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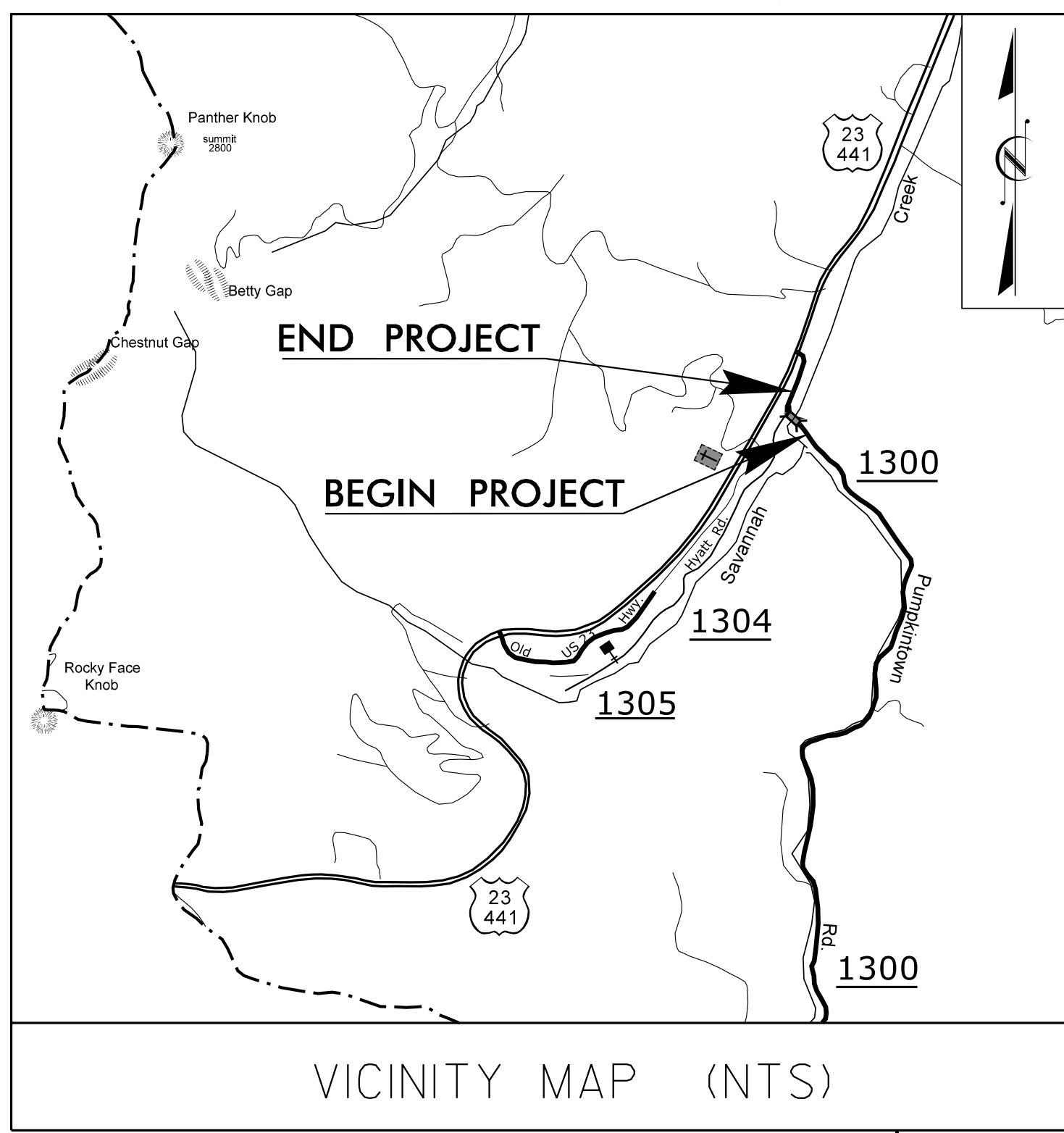
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09/28/2025

PROJECT: B-6034

CONTRACT: DN01144

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols

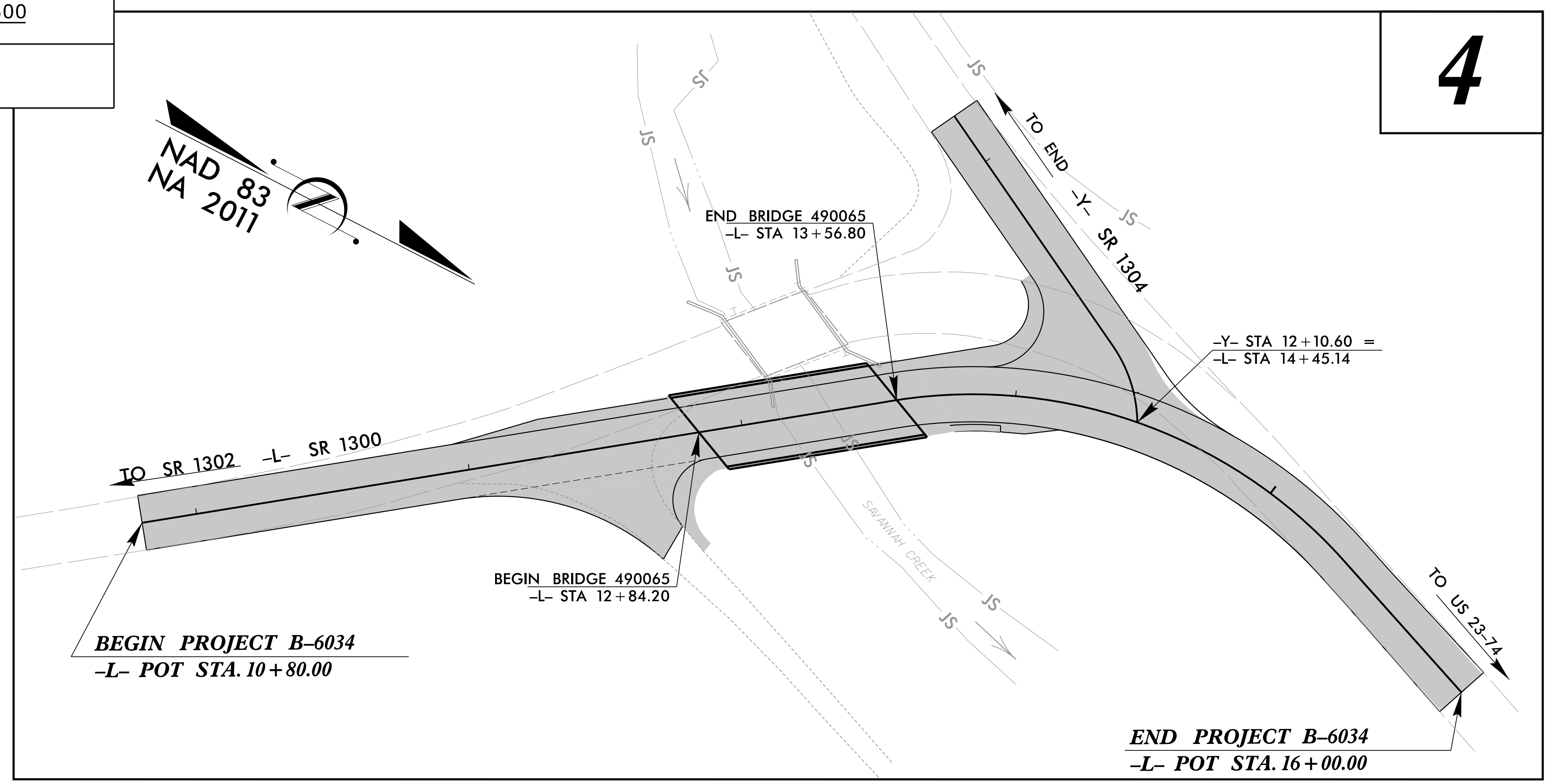


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
JACKSON COUNTY

**LOCATION: BRIDGE NO. 490065 OVER SAVANNAH CREEK
ON SR 1300 (PUMPKINTOWN RD)**

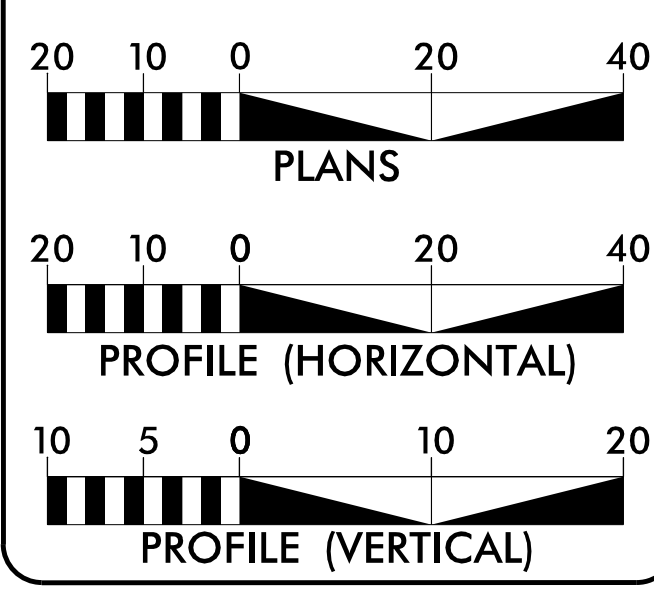
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | B-6034 | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 48229.1.1 | BRZ-1300(018) | P.E. | |
| 48229.2.1 | BRZ-1300(018) | RW, UTIL | |
| 48229.3.1 | BRZ-1300(018) | CONST. | |
| | | | |
| | | | |
| | | | |



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UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2025 = 1060
ADT 2045 =
T = 6 % *
V = 35 MPH

FUNC CLASS =
RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT B-6034 -L- = 0.085 MI
LENGTH STRUCTURE PROJECT B-6034 -L- = 0.014 MI
TOTAL LENGTH PROJECT B-6034 -L- = 0.099 MI



Prepared in the Office of:

Johnson, Mirman, & Thompson Inc.
4700 Falls of Neuse Rd, Suite 100,
Raleigh, NC, 27609
License No: C-3097

FOR THE NORTH CAROLINA DIVISION OF HIGHWAYS
2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 5, 2024

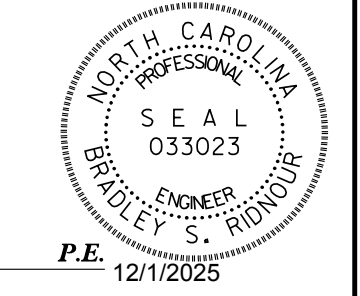
LETTING DATE:
FEBRUARY 10, 2026

STEVEN RACKLEY, PE
PROJECT ENGINEER

JOHN LANSFORD, PE
PROJECT DESIGN ENGINEER

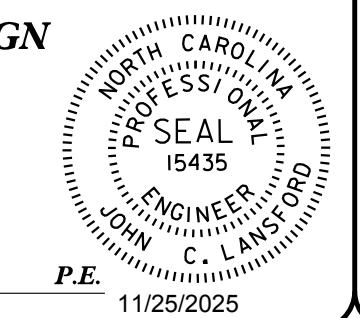
NC DOT CONTACT:
ZACHARY SHULER, PE
DIVISION 14 BRIDGE PROJECT MANAGER

HYDRAULICS ENGINEER

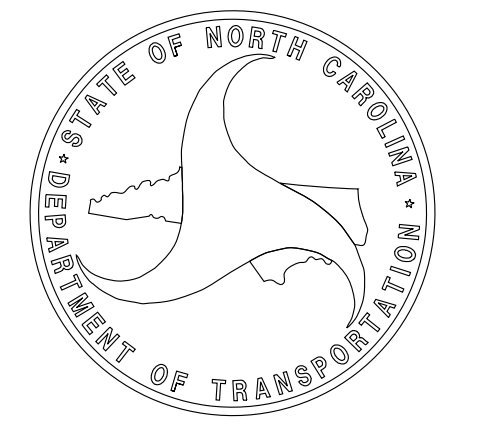


Designed by:
Bradley Kinnear
SIGNATURE: 12/1/2025

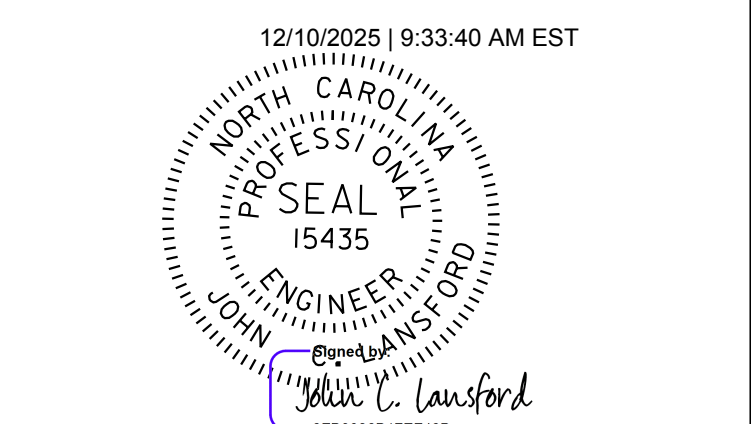
ROADWAY DESIGN ENGINEER



Signed by:
John Lansford
SIGNATURE: 11/25/2025



11/17/2025 10:53:39 AM
...Proj\Jackson65...Fdy...tsh.dgn
User:JohnStorford



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GENERAL NOTES: 2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

EFF. 01-16-2024
REV.

2024 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, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

| SHEET NUMBER | SHEET |
|------------------|---|
| 1 | TITLE SHEET |
| 1A | INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS |
| 1B | CONVENTIONAL SYMBOLS |
| 2A-1 THRU 2A-2 | PAVEMENT SCHEDULE AND TYPICAL SECTIONS |
| 2C-1 THRU 2C-2 | PIPE INSTALLATION DETAILS |
| 2C-3 THRU 2C-7 | GUARDRAIL PLACEMENT DETAILS |
| 2C-8 | STRUCTURE ANCHOR DETAILS |
| 2C-9 | GUARDRAIL INSTALLATION DETAIL |
| 2C-10 | GUARDRAIL ANCHOR UNITS |
| 2G-1 THRU 2G-3 | TEMPORARY SHORING DETAILS |
| 3B-1 | ROADWAY SUMMARIES (EARTHWORK, GUARDRAIL, PAVEMENT REMOVAL) |
| 3D-1 | DRAINAGE SUMMARY |
| 3G-1 | GEOTECHNICAL SUMMARIES |
| 4 THRU 5 | PLAN AND PROFILE SHEET |
| RW-01 THRU RW-04 | SURVEY CONTROL SHEETS |
| TMP-1 THRU TMP-5 | TRAFFIC CONTROL PLANS |
| PMP-1 THRU PMP-2 | PAVEMENT MARKING PLANS |
| EC-1 THRU EC-4 | EROSION CONTROL PLANS |
| RF-1 | REFORESTATION DETAIL SHEET |
| UO-1 THRU UO-2 | UTILITY PLANS BY OTHERS |
| X-1A | CROSS-SECTION SUMMARY |
| X-1 THRU X-10 | CROSS-SECTIONS |
| S-1 THRU S-20 | STRUCTURE PLANS |

GRADING AND SURFACING

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 11.

SUPERELEVATION:

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

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 815.02 AT LOCATIONS AS DIRECTED BY THE ENGINEER

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

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 Duke Energy and Frontier Communication
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

STD.NO.

TITLE

- DIVISION 2 - EARTHWORK
- 200.02 Method of Clearing - Method 11
- 225.02 Guide for Grading Subgrade - Secondary and Local
- 225.04 Method of Obtaining Superelevation - Two Lane Pavement
- DIVISION 3 - PIPE CULVERTS
- 310.10 Driveway Pipe Construction
- DIVISION 4 - MAJOR STRUCTURES
- 423.01 Bridge Approach Fills - Type I Approach Fill for Bridge Abutment
- DIVISION 5 - SUBGRADE, BASES AND SHOULDERS
- 560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method 1
- DIVISION 8 - INCIDENTALS
- 815.02 Subsurface Drains
- 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 (Use Details in Lieu of Standards for Sheets 4, 6, 11, 12 and 14 of 15)
- 862.02 Guardrail Installation (Use Detail in Lieu of Standard for Sheet 5 of 9)
- 862.03 Structure Anchor Units (Use Detail in Lieu of Standard for Sheet 8 of 9)
- 876.02 Guide for Rip Rap at Pipe Outlets

Note: Not to Scale

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

B-6034
I-B

BOUNDARIES AND PROPERTY:

| | |
|---------------------------------------|-----------|
| State Line | ----- |
| County Line | ----- |
| Township Line | ----- |
| City Line | ----- |
| Reservation Line | ----- |
| Property Line | ----- |
| Existing Iron Pin (EIP) | ○ |
| Computed Property Corner | × |
| Existing Concrete 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-⊗-s- |
| Potential Contamination Area: Soil | ⊗-s-⊗-s- |
| Known Contamination Area: Water | ⊗-w-⊗-w- |
| Potential Contamination Area: Water | ⊗-w-⊗-w- |
| Contaminated Site: Known or Potential | ☠ ? |

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

| | |
|------------------------------------|-------|
| Stream or Body of Water | ----- |
| Hydro, Pool or Reservoir | □ |
| Jurisdictional Stream | 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 | ○ |
| Switch | □ |
| RR Abandoned | ----- |
| RR Dismantled | ----- |

RIGHT OF WAY & PROJECT CONTROL:

| | |
|--|-------|
| Primary Horiz Control Point | ○ |
| Primary Horiz and Vert Control Point | ● |
| Secondary Horiz and Vert Control Point | ◆ |
| Vertical Benchmark | ⊠ |
| Existing Right of Way Monument | △ |
| Proposed Right of Way Monument (Rebar and Cap) | ▲ |
| Proposed Right of Way Monument (Concrete) | ▲ |
| Existing Permanent Easement Monument | ◇ |
| Proposed Permanent Easement Monument (Rebar and Cap) | ◆ |
| Existing C/A Monument | △ |
| Proposed C/A Monument (Rebar and Cap) | ▲ |
| Proposed C/A Monument (Concrete) | ▲ |
| Existing Right of Way Line | ----- |
| Proposed Right of Way Line | ----- |
| Existing Control of Access Line | ----- |
| Proposed Control of Access Line | ----- |
| Proposed ROW and CA Line | ----- |
| Existing Easement Line | E |
| Proposed Temporary Construction Easement | E |
| Permanent Construction Easement | PE |
| Proposed Temporary Drainage Easement | TDE |
| Proposed Permanent Drainage Easement | PDE |
| Proposed Permanent Drainage/Utility Easement | DUE |
| Proposed Permanent Utility Easement | PUE |
| Proposed Temporary Utility Easement | TUE |
| Proposed Aerial Utility Easement | AUE |

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 | T T T T |
| Proposed Guardrail | T T T T |
| Existing Cable Guiderail | □ □ □ □ |
| Proposed Cable Guiderail | □ □ □ □ |
| Equality Symbol | ⊗ |
| Pavement Removal | ⊗ |

VEGETATION:

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

CONVENTIONAL PLAN SHEET SYMBOLS

| | |
|------------|-------|
| Hedge | ----- |
| Woods Line | ----- |
| Orchard | ----- |
| Vineyard | ----- |

EXISTING STRUCTURES:

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

UTILITIES: * SUE - Subsurface Utility Engineering LOS - Level of Service - A,B,C or D (Accuracy)

| | |
|---|-------|
| 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 | PH |
| H-Frame Pole | ● |
| U/G Power Line Test Hole (SUE - LOS A)* | ⊗ |
| U/G Power Line (SUE - LOS B)* | ----- |
| U/G Power Line (SUE - LOS C)* | ----- |
| U/G Power Line (SUE - LOS D)* | ----- |

TELEPHONE:

| | |
|--|-------|
| Existing Telephone Pole | ● |
| Proposed Telephone Pole | ○ |
| Telephone Manhole | Ⓟ |
| Telephone Pedestal | ⊠ |
| Telephone Cell Tower | ⊠ |
| U/G Telephone Cable Hand Hole | PH |
| U/G Telephone Test Hole (SUE - LOS A)* | ⊗ |
| U/G Telephone Cable (SUE - LOS B)* | ----- |
| U/G Telephone Cable (SUE - LOS C)* | ----- |
| U/G Telephone Cable (SUE - LOS D)* | ----- |
| U/G Telephone Conduit (SUE - LOS B)* | ----- |
| U/G Telephone Conduit (SUE - LOS C)* | ----- |
| U/G Telephone Conduit (SUE - LOS D)* | ----- |
| U/G Fiber Optics Cable (SUE - LOS B)* | ----- |
| U/G Fiber Optics Cable (SUE - LOS C)* | ----- |
| U/G Fiber Optics Cable (SUE - LOS D)* | ----- |

WATER:

| | |
|---|-----------|
| Water Manhole | Ⓟ |
| Water Meter | ○ |
| Water Valve | ⊗ |
| Water Hydrant | ⊗ |
| U/G Water Line Test Hole (SUE - LOS A)* | ⊗ |
| U/G Water Line (SUE - LOS B)* | ----- |
| U/G Water Line (SUE - LOS C)* | ----- |
| U/G Water Line (SUE - LOS D)* | ----- |
| Above Ground Water Line | A/G Water |

TV:

| | |
|--------------------------------------|-------|
| TV Pedestal | ⊠ |
| TV Tower | ⊗ |
| U/G TV Cable Hand Hole | PH |
| U/G TV Test Hole (SUE - LOS A)* | ⊗ |
| U/G TV Cable (SUE - LOS B)* | ----- |
| U/G TV Cable (SUE - LOS C)* | ----- |
| U/G TV Cable (SUE - LOS D)* | ----- |
| U/G Fiber Optic Cable (SUE - LOS B)* | ----- |
| U/G Fiber Optic Cable (SUE - LOS C)* | ----- |
| U/G Fiber Optic Cable (SUE - LOS D)* | ----- |

GAS:

| | |
|---------------------------------------|---------|
| Gas Valve | ◇ |
| Gas Meter | ⊗ |
| U/G Gas Line Test Hole (SUE - LOS A)* | ⊗ |
| U/G Gas Line (SUE - LOS B)* | ----- |
| U/G Gas Line (SUE - LOS C)* | ----- |
| U/G Gas Line (SUE - LOS D)* | ----- |
| Above Ground Gas Line | A/G Gas |

SANITARY SEWER:

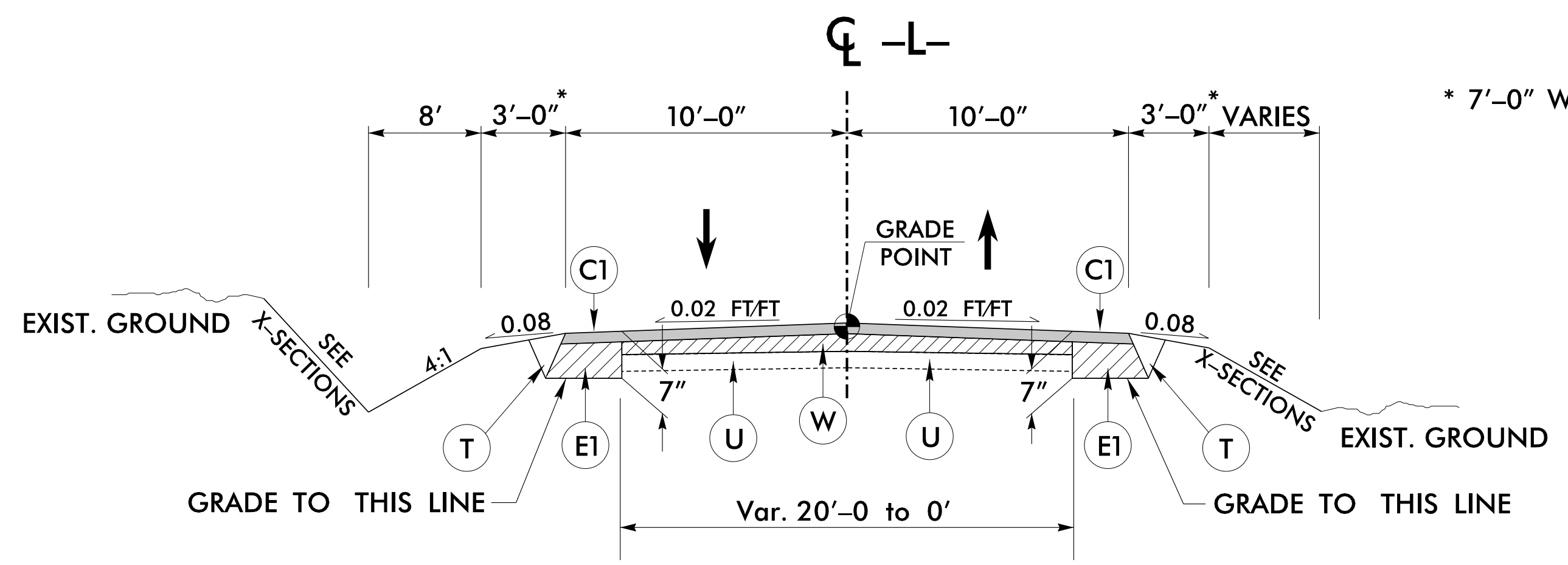
| | |
|---|--------------------|
| Sanitary Sewer Manhole | Ⓟ |
| Sanitary Sewer Cleanout | ⊕ |
| U/G Sanitary Sewer Line | SS |
| Above Ground Sanitary Sewer | A/G Sanitary Sewer |
| SS Force Main Line Test Hole (SUE - LOS A)* | ⊗ |
| SS Force Main Line (SUE - LOS B)* | ----- |
| SS Force Main Line (SUE - LOS C)* | ----- |
| SS Force Main Line (SUE - LOS D)* | ----- |

MISCELLANEOUS:

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

8/17/99

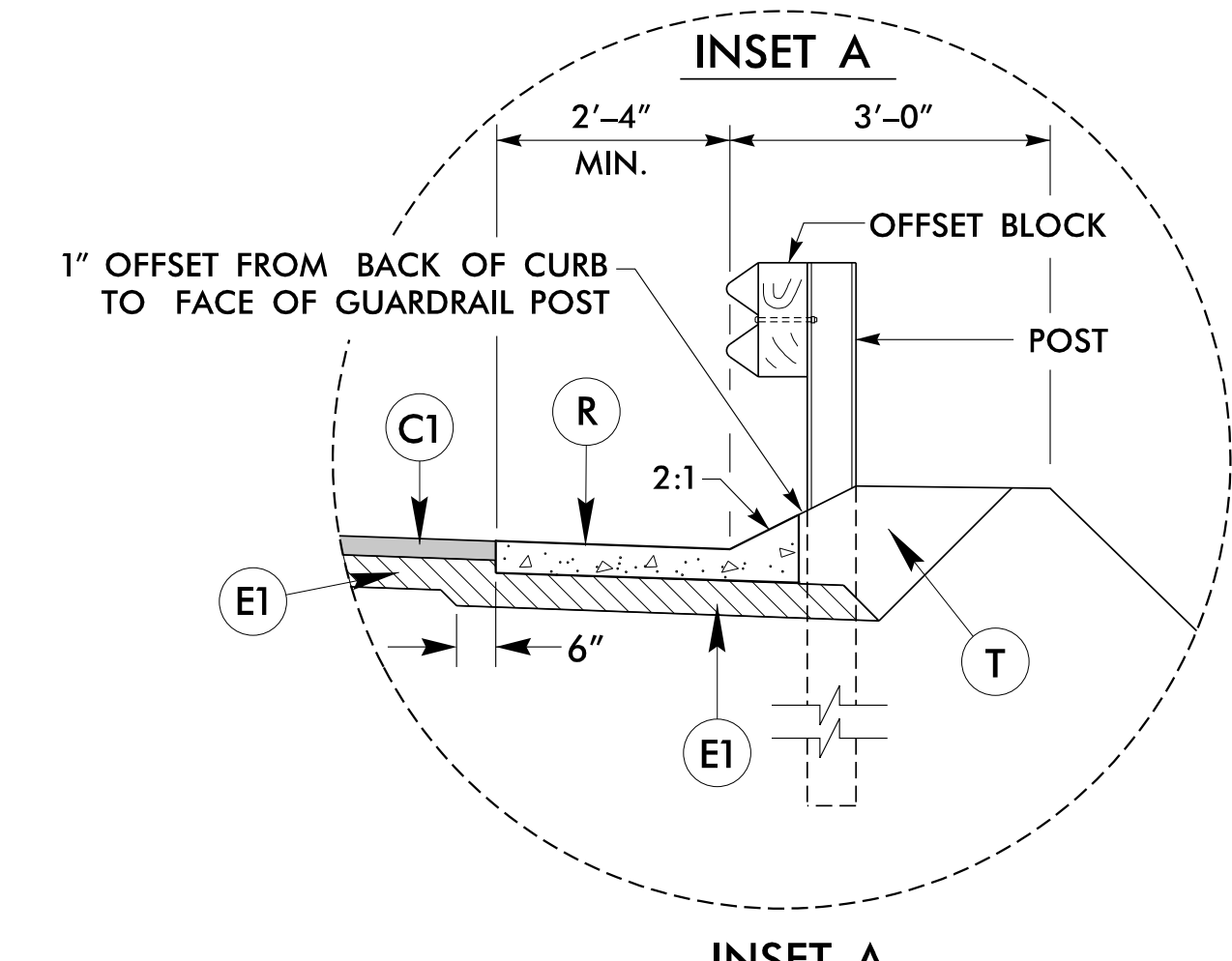
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| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



TYPICAL SECTION NO. 1

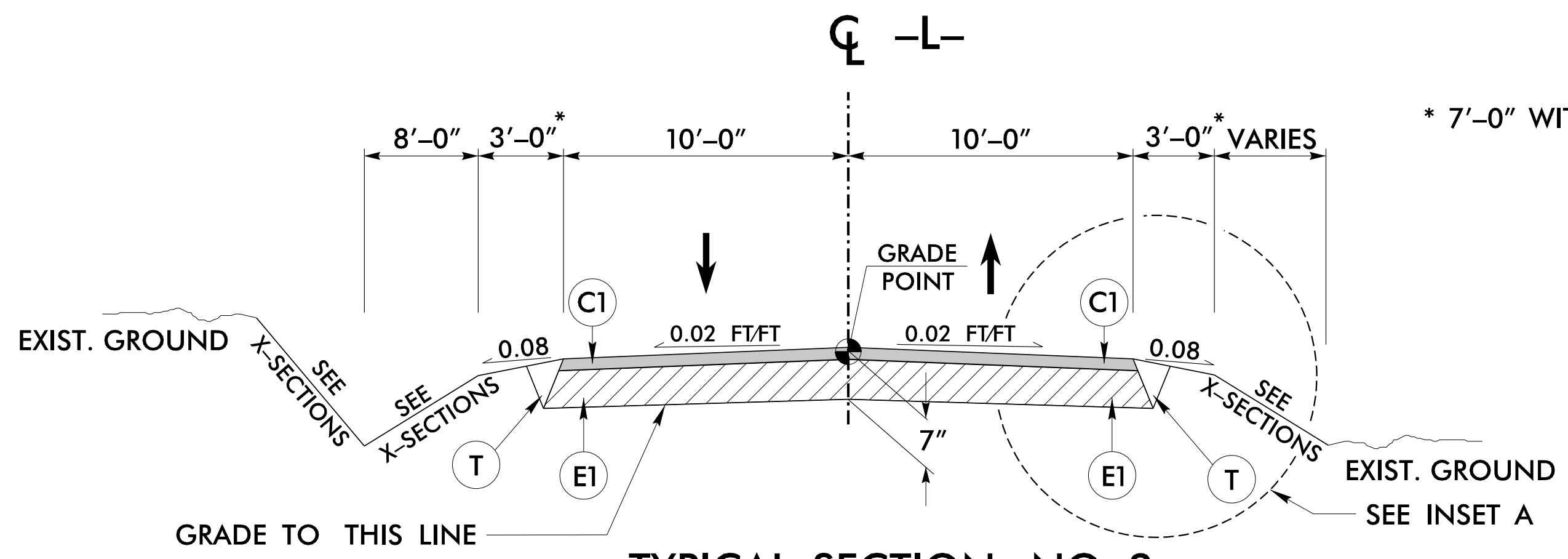
USE TYPICAL SECTION NO. 1

- L- STA. 10+80 TO STA. 12+84.20 (BEGIN BRIDGE)
- L- STA. 14+75.00 TO STA 16+00.00



INSET A

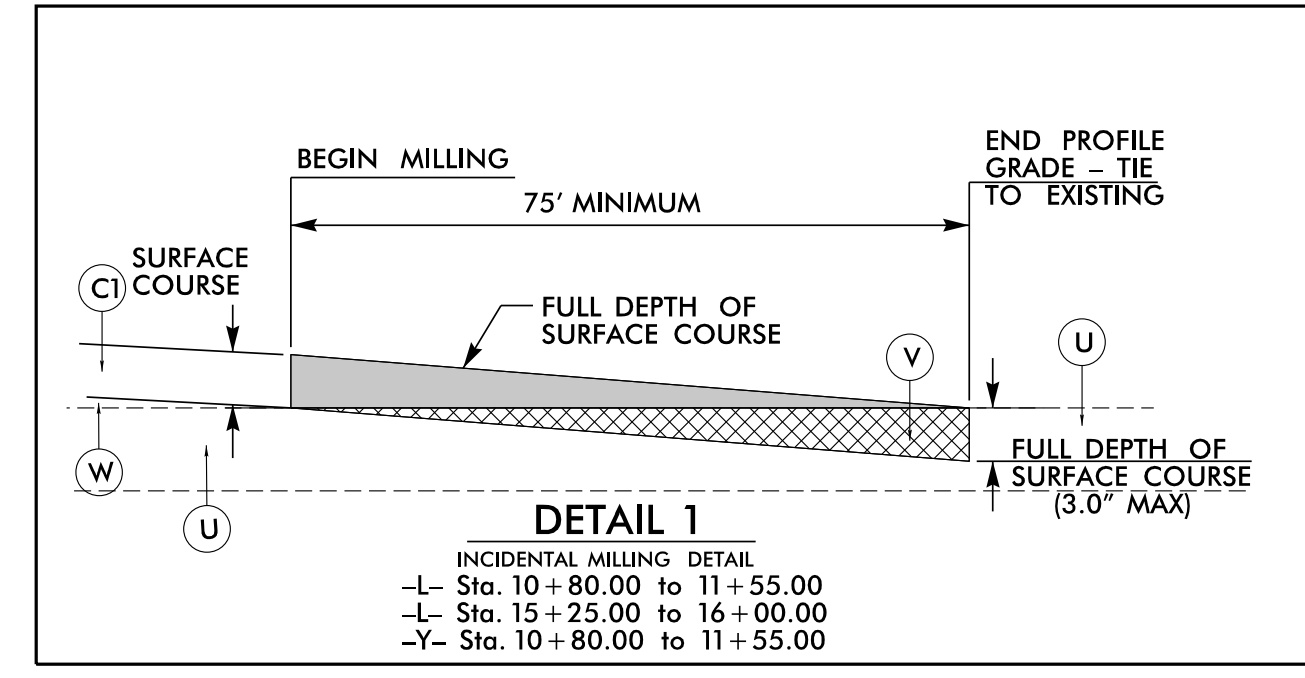
-L- STA. 13+77 TO 13+95 RT



TYPICAL SECTION NO. 2

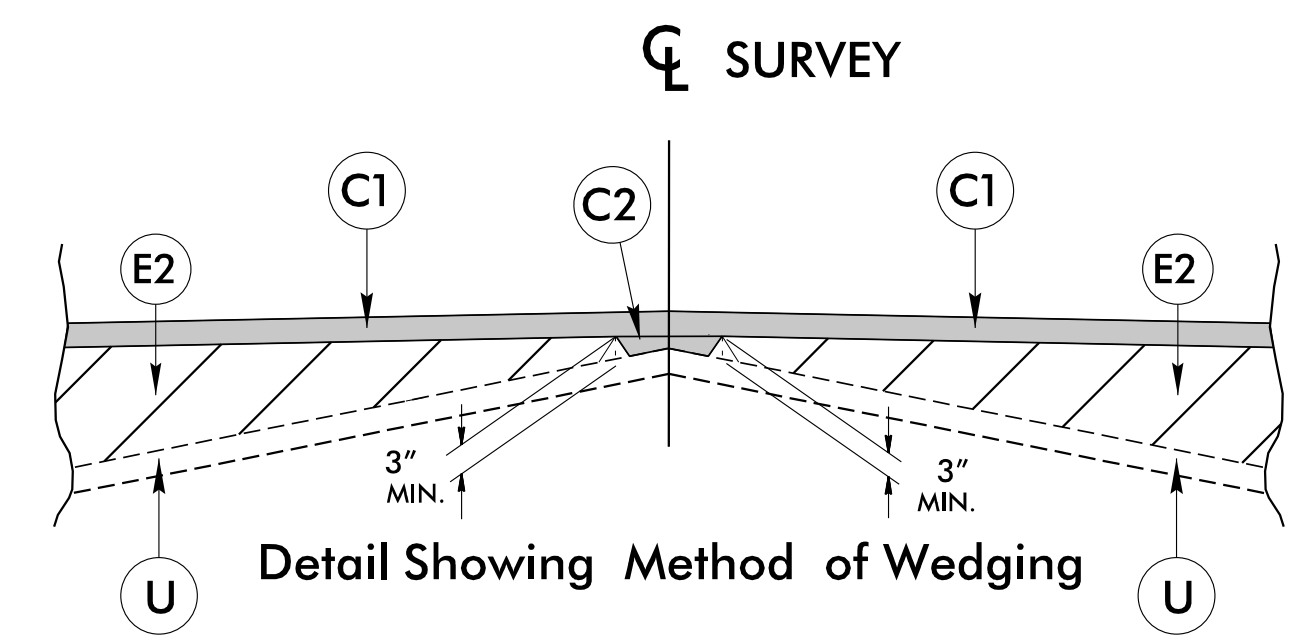
USE TYPICAL SECTION NO. 2

- L- STA. 13+56.80 (END BRIDGE) TO STA. 14+75.00



- DETAIL 1**
INCIDENTAL MILLING DETAIL
- L- Sta. 10+80.00 to 11+55.00
 - L- Sta. 15+25.00 to 16+00.00
 - Y- Sta. 10+80.00 to 11+55.00

| PAVEMENT SCHEDULE | |
|-------------------|--|
| C1 | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 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 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 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. |
| R | SHOULDER BERM GUTTER (NCDOT STD. DWG. NO. 846.01) |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |
| V | INCIDENTAL MILLING |
| W | PROPOSED WEDGING (SEE WEDGING DETAIL) |



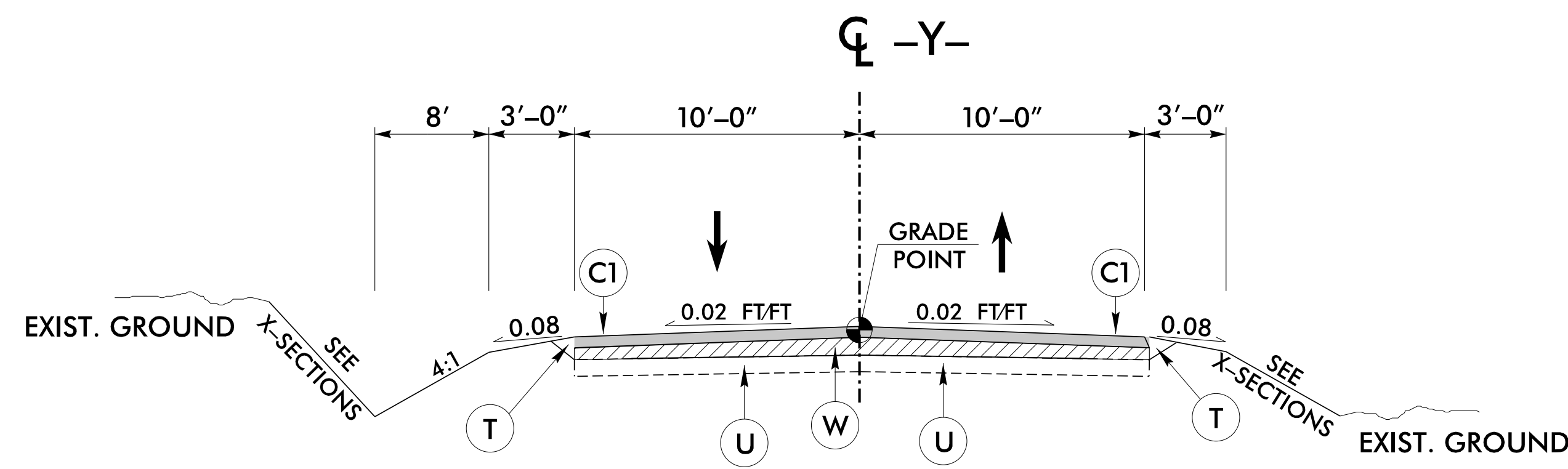
Detail Showing Method of Wedging

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

1/9/2026 10:59:29 AM
N:\Proj\Jackson65_rdy_tjpb.dgn
User: jroemer

8/17/99

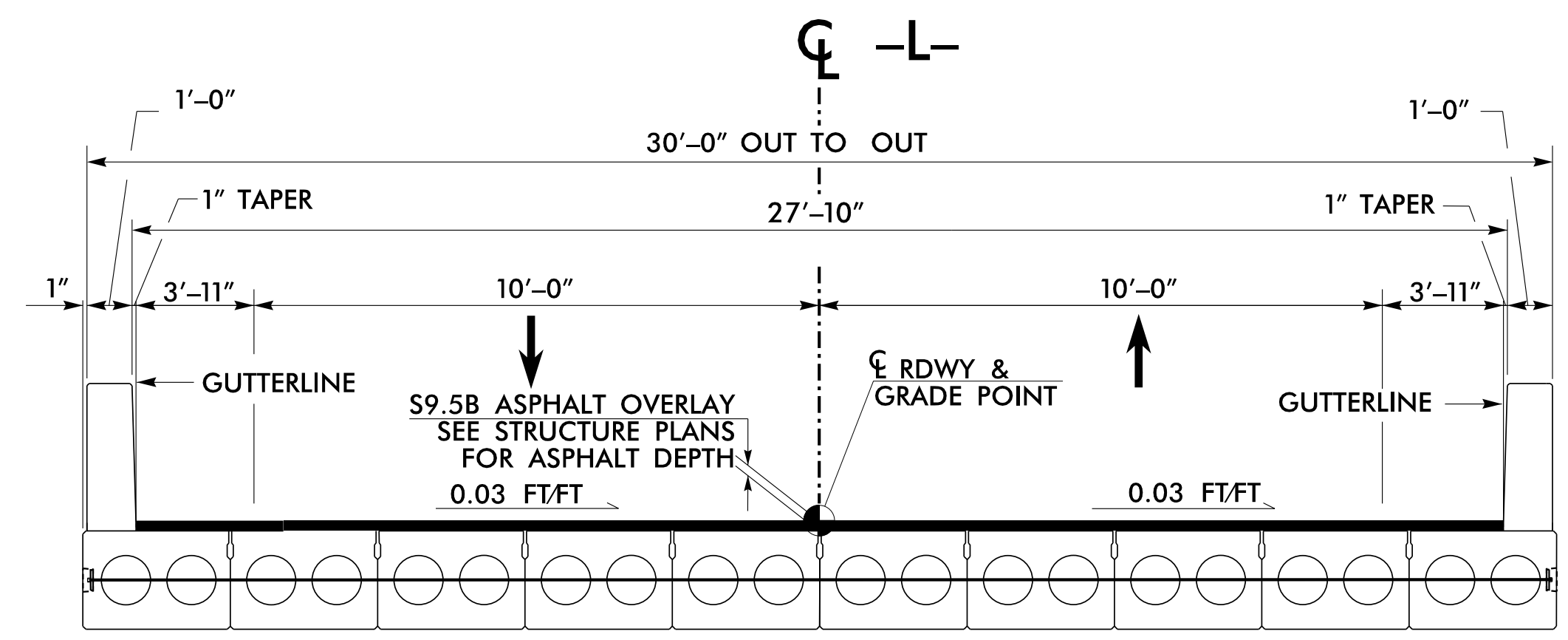
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| RW SHEET NO. | |
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| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-Y- STA. 10+80 TO 11+99.47



TYPICAL SECTION NO. 4

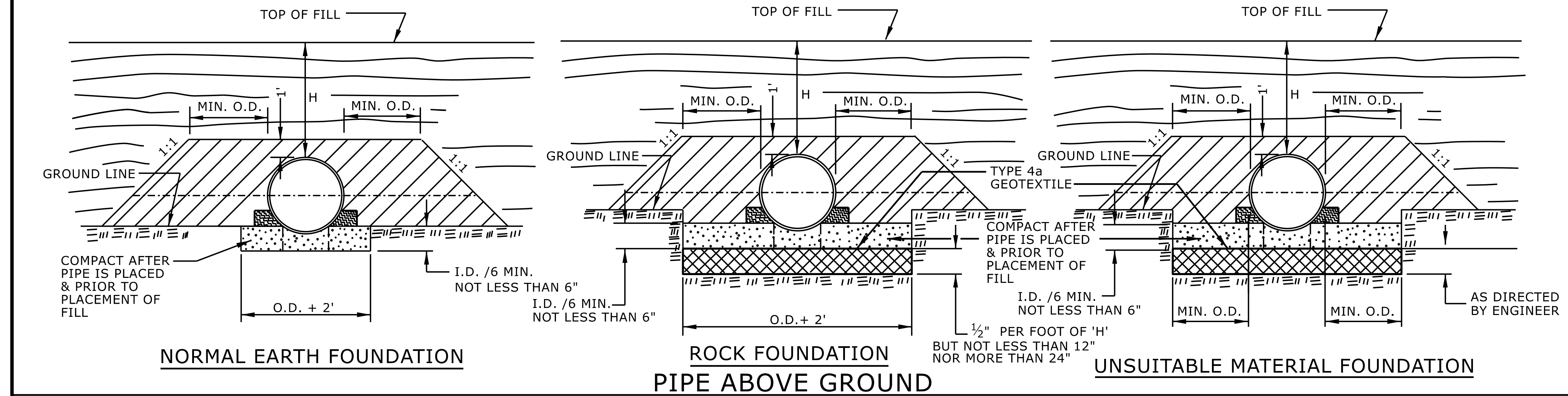
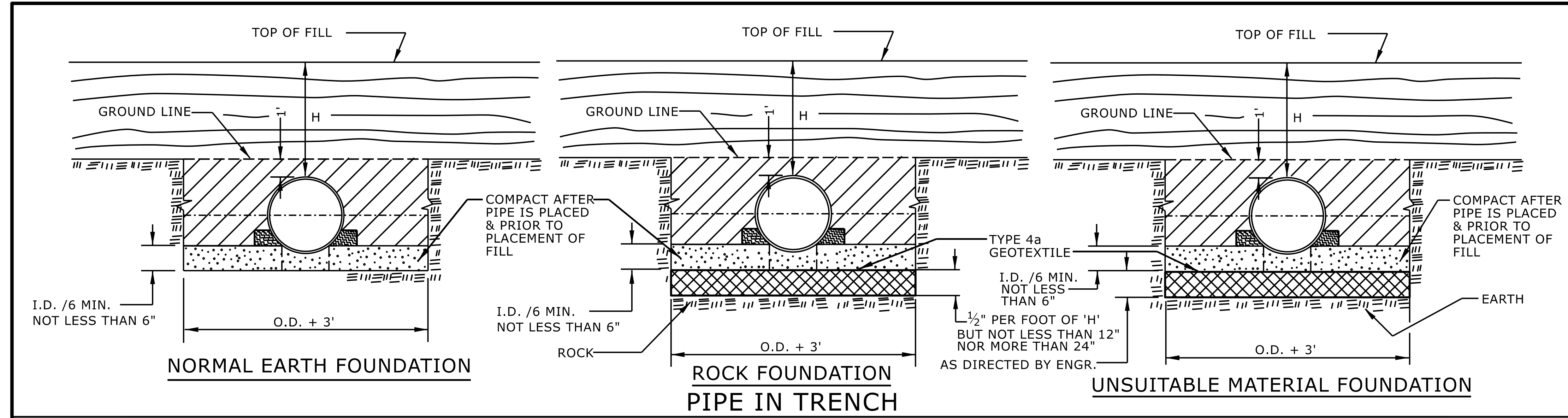
USE TYPICAL SECTION NO. 3

-L- STA. 12+84.20 (BEGIN BRIDGE) TO
 -L- STA. 13+56.80 (END BRIDGE)



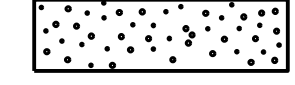
| PAVEMENT SCHEDULE | |
|-------------------|--|
| C1 | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. |
| C2 | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH. |
| 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. |
| R | SHOULDER BERM GUTTER (NCDOT STD. DWG. NO. 846.01) |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |
| V | INCIDENTAL MILLING |
| W | PROPOSED WEDGING (SEE WEDGING DETAIL) |

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

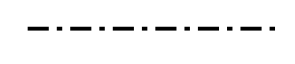
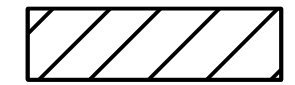
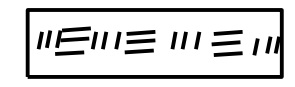
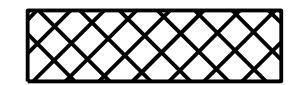
1/9/2026 10:59:29 AM
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 User: jroemer



GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

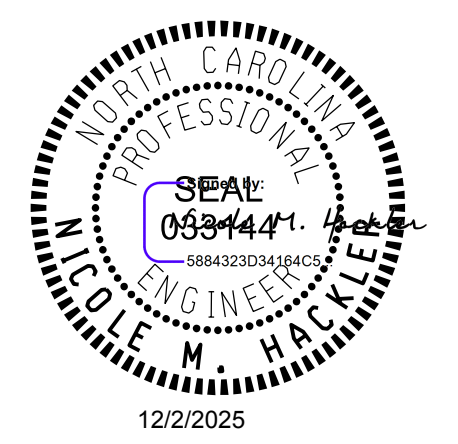
-  APPROVED SUITABLE LOCAL MATERIAL.
-  TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
-  LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.
 REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

-  SPRINGLINE OF PIPE
-  SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
-  UNDISTURBED EARTH MATERIAL
-  SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
 FLEXIBLE PIPE



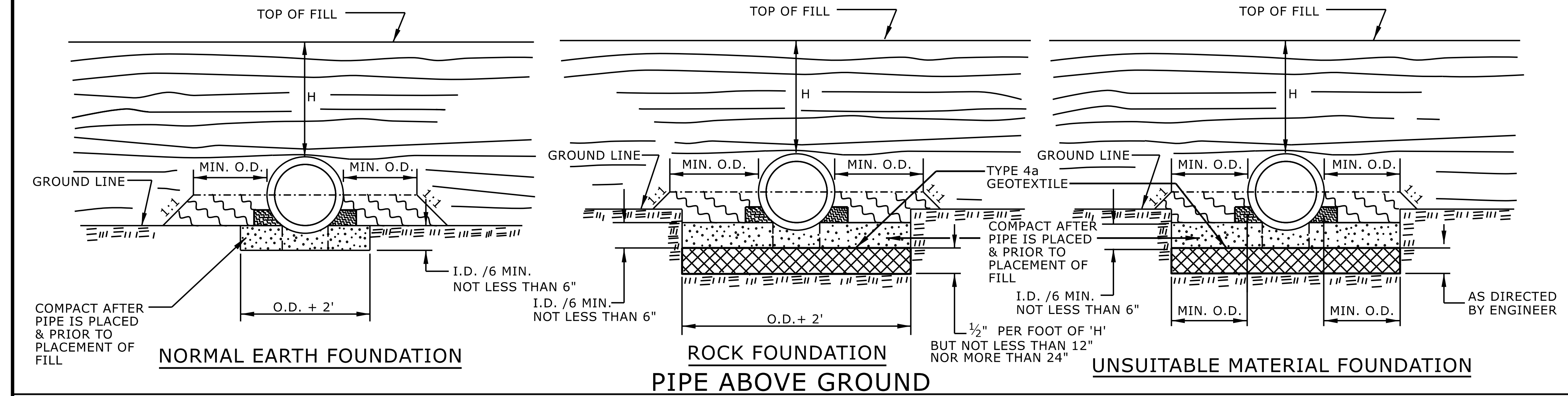
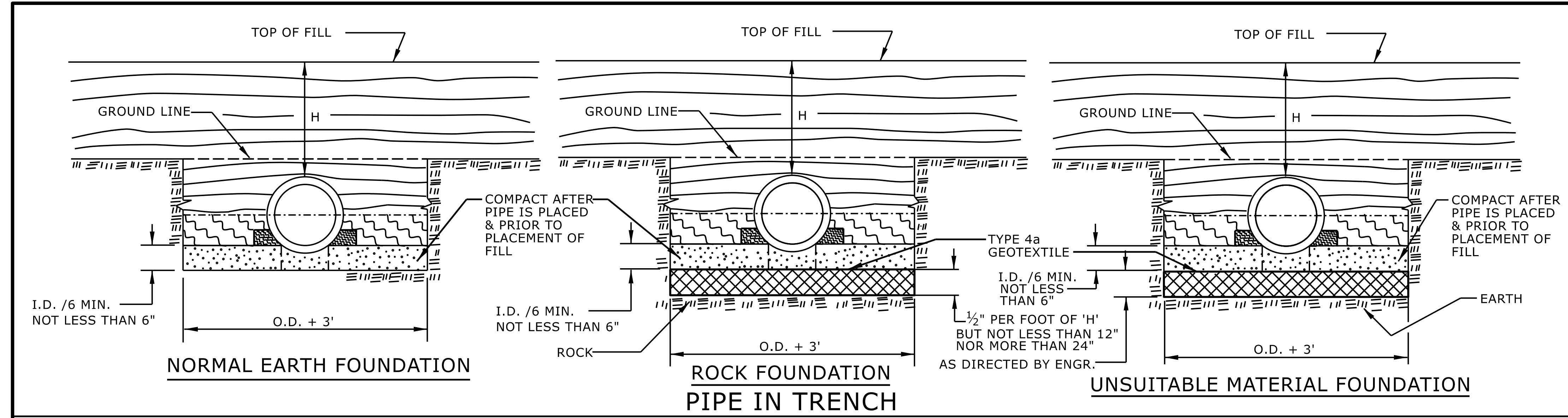
SHEET 1 OF 2
300.01

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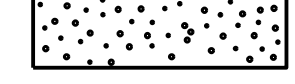
CONTRACTS STANDARDS
 AND DEVELOPMENT UNIT
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SEE TITLE BLOCK

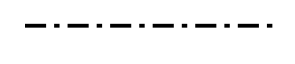

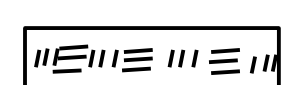

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 FILE SPEC: DATE:



GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

 APPROVED SUITABLE LOCAL MATERIAL.
 TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

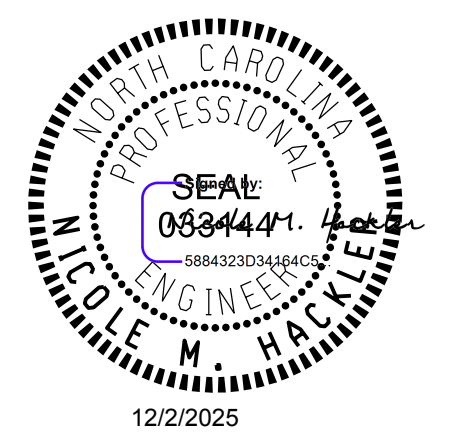
DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.
 REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

-  SPRINGLINE OF PIPE
-  SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.
-  UNDISTURBED EARTH MATERIAL
-  SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
 RIGID PIPE

SHEET 2 OF 2
300.01

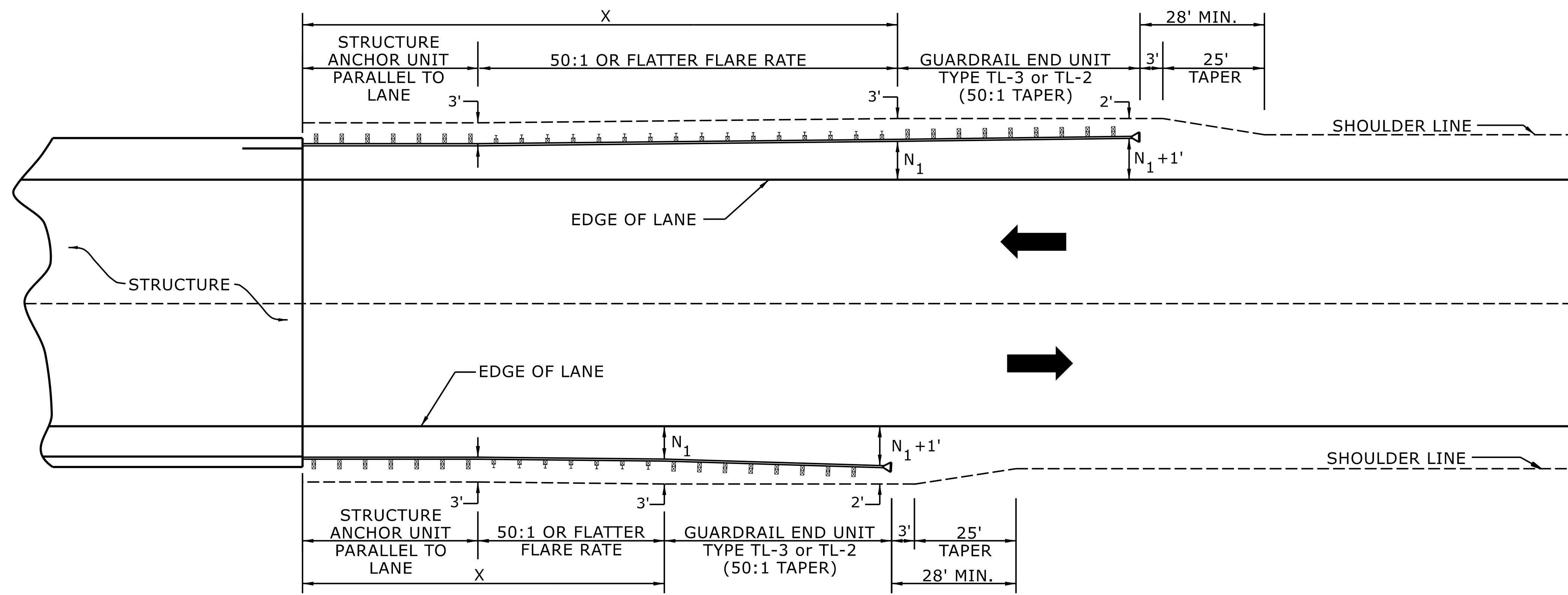


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USE FLARE RATE AS THE CONTROL IF THE " N_1 " DISTANCE IS NOT OBTAINED.
 (" N_1 " IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)
 SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS
 FOR POSTED SPEEDS \geq 45MPH USE GREU TYPE TL-3
 FOR POSTED SPEEDS $<$ 45MPH USE GREU TYPE TL-2
 GUARDRAIL LENGTH OF NEED (X) IS CALCULATED BASED ON THE AASHTO ROADSIDE DESIGN GUIDE.

LENGTHS AND OFFSETS FOR PROPOSED GUARDRAIL AT TWO LANE - TWO WAY LOCATIONS

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ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



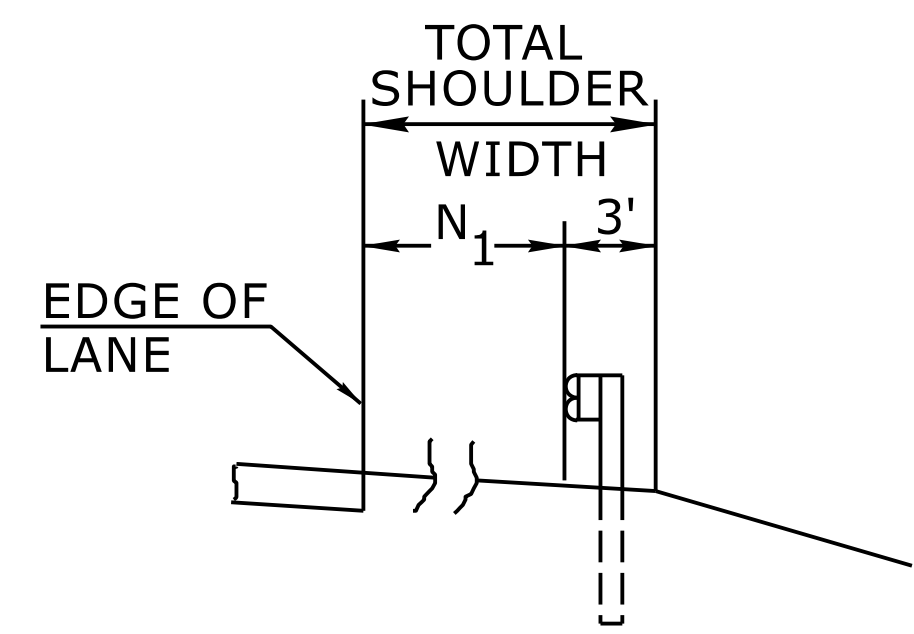
SHEET 4 OF 15
862D01

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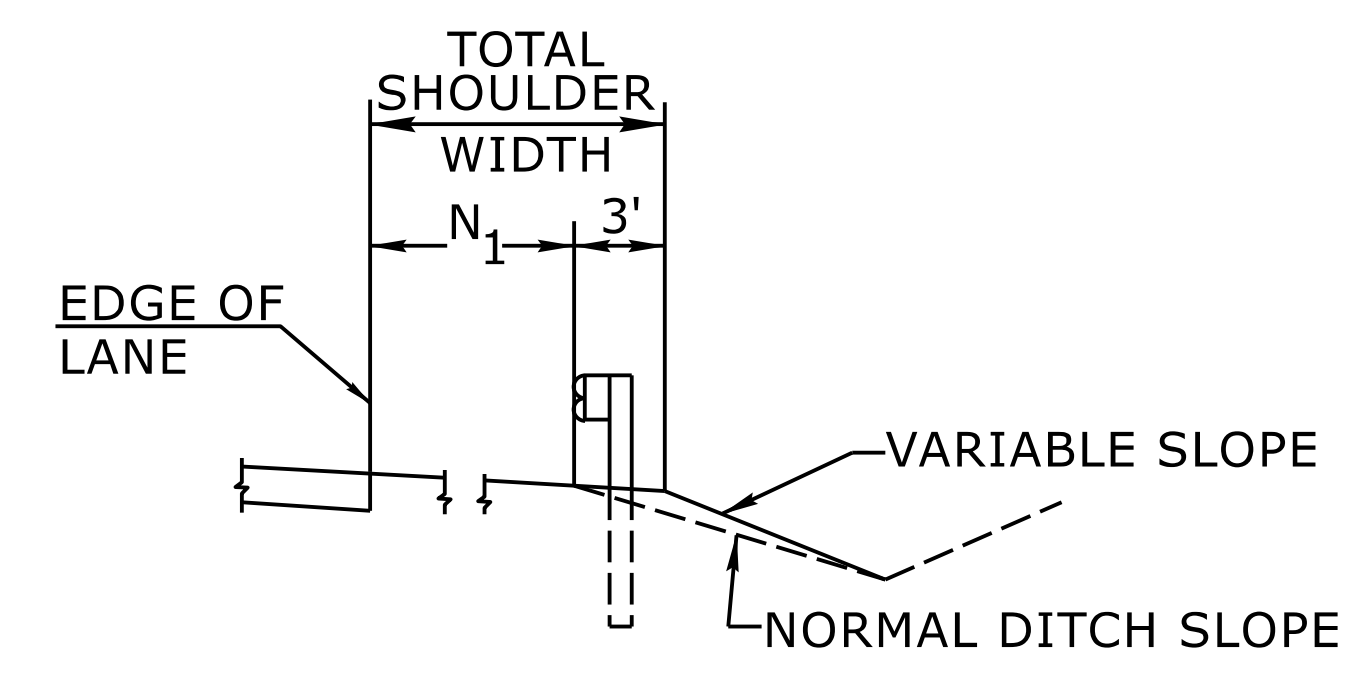
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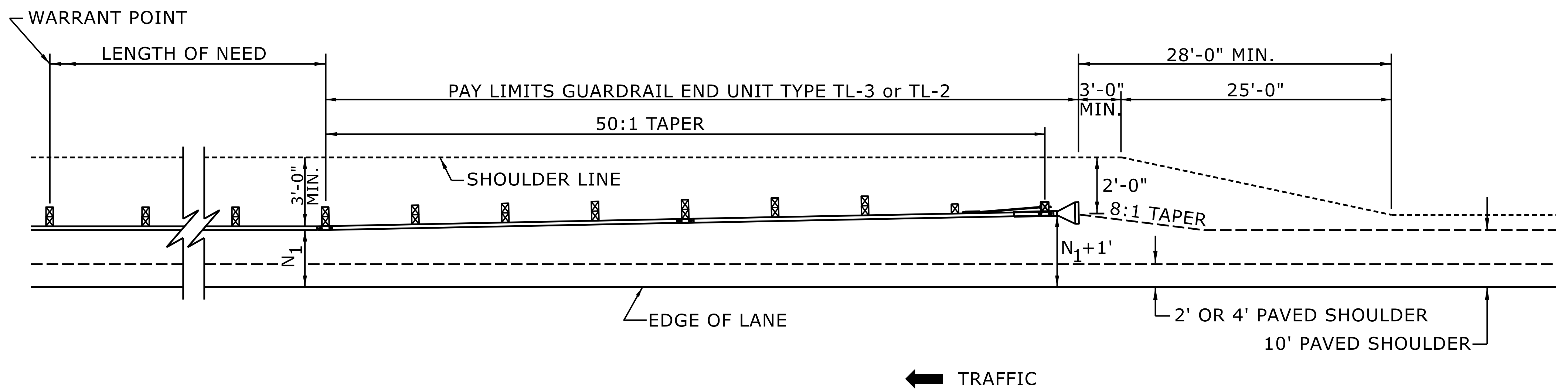


FILL SECTION



CUT SECTION

"N₁" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.



FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

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ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



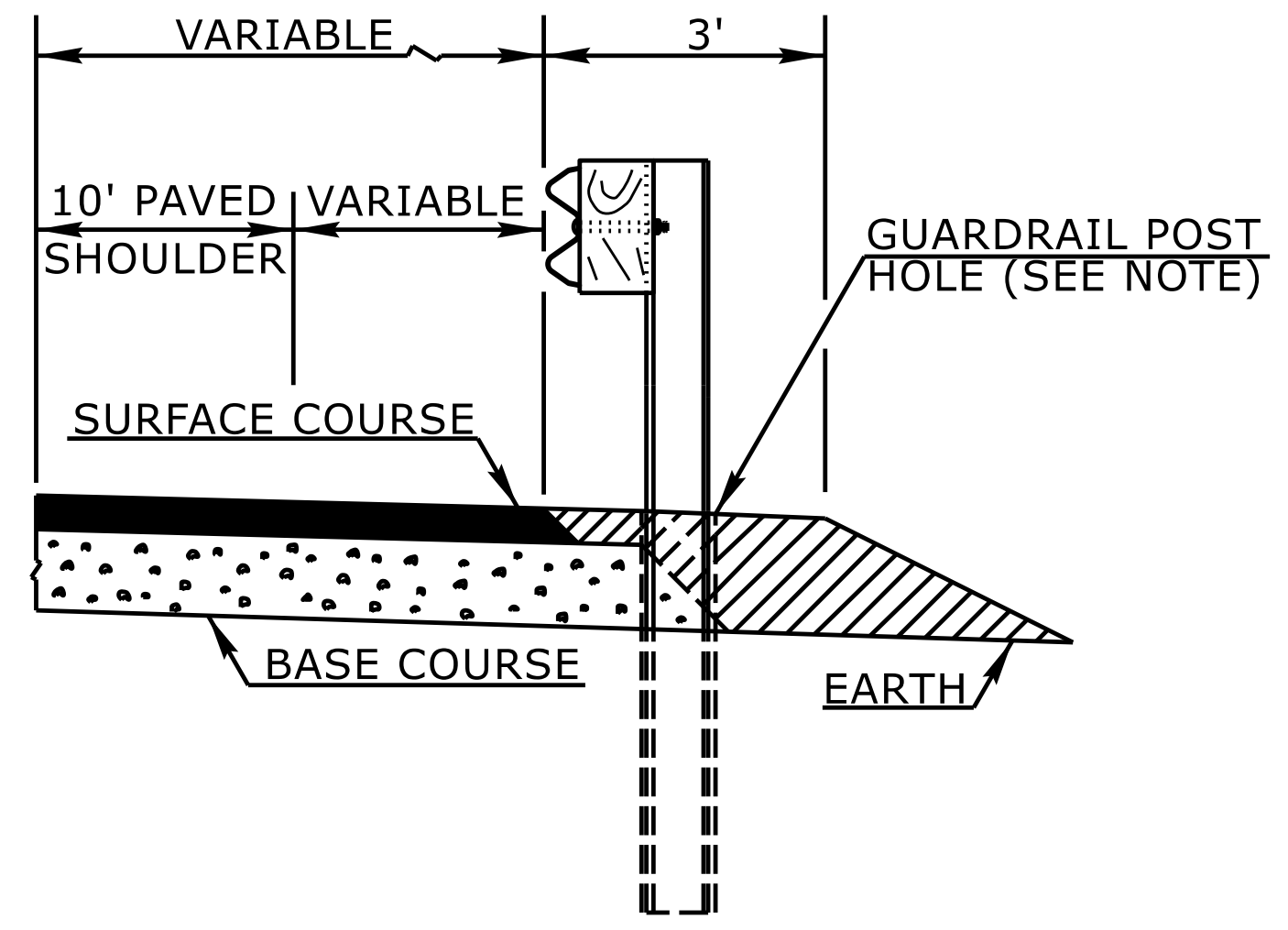
SHEET 6 OF 15
862D01

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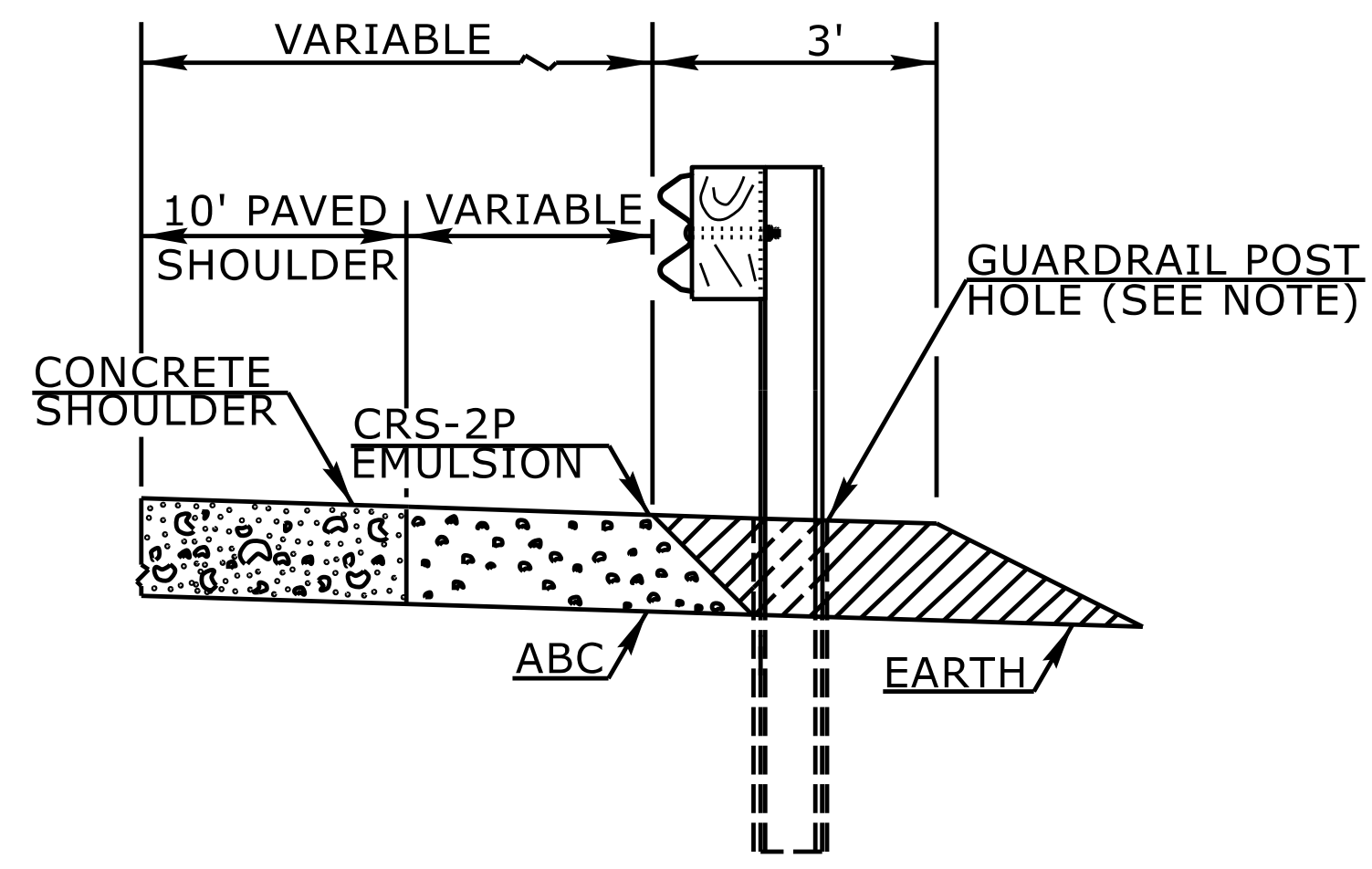
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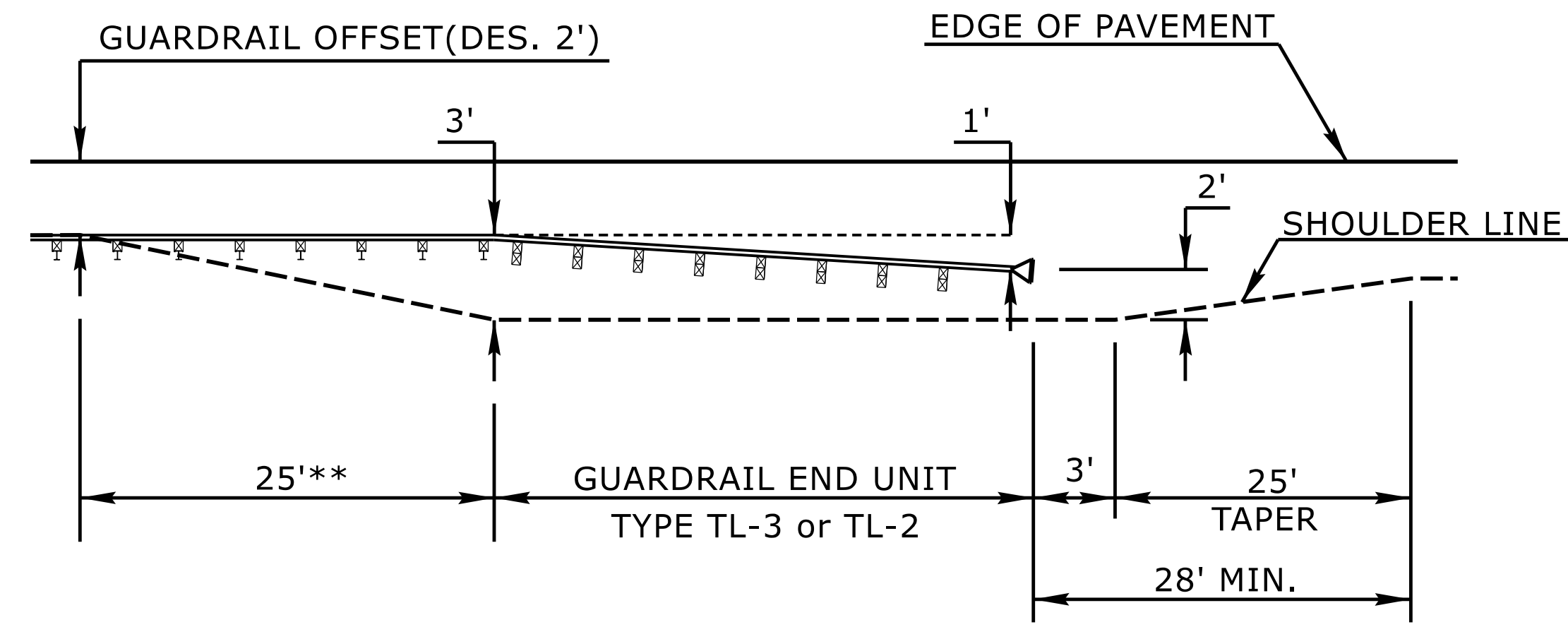
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FLEXIBLE PAVED SHOULDER

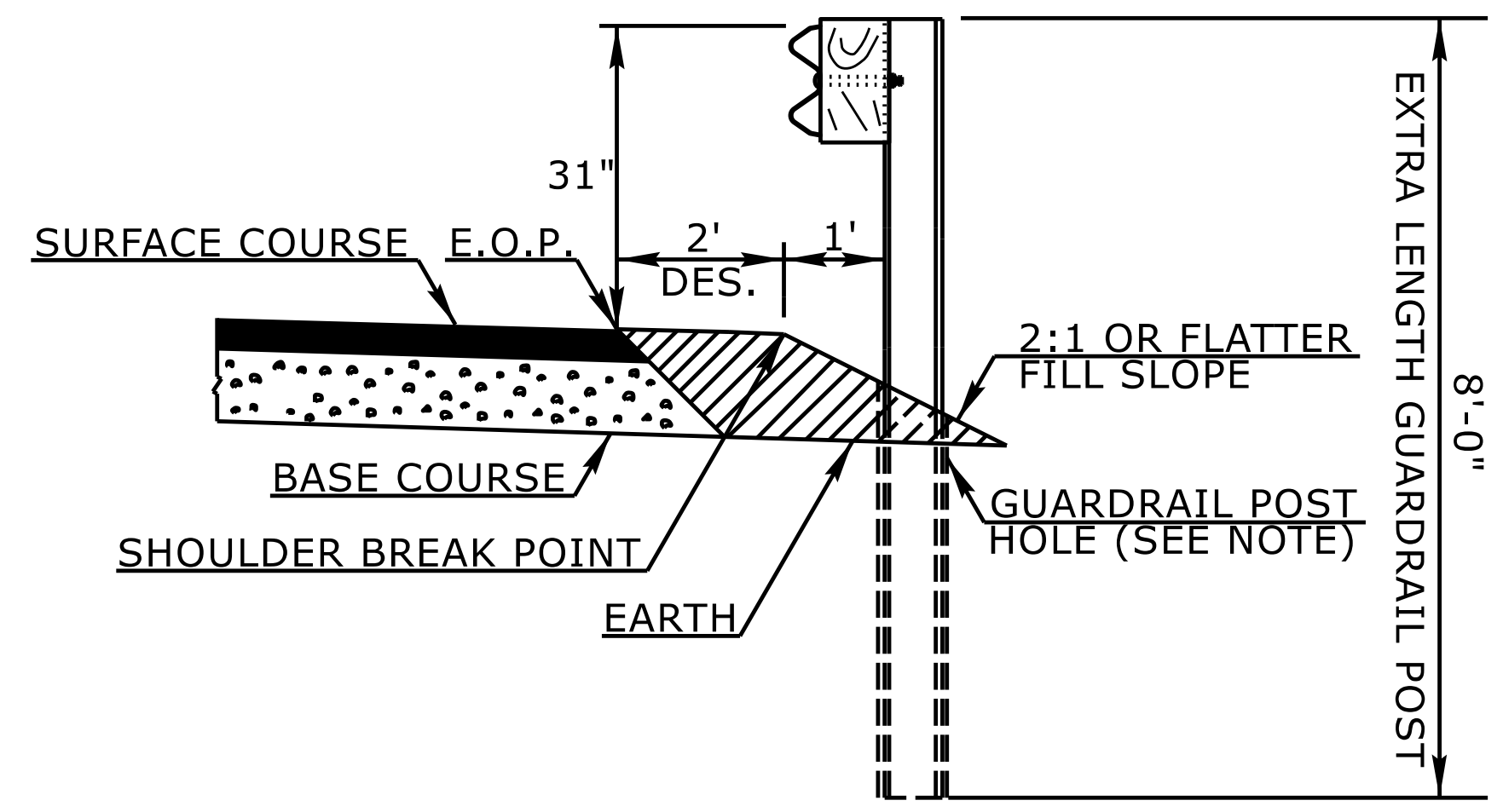


CONCRETE PAVED SHOULDER



**8' GUARDRAIL POST ON 2:1 SLOPE-END UNIT TRANSITION*
PLAN VIEW**

* THE 8' GUARDRAIL POST ON 2:1 SLOPE DETAIL IS INTENDED FOR USE ONLY IN SEVERELY CONSTRAINED AREAS WITH A POSTED SPEED ≤ 60 MPH. GUARDRAIL END UNITS MAY NOT BE PLACED ON THE 2:1 SLOPE AND MUST TRANSITION TO THE SHOULDER.
 ** 8' GUARDRAIL POST SHOULD BE USED IN THIS RANGE



8' GUARDRAIL POST ON 2:1 SLOPE*

NOTE:
 WHEN WOODEN GUARDRAIL POSTS ARE USED, DRILL HOLES THROUGH EARTH MATERIAL AND BASE COURSE. THE POST MAY THEN BE DRIVEN TO THE PROPER DEPTH. DRILL THE HOLE OF SUFFICIENT SIZE TO ACCOMMODATE THE PARTICULAR POST BEING USED. BACKFILL AND TAMP HOLES USING THE EXCAVATED MATERIAL.

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ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 11 OF 15
862D01

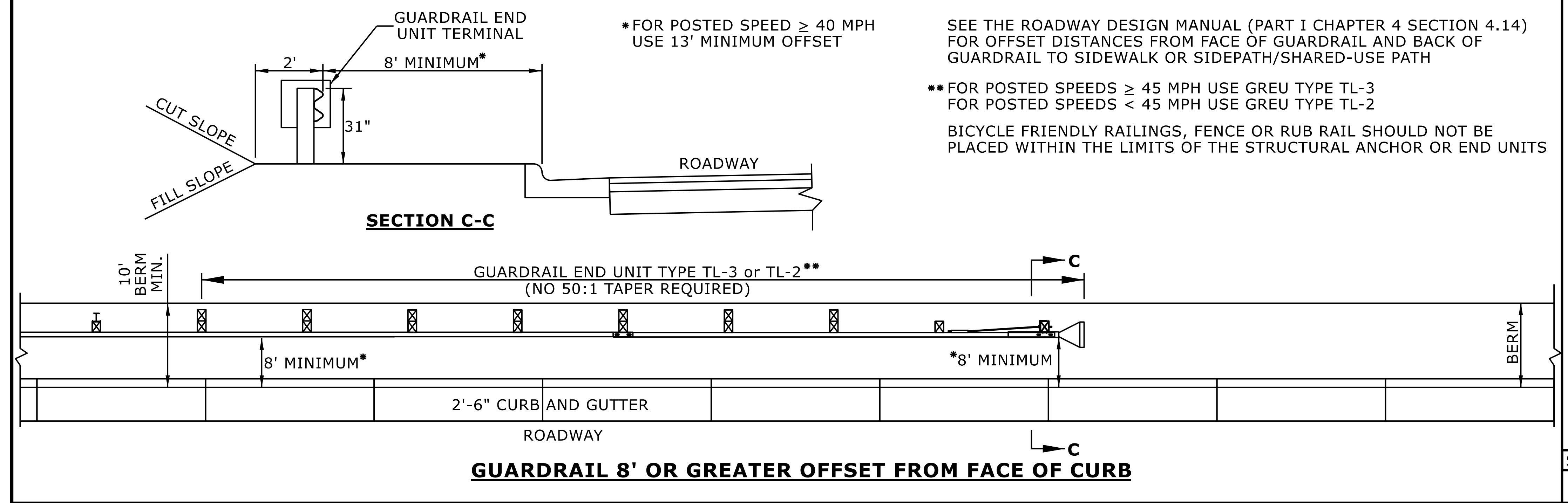
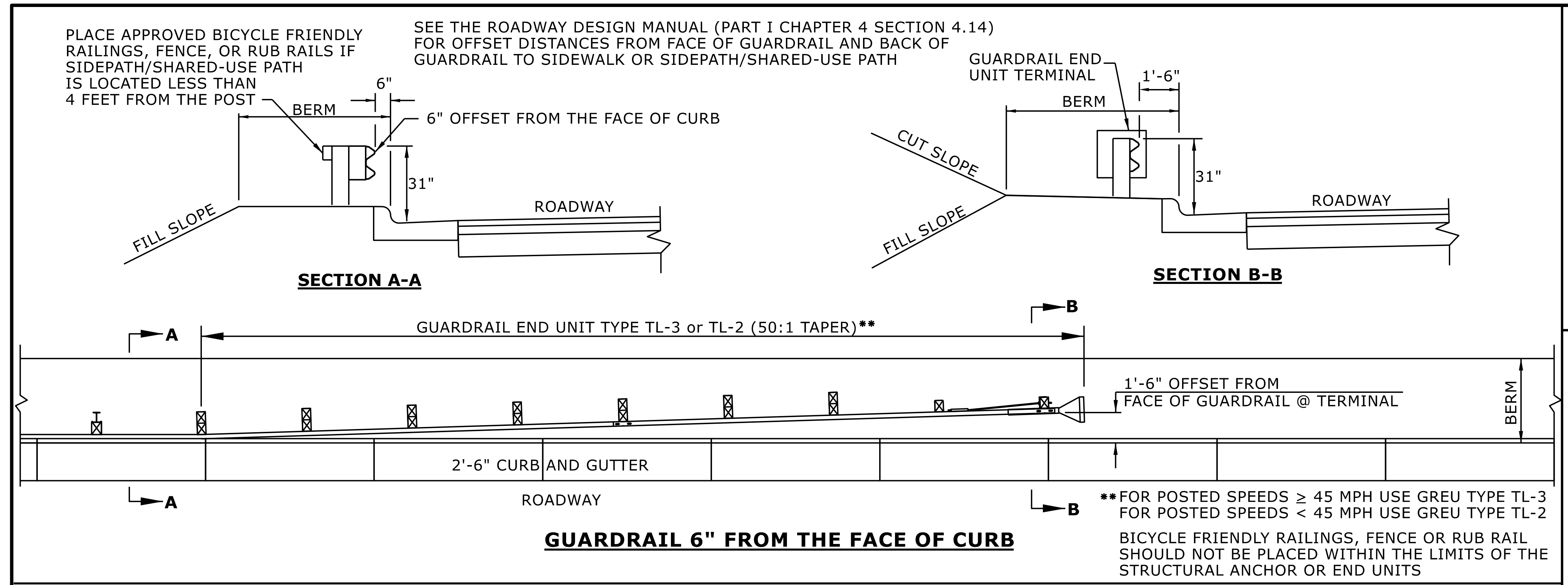


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SEE TITLE BLOCK

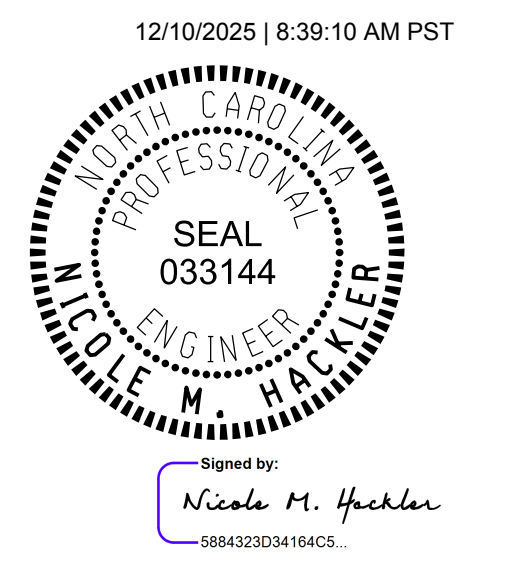
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ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT
GUARDRAIL TREATMENT AT CURB AND GUTTER

SHEET 12 OF 15
862D01

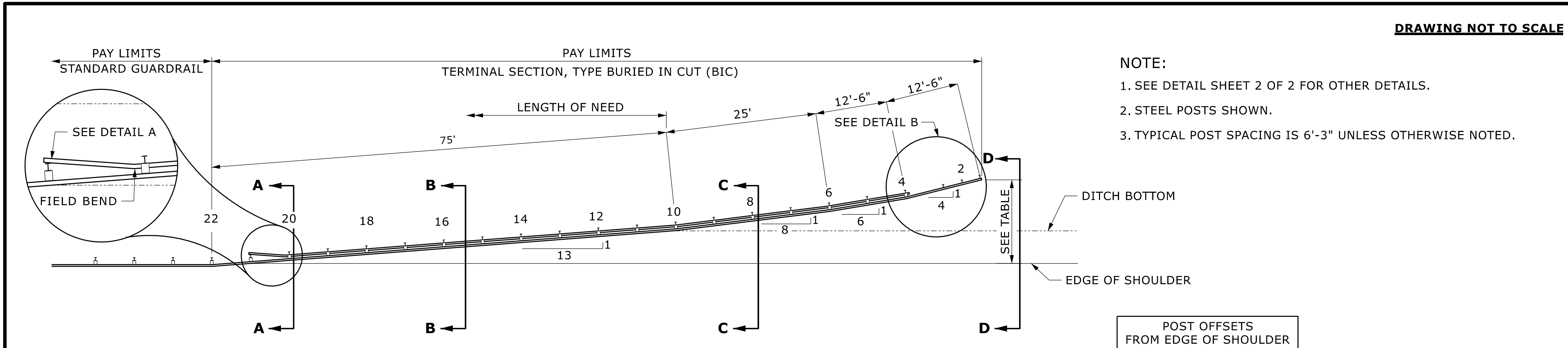


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SEE TITLE BLOCK

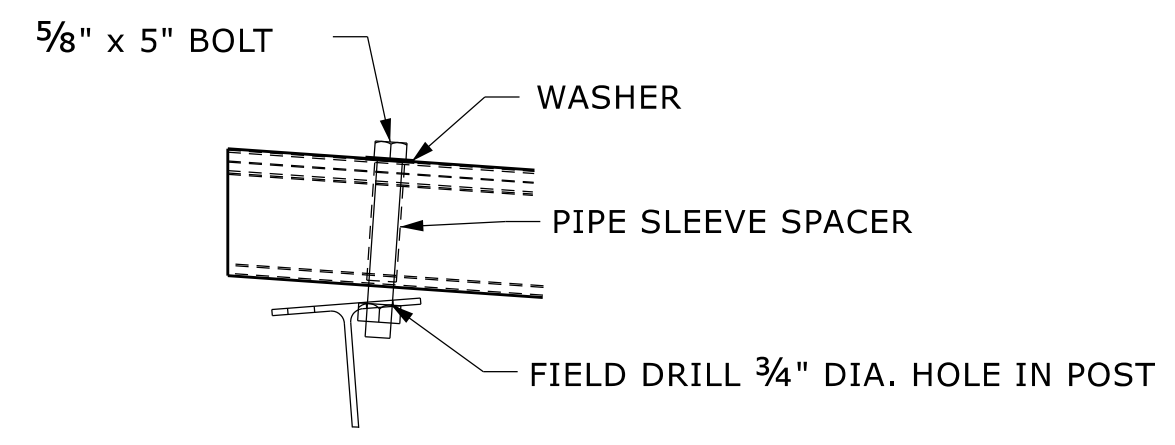
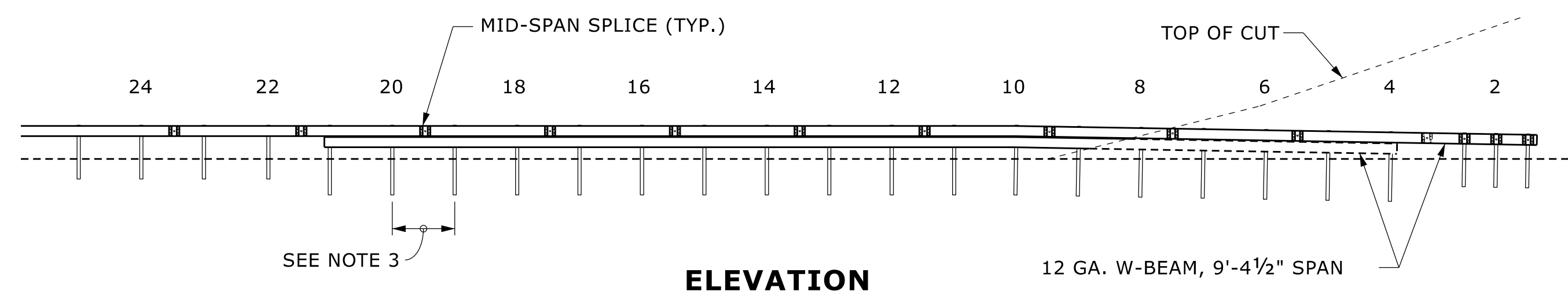
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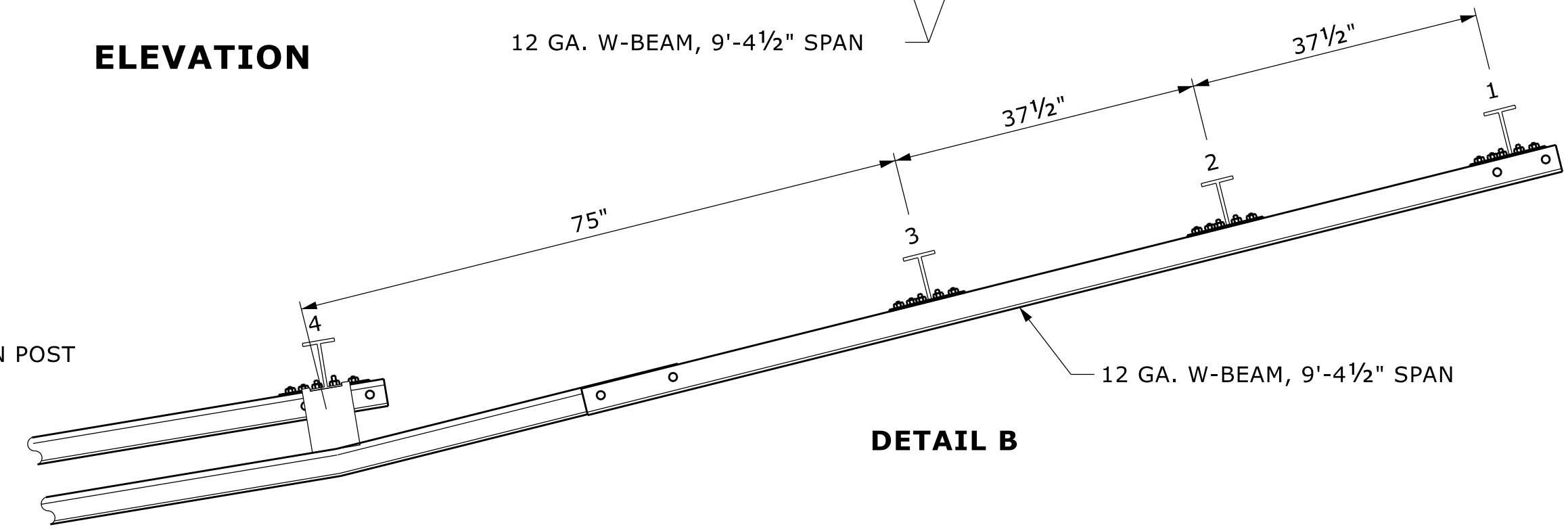
NOTE:

1. SEE DETAIL SHEET 2 OF 2 FOR OTHER DETAILS.
2. STEEL POSTS SHOWN.
3. TYPICAL POST SPACING IS 6'-3" UNLESS OTHERWISE NOTED.

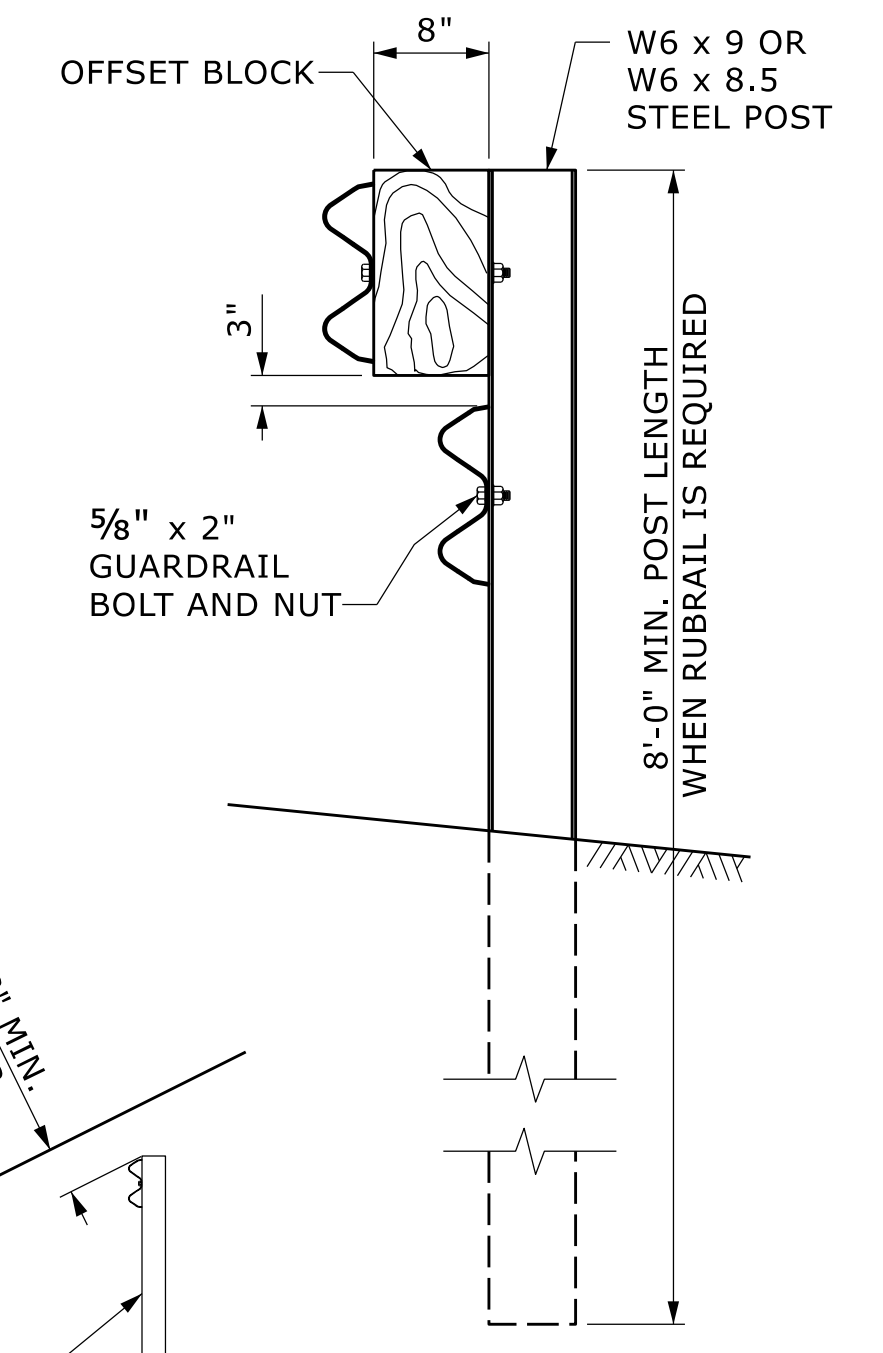
| POST OFFSETS FROM EDGE OF SHOULDER | |
|------------------------------------|--------------------------------------|
| POST | DISTANCE |
| 1 | 13'-11 ³ / ₄ " |
| 4 | 10'-11" |
| 6 | 8'-10 ¹ / ₄ " |
| 10 | 69" |



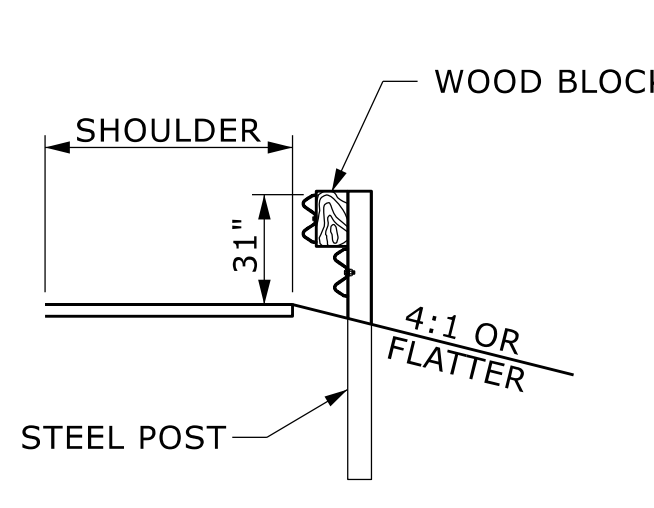
DETAIL A



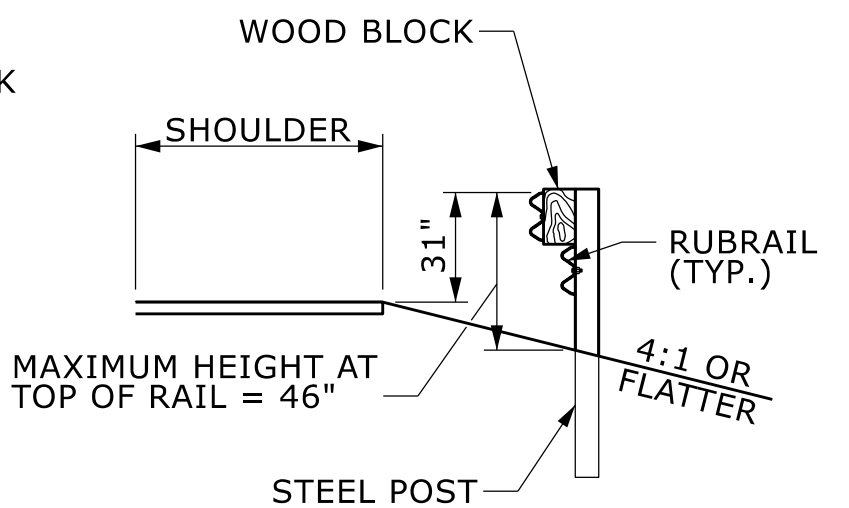
DETAIL B



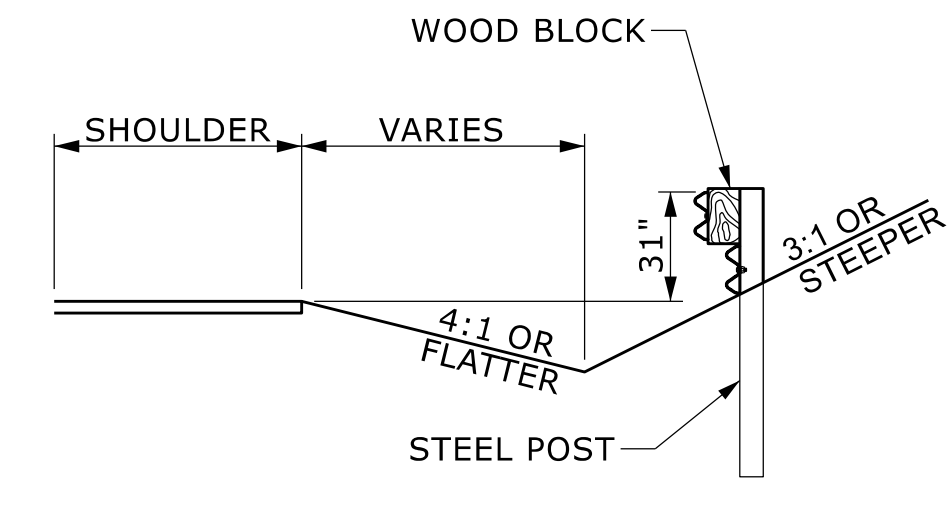
STEEL POST AND BLOCK DETAIL



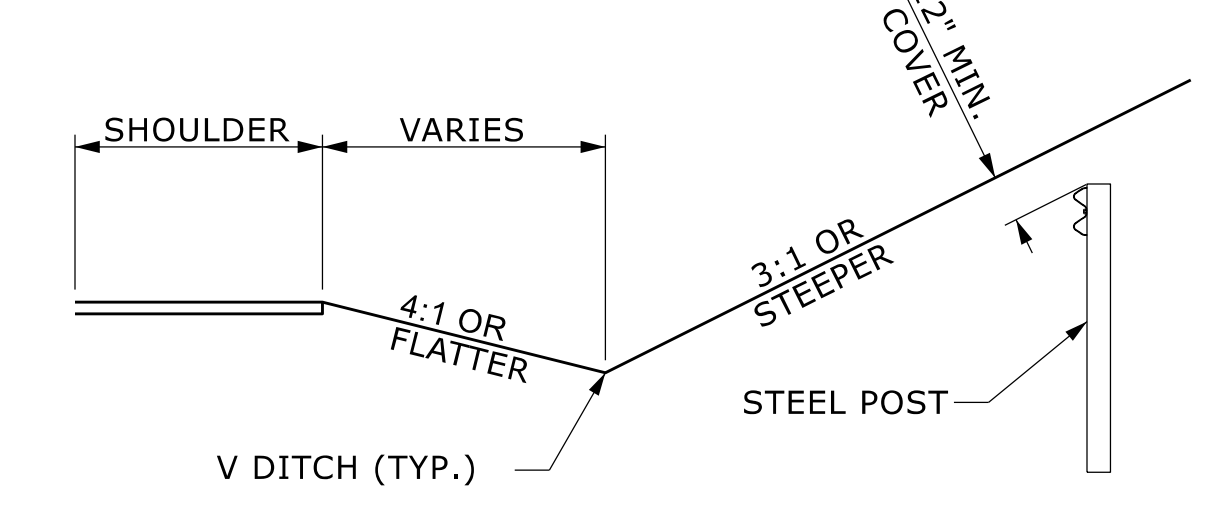
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

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ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT
BURIED IN CUT END UNIT



SHEET 14 OF 15
862D01

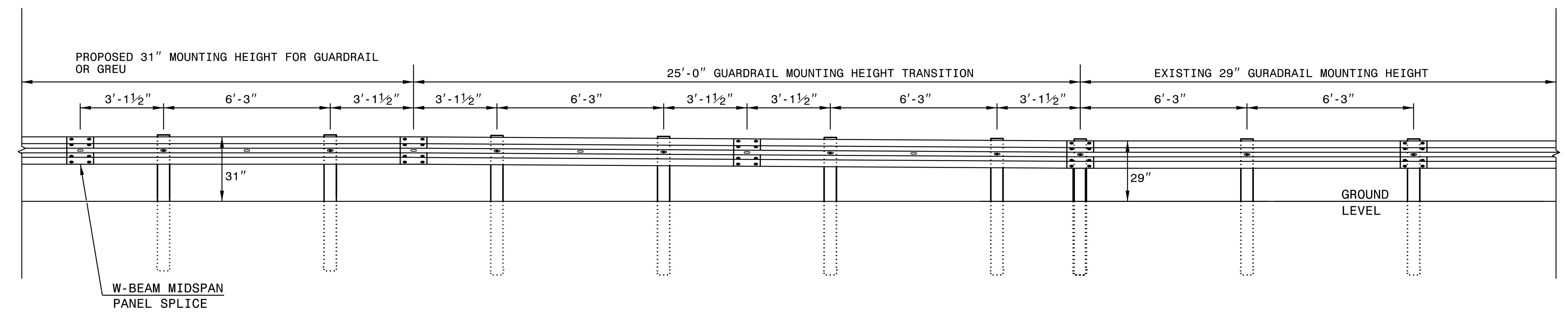
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FILE SPEC.: _____

NOTE: IF EXISTING GUARDRAIL IS LOWER THAN 29", USE AN ADDITIONAL 12'-6" LONG SECTION OF GUARDRAIL, FOR EVERY 1" OF HEIGHT DIFFERENCE, TO TRANSITION FROM EXISTING GUARDRAIL TO PROPOSED 31" GUARDRAIL.



ELEVATION VIEW

TRANSITION FROM 29" TO 31" W-BEAM GUARDRAIL MOUNTING HEIGHT

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ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 5 OF 9
862D02



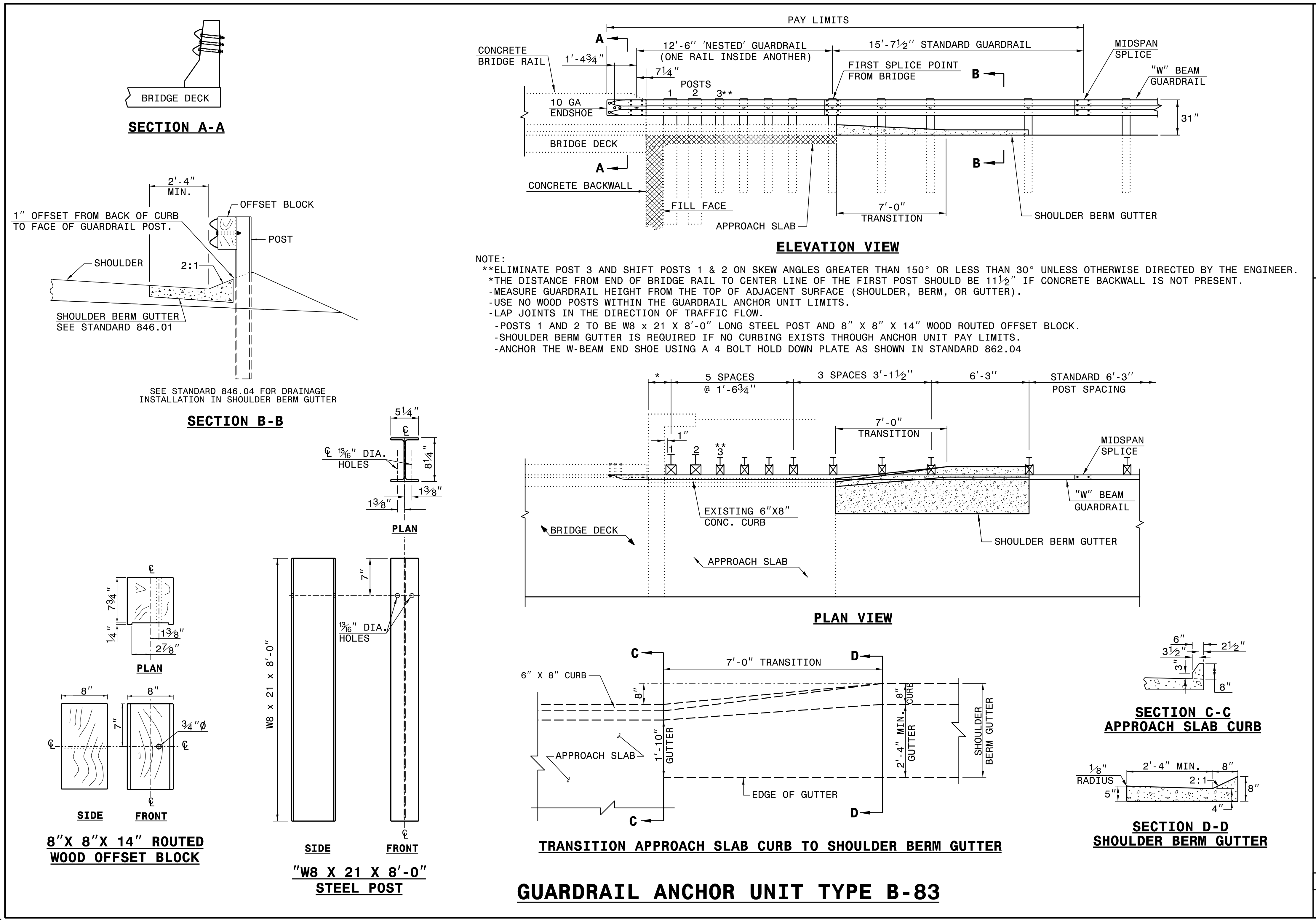
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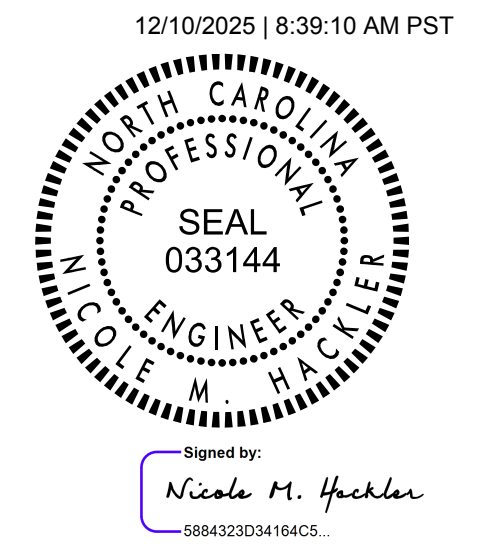
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DEPT. OF TRANSPORTATION
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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT TYPE B-83

SHEET 6 OF 9
862D03

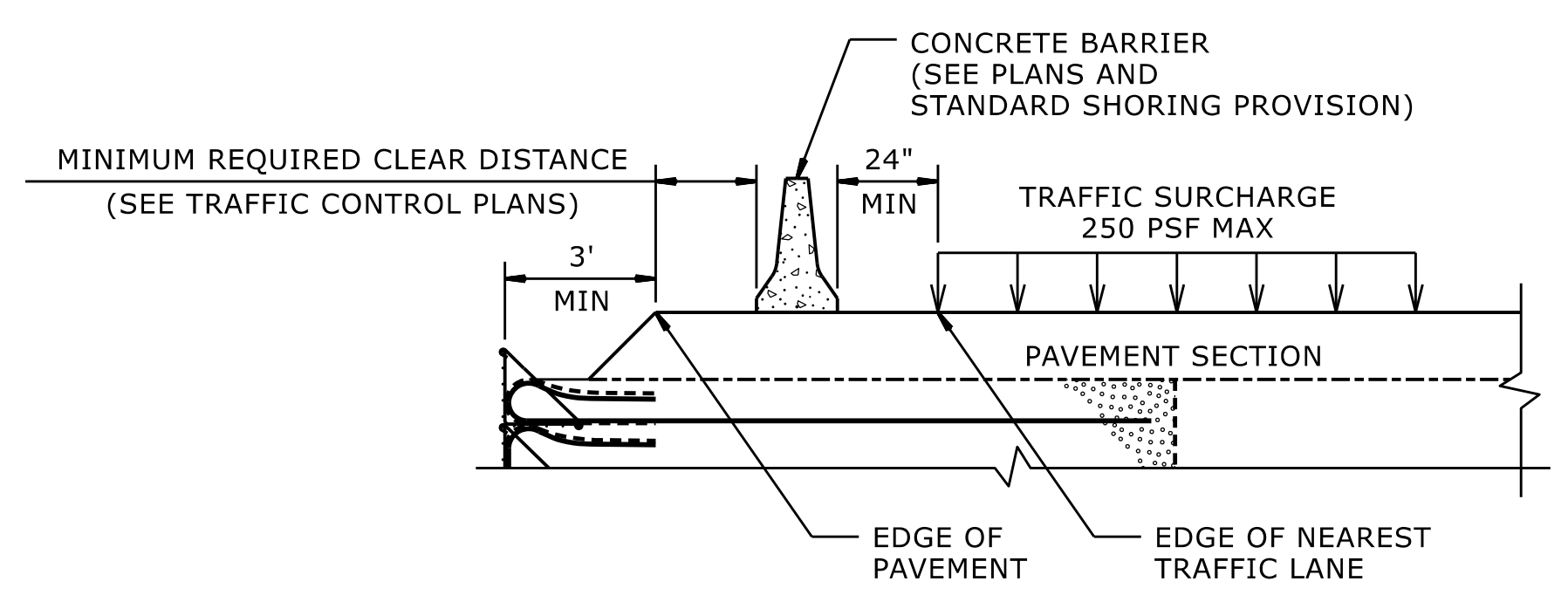
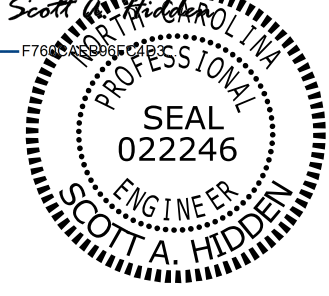
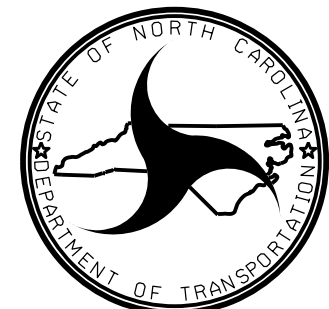


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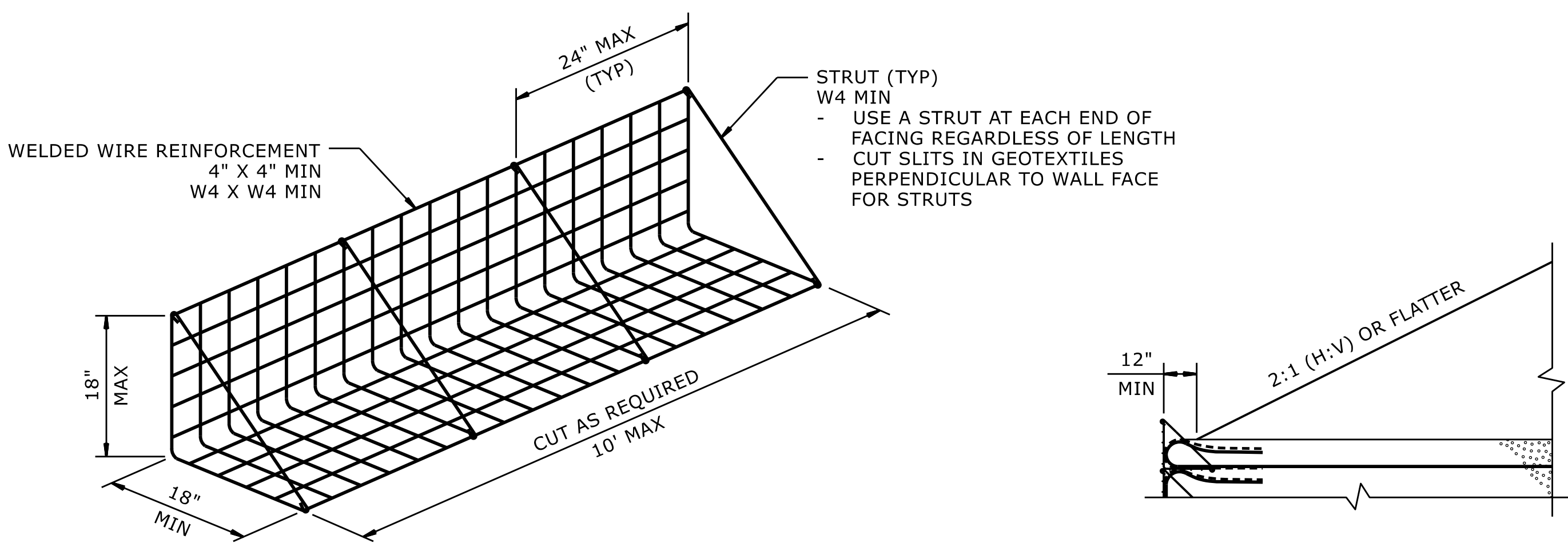
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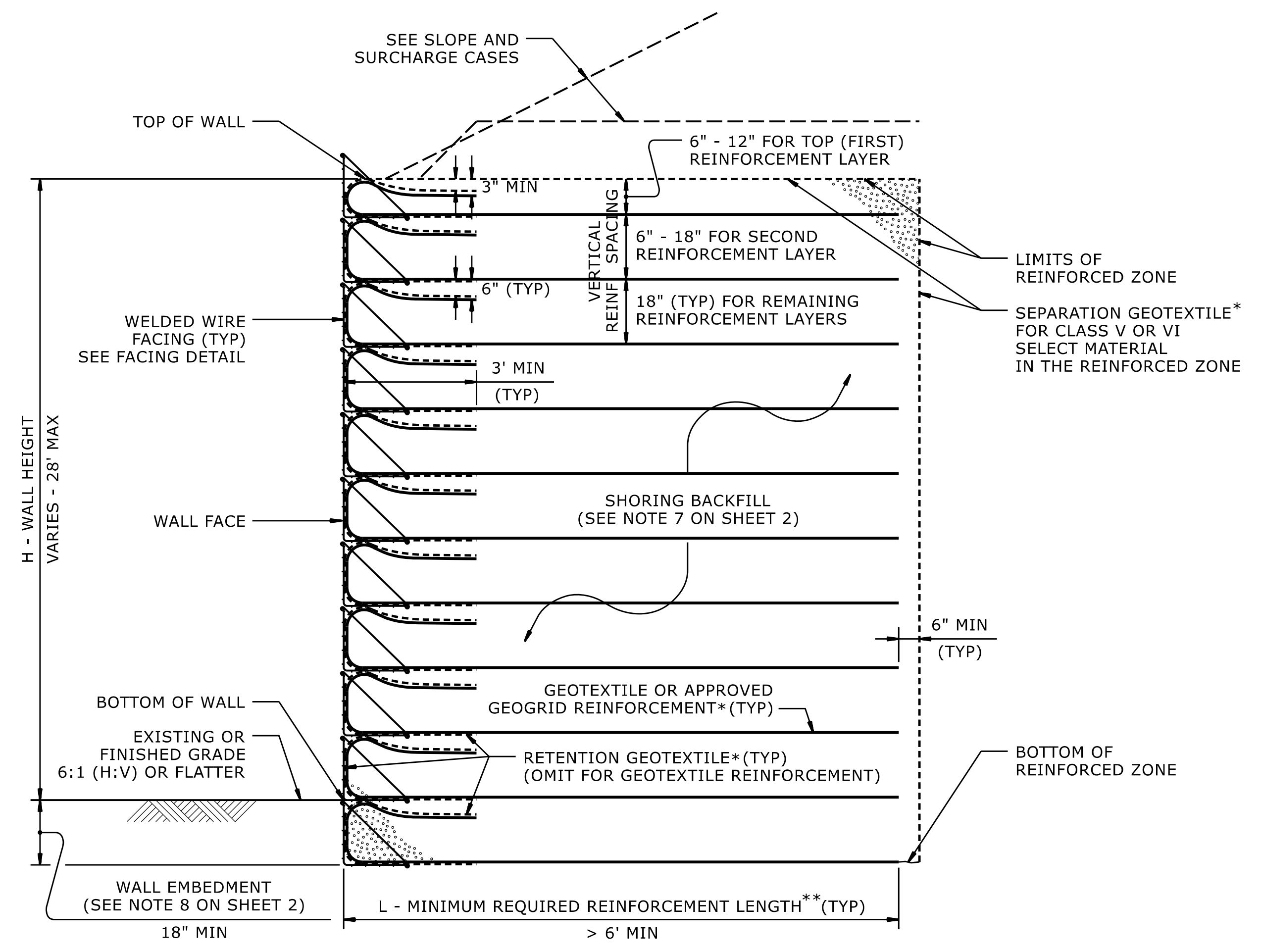


SURCHARGE CASE



FACING DETAIL

SLOPE CASE

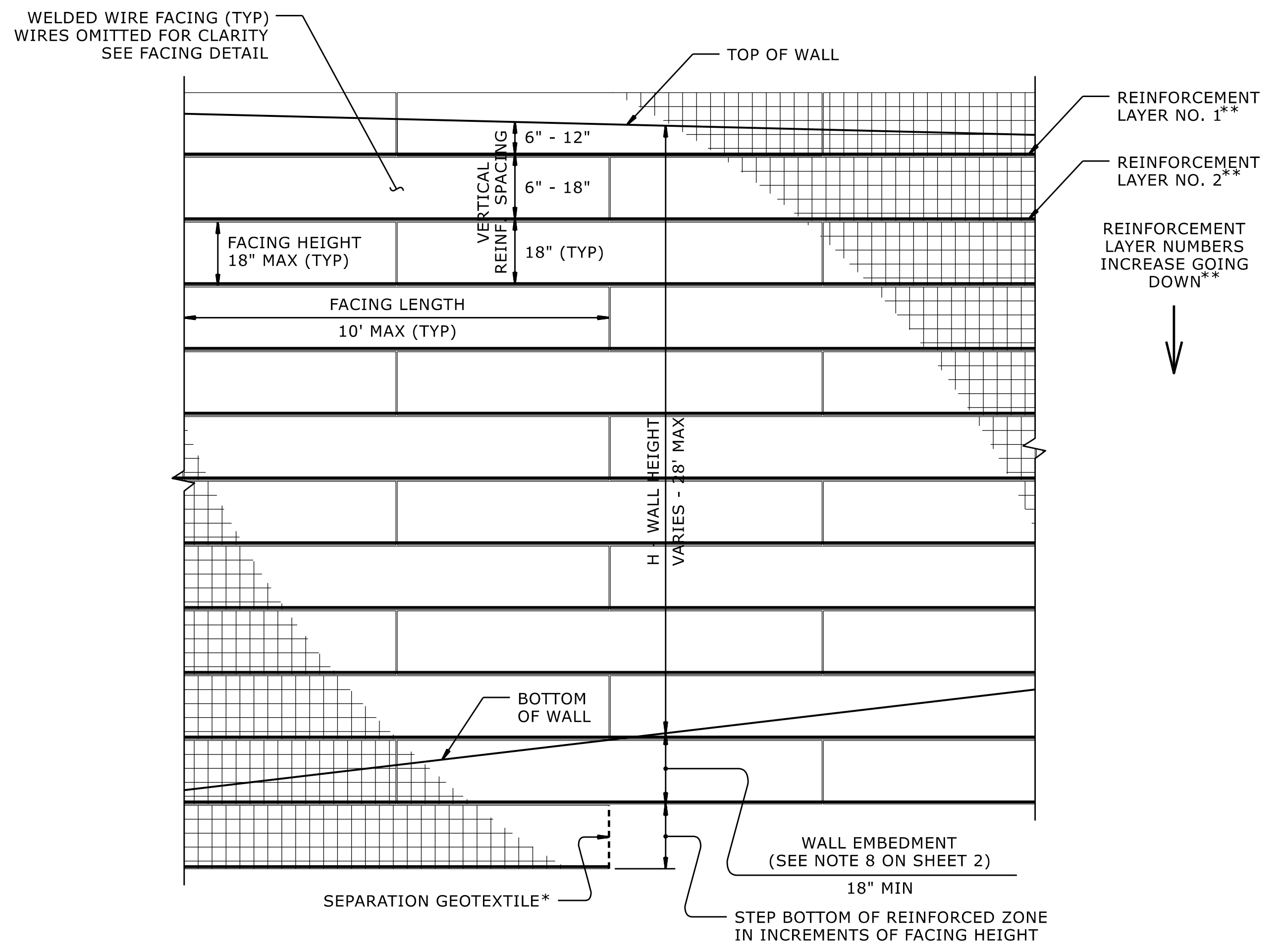


STANDARD TEMPORARY WALL

(FOR STANDARD TEMPORARY WALLS ON STRUCTURES, SEE TEMPORARY WALL ON STRUCTURE DETAIL ON SHEET 2.)

*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.

**SEE REINFORCEMENT TABLES ON SHEET 3.

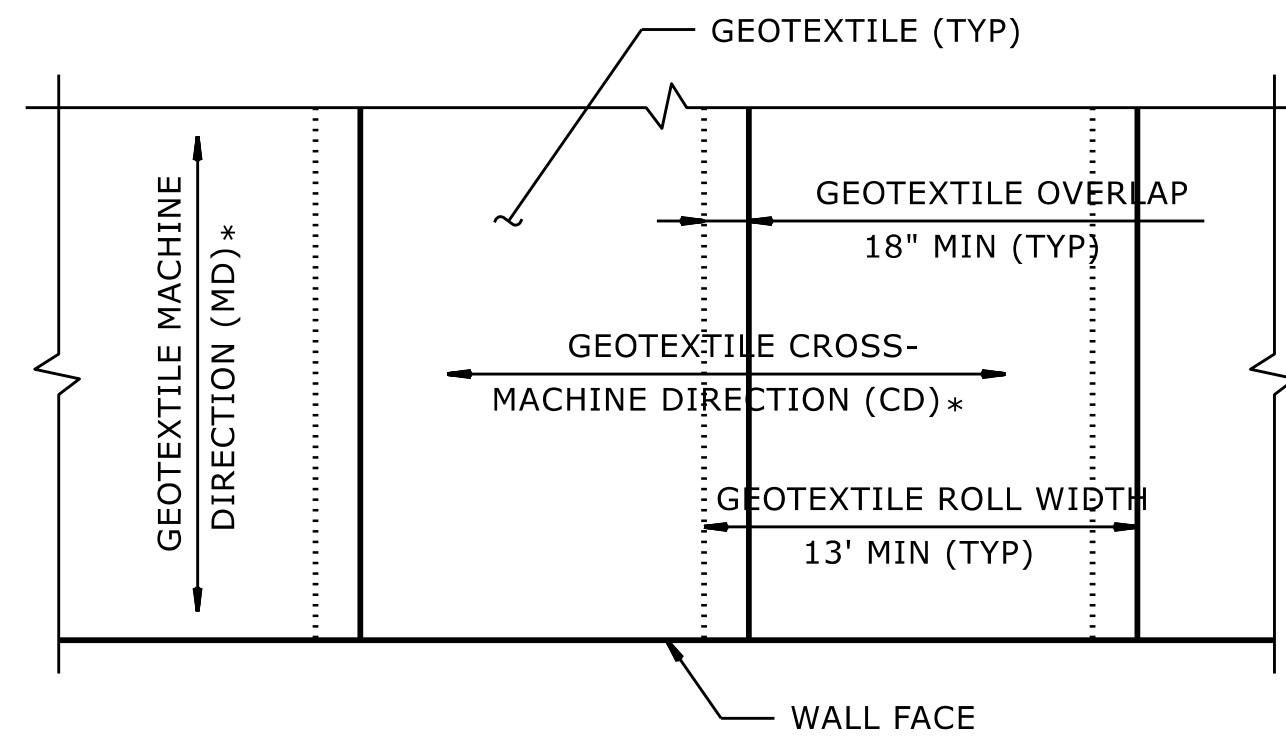
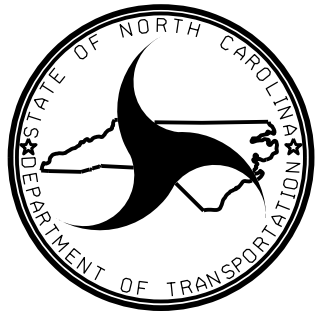


STANDARD TEMPORARY WALL - PARTIAL ELEVATION

*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.

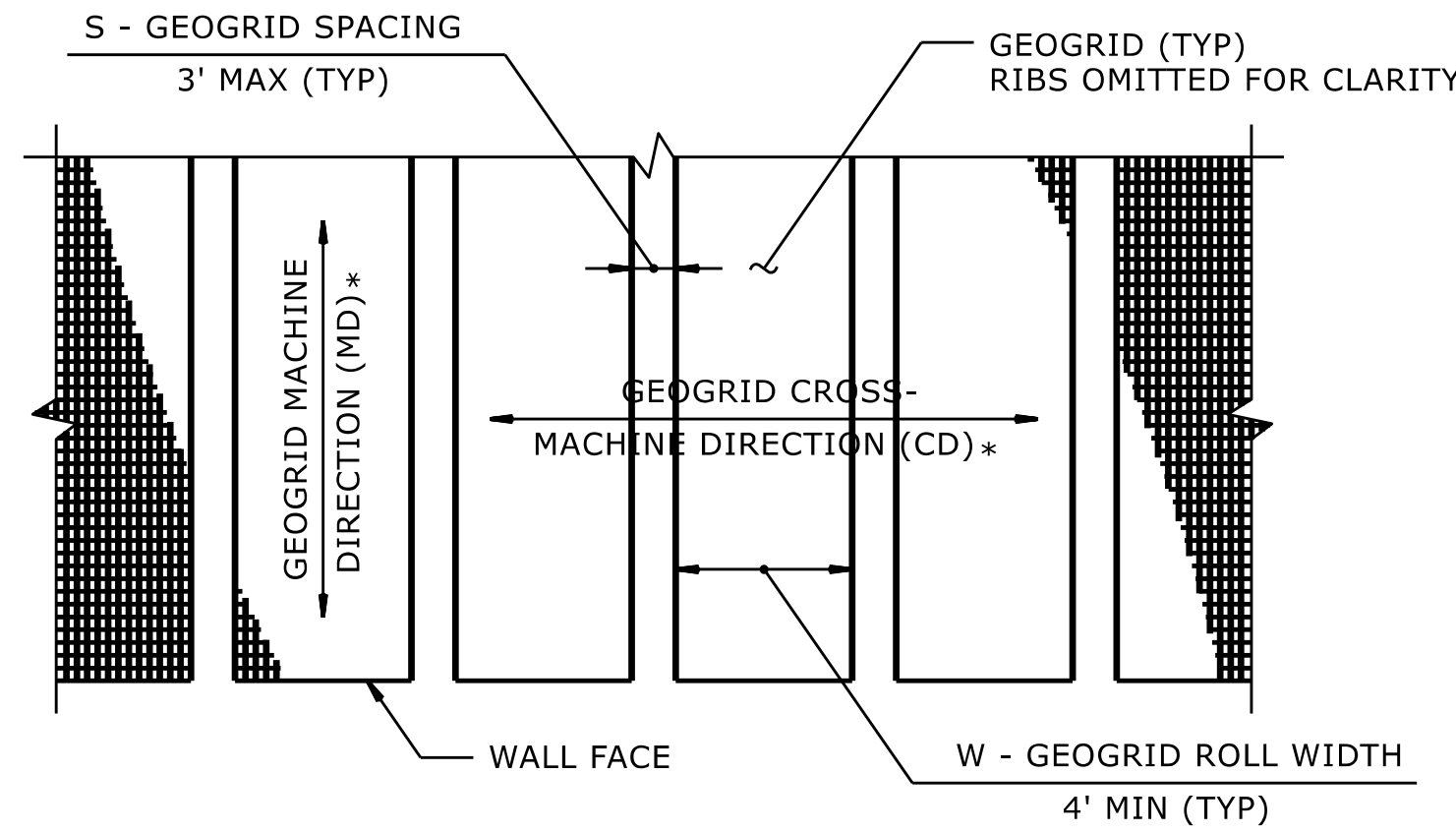
**SEE REINFORCEMENT TABLES ON SHEET 3.

GEOTECHNICAL STANDARD DETAIL FOR TEMPORARY WALL (SHEET 1 OF 3)



GEOTEXTILE PLACEMENT

(100% COVERAGE MIN FOR GEOTEXTILE REINFORCEMENT)

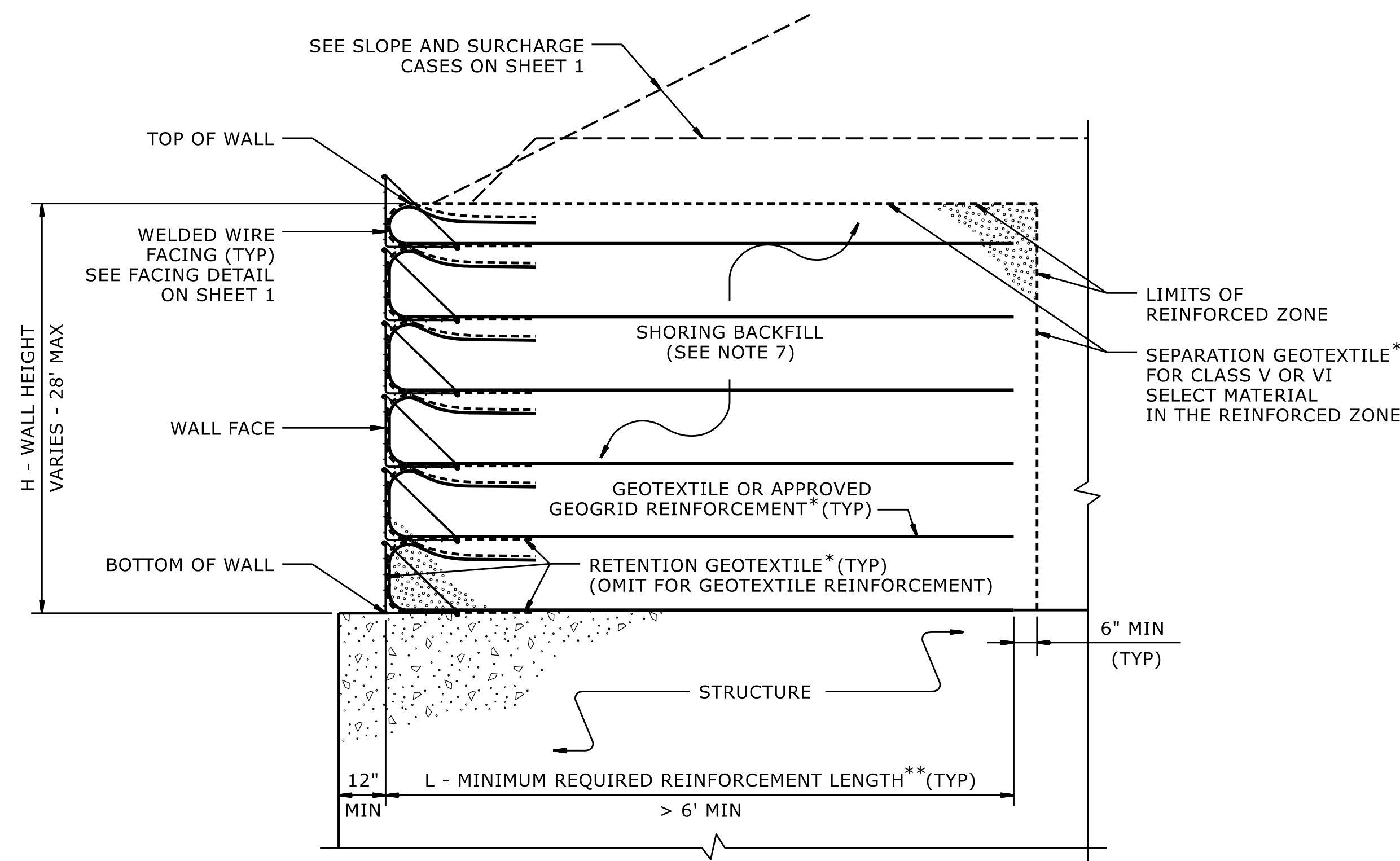


GEOGRID PLACEMENT

(80% COVERAGE MIN FOR GEOGRID REINFORCEMENT - $\frac{W}{W+S} \times 100 \geq 80\%$, SEE NOTE 11)

GEOSYNTHETIC PLACEMENT DETAILS

(PLAN VIEW)
*SEE NOTE 12.



TEMPORARY WALL ON STRUCTURE DETAIL

*SEE GEOSYNTHETIC PLACEMENT DETAILS.
**SEE REINFORCEMENT TABLES ON SHEET 3.

NOTES:

1. AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY WALLS AS NOTED IN THE PLANS.
2. FOR STANDARD TEMPORARY WALLS, SEE STANDARD SHORING PROVISION.
3. STANDARD TEMPORARY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ PCF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ PSF
4. DO NOT USE STANDARD TEMPORARY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
5. DO NOT USE STANDARD TEMPORARY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW TEMPORARY WALLS.
6. USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, ASSUME GROUNDWATER DEPTH IS LESS THAN 7' BELOW BOTTOM OF REINFORCED ZONE. DO NOT USE STANDARD TEMPORARY WALLS IF GROUNDWATER OR FLOOD ELEVATION IS ABOVE BOTTOM OF REINFORCED ZONE.
7. DO NOT USE A-2-4 SOIL FOR STANDARD TEMPORARY WALLS AROUND CULVERTS OR IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS FOR SLOPE CASES. DO NOT USE CLASS VI SELECT MATERIAL IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS WITH GEOTEXTILE REINFORCEMENT.
8. WALL EMBEDMENT IS NOT REQUIRED FOR STANDARD TEMPORARY WALLS ON STRUCTURES OR ROCK AS DETERMINED BY THE ENGINEER.
9. DO NOT USE MORE THAN 4 DIFFERENT REINFORCEMENT STRENGTHS FOR EACH STANDARD TEMPORARY WALL.
10. GEOGRIDS FOR GEOGRID REINFORCEMENT ARE APPROVED FOR SHORT TERM DESIGN STRENGTHS (3-YEAR DESIGN LIFE) IN THE MD AND CD BASED ON MATERIAL TYPE. THE LIST OF APPROVED GEOGRIDS WITH DESIGN STRENGTHS IS AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Products.aspx DEFINE MATERIAL TYPE FROM THE WEBSITE ABOVE FOR SHORING BACKFILL AS FOLLOWS:

| MATERIAL TYPE | SHORING BACKFILL |
|------------------|---|
| BORROW | A-2-4 SOIL |
| FINE AGGREGATE | CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL |
| COARSE AGGREGATE | CLASS V OR VI SELECT MATERIAL |

11. FOR GEOGRID REINFORCEMENT WITH LESS THAN 100% COVERAGE, STAGGER REINFORCEMENT SO GEOGRIDS ARE CENTERED OVER GAPS IN THE REINFORCEMENT LAYER BELOW.
12. AT THE CONTRACTOR'S OPTION, REINFORCEMENT MAY BE INSTALLED WITH THE MD PARALLEL TO THE WALL FACE IF BOTH OF THE FOLLOWING CONDITIONS OCCUR:
- W (REINFORCEMENT ROLL WIDTH) > (MINIMUM REQUIRED REINFORCEMENT LENGTH) + 4.5' AND
- REINFORCEMENT STRENGTH IN CD > MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD.
13. SUBMIT A "STANDARD TEMPORARY WALL SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY WALL CONSTRUCTION. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
14. DO NOT PLACE SHORING BACKFILL OR REINFORCEMENT UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
15. FOR STANDARD TEMPORARY WALLS WITH PILE FOUNDATIONS IN THE REINFORCED ZONE, DRIVE PILES THROUGH REINFORCEMENT AFTER CONSTRUCTING TEMPORARY WALLS.
16. DO NOT SPLICE OR OVERLAP REINFORCEMENT SO SEAMS ARE PARALLEL TO THE WALL FACE.
17. CONTACT THE ENGINEER WHEN EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT.
18. FOR STANDARD TEMPORARY WALLS WITH INTERIOR ANGLES LESS THAN 90 DEGREES, WRAP GEOSYNTHETICS AT ACUTE CORNERS AS DIRECTED BY THE ENGINEER.
19. FOR STANDARD TEMPORARY WALLS WITH TOP OF WALL WITHIN 5' OF FINISHED GRADE, REMOVE TOP FACING AND INCORPORATE TOP REINFORCEMENT LAYER INTO FILL WHEN PLACING FILL IN FRONT OF WALL.

GEOTECHNICAL STANDARD DETAIL FOR

TEMPORARY WALL (SHEET 2 OF 3)

| SLOPE OR SURCHARGE CASE | GROUNDWATER DEPTH BELOW BOTTOM OF REINFORCED ZONE (SEE NOTE 6 ON SHEET 2) (FT) | SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2) | H - WALL HEIGHT (FT) | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|--|--|----------------------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| | | | < 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | |
| SLOPE CASE | > 0 | CLASS II, TYPE 1, CLASS III, CLASS V OR CLASS VI SELECT MATERIAL | 6 | 6 | 7 | 8 | 9 | 11 | 12 | 13 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | 25 | 26 | 27 | 27 | |
| SURCHARGE CASE | > 0 TO 7 FOR H < 20' > 0 TO 10 FOR H > 20' | ALL SHORING BACKFILL TYPES | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 11 | 11 | 12 | 12 | 13 | 14 | 14 | 15 | 16 | 17 | 17 | 18 | 19 | 19 | 20 | 21 | 22 | |
| | | A-2-4 SOIL | 6 | 6 | 7 | 8 | 8 | 9 | 9 | 10 | 11 | 11 | 12 | 12 | 13 | 14 | 14 | 15 | 16 | 16 | 17 | 18 | 18 | 19 | 20 | 20 | 21 | |
| | > 7 FOR H < 20' > 10 FOR H > 20' | CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 20 | |
| | | CLASS V OR CLASS VI SELECT MATERIAL | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 17 | 17 | 18 | 19 | 19 | |

L - MINIMUM REQUIRED REINFORCEMENT LENGTH (FT)

(FOR ALL REINFORCEMENT TYPES)

| WALL HEIGHT (H) + WALL EMBEDMENT (FT) | NUMBER OF REINFORCEMENT LAYERS* |
|---------------------------------------|---------------------------------|
| 2.5 - 4 | 3 |
| 4 - 5.5 | 4 |
| 5.5 - 7 | 5 |
| 7 - 8.5 | 6 |
| 8.5 - 10 | 7 |
| 10 - 11.5 | 8 |
| 11.5 - 13 | 9 |
| 13 - 14.5 | 10 |
| 14.5 - 16 | 11 |
| 16 - 17.5 | 12 |
| 17.5 - 19 | 13 |
| 19 - 20.5 | 14 |
| 20.5 - 22 | 15 |
| 22 - 23.5 | 16 |
| 23.5 - 25 | 17 |
| 25 - 26.5 | 18 |
| 26.5 - 28 | 19 |
| 28 - 29.5 | 20 |

*BASED ON VERTICAL REINFORCEMENT SPACING SHOWN ON SHEET 1.

| REINFORCEMENT LAYER NUMBER * | SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2) | | | | |
|------------------------------|--|-------------------------|----------------|---|-------------------------|
| | SLOPE CASE | | SURCHARGE CASE | | |
| | CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL | CLASS V SELECT MATERIAL | A-2-4 SOIL | CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL | CLASS V SELECT MATERIAL |
| 1 | 2400 | 2400 | 2400 | 2400 | 2400 |
| 2 | 2400 | 2400 | 2400 | 2400 | 2400 |
| 3 | 2400 | 2400 | 2400 | 2400 | 2400 |
| 4 | 2400 | 2400 | 2500 | 2400 | 2400 |
| 5 | 2500 | 2400 | 3000 | 2400 | 2400 |
| 6 | 3000 | 2400 | 3500 | 2800 | 2400 |
| 7 | 3500 | 2700 | 4000 | 3200 | 2600 |
| 8 | 4000 | 3100 | 4500 | 3600 | 2900 |
| 9 | 4500 | 3500 | 5000 | 4000 | 3200 |
| 10 | 5000 | 3900 | 5500 | 4400 | 3500 |
| 11 | 5500 | 4300 | 6000 | 4800 | 3800 |
| 12 | 6000 | 4700 | 6500 | 5200 | 4100 |
| 13 | 6500 | 5100 | 7000 | 5600 | 4400 |
| 14 | 7000 | 5400 | 7500 | 6000 | 4700 |
| 15 | 7500 | 5800 | 8000 | 6400 | 5000 |
| 16 | 8000 | 6200 | 8500 | 6800 | 5300 |
| 17 | 8500 | 6600 | 9000 | 7200 | 5600 |
| 18 | 9000 | 7000 | 9500 | 7600 | 5900 |
| 19 | 9500 | 7400 | 10000 | 8000 | 6200 |
| 20 | 10000 | 7800 | 10500 | 8400 | 6500 |

**GEOTEXTILE REINFORCEMENT
ULTIMATE TENSILE STRENGTH (LB/FT)**

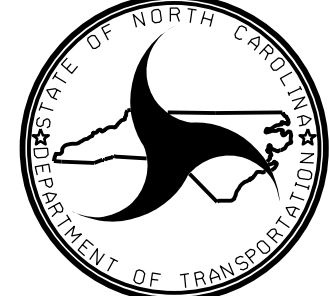
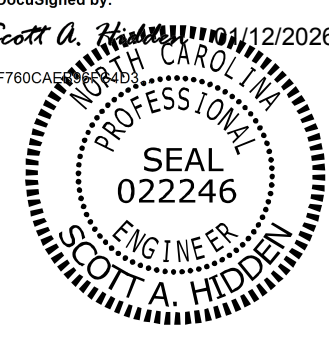
| REINFORCEMENT LAYER NUMBER * | SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2) | | | | |
|------------------------------|--|-------------------------------------|----------------|---|-------------------------------------|
| | SLOPE CASE | | SURCHARGE CASE | | |
| | CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL | CLASS V OR CLASS VI SELECT MATERIAL | A-2-4 SOIL | CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL | CLASS V OR CLASS VI SELECT MATERIAL |
| 1 | 240 | 200 | 340 | 290 | 240 |
| 2 | 380 | 310 | 520 | 430 | 350 |
| 3 | 530 | 420 | 700 | 570 | 460 |
| 4 | 690 | 550 | 870 | 720 | 570 |
| 5 | 860 | 690 | 1050 | 860 | 680 |
| 6 | 1030 | 830 | 1220 | 1000 | 790 |
| 7 | 1200 | 970 | 1400 | 1150 | 900 |
| 8 | 1370 | 1110 | 1580 | 1290 | 1010 |
| 9 | 1550 | 1240 | 1750 | 1430 | 1120 |
| 10 | 1720 | 1380 | 1930 | 1580 | 1230 |
| 11 | 1890 | 1520 | 2100 | 1720 | 1340 |
| 12 | 2060 | 1660 | 2280 | 1860 | 1450 |
| 13 | 2240 | 1800 | 2450 | 2010 | 1560 |
| 14 | 2410 | 1940 | 2630 | 2150 | 1670 |
| 15 | 2580 | 2080 | 2800 | 2290 | 1780 |
| 16 | 2750 | 2220 | 2980 | 2440 | 1890 |
| 17 | 2930 | 2360 | 3160 | 2580 | 2000 |
| 18 | 3100 | 2500 | 3330 | 2720 | 2110 |
| 19 | 3270 | 2640 | 3510 | 2860 | 2220 |
| 20 | 3440 | 2780 | 3690 | 3000 | 2330 |

**GEOGRID REINFORCEMENT
SHORT-TERM DESIGN STRENGTH (LB/FT)**

(SEE NOTE 10 ON SHEET 2.)

MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD

(SEE NOTE 9 ON SHEET 2.)
*SEE PARTIAL ELEVATION ON SHEET 1 FOR REINFORCEMENT LAYER NUMBERING.

B-6034
2G-3 -
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ENGINEERING UNIT
GEOTECHNICAL ENGINEER
DocuSigned by:
Scott A. Hidden
12/2/2026

SEAL 022246
SCOTT A. HIDDEN
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
STANDARD
DETAIL NO. 1801.02

GEOTECHNICAL STANDARD DETAIL FOR
TEMPORARY WALL (SHEET 3 OF 3)

COMPUTED BY: CD JOHNSON DATE: 08/01/2025
 CHECKED BY: S YANG DATE: 08/01/2025

PROJECT NO. B-6034 (48229.1.1) SHEET NO. 3G-1

(9-17-24)

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

| LINE | Station | Station | Location LT/RT/CL | Drain Type* UD/BD/SD | LF |
|-------------|---------|---------|----------------------|-------------------------|-----|
| | | | | | |
| CONTINGENCY | | | | SD | 100 |
| | | | | TOTAL LF: | 100 |

*UD = Underdrain
 *BD = Blind Drain
 *SD = Subsurface Drain

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

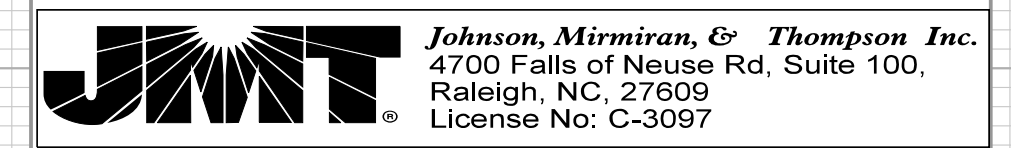
| LINE | Station | Station | Aggregate Type* ASU(1/2)/ AST | Aggregate Thickness INCHES [8" for ASU(2)] | Shallow Undercut CY | Class IV Subgrade Stabilization TONS | Geotextile for Subgrade Stabilization SY | Stabilizer Aggregate TONS | Class IV Aggregate Stabilization TONS |
|-------------|---------|---------|--|--|---------------------------|---|---|---------------------------------|--|
| | | | | | | | | | |
| CONTINGENCY | | | ASU-1 | 12 | 50 | 100 | 150 | | |
| | | | | | TOTAL CY/TONS/SY: | 50 | 100** | 150** | 0 |

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
 *AST = Aggregate Stabilization
 **Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

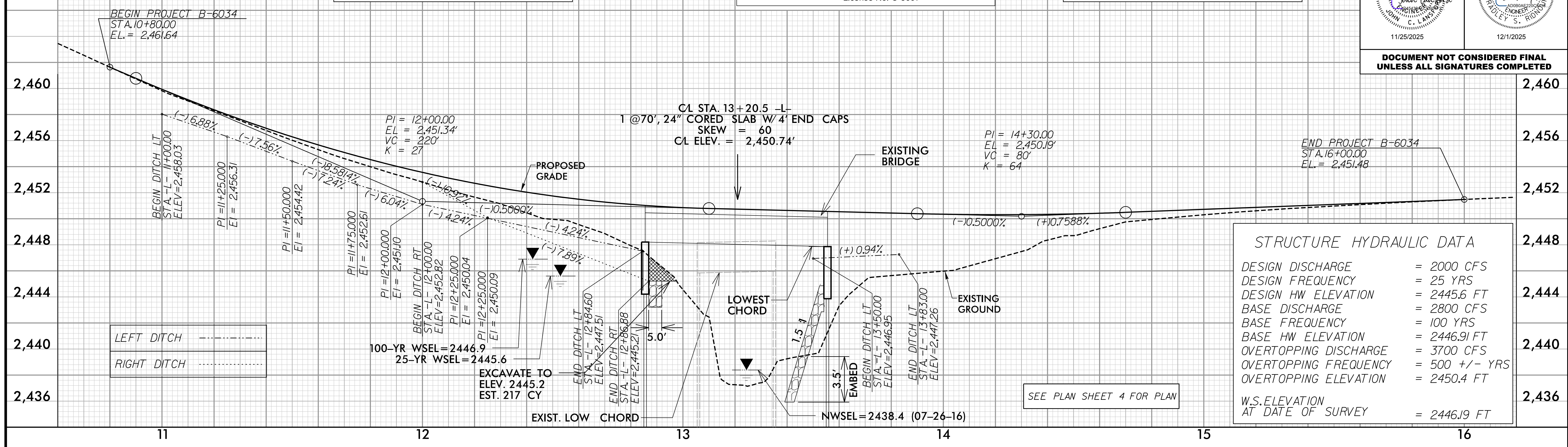
5/28/24

| | |
|---------------------------------|---------------------|
| PROJECT REFERENCE NO. B-6034 | SHEET NO. 5 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| | |

BM #1
N 582323 E 720264
ELEVATION = 2467.10'
-L- STATION 11+91.90 58.51' LEFT



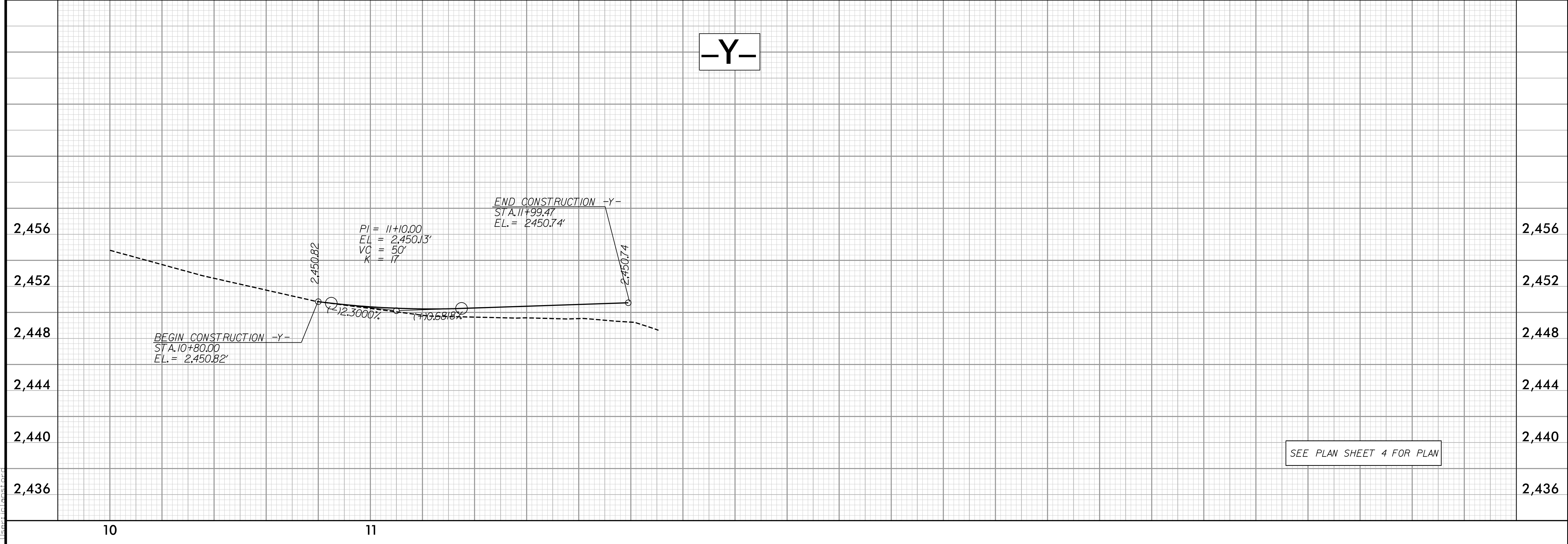
BM #2
N 582527 E 720108
ELEVATION = 2452.98'
-L- STATION 14+21.54 81.00' LEFT



STRUCTURE HYDRAULIC DATA

| | |
|----------------------------------|---------------|
| DESIGN DISCHARGE | = 2000 CFS |
| DESIGN FREQUENCY | = 25 YRS |
| DESIGN HW ELEVATION | = 2445.6 FT |
| BASE DISCHARGE | = 2800 CFS |
| BASE FREQUENCY | = 100 YRS |
| BASE HW ELEVATION | = 2446.91 FT |
| OVERTOPPING DISCHARGE | = 3700 CFS |
| OVERTOPPING FREQUENCY | = 500 +/- YRS |
| OVERTOPPING ELEVATION | = 2450.4 FT |
| W.S. ELEVATION AT DATE OF SURVEY | = 2446.19 FT |

-Y-



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