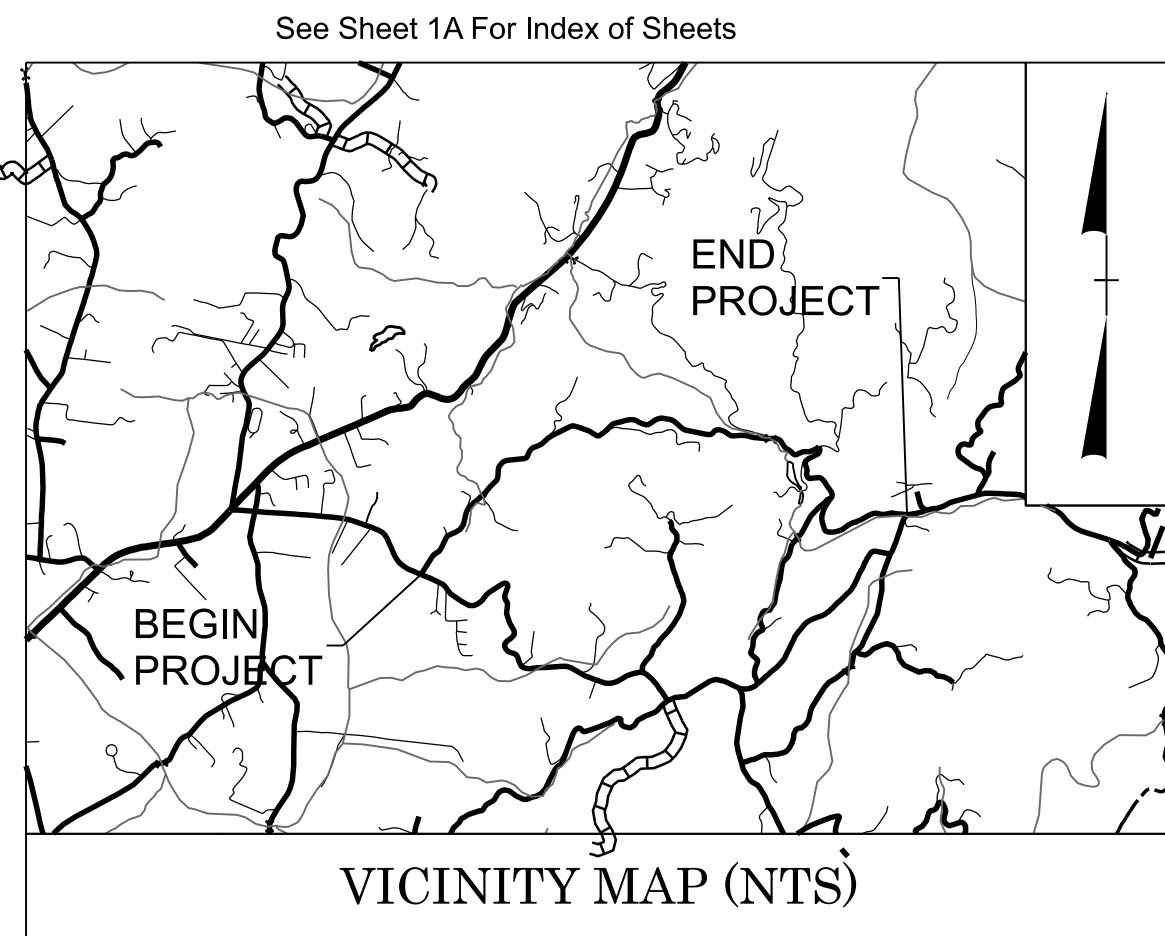


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with their signature on that page.**

**This file or an individual page
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TIP PROJECT: DF18314



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

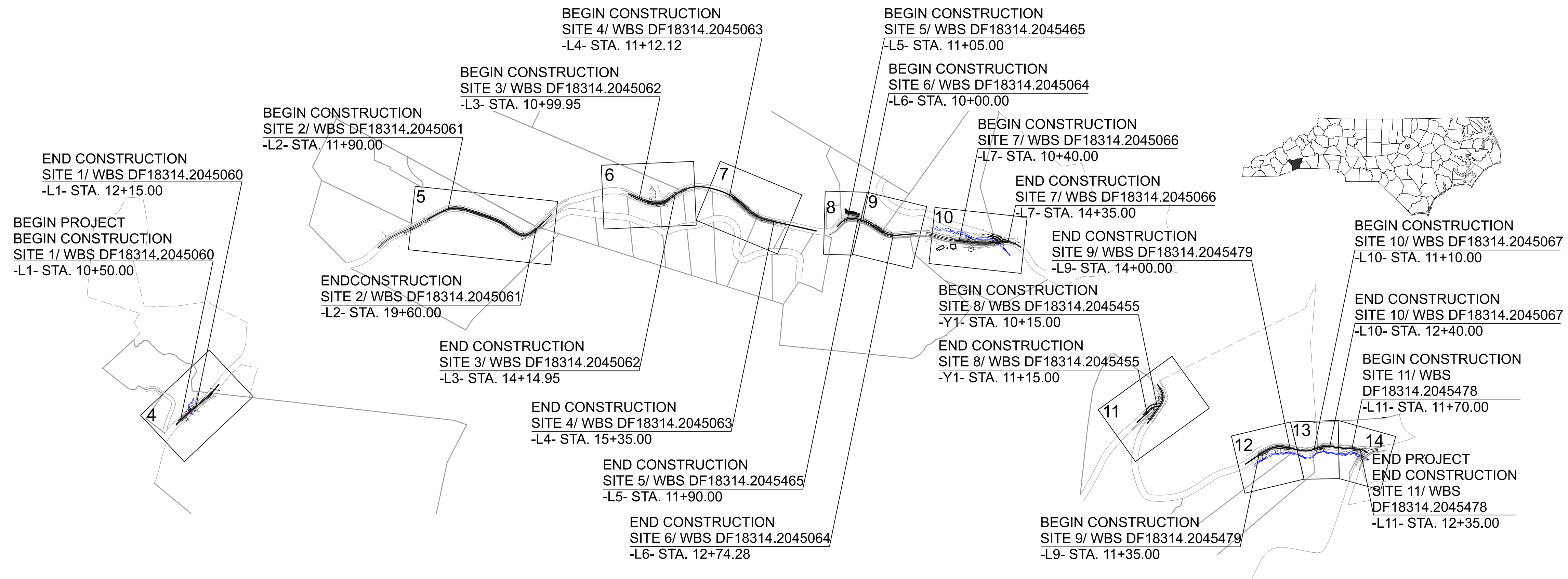
PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

HENDERSON COUNTY

LOCATION: SLOPE AND PAVEMENT ADJUSTMENTS ALONG BALD ROCK ROAD FROM HURRICAN HELENE

TYPE OF WORK: GRADING, DRAINAGE, PAVING, WIDENING

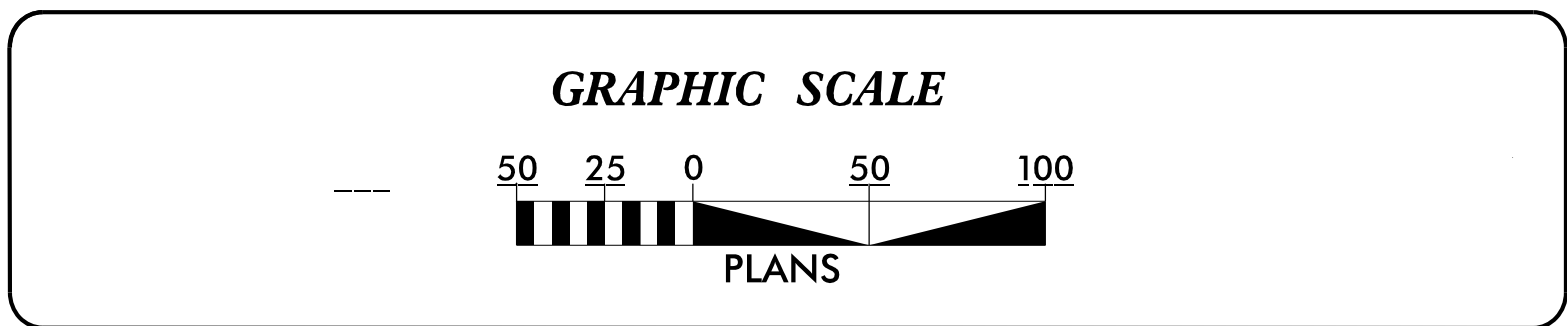
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | DF18314 | EC-1 | |
| STATE PROJ. NO. | F. A. PROJ. NO. | DESCRIPTION | |
| | | | |
| | | | |
| | | | |



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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
Refer To E. C. Special Provisions for Special Considerations.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF ENERGY, MINERAL AND LAND RESOURCES

Prepared In the Office of:

KCA
KISINGER CAMPO & ASSOCIATES

NC FIRM LICENSE No: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919) 882-7839

Designed by:

Cody Harvard, EI 4600
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

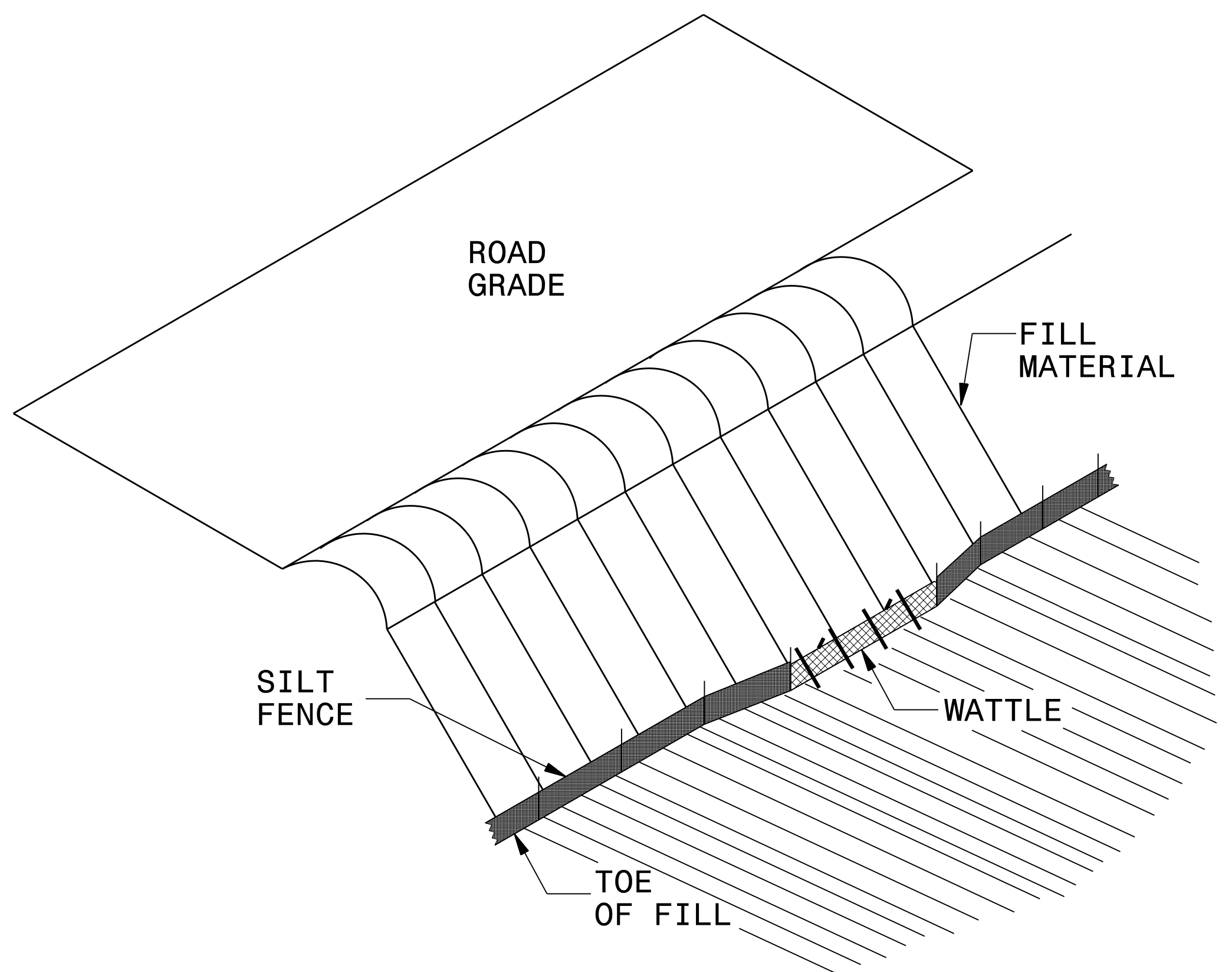
The "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

EROSION & SEDIMENT CONTROL LEGEND

| Std. # | Description | Symbol | Std. # | Description | Symbol |
|---------|----------------------------------|--------|---------|--|--------|
| 1605.01 | Temporary Silt Fence | | 1633.01 | Temporary Rock Silt Check Type A | |
| 1606.01 | Special Sediment Control Fence | | 1633.02 | Temporary Rock Silt Check Type B | |
| 1622.01 | Temporary Berms and Slope Drains | | 1633.03 | Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant | |
| 1630.02 | Silt Basin Type B | | 1634.01 | Temporary Rock Sediment Dam Type A | |
| 1630.03 | Temporary Silt Ditch | | 1634.02 | Temporary Rock Sediment Dam Type B | |
| 1630.04 | Stilling Basin | | 1635.01 | Rock Pipe Inlet Sediment Trap Type A | |
| 1630.05 | Temporary Diversion | | 1635.02 | Rock Pipe Inlet Sediment Trap Type B | |
| 1630.06 | Special Stilling Basin | | 1636.01 | Excelsior Wattle Check | |
| 1630.07 | Skimmer Basin | | 1636.01 | Excelsior Wattle Check with Flocculant | |
| 1630.08 | Tiered Skimmer Basin | | 1636.01 | Coir Fiber Wattle Check | |
| 1630.09 | Earthen Dam with Skimmer | | 1636.01 | Coir Fiber Wattle Check with Flocculant | |
| | Infiltration Basin | | 1636.02 | Silt Fence Excelsior Wattle Break | |
| | Rock Inlet Sediment Trap: | | | Silt Fence Coir Fiber Wattle Break | |
| 1632.01 | Type A | | 1636.03 | Excelsior Wattle Barrier | |
| 1632.02 | Type B | | 1636.03 | Coir Fiber Wattle Barrier | |
| 1632.03 | Type C | | | | |

SILT FENCE COIR FIBER WATTLE BREAK DETAIL

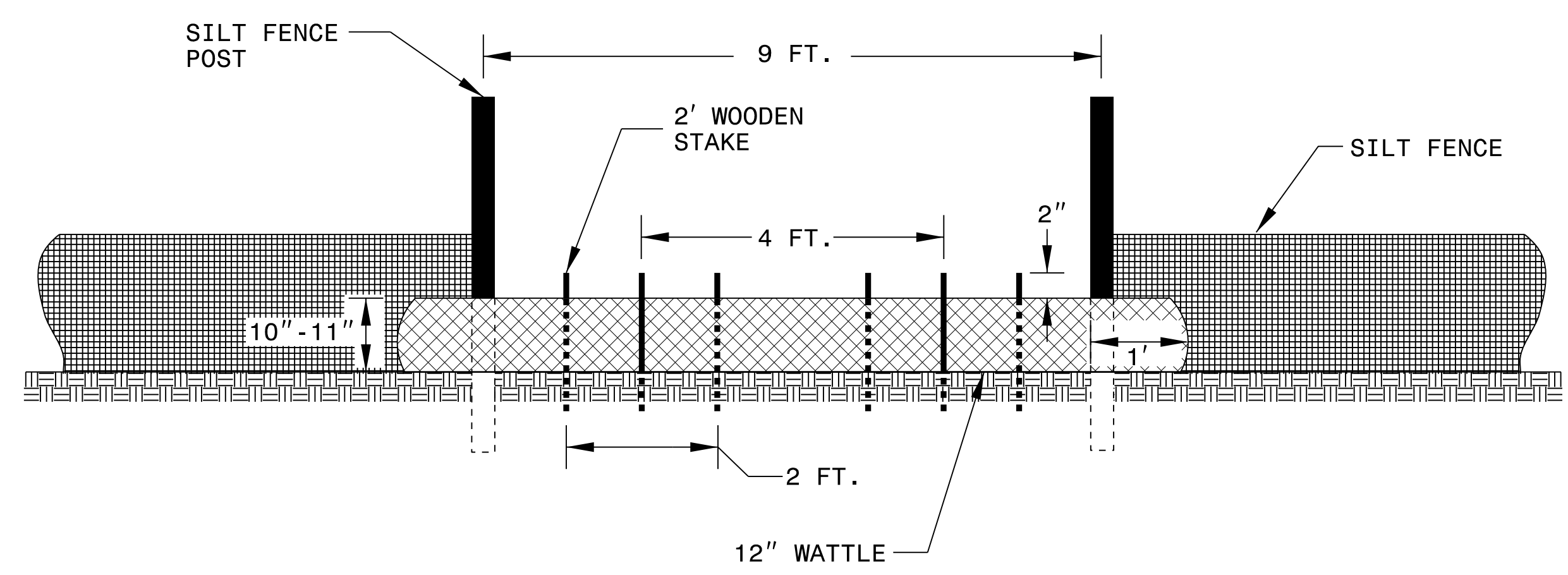
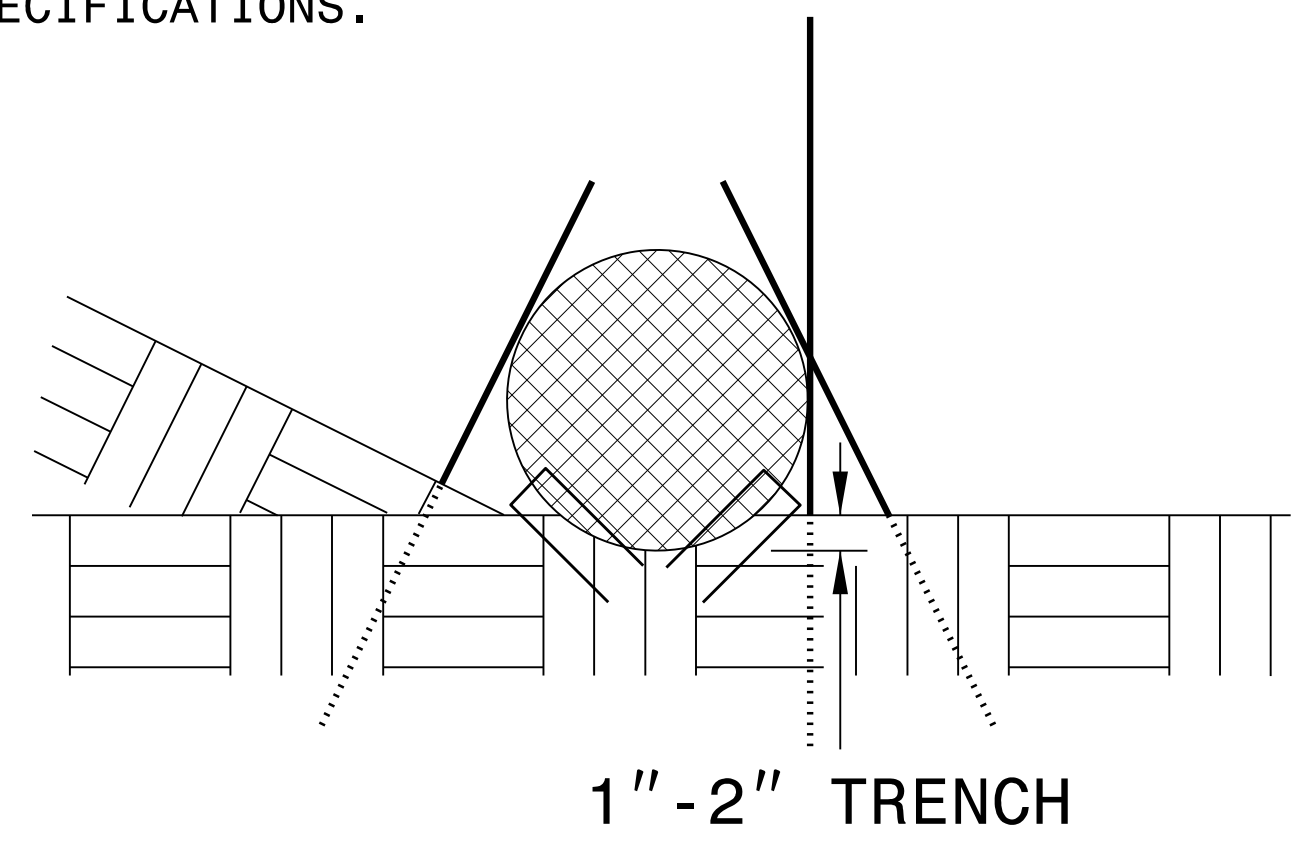


ISOMETRIC VIEW

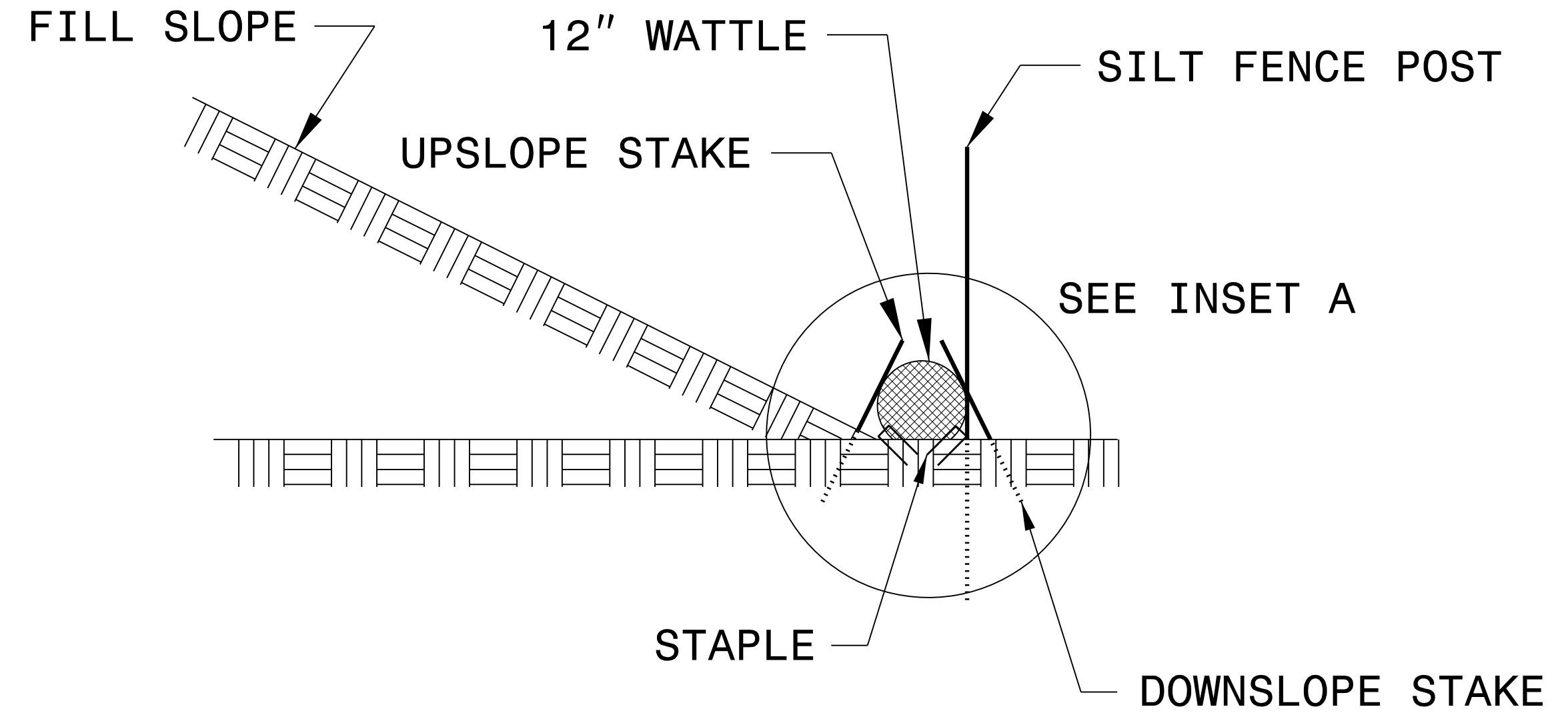
NOTES:

- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) 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

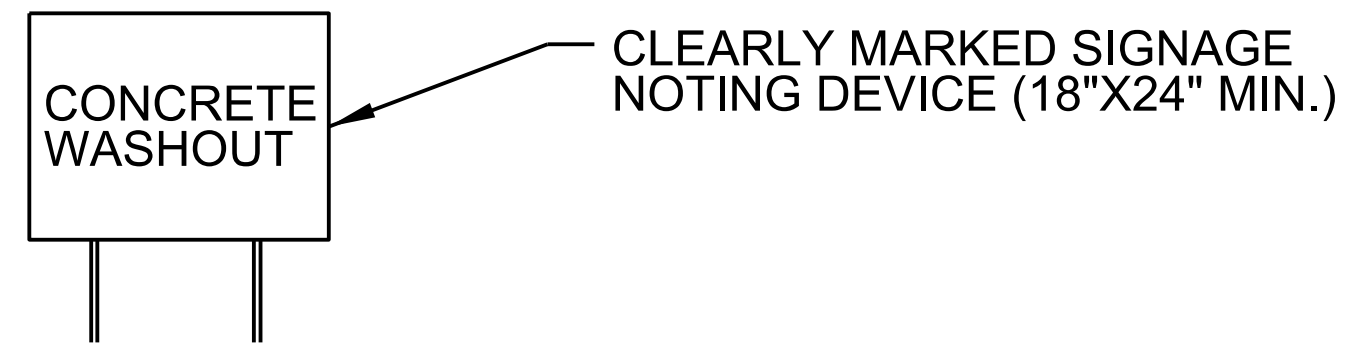
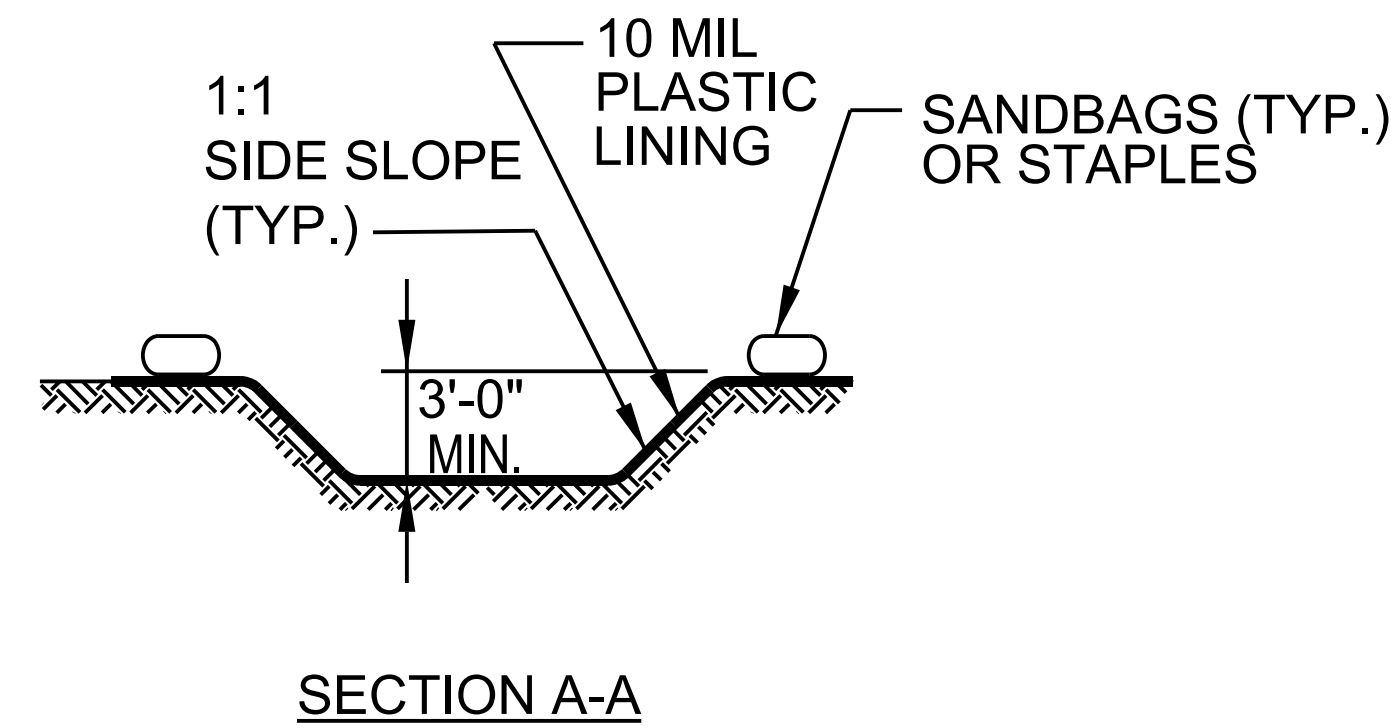
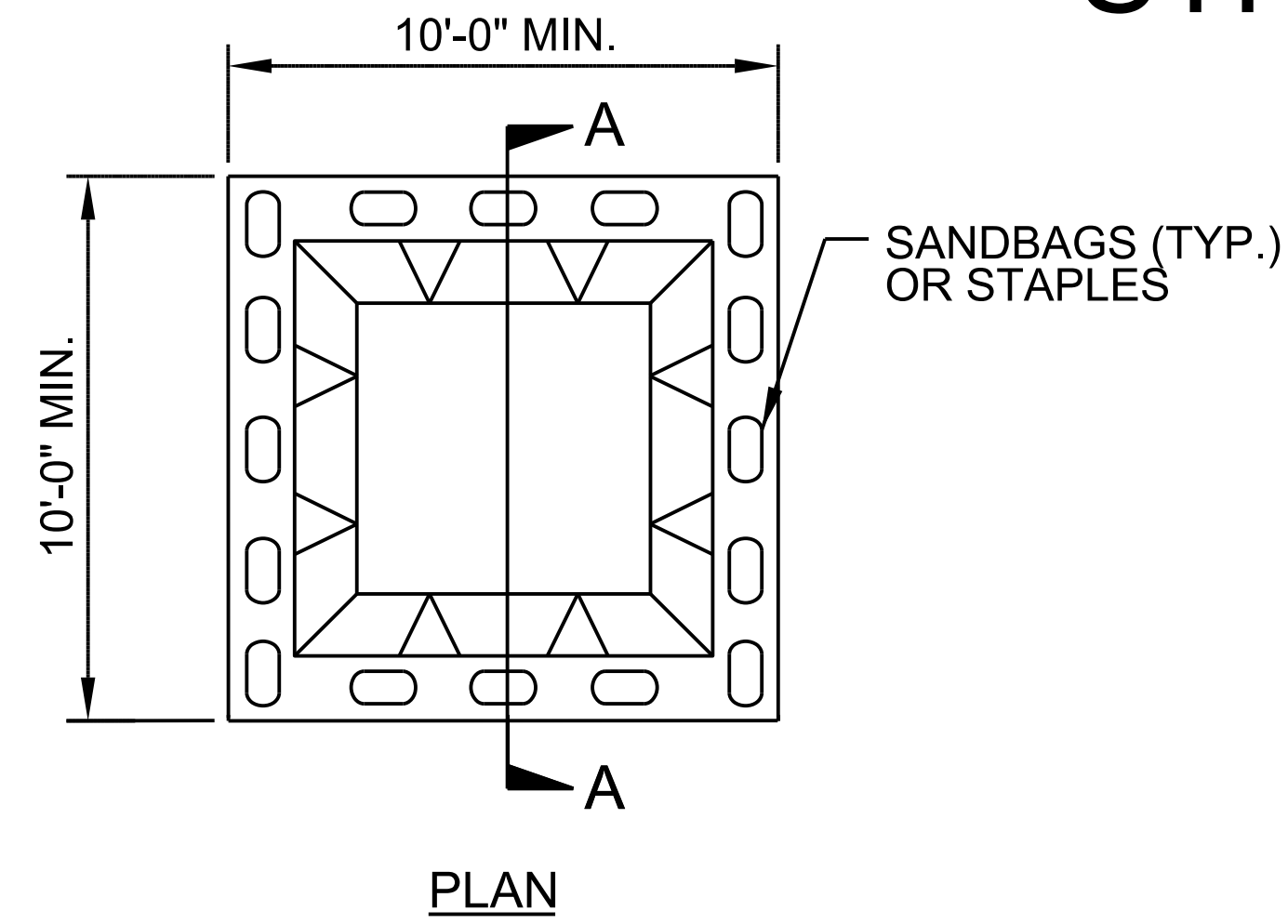


VIEW FROM SLOPE



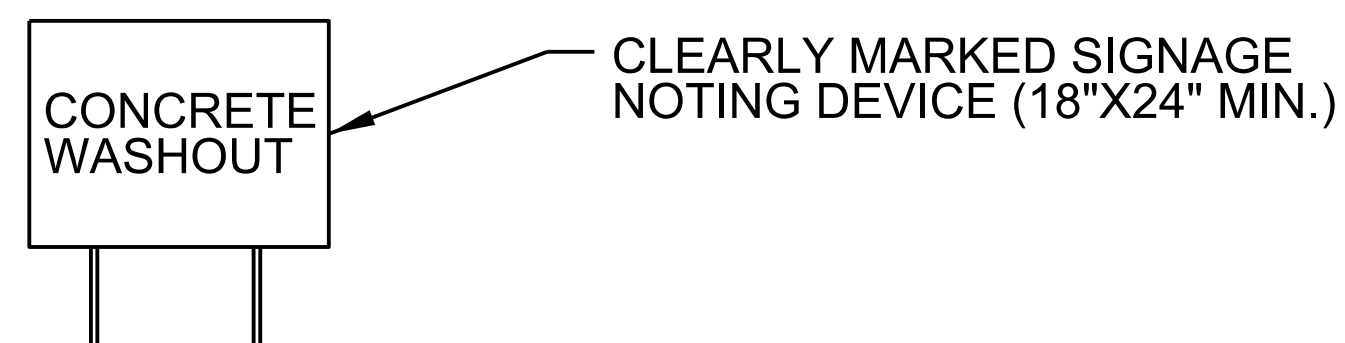
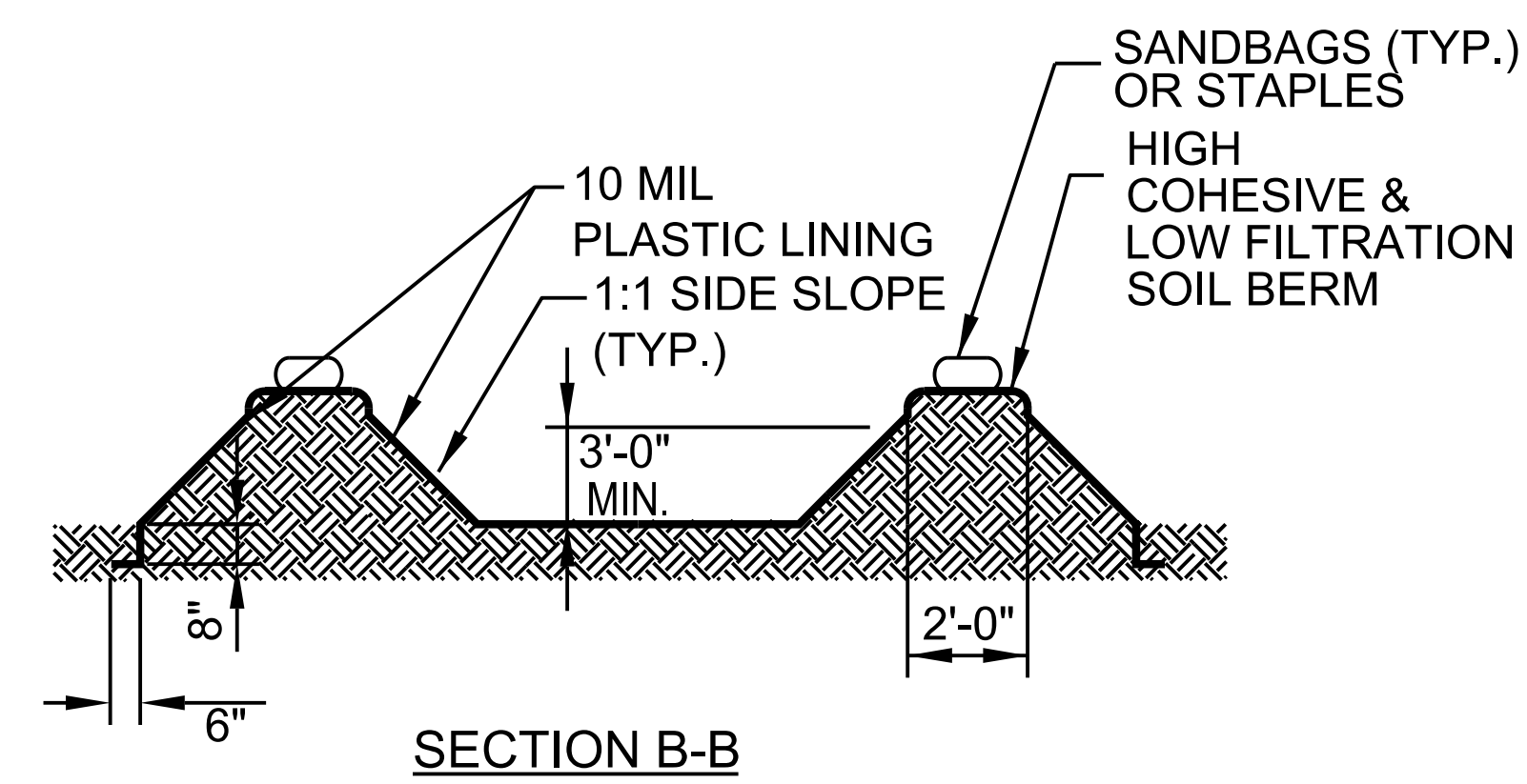
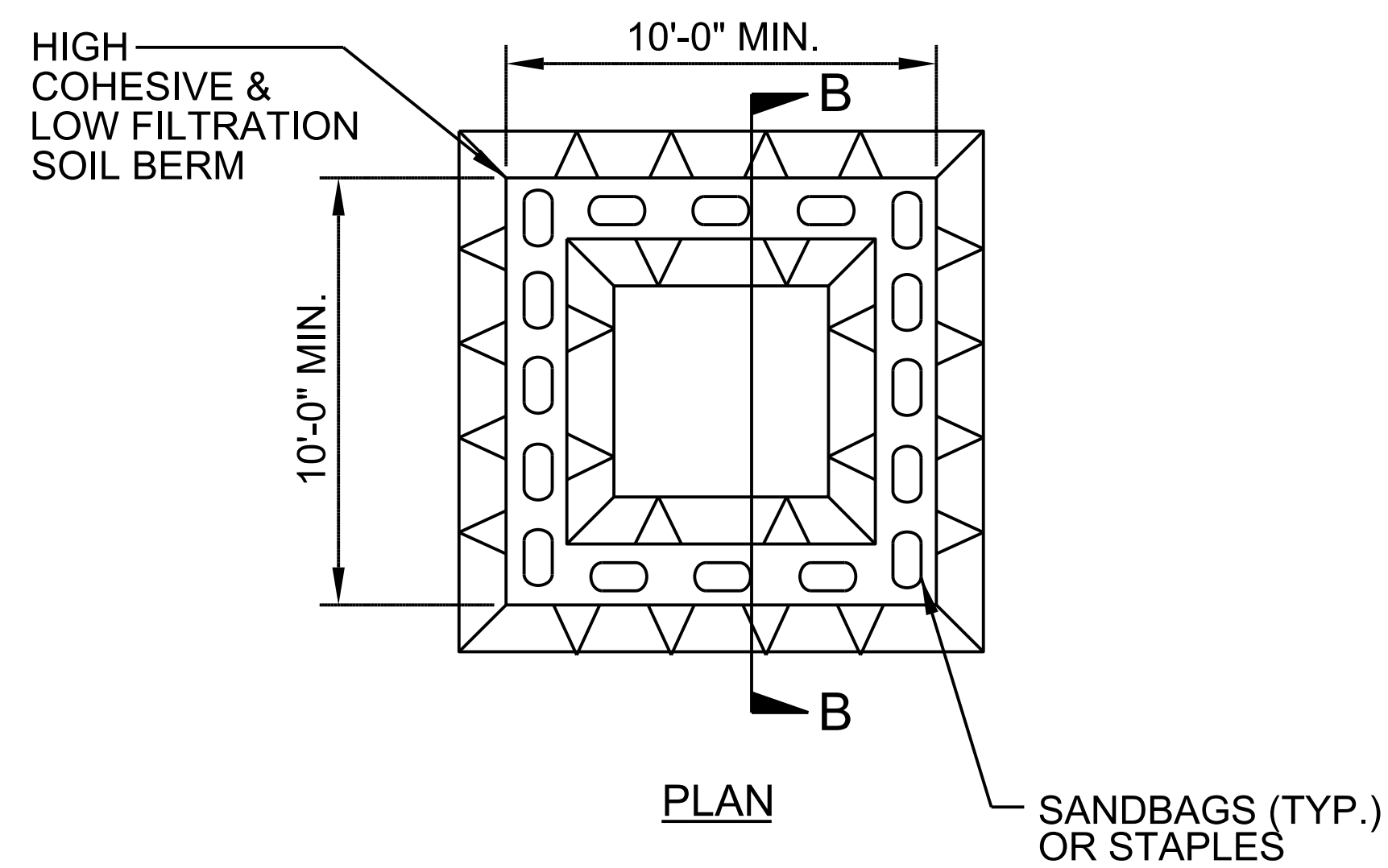
SIDE VIEW

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



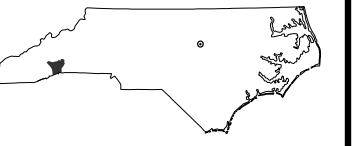
ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

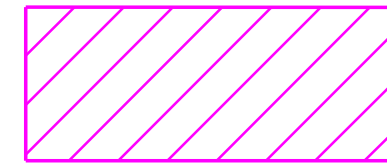
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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 TO 4:1 | 14 DAYS | 7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS | 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES |



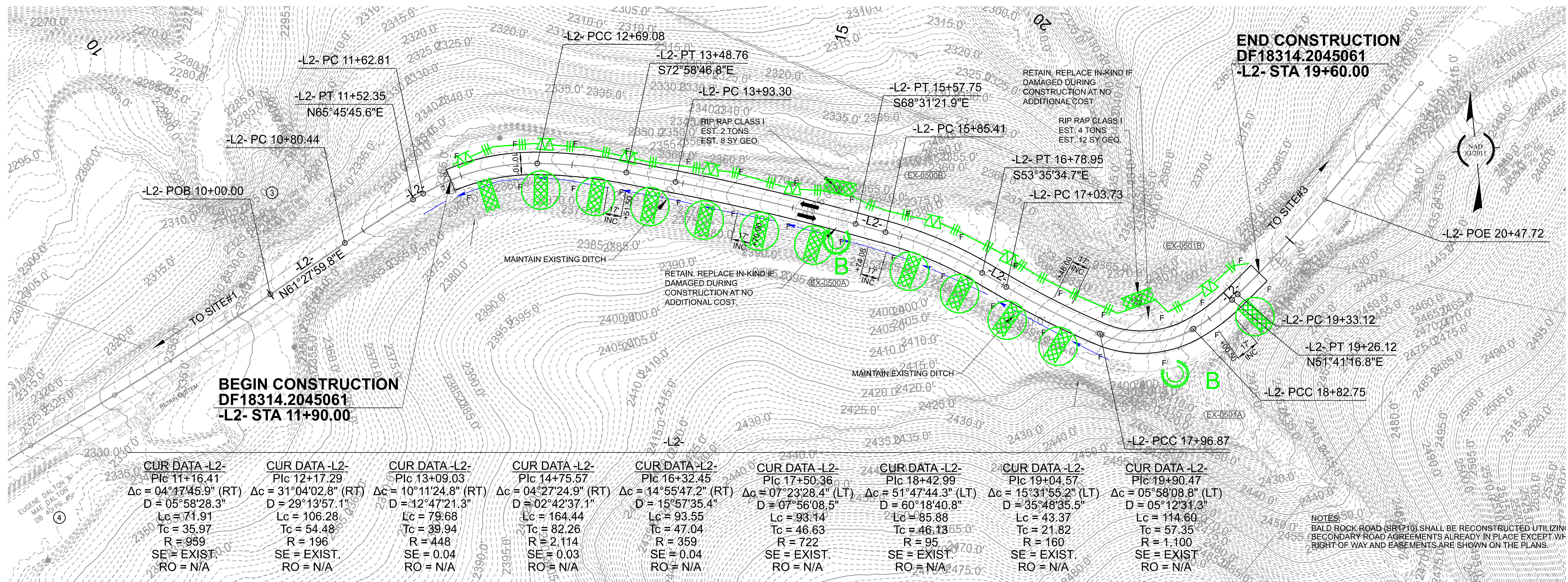
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 05



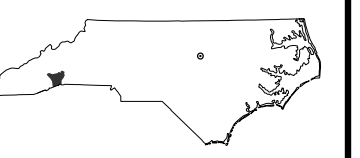
ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS
TYPE-B AND TEMPORARY ROCK SILT CHECKS
TYPE-A AT DRAINAGE OUTLETS.

NOTE: FLOATING TURBIDITY CURTAIN MAY BE
USED IN PLACE OF IMPERVIOUS DIKE WHERE
WORK PERMITS.

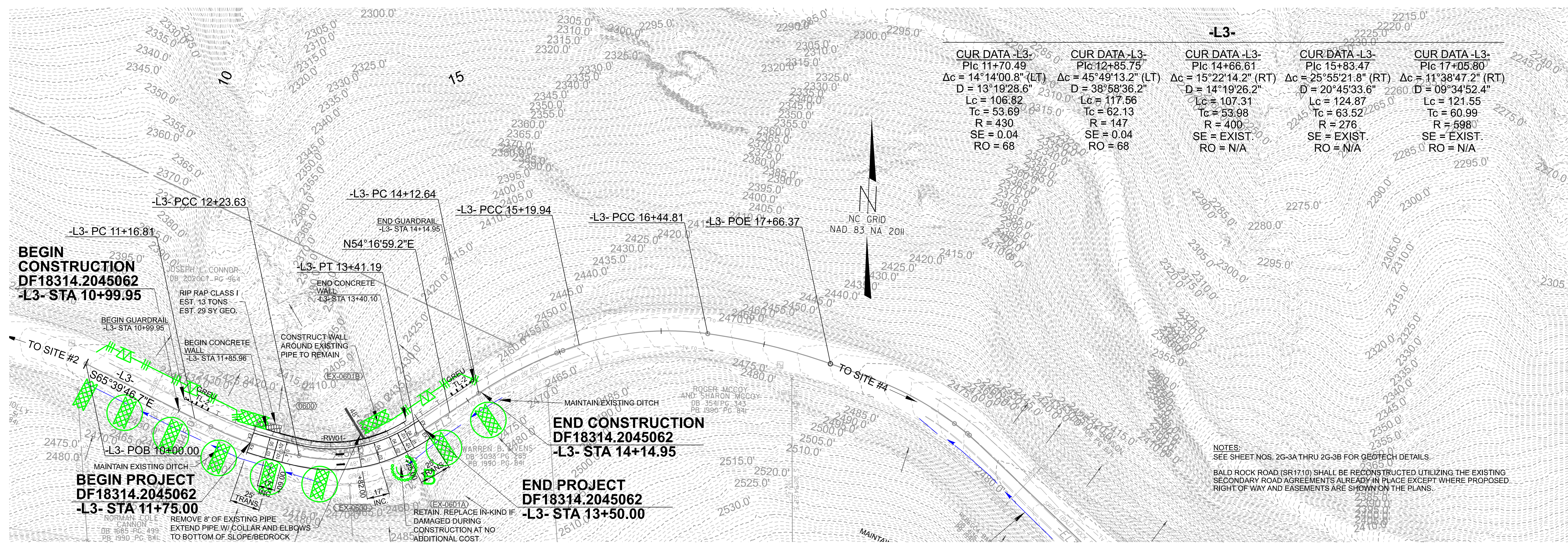


REVISIONS



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 06

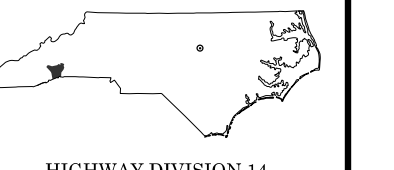
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS
TYPE-B AND TEMPORARY ROCK SILT CHECKS
TYPE-A AT DRAINAGE OUTLETS.



| -L3- | | | | |
|--|--|---|---|---|
| CUR DATA -L3- P/c 11+70.49 $\Delta c = 14^\circ 14'00.8''$ (LT) $D = 13^\circ 19'28.6''$ Lc = 106.82 Tc = 53.69 R = 430 SE = 0.04 RO = 68 | CUR DATA -L3- P/c 12+85.75 $\Delta c = 45^\circ 49'13.2''$ (LT) $D = 38^\circ 58'36.2''$ Lc = 117.56 Tc = 62.13 R = 147 SE = 0.04 RO = 68 | CUR DATA -L3- P/c 14+66.61 $\Delta c = 15^\circ 22'14.2''$ (RT) $D = 14^\circ 19'26.2''$ Lc = 107.31 Tc = 53.98 R = 400 SE = EXIST. RO = N/A | CUR DATA -L3- P/c 15+83.47 $\Delta c = 25^\circ 55'21.8''$ (RT) $D = 20^\circ 45'33.6''$ Lc = 124.87 Tc = 63.52 R = 276 SE = EXIST. RO = N/A | CUR DATA -L3- P/c 17+05.80 $\Delta c = 11^\circ 38'47.2''$ (RT) $D = 09^\circ 34'52.4''$ Lc = 121.55 Tc = 60.99 R = 598 SE = EXIST. RO = N/A |

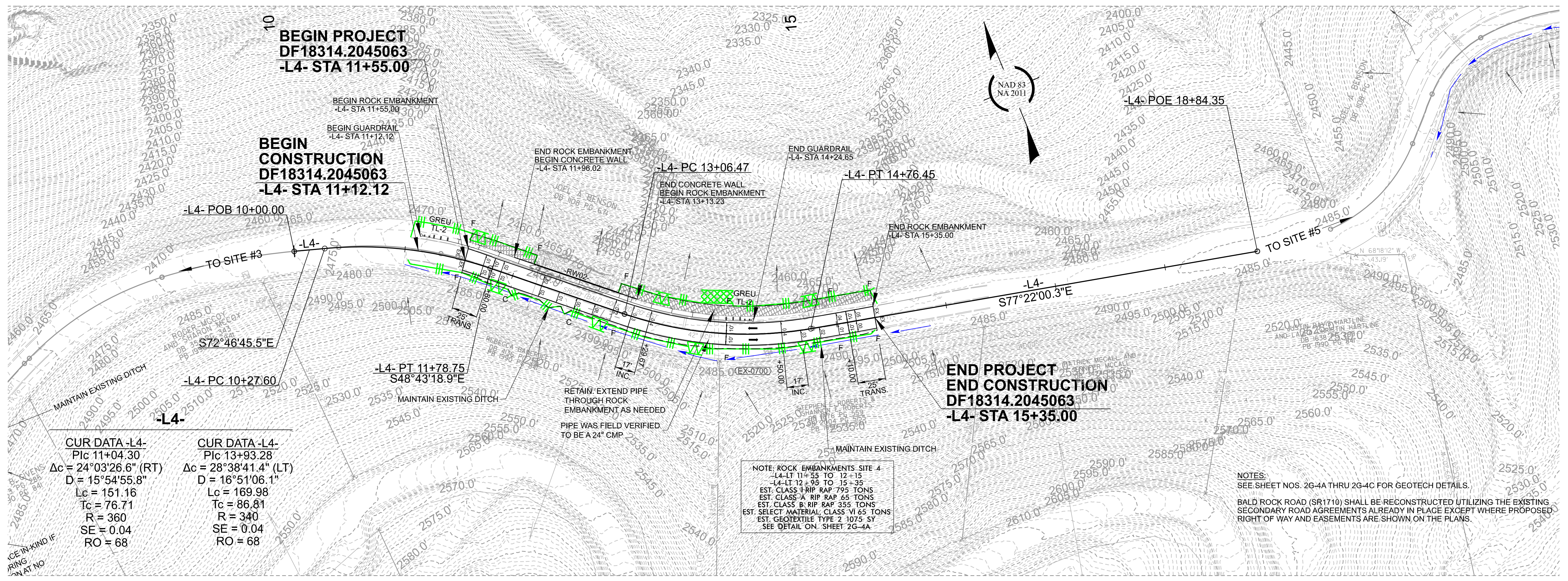
NOTES:
SEE SHEET NOS. 2G-3A THRU 2G-3B FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING
SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED
RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

REVISIONS



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS
TYPE-B AND TEMPORARY ROCK SILT CHECKS
TYPE-A AT DRAINAGE OUTLETS.

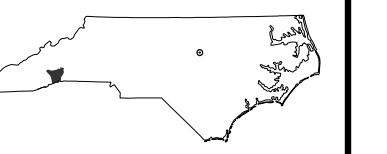


| CUR DATA -L4- | |
|---------------------------------------|---------------------------------------|
| Pic 11+04.30 | Pic 13+93.28 |
| $\Delta c = 24^{\circ}03'26.6''$ (RT) | $\Delta c = 28^{\circ}38'41.4''$ (LT) |
| D = 15°54'55.8" | D = 16°51'06.1" |
| Lc = 151.16 | Lc = 169.98 |
| Tc = 76.71 | Tc = 86.81 |
| R = 360 | R = 340 |
| SE = 0.04 | SE = 0.04 |
| RO = 68 | RO = 68 |

NOTE: ROCK EMBANKMENTS SITE 4
 -L4-LT 11+55 TO 12+15
 -L4-LT 12+95 TO 15+35
 EST. CLASS 1 RIP RAP 795 TONS
 EST. CLASS A RIP RAP 65 TONS
 EST. CLASS B RIP RAP 355 TONS
 EST. SELECT MATERIAL CLASS VI 65 TONS
 EST. GEOTEXTILE TYPE 2 1075 SY
 SEE DETAIL ON SHEET 26-4A

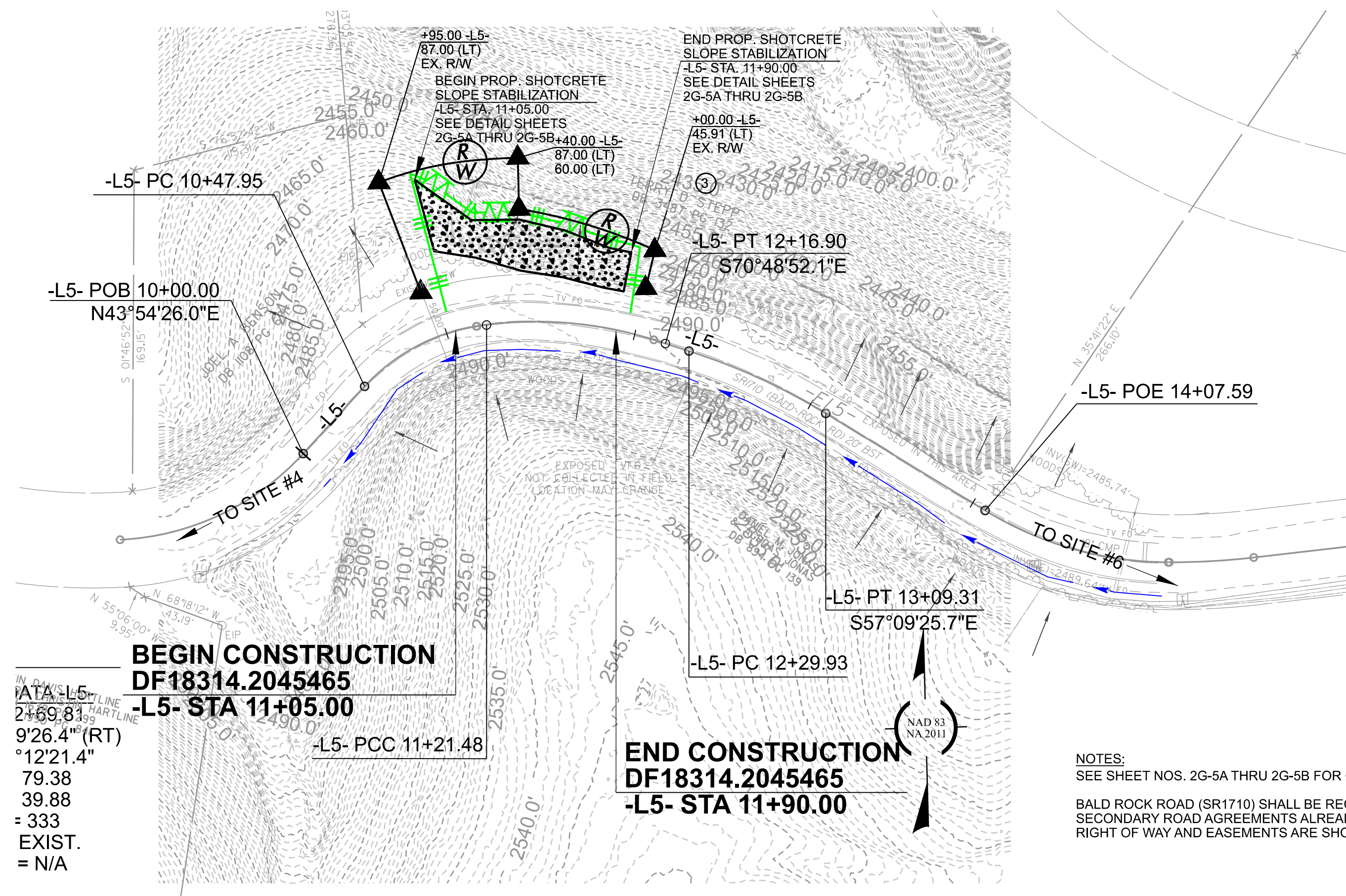
NOTES:
 SEE SHEET NOS. 2G-4A THRU 2G-4C FOR GEOTECH DETAILS.
 BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

REVISIONS



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 08

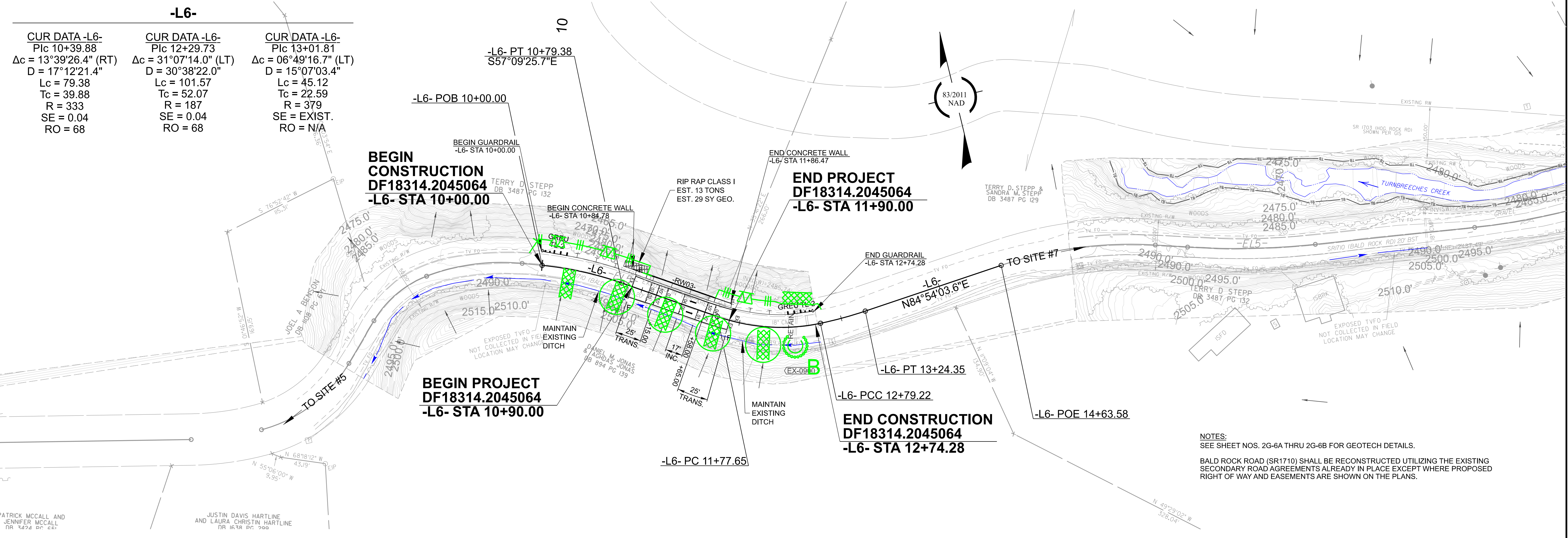
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS
TYPE-B AND TEMPORARY ROCK SILT CHECKS
TYPE-A AT DRAINAGE OUTLETS.



REVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 09

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS
TYPE-B AND TEMPORARY ROCK SILT CHECKS
TYPE-A AT DRAINAGE OUTLETS.

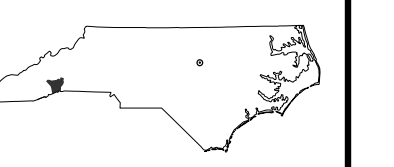


NOTES:
SEE SHEET NOS. 2G-6A THRU 2G-6B FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING
SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED
RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

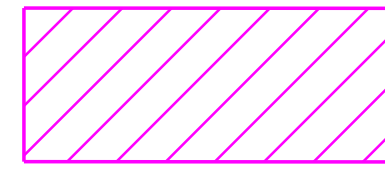
PATRICK MCCALL AND
JENNIFER MCCALL
DR 3424 PC 221

JUSTIN DAVIS HARTLINE
AND LAURA CHRISTIN HARTLINE
DR 1638 PC 202

REVISIONS



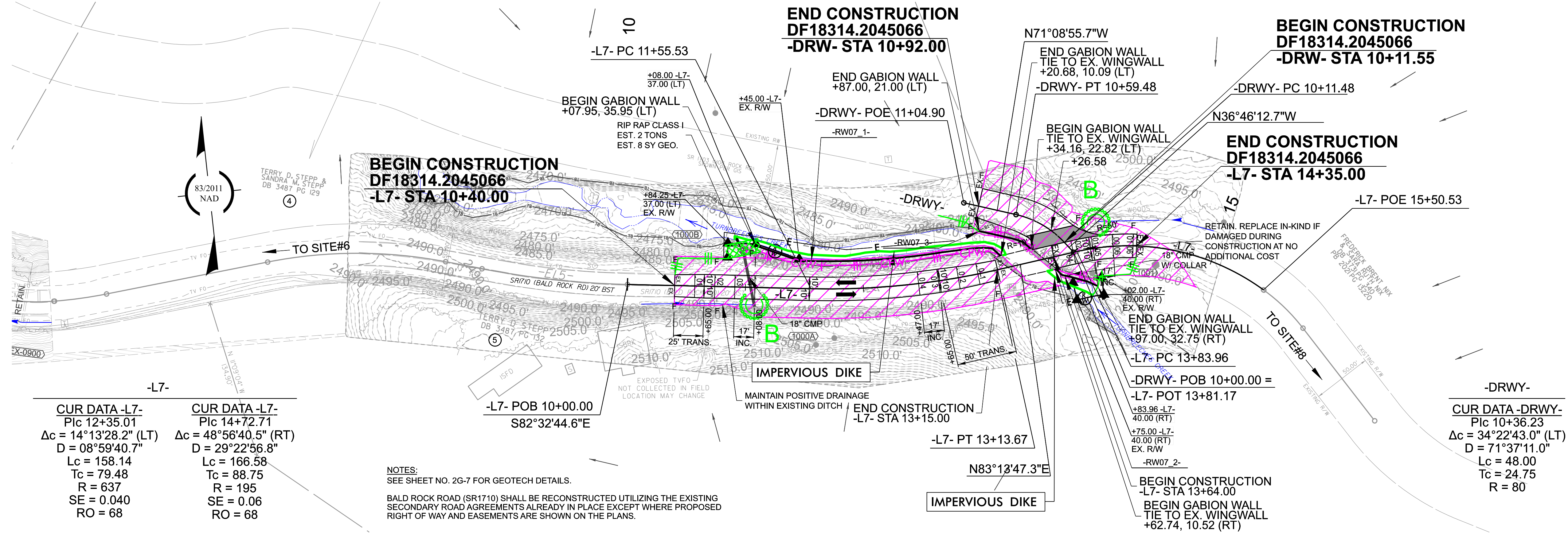
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS
TYPE-B AND TEMPORARY ROCK SILT CHECKS
TYPE-A AT DRAINAGE OUTLETS.

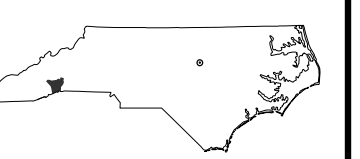
NOTE: FLOATING TURBIDITY CURTAIN MAY BE
USED IN PLACE OF IMPERVIOUS DIKE WHERE
WORK PERMITS.



| CUR DATA -L7- | CUR DATA -L7- |
|---------------------------------------|---------------------------------------|
| P/c 12+35.01 | P/c 14+72.71 |
| $\Delta c = 14^{\circ}13'28.2''$ (LT) | $\Delta c = 48^{\circ}56'40.5''$ (RT) |
| $D = 08^{\circ}59'40.7''$ | $D = 29^{\circ}22'56.8''$ |
| $Lc = 158.14$ | $Lc = 166.58$ |
| $Tc = 79.48$ | $Tc = 88.75$ |
| $R = 637$ | $R = 195$ |
| $SE = 0.040$ | $SE = 0.06$ |
| $RO = 68$ | $RO = 68$ |

NOTES:
SEE SHEET NO. 2G-7 FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

REVISIONS



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 11

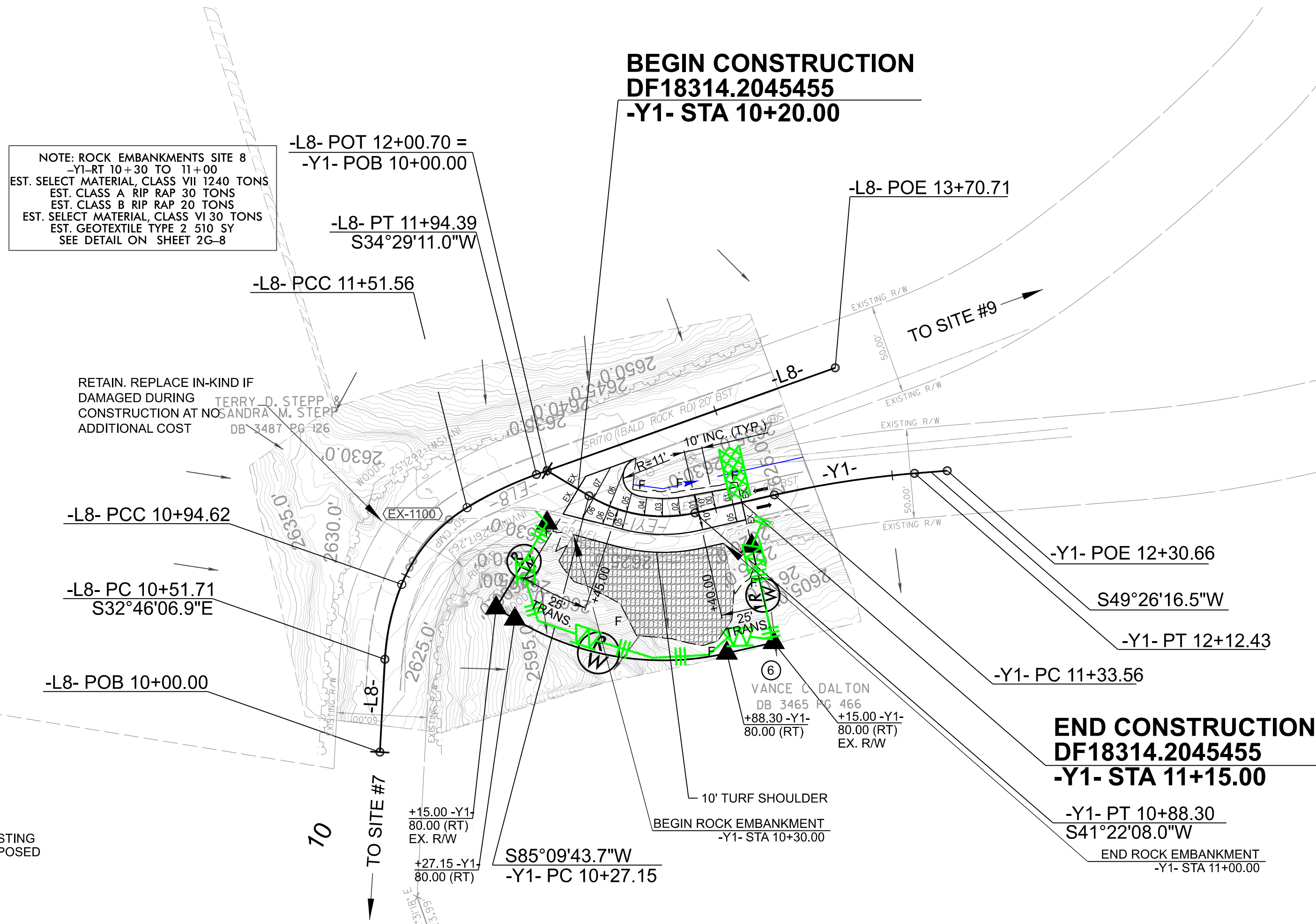
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS
TYPE-B AND TEMPORARY ROCK SILT CHECKS
TYPE-A AT DRAINAGE OUTLETS.

| -L8- | | |
|---|--|---|
| CUR DATA -L8- Plc 10+73.37 $\Delta c = 19^\circ 12' 24.0''$ (RT) D = 44°45'44.4" Lc = 42.91 Tc = 21.66 R = 128 SE = EXIST. RO = EXIST. | CUR DATA -L8- Plc 11+24.08 $\Delta c = 36^\circ 15' 05.9''$ (RT) D = 63°39'43.1" Lc = 56.94 Tc = 29.46 R = 90 SE = EXIST. RO = EXIST. | CUR DATA -L8- Plc 11+73.05 $\Delta c = 11^\circ 47' 48.1''$ (RT) D = 27°32'45.8" Lc = 42.83 Tc = 21.49 R = 208 SE = EXIST. RO = EXIST. |

| -Y1- | |
|--|---|
| CUR DATA -Y1- Plc 10+59.31 $\Delta c = 43^\circ 47' 35.7''$ (LT) D = 71°37'11.0" Lc = 61.15 Tc = 32.15 R = 80 SE = EXIST. RO = EXIST. | CUR DATA -Y1- Plc 11+73.06 $\Delta c = 08^\circ 04' 08.5''$ (RT) D = 10°13'53.0" Lc = 78.87 Tc = 39.50 R = 560 SE = EXIST. RO = EXIST. |

NOTE: ROCK EMBANKMENTS SITE 8
-Y1- RT 10+30 TO 11+00
EST. SELECT MATERIAL CLASS VII 1240 TONS
EST. CLASS A RIP RAP 30 TONS
EST. CLASS B RIP RAP 20 TONS
EST. SELECT MATERIAL CLASS VI 30 TONS
EST. GEOTEXTILE TYPE 2 510 SY
SEE DETAIL ON SHEET 2G-8

RETAIN, REPLACE IN-KIND IF
DAMAGED DURING
CONSTRUCTION AT NOS. ANDRA M. STEPP
TERRY D. STEPP
ADDITIONAL COST DB 3487 PG-126



NOTES:
SEE SHEET NO. 2G-8 FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING
SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED
RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

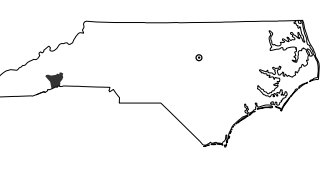
REVISIONS

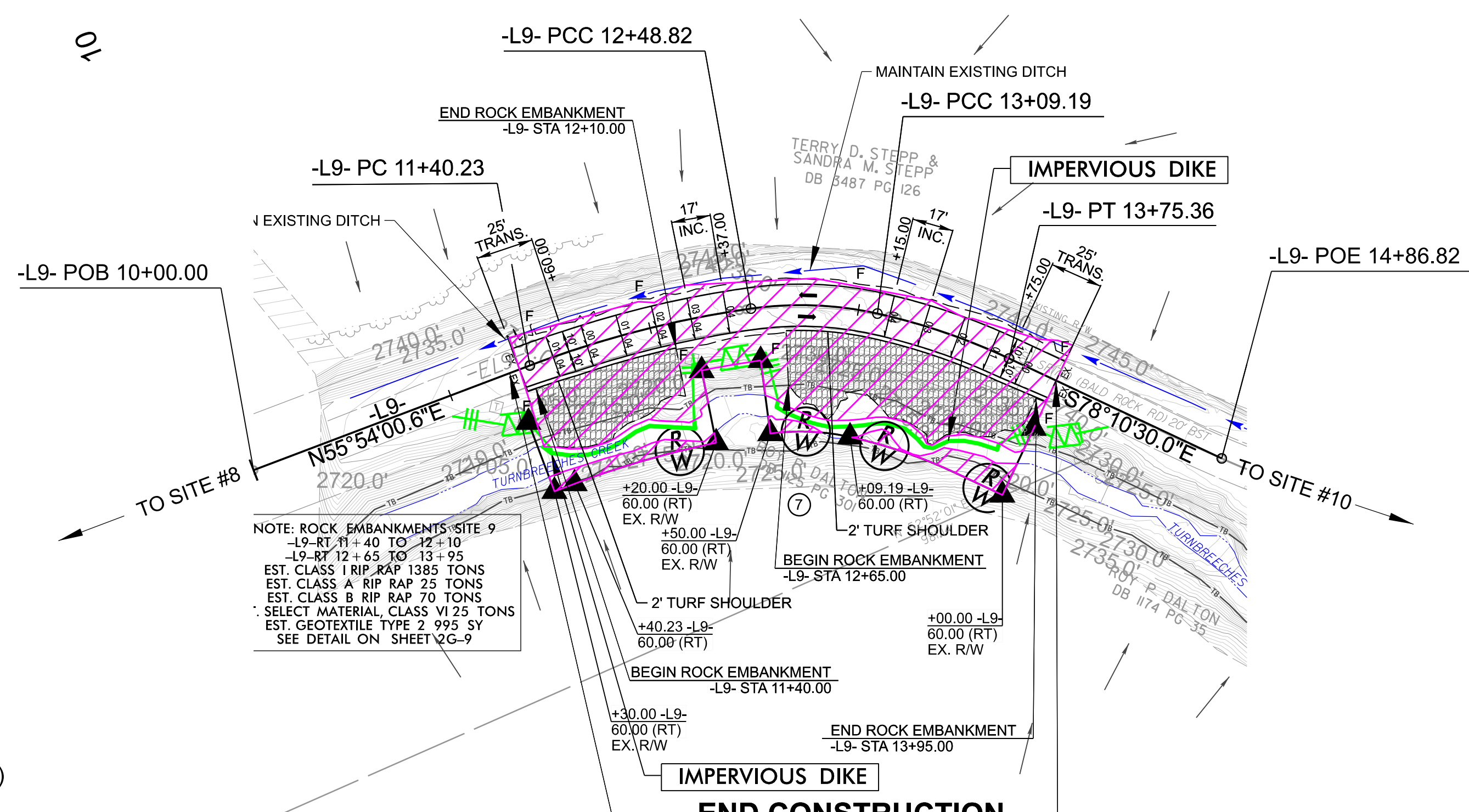
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12

 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS
TYPE-B AND TEMPORARY ROCK SILT CHECKS
TYPE-A AT DRAINAGE OUTLETS.

NOTE: FLOATING TURBIDITY CURTAIN MAY BE
USED IN PLACE OF IMPERVIOUS DIKE WHERE
WORK PERMITS.

DF18314
2045479
EC-12 CONST. 12
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HENDERSON COUNTY

HIGHWAY DIVISION 14
PREPARED BY
KCA
KISINGER CAMPO
& ASSOCIATES
NC FIRM LICENSE No: C-1506
301 Fayetteville St.,
Suite 1500
Raleigh, NC 27601
(919)882-7839



-L9-

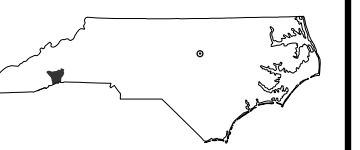
| CUR DATA -L9- | CUR DATA -L9- | CUR DATA -L9- |
|---------------------------------------|---------------------------------------|---------------------------------------|
| P/c 11+94.74 | P/c 12+79.33 | P/c 13+42.41 |
| $\Delta c = 12^\circ 41' 49.8''$ (RT) | $\Delta c = 20^\circ 35' 29.2''$ (RT) | $\Delta c = 12^\circ 38' 10.3''$ (RT) |
| D = 11'41'34.9" | D = 34'06'16.7" | D = 19'05'54.9" |
| Lc = 108.59 | Lc = 60.38 | Lc = 66.16 |
| Tc = 54.52 | Tc = 30.52 | Tc = 33.22 |
| R = 490 | R = 168 | R = 300 |
| SE = 0.04 | SE = 0.04 | SE = 0.04 |
| RO = 68 | RO = 68 | RO = 68 |

BEGIN CONSTRUCTION
DF18314.2045479
-L9- STA 11+35.00

BEGIN CONSTRUCTION
DF18314.2045479
-L9- STA 14+00.00

NOTES:
SEE SHEET NO. 2G-9 FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING
SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED
RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

REVISIONS



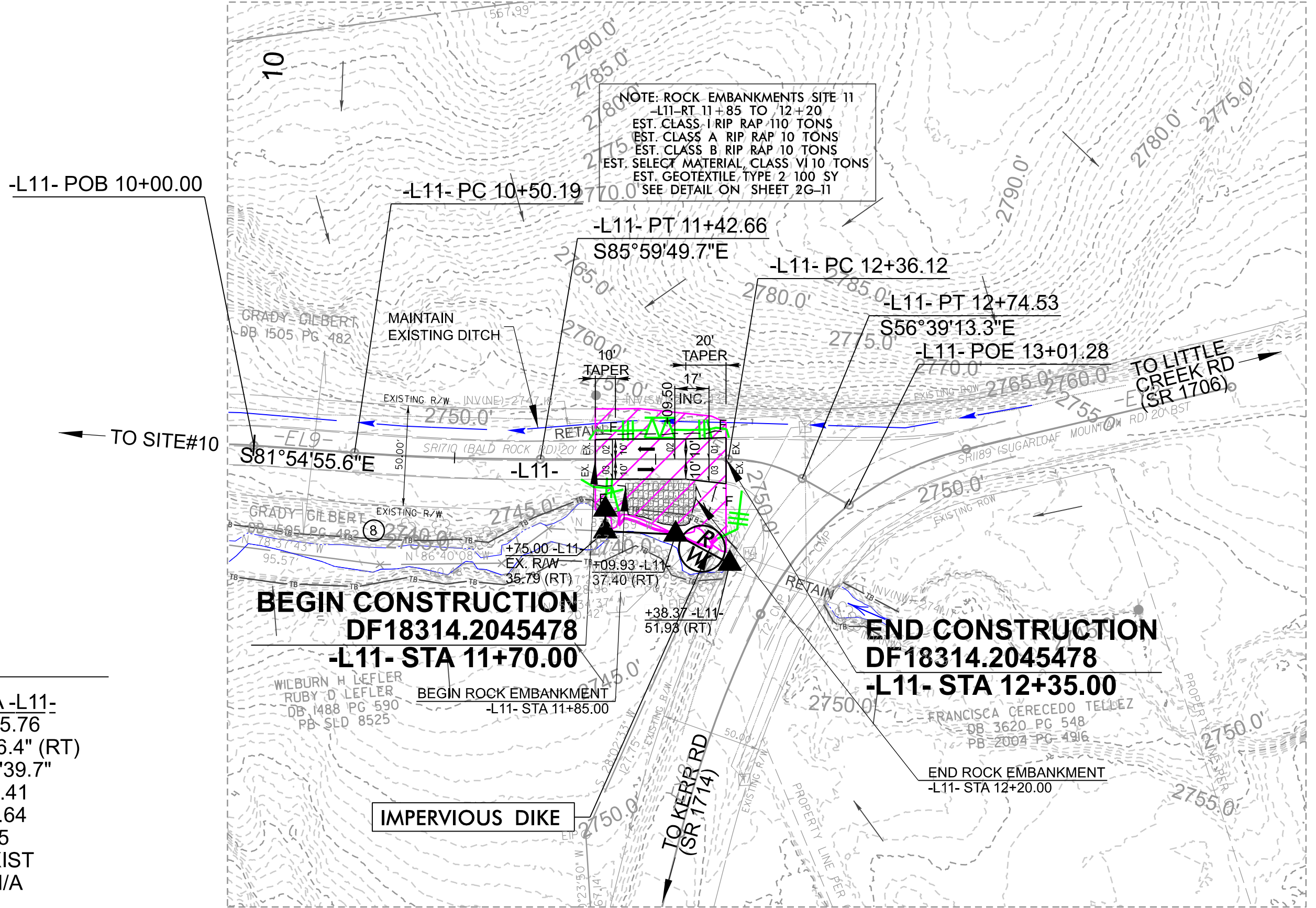
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 13

 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

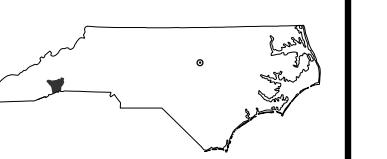
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS
TYPE-B AND TEMPORARY ROCK SILT CHECKS
TYPE-A AT DRAINAGE OUTLETS.

NOTE: FLOATING TURBIDITY CURTAIN MAY BE
USED IN PLACE OF IMPERVIOUS DIKE WHERE
WORK PERMITS.

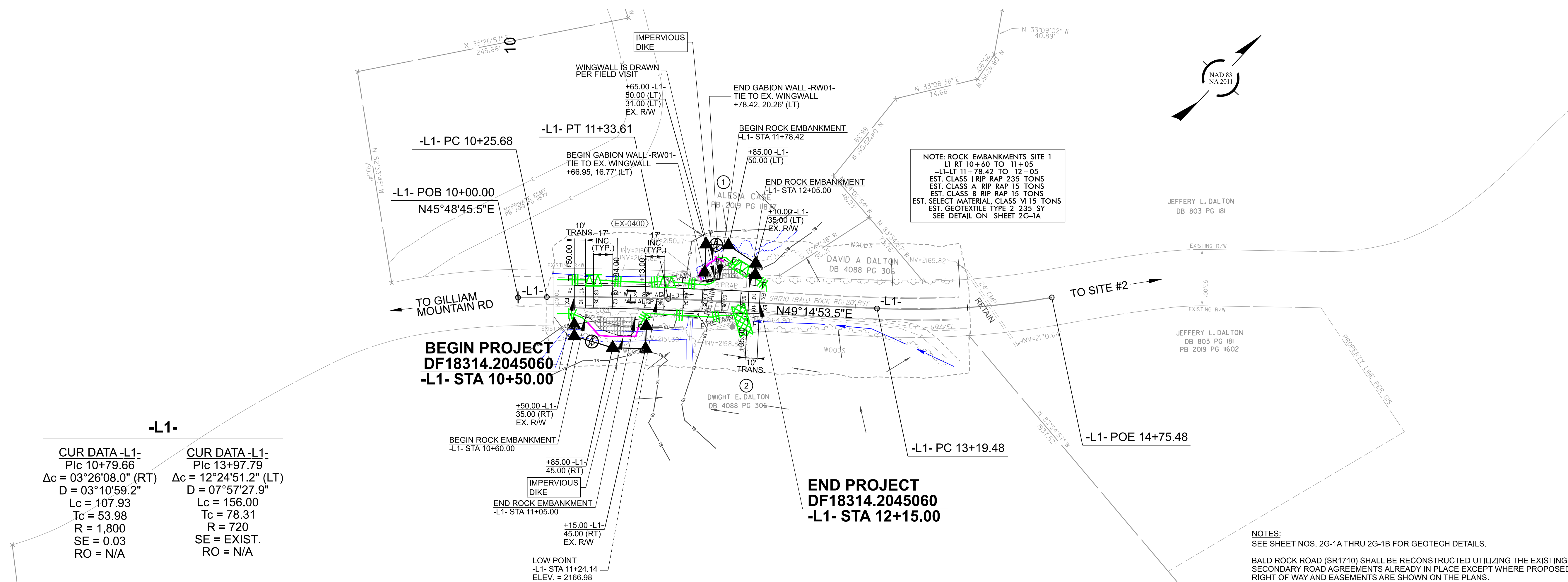
| -L11- | |
|---------------------------------------|---------------------------------------|
| CUR DATA -L11- P/c 10+96.44 | CUR DATA -L11- P/c 12+55.76 |
| $\Delta c = 04^{\circ}04'54.1''$ (LT) | $\Delta c = 29^{\circ}20'36.4''$ (RT) |
| D = 04'24'51.0" | D = 76'23'39.7" |
| Lc = 92.47 | Lc = 38.41 |
| Tc = 46.25 | Tc = 19.64 |
| R = 1,298 | R = 75 |
| SE = EXIST | SE = EXIST |
| RO = N/A | RO = N/A |



REVISIONS



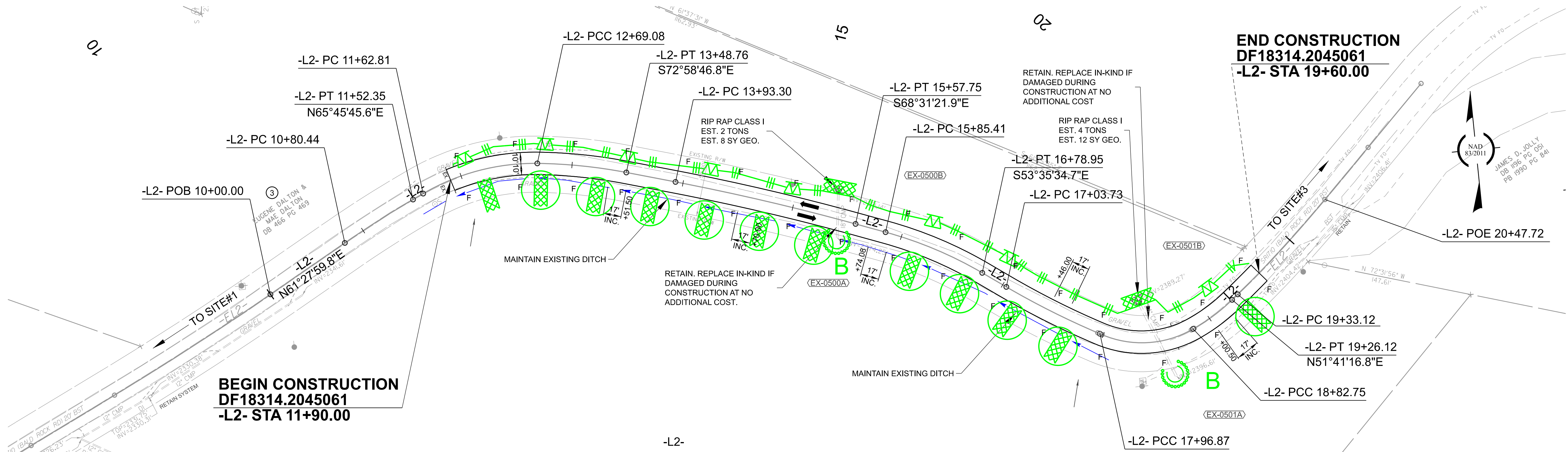
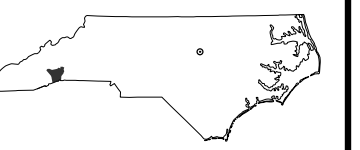
NOTE: FLOATING TURBIDITY CURTAIN MAY BE USED IN PLACE OF IMPERVIOUS DIKE WHERE WORK PERMITS.



| -L1- | |
|---------------------------------------|---------------------------------------|
| CUR DATA -L1- P/c 10+79.66 | CUR DATA -L1- P/c 13+97.79 |
| $\Delta c = 03^{\circ}26'08.0''$ (RT) | $\Delta c = 12^{\circ}24'51.2''$ (LT) |
| $D = 03^{\circ}10'59.2''$ | $D = 07^{\circ}57'27.9''$ |
| $Lc = 107.93$ | $Lc = 156.00$ |
| $Tc = 53.98$ | $Tc = 78.31$ |
| $R = 1,800$ | $R = 720$ |
| $SE = 0.03$ | $SE = EXIST.$ |
| $RO = N/A$ | $RO = N/A$ |

NOTES:
SEE SHEET NOS. 2G-1A THRU 2G-1B FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

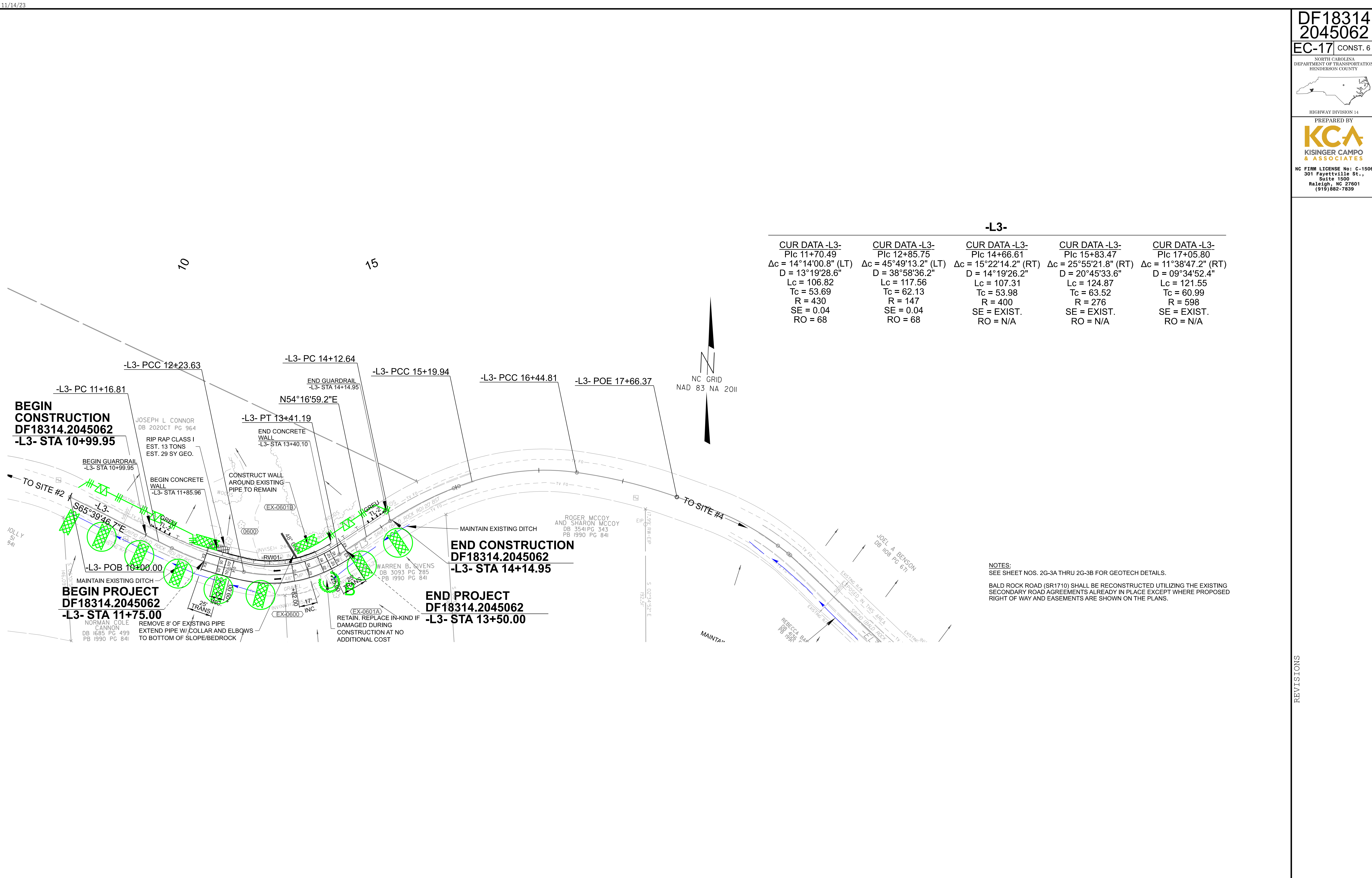
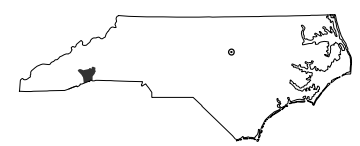
REVISIONS



| CUR DATA -L2- P/c 11+16.41 | CUR DATA -L2- P/c 12+17.29 | CUR DATA -L2- P/c 13+09.03 | CUR DATA -L2- P/c 14+75.57 | CUR DATA -L2- P/c 16+32.45 | CUR DATA -L2- P/c 17+50.36 | CUR DATA -L2- P/c 18+42.99 | CUR DATA -L2- P/c 19+04.57 | CUR DATA -L2- P/c 19+90.47 |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| $\Delta c = 04^{\circ}17'45.9''$ (RT) | $\Delta c = 31^{\circ}04'02.8''$ (RT) | $\Delta c = 10^{\circ}11'24.8''$ (RT) | $\Delta c = 04^{\circ}27'24.9''$ (RT) | $\Delta c = 14^{\circ}55'47.2''$ (RT) | $\Delta c = 07^{\circ}23'28.4''$ (LT) | $\Delta c = 51^{\circ}47'44.3''$ (LT) | $\Delta c = 15^{\circ}31'55.2''$ (LT) | $\Delta c = 05^{\circ}58'08.8''$ (LT) |
| D = 05°58'28.3" | D = 29°13'57.1" | D = 12°47'21.3" | D = 02°42'37.1" | D = 15°57'35.4" | D = 07°56'08.5" | D = 60°18'40.8" | D = 35°48'35.5" | D = 05°12'31.3" |
| Lc = 71.91 | Lc = 106.28 | Lc = 79.68 | Lc = 164.44 | Lc = 93.55 | Lc = 93.14 | Lc = 85.88 | Lc = 43.37 | Lc = 114.60 |
| Tc = 35.97 | Tc = 54.48 | Tc = 39.94 | Tc = 82.26 | Tc = 47.04 | Tc = 46.63 | Tc = 46.13 | Tc = 21.82 | Tc = 57.35 |
| R = 959 | R = 196 | R = 448 | R = 2,114 | R = 359 | R = 722 | R = 95 | R = 160 | R = 1,100 |
| SE = EXIST. RO = N/A | SE = EXIST. RO = N/A | SE = 0.04 RO = N/A | SE = 0.03 RO = N/A | SE = 0.04 RO = N/A | SE = EXIST. RO = N/A | SE = EXIST. RO = N/A | SE = EXIST. RO = N/A | SE = EXIST. RO = N/A |

NOTES:
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING
SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE
RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

REVISIONS

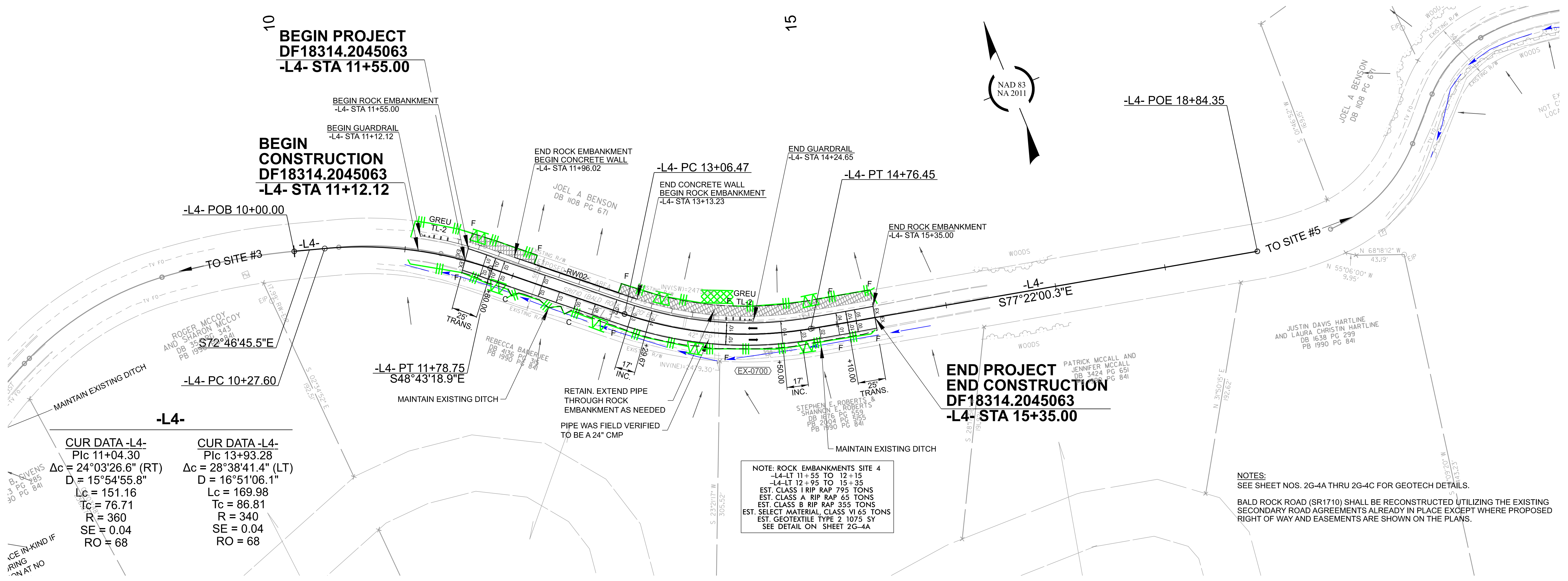
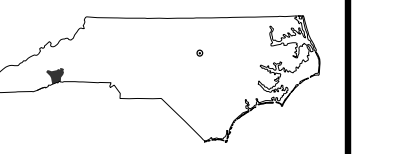


-L3-

| CUR DATA -L3- | CUR DATA -L3- | CUR DATA -L3- | CUR DATA -L3- | CUR DATA -L3- |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Plc 11+70.49 | Plc 12+85.75 | Plc 14+66.61 | Plc 15+83.47 | Plc 17+05.80 |
| $\Delta c = 14^{\circ}14'00.8''$ (LT) | $\Delta c = 45^{\circ}49'13.2''$ (LT) | $\Delta c = 15^{\circ}22'14.2''$ (RT) | $\Delta c = 25^{\circ}55'21.8''$ (RT) | $\Delta c = 11^{\circ}38'47.2''$ (RT) |
| D = 13°19'28.6" | D = 38°58'36.2" | D = 14°19'26.2" | D = 20°45'33.6" | D = 09°34'52.4" |
| Lc = 106.82 | Lc = 117.56 | Lc = 107.31 | Lc = 124.87 | Lc = 121.55 |
| Tc = 53.69 | Tc = 62.13 | Tc = 53.98 | Tc = 63.52 | Tc = 60.99 |
| R = 430 | R = 147 | R = 400 | R = 276 | R = 598 |
| SE = 0.04 | SE = 0.04 | SE = EXIST. | SE = EXIST. | SE = EXIST. |
| RO = 68 | RO = 68 | RO = N/A | RO = N/A | RO = N/A |

NOTES:
SEE SHEET NOS. 2G-3A THRU 2G-3B FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

REVISIONS



| CUR DATA -L4- | |
|---------------------------------------|---------------------------------------|
| P/c 11+04.30 | P/c 13+93.28 |
| $\Delta c = 24^{\circ}03'26.6''$ (RT) | $\Delta c = 28^{\circ}38'41.4''$ (LT) |
| $D = 15^{\circ}54'55.8''$ | $D = 16^{\circ}51'06.1''$ |
| $Lc = 151.16$ | $Lc = 169.98$ |
| $Tc = 76.71$ | $Tc = 86.81$ |
| $R = 360$ | $R = 340$ |
| $SE = 0.04$ | $SE = 0.04$ |
| $RO = 68$ | $RO = 68$ |

NOTE: ROCK EMBANKMENTS SITE 4
 -L4-LT 11+55 TO 12+15
 -L4-LT 12+95 TO 15+35
 EST. CLASS 1 RIP RAP 795 TONS
 EST. CLASS A RIP RAP 65 TONS
 EST. CLASS B RIP RAP 355 TONS
 EST. SELECT MATERIAL, CLASS VI 65 TONS
 EST. GEOTEXTILE TYPE 2 1075 SY
 SEE DETAIL ON SHEET 2G-4A

NOTES:
 SEE SHEET NOS. 2G-4A THRU 2G-4C FOR GEOTECH DETAILS.
 BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

REVISIONS

DF18314
2045465

EC-19 CONST. 8

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HENDERSON COUNTY

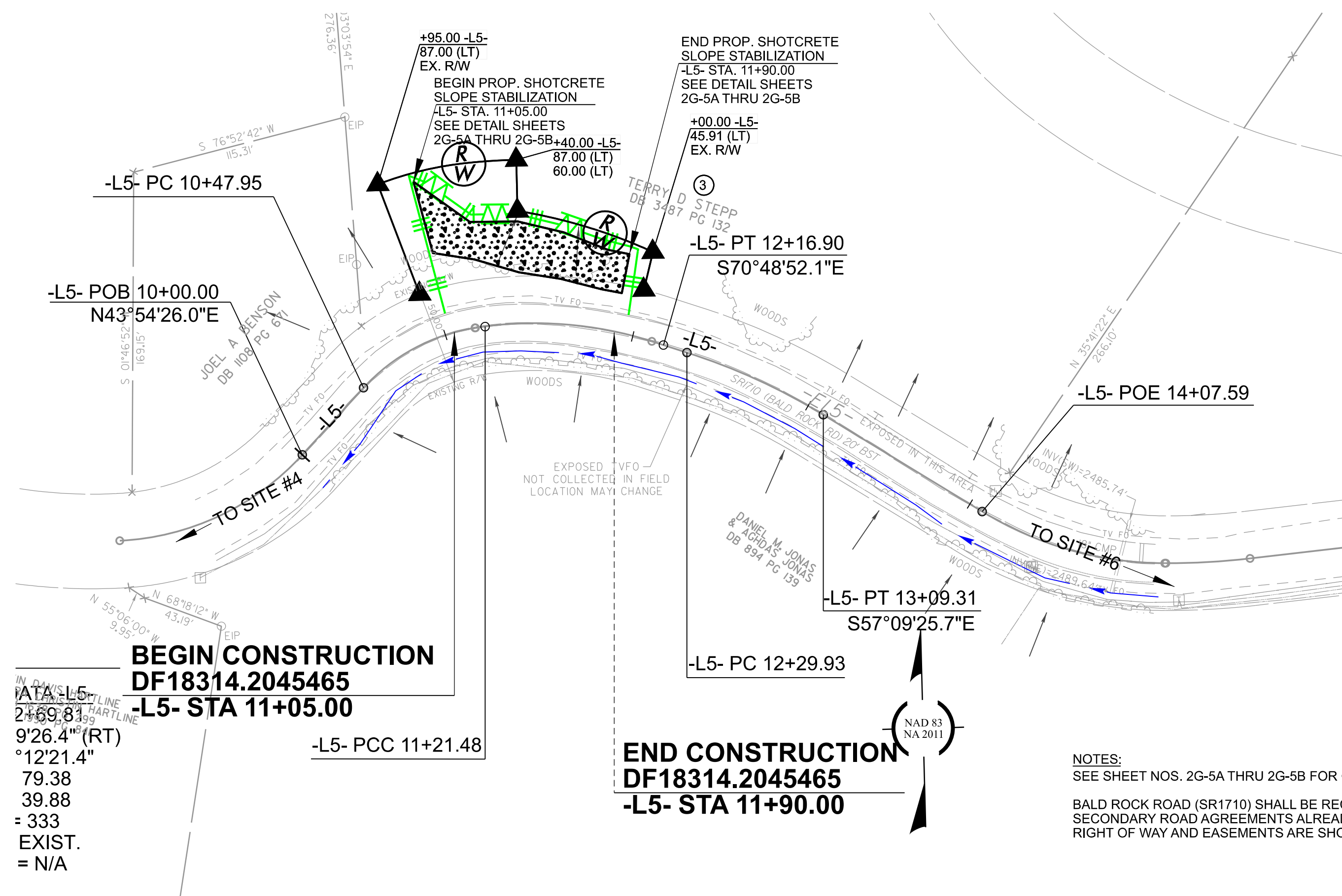


HIGHWAY DIVISION 14

PREPARED BY



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(919)882-7839

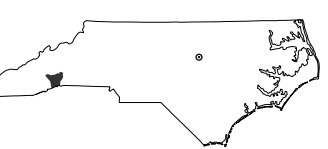


REVISIONS

DF18314
2045064

EC-20 CONST. 9

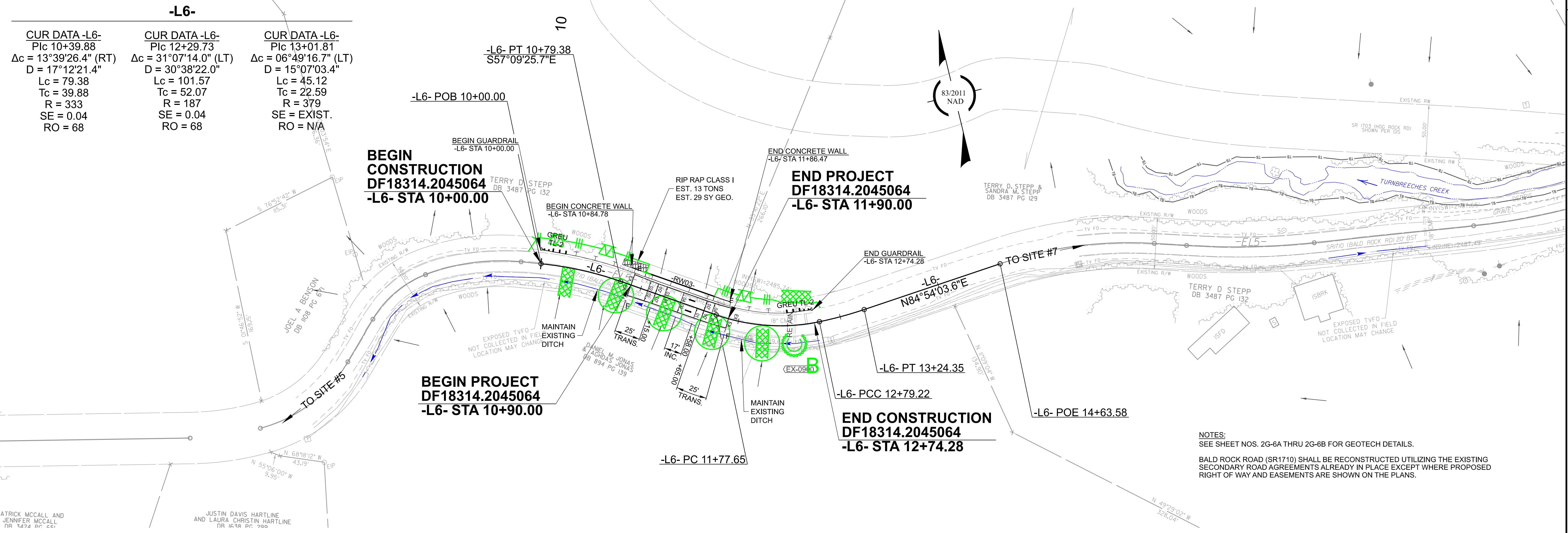
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HENDERSON COUNTY



HIGHWAY DIVISION 14
PREPARED BY

KCA
KISINGER CAMPO
& ASSOCIATES

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-L6-

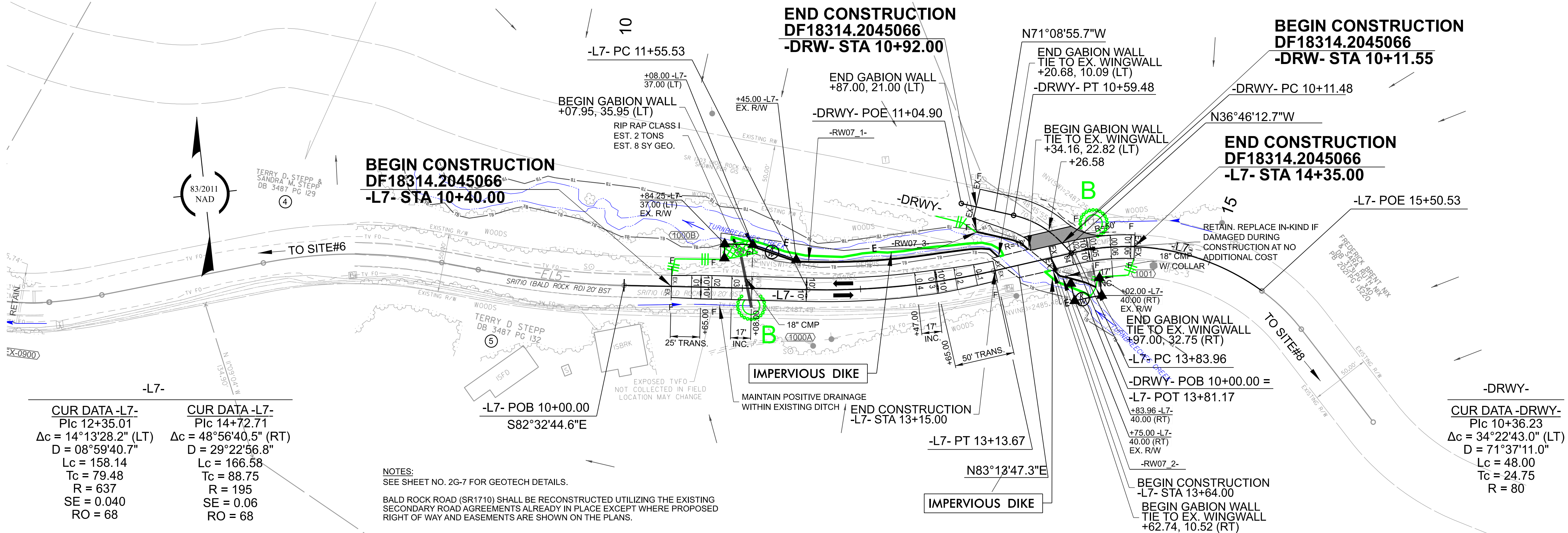
| CUR DATA -L6- | CUR DATA -L6- | CUR DATA -L6- |
|---------------------------------------|---------------------------------------|---------------------------------------|
| Pic 10+39.88 | Pic 12+29.73 | Pic 13+01.81 |
| $\Delta c = 13^\circ 39' 26.4''$ (RT) | $\Delta c = 31^\circ 07' 14.0''$ (LT) | $\Delta c = 06^\circ 49' 16.7''$ (LT) |
| D = 17°12'21.4" | D = 30°38'22.0" | D = 15°07'03.4" |
| Lc = 79.38 | Lc = 101.57 | Lc = 45.12 |
| Tc = 39.88 | Tc = 52.07 | Tc = 22.59 |
| R = 333 | R = 187 | R = 379 |
| SE = 0.04 | SE = 0.04 | SE = EXIST. |
| RO = 68 | RO = 68 | RO = N/A |

NOTES:
SEE SHEET NOS. 2G-6A THRU 2G-6B FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

PATRICK MCCALL AND JENNIFER MCCALL DR 3424 DC 2E1
JUSTIN DAVIS HARTLINE AND LAURA CHRISTY HARTLINE DR 1638 DC 260

REVISIONS

NOTE: FLOATING TURBIDITY CURTAIN MAY BE USED IN PLACE OF IMPERVIOUS DIKE WHERE WORK PERMITS.



| CUR DATA -L7- | CUR DATA -L7- |
|---------------------------------------|---------------------------------------|
| Pic 12+35.01 | Pic 14+72.71 |
| $\Delta c = 14^\circ 13' 28.2''$ (LT) | $\Delta c = 48^\circ 56' 40.5''$ (RT) |
| $D = 08^\circ 59' 40.7''$ | $D = 29^\circ 22' 56.8''$ |
| $Lc = 158.14$ | $Lc = 166.58$ |
| $Tc = 79.48$ | $Tc = 88.75$ |
| $R = 637$ | $R = 195$ |
| $SE = 0.040$ | $SE = 0.06$ |
| $RO = 68$ | $RO = 68$ |

NOTES:
 SEE SHEET NO. 2G-7 FOR GEOTECH DETAILS.
 BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

DF18314
2045066

EC-21 CONST. 10

NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 HENDERSON COUNTY

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 & ASSOCIATES

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 Suite 1500
 Raleigh, NC 27601
 (919) 882-7839

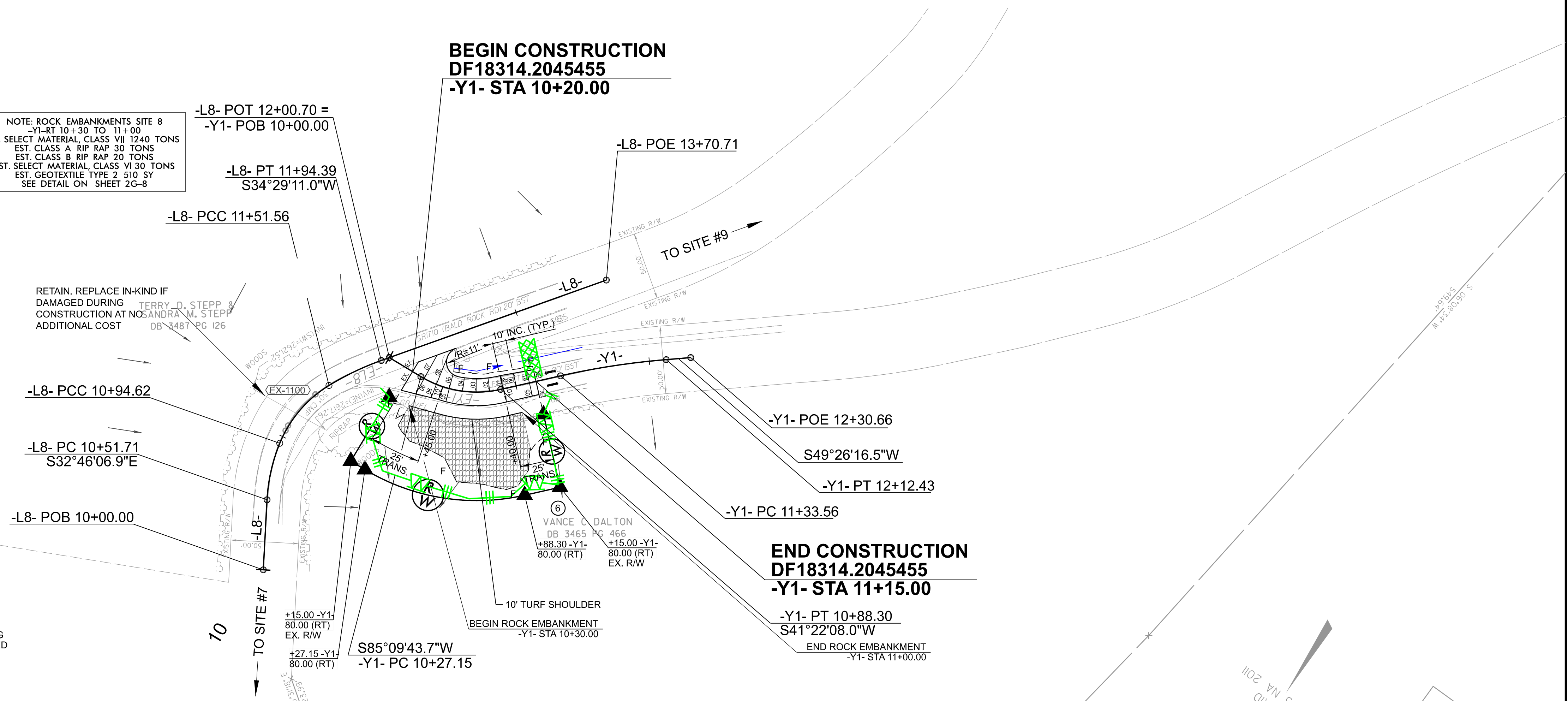
REVISIONS



| -L8- | | |
|---|--|---|
| CUR DATA -L8- P/c 10+73.37 $\Delta c = 19^\circ 12' 24.0''$ (RT) D = 44°45'44.4" Lc = 42.91 Tc = 21.66 R = 128 SE = EXIST. RO = EXIST. | CUR DATA -L8- P/c 11+24.08 $\Delta c = 36^\circ 15' 05.9''$ (RT) D = 63°39'43.1" Lc = 56.94 Tc = 29.46 R = 90 SE = EXIST. RO = EXIST. | CUR DATA -L8- P/c 11+73.05 $\Delta c = 11^\circ 47' 48.1''$ (RT) D = 27°32'45.8" Lc = 42.83 Tc = 21.49 R = 208 SE = EXIST. RO = EXIST. |

| -Y1- | |
|--|---|
| CUR DATA -Y1- P/c 10+59.31 $\Delta c = 43^\circ 47' 35.7''$ (LT) D = 71°37'11.0" Lc = 61.15 Tc = 32.15 R = 80 SE = EXIST. RO = EXIST. | CUR DATA -Y1- P/c 11+73.06 $\Delta c = 08^\circ 04' 08.5''$ (RT) D = 10°13'53.0" Lc = 78.87 Tc = 39.50 R = 560 SE = EXIST. RO = EXIST. |

NOTE: ROCK EMBANKMENTS SITE 8
-Y1- RT 10+30 TO 11+00
EST. SELECT MATERIAL, CLASS VII 1240 TONS
EST. CLASS A RIP RAP 30 TONS
EST. CLASS B RIP RAP 20 TONS
EST. SELECT MATERIAL, CLASS VI 30 TONS
EST. GEOTEXTILE TYPE 2 510 SY
SEE DETAIL ON SHEET 2G-8

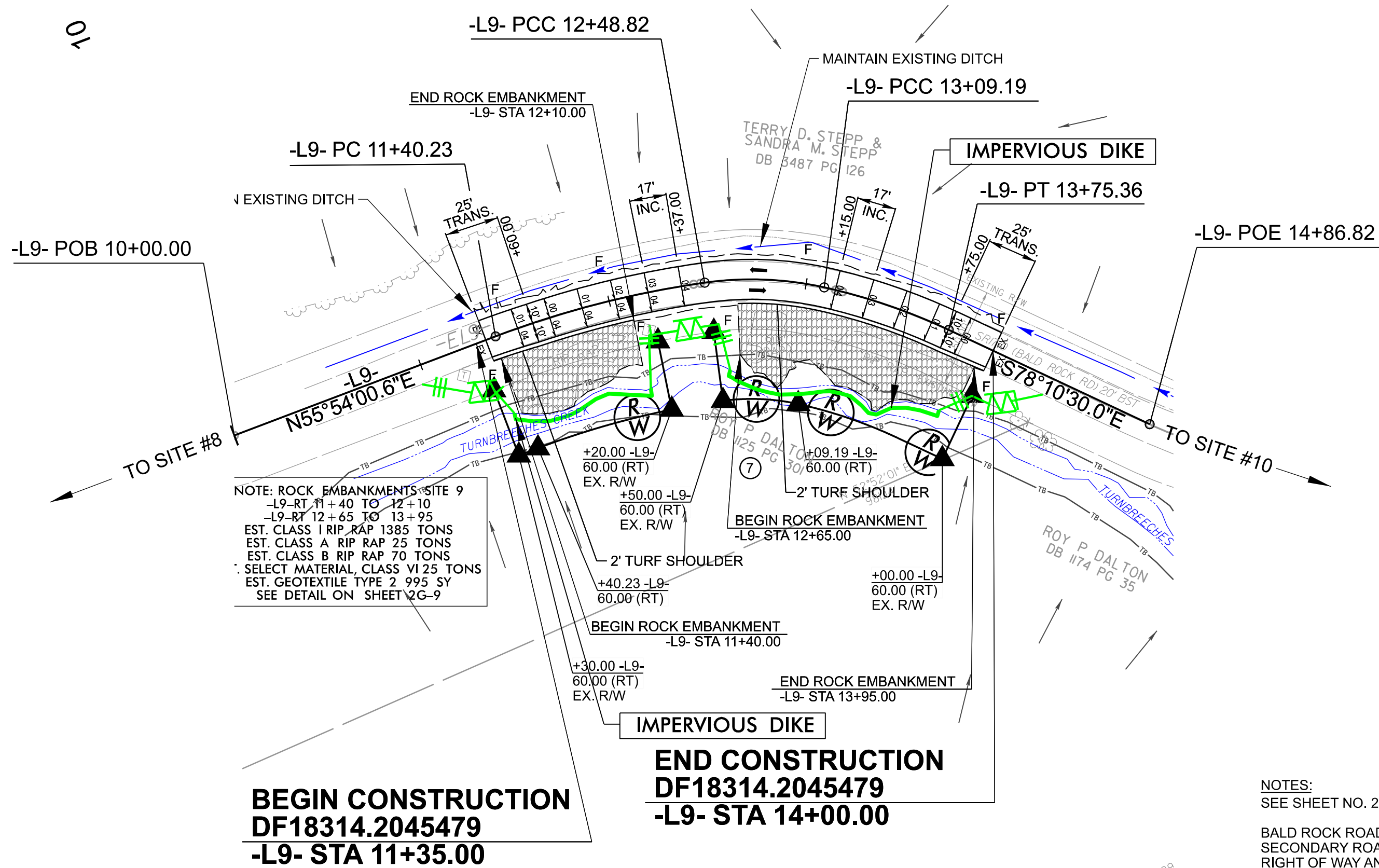


RETAIN, REPLACE IN-KIND IF DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST
TERRY D. STEPP & ANDRAN M. STEPP DB 3487 PG 126

NOTES:
SEE SHEET NO. 2G-8 FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

REVISIONS

NOTE: FLOATING TURBIDITY CURTAIN MAY BE USED IN PLACE OF IMPERVIOUS DIKE WHERE WORK PERMITS.



| -L9- | | |
|---------------------------------------|---------------------------------------|---------------------------------------|
| CUR DATA -L9- P/c 11+94.74 | CUR DATA -L9- P/c 12+79.33 | CUR DATA -L9- P/c 13+42.41 |
| $\Delta c = 12^\circ 41' 49.8''$ (RT) | $\Delta c = 20^\circ 35' 29.2''$ (RT) | $\Delta c = 12^\circ 38' 10.3''$ (RT) |
| $D = 11^\circ 41' 34.9''$ | $D = 34^\circ 06' 16.7''$ | $D = 19^\circ 05' 54.9''$ |
| $L_c = 108.59$ | $L_c = 60.38$ | $L_c = 66.16$ |
| $T_c = 54.52$ | $T_c = 30.52$ | $T_c = 33.22$ |
| $R = 490$ | $R = 168$ | $R = 300$ |
| $SE = 0.04$ | $SE = 0.04$ | $SE = 0.04$ |
| $RO = 68$ | $RO = 68$ | $RO = 68$ |

BEGIN CONSTRUCTION
DF18314.2045479
-L9- STA 11+35.00

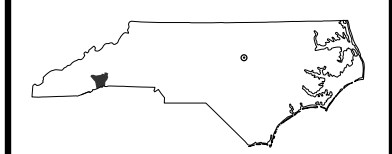
END CONSTRUCTION
DF18314.2045479
-L9- STA 14+00.00

NOTES:
SEE SHEET NO. 2G-9 FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

DF18314
2045479

EC-23 CONST. 12

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HENDERSON COUNTY



HIGHWAY DIVISION 14

PREPARED BY

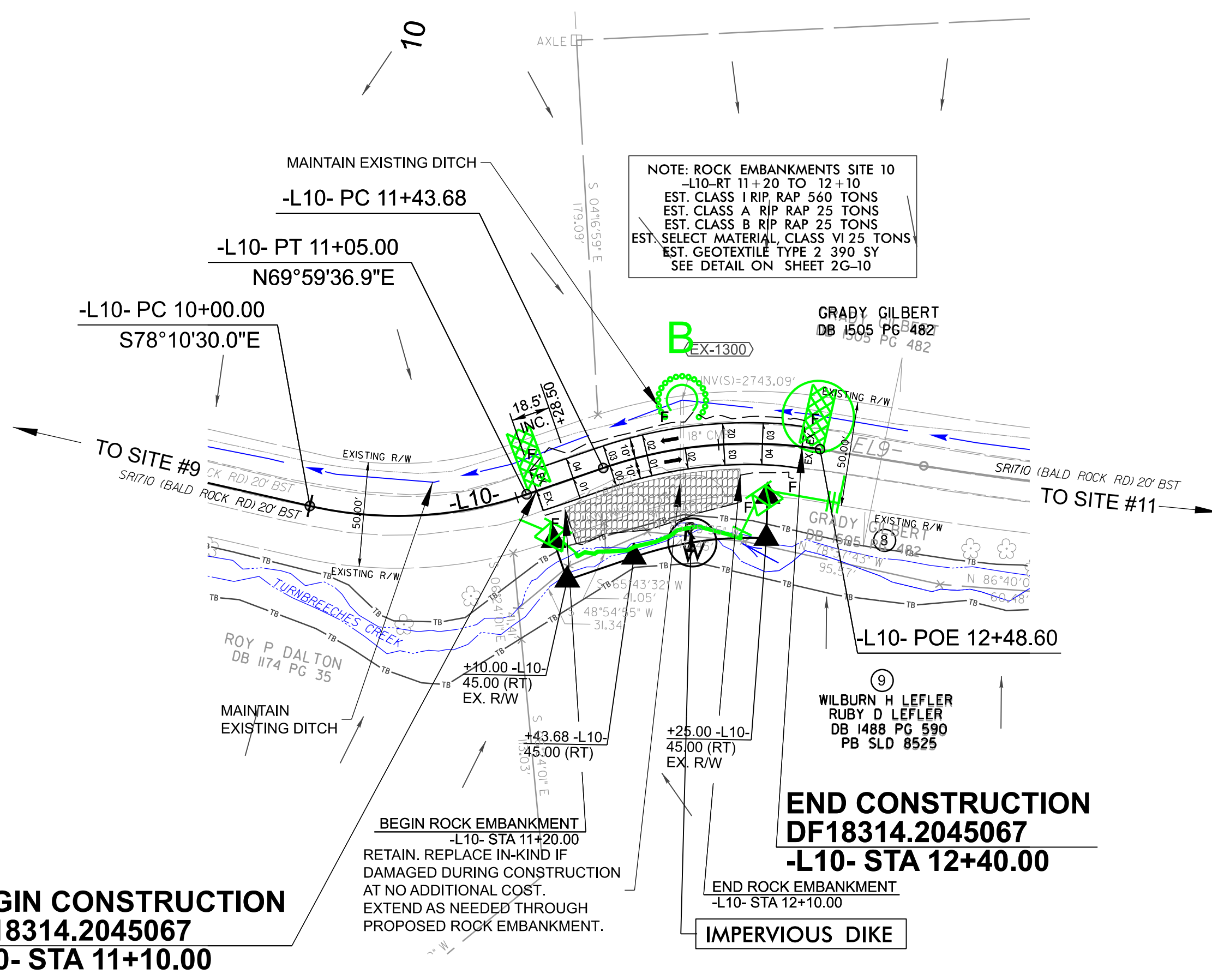


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REVISIONS



NOTE: FLOATING TURBIDITY CURTAIN MAY BE USED IN PLACE OF IMPERVIOUS DIKE WHERE WORK PERMITS.



NOTE: ROCK EMBANKMENTS SITE 10
-L10-RT 11+20 TO 12+10
EST. CLASS 1 RIP RAP 560 TONS
EST. CLASS A RIP RAP 25 TONS
EST. CLASS B RIP RAP 25 TONS
EST. SELECT MATERIAL CLASS VI 25 TONS
EST. GEOTEXTILE TYPE 2 390 SY
SEE DETAIL ON SHEET 2G-10

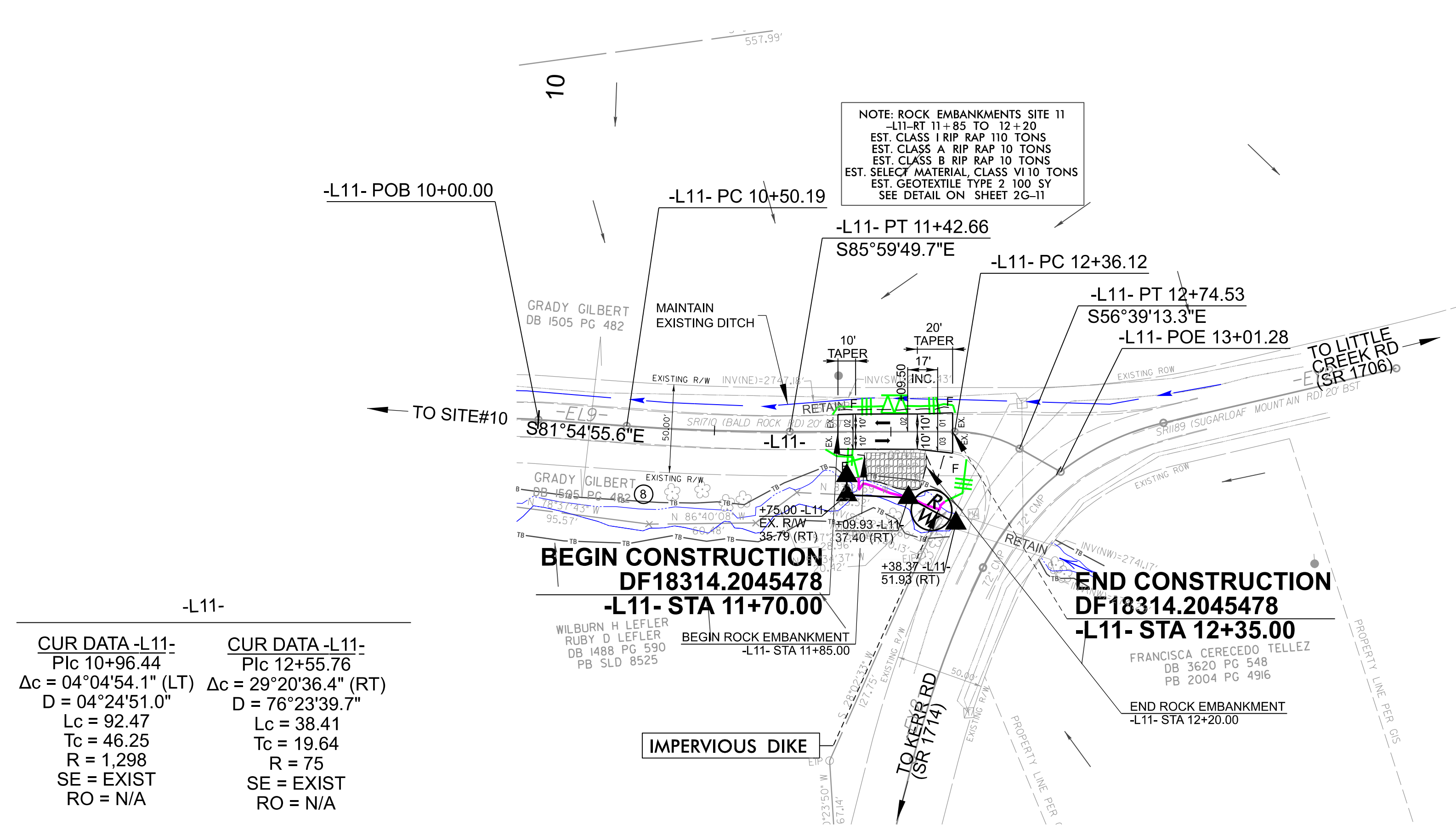
| -L10- | |
|---------------------------------------|---------------------------------------|
| <u>CUR DATA -L10-</u> | <u>CUR DATA -L10-</u> |
| P/c 10+53.89 | P/c 11+97.21 |
| $\Delta c = 31^\circ 49' 53.2''$ (LT) | $\Delta c = 28^\circ 05' 27.5''$ (RT) |
| D = 30' 18' 54.8" | D = 26' 46' 25.4" |
| Lc = 105.00 | Lc = 104.92 |
| Tc = 53.89 | Tc = 53.54 |
| R = 189 | R = 214 |
| SE = EXIST. | SE = EXIST. |
| RO = N/A | RO = N/A |

NOTES:
SEE SHEET NO. 2G-10 FOR GEOTECH DETAILS.
BALD ROCK ROAD (SR1710) SHALL BE RECONSTRUCTED UTILIZING THE EXISTING SECONDARY ROAD AGREEMENTS ALREADY IN PLACE EXCEPT WHERE PROPOSED RIGHT OF WAY AND EASEMENTS ARE SHOWN ON THE PLANS.

REVISIONS



NOTE: FLOATING TURBIDITY CURTAIN MAY BE USED IN PLACE OF IMPERVIOUS DIKE WHERE WORK PERMITS.



| -L11- | |
|---------------------------------------|---------------------------------------|
| CUR DATA -L11- P/c 10+96.44 | CUR DATA -L11- P/c 12+55.76 |
| $\Delta c = 04^{\circ}04'54.1''$ (LT) | $\Delta c = 29^{\circ}20'36.4''$ (RT) |
| D = 04'24'51.0" | D = 76'23'39.7" |
| Lc = 92.47 | Lc = 38.41 |
| Tc = 46.25 | Tc = 19.64 |
| R = 1,298 | R = 75 |
| SE = EXIST | SE = EXIST |
| RO = N/A | RO = N/A |

NOTE: ROCK EMBANKMENTS SITE 11
-L11-RT 11+85 TO 12+20
EST. CLASS A RIP RAP 110 TONS
EST. CLASS B RIP RAP 10 TONS
EST. SELECT MATERIAL CLASS VI 10 TONS
EST. GEOTEXTILE TYPE 2 100 SY
SEE DETAIL ON SHEET 2G-11

BEGIN CONSTRUCTION
DF18314.2045478
-L11- STA 11+70.00

END CONSTRUCTION
DF18314.2045478
-L11- STA 12+35.00

IMPERVIOUS DIKE

REVISIONS

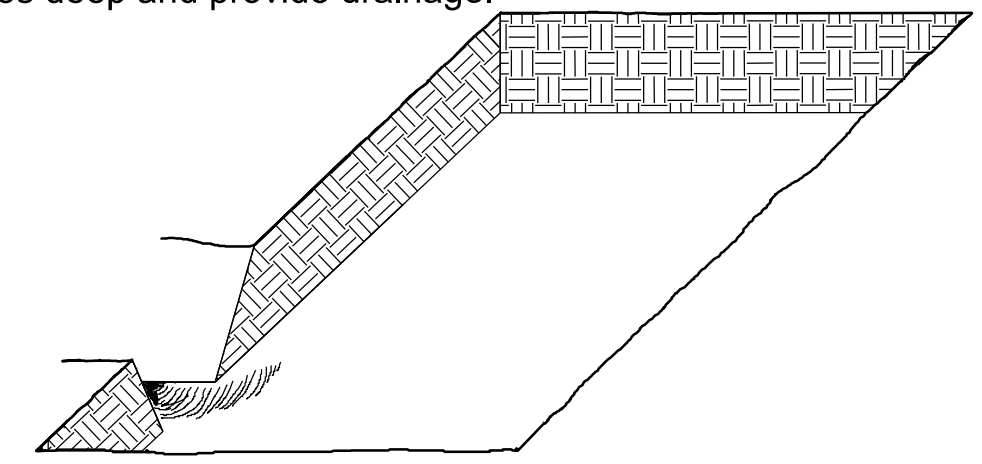
| | | | |
|-----------------|-----------------------------|-------------|--------------|
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | DF18314 | RF-1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| | | | |

PLANTING DETAILS

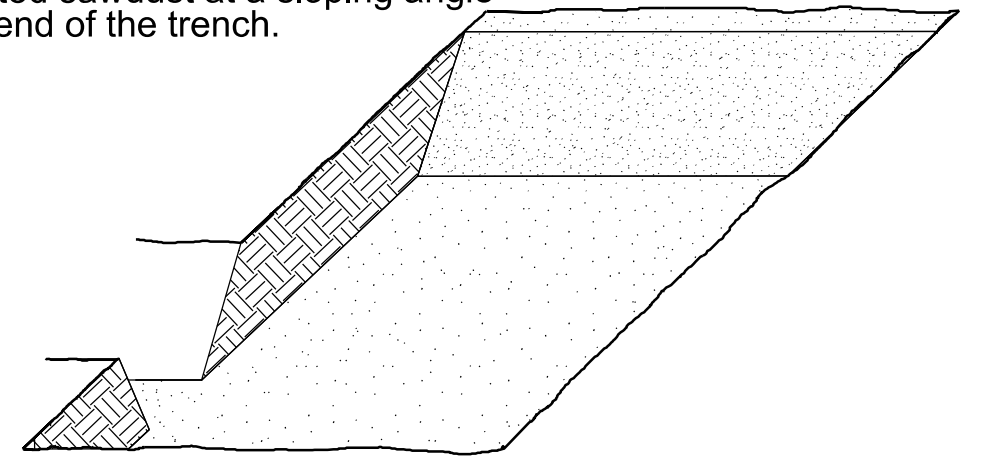
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

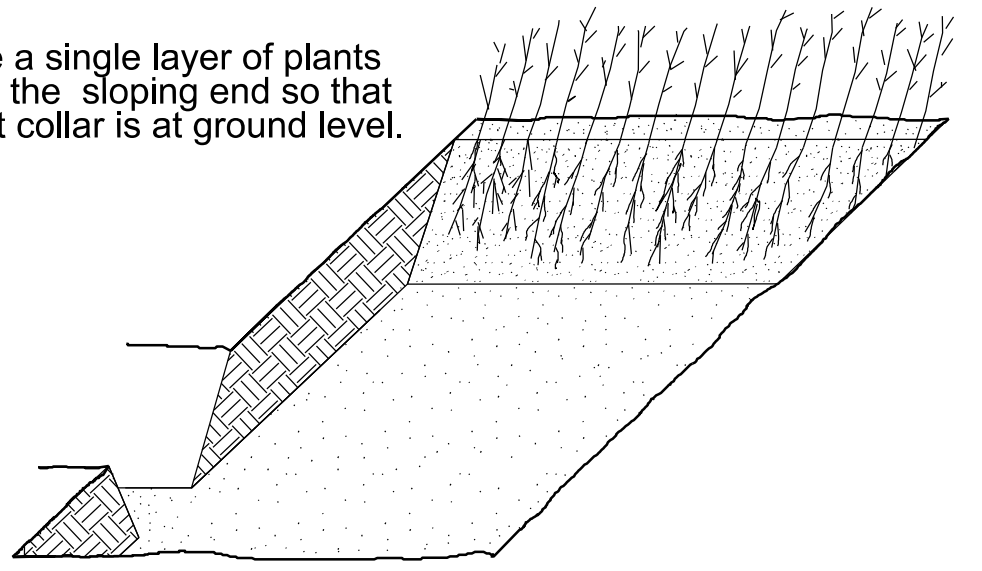
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



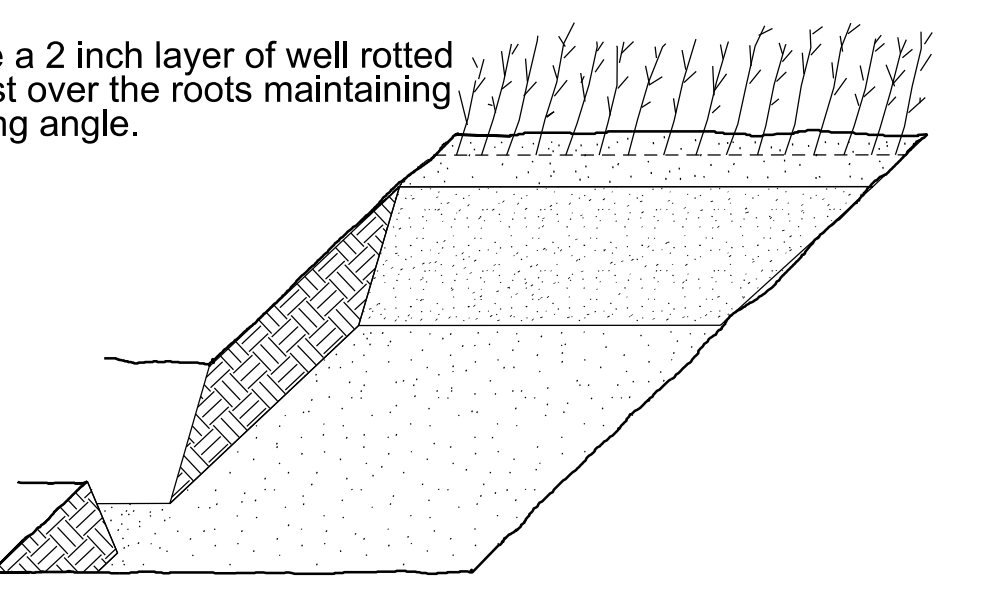
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

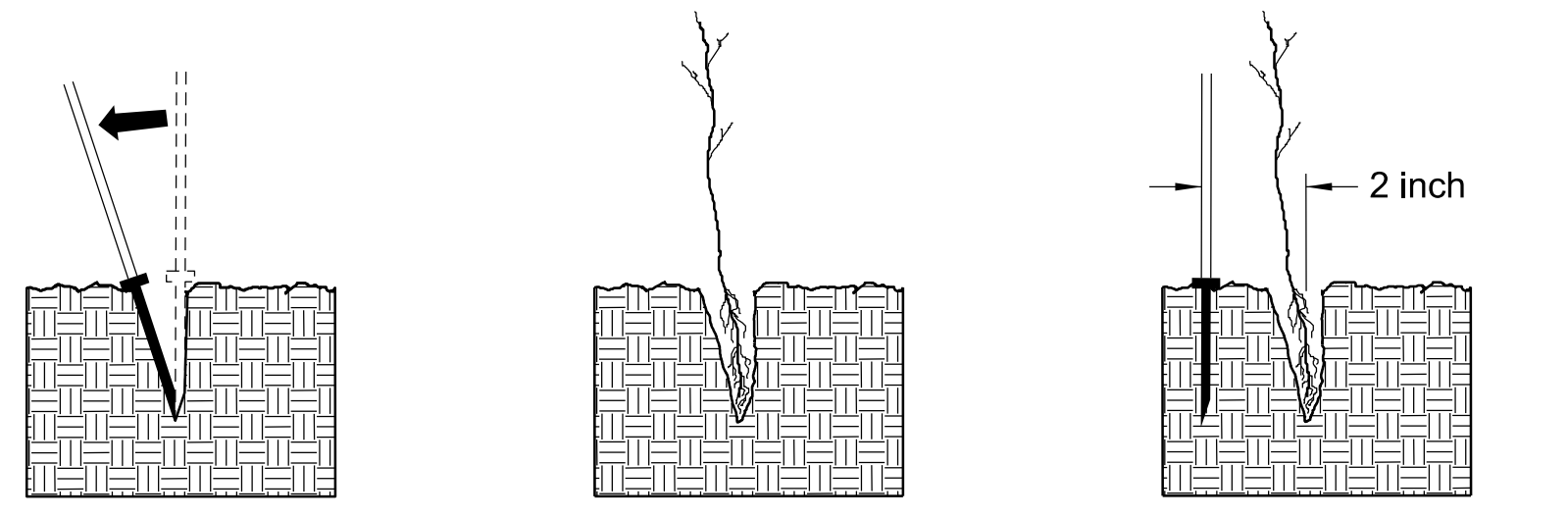


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

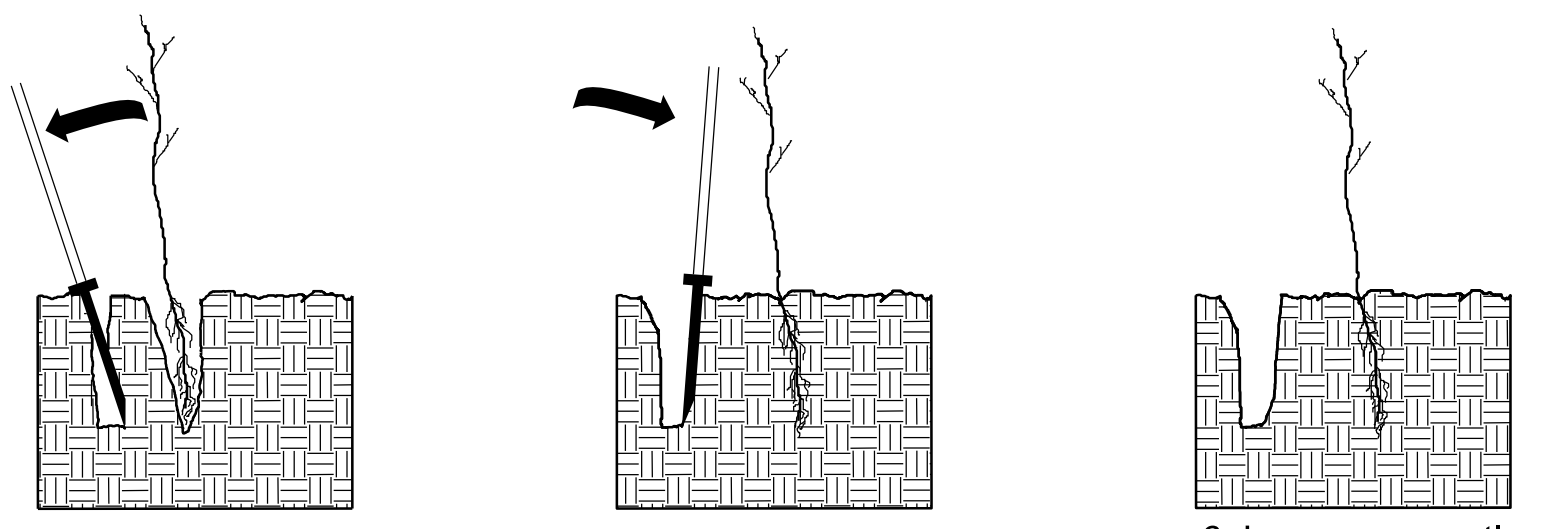


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



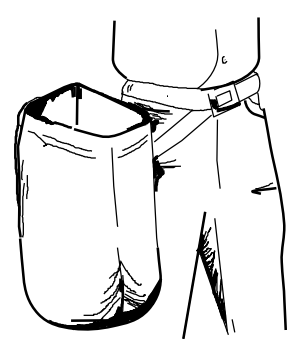
1. Insert planting bar as shown and pull handle toward planter.
2. Remove planting bar and place seedling at correct depth.
3. Insert planting bar 2 inches toward planter from seedling.



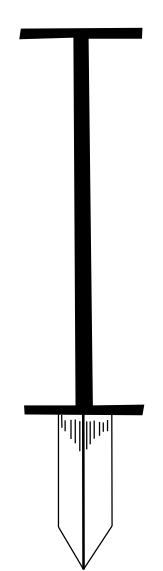
4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

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 | AMERICAN SYCAMORE | 12 in - 18 in BR |
| 25% QUERCUS ALBA | WHITE OAK | 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