

3/15/06

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	-----x
Property Monument	□ ECM
Parcel/Sequence Number	⑩23
Existing Fence Line	-x-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

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	○
Swamp Marsh	▽
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 Marker	-----R/W
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	-----E
Proposed Temporary Construction Easement	-----E
Proposed Temporary Drainage Easement	-----TDE
Proposed Permanent Drainage Easement	-----PDE
Proposed Permanent Utility Easement	-----PUE

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----C
Proposed Slope Stakes Fill	-----F
Proposed Wheel Chair Ramp	-----WCR
Proposed Wheel Chair Ramp Curb Cut	-----WCC
Curb Cut for Future Wheel Chair Ramp	-----CCFR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----Vineyard

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

SURVEY CONTROL SHEET 10-0403

FINAL -L-

TYPE	STATION	NORTH	EAST
POT	10+00.00	722451.2448	950932.6320
PC	10+07.91	722456.0601	950938.9075
PT	11+40.19	722503.0869	951060.6219
POT	13+53.40	722520.7423	951273.0982

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		BL1	722449.3351	950951.9960	2137.59	10+14.58	13.21 RT
2		BL2	722499.1730	951152.1990	2133.15	12+31.13	11.48 RT
3		BL3	722541.5586	951243.9851	2138.18	13+26.11	23.16 LT

ROW MARKER CONCRETE OR GRANITE-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+90.00	13.50	722480.6635	951015.4340
L	10+90.00	-13.50	722506.4594	951007.4609
L	11+20.00	30.00	722470.9736	951045.6822
L	11+20.00	-30.00	722530.1073	951035.5233
L	11+90.00	-30.00	722537.1088	951107.7797
L	11+90.00	-45.00	722552.0572	951106.5376
L	11+95.00	30.00	722477.7289	951117.7311
L	11+95.00	45.00	722462.7804	951118.9732
L	12+40.00	13.50	722497.8986	951161.2102
L	12+40.00	45.00	722466.5068	951163.8186
L	12+45.00	-20.00	722531.6976	951163.4189
L	12+45.00	-45.00	722556.6117	951161.3487
L	12+70.00	-13.50	722527.2901	951188.8713
L	12+70.00	-20.00	722533.7678	951188.3331

 1206 ELEVATION = 2127.89
 N 722454 E 951152
 BL STATION 6+95.00 44 RIGHT
 BM1-8" SPIKE SET IN 12" WALNUT EAST
 SIDE OF ROAD

BEGIN PROJECT 17BP.13.R.31
 - L- STA. 10+90.00
 LOCALIZED PROJECT COORDINATES
 N = 722493.5614
 E = 951011.4474

END PROJECT 17BP.13.R.31
 - L- STA. 12+85.00
 LOCALIZED PROJECT COORDINATES
 N = 722515.0786
 E = 951204.9377

NCDOT BASELINE STATION (BL-3)
 LOCALIZED PROJECT COORDINATES
 N = 722541.5586
 E = 951243.9851
 ELEVATION = 2138.18'

C/L CULVERT
 -L- STA. 12+15.00

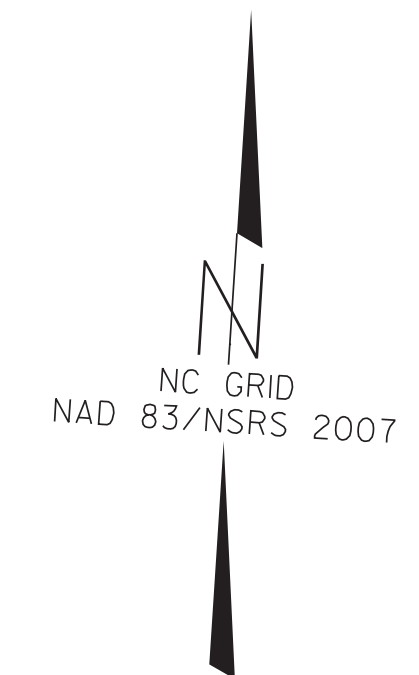
TO SR 2103
 (ELLER COVE ROAD)

TO SR 2098
 (HERRON COVE ROAD)

NCDOT BASELINE STATION (BL-1)
 LOCALIZED PROJECT COORDINATES
 N = 722449.3351
 E = 950951.9960
 ELEVATION = 2137.59'

NCDOT BASELINE STATION (BL-2)
 LOCALIZED PROJECT COORDINATES
 N = 722499.1730
 E = 951152.1990
 ELEVATION = 2133.15'

BM#1



NOTE: DRAWING NOT TO SCALE

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "10-0403 BL-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
 NORTHING: 722499.1730(±) EASTING: 951152.1990(±)
 ELEVATION: 2133.15(±)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99980385
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "10-0403 BL-2" TO -L- STATION 10+00.00 IS
 S 77°41'11" W 224.74
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCTHIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/doh/preconstructhighway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
 100403_LS_CONTROL_130920.TXT

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

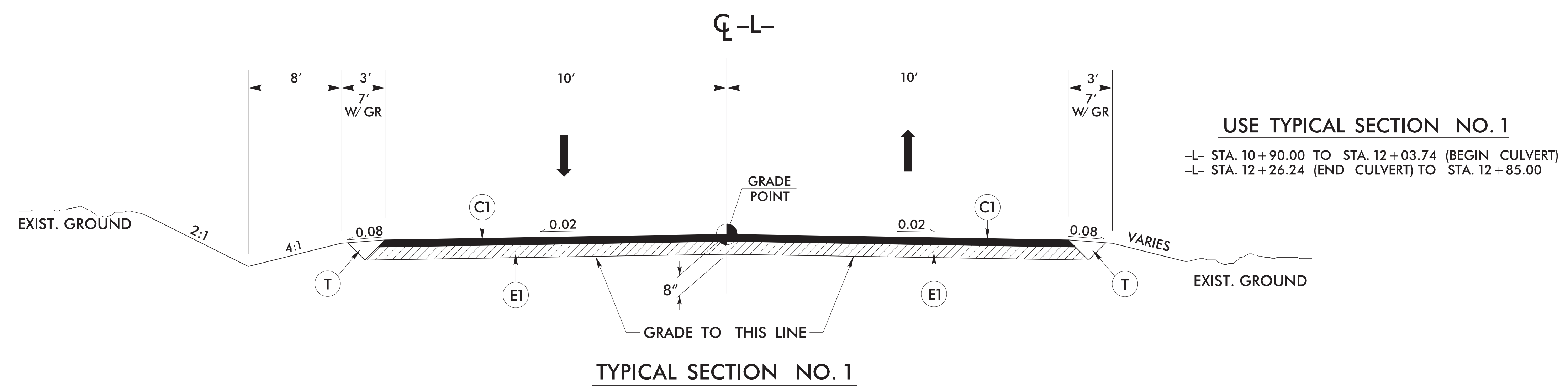
INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

8/17/99

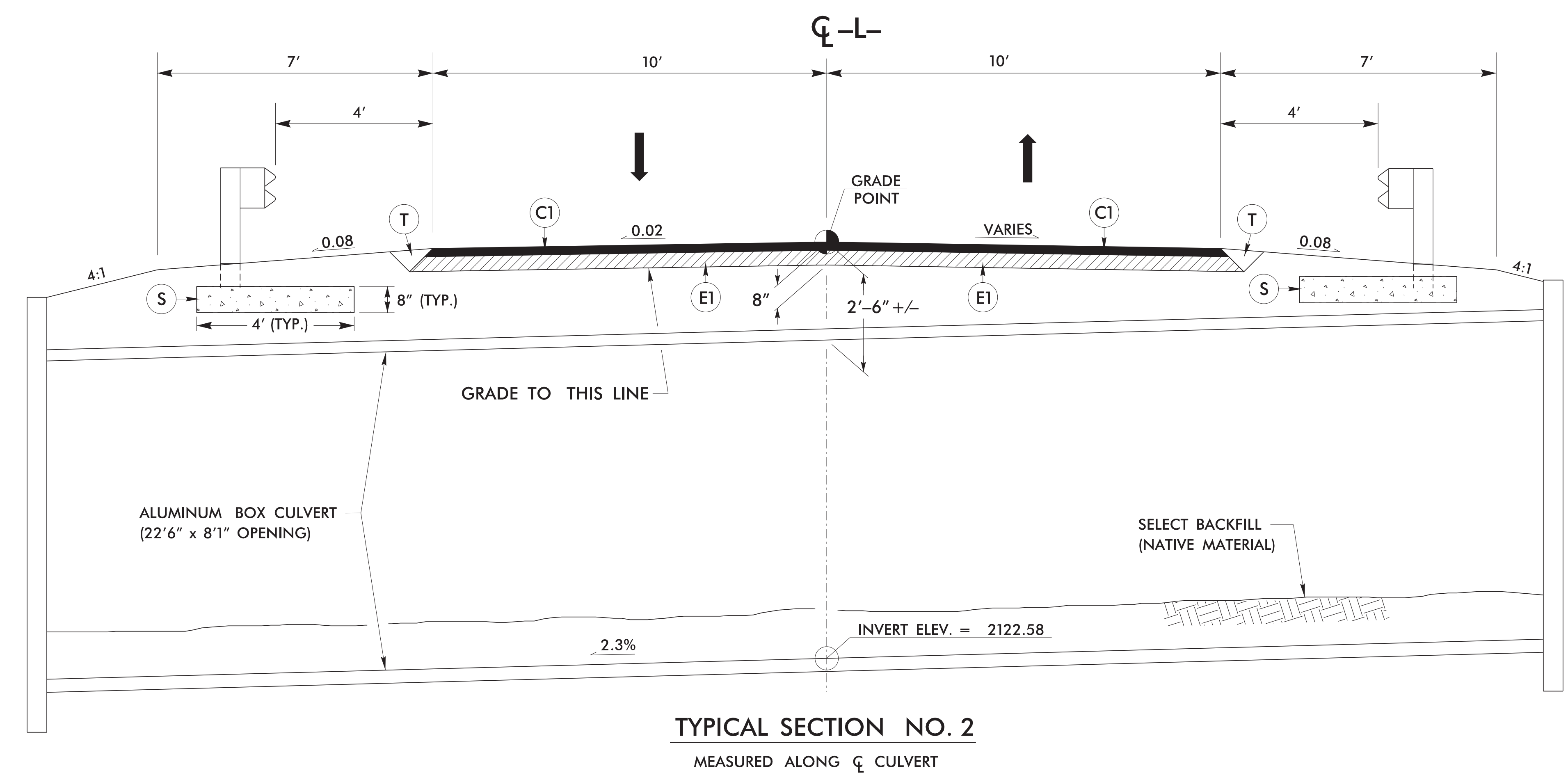
C:\STAFF\JL\PROJECTS\10-0403\CON\10-0403-LS-CONTROL-130920.TXT

6/2/99

PROJECT REFERENCE NO. <i>17BP.13.R.31</i>	SHEET NO. <i>2</i>
ROADWAY DESIGN ENGINEER <i>Denise Porter</i>	PAVEMENT DESIGN ENGINEER <i>L.M. Long</i>



BRIDGE #100403



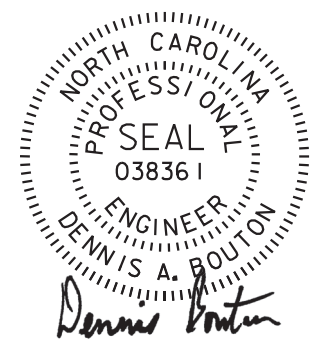
- NOTES:
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
 2. SEE STD. DWG. 862.03 (SHEET 7 OF 7) FOR GUARDRAIL ANCHORAGE TO FOOTINGS.
 3. SEE CROSS SECTIONS FOR POSSIBLE VARIATIONS TO TYPICAL SECTIONS.

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 5.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
S	4000 PSI CONCRETE
T	EARTH MATERIAL

6/2/99
 17BP.13.R.31
 SHEET 2 OF 7
 BRIDGE #100403

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK
 IN CUBIC YARDS



LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY NO.1					
-L- STA. 10+90 TO STA. 12+03.74 (BEGIN CULVERT)	0		59	59	
SUBTOTAL SUMMARY NO.1	0		59	59	
SUMMARY NO.2					
-L- STA. 12+03.74 (BEGIN CULVERT)					
TO STA. 12+26.24 (END CULVERT)	0		36	36	
SUBTOTAL SUMMARY NO.2	0		36	36	
SUMMARY NO.3					
-L- STA. 12+26.24 (END CULVERT) TO STA. 12+85	0		15	15	
SUBTOTAL SUMMARY NO.3	0		15	15	
PROJECT SUBTOTAL	0		110	110	
EST. 5% FOR REPLACING TOP SOIL ON BORROW PITS				6	
GRAND TOTAL	0		110	116	
SAY	0			120	

CONTINGENCY ITEMS:
 INCIDENTAL STONE = 20 TONS
 UNDERCUT EXCAVATION = 20 CY
 SELECT GRANULAR MATERIAL = 20 CY

 GEOTEXTILE FOR SOIL STABILIZATION = 25 SY

Approximate quantities only. Pavement removal, borrow excavation, fine grading, and clearing and grubbing will be paid for at the contract lump sum price for "grading".

BRIDGE NUMBER 100403

Charlotte, NC
Norfolk, VA
Trenton, NJ
Knoxville, TN
Middlesboro, KY
Spartanburg, SC
South Carolina

Asheville, NC
Norfolk, VA
828-253-2796

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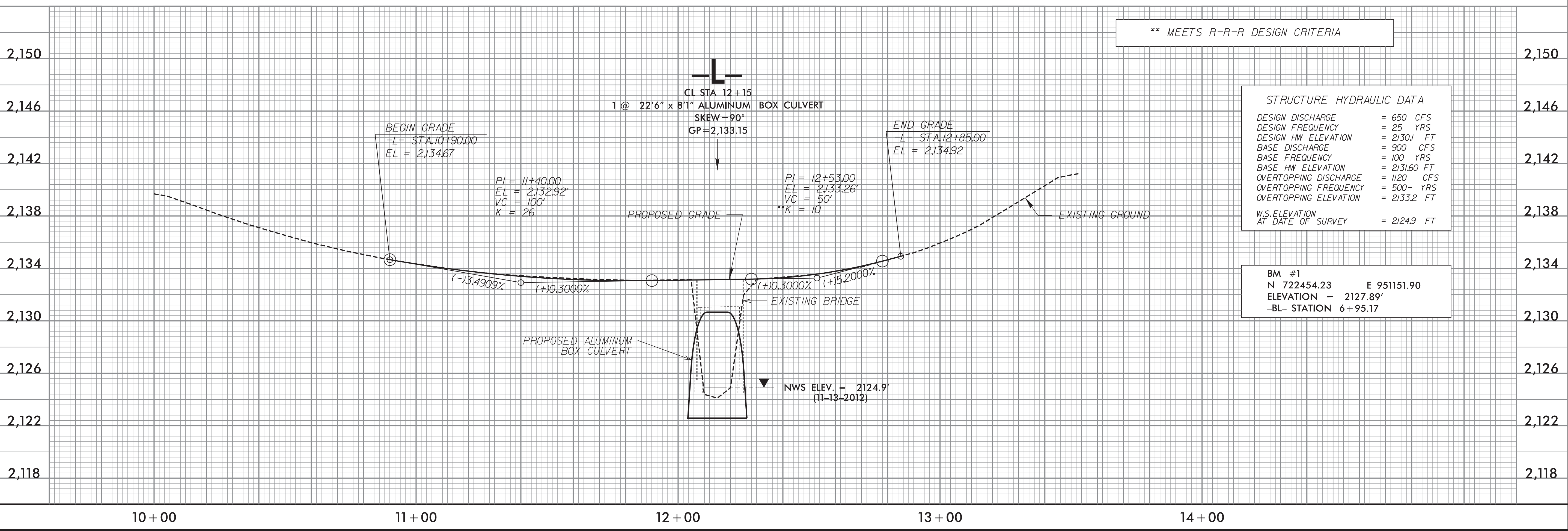
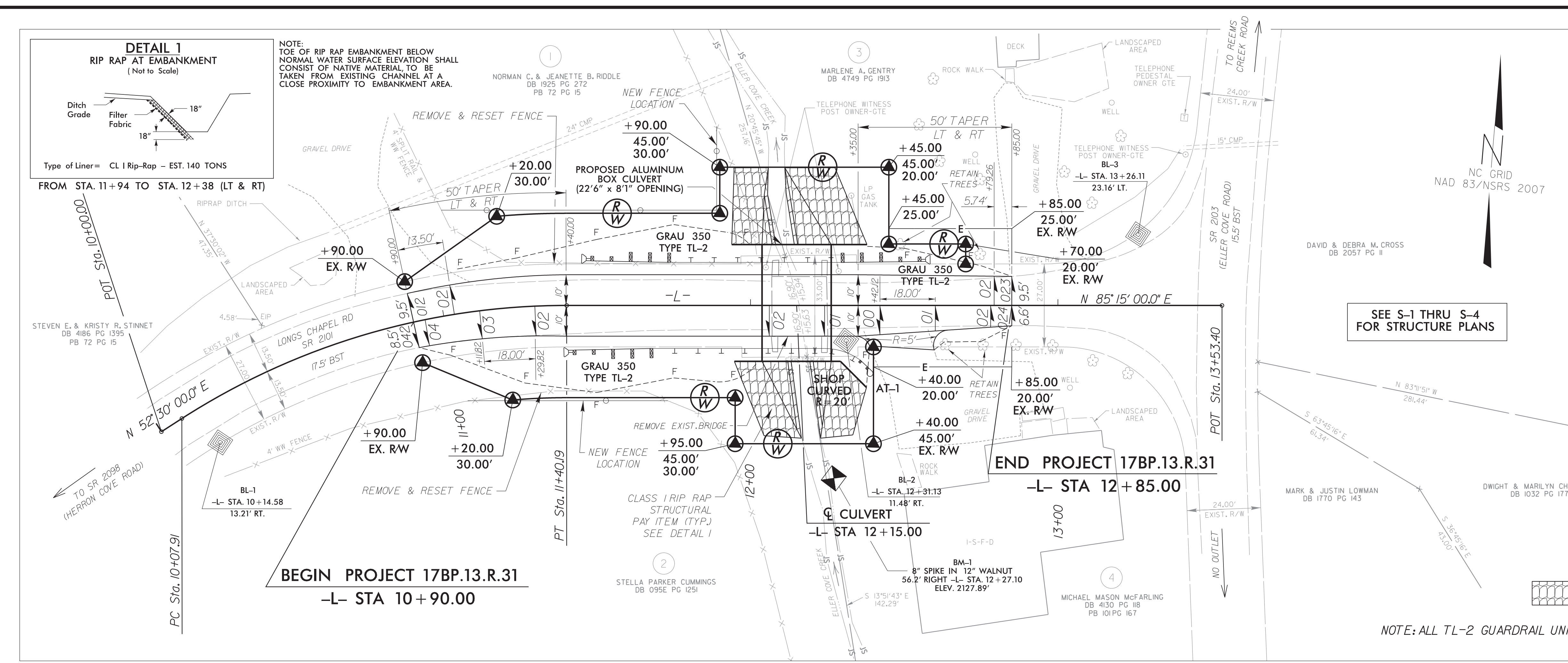
-L- CURVE DATA

PI Sta 10+75.91
 $\Delta = 32^\circ 45' 00.0''$ (RT)
 $D = 24' 45'' 31.3''$
 $L = 132.28'$
 $T = 68.00'$
 $R = 231.42'$
 $SE = 0.04$
 $RO = 73$

DENOTES CLASS I RIP RAP (STRUCTURAL ITEM)

SEE S-1 THRU S-4 FOR STRUCTURE PLANS

NOTE: ALL TL-2 GUARDRAIL UNITS ARE TO BE 25' IN LENGTH.



REVISIONS

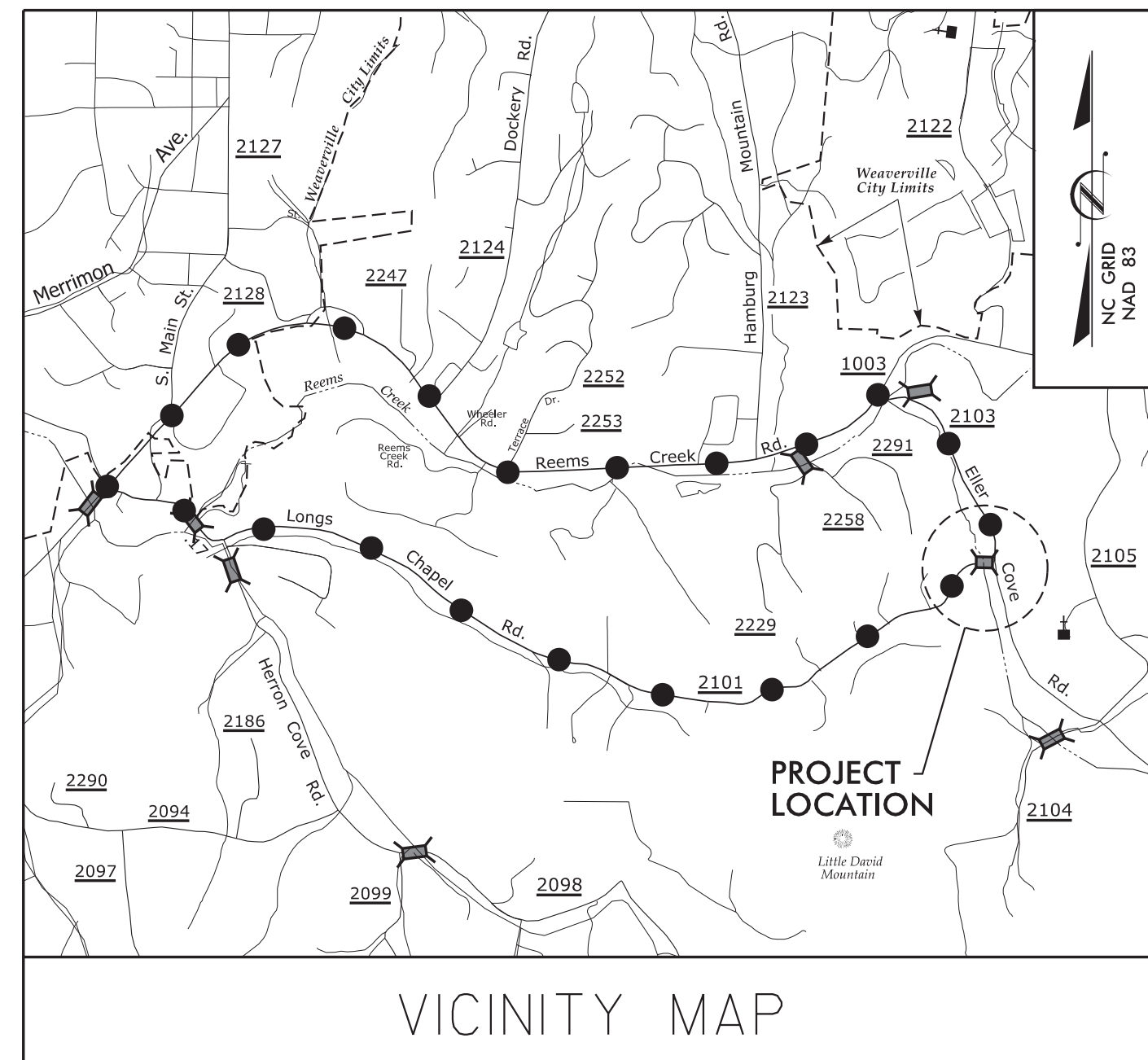
8/17/99

8/17/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

BUNCOMBE COUNTY
DIVISION 13



VICINITY MAP

OFF-SITE DETOUR ROUTE —●—●—●—●—

LOCATION: BRIDGE NO. 403 OVER ELLER COVE CREEK ON SR 2101 (LONGS CHAPEL RD.)

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, LEGEND, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, GENERAL NOTES AND TRANSPORTATION OPERATIONS
TMP-2	TEMPORARY TRAFFIC CONTROL DETAIL, PHASING NOTES OFFSITE DETOUR SIGNING AND ROAD CLOSURE
SD-1	SPECIAL SIGN DESIGN

LEGEND

GENERAL

—▶— NORTH ARROW

TRAFFIC CONTROL DEVICES

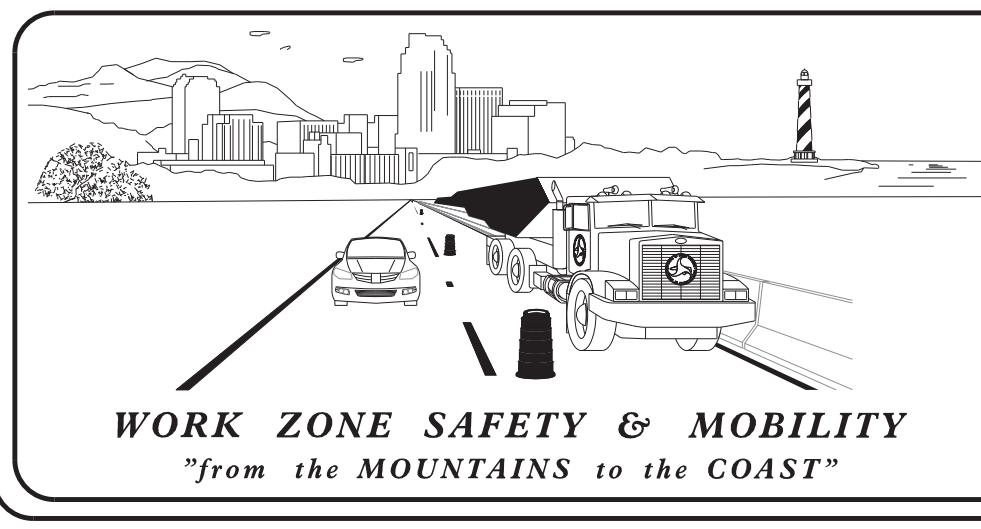
▩ BARRICADE (TYPE III)

TEMPORARY SIGNING

┌ STATIONARY SIGN

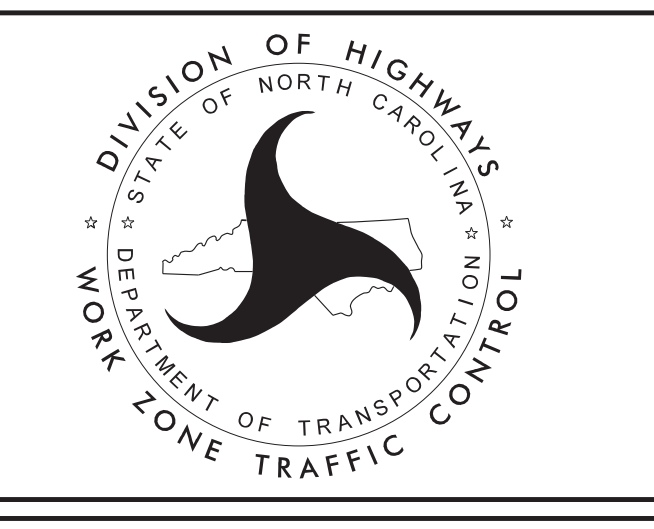
SHEET NO.
TMP-1

PROJECT: 17BP.13.R.31



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1580 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1580
1020 BIRCH RIDGE DRIVE, RALEIGH, NC 27610 (DELIVERY)
PHONE: (919) 250-4094 FAX: (919) 250-4098

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
LLOYD D. BROWN, P.E. TRAFFIC CONTROL PROJECT ENGINEER
DENNIS BOUTON, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER
DENNIS BOUTON, P.E. TRAFFIC CONTROL DESIGN ENGINEER



V&M
Vaughn & Melton
Consulting Engineers
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PROJECT ENGINEER LLOYD D. BROWN, P.E.
DESIGN ENGINEER DENNIS BOUTON, P.E.

APPROVED: _____
DATE: _____

SEAL

\$\$\$\$\$ SYSTEMS \$\$\$
\$\$\$\$\$ DESIGN \$\$\$
\$\$\$\$\$ DRAWING \$\$\$
\$\$\$\$\$ SERVICE \$\$\$
\$\$\$\$\$

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
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1130.01	DRUMS
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.08	PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES
1205.12	PAVEMENT MARKINGS - BRIDGES

TRANSPORTATION OPERATIONS

CONSTRUCTION

REMOVE AND REPLACE EXISTING STRUCTURE AND APPROACHES ALONG THE EXISTING ROADWAY ALIGNMENT AS SHOWN IN THE CONSTRUCTION PLANS.

TMP DESIGN PARAMETERS

TRAFFIC WILL BE DETOURED OFF-SITE DURING THE CONSTRUCTION PERIOD.

THE OFF-SITE DETOUR WILL INCLUDE SR 2103 (ELLER COVE ROAD), SR 1003 (REEMS CREEK ROAD) AND SR 2101 (LONGS CHAPEL ROAD) (SEE SHEET TMP-2).

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 UNDESIRE 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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

B) PROVIDE PERMANENT SIGNING.

C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

F) PLACE TYPE III BARRICADES WITH "ROAD CLOSED" SIGN R-11-2 ATTACHED OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

G) INSTALL PAVEMENT MARKINGS (PAINT) ON THE FINAL SURFACE OF THE ENTIRE PROJECT.

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

LOCAL NOTES

1. NOTIFY BUNCOMBE COUNTY EMERGENCY SERVICES AND PUBLIC SCHOOLS AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.

\$\$\$\$\$ SYSTEM \$\$\$\$\$\$
\$\$\$\$\$ ADDENDUMS \$\$\$\$\$\$
\$\$\$\$\$ REVISIONS \$\$\$\$\$\$
\$\$\$\$\$ DRAWINGS \$\$\$\$\$\$
\$\$\$\$\$ \$\$\$\$\$\$

Charlotte, North Carolina 704-357-0488
Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 865-546-5800
Asheville, North Carolina 828-253-2796
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775

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APPROVED: _____ DATE: _____

SEAL

ROADWAY STANDARD DRAWINGS,
GENERAL NOTES &
TRANSPORTATION OPERATIONS

NOTES:

- ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.
- ALL DETOUR SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE NOTED.
- TRAFFIC CONTROL DEVICES (A) THROUGH (F) SHALL BE INSTALLED ACCORDING TO ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9.
- TRAFFIC CONTROL DEVICES (1) THROUGH (4) SHALL BE INSTALLED AS PER ENGINEER'S INSTRUCTIONS, AND AS SHOWN HEREON.
- SEE ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9 AND 2 OF 9, FOR ADDITIONAL WORK ZONE SIGNS.

LONGS CHAPEL ROAD
48" x 18"

DETOUR
M4-8
24" x 12"
M6-1 L
21" x 15"

SIGN (1)

LONGS CHAPEL ROAD
48" x 18"

DETOUR
M4-8
24" x 12"
M6-1
21" x 15"

SIGN (2)

LONGS CHAPEL ROAD
48" x 18"

DETOUR
M4-8
24" x 12"
M6-3
21" x 15"

SIGN (3)

END
DETOUR
M4-8 A
24" x 18"

SIGN (4)

ROAD
CLOSED
AHEAD
W20-3
48" x 48"

SIGN (A)

ROAD
CLOSED
1000 FT
W20-3
48" x 48"

SIGN (B)

ROAD
CLOSED
500 FT
W20-3
48" x 48"

SIGN (C)

ROAD
CLOSED
AHEAD
W20-3
48" x 48"

NEXT LEFT
SP-4L
42" x 12"

SIGN (D)

ROAD
CLOSED
AHEAD
W20-3
48" x 48"

NEXT RIGHT
SP-4R
42" x 12"

SIGN (E)

ROAD
CLOSED
W20-3
48" x 48"

R3-1
24" x 24"

SIGN (F)

2205
BANKS TOWN RD

1003
REEMS CREEK RD

R11-4
60" x 30"
ROAD CLOSED
TO
THRU TRAFFIC
M4-10L
48" x 18"
TYPE III BARRICADE

2098
HERRON COVE RD

2098
HERRON COVE RD

1003
REEMS CREEK RD

2101
LONGS CHAPEL RD

R11-2
48" x 30"

ROAD
CLOSED
M4-10R
48" x 18"
DETOUR
TYPE III BARRICADE

2103
ELLER COVE RD

R11-2
48" x 30"
ROAD
CLOSED
TYPE III BARRICADE

OFF-SITE DETOUR

PHASING

- STEP 1: - INSTALL OFF-SITE DETOUR ROUTE SIGN ASSEMBLIES FOR THE CLOSING OF SR 2101 (LONGS CHAPEL ROAD, -L-).
- USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEETS 1 OF 9 AND 2 OF 9, CLOSE SR 2101 (LONGS CHAPEL ROAD, -L-) TO THRU TRAFFIC.
- STEP 2: - REMOVE THE EXISTING STRUCTURE AND CONSTRUCT THE PROPOSED STRUCTURE AND ROADWAY UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE AND PLACE FINAL PAVEMENT MARKINGS ON SR 2101 (LONGS CHAPEL ROAD, -L-) FROM STATION 10+90 +/- -L- TO STATION 12+85 +/- -L-. (SEE CONSTRUCTION PLANS).
- STEP 3: - REMOVE ALL TRAFFIC CONTROL DEVICES, SIGNING AND DETOUR ROUTE SIGNING.
- OPEN TO FINAL TRAFFIC PATTERN.

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Tri-Cities, Tennessee 423-461-8401
Knoxville, Tennessee 865-548-9800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4719

Asheville, North Carolina 828-253-2796

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APPROVED: _____ DATE: _____

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
2019
LLOYD D. BROWN

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

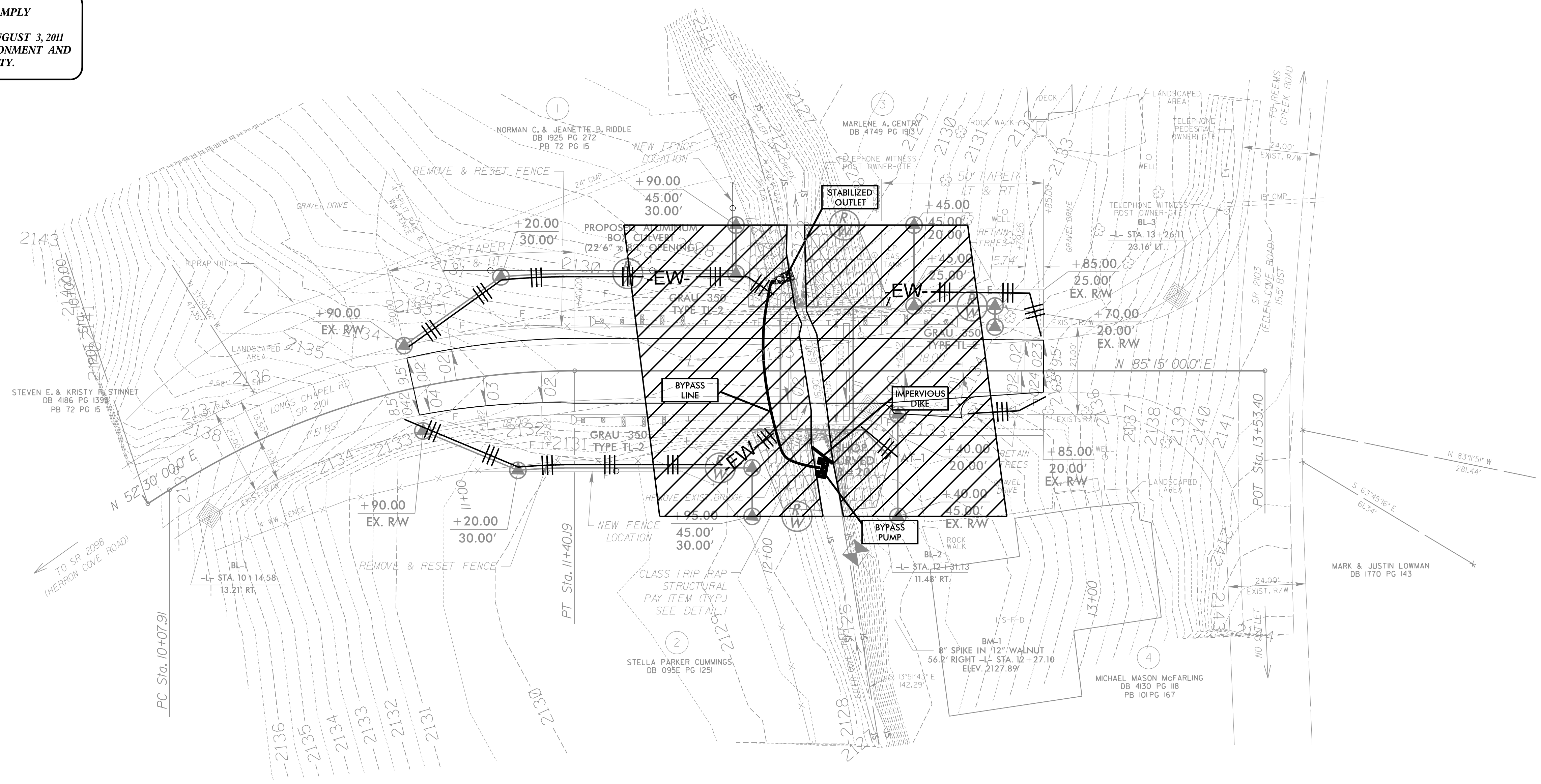
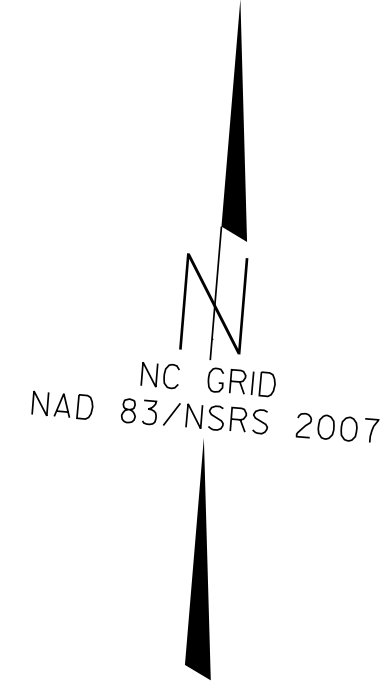
TEMPORARY TRAFFIC CONTROL DETAIL, PHASING NOTES, OFFSITE DETOUR SIGNING AND ROAD CLOSURE

\$\$\$ SYSTEM CONDITIONS \$\$\$

ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
2012 STANDARD SPECIFICATIONS

EROSION CONTROL PLAN

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.



 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

Level III-A: Designer of Erosion and Sediment Control Plans

Dennis A. Bouton, P.E.
Date Issued: June 12, 2012
Date Expires: December 31, 2015
Certification Number: 3172

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
	Wattle Break	-EW-

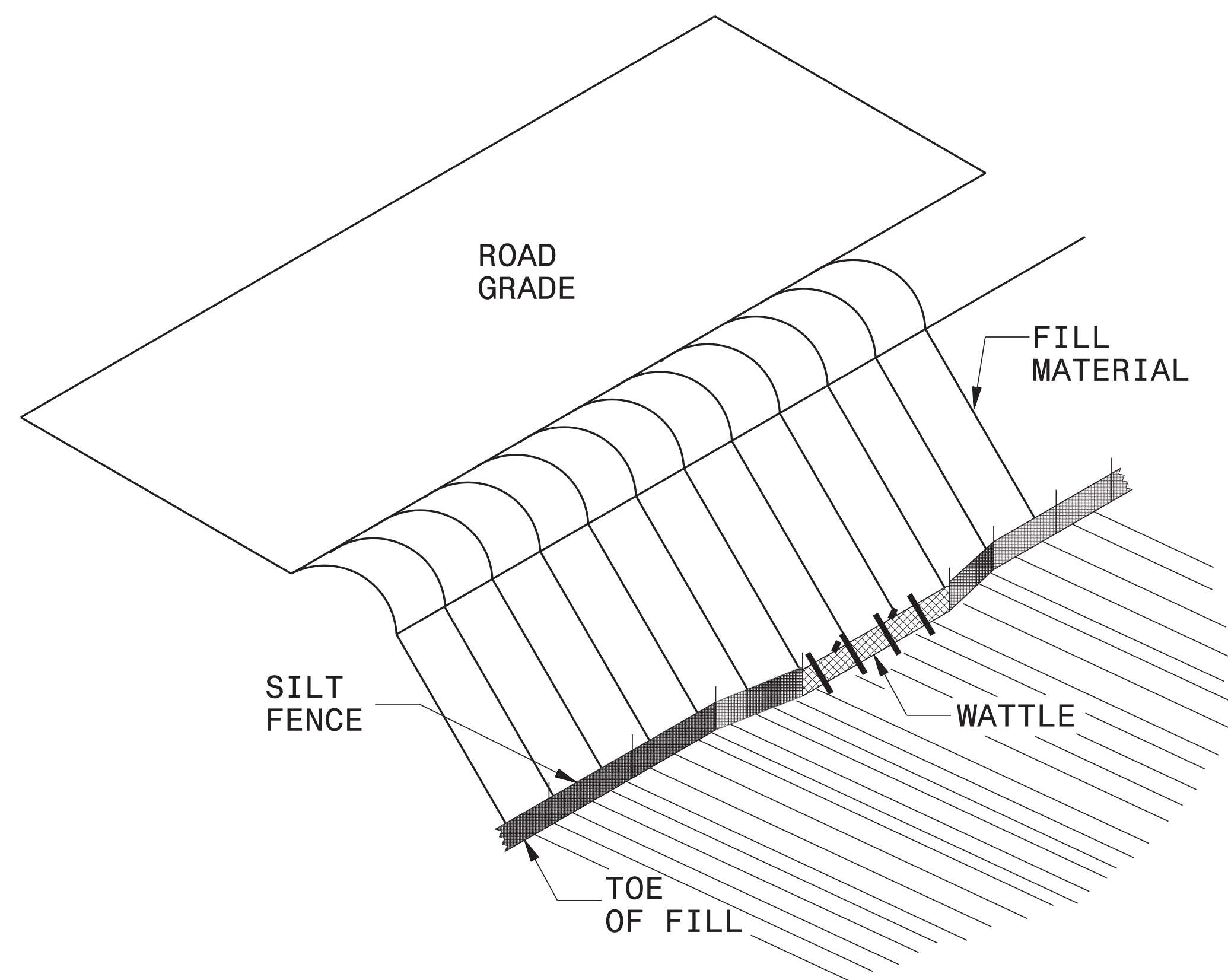
PROJECT NO. 17BP.13.R.31
COUNTY BUNCOMBE
STATION: 12+15.00

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE #403 ON SR 2101
OVER ELLER COVE CREEK

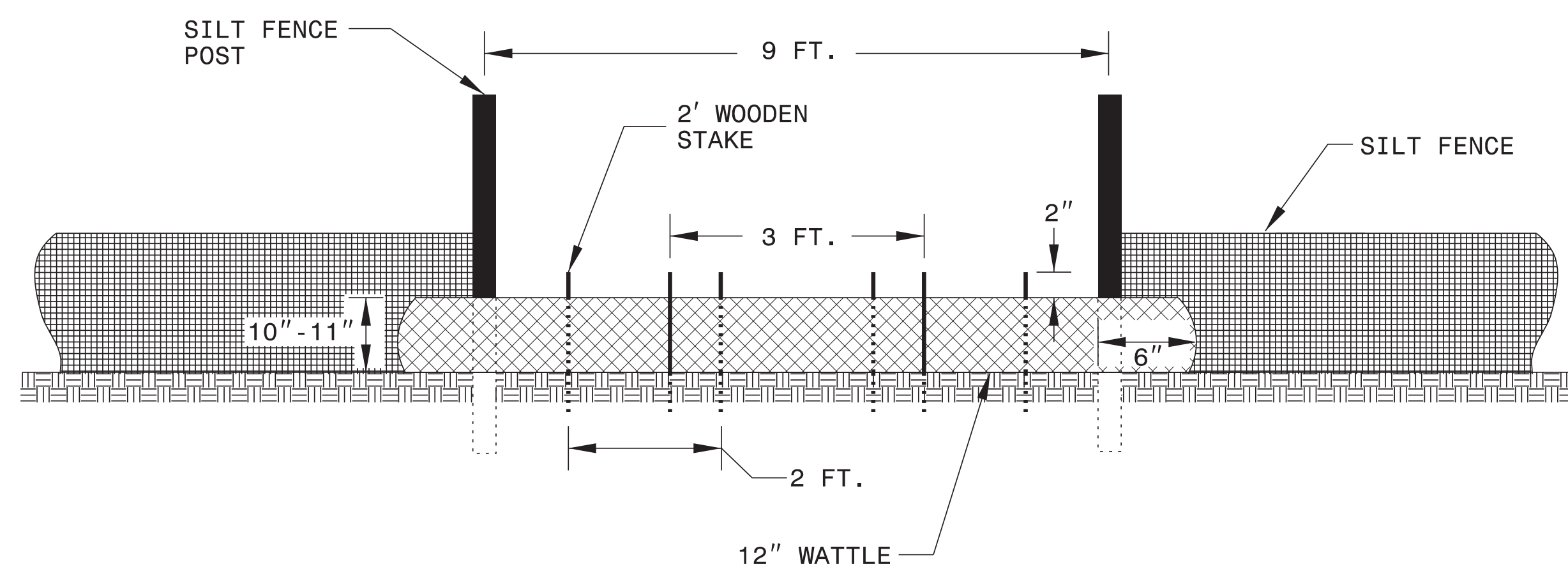
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	TOTAL SHEETS
1			3			1
2			4			1

PROJECT REFERENCE NO. 17BP.13.R.31	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT FENCE WATTLE BREAK DETAIL



ISOMETRIC VIEW

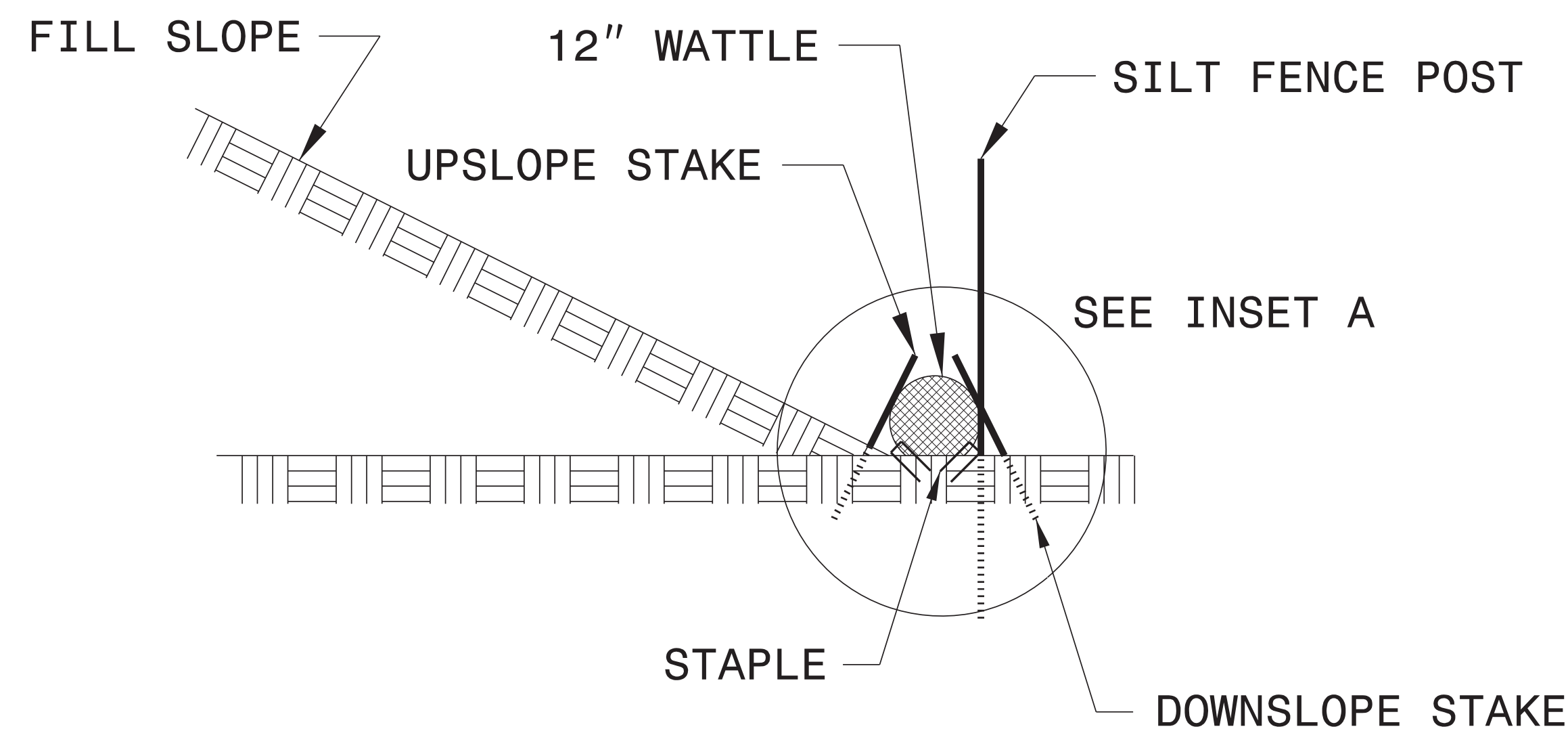
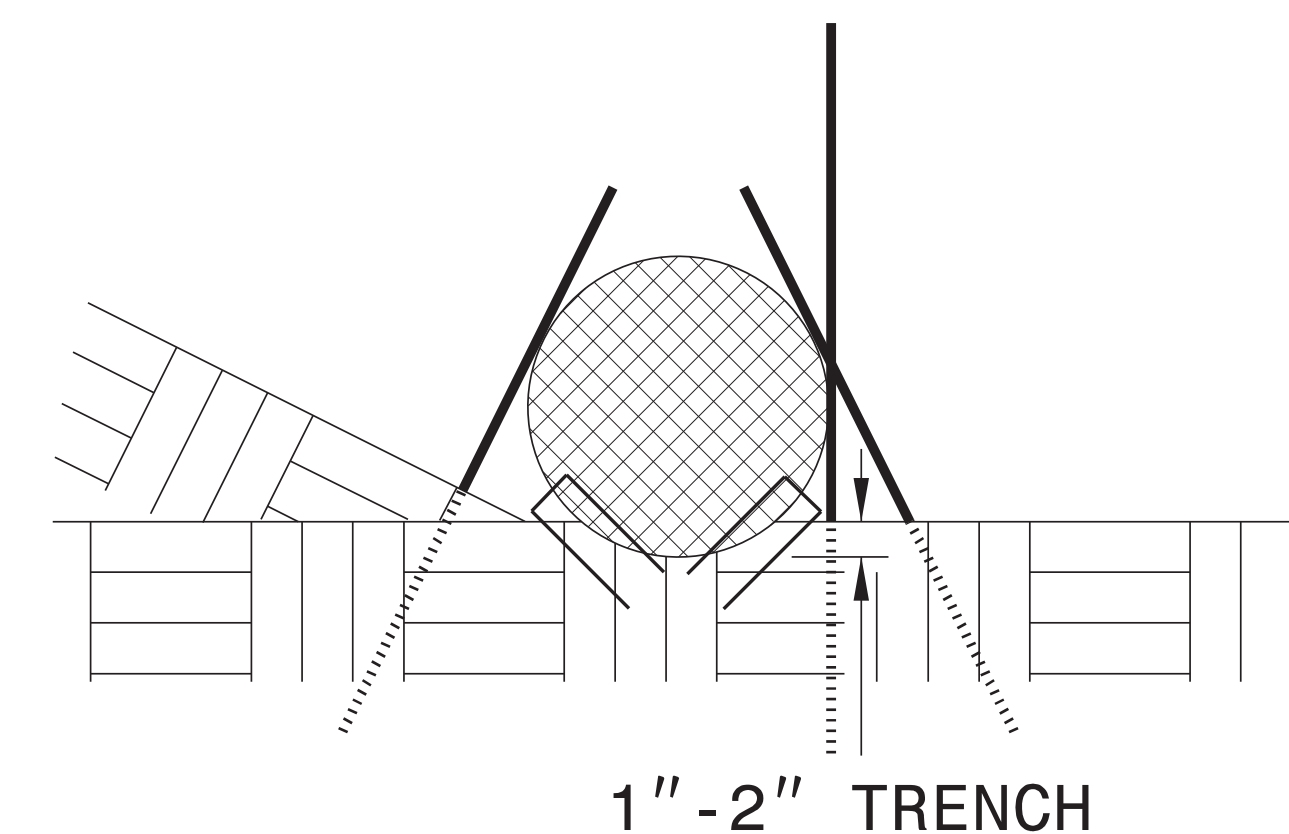


VIEW FROM SLOPE

NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A



SIDE VIEW

PROJECT REFERENCE NO. <i>17BP13.R.31</i>	SHEET NO. <i>EC-3</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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.

09/08/99

TIP PROJECT: 17BP.13.R.31

CONTRACT:

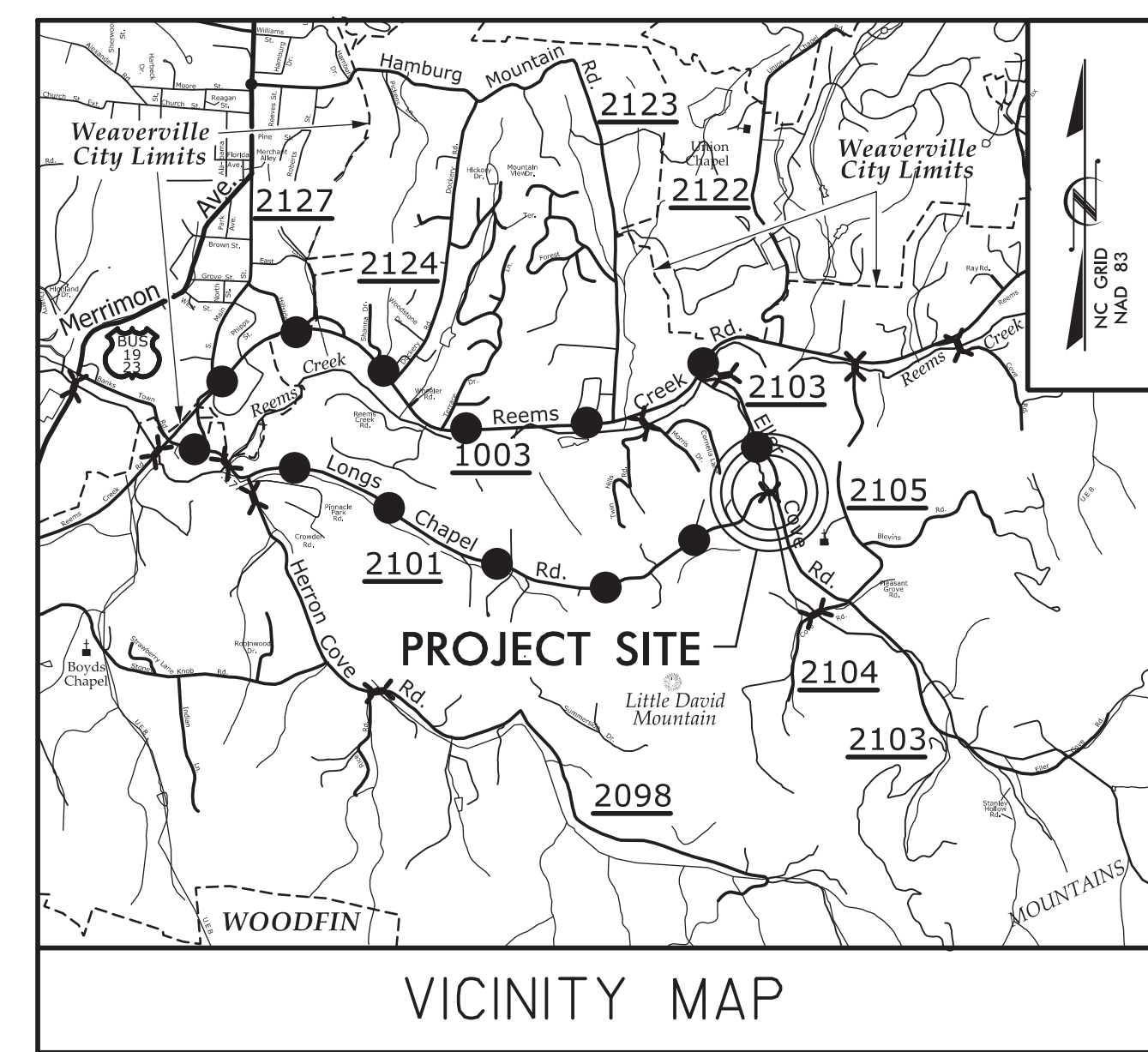
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
17BP.13.R.31	UO-1

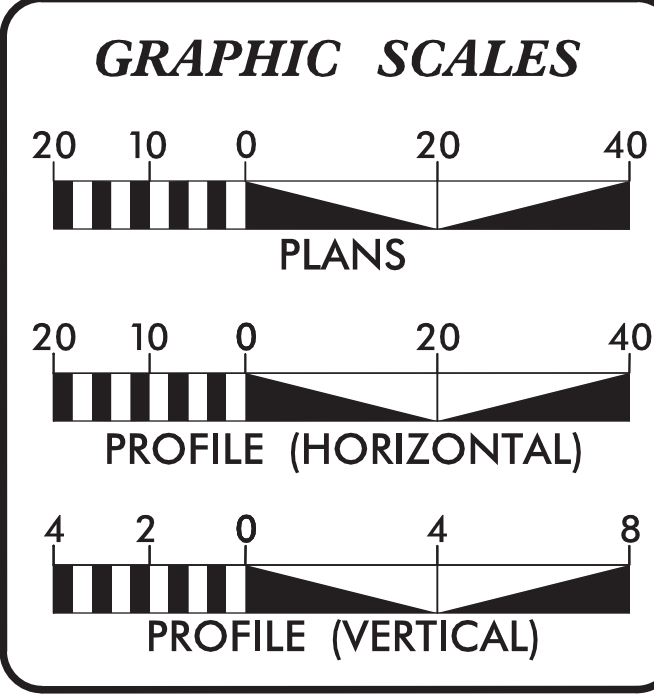
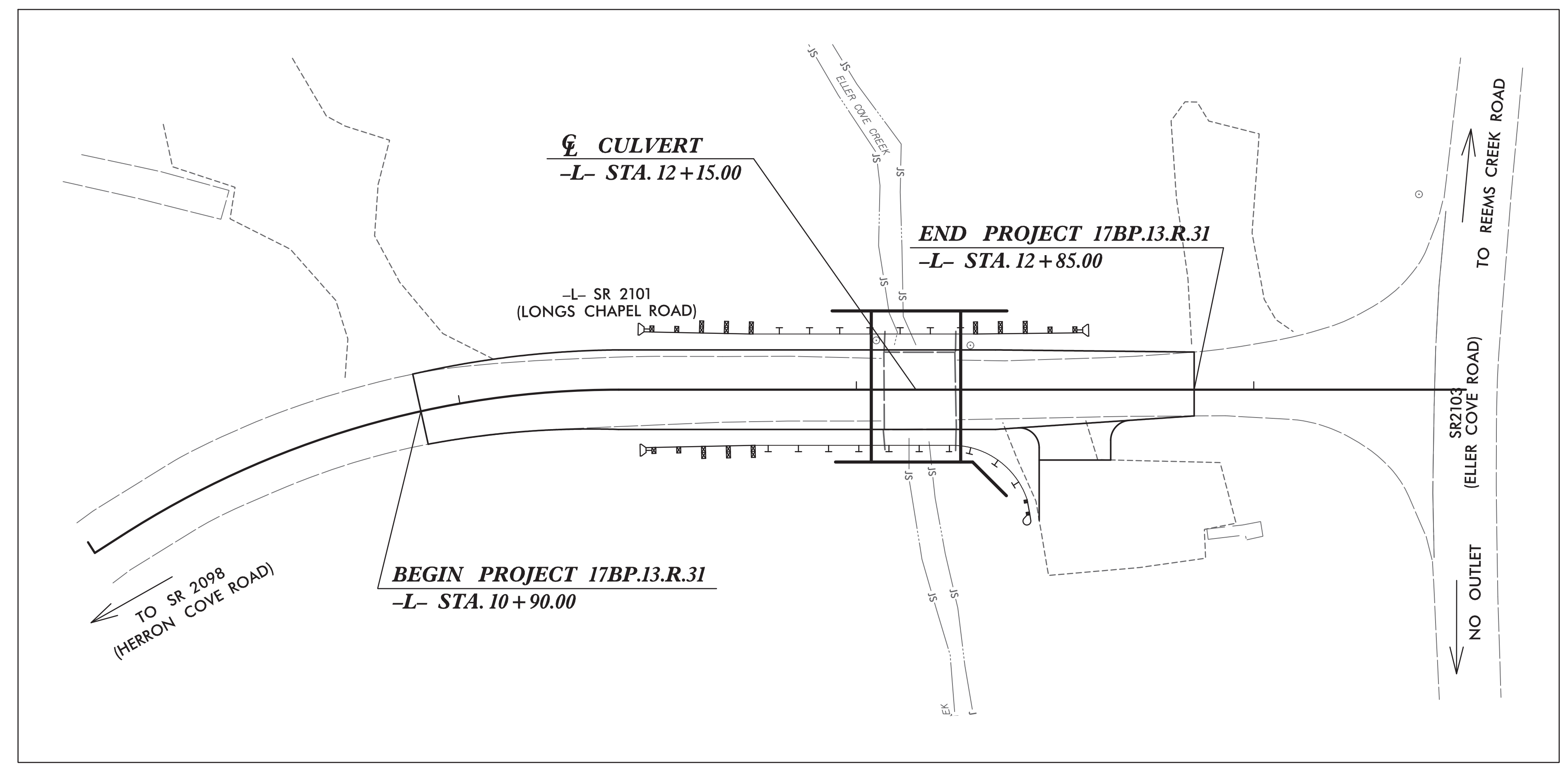
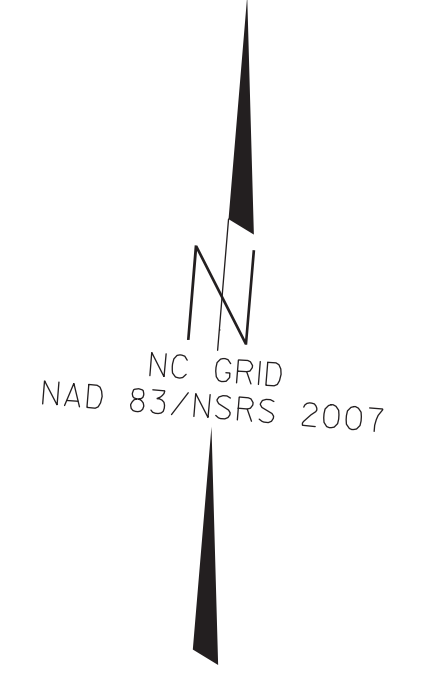
BUNCOMBE COUNTY

**LOCATION: BRIDGE NO. 403 OVER ELLER COVE CREEK
ON SR 2101 (LONGS CHAPEL ROAD)**

TYPE OF WORK: TELEPHONE COMMUNICATIONS RELOCATION



● — ● — ● — DETOUR ROUTE



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITIES BY OTHERS PLAN SHEET

UTILITY OWNERS ON PROJECT

1) FRONTIER TELEPHONE

SEPI
ENGINEERING & CONSTRUCTION

1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-9977
Fax: 919-789-9591
License: C-2197

UTILITIES COORDINATION CONSULTANT
Lavon Tyson

PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING SECTION**

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 707-6690
FAX (919) 250-4151

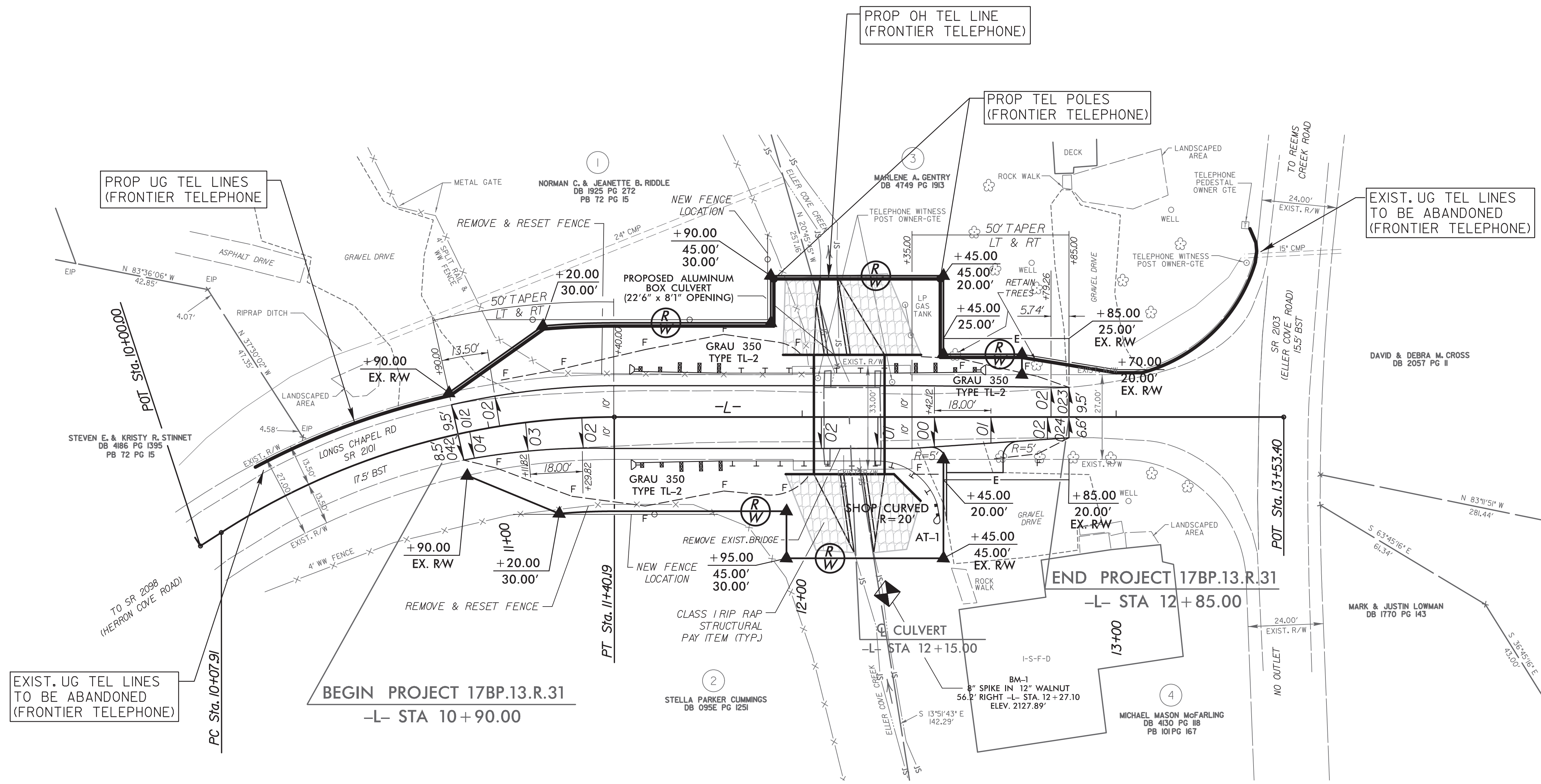
Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Ron Wilkins, PE UTILITIES SQUAD LEADER PROJECT ENGINEER

\$\$\$\$\$ SYSTEMS\$\$\$\$\$
\$\$\$\$\$ DGN\$\$\$\$\$
\$\$\$\$\$ USERNAME\$\$\$\$\$

UTILITIES BY OTHERS

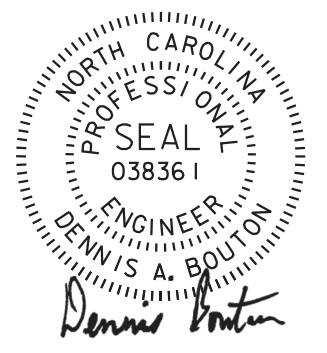
NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

REVISIONS



DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

CROSS SECTION SUMMARY
 IN CUBIC YARDS

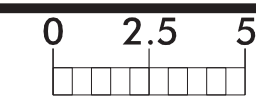


-L- LOCATION	UNCLASSIFIED EXCAVATION	EMBT
10 + 90	0	0
11 + 00	0	1
11 + 25	0	3
11 + 50	0	12
11 + 75	0	17
12 + 00	0	17
12 + 03.74 BEGIN CULVERT	0	3
12 + 26.24 END CULVERT	0	32
12 + 50	0	7
12 + 75	0	2
12 + 85	0	1

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT.

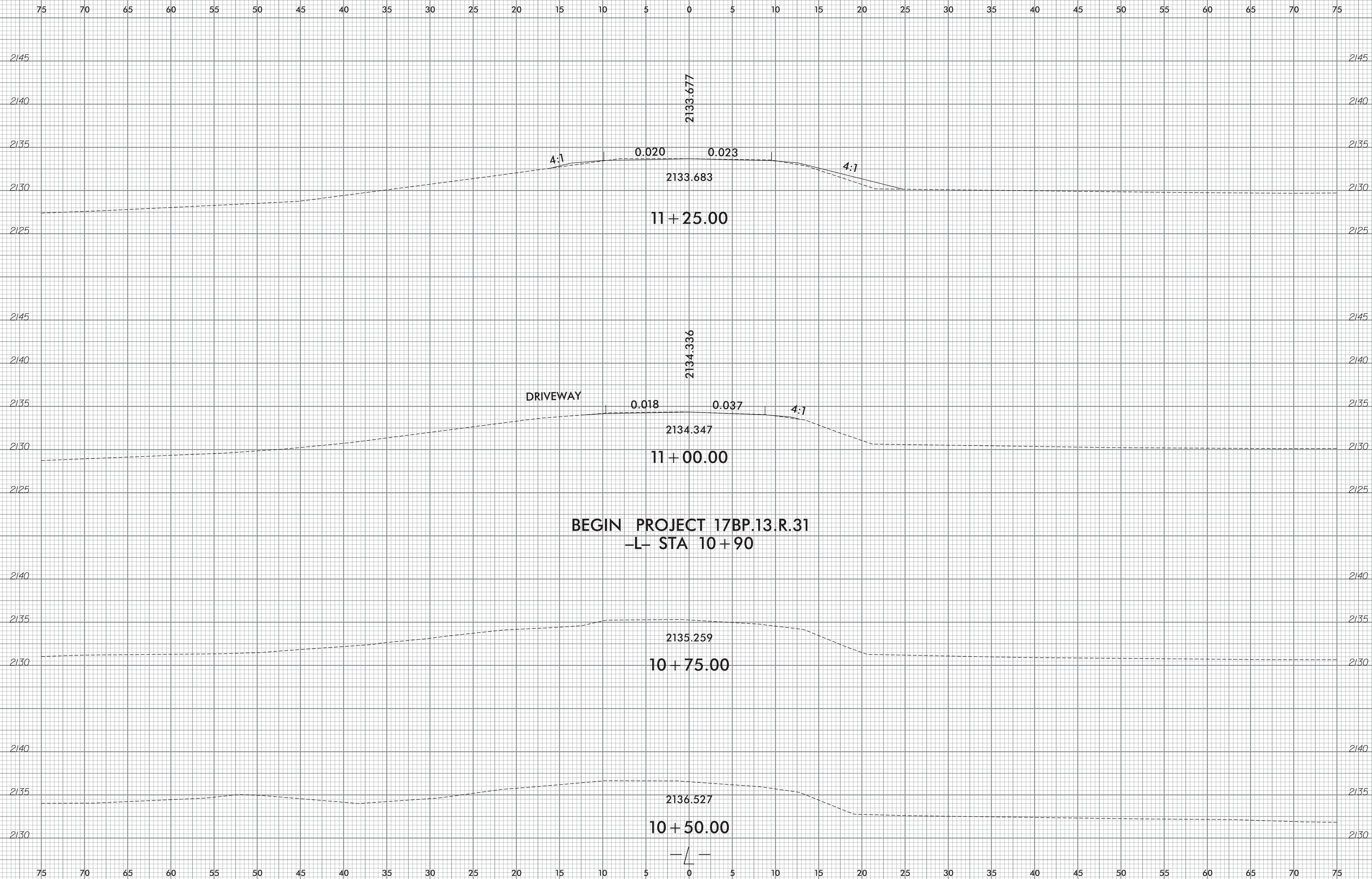
Approximate quantities only. Pavement removal, borrow excavation, fine grading, and clearing and grubbing will be paid for at the contract lump sum price for "grading".

8/23/99



PROJ. REFERENCE NO.
17BP.13.R.31

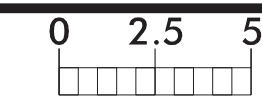
SHEET NO.
X-1



BEGIN PROJECT 17BP.13.R.31
-L- STA 10+90

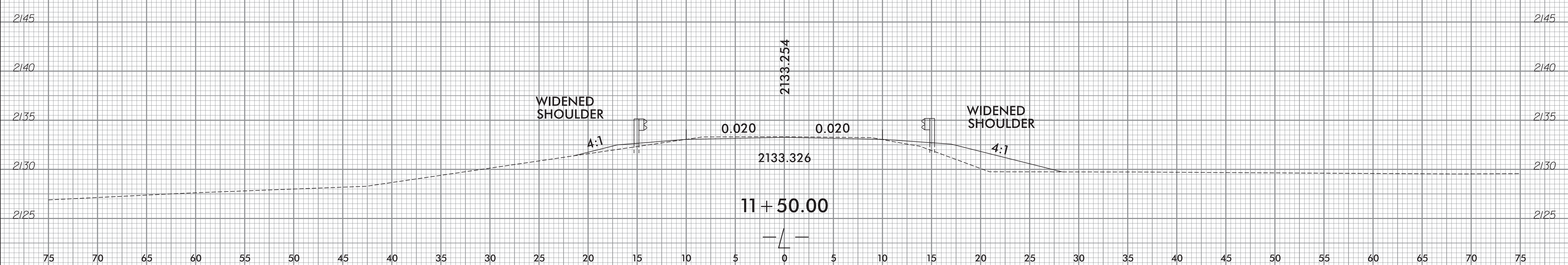
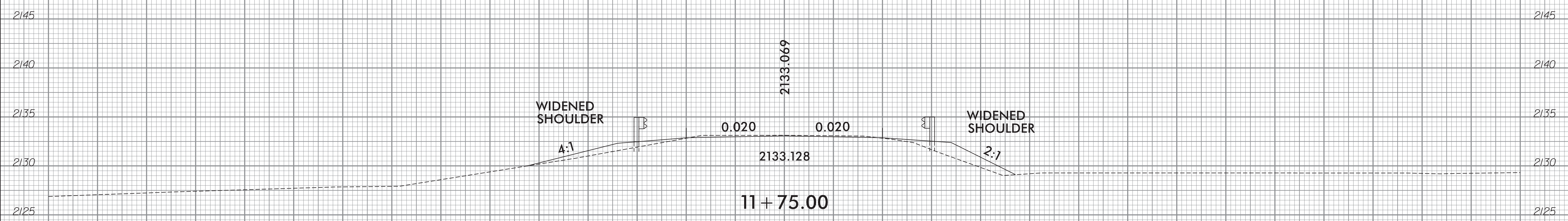
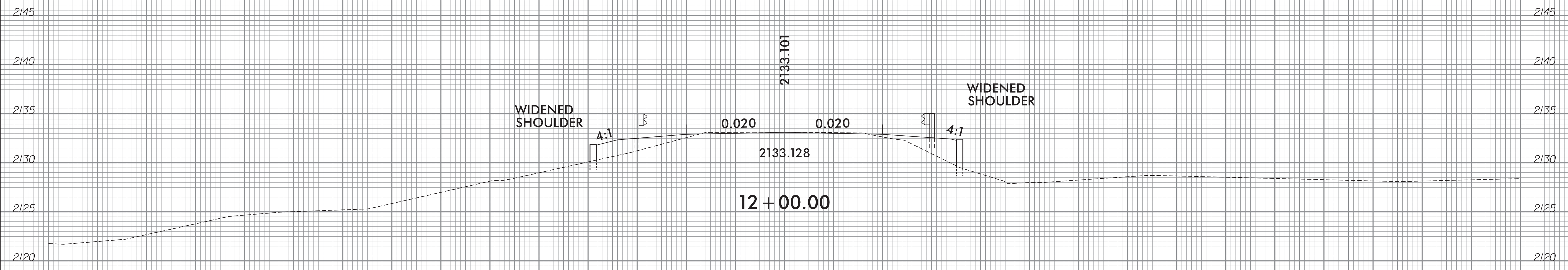
SYSTEMS TIME
DESIGNED
CHECKED
DATE

8/23/99



75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

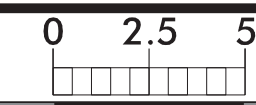
BEGIN CULVERT
-L- STA. 12 + 03.74



SYSTEMS TIME
DRAWING
COURTESY

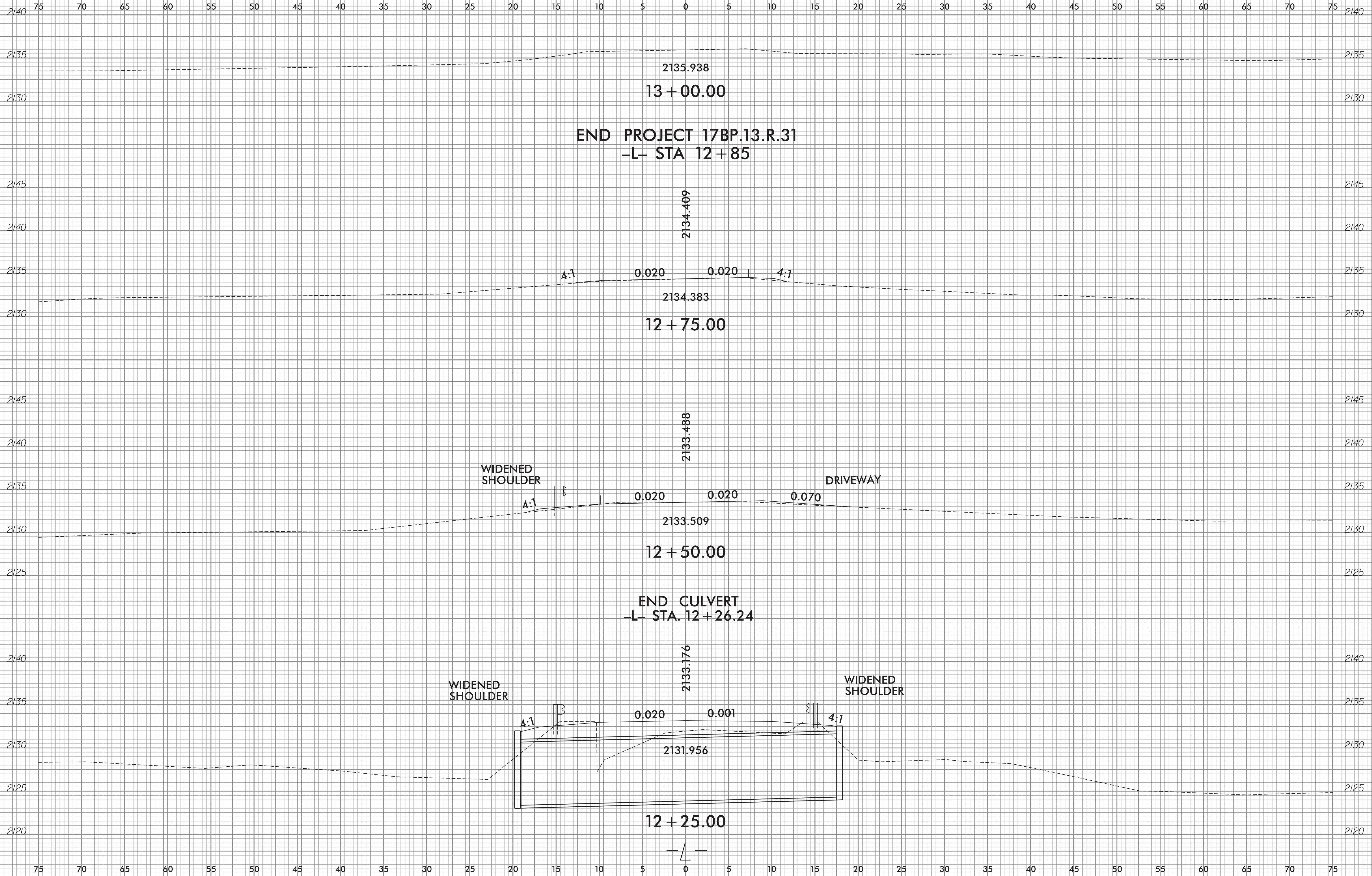
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8/23/99

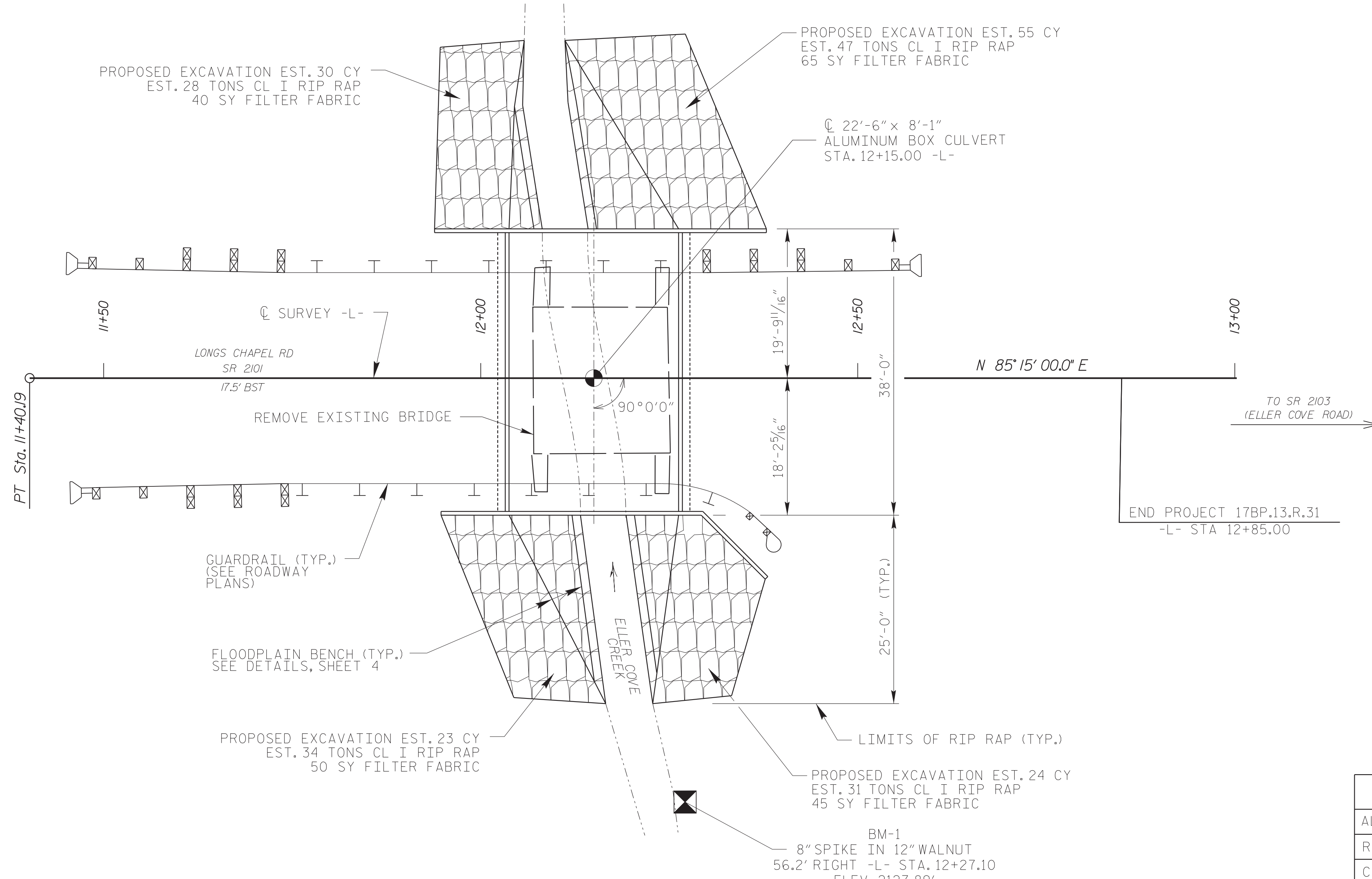
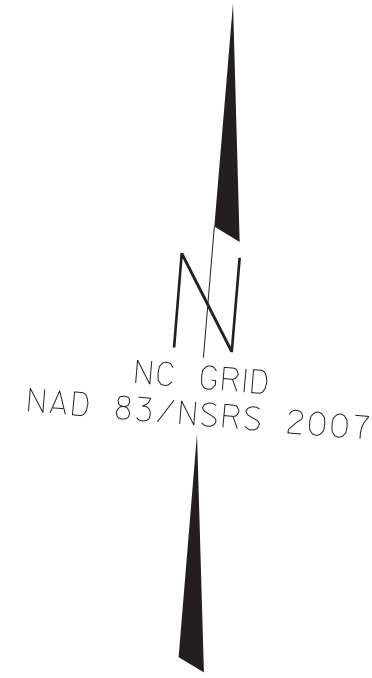


PROJ. REFERENCE NO.
17BP.13.R.31

SHEET NO.
X-3



SYSTEM TIME: 8/23/99 10:00:00 AM
 USER: J. W. BROWN
 PROJECT: 17BP.13.R.31
 SHEET: X-3



DESCRIPTION OF EXISTING BRIDGE
 1 SPAN @ 18'-4"; 2" ASPHALT WEARING SURFACE ON 4"x8" TIMBER FLOOR ON 6"x12" TIMBER JOISTS; END BENTS: TIMBER CAPS/TIMBER POST & SILLS; 19'0" CLEAR ROADWAY

NOTES

THE QUANTITY OF RIP RAP TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF TONS OF EACH CLASS RIP RAP WHICH HAS BEEN INCORPORATED INTO THE COMPLETED AND ACCEPTED WORK. THE RIP RAP WILL BE MEASURED BY BEING WEIGHED ON TRUCKS ON CERTIFIED PLATFORM SCALES OR OTHER CERTIFIED WEIGHING DEVICES. THE QUANTITY OF RIP RAP WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON. PLAIN RIP RAP CLASS I (1'-6" THICK).

EXISTING BRIDGE SHALL BE REMOVED BY SAVING AND/OR NON-SHATTERING METHODS SUCH THAT DEBRIS WILL NOT FALL INTO THE WATER.

ASSUMED LIVE LOAD - HL-93 OR ALTERNATE.

ALUMINUM BOX CULVERT TO BE DESIGNED BY A NORTH CAROLINA REGISTERED ENGINEER IN ACCORDANCE WITH APPLICABLE PORTIONS OF STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES ADOPTED BY AASHTO. CONSTRUCTION SHALL MEET THE APPLICABLE SECTIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

NATIVE MATERIAL REMOVED FROM THE CHANNEL TO ALLOW FOR THE INSTALLATION OF THE CULVERT SHALL BE USED FOR BACKFILLING INSIDE THE CULVERT. SELECT BACKFILL AND COIR FIBER MATTING SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR 'EXCAVATION AND EMBANKMENT.'

ADT = 680 VPD FOR YEAR 2025.

-L- CURVE DATA
 PI Sta 10+75.91
 $\Delta = 32^\circ 45' 00.0''$ (RT)
 $D = 24^\circ 45' 31.3''$
 $L = 132.28'$
 $T = 68.00'$
 $R = 231.42'$

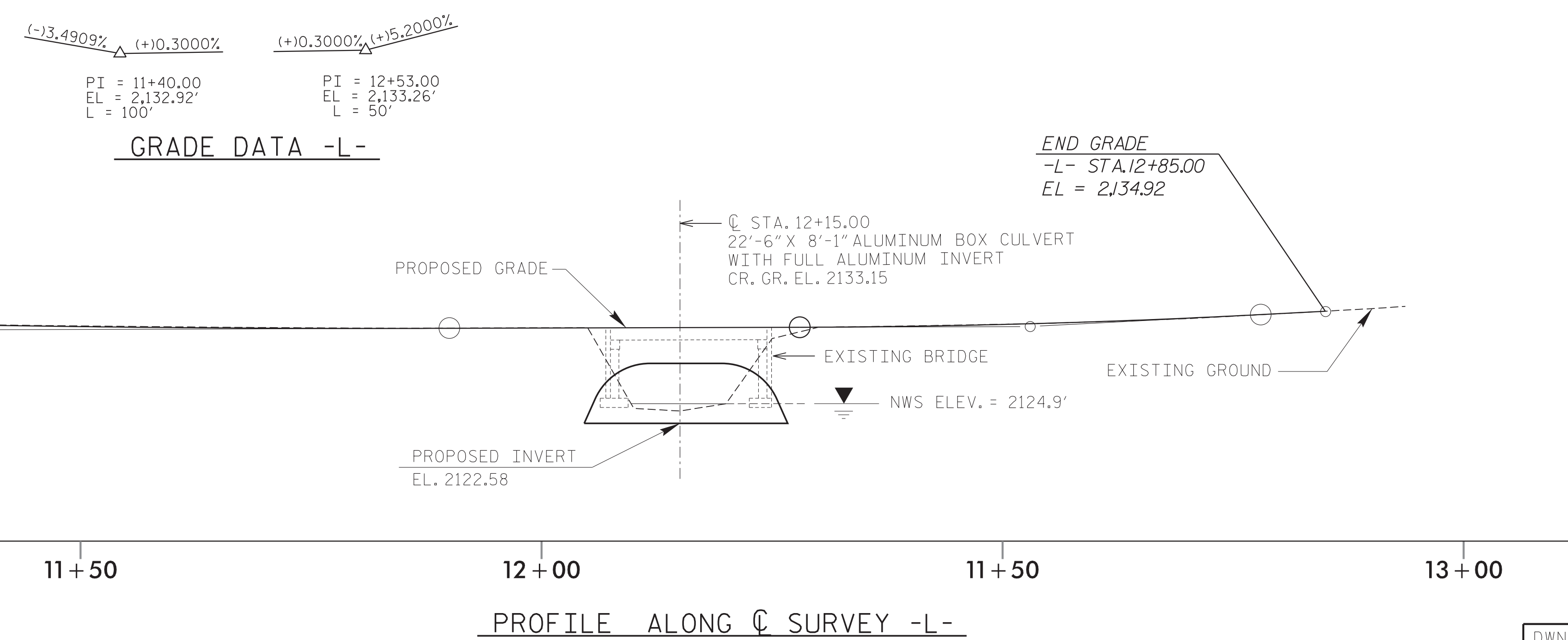
HORIZONTAL CURVE DATA -L-

HYDROGRAPHIC DATA	
DESIGN DISCHARGE	= 650 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 2130.1 FT
DRAINAGE AREA	= 1.9 SQ. MI.
BASE DISCHARGE (Q100)	= 900 CFS
BASE HW ELEVATION	= 2131.60 FT

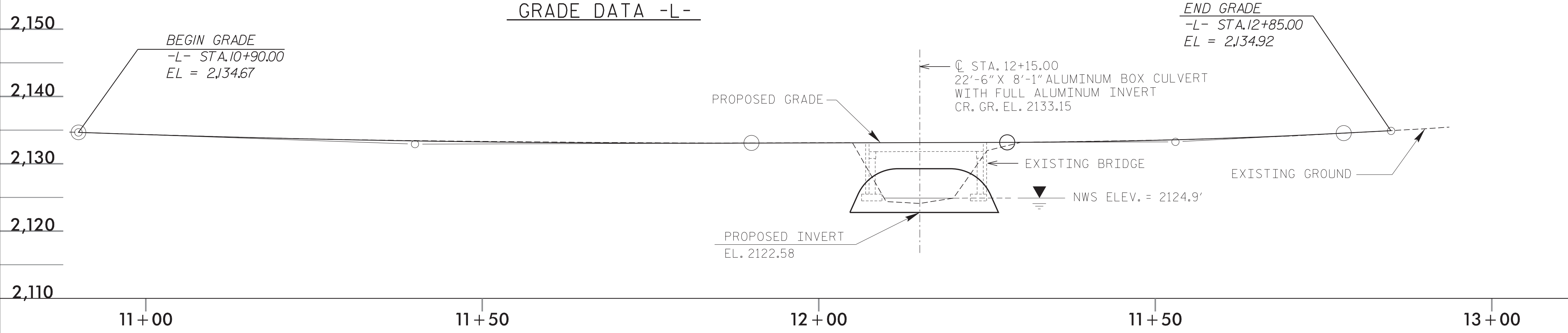
OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= 1120 CFS
OVERTOPPING FREQUENCY	= 500- YRS
OVERTOPPING ELEVATION	= 2133.2 FT

TOTAL STRUCTURE QUANTITIES	
ALUMINUM BOX CULVERT	LUMP SUM
REMOVAL OF EXISTING STRUCTURE, STA. 12+15	LUMP SUM
CULVERT EXCAVATION, STA. 12+15	LUMP SUM
FOUNDATION CONDITIONING MATERIAL, BOX CULVERT	30 TONS
CHANNEL EXCAVATION	132 CY
RIP RAP, CLASS I (1'-6" THK.)	140 TONS
GEOTEXTILE FOR DRAINAGE	200 SY
COIR FIBER MAT	30 SY
CLASS AA CONCRETE (GUARDRAIL FOOTING)	4.4 CY
REINFORCING STEEL (GUARDRAIL FOOTING)	448 LBS

PLAN ALONG \bar{C} SURVEY -L-



GRADE DATA -L-

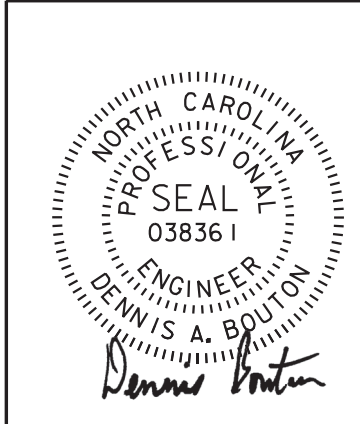


PROFILE ALONG \bar{C} SURVEY -L-

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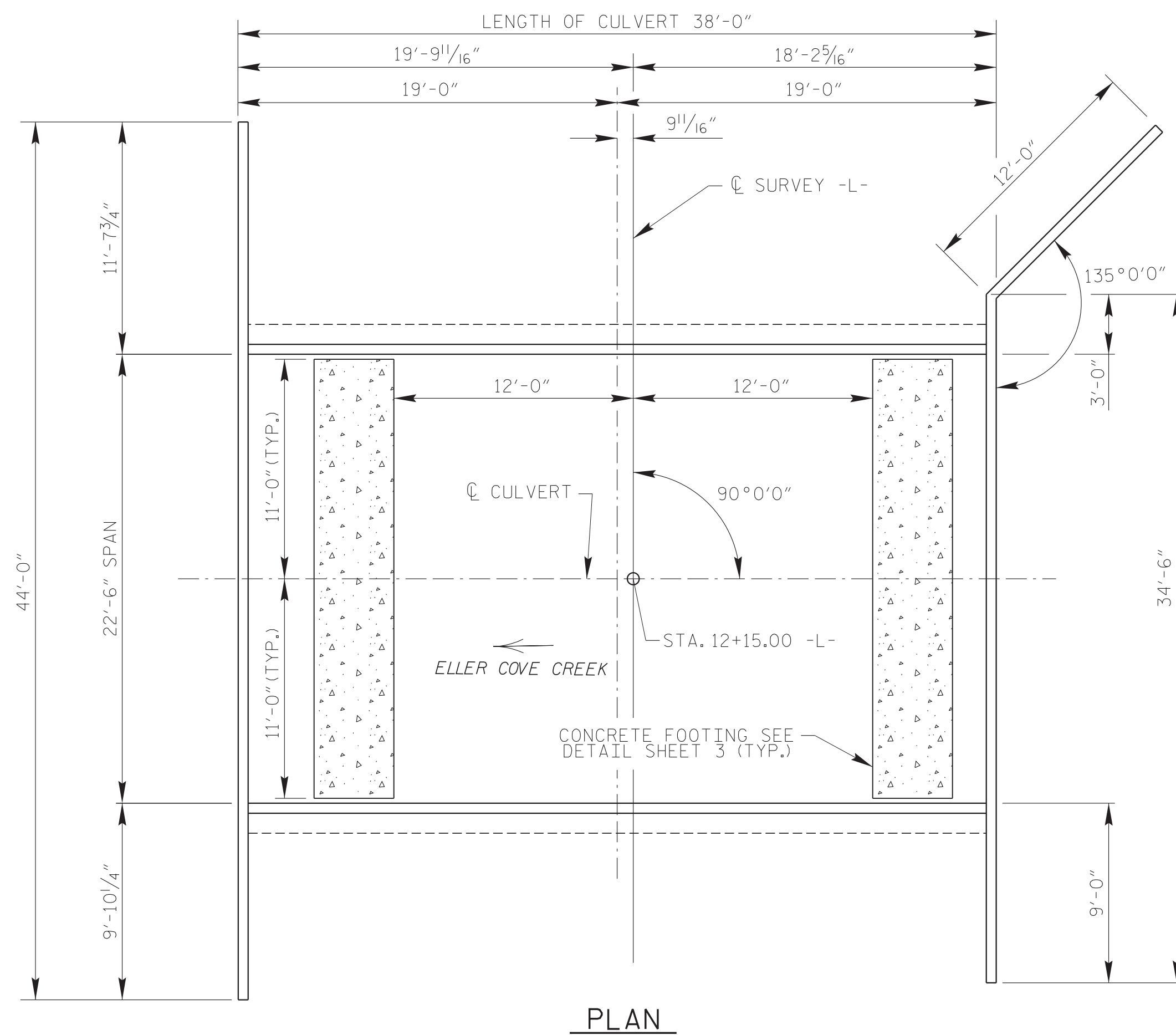
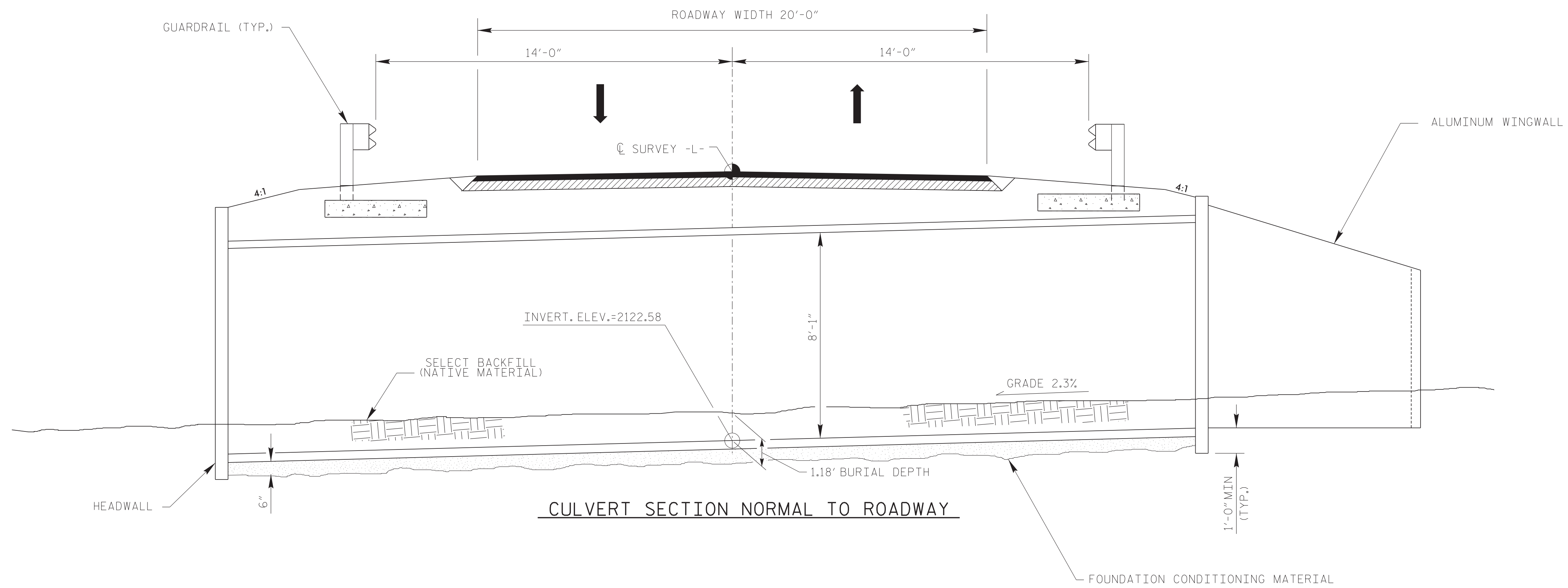
PROJECT NO. 17BP.13.R.31
 BUNCOMBE COUNTY
 STATION: 12+15.00 -L-
 REPLACES BRIDGE NO. 403

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE NO. 403 ON SR 2101
 OVER ELLER COVE CREEK

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			4

DWN. BY: SN
 CHKD. BY: HLW
 DES. EGR. OF RECORD: DAB

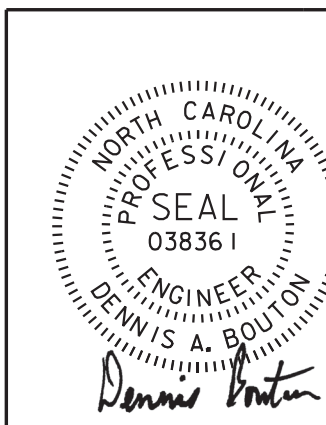
DATE: 3/13
 DATE: 9/13
 DATE: 9/13



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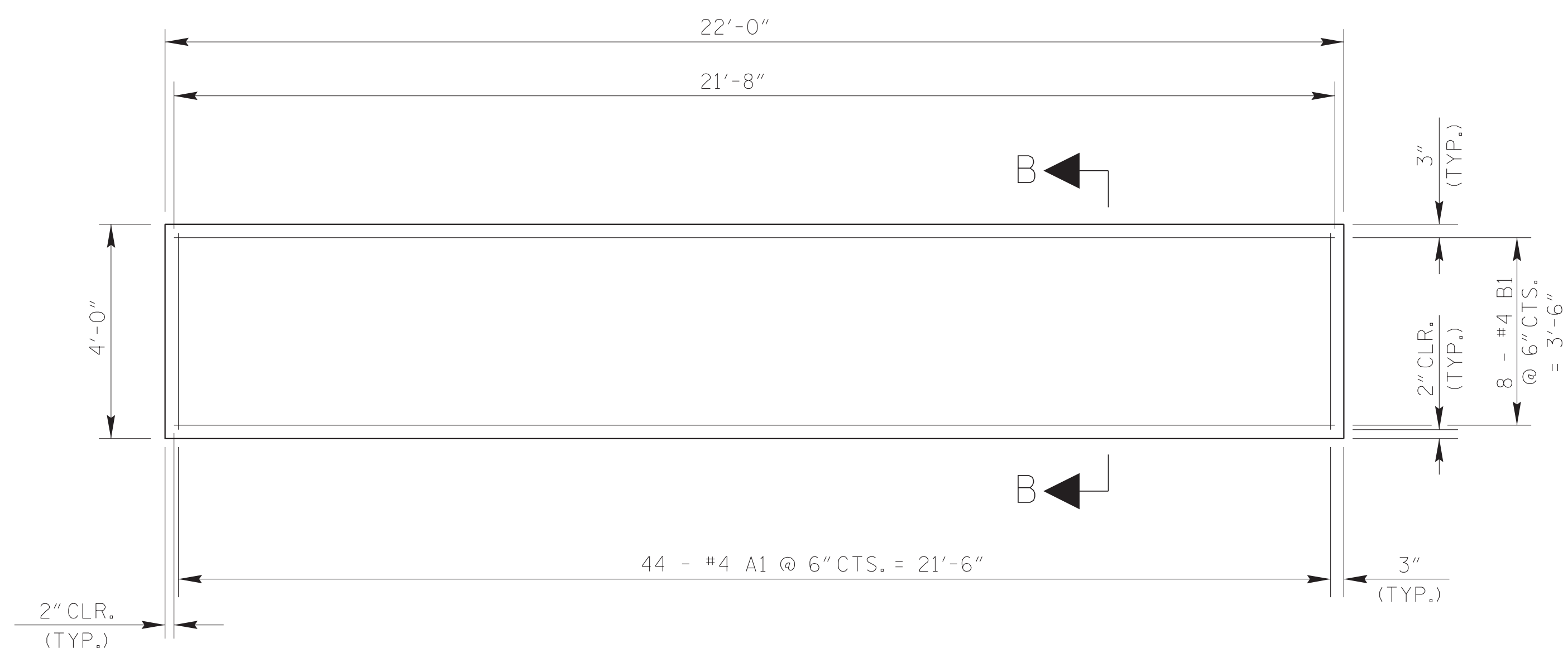
PROJECT NO. 17BP.13.R.31
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

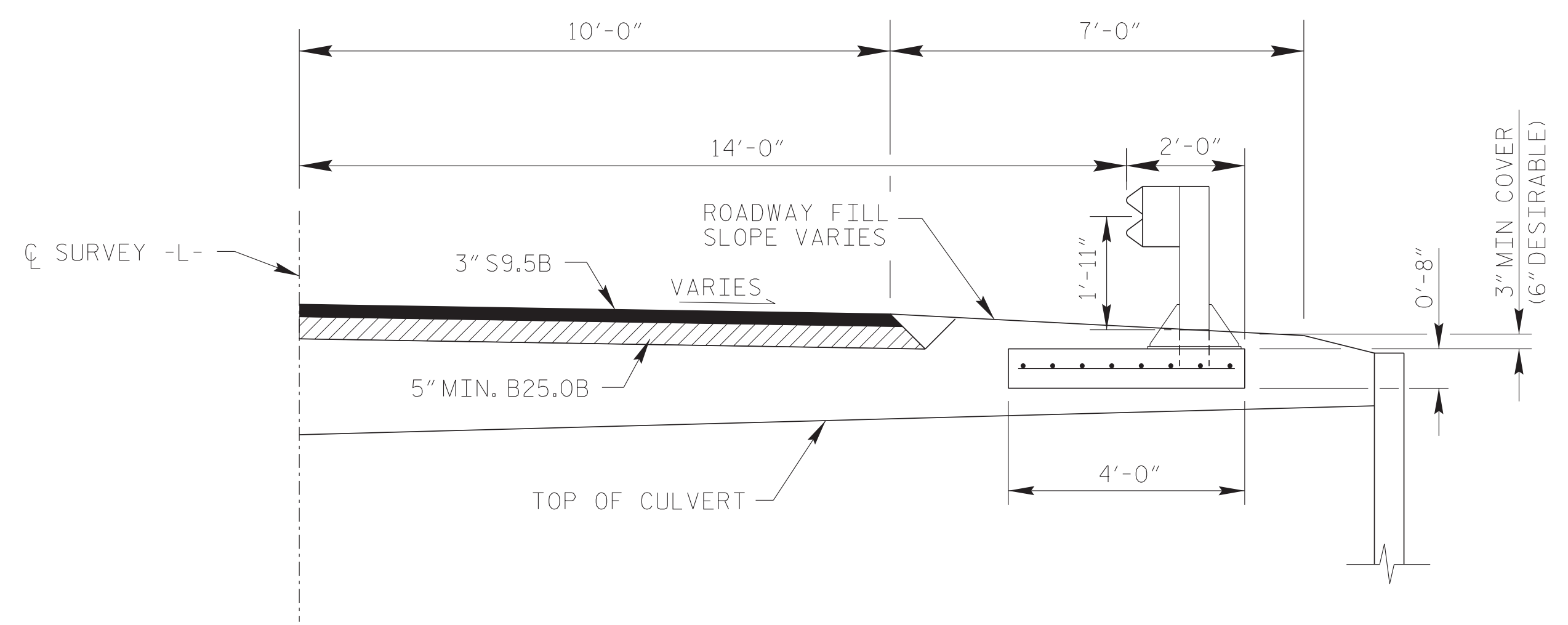
22'-6" x 8'-1"
 ALUMINUM BOX
 CULVERT

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2	
1			3			TOTAL SHEETS	
2			4			4	

DWN. BY: SN DATE: 3/13
 CHKD. BY: HLW DATE: 9/13
 DES. EGR. OF RECORD: DAB DATE: 9/13

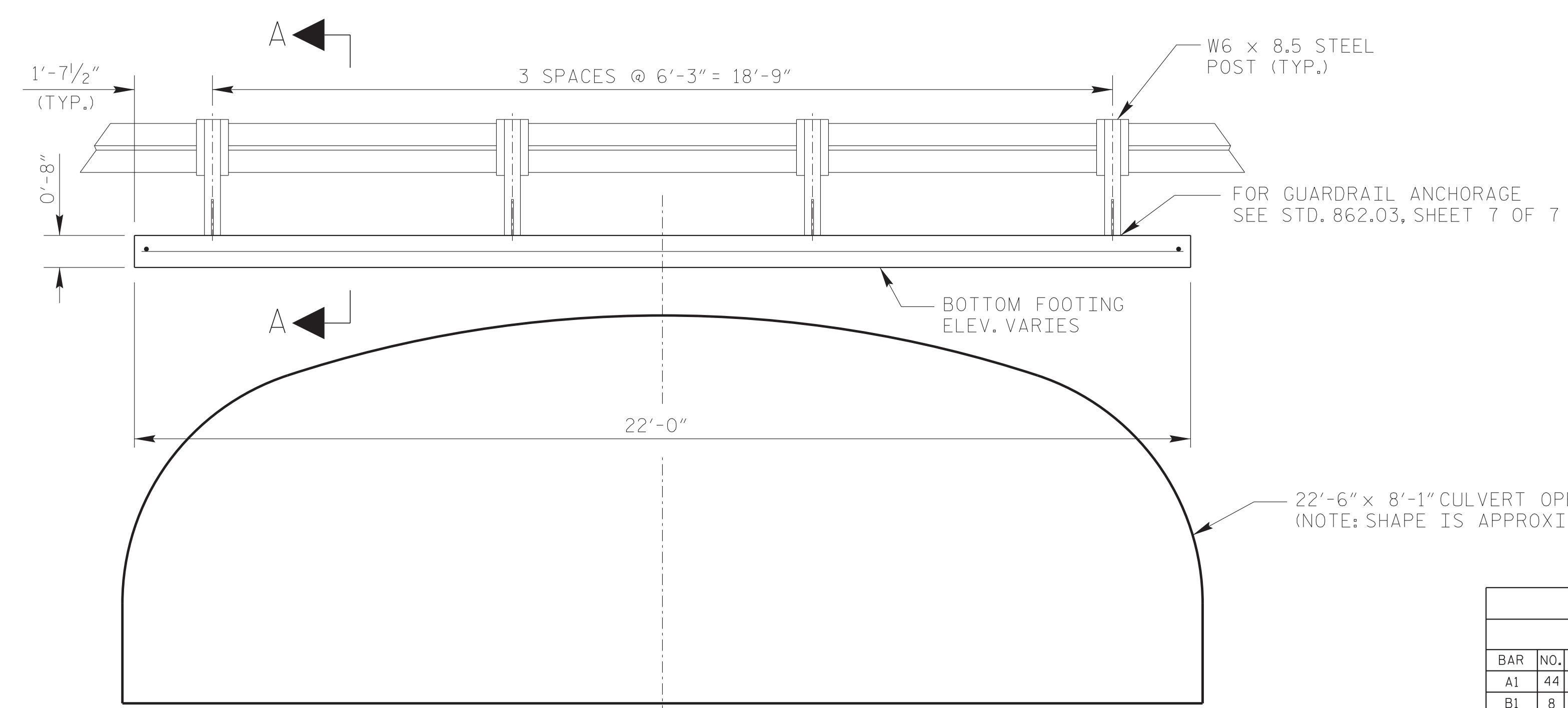


FOOTING PLAN

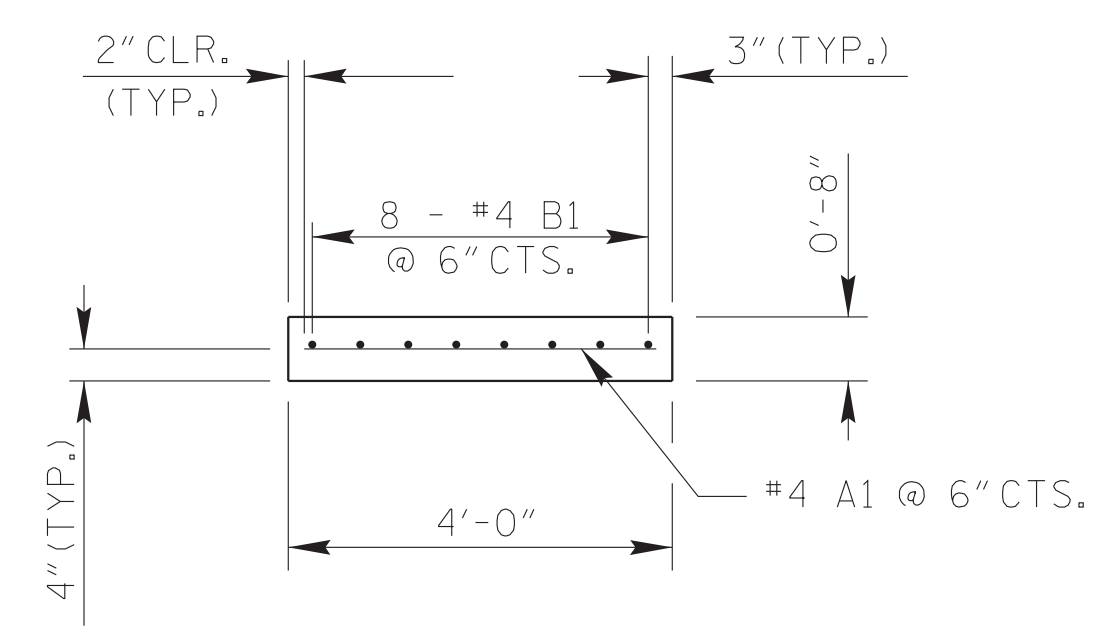


NOTE: FOR GUARDRAIL ANCHORAGE TO FOOTING DETAILS SEE NCDOT STD. DWG. 862.03, SHEET 7 OF 7

SECTION A-A



END ELEVATION



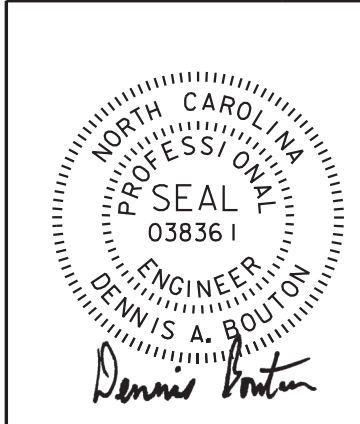
SECTION B-B

BILL OF MATERIAL					
FOR ONE SLAB (2 REQ'D)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	44	4	STR.	3'-8"	108
B1	8	4	STR.	21'-8"	116
REINFORCING STEEL LBS. =					224
CLASS AA CONCRETE CU. YDS. =					2.2

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 Consulting Engineers

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PROJECT NO. 17BP.13.R.31
 BUNCOMBE COUNTY
 STATION: 12+15.00 -L-

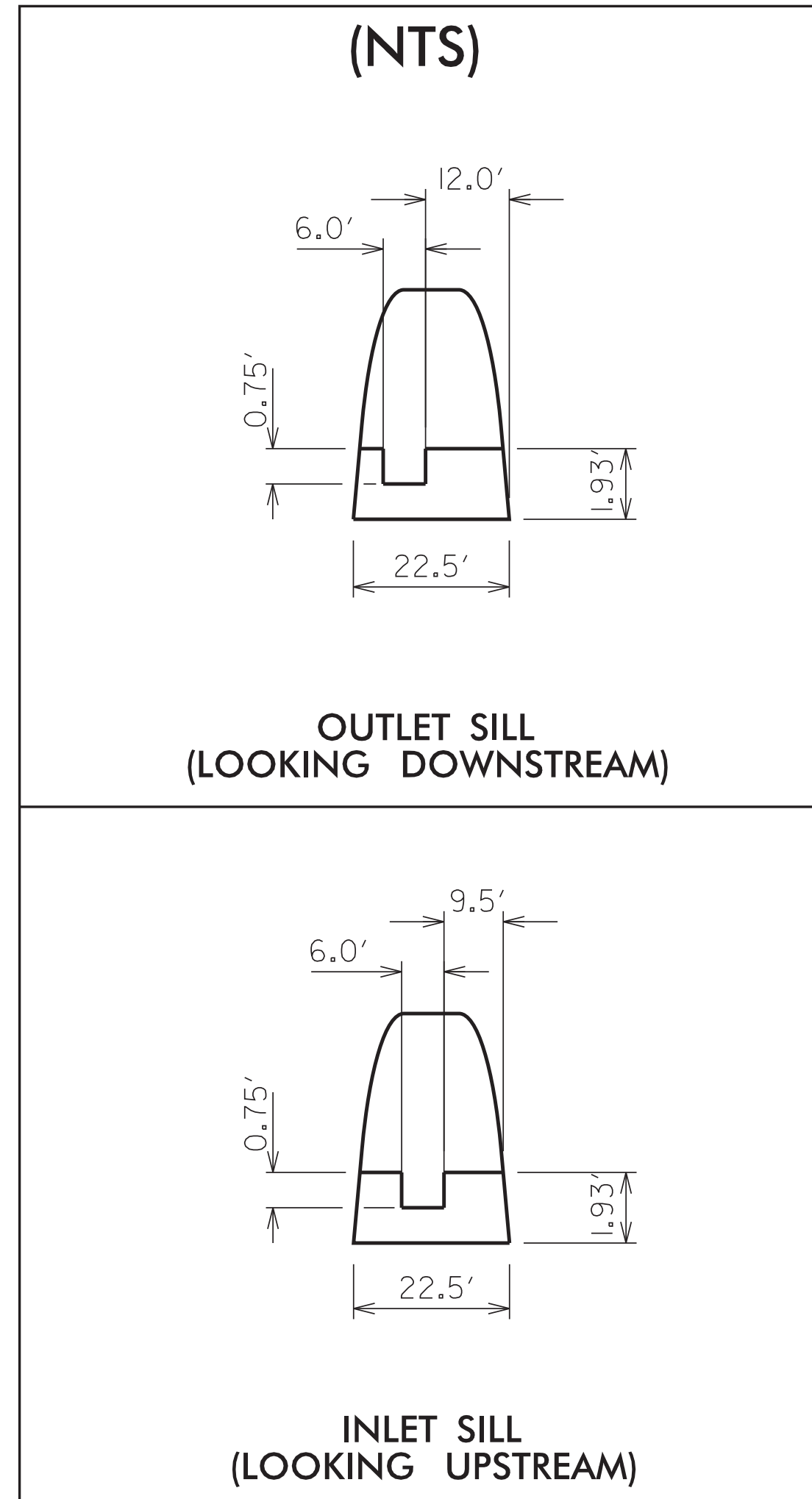
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GUARDRAIL ASSEMBLY
 DETAILS

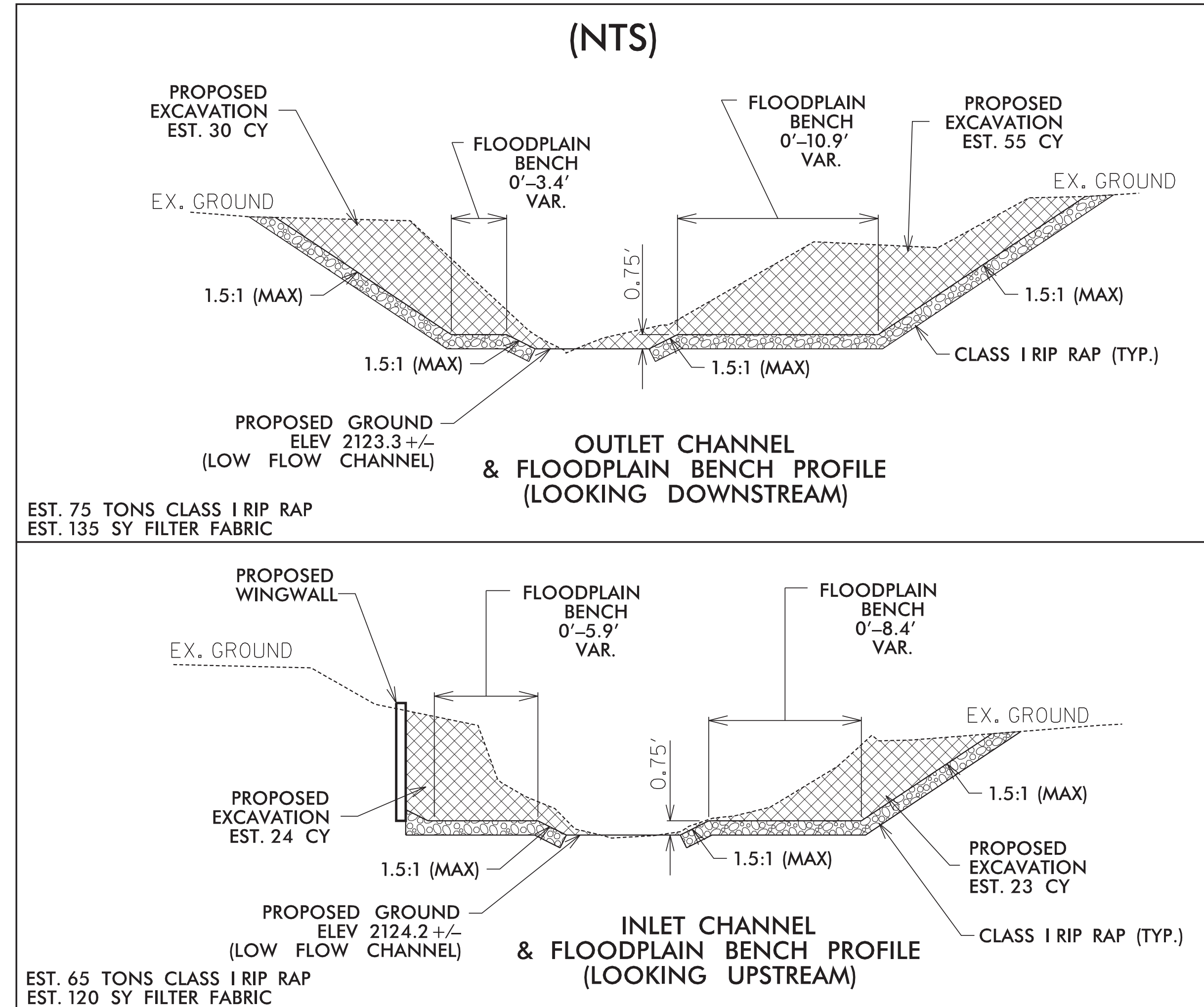
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			4

DWN. BY: SN DATE: 3/13
 CHKD. BY: HLW DATE: 9/13
 DES. EGR. OF RECORD: DAB DATE: 9/13

**DETAIL C:
SILL DETAILS @ INLET & OUTLET**



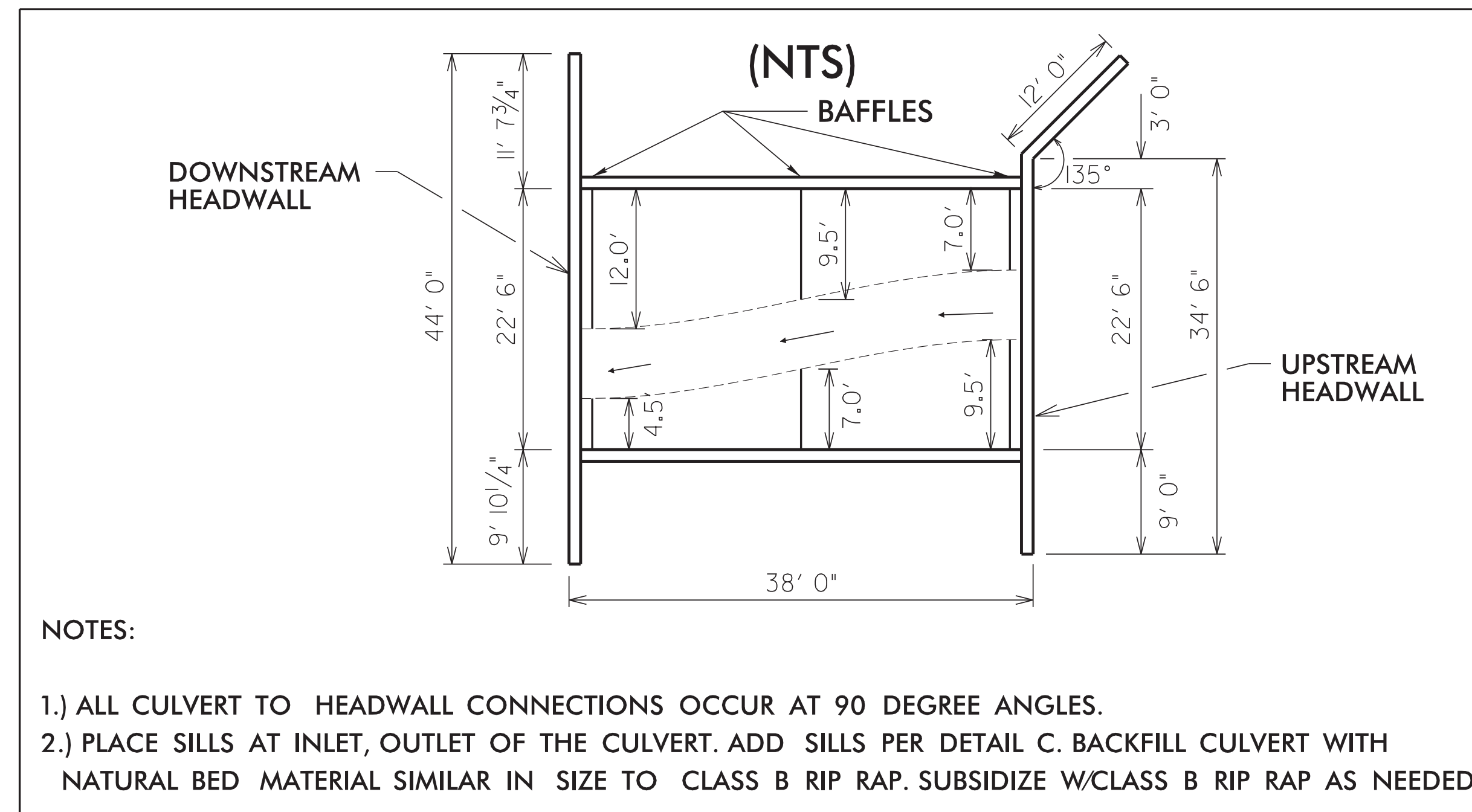
DETAIL A: US & DS FLOODPLAIN BENCH PROFILE



NOTES:

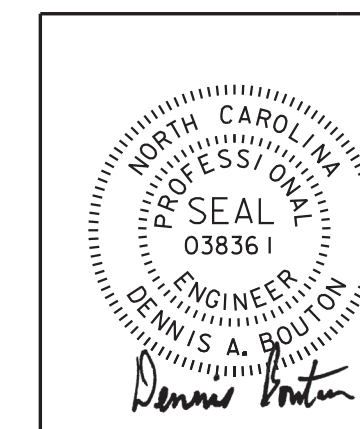
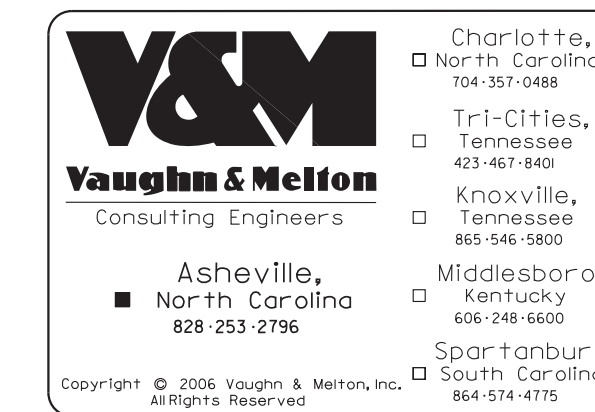
- 1.) FILTER FABRIC TO BE USED BENEATH CLASS I RIP RAP IN ALL AREAS.
- 2.) COIR FIBER MATTING TO BE USED THROUGH CULVERT INTERNAL CHANNEL.

DETAIL B: WINGWALL & BAFFLE LAYOUT



NOTES:

- 1.) ALL CULVERT TO HEADWALL CONNECTIONS OCCUR AT 90 DEGREE ANGLES.
- 2.) PLACE SILLS AT INLET, OUTLET OF THE CULVERT. ADD SILLS PER DETAIL C. BACKFILL CULVERT WITH NATURAL BED MATERIAL SIMILAR IN SIZE TO CLASS B RIP RAP. SUBSIDIZE W/CLASS B RIP RAP AS NEEDED.



PROJECT NO. 17BP.13.R.31
BUNCOMBE COUNTY
STATION: 12+15.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SILL & BAFFLE DETAILS

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4	
1			3			TOTAL SHEETS	
2			4			4	

DWN. BY: SN DATE: 3/13
CHKD. BY: HLW DATE: 9/13
DES. EGR. OF RECORD: DAB DATE: 9/13

