















STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS












Note: Not to Scale

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











BOUNDARIES AND PROPERTY:

State Line	_____
County Line	_____
Township Line	_____
City Line	_____
Reservation Line	_____
Property Line	_____
Existing Iron Pin	_____ 
Property Corner	_____ 
Property Monument	_____ 
Parcel/Sequence Number	_____ 
Existing Fence Line	_____ 
Proposed Woven Wire Fence	_____ 
Proposed Chain Link Fence	_____ 
Proposed Barbed Wire Fence	_____ 
Existing Wetland Boundary	_____ 
Proposed Wetland Boundary	_____ 
Existing Endangered Animal Boundary	_____ 
Existing Endangered Plant Boundary	_____ 
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	_____ 
Well	_____ 
Small Mine	_____ 
Foundation	_____ 
Area Outline	_____ 
Cemetery	_____ 
Building	_____ 
School	_____ 
Church	_____ 
Dam	_____ 



















HYDROLOGY:

Stream or Body of Water	_____
Hydro, Pool or Reservoir	_____ 
Jurisdictional Stream	_____ 
Buffer Zone 1	_____ 
Buffer Zone 2	_____ 
Flow Arrow	_____ 
Disappearing Stream	_____ 
Spring	_____ 
Wetland	_____ 
Proposed Lateral, Tail, Head Ditch	_____ 
False Sump	_____ 














RAILROADS:



Standard Gauge	_____ 
RR Signal Milepost	_____ 
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	_____ 
Proposed Right of Way Line with Concrete or Granite RW Marker	_____ 
Proposed Control of Access Line with Concrete CA Marker	_____ 
Existing Control of Access	_____ 
Proposed Control of Access	_____ 
Existing Easement Line	_____ 
Proposed Temporary Construction Easement	_____ 
Proposed Temporary Drainage Easement	_____ 
Proposed Permanent Drainage Easement	_____ 
Proposed Permanent Drainage / Utility Easement	_____ 
Proposed Permanent Utility Easement	_____ 
Proposed Temporary Utility Easement	_____ 
Proposed Aerial Utility Easement	_____ 
Proposed Permanent Easement with Iron Pin and Cap Marker	_____ 

ROADS AND RELATED FEATURES:












Existing Edge of Pavement	_____
Existing Curb	_____
Proposed Slope Stakes Cut	_____ 
Proposed Slope Stakes Fill	_____ 
Proposed Curb Ramp	_____ 
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	_____ 














EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	_____ 
Bridge Wing Wall, Head Wall and End Wall	_____ 
MINOR:	
Head and End Wall	_____ 
Pipe Culvert	_____ 
Footbridge	_____ 
Drainage Box: Catch Basin, DI or JB	_____ 
Paved Ditch Gutter	_____ 
Storm Sewer Manhole	_____ 
Storm Sewer	_____ 








UTILITIES:

POWER:	
Existing Power Pole	_____ 
Proposed Power Pole	_____ 
Existing Joint Use Pole	_____ 
Proposed Joint Use Pole	_____ 
Power Manhole	_____ 
Power Line Tower	_____ 
Power Transformer	_____ 
U/G Power Cable Hand Hole	_____ 
H-Frame Pole	_____ 
Recorded U/G Power Line	_____ 
Designated U/G Power Line (S.U.E.*)	_____ 









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	_____ 
Designated U/G Telephone Cable (S.U.E.*)	_____ 
Recorded U/G Telephone Conduit	_____ 
Designated U/G Telephone Conduit (S.U.E.*)	_____ 
Recorded U/G Fiber Optics Cable	_____ 
Designated U/G Fiber Optics Cable (S.U.E.*)	_____ 






WATER:

Water Manhole	_____ 
Water Meter	_____ 
Water Valve	_____ 
Water Hydrant	_____ 
Recorded U/G Water Line	_____ 
Designated U/G Water Line (S.U.E.*)	_____ 
Above Ground Water Line	_____ 







TV:

TV Satellite Dish	_____ 
TV Pedestal	_____ 
TV Tower	_____ 
U/G TV Cable Hand Hole	_____ 
Recorded U/G TV Cable	_____ 
Designated U/G TV Cable (S.U.E.*)	_____ 
Recorded U/G Fiber Optic Cable	_____ 
Designated U/G Fiber Optic Cable (S.U.E.*)	_____ 













GAS:

Gas Valve	_____ 
Gas Meter	_____ 
Recorded U/G Gas Line	_____ 
Designated U/G Gas Line (S.U.E.*)	_____ 
Above Ground Gas Line	_____ 

SANITARY SEWER:

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

MISCELLANEOUS:

Utility Pole	_____ 
Utility Pole with Base	_____ 
Utility Located Object	_____ 
Utility Traffic Signal Box	_____ 
Utility Unknown U/G Line	_____ 
U/G Tank; Water, Gas, Oil	_____ 
Underground Storage Tank, Approx. Loc.	_____ 
A/G Tank; Water, Gas, Oil	_____ 
Geoenvironmental Boring	_____ 
U/G Test Hole (S.U.E.*)	_____ 
Abandoned According to Utility Records	_____ 
End of Information	_____ 

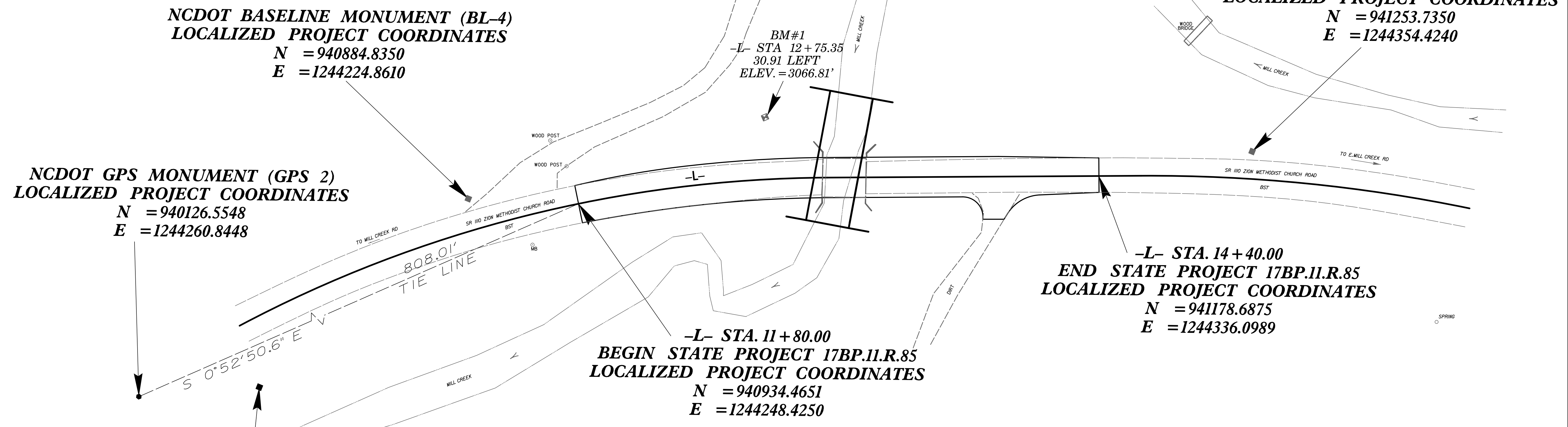
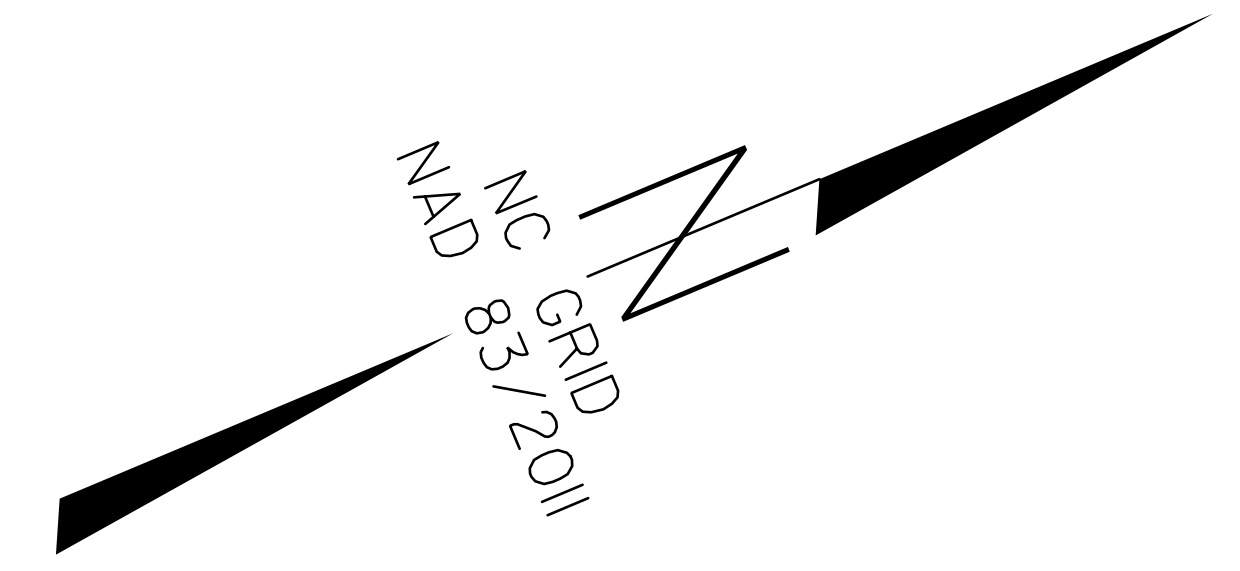
6/2/09

SURVEY CONTROL SHEET 17BP.11.R.85

PROJECT REFERENCE NO. 17BP.11.R.85	SHEET NO. 1C-1
Location and Surveys	

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		GPS-1	939866.0308	1244487.8157	3054.16	OUTSIDE PROJECT LIMITS	
2		GPS-2	940126.5548	1244260.8448	3042.48	OUTSIDE PROJECT LIMITS	
3		BL-3	940539.0030	1244297.4770	3058.50	OUTSIDE PROJECT LIMITS	
4		BL-4	940884.8350	1244224.8610	3065.78	11+27.98	15.70' LT
5		BL-5	941253.7350	1244354.4240	3076.27	15+15.45	13.66' LT

 BM #1 ELEVATION = 3066.81'
 N 941036. E 1244244.
 RR SPIKE IN 24" OAK



NOTES:

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 NGS ONLINE POSITIONING SERVICE (OPUS)

SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY MULKEY FOR MONUMENT "040017 GPS-2" WITH NAD 83/2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 940126.5548(±) EASTING: E= 1244260.8448(±)
 ELEVATION: 3042.48(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99990073

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-2" TO -L- STATION, IS
 S 0°52'50.6" E 808.01'

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

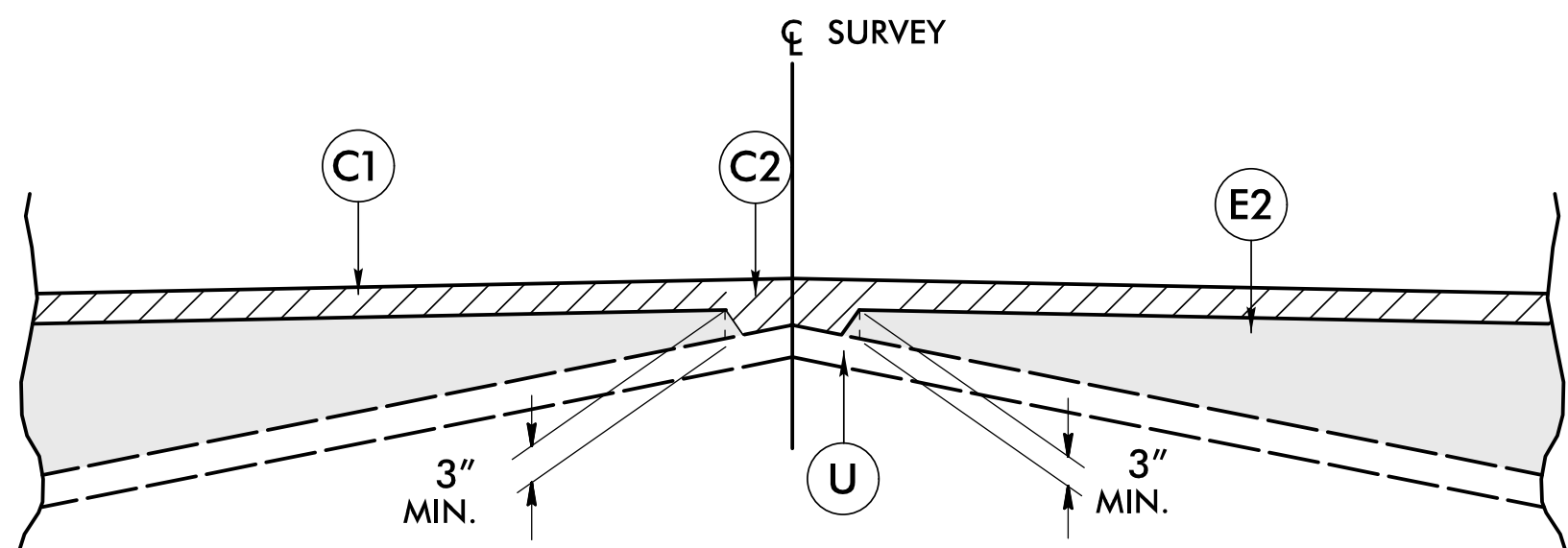
**NCDOT GPS MONUMENT (GPS 1)
 LOCALIZED PROJECT COORDINATES**
 N = 939866.0308
 E = 1244487.8157

NOTE: DRAWING NOT TO SCALE

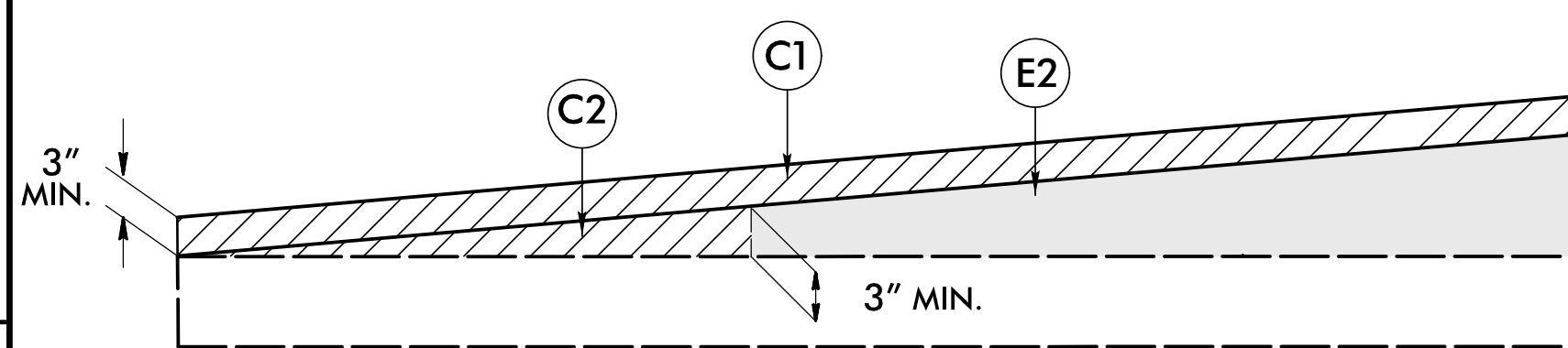
PROJECT REFERENCE NO. 17BPJLR.85	SHEET NO. 2A-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275	

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 1.5" 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.
J	8" AGGREGATE BASE COURSE
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAILS THIS SHEET)

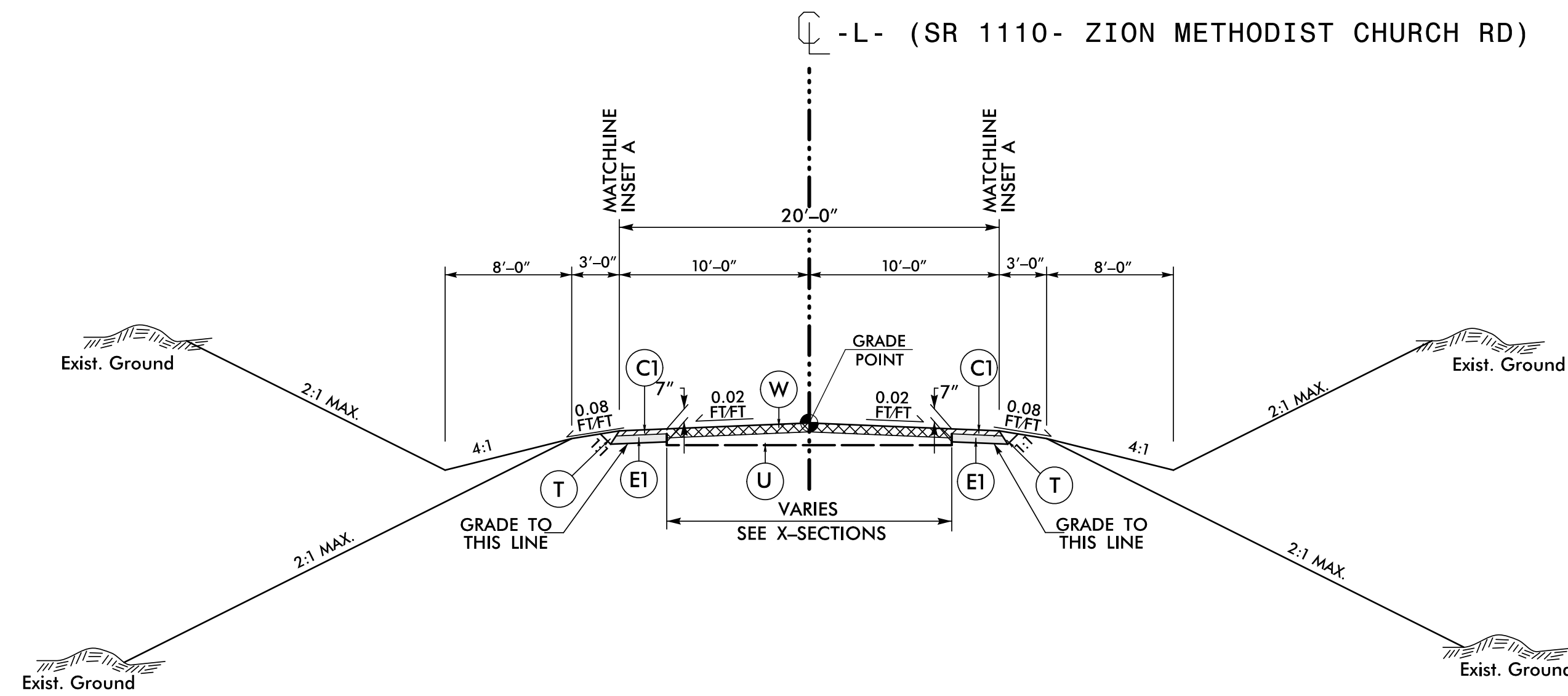
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



Detail Showing Method of Wedging



Wedging Detail For Resurfacing



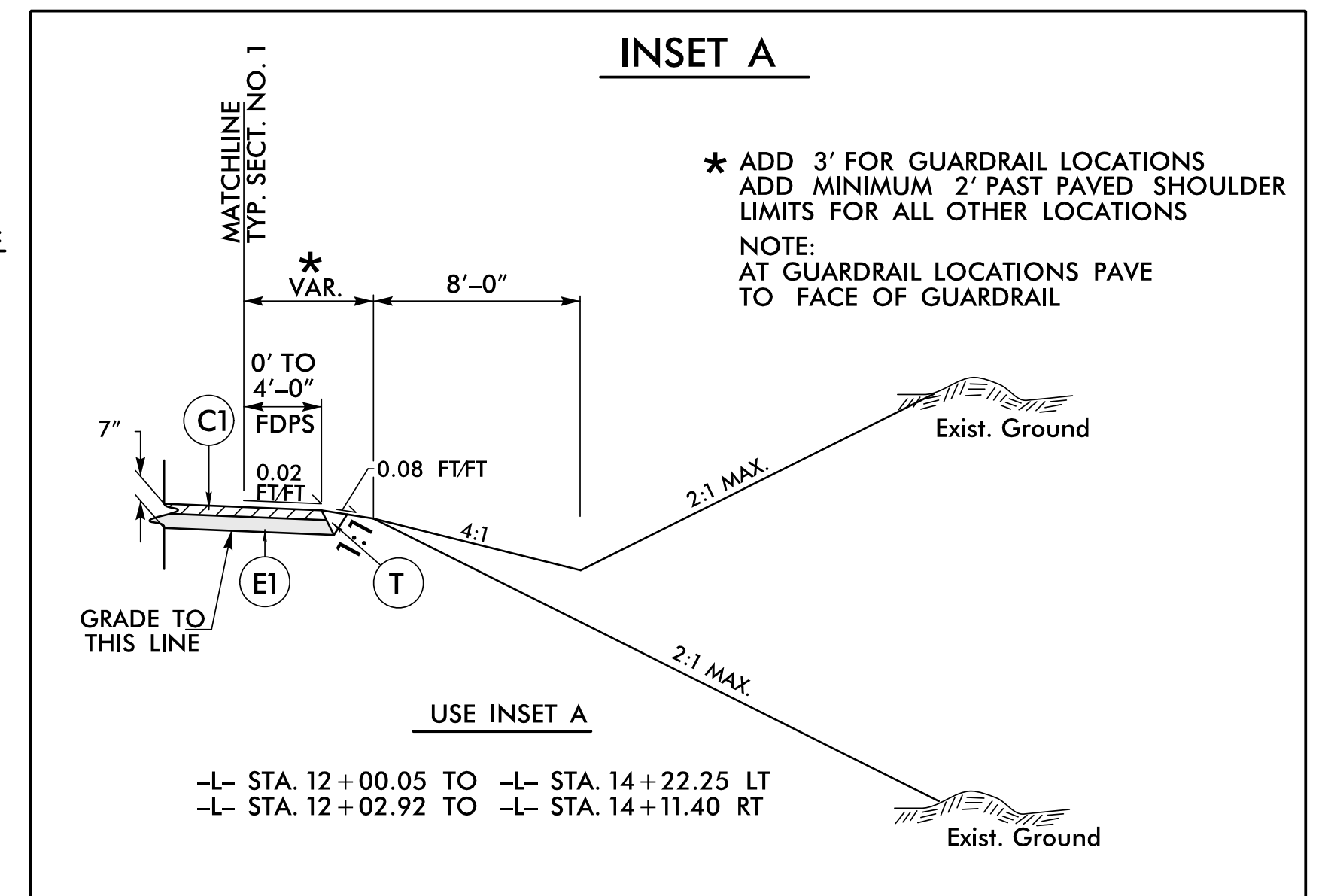
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 12+30.00 TO -L- STA. 13+90.00

NOTE: TRANSITION BETWEEN EXISTING AND TYP. SECT. NO. 1 AS FOLLOWS:

-L- STA. 11+80.00 TO -L- STA. 12+30.00
-L- STA. 13+90.00 TO -L- STA. 14+40.00

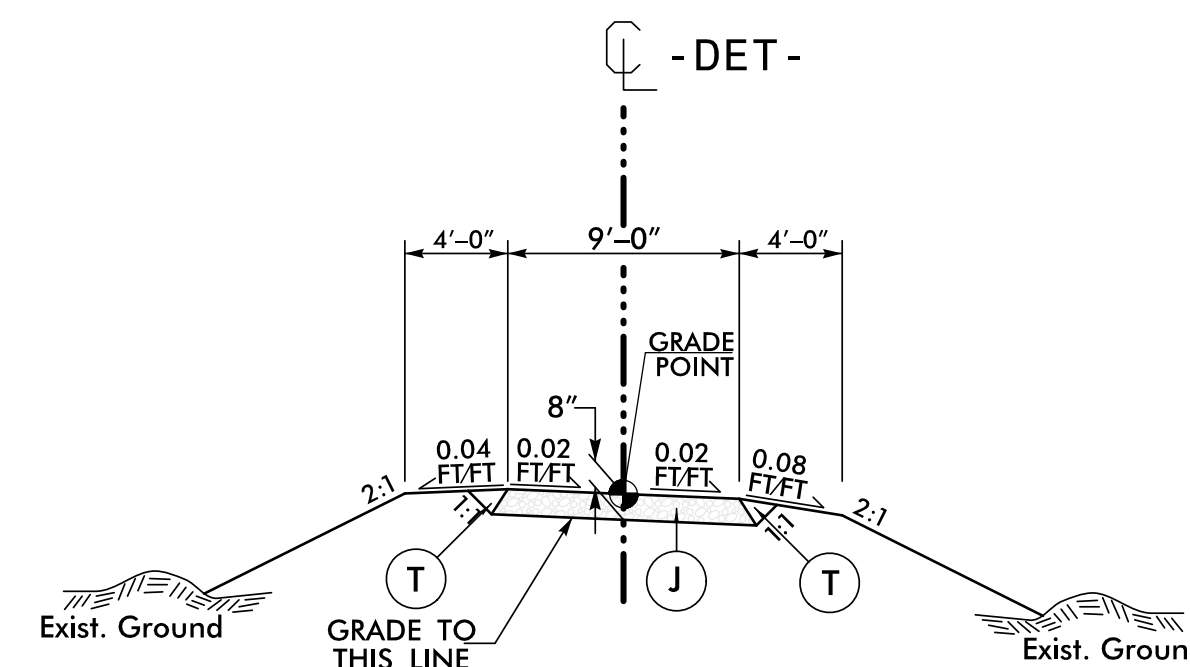
NOTE: USE FULL DEPTH PAVEMENT FROM -L- STA. 12+75+/- TO -L- STA. 13+50+/-



INSET A

* ADD 3' FOR GUARDRAIL LOCATIONS
ADD MINIMUM 2' PAST PAVED SHOULDER LIMITS FOR ALL OTHER LOCATIONS
NOTE:
AT GUARDRAIL LOCATIONS PAVE TO FACE OF GUARDRAIL

USE INSET A
-L- STA. 12+00.05 TO -L- STA. 14+22.25 LT
-L- STA. 12+02.92 TO -L- STA. 14+11.40 RT



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-DET- STA. 10+22.25 TO -DET- STA. 12+58.41

REVISIONS

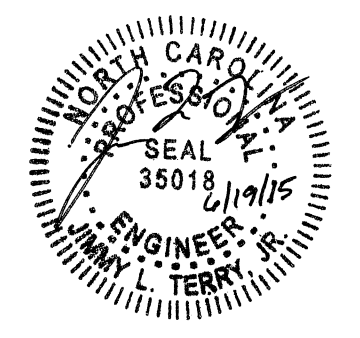
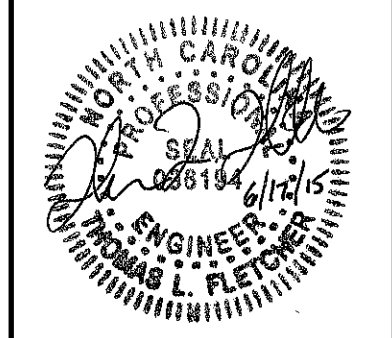

8/17/09

CONSTRUCTION

DETOUR:

-DET- CURVE DATA
 PI Sta 11+22.02
 $\Delta = 32^{\circ} 21' 06.5" (RT)$
 $D = 44^{\circ} 04' 25.2"$
 $L = 73.40'$
 $T = 37.71'$
 $R = 130.00'$
 $SE = 02$

ASHE COUNTY
 BRIDGE #040116

PROJECT REFERENCE NO. 17BP.11.R.85	SHEET NO. 2B-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

CARL L. BARSHINGER AND WIFE,
 GWYNDOLYN R. BARSHINGER
 DB 205 PG 510

CARL L. BARSHINGER AND WIFE,
 GWYNDOLYN R. BARSHINGER
 DB 205 PG 508

CARL L. BARSHINGER
 DB 216 PG 777

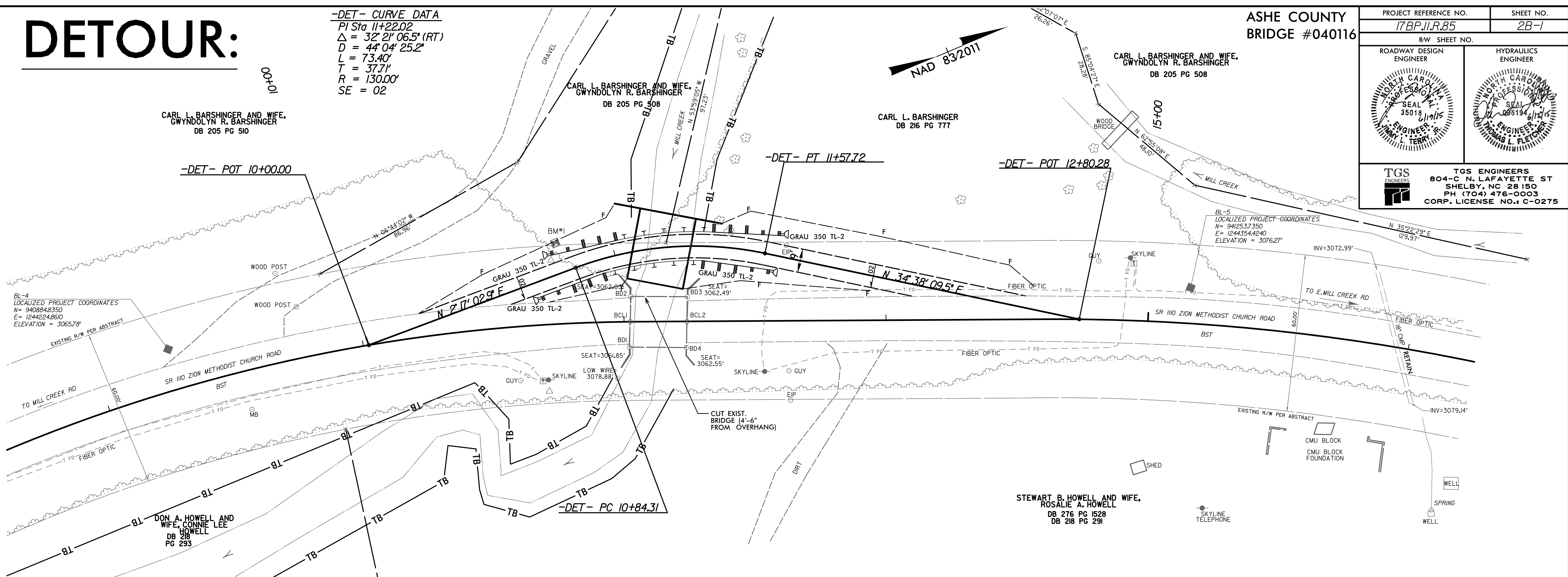
CARL L. BARSHINGER AND WIFE,
 GWYNDOLYN R. BARSHINGER
 DB 205 PG 508

STEWART B. HOWELL AND WIFE,
 ROSALIE A. HOWELL
 DB 276 PG 1528
 DB 218 PG 291

DON A. HOWELL AND WIFE,
 CONNIE LEE HOWELL
 DB 218 PG 293

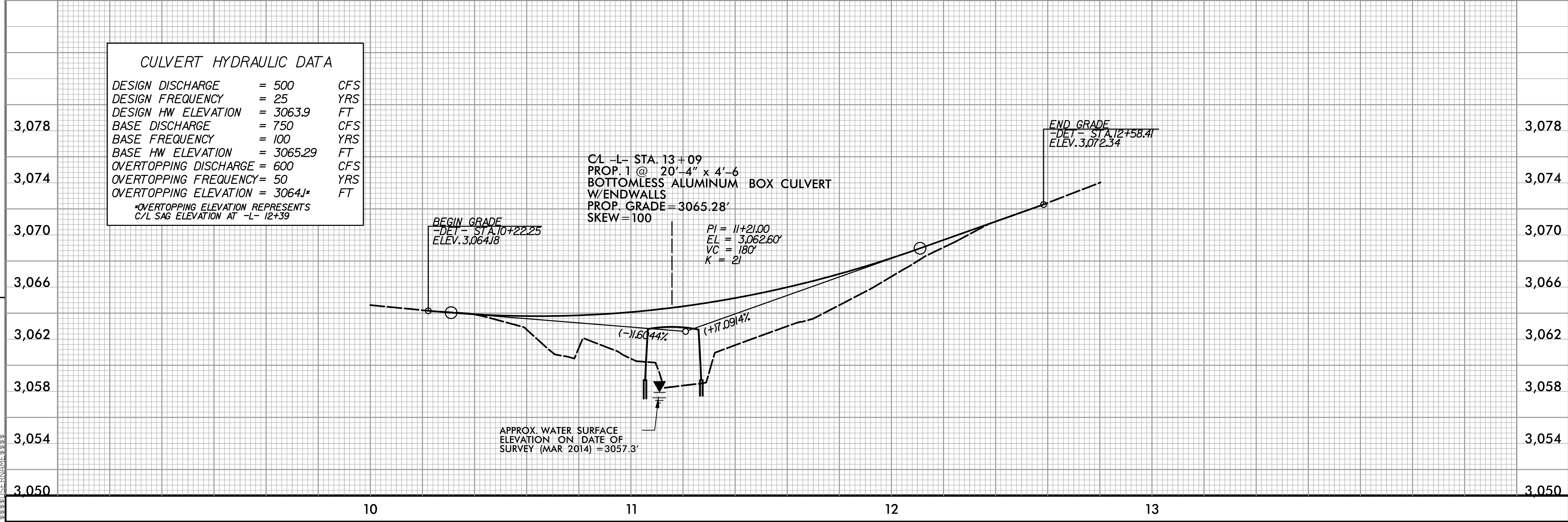
BL-4 LOCALIZED PROJECT COORDINATES
 $N = 940884.350$
 $E = 1244224.860$
 ELEVATION = 3065.78'

BL-5 LOCALIZED PROJECT COORDINATES
 $N = 941251.730$
 $E = 1244354.4240$
 ELEVATION = 3076.27'



DESIGN DISCHARGE	= 500	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 3063.9	FT
BASE DISCHARGE	= 750	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 3065.29	FT
OVERTOPPING DISCHARGE	= 600	CFS
OVERTOPPING FREQUENCY	= 50	YRS
OVERTOPPING ELEVATION	= 3064.1*	FT

*OVERTOPPING ELEVATION REPRESENTS C/L SAG ELEVATION AT -L- 12+39



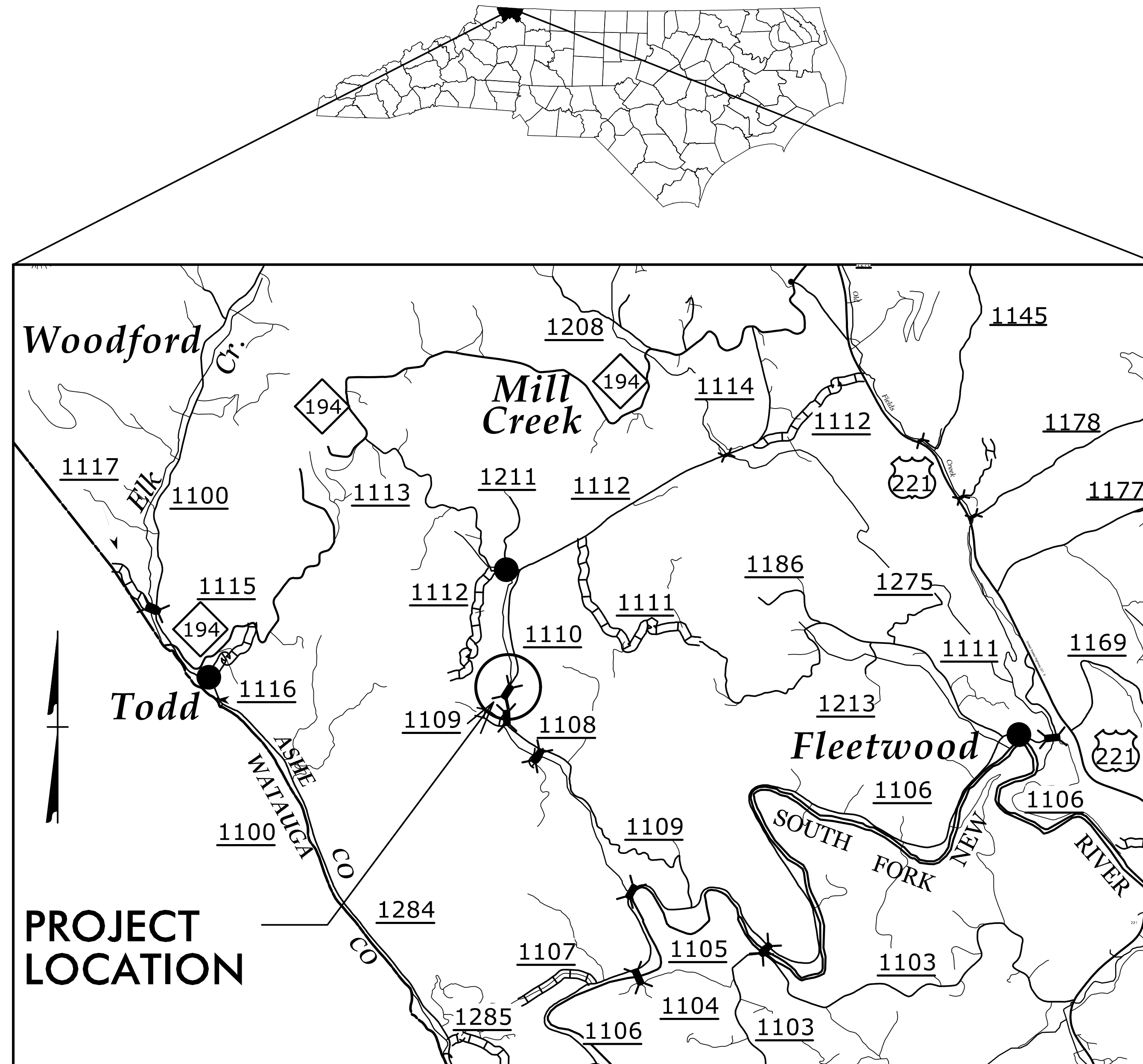
REVISIONS

8/17/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

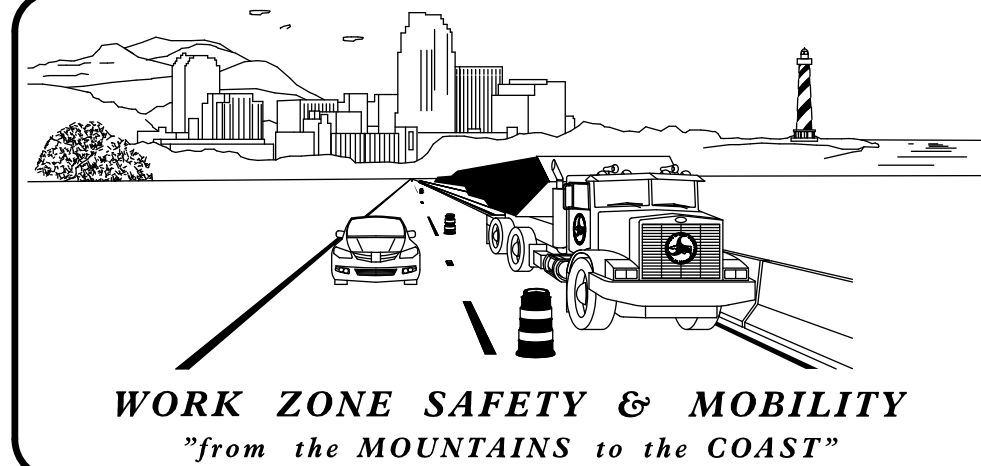
ASHE COUNTY



PROJECT LOCATION

NC DOT CONTACT INFORMATION:
Phone: 336 903 9220 Fax: 336 667 4549

JAMI GUYNN
Division Bridge Project Manager



PLAN PREPARED FOR N.C.D.O.T. BY:

TGS ENGINEERS
804-C N. LAFAYETTE ST.
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

JIMMY L. TERRY, PE PROJECT ENGINEER
SANDRA MELVIN DESIGN TECHNICIAN



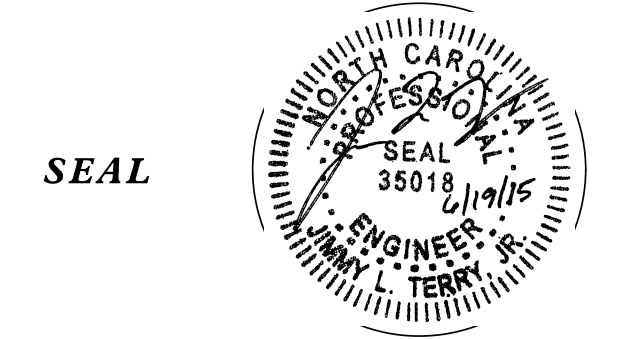
INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES)
TMP-2	PHASING
TMP-3	PHASE I- TEMPORARY PAVEMENT SCHEDULE
TMP-4	PHASE I
TMP-5	PHASE II
TMP-6	PHASE III
PMP-1	FINAL PAVEMENT MARKING PLAN AND SCHEDULE

SHEET NO.
TMP-1

PROJECT: 17BP.11.R.85

APPROVED: _____
DATE: _____



\$\$\$\$\$ SYSTEMS\$\$\$\$\$
\$\$\$\$\$ CUSTOMER SERVICE\$\$\$\$\$
\$\$\$\$\$ SUPPORT\$\$\$\$\$

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 JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)

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

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
P2	PAINT (24") WHITE STOPBAR
PA	PAINT (4") WHITE EDGELINE

\$\$\$\$\$ SYSTEM TIME\$\$\$\$\$
\$\$\$\$\$ USER NAME\$\$\$\$\$
\$\$\$\$\$ USER ID\$\$\$\$\$
\$\$\$\$\$ SESSION\$\$\$\$\$
\$\$\$\$\$ DATE\$\$\$\$\$
\$\$\$\$\$ TIME\$\$\$\$\$

APPROVED: _____ DATE: _____			ROADWAY STANDARD DRAWINGS & LEGEND

GENERAL 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 UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- D) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- F) 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.
- G) PROVIDE PERMANENT SIGNING
- H) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

- J) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR 1110	PAINT	NONE

- K) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE AS SHOWN IN THE PAVEMENT MARKING PLANS.
- L) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.
- M) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- N) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

- O) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) AND RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

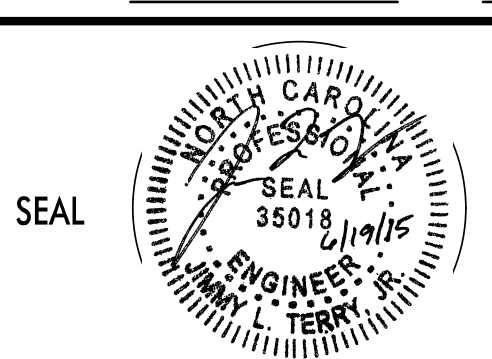
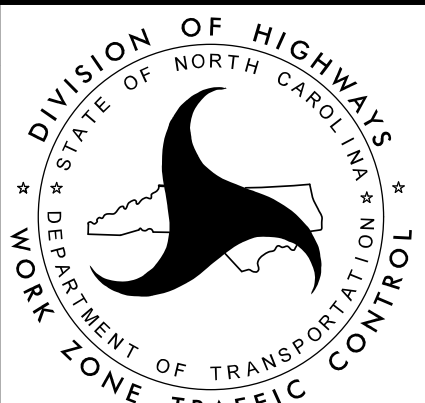
LOCAL NOTES

UNLESS OTHERWISE NOTED ACCESS TO ALL DRIVEWAYS MUST BE PROVIDED AT ALL TIMES WITHIN THE PROJECT LIMITS.

MANAGEMENT STRATEGIES

PROPOSED SR 1110 (ZION METHODIST CHURCH ROAD) WILL BE CONSTRUCTED USING A COMBINATION OF DEVICES INCLUDING A PORTABLE TRAFFIC SIGNAL SYSTEM, TEMPORARY LANE SHIFTS, LANE CLOSURES UTILIZING FLAGGERS AS NEEDED, AND STAGED CULVERT CONSTRUCTION.

\$\$\$ SYSTEMS \$\$\$
 \$\$\$ DESIGN \$\$\$
 \$\$\$ DRAWING \$\$\$
 \$\$\$ CHECKING \$\$\$
 \$\$\$ PERMITS \$\$\$
 \$\$\$ CLOSURE \$\$\$
 \$\$\$ TRAFFIC \$\$\$
 \$\$\$ CONTROL \$\$\$
 \$\$\$ PLAN \$\$\$

APPROVED: _____ DATE: _____ <div style="text-align: center;">  </div>		<h1 style="margin: 0;">TRANSPORTATION OPERATIONS PLAN</h1>
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PHASING

NOTE: UNLESS OTHERWISE STATED ACCESS TO LOCAL DRIVES MUST BE MAINTAINED AT ALL TIMES.

PHASE I:

STEP 1:
PLACE ALL ADVANCED WORK WARNING SIGNS IN ACCORDANCE TO NCDOT RDWY. STD. 1101.01, SHT. 3 OF 3.

STEP 2:
USING TEMPORARY LANE CLOSURES AND FLAGGERS INSTALL TEMPORARY PORTABLE TRAFFIC SIGNALS, INSTALL TEMPORARY GUARDRAIL, PLACE TEMPORARY PAVEMENT MARKINGS, AND INSTALL THE APPROPRIATE SIGNAGE.
(SEE TMP-3 AND RDWY. STD. 1101.02, SHT 1 OF 15).

ACTIVATE THE TRAFFIC SIGNAL SYSTEM AND PLACE TRAFFIC IN A ONE-LANE TWO-WAY PATTERN ALONG THE EXISTING NORTHBOUND LANE OF SR 1110 (ZION METHODIST CHURCH RD).
CUT EXISTING BRIDGE (APPROXIMATELY 4'-6" FROM OVERHANG) AND REMOVE.
(SEE TMP-3)

STEP 3:
CONSTRUCT THE ON-SITE DETOUR FROM STA. -DET- 10+22.00 TO 12+58.00.
BEGIN CONSTRUCTION OF PROPOSED CULVERT AS SHOWN ON PLANS.
INSTALL TEMPORARY GUARDRAIL ALONG THE DETOUR AS SHOWN ON PLANS.
INSTALL ALL TEMPORARY DRAINAGE DEVICES ACCORDING TO THE DETOUR DRAINAGE PLANS.
(SEE TMP-4 AND SHEET 2-A)

STEP 4:
USING TEMPORARY LANE CLOSURES AND FLAGGERS REVISE THE TEMPORARY PAVEMENT MARKINGS TO ACCOMMODATE THE TRAFFIC SHIFT IN THE NEXT PHASE.
PLACE BARRICADES TO CLOSE EXISTING SR 1110 (ZION METHODIST CHURCH RD)
(SEE TMP-4 AND RDWY. STD. 1101.02, SHT 1 OF 15).

PHASE II:

STEP 1:
SHIFT TRAFFIC ONTO THE ON-SITE DETOUR IN A ONE-LANE TWO-WAY PATTERN.
REMOVE THE REMAINING SECTION OF THE EXISTING BRIDGE INCLUDING THE TEMPORARY GUARDRAIL.
BEGIN CONSTRUCTION OF THE REMAINING SECTION OF THE PROPOSED CULVERT AS SHOWN ON PLANS.
(SEE TMP-5).

STEP 2:
CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, AS SHOWN ON PLANS :
NORTHBOUND - FROM -L- STA. 12+45.00 TO -L- STA. 14+25.00 INCLUDING THE PROPOSED GUARDRAIL
SOUTHBOUND - FROM -L- STA. 12+80.00 TO -L- STA. 13+85.00.
(SEE TMP-5).

PHASE III:

STEP 1:
AFTER REVISING THE TEMPORARY PAVEMENT MARKINGS USING TEMPORARY LANE CLOSURES AND FLAGGERS AS NEEDED RETURN TRAFFIC BACK TO THE NORTHBOUND SIDE OF SR 1110 (ZION METHODIST CHURCH RD) IN A ONE-LANE TWO-WAY PATTERN.
(SEE TMP-6 AND RDWY. STD. 1101.02, SHT 1 OF 15).

USING TEMPORARY LANE CLOSURES AND FLAGGERS AS NEEDED CONSTRUCT THE NORTHBOUND AND SOUTHBOUND TIE-INS UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS:
NORTHBOUND - FROM -L- STA. 11+80.00 TO -L- STA. 12+45.00 AND FROM -L- STA. 14+25.00 TO 14+40.00
SOUTHBOUND - FROM -L- STA. 11+80.00 TO -L- STA. 12+80.00 AND FROM -L- STA. 13+85.00 TO 14+40.00
REMOVE THE DETOUR AND THE TEMPORARY GUARDRAIL.
INSTALL THE GUARDRAIL ADJACENT TO THE SOUTHBOUND LANE.
(SEE TMP-6 AND RDWY. STD. 1101.02, SHT 1 OF 15).

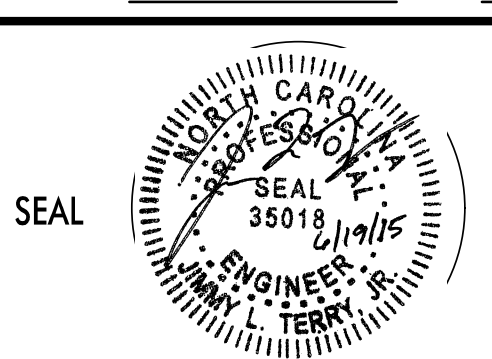
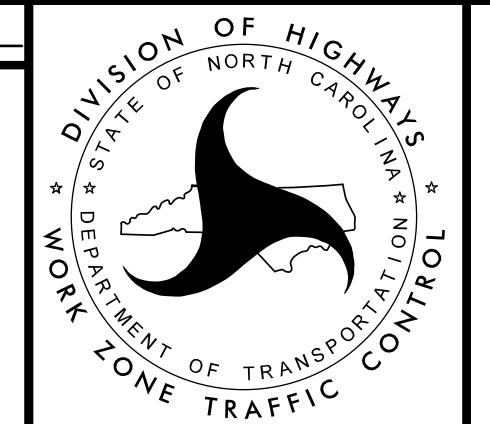
STEP 2:
DEACTIVATE THE TEMPORARY TRAFFIC SIGNAL, REMOVE ALL CONFLICTING PAVEMENT MARKINGS, AND PLACE THE TRAFFIC IN ITS FINAL PATTERN.

USING TEMPORARY LANE CLOSURES AND FLAGGERS CONSTRUCT THE FINAL LAYER OF SURFACE COURSE FROM -L- STA 11+80.00 TO 14+40.00 AS SHOWN ON PLANS.
(SEE TMP-6 AND RDWY. STD. 1101.02, SHT 1 OF 15)

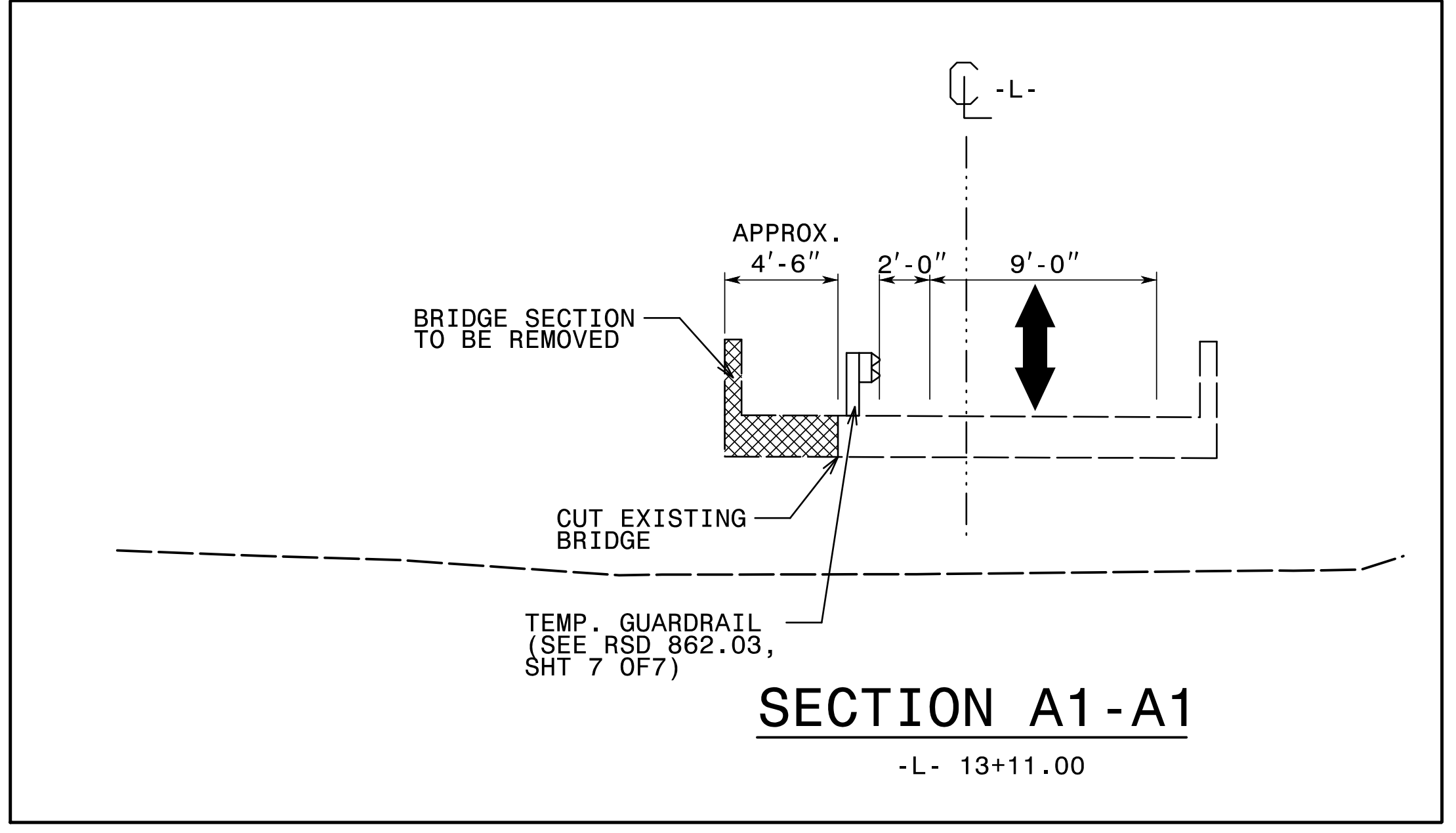
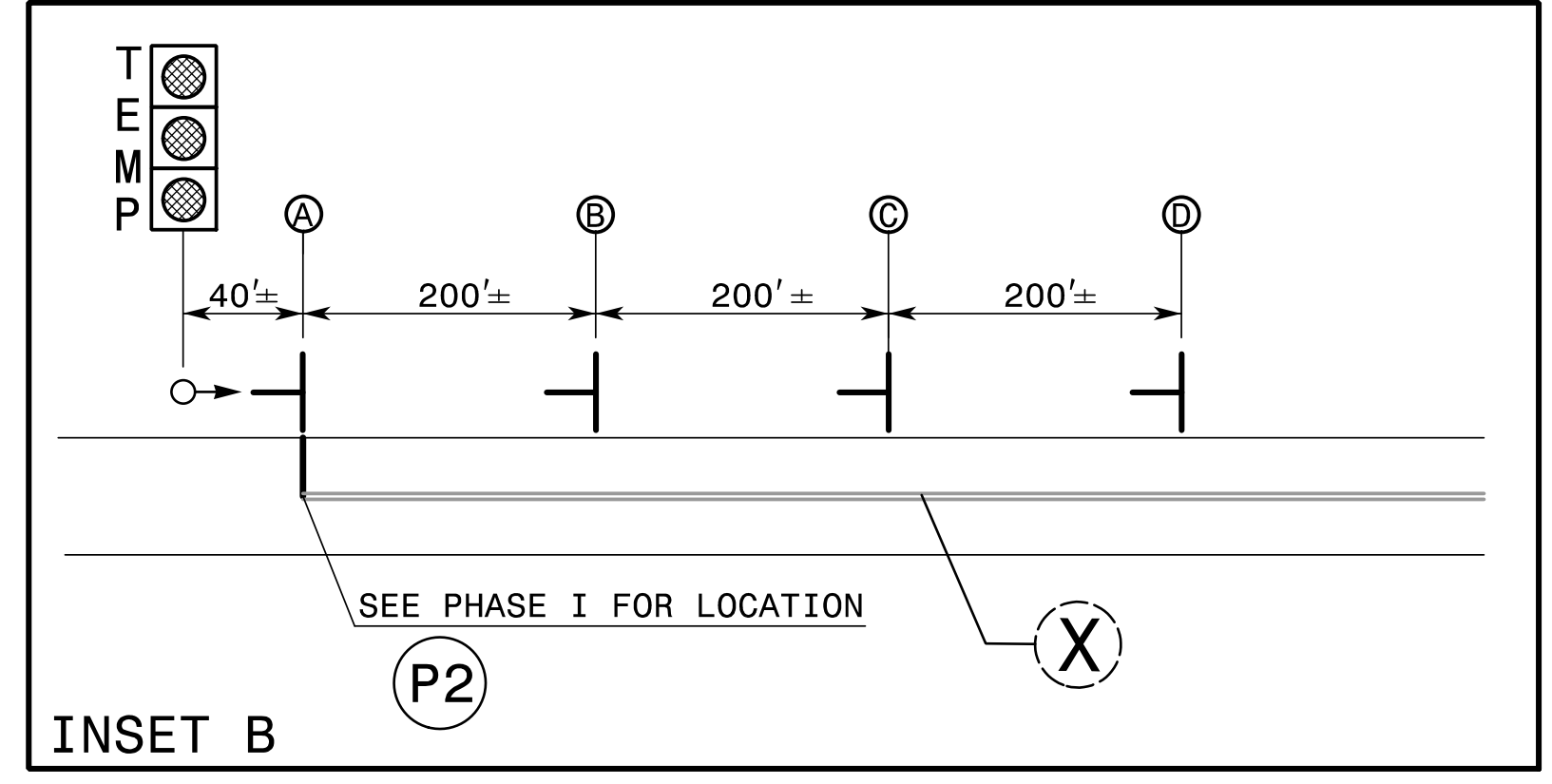
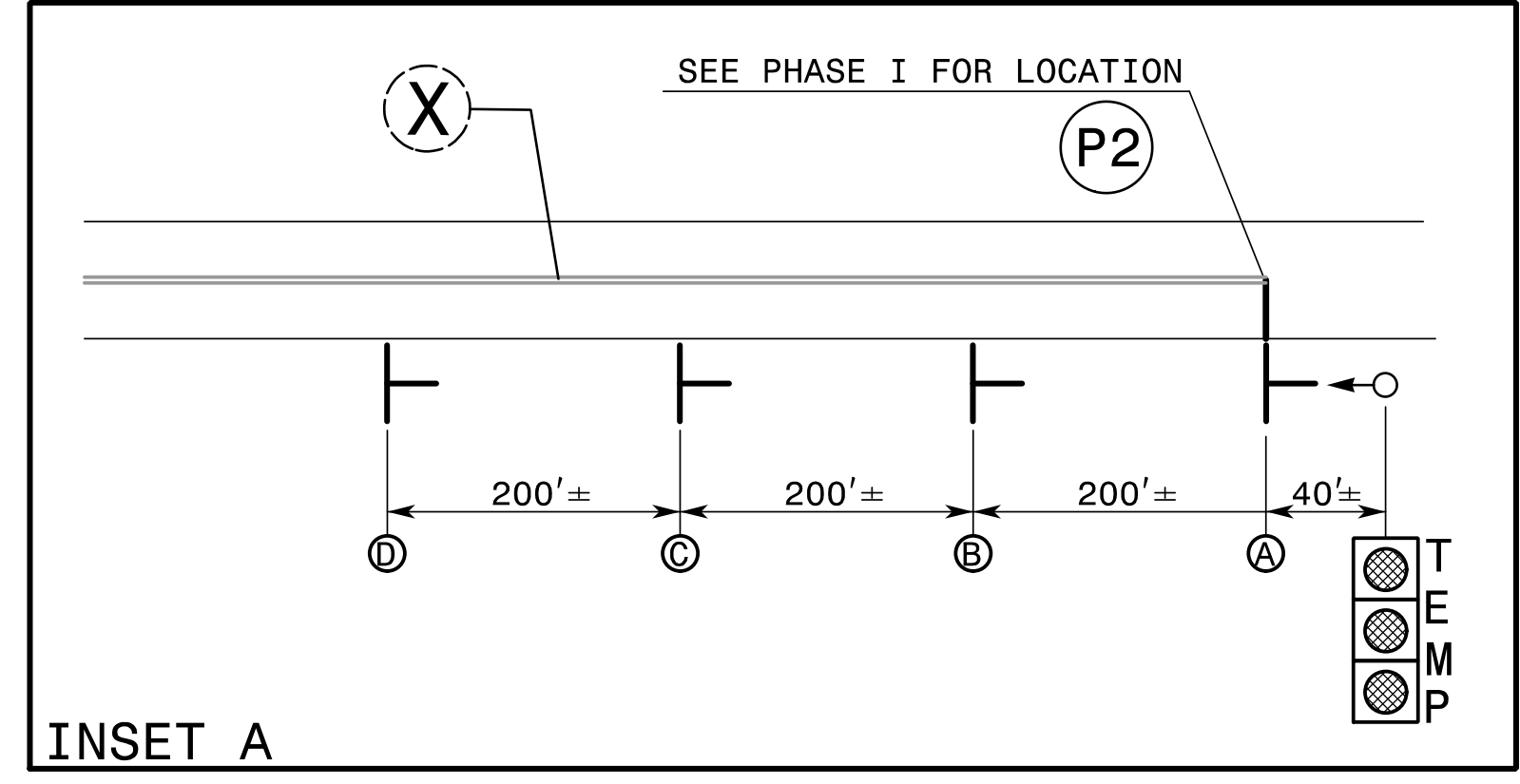
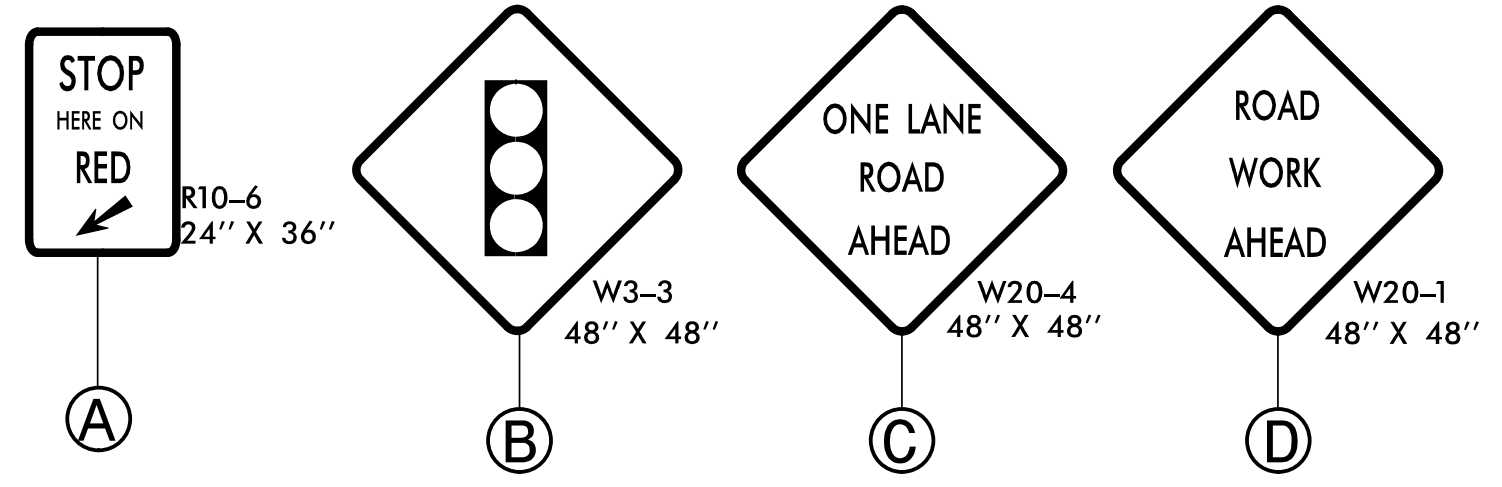
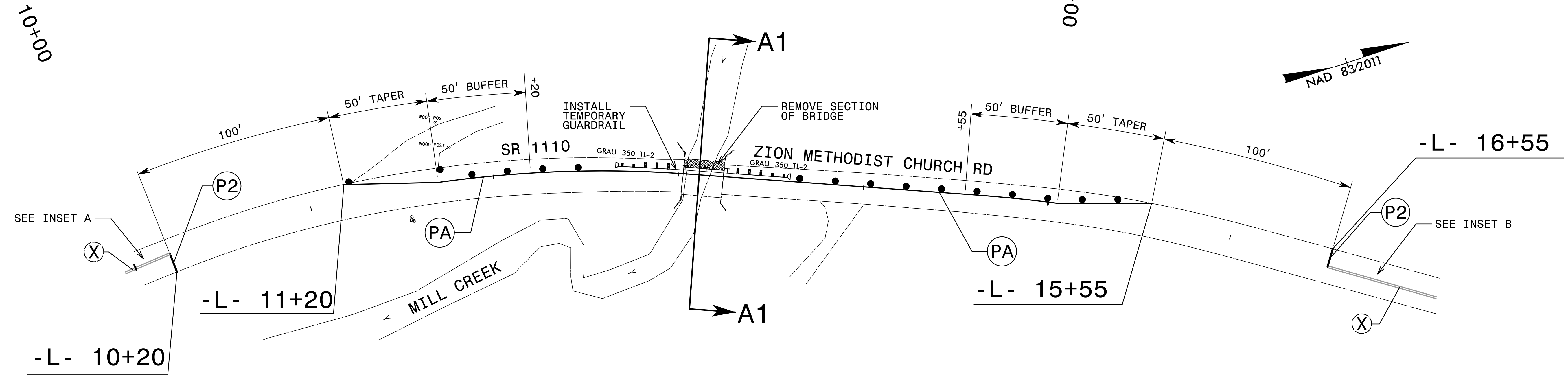
STEP 3:
USING TEMPORARY LANE CLOSURES AND FLAGGERS INSTALL FINAL PAVEMENT MARKINGS AS SHOWN ON THE PAVEMENT MARKING PLANS.
(SEE PMP-1 AND RDWY. STD. 1101.02, SHT 1 OF 15)

REMOVE ALL TRAFFIC CONTROL DEVICES.

\$\$\$\$\$ SYSTEM \$\$\$\$\$\$
\$\$\$\$\$ CADD \$\$\$\$\$\$
\$\$\$\$\$ DATE \$\$\$\$\$\$
\$\$\$\$\$ USER \$\$\$\$\$\$

APPROVED: _____ DATE: _____			<h1>PHASING</h1>
SEAL			

PHASE I - STEP 2



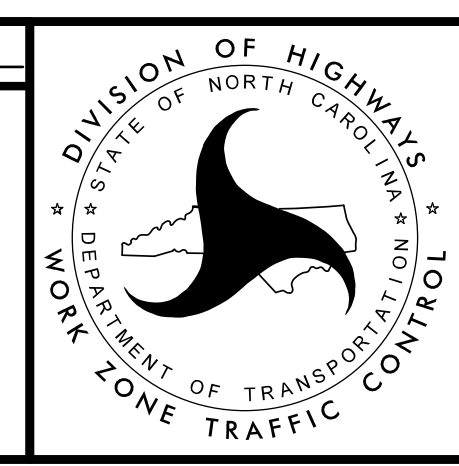
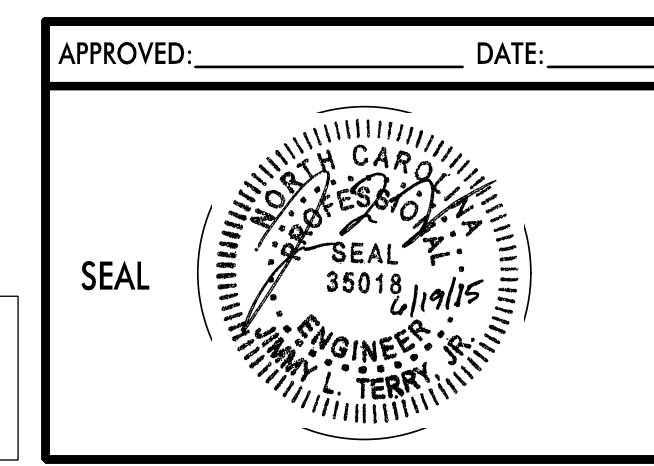
TEMPORARY PAVEMENT MARKING SCHEDULE

PAVEMENT MARKINGS	PAY ITEM	QUANTITY	TOTAL
PA WHITE EDGELINE (1X)	1155 LF		
P2 WHITE STOPBAR (1X)	20 LF		
	TOTAL	1155 LF	
	TOTAL	20 LF	

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.

(X) EXIST DOUBLE YELLOW

TGS ENGINEERS
 804-C N. LAFAYETTE ST
 SHELBY, NC 28150
 PH (704) 476-0003
 CORP. LICENSE NO.: C-0275



PHASE I

\$\$\$\$\$ SYSTEM TIME\$\$\$\$\$
\$\$\$\$\$ DATE\$\$\$\$\$
\$\$\$\$\$ USER NAME\$\$\$\$\$

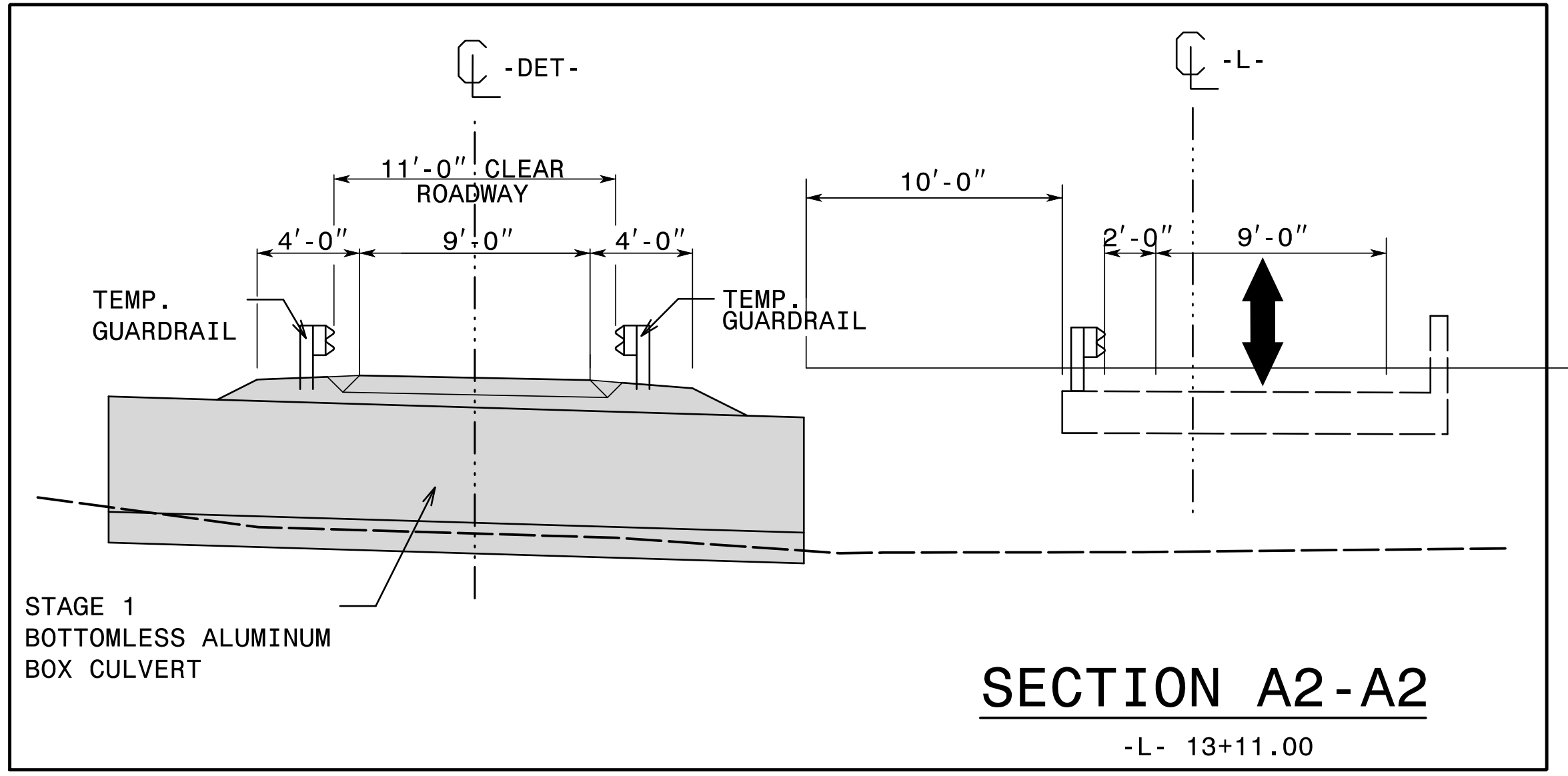
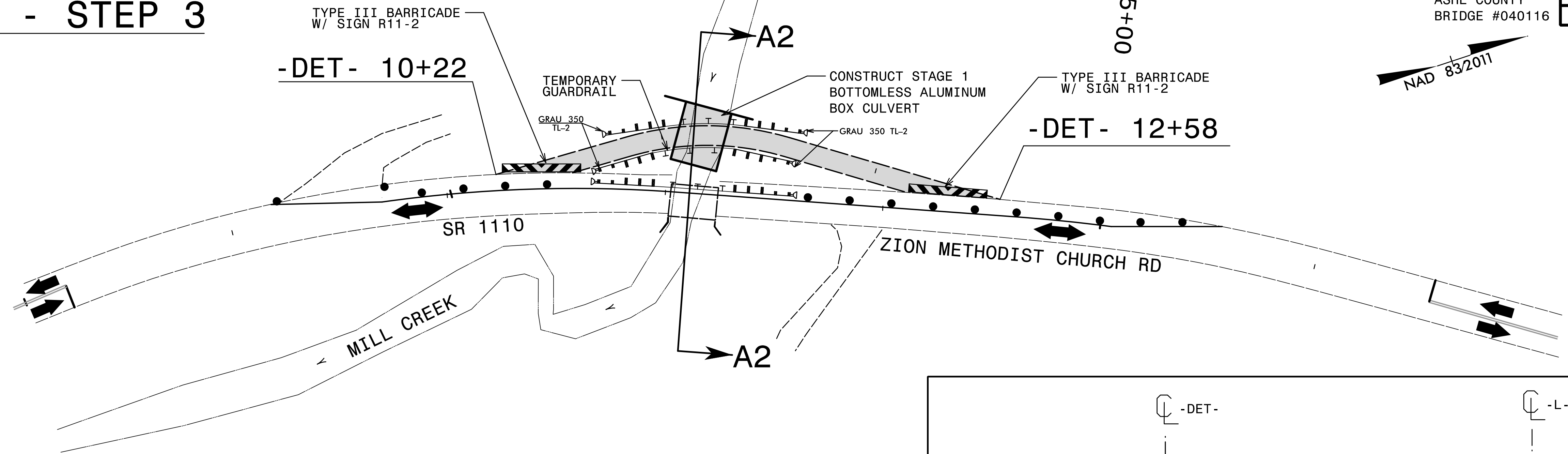
PHASE I - STEP 3

ASHE COUNTY
BRIDGE #040116

PROJ. REFERENCE NO. 17BP.11.R.85	SHEET NO. TMP-4
-------------------------------------	--------------------

10+00

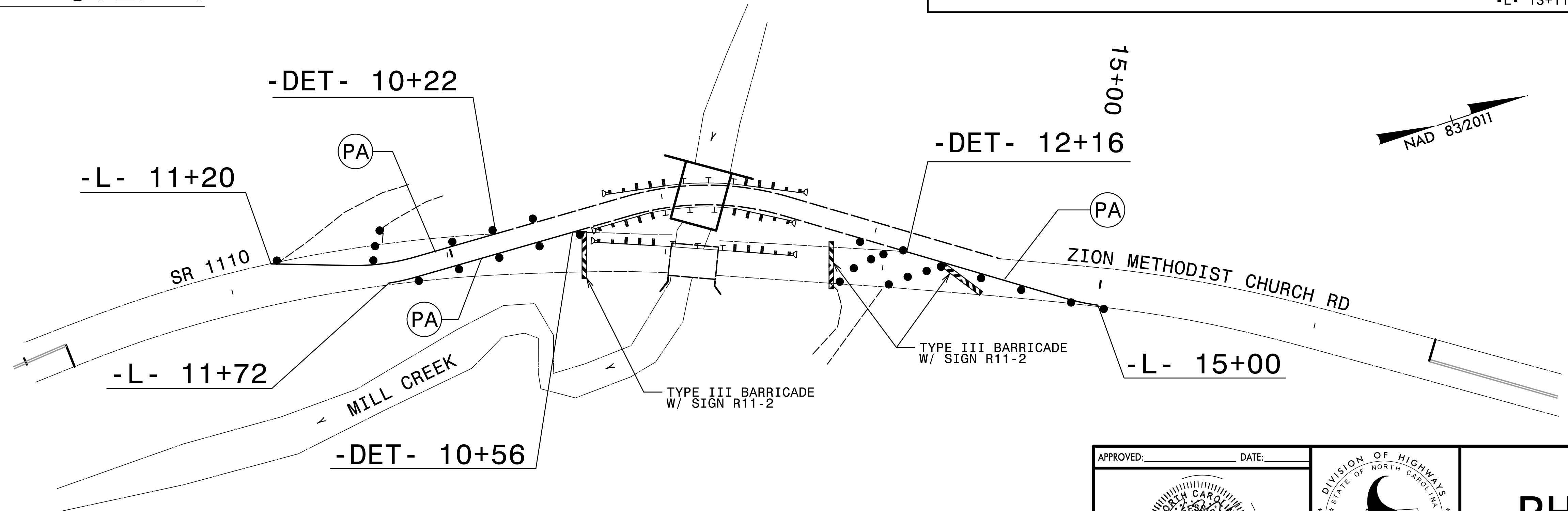
15+00



PHASE I - STEP 4

10+00

15+00

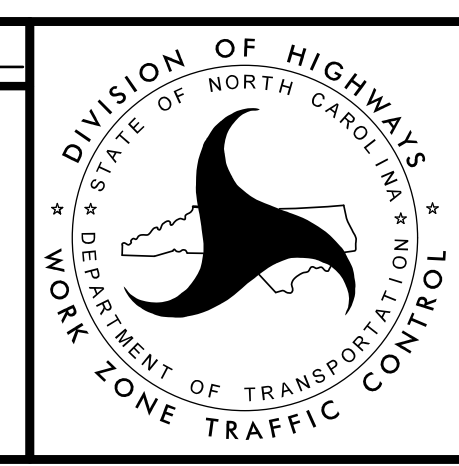


SEE TMP-3 FOR TEMPORARY PAVEMENT SCHEDULE

\$\$\$\$\$ SYSTEMS DESIGN\$\$\$\$\$
\$\$\$\$\$ USER NAME\$\$\$\$\$

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH: (704) 476-0003
CORP. LICENSE NO.: C-0275

APPROVED: _____ DATE: _____



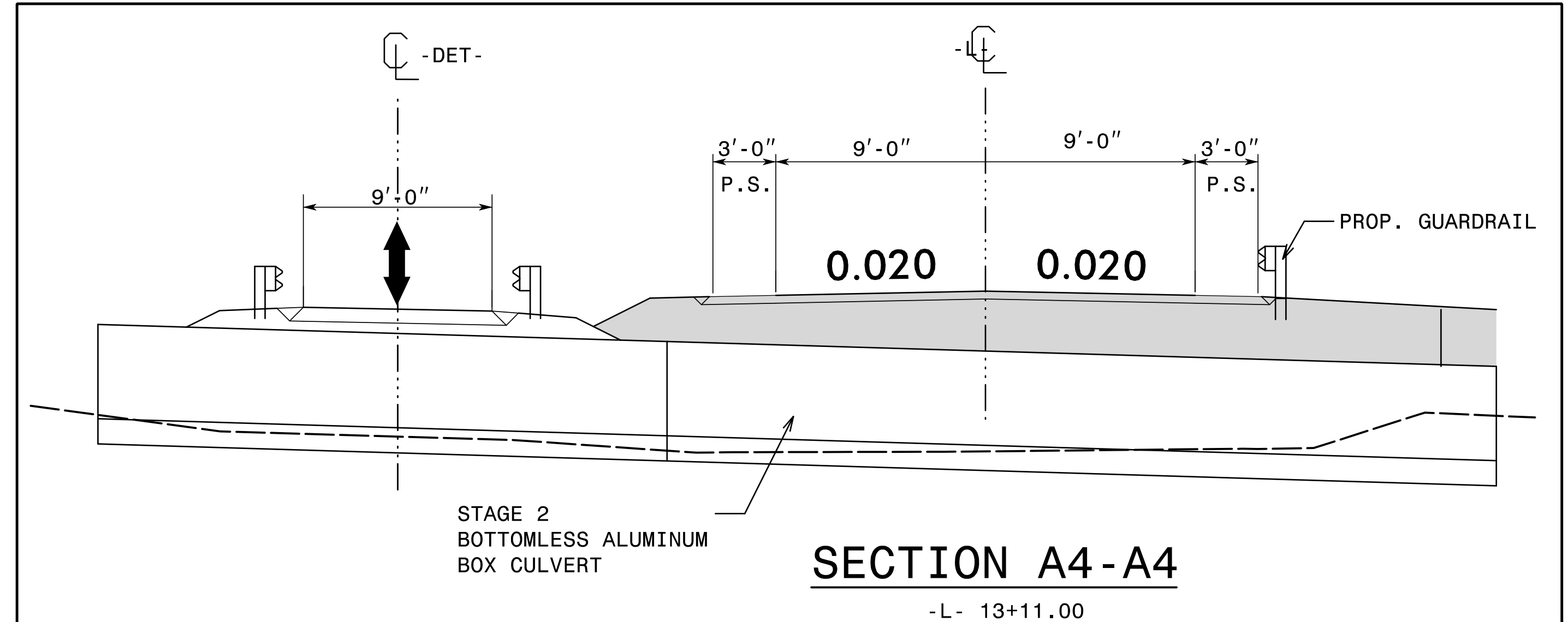
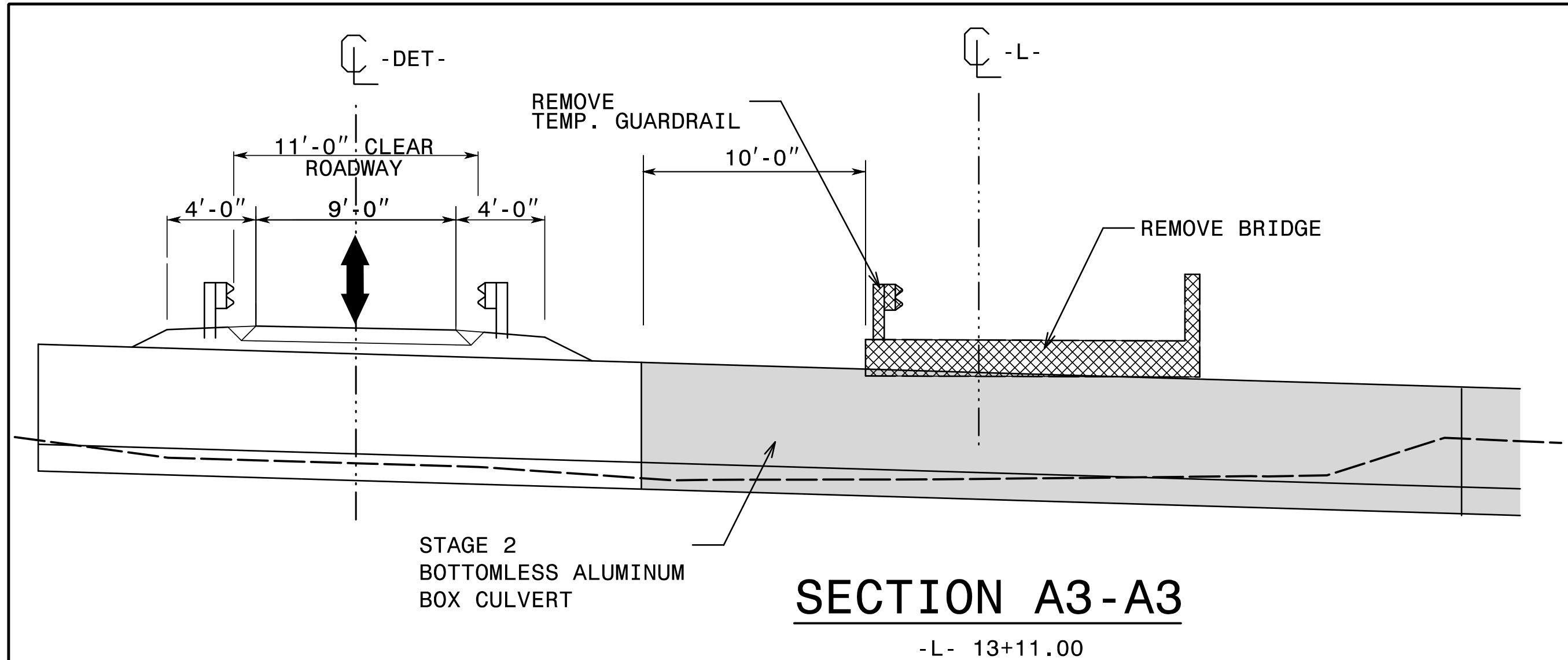
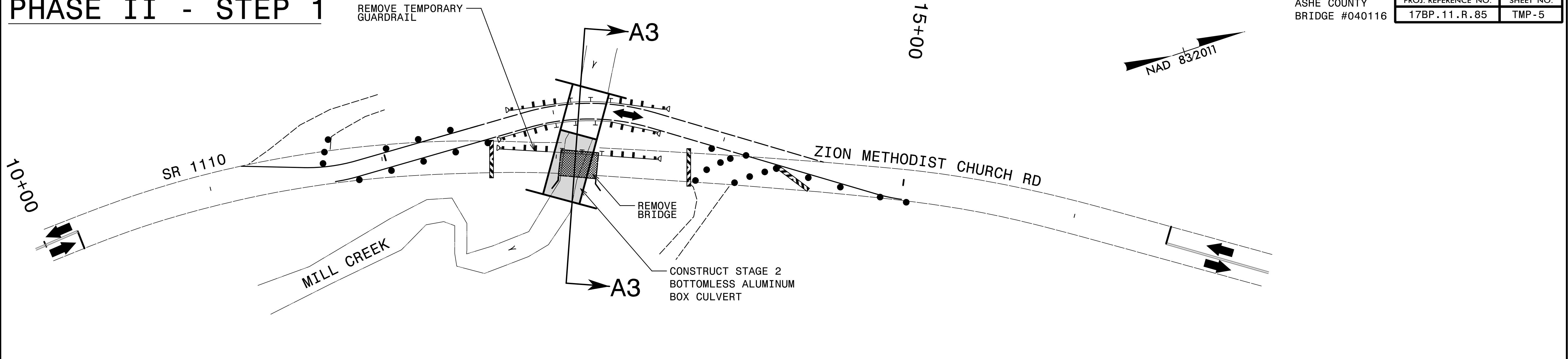
PHASE I

PHASE II - STEP 1

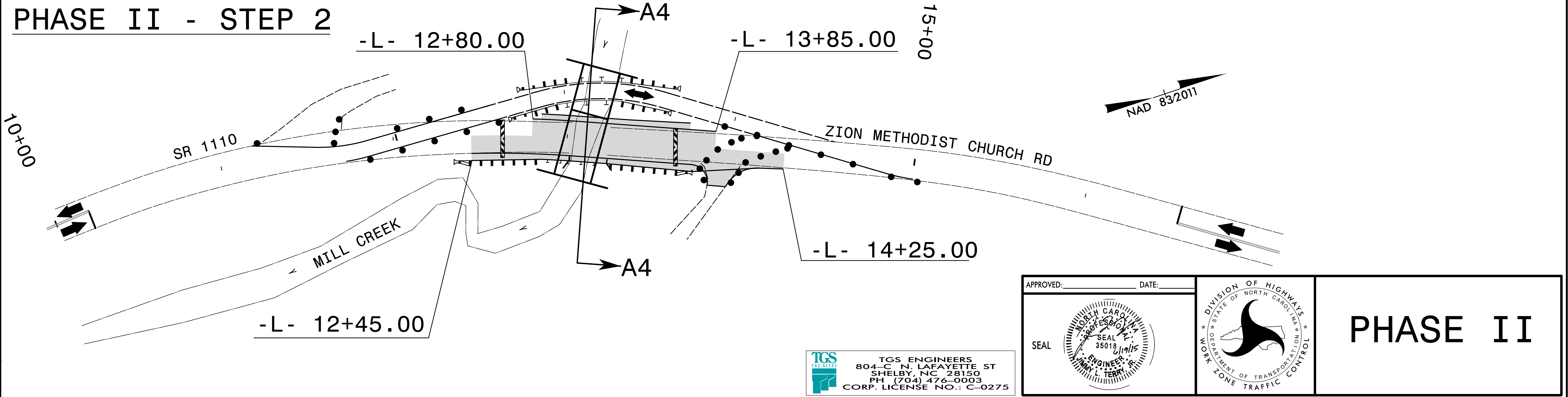
REMOVE TEMPORARY GUARDRAIL

ASHE COUNTY
BRIDGE #040116

PROJ. REFERENCE NO.	SHEET NO.
17BP.11.R.85	TMP-5

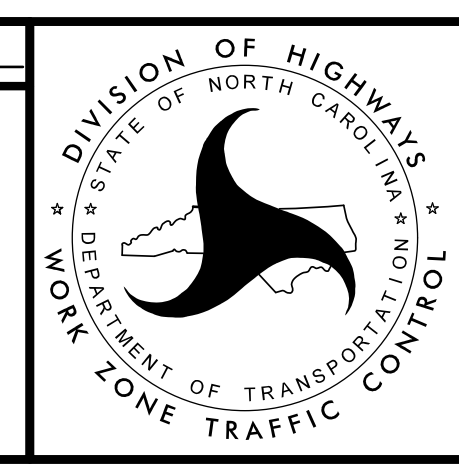


PHASE II - STEP 2



APPROVED: _____ DATE: _____

SEAL



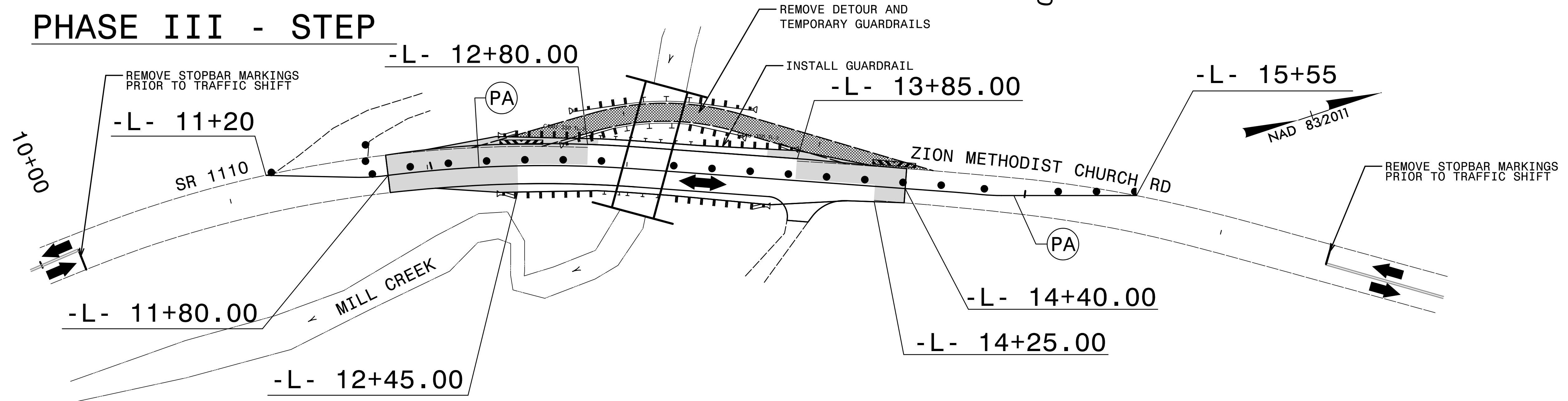
PHASE II

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

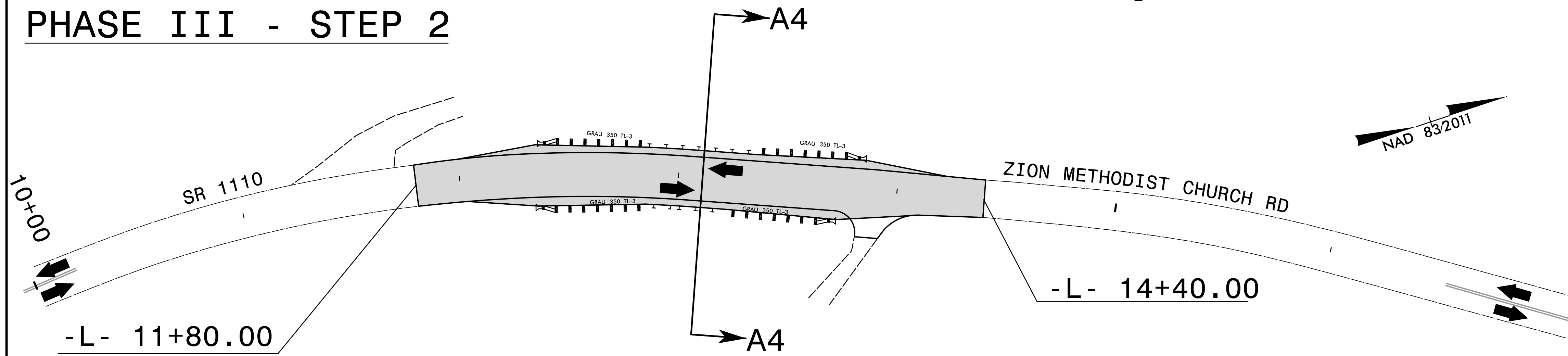
\$\$\$\$\$ SYSTEMS\$\$\$\$\$
\$\$\$\$\$ DESIGN\$\$\$\$\$
\$\$\$\$\$ SERVICES\$\$\$\$\$

PHASE III - STEP 1

PHASE III - STEP



PHASE III - STEP 2

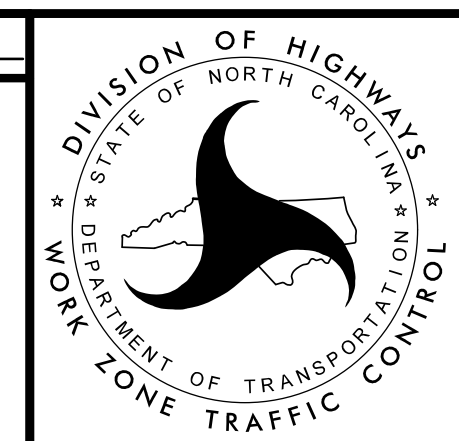


\$\$\$\$\$ SYSTEME\$\$\$\$\$
\$\$\$\$\$ DESIGN\$\$\$\$\$
\$\$\$\$\$ USERNAME\$\$\$\$\$

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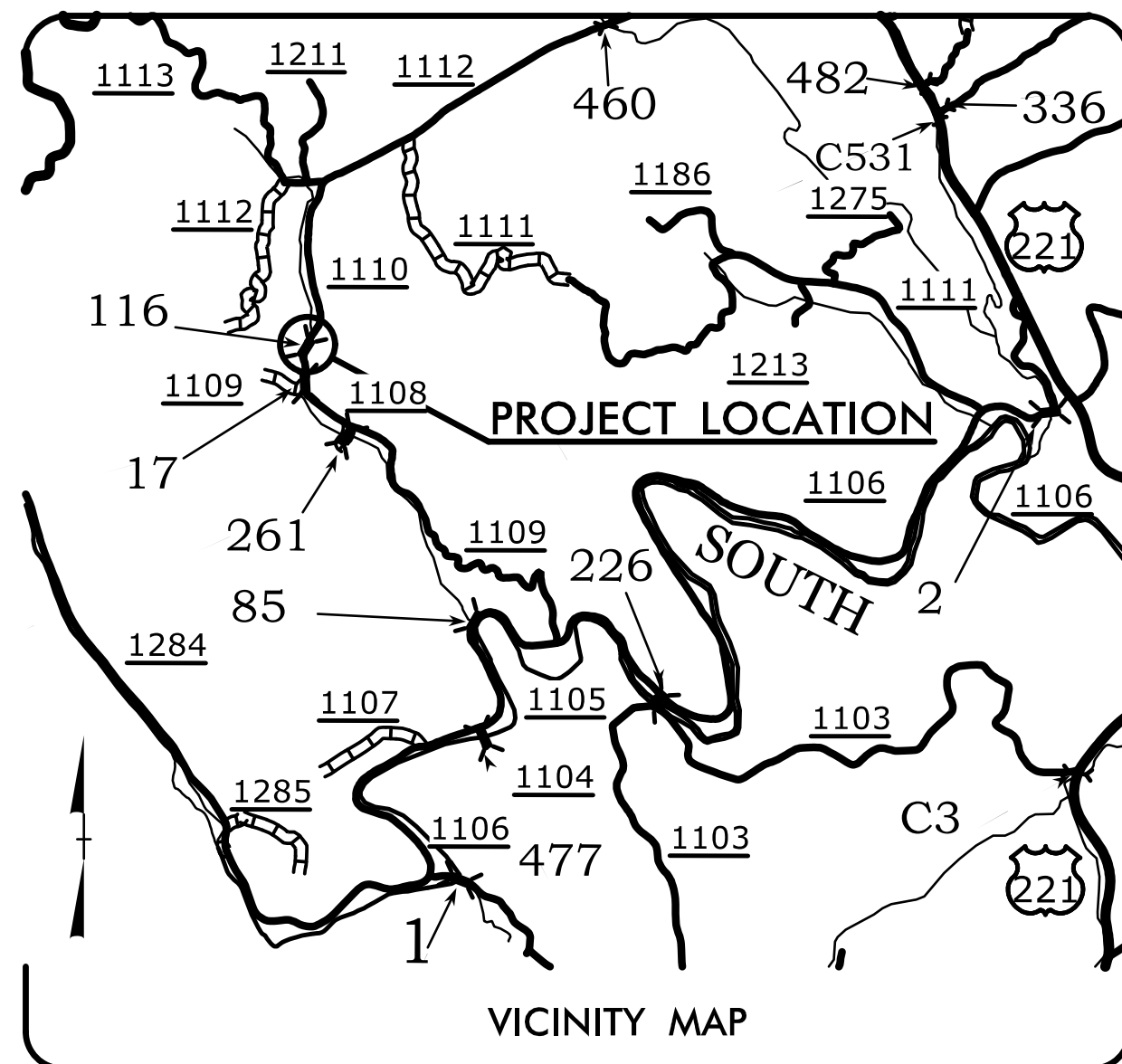
APPROVED: _____ DATE: _____

SEAL



PHASE III

PROJECT: 17BP.11.R.85

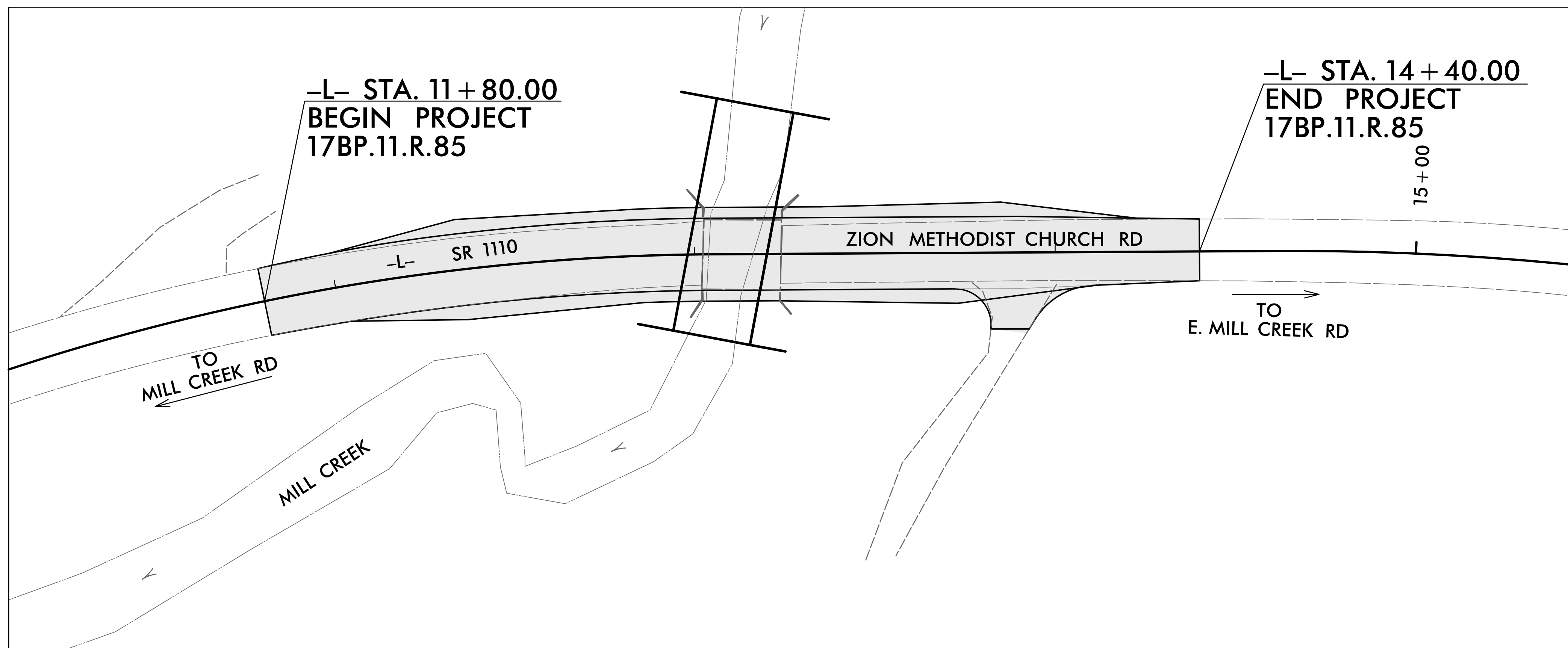
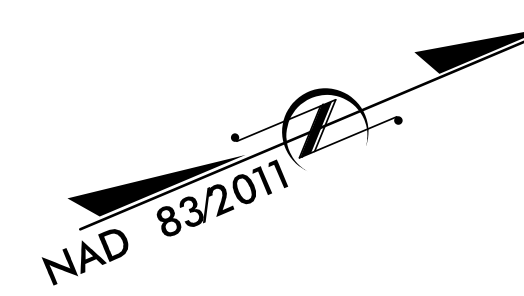


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

ASHE COUNTY

LOCATION: BRIDGE NO. 040116 OVER MILL CREEK
ON SR 1110 (ZION METHODIST CHURCH ROAD)

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



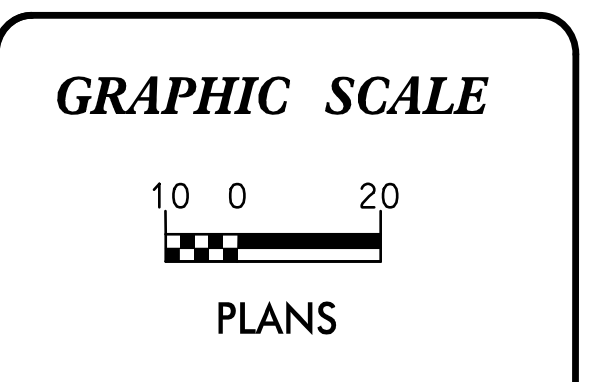
EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	△△△△△
1622.01	Temporary Berms and Slope Drains	TD
1630.02	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	⊗
1633.02	Temporary Rock Silt Check Type-B	▶
	Wattle / Coir Fiber Wattle	⊂
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	⊂
1634.01	Temporary Rock Sediment Dam Type-A	▨
1634.02	Temporary Rock Sediment Dam Type-B	⊂
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⊂
1635.02	Rock Pipe Inlet Sediment Trap Type-B	⊂
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

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.



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.

TGS ENGINEERS
Plans Prepared By:
TGS ENGINEERS
804-C N. LAFAYETTE ST.
SHELBY, NC 28150
PH (704) 476-0003

2012 STANDARD SPECIFICATIONS

LETTING DATE:

NCDOT DIVISION II
NCDOT Contact:
JAMI GUYNN
DIVISION BRIDGE
PROJECT MANAGER

ANDREW H. COCHRANE, EI
PROJECT ENGINEER
LEVEL III CERTIFICATION
NUMBER 3015

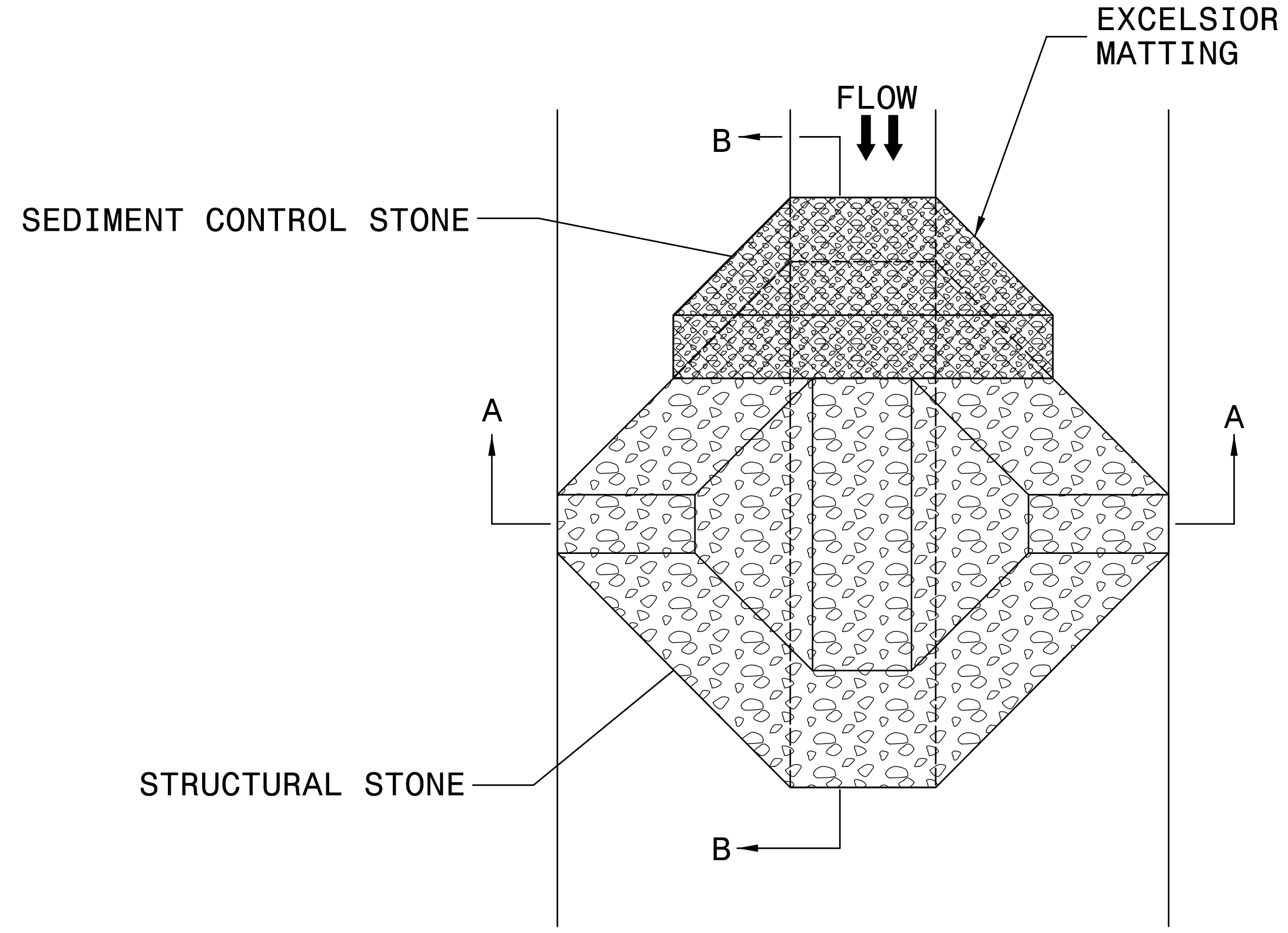
Roadway Standard Drawings

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	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Wattle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

PROJECT REFERENCE NO. 17BPJLR.85	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN

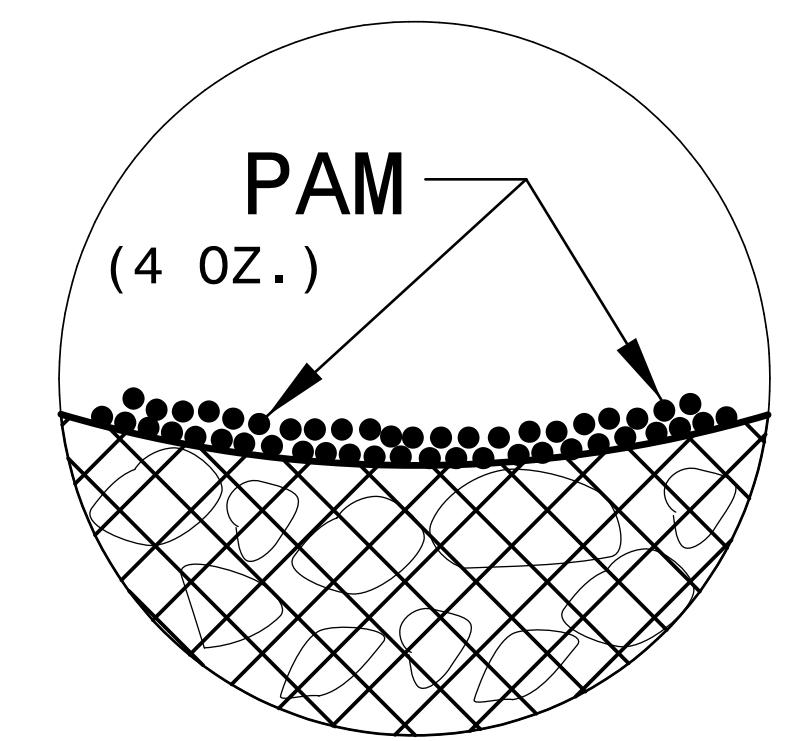
NOTES:

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

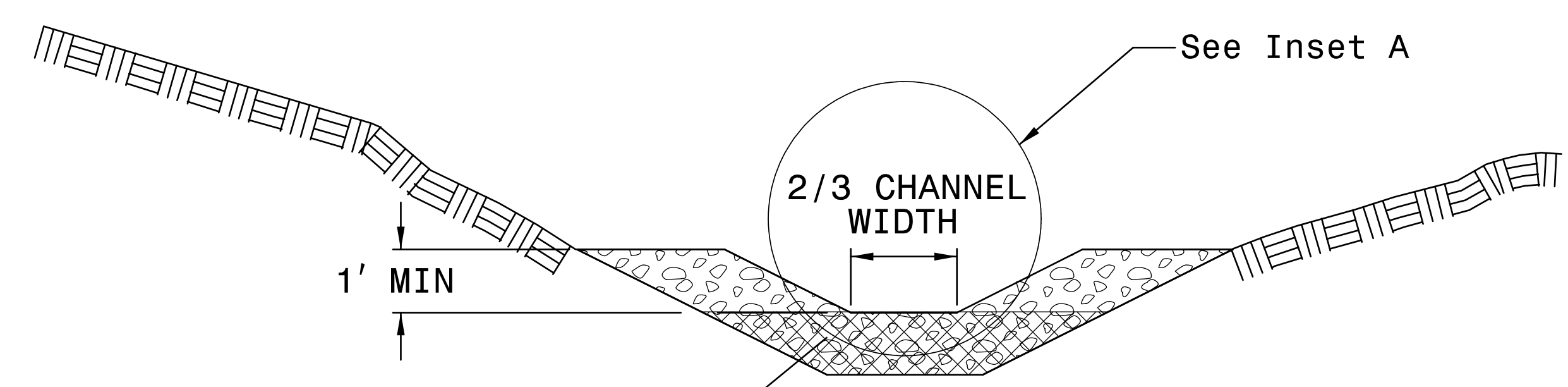
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

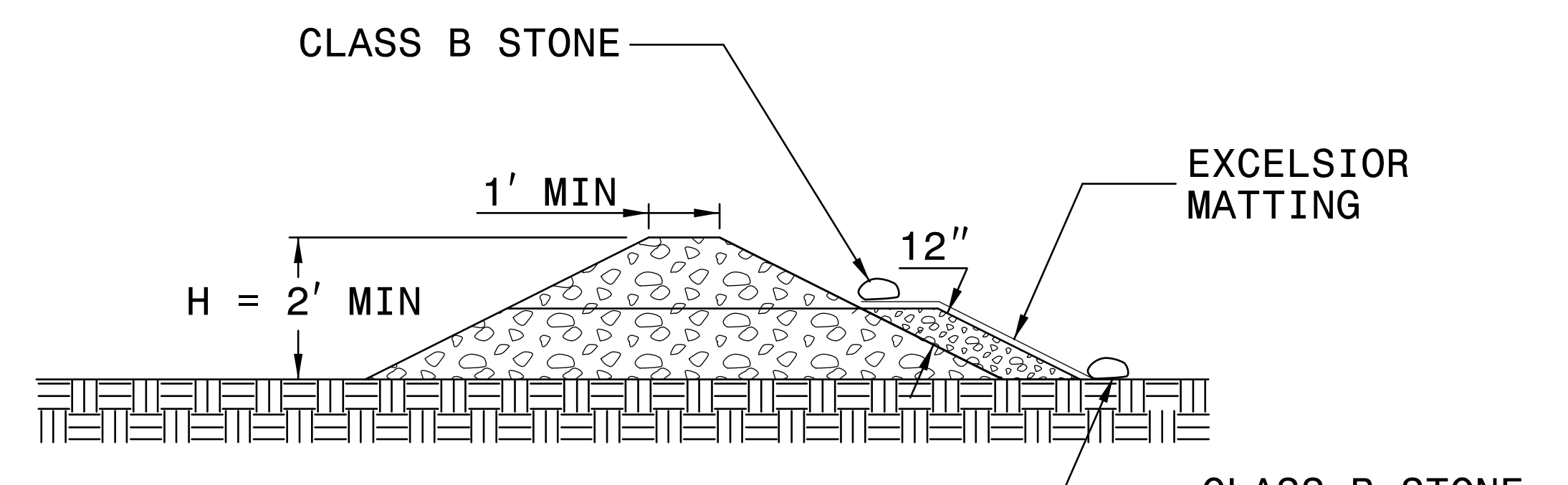
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
<i>17BPJLR85</i>	<i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

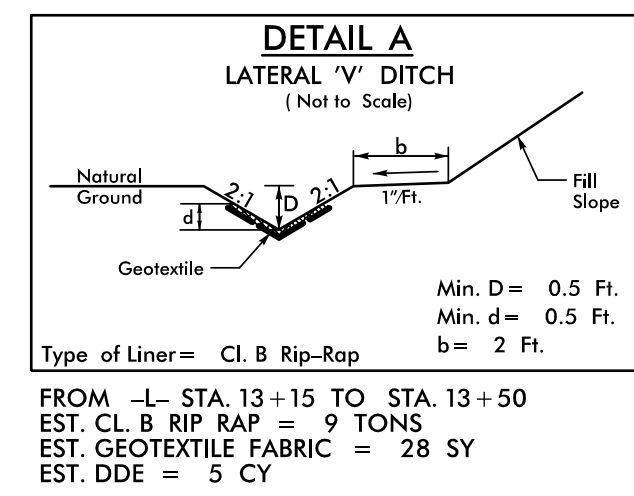
SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
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.

ASHE COUNTY
BRIDGE #040116

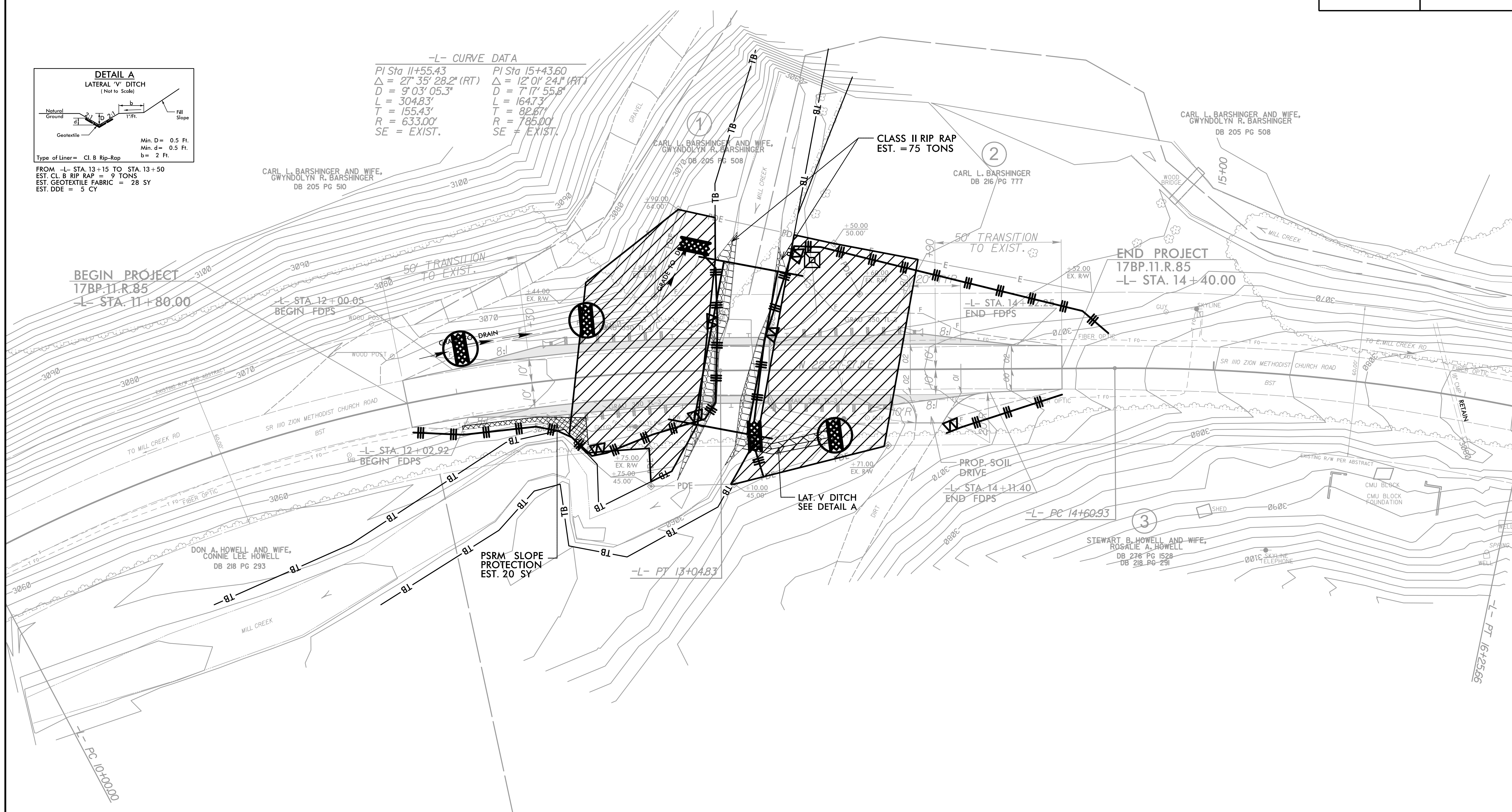


PROJECT REFERENCE NO. 17BP.11.R.85	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L- CURVE DATA

PI Sta 11+55.43	PI Sta 15+43.60
$\Delta = 27^\circ 35' 28.2''$ (RT)	$\Delta = 12^\circ 01' 24.1''$ (RT)
D = 9' 03" 05.3"	D = 7' 17" 55.8"
L = 304.83'	L = 164.73'
T = 155.43'	T = 82.67'
R = 633.00'	R = 785.00'
SE = EXIST.	SE = EXIST.



PROJECT REFERENCE NO. 17BP.II.R.85	SHEET NO. EC-6/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

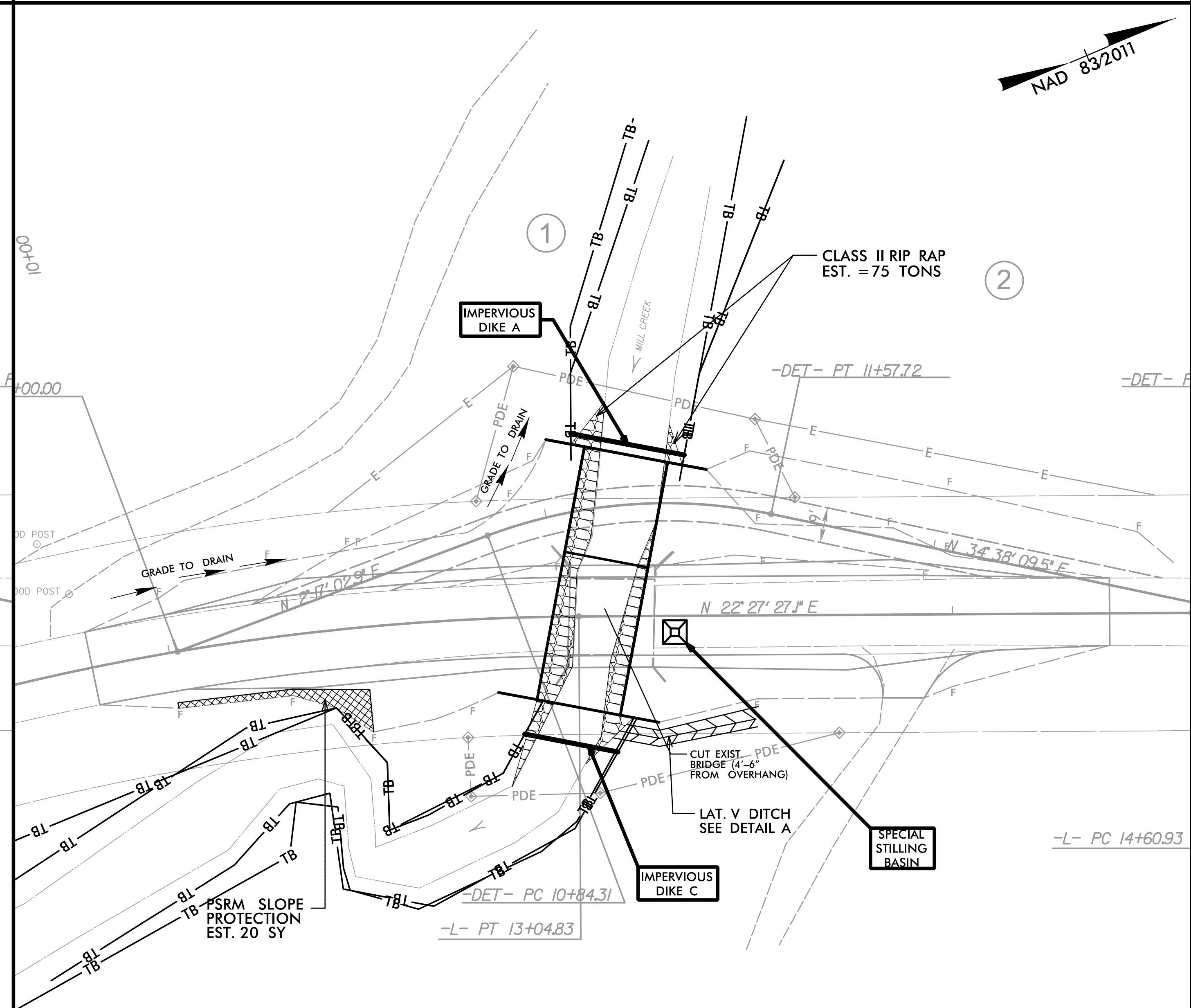
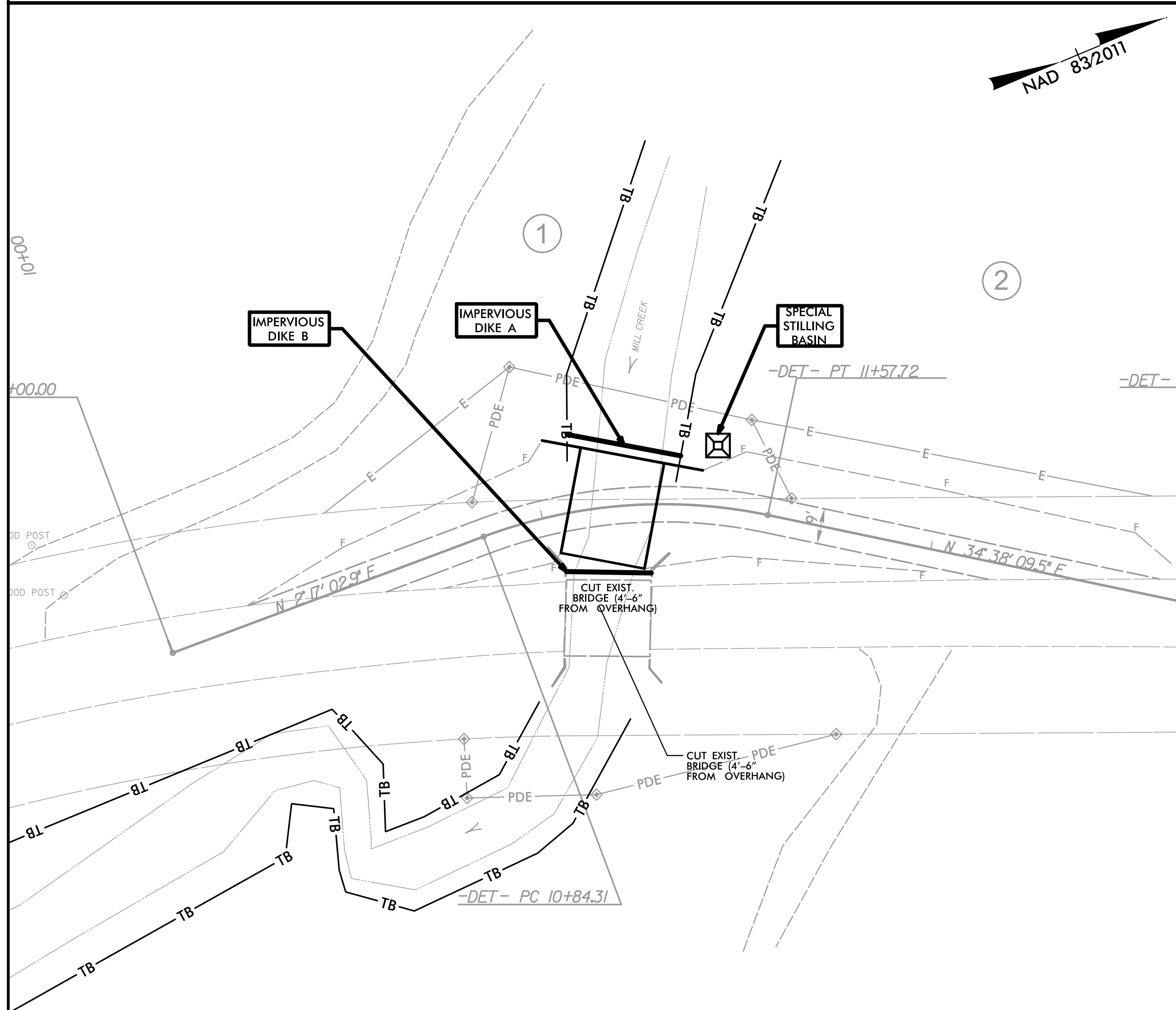
CULVERT CONSTRUCTION SEQUENCE STA. 13+12 -L-

PHASE I

1. INSTALL PERIMETER EROSION CONTROL DEVICES AS SHOWN ON EC-4 AND EC-5.
2. CONSTRUCT IMPERVIOUS DIKES A AND B TO RESTRAIN STREAM AND BEGIN PUMP AROUND OPERATIONS. UTILIZE SPECIAL STILLING BASIN TO DEWATER WORK SITE AS NEEDED.
3. CUT EXISTING BRIDGE (APPROXIMATELY 4'-6" FROM OVERHANG) AND REMOVE CUT SECTION.
4. CONSTRUCT ON-SITE DETOUR FROM STA. -DET- 10+22.00 TO 12+58.00.
5. CONSTRUCT 27 LF OF 20'-4" X 4'-6" BOTTOMLESS ALUMINUM BOX CULVERT AND NORTHERN ENDWALL.

PHASE II

1. SHIFT TRAFFIC ONTO THE ON-SITE DETOUR.
2. CONSTRUCT IMPERVIOUS DIKE C AND REMOVE IMPERVIOUS DIKE B. CONTINUE PUMP AROUND OPERATIONS.
3. REMOVE THE REMAINING SECTION OF THE BRIDGE.
4. CONSTRUCT THE REMAINING SECTION OF THE PROPOSED CULVERT AND SOUTHERN ENDWALL.
5. COMPLETE ANY NECESSARY INLET/OUTLET CHANNEL IMPROVEMENTS.
6. REMOVE IMPERVIOUS DIKES A AND C, DIVERTING FLOW INTO NEW CULVERT.
7. COMPLETE ROADWAY CONSTRUCTION.
8. PLACE THE TRAFFIC IN ITS FINAL PATTERN.



CONTRACTOR IS TO USE PUMP AROUND OPERATIONS AS DIRECTED BY THE ENGINEER TO MAINTAIN STREAM FLOW.

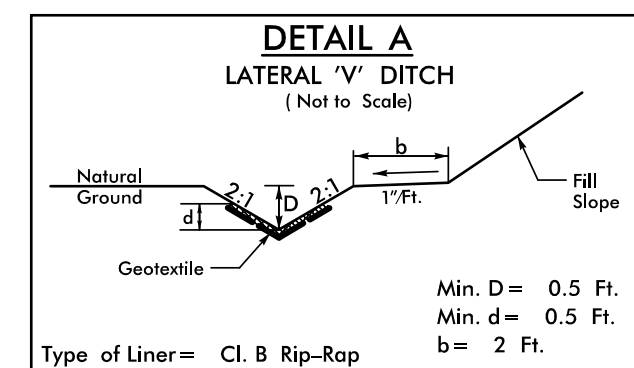
INSTALL PIPE(S) IN JURISDICTIONAL AREAS ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

ASHE COUNTY
BRIDGE #040116



PROJECT REFERENCE NO. 17BP.11.R.85	SHEET NO. EC-7/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Place Matting for Erosion Control on Slope as Work Allows.



FROM -L- STA. 13+15 TO STA. 13+50
EST. CL. B RIP RAP = 9 TONS
EST. GEOTEXTILE FABRIC = 28 SY
EST. DDE = 5 CY

-L- CURVE DATA

PI Sta 11+55.43	PI Sta 15+43.60
$\Delta = 27^{\circ} 35' 28.2''$ (RT)	$\Delta = 12^{\circ} 01' 24.1''$ (RT)
$D = 9^{\circ} 03' 05.3''$	$D = 7^{\circ} 17' 55.8''$
$L = 304.83'$	$L = 164.73'$
$T = 155.43'$	$T = 82.67'$
$R = 633.00'$	$R = 785.00'$
SE = EXIST.	SE = EXIST.

CARL L. BARSHINGER AND WIFE,
GWYNDOLYN R. BARSHINGER
DB 205 PG 510

BEGIN PROJECT
17BP.11.R.85
-L- STA. 11+80.00

-L- STA. 12+00.05
BEGIN FDPS

-L- STA. 12+02.92
MB BEGIN FDPS

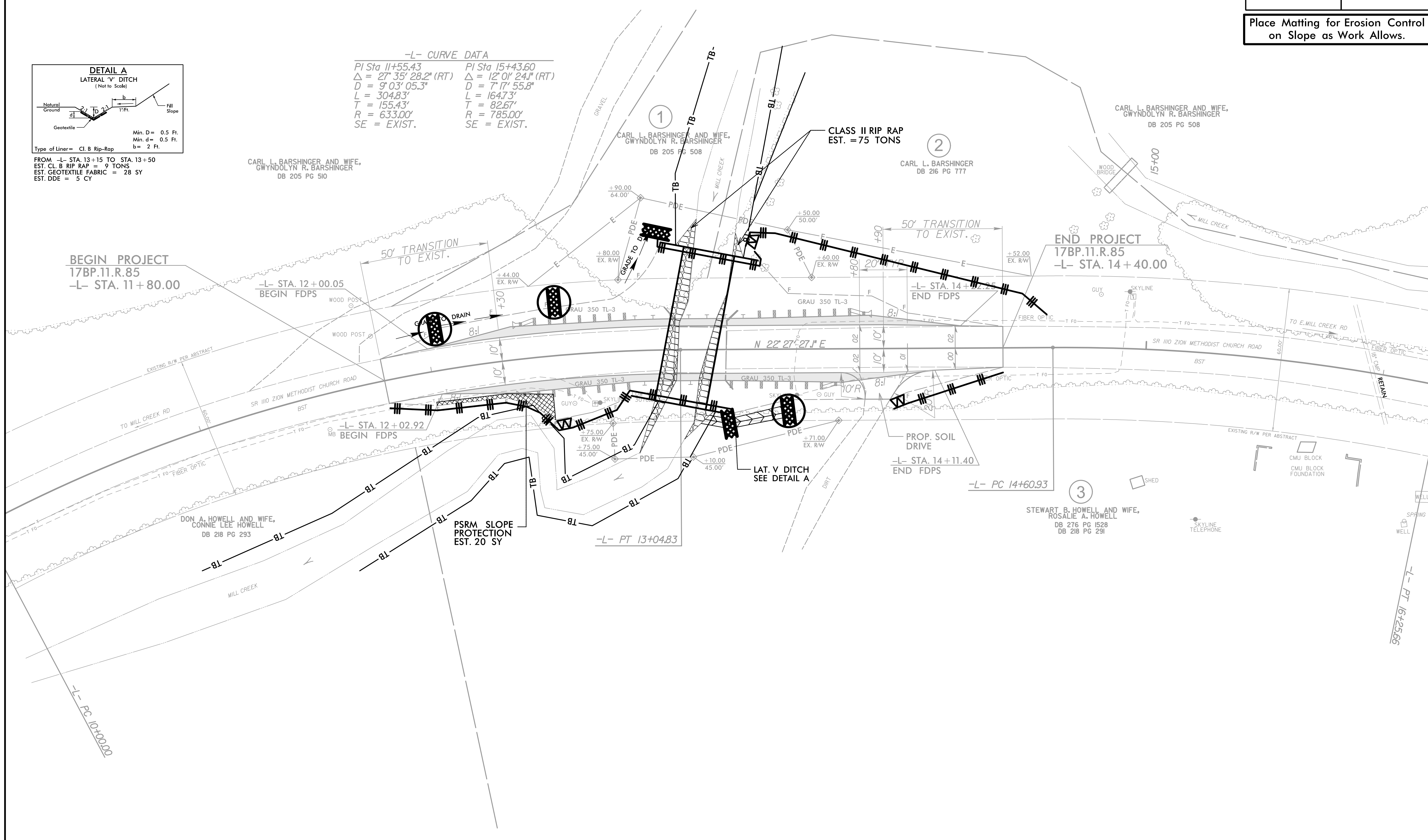
-L- STA. 14+22.25
END FDPS

END PROJECT
17BP.11.R.85
-L- STA. 14+40.00

PROP. SOIL DRIVE
-L- STA. 14+11.40
END FDPS

-L- PC 14+60.93

-L- PT 13+04.83



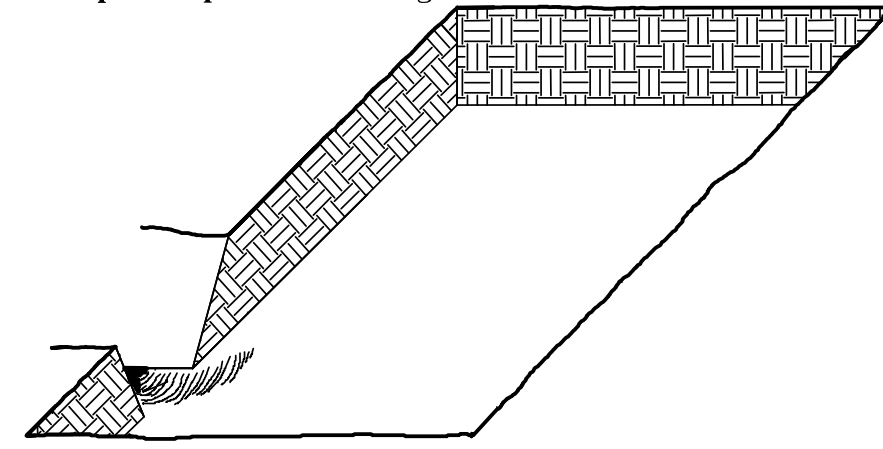
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.11.R.85	RF-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

PLANTING DETAILS

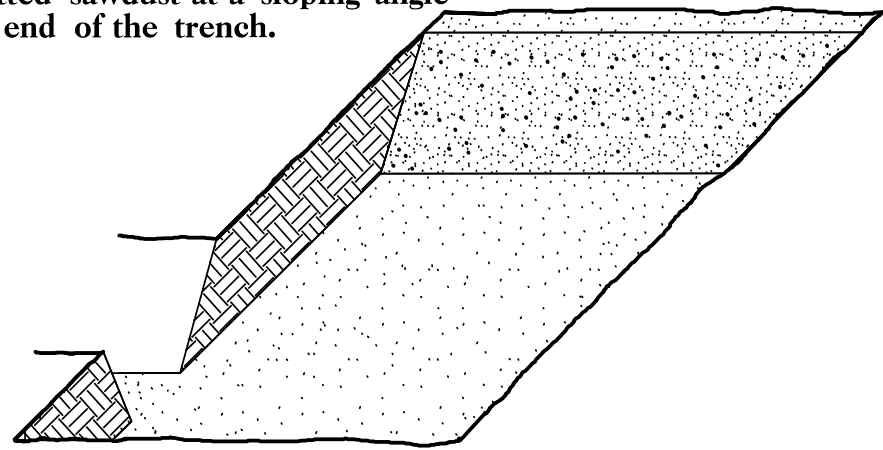
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

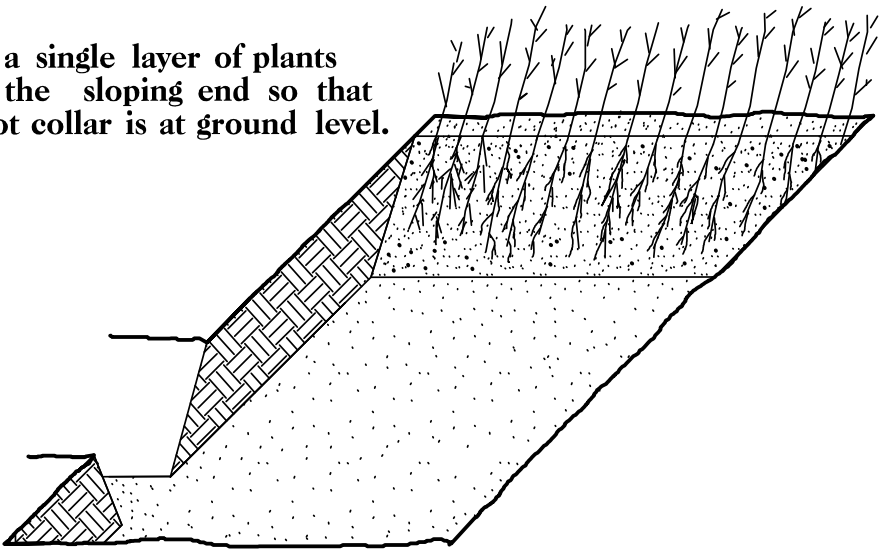
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



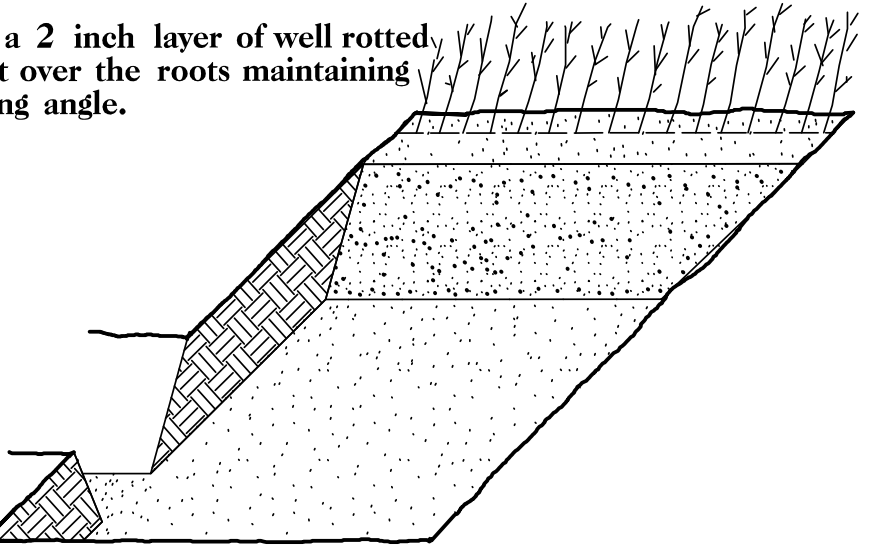
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

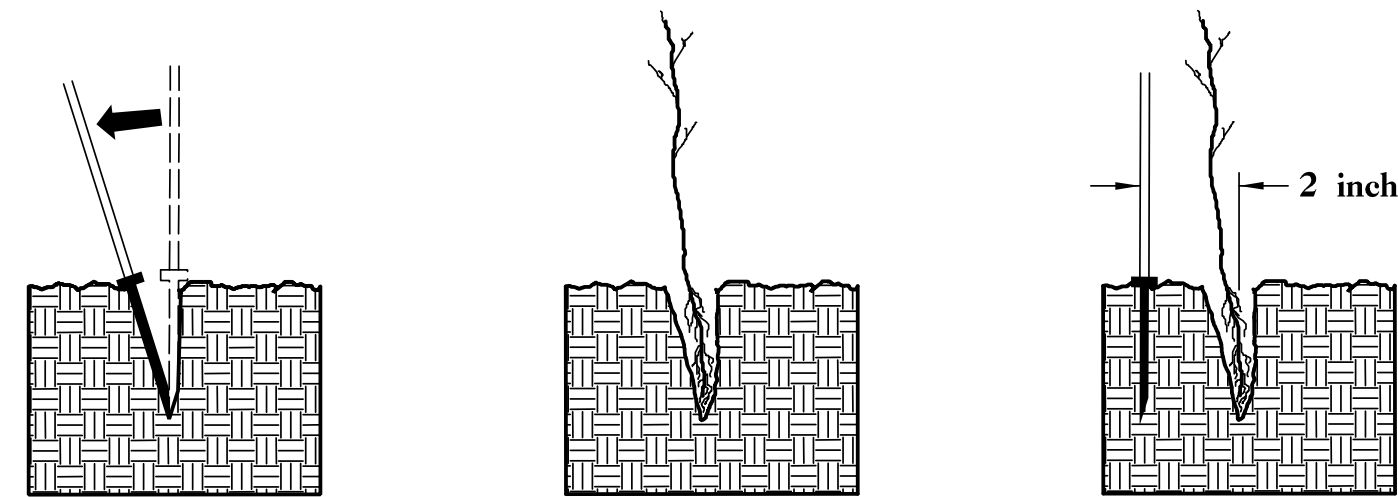


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

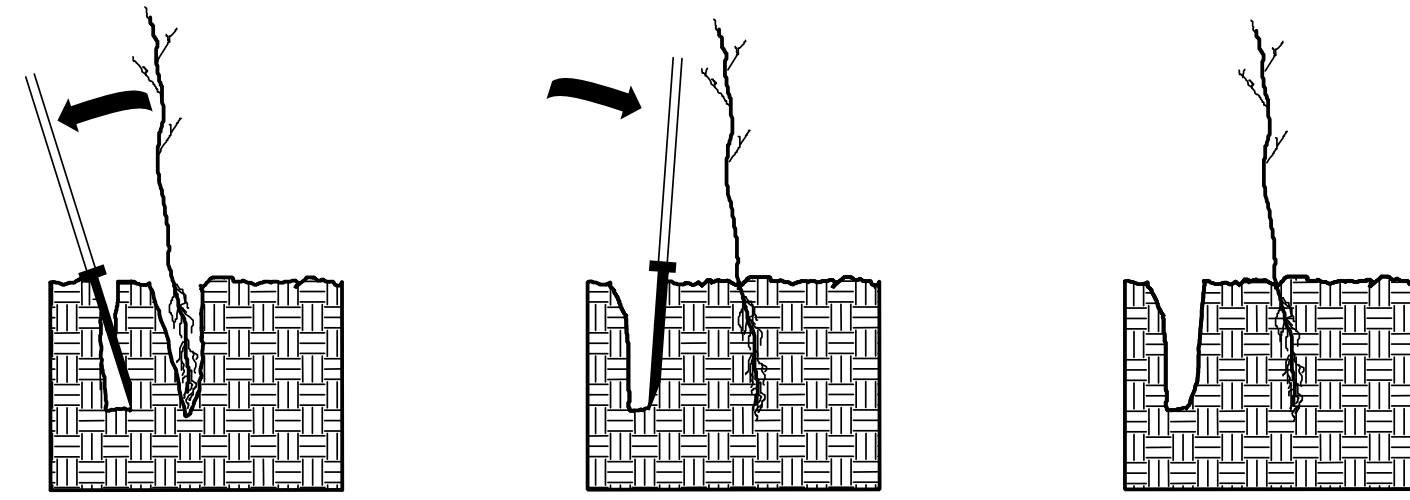


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

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.



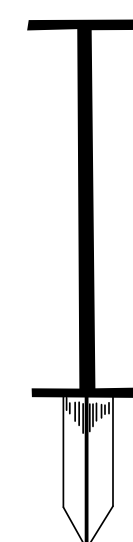
4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

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.

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

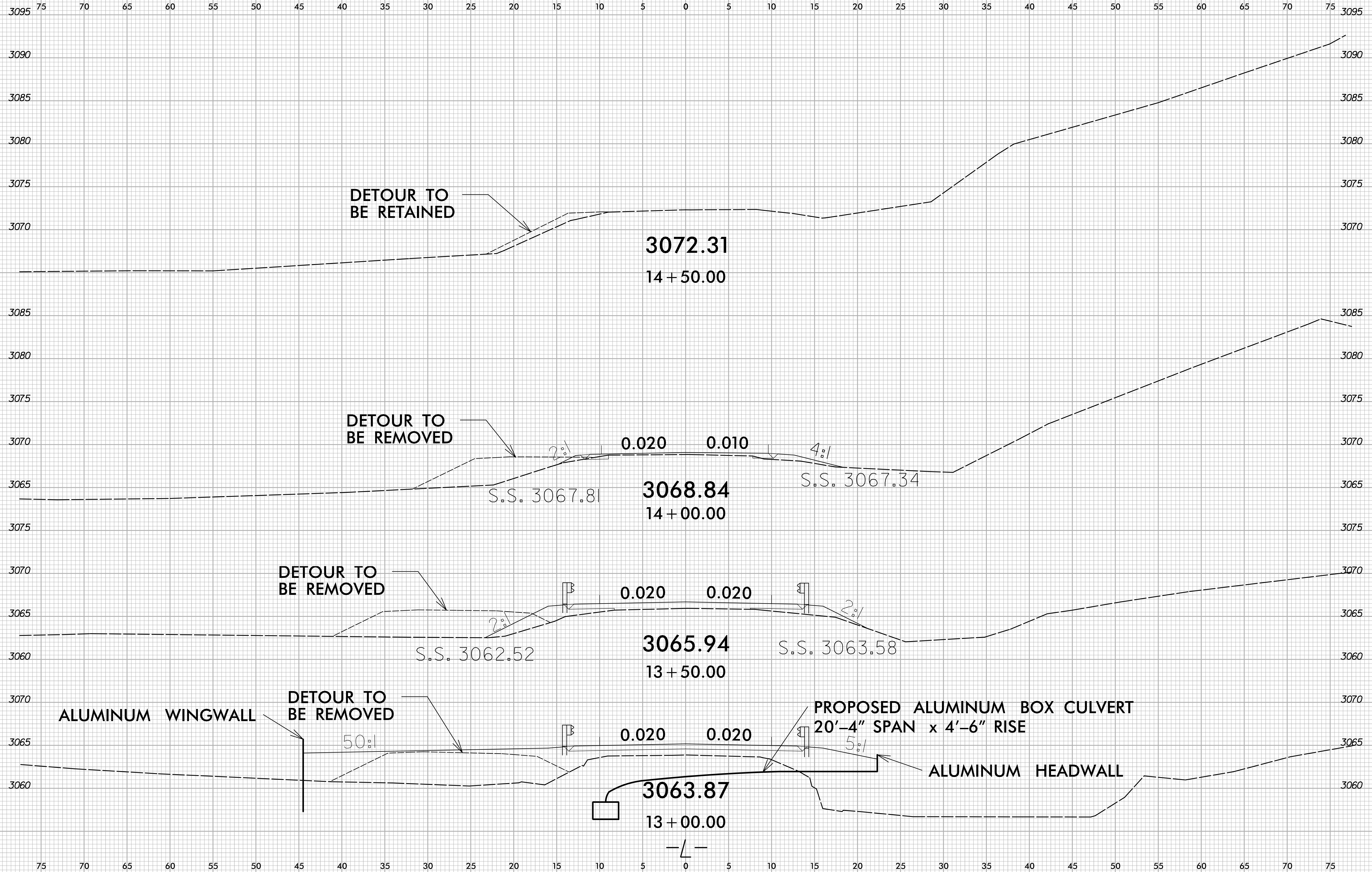
MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

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

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

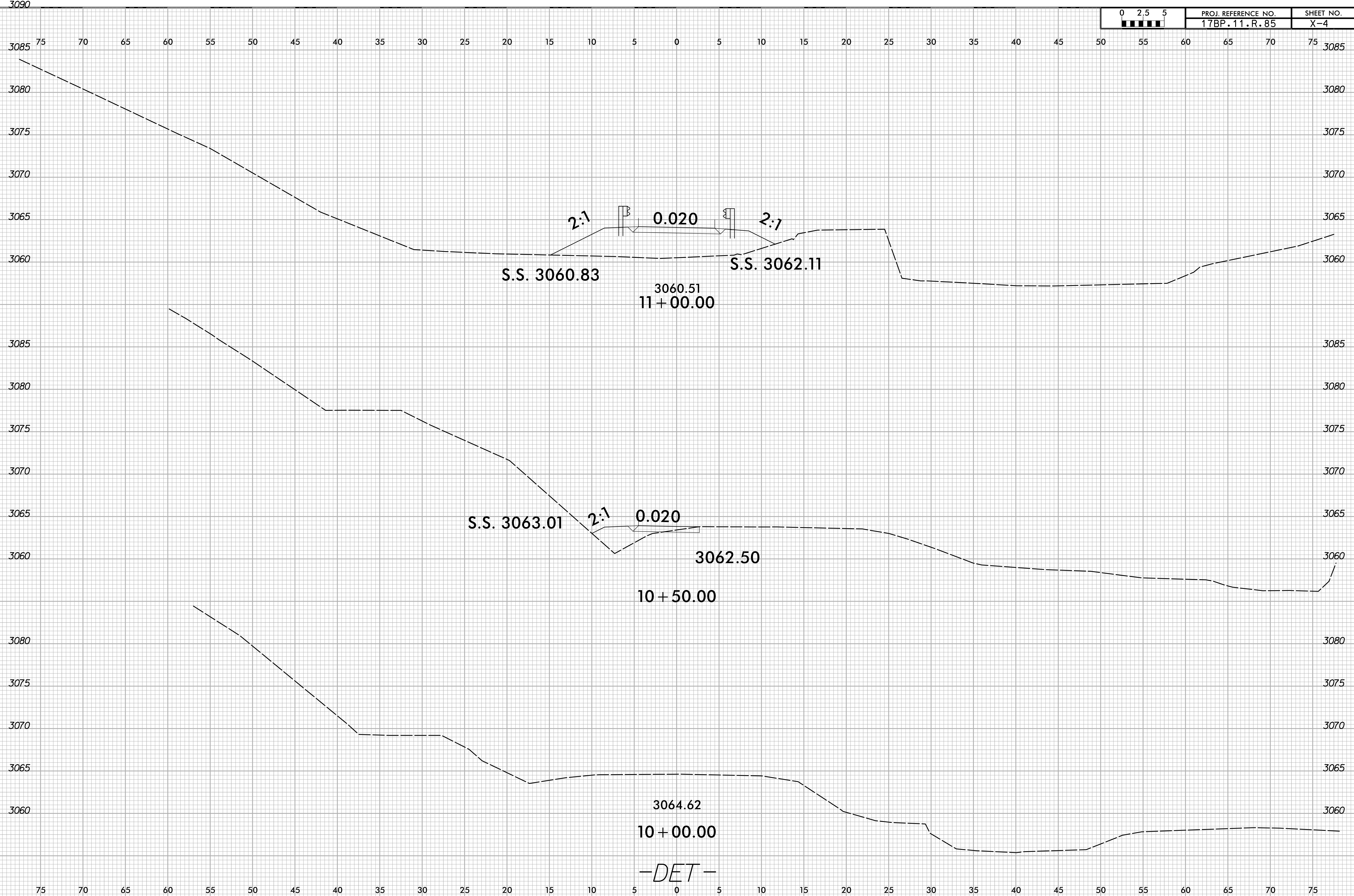
8/23/99



SYTIME
DGN
SHEET

8/23/99

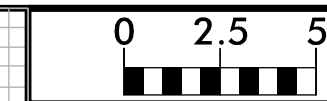
0 2.5 5	PROJ. REFERENCE NO. 17BP.11.R.85	SHEET NO. X-4
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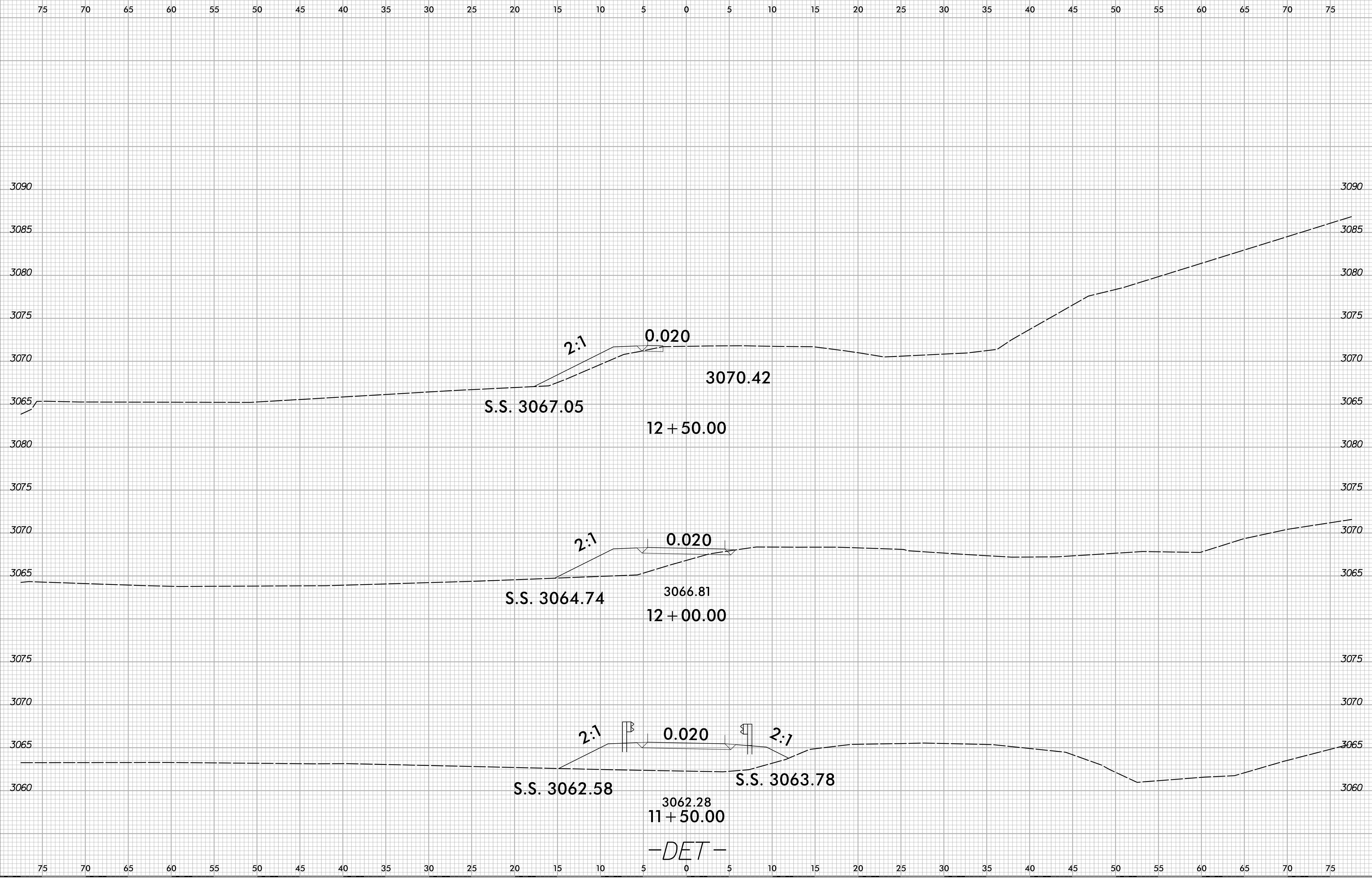
-DET-

*****SYTIME*****
*****SHEET NUMBER*****

8/23/99

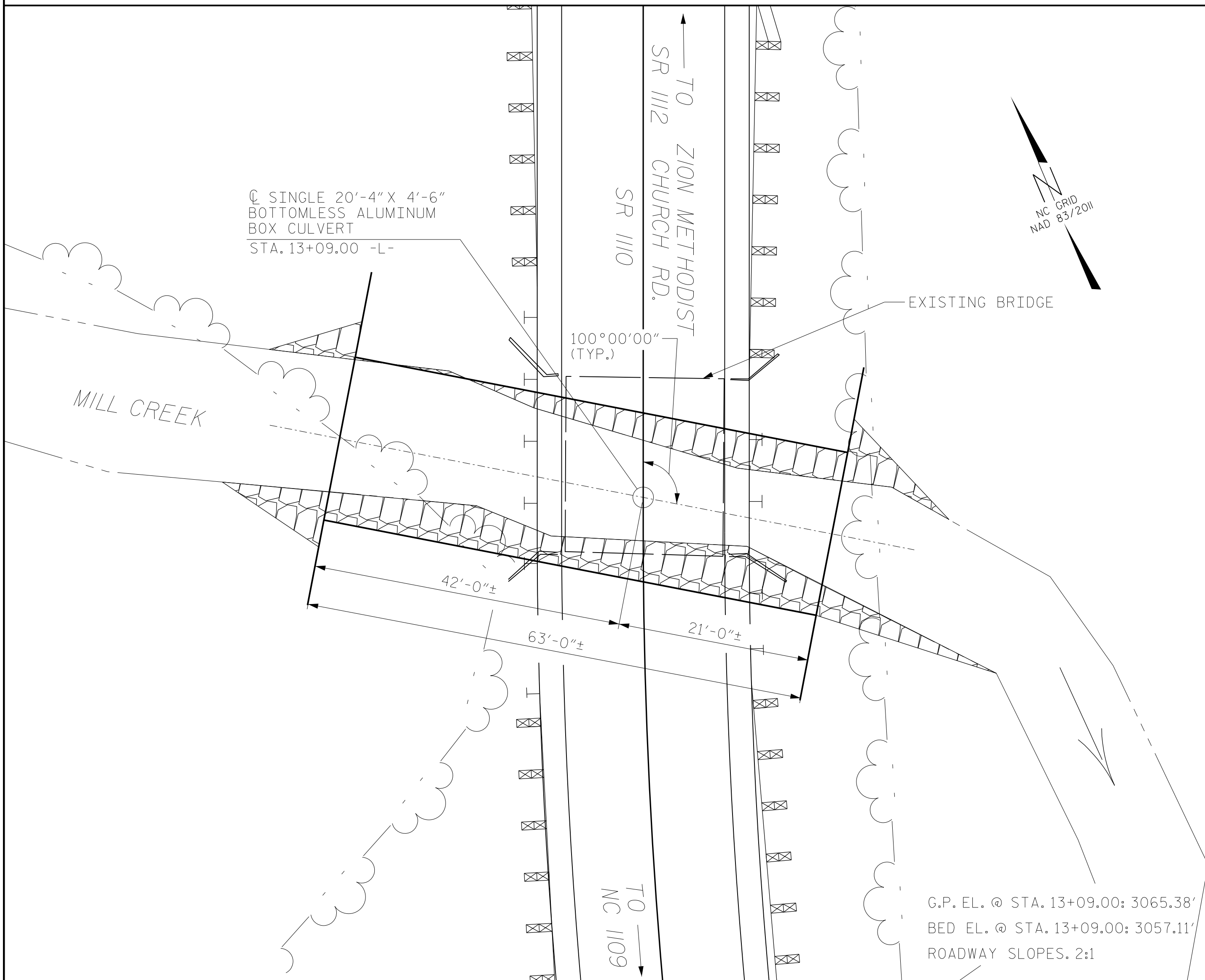


PROJ. REFERENCE NO.	SHEET NO.
17BP.11.R.85	X-5



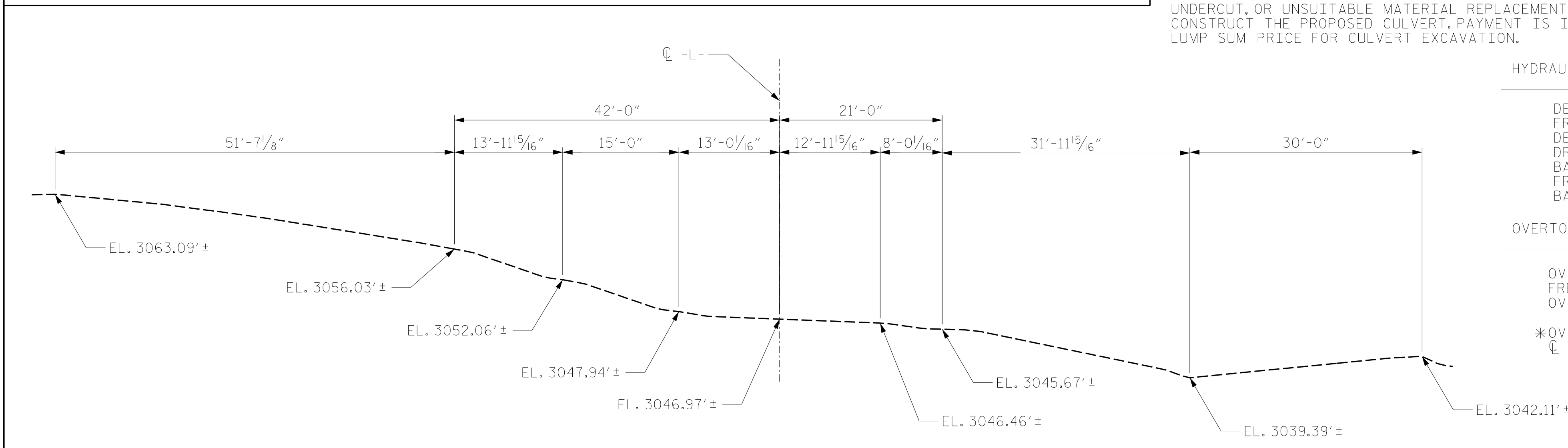
SYTIME
DGN
CADD

-DET-



LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.



PROFILE ALONG CULVERT

ASSUMED LIVE LOAD -----HL-93 OR ALTERNATE LOADING.

DESIGN FILL-----MIN: 1'-6", MAX: 2'-8".

MATERIALS SHALL MEET THE REQUIREMENTS OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES DATED JANUARY 2012.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

THE DETAILS SHOWN ARE FOR GENERAL LAYOUT ONLY. THE SUPPLIER SHALL PROVIDE DESIGNS AND DETAILS THAT MEET THE REQUIREMENTS OF AASHTO SECTION 12 AND ARE SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.

UNLESS OTHERWISE INDICATED, THE SUPPLIER SHALL DESIGN, DETAIL, AND FURNISH ALL STRUCTURAL ELEMENTS AND HARDWARE.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET, C-5.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FOUNDATION MATERIAL, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR ALUMINUM BOX CULVERT, SEE SPECIAL PROVISIONS.

FOR CULVERT BACKFILL, SEE SPECIAL PROVISIONS.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF THE CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

THE EXISTING STRUCTURE CONSISTING OF (1)22' TIMBER FLOOR ON I-BEAMS, END BENTS; TIMBER CAPS/TIMBER POST SHALL BE REMOVED. THE EXISTING BRIDGE IS CURRENTLY POSTED AT SV 20 TTST 28. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THE LOAD LIMIT MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURE STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 13+09.00 -L-."

EXCAVATE 1' MIN. BELOW THE CULVERT AND FOOTING AND REPLACE WITH CLASS A CONCRETE IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

NO WORK SHALL BE DONE ON THE CULVERT AT STA. 13+09.00-L- UNTIL THE AREA OF THE BOX CULVERT HAS BEEN UNDERCUT TO ELEVATION 3057.4' AND UNSUITABLE MATERIAL REPLACED WITH SUITABLE MATERIAL, PROPERLY COMPACTED TO THE ELEVATION OF THE BOTTOM OF THE PROPOSED CULVERT. THE LIMITS OF THIS UNDERCUT ELEVATION SHALL BE AT LEAST THE LIMITS OF THE BOX CULVERT INCLUDING THE WINGS. NO SEPARATE PAYMENT WILL BE MADE FOR ANY TEMPORARY SHEETING, UNDERCUT, OR UNSUITABLE MATERIAL REPLACEMENT AS REQUIRED TO CONSTRUCT THE PROPOSED CULVERT. PAYMENT IS INCLUDED IN THE LUMP SUM PRICE FOR CULVERT EXCAVATION.

HYDRAULIC DATA:

DESIGN DISCHARGE 500 CFS
 FREQUENCY OF DESIGN DISCHARGE 25 YRS.
 DESIGN HIGH WATER ELEVATION 3063.9'
 DRAINAGE AREA 1.4 SQ. MI.
 BASE DISCHARGE 750 CFS
 FREQUENCY OF BASE DISCHARGE 100 YRS.
 BASE HIGH WATER ELEVATION 3065.29'

OVERTOPPING FLOOD DATA:

OVERTOPPING DISCHARGE 600 CFS
 FREQUENCY OF OVERTOPPING FLOOD 50 YR±
 OVERTOPPING FLOOD ELEVATION *3064.1'

*OVERTOPPING ELEVATION REPRESENTS C/2 SAG ELEVATION AT -L- 12+39

NOTES

THE CONTRACTOR MUST SUBMIT DESIGN CALCULATIONS AND SHOP DRAWINGS SHOWING COMPLETE DETAILS OF BOTTOMLESS ALUMINUM CULVERT, ALUMINUM WINGWALLS, AND ALUMINUM HEADWALLS. THE DRAWINGS SHALL INCLUDE PLACING DRAWINGS, REINFORCING STEEL, DETAILS OF RECESSED SEAT, AND ANCHORAGE DETAILS. DRAWINGS AND DESIGN CALCULATIONS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA, SHALL BE SUBMITTED BY THE CONTRACTOR FOR REVIEW AND APPROVAL. THE PRICE FOR "BOTTOMLESS ALUMINUM CULVERT", "ALUMINUM WINGWALLS", AND "ALUMINUM HEADWALLS" SHALL INCLUDE INSERTS, ANCHORAGE DEVICES, BEARING PADS/SHIMS, WATERPROOFING, TRANSPORTATION, AND ERECTING FINISHED PRODUCT.

THE MANUFACTURER OF THE BOTTOMLESS ALUMINUM CULVERT SHALL PROVIDE LOAD AND RESISTANCE FACTOR RATING (LRF) SUMMARY PER NCDOT REQUIREMENTS.

FOR LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITIES ON ROADWAY PLANS.

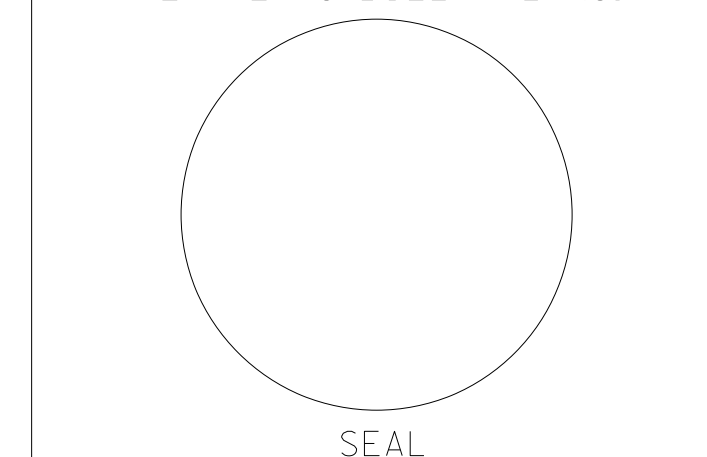
THE SPREAD FOOTINGS ARE DESIGNED FOR A FACTORED RESISTANCE OF 6 TSF. CHECK FIELD CONDITIONS FOR THE REQUIRED RESISTANCE OF 14 TSF JUST BEFORE PLACING CONCRETE.

KEY IN SPREAD FOOTINGS AT LEAST 12" INTO ROCK WITH MINIMUM THICKNESS AS SHOWN ON THE PLANS.

TOTAL STRUCTURE QUANTITIES

REMOVAL OF EXISTING STRUCTURE @ STA. 13+09.00-L-	LUMP SUM
ALUMINUM BOX CULVERT @ STA. 13+09.00-L-	LUMP SUM
CULVERT EXCAVATION	LUMP SUM
CULVERT BACKFILL	850 TONS
REINFORCING STEEL	1438 LBS.
CLASS A CONCRETE	26.8 C.Y.
CLASS II RIP RAP	70 TONS

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.



PROJECT NO. 17BP.11.R.85

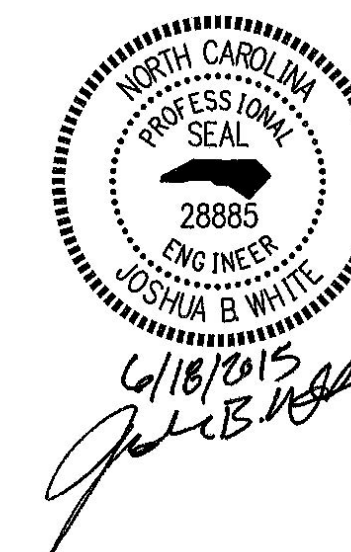
ASHE COUNTY

STATION: 13+09.00-L-

SHEET 1 OF 5 REPLACES BR. NO. 040116

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SINGLE
 20'-4" X 4'-6"
 BOTTOMLESS
 ALUMINUM BOX CULVERT
 @ 100°



RELEASED FOR CONSTRUCTION

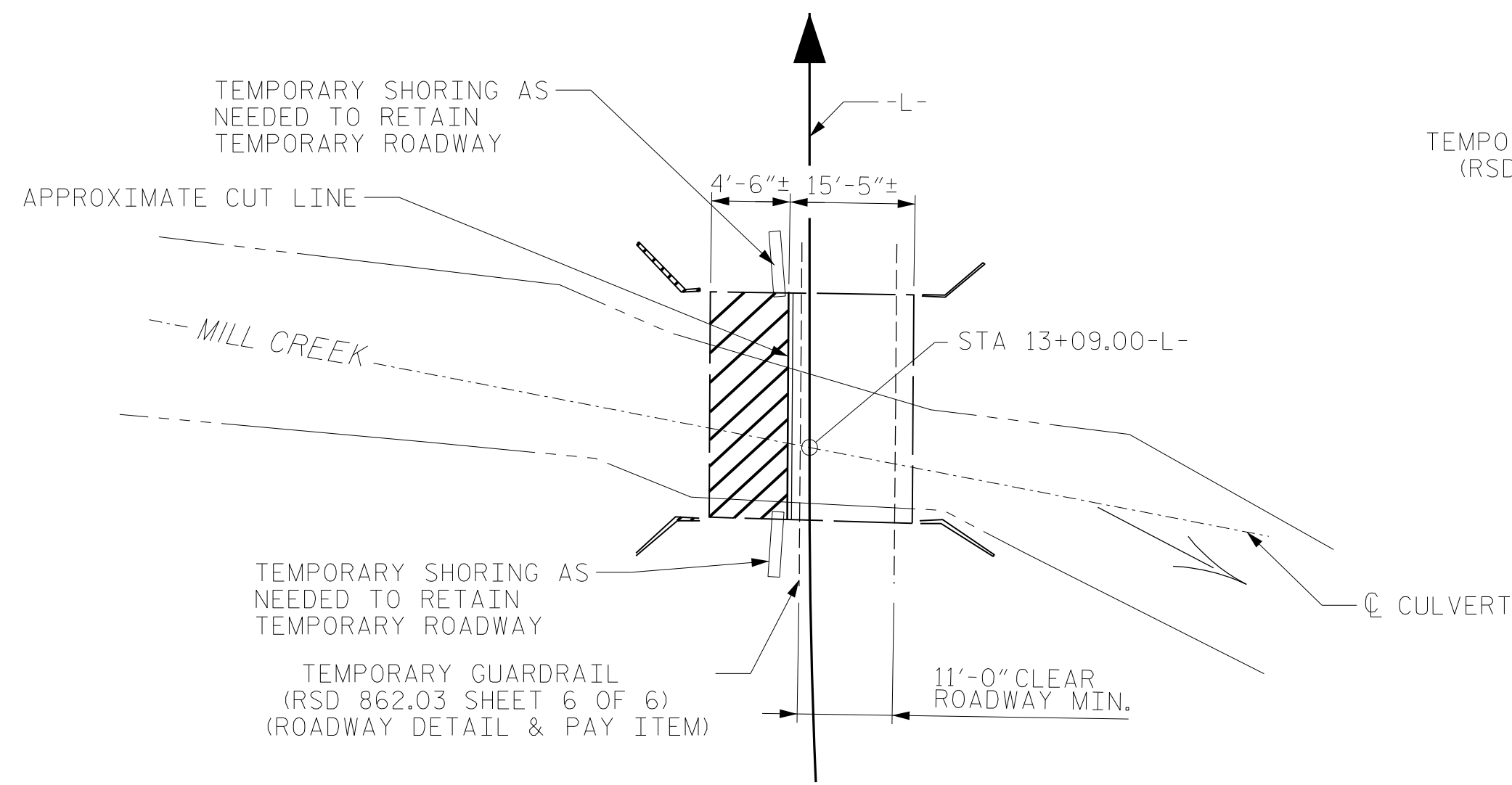
PREPARED BY
 TGS ENGINEERS
 804 N LAFAYETTE ST
 SHELBY, NC 28150

ASSEMBLED BY: CCC DATE: 11/14
 CHECKED BY: JBW DATE: 11/14

SPECIAL

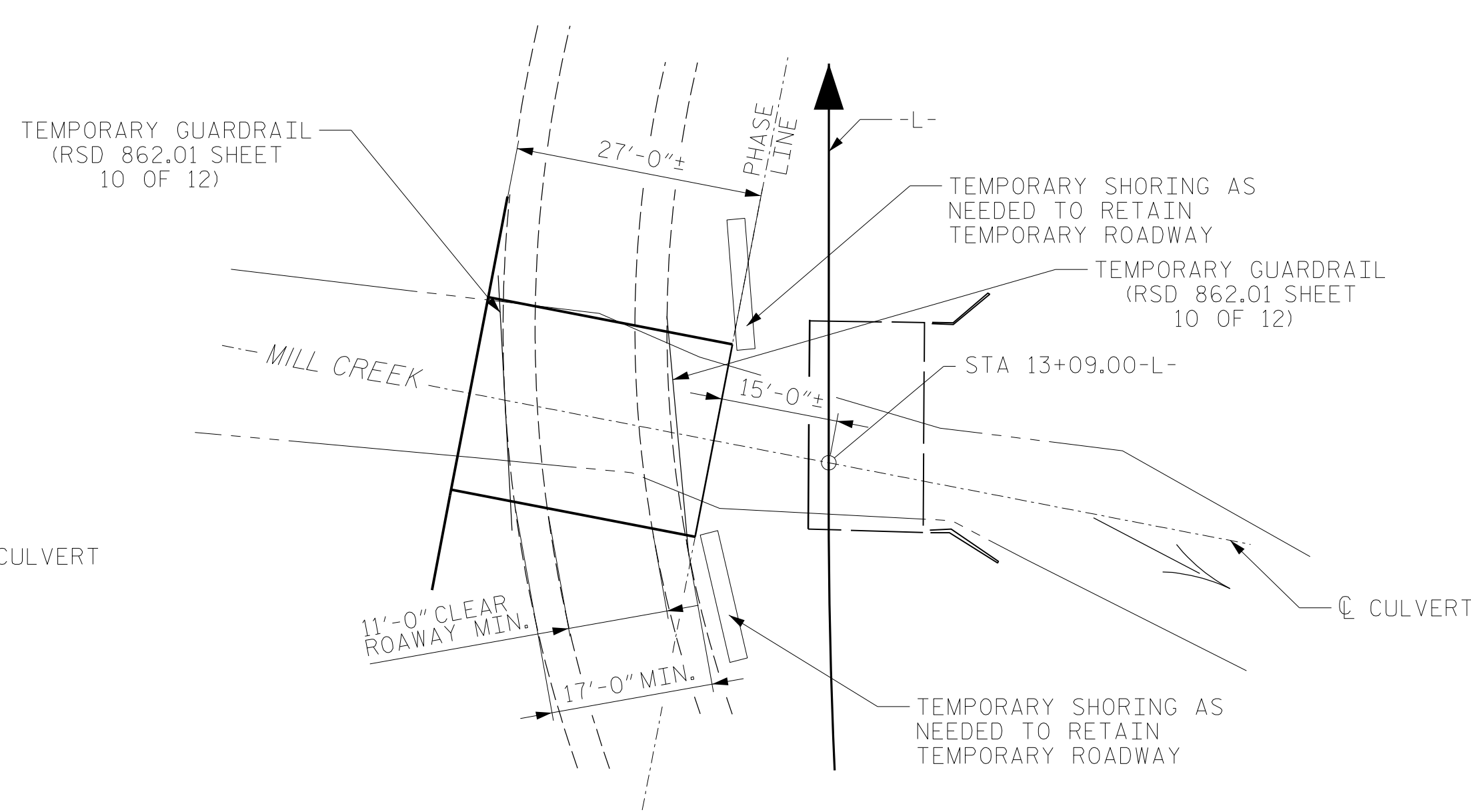
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C-1
 TOTAL SHEETS 5



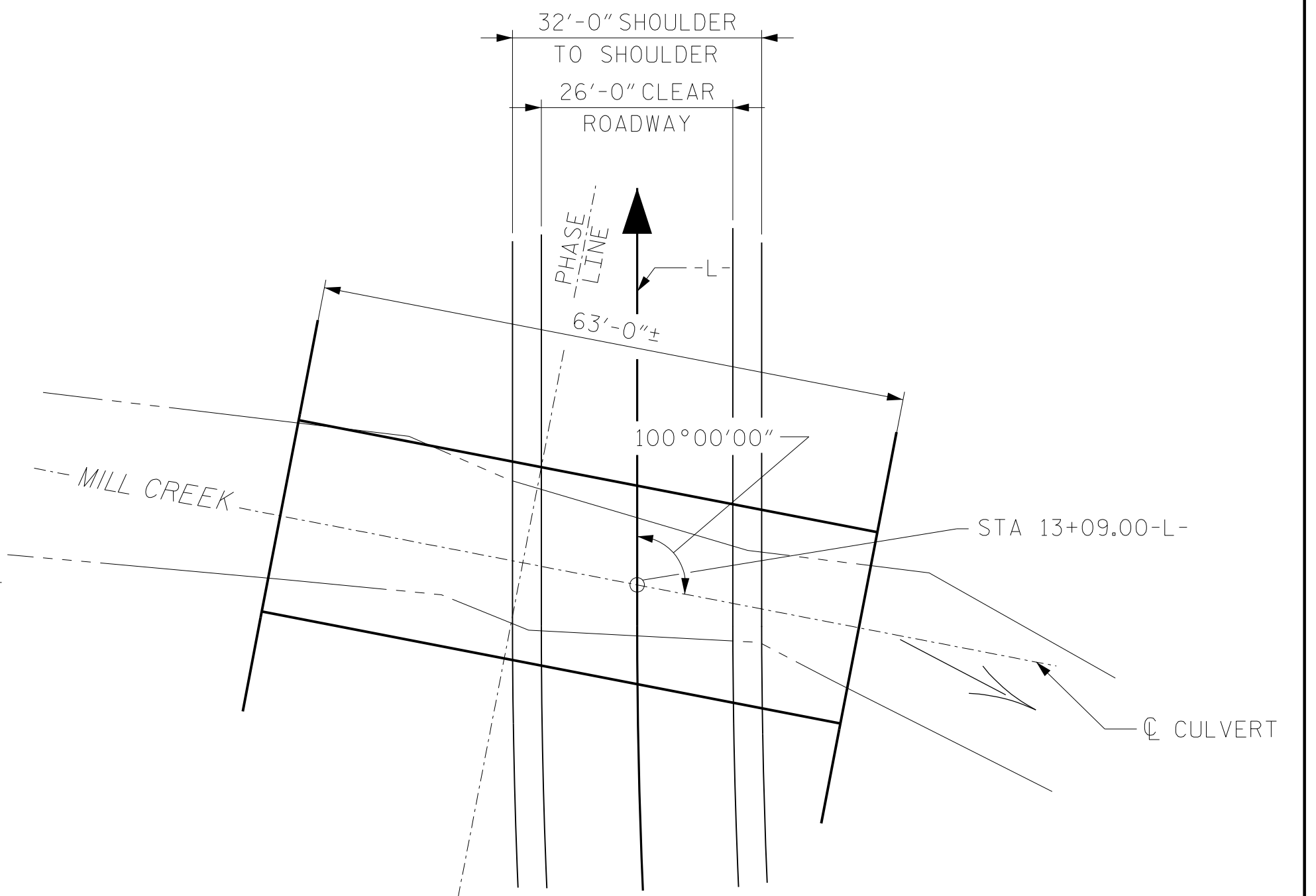
PHASE I STEP 2 CONSTRUCTION

- STAGE 1 CONSTRUCTION NOTES:
1. MAINTAIN AN 11'-0" MIN. CLEAR ROADWAY FOR TEMPORARY ROAD WHILE CONSTRUCTING THE TEMPORARY BYPASS.
 2. THE TEMPORARY TRAFFIC BARRIER SHALL BE MOUNTED TO THE TIMBER DECK.
 3. DEMOLISH APPROXIMATELY 4'-6" OF THE DECK



PHASE I STEP 4 CONSTRUCTION

- STAGE 2 CONSTRUCTION NOTES:
1. PROVIDE TEMPORARY SHORING AS NECESSARY DURING STAGING.
 2. MAINTAIN 11'-0" MIN. CLEAR ROADWAY.
 3. DEMOLISH REMAINING PORTION OF EXISTING STRUCTURE.

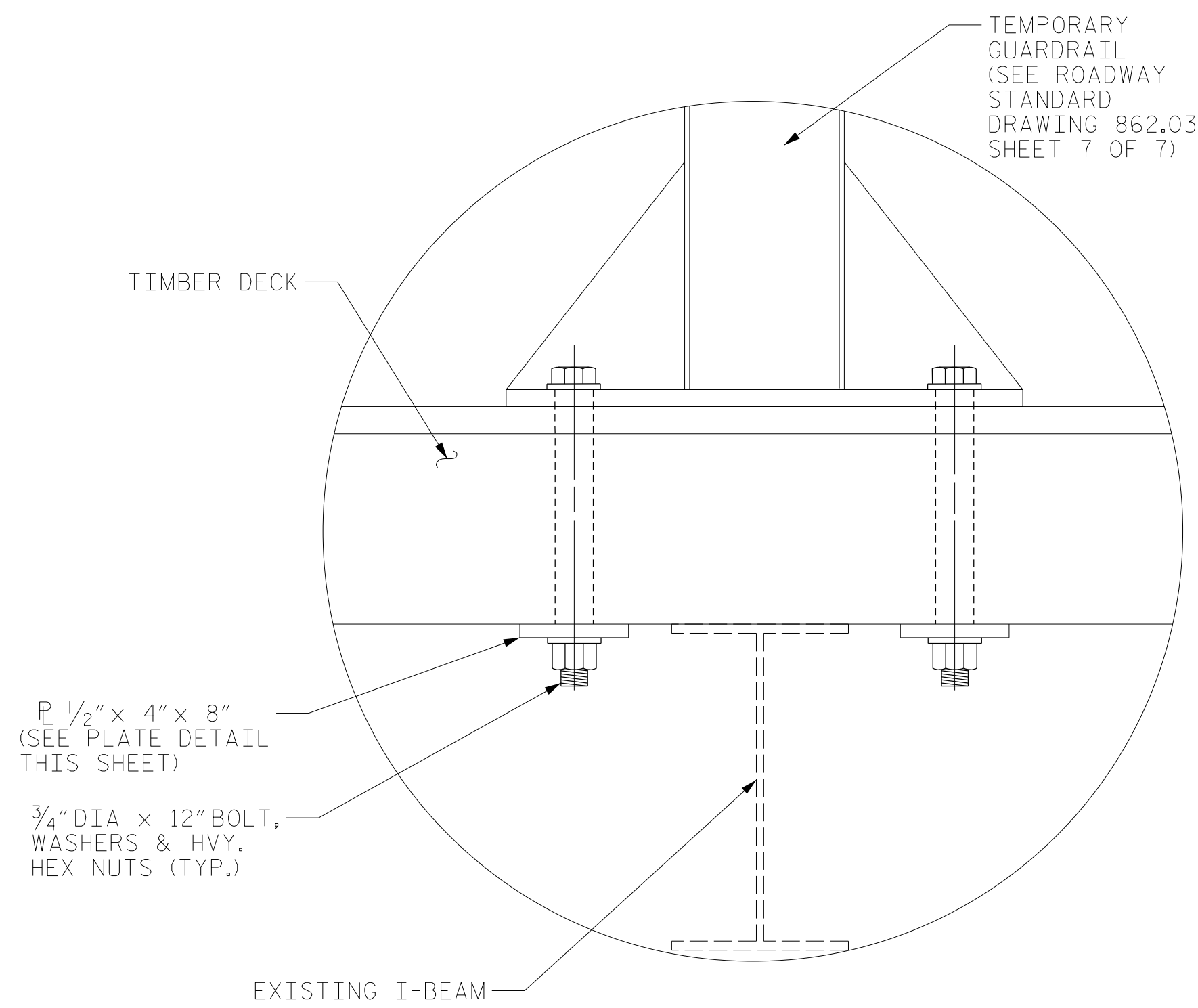


PHASE II STEP 1 CONSTRUCTION

SECTIONS OF ALUMINUM BOX CULVERT SHALL BE CONNECTED PER MANUFACTURER SPECIFICATIONS/RECOMMENDATIONS TO ACT AS ONE UNIT.

NOTE:
FOR COMPLETE PHASING INFORMATION DETAILS, SEE ROADWAY PLANS

PLACEMENT OF GUARDRAIL ACROSS CULVERT
THE GUARDRAIL ON THIS CULVERT SHALL BE INSTALLED USING THE NCDOT ROADWAY STANDARD 862.01 (SEE SHEET 10 OF 12) FOR CULVERTS. PLACE THE 25' SECTION AT THE MIDPOINT OF THE CULVERT.



DETAIL A

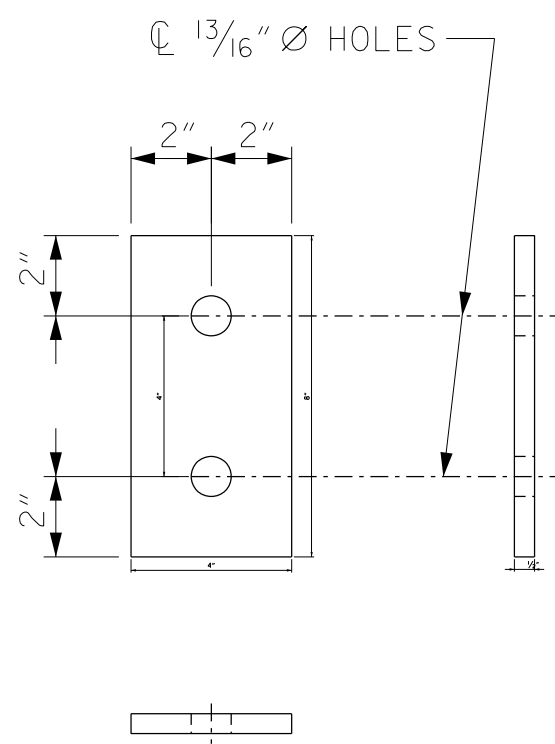
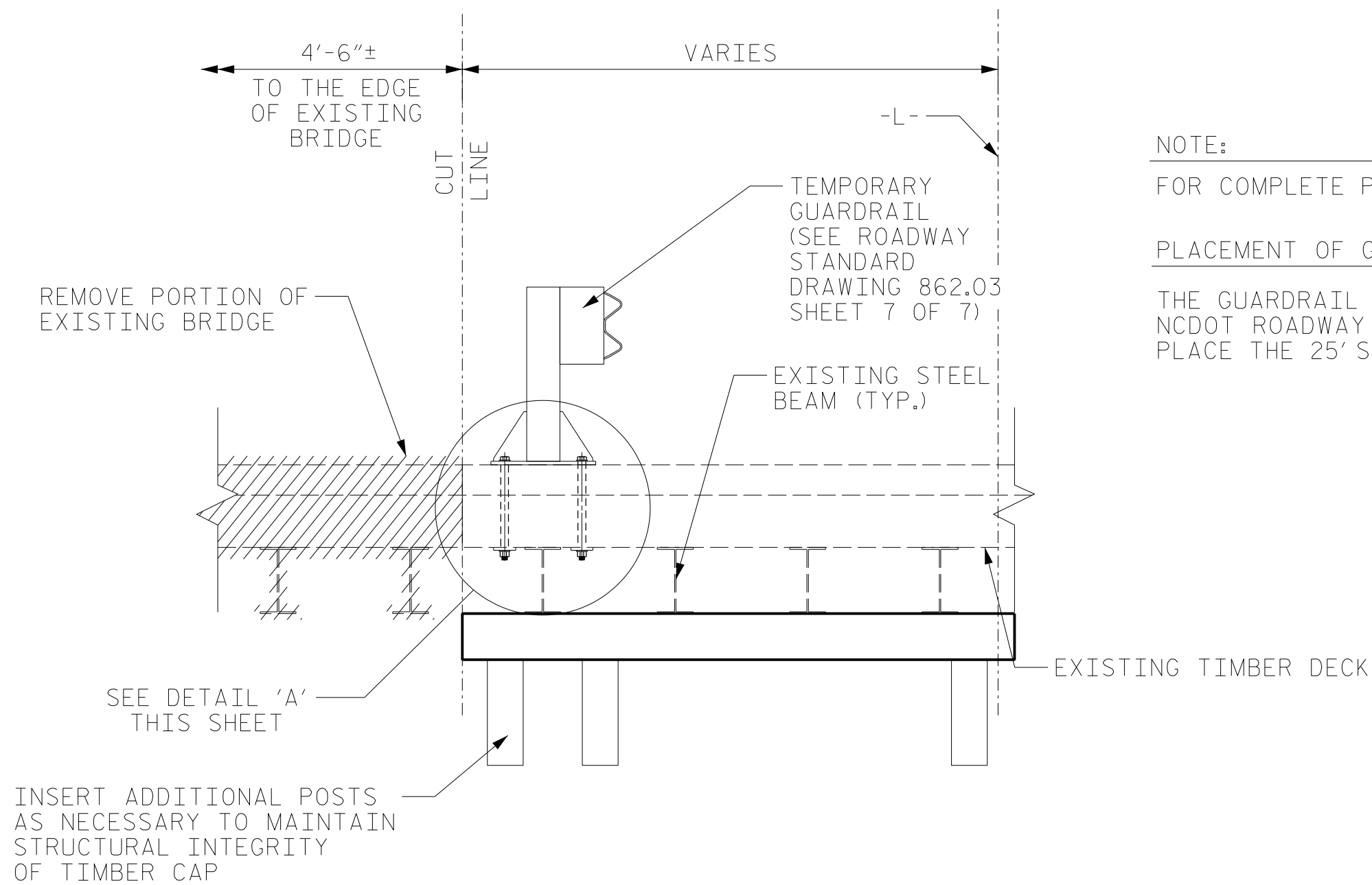


PLATE DETAIL FOR TEMPORARY GUARDRAIL ON EXISTING BRIDGE



PHASE I STEP 2 TEMPORARY BARRIER

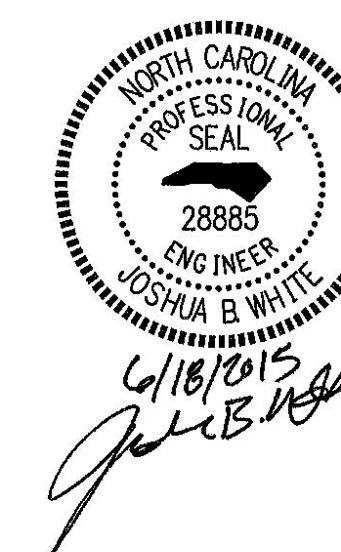
NOTES FOR TEMPORARY GUARDRAIL ON EXISTING BRIDGE

PAYMENT FOR TEMPORARY GUARDRAIL, ANCHOR PLATE AND BOLTS ON EXISTING BRIDGE ARE INCLUDED IN TRAFFIC CONTROL PAY ITEM.

CONTRACTOR TO VERIFY JOIST SPACING ON EXISTING BRIDGE PRIOR TO CONSTRUCTING PLATE FOR TEMPORARY GUARDRAIL.

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SHELBY, NC 28150

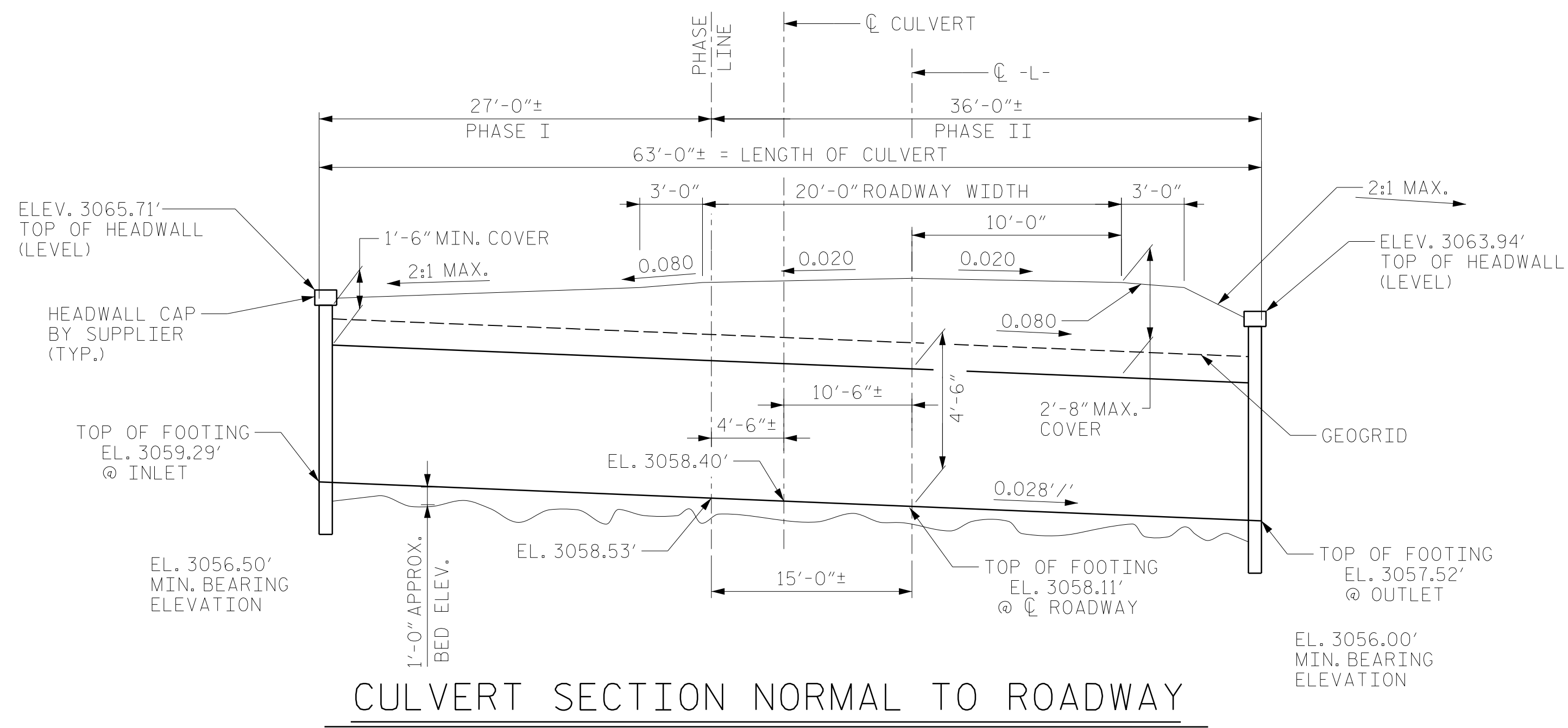


PROJECT NO. 17BP.11.R.85
ASHE COUNTY
STATION: 13+09.00-L-
SHEET 2 OF 5 REPLACES BR. NO. 040116

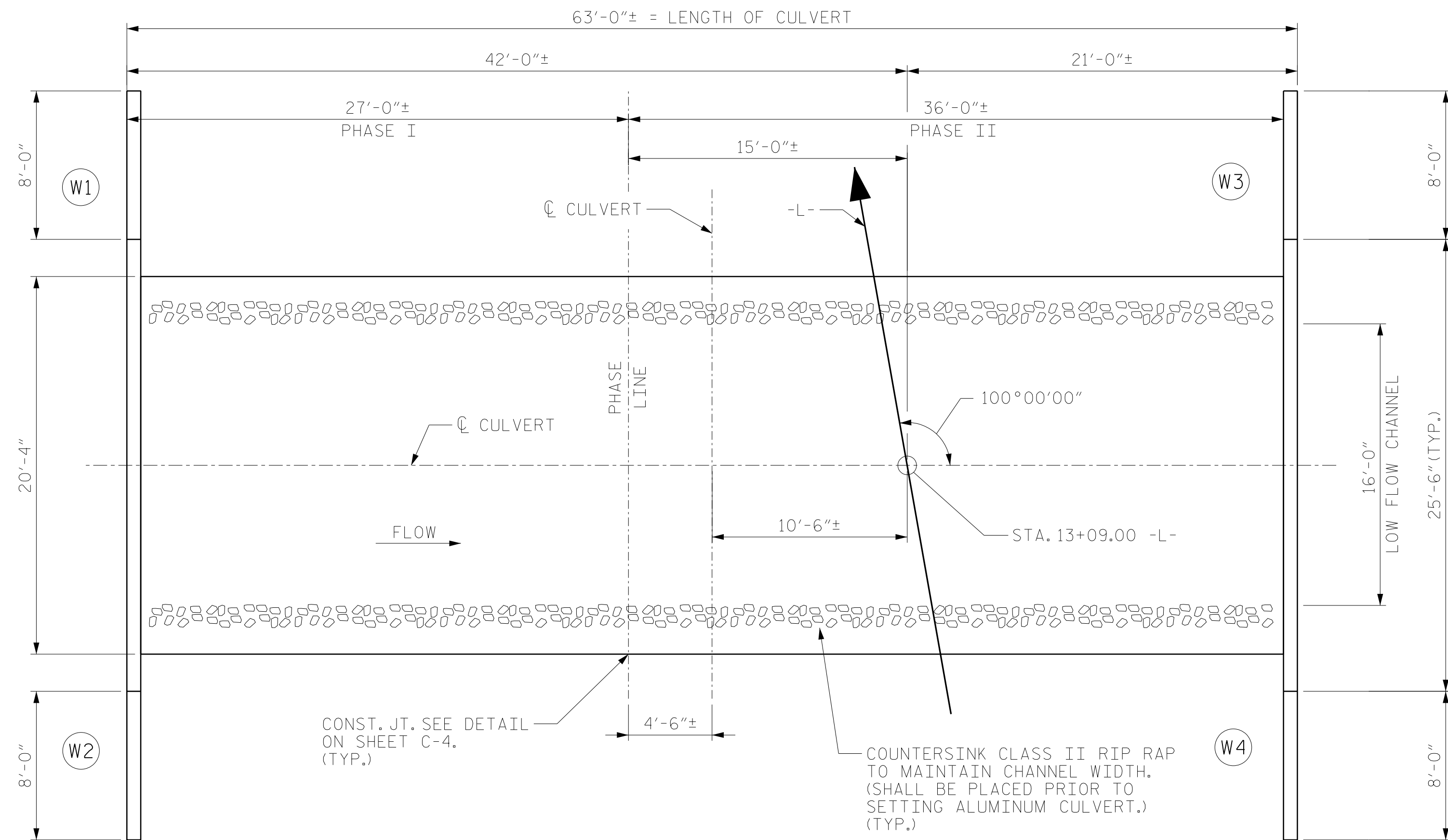
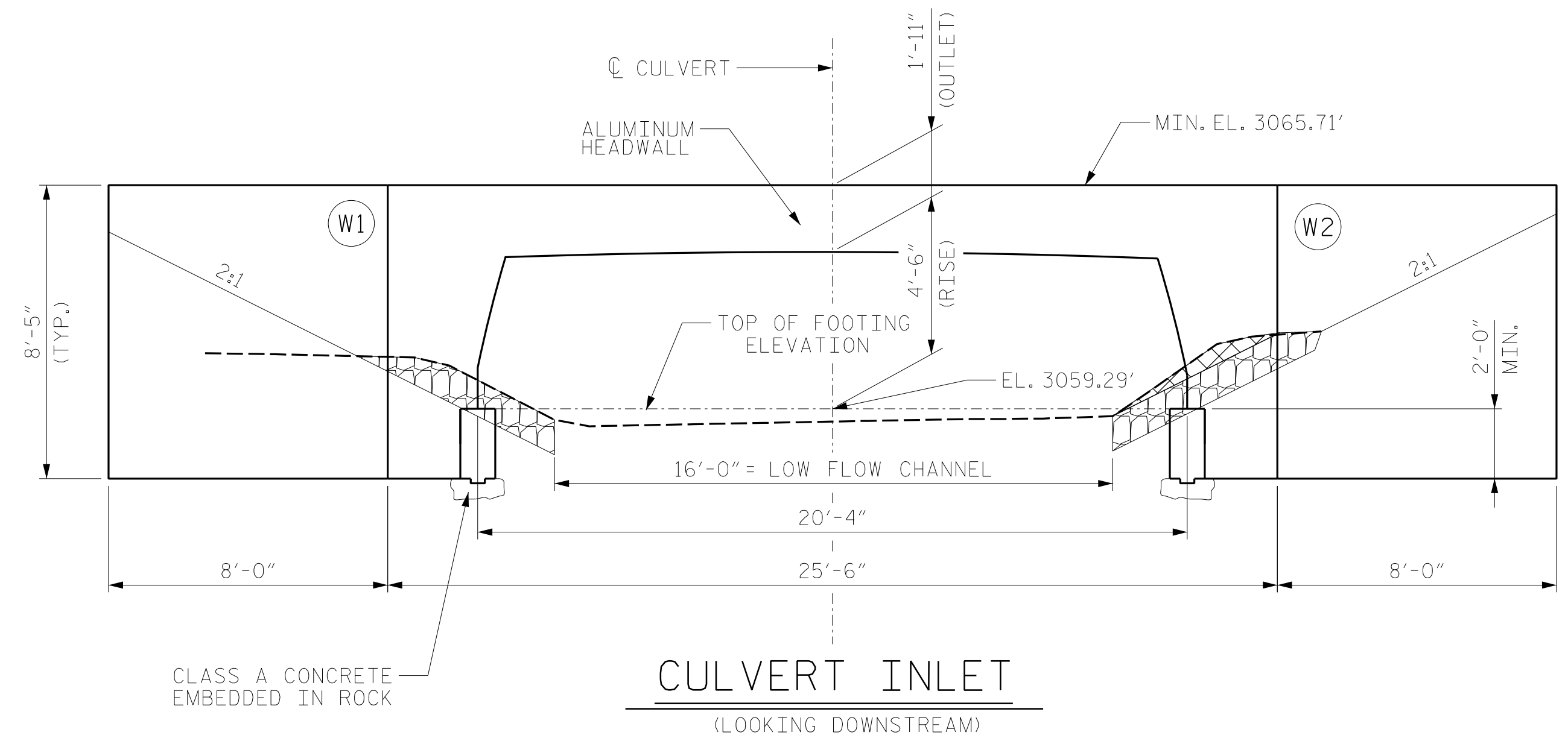
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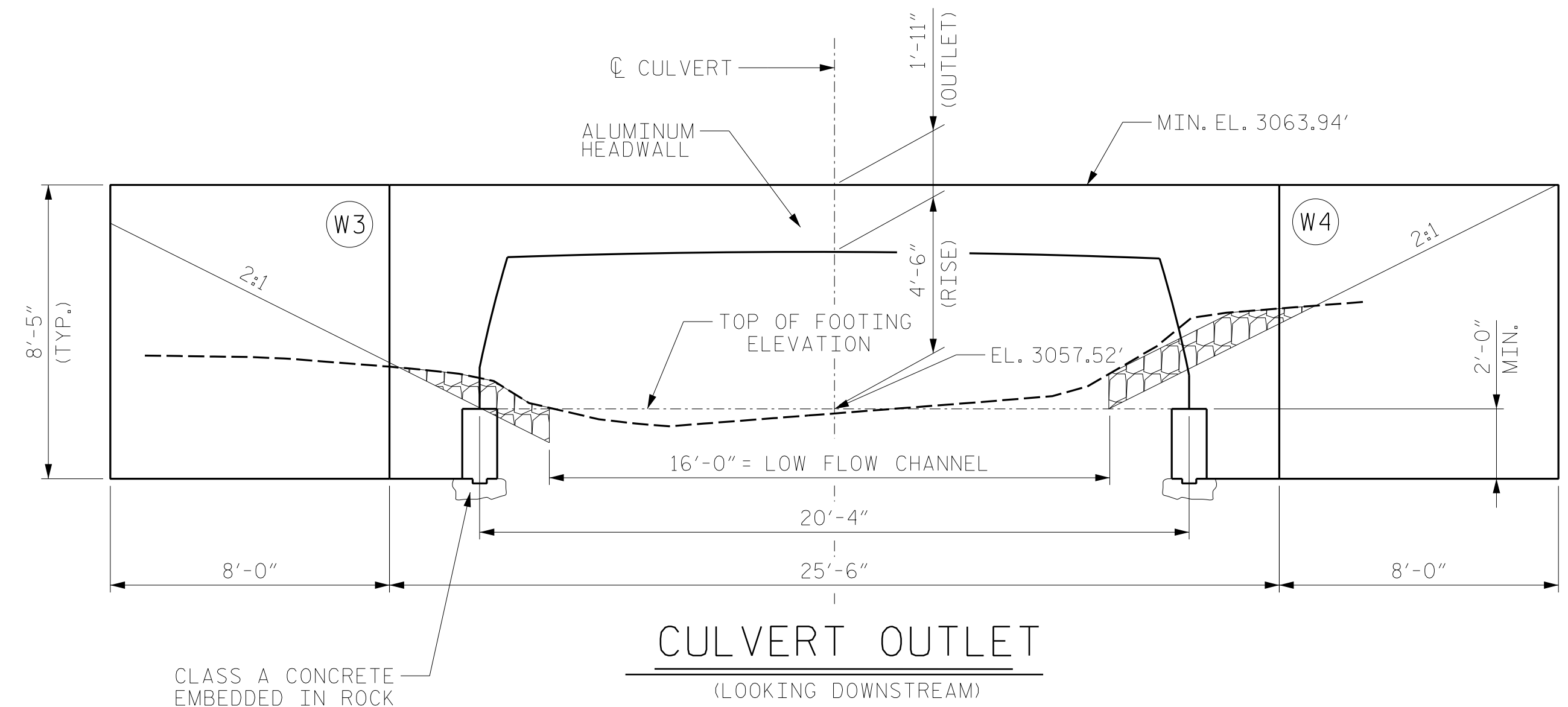
C-2
TOTAL SHEETS 5



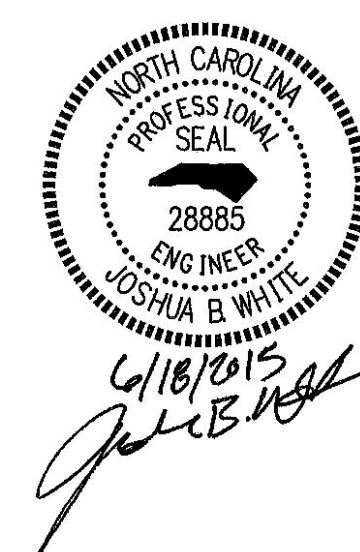
CULVERT SECTION NORMAL TO ROADWAY



PLAN OF ALUMINUM BOX CULVERT



PROJECT NO. 17BP.11.R.85
 ASHE COUNTY
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 SHEET 3 OF 5 REPLACES BR. NO. 040116



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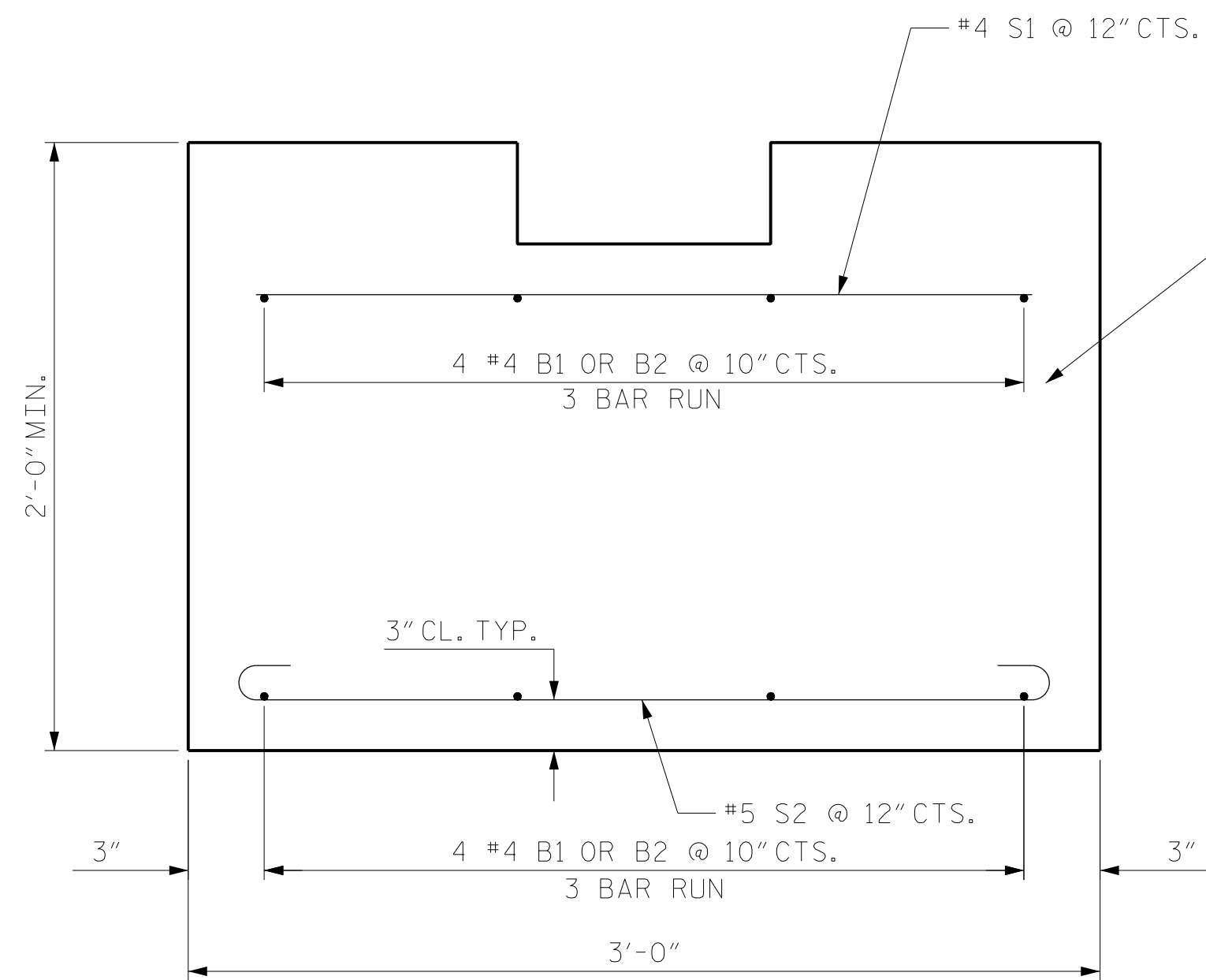
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STATE OF NORTH CAROLINA
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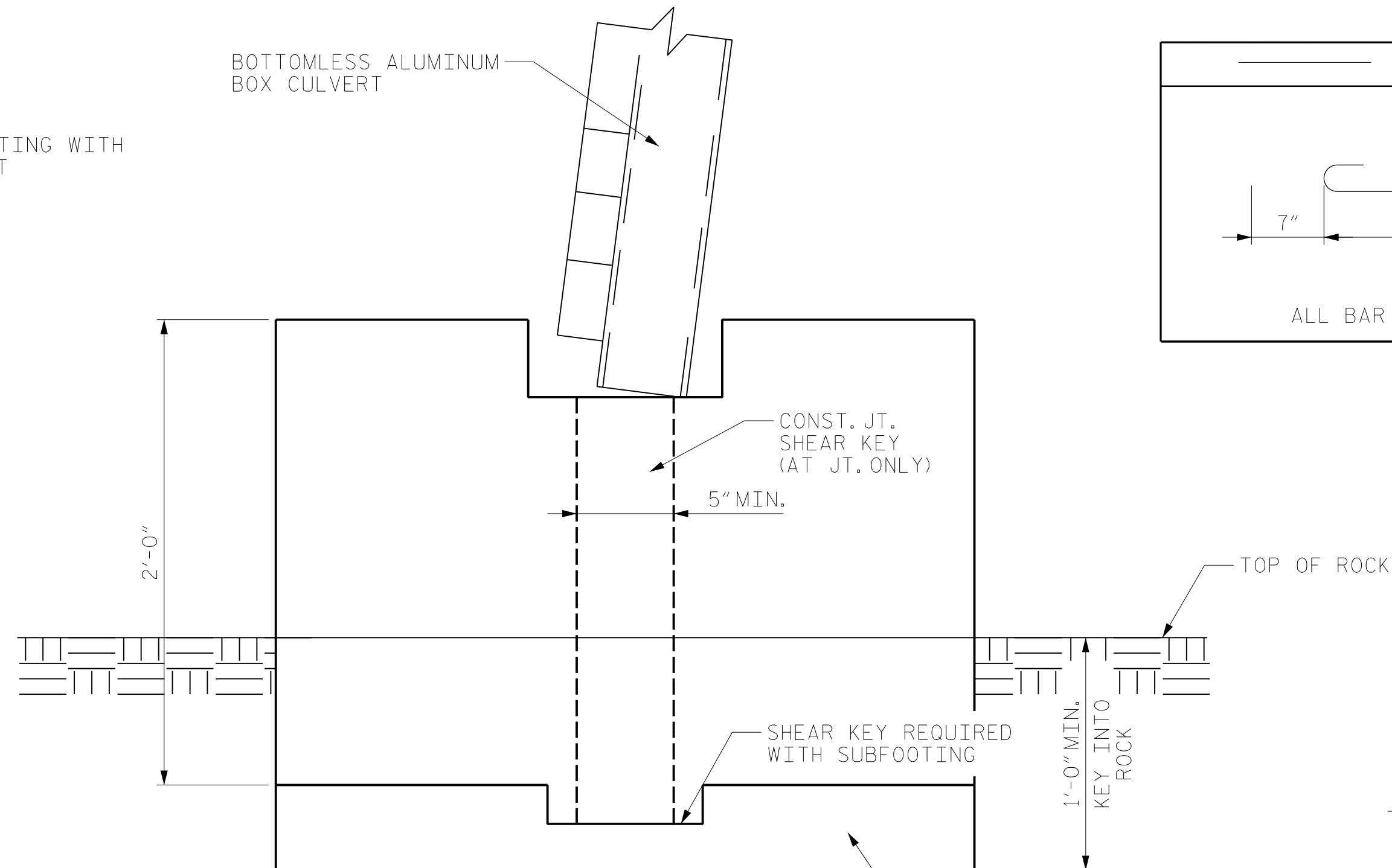
ASSEMBLED BY: CCC DATE: 11/14
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 SPECIAL

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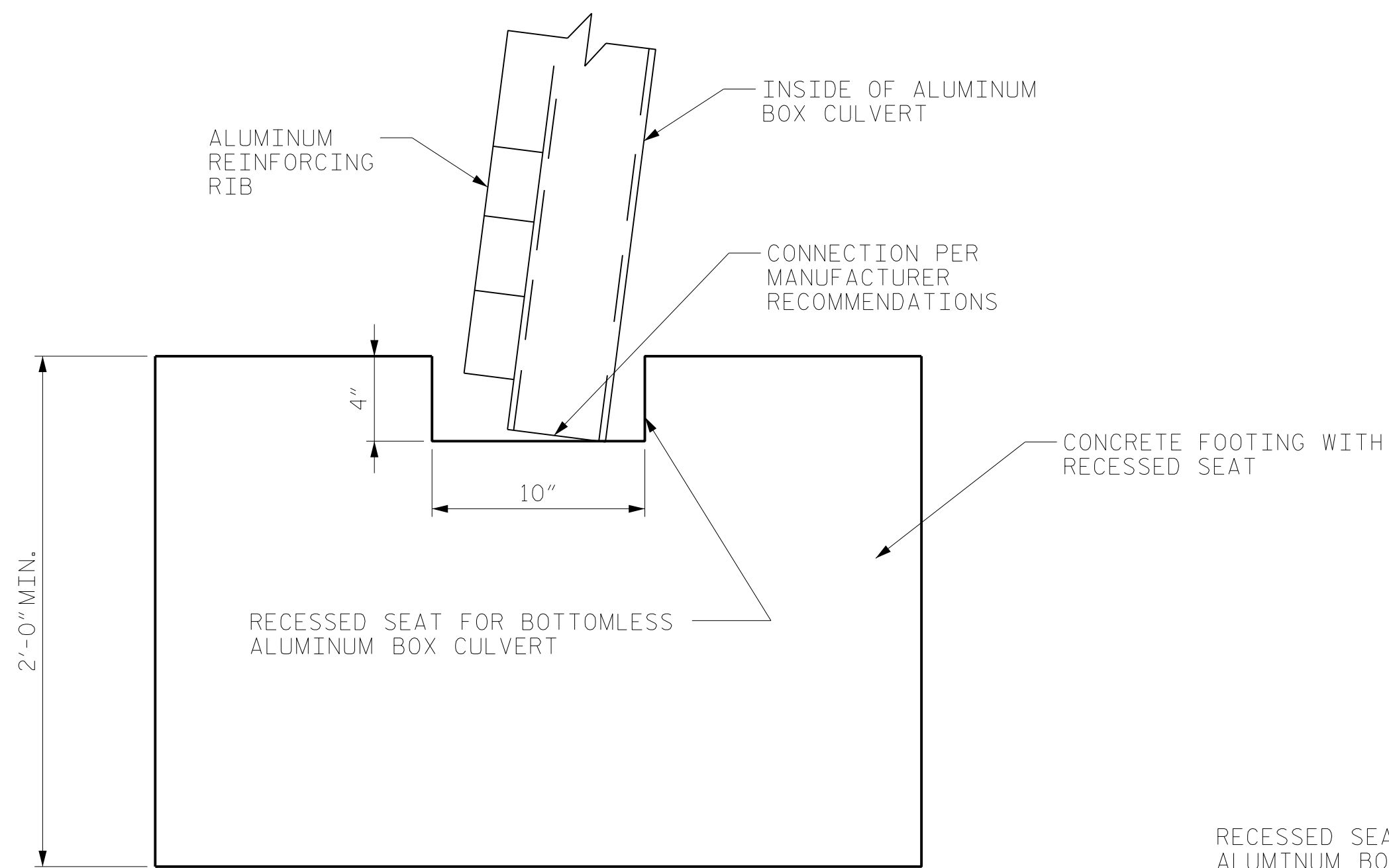
C-3
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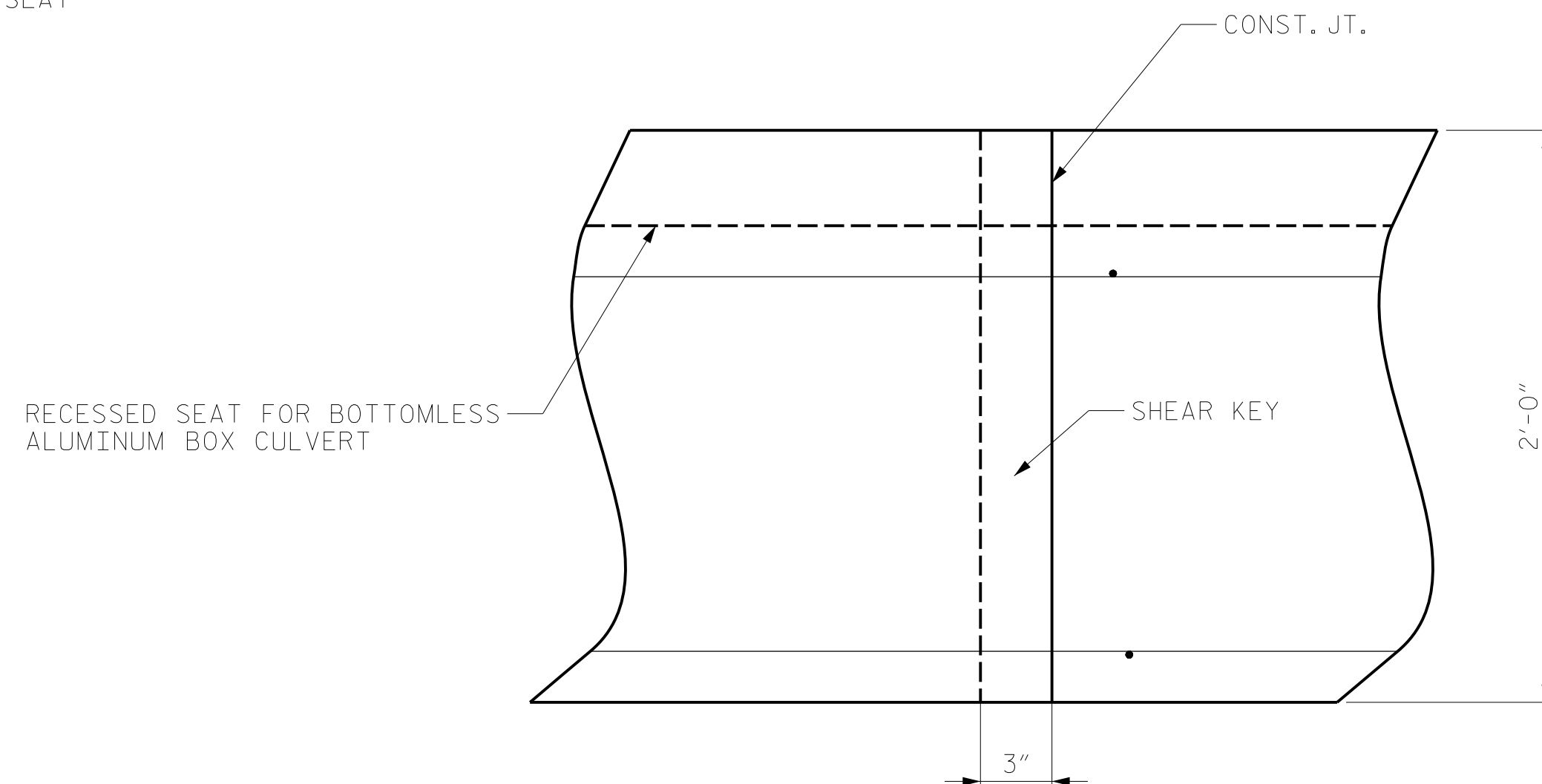
FOOTING DETAIL



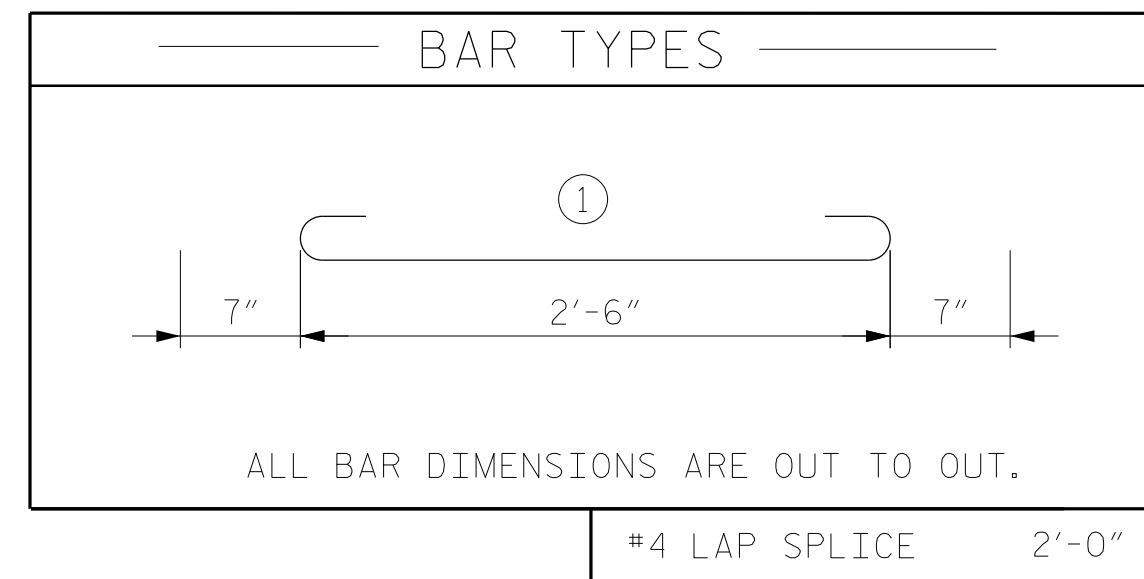
KEYED FOOTING DETAIL



KEYWAY DETAIL



CONSTRUCTION JOINT DETAIL



REINFORCING STEEL BAR SCHEDULE FOR ONE FOOTING (2 REQUIRED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#4	STR	29'-9"	159
B2	16	#4	STR	18'-11"	202
S1	65	#4	STR	2'-6"	109
S2	65	#5	1	3'-8"	249
REINFORCING STEEL					719 LBS.
CLASS A CONCRETE (CONCRETE FOOTING)					13.4 C.Y.
CLASS A CONCRETE (SUBFOOTING)					0.0 C.Y.
TOTAL REINFORCING STEEL					1438 LBS.
TOTAL CLASS A CONCRETE					26.8 C.Y.

NOTE

THE FOOTING SHALL BEAR ON BEDROCK HAVING AN ALLOWABLE BEARING PRESSURE OF 5.6 TSF OR GREATER. KEY FOOTING INTO ROCK A MINIMUM OF 1'-0". ADDITION OF UNREINFORCED SUBFOOTING CONCRETE MAY BE REQUIRED TO ACHIEVE THE FOOTING ELEVATIONS SHOWN. IF REQUIRED, SUBFOOTING CONCRETE SHALL BE CLASS A AND THE COST SHALL BE INCLUDED IN THE BID ITEM FOR CLASS A CONCRETE. THE FOOTING ELEVATIONS SHOWN ARE BASED ON THE APPROXIMATE ELEVATION OF BEDROCK PROVIDED BY THE GEOTECHNICAL ENGINEER. DUE TO INCONSISTANCIES IN THE BEDROCK, OVER EXCAVATION MAY BE NECESSARY TO ACHIEVE THE REQUIRED FOOTING THICKNESS.

THE SPREAD FOOTINGS AT BOTH SIDES ARE DESIGNED FOR A FACTORED RESISTANCE OF 2.5 TSF. CHECK FIELD CONDITIONS FOR THE REQUIRED RESISTANCE OF 5.6 TSF JUST BEFORE PLACING CONCRETE.

BACKFILL WITH SELECT MATERIAL, CLASS II OR BETTER MEETING THE REQUIREMENTS OF SECTION 1016 OF THE STANDARD SPECIFICATIONS.

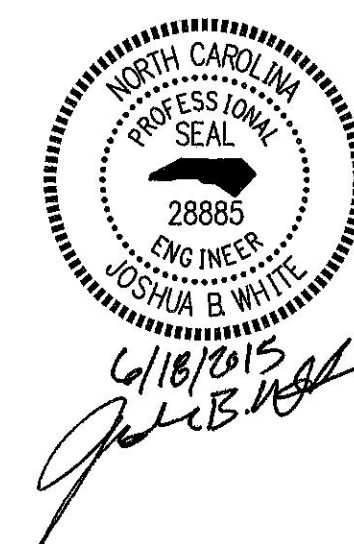
(KEY OR CARRY IN) SPREAD FOOTINGS AT BOTH SIDES AT LEAST 12" INTO ROCK WITH MINIMUM THICKNESS AS SHOWN ON THE PLANS.

TO PROVIDE PROTECTION FROM POSSIBLE SCOUR, DO NOT CONSTRUCT SPREAD FOOTINGS ON EITHER SIDES AT AN ELEVATION HIGHER THAN SHOWN ON THE PLANS.

DEWATERING AND/OR DIVERSION MAY BE REQUIRED DURING CONSTRUCTION.

FOUNDATION BEARING SURFACE SHOULD BE LEVEL, CLEAN AND FREE FROM UNEVEN SURFACES TO AVOID CONCENTRATED LOAD ON FOOTINGS.

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1			3		TOTAL SHEETS
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RELEASED FOR CONSTRUCTION

PREPARED BY
 TGS ENGINEERS
 804 N. LAFAYETTE ST
 SHELBY, NC 28150

ASSEMBLED BY : CCC DATE : 11/14 SPECIAL
 CHECKED BY : JBW DATE : 11/14

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	--	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN		
OF TIMBER	-----	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT.
		(MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.
 ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.
 IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.
 DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.
 WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".
 EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.
 WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

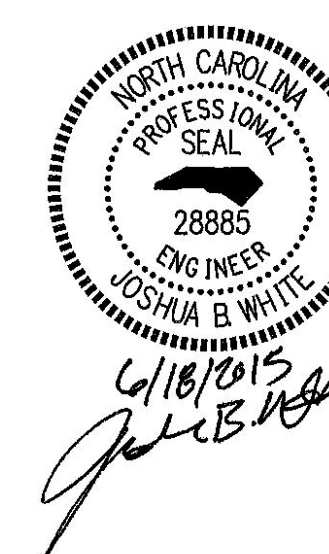
METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.
 METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

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SHEET 5 OF 5



STATE OF NORTH CAROLINA
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STANDARD NOTES

**RELEASED
 FOR
 CONSTRUCTION**

PREPARED BY
 TGS ENGINEERS
 804 N. LAFAYETTE ST
 SHELBY, NC 28150

DRAWN BY: CCC DATE: 11/14 REV. 6-16-95 EEM () RGW REV. 5-7-03 RWW () JTE REV. 10-1-11 MAA () GM
 CHECKED BY: JBW DATE: 11/14 REV. 8-16-99 RWW () LES REV. 5-1-06 TLA () GM

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