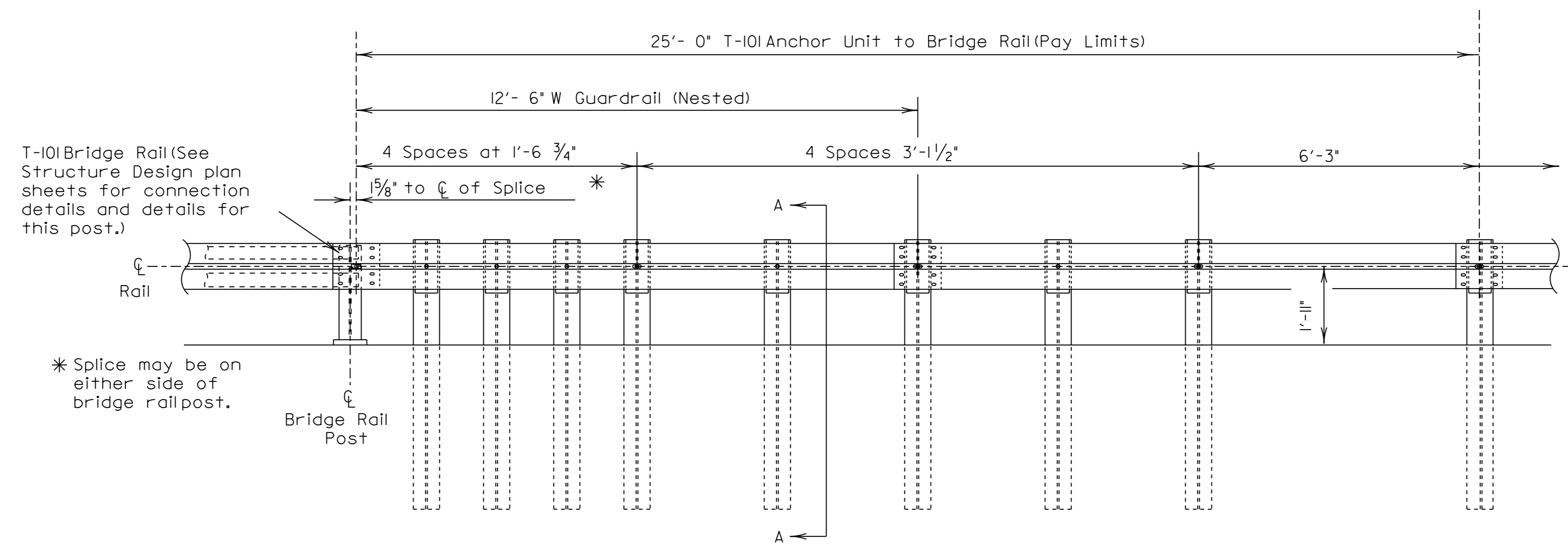
C1	1 1/2" SF9.5A
C3	VAR. SF9.5A
E1	4" B25.0B
J	PROP. 6" ABC.
P	PRIME COAT
T	EARTH MATERIAL.
U	EXISTING PVMNT
V	VAR. MILLING
W	WEDGING

REVISIONS

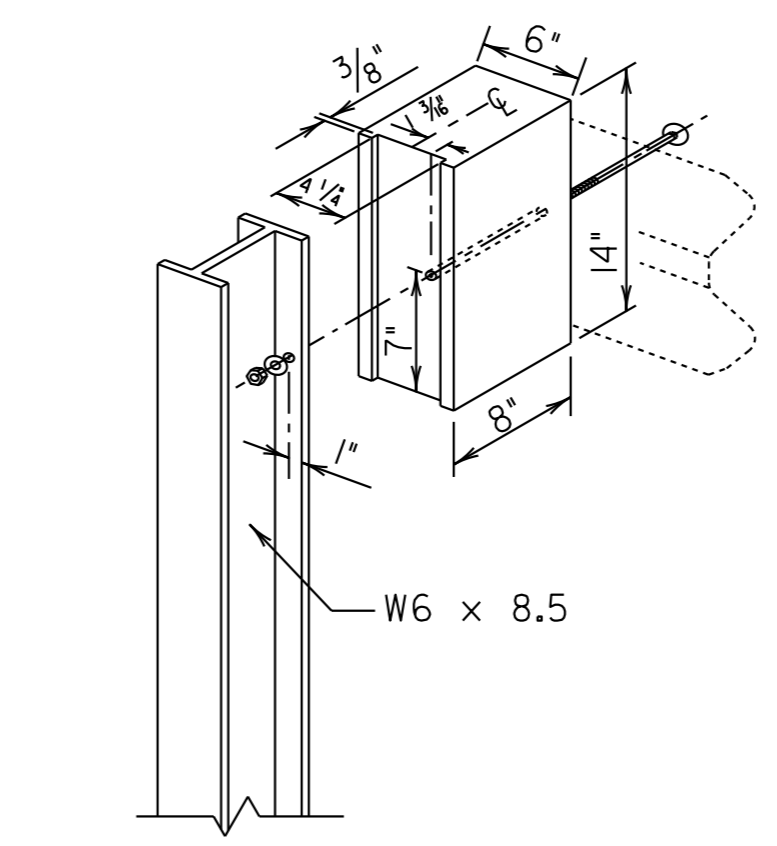
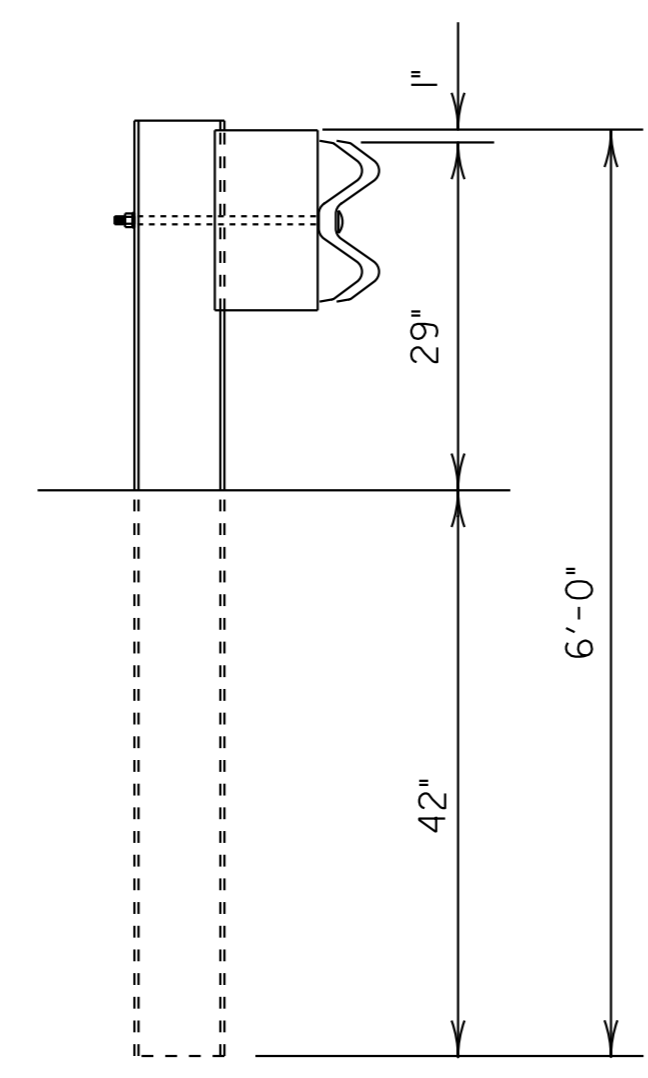
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TYPICAL PLAN VIEW



TYPICAL ELEVATION VIEW



COMPOSITE BLOCK
STEEL POST DETAIL



DocuSigned by:
Joel Howerton 12/28/2016

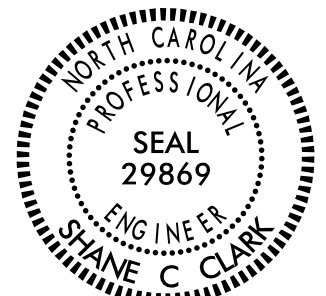
DOCUMENT NOT CONSIDERED FINAL
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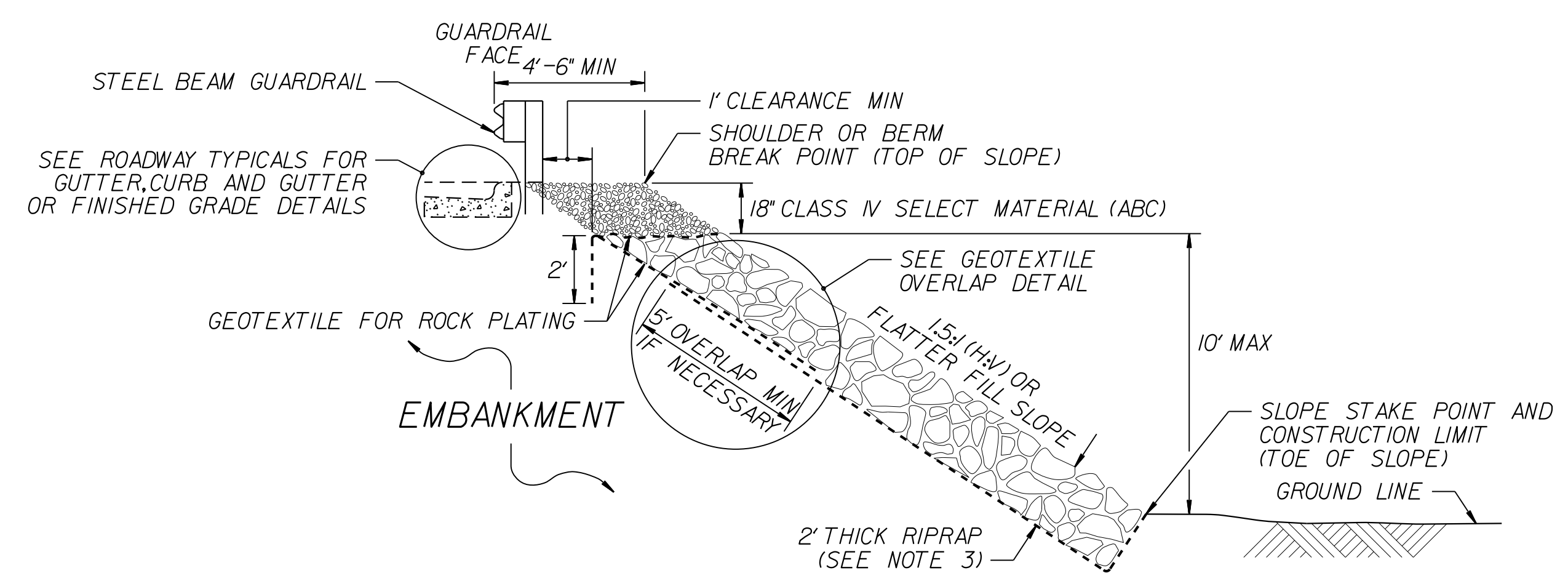
CONTRACT STANDARDS & DEVELOPMENT UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-707-6950 FAX 919-250-4119

T-101 ANCHOR UNIT

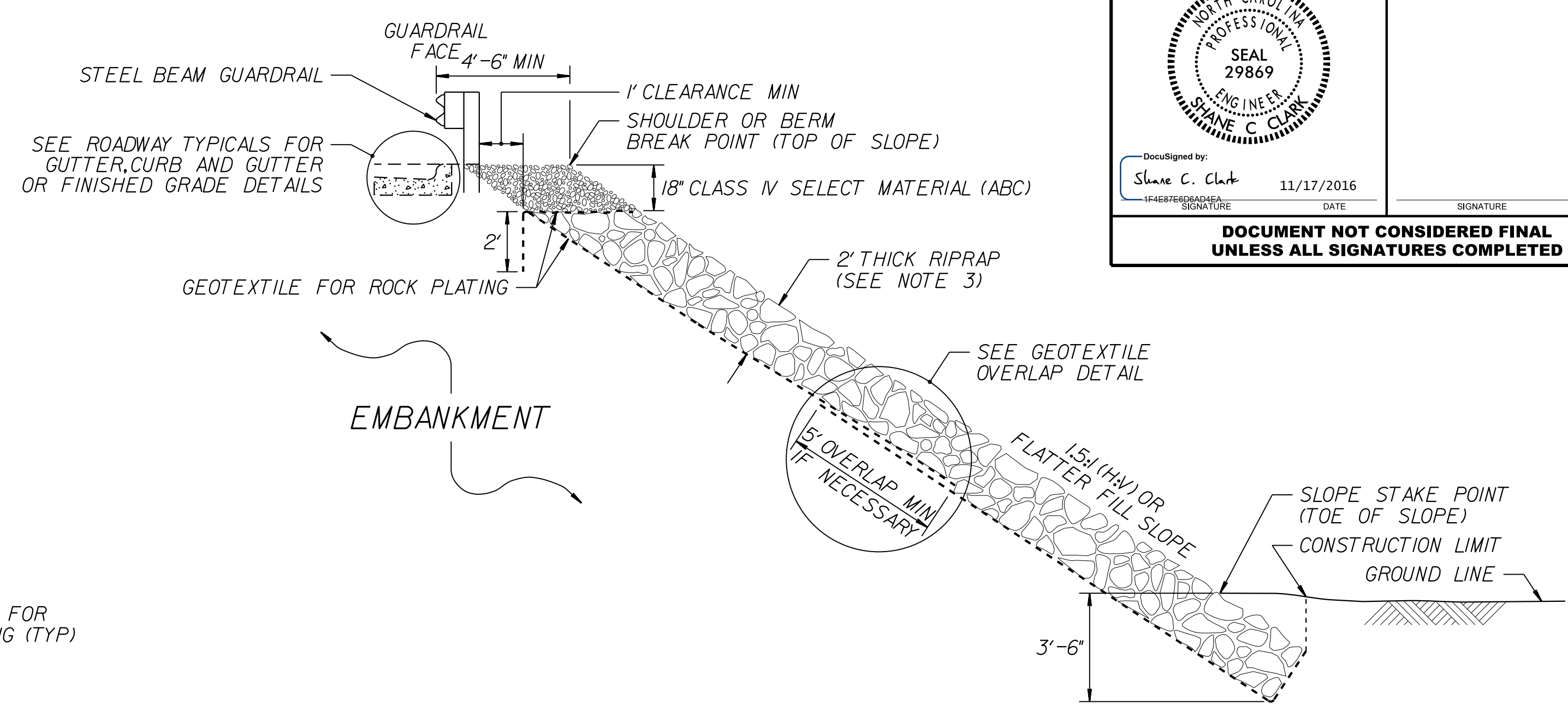
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 MODIFIED BY: rnbritt DATE: 10-27-11
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: _____

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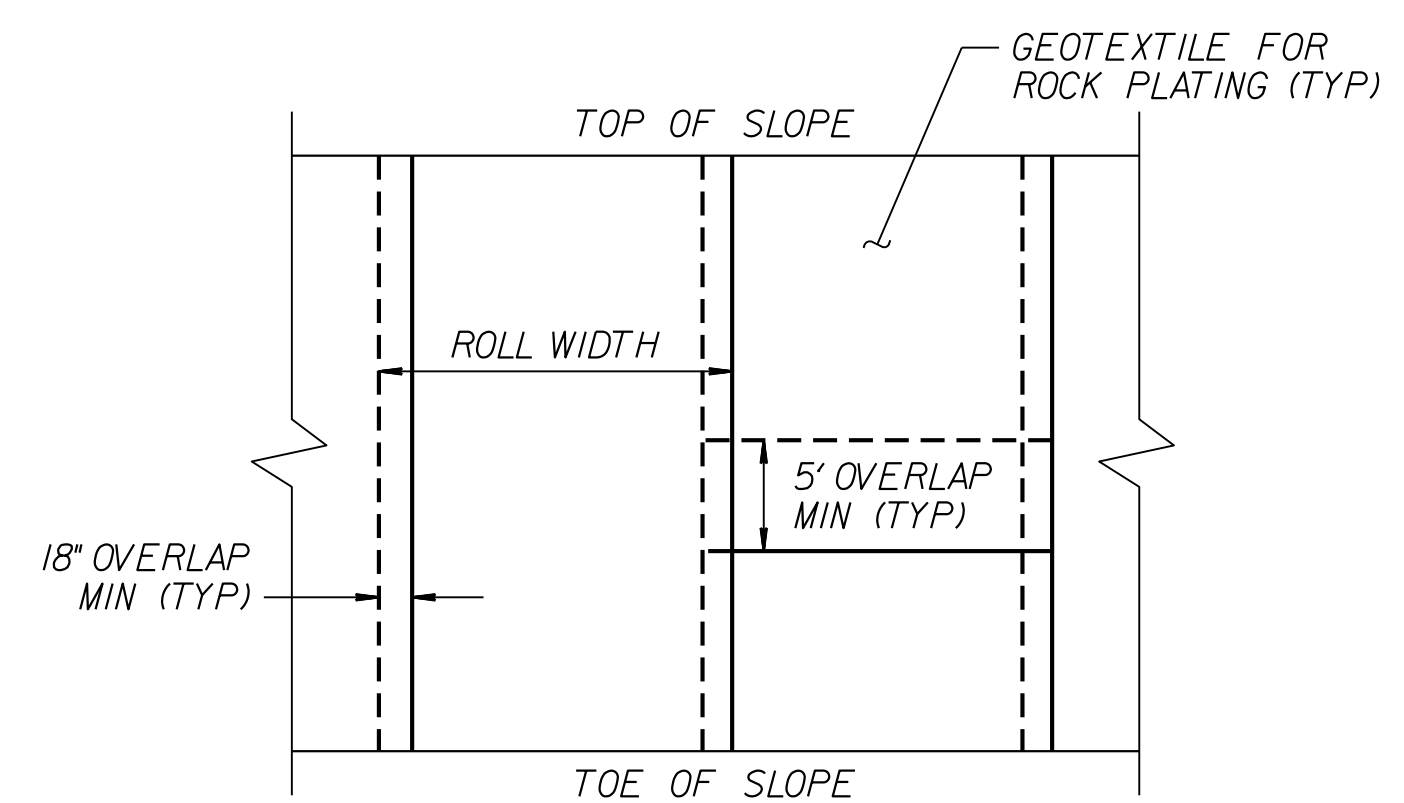
PROJECT REFERENCE NO. B-5383 (46098)	SHEET NO. 2G-1
GEOTECHNICAL ENGINEER  DocuSigned by: Shane C. Clark 11/17/2016	ENGINEER SIGNATURE _____ DATE _____
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



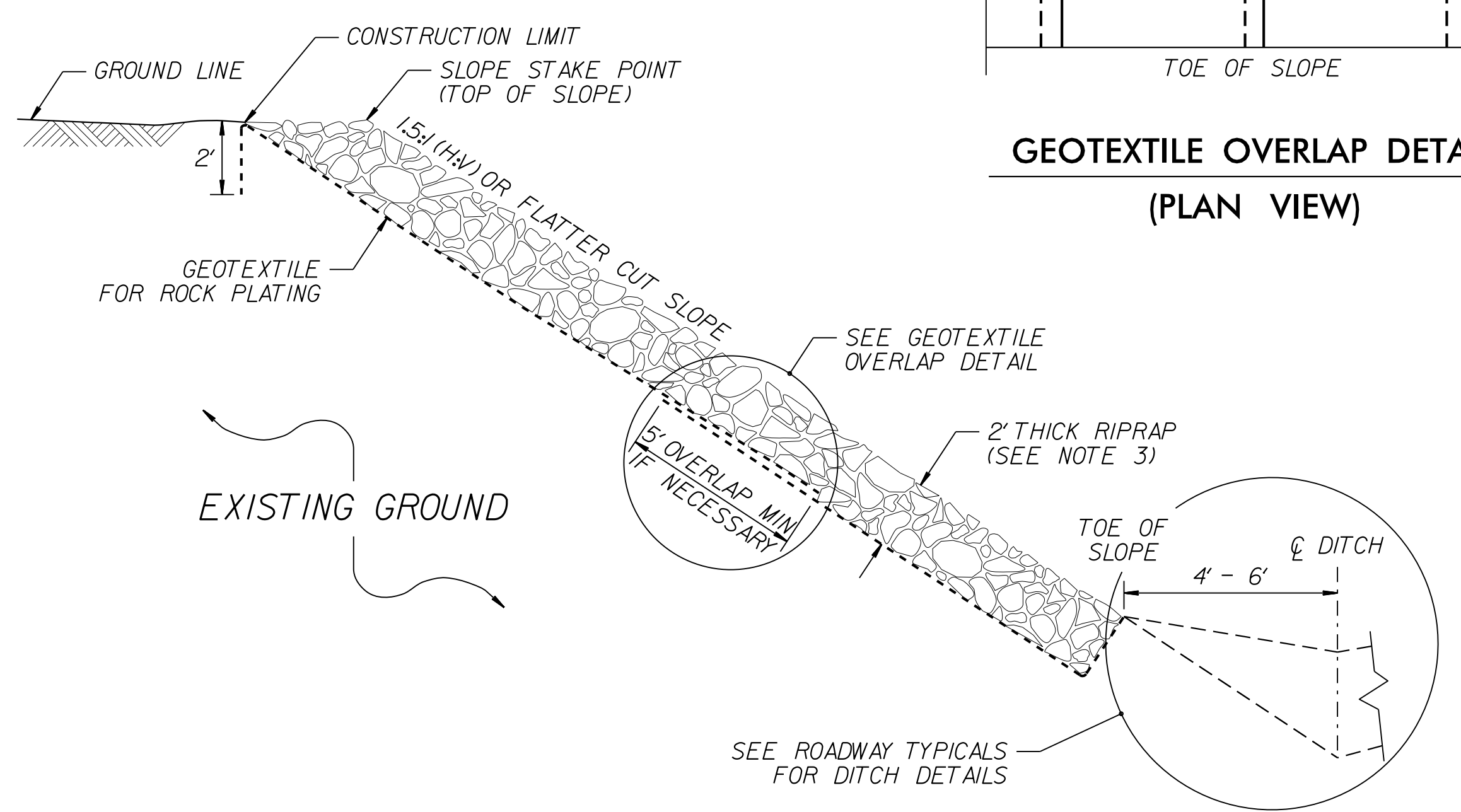
ROCK PLATING DETAIL NO. 1 – TYPICAL SECTION



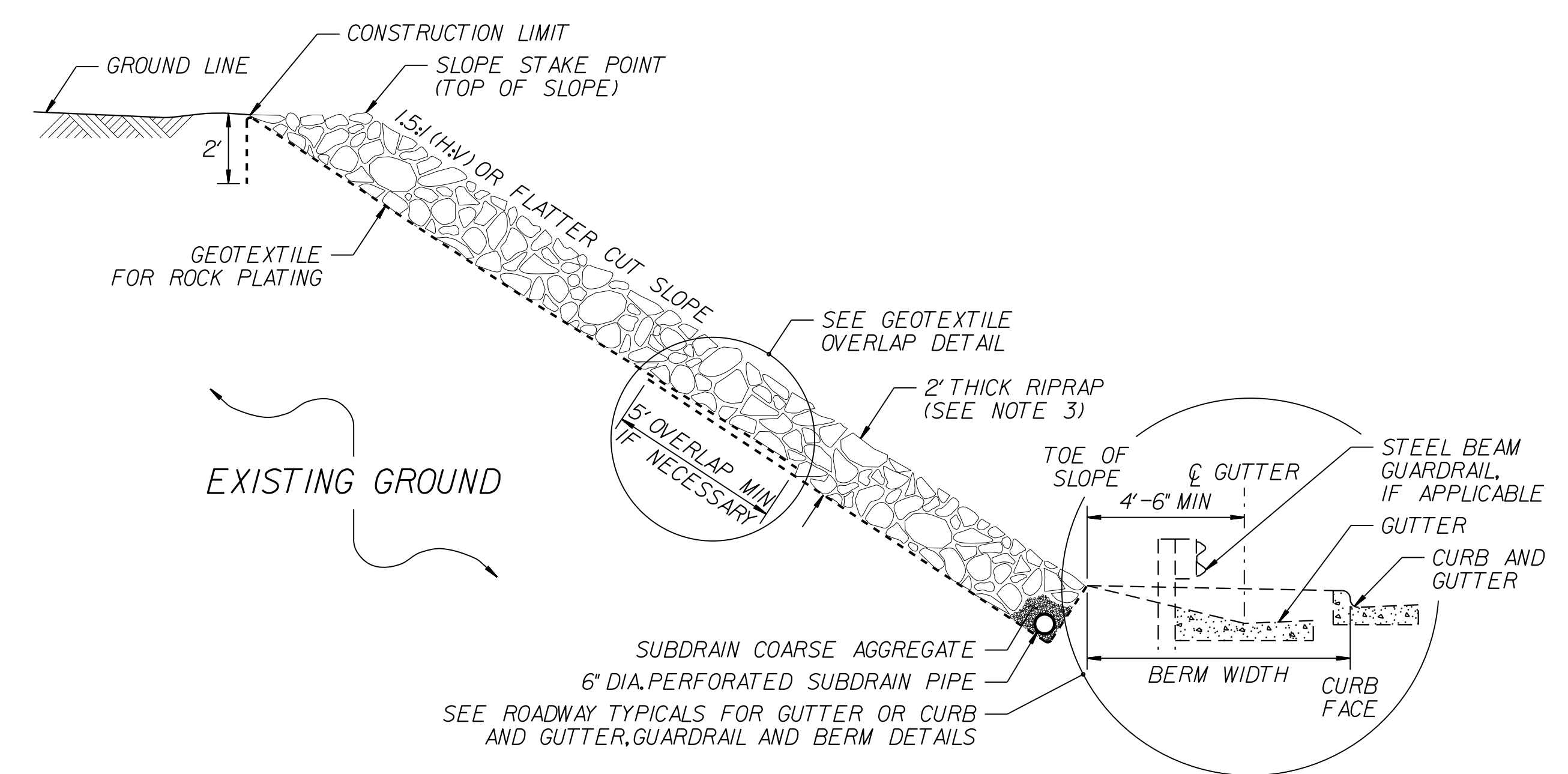
ROCK PLATING DETAIL NO. 2 – TYPICAL SECTION



**GEOTEXTILE OVERLAP DETAIL
(PLAN VIEW)**

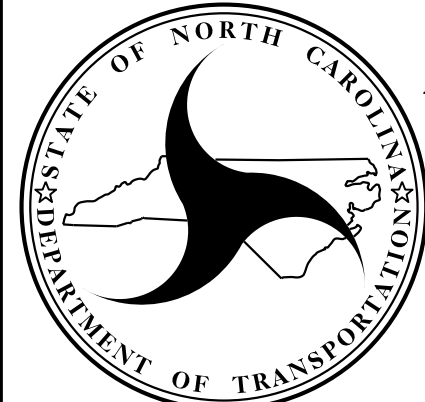


ROCK PLATING DETAIL NO. 3 – TYPICAL SECTION



ROCK PLATING DETAIL NO. 4 – TYPICAL SECTION

- NOTES:**
1. SEE ROADWAY PLANS AND SUMMARY SHEETS FOR ROCK PLATING LOCATIONS.
 2. FOR STANDARD ROCK PLATING, SEE SECTION 275 OF THE STANDARD SPECIFICATIONS.
 3. USE CLASS 1, 2 OR B RIPRAP UNLESS REQUIRED OTHERWISE IN THE ROADWAY SUMMARY SHEETS.


**NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

**GEOTECHNICAL
ENGINEERING UNIT**

STANDARD DETAIL NO. 1802.01

**STANDARD
ROCK PLATING**

 DATE: 2-19-13

COMPUTED BY: GEOTECH DATE: 12-15-16
 CHECKED BY: JRH DATE: 12-15-16

PROJECT NO.
 B-5383

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		CL	SD	250
				TOTAL LF:	250

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

SUMMARY OF ROCK PLATING

LINE	Beginning Slope	Approx. Station	Ending Slope	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
L	1.5:1	13+20	1.5:1	14+75	RT	1	2	85
L	1.5:1	13+22	1.5:1	14+50	LT	1	2	85
							Total SY=	170

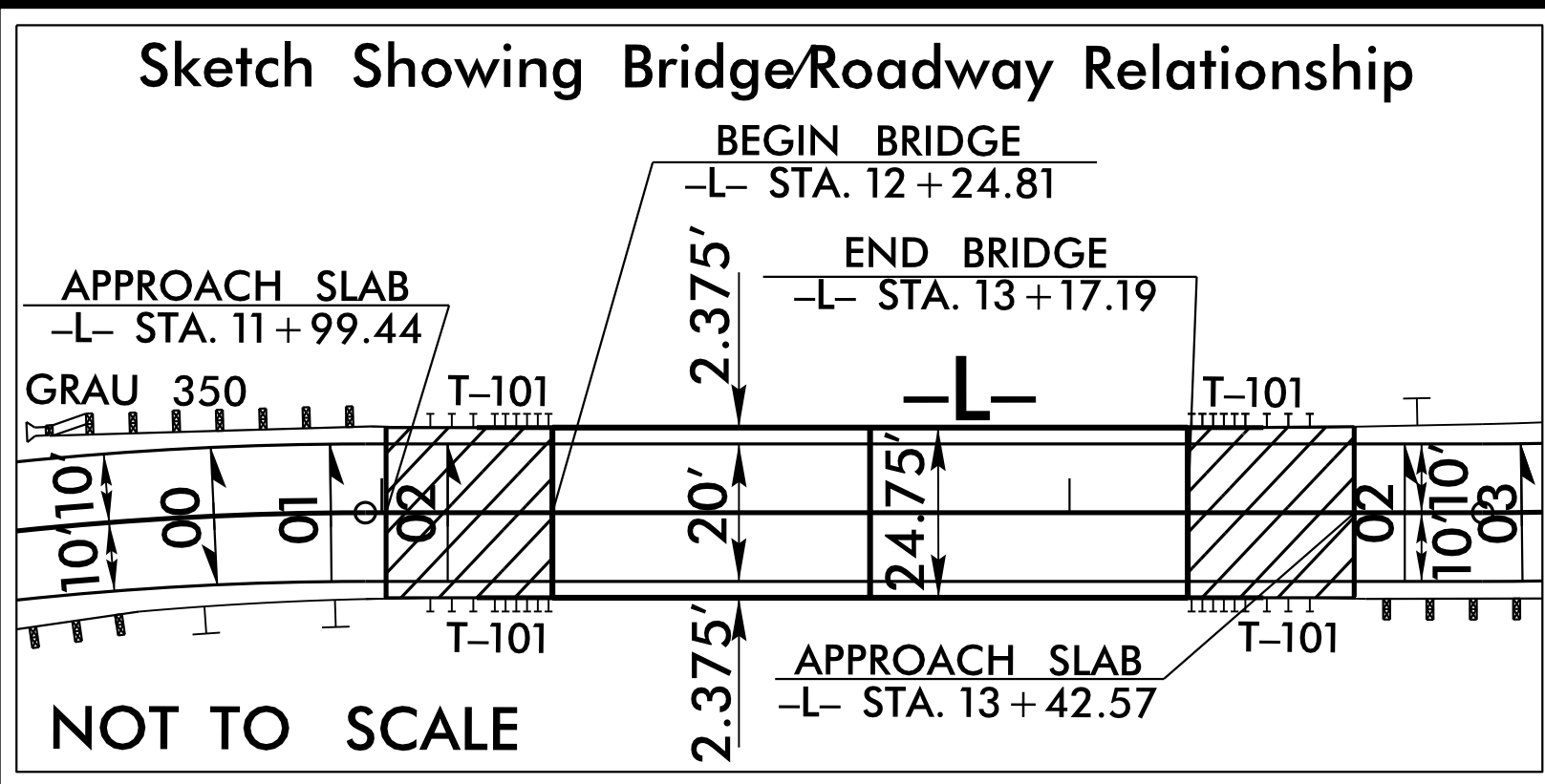
*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.

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		50	80	150		
			TOTAL CY/TONS/SY:		50	80	150*	0	0

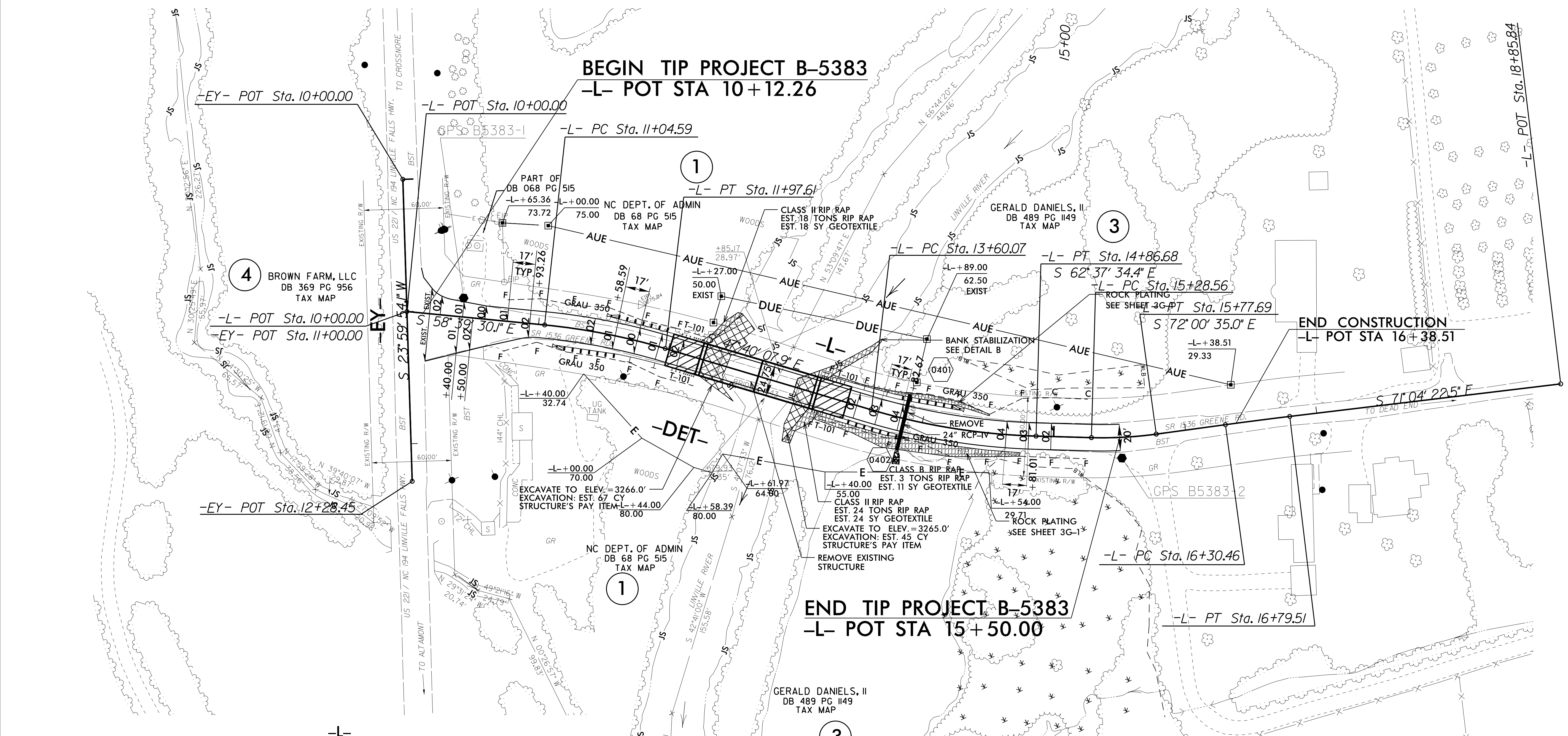
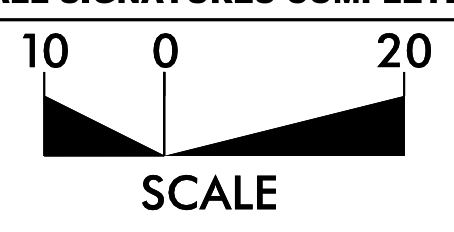
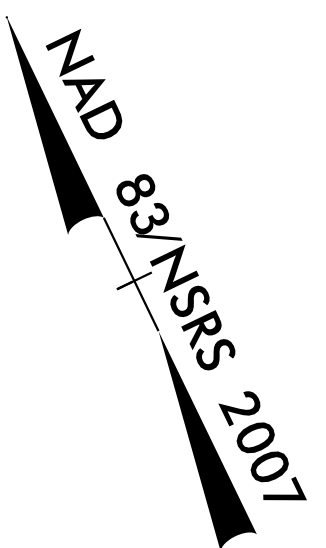
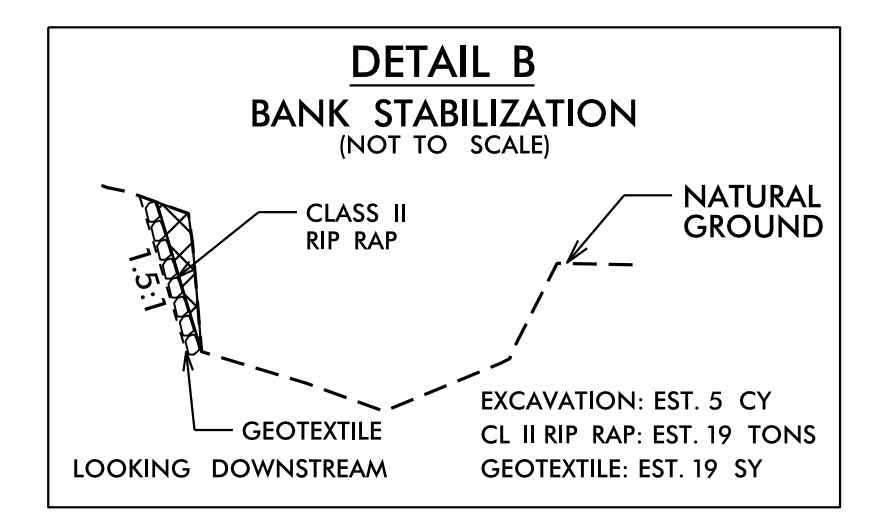
ASU = Aggregate Subgrade, AST = Aggregate Stabilization

*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.



- NOTES:**
- SEE ROADWAY PLANS AND SUMMARY SHEETS FOR ROCK PLATING LOCATIONS.
 - FOR STANDARD ROCK PLATING, SEE SECTION 275 OF THE STANDARD SPECIFICATIONS.
 - USE CLASS I, 2 OR B RIPRAP UNLESS REQUIRED OTHERWISE IN THE ROADWAY SUMMARY SHEETS.

PROJECT REFERENCE NO. B-5383	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER
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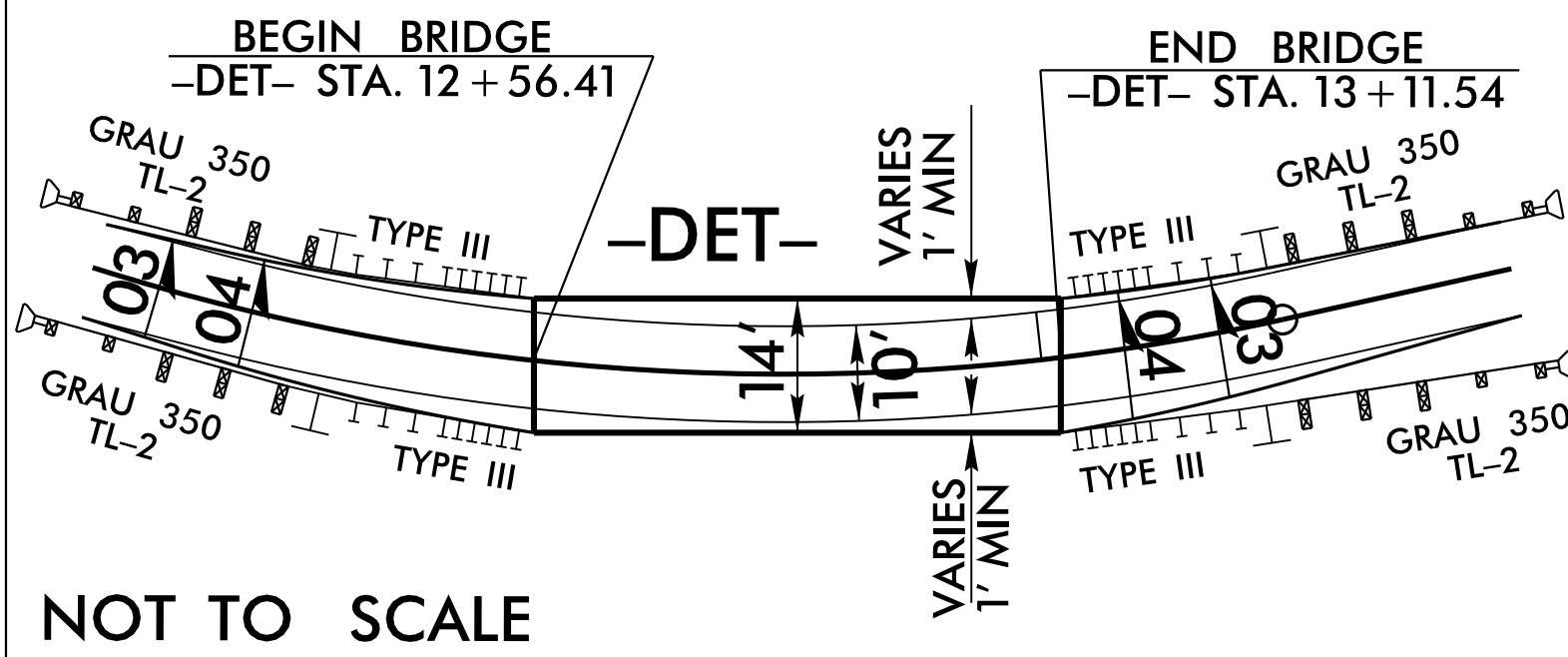
<p>PI Sta 11+51.24 $\Delta = 10^{\circ} 59' 22.2''$ (RT) $D = 11^{\circ} 48' 48.8''$ $L = 93.02'$ $T = 46.66'$ $R = 485.00'$ $SE = .02$ $V_s = 40$ mph</p>	<p>PI Sta 14+23.74 $\Delta = 14^{\circ} 57' 26.5''$ (LT) $D = 11^{\circ} 48' 48.8''$ $L = 126.61'$ $T = 63.67'$ $R = 300.00'$ $SE = .04$ $V_s = 40$ mph</p>	<p>PI Sta 15+53.18 $\Delta = 9^{\circ} 23' 00.6''$ (LT) $D = 19^{\circ} 05' 54.9''$ $L = 49.13'$ $T = 24.62'$ $R = 300.00'$ $SE = EXIST.$ $V_s = EXIST.$</p>	<p>PI Sta 16+54.99 $\Delta = 0^{\circ} 56' 12.5''$ (RT) $D = 1^{\circ} 54' 35.5''$ $L = 49.05'$ $T = 24.53'$ $R = 3,000.00'$ $SE = EXIST.$ $V_s = EXIST.$</p>
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- FOR T-101 ANCHOR, SEE SHEET NO. 2C-1
- FOR ROCK PLATING, SEE SHEET NO. 2G-1
- FOR -DET-, SEE SHEET NO. 4A
- FOR -L- PROFILE, SEE SHEET NO. 5
- FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-16

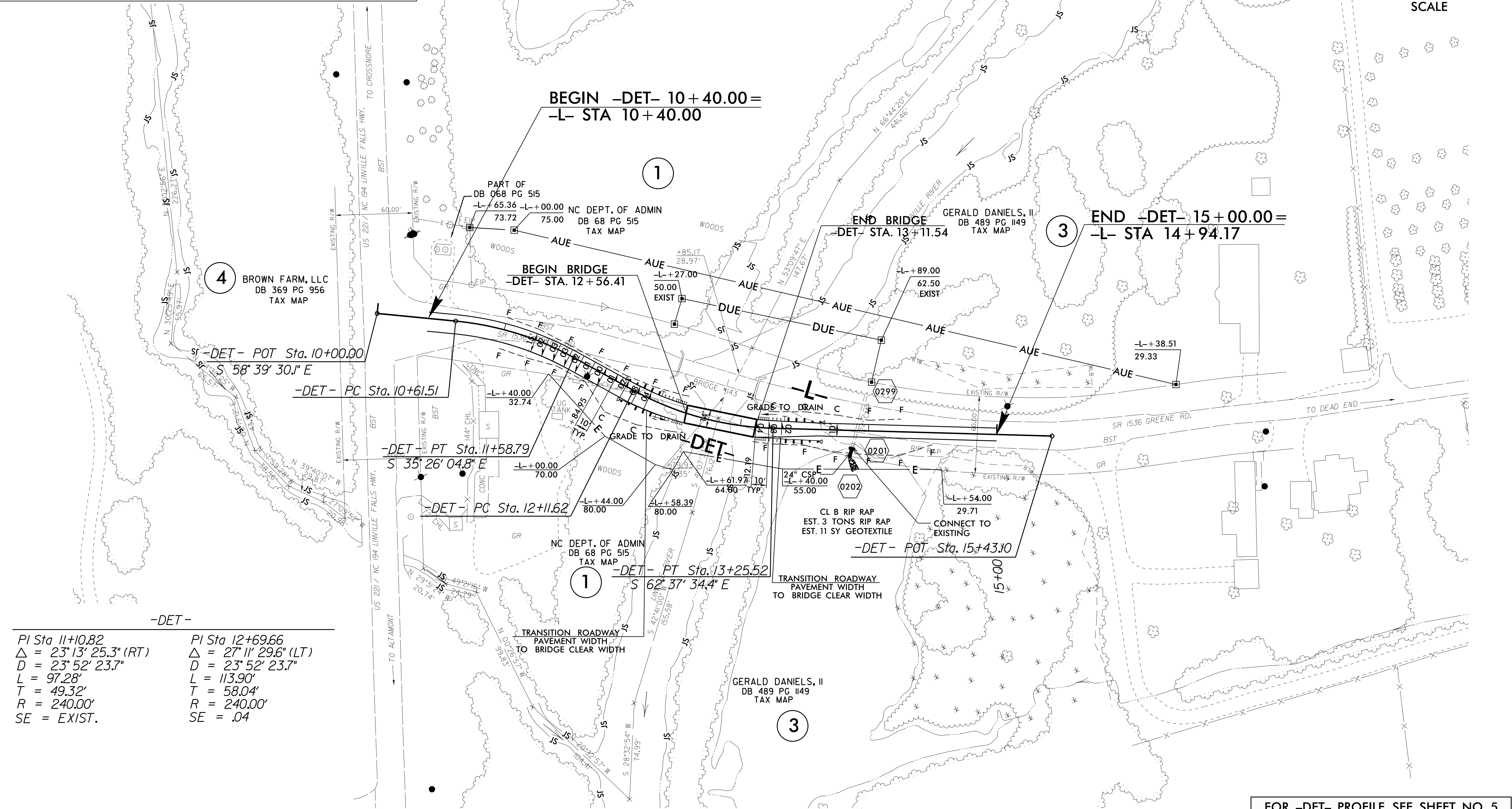
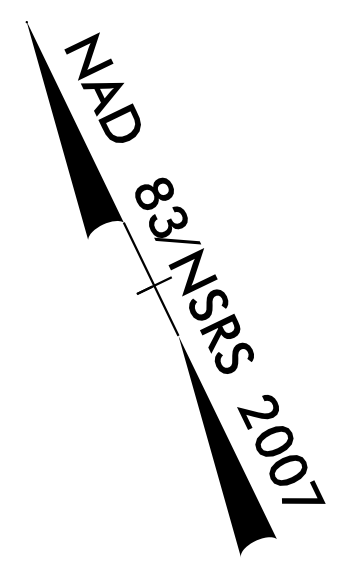
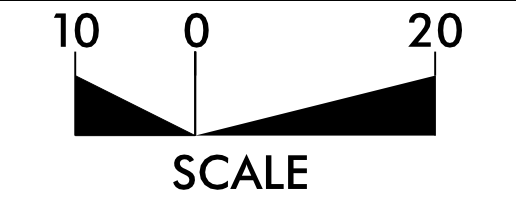
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Sketch Showing Bridge/Roadway Relationship



PROJECT REFERENCE NO. B-5383	SHEET NO. 4A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 026964 BRON C. KEY	HYDRAULICS ENGINEER SEAL 041420 CHRISTOPHER R. LEWIS
1/3/2017	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



PI Sta 11+10.82	PI Sta 12+69.66
$\Delta = 23^\circ 13' 25.3" (RT)$	$\Delta = 27^\circ 11' 29.6" (LT)$
$D = 23^\circ 52' 23.7"$	$D = 23^\circ 52' 23.7"$
$L = 97.28'$	$L = 113.90'$
$T = 49.32'$	$T = 58.04'$
$R = 240.00'$	$R = 240.00'$
$SE = EXIST.$	$SE = .04$

FOR -DET- PROFILE, SEE SHEET NO. 5
FOR -L-, SEE SHEET NO. 4
FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-16

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5/28/99

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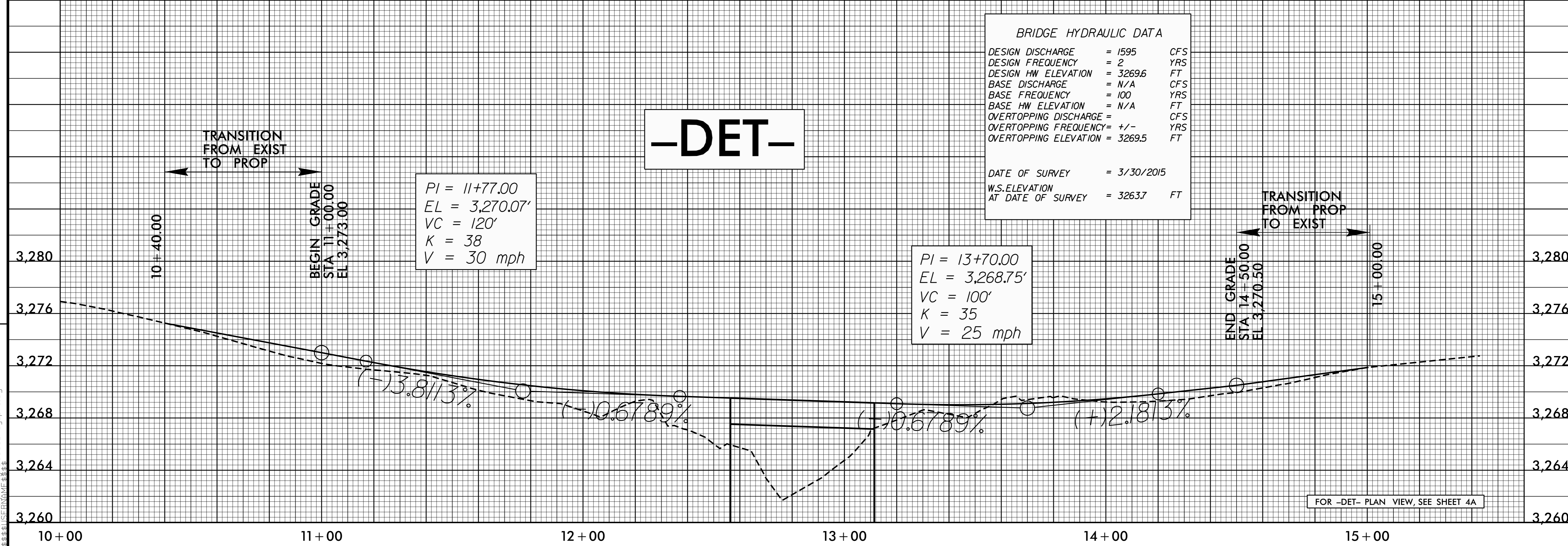
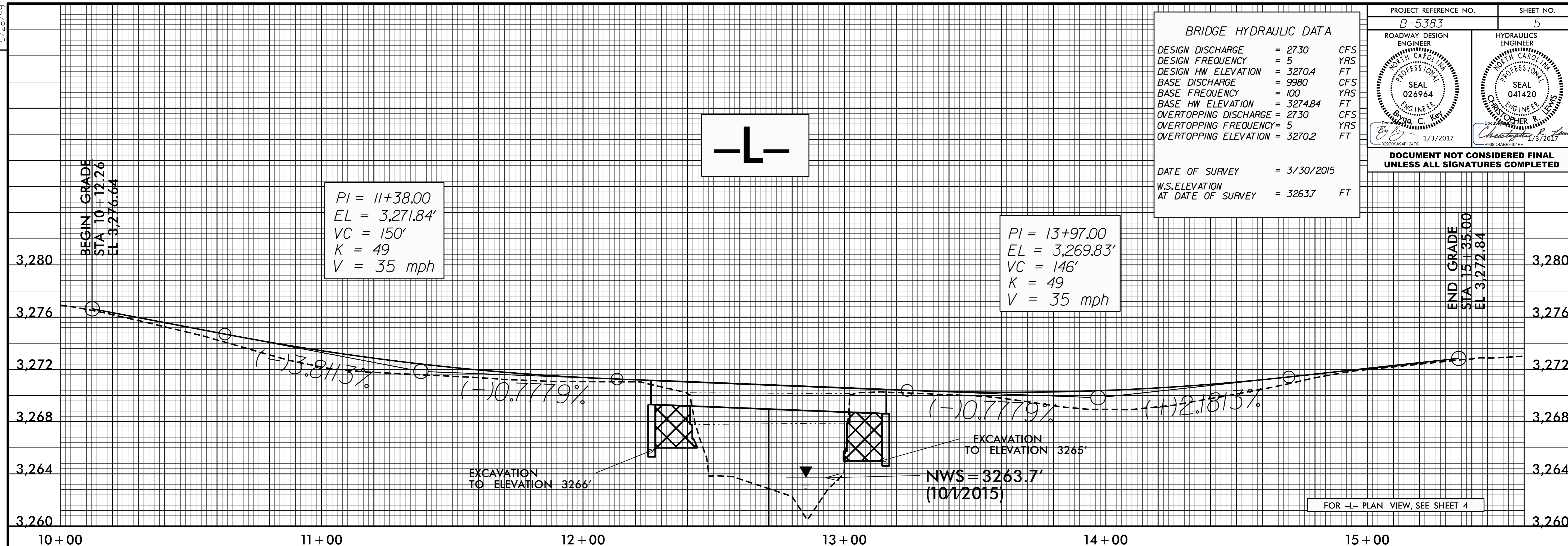
PROJECT REFERENCE NO. B-5383	SHEET NO. 5
ROADWAY DESIGN ENGINEER SEAL 026964 1/3/2017	HYDRAULICS ENGINEER SEAL 041420 1/3/2017

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 2730	CFS
DESIGN FREQUENCY	= 5	YRS
DESIGN HW ELEVATION	= 3270.4	FT
BASE DISCHARGE	= 9980	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 3274.84	FT
OVERTOPPING DISCHARGE	= 2730	CFS
OVERTOPPING FREQUENCY	= 5	YRS
OVERTOPPING ELEVATION	= 3270.2	FT

DATE OF SURVEY = 3/30/2015
W.S.ELEVATION AT DATE OF SURVEY = 3263.7 FT

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