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with their signature on that page.**

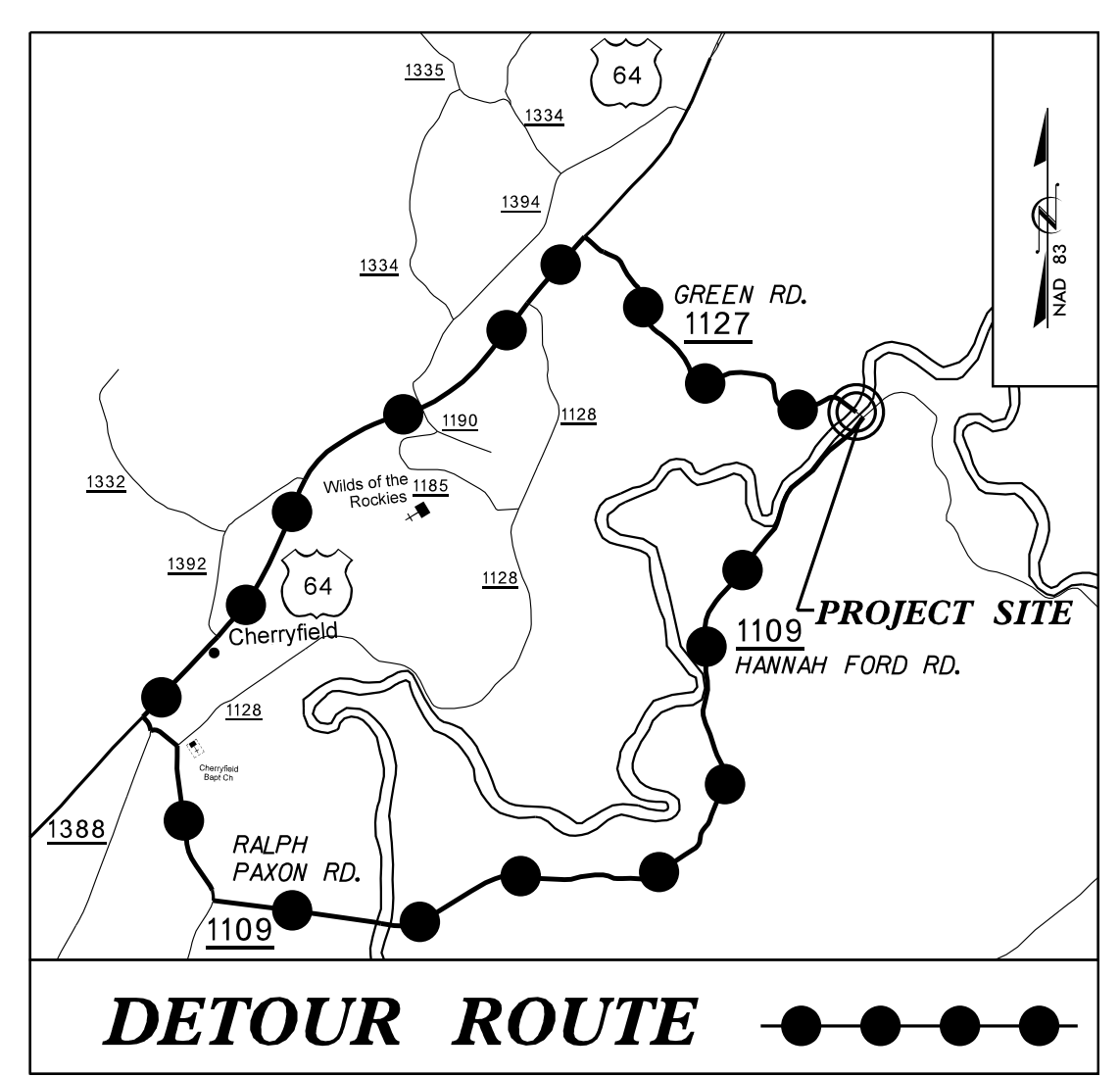
**This file or an individual page
shall not be considered a certified document.**

09.08/2019

PROJECT: 14SP.20881.1

CONTRACT: DN00128

See Sheet 1A For Index of Sheets



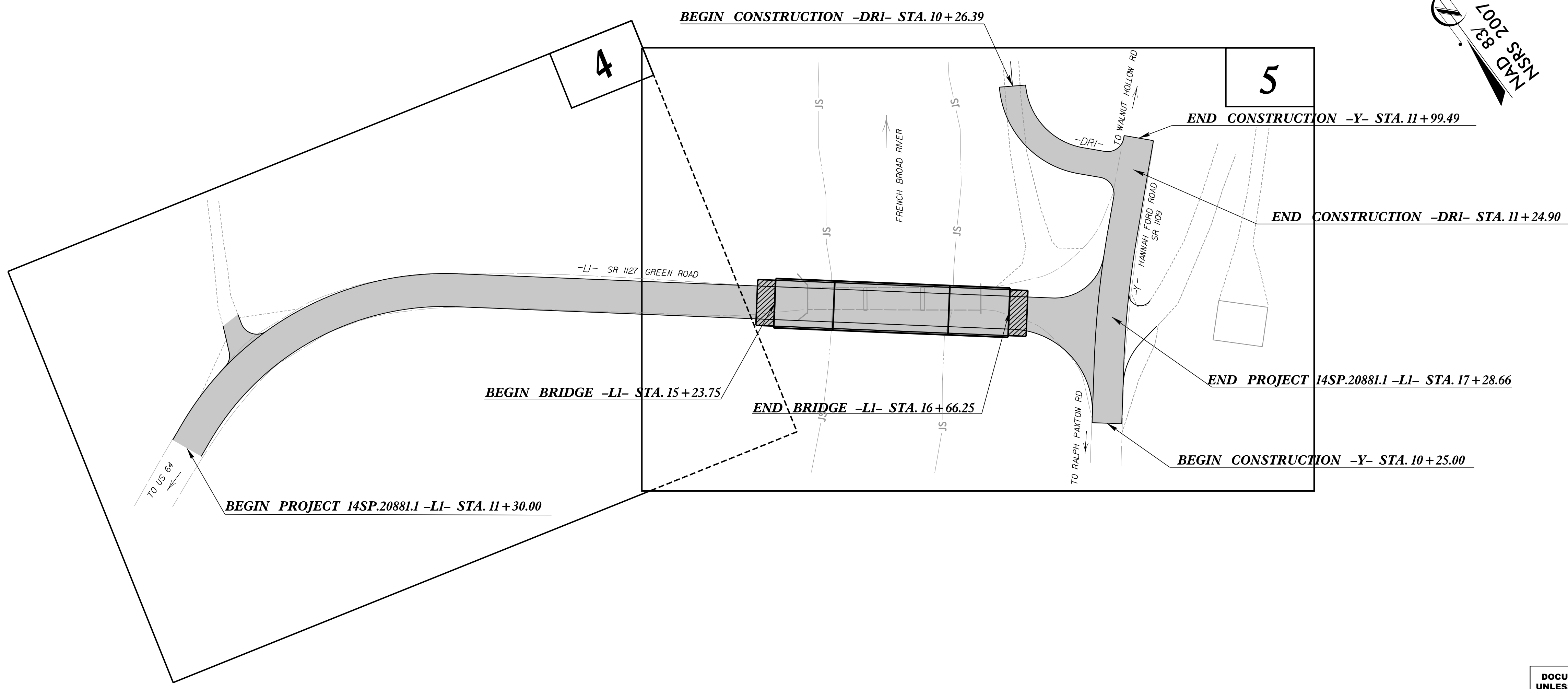
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSYLVANIA COUNTY

**LOCATION: BRIDGE NO. 870045 OVER FRENCH BROAD RIVER
ON SR 1127 (GREEN ROAD)**

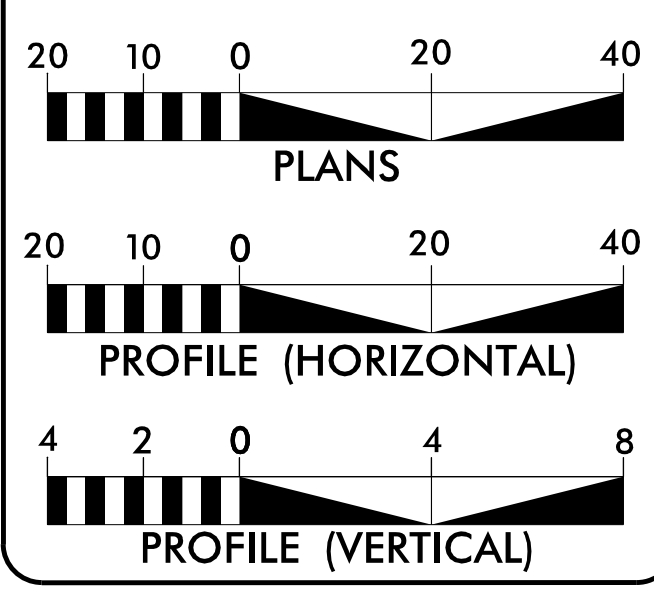
TYPE OF WORK: GRADING, PAVING, AND STRUCTURE

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | 14SP.20881.1 | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 14SP.20881.1 | | P.E. | |
| 14SP.20881.1 | | R/W | |
| 14SP.20881.1 | | CONST. | |



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2012 = 560
ADT 2032 = 840
T = 6 % *
V = 35 MPH
* TTST = 3%
DUAL 3%
FUNC CLASS = LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT 14SP.20881.1 = 0.086 MI.
LENGTH STRUCTURE PROJECT 14SP.20881.1 = 0.027 MI.
TOTAL LENGTH OF PROJECT 14SP.20881.1 = 0.113 MI.

Prepared in the Office of:
VAUGHN & MELTON
1318-F PATTON AVE.
ASHEVILLE NC, 28806
FOR THE NORTH CAROLINA DIVISION OF HIGHWAYS

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 18, 2019

LETTING DATE: JANUARY 11, 2022

JOHN C. LANSFORD, PE
PROJECT ENGINEER

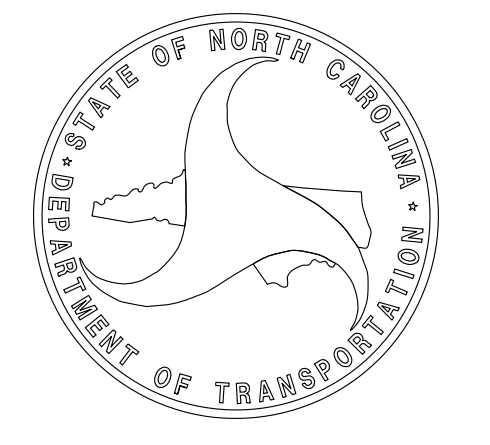
KEITH BRIDGERS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

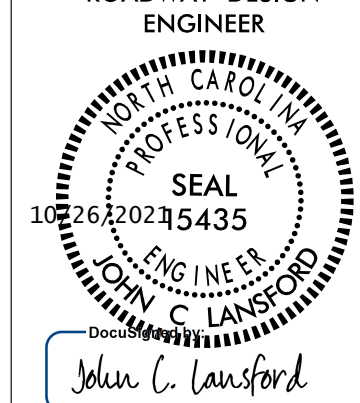

DocuSigned by:
Bradley Kidner
SIGNATURE: 170412120431456

ROADWAY DESIGN ENGINEER

DocuSigned by:
John C. Lansford
SIGNATURE: 158705228454041



10/22/2021 10:00:34 AM
14SP.20881.1-001.dwg
14SP.20881.1-001.dwg

| | |
|---|-----------------|
| PROJECT REFERENCE NO. 14SP.20881J | SHEET NO. 1A |
| ROADWAY DESIGN ENGINEER | |
|  | |
|  | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |

| SHEET NUMBER | INDEX OF SHEETS SHEET |
|------------------|--|
| 1 | TITLE SHEET |
| 1A | INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS |
| 1B | CONVENTIONAL SYMBOLS |
| 1C-1 | SURVEY CONTROL SHEET |
| 2A-1 | PAVEMENT SCHEDULE AND TYPICAL SECTIONS |
| 3B-1 | SUMMARY OF EARTHWORK, SUMMARY OF GUARDRAIL, BREAKING OF EXISTING ASPHALT PAVEMENT, ASPHALT PAVEMENT REMOVAL SUMMARY AND SHOULDER BERM GUTTER SUMMARY |
| 3D-1 | DRAINAGE SUMMARY |
| 3P-1 | PARCEL INDEX SHEET |
| 4 THRU 5 | PLAN AND PROFILE SHEET |
| TMP-1 THRU TMP-3 | TRAFFIC CONTROL PLANS |
| PMP-1 THRU PMP-2 | PAVEMENT MARKING PLAN |
| EC-1 THRU EC-7 | EROSION CONTROL PLANS |
| RF-1 THRU RF-3 | REFORESTATION PLANS |
| UO-1 THRU UO-2 | UTILITIES BY OTHERS |
| X-1A | CROSS-SECTION SUMMARY SHEET |
| X-1 THRU X-9 | CROSS-SECTIONS |
| S-1 THRU S-22 | STRUCTURE PLANS |

GENERAL NOTES:

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

**GRADE LINE:
GRADING AND SURFACING OR RESURFACING AND WIDENING:**

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.02

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE CITY OF ASHEVILLE

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT IN ACCORDANCE WITH SECTION 801 OF THE 2018 NORTH CAROLINA STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

| STD.NO. | TITLE |
|--|---|
| DIVISION 2 - EARTHWORK | |
| 200.02 | Method of Clearing - Method II |
| 225.02 | Guide for Grading Subgrade - Secondary and Local |
| 225.04 | Method of Obtaining Superelevation - Two Lane Pavement |
| DIVISION 3 - PIPE CULVERTS | |
| 300.01 | Method of Pipe Installation |
| DIVISION 4 - MAJOR STRUCTURES | |
| 422.03 | Reinforced Bridge Approach Fills - Type A Alternate Approach Fill for Integral Abutment |
| DIVISION 5 - SUBGRADE, BASES AND SHOULDERS | |
| 560.01 | Method of Shoulder Construction - High Side of Superelevated Curve - Method I |
| DIVISION 8 - INCIDENTALS | |
| 840.00 | Concrete Base Pad for Drainage Structures |
| 840.25 | Anchorage for Frames - Brick or Concrete or Precast |
| 840.29 | Frames and Narrow Slot Flat Grates |
| 840.35 | Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates |
| 840.66 | Drainage Structure Steps |
| 846.01 | Concrete Curb, Gutter and Curb & Gutter |
| 846.04 | Drop Inlet Installation in Shoulder Berm Gutter |
| 862.01 | Guardrail Placement |
| 862.02 | Guardrail Installation |
| 862.03 | Structure Anchor Units |
| 876.02 | Guide for Rip Rap at Pipe Outlets |

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

12/2/2016

BOUNDARIES AND PROPERTY:

| | |
|---------------------------------------|-----------|
| State Line | ----- |
| County Line | ----- |
| Township Line | ----- |
| City Line | ----- |
| Reservation Line | ----- |
| Property Line | ----- |
| Existing Iron Pin | ○ EIP |
| Computed Property Corner | ----- |
| Property Monument | □ ECM |
| Parcel/Sequence Number | ①23 |
| Existing Fence Line | -x-x-x- |
| Proposed Woven Wire Fence | ○ |
| Proposed Chain Link Fence | □ |
| Proposed Barbed Wire Fence | ◇ |
| Existing Wetland Boundary | ---WLB--- |
| Proposed Wetland Boundary | WLB |
| Existing Endangered Animal Boundary | ---EAB--- |
| Existing Endangered Plant Boundary | ---EPB--- |
| Existing Historic Property Boundary | ---HPB--- |
| Known Contamination Area: Soil | ☠-s-☠ |
| Potential Contamination Area: Soil | ☠-s-☠ |
| Known Contamination Area: Water | ☠-w-☠ |
| Potential Contamination Area: Water | ☠-w-☠ |
| Contaminated Site: Known or Potential | ☠-w-☠ |

BUILDINGS AND OTHER CULTURE:

| | |
|-------------------------------|-----|
| Gas Pump Vent or U/G Tank Cap | ○ |
| Sign | ○ S |
| Well | ○ W |
| Small Mine | ⊗ |
| Foundation | □ |
| Area Outline | □ |
| Cemetery | □ |
| Building | □ |
| School | □ |
| Church | □ |
| Dam | ▬ |

HYDROLOGY:

| | |
|------------------------------------|------------|
| Stream or Body of Water | ----- |
| Hydro, Pool or Reservoir | ----- |
| Jurisdictional Stream | ---JS--- |
| Buffer Zone 1 | ---BZ 1--- |
| Buffer Zone 2 | ---BZ 2--- |
| Flow Arrow | ← |
| Disappearing Stream | → |
| Spring | ○ |
| Wetland | ▽ |
| Proposed Lateral, Tail, Head Ditch | ----- |
| False Sump | ▽ |

RAILROADS:

| | |
|--------------------|---------------|
| Standard Gauge | ----- |
| RR Signal Milepost | ○ MILEPOST 35 |
| Switch | □ SWITCH |
| RR Abandoned | ----- |
| RR Dismantled | ----- |

RIGHT OF WAY & PROJECT CONTROL:

| | |
|---|-------|
| Secondary Horiz and Vert Control Point | ◆ |
| Primary Horiz Control Point | ○ |
| Primary Horiz and Vert Control Point | ◆ |
| Exist Permanent Easement Pin and Cap | ◇ |
| New Permanent Easement Pin and Cap | ◆ |
| Vertical Benchmark | ⊠ |
| Existing Right of Way Marker | △ |
| Existing Right of Way Line | ----- |
| New Right of Way Line | ----- |
| New Right of Way Line with Pin and Cap | ----- |
| New Right of Way Line with Concrete or Granite R/W Marker | ----- |
| New Control of Access Line with Concrete CA Marker | ----- |
| Existing Control of Access | ----- |
| New Control of Access | ----- |
| Existing Easement Line | ----- |
| New Temporary Construction Easement | ----- |
| New Temporary Drainage Easement | ----- |
| New Permanent Drainage Easement | ----- |
| New Permanent Drainage / Utility Easement | ----- |
| New Permanent Utility Easement | ----- |
| New Temporary Utility Easement | ----- |
| New Aerial Utility Easement | ----- |

ROADS AND RELATED FEATURES:

| | |
|----------------------------|----------|
| Existing Edge of Pavement | ----- |
| Existing Curb | ----- |
| Proposed Slope Stakes Cut | ---C--- |
| Proposed Slope Stakes Fill | ---F--- |
| Proposed Curb Ramp | ---CR--- |
| Existing Metal Guardrail | ----- |
| Proposed Guardrail | ----- |
| Existing Cable Guiderail | ----- |
| Proposed Cable Guiderail | ----- |
| Equality Symbol | ⊕ |
| Pavement Removal | ----- |

VEGETATION:

| | |
|--------------|---|
| Single Tree | ○ |
| Single Shrub | ○ |

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

| | |
|------------|-------|
| 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 | ● |
| U/G Power Line LOS B (S.U.E.*) | ----- |
| U/G Power Line LOS C (S.U.E.*) | ----- |
| U/G Power Line LOS D (S.U.E.*) | ----- |

TELEPHONE:

| | |
|--|-------|
| Existing Telephone Pole | ● |
| Proposed Telephone Pole | ○ |
| Telephone Manhole | ⊕ |
| Telephone Pedestal | ⊠ |
| Telephone Cell Tower | ⊠ |
| U/G Telephone Cable Hand Hole | ----- |
| U/G Telephone Cable LOS B (S.U.E.*) | ----- |
| U/G Telephone Cable LOS C (S.U.E.*) | ----- |
| U/G Telephone Cable LOS D (S.U.E.*) | ----- |
| U/G Telephone Conduit LOS B (S.U.E.*) | ----- |
| U/G Telephone Conduit LOS C (S.U.E.*) | ----- |
| U/G Telephone Conduit LOS D (S.U.E.*) | ----- |
| U/G Fiber Optics Cable LOS B (S.U.E.*) | ----- |
| U/G Fiber Optics Cable LOS C (S.U.E.*) | ----- |
| U/G Fiber Optics Cable LOS D (S.U.E.*) | ----- |

WATER:

| | |
|--------------------------------|-------|
| Water Manhole | ⊕ |
| Water Meter | ○ |
| Water Valve | ⊗ |
| Water Hydrant | ⊕ |
| U/G Water Line LOS B (S.U.E.*) | ----- |
| U/G Water Line LOS C (S.U.E.*) | ----- |
| U/G Water Line LOS D (S.U.E.*) | ----- |
| Above Ground Water Line | ----- |

TV:

| | |
|---------------------------------------|-------|
| TV Pedestal | ⊠ |
| TV Tower | ⊗ |
| U/G TV Cable Hand Hole | ----- |
| U/G TV Cable LOS B (S.U.E.*) | ----- |
| U/G TV Cable LOS C (S.U.E.*) | ----- |
| U/G TV Cable LOS D (S.U.E.*) | ----- |
| U/G Fiber Optic Cable LOS B (S.U.E.*) | ----- |
| U/G Fiber Optic Cable LOS C (S.U.E.*) | ----- |
| U/G Fiber Optic Cable LOS D (S.U.E.*) | ----- |

GAS:

| | |
|------------------------------|-------|
| Gas Valve | ◇ |
| Gas Meter | ⊕ |
| U/G Gas Line LOS B (S.U.E.*) | ----- |
| U/G Gas Line LOS C (S.U.E.*) | ----- |
| U/G Gas Line LOS D (S.U.E.*) | ----- |
| Above Ground Gas Line | ----- |

SANITARY SEWER:

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

MISCELLANEOUS:

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

6/2/2019

| | |
|-----------------------|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| 14SP.20881.1 | 1C-1 |
| Location and Surveys | |

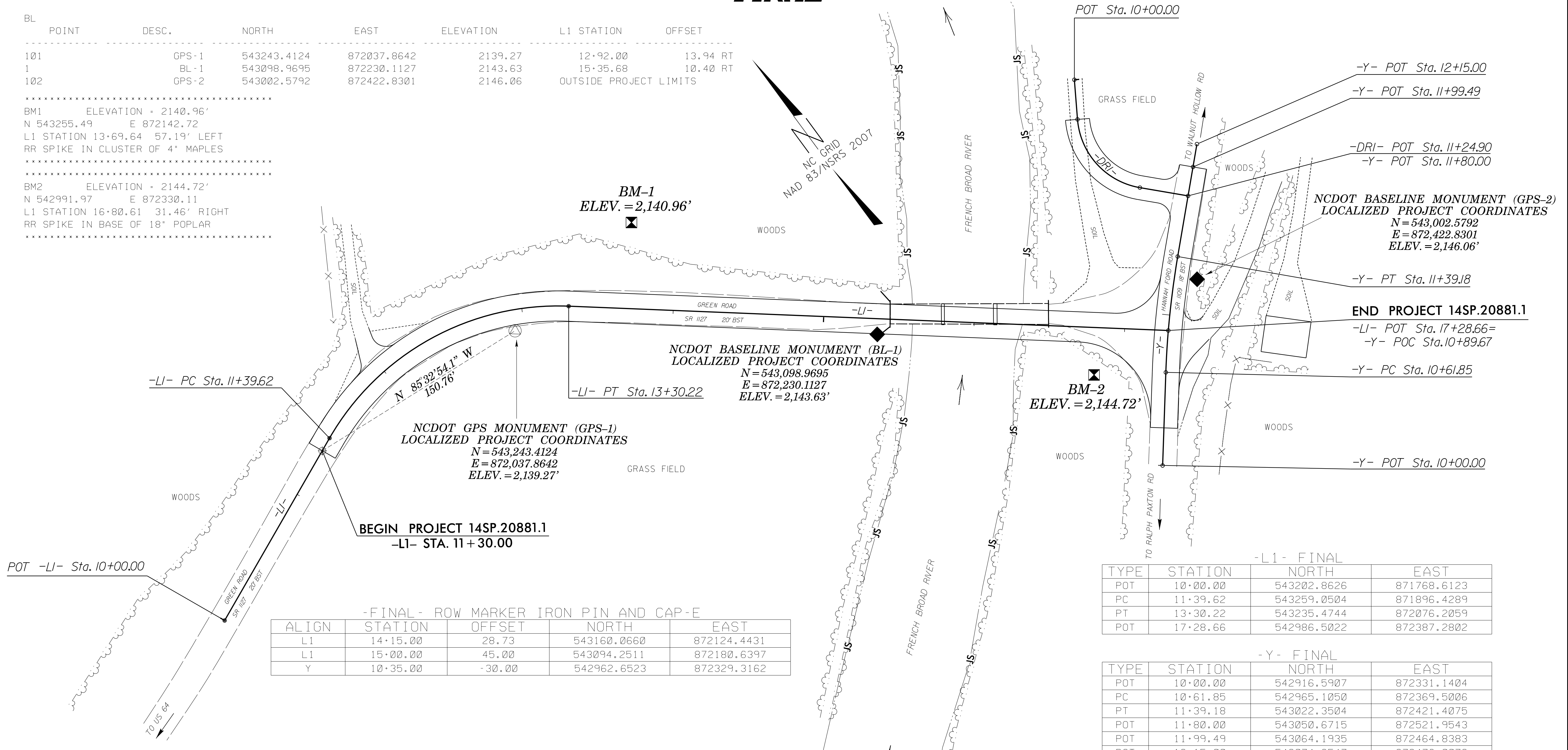
SURVEY CONTROL SHEET 87-0045

-FINAL-

| BL POINT | DESC. | NORTH | EAST | ELEVATION | L1 STATION | OFFSET |
|----------|-------|-------------|-------------|-----------|------------------------|----------|
| 101 | GPS-1 | 543243.4124 | 872037.8642 | 2139.27 | 12+92.00 | 13.94 RT |
| 1 | BL-1 | 543098.9695 | 872230.1127 | 2143.63 | 15+35.68 | 10.40 RT |
| 102 | GPS-2 | 543002.5792 | 872422.8301 | 2146.06 | OUTSIDE PROJECT LIMITS | |

.....
 BM1 ELEVATION = 2140.96'
 N 543255.49 E 872142.72
 L1 STATION 13+69.64 57.19' LEFT
 RR SPIKE IN CLUSTER OF 4" MAPLES

 BM2 ELEVATION = 2144.72'
 N 542991.97 E 872330.11
 L1 STATION 16+80.61 31.46' RIGHT
 RR SPIKE IN BASE OF 18" POPLAR



-FINAL- ROW MARKER IRON PIN AND CAP-E

| ALIGN | STATION | OFFSET | NORTH | EAST |
|-------|----------|--------|-------------|-------------|
| L1 | 14+15.00 | 28.73 | 543160.0660 | 872124.4431 |
| L1 | 15+00.00 | 45.00 | 543094.2511 | 872180.6397 |
| Y | 10+35.00 | -30.00 | 542962.6523 | 872329.3162 |

-L1- FINAL

| TYPE | STATION | NORTH | EAST |
|------|----------|-------------|-------------|
| POT | 10+00.00 | 543202.8626 | 871768.6123 |
| PC | 11+39.62 | 543259.0504 | 871896.4289 |
| PT | 13+30.22 | 543235.4744 | 872076.2059 |
| POT | 17+28.66 | 542986.5022 | 872387.2802 |

-Y- FINAL

| TYPE | STATION | NORTH | EAST |
|------|----------|-------------|-------------|
| POT | 10+00.00 | 542916.5907 | 872331.1404 |
| PC | 10+61.85 | 542965.1050 | 872369.5006 |
| PT | 11+39.18 | 543022.3504 | 872421.4075 |
| POT | 11+80.00 | 543050.6715 | 872521.9543 |
| POT | 11+99.49 | 543064.1935 | 872464.8383 |
| POT | 12+15.00 | 543074.9547 | 872476.0078 |

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-1" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 543243.4124(±) EASTING: 872037.8642(±) ELEVATION: 2139.27(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999775537

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-1" TO -L- STATION 11+30.00 IS
 N 85°32'54.1" W 150.76'

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

PDE
 -FINAL- ROW MARKER PERMANENT EASEMENT-E

| ALIGN | STATION | OFFSET | NORTH | EAST |
|-------|----------|--------|--------------|--------------|
| L1 | 15+05.00 | -32.10 | 543151.32037 | 872232.72007 |
| L1 | 15+05.00 | -40.00 | 543157.48892 | 872237.65714 |
| L1 | 15+15.00 | -40.00 | 543151.24024 | 872245.46445 |
| L1 | 15+15.00 | -32.41 | 543145.31365 | 872240.72102 |
| Y | 11+57.00 | -30.00 | 543056.31802 | 872413.42516 |
| Y | 11+57.00 | -35.00 | 543059.91876 | 872409.95606 |
| Y | 12+13.00 | -38.00 | 543100.93263 | 872448.20230 |
| Y | 12+13.00 | -30.00 | 543095.17145 | 872453.75287 |

GEOID MODEL - G09NC
 NOTE: DRAWING NOT TO SCALE

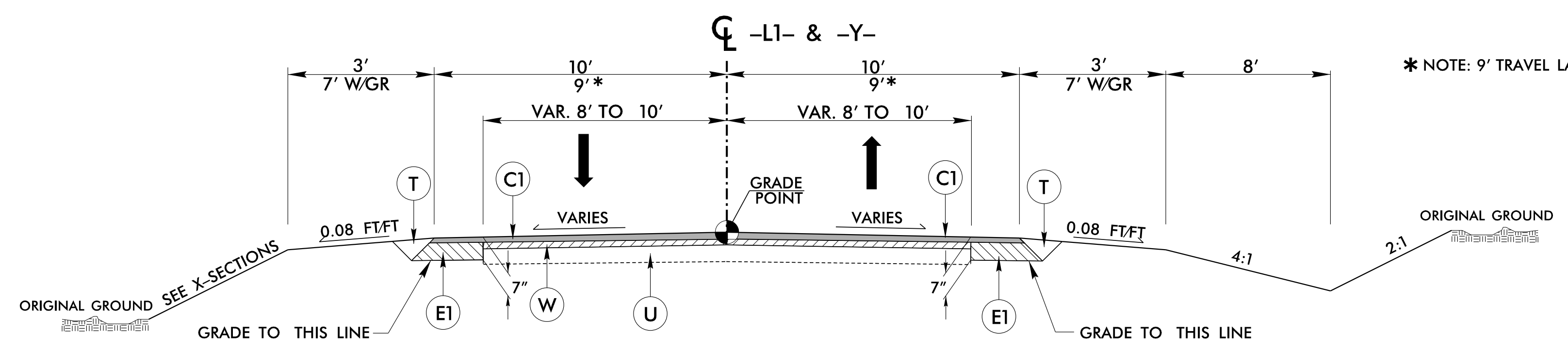
NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 87-0045_LS_CONTROL.TXT
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- ⊕ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

6/20/2019 11:39:41 AM
 14SP.20881.1 1C-1.dgn
 C:\projects\14sp20881\1c-1\14sp20881_1c-1.dgn

5/14/19

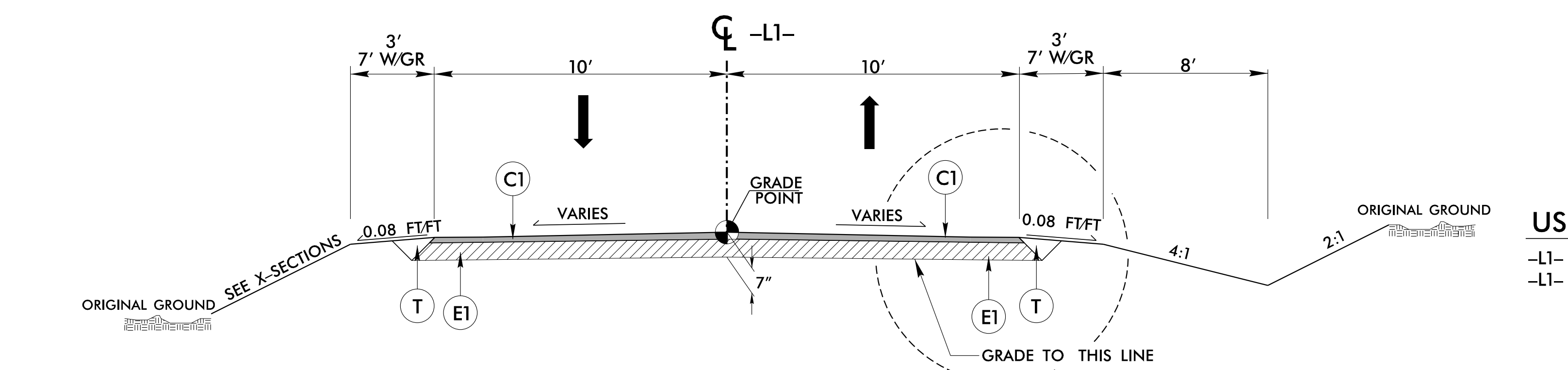
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| PROJECT REFERENCE NO. 14SP.20881J | SHEET NO. 2A-1 |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | PAVEMENT ENGINEER |
| | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



* NOTE: 9' TRAVEL LANES FOR -Y-

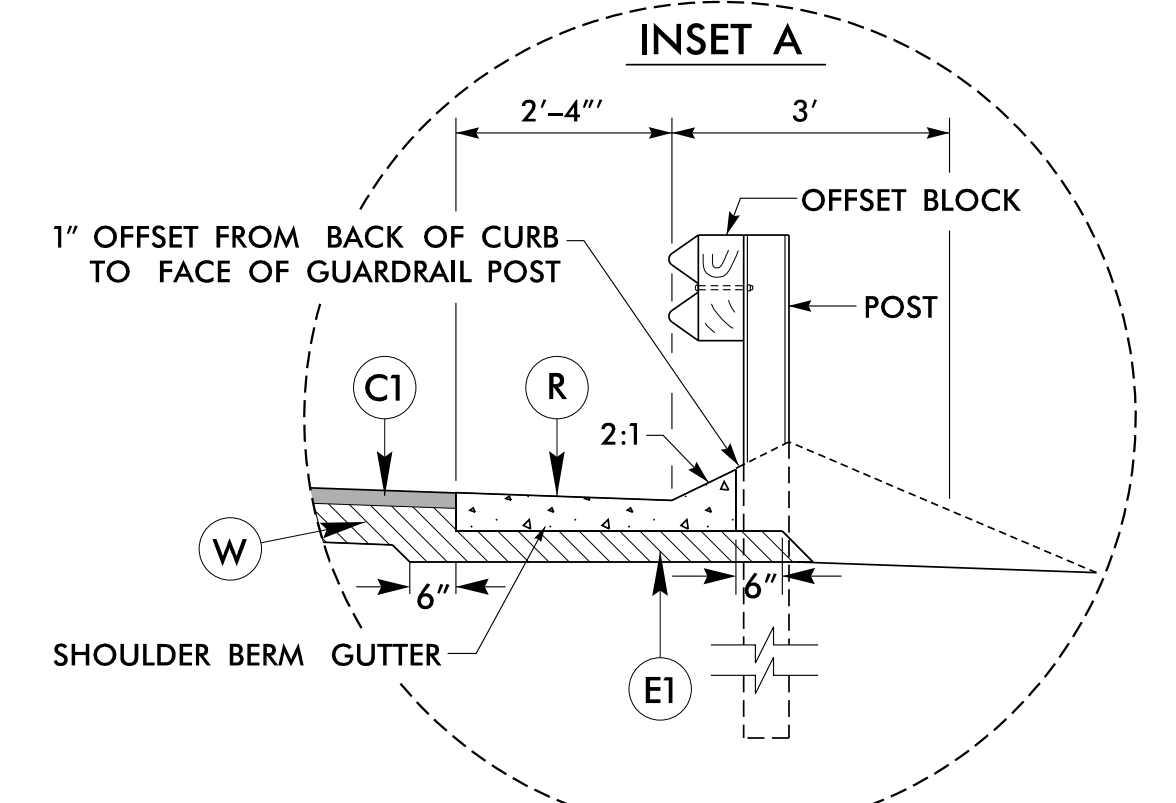
USE TYPICAL SECTION NO. 1
 -L1- STA. 11+30.00 TO -L1- STA. 11+50.00
 -L1- STA. 16+90.00 TO -L1- STA. 17+28.66
 * -Y- STA. 10+25.00 TO -Y- STA. 11+99.49

TYPICAL SECTION NO. 1

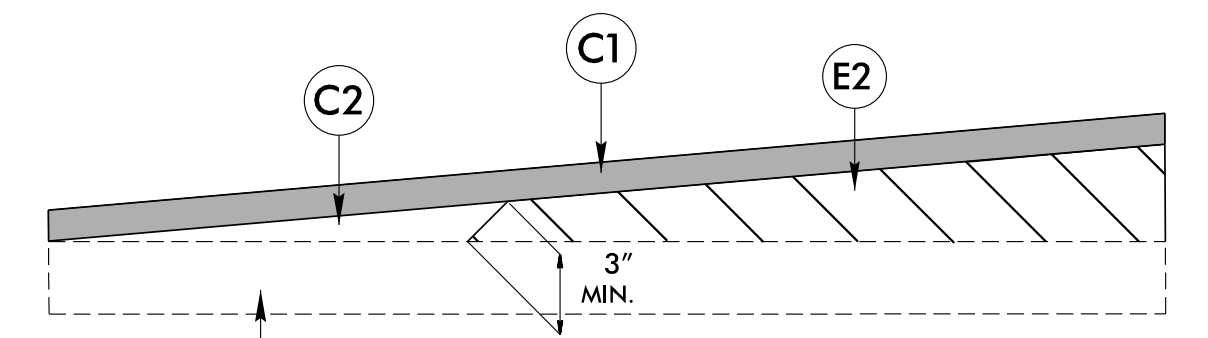


USE TYPICAL SECTION NO. 2
 -L1- STA. 11+50.00 TO -L1- STA. 15+23.75 (BEGIN BRIDGE)
 -L1- STA. 16+66.25 (END BRIDGE) TO -L1- STA. 16+90.00

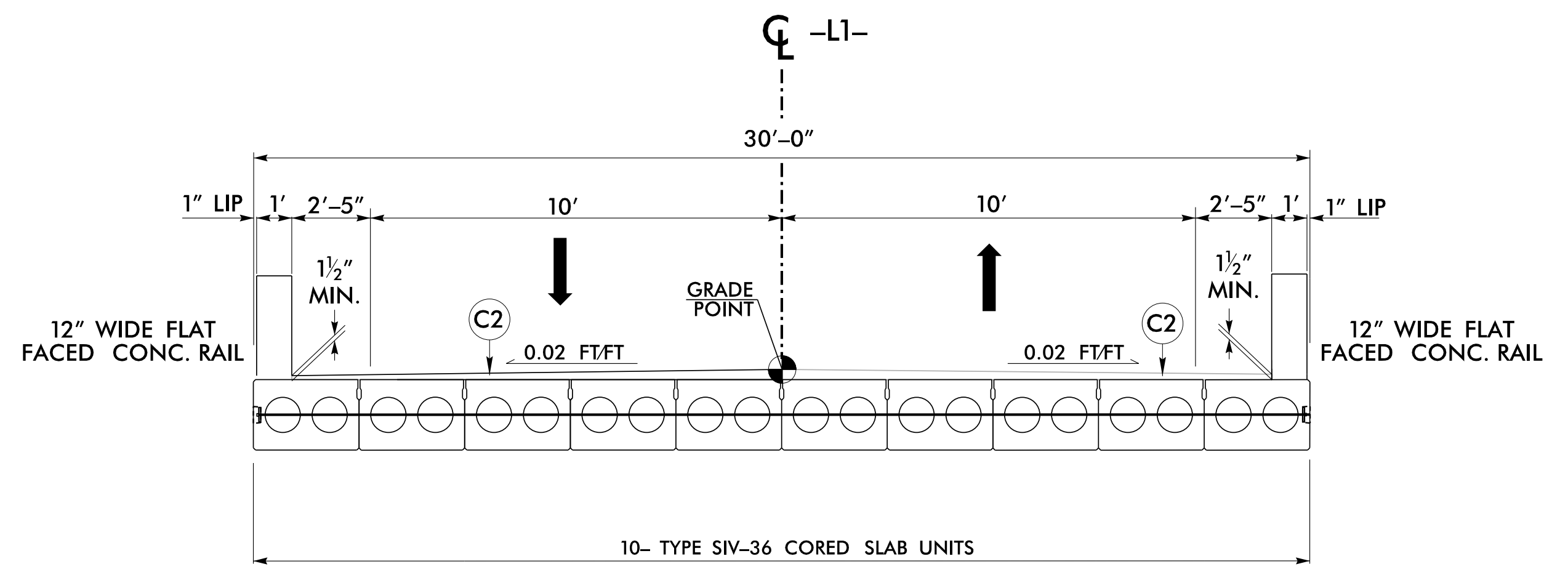
TYPICAL SECTION NO. 2



USE INSET A
 FROM -L- STA. 15+06 TO BEGIN BRIDGE LT. AND RT.
 FROM -L1- STA. 16+66.25 (END BRIDGE) TO -L1- STA. 16+93.17 LT.
 FROM -L1- STA. 16+66.25 (END BRIDGE) TO -L1- STA. 16+92.85 RT.

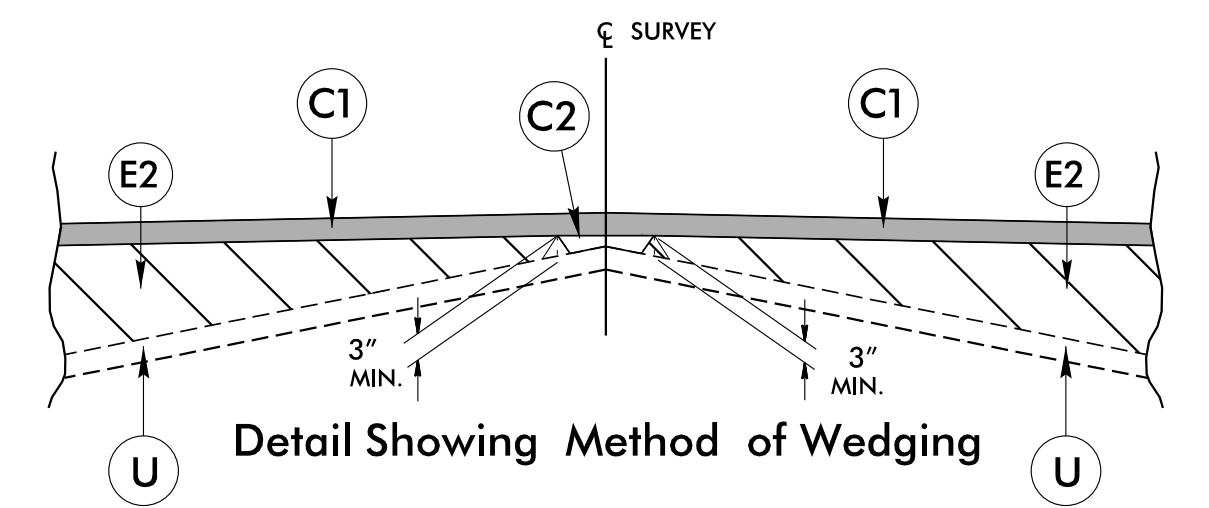


Wedging Detail

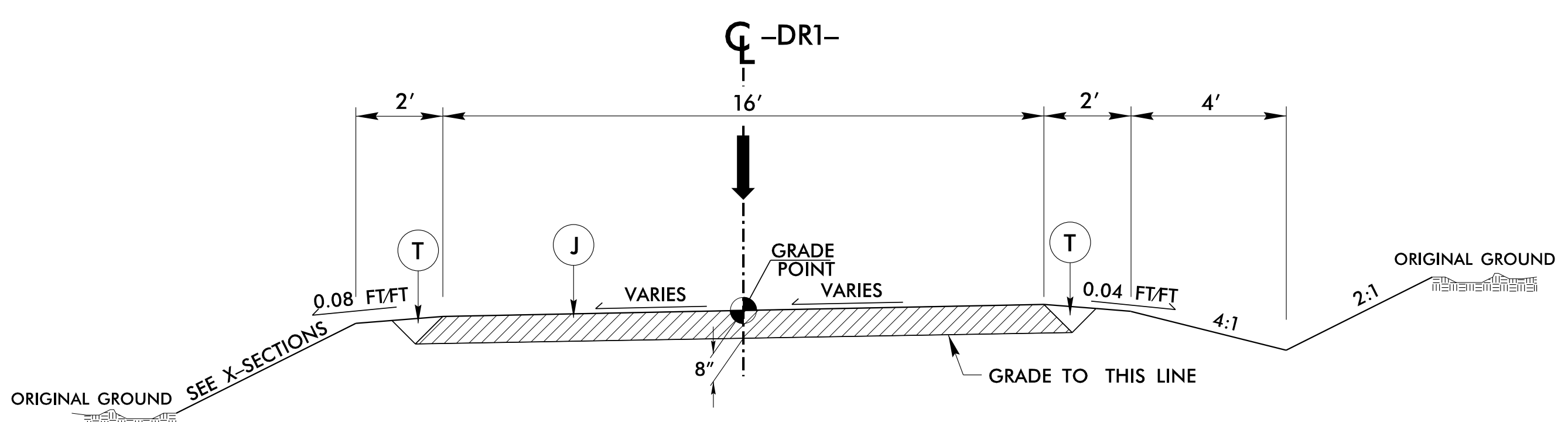


USE TYPICAL SECTION NO. 3
 -L1- STA. 15+23.75 (BEGIN BRIDGE) TO
 -L1- STA. 16+66.25 (END BRIDGE)

TYPICAL SECTION NO. 3



Detail Showing Method of Wedging



USE TYPICAL SECTION NO. 4
 -DR1- STA. 10+26.39 TO -DR1- STA. 11+24.90

TYPICAL SECTION NO. 4

| PAVEMENT SCHEDULE | |
|-------------------|--|
| C1 | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. |
| C2 | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH. |
| E1 | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E2 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, 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 | PROP. 8" AGGREGATE BASE COURSE |
| R | SHOULDER BERM GUTTER (SEE NCDOT STANDARD DRAWING NO. 846.01) |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |
| W | PROPOSED WEDGING (SEE APPROPRIATE DETAILS) |

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

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12/06/07

COMPUTED BY: KTB DATE: 10-25-16
 CHECKED BY: _____ DATE: _____

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. 14SP.20881J
 SHEET NO. 3B-1

SUMMARY OF EARTHWORK

| STATION | STATION | UNCL. EXCAV. | EMBANK. +% | BORROW | WASTE |
|--------------------------------------|-----------------------|--------------|------------|--------|-------|
| -LI- 11+30 | -LI- 15+25 Beg Bridge | 2 | 1855 | 1853 | |
| -LI- 16+65 End Bridge | -LI- 17+19.66 | | 44 | 44 | |
| -Y- 10+75 | -Y- 11+50 | | 2 | 2 | |
| -DRI- 10+75 | -DRI- 11+25 | 3 | 29 | 26 | |
| SUBTOTALS: | | 5 | 1930 | 1925 | |
| SUBTOTALS: | | | | | |
| PROJECT TOTALS: | | 5 | 1930 | 1925 | |
| EST 5% TO REPL TOPSOIL ON BORROW PIT | | | | 96 | |
| GRAND TOTALS: | | 5 | | 2021 | |
| SAY: | | 5 | | 2025 | |

PAVEMENT REMOVAL SUMMARY

| SURVEY LINE | STATION | STATION | LOCATION LT/RT/CL | YD ² |
|-------------|----------|----------|-------------------|-----------------|
| -LI- | 11+50.00 | 12+00.00 | CL | 111 |
| -LI- | 16+49.00 | 16+90.00 | CL | 58 |
| TOTAL: | | | | 169 |
| SAY: | | | | 170 |

SUMMARY OF BREAKING EXISTING ASPHALT PAVEMENT

| SURVEY LINE | STATION | STATION | LOCATION LT/RT/CL | YD ² |
|-------------|----------|----------|-------------------|-----------------|
| -LI- | 12+00.00 | 15+23.75 | CL | 704 |
| TOTAL: | | | | 704 |
| SAY: | | | | 705 |

SHOULDER BERM GUTTER SUMMARY

| SURVEY LINE | STATION | STATION | LENGTH |
|-------------|----------|----------|--------|
| -LI- LT | 15+06.00 | 15+25.00 | 19' |
| -LI- RT | 15+06.00 | 15+25.00 | 19' |
| TOTAL: | | | 38' |
| SAY: | | | 40' |

CONTINGENCY ITEMS:
 INCIDENTAL STONE = 25 TONS
 UNDERCUT EXCAVATION = 25 CY
 SELECT GRANULAR MATERIAL = 25 CY
 CLASS IV SUBGRADE STABILIZATION = 25 TONS
 GEOTEXTILE FOR SOIL STABILIZATION = 25 SY

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

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

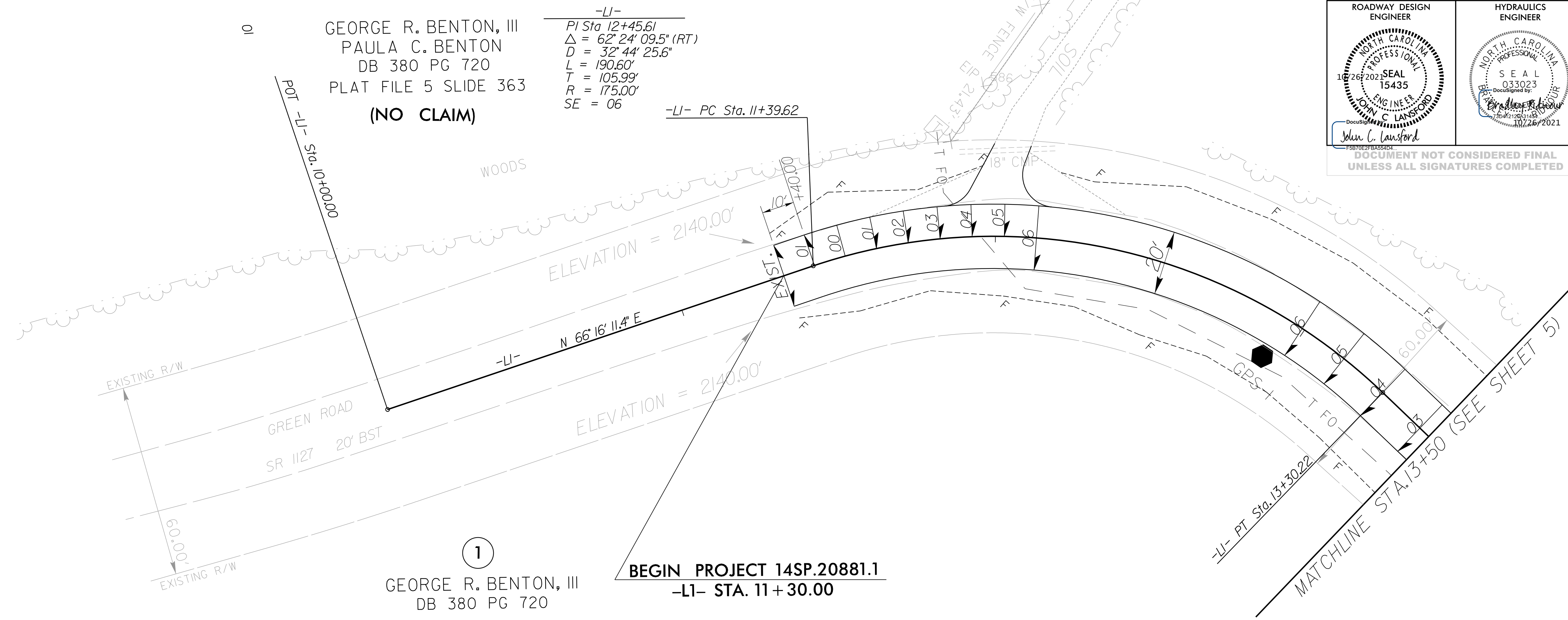
GUARDRAIL SUMMARY

| SURVEY LINE | BEG. STA. | END STA. | LOCATION | LENGTH | | | WARRANT POINT | | "N" DIST. FROM E.O.L. | TOTAL SHOUL. WIDTH | FLARE LENGTH | | W | | ANCHORS | | | | | | | IMPACT ATTENUATOR TYPE 350 | | | SINGLE FACED GUARDRAIL | REMOVE EXISTING GUARDRAIL | REMOVE AND STOCKPILE EXISTING GUARDRAIL | REMARKS | | | | | |
|------------------------|-----------|------------------|----------|----------|-------------|--------------|---------------|--------------|-----------------------|--------------------|--------------|--------------|--------------|--------------|---------|----|-----------|-------|----------|----------------------|--------|----------------------------|------|----|------------------------|---------------------------|---|---------|---|----|--|--|--|
| | | | | STRAIGHT | SHOP CURVED | DOUBLE FACED | APPROACH END | TRAILING END | | | APPROACH END | TRAILING END | APPROACH END | TRAILING END | XI MOD | XI | GREU TL-2 | M-350 | TYPE III | SHOP CURVED TYPE III | VI MOD | BIC | AT-1 | EA | | | | | G | NG | | | |
| -LI- | 14+62.50 | 15+25.00 | LT | 62.5' | | | 15+25 | | 4' | 7' | 12.5' | | 1' | | | | | | | | | | | | | | | | | | | | |
| -LI- | 14+62.50 | 15+25.00 | RT | 62.5' | | | | 15+25 | 4' | 7' | 12.5' | | 1' | | | | | | | | | | | | | | | | | | | | |
| -LI- | 16+65.00 | -Y- 11+66.77 LT. | LT | 50' | 50' | | | 16+65 | 4' | 7' | 12.5' | | 4' | | | | | | | | | | | | | | | | | | | | |
| -LI- | 16+65.00 | 17+02.50 | RT | 25.0' | 12.5' | | 16+65 | | 4' | 7' | 6.25' | | 4' | | | | | | | | | | | | | | | | | | | | |
| PROJECT TOTAL | | | | 200' | 62.5' | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LESS ANCHOR DEDUCTIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TYPE III | | | | | 3 @ 18.75' | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TYPE III SHOP CURVED | | | | | 1 @ 18.75' | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AT-1 | | | | | 1 @ 6.25' | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GREU TL-2 | | | | | 3 @ 25' | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GRAND TOTAL | | | | | 62.5' | 43.75' | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SAY | | | | | 62.5' | 50' | | | | | | | | | | | | | | | | | | | | | | | | | | | |

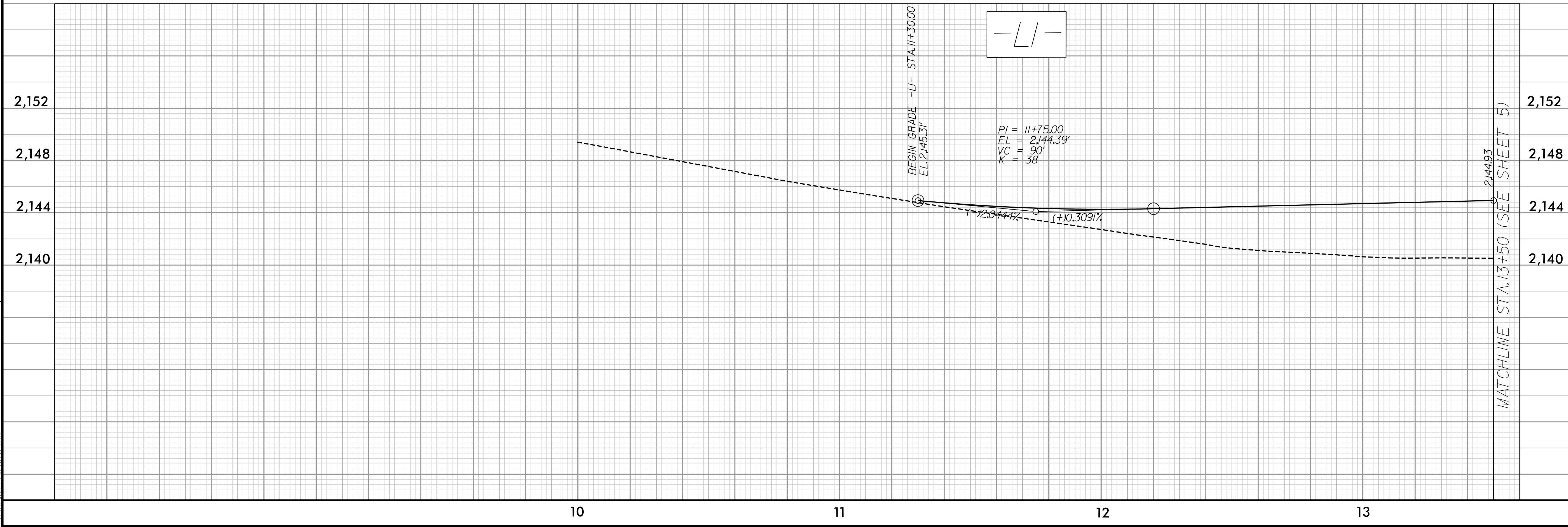
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| | | | |
|--|--|-----------------------|--|
| PROJECT REFERENCE NO. 14SP.20881.1 | | SHEET NO. 4 | |
| RW SHEET NO. | | HYDRAULICS ENGINEER | |
| ROADWAY DESIGN ENGINEER | | SEAL | |
| | | | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | | | |

NAD 83/NSRS 2007



REVISIONS

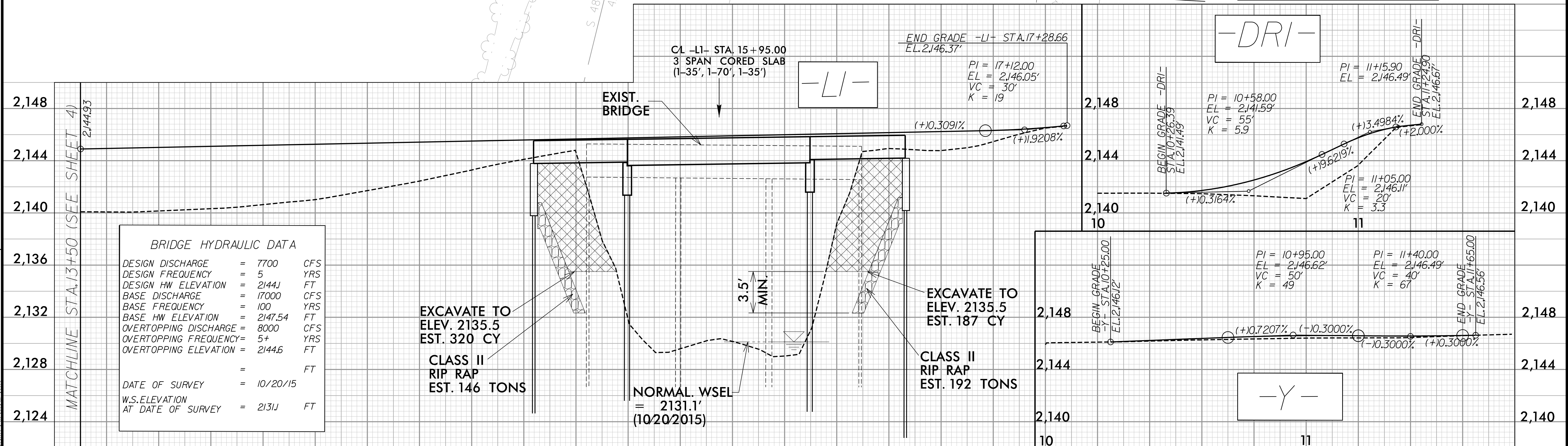
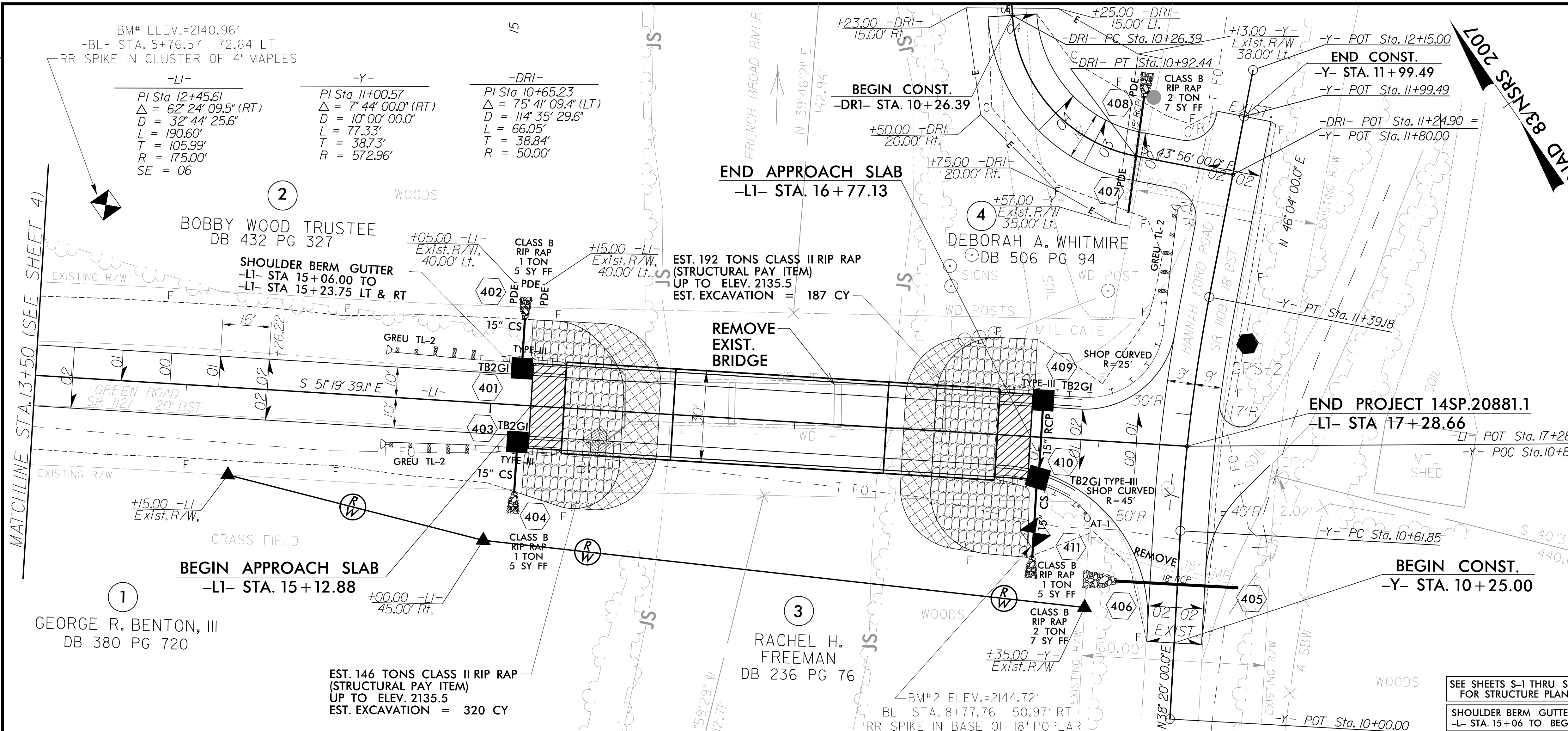


| | |
|--|---|
| PROJECT REFERENCE NO. 14SP.20881.1 | SHEET NO. 5 |
| ROADWAY DESIGN ENGINEER John C. Lawford | HYDRAULICS ENGINEER Jacquelyn S. Hovey |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

JACQUELYN S. HOVEY
DB 255 PG 237
(NO CLAIM)

RACHEL H. FREEMAN
DB 236 PG 76
(NO CLAIM)



| BRIDGE HYDRAULIC DATA | | |
|----------------------------------|------------|-----|
| DESIGN DISCHARGE | = 7700 | CFS |
| DESIGN FREQUENCY | = 5 | YRS |
| DESIGN HW ELEVATION | = 2144.1 | FT |
| BASE DISCHARGE | = 17000 | CFS |
| BASE FREQUENCY | = 100 | YRS |
| BASE HW ELEVATION | = 2147.54 | FT |
| OVERTOPPING DISCHARGE | = 8000 | CFS |
| OVERTOPPING FREQUENCY | = 5+ | YRS |
| OVERTOPPING ELEVATION | = 2144.6 | FT |
| DATE OF SURVEY | = 10/20/15 | |
| W.S. ELEVATION AT DATE OF SURVEY | = 2131.1 | FT |

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User: jh13021

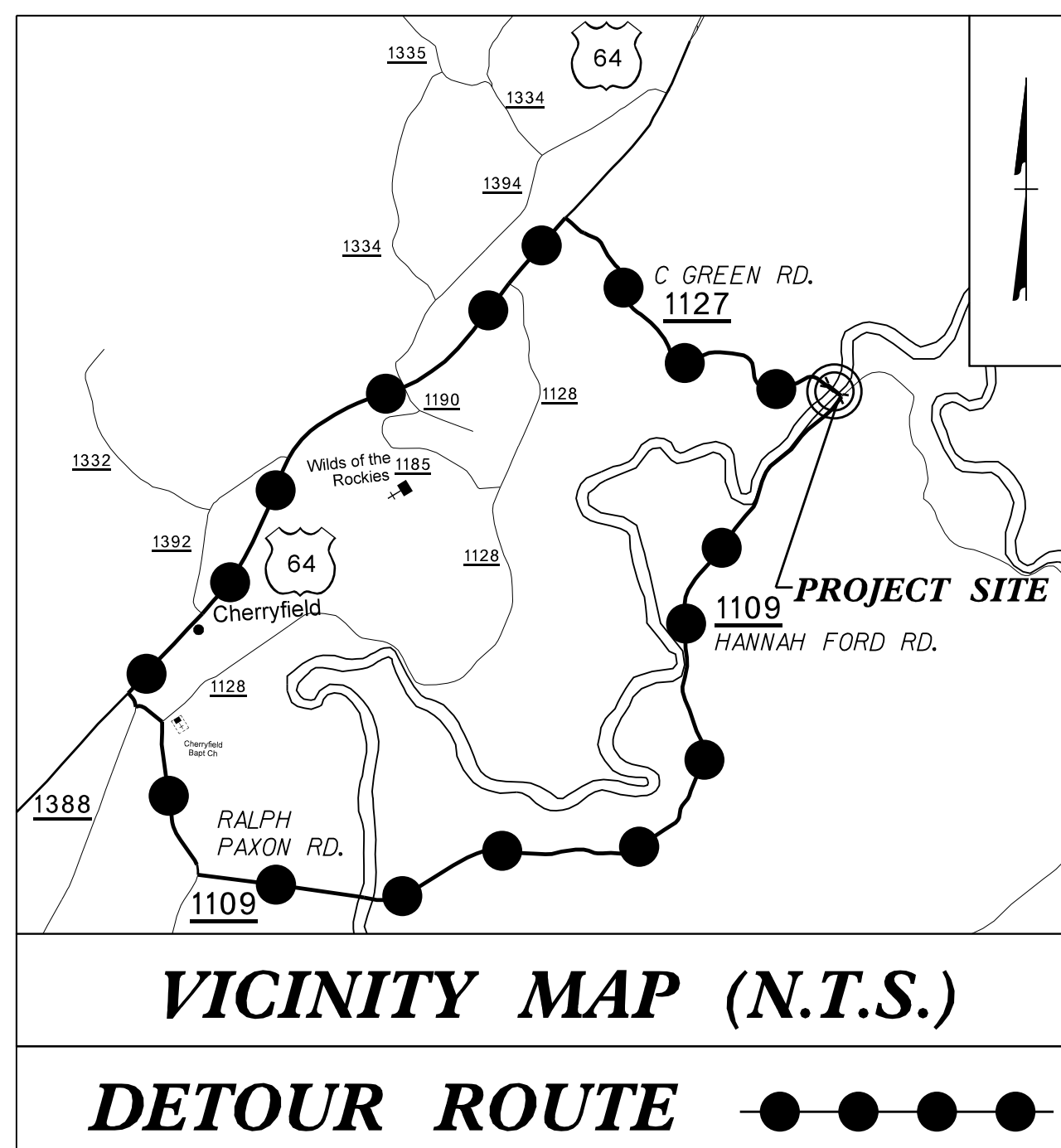
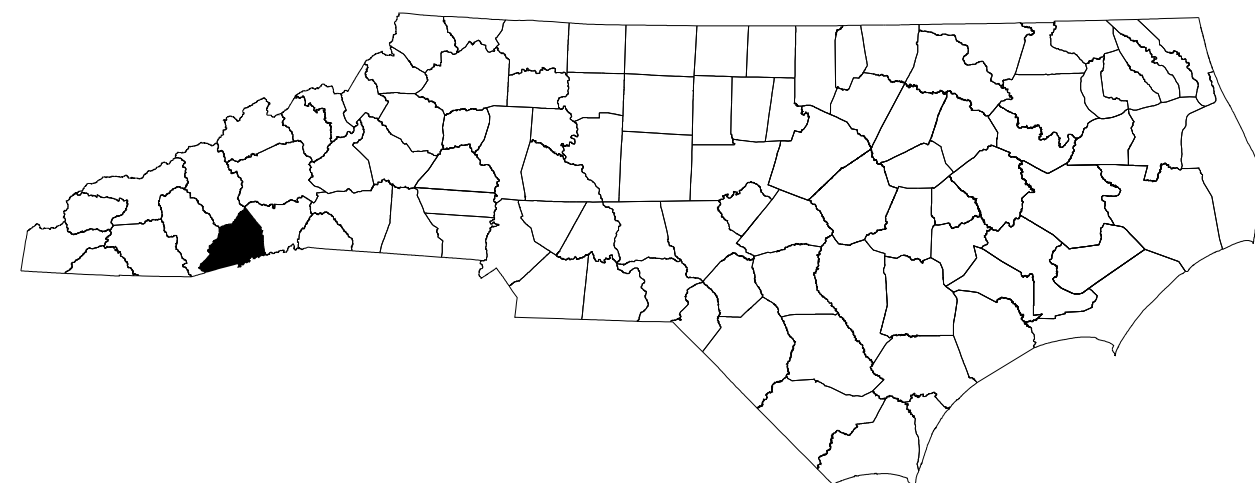
REVISIONS

8/17/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

TRANSYLVANIA COUNTY
DIVISION 14



**LOCATION: BRIDGE NO. 870045 OVER FRENCH BROAD RIVER
ON SR 1127 (GREEN ROAD)**

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, LOCAL NOTES AND TRANSPORTATION OPERATIONS |
| TMP-2 | SPECIAL SIGN DESIGN |
| TMP-3 | TEMPORARY TRAFFIC CONTROL DETAIL, PHASING NOTES, DETOUR SIGNING AND ROAD CLOSURE |

LEGEND

GENERAL



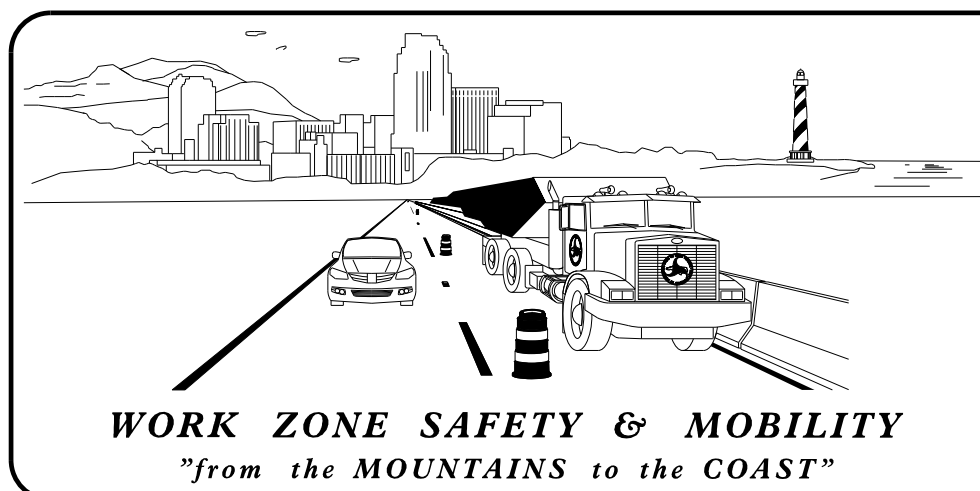
TRAFFIC CONTROL DEVICES



TEMPORARY SIGNING

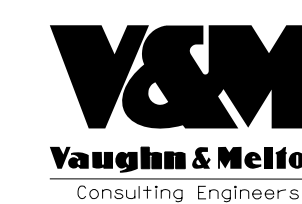


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User:amfitzpatrick



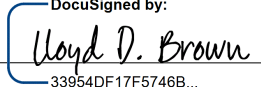
PLANS PREPARED BY:
LLOYD DEWAYNE BROWN, P.E., P.L.S.
PROJECT ENGINEER
C. GONZALEZ-MARTELL
PROJECT DESIGN ENGINEER

NCDOT CONTACTS:
JOSEPH E. HUMMER, Ph.D., P.E.
STATE TRAFFIC MANAGEMENT ENGINEER
DON A. PARKER, P.E.
WESTERN WZTC ENGINEER



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Charlotte, NC 704-357-0488
Atlanta, GA 770-627-3590
Boone, NC 828-255-9933
Tri-Cities, TN 423-467-8401
Knoxville, TN 865-546-5800
Spartanburg, SC 864-574-4775
Charleston, SC 843-974-5650
Madison, KY 606-248-6500

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APPROVED: 
DATE: 10/26/2021

SEAL



PROJECT: 14SP.20881.1

SHEET NO.
TMP-1

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 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE |
|----------|---|
| 1101.01 | WORK ZONE WARNING SIGNS |
| 1101.02 | TEMPORARY LANE CLOSURES |
| 1101.03 | TEMPORARY ROAD CLOSURES |
| 1101.05 | WORK ZONE VEHICLE ACCESSES |
| 1110.01 | STATIONARY WORK ZONE SIGNS |
| 1145.01 | BARRICADES |
| 1205.01 | PAVEMENT MARKINGS - LINE TYPES & OFFSETS |
| 1205.02 | PAVEMENT MARKINGS - TWO LANE & MULTI-LANE |
| 1205.12 | PAVEMENT MARKINGS - BRIDGES |

TRANSPORTATION OPERATIONS

CONSTRUCTION

REMOVE AND REPLACE EXISTING STRUCTURE 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 US 64, SR 1388 (OLD ROSMAN HWY), SR 1128 (CALVERT RD), SR 1109 (RALPH PAXON RD AND HANNAH FORD RD), AND SR 1127 (GREEN RD), (SEE SHEET TMP-3).

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.

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.

I) FINAL PAVEMENT MARKING APPLICATIONS OF PAINT SHALL BE PLACED IN TWO APPLICATIONS


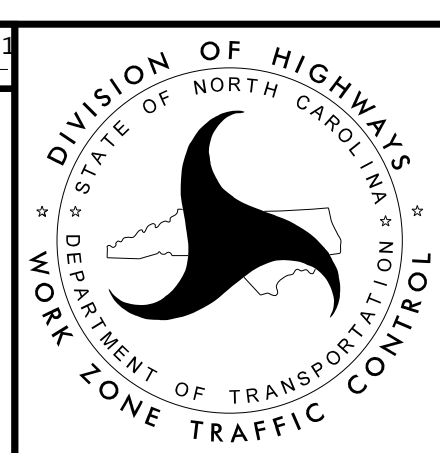
LOCAL NOTES

1. NOTIFY TRANSYLVANIA COUNTY EMERGENCY SERVICES AND PUBLIC SCHOOLS AT LEAST 30 DAYS PRIOR TO ROAD CLOSURE.

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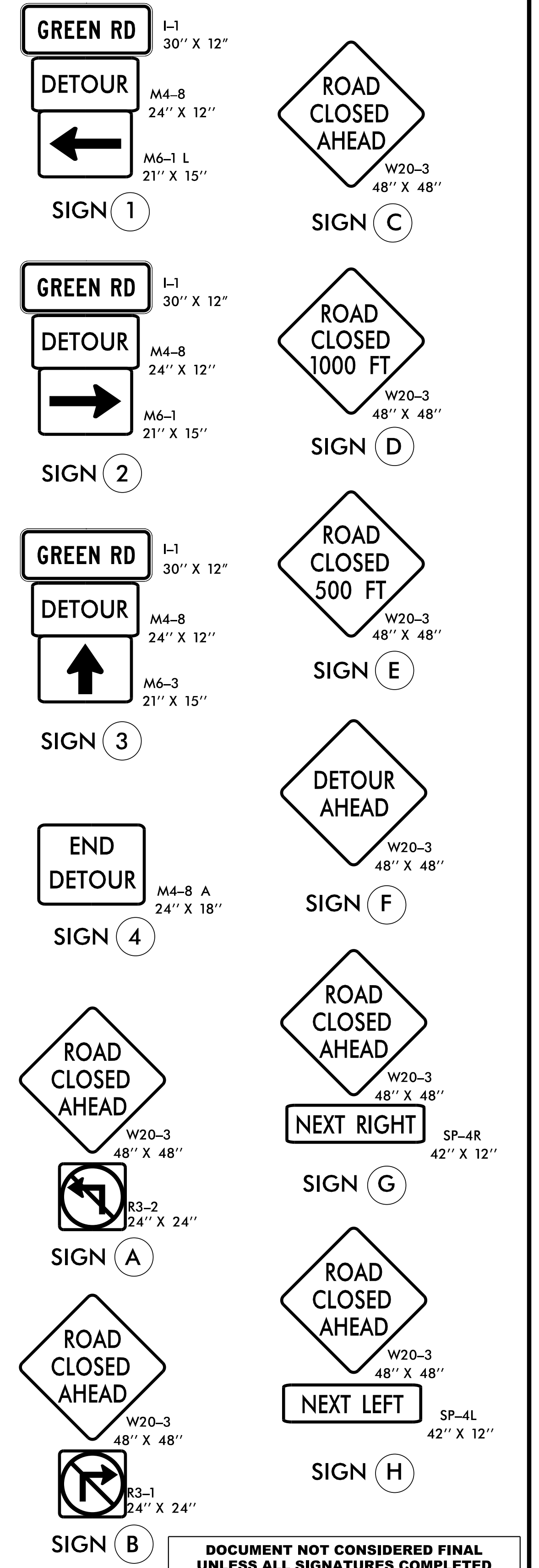
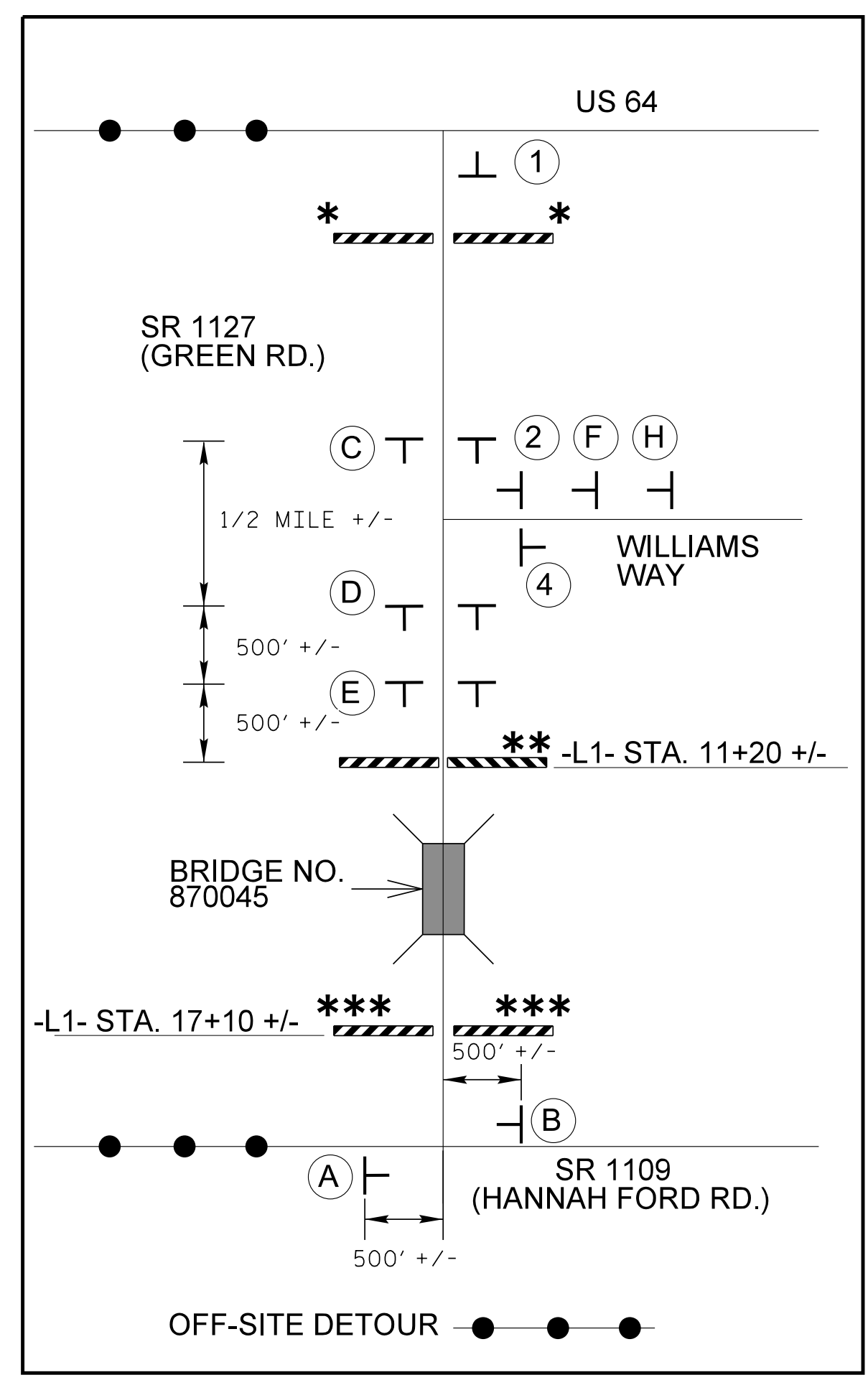
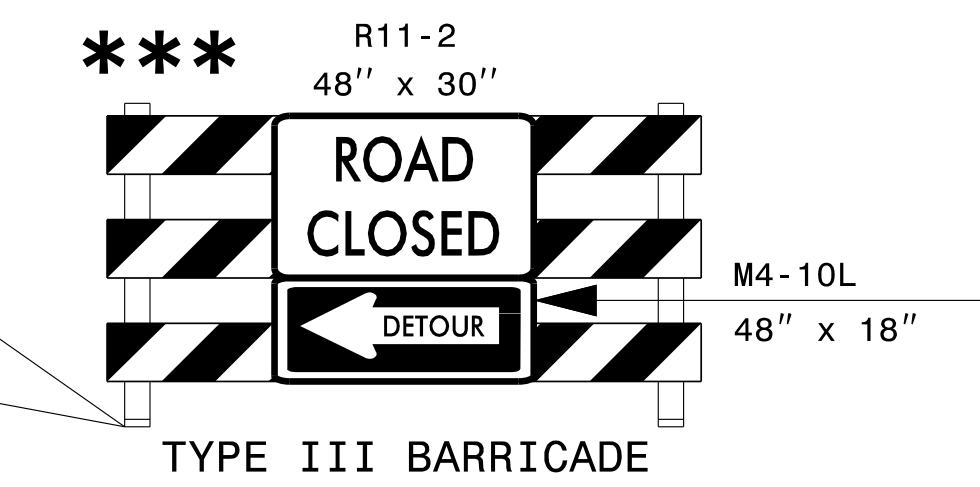
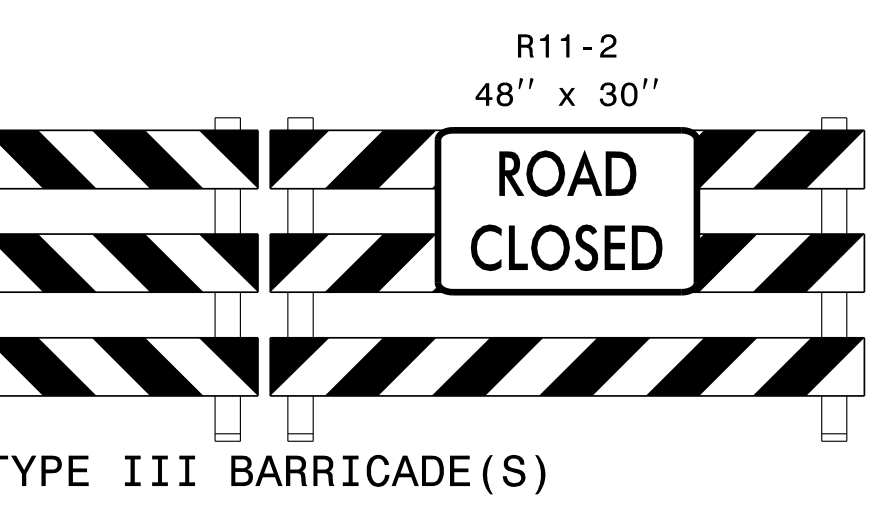
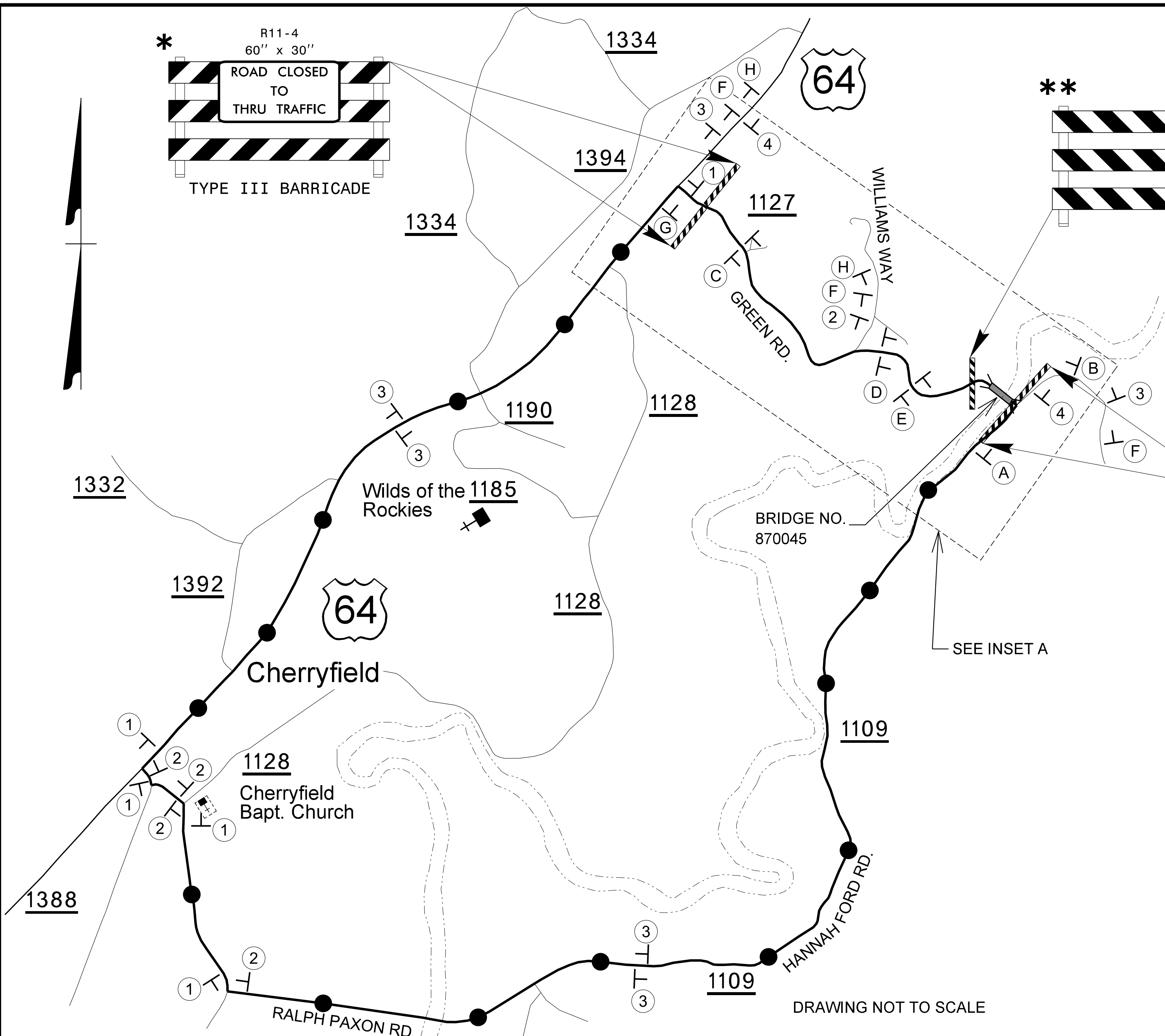
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SEAL

ROADWAY STANDARD DRAWINGS
GENERAL NOTES AND
TRANSPORTATION OPERATIONS

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PHASING

- STEP 1:** - INSTALL OFF-SITE DETOUR ROUTE SIGN ASSEMBLIES FOR THE CLOSING OF SR 1127 (GREEN ROAD, -L1-).
- USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEETS 1 OF 9 AND 2 OF 9, CLOSE SR 1127 (GREEN ROAD, -L1-) TO THRU TRAFFIC.
- STEP 2:** - AWAY FROM TRAFFIC, REMOVE THE EXISTING STRUCTURE ON -L1- AND CONSTRUCT THE PROPOSED STRUCTURE AND ROADWAY ON -L1- UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE CONSTRUCTION PLANS).
- USING ROADWAY STANDARD NO. 1101.02, SHEET 1 OF 15, AND FLAGGERS AS NECESSARY, CONTRACT PROPOSED -Y- AND -DR1- UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE AND PLACE FINAL PAVEMENT MARKINGS ON ENTIRE PROJECT (SEE SHEET PMP-2).

- STEP 3:** - REMOVE ALL TRAFFIC CONTROL DEVICES, SIGNING AND DETOUR ROUTE SIGNING.
- OPEN SR 1127 (GREEN ROAD, -L1-) TO FINAL TRAFFIC PATTERN.

- NOTES:**
- ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.
 - ALL DETOUR SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE NOTED.
 - TRAFFIC CONTROL DEVICES (A) THROUGH (H) SHALL BE INSTALLED ACCORDING TO ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9 AND SHEET 2 OF 9.
 - TRAFFIC CONTROL DEVICES (1) AND (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.

V&M
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Consulting Engineers
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Middlesboro, KY 606-248-6600
Atlanta, GA 770-627-3509

Charlotte, NC 704-357-0488
Boone, NC 828-355-9933

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APPROVED *Lloyd D. Brown* DATE: 10/26/2021
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
LLOYD D. BROWN
20119

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

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TEMPORARY TRAFFIC CONTROL DETAIL, PHASING NOTES, OFF-SITE DETOUR SIGNING AND ROAD CLOSURE

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**STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
 TRANSYLVANIA COUNTY
 LOCATION: BRIDGE NO. 870045 OVER FRENCH BROAD RIVER
 ON SR 1127 (GREEN ROAD)**

| | |
|---|----------------------|
| TIP NO. 14SP.20881.1 | SHEET NO. PMP - 1 |
| APPROVED: | |
| DATE: 10/26/2021 | |
| | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C. DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE |
|----------|--|
| 1205.01 | PAVEMENT MARKINGS - LINE TYPES AND OFFSETS |
| 1205.02 | PAVEMENT MARKINGS - TWO LANE & MULTILANE ROADWAYS |
| 1205.04 | PAVEMENT MARKINGS - INTERSECTIONS |
| 1205.12 | PAVEMENT MARKINGS - BRIDGES |
| 1261.01 | GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING |
| 1261.02 | GUARDRAIL AND BARRIER DELINEATORS - TYPES & MOUNTING |
| 1262.01 | GUARDRAIL END DELINEATION |

GENERAL NOTES

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.

A) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE

| ROAD NAME: | MARKING |
|----------------------------|---------|
| SR 1127 (GREEN ROAD) | PAINT |
| SR 1109 (HANNAH FORD ROAD) | PAINT |

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

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

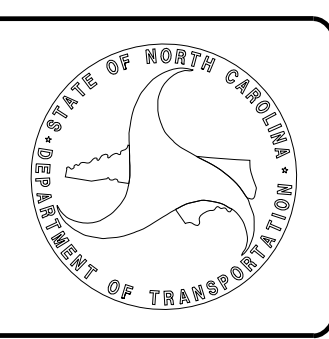
D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

INDEX

| SHEET NO. | DESCRIPTION |
|-----------|--------------------------------------|
| PMP - 1 | PAVEMENT MARKING PLAN TITLE SHEET |
| PMP - 2 | PAVEMENT MARKING DETAIL AND SCHEDULE |

PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

| | |
|--------------|--|
| K. L. JORDAN | SIGNING & DELINEATION REGIONAL ENGINEER |
| ERIC WARD | SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN |

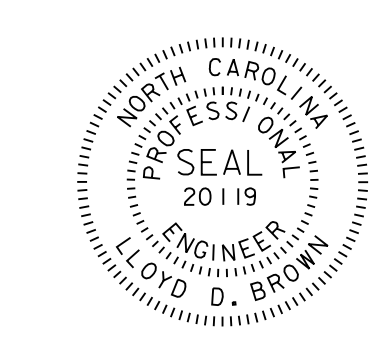


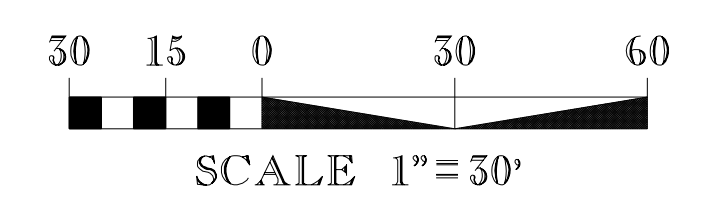
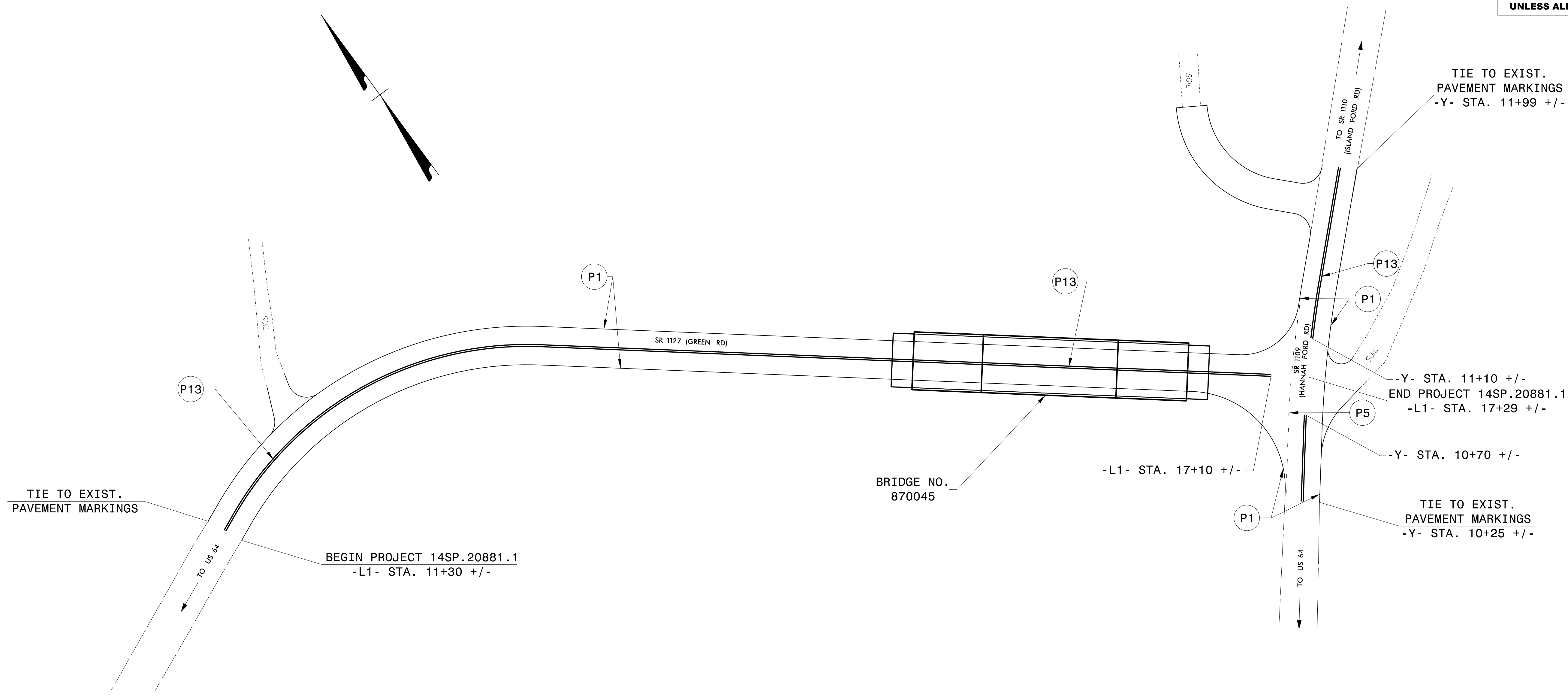
Asheville, North Carolina
 828-253-2796

| | |
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| <input type="checkbox"/> Boone, NC 828-355-9933 | <input type="checkbox"/> Tri-Cities, TN 423-467-8400 |
| <input type="checkbox"/> Knoxville, TN 865-546-5800 | <input type="checkbox"/> Spartanburg, SC 864-574-4775 |
| <input type="checkbox"/> Asheville, North Carolina 828-253-2796 | <input type="checkbox"/> Charleston, SC 843-974-5650 |
| <input type="checkbox"/> Raleigh, NC 919-977-9455 | <input type="checkbox"/> Middleboro, KY 606-248-6600 |
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TRANSPORTATION ENGINEER LLOYD D. BROWN, P.E.
TRANSPORTATION DESIGN ENGINEER C. GONZALEZ-MARTELL

| | |
|---|-----------|
| TIP NO. | SHEET NO. |
| 14SP.20881.1 | PMP-2 |
| APPROVED: <i>Lloyd D. Brown</i> 33954DF17F5746B | |
| DATE: 10/26/2021 | |
|  | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



FINAL PAVEMENT MARKING SCHEDULE

| SYMBOL | DESCRIPTION | QUANTITY BREAKDOWN | PAY ITEM | TOTAL QUANTITY |
|--------|--|--------------------|--------------|----------------|
| P1 | WHITE SOLID EDGE LINE (4") - PAINT | 1,480 FT | 4810000000-E | 2,960 FT |
| P5 | 2 FT. - 6 FT./SP WHITE MINISKIP (4") - PAINT | 25 FT | 4810000000-E | 50 FT |
| P13 | YELLOW DOUBLE CENTER LINE (4") - PAINT | 1,430 FT | 4810000000-E | 2,860 FT |

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Knoxville, Tennessee 865-546-5800

Middlesboro, Kentucky 606-248-6600

Spartanburg, South Carolina 864-574-4715

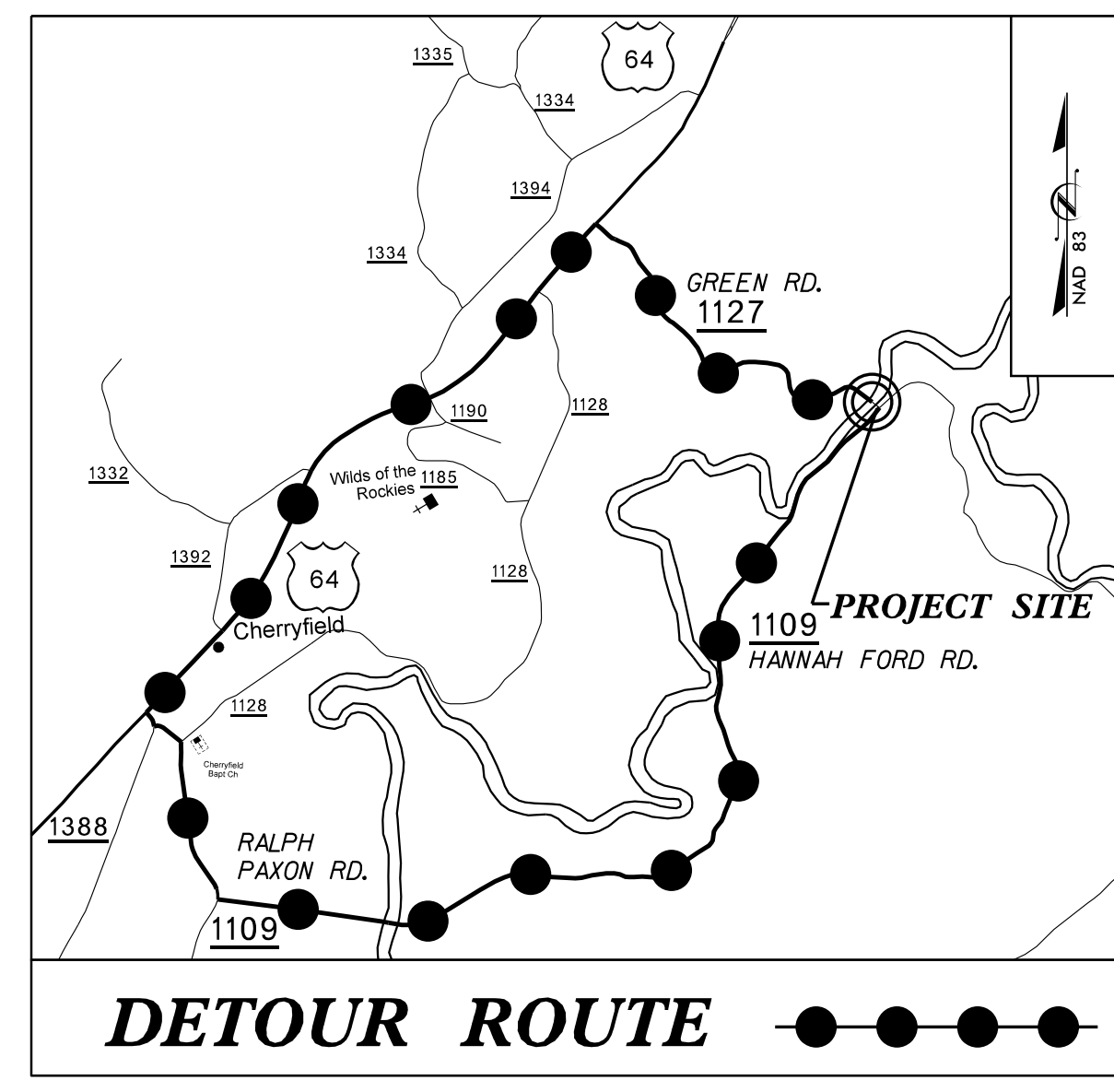
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PAVEMENT MARKING DETAIL AND SCHEDULE

10/26/2021 3:44:56 PM V:\Asheville\Transportation\31236-05 MTC 14SP.20881\TrafficControl\TCP\MMP-2.dgn User:cmf1zpdtrick

PROJECT: 14SP.20881.1

CONTRACT: DN00128



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

LOCATION: BRIDGE NO. 870045 OVER FRENCH BROAD RIVER
 ON SR 1127 /HWY 143 BUS. (GREEN ROAD)
 TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES

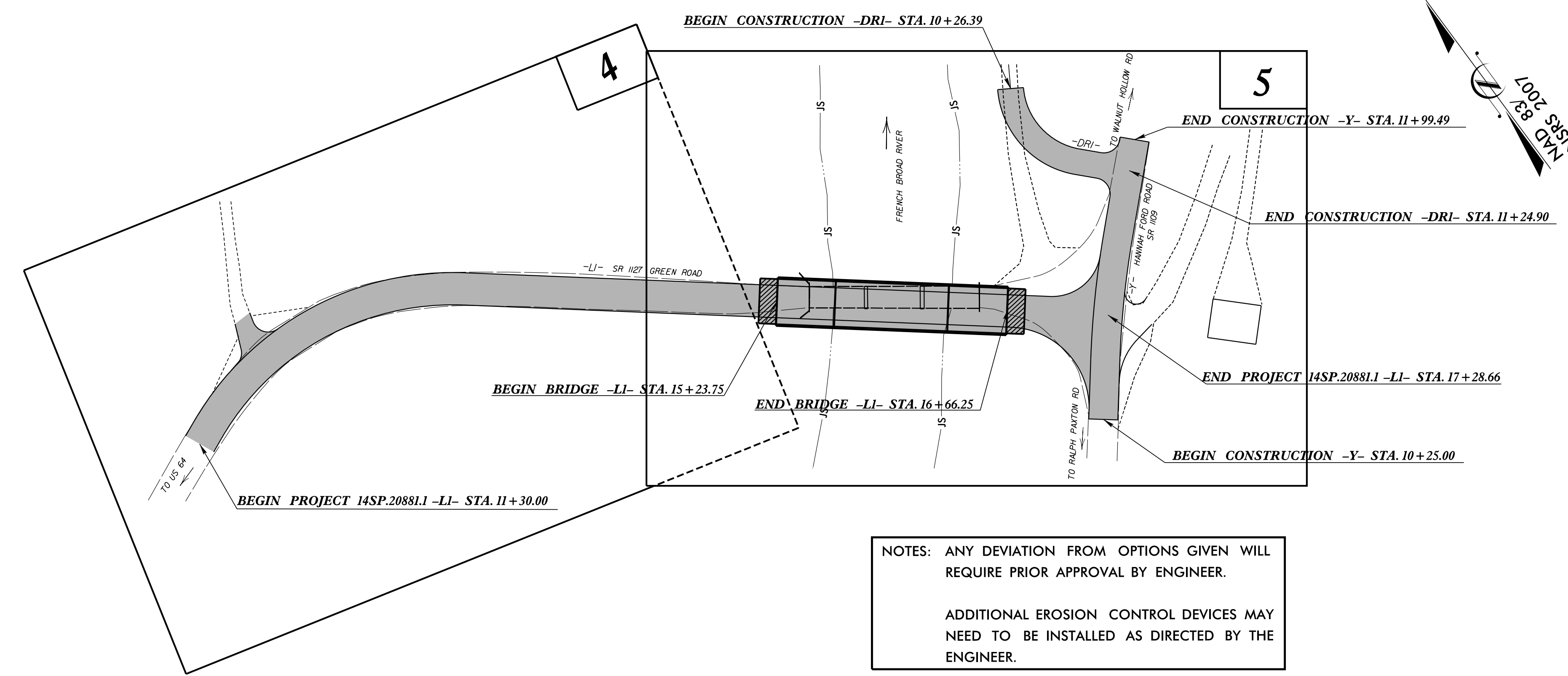
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| | |
|-----------------------------------|-----------------------------------|
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| □ Tri-Cities, TN 423-467-8401 | □ Atlanta, GA 770-627-3509 |
| □ Knoxville, TN 865-546-5800 | □ Charleston, SC 843-974-5650 |
| □ Spartanburg, SC 864-574-4775 | □ Middlesboro, KY 606-248-6600 |
| □ Raleigh, NC 919-977-9455 | □ Atlanta, GA 770-627-3509 |

| | | | |
|-----------------|-----------------------------|-------------|--------------|
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 14SP.20881.1 | EC-1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 14SP.20881.1 | N/A | P.E. | |
| 14SP.20881.1 | N/A | RW | |

EROSION AND SEDIMENT CONTROL MEASURES

| Std. # | Description | Symbol |
|---------|--|--------|
| 1630.05 | Temporary Silt Ditch | TD |
| 1630.05 | Temporary Diversion | TD |
| 1605.01 | Temporary Silt Fence | |
| 1606.01 | Special Sediment Control Fence | |
| 1622.01 | Temporary Berms and Slope Drains | — |
| 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 | ▭ |



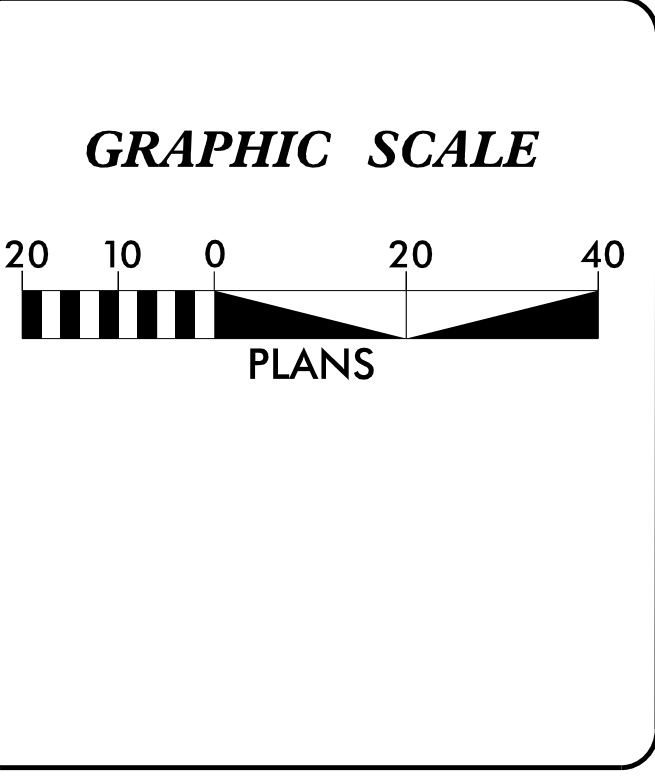
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

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

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

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.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2016 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared in the Office of:
Vaughn & Melton
 Consulting Engineers
 1318-F Patton Avenue
 Asheville, NC 28806
2018 STANDARD SPECIFICATIONS
 Designed by:
Christian J. Gonzalez-Martell 3939
 NAME LEVEL III CERTIFICATION NO.

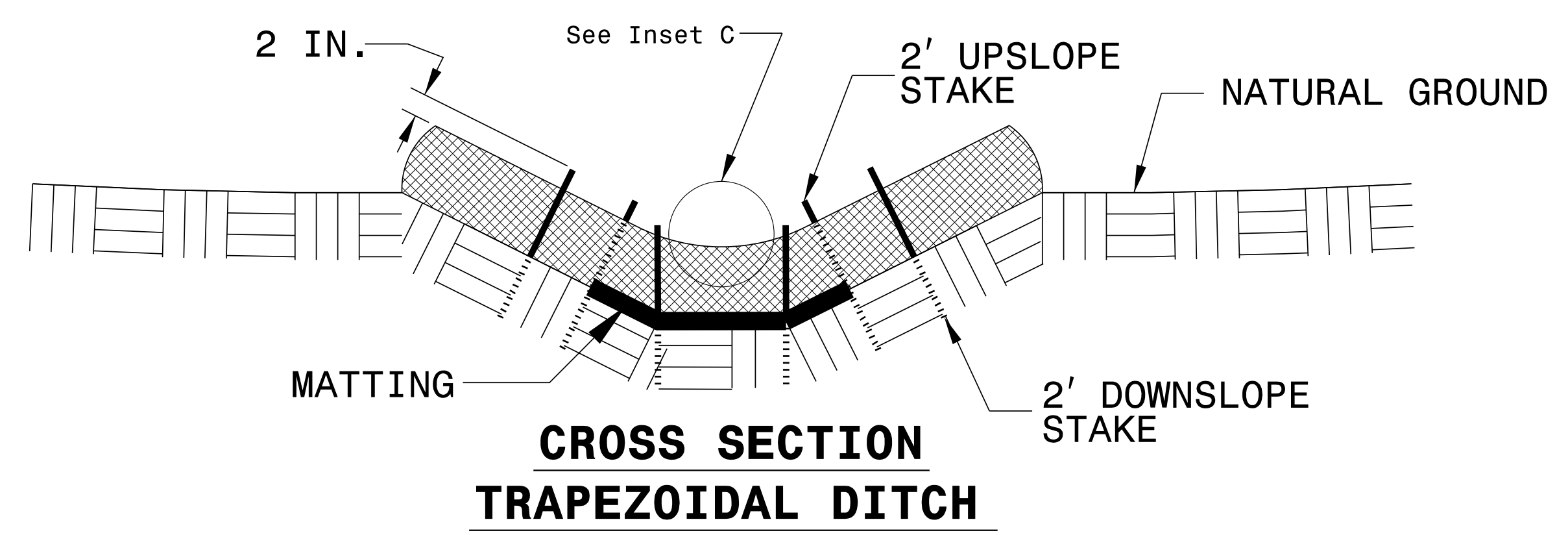
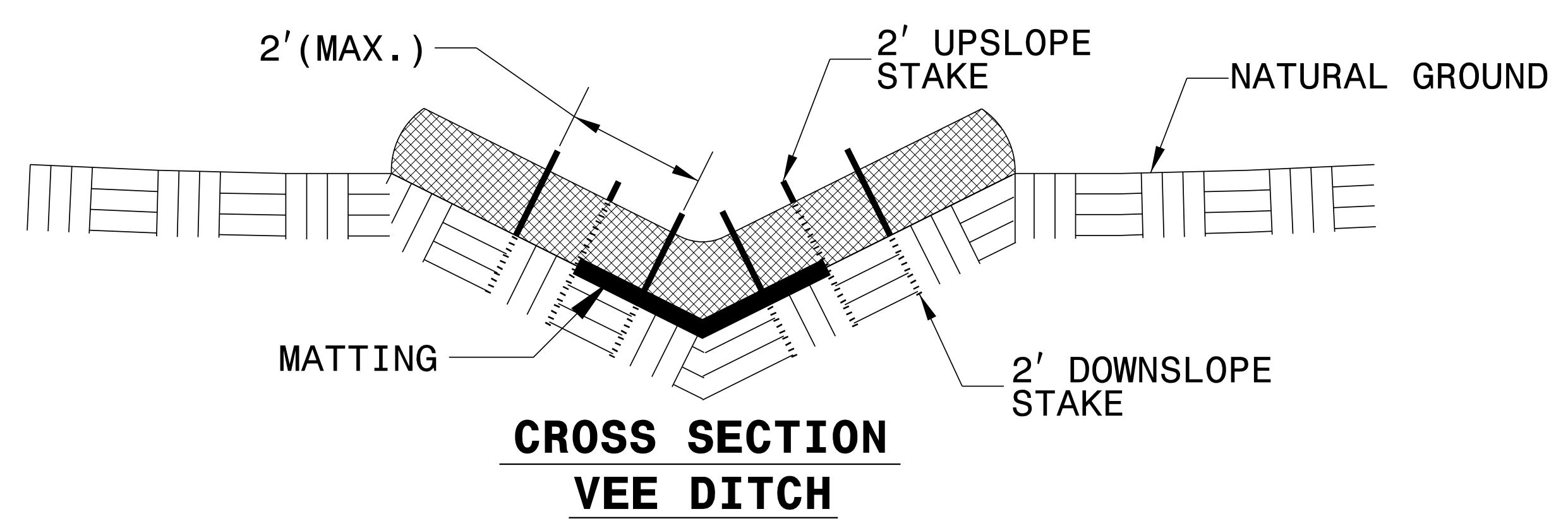
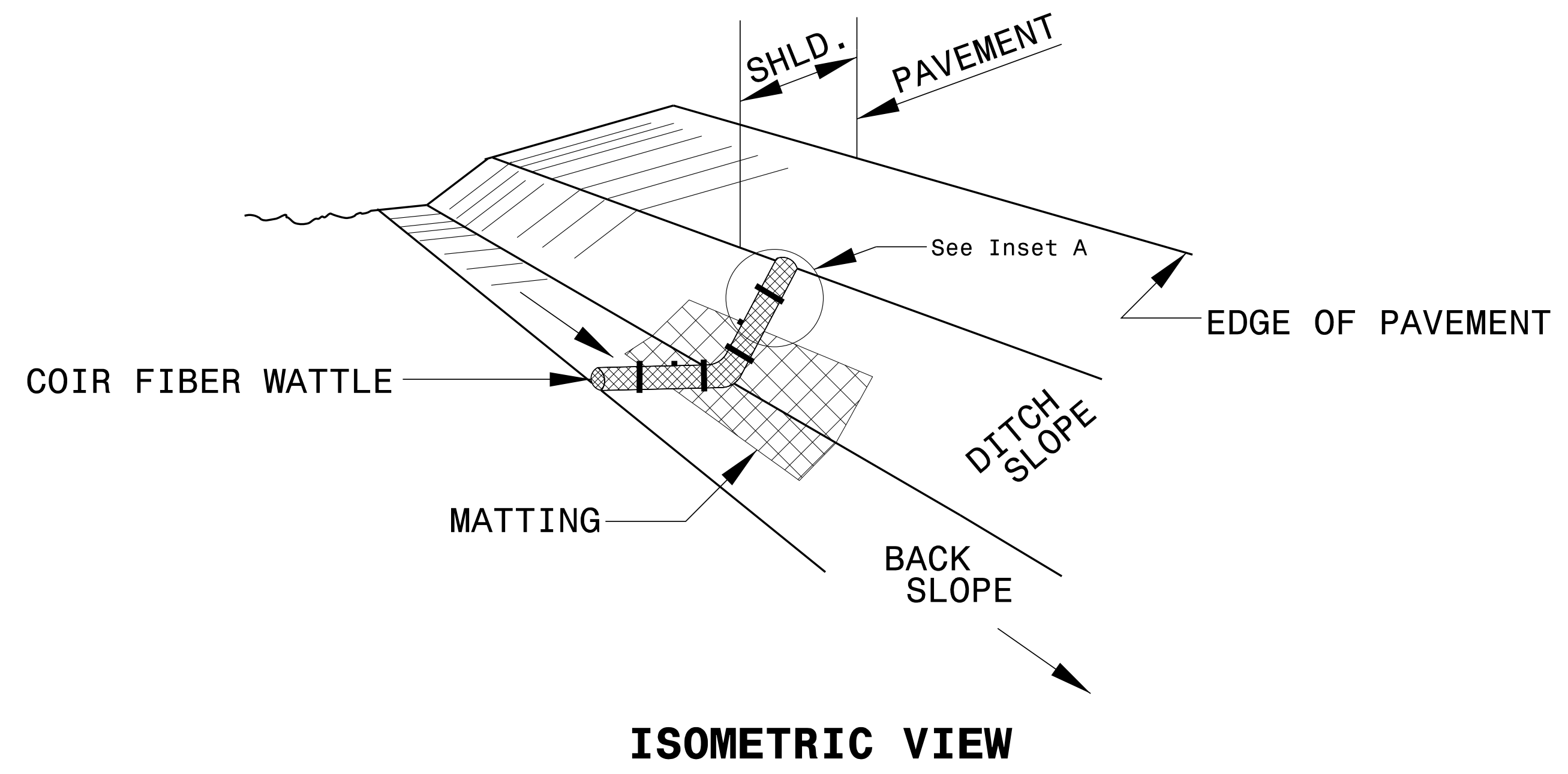
Reviewed in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
 1 South Wilmington St.
 Raleigh, NC 27611
2018 STANDARD SPECIFICATIONS
 Reviewed by:
Reid Whitehead, PE, CPESC

Roadway Standard Drawings

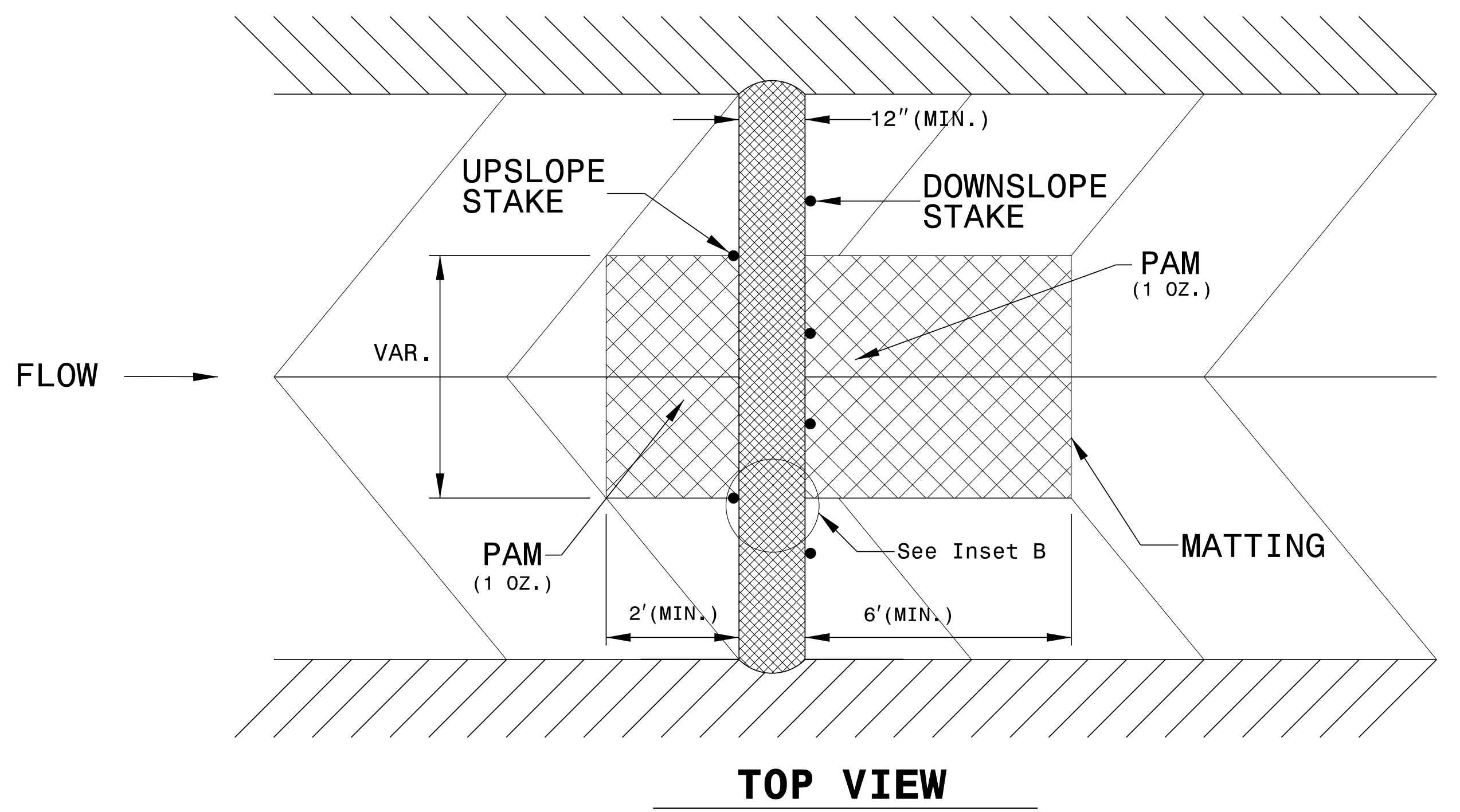
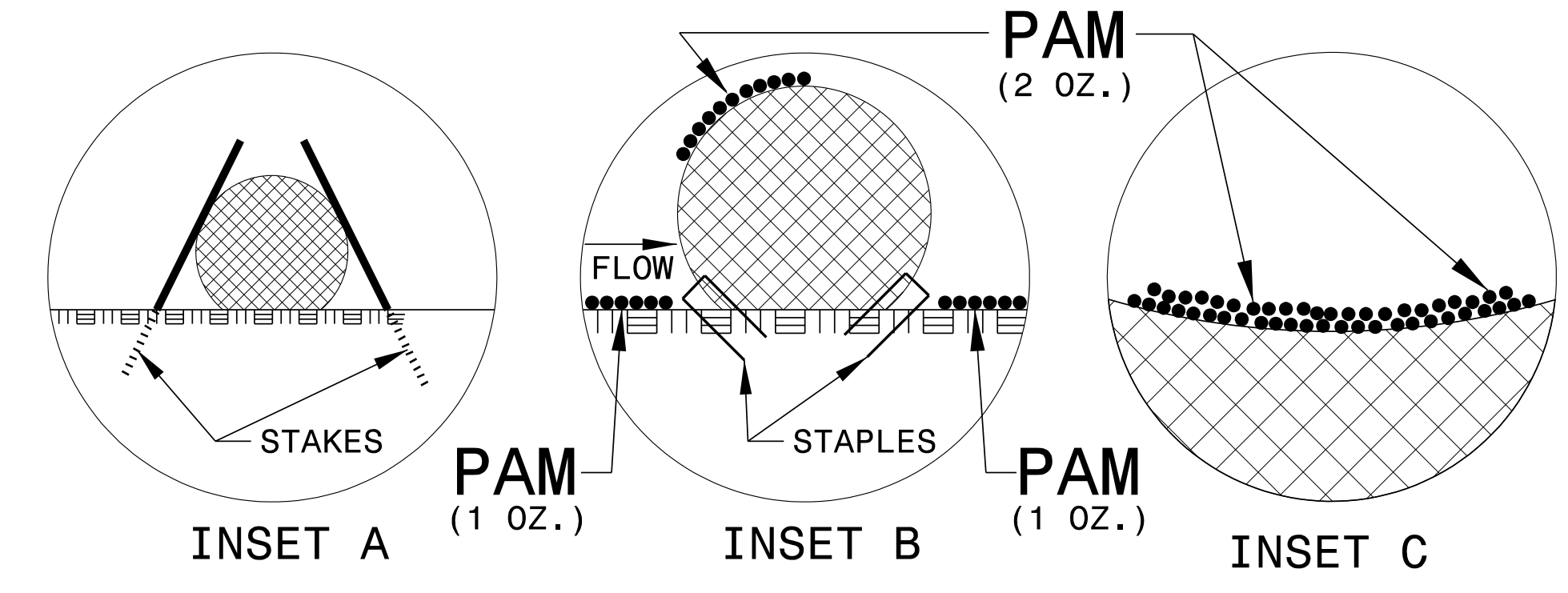
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

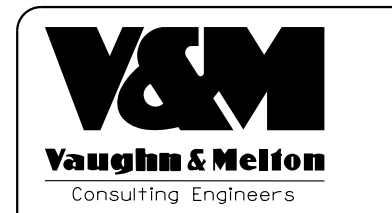
| | |
|--|--|
| 1604.01 Railroad Erosion Control Detail | 1632.01 Rock Inlet Sediment Trap Type A |
| 1605.01 Temporary Silt Fence | 1632.02 Rock Inlet Sediment Trap Type B |
| 1606.01 Special Sediment Control Fence | 1632.03 Rock Inlet Sediment Trap Type C |
| 1607.01 Gravel Construction Entrance | 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 | 1635.02 Rock Pipe Inlet Sediment Trap Type B |
| 1630.04 Stilling Basin | 1640.01 Coir Fiber Baffle |
| 1630.05 Temporary Diversion | 1645.01 Temporary Stream Crossing |
| 1630.06 Special Stilling Basin | |
| 1631.01 Matting Installation | |

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

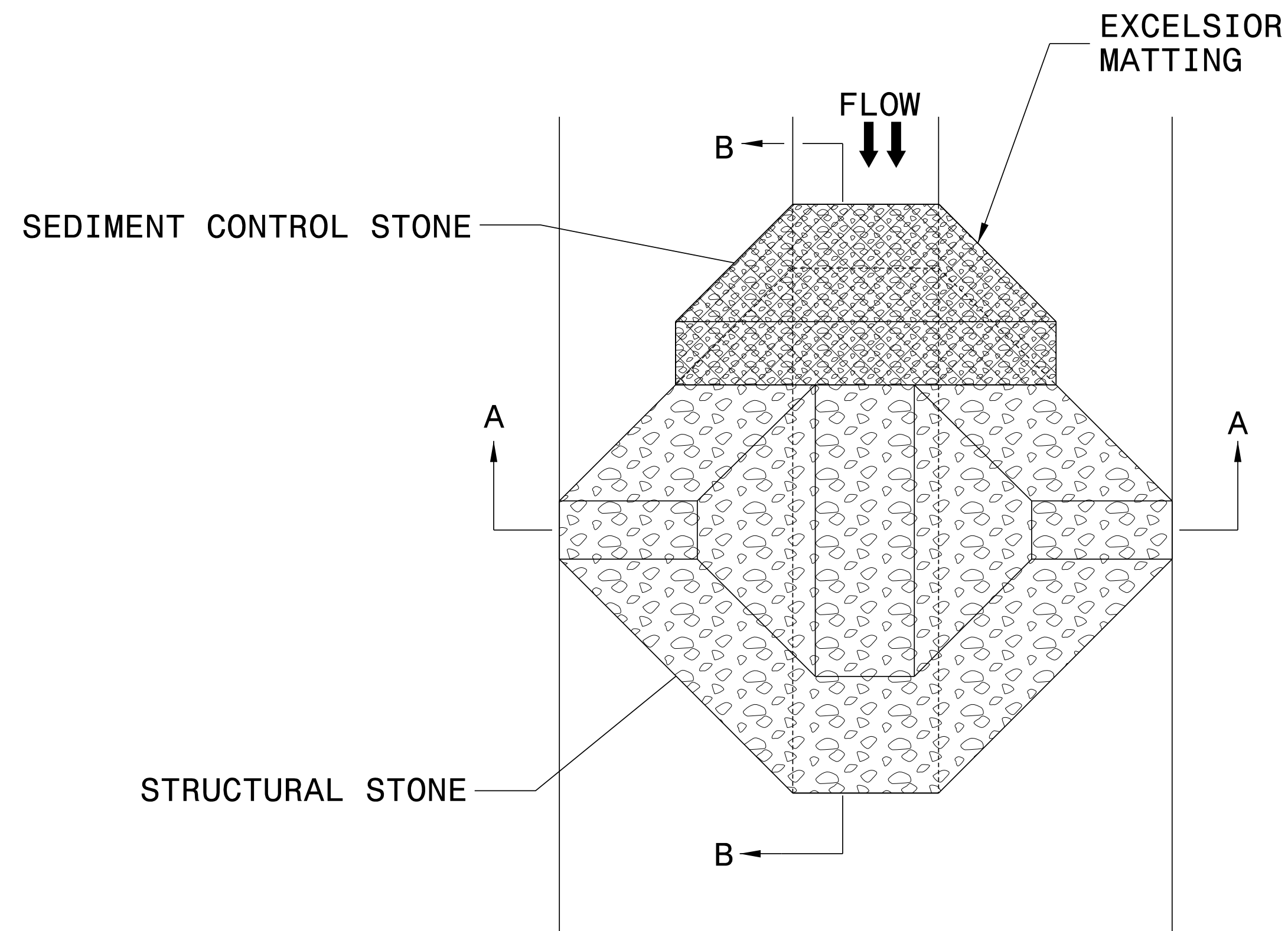


- NOTES:**
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
 - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
 - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
 - 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.
 - INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
 - 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 WATTLE.
 - INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



| | |
|--|--|
| PROJECT REFERENCE NO. 14SP-20881J | SHEET NO. EC-2A |
|  | |
| Asheville, North Carolina 828-253-2796 | |
| <input type="checkbox"/> Boone, NC 828-355-9933 <input type="checkbox"/> Tri-Cities, TN 423-867-9420 <input type="checkbox"/> Knoxville, TN 865-546-5800 <input type="checkbox"/> Spartanburg, SC 864-574-4775 <input type="checkbox"/> Charleston, SC 843-974-5650 <input type="checkbox"/> Middlesboro, KY 606-248-6600 <input type="checkbox"/> Raleigh, NC 919-977-9455 <input type="checkbox"/> Charlotte, NC 704-357-0488 <input type="checkbox"/> Atlanta, GA 770-627-3590 | Copyright © 2006 Vaughn & Melton, Inc. All Rights Reserved |

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



PLAN

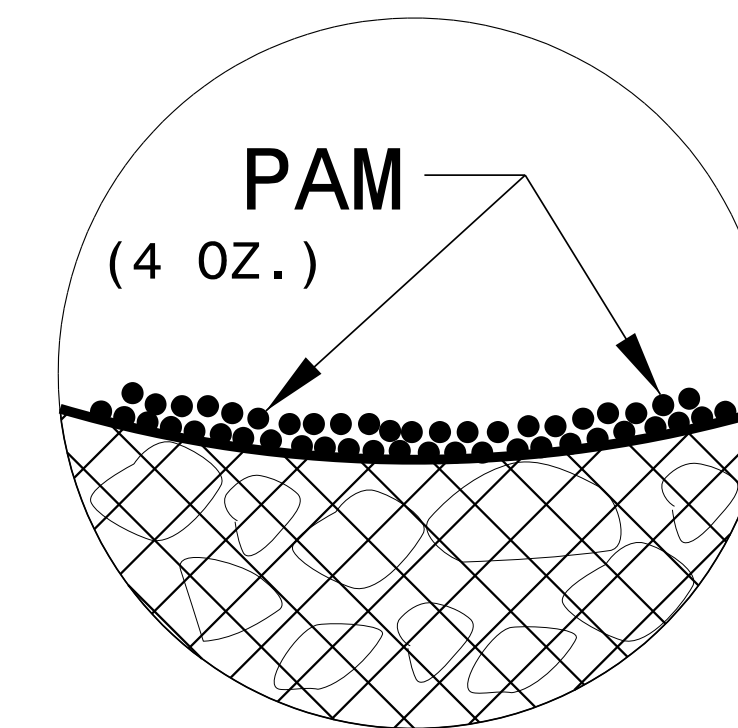
NOTES:

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

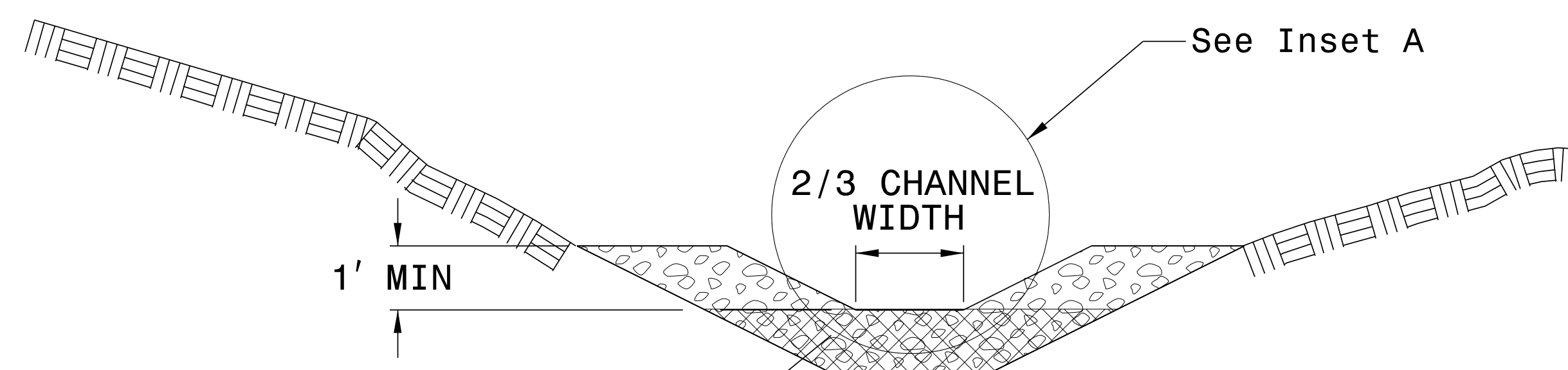
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

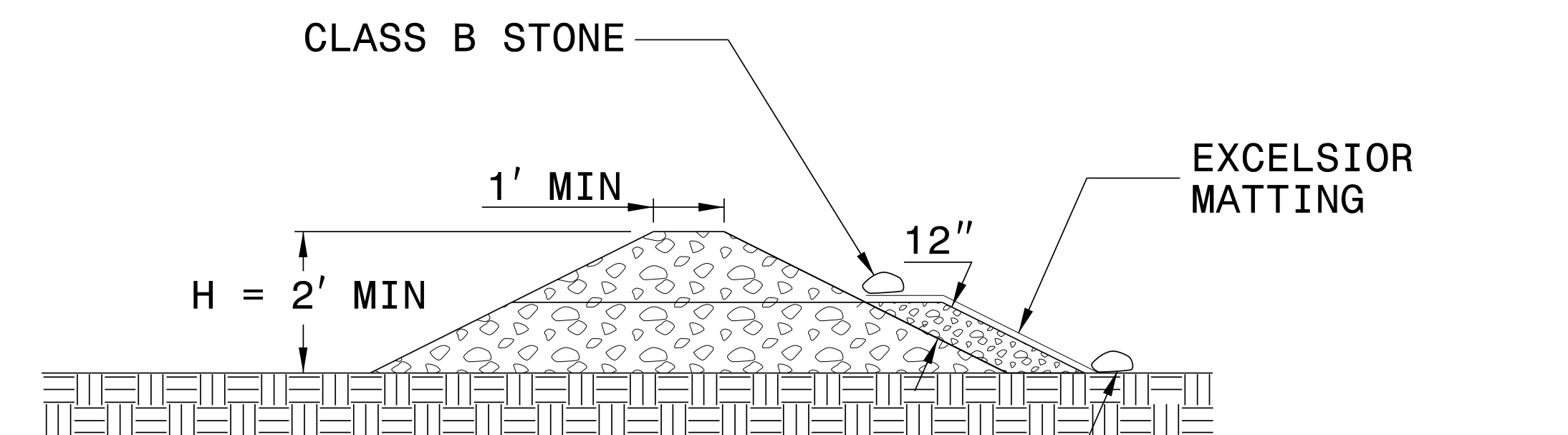
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A




SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

| | |
|---------------------------------------|-------------------|
| PROJECT REFERENCE NO. 14SP.20881.I | SHEET NO. EC-3 |
|---------------------------------------|-------------------|



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828-253-2796

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- Charleston, SC 843-974-5650
- Middlesboro, KY 606-248-6600
- Raleigh, NC 919-977-9455
- Charlotte, NC 704-357-0488
- Atlanta, GA 770-427-3590

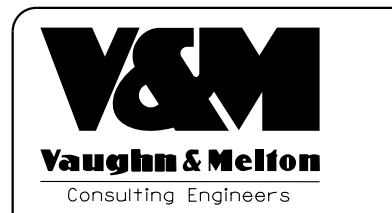
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SOIL STABILIZATION TIMEFRAMES

| <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. |

8/20/2018 12:03:46 PM
 C:\Users\j11\Documents\Transportation\31236-05 MTC 14SP.20881.I Transportation\31236-05 MTC 14SP.20881.I Erosion Control Design Files\870045.Env.EC-3.series.dgn
 User: j11

| | |
|---|----------------------------------|
| PROJECT REFERENCE NO. <i>14SP.20881.1</i> | SHEET NO. <i>EC-3A</i> |
|---|----------------------------------|



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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL


MATTING FOR EROSION CONTROL

| CONST SHEET NO. | LINE | FROM STATION | TO STATION | SIDE | ESTIMATE (SY) |
|---|------|--------------|------------|------|---------------|
| 4 | -L1- | 11+25 | 11+87 | LT | 65 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | SUBTOTAL | | 65 |
| MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER | | | | | 2,635 ** |
| | | | TOTAL | | 2,700 |
| | | | SAY | | 2,700 |
| | | | | | |
| ** MATTING FOR EROSION CONTROL TO BE PLACED ON ALL DISTURBED SLOPES | | | | | |

| CONST SHEET NO. | LINE | FROM STATION | TO STATION | SIDE | ESTIMATE (SY) |
|---------------------------------|------|--------------|------------|------|---------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | SUBTOTAL | | 0 |
| ADDITIONAL PGSM TO BE INSTALLED | | | | | 0 |
| | | | TOTAL | | 0 |
| | | | SAY | | 0 |
| | | | | | |

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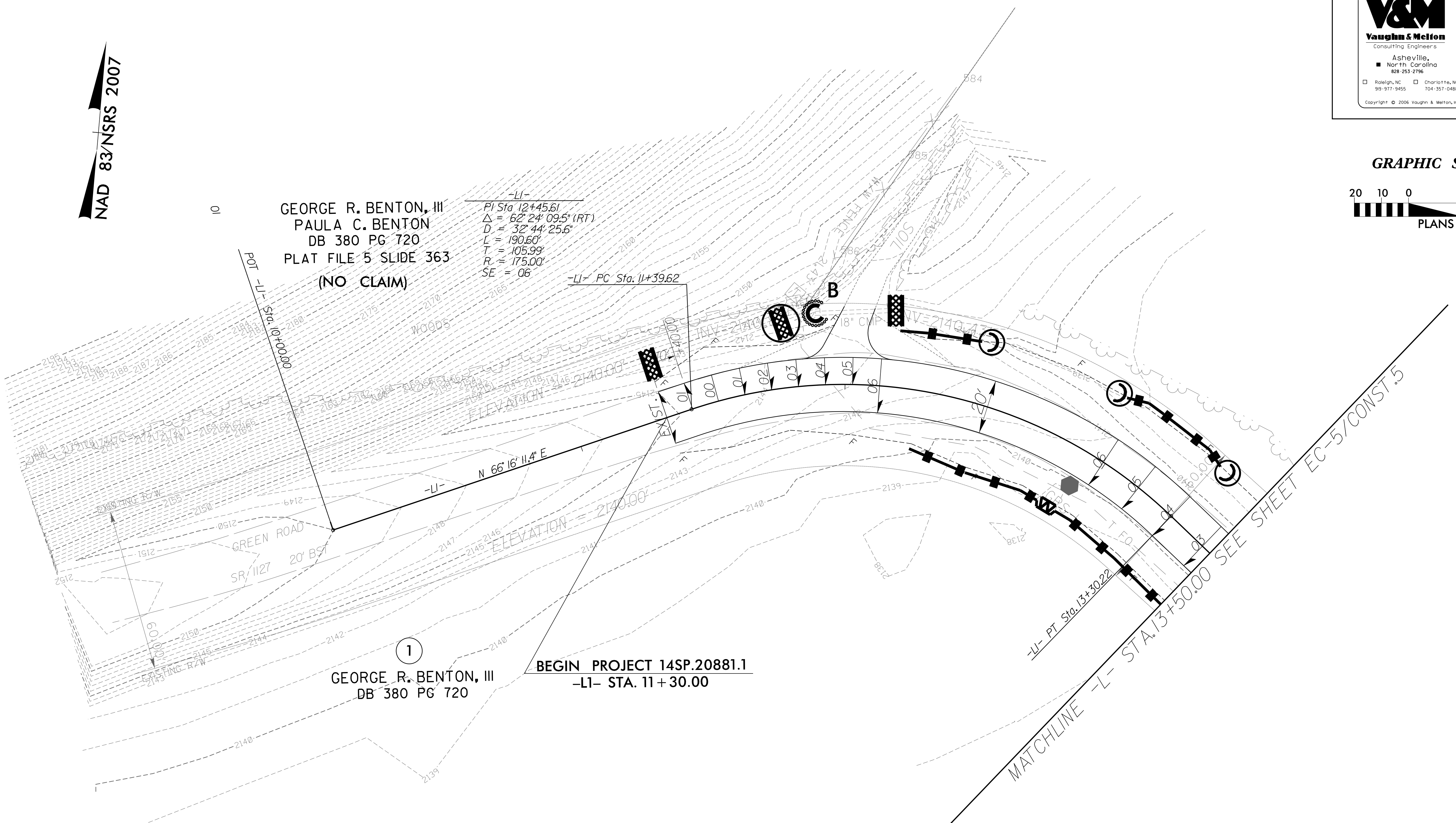
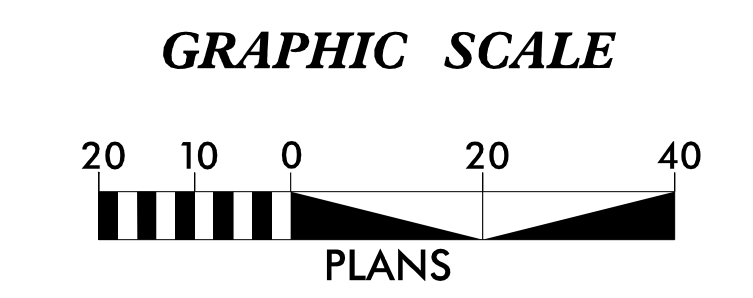


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|---|--|
| <input type="checkbox"/> Boone, NC 828-355-9333 | <input type="checkbox"/> Knoxville, TN 865-546-5800 |
| <input type="checkbox"/> T-1 Cities, TN 423-467-8401 | <input type="checkbox"/> Spartanburg, SC 864-574-4775 |
| <input type="checkbox"/> Charleston, SC 843-974-5650 | <input type="checkbox"/> Middlesboro, KY 606-248-6600 |
| <input type="checkbox"/> Raleigh, NC 919-377-9455 | <input type="checkbox"/> Charlotte, NC 704-357-0488 |
| <input type="checkbox"/> Atlanta, GA 770-627-3590 | |

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NAD 83/NSRS 2007



GEORGE R. BENTON, III
PAULA C. BENTON
DB 380 PG 720
PLAT FILE 5 SLIDE 363
(NO CLAIM)

PI Sta. 12+45.61
 $\Delta = 62^{\circ} 24' 09.5" (RT)$
 $D = 32^{\circ} 44' 25.6"$
 $L = 190.60'$
 $T = 105.99'$
 $R = 175.00'$
 $SE = .06$

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-LI- STA. 11+30.00

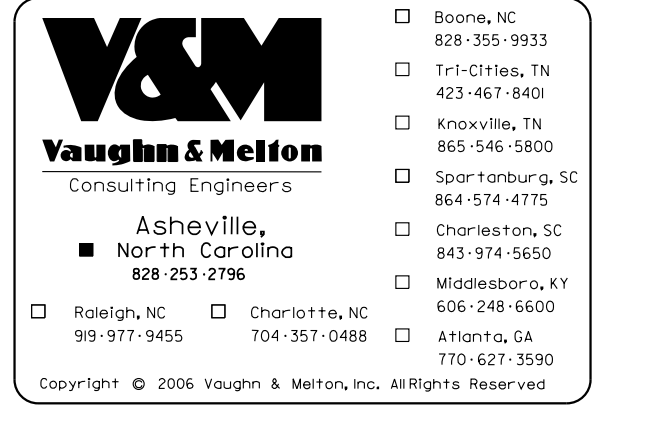
GEORGE R. BENTON, III
DB 380 PG 720

MATCHLINE -L- STA. 13+50.00 SEE SHEET EC-5/CONST.5

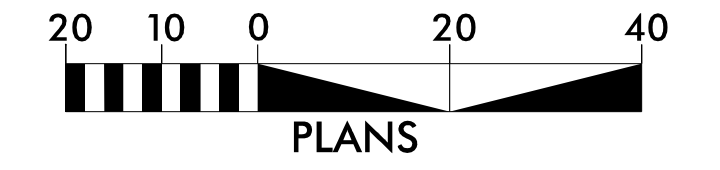
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

- NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.
- NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.
- NOTE: UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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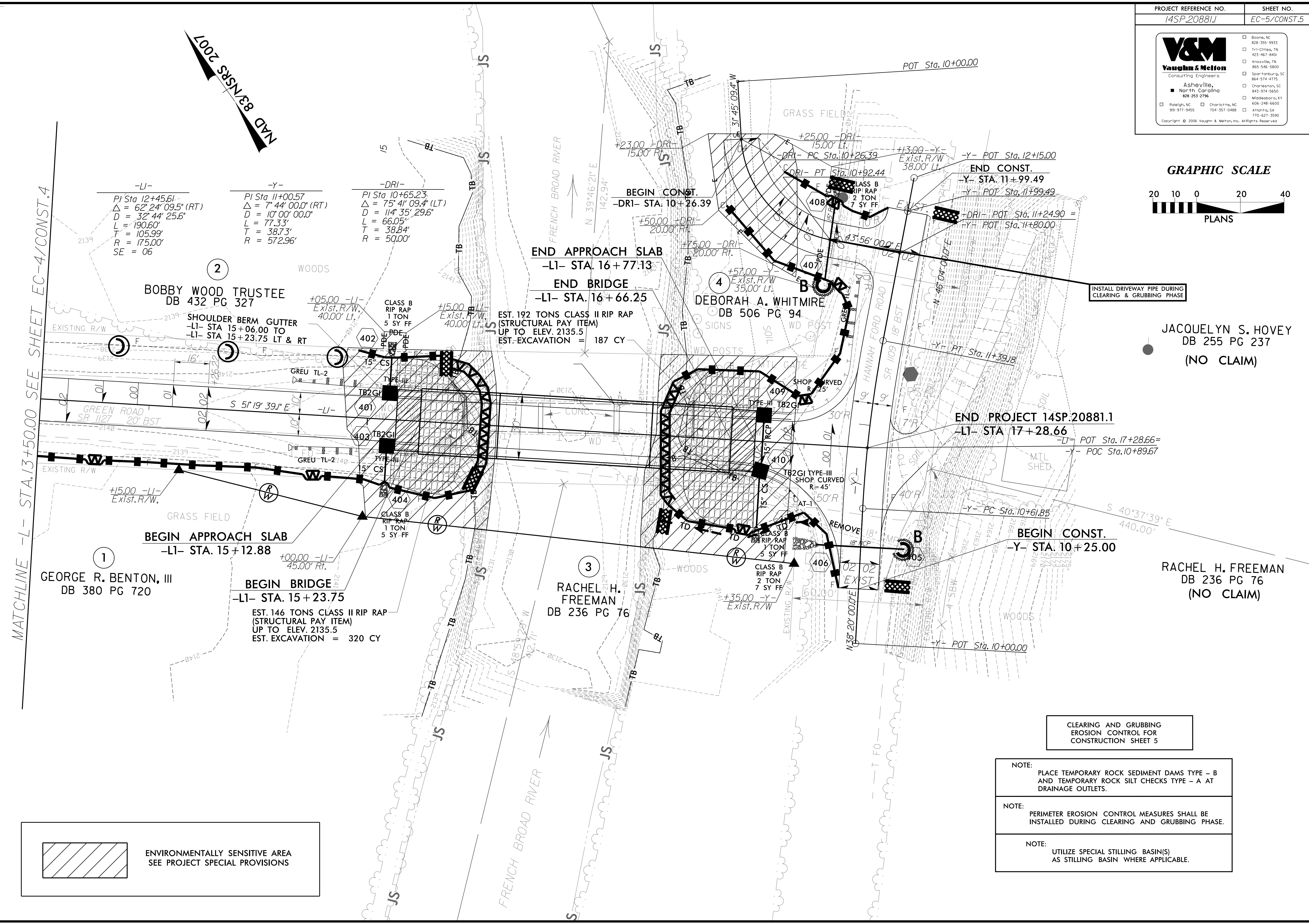


GRAPHIC SCALE



JACQUELYN S. HOVEY DB 255 PG 237 (NO CLAIM)

RACHEL H. FREEMAN DB 236 PG 76 (NO CLAIM)



MATCHLINE -L- STA.13+50.00 SEE SHEET EC-4/CONST.4

 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:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.
- NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

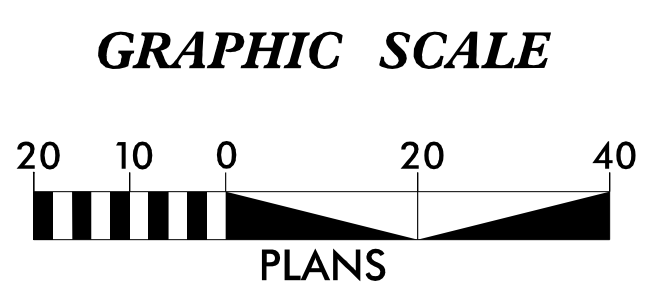
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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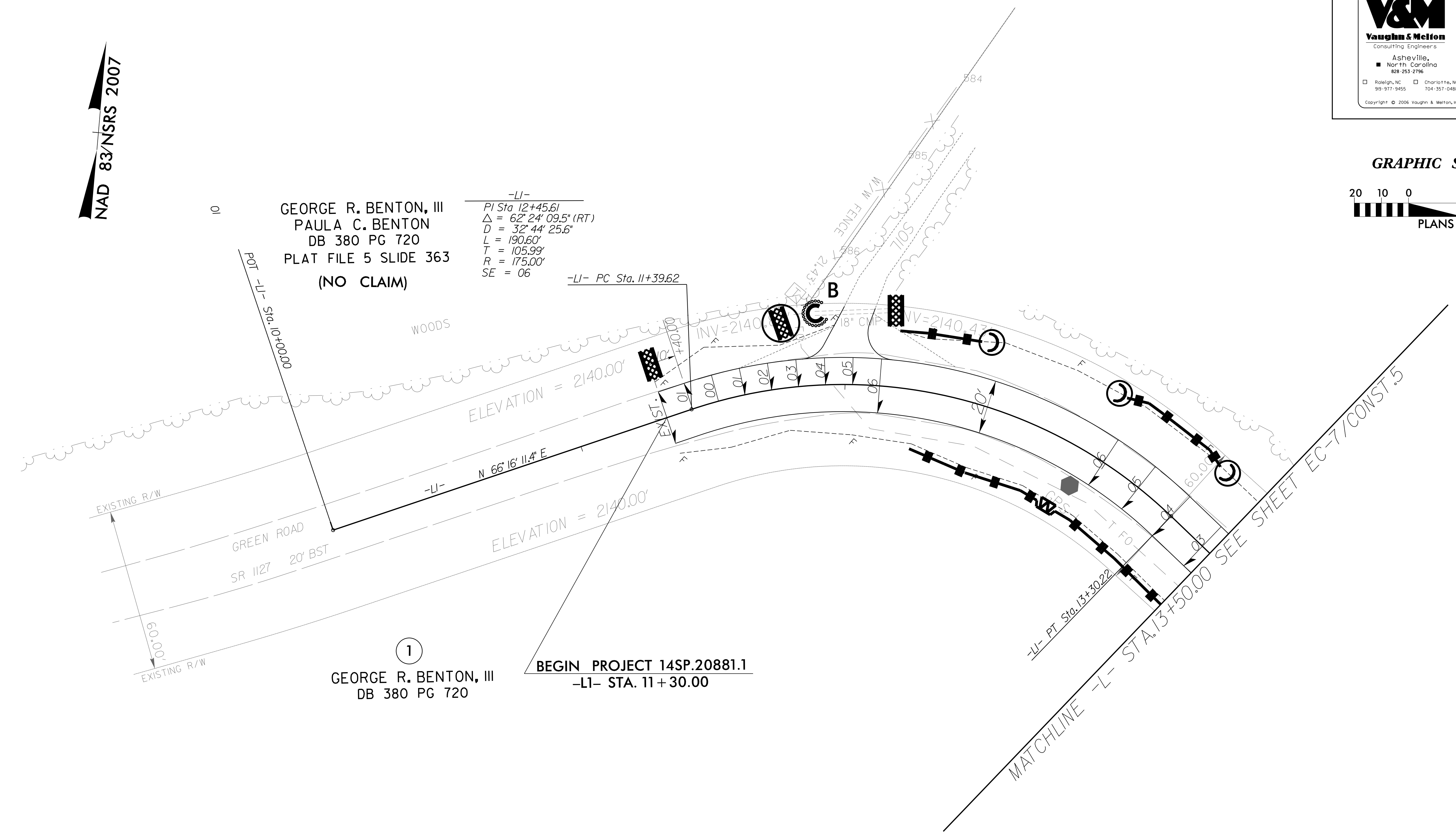


NAD 83/NSRS 2007

GEORGE R. BENTON, III
 PAULA C. BENTON
 DB 380 PG 720
 PLAT FILE 5 SLIDE 363
 (NO CLAIM)

-LI-
 PI Sta 12+45.61
 $\Delta = 62^{\circ} 24' 09.5" (RT)$
 $D = 32^{\circ} 44' 25.6"$
 $L = 190.60'$
 $T = 105.99'$
 $R = 175.00'$
 $SE = 06$

-LI- PC Sta. 11+39.62

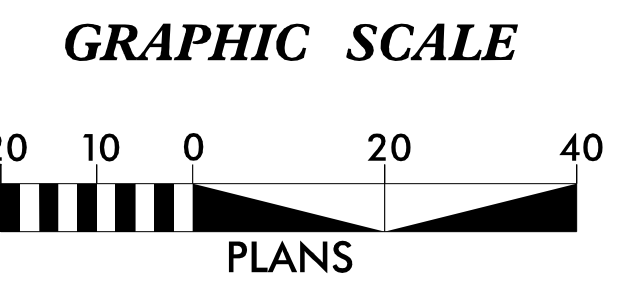
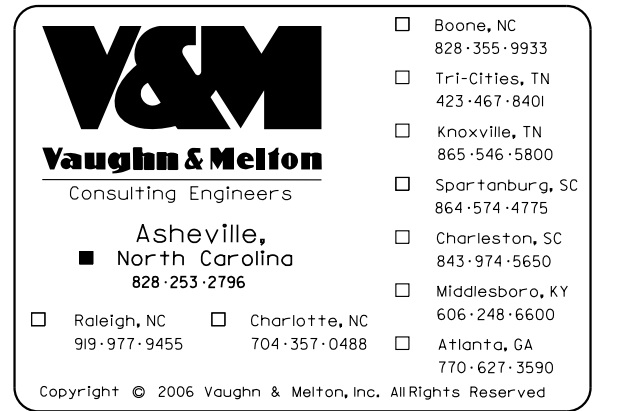


①
 GEORGE R. BENTON, III
 DB 380 PG 720

BEGIN PROJECT 14SP.20881.1
 -LI- STA. 11+30.00

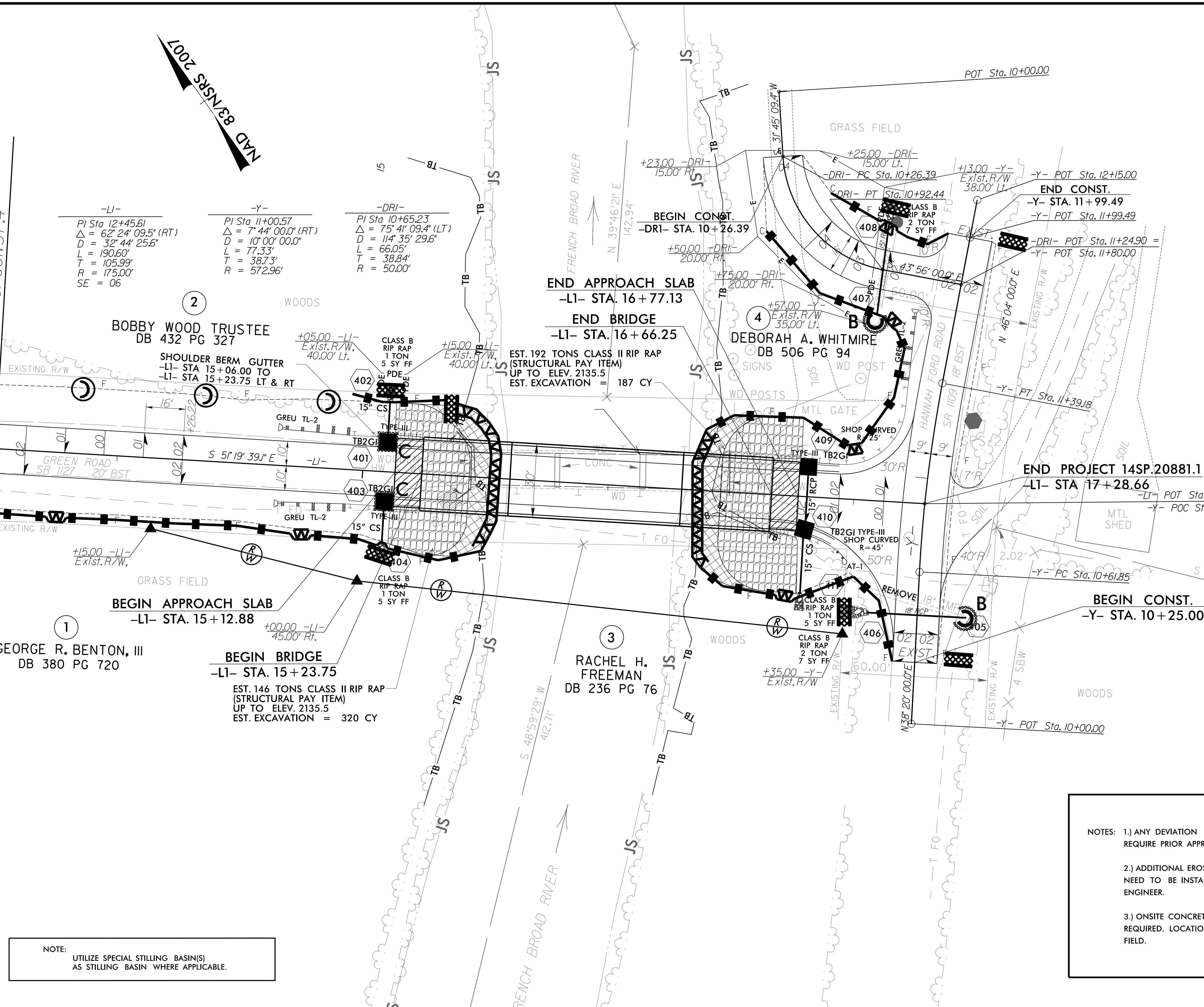
NOTE:
 UTILIZE SPECIAL STILLING BASIN(S)
 AS STILLING BASIN WHERE APPLICABLE.

8/26/2009 12:07:18 PM
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 5/14/09



JACQUELYN S. HOVEY DB 255 PG 237 (NO CLAIM)

RACHEL H. FREEMAN DB 236 PG 76 (NO CLAIM)



MATCHLINE -L- STA.13+50.00 SEE SHEET EC-6/CONST.4

NOTE: UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

- NOTES: 1.) ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.
- 2.) ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.
- 3.) ONSITE CONCRETE WASHOUT STRUCTURE IS REQUIRED. LOCATION TO BE DETERMINED IN FIELD.

8/20/2019 12:08:02 PM I:\transportation\31236-05 MTC 14SP.20881.1 Transportation\31236-05 MTC 14SP.20881.1 Transportation\Environmental\Erosion Control Design Files\870045-Env-EC-7.dgn 5/14/19

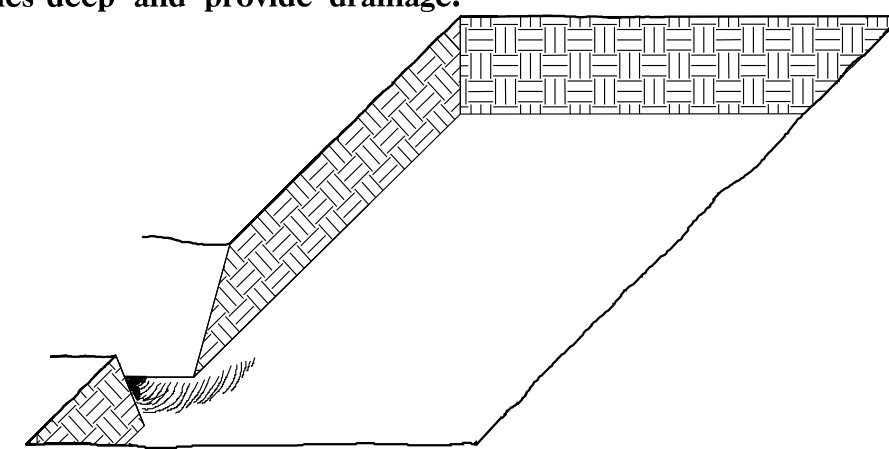
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|-----------------|-----------------------------|-------------|--------------|
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 14SP.20881.1 | RF-1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| | | | |

PLANTING DETAILS

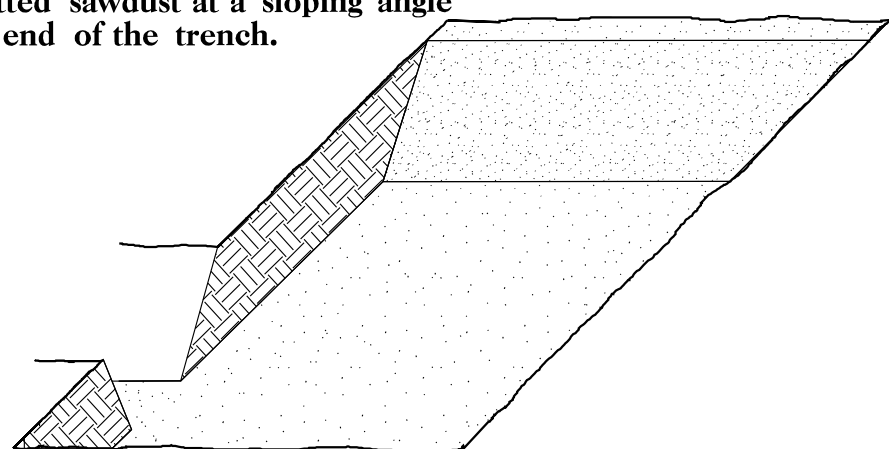
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

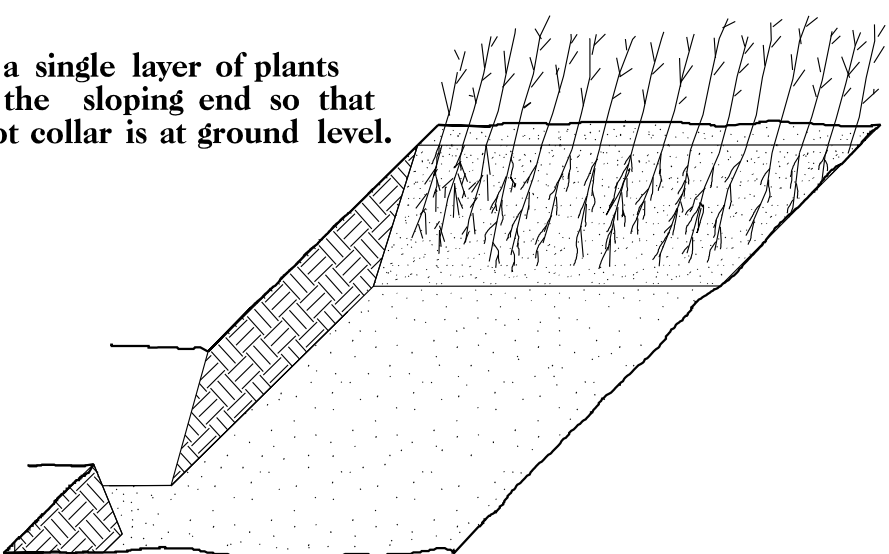
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



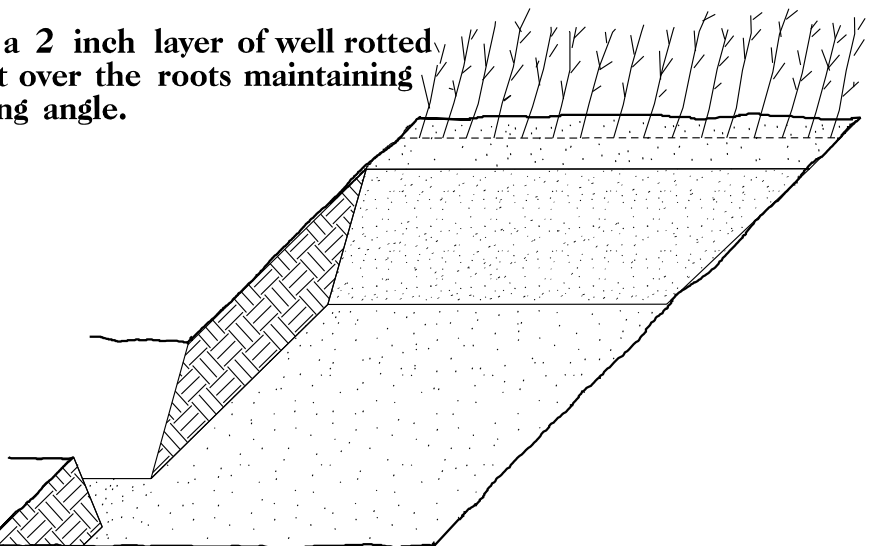
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

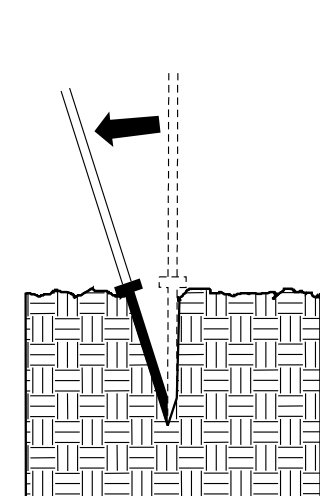


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

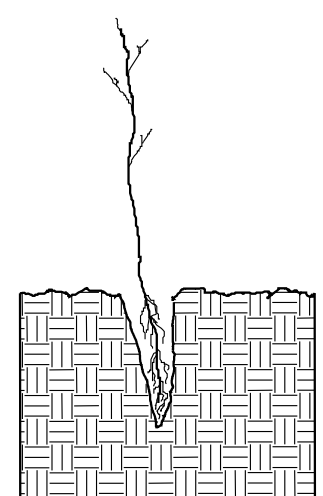


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

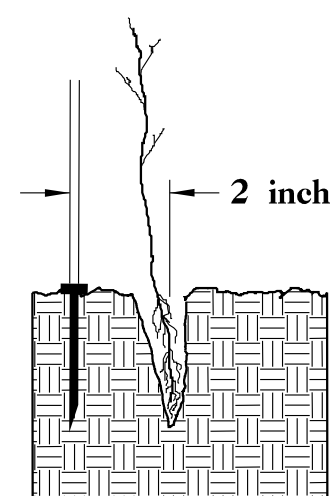
DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



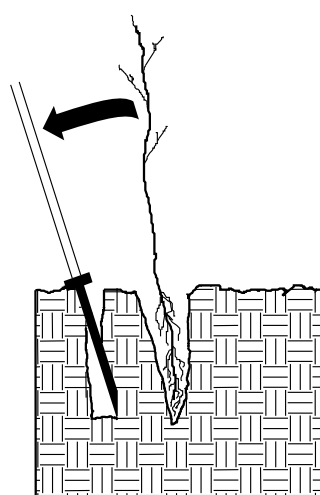
1. Insert planting bar as shown and pull handle toward planter.



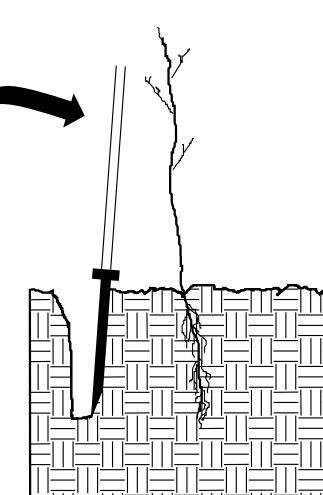
2. Remove planting bar and place seedling at correct depth.



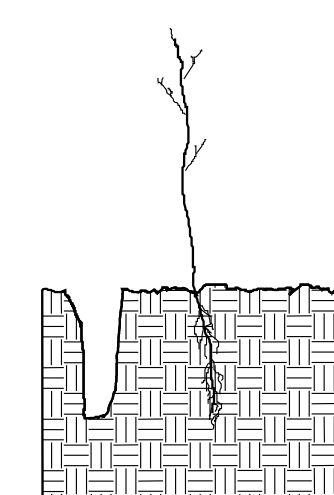
3. Insert planting bar 2 inches toward planter from seedling.



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



5. Push handle forward firming soil at top.



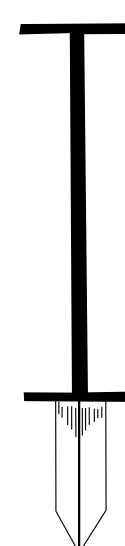
6. Leave compaction hole open. Water thoroughly.

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:

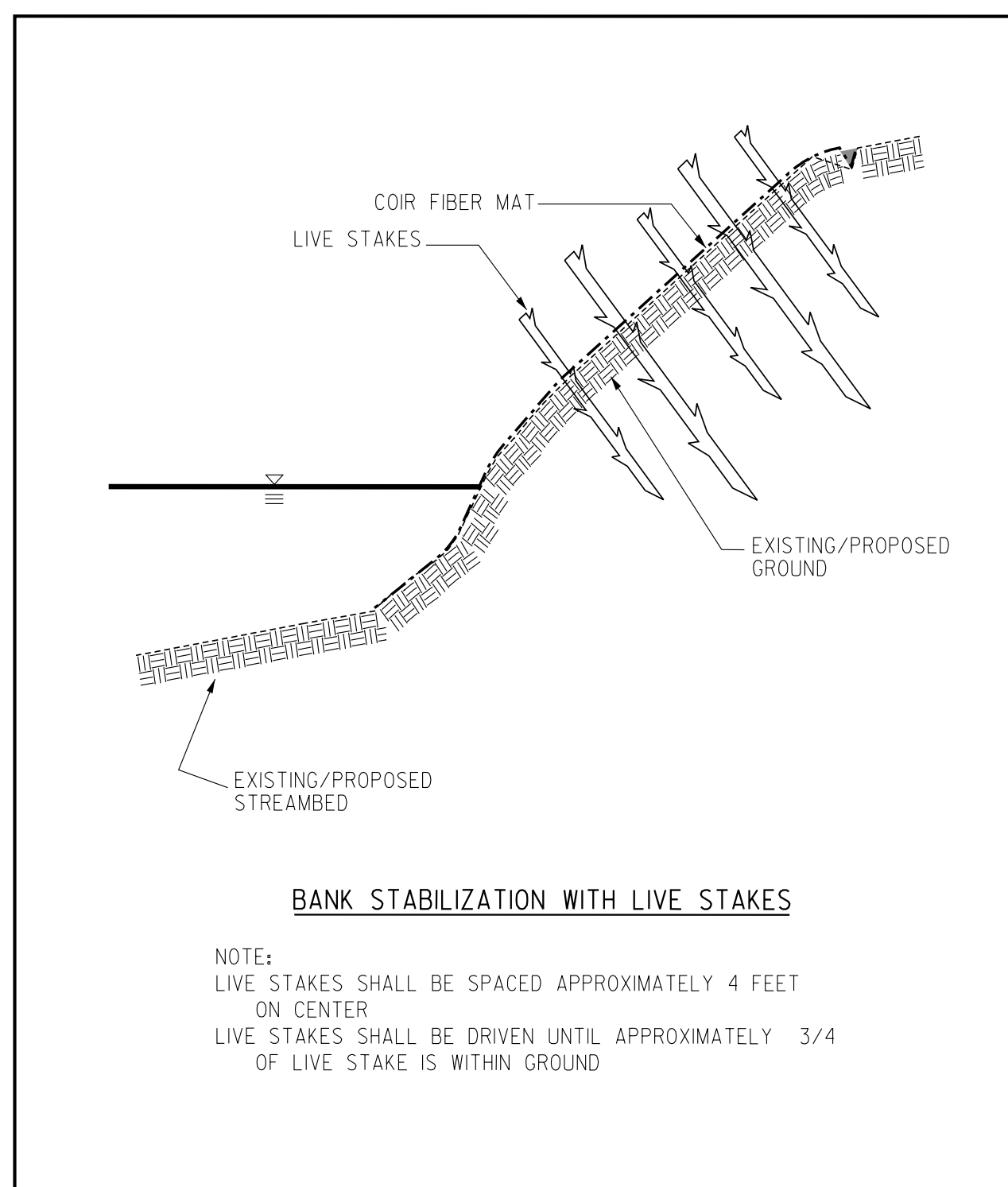
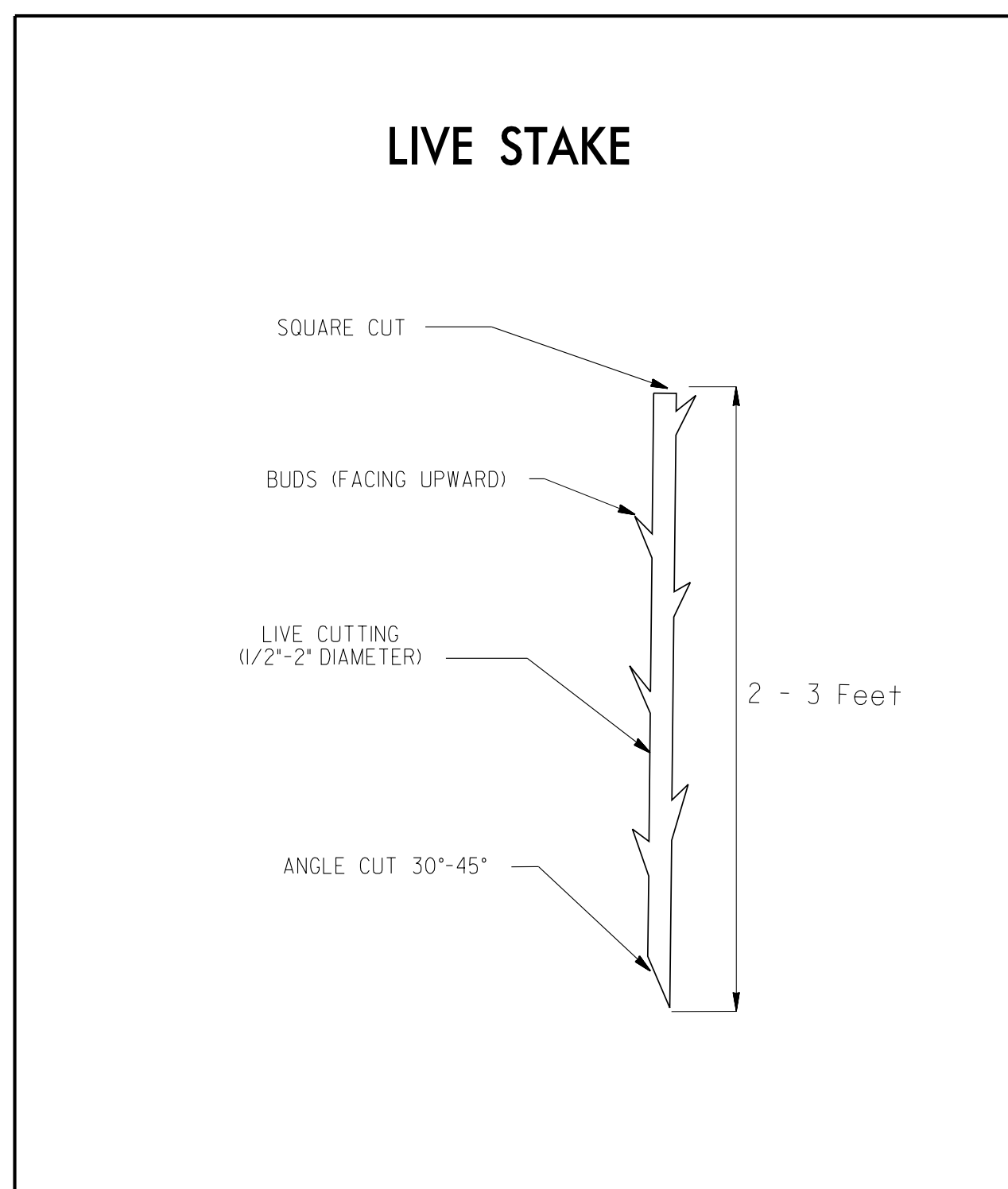
| | | | |
|-----|-------------------------|--------------|------------------|
| 25% | LIRIODENDRON TULIPIFERA | TULIP POPLAR | 12 in - 18 in BR |
| 25% | PLATANUS OCCIDENTALIS | SYCAMORE | 12 in - 18 in BR |
| 25% | FRAXINUS PENNSYLVANICA | GREEN ASH | 12 in - 18 in BR |
| 25% | BETULA NIGRA | RIVER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

REFORESTATION DETAIL SHEET

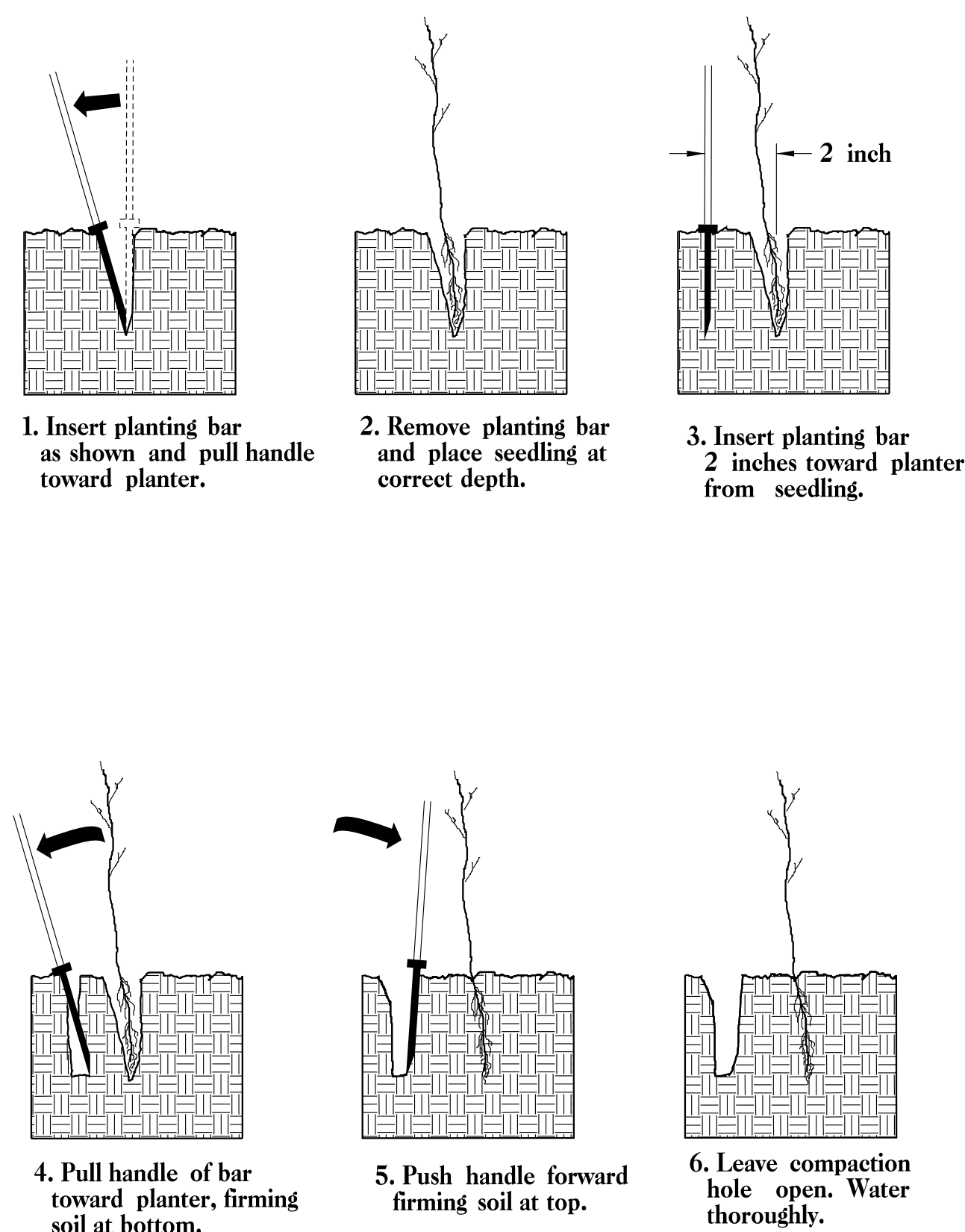
N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

PLANTING DETAILS

LIVE STAKES PLANTING DETAIL



BAREROOT PLANTING DETAIL DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR

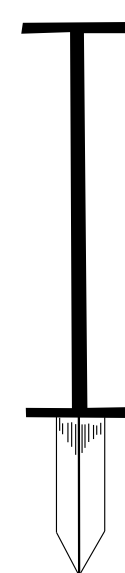


PLANTING NOTES:

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



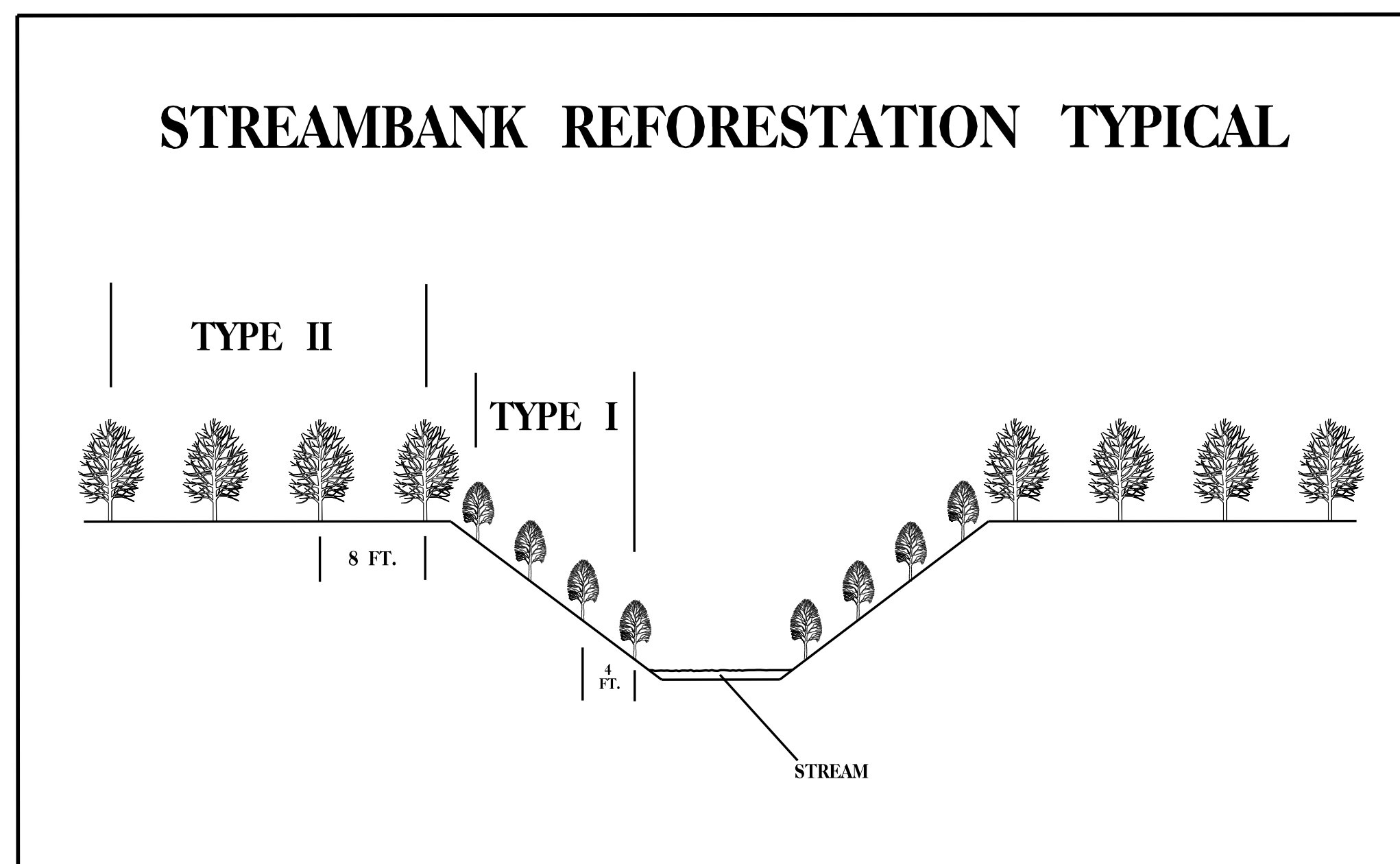
KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



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

- TYPE 1 STREAMBANK REFORESTATION SHALL BE PLANTED 3 FT. TO 5 FT. ON CENTER, RANDOM SPACING, AVERAGING 4 FT. ON CENTER, APPROXIMATELY 2724 PLANTS PER ACRE.
- TYPE 2 STREAMBANK REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.
- NOTE: TYPE 1 AND TYPE 2 STREAMBANK REFORESTATION SHALL BE PAID FOR AS "STREAMBANK REFORESTATION"

STREAMBANK REFORESTATION TYPICAL



STREAMBANK REFORESTATION

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

TYPE 1

| | | |
|-------------------|---------------|-------------------------|
| 50% SALIX NIGRA | BLACK WILLOW | 2 ft - 3 ft LIVE STAKES |
| 50% CORNUS AMOMUM | SILKY DOGWOOD | 2 ft - 3 ft LIVE STAKES |

TYPE 2

| | | |
|-----------------------------|--------------|------------------|
| 25% LIRIODENDRON TULIPIFERA | TULIP POPLAR | 12 in - 18 in BR |
| 25% PLATANUS OCCIDENTALIS | SYCAMORE | 12 in - 18 in BR |
| 25% PRUNUS SEROTINA | BLACK CHERRY | 12 in - 18 in BR |
| 25% BETULA NIGRA | RIVER BIRCH | 12 in - 18 in BR |

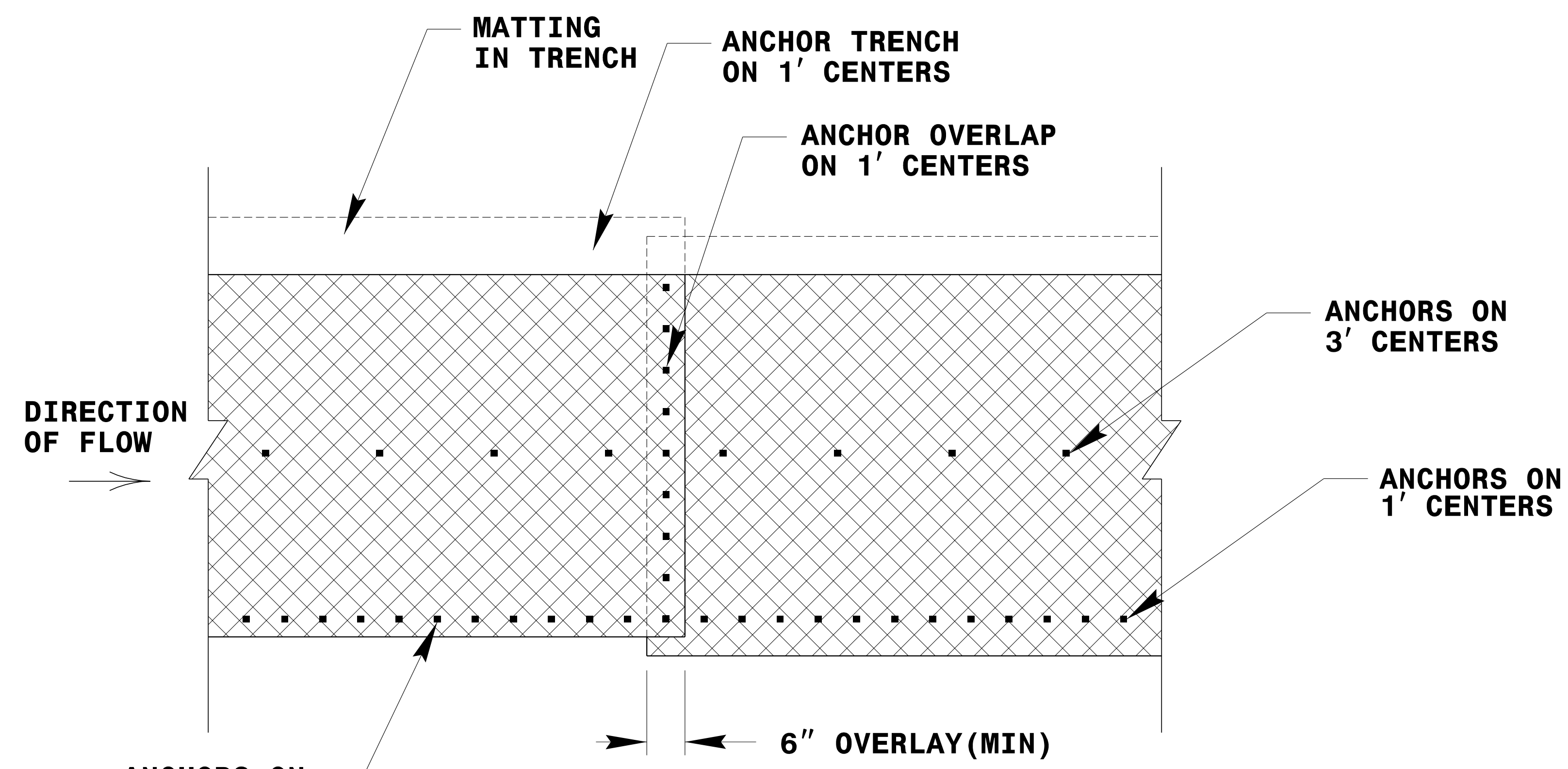
- SEE PLAN SHEETS FOR AREAS TO BE PLANTED

STREAMBANK REFORESTATION

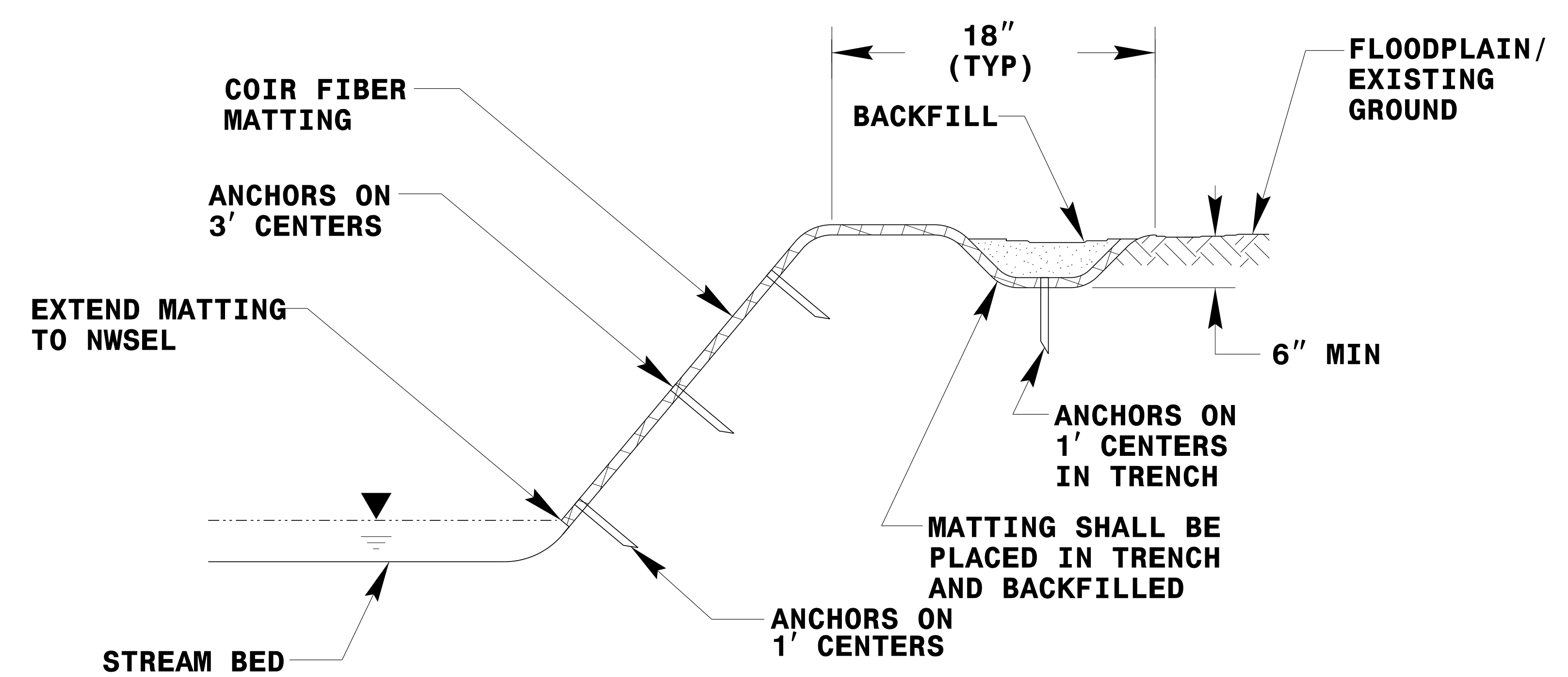
DETAIL SHEET 1 OF 2

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

| | |
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| PROJECT REFERENCE NO. 14SP.20881.1 | SHEET NO. RF-3 |
| V&M Vaughn & Melton Consulting Engineers Asheville, North Carolina 828-253-2796 | |
| <input type="checkbox"/> Tri-Cities, TN 423-467-8400 <input type="checkbox"/> Knoxville, TN 865-546-5800 <input type="checkbox"/> Spartanburg, SC 864-574-4775 <input type="checkbox"/> Charleston, SC 843-374-9550 <input type="checkbox"/> Middlesboro, KY 606-248-6600 <input type="checkbox"/> Atlanta, GA 770-627-3509 <input type="checkbox"/> Charlotte, NC 704-357-0488 <input type="checkbox"/> Boone, NC 828-355-9933 | <input type="checkbox"/> Asheville, NC 704-357-0488 <input type="checkbox"/> Boone, NC 828-355-9933 <input type="checkbox"/> Atlanta, GA 770-627-3509 <input type="checkbox"/> Middlesboro, KY 606-248-6600 <input type="checkbox"/> Charleston, SC 843-374-9550 <input type="checkbox"/> Tri-Cities, TN 423-467-8400 <input type="checkbox"/> Knoxville, TN 865-546-5800 <input type="checkbox"/> Spartanburg, SC 864-574-4775 <input type="checkbox"/> Charleston, SC 843-374-9550 <input type="checkbox"/> Middlesboro, KY 606-248-6600 <input type="checkbox"/> Atlanta, GA 770-627-3509 <input type="checkbox"/> Charlotte, NC 704-357-0488 <input type="checkbox"/> Boone, NC 828-355-9933 |
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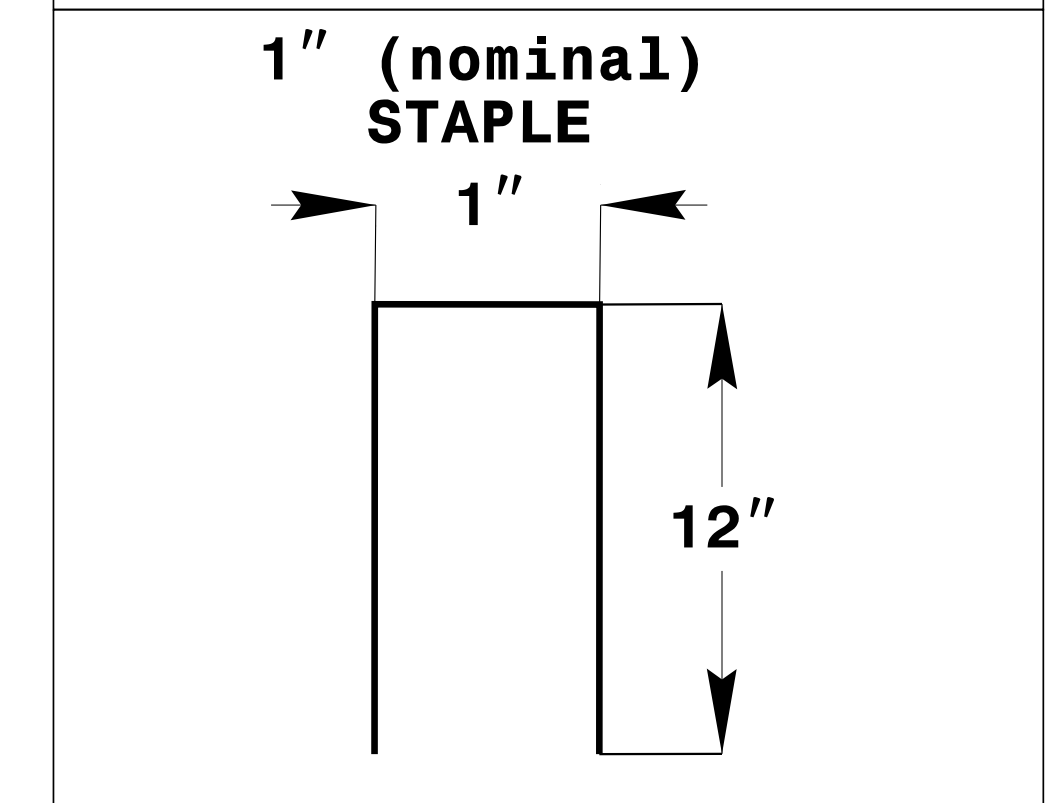
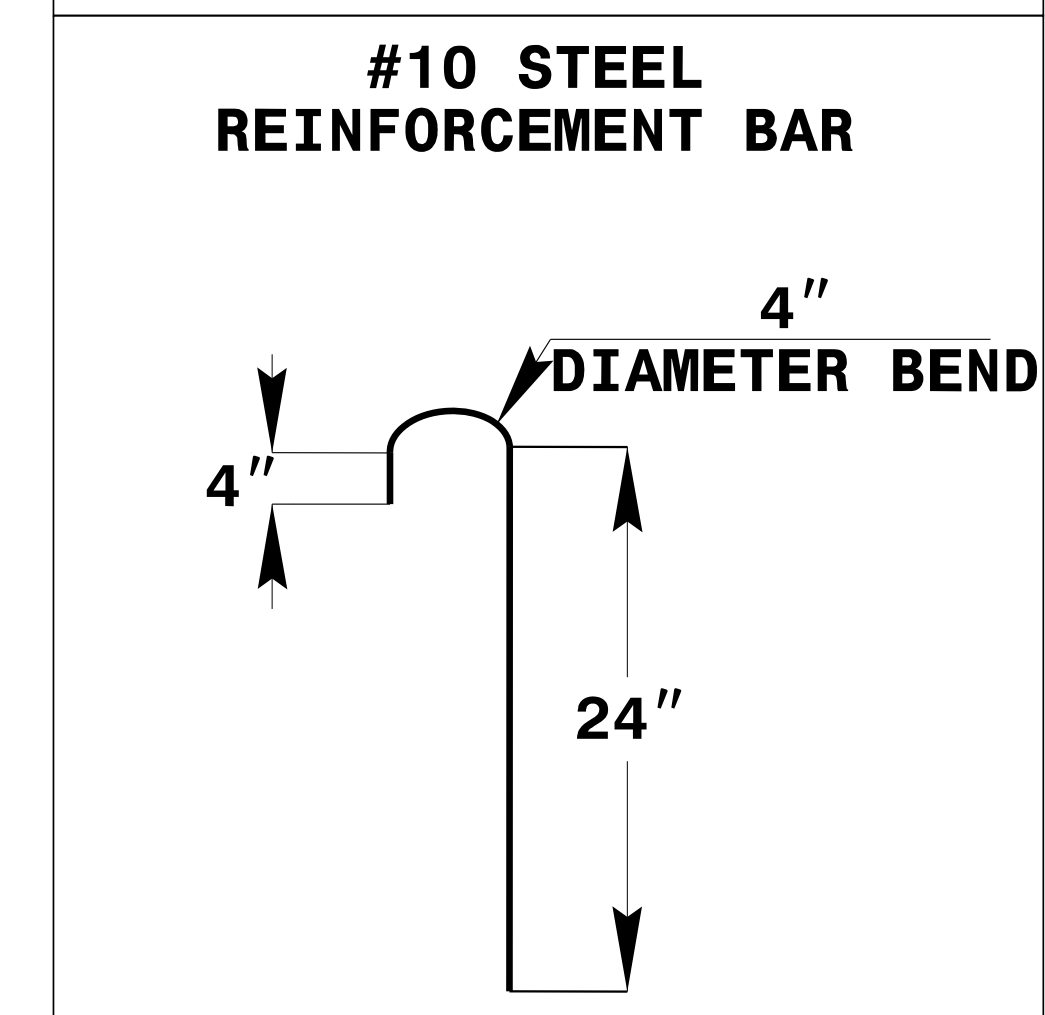
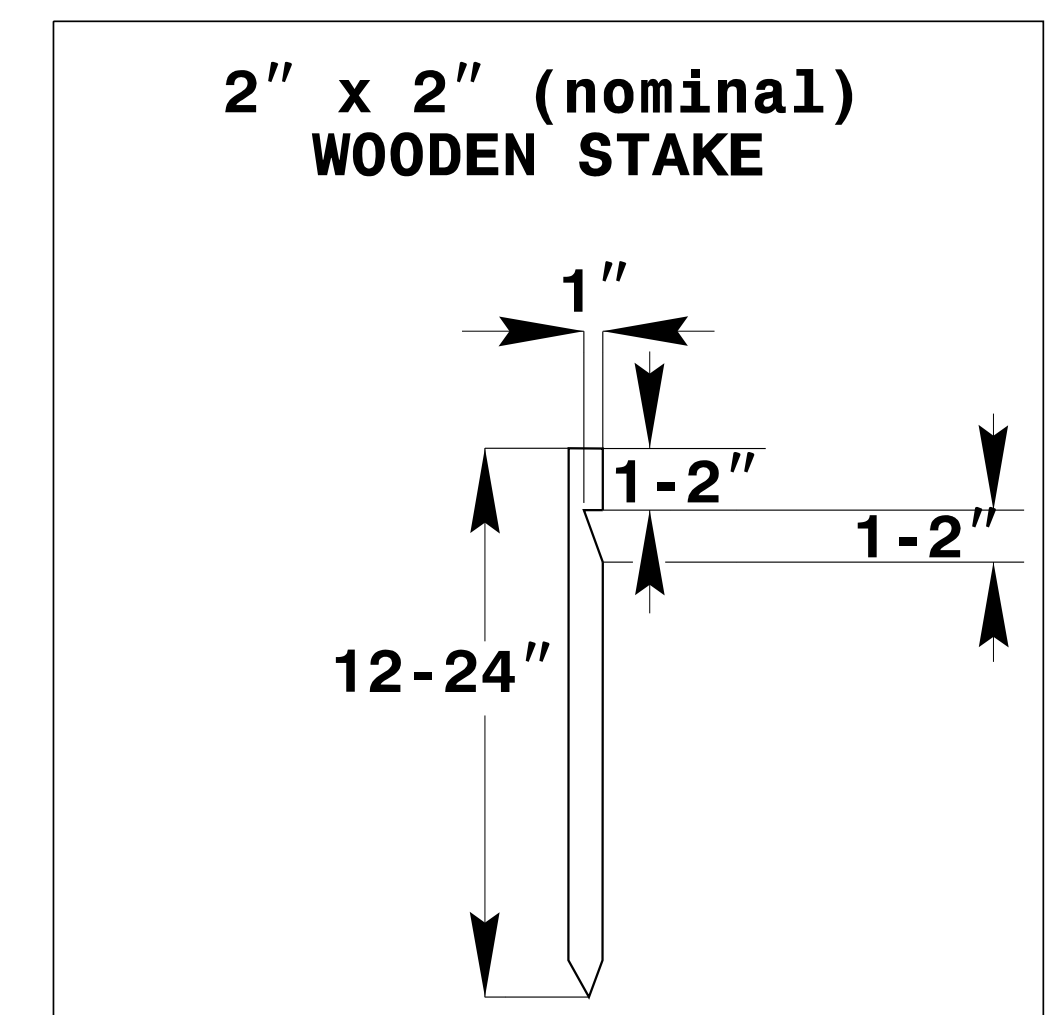
PLAN VIEW



TYPICAL CROSS SECTION

COIR FIBER MATTING DETAIL

NOT TO SCALE



ANCHOR OPTIONS

STREAMBANK REFORESTATION
DETAIL SHEET 2 OF 2
 N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

PROJECT: 14SP.20881.1

CONTRACT: DN00128

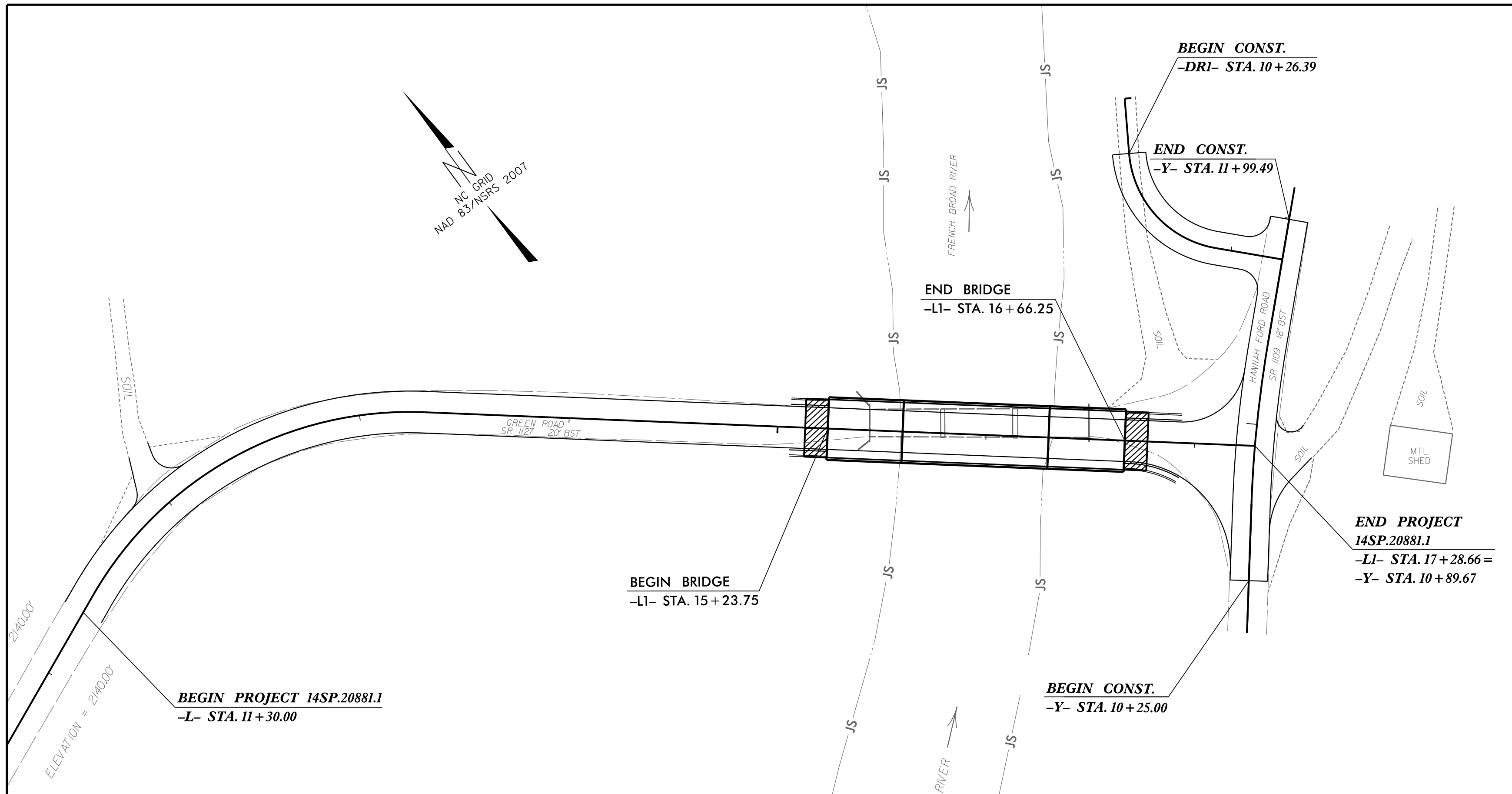
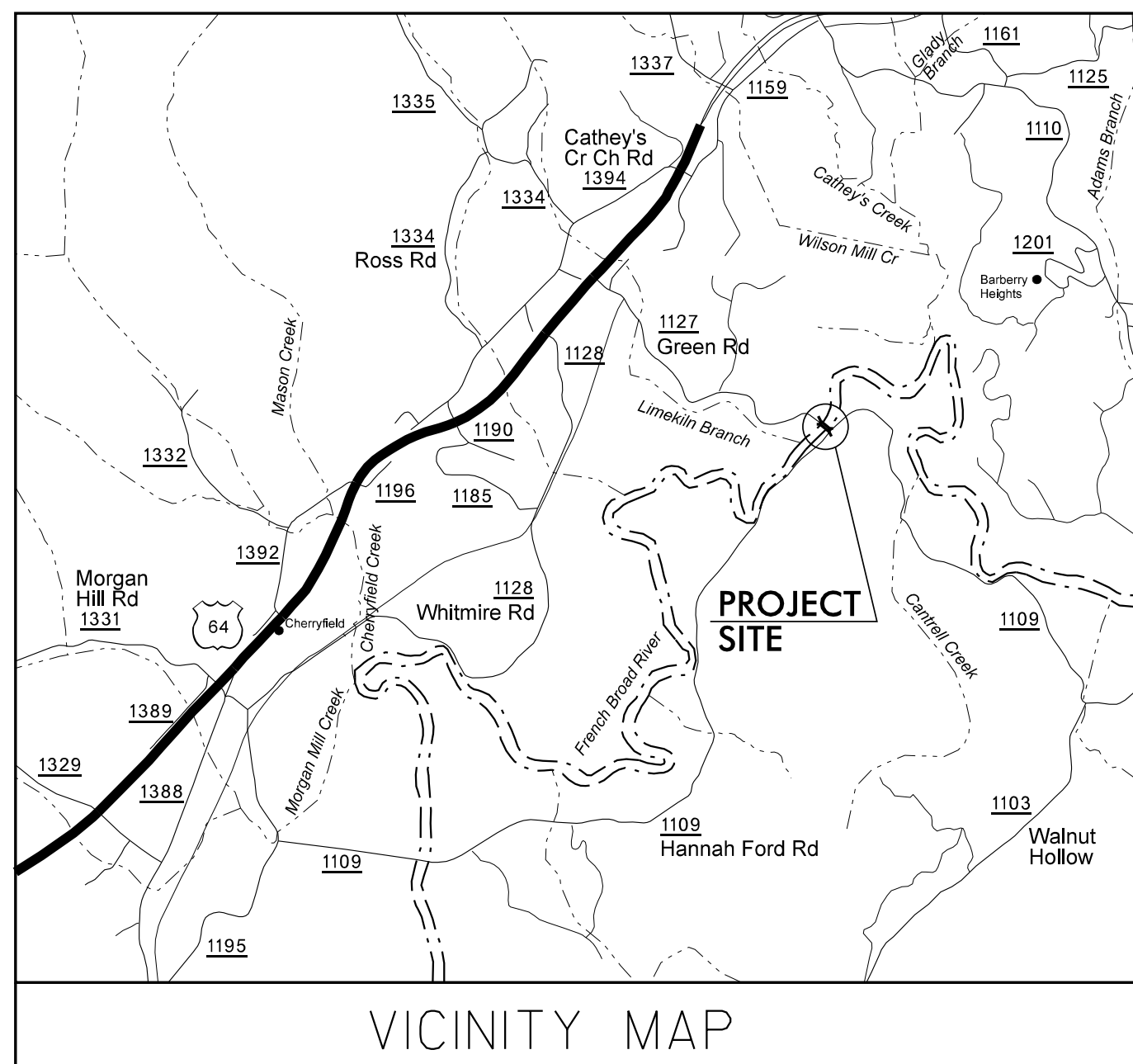
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS
TRANSYLVANIA COUNTY**

LOCATION: BRIDGE NO. 870045 OVER THE FRENCH BROAD RIVER
ON SR 1127 (GREEN ROAD)

TYPE OF WORK: UNDERGROUND TELEPHONE (FO)

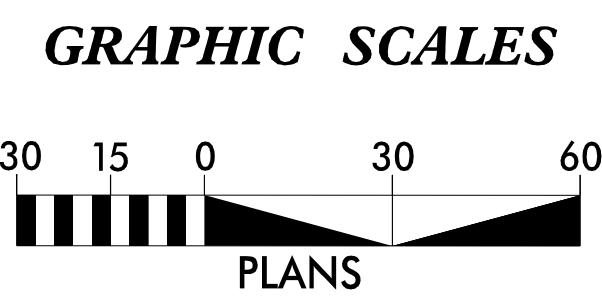
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|--------------|-----------|
| T.I.P. NO. | SHEET NO. |
| 14SP.20881.1 | UO-1 |



V&M
Vaughn & Melton
Consulting Engineers

Charlotte, North Carolina 704-297-8488
Tri-Cities, Tennessee 423-467-4400
Knoxville, Tennessee 865-546-5800
Middleboro, Kentucky 606-248-6600
Asheville, North Carolina 828-253-2796
Spartanburg, South Carolina 864-574-4775

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INDEX OF SHEETS

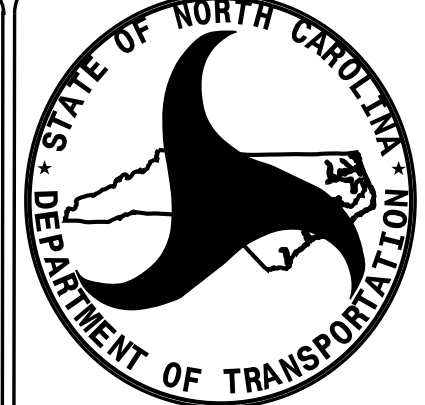
| SHEET NO. | DESCRIPTION |
|-----------|----------------|
| UO-1 | TITLE SHEET |
| UO-2 | UBO PLAN SHEET |

UTILITY OWNERS WITH CONFLICTS

(1) POWER - DUKE ENERGY
(2) TELEPHONE - COMPORIUM (CITIZENS TELEPHONE COMPANY)

PREPARED IN THE OFFICE OF:

V&M
Vaughn & Melton
Consulting Engineers
1318-F Patton Ave.
Asheville, NC 28806
828-253-2796



DIVISION OF HIGHWAYS
DIVISION 14
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

Lynn A. Mann, P.G. UTILITY PROJECT MANAGER
Parker A. Young PROJECT UTILITY COORDINATOR
Parker A. Young PROJECT UTILITY CADD

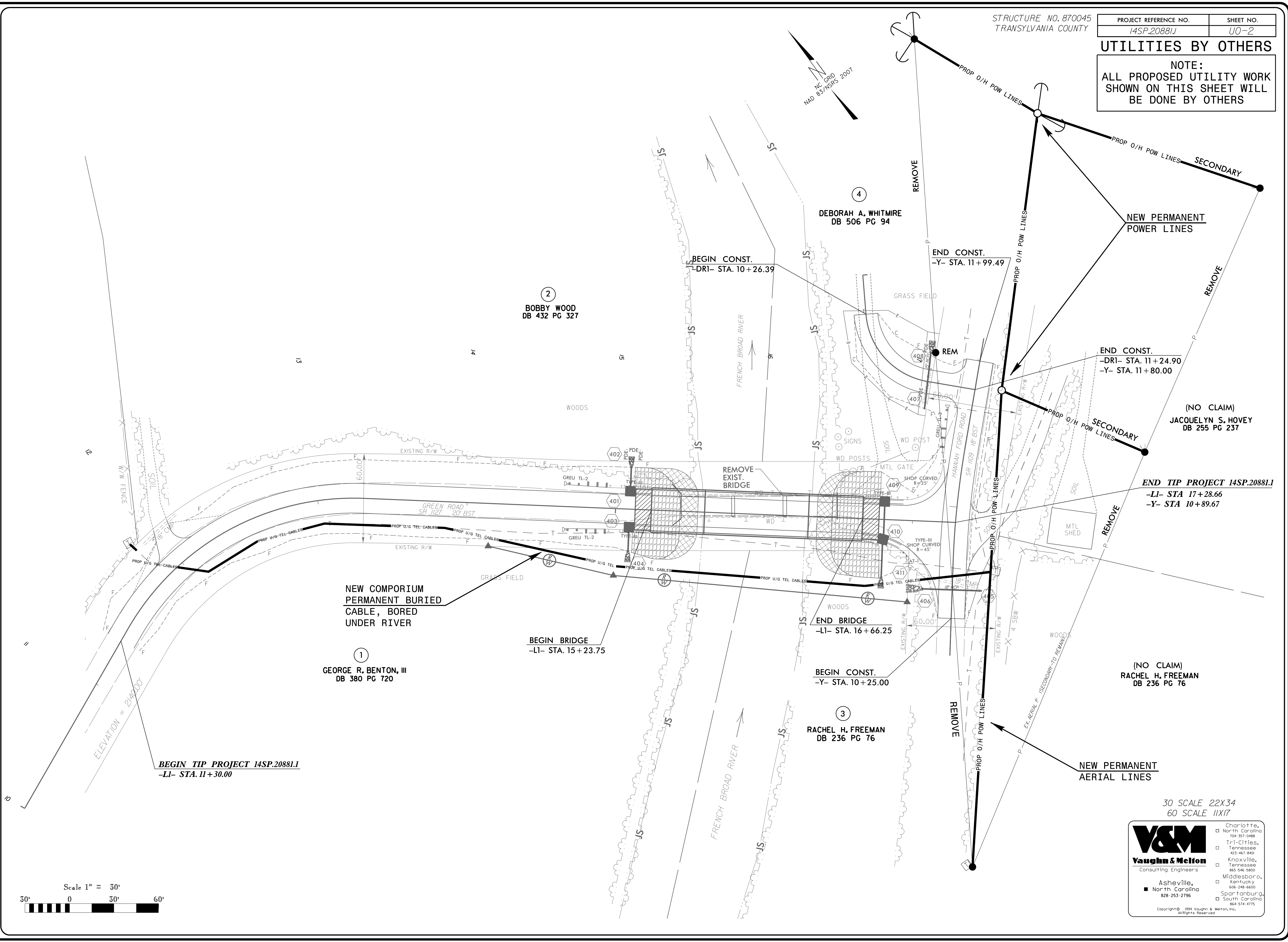
Amy G. Dupree REGIONAL UTILITY COORDINATOR
Robert Golding DIVISION 14 UTILITY ENGINEER

4/11/14
REV. 11/08/16
REV. 6/27/17 ADDED DUKE PRELIM. PLAN
REV. 10/17/17 ADDED DUKE PLAN

V&M PROJECT #31236-05
TRANSPORTATION\31236-05\TRANS_45\UTILITIES\U0-2.DGN

PROJECT: 14SP.20881.1

CONTRACT: DN00128

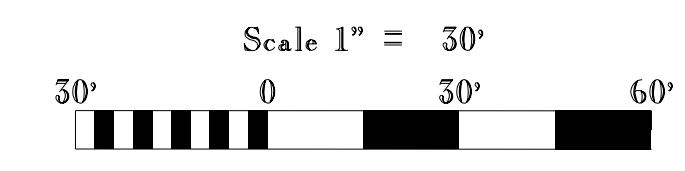


STRUCTURE NO. 870045
TRANSYLVANIA COUNTY

| | |
|---------------------------------------|-------------------|
| PROJECT REFERENCE NO. 14SP.20881.1 | SHEET NO. U0-2 |
|---------------------------------------|-------------------|

UTILITIES BY OTHERS

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



30 SCALE 22X34
60 SCALE 11X17

V&M
Vaughn & Melton
Consulting Engineers

Asheville, North Carolina
828-253-2796

Charlotte, North Carolina
704-237-0488

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864-574-4175

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