

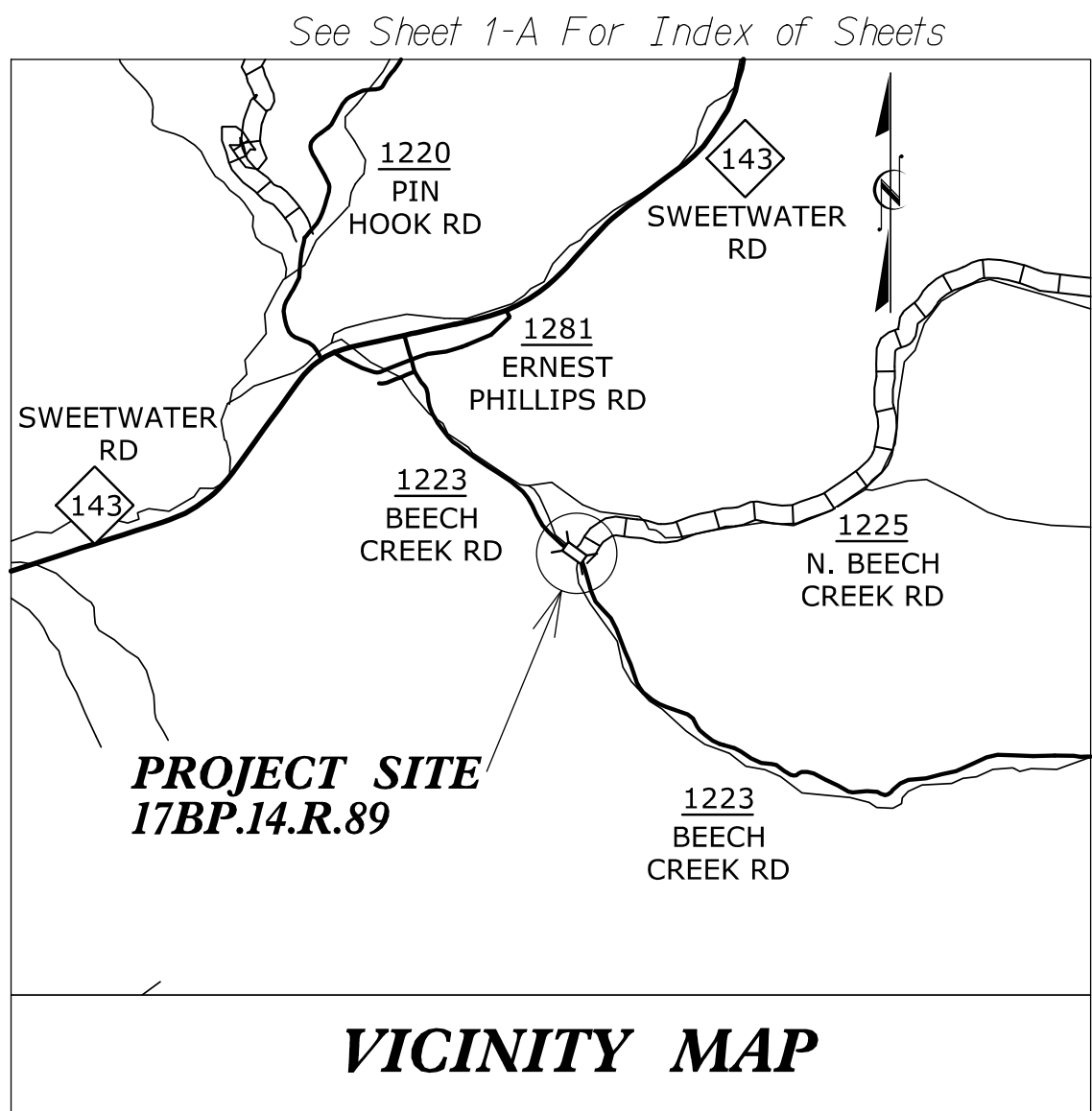
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and is Not a Certified Document –**

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and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

**This file or an individual page
shall not be considered a certified document.**

TIP PROJECT: 17BP.14.R.89

CONTRACT: DN00265



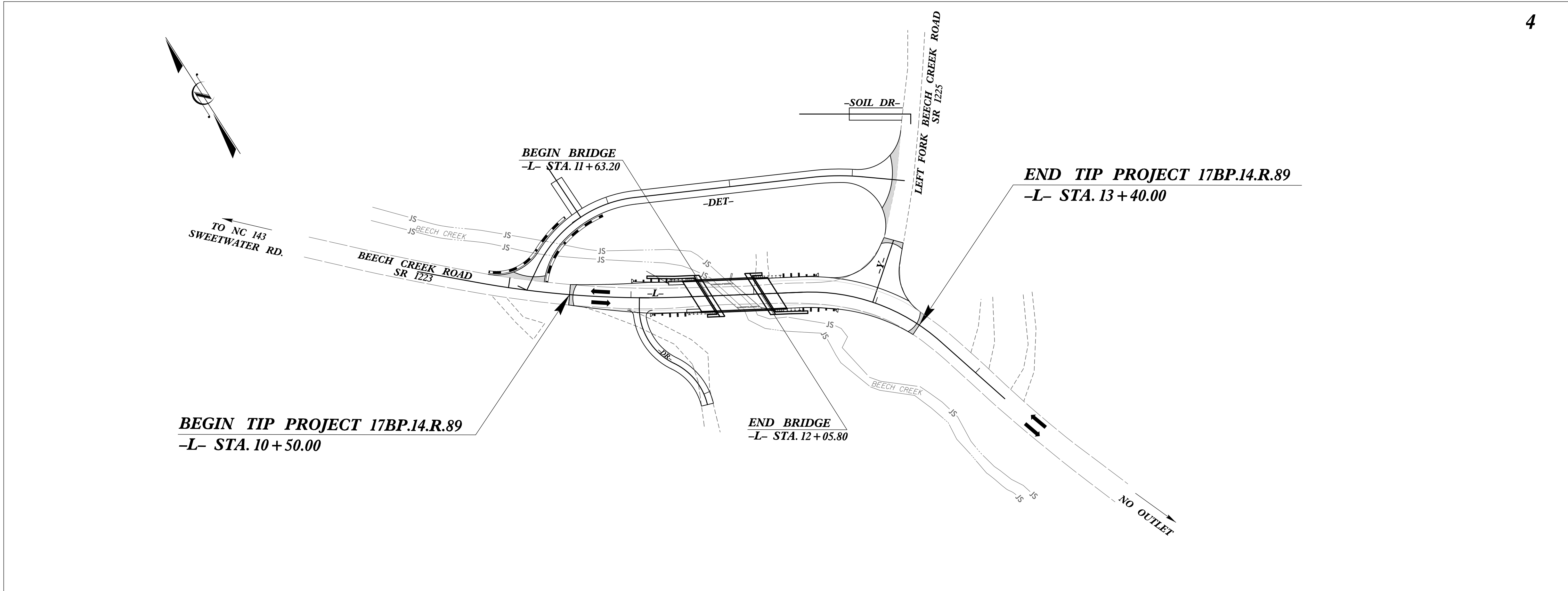
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GRAHAM COUNTY

LOCATION: REPLACEMENT OF BRIDGE NO. 49 ON BEECH CREEK RD. (SR 1223) OVER BEECH CREEK

TYPE OF WORK: GRADING, PAVING, TRAFFIC CONTROL, DRAINAGE, & STRUCTURES

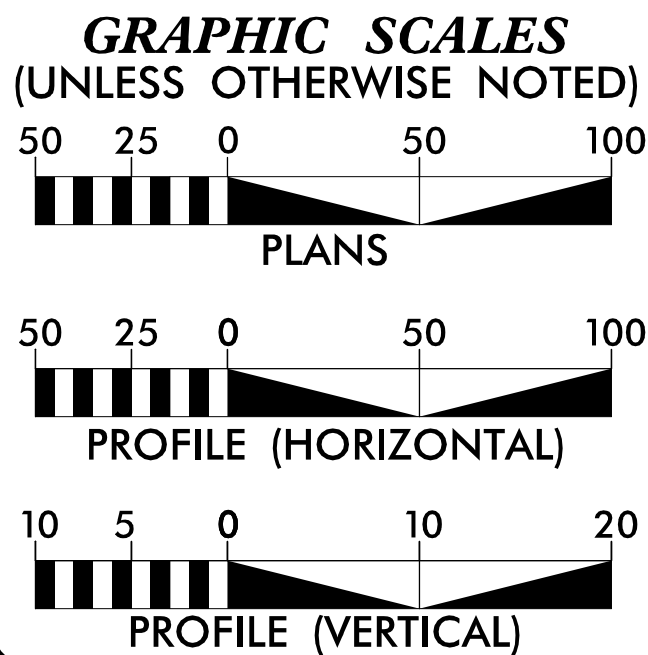
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.89	1	X
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.14.R.89	N/A	RIGHT-OF-WAY	
17BP.14.R.89	N/A	PE	
17BP.14.R.89	N/A	CONSTRUCTION	



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

CONTACT: JOSHUA B. DEYTON, P.E.
NCDOT HIGHWAY DIVISION 14

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



DESIGN DATA

ADT 2010 = 570
ADT 2025 = 1140
DHV = NA %
D = NA %
T = 6 % *
V = 25 MPH
* TTST = NA DUAL NA
FUNC CLASS =
LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT 17BP.14.R.89 = 0.047 MILE
LENGTH OF STRUCTURE PROJECT 17BP.14.R.89 = 0.008 MILE
TOTAL LENGTH PROJECT 17BP.14.R.89 = 0.055 MILE

Prepared In the Office of:

WSP

For The

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

NICK RAMIREZ, PE
PROJECT ENGINEER

LETTING DATE:

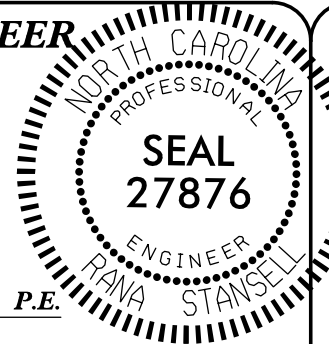
JENNIFER L. STARNES, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

2/10/2016

DocuSigned by:
Kana Stansell
K0FF38A0A26ABD...

SIGNATURE:

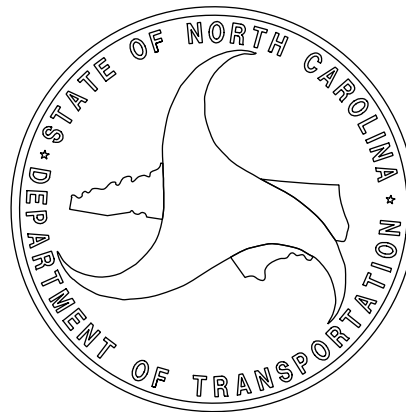
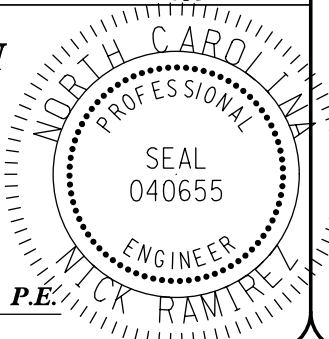


ROADWAY DESIGN ENGINEER

2/10/2016

DocuSigned by:
Nick Ramirez
F30EDDCE98C486...

SIGNATURE:



2/4/2016
R:\Raleid

Note: Not to Scale

**S.U.E. = Subsurface Utility Engineering*

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
17BP14.R.89	1-B

CONVENTIONAL PLAN SHEET SYMBOLS

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	(23)
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
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	➤
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 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	--- T
Proposed Guardrail	--- T
Existing Cable Guiderail	--- T
Proposed Cable Guiderail	--- T

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	● --- ●
Recorded U/G Power Line	--- P
Designated U/G Power Line (S.U.E.*)	--- P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	○ T
Telephone Booth	▭ T
Telephone Pedestal	▭ T
Telephone Cell Tower	⬇
U/G Telephone Cable Hand Hole	▭ T
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	○ W
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	▭ TV
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:

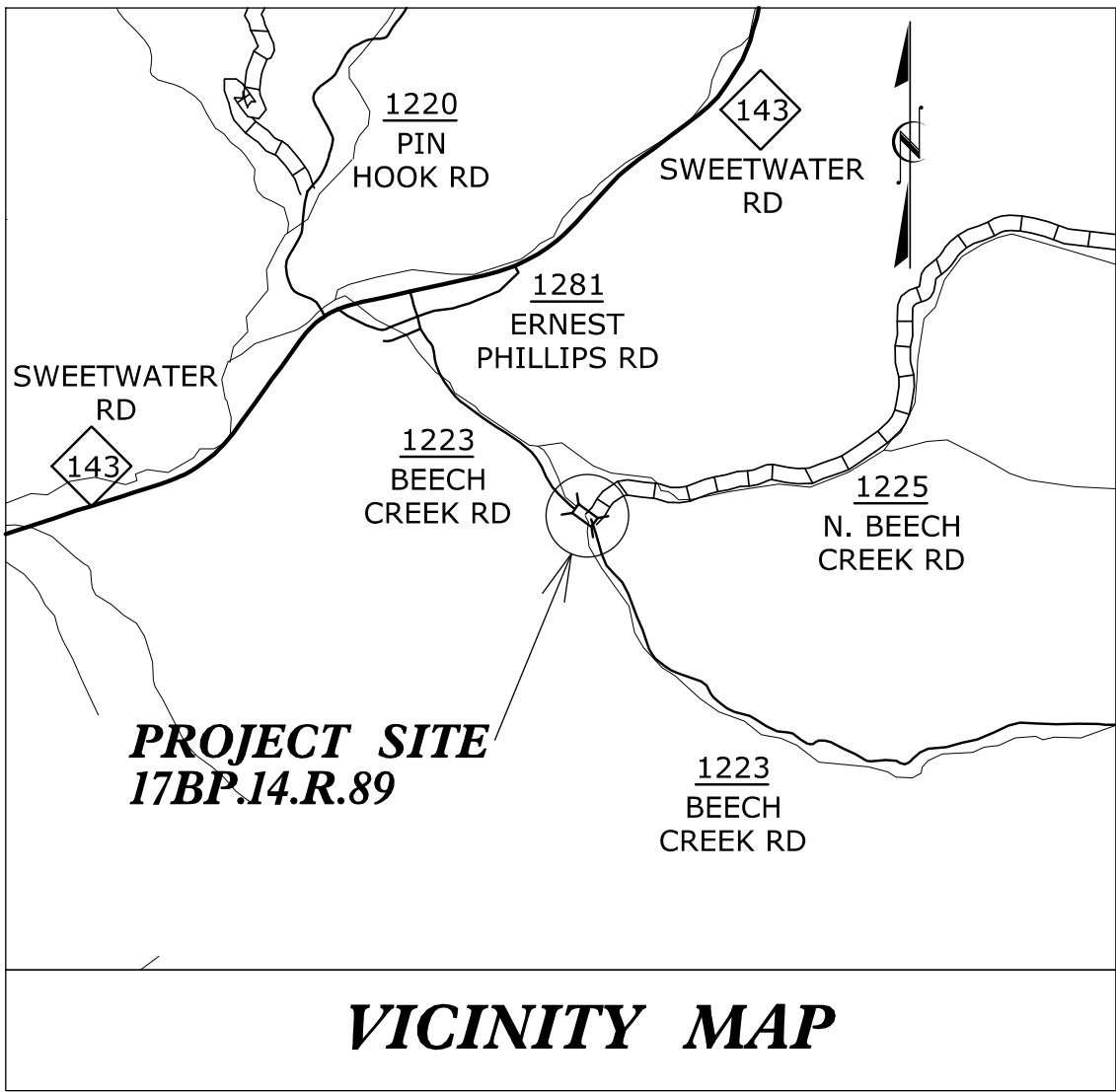
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	--- SS
Above Ground Sanitary Sewer	--- A/G Sanitary Sewer
Recorded SS Forced Main Line	--- FSS
Designated SS Forced Main Line (S.U.E.*)	--- FSS

MISCELLANEOUS:

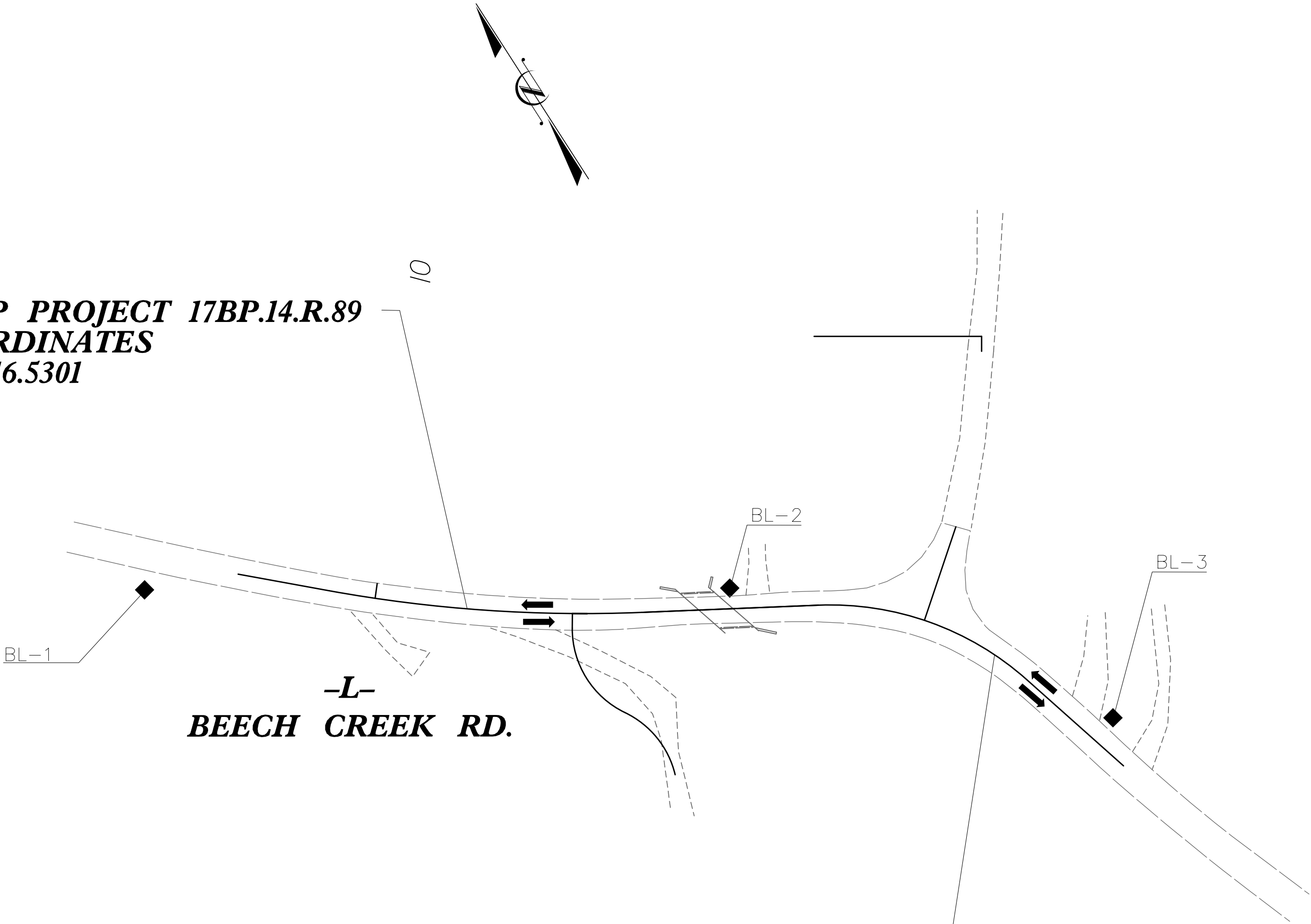
Utility Pole	●
Utility Pole with Base	▭
Utility Located Object	○
Utility Traffic Signal Box	▭ S
Utility Unknown U/G Line	--- UTL
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	⬆ UST
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	⬆
U/G Test Hole (S.U.E.*)	⬆
Abandoned According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

SURVEY CONTROL SHEET 17BP.14.R.89

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	L OFFSET
1		-BL- 1	610152.1300	586875.5390	2320.75	OUTSIDE LIMITS	OUTSIDE LIMITS
2		-BL- 2	609982.4410	587141.6820	2332.37	11+92.35	10.76 LT
3		-BL- 3	609811.9080	587277.8130	2348.00	14+10.72	15.37 LT



-L- STA. 10+50.00 BEGIN TIP PROJECT 17BP.14.R.89
LOCALIZED PROJECT COORDINATES
N = 610049.9511 E = 587016.5301



-L- STA. 13+40.00 END TIP PROJECT 17BP.14.R.89
LOCALIZED PROJECT COORDINATES
N = 609875.4020 E = 587242.5381

NOTES:

- THE CONTROL DATA FOR THIS PROJECT WAS PROVIDED BY NCDOT. CONTROL POINTS PROVIDED ARE AS FOLLOWS:
BL-1
BL-2
BL-3
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.
-  INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY NCDOT.
 INDICATES CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY NCDOT.

DATUM DESCRIPTION

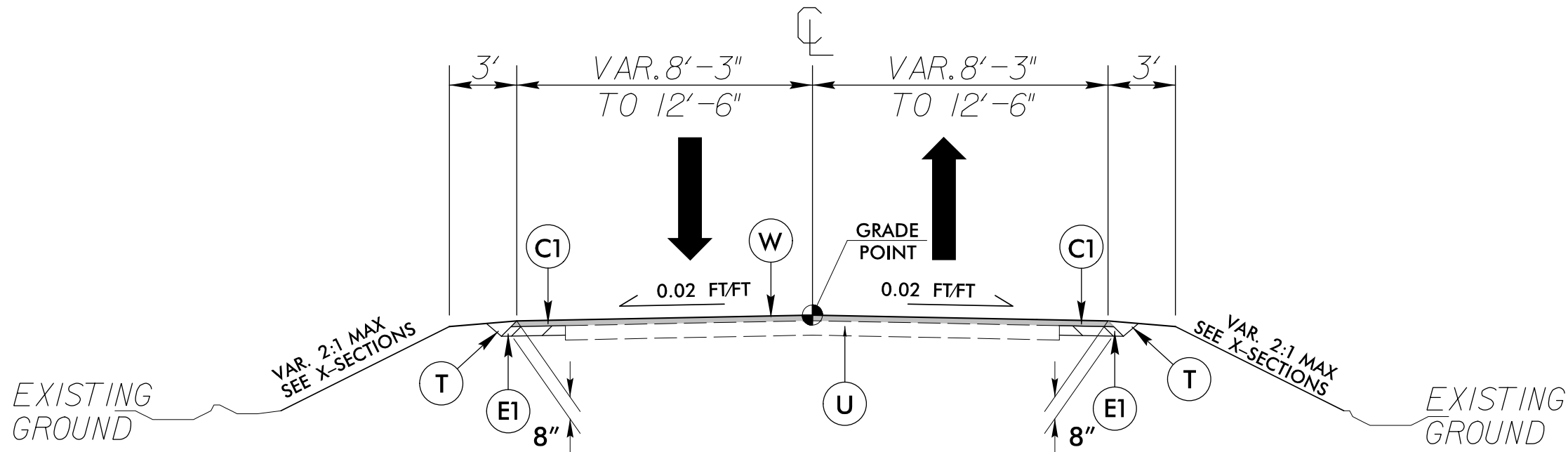
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "G101" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 610432.930(±) EASTING: 586641.317(±) ELEVATION: 2302.443(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .99976751 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "G101" TO -L- STATION IS

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

8/17/99

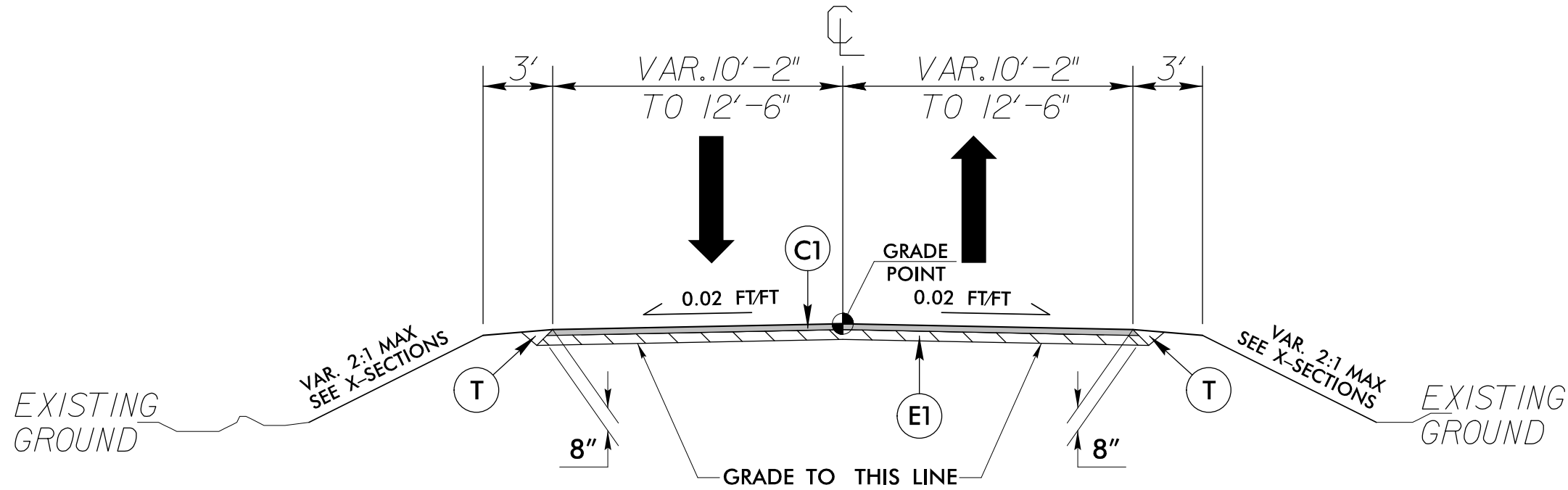
REVISIONS

2/4/2016
R:\RSD\Tech Office NCDOT\178P GROUP 1\17BP.14.RB9_370049\Roadway\Proc\NR.B9_RDY_TYP_02.dgn
15H024107



TYPICAL SECTION NO. 1

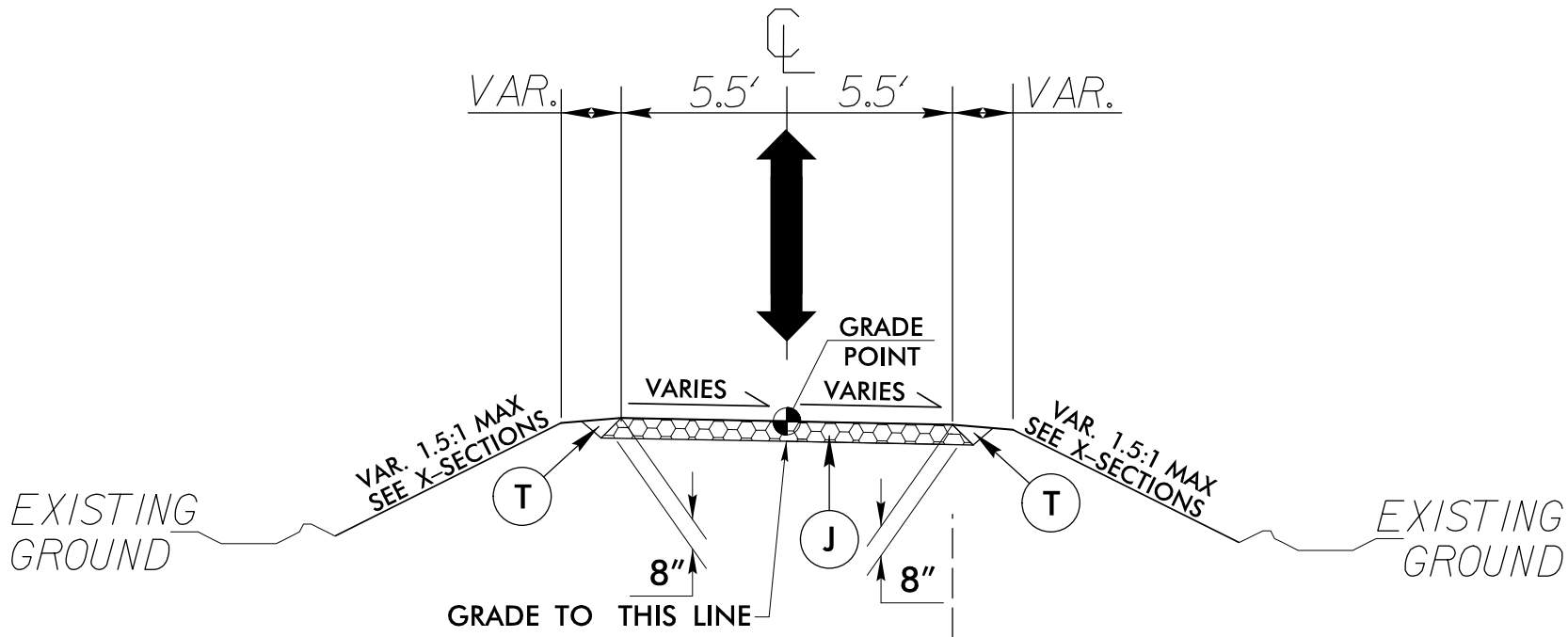
-L- STA. 10+50.00 TO STA. 11+15.00
-L- STA. 12+50.00 TO 13+40.00
-Y- STA. 10+12.50 TO 10+53.23



TYPICAL SECTION NO. 2

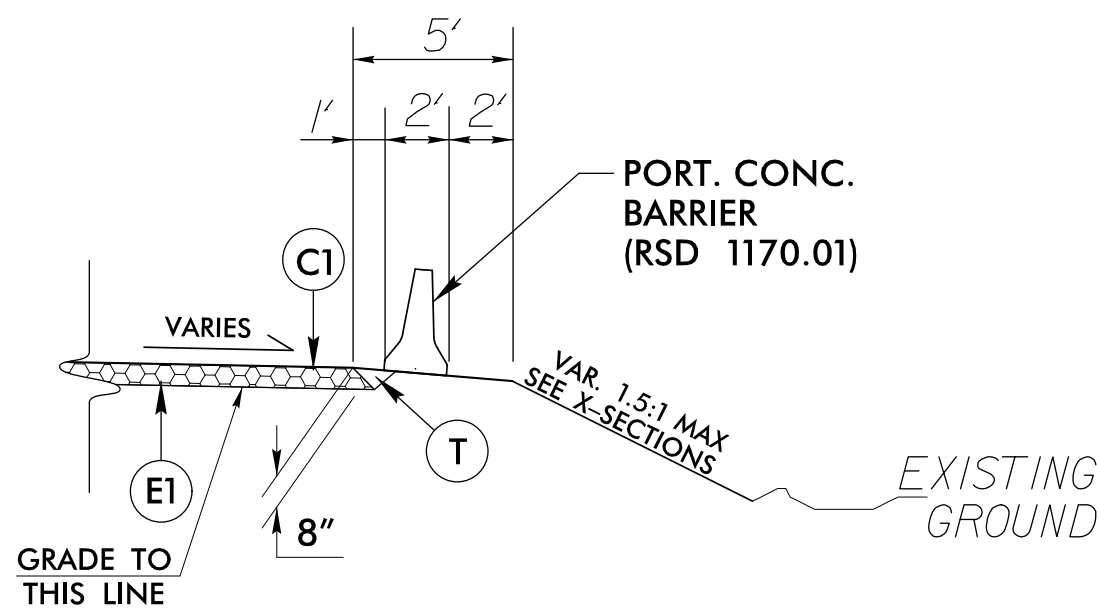
(USE IN CONJUNCTION WITH DETAIL A)

-L- STA. 11+15.00 TO STA. 11+60.70 (BEGIN BRIDGE)
-L- STA. 12+08.30 (END BRIDGE) TO 12+50.00



TYPICAL SECTION NO. 3

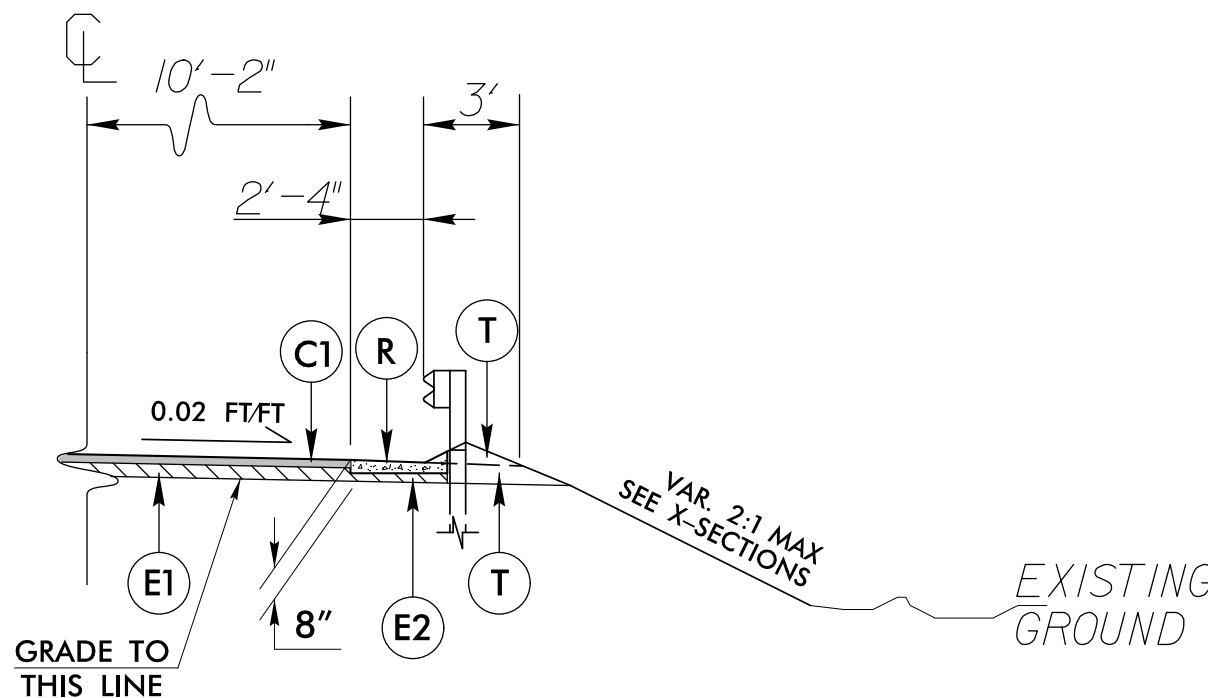
-DET- STA. 10+08.73 TO STA. 13+36.03



DETAIL B

PORTABLE CONCRETE BARRIER DETAIL

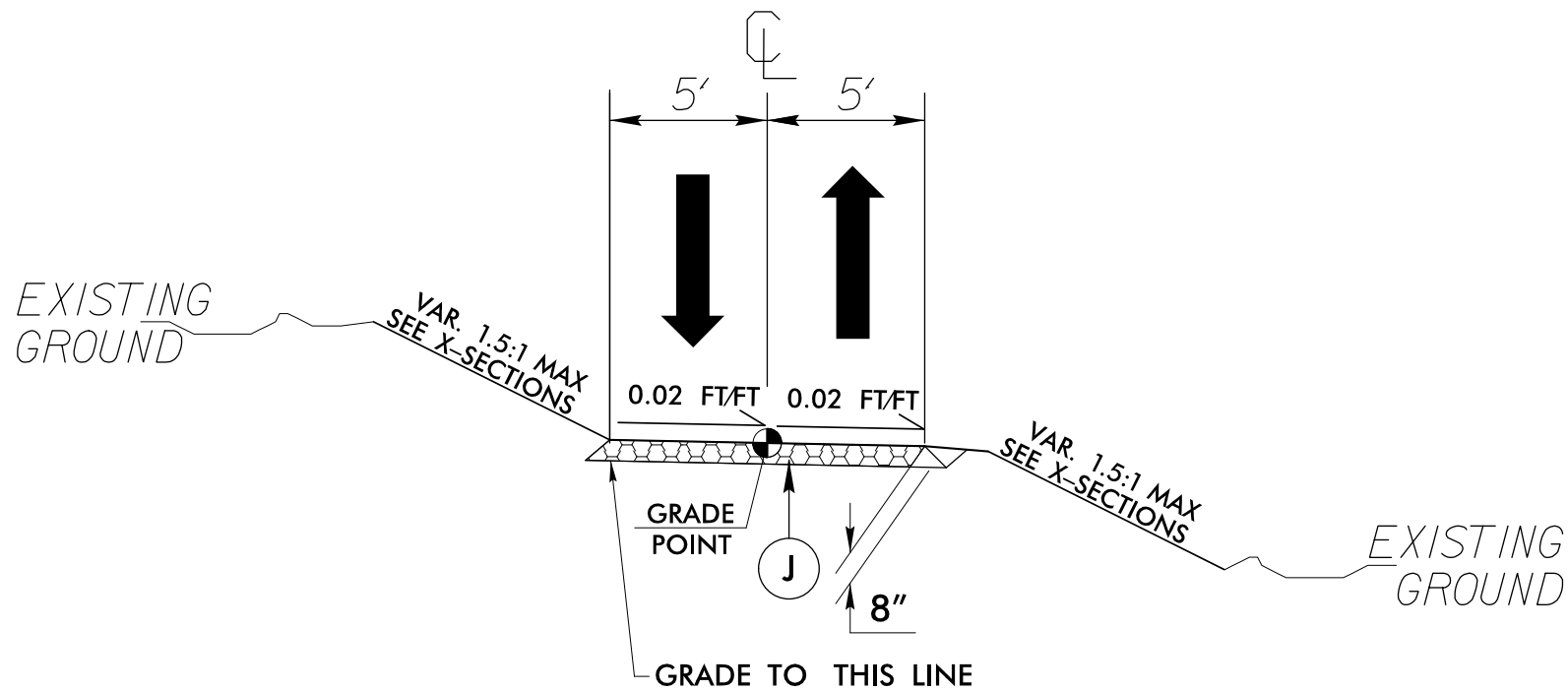
-DET- STA. 10+12.41 TO STA. 10+92.00 (RT)
-DET- STA. 10+00.00 TO STA. 10+65.00 (LT)



DETAIL A

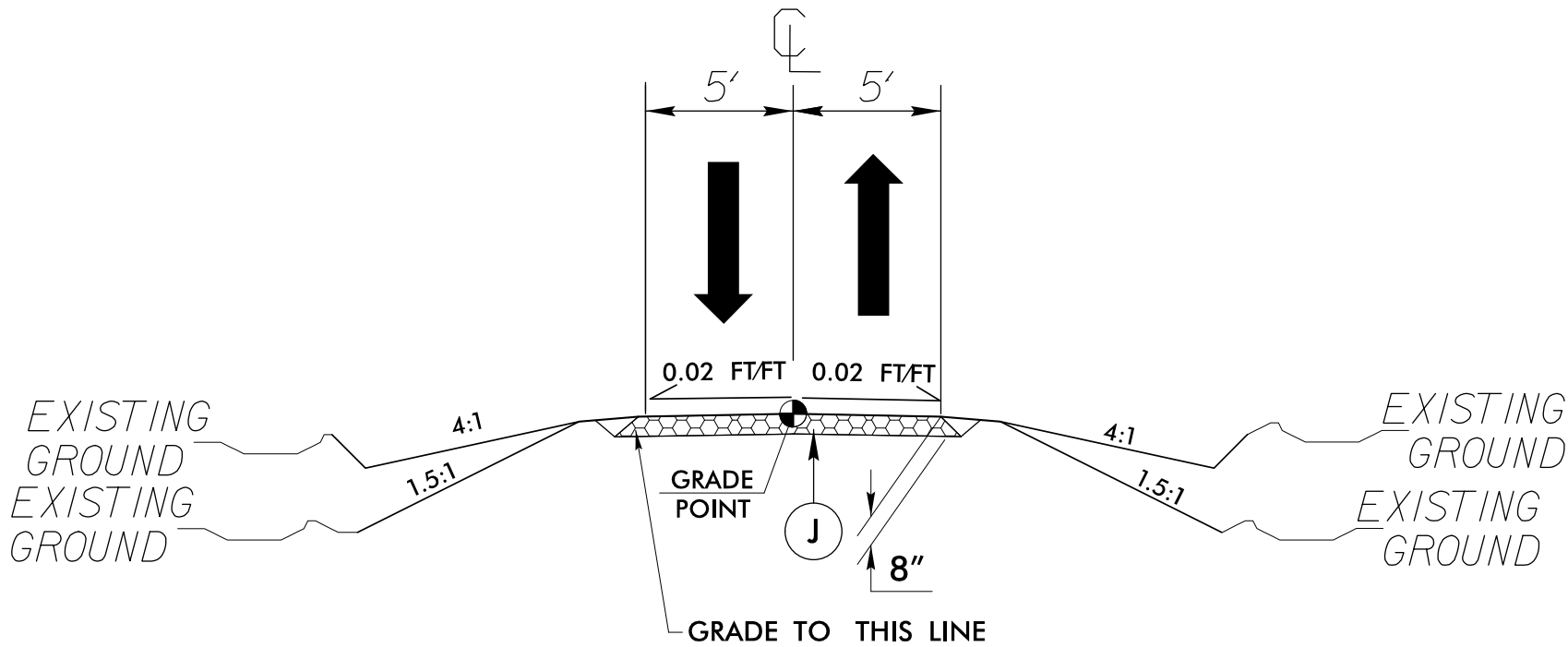
SHOULDER BERM GUTTER SECTION

-L- STA. 11+30.84 TO 11+46.48 (LT)
-L- STA. 11+46.00 TO 11+59.96 (RT)



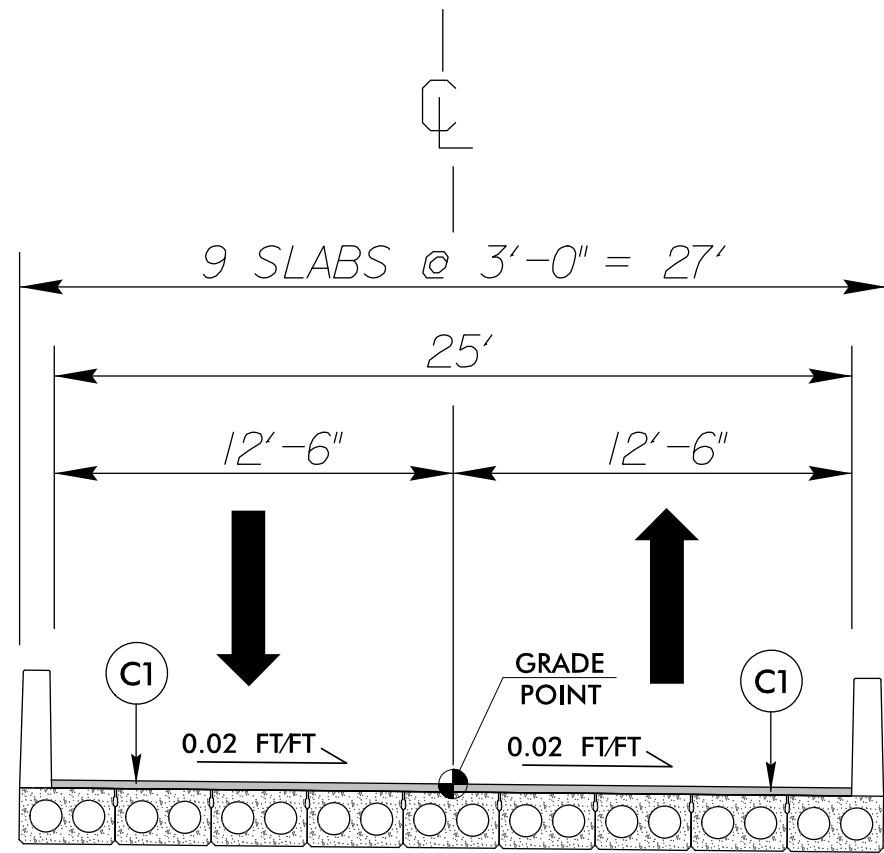
TYPICAL SECTION NO. 4

-DR- STA. 10+12.06 TO STA. 11+09.06



TYPICAL SECTION NO. 5

-SOIL DR- STA. 10+06.74 TO STA. 10+50.00



BRIDGE TYPICAL SECTION



434 Fayetteville Street Suite 1500
Raleigh, NC 27601 - 919.836.4040
www.wspgroup.com
LICENSE NO. F-0891

PROJECT REFERENCE NO. 17BP.14.R.89
SHEET NO. 2

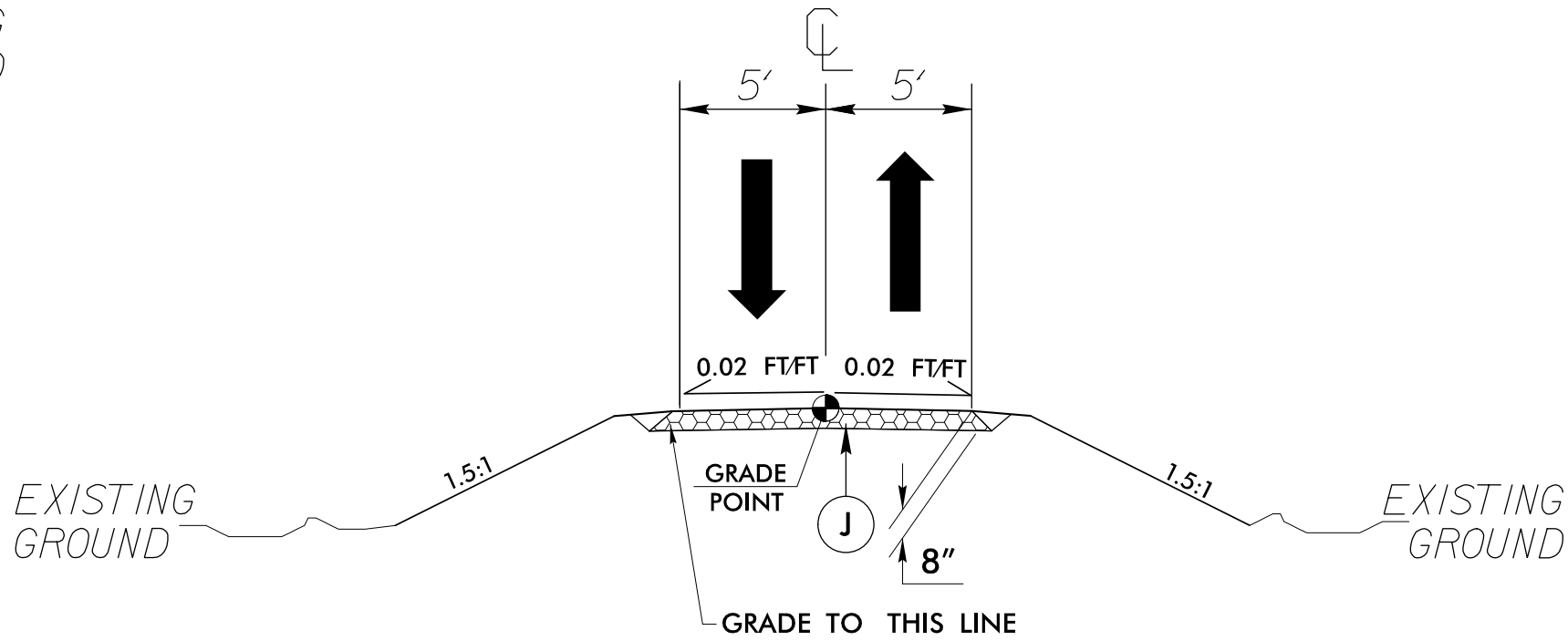
ROADWAY DESIGN
ENGINEER
Nick Parvies
2/10/2016
SEAL
040655
WSP GROUP
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PAVEMENT SCHEDULE

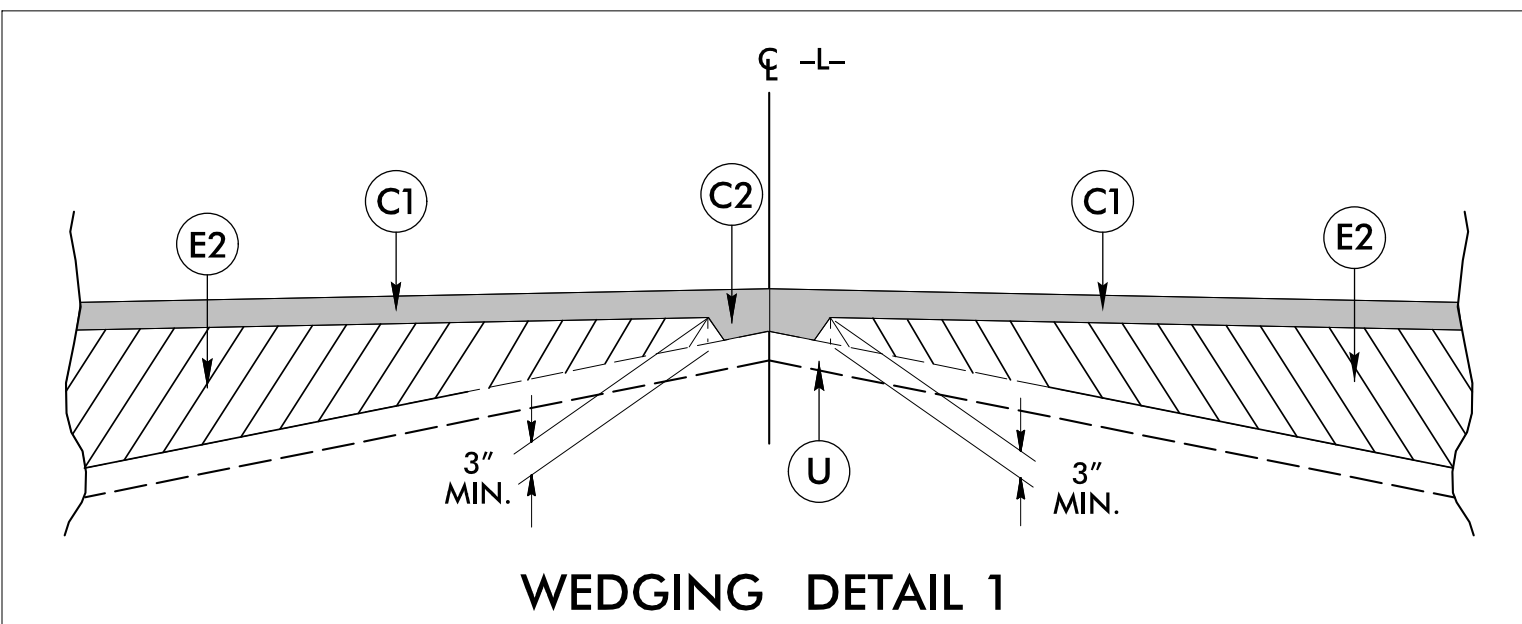
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 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 5½" IN DEPTH.
J	PROP. 8" AGGREGATE BASE COURSE.
R	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING (SEE DETAIL THIS SHEET).

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



TYPICAL SECTION NO. 5

-TEMP-DR- STA. 10+05.50 TO STA. 10+36.00



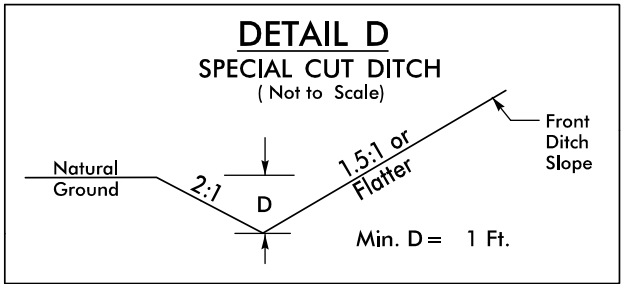
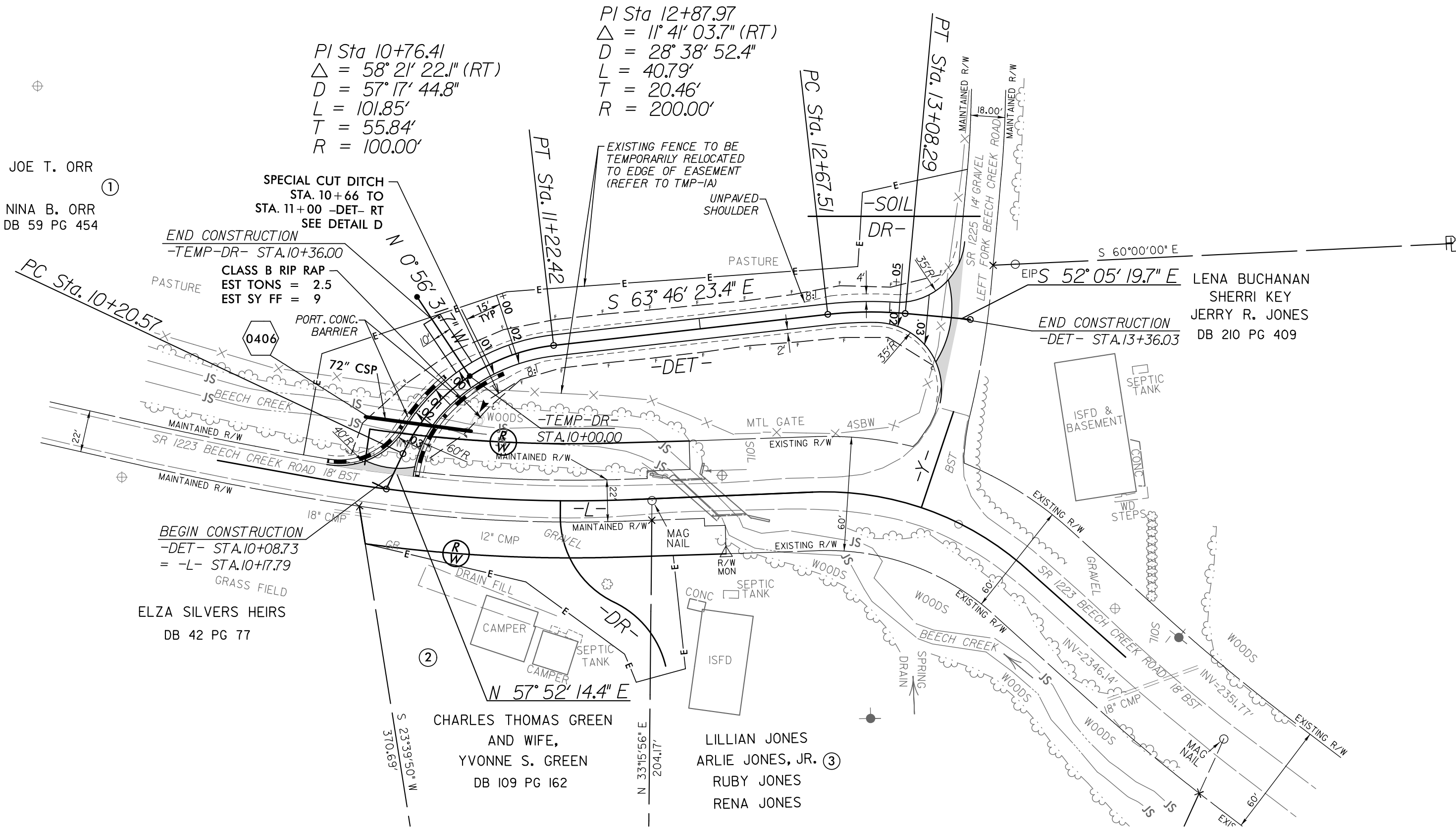
WEDGING DETAIL 1

8/17/99

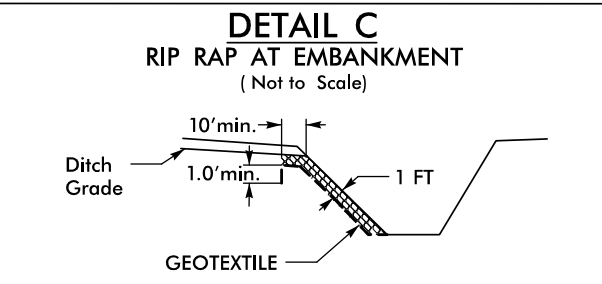
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REVISIONS

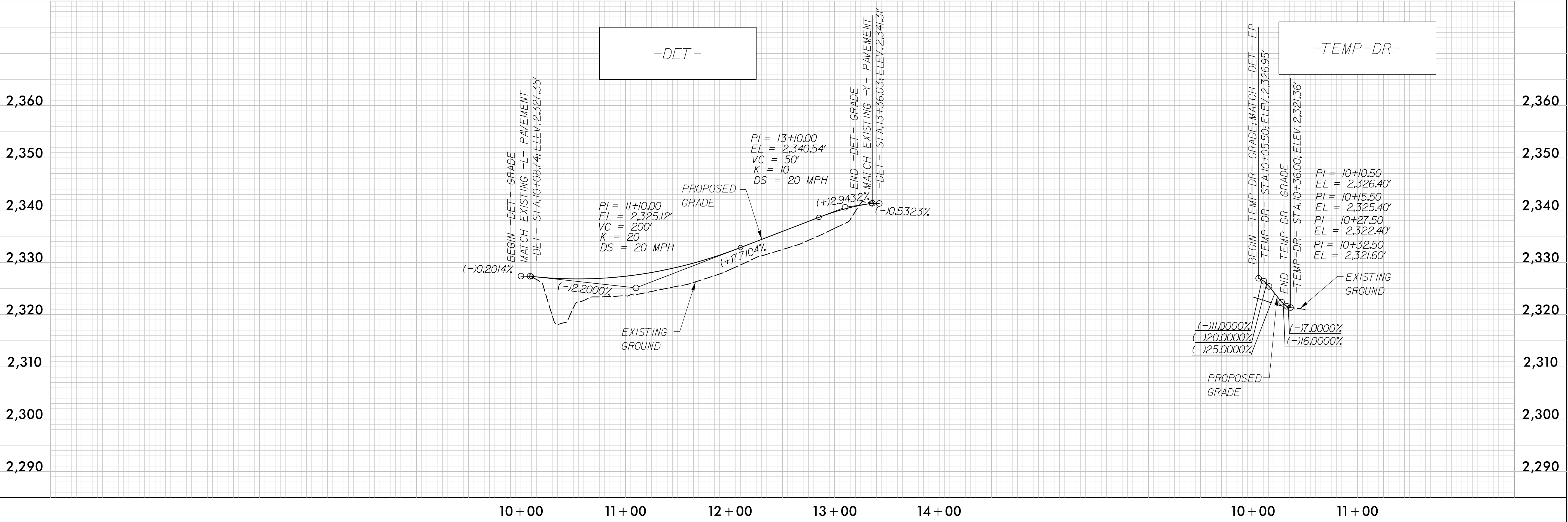
DETOUR



FROM -DET- STA. 10+66 TO STA. 11+00 RT



Type of Liner = 2.5 TONS CL B Rip-Rap
Geotextile = 9 SY
FROM -DET- STA. 10+62 TO STA. 10+69 RT



[illegible]

STATION	STATION	UNCL. EXCAV. (CY)	EMBANK. + (CY)	BORROW (CY)	WASTE (CY)
-TEMP DR- 10 + 05 +/-	-TEMP DR- 10 + 36 +/-		86	86	
-DET- 10 + 08 +/-	-DET- 13 + 36 +/-	31	978	947	
SUBTOTAL 1:		31	1064	1033	
-L- 10 + 50.00	-L- 11 + 63.20	84	23		61
BRIDGE					
-L- 12 + 05.80	-L- 13 + 40.00	2	39	37	
SUBTOTAL 2:		86	62	37	
-SOIL DR- 10 + 06.00	-SOIL DR- 10 + 50.00	17			17
SUBTOTAL 3:		17			17
-DR- 10 + 12.00	-SOIL DR- 11 + 09.06	28	3		25
SUBTOTAL 4:		28	3		25
DETOUR REMOVAL		978	31		947
TEMP DR REMOVAL		86			86
SUBTOTAL (SUMMARIES 1&2&3&4):		1226	1160	1070	1136
EARTH TO REPLACE BORROW				-1070	-1070
PROJECT TOTAL		1226	1160	0	66
ESTIMATE 5% TOPSOIL FOR BORROW PITS				0	
GRAND TOTAL		1226	1160	0	66
SAY:		1230		0	

NOTE:
APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW
EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL
OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM
PRICE FOR "GRADING."

CONTINGENCY ITEMS

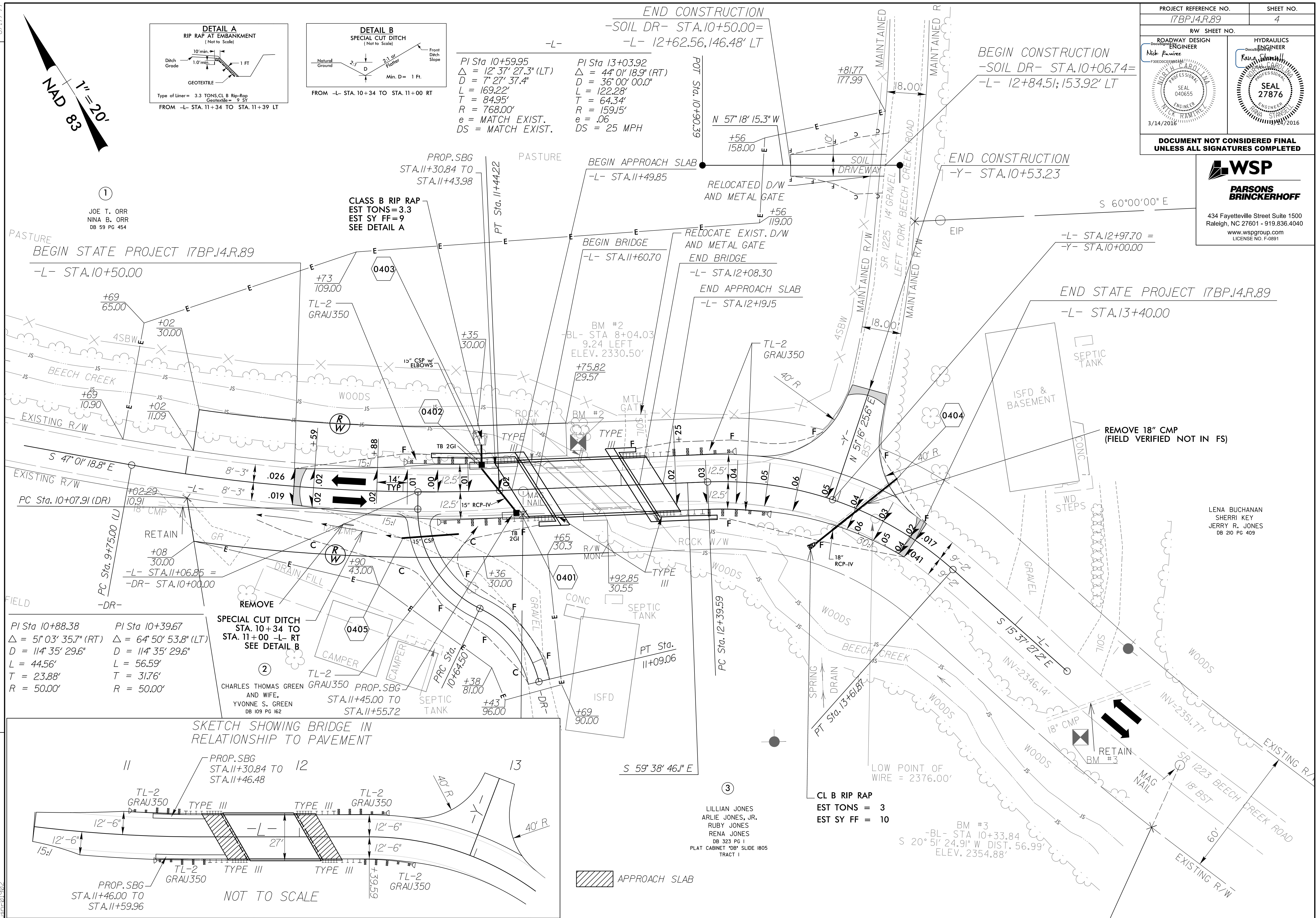
LINE	STATION	STATION	LOCATION L/R/T/CL	YD ²
-L-	11 + 15.00	11 + 83.08	CL	105.13 SY
-L-	11 + 86.29	12 + 50.00	CL	99.08 SY
			TOTAL:	204.21 SY
			SAY:	210 SY

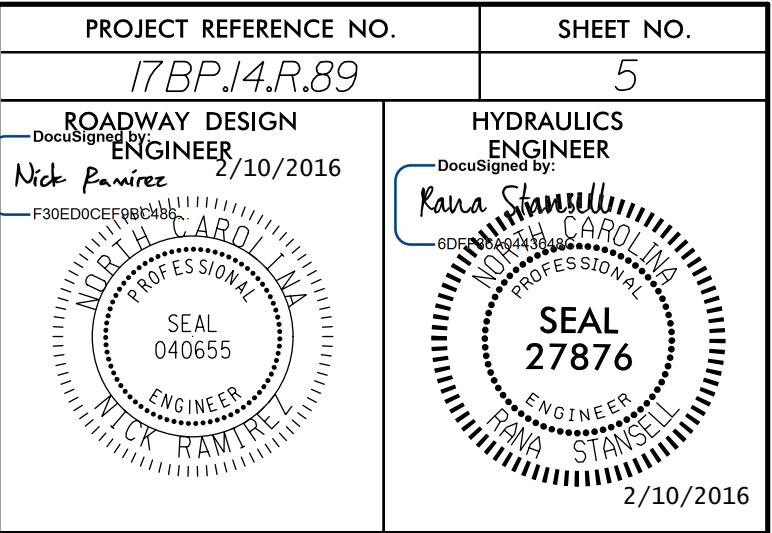
ITEM	QUANTITY	UNIT
INCIDENTAL STONE BASE	50	TONS
UNDERCUT EXCAVATION	50	CY
SEL GRANULAR MATL CL III	50	CY

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

[illegible]

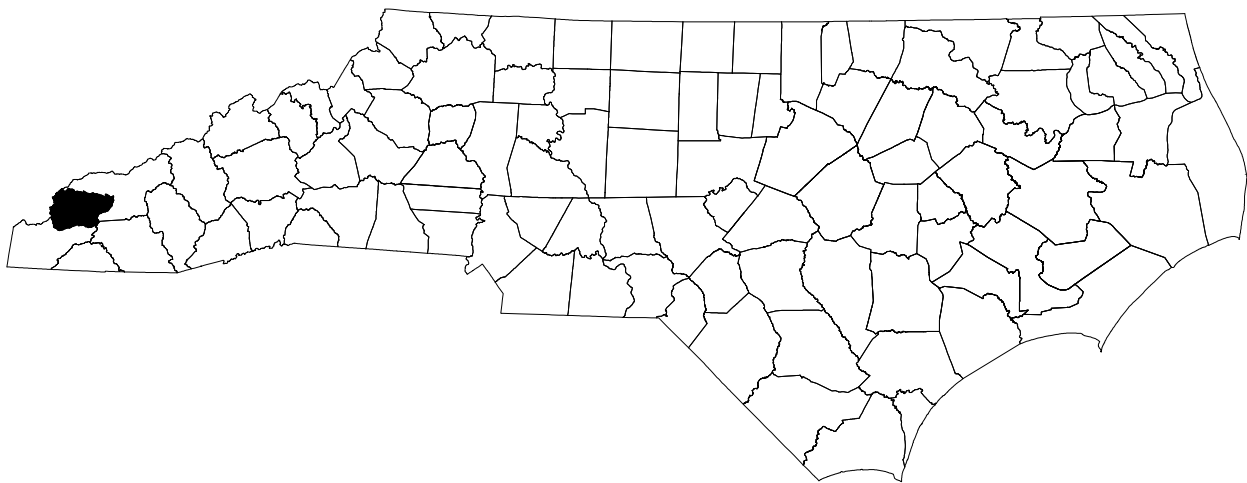




2/4/2016
R:\Raleigh Office NCDOT\N7BP GROUP\N7BP.14.R.89_370049\Traffic\TrafficControl\TCP\N.R.89_TC_PSH_01.dgn
USHC04407

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN
GRAHAM COUNTY



INDEX OF SHEETS

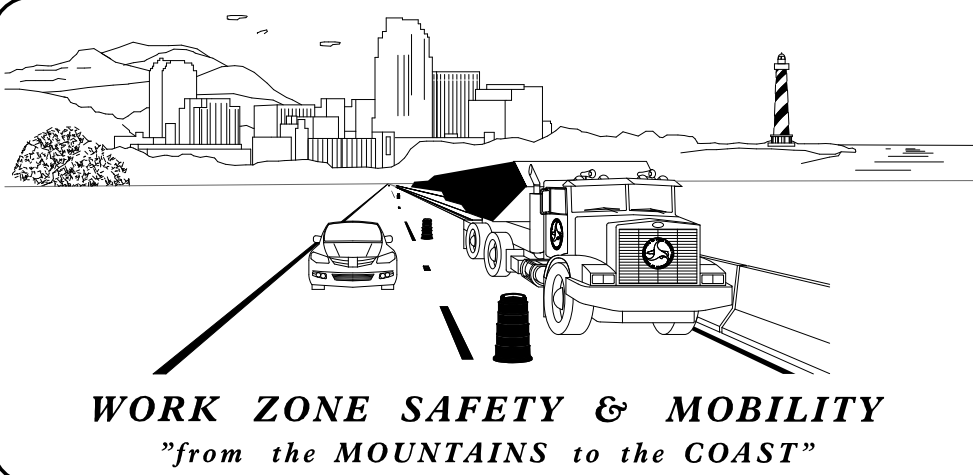
SHEET NO.	TITLE
TMP-1	TITLE SHEET, INDEX OF SHEETS LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1A	CONSTRUCTION PHASING AND GENERAL NOTES
TMP-2	CONSTRUCTION PHASING PLAN

ROADWAY STANDARD DRAWINGS

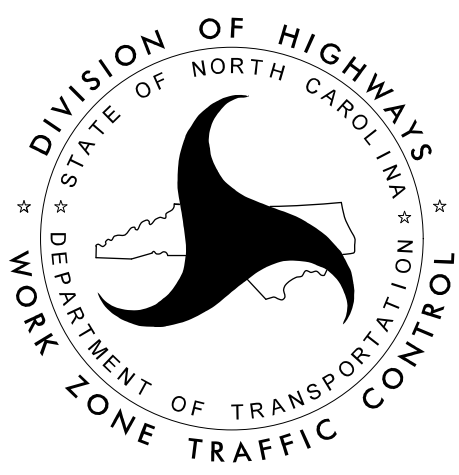
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.03	TEMPORARY ROAD CLOSURES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1170.01	POSITIVE PROTECTION - PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL 1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561 750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY) PHONE: (919) 773-2800 FAX: (919) 771-2745	
J. S. BOURNE, P.E.	STATE TRAFFIC MANAGEMENT ENGINEER
JOSEPH ISHAK, P.E.	TRAFFIC CONTROL PROJECT ENGINEER
	TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	TRAFFIC CONTROL DESIGN ENGINEER



LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.

- WORK AREA
- REMOVAL
- USER DEFINED (IF NEEDED)
- USER DEFINED (IF NEEDED)

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS



APPROVED: Nick Pawnee
DATE: 2/10/2016
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040655 NICK HAMMILL

SHEET NO.

TMP-1

17BP.14.R.89

TIP PROJECT:

PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.89	TMP-1A

CONSTRUCTION PHASING

PHASE I

STEP 1:

INSTALL WORK ZONE ADVANCE WARNING SIGNS ON ALL ROADWAYS WITHIN THE PROJECT LIMITS, AS SHOWN IN ROADWAY STANDARD DRAWING 1101.01.

STEP 2:

TEMPORARILY RELOCATE EXISTING FENCE TO EDGE OF TEMPORARY CONSTRUCTION EASEMENT AND PERMANENTLY RELOCATE EXISTING SOIL DRIVEWAY ON BEECH CREEK ROAD TO LEFT FORK BEECH CREEK ROAD.

CONSTRUCT THE FOLLOWING, AWAY FROM TRAFFIC, AS PER SHEET 2A:

-DET- STA. 10+23 +/- TO 13+21 +/-

STEP 3:

UNDER TRAFFIC, USING ROADWAY STANDARDS DRAWING 1101.02 AND FLAGGERS NECESSARY, CONSTRUCT THE TIE-INS FOR -DET- AS FOLLOWS:

-DET- STA. 10+08 +/- TO 10+23 +/-
-DET- STA. 13+21 +/- TO 13+36 +/-

STEP 4:

PLACE TYPE III BARRICADES WITH "ROAD CLOSED" SIGNS AND SHIFT TRAFFIC INTO ITS TEMPORARY TRAFFIC PATTERN ON -DET-.

PHASE II

STEP 1:

WITH TRAFFIC IN ITS TEMPORARY PATTERN, REMOVE THE EXISTING BRIDGE OVER BEECH CREEK AND CONSTRUCT THE FOLLOWING, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE:

-L- STA. 10+50 +/- TO 12+50 +/-

STEP 2:

UNDER TRAFFIC, USING ROADWAY STANDARDS DRAWING 1101.02 , CONSTRUCT THE FOLLOWING:

-L- STA. 12+50 +/- TO STA. 13+40 +/-
-Y- STA. 10+05 +/- TO STA. 10+53 +/-

SHIFT TRAFFIC INTO ITS FINAL PATTERN.

RESET EXISTING FENCE, RELOCATED IN PHASE I, BACK TO EDGE OF RIGHT OF WAY.

STEP 3:

OBLITERATE -DET- AND RETURN GROUND TO ITS NATURAL STATE.

STEP 4:

UNDER TRAFFIC, USING ROADWAY STANDARDS DRAWING 1101.02 AND ALTERNATING LANE CLOSURES AS NECESSARY ON -L-, CONSTRUCT THE FINAL LAYER OF SURFACE COURSE AND INSTALL FINAL PAVEMENT MARKINGS AS PER PMP.

GENERAL NOTES / LOCAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRE

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

A) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

B) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

C) STATE FORCES WILL BE RESPONSIBLE FOR PERMANENT SIGNING.

D) STATE FORCES WILL BE RESPONSIBLE FOR DETOUR SIGNING OFF THE PROJECT LIMITS.

E) COVER OR REMOVE ALL DETOUR SIGNS WITHIN THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.

F) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

G) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

H) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
BEECH CREEK RD	PAINT	NONE

I) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

J) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

K) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

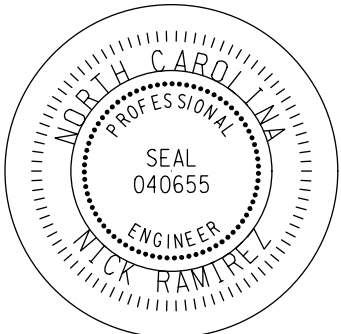


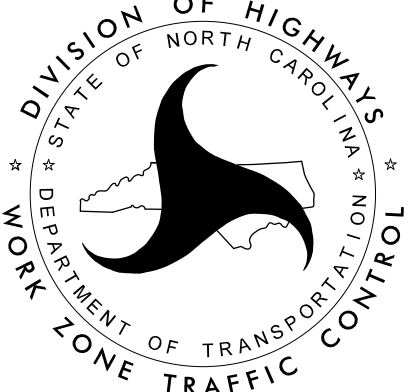
**PARSONS
BRINCKERHOFF**

434 Fayetteville Street Suite 1500
Raleigh, NC 27601 - 919.836.4040
www.wspgroup.com
LICENSE NO. F-0891

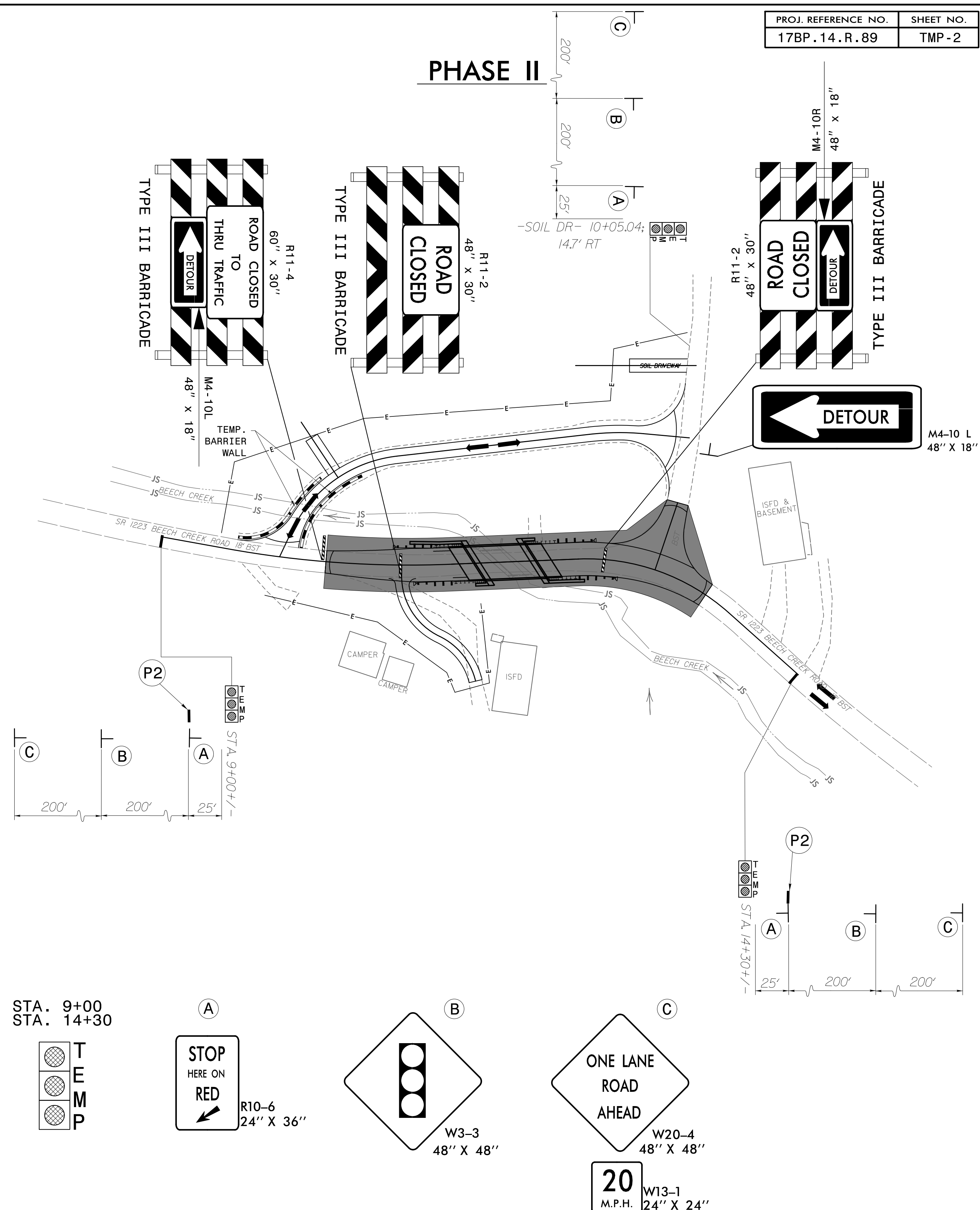
APPROVED: Nick Paniree DATE: 2/10/2018

SEAL





CONSTRUCTION PHASING AND GENERAL NOTES



 **WSP**

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LICENSE NO. 0-0891

SEAL



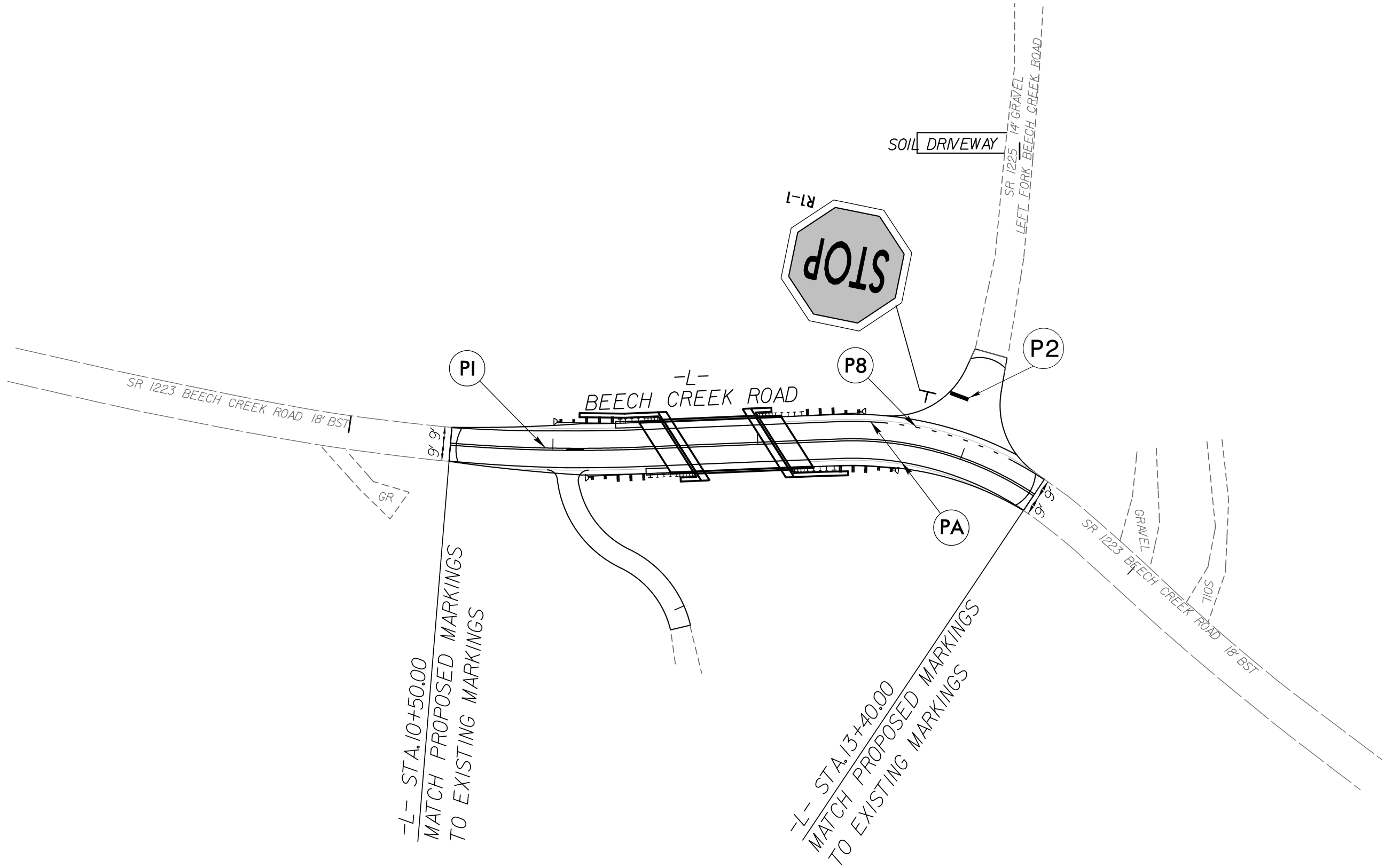
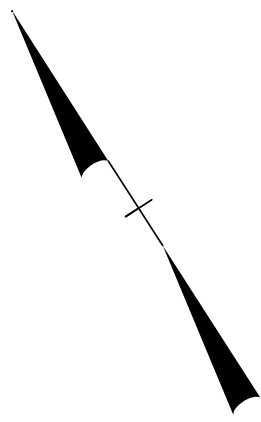
The seal is circular with a double-lined border. The outer ring contains the text "NORTH CAROLINA" at the top and "RICK HAMEL" at the bottom, separated by tick marks. The inner ring contains the text "PROFESSIONAL" at the top and "ENGINEER" at the bottom, also separated by tick marks. In the center of the seal, the word "SEAL" is positioned above the number "040655".

PHASE I AND PHASE II

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.89	PMP - 1

PAVEMENT MARKING SCHEDULE TIP PROJECT # 17BP.14.R.89				
SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS	PAY ITEM QUANTITY BREAKDOWN	TOTAL QUANTITY
PI	YELLOW DOUBLE CENTER	PAINT (4", 2 COATS)	580 LF	1160 LF
PA	WHITE EDGELINE	PAINT (4", 2 COATS)	513 LF	1026 LF
P2	WHITE STOPBAR (24")	PAINT	10 LF	10 LF
P8	2FT. - 6FT/SP WHITE MINISKIP (4")	PAINT (4", 2 COATS)	67 LF	34 LF

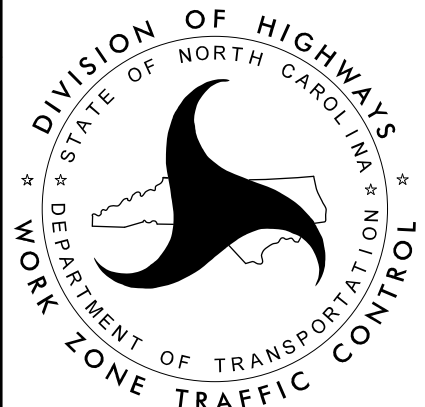
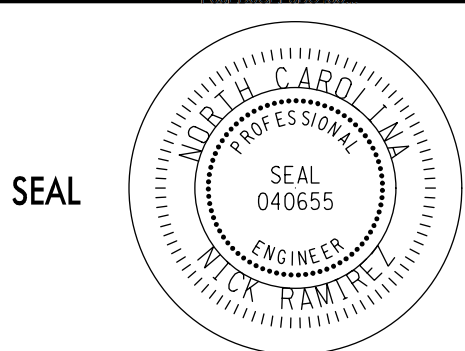
NOTES:
1. WHITE EDGE TO MATCH EXISTING LANE WIDTHS THROUGHOUT NEWLY CONSTRUCTED AREA.



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

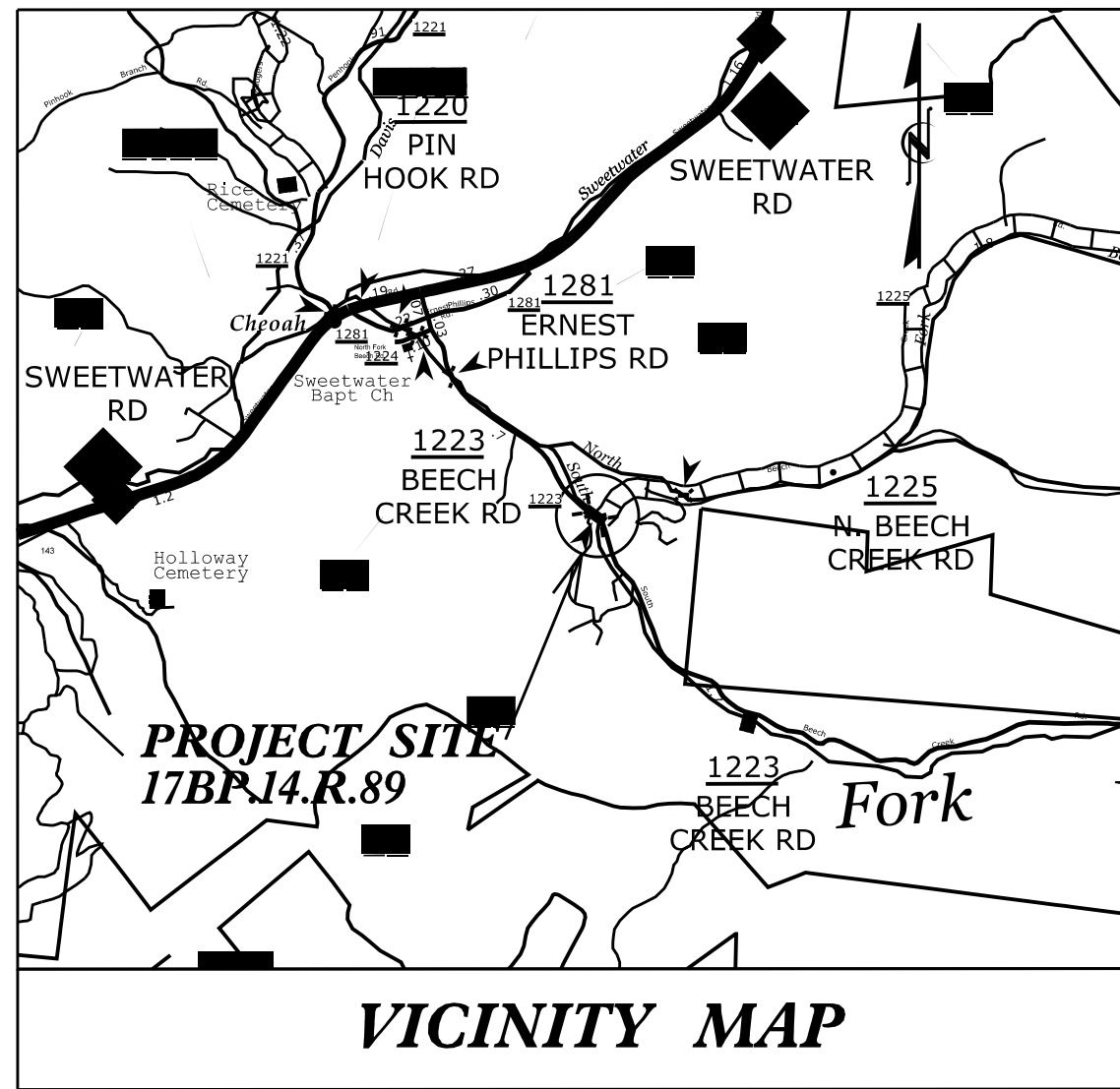
DocuSigned by: 271072019

APPROVED: Nick Paniree DATE: 27/10/2019



PAVEMENT MARKING
PLAN

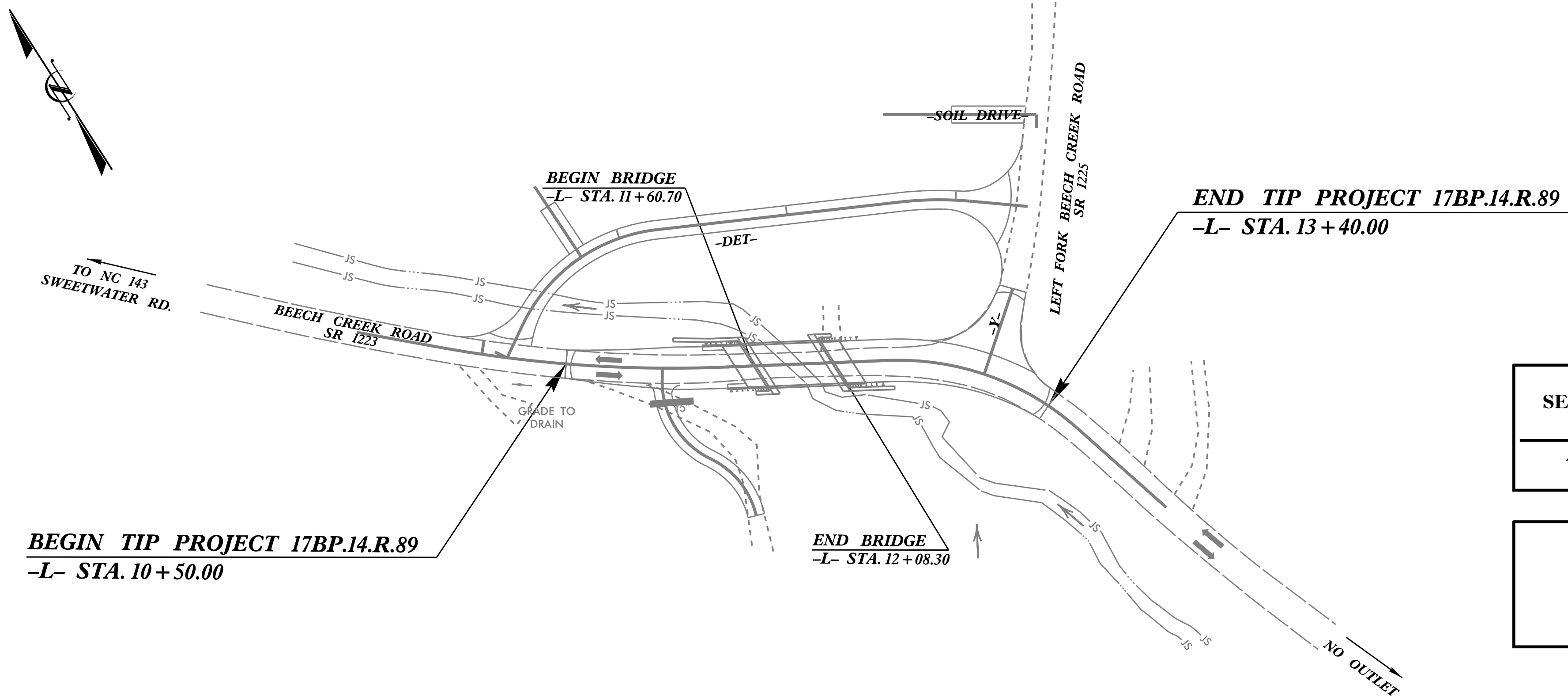
TIP PROJECT: 17BP.14.R.89



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
GRAHAM COUNTY

LOCATION: BRIDGE NO. 370049 ON SR 1223 (BEECH CREEK RD)
OVER BEECH CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE



EROSION AND SEDIMENT CONTROL MEASURES

Sta. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle / Coir Fiber Wattle	W
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	W-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDA-B
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPIST-A
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPIST-B
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SB
	Tiered Skimmer Basin	TSB
	Infiltration Basin	IB

ENVIRONMENTALLY
SENSITIVE AREA(S) EXIST
ON THIS PROJECT

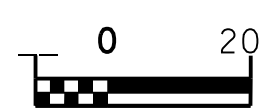
Refer To E. C. Special Provisions
for Special Considerations.

THIS PROJECT HAS
BEEN DESIGNED TO
SENSITIVE WATERSHED
STANDARDS.

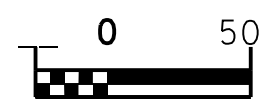
THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.

RANA STANSELL, PE
LEVEL IIIA NAME
3597
LEVEL IIIA CERTIFICATION NO.

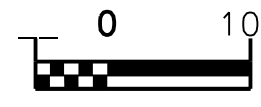
GRAPHIC SCALE



PLANS



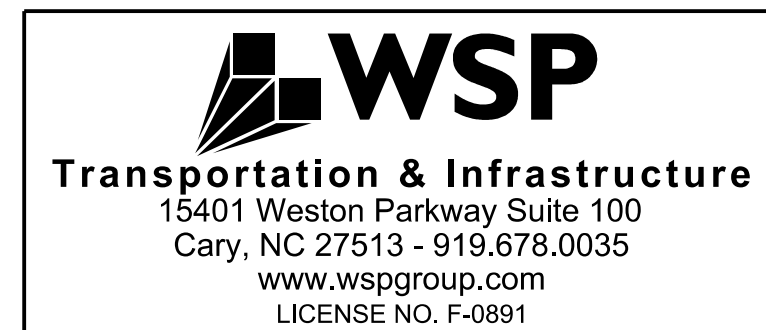
PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY
WITH THE REGULATIONS SET FORTH BY THE
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES DIVISION OF WATER QUALITY.



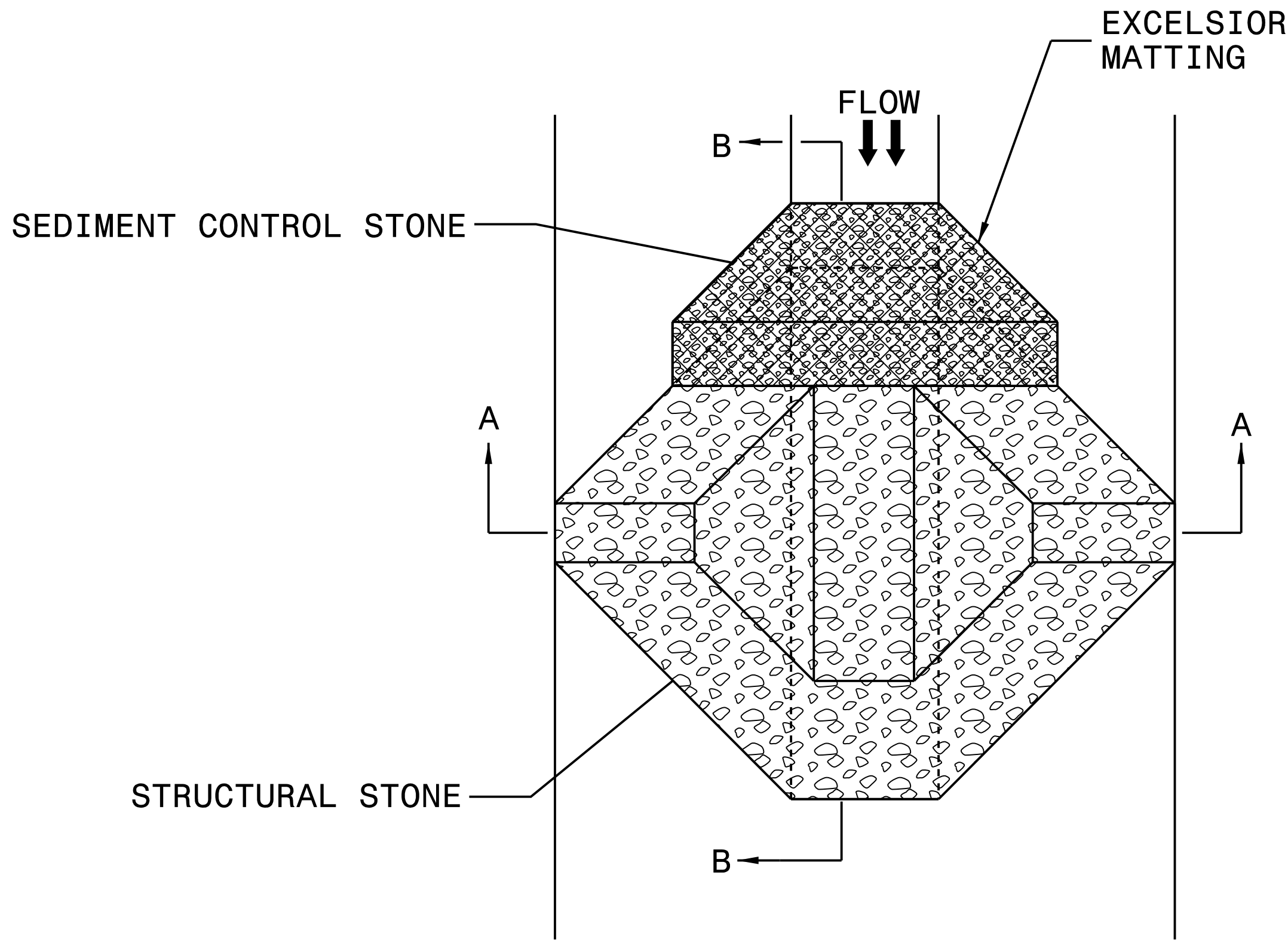
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

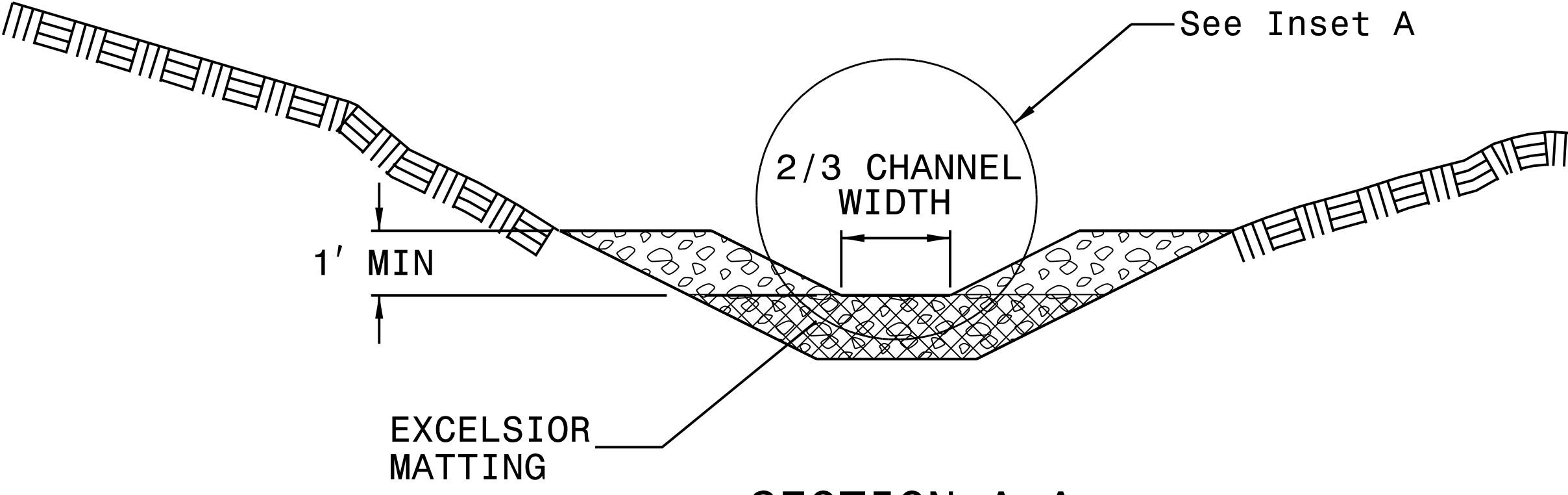
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1633.02	Temporary Rock Silt Check Type B
1630.02	Silt Basin Type B	1634.01	Temporary Rock Sediment Dam Type A
1630.03	Temporary Silt Ditch	1634.02	Temporary Rock Sediment Dam Type B
1630.04	Stilling Basin	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.05	Temporary Diversion	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.06	Special Stilling Basin	1640.01	Coir Fiber Baffle
1631.01	Matting Installation	1645.01	Temporary Stream Crossing

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

PROJECT REFERENCE NO.	SHEET NO.
17BP14R.89	EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PLAN



SECTION A-A

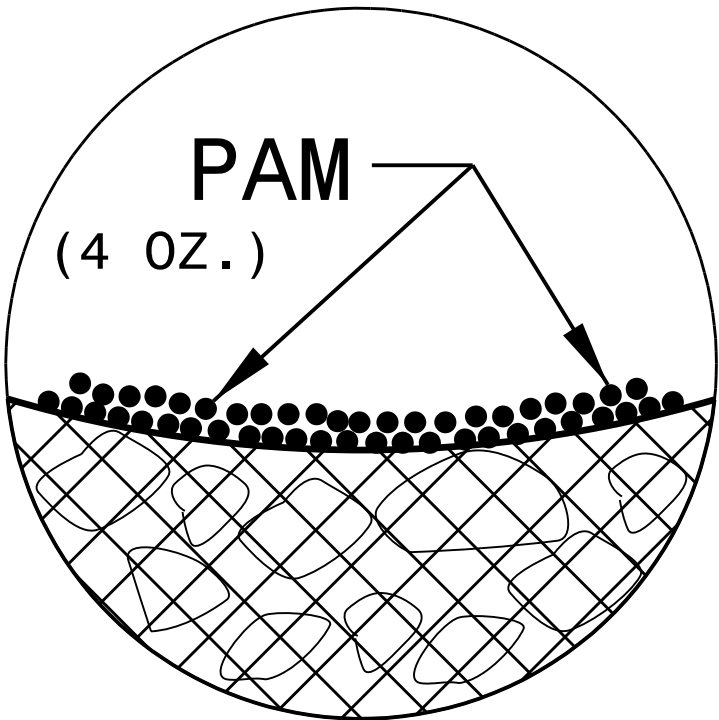
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

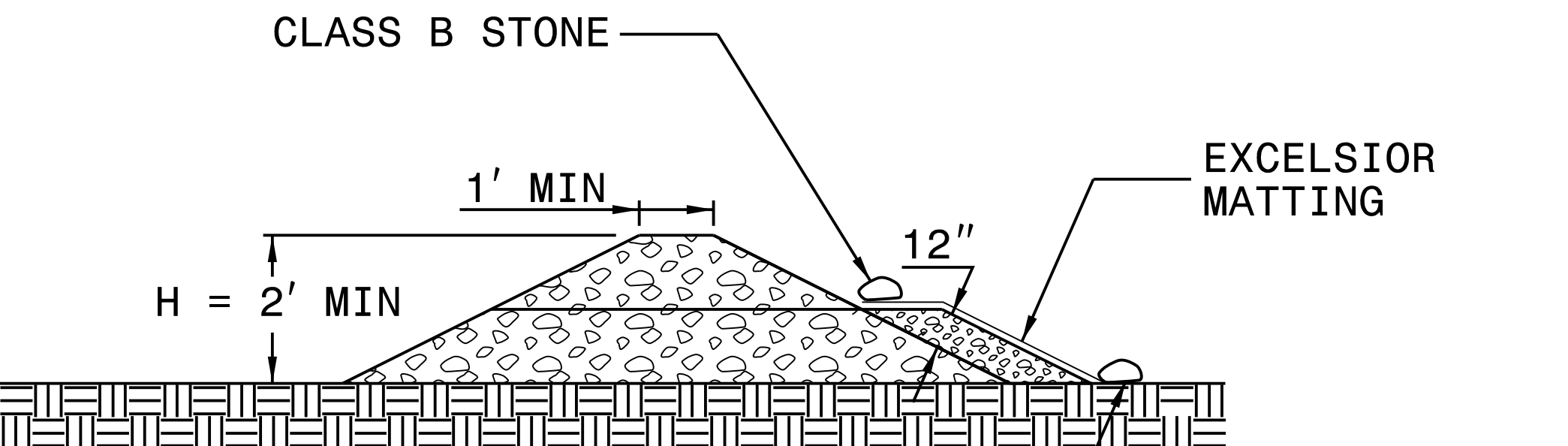
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

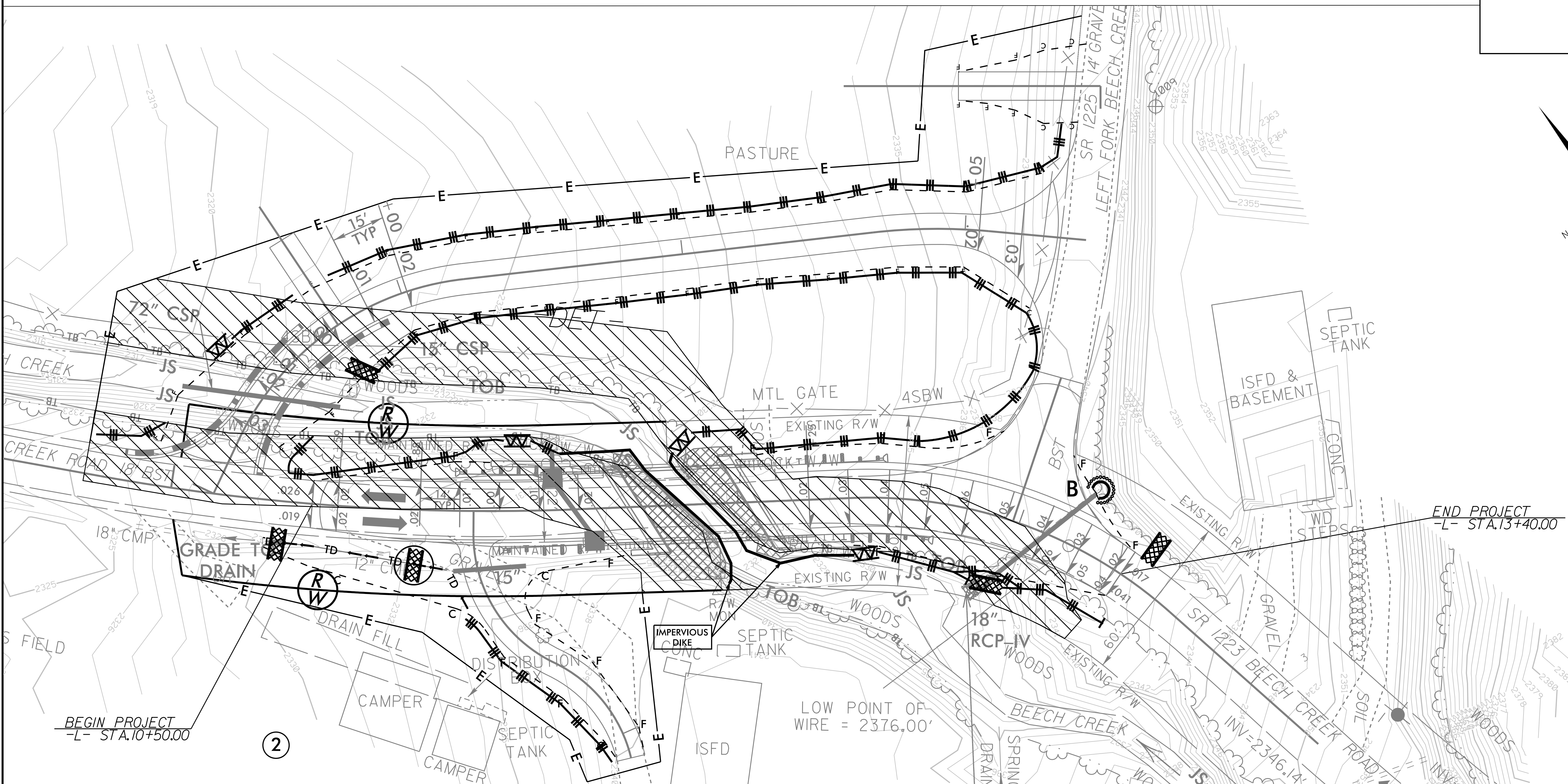
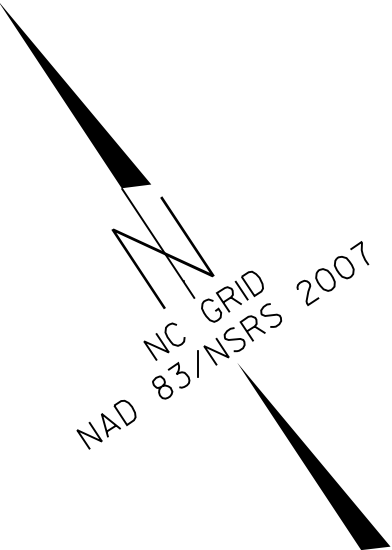
PROJECT REFERENCE NO.	SHEET NO.
17BPJ4.R.89	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

EROSION CONTROL PLAN

PROJECT REFERENCE NO.	SHEET NO.
17BP14R89	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CONTRACTOR SHALL INSTALL AN ONSITE CONCRETE WASHOUT STRUCTURE PER THE NCDOT DETAIL AND SPECIAL PROVISIONS. ACTUAL LOCATION OF THE STRUCTURE SHALL BE DETERMINED IN THE FIELD. CONCRETE WASHOUT STRUCTURE SHALL BE MAINTAINED BY THE CONTRACTOR. ALL CONCRETE TRUCKS SHALL USE THE CONCRETE WASHOUT STRUCTURE. NO WASHOUT OF CONCRETE TRUCKS SHALL BE ALLOWED EXCEPT IN THE CONCRETE WASHOUT STRUCTURE.

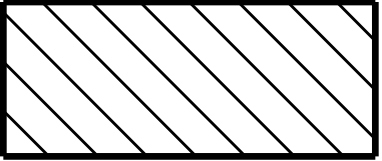
BRIDGE REMOVAL AND BRIDGE CONSTRUCTION SHALL BE PER REQUIREMENTS IN THE NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL

DEWATER AREA BEHIND IMPERVIOUS DIKS INTO SPECIAL STILLING BASIN(S).

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

NOTE:
TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

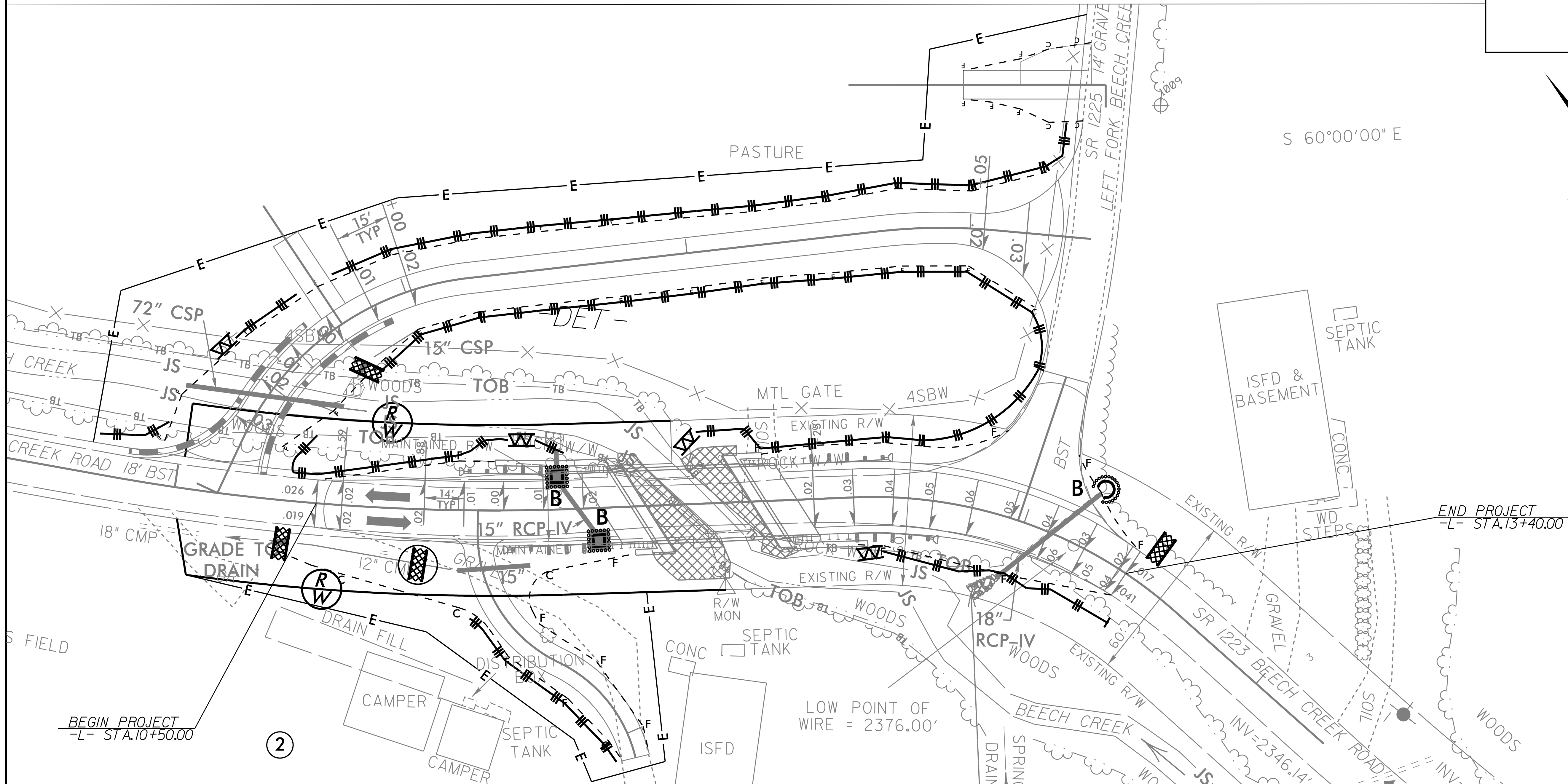
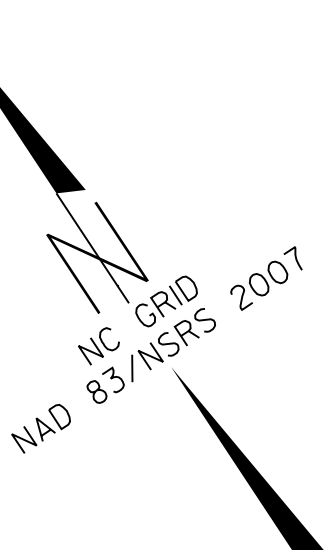
INSTALL 15" DRIVEWAY PIPE DURING CLEARING & GRUBBING PHASE



TROUT STREAM BUFFER ZONE

EROSION CONTROL PLAN

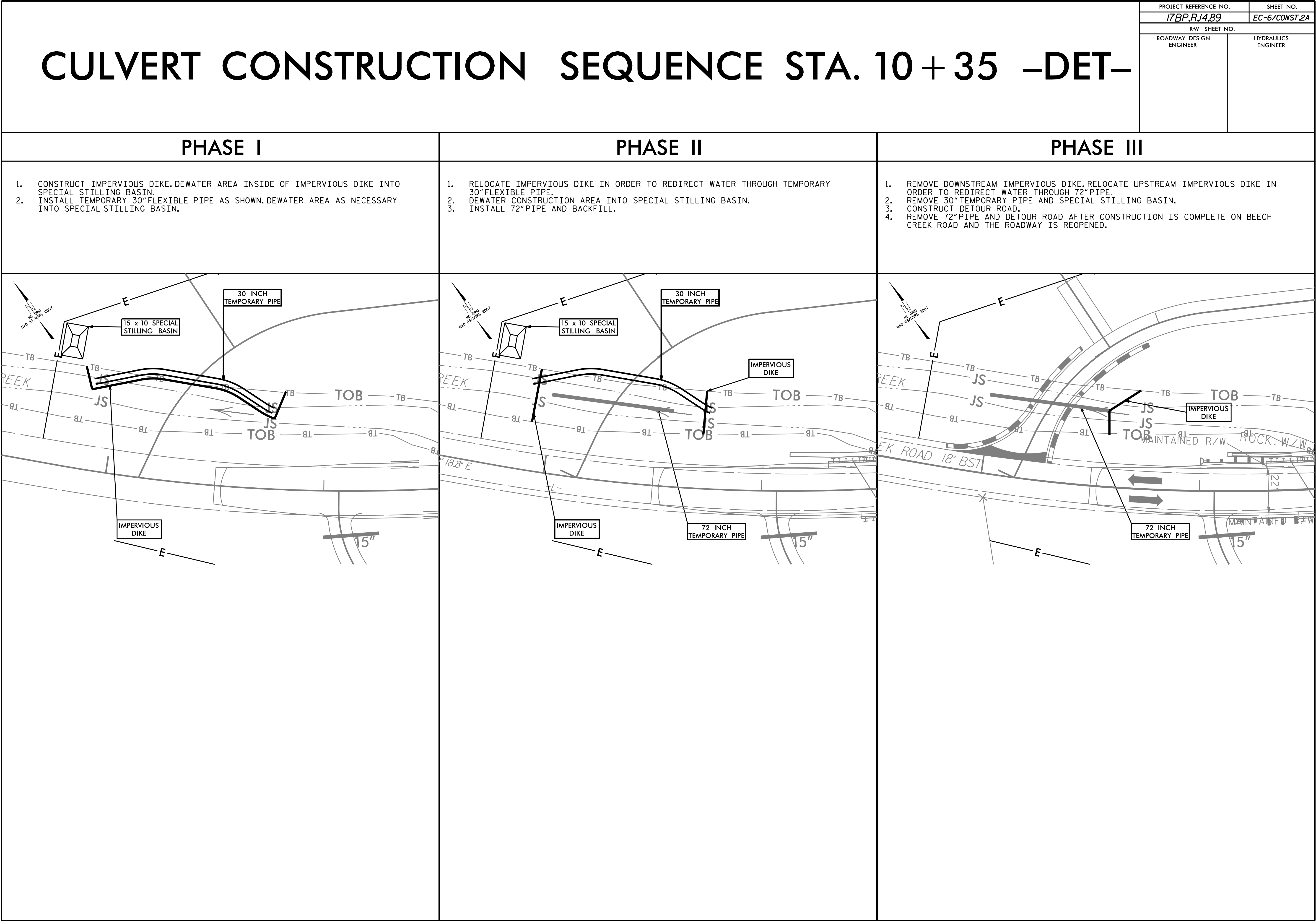
PROJECT REFERENCE NO.	SHEET NO.
17BP14R.89	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



INSTALL MATTING IN THE
PROPOSED DITCH LINE.
STA 10+66 TO STA 11+00 -DET- RT

REMOVE DETOUR ONCE
CONSTRUCTION IS COMPLETE
ON -L- AND -L- IS REOPEN
TO TRAFFIC

Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 10+50 to Sta. 11+25 -L- RT
Sta. 12+00 to Sta. 12+50 -L- LT
Sta. 13+00 to Sta. 13+40 -L- RT



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.89	RF-1	
STATE PROJ.NO.	F.A.PROJ.NO.	DESCRIPTION	

REFORESTATION MAY BE UTILIZED ON THIS PROJECT AT THE DISCRETION OF THE NCDOT FIELD OPERATIONS ENGINEER.

REFORESTATION

- ☐ TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

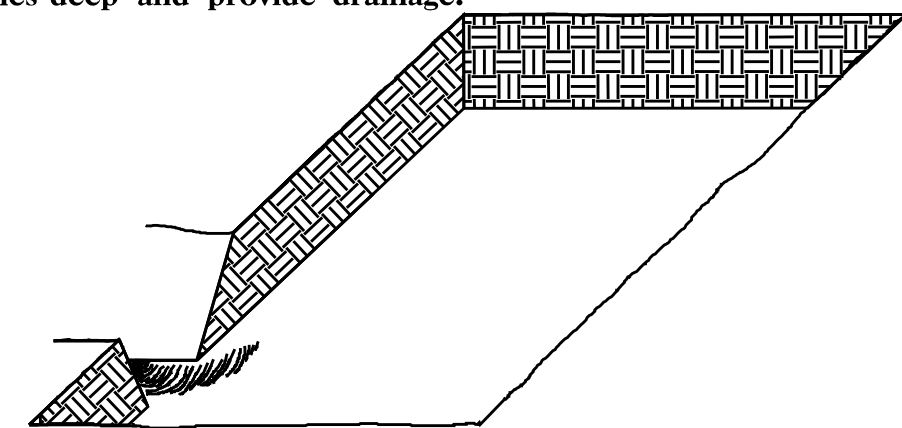
25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in BR
25% PLATANUS OCCIDENTALIS	SYCAMORE	12 in - 18 in BR
25% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in - 18 in BR
25% BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

PLANTING DETAILS

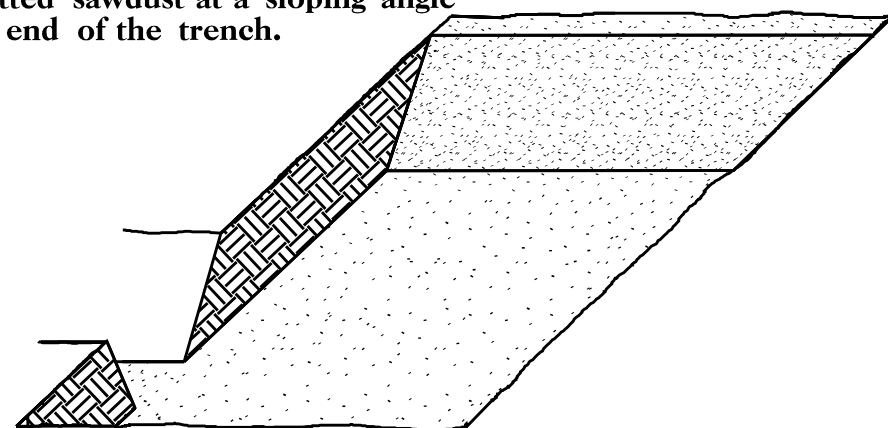
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

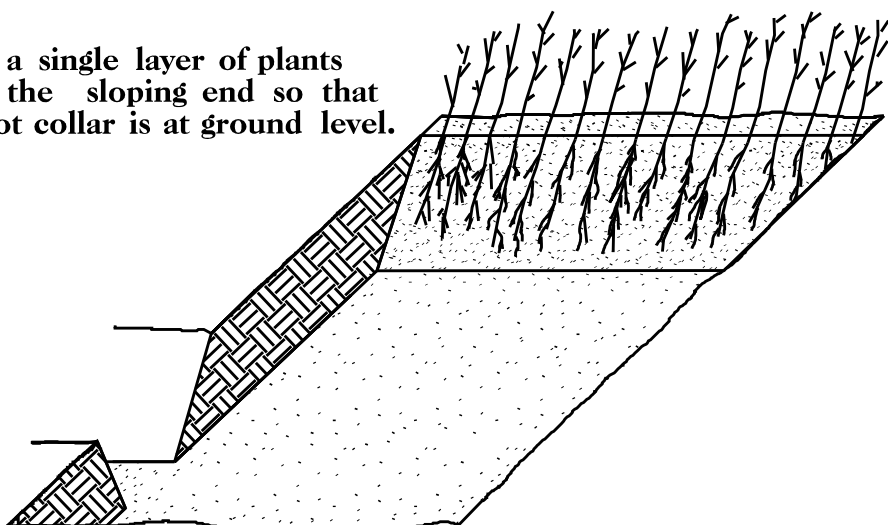
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



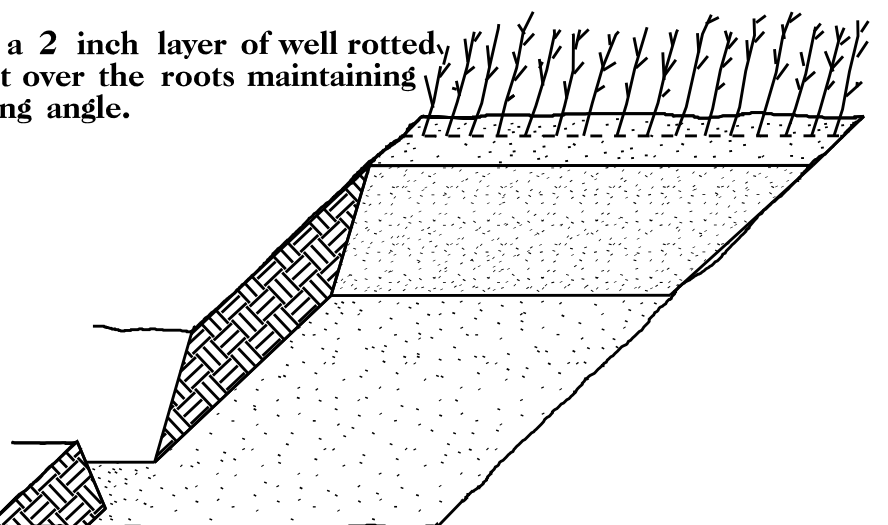
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

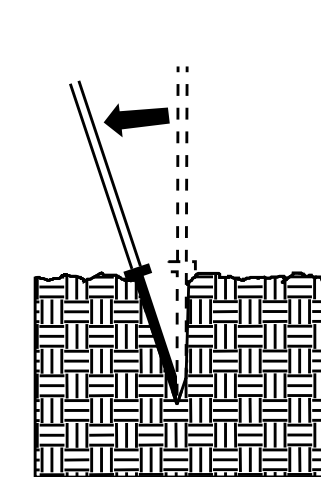


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

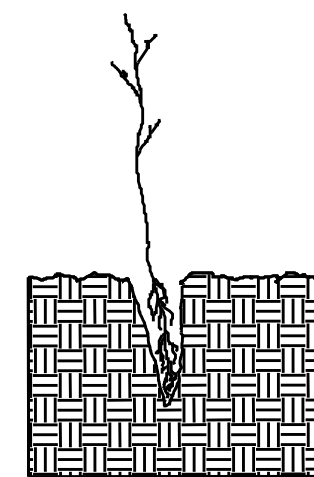


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

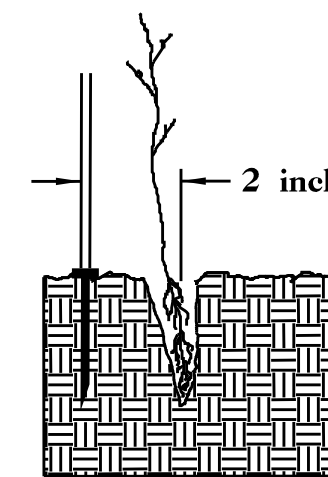
DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



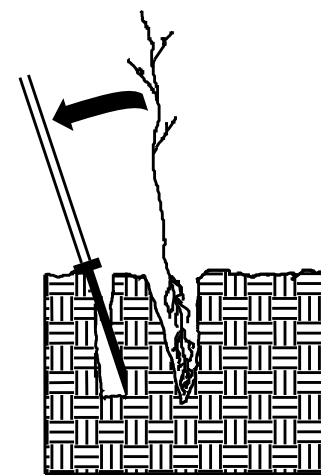
1. Insert planting bar as shown and pull handle toward planter.



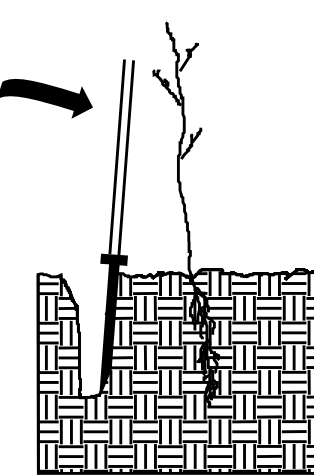
2. Remove planting bar and place seedling at correct depth.



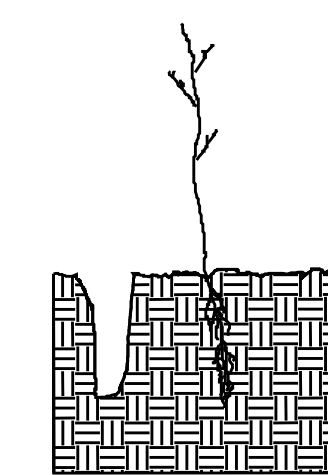
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

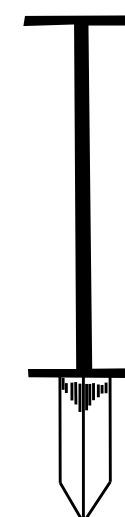
PLANTING BAG

During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR

Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



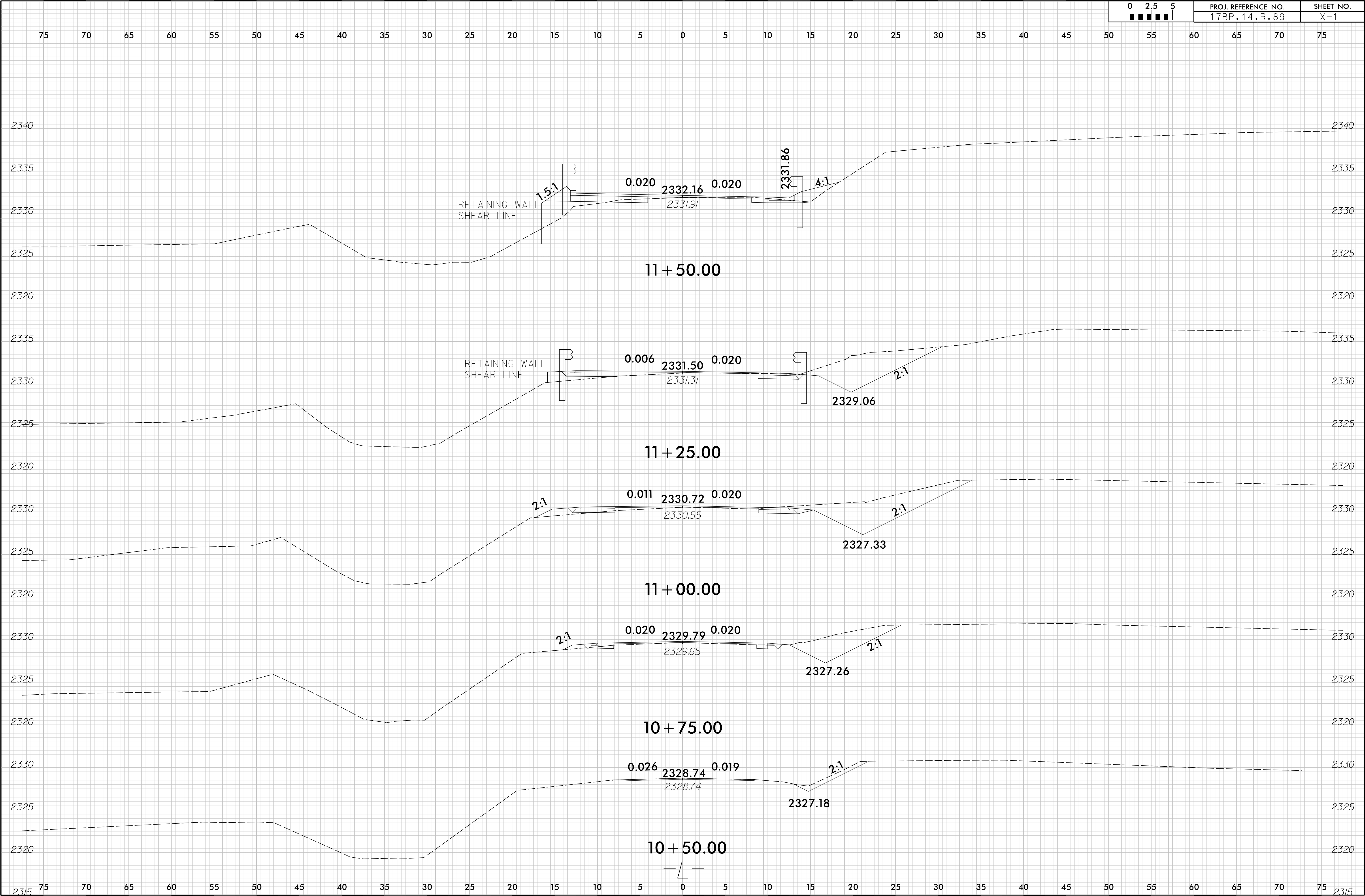
ROOT PRUNING

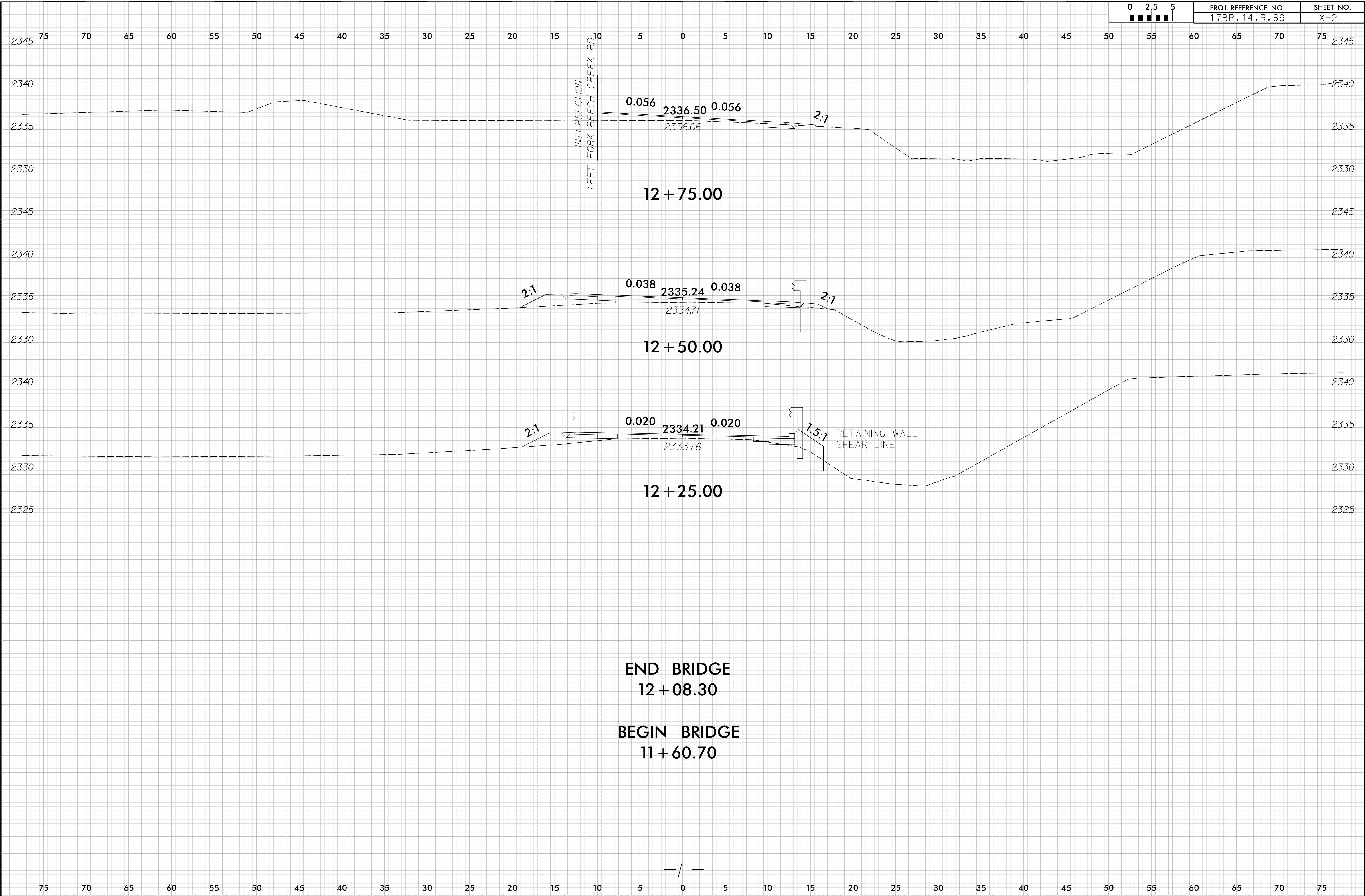
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

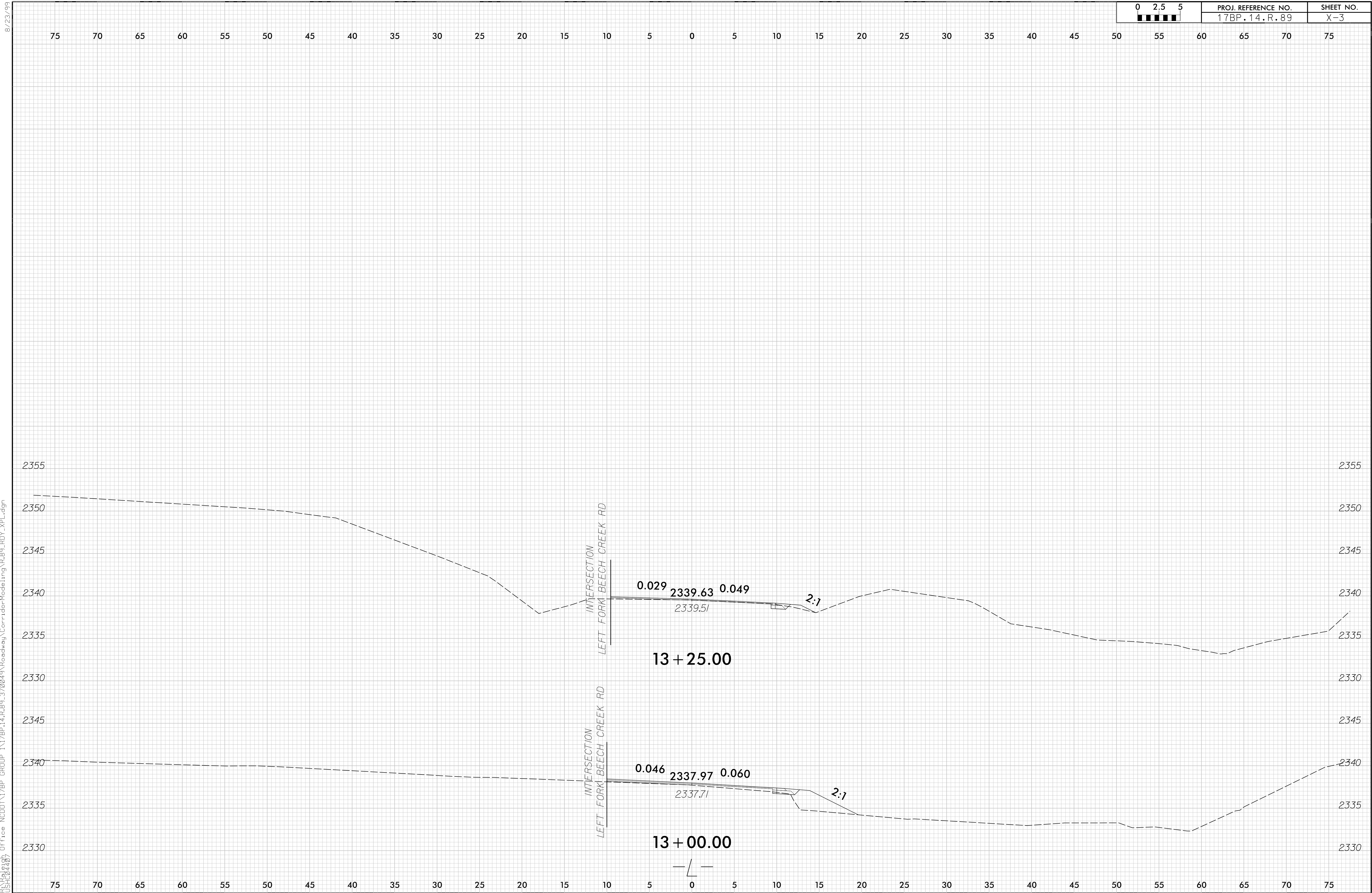
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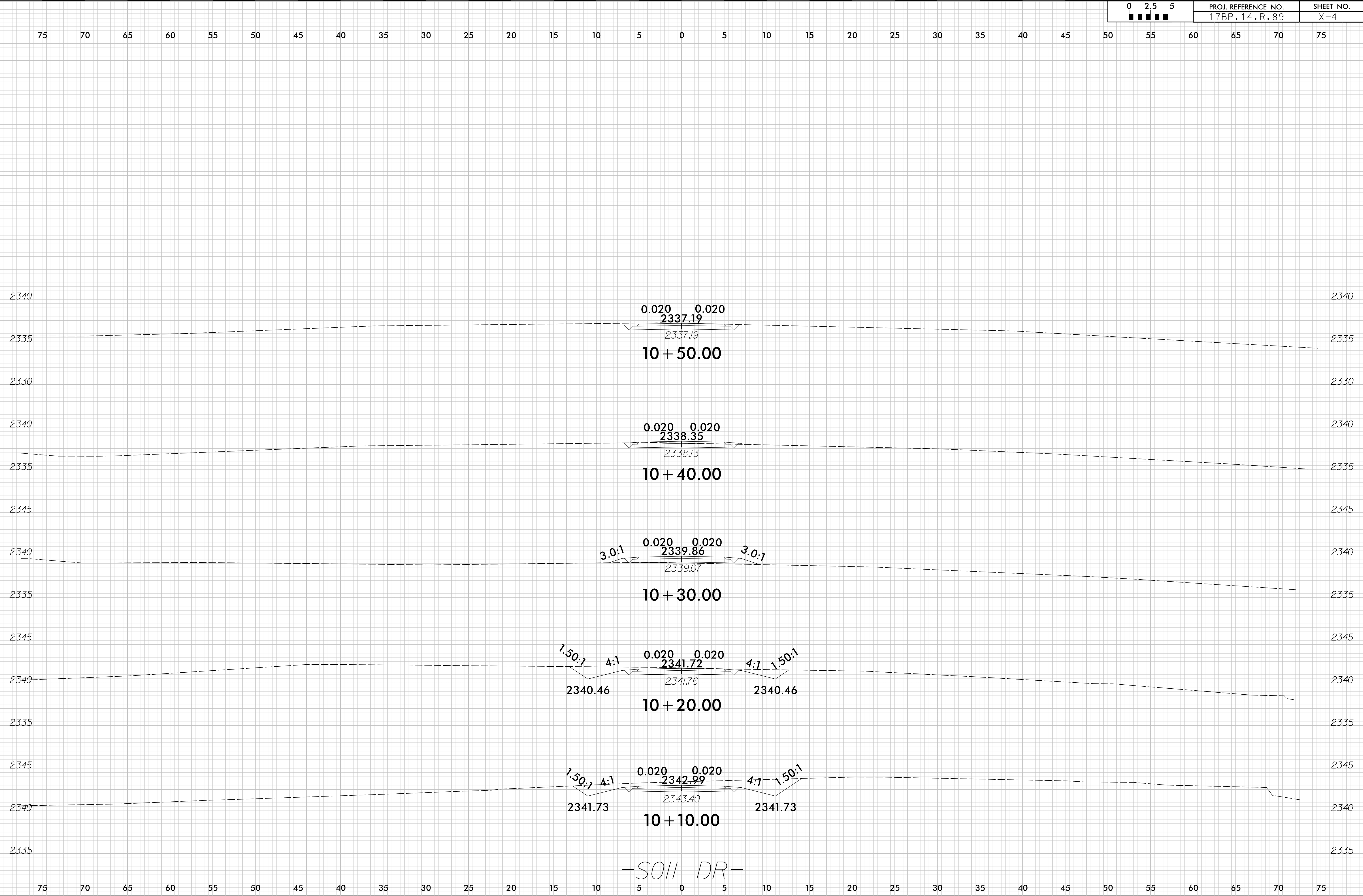




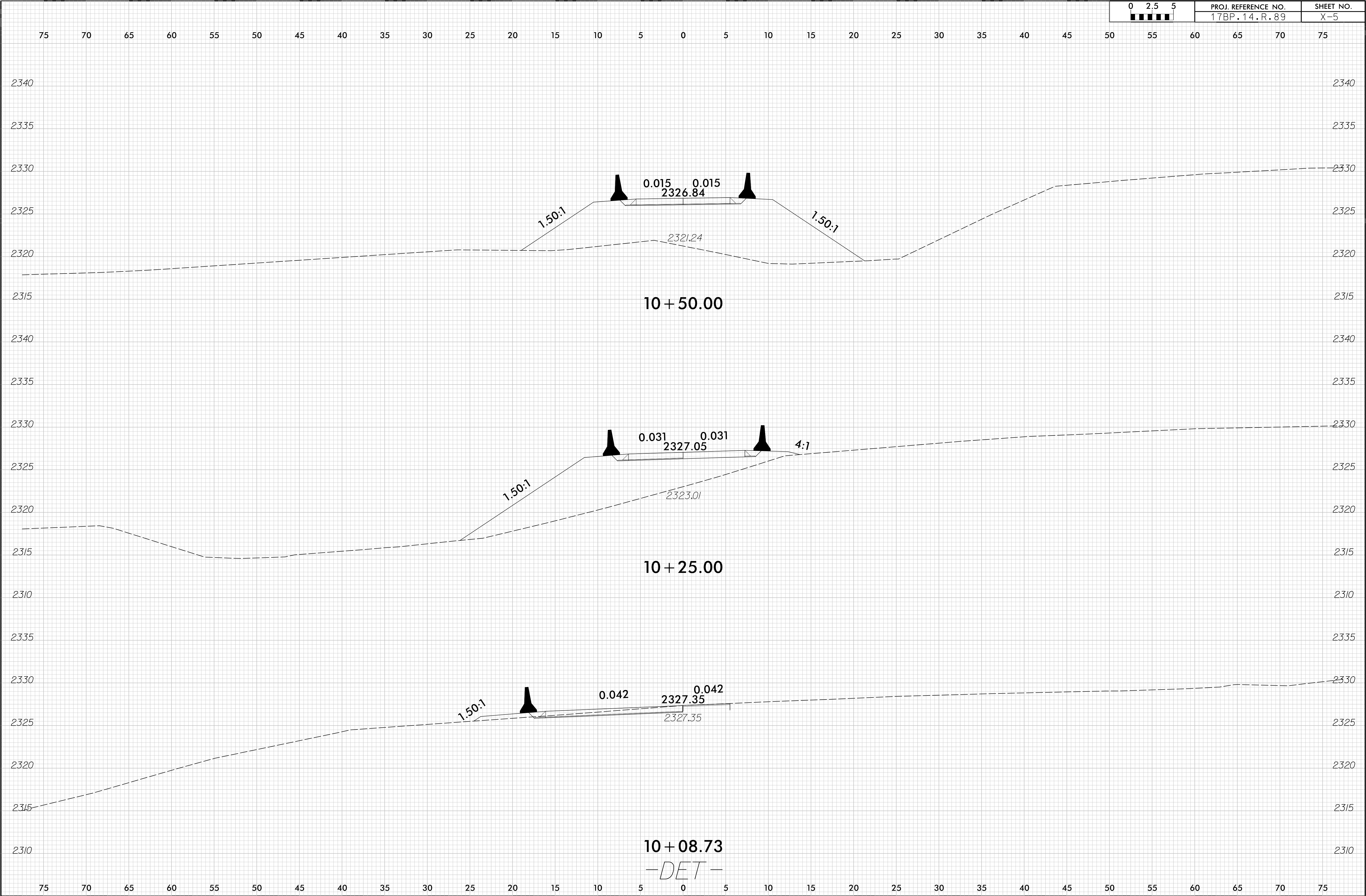


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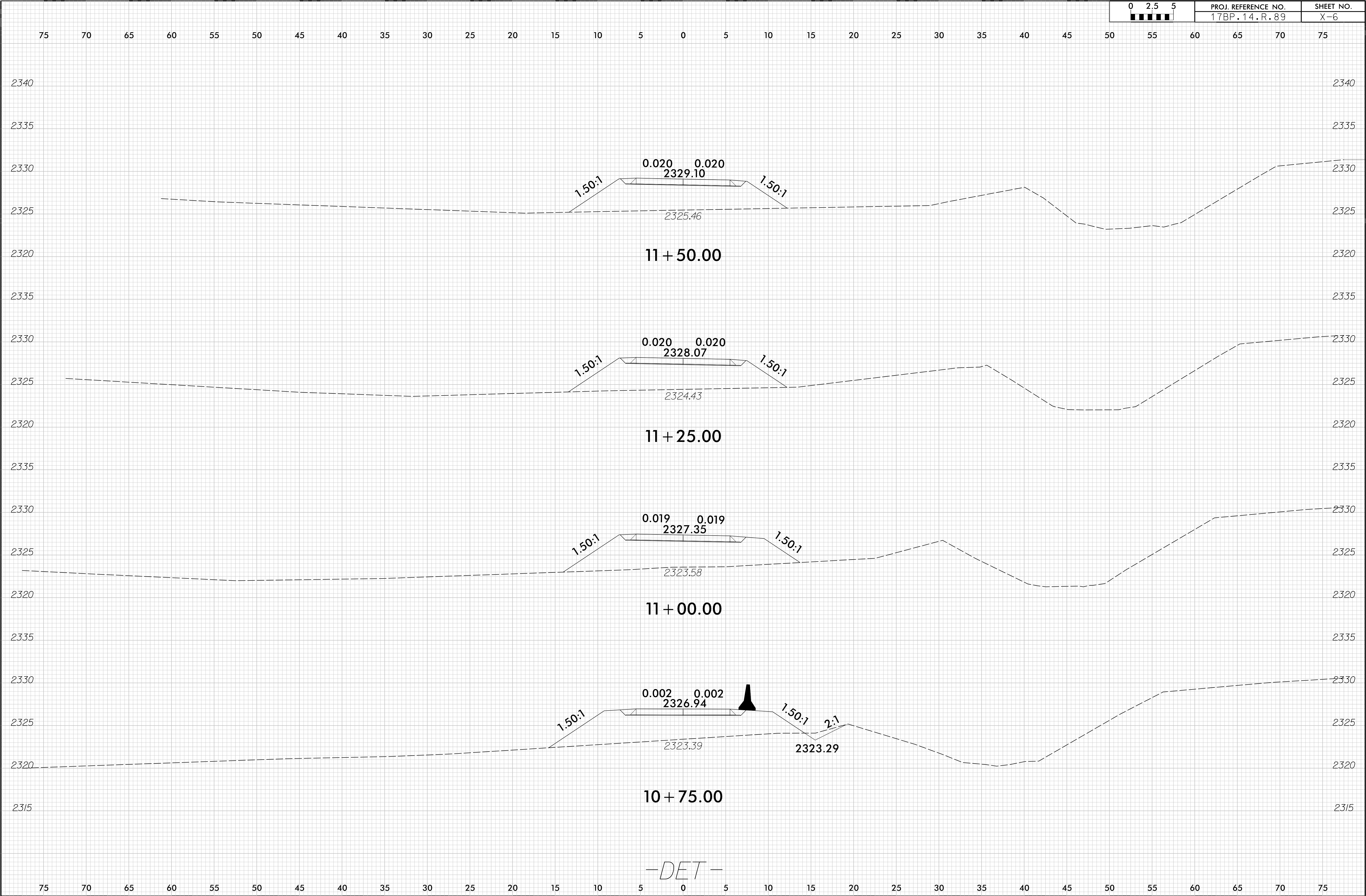
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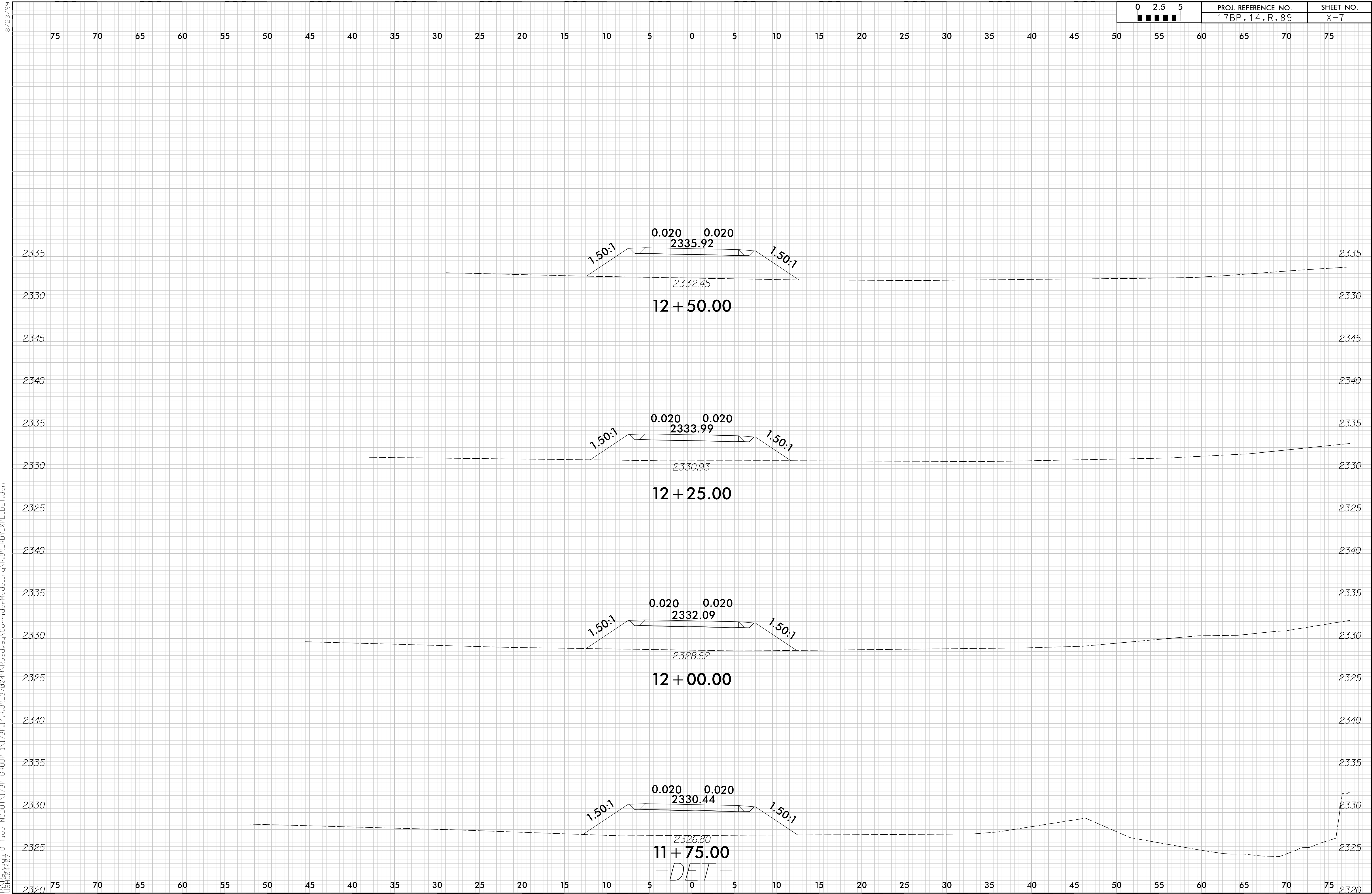


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	17BP.14.R.89	X-6





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0 2.5 5 ■■■■■	PROJ. REFERENCE NO. 17BP.14.R.89	SHEET NO. X-8
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