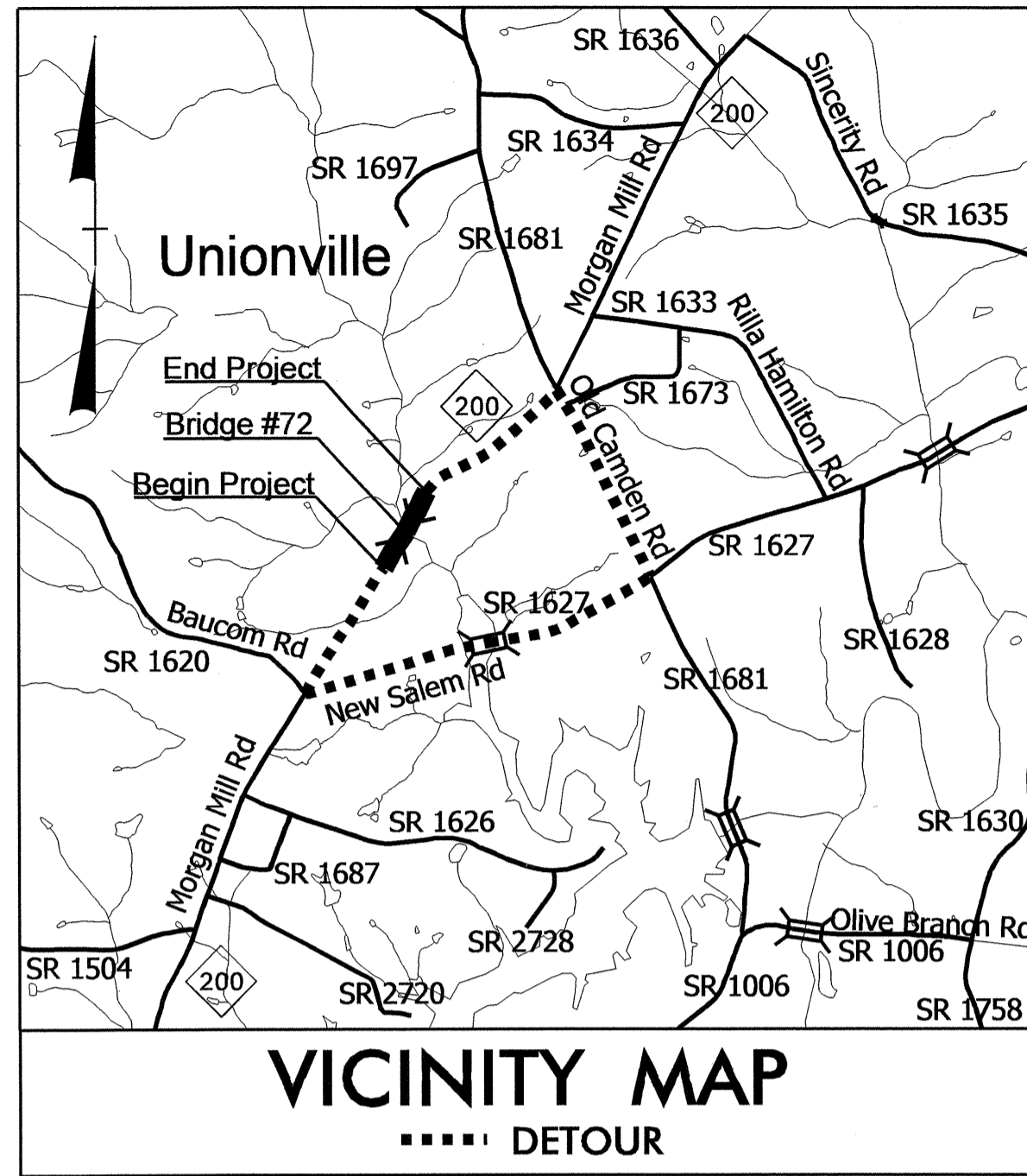


09/08/09

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UNION COUNTY**

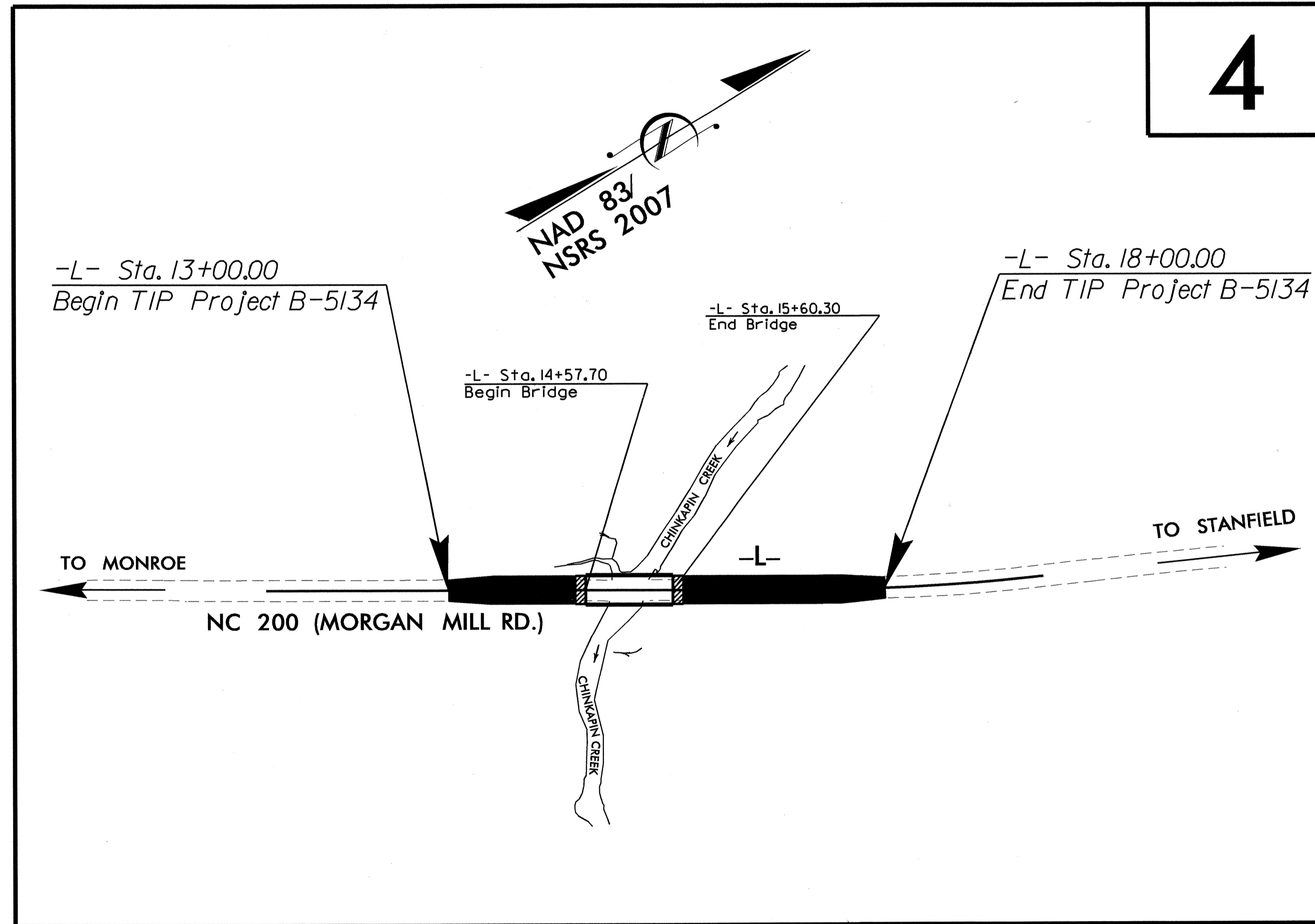
**LOCATION: BRIDGE NO. 72 ON NC 200 (MORGAN MILL ROAD)  
OVER CHINKAPIN CREEK**

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

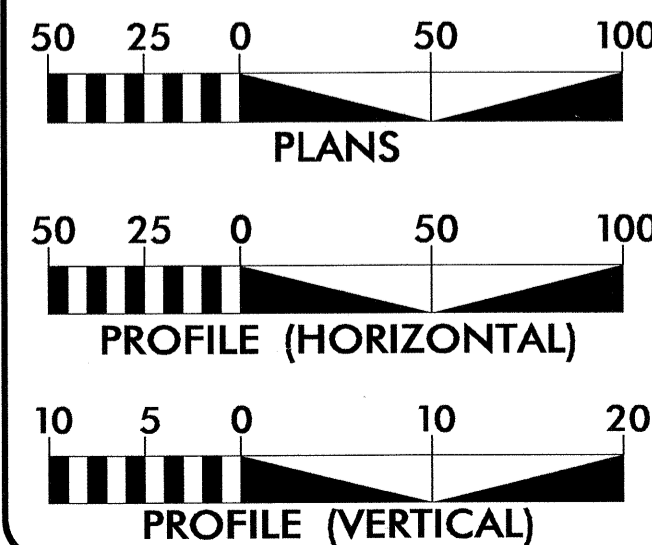
| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C.            | B-5134                      | 1           |              |
| STATE PROJ. NO. | F. A. PROJ. NO.             | DESCRIPTION |              |
| 42293.1.1       | BRSTP - 0200(2)             | PE          |              |
| 42293.2.1       | BRSTP - 0200(2)             | RW & Util   |              |
| 42293.3.FRI     | BRSTP - 0200(2)             | CONST.      |              |

**TIP PROJECT: B-5134**

**CONTRACT: C203368**



**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2014 = 4981  
ADT 2035 = 9100  
K = 11 %  
D = 70 %  
T = 10 % \*  
V = 55 MPH  
\* TTST 5% DUAL 5%  
FUNC CLASS =  
MAJOR COLLECTOR  
REGIONAL TIER

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-5134 = 0.076 MI  
LENGTH OF STRUCTURE TIP PROJECT B-5134 = 0.019 MI  
TOTAL LENGTH TIP PROJECT B-5134 = 0.095 MI

Prepared In the Office of:  
**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
OCTOBER 23, 2012

LETTING DATE:  
MARCH 18, 2014

G. E. BREW, P.E.  
PROJECT ENGINEER

W. T. BEST  
PROJECT DESIGN ENGINEER

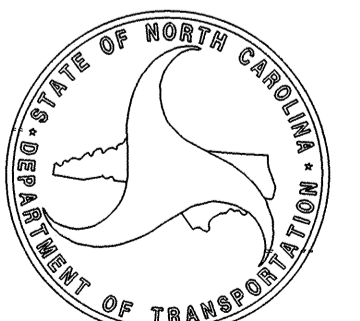
**HYDRAULICS ENGINEER**

*[Signature]*  
SIGNATURE:  
RICHARD L. HINER  
1-2-14

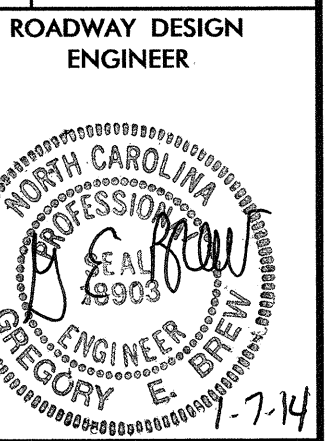
ROADWAY DESIGN  
ENGINEER

*[Signature]*  
SIGNATURE:  
GREGORY E. B...  
1-6-14

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**



18-OCT-2013 07:57  
R:\Roadway\Projects\B-5134-Rdy-tsh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$



GENERAL NOTES: 2012 SPECIFICATIONS  
 EFFECTIVE: 01-17-2012  
 REVISED: 07-30-2012

| SHEET NUMBER     | INDEX OF SHEETS SHEET  |
|------------------|--|
| 1                | TITLE SHEET  |
| 1-A              | INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS                    |
| 1-B              | CONVENTIONAL SYMBOLS   |
| 1-C              | SURVEY CONTROL SHEET   |
| 2                | PAVEMENT SCHEDULE, TYPICAL SECTIONS, WEDGING DETAILS, AND MISCELLANEOUS DETAILS  |
| 2-A              | DETAIL OF STRUCTURE ANCHOR UNITS   |
| 3-A              | SUMMARY OF DRAINAGE QUANTITIES   |
| 3-B              | SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND SUMMARY OF ASPHALT PAVEMENT REMOVAL |
| 4                | PLAN SHEET   |
| 5                | PROFILE SHEET  |
| TMP-1 THRU TMP-4 | TRAFFIC CONTROL PLANS  |
| PM-1             | PAVEMENT MARKING PLANS   |
| EC-1 THRU EC-5   | EROSION CONTROL PLANS  |
| UO-1 THRU UO-3   | UTILITIES BY OTHERS  |
| X-1A             | CROSS-SECTIONS SUMMARY   |
| X-1 THRU X-3     | CROSS-SECTIONS   |
| S-1 THRU S-17    | STRUCTURE PLANS  |

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 III.

SUPERELEVATION:  
 ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04  
 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. 560.01

UNDERDRAINS:  
 UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

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  
 Frontier Communications, Duke Power, Time Warner

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:  
 ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

2012 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, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

| STD.NO.                                    | TITLE   |
|--|---|
| DIVISION 2 - EARTHWORK                     |   |
| 200.03                                     | Method of Clearing - Method III   |
| 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              |   |
| 422.10                                     | Reinforced Bridge Approach Fills  |
| DIVISION 5 - SUBGRADE, BASES AND SHOULDERS |   |
| 560.01                                     | Method of Shoulder Construction - High Side of Superelevated Curve - Method I |
| DIVISION 6 - ASPHALT BASES AND PAVEMENTS   |   |
| 654.01                                     | Pavement Repairs  |
| DIVISION 8 - INCIDENTALS                   |   |
| 838.02                                     | Concrete Endwall and Sluice Gate - 15" thru 36" Pipe 90 Skew                  |
| 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     |
| 840.46                                     | Traffic Bearing Precast Drainage Structure                                    |
| 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  |
| 876.01                                     | Rip Rap in Channels   |
| 876.02                                     | Guide for Rip Rap at Pipe Outlets   |
| 876.04                                     | Drainage Ditches with Class 'B' Rip Rap                                       |

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Note: Not to Scale

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

# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

|  |              |
|--|--------------|
| State Line                                 | -----        |
| County Line                                | -----        |
| Township Line                              | -----        |
| City Line                                  | -----        |
| Reservation Line                           | -----        |
| Property Line                              | -----        |
| Existing Iron Pin                          | ○<br>EP      |
| Property Corner                            | ----->       |
| Property Monument                          | □<br>ECM     |
| Parcel/Sequence Number                     | (23)         |
| Existing Fence Line                        | -x-x-x-      |
| Proposed Woven Wire Fence                  | ○            |
| Proposed Chain Link Fence                  | □            |
| Proposed Barbed Wire Fence                 | ◇            |
| Existing Wetland Boundary                  | -----<br>WLB |
| Proposed Wetland Boundary                  | -----<br>WLB |
| Existing Endangered Animal Boundary        | -----<br>EAB |
| Existing Endangered Plant Boundary         | -----<br>EPB |
| Known Soil Contamination: Area or Site     | ☠ ☠          |
| Potential Soil Contamination: Area or Site | ☠ ?          |

## BUILDINGS AND OTHER CULTURE:

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

## HYDROLOGY:

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

## RAILROADS:

|                    |                             |
|--------------------|-----------------------------|
| Standard Gauge     | -----<br>CSX TRANSPORTATION |
| RR Signal Milepost | ○<br>MILEPOST 35            |
| Switch             | □<br>SWITCH                 |
| RR Abandoned       | -----                       |
| RR Dismantled      | -----                       |

## RIGHT OF WAY:

|  |              |
|--|--------------|
| Baseline Control Point   | ◆            |
| Existing Right of Way Marker                                   | △            |
| Existing Right of Way Line                                     | -----        |
| Proposed Right of Way Line                                     | -----<br>RW  |
| Proposed Right of Way Line with Iron Pin and Cap Marker        | -----<br>RW  |
| Proposed Right of Way Line with Concrete or Granite R/W Marker | -----<br>RW  |
| Proposed Control of Access Line with Concrete CA Marker        | -----<br>CA  |
| Existing Control of Access                                     | -----<br>CA  |
| Proposed Control of Access                                     | -----<br>CA  |
| Existing Easement Line   | -----<br>E   |
| Proposed Temporary Construction Easement                       | -----<br>E   |
| Proposed Temporary Drainage Easement                           | -----<br>TDE |
| Proposed Permanent Drainage Easement                           | -----<br>PDE |
| Proposed Permanent Drainage / Utility Easement                 | -----<br>DUE |
| Proposed Permanent Utility Easement                            | -----<br>PUE |
| Proposed Permanent Easement                                    | -----<br>PE  |
| Proposed Temporary Utility Easement                            | -----<br>TUE |
| Proposed Aerial Utility Easement                               | -----<br>AUE |
| Proposed Permanent Easement with Iron Pin and Cap Marker       | -----<br>◆   |

## ROADS AND RELATED FEATURES:

|                            |             |
|----------------------------|-------------|
| Existing Edge of Pavement  | -----       |
| Existing Curb              | -----       |
| Proposed Slope Stakes Cut  | -----<br>C  |
| Proposed Slope Stakes Fill | -----<br>F  |
| Proposed Curb Ramp         | -----<br>CR |
| Existing Metal Guardrail   | -----       |
| Proposed Guardrail         | -----       |
| Existing Cable Guiderail   | -----       |
| Proposed Cable Guiderail   | -----       |
| Equality Symbol            | ⊕           |
| Pavement Removal           | -----       |
| VEGETATION:                |             |
| Single Tree                | ○           |
| Single Shrub               | ○           |
| Hedge                      | -----       |
| Woods Line                 | -----       |

|          |                   |
|----------|-------------------|
| Orchard  | -----             |
| Vineyard | -----<br>Vineyard |

## EXISTING STRUCTURES:

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

## UTILITIES:

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

## TELEPHONE:

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

## WATER:

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

## TV:

|  |                |
|--|----------------|
| TV Satellite Dish                          | ⊕              |
| TV Pedestal                                | □              |
| TV Tower                                   | ⊗              |
| U/G TV Cable Hand Hole                     | ○<br>TH        |
| Recorded U/G TV Cable                      | -----<br>TV    |
| Designated U/G TV Cable (S.U.E.*)          | -----<br>TV    |
| Recorded U/G Fiber Optic Cable             | -----<br>TV FO |
| Designated U/G Fiber Optic Cable (S.U.E.*) | -----<br>TV FO |

## GAS:

|                                   |                  |
|-----------------------------------|------------------|
| Gas Valve                         | ◇                |
| Gas Meter                         | ○                |
| Recorded U/G Gas Line             | -----            |
| Designated U/G Gas Line (S.U.E.*) | -----            |
| Above Ground Gas Line             | -----<br>A/G Gas |

## SANITARY SEWER:

|  |                             |
|--|-----------------------------|
| Sanitary Sewer Manhole                   | ○<br>SS                     |
| Sanitary Sewer Cleanout                  | ○<br>SC                     |
| U/G Sanitary Sewer Line                  | -----<br>SS                 |
| Above Ground Sanitary Sewer              | -----<br>A/G Sanitary Sewer |
| Recorded SS Forced Main Line             | -----<br>FSS                |
| Designated SS Forced Main Line (S.U.E.*) | -----<br>FSS                |

## MISCELLANEOUS:

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

# SURVEY CONTROL SHEET PRELIMINARY PLANS

| BL  | POINT | DESC.      | NORTH       | EAST         | ELEVATION | L STATION              | OFFSET   |
|-----|-------|------------|-------------|--------------|-----------|------------------------|----------|
| 2   |       | B5134-2    | 476141.9800 | 1551618.9370 | 523.52    | OUTSIDE PROJECT LIMITS |          |
| 4   |       | BL-4       | 476798.4710 | 1551979.5730 | 499.47    | 10+06.30               | 19.61 LT |
| 193 |       | UNION-HM40 | 476880.6040 | 1552074.1150 | 497.11    | 11+25.63               | 18.41 RT |
| 3   |       | BL-3       | 477260.6700 | 1552264.6740 | 495.77    | 15+49.35               | 16.53 LT |
| 1   |       | B5134-1    | 477507.6550 | 1552449.1240 | 506.52    | 18+55.34               | 16.86 RT |

.....  
 BM1 ELEVATION = 497.29  
 N 477062 E 1552126  
 L STATION 13+08.31 LEFT  
 RR SPIKE IN TEL POLE  
 .....

**DATUM DESCRIPTION**

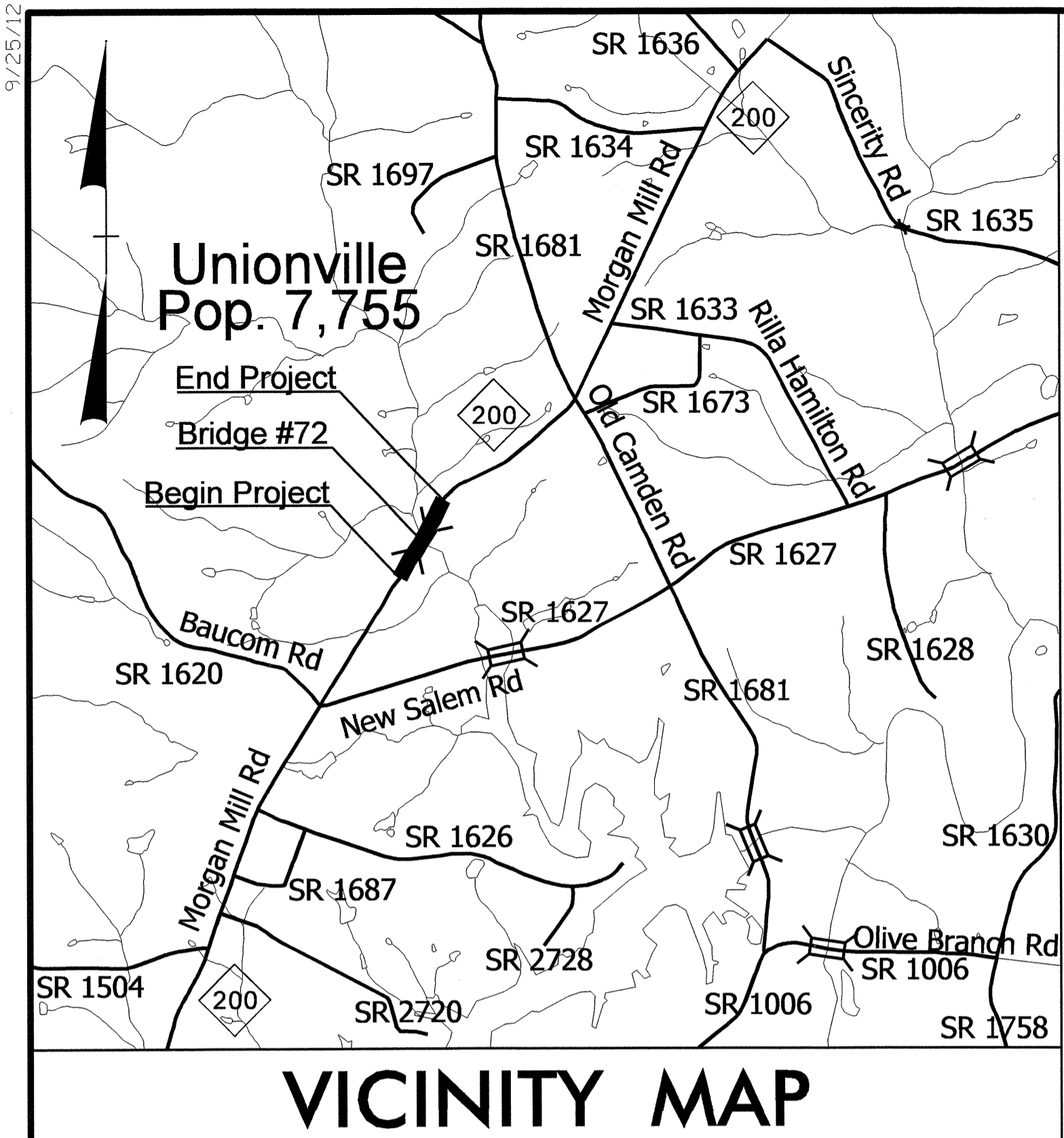
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "B5134-1" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 477507.655(±ft) EASTING: 1552449.124(±ft) ELEVATION: 506.52(±ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998790

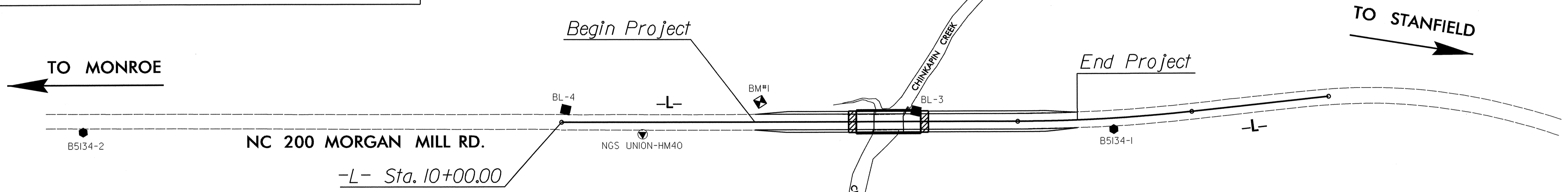
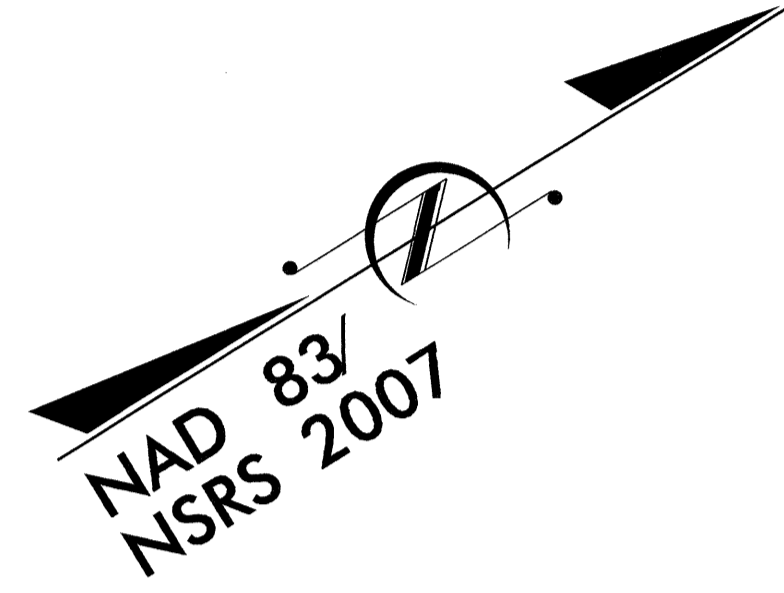
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5134-1" TO -L- STATION 10+00.00 IS

S32°10'51.9"W 856.330'

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



**VICINITY MAP**



ROW MARKER IRON PIN AND CAP

| ALIGN | STATION  | OFFSET | NORTH       | EAST         |
|-------|----------|--------|-------------|--------------|
| L     | 13+00.00 | 30.00  | 477023.5030 | 1552174.7116 |
| L     | 13+00.00 | 65.00  | 477005.2979 | 1552204.6043 |
| L     | 13+00.00 | -55.00 | 477067.7154 | 1552102.1150 |
| L     | 13+00.00 | -30.00 | 477054.7118 | 1552123.4670 |
| L     | 14+44.00 | 65.00  | 477128.2850 | 1552279.5053 |
| L     | 14+44.00 | 50.00  | 477136.0872 | 1552266.6942 |
| L     | 18+00.00 | 50.00  | 477442.5655 | 1552451.3345 |
| L     | 18+00.00 | 30.00  | 477452.3388 | 1552433.8902 |
| L     | 18+00.00 | -30.00 | 477481.6653 | 1552381.5456 |
| L     | 18+00.00 | -55.00 | 477493.8868 | 1552359.7314 |

| TYPE | STATION  | NORTH       | EAST         |
|------|----------|-------------|--------------|
| POT  | 10+00.00 | 476782.8842 | 1551993.0455 |
| PC   | 17+07.34 | 477387.0084 | 1552360.9662 |
| PT   | 19+77.86 | 477625.0733 | 1552489.1667 |
| POT  | 21+91.21 | 477818.0195 | 1552580.2229 |

**NOTES:**

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCTHIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/doh/preconstructhighway/location/project/)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B5134\_LS\_CONTROL.TXT  
 B5134\_LS\_LOCAL.TXT
  2. SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
  3. PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM, UTILIZING THE NCGS RTN SYSTEM (VRS).  
 MONUMENTS USED OR SET FOR PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT:
- INDICATES GEODETIC CONTROL MONUMENTS FOR HORIZONTAL CONTROL
  - INDICATES BASELINE MONUMENTS FOR HORIZONTAL PROJECT CONTROL
  - ⊠ INDICATES BENCHMARKS FOR VERTICAL CONTROL
  - ⊙ INDICATES NGS GEODETIC MONUMENTS USED FOR HORIZONTAL CONTROL
  - ⊕ INDICATES USGS BENCHMARKS

NOTE: DRAWING NOT TO SCALE

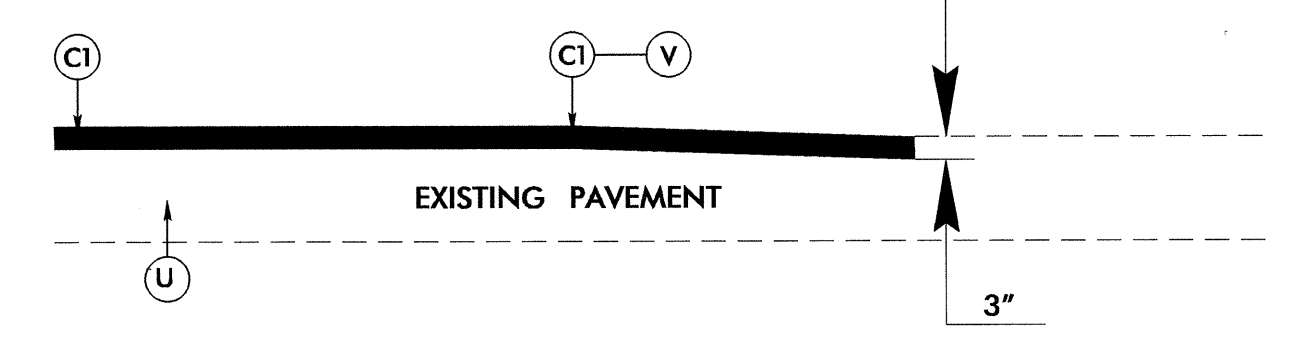
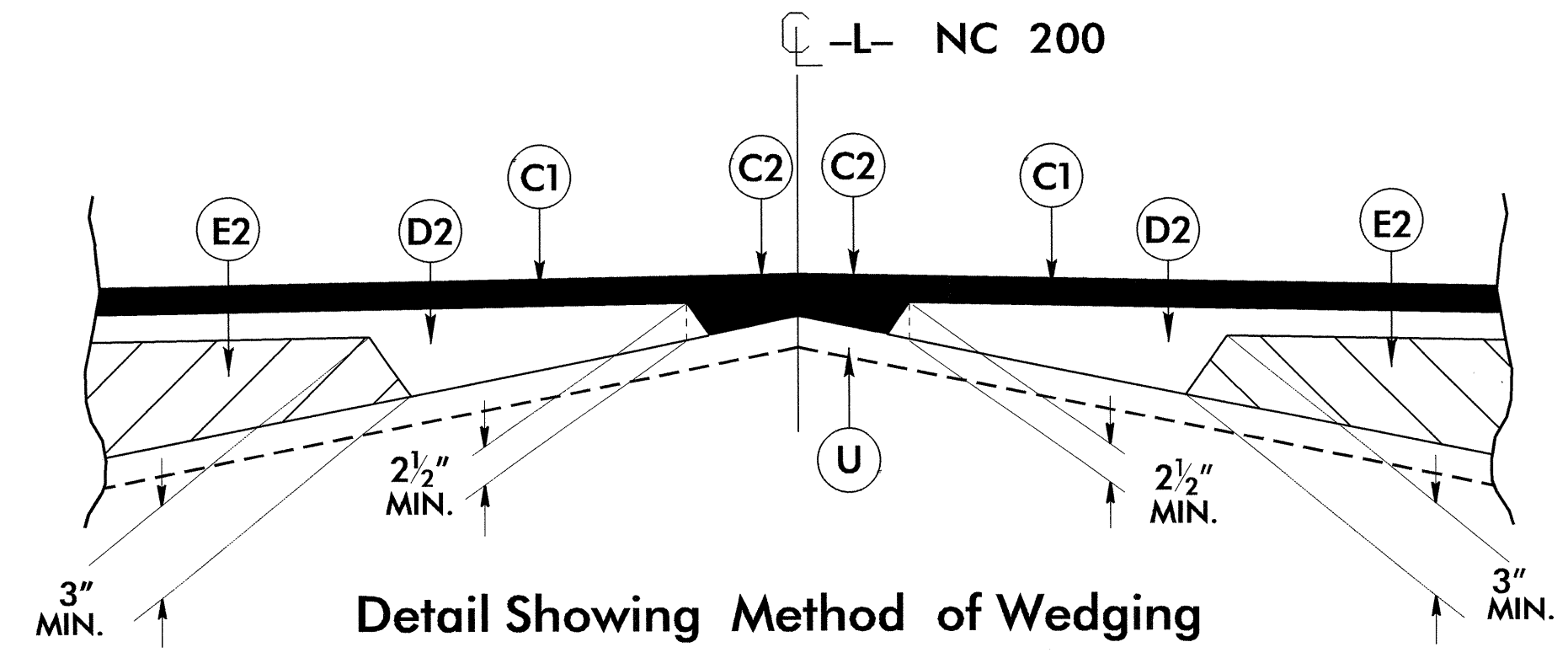
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6/2/09

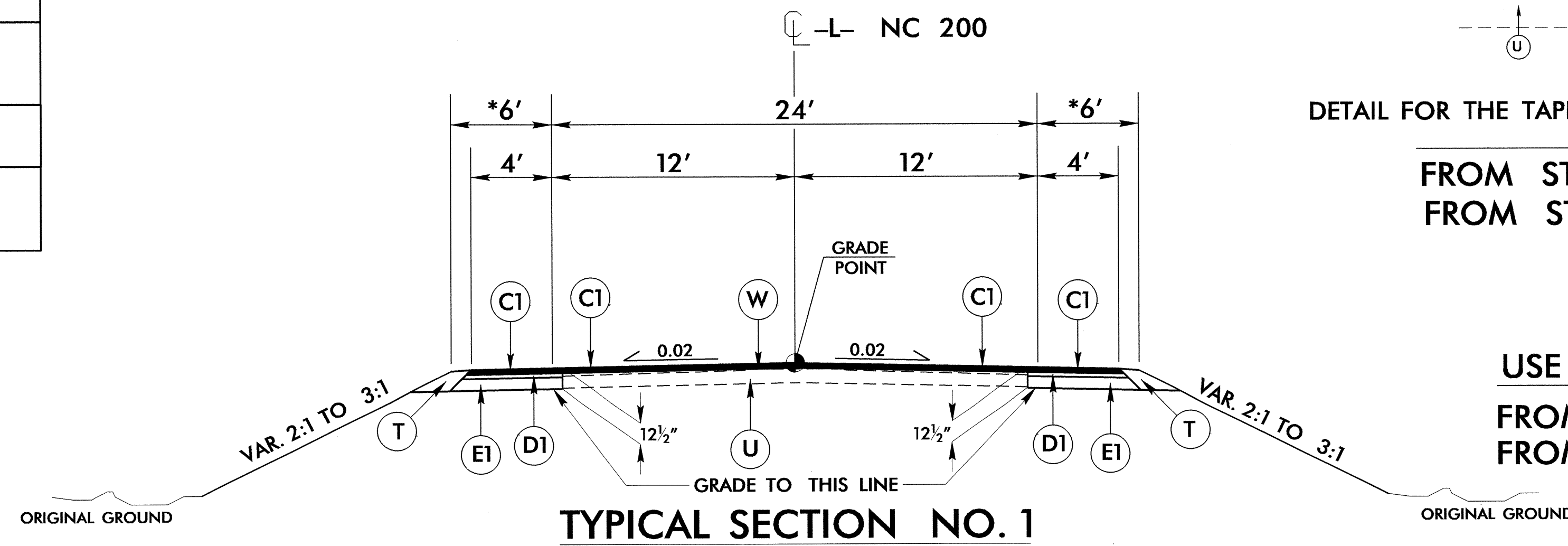
|   |  |
|---|--|
| PROJECT REFERENCE NO.<br>B-5134                         | SHEET NO.<br>2   |
| ROADWAY DESIGN ENGINEER<br>GREGORY E. HEYWARD<br>1-6-14 | PAVEMENT DESIGN ENGINEER<br>GREGORY E. HEYWARD<br>1-6-14 |

| 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 2" IN DEPTH.                                    |
| D1                | PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.   |
| D2                | PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH. |
| E1                | PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS  |
| E2                | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.         |
| T                 | EARTH MATERIAL.   |
| U                 | EXISTING PAVEMENT.  |
| V                 | INCIDENTAL MILLING FOR BITUMINOUS PAVEMENT.   |
| W                 | VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)   |

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

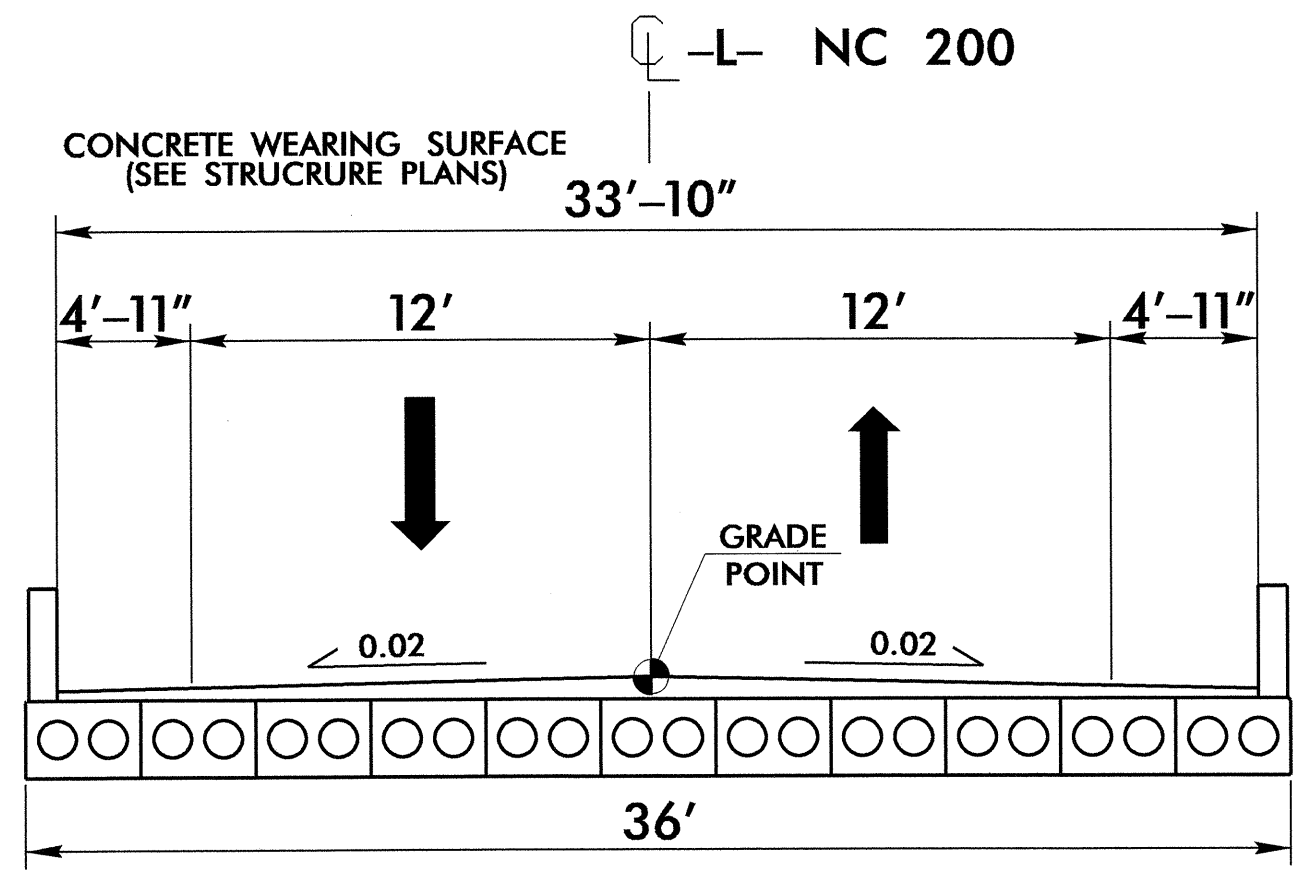


DETAIL FOR THE TAPERING OF PAVEMENT AT END OF RESURFACING  
 FROM STA. 18+00.00 TO STA. 18+25.00  
 FROM STA. 12+75.00 TO STA. 13+00.00

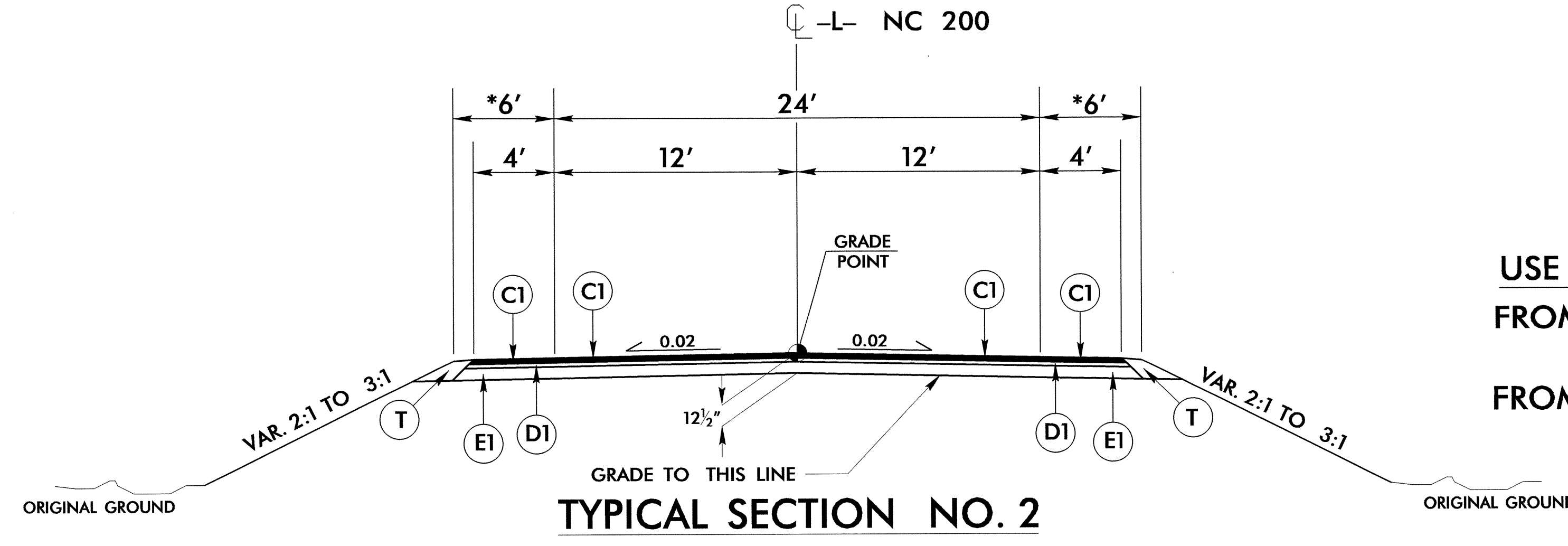


USE TYPICAL SECTION NO.1  
 FROM STA. 13+00.00 TO STA. 14+00.00  
 FROM STA. 16+00.00 TO STA. 18+00.00

\*NOTE: USE 9' WITH GUARDRAIL



USE TYPICAL SECTION NO.3  
 -L- STA. 14+57.70 TO 15+60.30



USE TYPICAL SECTION NO.2  
 FROM STA. 14+00.00 TO STA. 14+57.70  
 (BEGIN BRIDGE)  
 FROM STA. 15+60.30 (END BRIDGE) TO  
 STA. 16+00.00

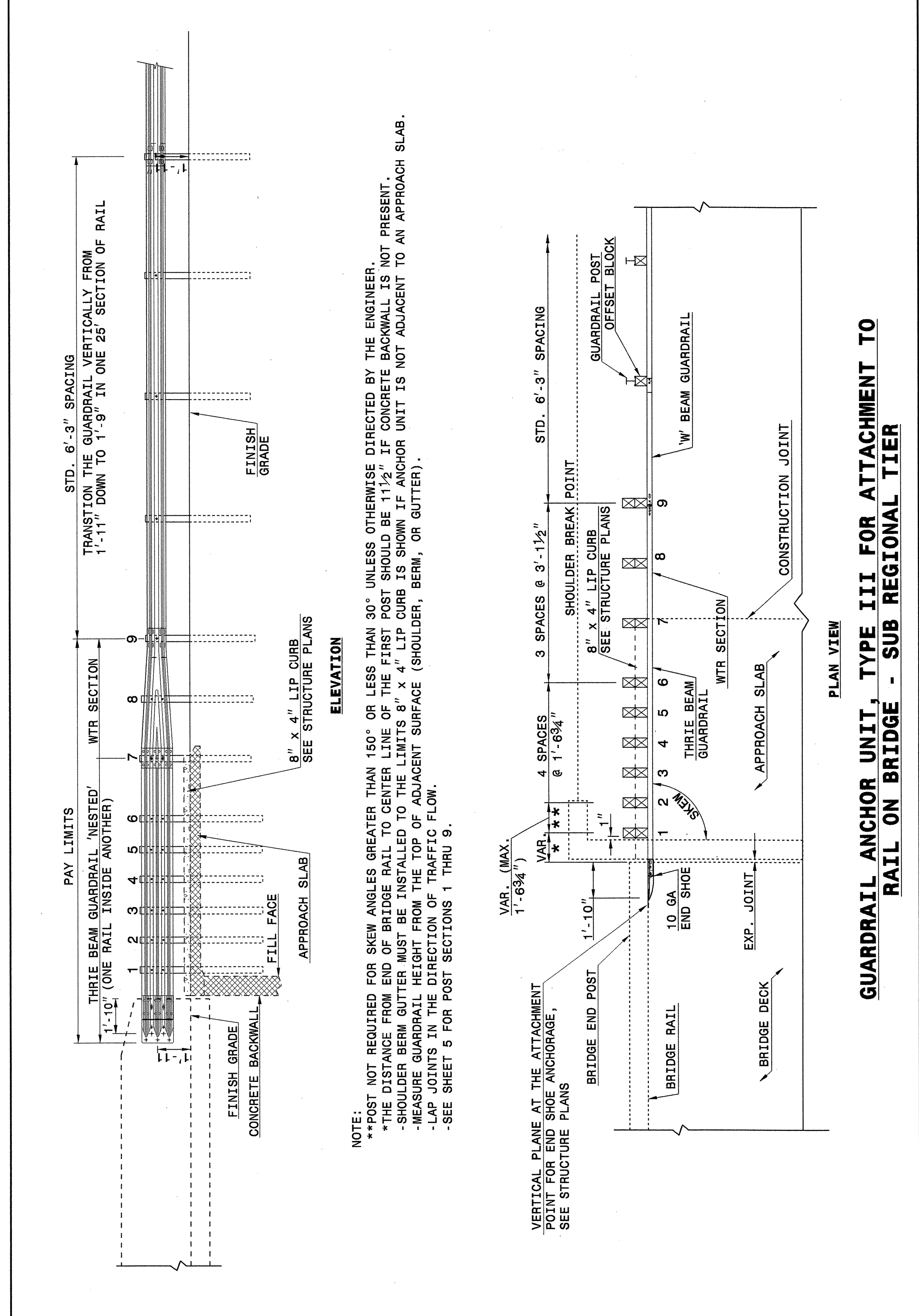
\*NOTE: USE 9' WITH GUARDRAIL

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 GREGORY E. HEYWARD

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7 862d03



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

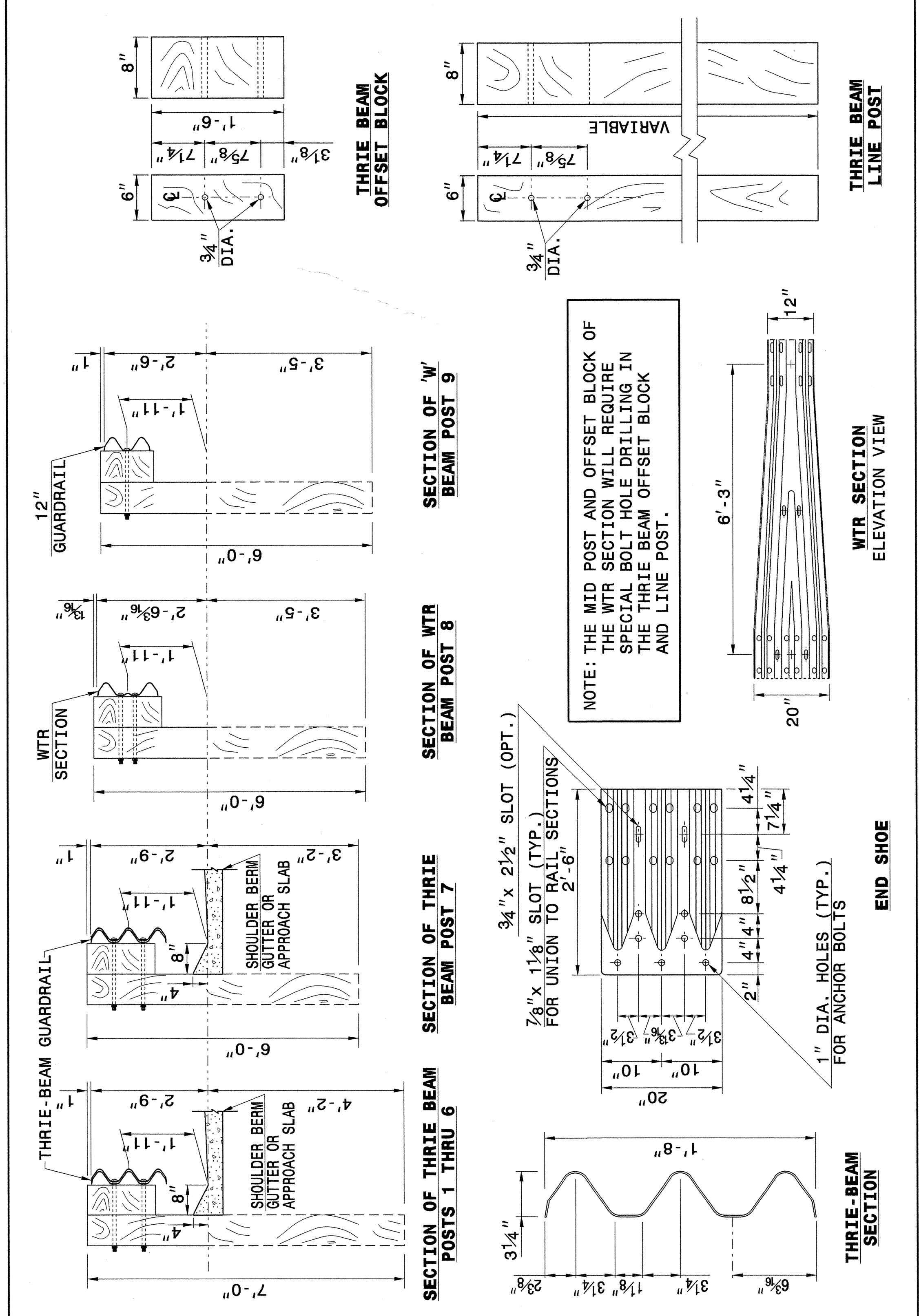
ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7 862d03

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7 862d03



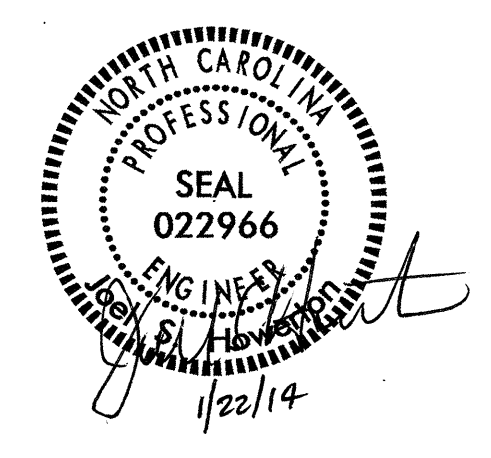
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7 862d03

NOTE:  
 \*\*POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.  
 \*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.  
 -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" X 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.  
 -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).  
 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.  
 -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.

NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.



CONTRACT STANDARDS AND DEVELOPMENT UNIT  
 Office 919-707-6950 FAX 919-250-4119

**SEE TITLE BLOCK**

ORIGINAL BY: J. HOWERTON DATE: 06-22-12  
 MODIFIED BY: DATE:  
 CHECKED BY: DATE:  
 FILE SPEC.: DATE:

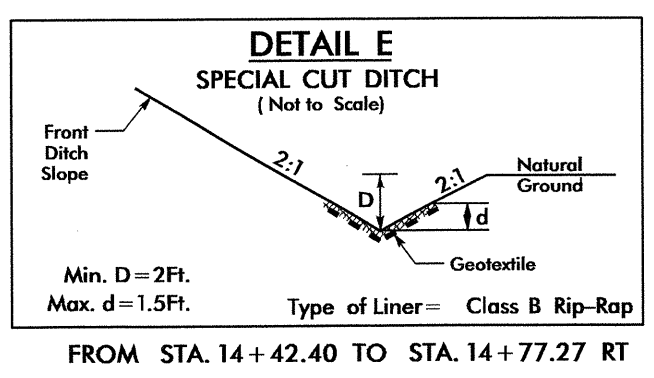
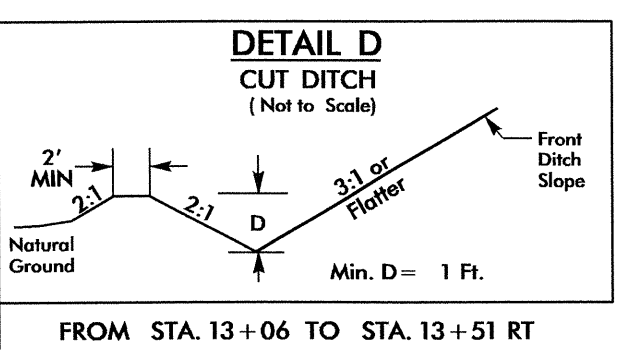
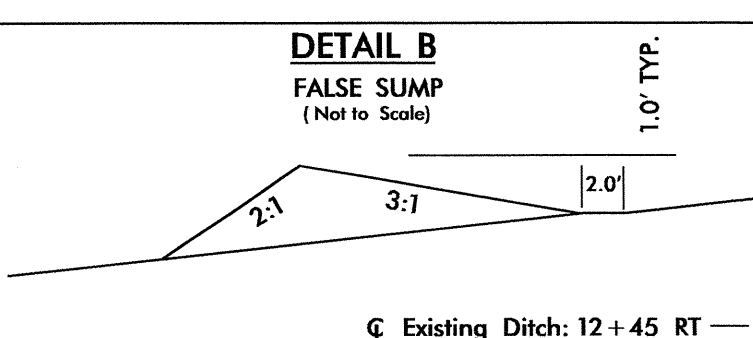
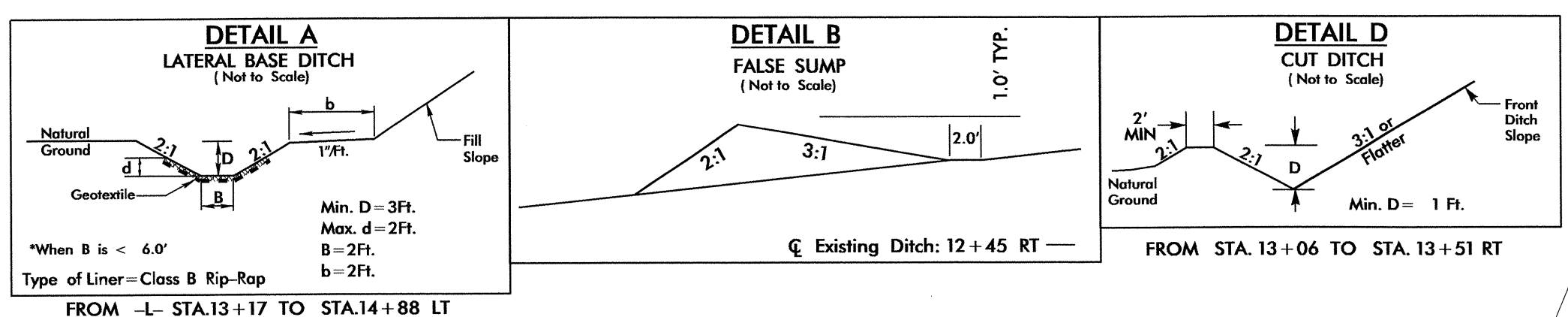
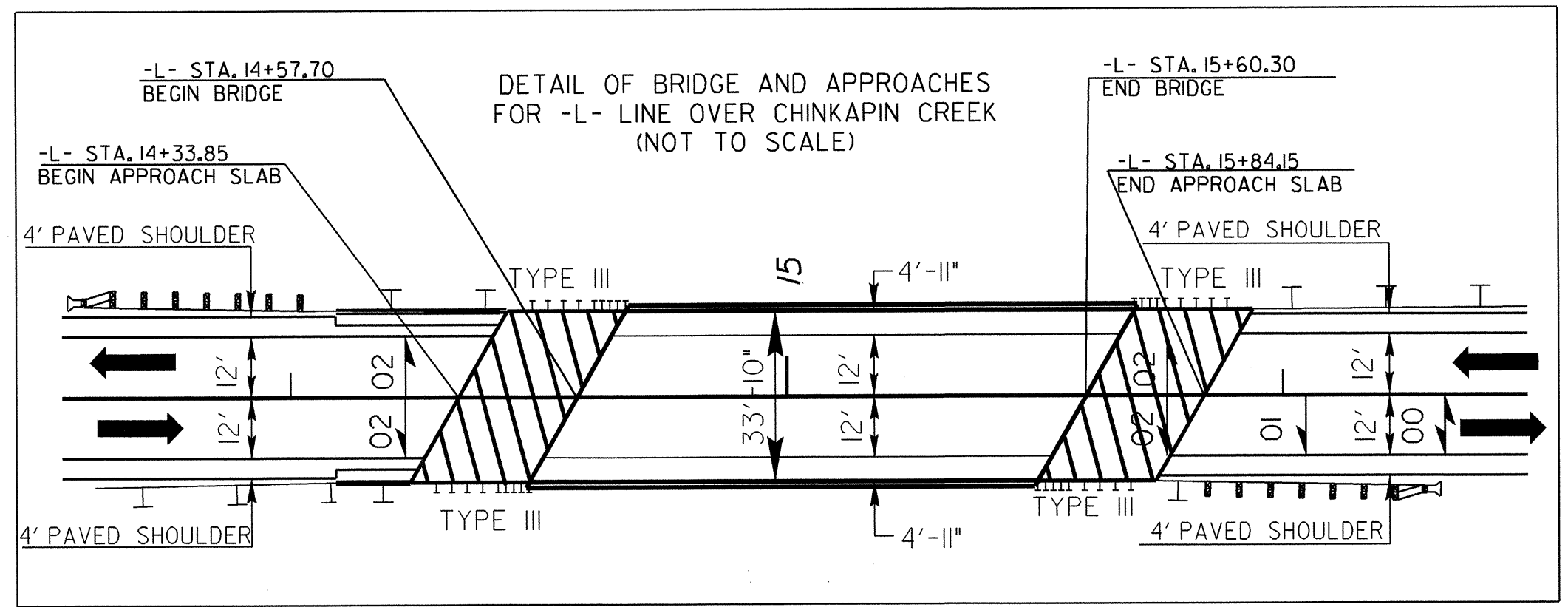




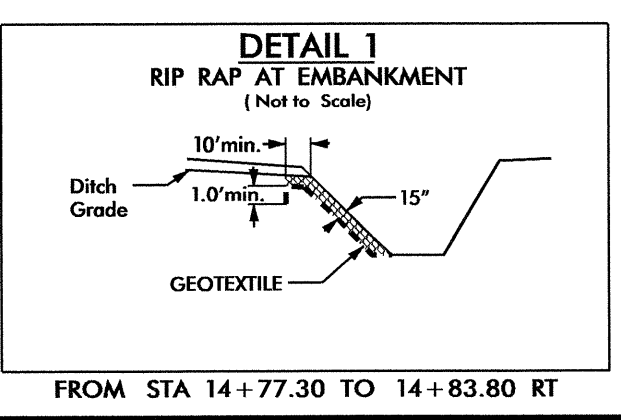
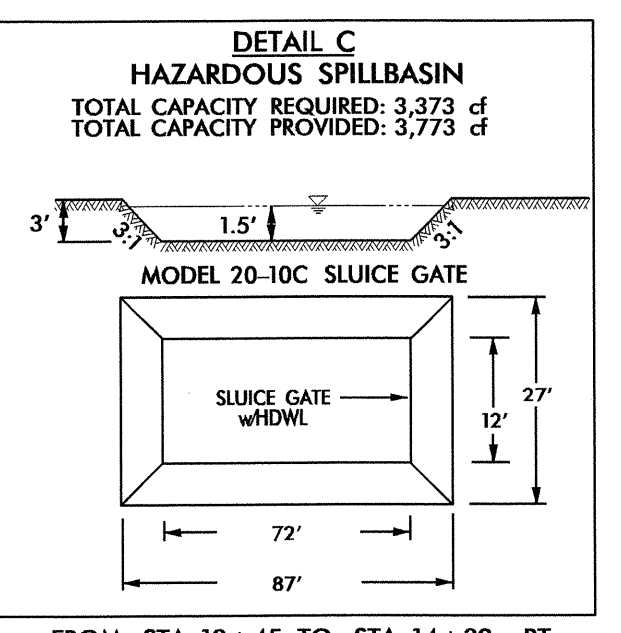
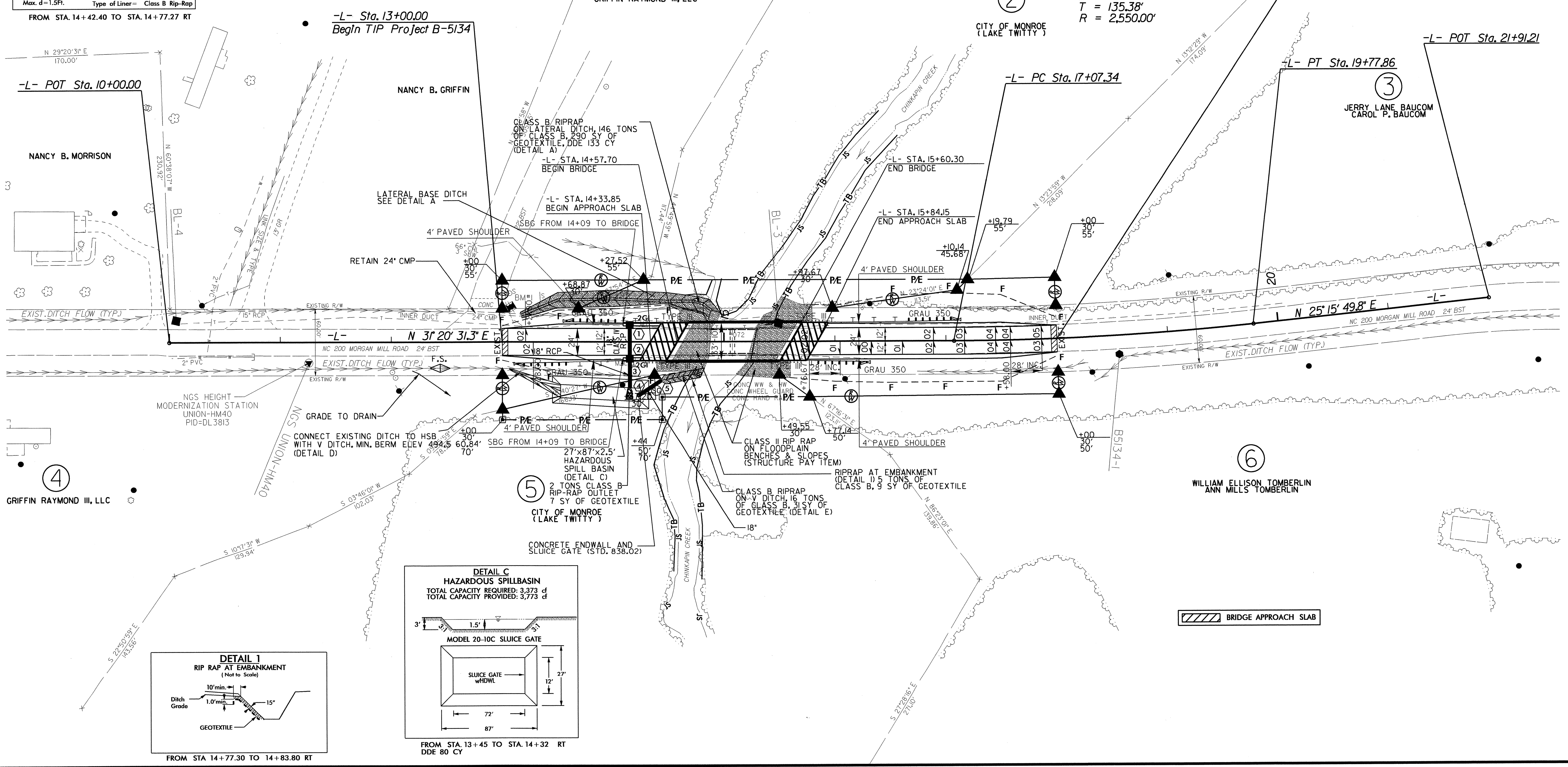


NOTE: SEE SHEET 5 FOR -L- PROFILE  
NOTE: SEE SHEETS S-1 THRU S-17 FOR STRUCTURE PLANS

NAD 83 NSRS 2007



-L-  
PI Sta 18+42.73  
 $\Delta = 6' 04'' 41.5''$  (LT)  
D = 2' 14'' 48.8"  
L = 270.52'  
T = 135.38'  
R = 2,550.00'



BRIDGE APPROACH SLAB

REVISIONS

8/17/99  
20-DEC-2013 10:50:06 -5134\_Rdy\_psh.dgn  
GREGORY E. BAILEY

5/14/99

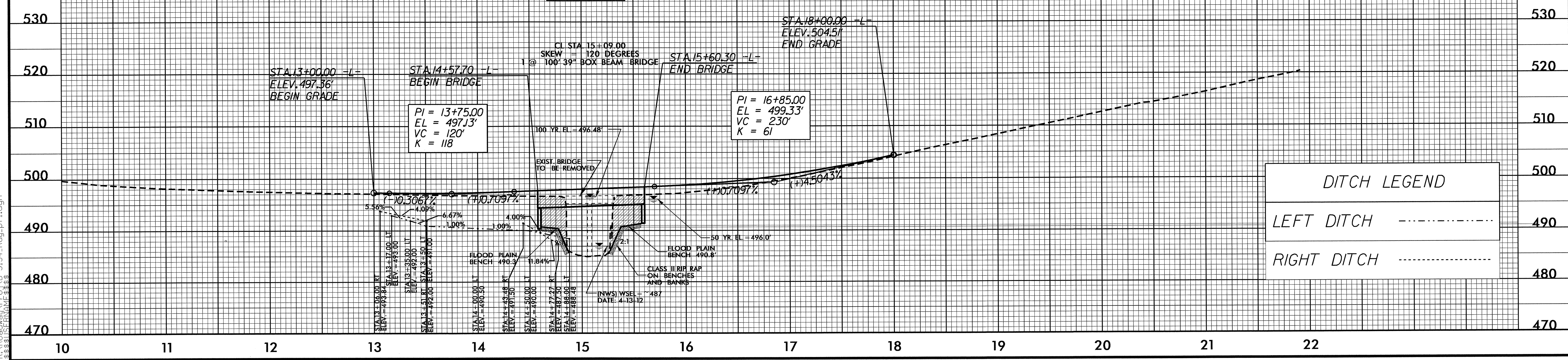
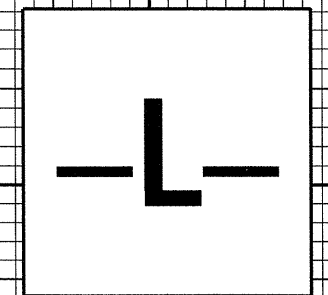
|  |   |
|--|---|
| PROJECT REFERENCE NO.<br>B-5134            | SHEET NO.<br>5                          |
| ROADWAY DESIGN ENGINEER<br>GREGORY E. BIRN | HYDRAULICS ENGINEER<br>RICHARD L. HIVER |
| SEAL 18203<br>1-6-14                       | SEAL 29185<br>1-2-14                    |

NOTE: SEE SHEET 4 FOR L- PLAN  
NOTE: SEE SHEETS S-1 THRU S-17 FOR STRUCTURE PLAN

**BRIDGE HYDRAULIC DATA**

|                                  |           |     |
|----------------------------------|-----------|-----|
| DESIGN DISCHARGE                 | = 3600    | CFS |
| DESIGN FREQUENCY                 | = 50      | YRS |
| DESIGN HW ELEVATION              | = 496.3   | FT  |
| BASE DISCHARGE                   | = 4100    | CFS |
| BASE FREQUENCY                   | = 100     | YRS |
| BASE HW ELEVATION                | = 496.73  | FT  |
| OVERTOPPING DISCHARGE            | = 3500    | CFS |
| OVERTOPPING FREQUENCY            | = 50      | YRS |
| OVERTOPPING ELEVATION            | = 497.17  | FT  |
|                                  | =         | FT  |
| DATE OF SURVEY                   | = 4/13/12 |     |
| W.S. ELEVATION AT DATE OF SURVEY | = 487 +/- | FT  |

BM #1 RR SPIKE IN TEL POLE  
-L- STA.13+08.08 35' LT.  
ELEV. 497.29



**DITCH LEGEND**

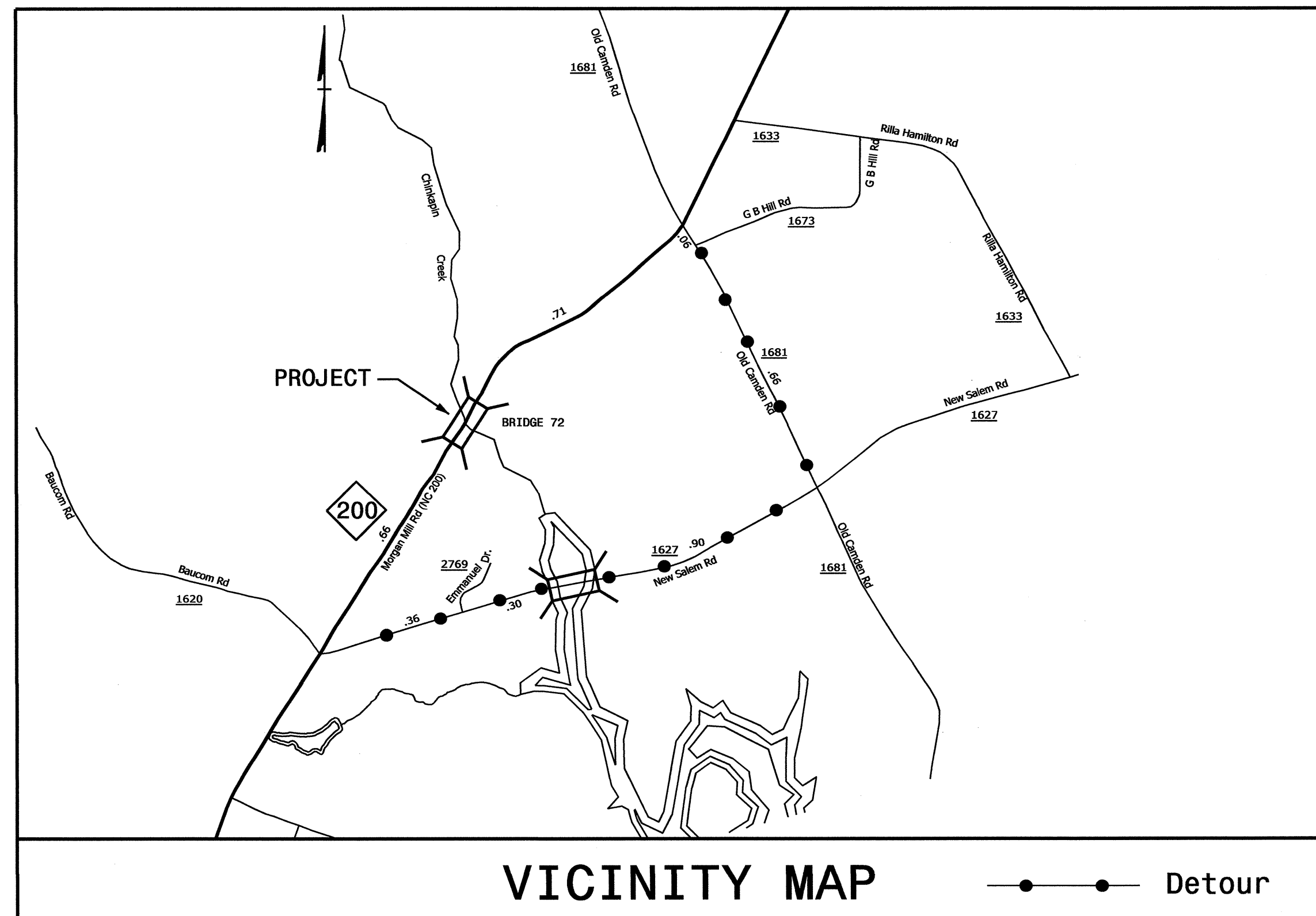
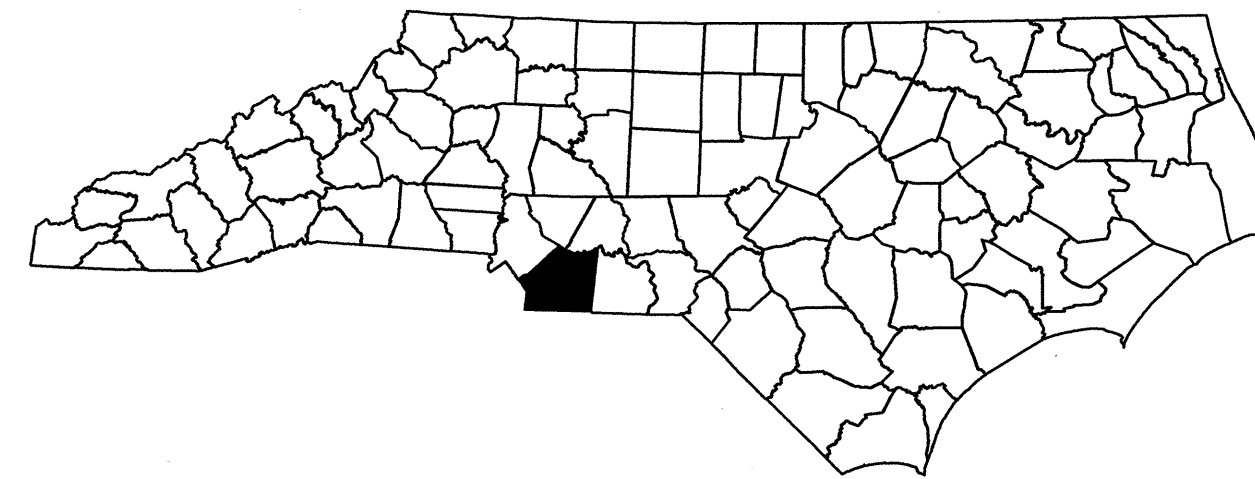
|             |       |
|-------------|-------|
| LEFT DITCH  | ----- |
| RIGHT DITCH | ----- |

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STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**UNION COUNTY**



**INDEX OF SHEETS**

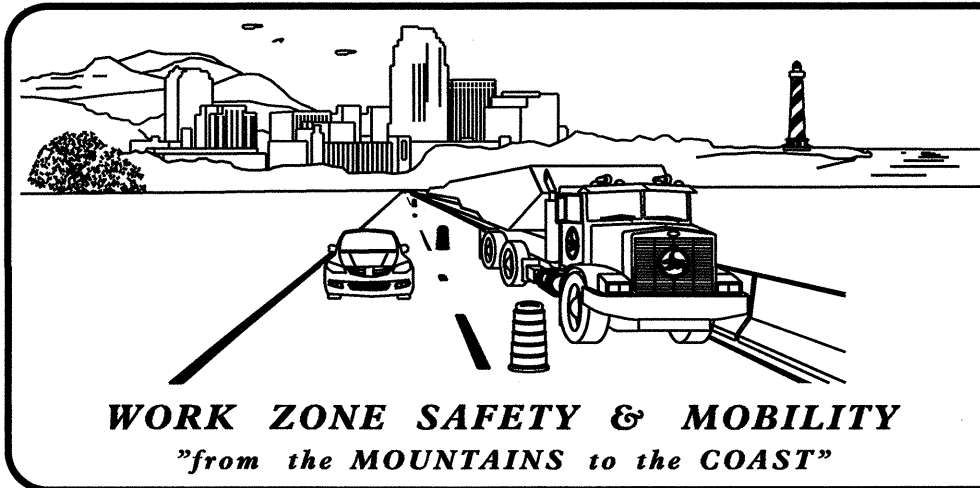
| SHEET NO. | TITLE   |
|-----------|---|
| TMP-1     | TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS                             |
| TMP-1A    | LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND                   |
| TMP-1B    | TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES) |
| TMP-2     | PHASING   |
| TMP-3     | PLAN DETAILS  |
| TMP-4     | DETOUR ROUTE  |

SHEET NO.  
TMP-1

**B-5134**

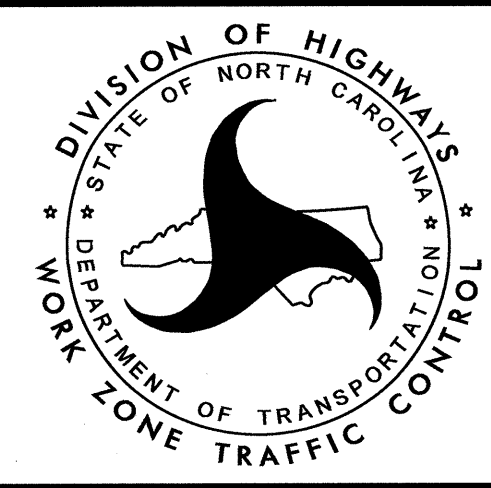
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KBroadwell AT TE256004



**N.C.D.O.T. WORK ZONE TRAFFIC CONTROL**  
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561  
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)  
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER  
G. L. GETTIER, P.E. TRAFFIC CONTROL PROJECT ENGINEER  
J. W. GILSTRAP TRAFFIC CONTROL PROJECT DESIGN ENGINEER  
KEN BROADWELL TRAFFIC CONTROL DESIGN ENGINEER



APPROVED: \_\_\_\_\_  
DATE: \_\_\_\_\_

SEAL

## ROADWAY STANDARD DRAWINGS

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

| <u>STD. NO.</u> | <u>TITLE</u>   |
|-----------------|--|
| 1101.02         | TEMPORARY LANE CLOSURES                              |
| 1101.03         | TEMPORARY ROAD CLOSURES                              |
| 1101.04         | TEMPORARY SHOULDER CLOSURES                          |
| 1101.05         | WORK ZONE VEHICLE ACCESSES                           |
| 1101.11         | TRAFFIC CONTROL DESIGN TABLES                        |
| 1110.01         | STATIONARY WORK ZONE SIGNS                           |
| 1110.02         | PORTABLE WORK ZONE SIGNS                             |
| 1130.01         | DRUMS  |
| 1135.01         | CONES  |
| 1145.01         | BARRICADES - TYPE III                                |
| 1150.01         | FLAGGING DEVICES                                     |
| 1180.01         | SKINNY - DRUM  |
| 1205.01         | PAVEMENT MARKINGS - LINE TYPES AND OFFSETS           |
| 1205.02         | PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS |
| 1250.01         | RAISED PAVEMENT MARKERS - INSTALLATION SPACING       |
| 1251.01         | RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY    |

## LEGEND

### GENERAL

- DIRECTION OF TRAFFIC FLOW
- NORTH ARROW

### TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM    SKINNY DRUM

### TEMPORARY SIGNING

- STATIONARY SIGN
- PORTABLE SIGN

### PAVEMENT MARKING SCHEDULE

N/A

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kbroodwell AT TE266004

|                                     |  |  |
|-------------------------------------|--|--|
| APPROVED: _____ DATE: _____<br><br> |  | <b>ROADWAY STANDARD<br/>DRAWINGS, LEGEND AND<br/>PAVEMENT MARKING SCHEDULE</b> |
|-------------------------------------|--|--|

# TRANSPORTATION OPERATIONS

## CONSTRUCTION

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

## TMP DESIGN PARAMETERS

USE FLAGGING OPERATIONS TO PATCH THE EXISTING PAVEMENT ON SR 1681 (OLD CAMDEN ROAD) AND REPLACE PAVEMENT MARKINGS AND PAVEMENT MARKERS.

TRAFFIC SHALL BE DETOURED OFFSITE DURING THE CONSTRUCTION PERIOD.

THE OFFSITE DETOUR SHALL INCLUDE SR 1627 AND SR 1681 (SEE SHEET TMP-4).

TRAFFIC SHALL BE MAINTAINED TO THE EXISTING DRIVEWAY LOCATED WITHIN THE PROJECT LIMITS. (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 UNDESIRABLE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

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

## LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

## PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

## TRAFFIC PATTERN ALTERATIONS

- G) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

## SIGNING

- H) 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.

- I) 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.

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

## TRAFFIC CONTROL DEVICES

- K) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

## PAVEMENT MARKINGS AND MARKERS

- M) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS AS DIRECTED BY THE ENGINEER AS FOLLOWS:

| ROAD NAME                    | MARKING | MARKER           |
|------------------------------|---------|------------------|
| 1. OLD CAMDEN ROAD (SR 1681) | PAINT   | PERMANENT RAISED |

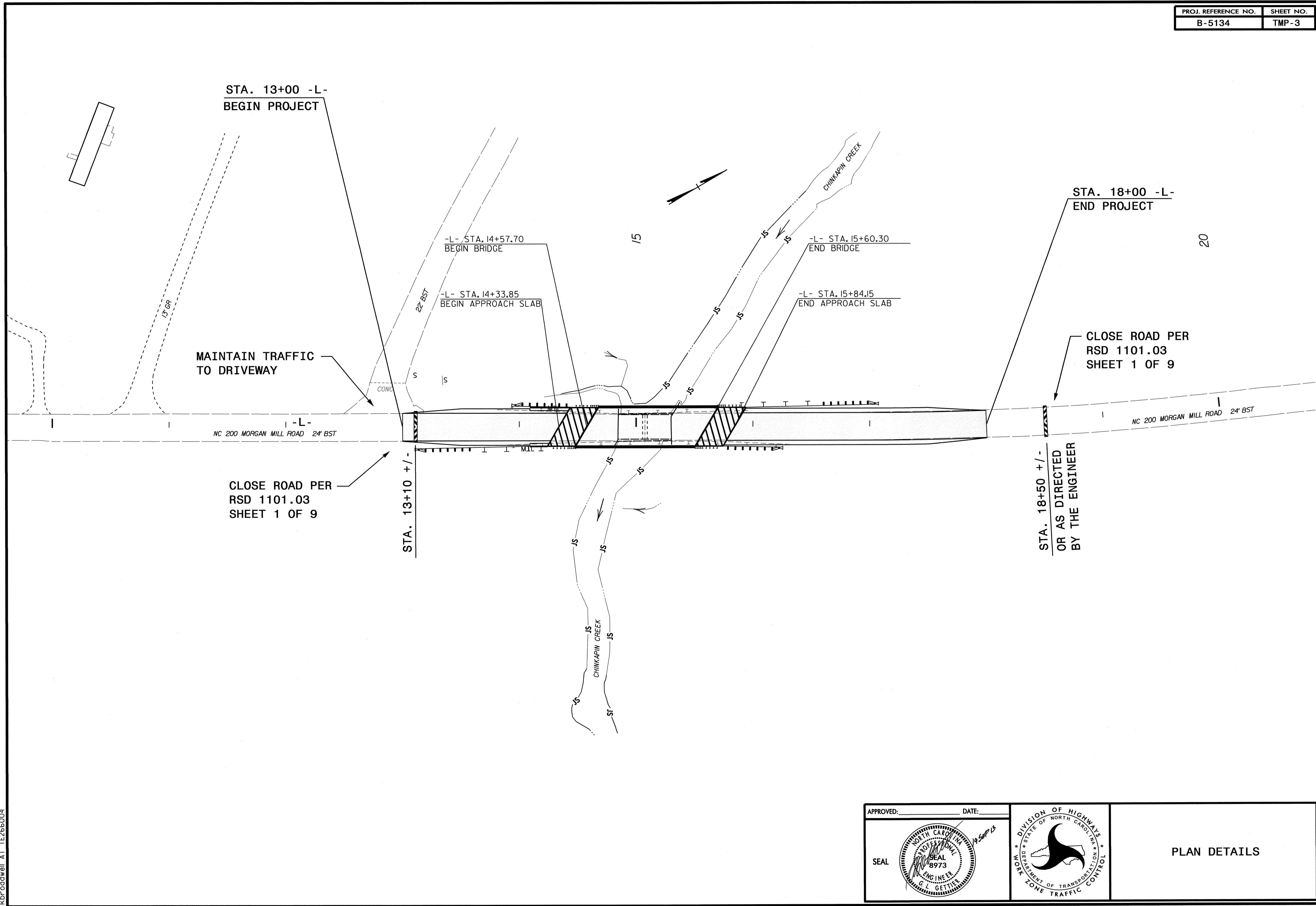
- N) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

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

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 kbr\schell AT 12266004

|                             |  |  |  |
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| APPROVED: _____ DATE: _____ |  |  | <h2>TRANSPORTATION OPERATIONS &amp; GENERAL NOTES</h2> |
|                             |  |  |  |





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 kbroodwell AT TE266004

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_


SEAL

PLAN DETAILS





**STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION**

|   |                    |
|---|--------------------|
| TIP NO.<br>B-5134   | SHEET NO.<br>PMP-1 |
| APPROVED: <i>[Signature]</i>  |                    |
| DATE: 1/26/13   |                    |
| SEAL  |                    |
|  |                    |

**PAVEMENT MARKING PLAN  
UNION COUNTY**

**LOCATION: BRIDGE NO.72 ON NC 200 (MORGAN MILL ROAD)  
OVER CHINKAPIN CREEK**

**T.I.P.: B-5134**

**CONTRACT: C203368**

**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 2012 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 AND MULTILANE ROADWAYS      |
| 1205.12  | PAVEMENT MARKINGS - BRIDGES                              |
| 1250.01  | RAISED PAVEMENT MARKERS - INSTALLATION SPACING           |
| 1251.01  | RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY        |
| 1261.01  | GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING |
| 1261.02  | GUARDRAIL AND BARRIER DELINEATORS - TYPES AND 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 AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

| ROAD NAME      | MARKING | MARKER |
|----------------|---------|--------|
| MORGAN MILL RD | PAINT   | RAISED |

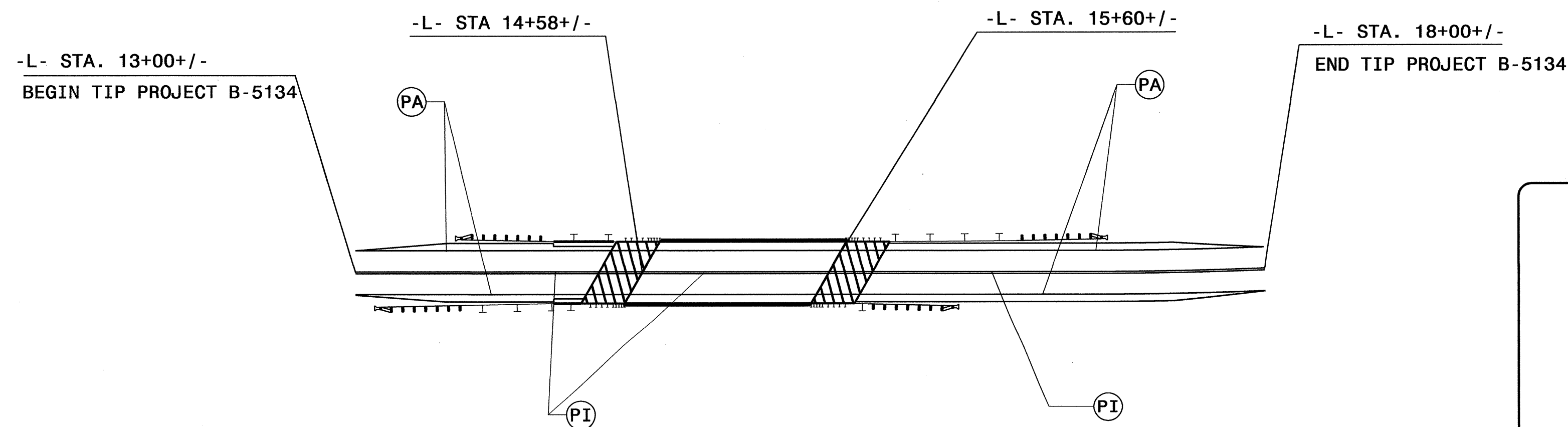
B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

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

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

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

F) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECKS PRIOR TO PLACING (PAINT) PAVEMENT MARKING MATERIAL.



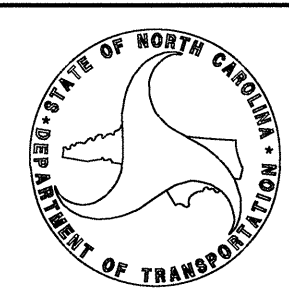
**PAVEMENT MARKING SCHEDULE**

| SYMBOL | DESCRIPTION                       |
|--------|-----------------------------------|
|        | MARKERS                           |
|        | PERMANENT RAISED PAVEMENT MARKERS |
| MA     | YELLOW & YELLOW                   |
|        | PAVEMENT MARKINGS                 |
|        | PAINT(4")                         |
| PA     | WHITE EDGELINE (2X)               |
| PI     | YELLOW DOUBLE CENTER (2X)         |

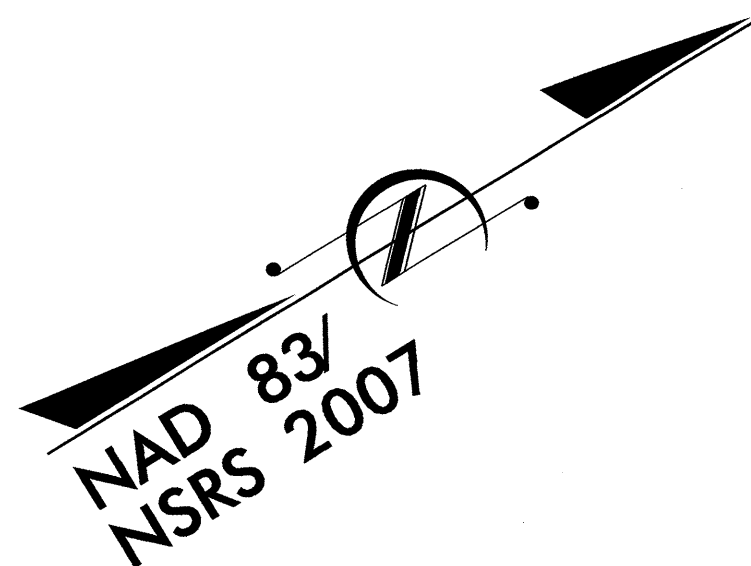
PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

KELVIN JORDAN SIGNING & DELINEATION REGIONAL ENGINEER

J. NAVARRETE SIGNING & DELINEATION PROJECT DESIGN ENGINEER



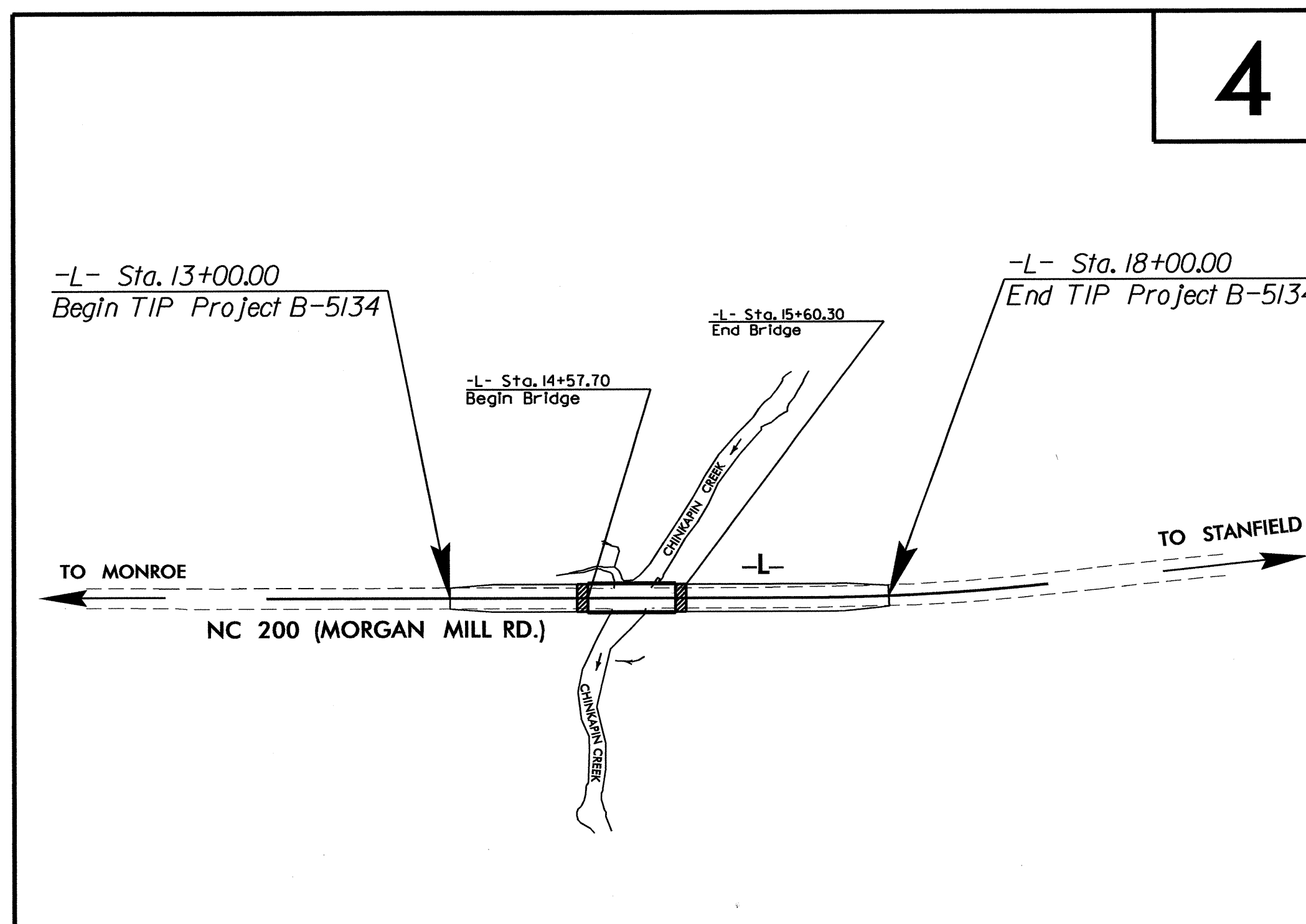
**TIP PROJECT: B-5134**



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

**LOCATION: BRIDGE NO. 72 ON NC 200 (MORGAN MILL ROAD)  
 OVER CHINKAPIN CREEK**

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



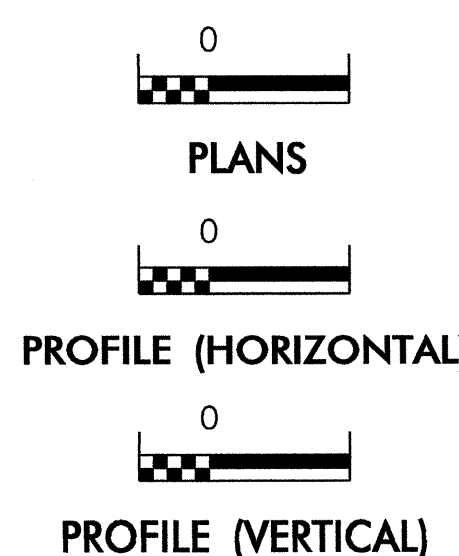
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|-----------------|-----------------------------|-------------|--------------|
| STATE           | STATE PROJECT REFERENCE NO. | SHEET NO.   | TOTAL SHEETS |
| N.C.            | B-5134                      | EC-1        |              |
| STATE PROJ. NO. | F.A. PROJ. NO.              | DESCRIPTION |              |
|                 |                             |             |              |
|                 |                             |             |              |

**EROSION AND SEDIMENT CONTROL MEASURES**

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

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

**GRAPHIC SCALE**



ROADSIDE ENVIRONMENTAL UNIT  
 DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

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

Prepared in the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
 1 South Wilmington St.  
 Raleigh, NC 27611  
**2012 STANDARD SPECIFICATIONS**

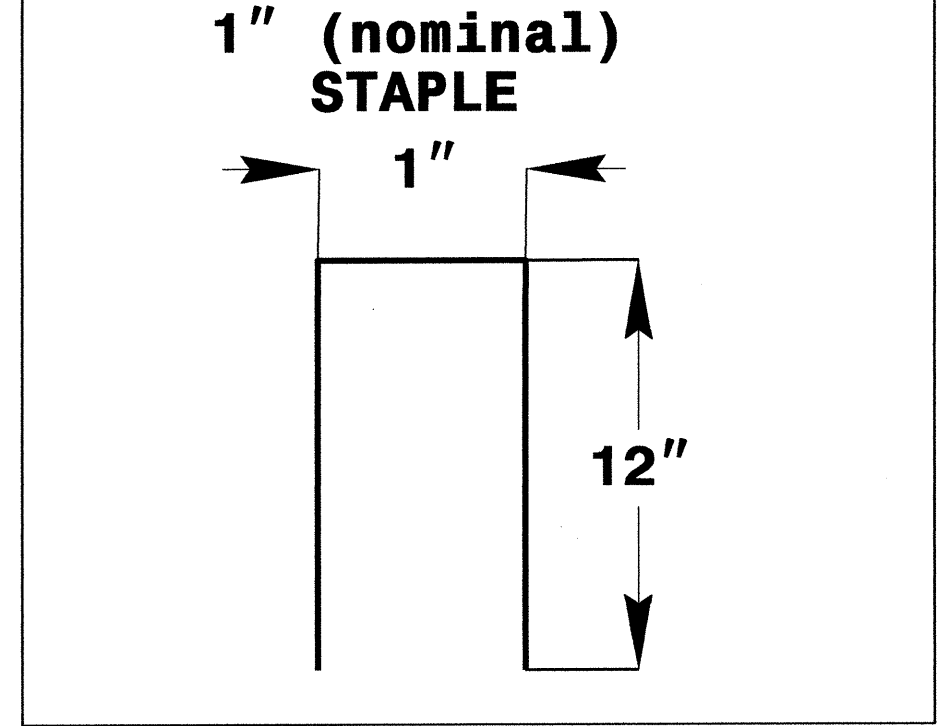
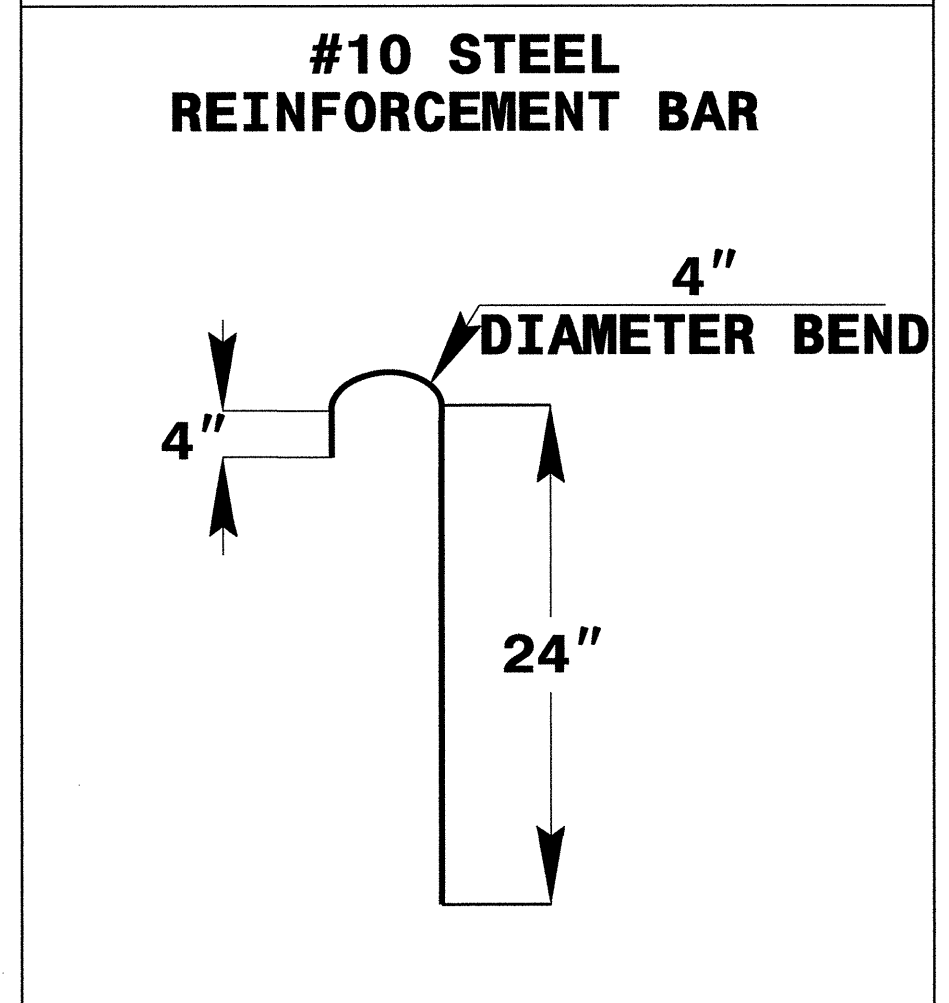
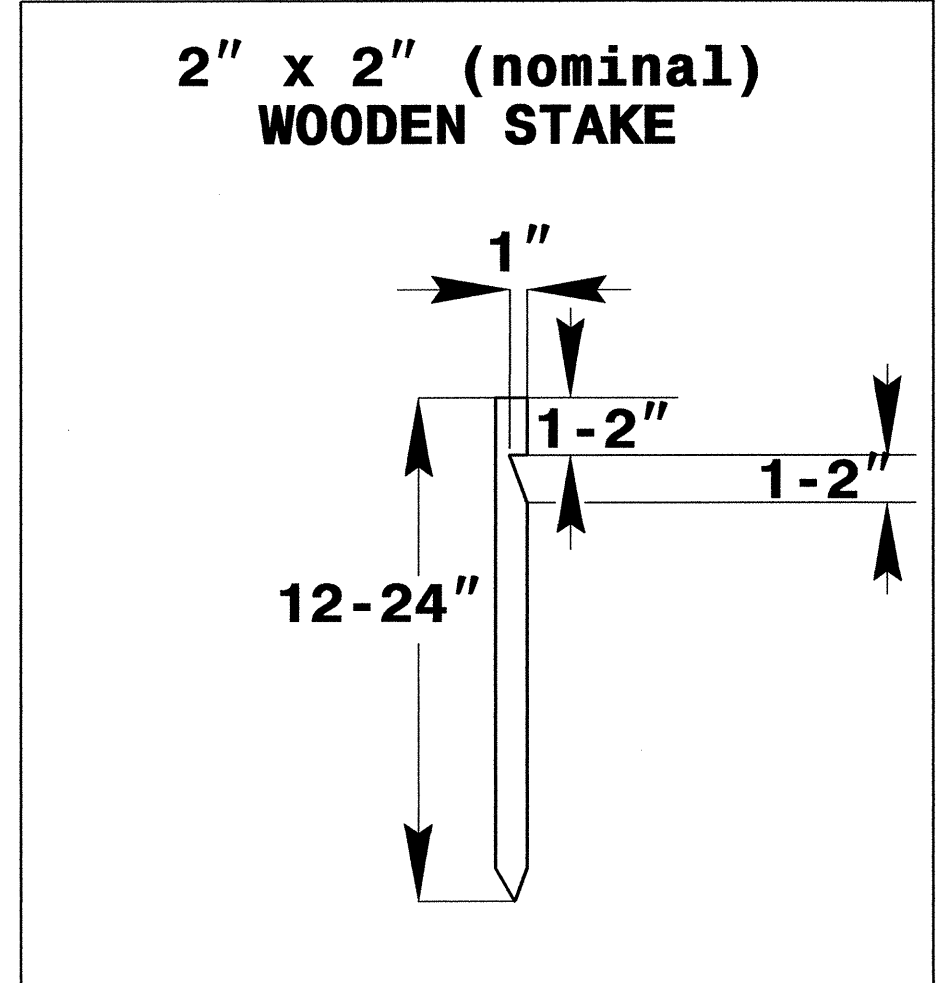
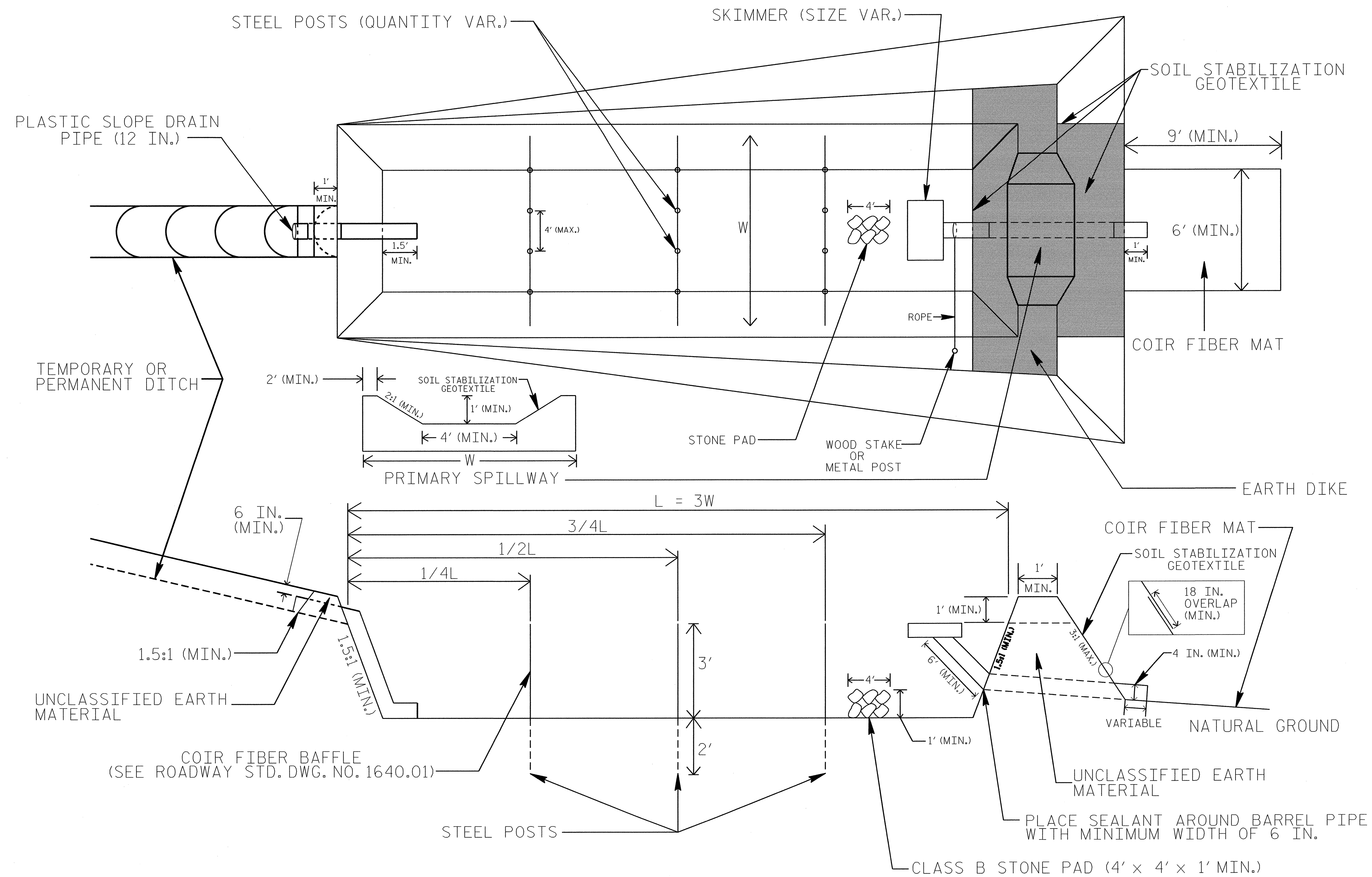
Roadway Standard Drawings

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

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

|                                 |                     |
|---------------------------------|---------------------|
| PROJECT REFERENCE NO.<br>B-5134 | SHEET NO.<br>EC-2   |
| RW SHEET NO.                    |                     |
| ROADWAY DESIGN ENGINEER         | HYDRAULICS ENGINEER |

# SKIMMER BASIN WITH BAFFLES DETAIL



## COIR FIBER MAT ANCHOR OPTIONS

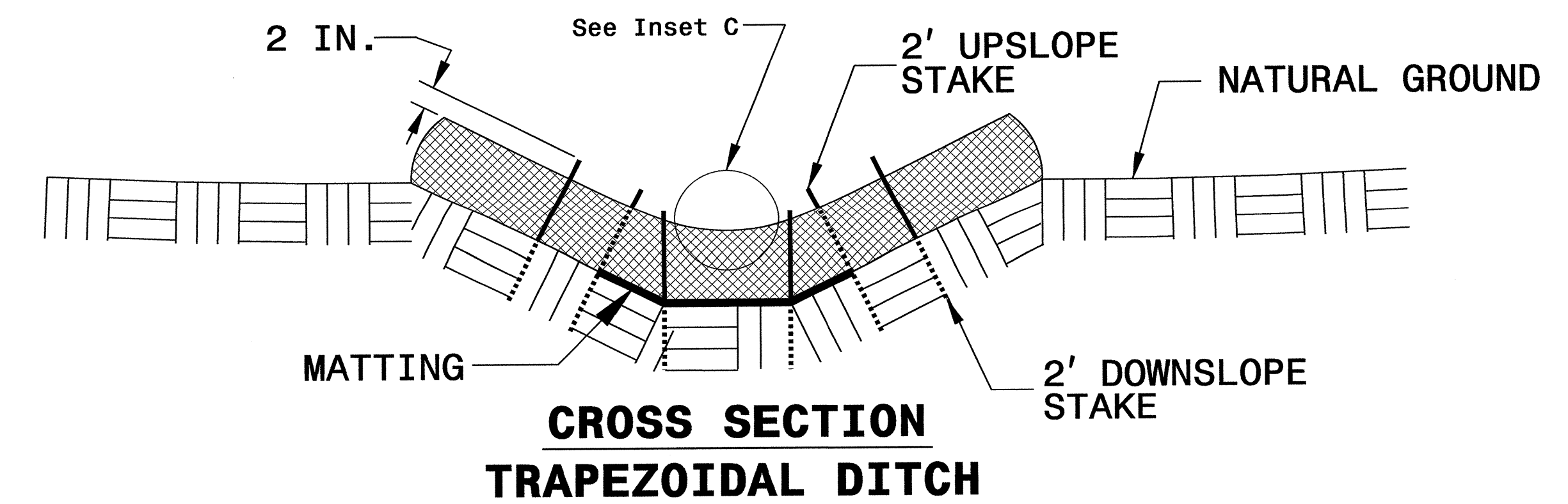
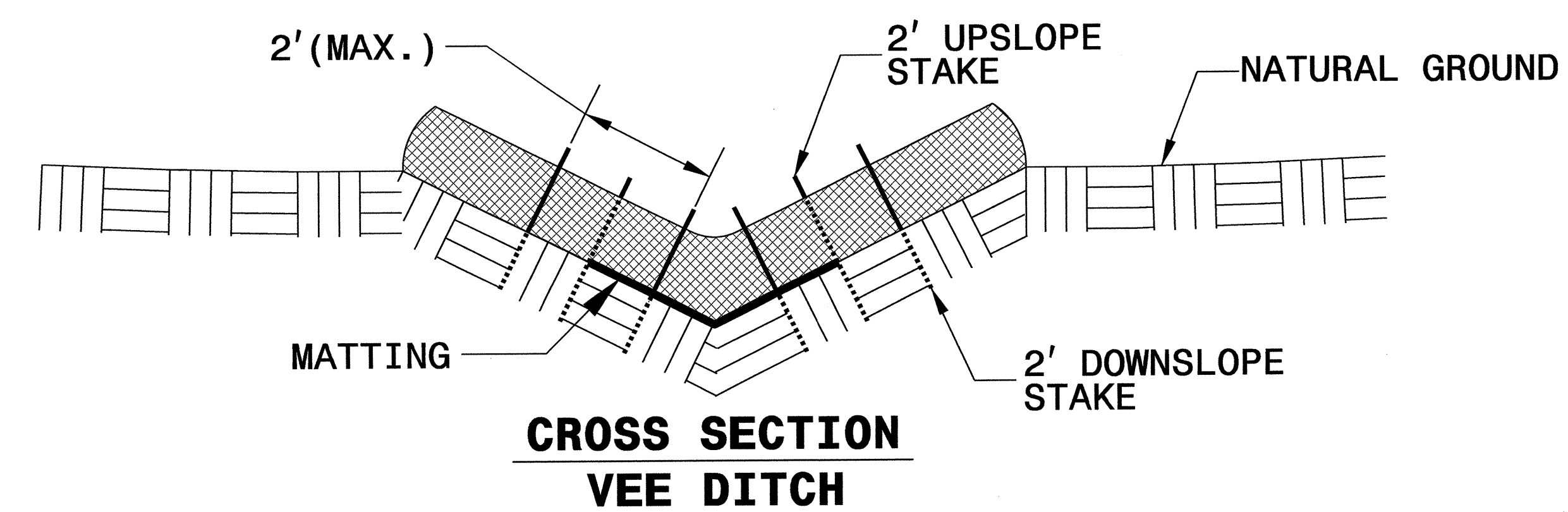
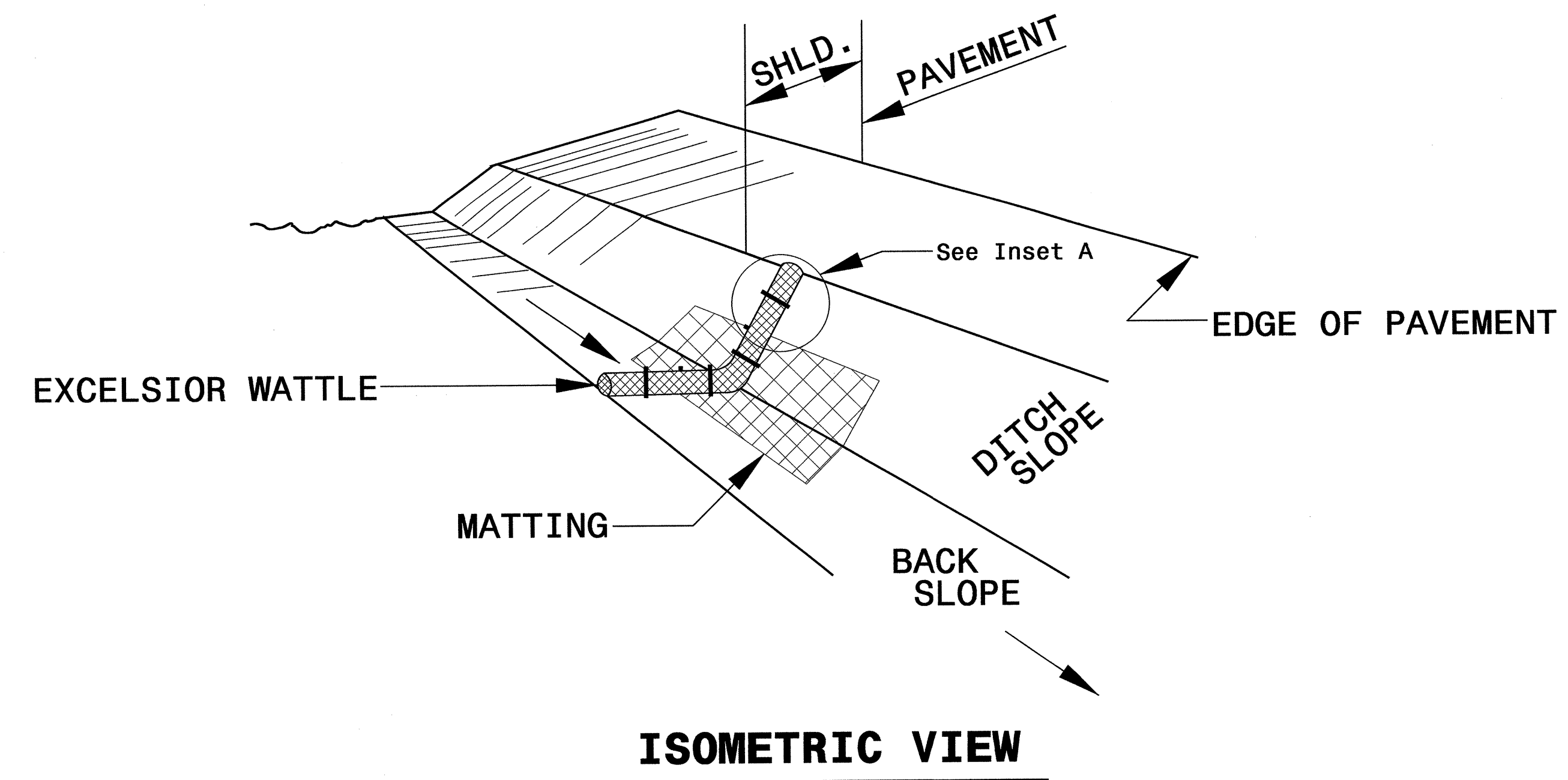
### NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING  $Q/0.4$ , WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

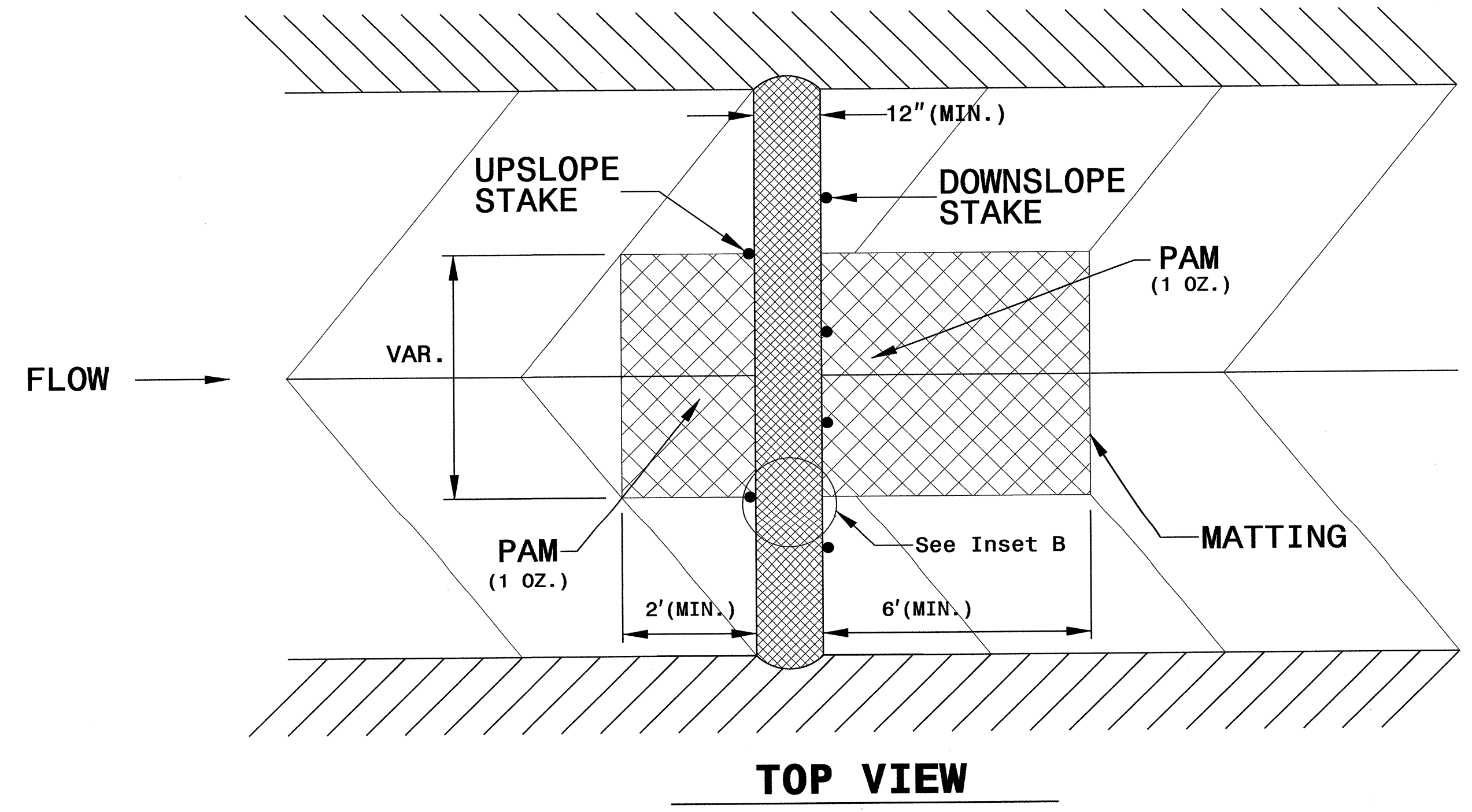
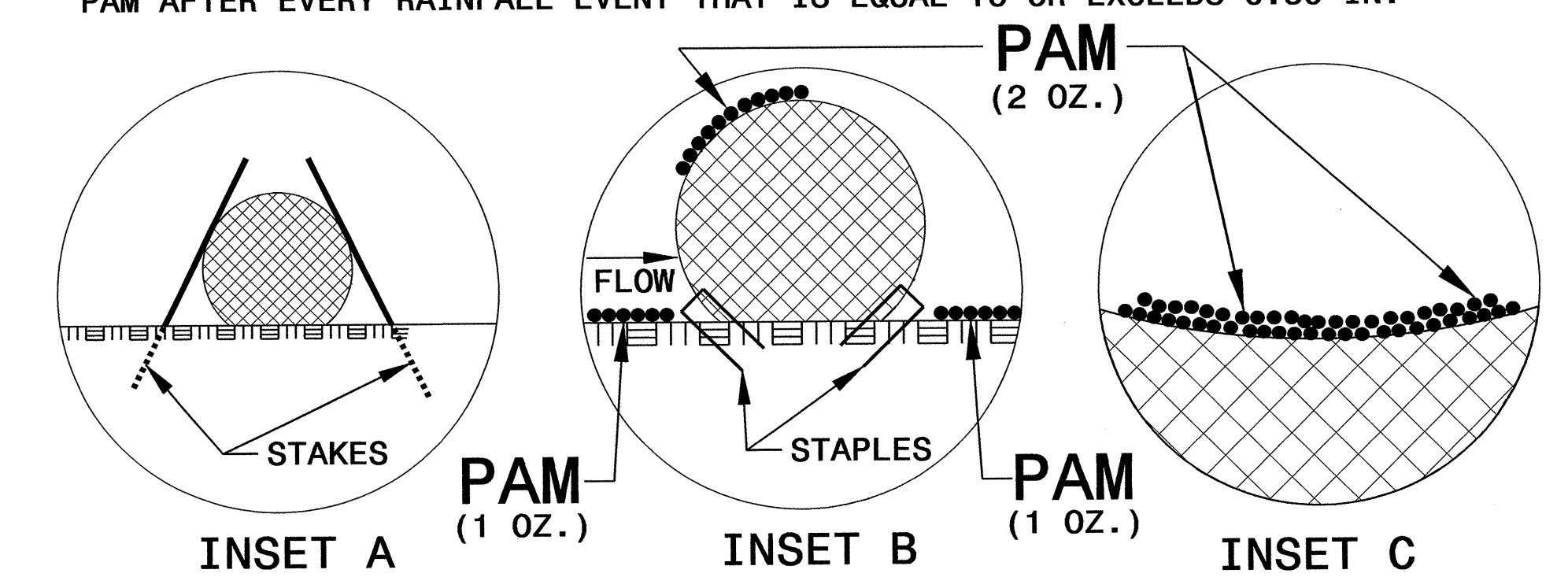
NOT TO SCALE

|                                 |                     |
|---------------------------------|---------------------|
| PROJECT REFERENCE NO.<br>B-5134 | SHEET NO.<br>EC-2A  |
| RW SHEET NO.                    |                     |
| ROADWAY DESIGN ENGINEER         | HYDRAULICS ENGINEER |

# WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

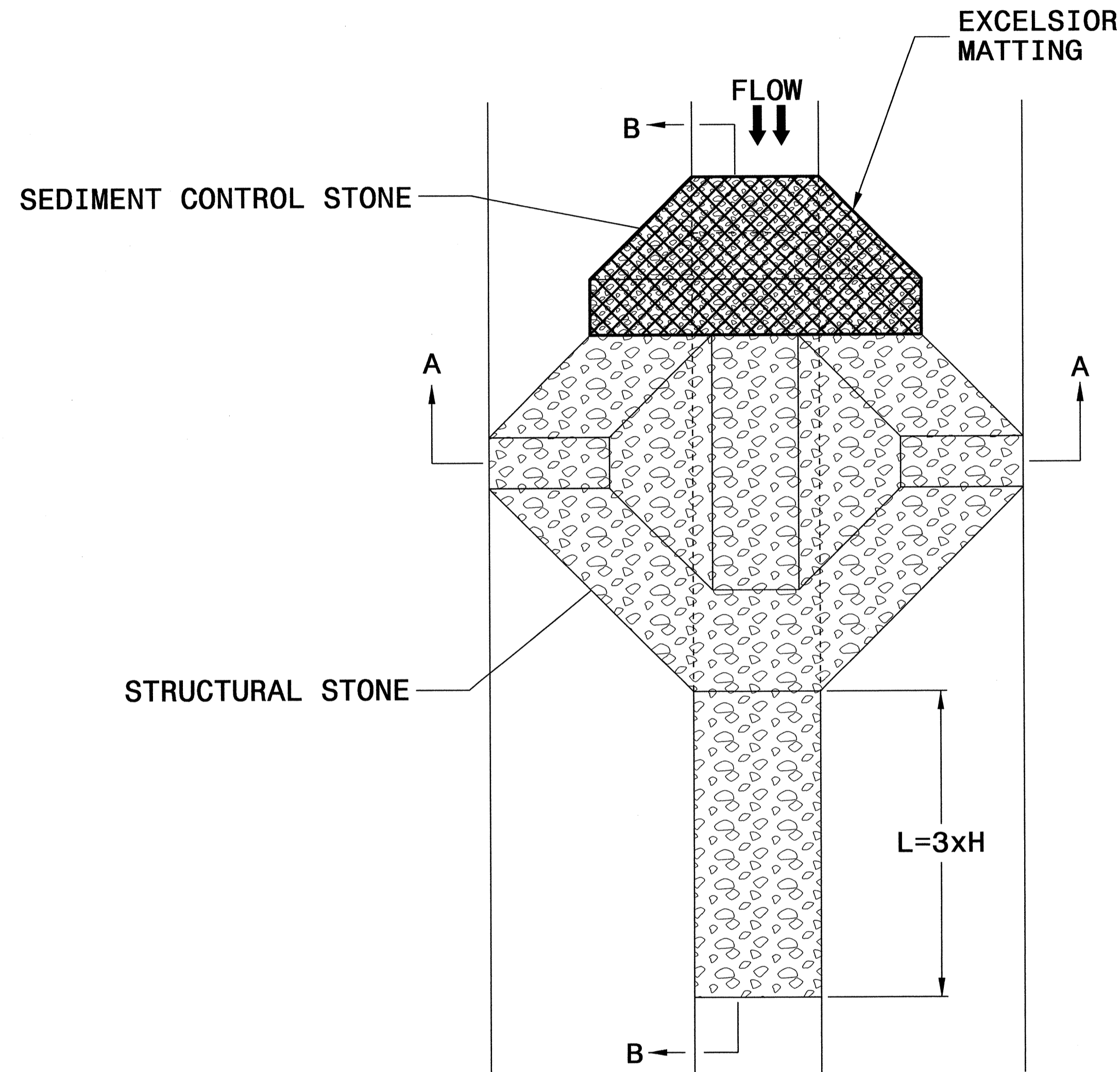


- NOTES:
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
  - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
  - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
  - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 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.<br>B-5134 | SHEET NO.<br>EC-2B  |
| R/W SHEET NO.                   |                     |
| ROADWAY DESIGN ENGINEER         | HYDRAULICS ENGINEER |

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



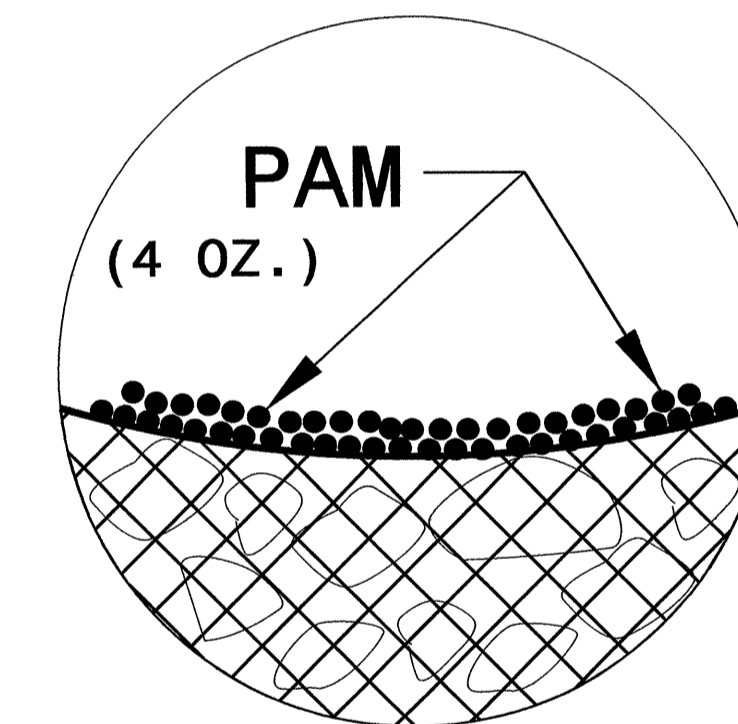
PLAN

## NOTES

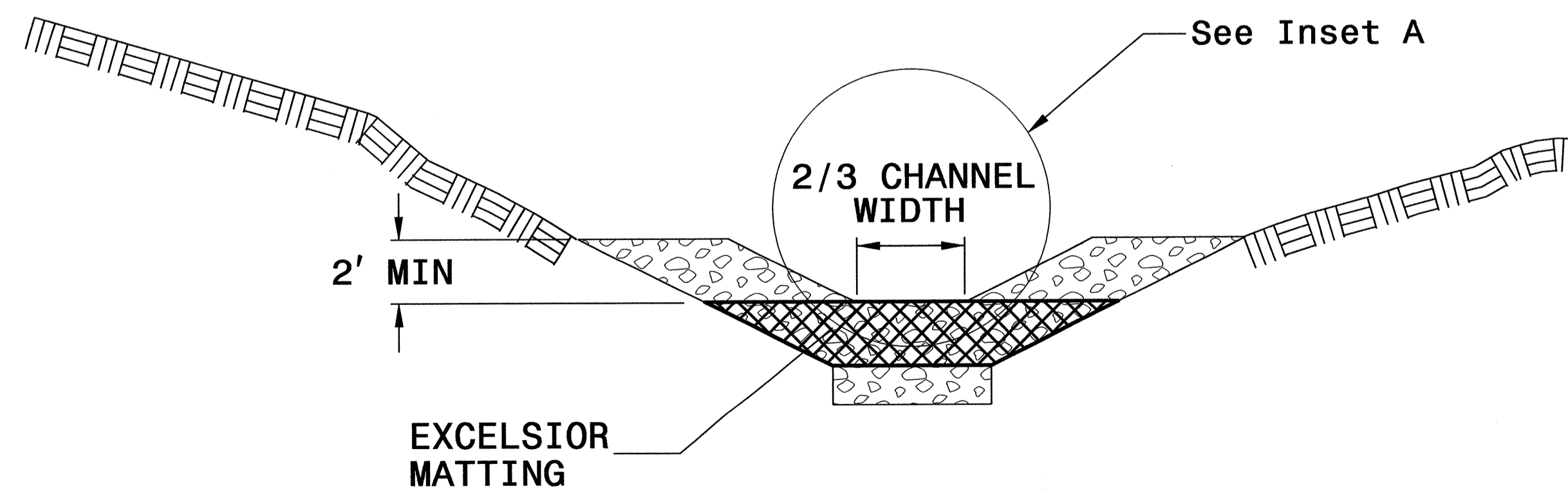
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

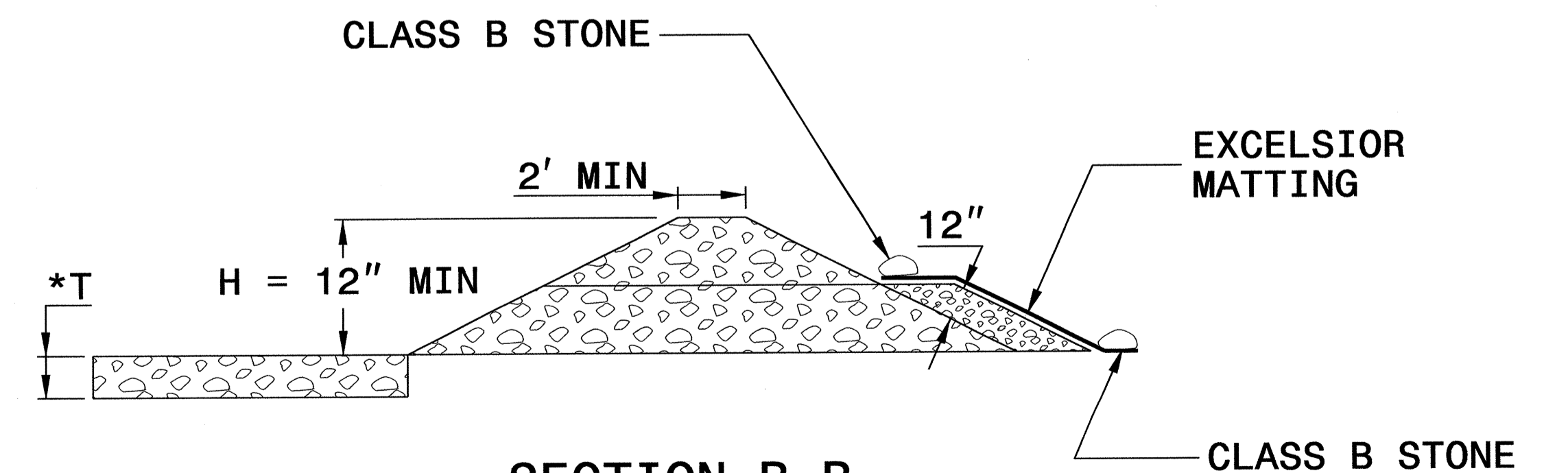
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



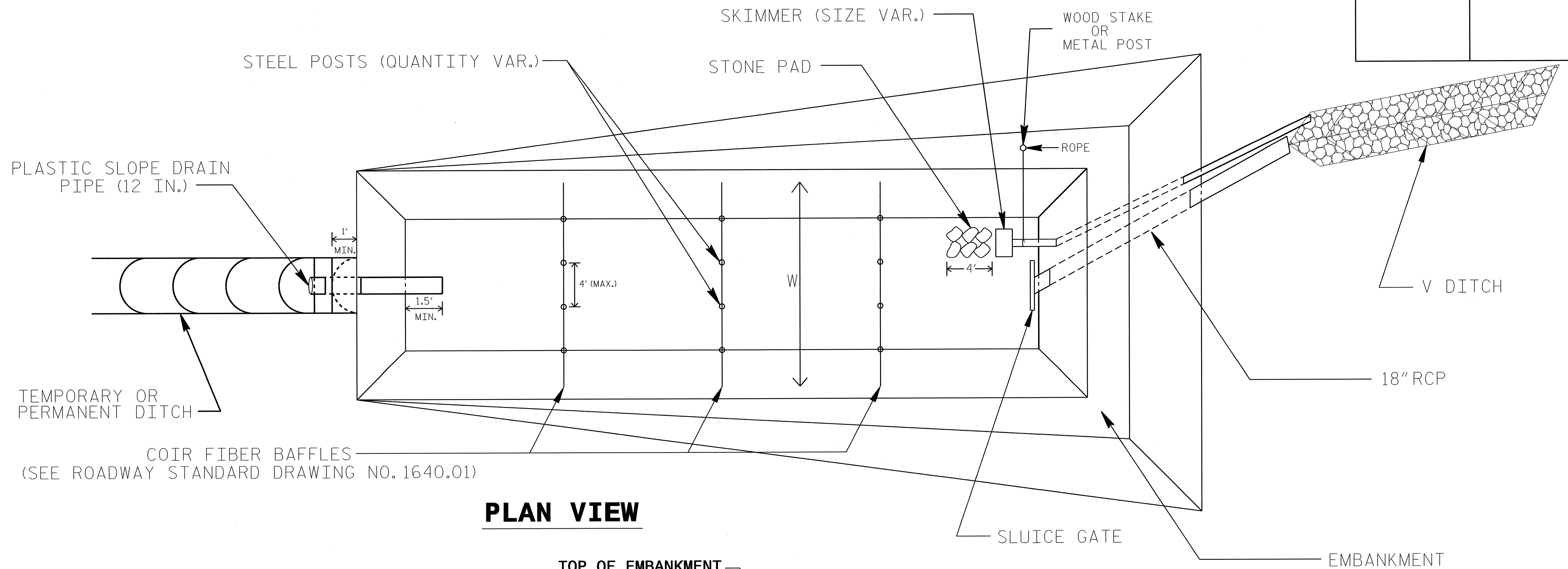
SECTION B-B

\*T = 12" MIN., 18" MAX.

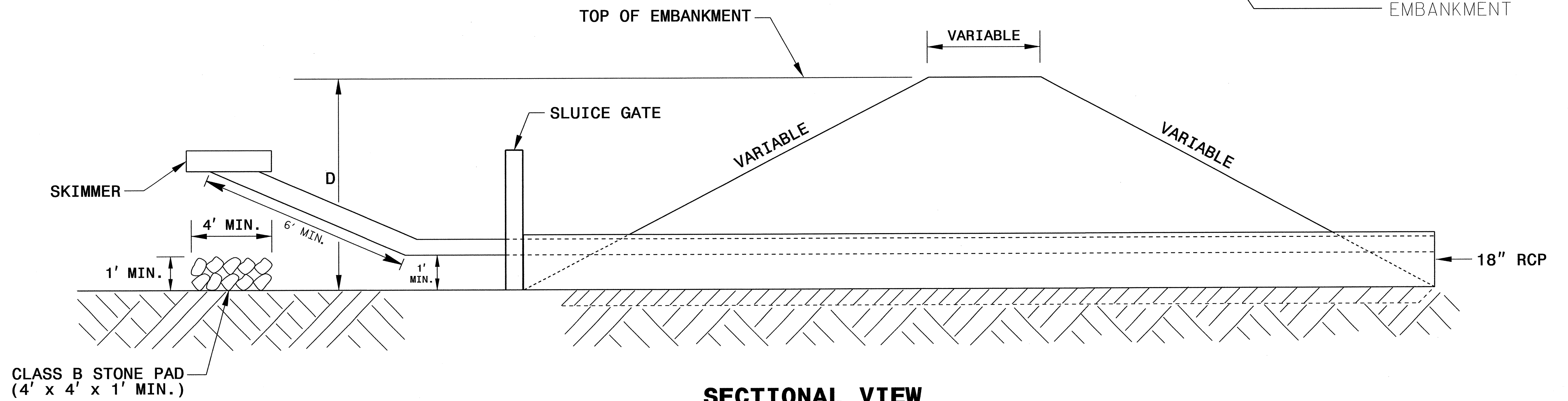
NOT TO SCALE

# STORMWATER (HAZARDOUS SPILL) BASIN WITH SKIMMER

|                                 |                     |
|---------------------------------|---------------------|
| PROJECT REFERENCE NO.<br>B-5134 | SHEET NO.<br>EC-2C  |
| RW SHEET NO.                    |                     |
| ROADWAY DESIGN ENGINEER         | HYDRAULICS ENGINEER |



**PLAN VIEW**



**SECTIONAL VIEW**

**NOTES**

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. INSTALL A MINIMUM OF 3 COIR FIBER BAFFLES IN ACCORDANCE WITH ROADWAY STD. DRAWING 1640.01.
3. INSTALL SKIMMER AND COUPLING DIRECTLY INTO EMBANKMENT 1 FT. FROM BOTTOM OF BASIN.
4. THE ARM PIPE SHALL HAVE A MINIMUM LENGTH OF 6 FT. BETWEEN THE SKIMMER AND COUPLING.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE AS DIRECTED.
6. THE FREEBOARD SHALL BE 1 FT. MINIMUM.

NOT TO SCALE

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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|  |                          |
|--|--------------------------|
| PROJECT REFERENCE NO.<br><i>B-5134</i> | SHEET NO.<br><i>EC-3</i> |
| ROADWAY DESIGN<br>ENGINEER             | HYDRAULICS<br>ENGINEER   |

# ***SOIL STABILIZATION TIMEFRAMES***

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

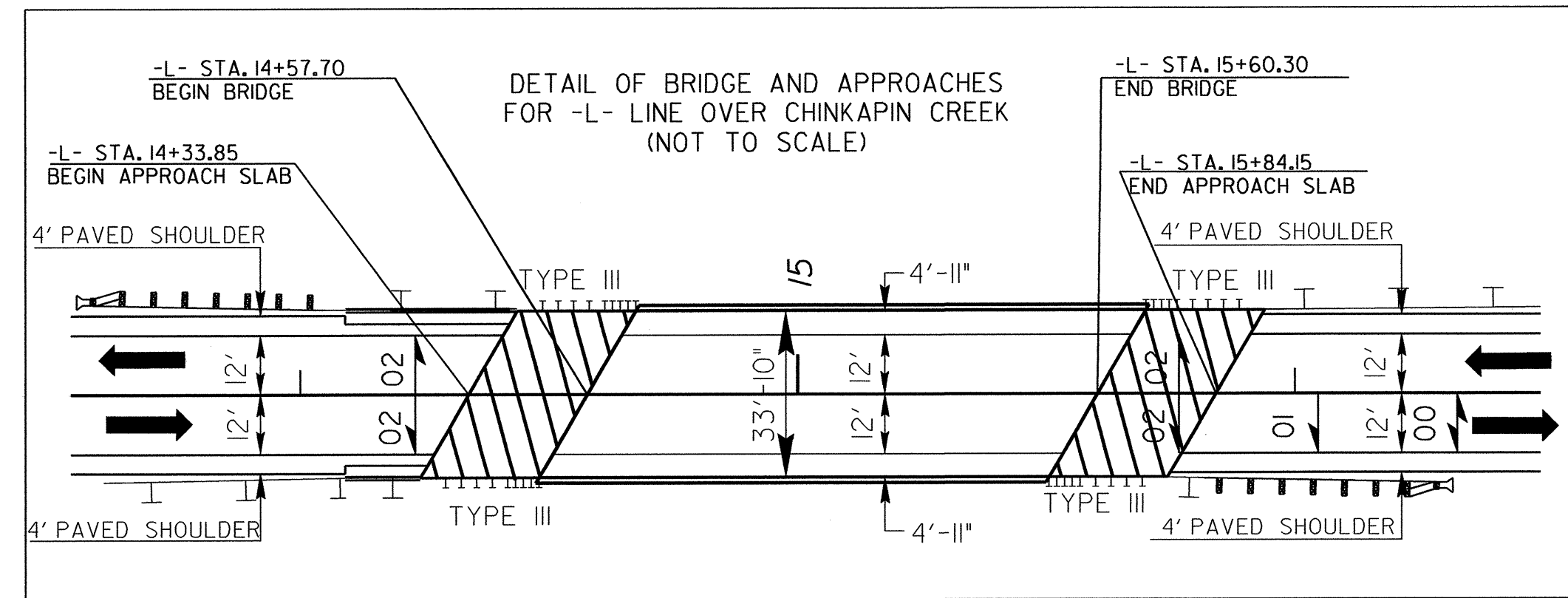
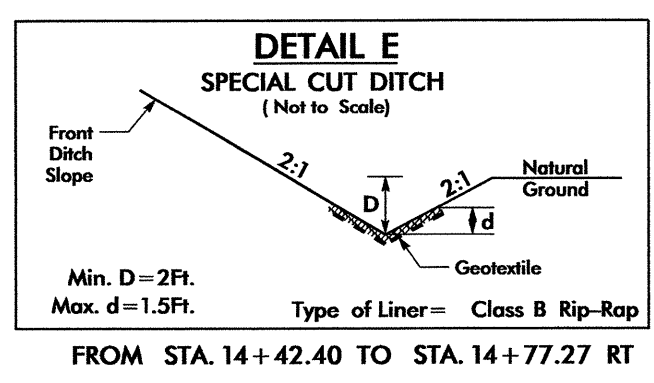
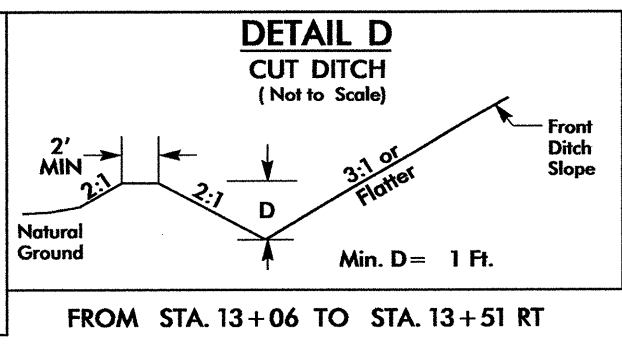
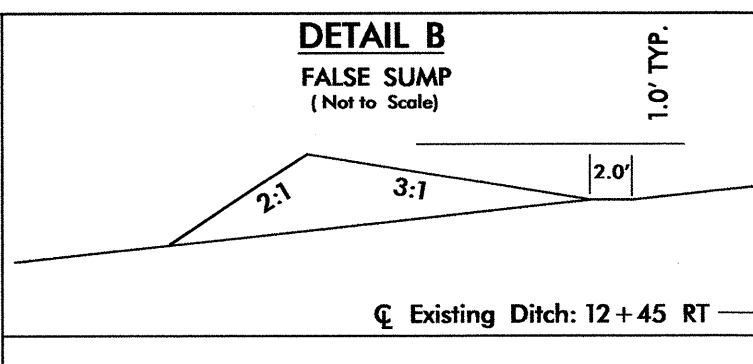
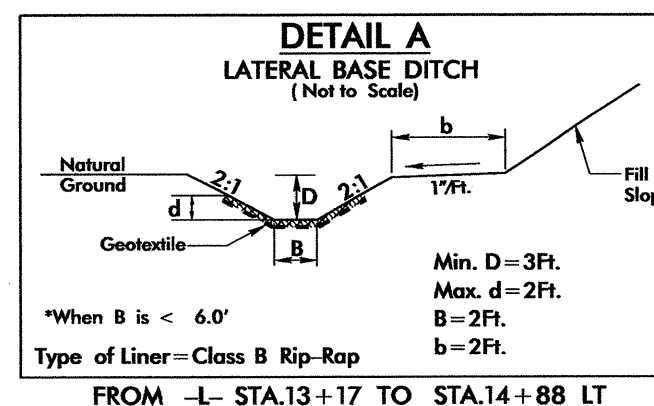
8/17/99

|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
| B-5134                  | EC-4/CONST.4        |
| RW SHEET NO.            |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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

UTILIZE HAZARDOUS SPILL BASIN(S) AS SILT BASIN DURING CONSTRUCTION.

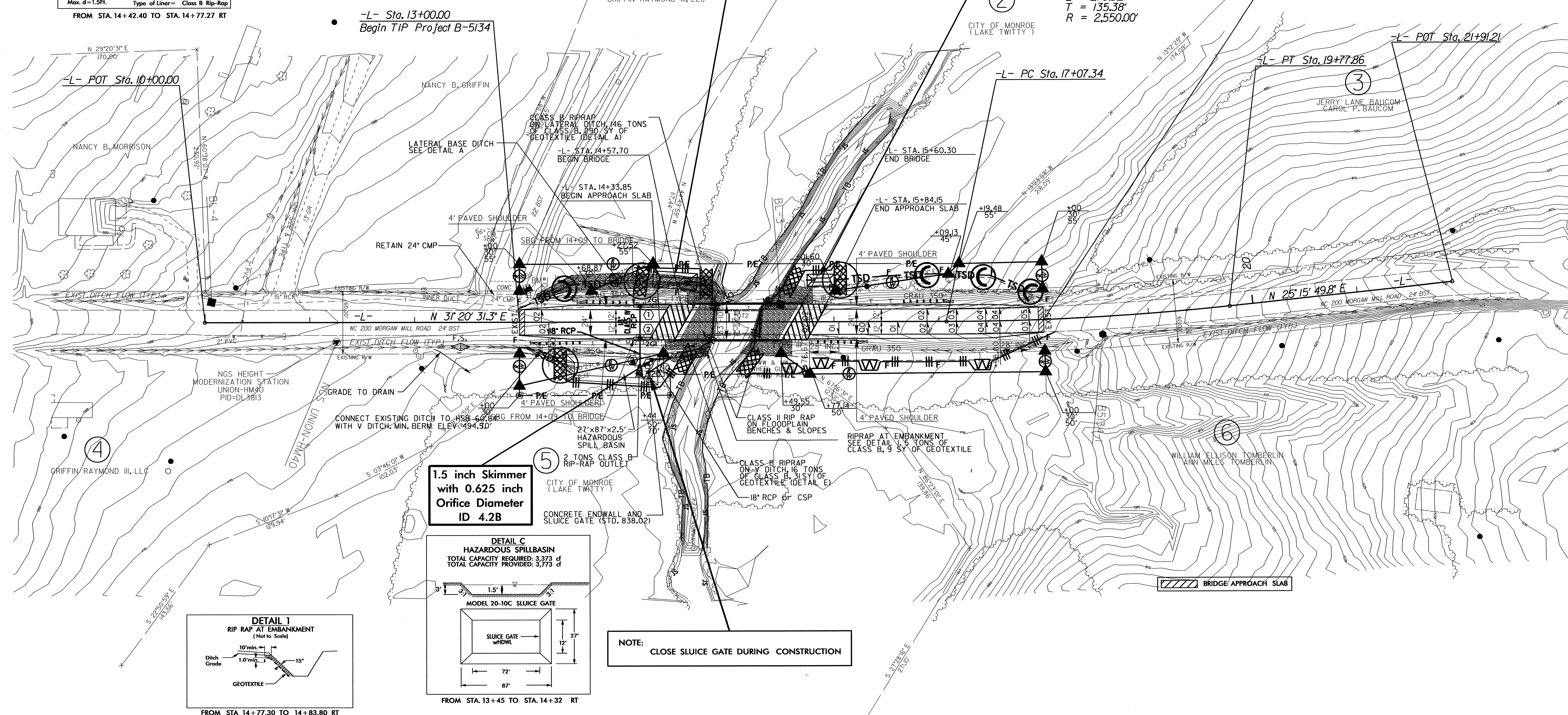
NAD 83/NSRS 2007



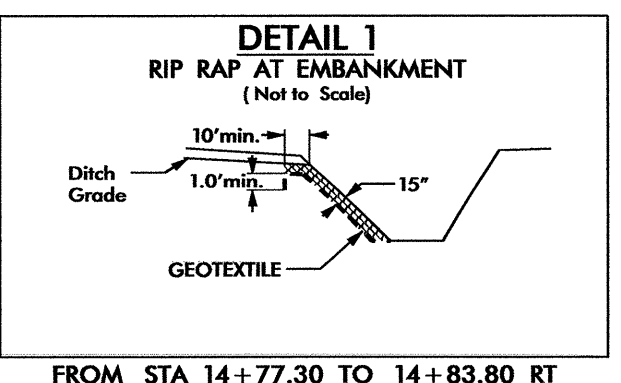
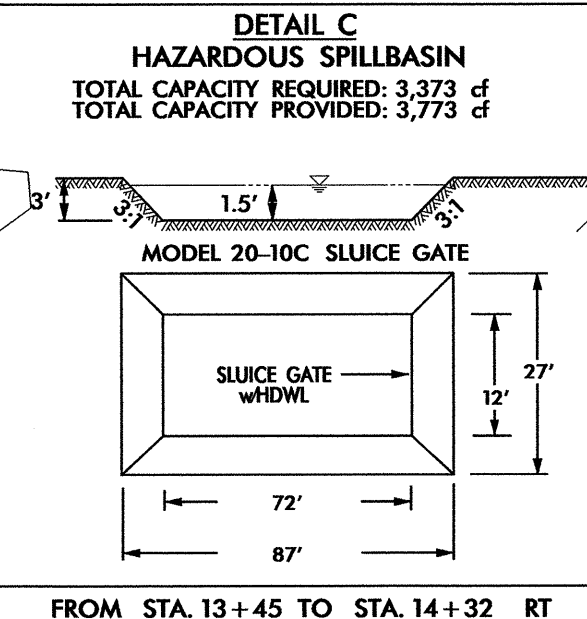
42 x 15 x 3  
1.5 inch Skimmer  
with 0.625 inch  
Orifice Diameter  
7 ft. weir  
ID 4.1B

26 x 11 x 3  
1.5 inch Skimmer  
with 0.25 inch  
Orifice Diameter  
4 ft. weir  
ID 4.3B

-L-  
PI Sta 18+42.73  
 $\Delta = 6'04'41.5''$  (LT)  
 $D = 2'14'48.8''$   
 $L = 270.52'$   
 $T = 135.38'$   
 $R = 2550.00'$



1.5 inch Skimmer  
with 0.625 inch  
Orifice Diameter  
ID 4.2B



21-JAN-2014 15:09  
C:\NEW\PROJECTS\B-5134-EC.psh.dgn  
11/11/2013 10:58:42

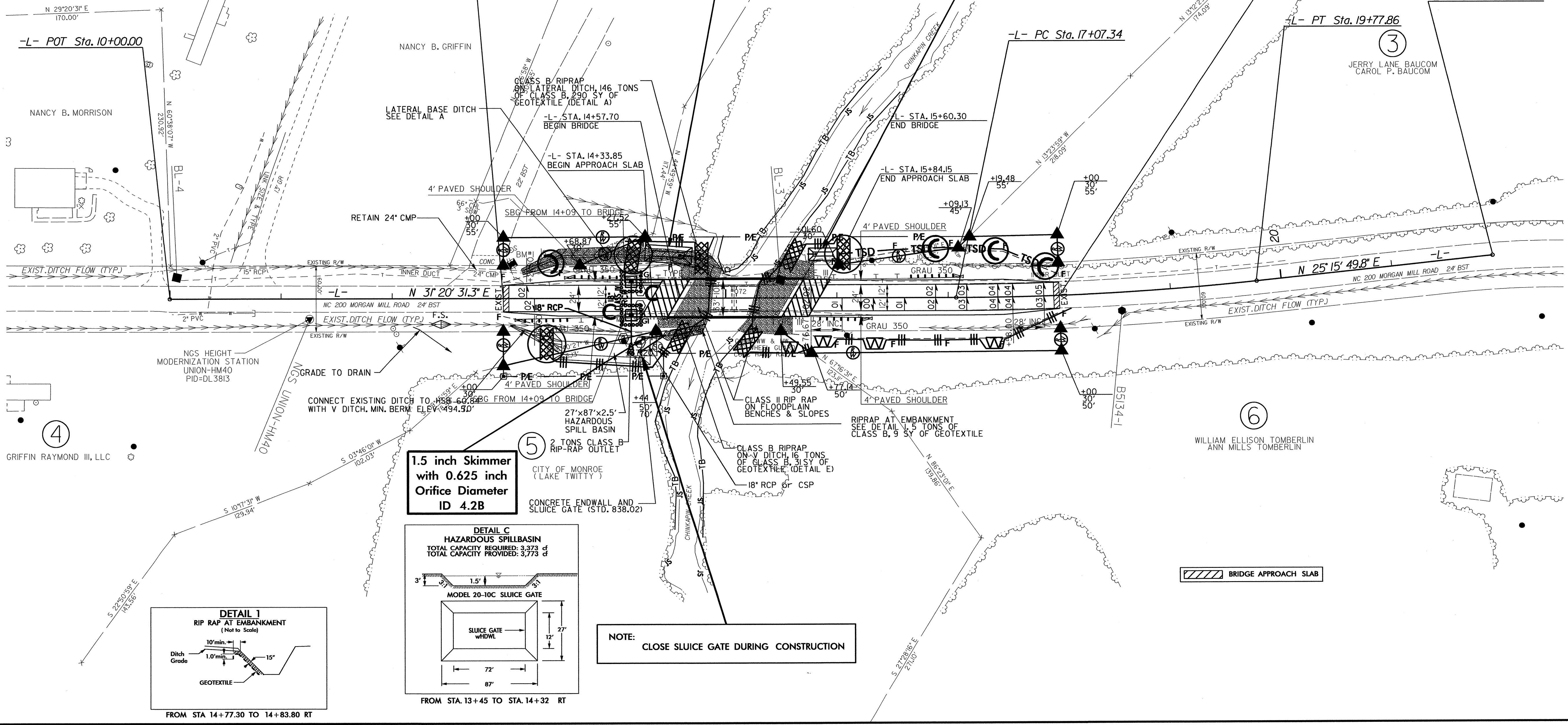
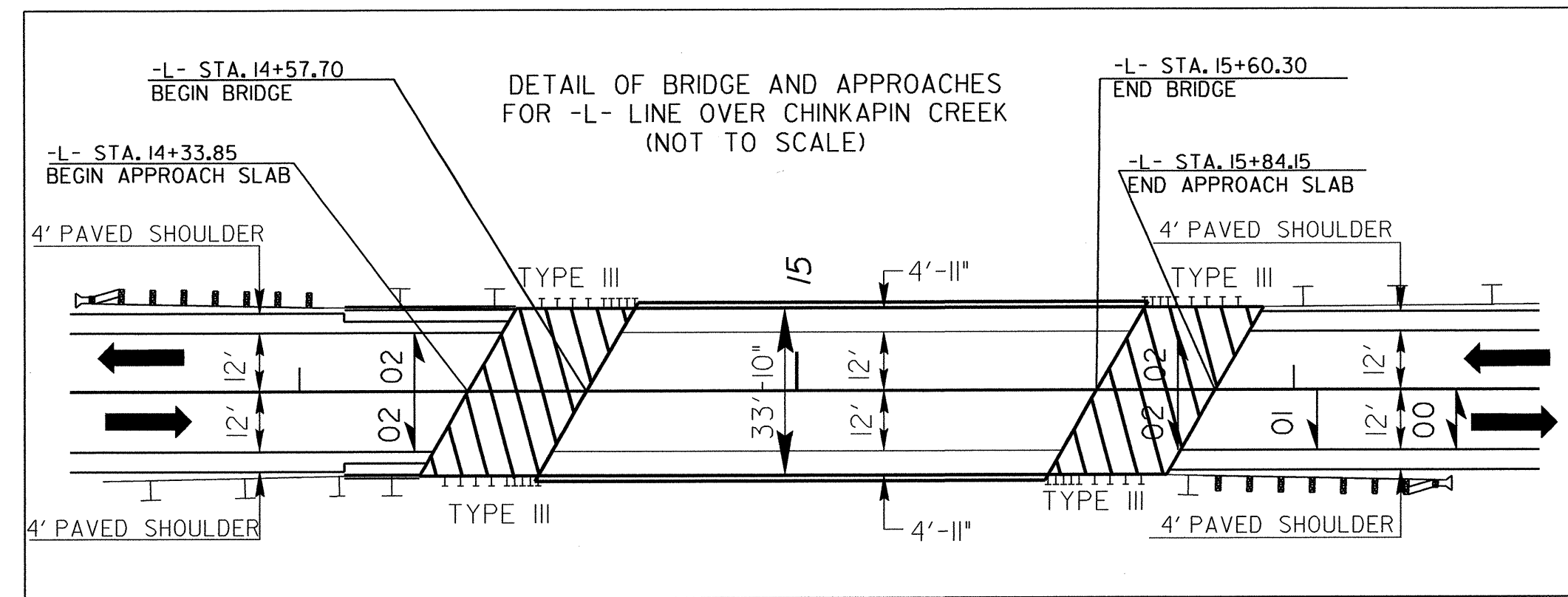
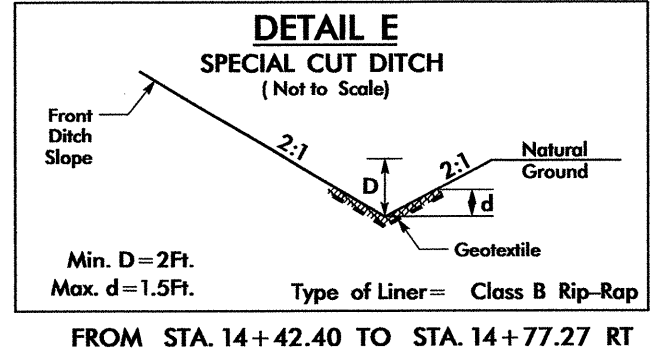
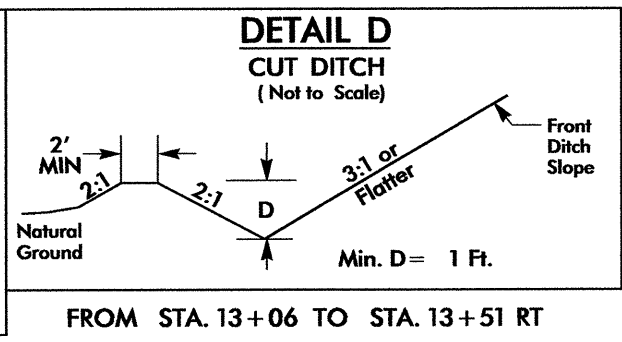
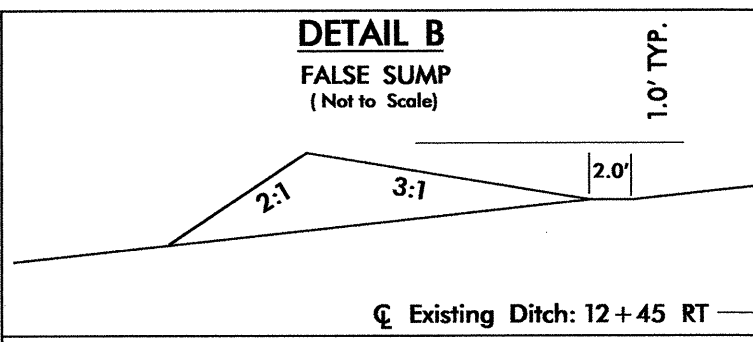
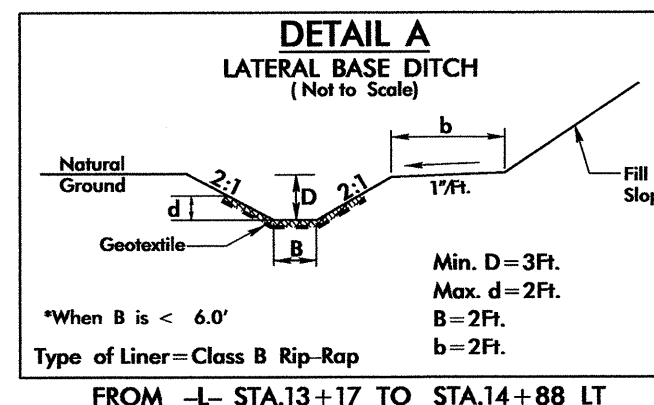


|                         |                     |
|-------------------------|---------------------|
| PROJECT REFERENCE NO.   | SHEET NO.           |
| B-5134                  | EC-5/CONST.4        |
| RW SHEET NO.            |                     |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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

UTILIZE HAZARDOUS SPILL BASIN(S) AS SILT BASIN DURING CONSTRUCTION.

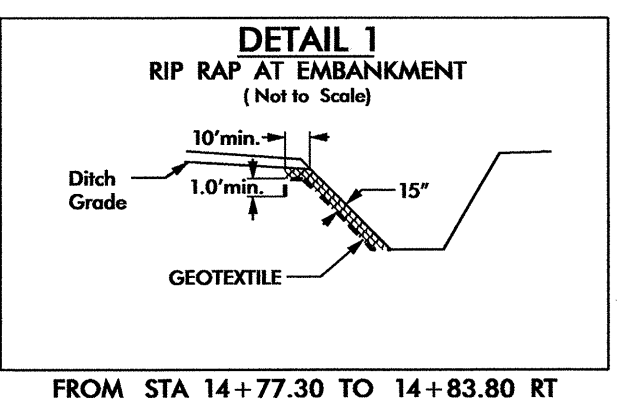
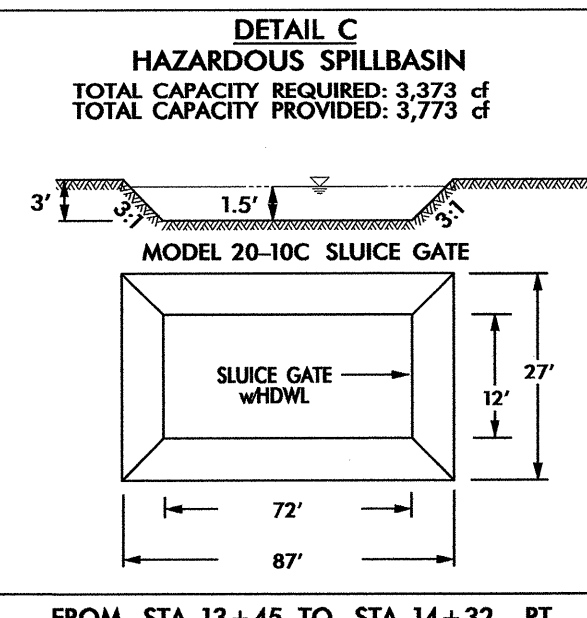
NAD 83/NSRS 2007



42 x 15 x 3  
1.5 inch Skimmer  
with 0.625 inch  
Orifice Diameter  
7 ft. weir  
ID 4.1B

26 x 11 x 3  
1.5 inch Skimmer  
with 0.25 inch  
Orifice Diameter  
4 ft. weir  
ID 4.3B

1.5 inch Skimmer  
with 0.625 inch  
Orifice Diameter  
ID 4.2B



NOTE: CLOSE SLUICE GATE DURING CONSTRUCTION

BRIDGE APPROACH SLAB

**TIP PROJECT: B-5134**

**CONTRACT:**

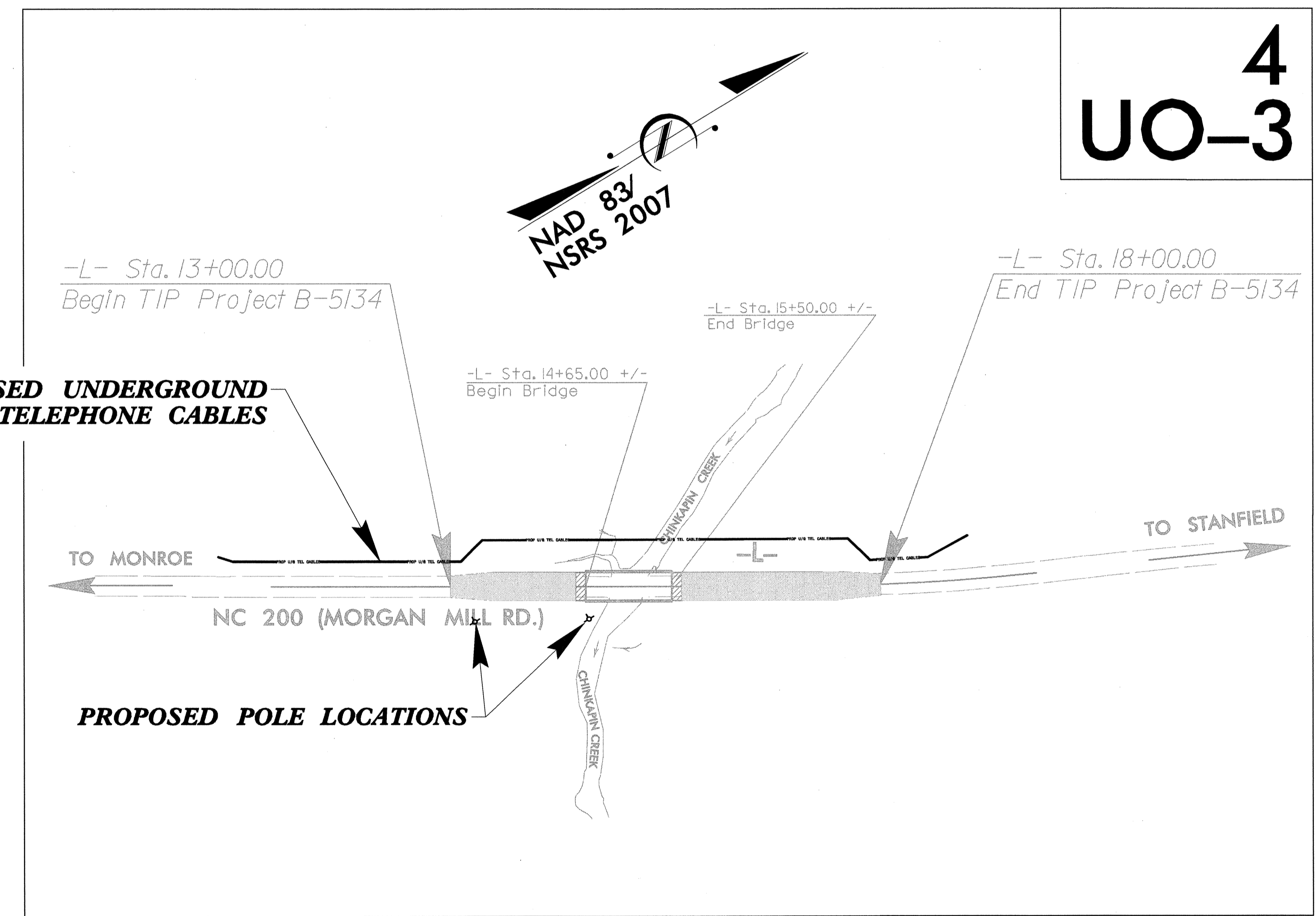
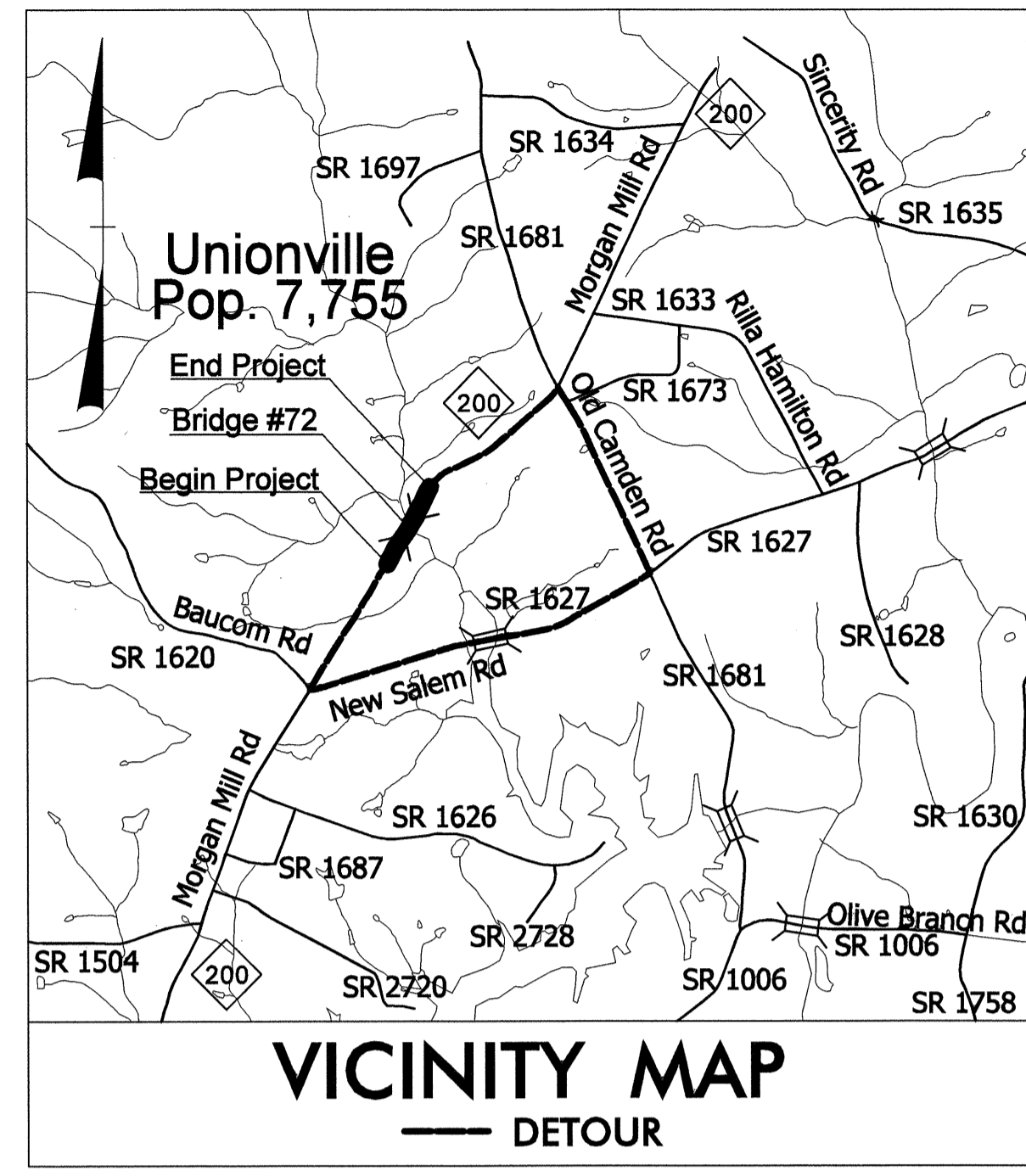
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

|            |           |
|------------|-----------|
| T.I.P. NO. | SHEET NO. |
| B-5134     | UO-1      |

**UTILITIES BY OTHERS PLANS  
UNION COUNTY**

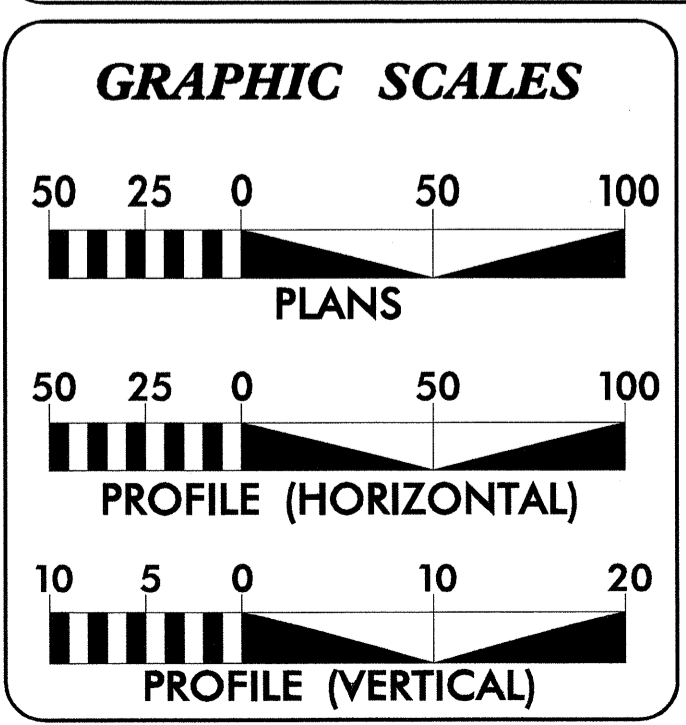
**LOCATION: BRIDGE NO. 72 ON NC 200 (MORGAN MILL ROAD)  
OVER CHINKAPIN CREEK**

**TYPE OF WORK: UTILITIES BY OTHERS**



**4  
UO-3**

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF UNIONVILLE

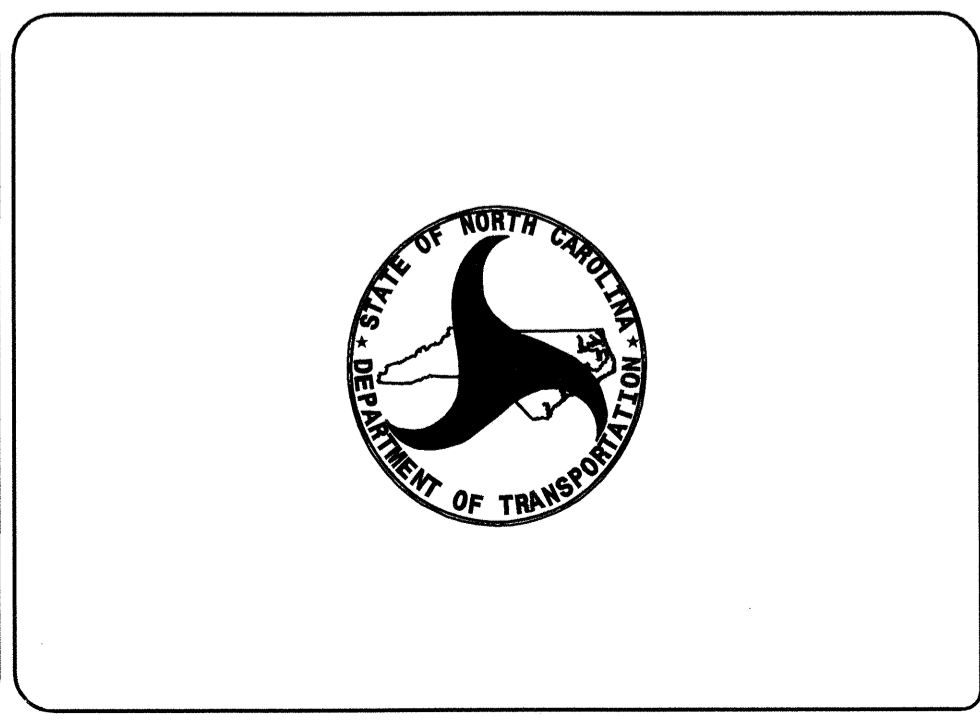


**INDEX OF SHEETS**

| SHEET NO. | DESCRIPTION             |
|-----------|-------------------------|
| UO-1      | TITLE SHEET             |
| UO-2      | UTILITY SYMBOLOGY SHEET |
| UO-3      | UBO PLAN SHEET          |

- PRIVATE UTILITY OWNERS ON PROJECT**
- (1) TELECOMMUNICATIONS - FRONTIER COMMUNICATIONS
  - (2) POWER - DUKE ENERGY
  - (3) TELECOMMUNICATIONS - TIME WARNER CABLE

**HINDE ENGINEERING**  
License No. C-2639  
7520 E. Independence Blvd., Suite 230 Charlotte, NC 28227



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS

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

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

|                                 |        |
|---------------------------------|--------|
| Water Line (Sized as Shown)     |        |
| 11 1/4 Degree Bend              |        |
| 22 1/2 Degree Bend              |        |
| 45 Degree Bend                  |        |
| 90 Degree Bend                  |        |
| Plug                            |        |
| Tee                             |        |
| Cross                           |        |
| Reducer                         |        |
| Gate Valve                      |        |
| Butterfly Valve                 |        |
| Tapping Valve                   |        |
| Line Stop                       |        |
| Line Stop with Bypass           |        |
| Blow Off                        |        |
| Fire Hydrant                    |        |
| Relocate Fire Hydrant           |        |
| Remove Fire Hydrant             | REM FH |
| Water Meter                     |        |
| Relocate Water Meter            |        |
| Remove Water Meter              | REM WM |
| Water Pump Station              |        |
| RPZ Backflow Preventer          |        |
| DCV Backflow Preventer          |        |
| Relocate RPZ Backflow Preventer |        |
| Relocate DCV Backflow Preventer |        |

PROPOSED SEWER SYMBOLS

|  |  |
|--|--|
| Gravity Sewer Line (Sized as Shown)    |  |
| Force Main Sewer Line (Sized as Shown) |  |
| Manhole (Sized per Note)               |  |
| Sewer Pump Station                     |  |

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

|  |  |
|--|--|
| Power Pole                             |  |
| Telephone Pole                         |  |
| Joint Use Pole                         |  |
| Telephone Pedestal                     |  |
| Utility Line by Others (Type as Shown) |  |
| Trenchless Installation                |  |
| Encasement by Open Cut                 |  |
| Encasement                             |  |

|                   |  |
|-------------------|--|
| Thrust Block      |  |
| Air Release Valve |  |
| Utility Vault     |  |
| Concrete Pier     |  |
| Steel Pier        |  |
| Plan Note         |  |
| Pay Item Note     |  |

NOTE  
PAY ITEM

EXISTING UTILITIES SYMBOLS

|  |        |   |  |
|--|--------|---|--|
| Power Pole                             |        | *Underground Power Line                   |  |
| Telephone Pole                         |        | *Underground Telephone Cable              |  |
| Joint Use Pole                         |        | *Underground Telephone Conduit            |  |
| Utility Pole                           |        | *Underground Fiber Optics Telephone Cable |  |
| Utility Pole with Base                 |        | *Underground TV Cable                     |  |
| H-Frame Pole                           |        | *Underground Fiber Optics TV Cable        |  |
| Power Transmission Line Tower          |        | *Underground Gas Pipeline                 |  |
| Water Manhole                          |        | Aboveground Gas Pipeline                  |  |
| Power Manhole                          |        | *Underground Water Line                   |  |
| Telephone Manhole                      |        | Aboveground Water Line                    |  |
| Sanitary Sewer Manhole                 |        | *Underground Gravity Sanitary Sewer Line  |  |
| Hand Hole for Cable                    |        | Aboveground Gravity Sanitary Sewer Line   |  |
| Power Transformer                      |        | *Underground SS Forced Main Line          |  |
| Telephone Pedestal                     |        | Underground Unknown Utility Line          |  |
| CATV Pedestal                          |        | SUE Test Hole                             |  |
| Gas Valve                              |        | Water Meter                               |  |
| Gas Meter                              |        | Water Valve                               |  |
| Located Miscellaneous Utility Object   |        | Fire Hydrant                              |  |
| Abandoned According to Utility Records | AATUR  | Sanitary Sewer Cleanout                   |  |
| End of Information                     | E.O.I. |   |  |

\*For Existing Utilities  
Utility Line Drawn from Record (Type as Shown)  
Designated Utility Line (Type as Shown)

NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
ENGINEERING DIVISION  
RALEIGH, NORTH CAROLINA

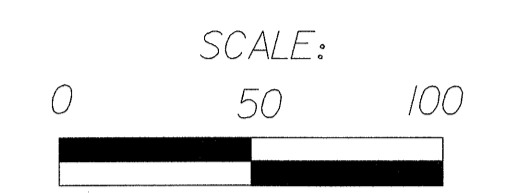
BRIDGE NO. 72 ON NC 200 (MORGAN MILL ROAD)  
OVER CHINKAPIN CREEK

|              |             |        |         |      |
|--------------|-------------|--------|---------|------|
| Designed By: | Checked By: | Date:  | Sheets: | Of:  |
| OTHERS       | OTHERS      | 1-8-14 | UO-2    | UO-3 |

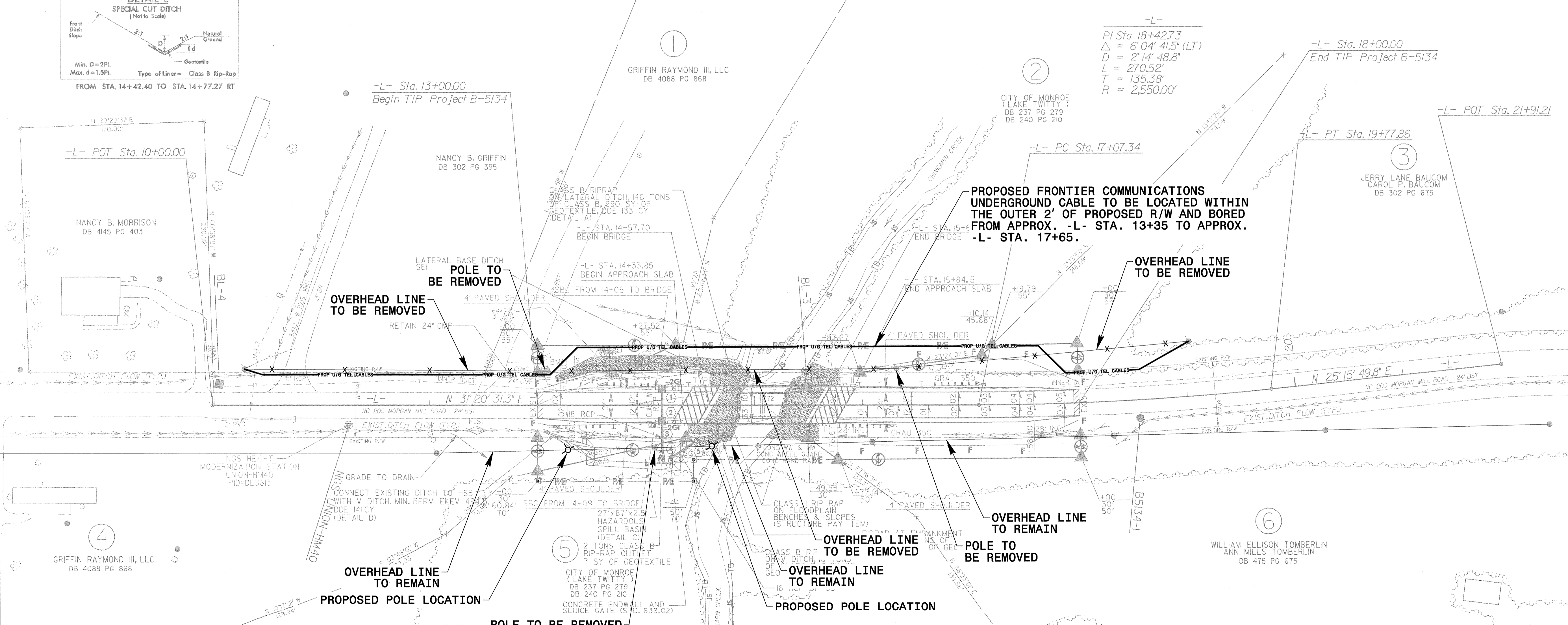
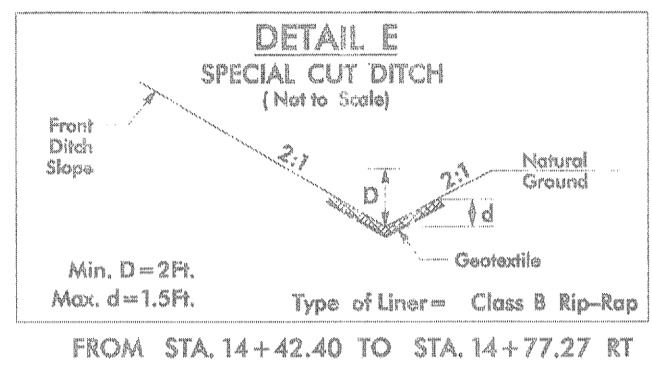
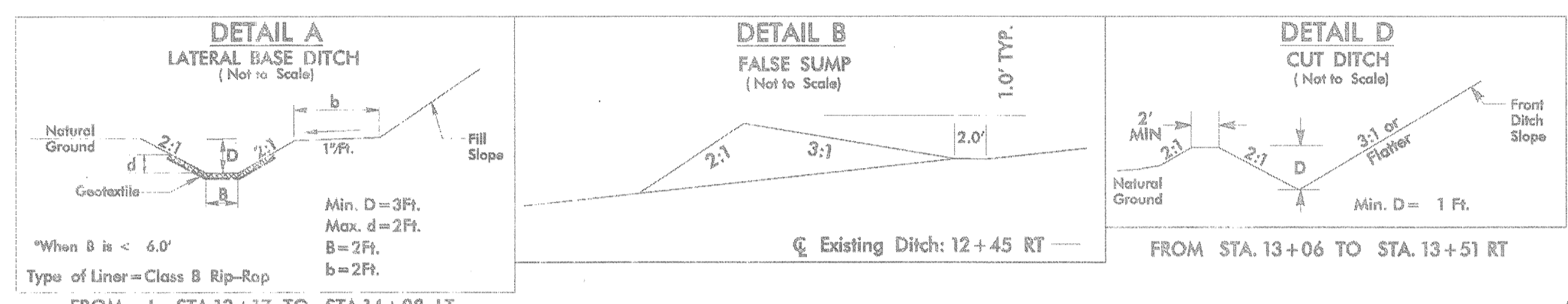
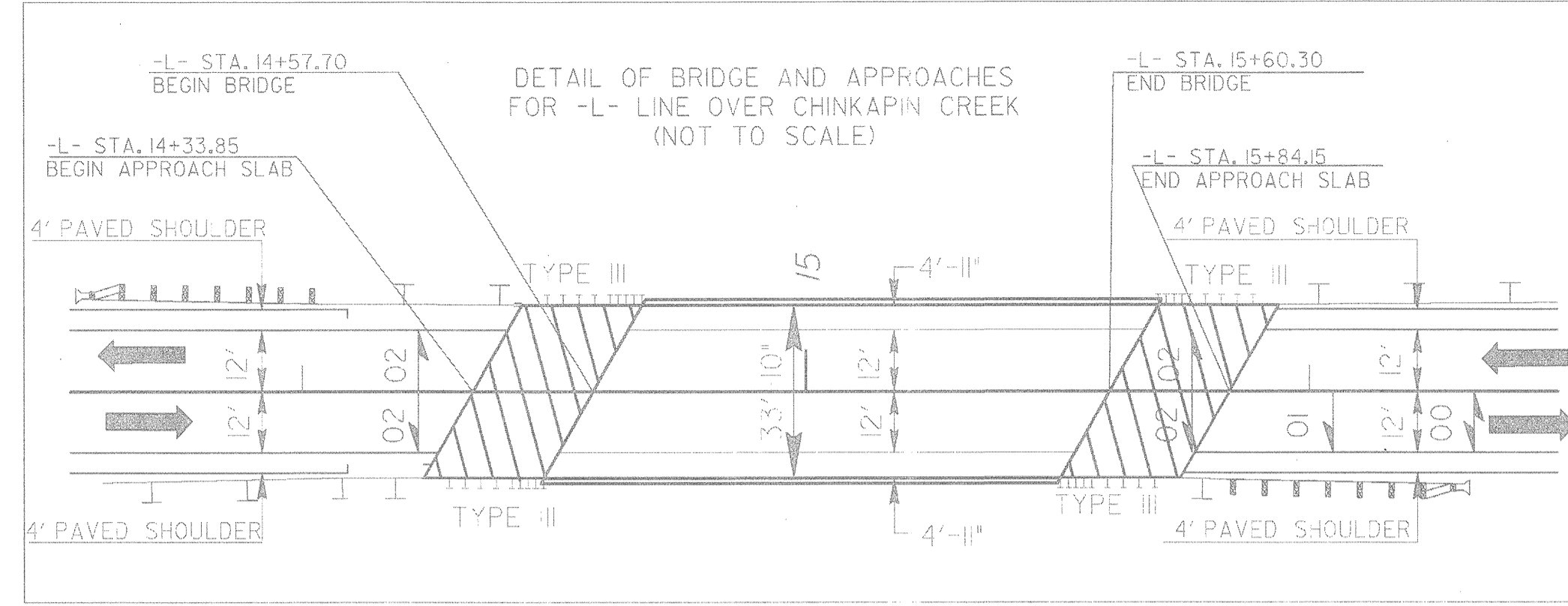
**HINDE ENGINEERING**  
License No. C-2639  
7620 E. Independence Blvd., Suite 230, Charlotte, NC 28227

**UTILITIES BY OTHERS**

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



**NAD 83/NSRS 2007**



PROPOSED FRONTIER COMMUNICATIONS UNDERGROUND CABLE TO BE LOCATED WITHIN THE OUTER 2' OF PROPOSED R/W AND BORED FROM APPROX. -L- STA. 13+35 TO APPROX. -L- STA. 17+65.

OVERHEAD LINE TO BE REMOVED

OVERHEAD LINE TO BE REMOVED

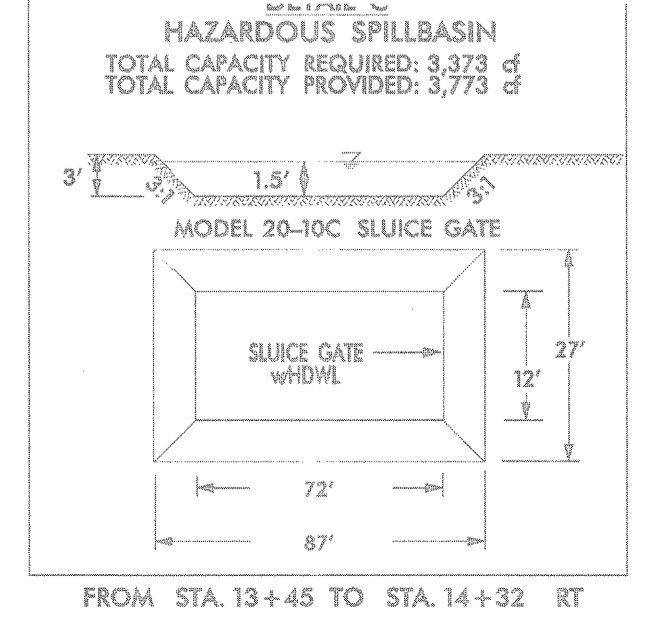
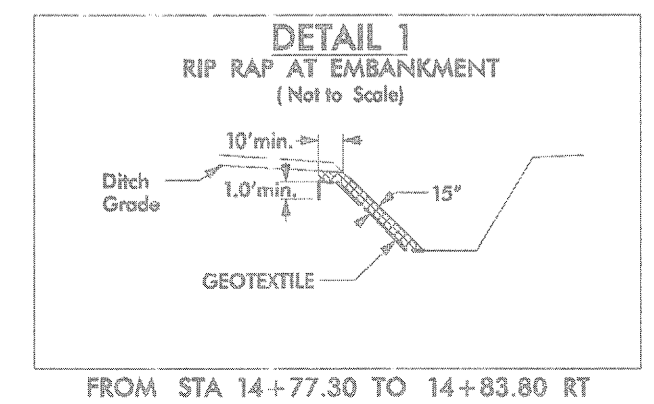
OVERHEAD LINE TO REMAIN

OVERHEAD LINE TO REMAIN

OVERHEAD LINE TO REMAIN

POLE TO BE REMOVED

PROPOSED POLE LOCATION



NORTH CAROLINA DEPT. OF TRANSPORTATION ENGINEERING DIVISION RALEIGH, NORTH CAROLINA

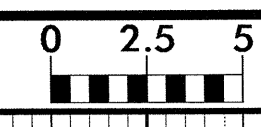
BRIDGE NO. 72 ON NC 200 (MORGAN MILL ROAD) OVER CHINKAPIN CREEK

|              |             |         |        |      |
|--------------|-------------|---------|--------|------|
| Designed By: | Checked By: | Date:   | Sheet: | Of:  |
| OTHERS       | OTHERS      | 1-14-14 | UO-3   | UO-3 |

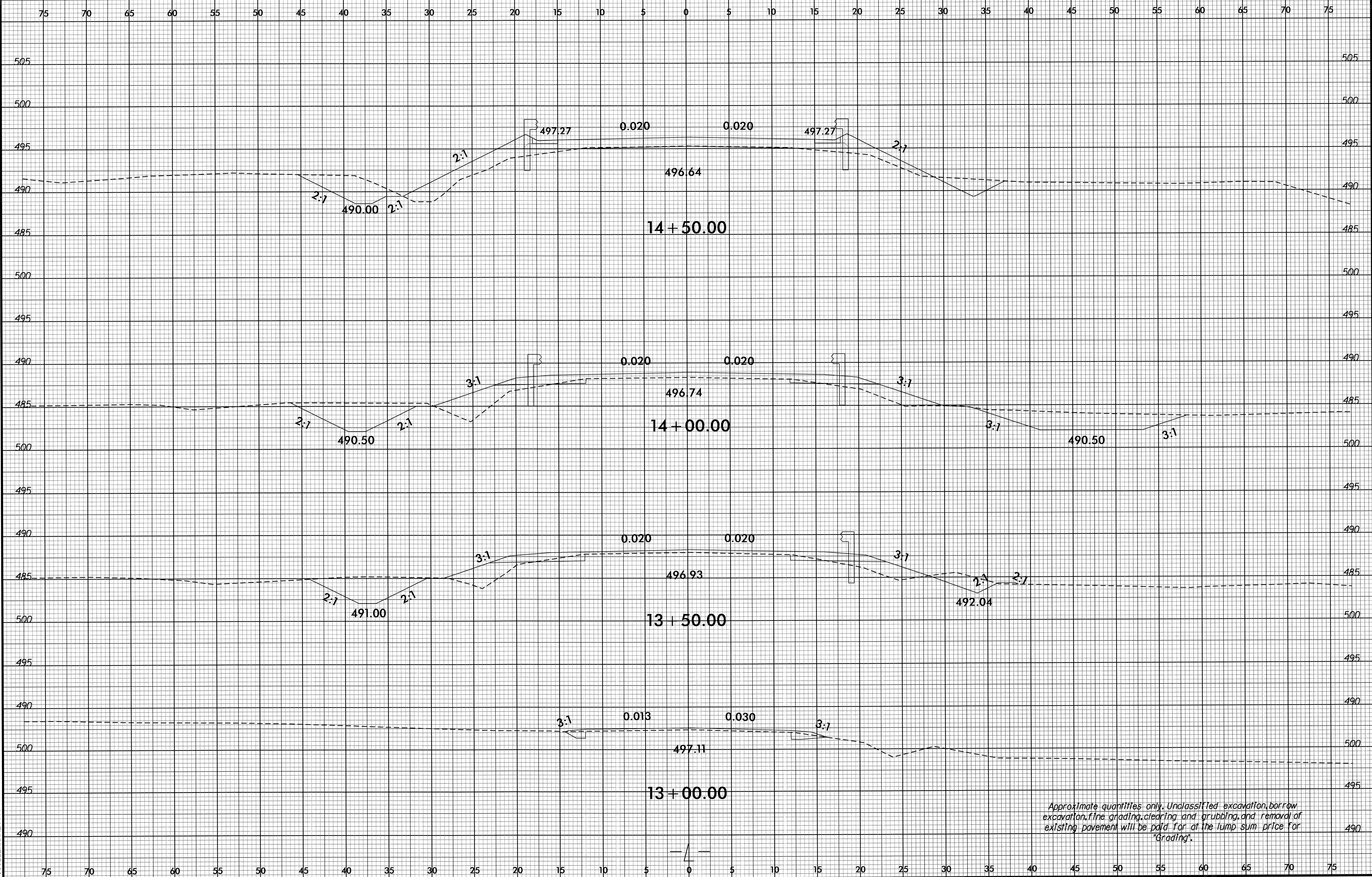
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8/23/09



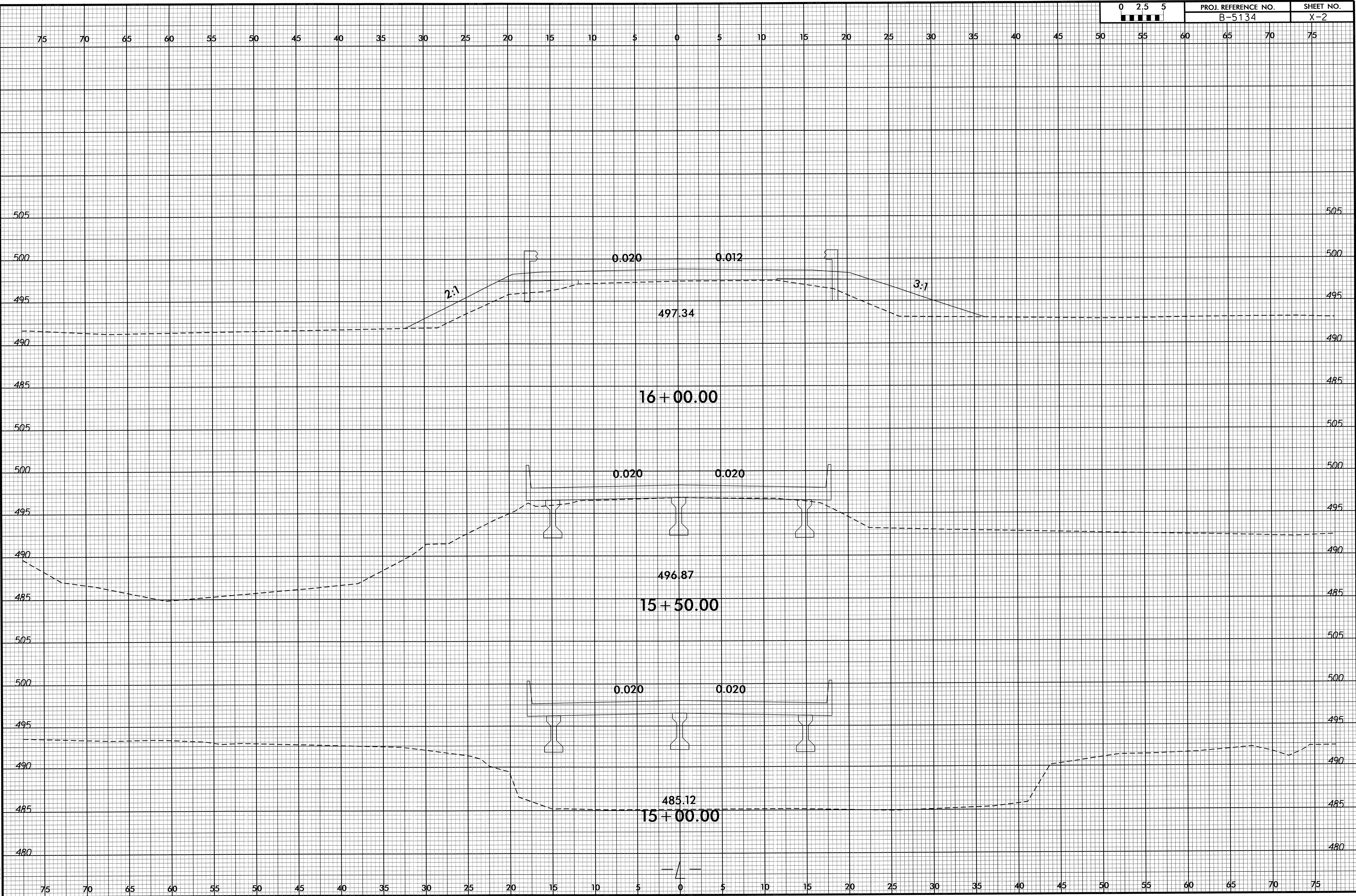
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| PROJ. REFERENCE NO. | SHEET NO. |
| B-5134              | X-1       |



Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading".

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8/23/99

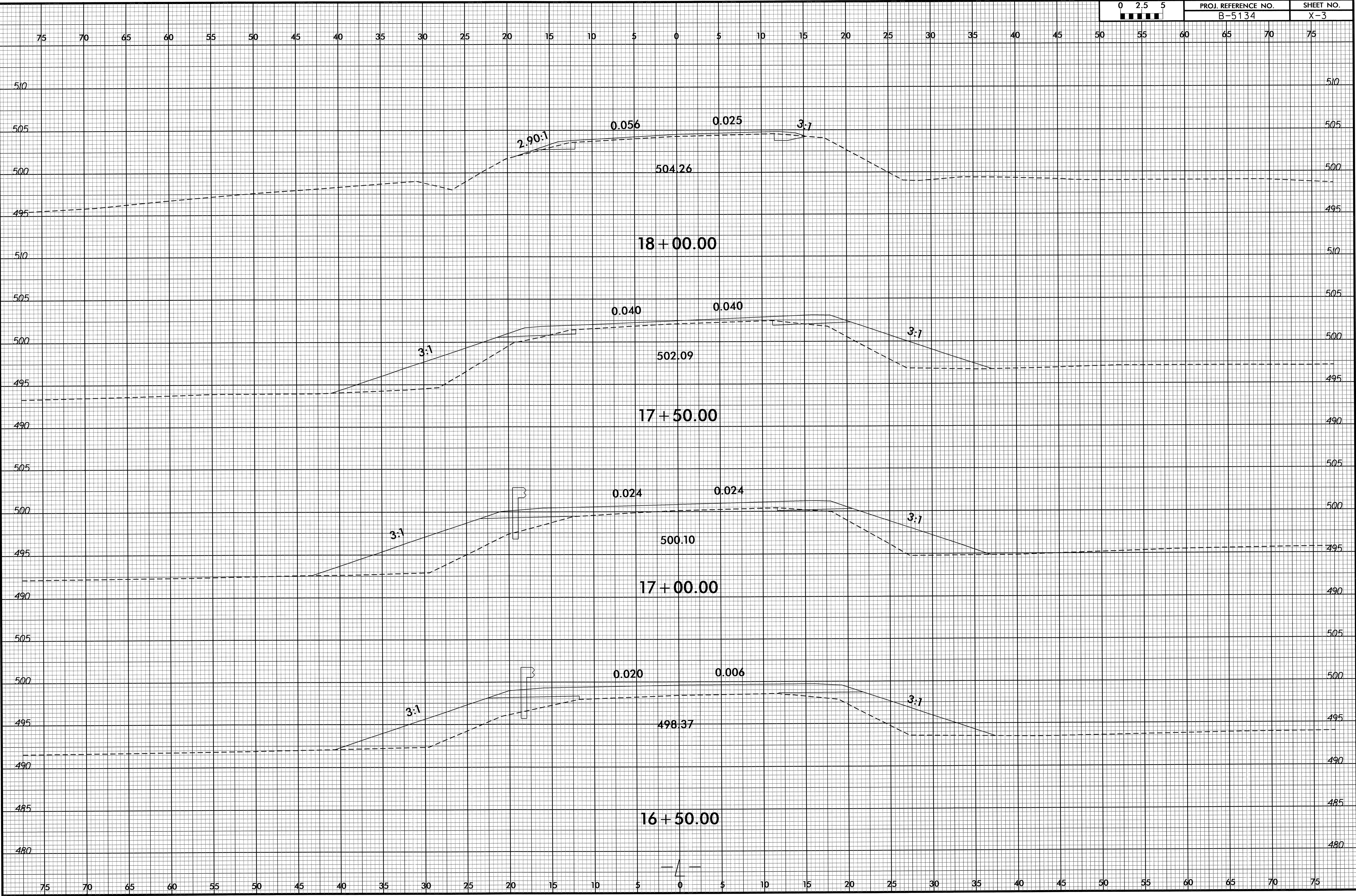


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8/23/99



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|---------------------|-----------|
| PROJ. REFERENCE NO. | SHEET NO. |
| B-5134              | X-3       |



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