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09/08/99

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

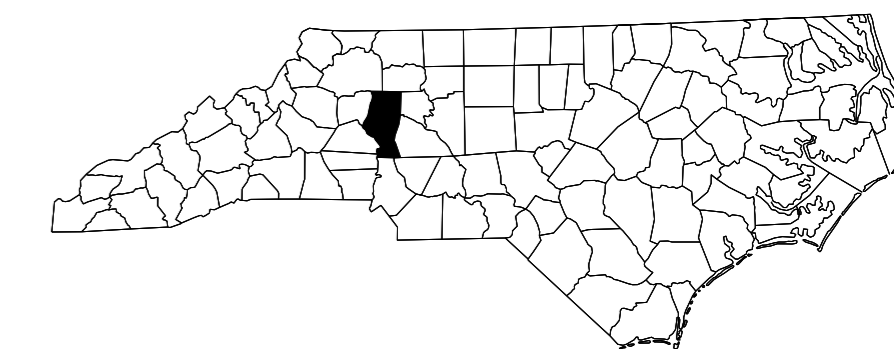
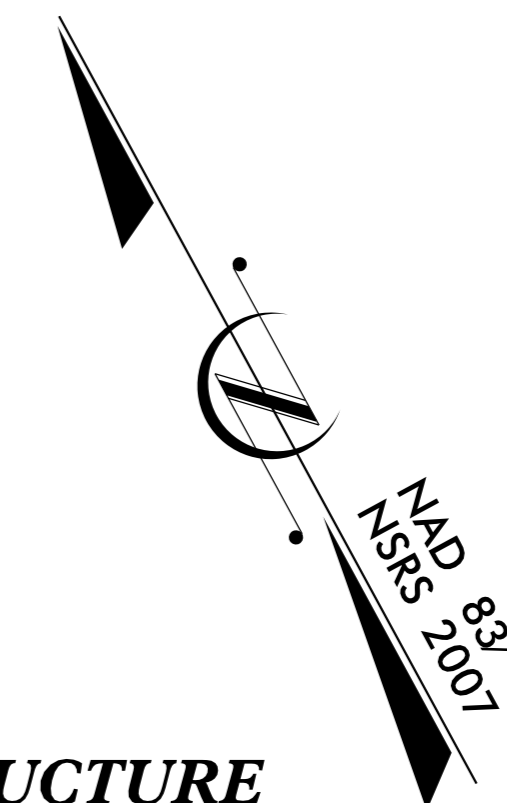
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

IREDELL COUNTY

LOCATION: BRIDGE 57 OVER CORNELIUS CREEK
ON SR 1302

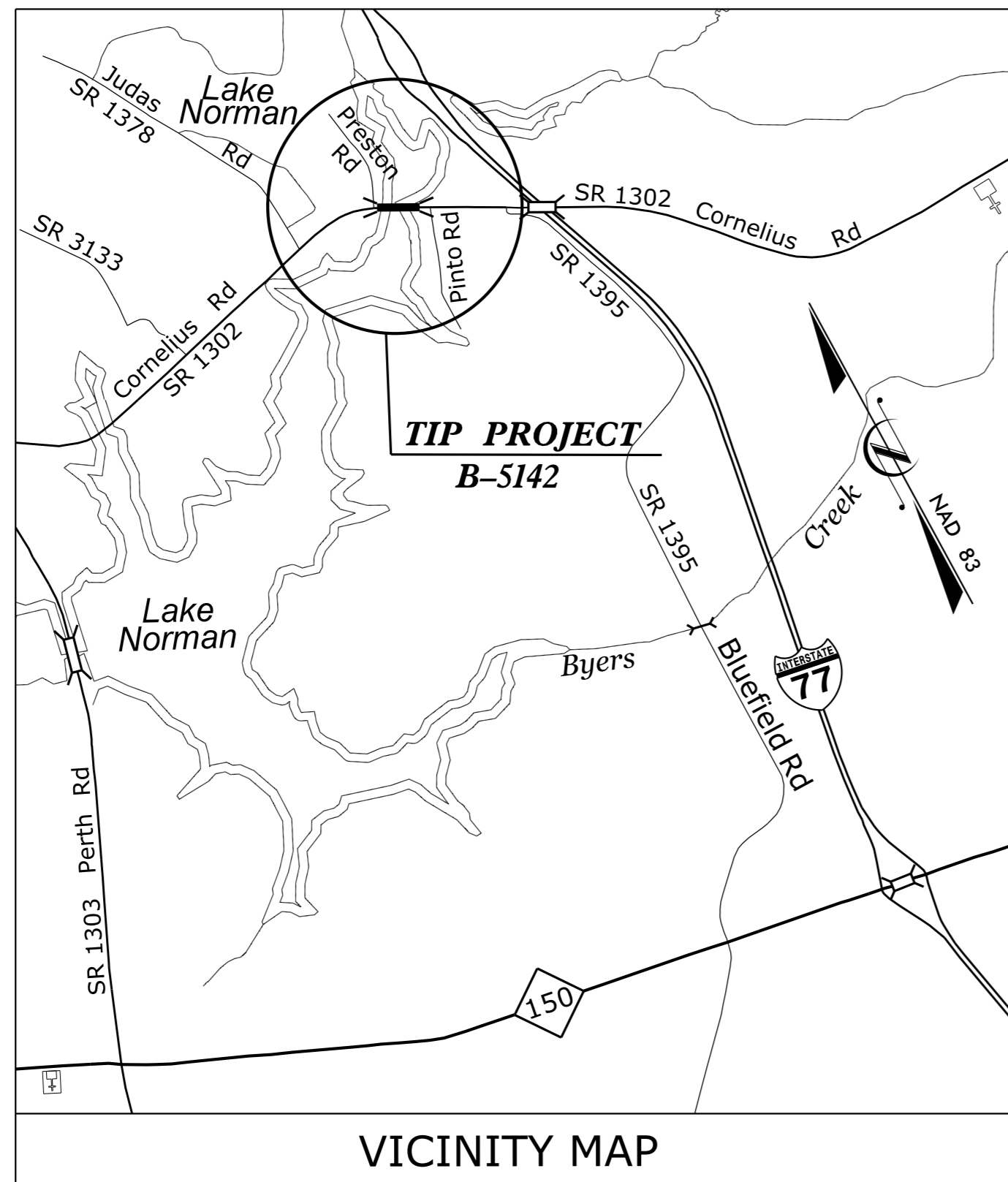
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5142	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42303.1.1	BRZ-1302(41)	PE	
42303.2.FD1	BRZ-1302(41)	RW, UTIL	
42303.3.FD1	BRZ-1302(41)	CONST.	

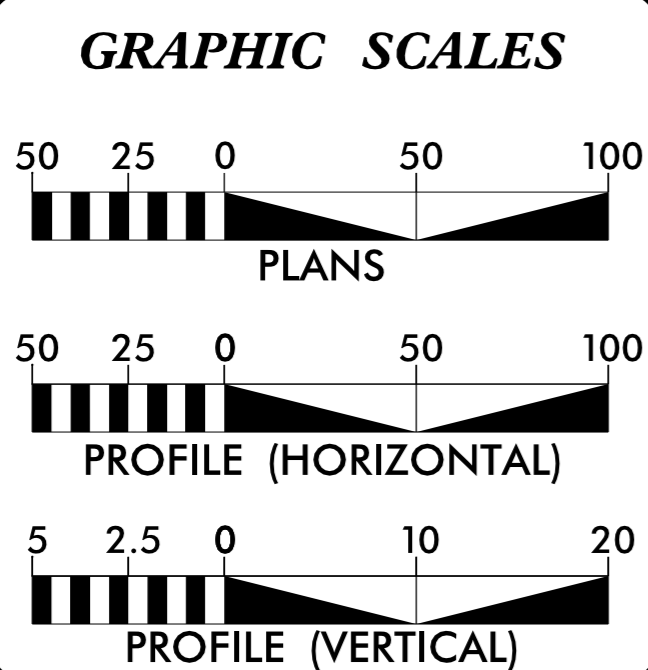
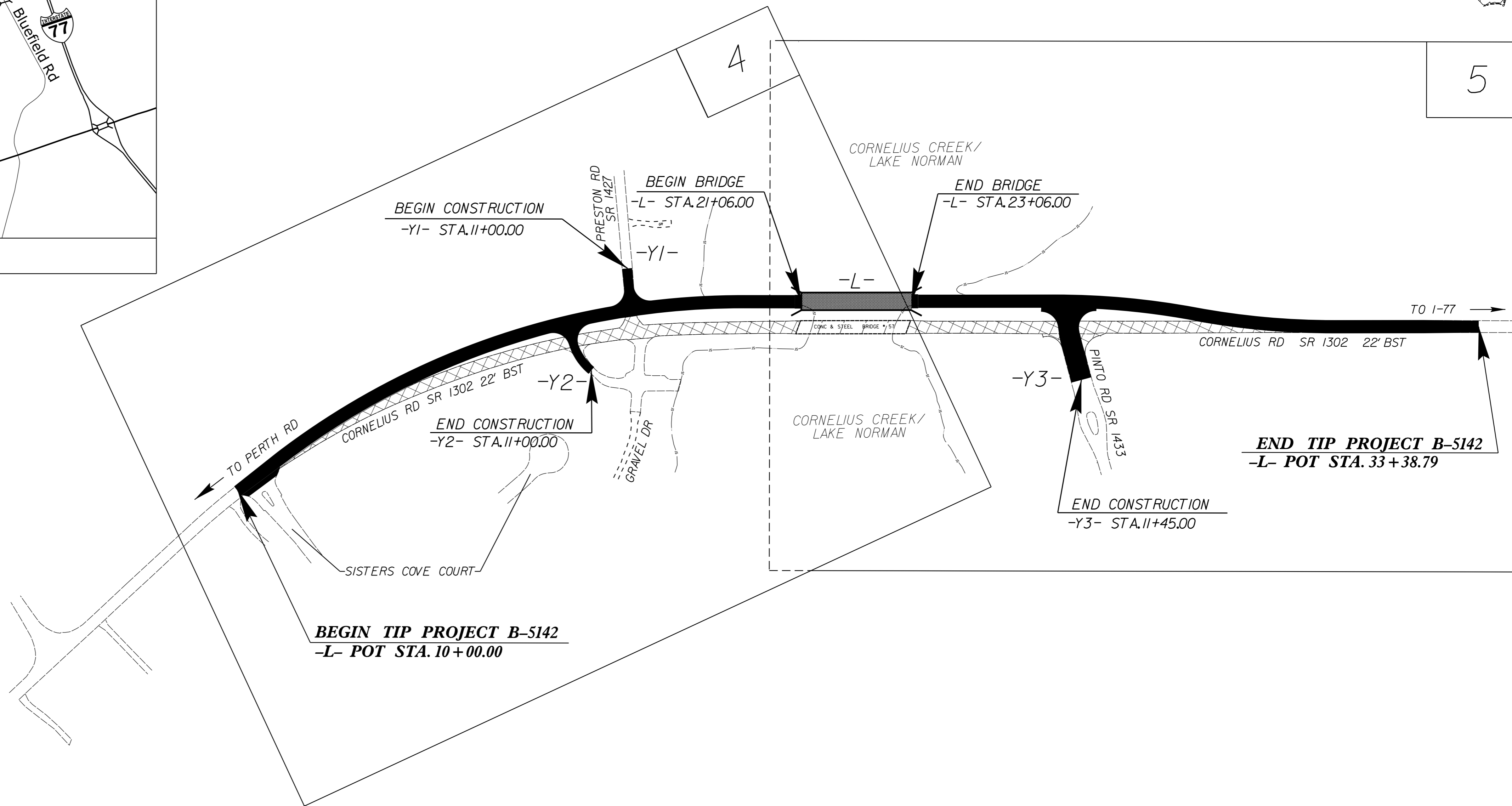


TIP PROJECT: B-5142

CONTRACT: C203662



VICINITY MAP



DESIGN DATA

ADT 2016 =	10,884
ADT 2036 =	18,164
K =	12 %
D =	70 %
T =	4 % *
V =	60 MPH
* TTST =	3 DUAL 1
FUNC CLASS =	Collector
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-5142 =	0.405 MILES
LENGTH OF STRUCTURE TIP PROJECT B-5142 =	0.038 MILES
TOTAL LENGTH OF TIP PROJECT B-5142 =	0.443 MILES

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: JANUARY 29, 2015	JASON MOORE, P.E. PROJECT ENGINEER
LETTING DATE: JUNE 21, 2016	BRYAN KEY, P.E. PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by:
Steven Bondor
4CF8C8DF392844C
5/6/2016

SIGNATURE:

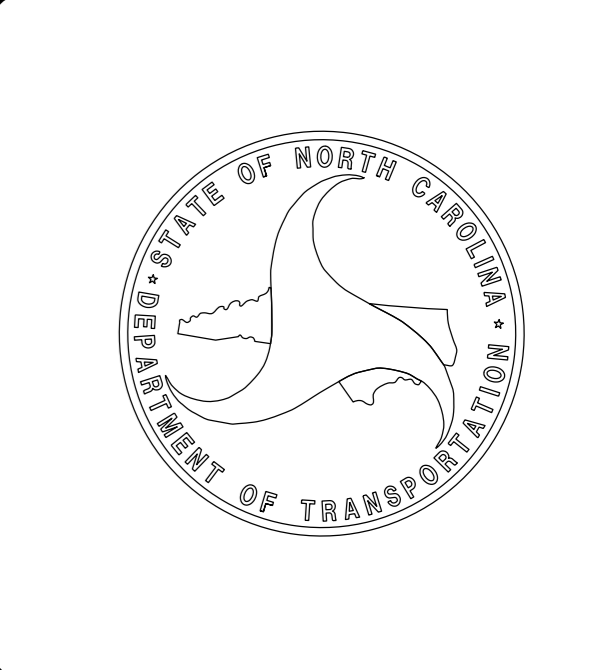
SEAL 12786
STEVEN M. BONDOR
P.E.

ROADWAY DESIGN ENGINEER

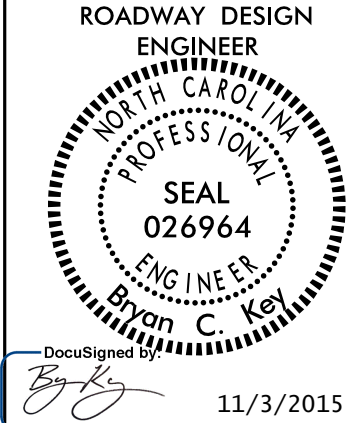
DocuSigned by:
Bryan Key
320039A84E124FC
5/6/2016

SIGNATURE:

SEAL 026964
BRYAN C. KEY
P.E.



06-MAY-2016 15:14 R:\Roadway\Proj\B-5142-Rdy-fsh.dgn \$\$\$\$\$\$USERNAME\$\$\$\$\$



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-01	SURVEY CONTROL SHEETS
2A-01 THRU 2A-04	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-01	DETAIL OF -Y3- TRANSITION TO EXISTING
2B-02	DETAIL OF TEMPORARY WIDENING
2C-1	GUARDRAIL ANCHOR UNIT, TYPE III
2C-2	MODIFIED SHOULDER BERM GUTTER
2D-1	DRY DETENTION/HAZARDOUS SPILL BASIN DETAIL
2G-1	ROCK PLATING AND ROCK EMBANKMENT DETAIL
2G-2	STANDARD TEMPORARY SHORING DETAIL
3B-01	SUMMARY OF EARTHWORK, PAVEMENT REMOVAL SUMMARY, MODIFIED SHOULDER BERM GUTTER SUMMARY AND GUARDRAIL SUMMARY
3D-1	DRAINAGE SUMMARIES
3G-1	SUMMARY OF SUBSURFACE DRAINAGE, SUMMARY OF ROCK PLATING, SUMMARY OF BRIDGE WAITING PERIODS AND SUMMARY OF AGGREGATE SUBGRADE / STABILIZATION
3P-1	PARCEL INDEX SHEET
4 THRU 7	PLAN AND PROFILE SHEETS
TMP-1 THRU TMP-12	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-8	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-2	SIGNING PLANS
UC-1 THRU UC-6	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-3	UTILITIES BY OTHERS PLANS
X-0	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-25	CROSS-SECTIONS
S-1 THRU S-38	STRUCTURE PLANS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 10-31-2014

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 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

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.

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 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 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

Water - Town of Mooresville, FM Sanitary Sewer - Town of Mooresville,

Power Distribution - Energy United Membership Corporation, Cable Television - Time Warner Cable, and Telecommunications - Windstream Communications

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

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
310.10	Driveway Pipe Construction
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	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.22	Frames and Wide Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
840.72	Pipe Collar
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
866.02	Woven Wire Fence - with Wood Post
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

EFF. 01-17-2012
REV. 10-30-2012

8/17/09

27-OCT-2015 14:40 B-5142-Rdy.-tsh.dgn
\\sbs\project\B-5142

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	----->
Property Monument	□ ECM
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- MLB
Proposed Wetland Boundary	----- MLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- 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	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ †
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	----- RW
Proposed Right of Way Line with Iron Pin and Cap Marker	----- RW
Proposed Right of Way Line with Concrete or Granite RW Marker	----- RW
Proposed Control of Access Line with Concrete CA Marker	----- CA
Existing Control of Access	----- CA
Proposed Control of Access	----- CA
Existing Easement Line	----- E
Proposed Temporary Construction Easement	----- E
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
Proposed Permanent Easement with Iron Pin and Cap Marker	----- ◆

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	☼
Single Shrub	☼
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	○ S
Storm Sewer	----- S

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

SURVEY CONTROL SHEET

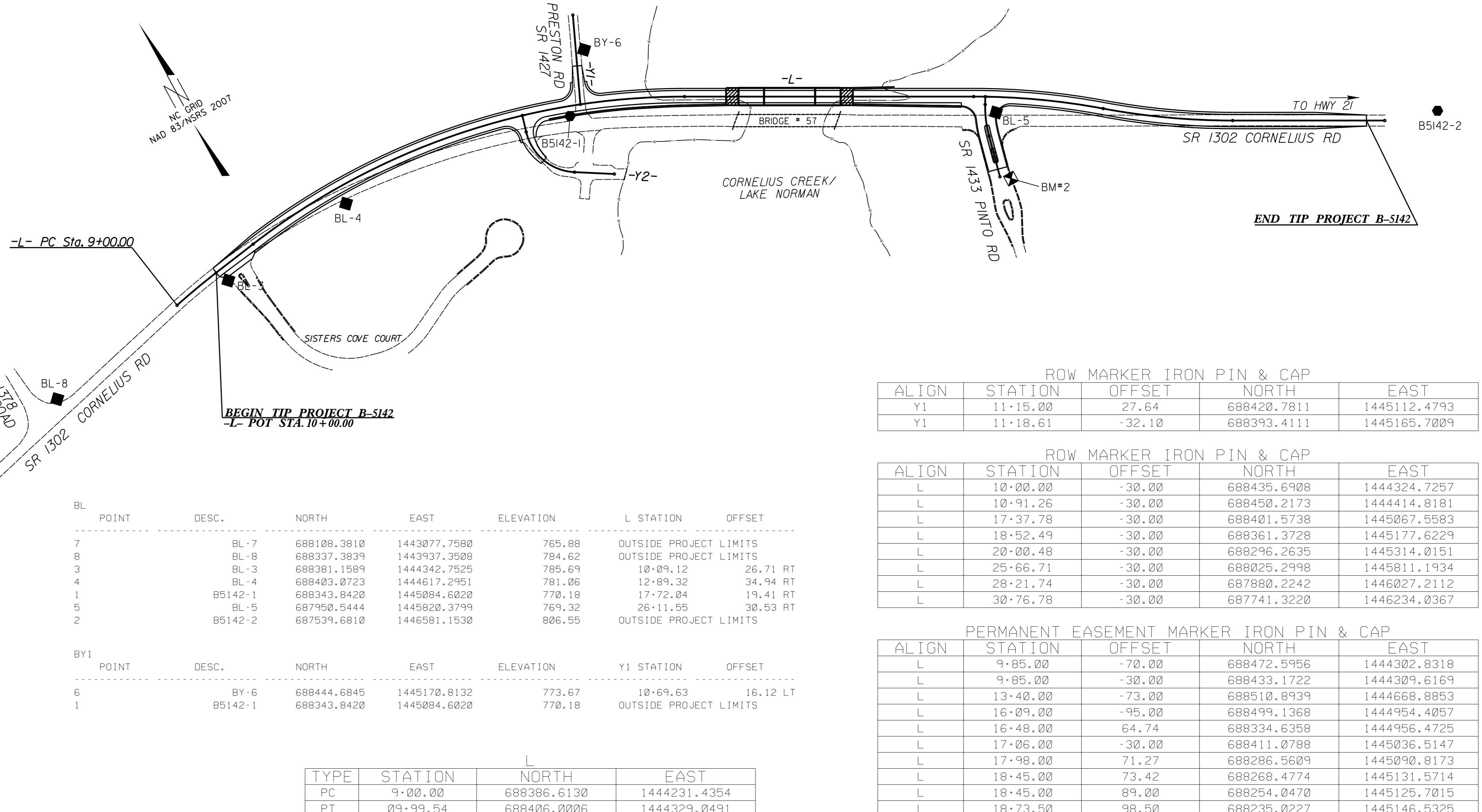
-Final-

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5142-1" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 688343.842(ft) EASTING: 1445084.602(ft) ELEVATION: 770.18(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99986215 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5142-1" TO -L- STATION 9+00.00 IS N 87°07'48.2" W 854.24' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

.....
 BM2 ELEVATION = 770.92
 N 687823 E 1445784
 L STATION 26+49 158 RIGHT
 CHISELED SQUARE IN CONC GUTTER ON EAST SIDE OF PINTO ROAD, 58 FT NE OF SUBDIVISION SIGN

 BM3 ELEVATION = 772.67
 N 688005 E 1442975
 L STATION 33+75
 N 82°58'0.83" W DIST 3532.82
 RAILROAD SPIKE IN NORTH EAST ROOT OF A 48" WILLOW OAK



BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
7	BL-7		688108.3810	1443077.7580	765.88	OUTSIDE PROJECT LIMITS	
8	BL-8		688337.3839	1443937.3508	784.62	OUTSIDE PROJECT LIMITS	
3	BL-3		688381.1589	1444342.7525	785.69	10+09.12	26.71 RT
4	BL-4		688403.0723	1444617.2951	781.06	12+89.32	34.94 RT
1	B5142-1		688343.8420	1445084.6020	770.18	17+72.04	19.41 RT
5	BL-5		687950.5444	1445820.3799	769.32	26+11.55	30.53 RT
2	B5142-2		687539.6810	1446581.1530	806.55	OUTSIDE PROJECT LIMITS	

BY1	POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
6	BY-6		688444.6845	1445170.8132	773.67	10+69.63	16.12 LT
1	B5142-1		688343.8420	1445084.6020	770.18	OUTSIDE PROJECT LIMITS	

L			
TYPE	STATION	NORTH	EAST
PC	9+00.00	688386.6130	1444231.4354
PT	09+99.54	688406.0006	1444329.0491
PC	10+91.26	688420.5998	1444419.5936
PT	20+00.48	688269.9216	1445299.6587
PC	25+66.71	687998.9580	1445796.8370
PRC	28+21.74	687856.9691	1446008.2587
PT	30+76.78	687714.9802	1446219.6803
POT	33+74.66	687572.4321	1446481.2350

Y1			
TYPE	STATION	NORTH	EAST
POT	10+00.00	688514.9039	1445184.1089
POT	11+75.59	688354.1991	1445113.3694

Y2			
TYPE	STATION	NORTH	EAST
POT	10+00.00	688389.3838	1445003.0483
PC	10+33.07	688357.5054	1444994.2373
PT	11+65.13	688243.1494	1445039.6057
POT	12+43.33	688202.5591	1445106.4437

Y3			
TYPE	STATION	NORTH	EAST
POT	10+00.00	687987.9048	1445816.7260
PC	10+15.31	687974.5816	1445809.1780
PT	10+77.92	687916.5453	1445786.2444
POT	11+60.37	687836.3978	1445766.8685

ROW MARKER IRON PIN & CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
Y1	11+15.00	27.64	688420.7811	1445112.4793
Y1	11+18.61	-32.10	688393.4111	1445165.7009

ROW MARKER IRON PIN & CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
L	10+00.00	-30.00	688435.6908	1444324.7257
L	10+91.26	-30.00	688450.2173	1444414.8181
L	17+37.78	-30.00	688401.5738	1445067.5583
L	18+52.49	-30.00	688361.3728	1445177.6229
L	20+00.48	-30.00	688296.2635	1445314.0151
L	25+66.71	-30.00	688025.2998	1445811.1934
L	28+21.74	-30.00	687880.2242	1446027.2112
L	30+76.78	-30.00	687741.3220	1446234.0367

PERMANENT EASEMENT MARKER IRON PIN & CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
L	9+85.00	-70.00	688472.5956	1444302.8318
L	9+85.00	-30.00	688433.1722	1444309.6169
L	13+40.00	-73.00	688510.8939	1444668.8853
L	16+09.00	-95.00	688499.1368	1444954.4057
L	16+48.00	64.74	688334.6358	1444956.4725
L	17+06.00	-30.00	688411.0788	1445036.5147
L	17+98.00	71.27	688286.5609	1445090.8173
L	18+45.00	73.42	688268.4774	1445131.5714
L	18+45.00	89.00	688254.0470	1445125.7015
L	18+73.50	98.50	688235.0227	1445146.5325
L	20+00.48	104.00	688178.6032	1445249.8898
L	24+05.00	77.00	688008.7309	1445618.0012
L	24+05.00	104.00	687985.0232	1445605.0804
L	25+73.00	104.00	687904.8428	1445752.1720
L	26+53.50	99.00	687871.2759	1445818.9456
L	27+85.00	-54.00	687922.5533	1446012.4575
L	27+85.00	-30.00	687903.5522	1445997.7962
L	29+50.00	-47.00	687819.7084	1446137.4809
L	29+54.00	61.00	687727.6974	1446080.7878
L	30+44.00	30.40	687704.6709	1446175.9064
L	31+00.00	-30.00	687730.2120	1446254.4220
L	31+63.00	-46.00	687714.1125	1446317.3967
L	32+65.00	-30.00	687651.2518	1446399.3023
L	32+65.00	-42.00	687661.7885	1446405.0448
L	32+73.00	56.00	687571.9101	1446365.1718
L	33+74.66	30.00	687546.0907	1446466.8778

PERMANENT EASEMENT MARKER IRON PIN & CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
Y2	10+76.00	26.00	688311.0540	1444966.0111

PERMANENT EASEMENT MARKER IRON PIN & CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
Y3	11+52.00	30.00	687851.5869	1445739.6763
Y3	11+52.00	-29.71	687837.5556	1445797.7157

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: [HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)
THE FILES TO BE FOUND ARE AS FOLLOWS:
B5142_LS_CONTROL.TXT
B5142_LS_LOCAL.TXT
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- 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

NOTE: DRAWING NOT TO SCALE

5/04/16 DC-MAY-2016 15:14 4445084.6020.dgn

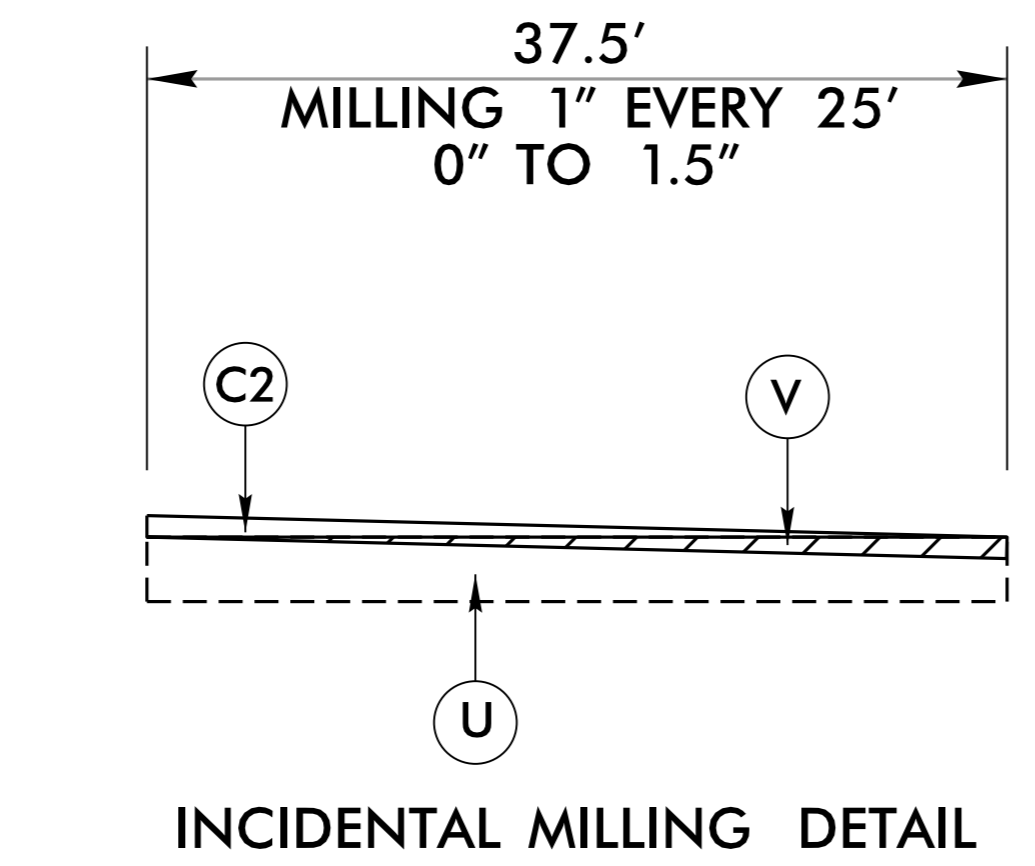
6/2/09

PAVEMENT SCHEDULE

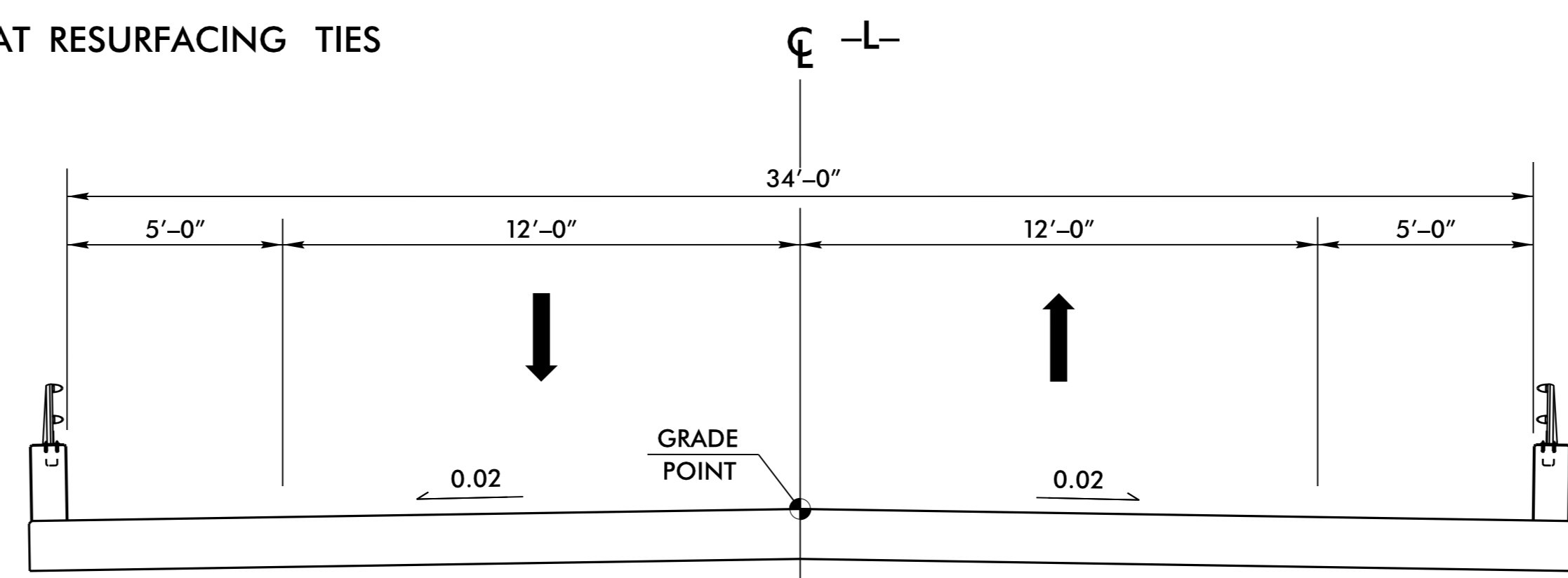
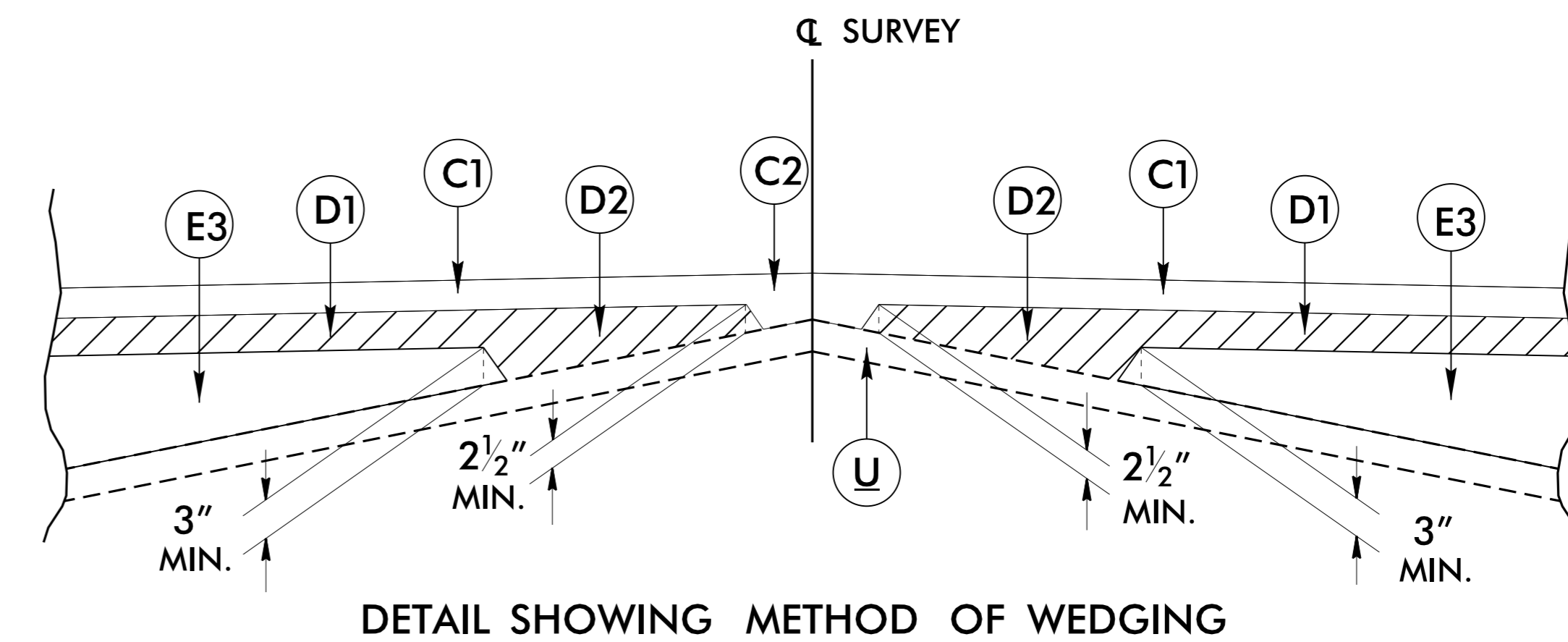
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R1	2'-6" CONCRETE CURB AND GUTTER, STD. 846.01
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.	R2	1'-6" CONCRETE CURB AND GUTTER, STD. 846.01
C3	PROP. APPROX. 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R3	MODIFIED SHOULDER BERM GUTTER (SEE DETAIL SHEET 2C-2)
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	T	EARTH MATERIAL.
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 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.	U	EXISTING PAVEMENT.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	V	MILLING ASPHALT PAVEMENT, VARIABLE DEPTH
E2	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING BELOW).
E3	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 5 1/2" IN DEPTH.		

PROJECT REFERENCE NO. B-5142	SHEET NO. 2A-01
ROADWAY DESIGN ENGINEER SEAL 026964 Bryan C. Key	PAVEMENT DESIGN ENGINEER SEAL 022896 Clark S. Morrison
11/3/2015	11/3/2015
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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



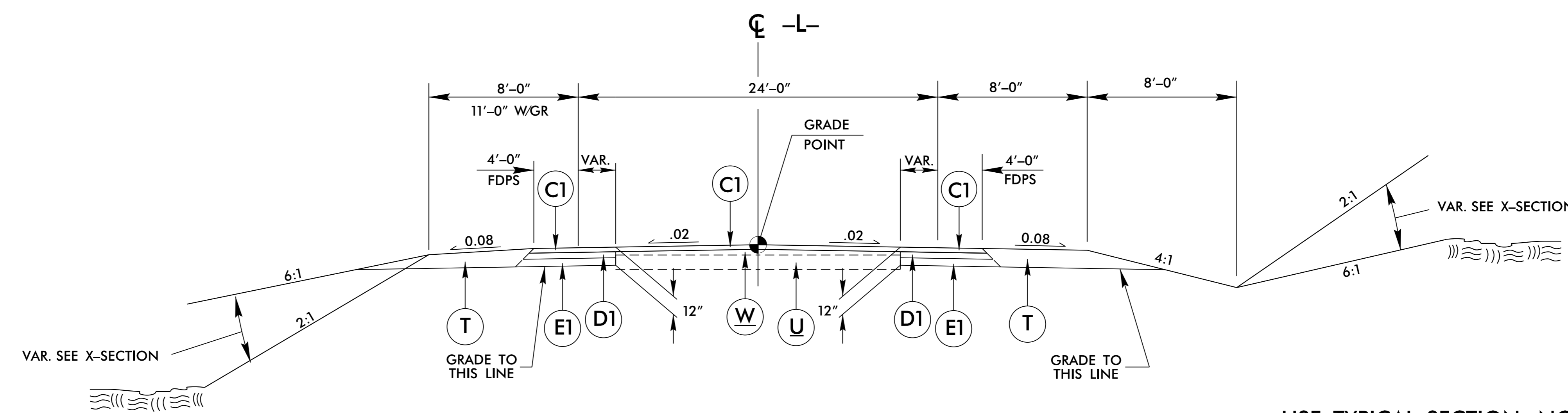
USE MILLING DETAIL AT RESURFACING TIES



USE TYPICAL SECTION ON STRUCTURE
-L- STA. 21+06.00 TO STA. 23+06.00

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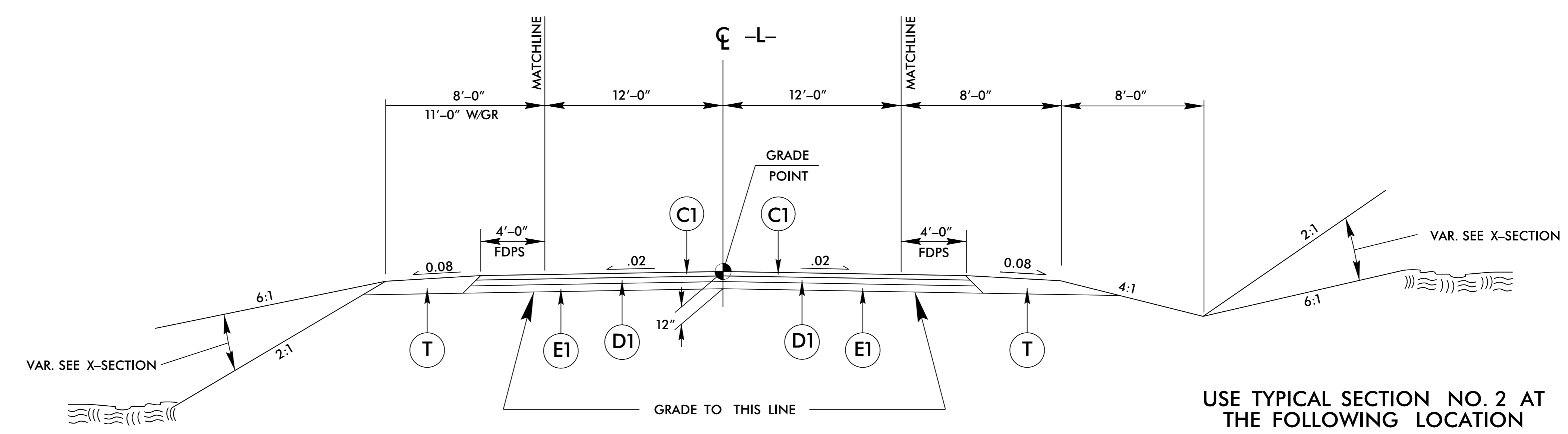
PROJECT REFERENCE NO. B-5142	SHEET NO. 2A-02
ROADWAY DESIGN ENGINEER SEAL 026964 Bryan C. Key	PAVEMENT DESIGN ENGINEER SEAL 022896 Clark S. Morrison
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
C1	3" S9.5B
D1	4" I19.0B
E1	5" B25.0B
R3	MODIFIED SBG
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

- L- STA. 10+00.00 TO STA. 12+00.00
- L- STA. 29+75.00 TO STA. 33+38.79

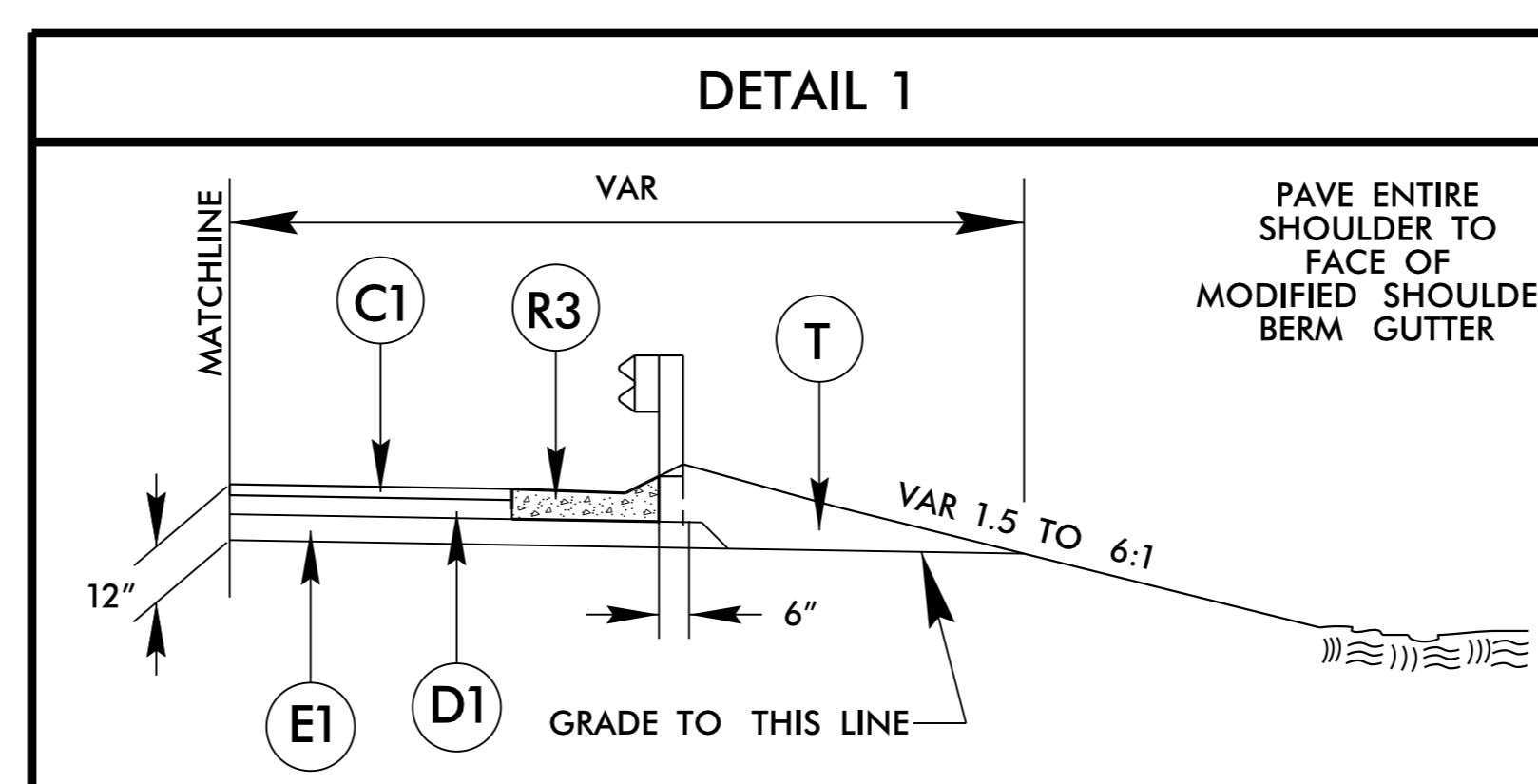


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AT THE FOLLOWING LOCATION

- L- STA. 12+00.00 TO STA. 21+06.00
- L- STA. 23+06.00 TO STA. 29+75.00

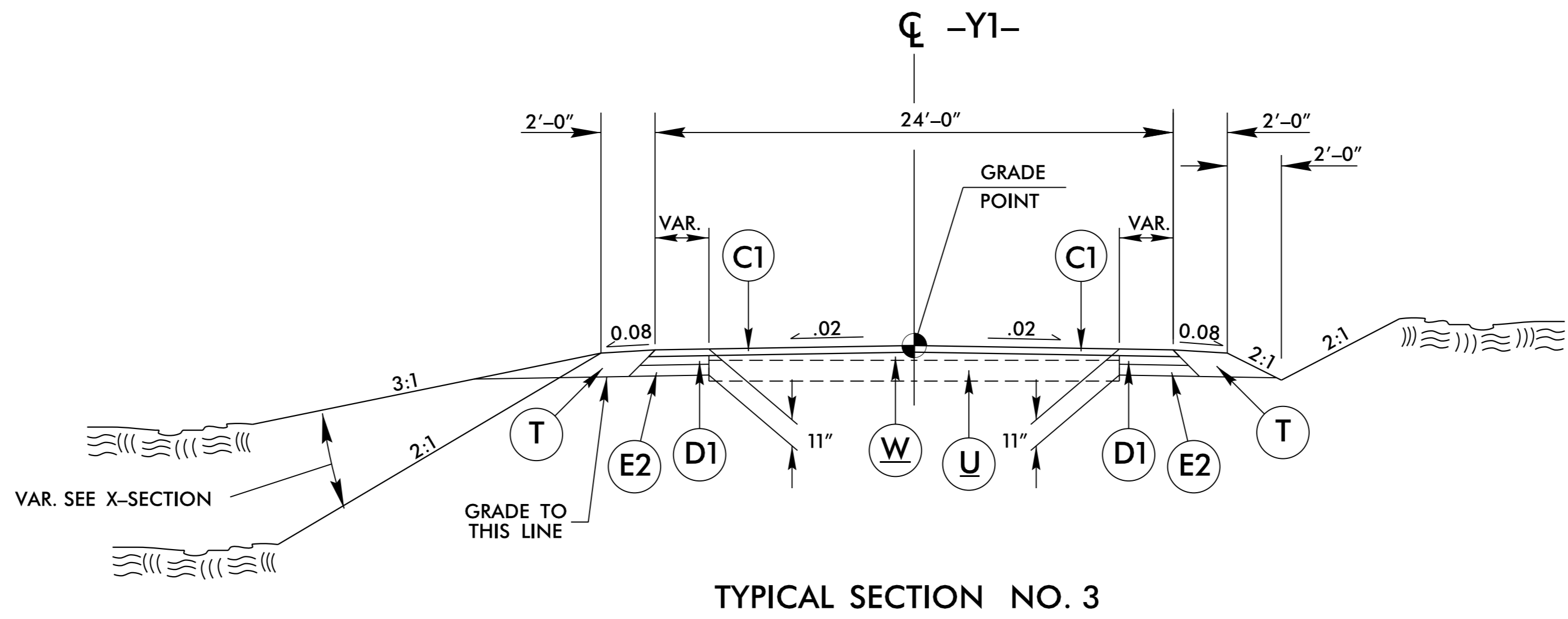
USE DETAIL 1 FOR ALL MODIFIED SBG LOCATIONS (MIRROR FOR LEFT SIDE)



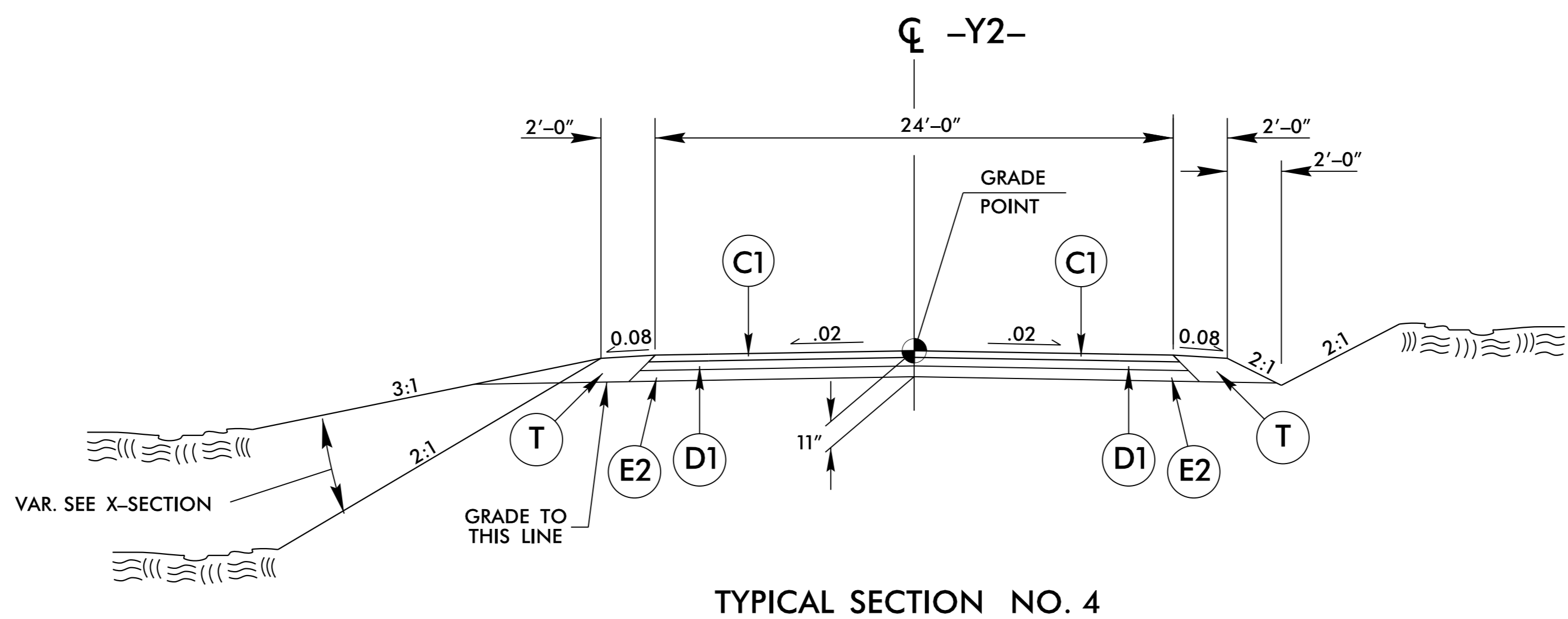
PROJECT REFERENCE NO. B-5142	SHEET NO. 2A-03
ROADWAY DESIGN ENGINEER SEAL 022894 Bryan C. Key	PAVEMENT DESIGN ENGINEER SEAL 022896 Clark S. Morrison
11/3/2015	

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

CI	3" S9.5B
DI	4" I19.0B
E2	4" B25.0B
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

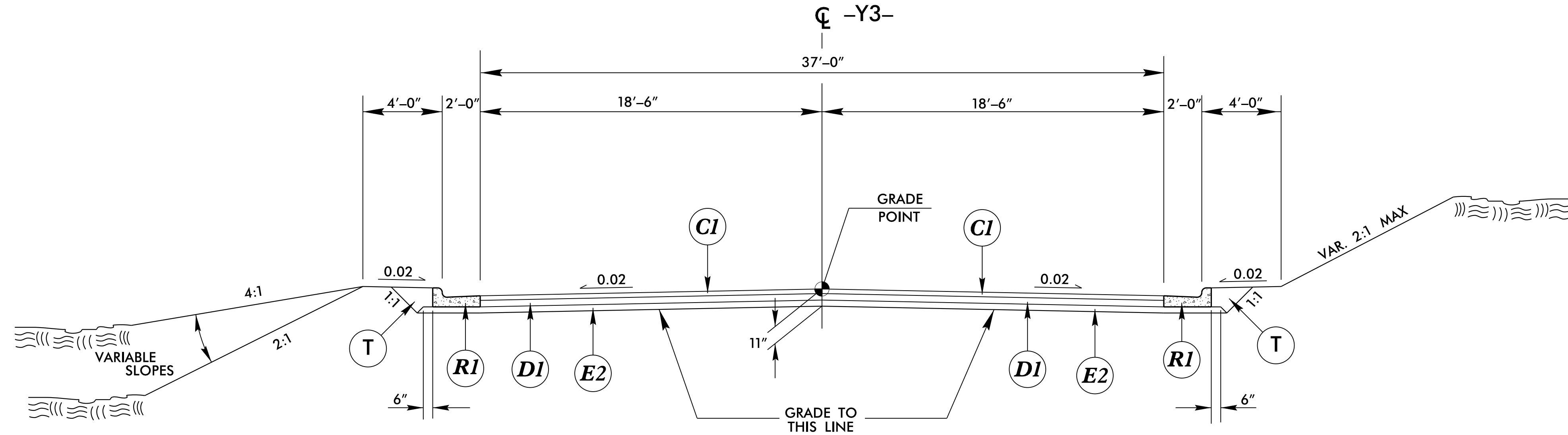


USE TYPICAL SECTION NO. 3 AT
THE FOLLOWING LOCATION
-Y1- STA. 11+00.00 TO STA. 11+63.56



USE TYPICAL SECTION NO. 4 AT
THE FOLLOWING LOCATION
-Y2- STA. 10+12.00 TO STA. 11+00.00

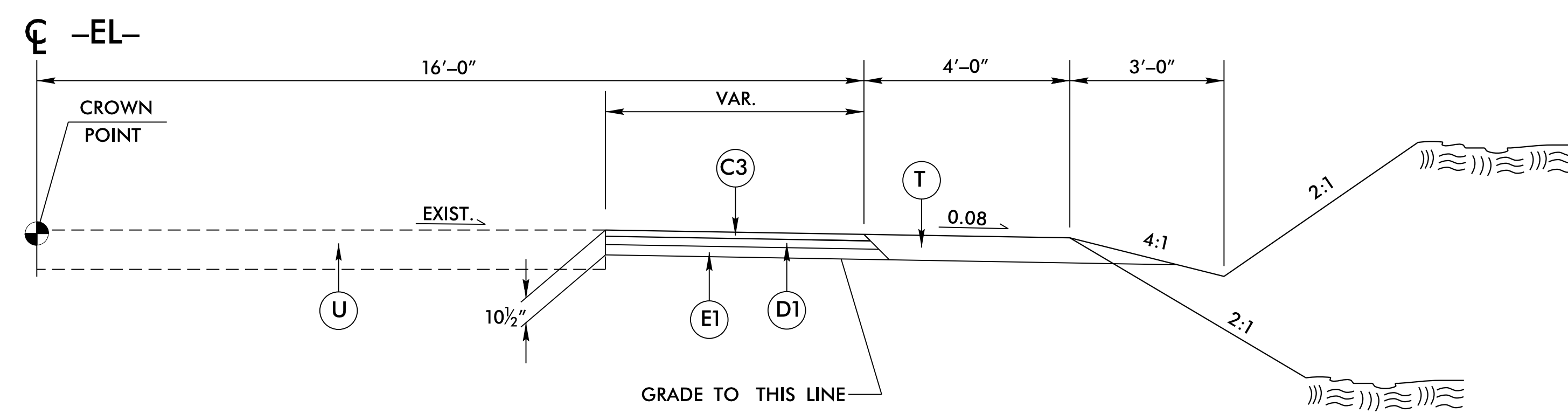
PROJECT REFERENCE NO. B-5142	SHEET NO. 2A-04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 026964 BRON C. KEY	PAVEMENT DESIGN ENGINEER SEAL 022896 CLARK S. MORRISON
<i>Key</i> 11/3/2015	<i>Clark Morrison</i> 11/3/2015
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
CI	3" S9.5B
C3	1 1/2" S9.5B
DI	4" I19.0B
E1	5" B25.0B
E2	4" B25.0B
RI	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5 AT THE FOLLOWING LOCATION:

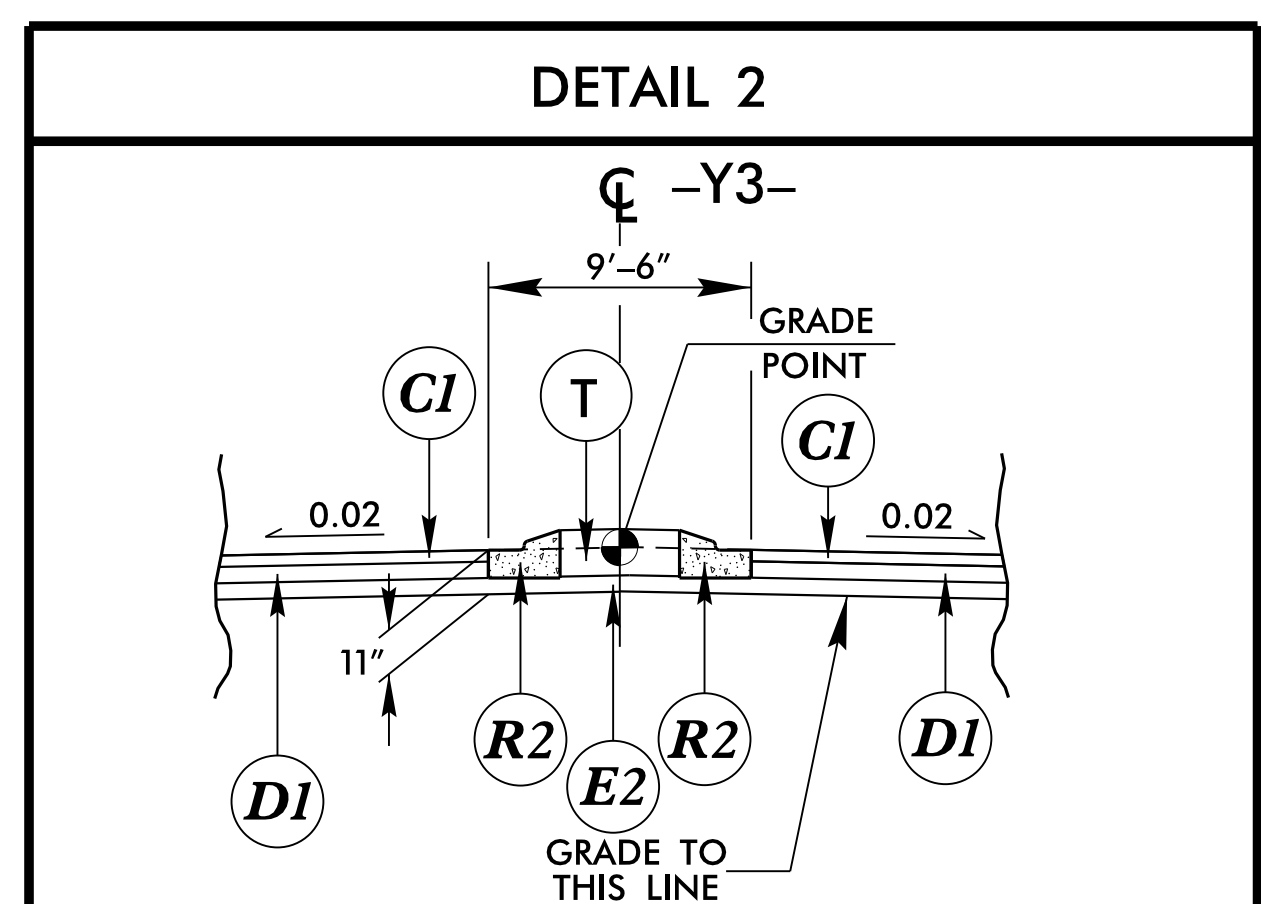
-Y3- STA. 10+12.00 TO STA. 11+45.00
USE DETAIL 2 FROM -Y3- STA.10+55.92 TO STA.11+32.15



TYPICAL SECTION NO. 6
(TEMPORARY PAVEMENT)

USE TYPICAL SECTION NO. 6 AT THE FOLLOWING LOCATION:

-EL- STA. 27+50.00 TO STA. 32+50.00
NOTE: USE 150' TRANSITION TO EXISTING (SEE SHEET 2B-02)



DETAIL 2

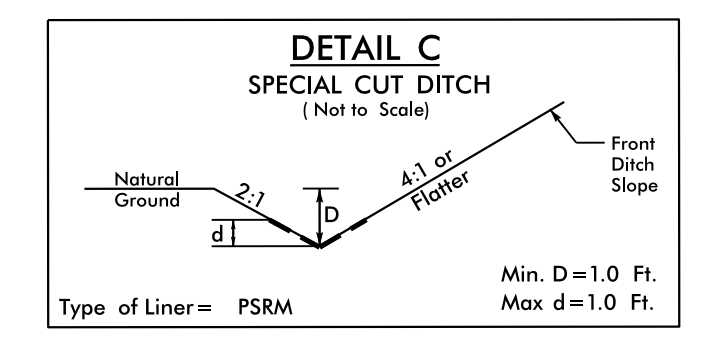
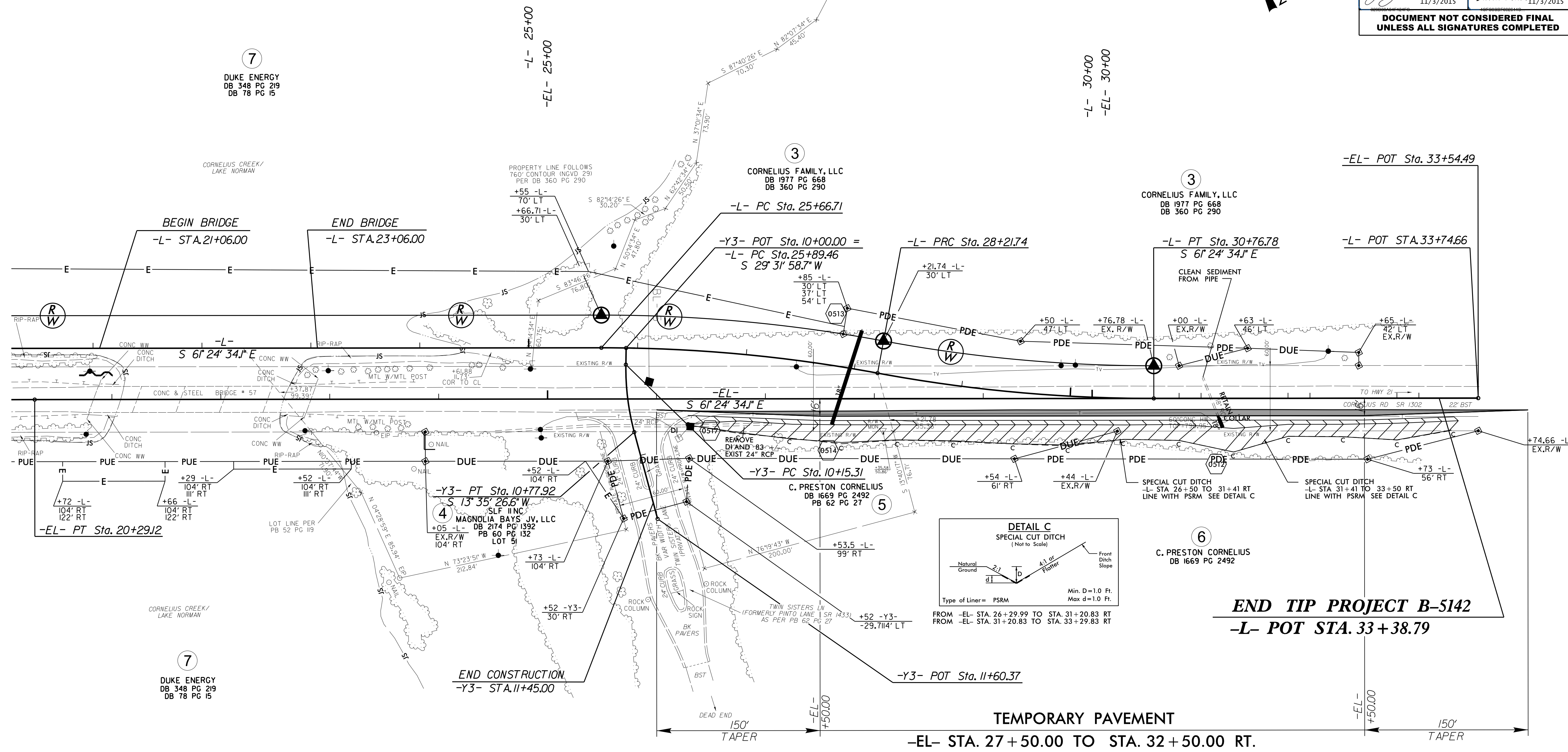
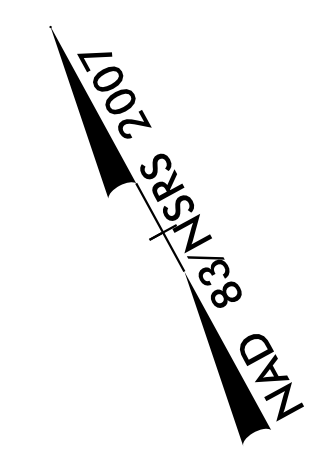
REVISIONS

8/17/99

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S:\ASPER\B-5142

-L-

PI Sta 26+94.59 Δ = 10° 35' 20.0" (RT) D = 4' 09" 06.7" L = 255.04' T = 127.88' R = 1,380.00' SE = .06 V _D = 60 mph	PI Sta 29+49.63 Δ = 10° 35' 20.0" (LT) D = 4' 09" 06.7" L = 255.04' T = 127.88' R = 1,380.00' SE = .06 V _D = 60 mph	PI Sta 10+46.82 Δ = 15° 56' 32.1" (LT) D = 25' 27" 53.2" L = 62.61' T = 31.51' R = 225.00'
---	---	---



END TIP PROJECT B-5142
-L- POT STA. 33+38.79

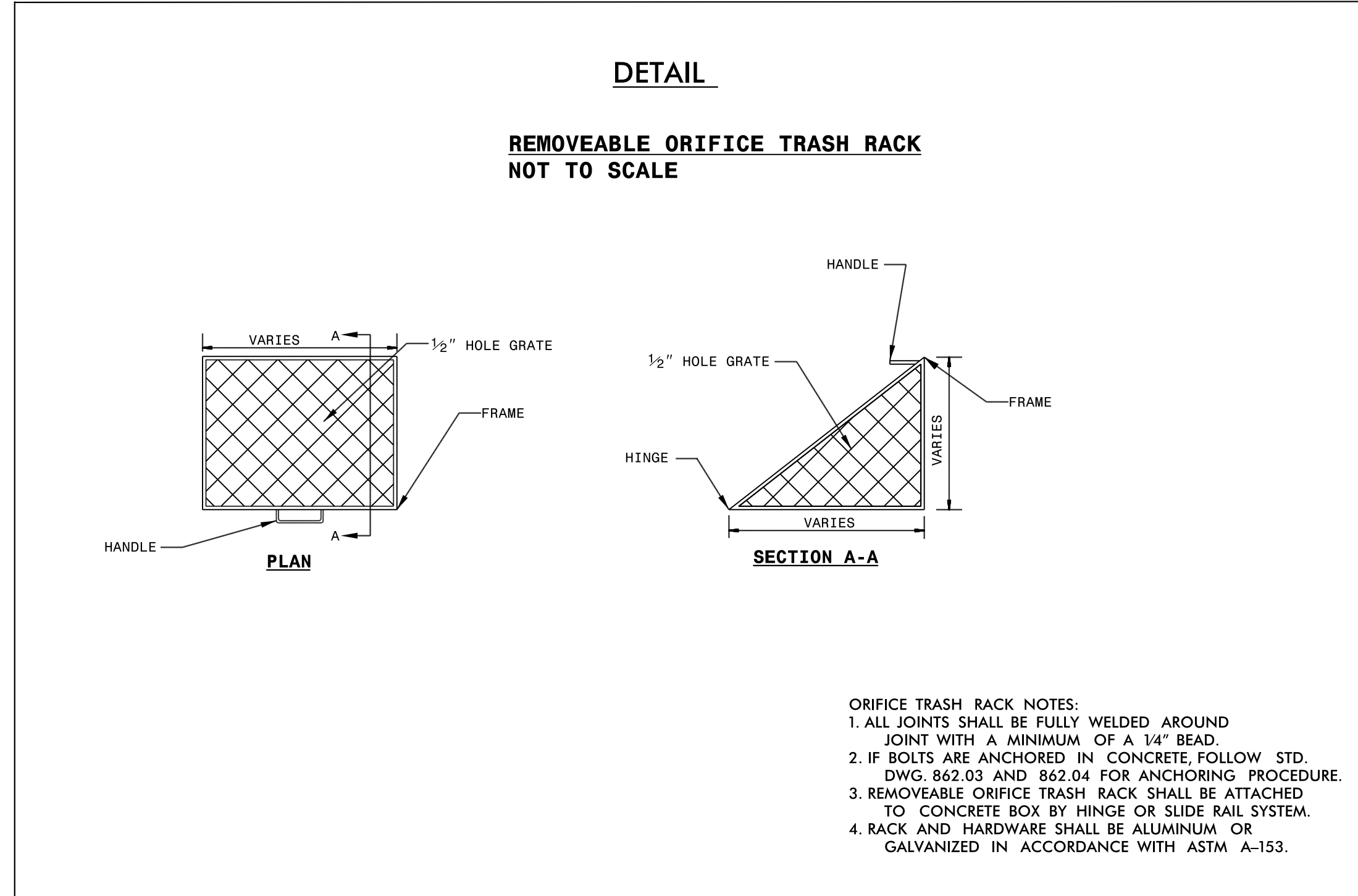
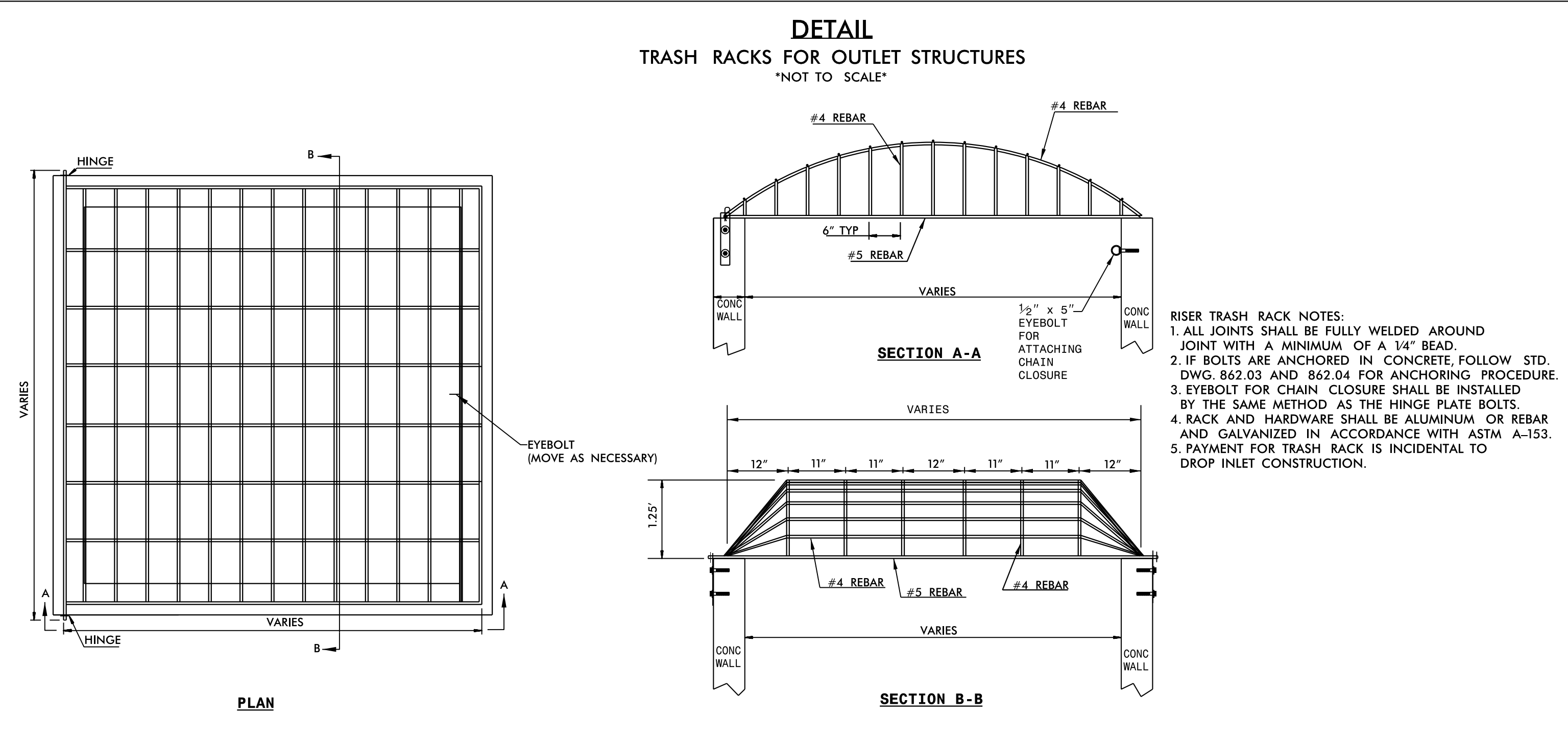
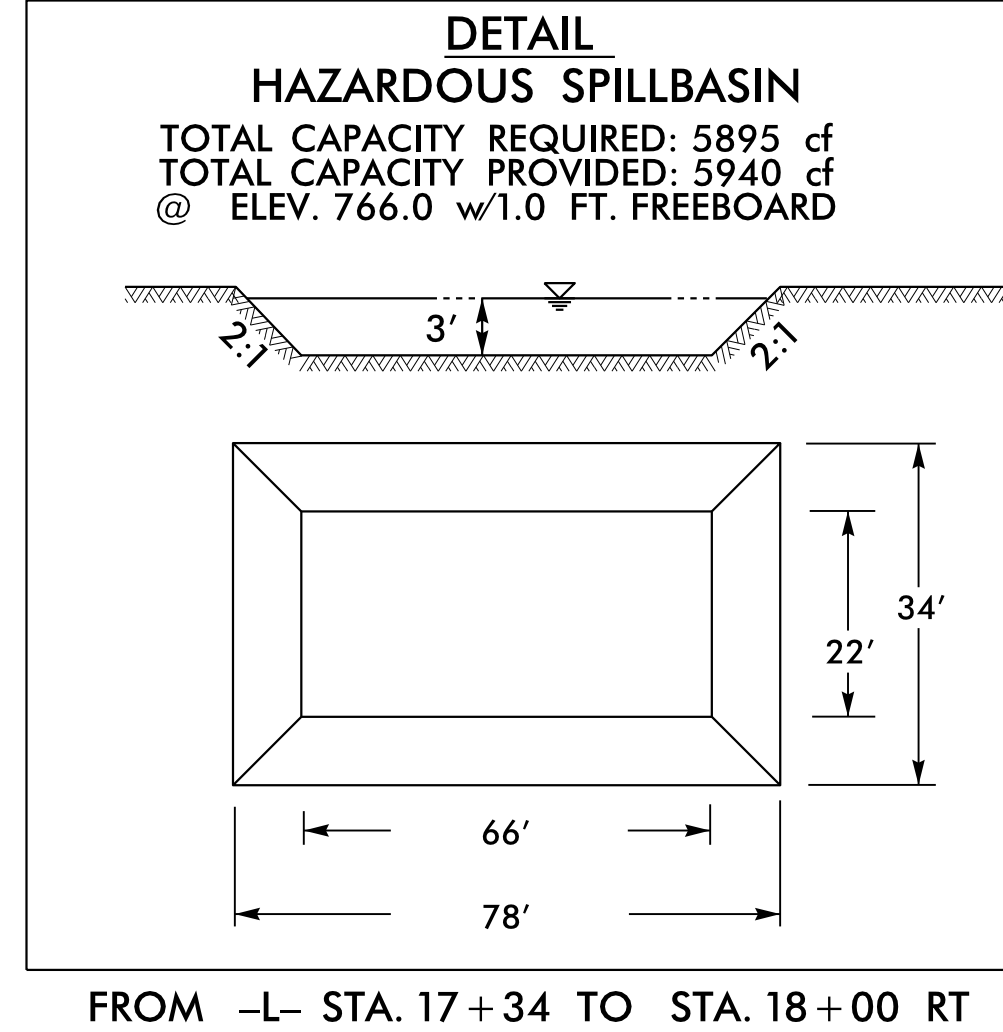
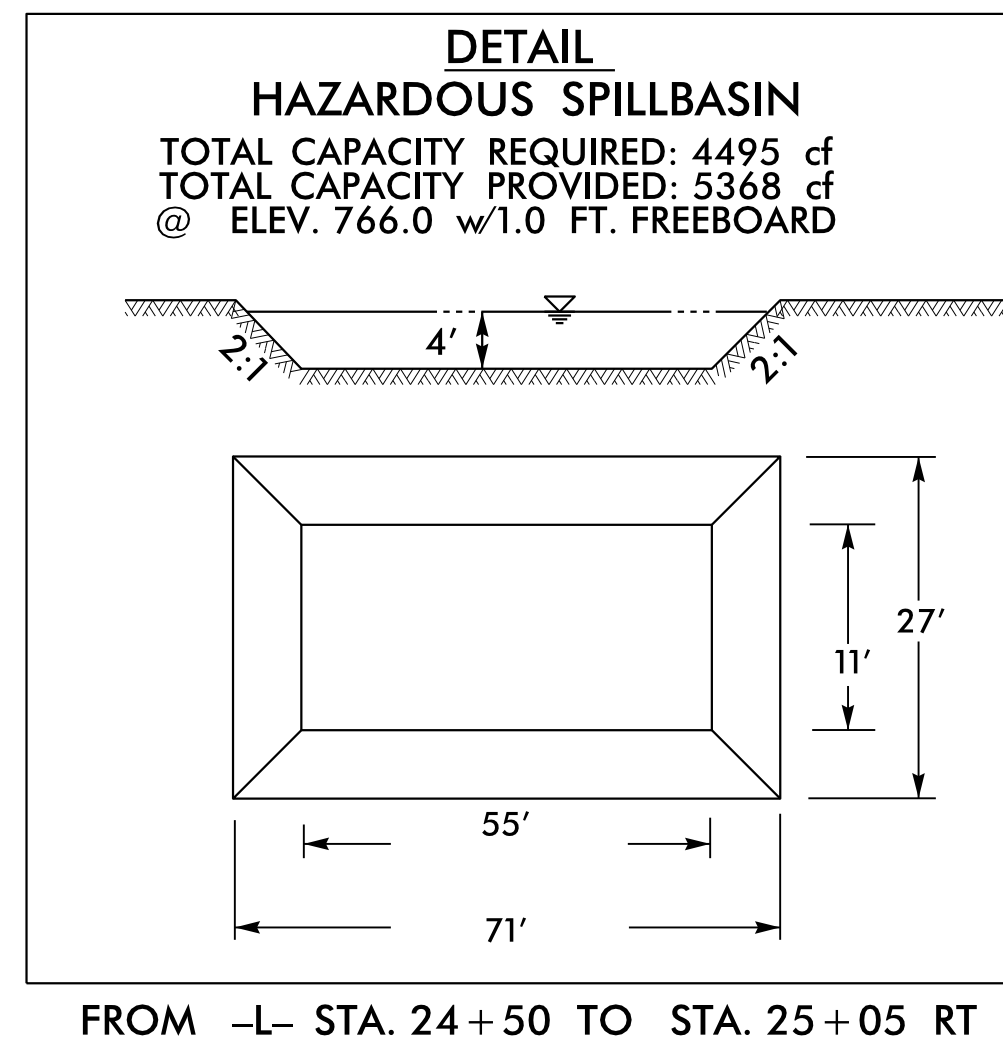
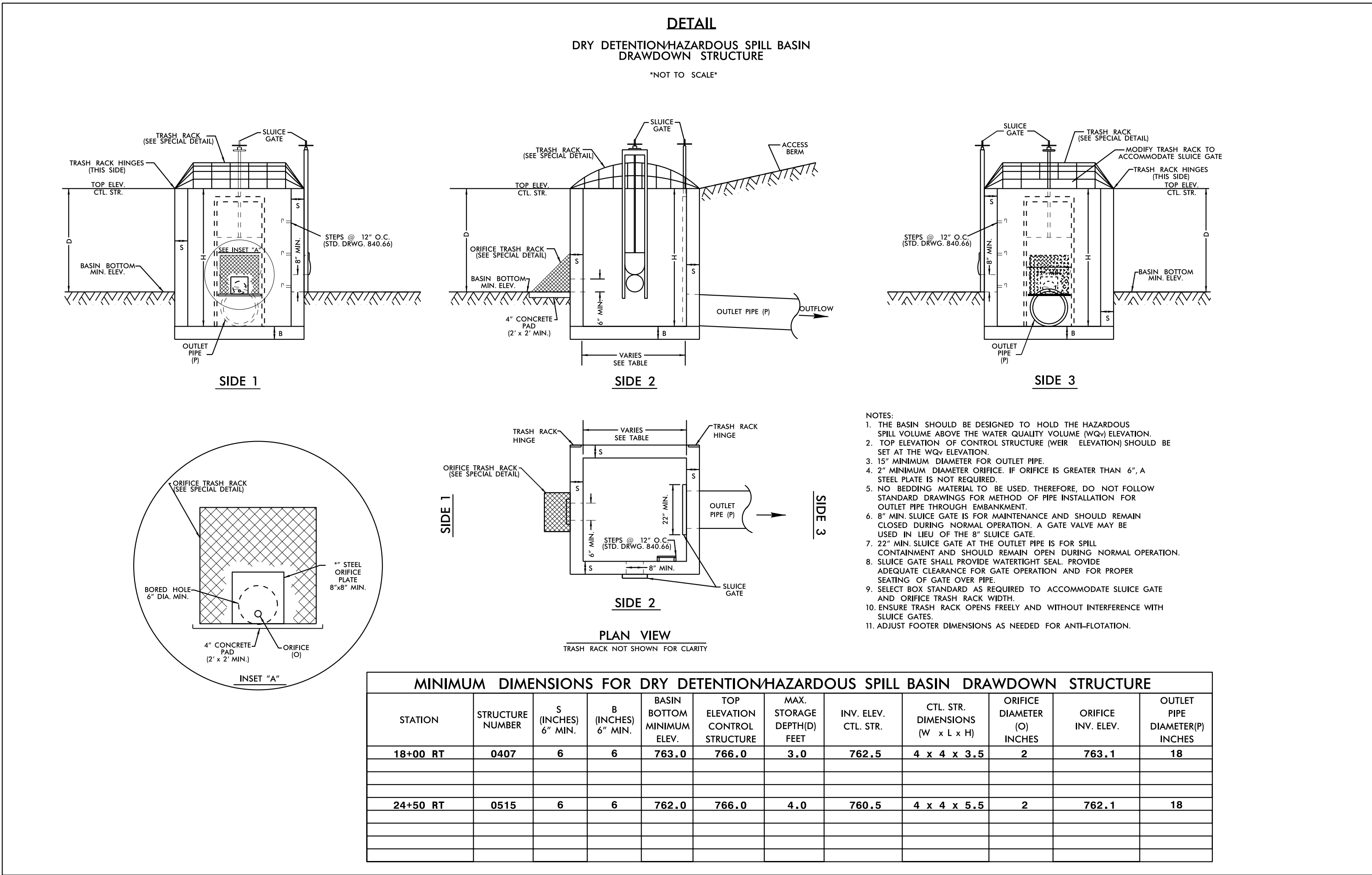


SEE SHEET TMP-4 FOR TRAFFIC CONTROL PLANS
SEE SHEET 5 FOR -L- PLAN SHEET
SEE SHEET 6 FOR -L- PROFILE
SEE SHEET 7 FOR -EL- PROFILE

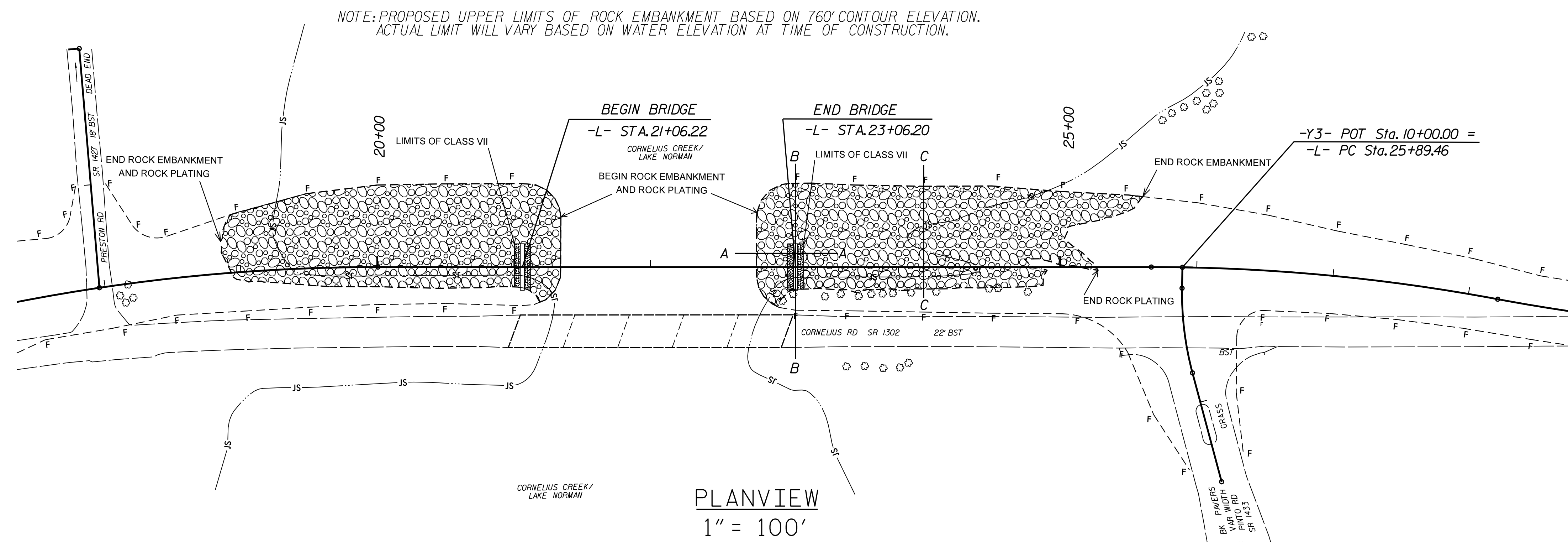
REVISIONS

8/17/99

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8/17/99
 REVISIONS
 09-NOV-2015 16:06 12_hyd_det.-trashrack.dgn
 5:54 PM C:\PROJECTS\B-5142\B-5142-2D\B-5142-2D-01.dwg



ROCK EMBANKMENT
18+85 TO 21+34 & 22+78 TO 25+59 -L-

*** ESTIMATED QUANTITIES**

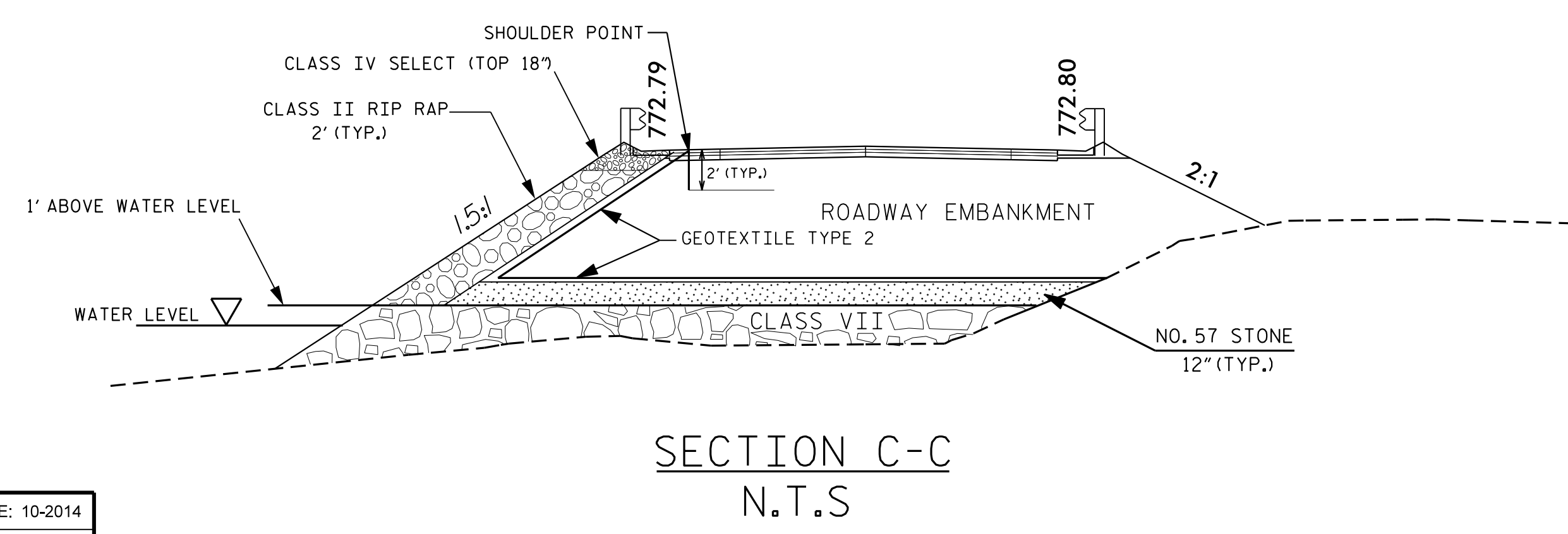
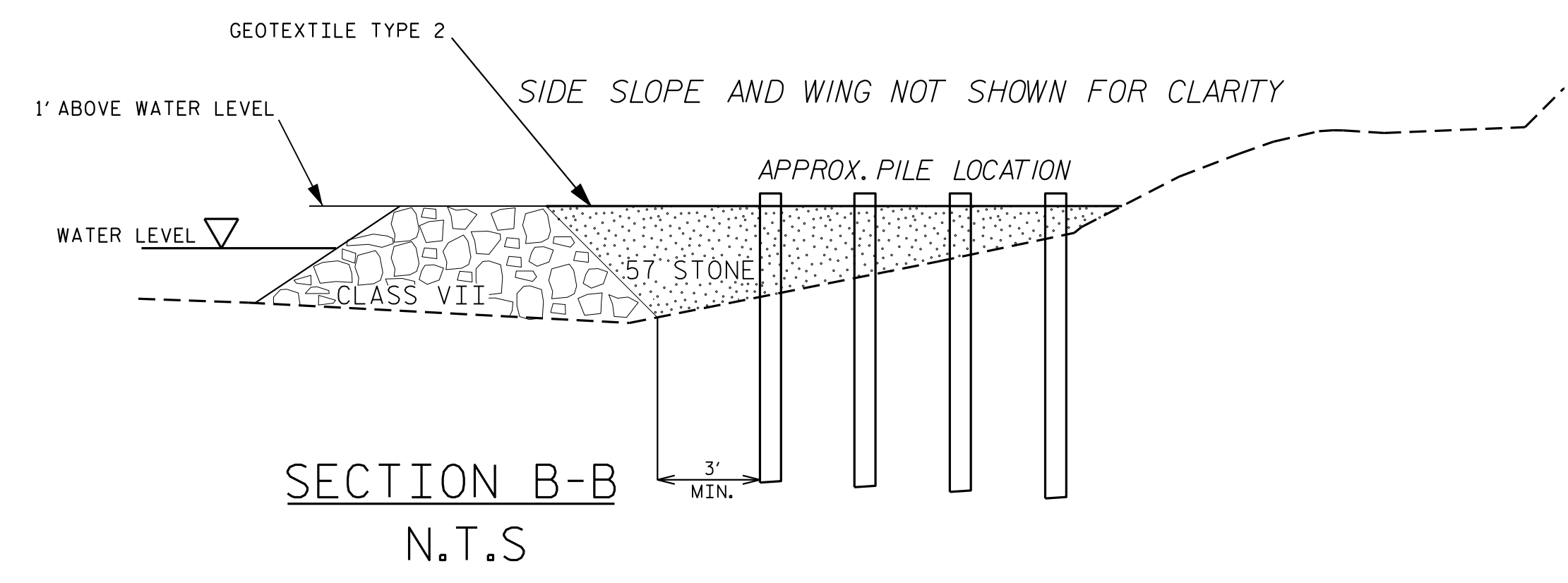
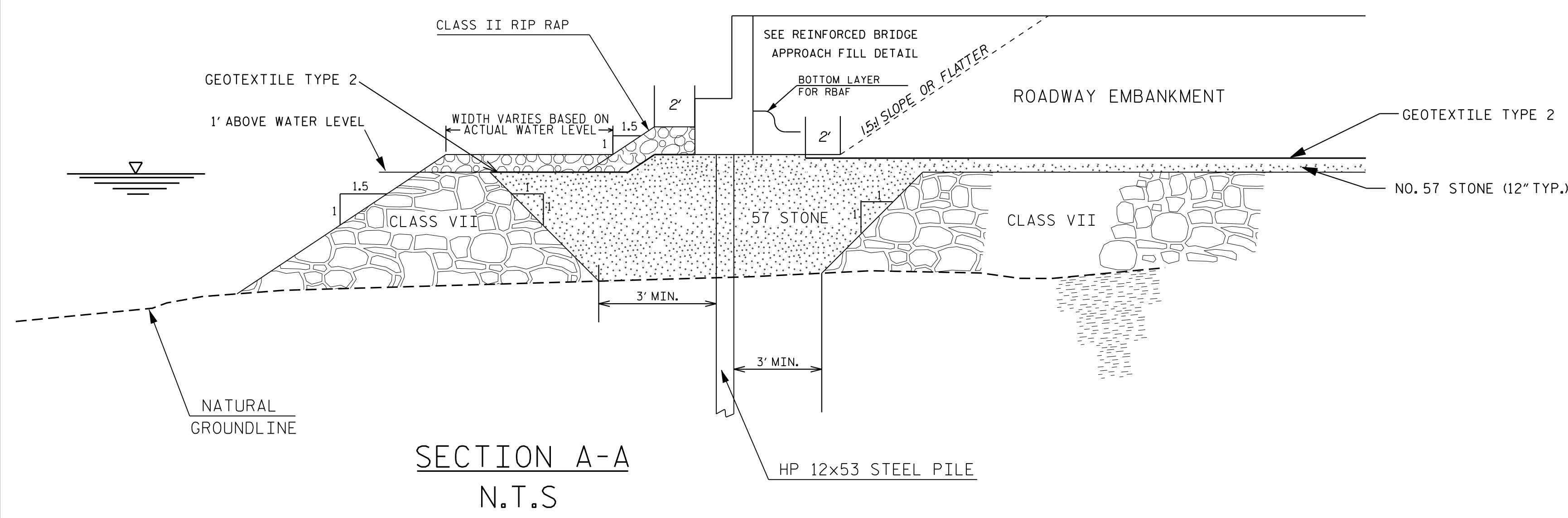
SELECT MATERIAL, CLASS VII.....	9,200 TONS
SELECT MATERIAL, CLASS VI (NO. 57 STONE).....	8,200 TONS
GEOTEXTILE TYPE 2 FOR DRAINAGE.....	3,900 SY

ROCK PLATING
18+85 TO 21+34 & 22+78 TO 25+28 -L-

*** ESTIMATED QUANTITIES**

PLAIN RIP RAP, CLASS II.....	950 TONS
GEOTEXTILE TYPE 2 FOR DRAINAGE.....	900 SY

* ESTIMATED QUANTITIES BASED ON WATER ELEVATION OF 759'
* ROCK PLATING QUANTITY INCLUDES ROCK PLACED IN FRONT OF CAP



NOTES ON PLANS:
CONSTRUCT ROCK EMBANKMENT 1' ABOVE WATER SURFACE AT TIME OF CONSTRUCTION AND ACCORDING TO THE SPECIAL PROVISION FOR ROCK EMBANKMENT.
CONSTRUCT ROCK PLATING FROM TOP OF ROCK EMBANKMENT TO THE SHOULDER POINT AND ACCORDING TO SECTION 275 OF THE STANDARD SPECIFICATIONS.

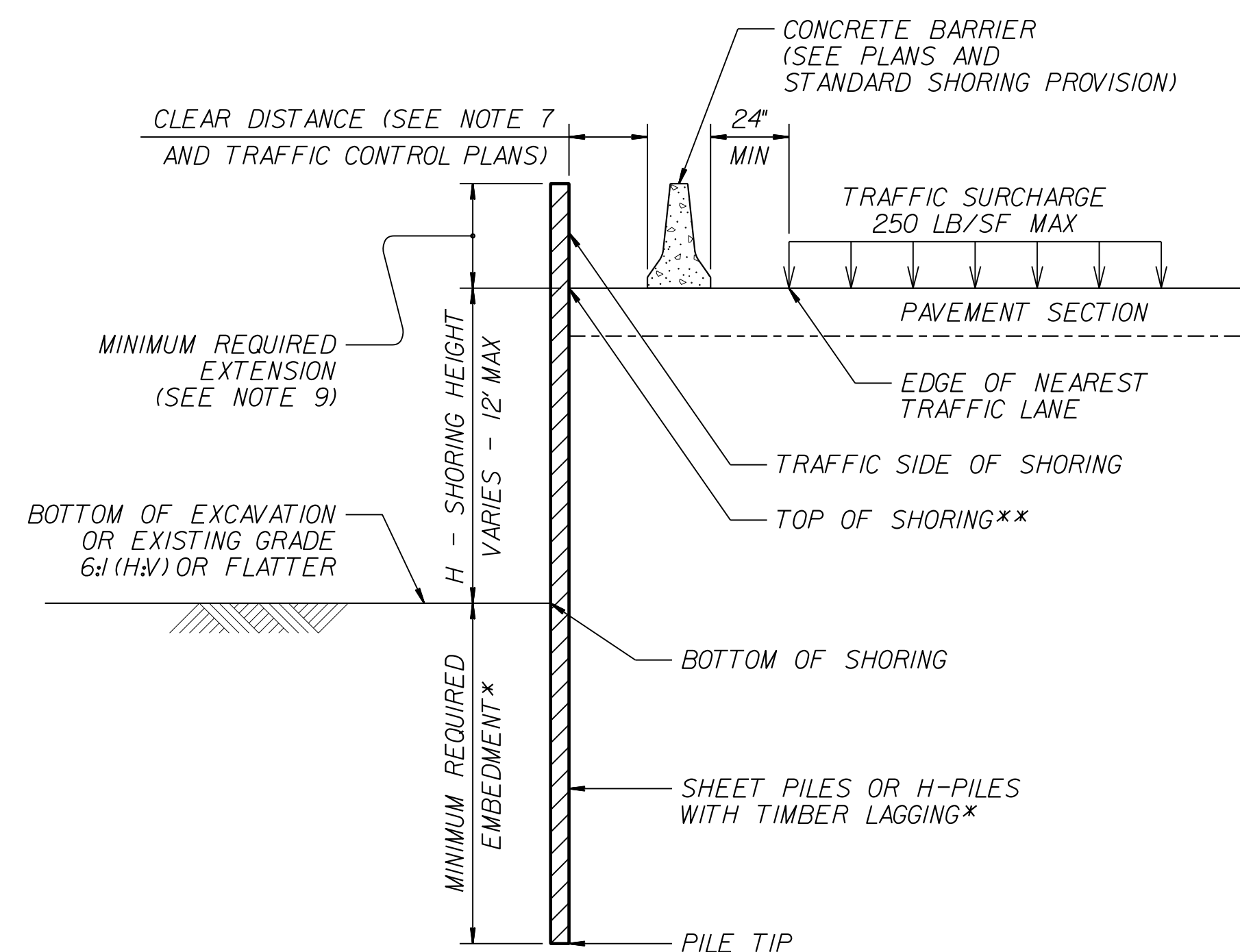
GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H-PILES WITH TIMBER LAGGING			SHEET PILES		H-PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)			MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)		
			HP 10x42	HP 12x53	HP 14x73			HP 10x42	HP 12x53	HP 14x73	
GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5
	8	15.0	10.0	--	15.0	15.0	18.0	17.0	--	15.5	15.5
	9	17.0	14.0	--	17.0	17.0	19.0	20.0	--	17.0	17.0
	10	18.5	19.5	--	--	18.5	20.0	23.5	--	--	18.5
	11	20.5	26.0	--	--	--	21.0	28.0	--	--	20.0
12	22.5	33.0	--	--	--	22.0	33.0	--	--	21.5	
GROUNDWATER ELEVATION BELOW PILE TIP	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5
	9	11.0	9.5	--	12.0	12.0	13.5	16.5	--	12.5	12.5
	10	12.5	13.0	--	--	13.5	14.0	19.5	--	13.5	13.5
	11	13.5	17.0	--	--	14.5	15.0	22.5	--	--	14.5
12	15.0	21.5	--	--	16.0	16.0	25.5	--	--	15.5	

MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

***DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "--".**

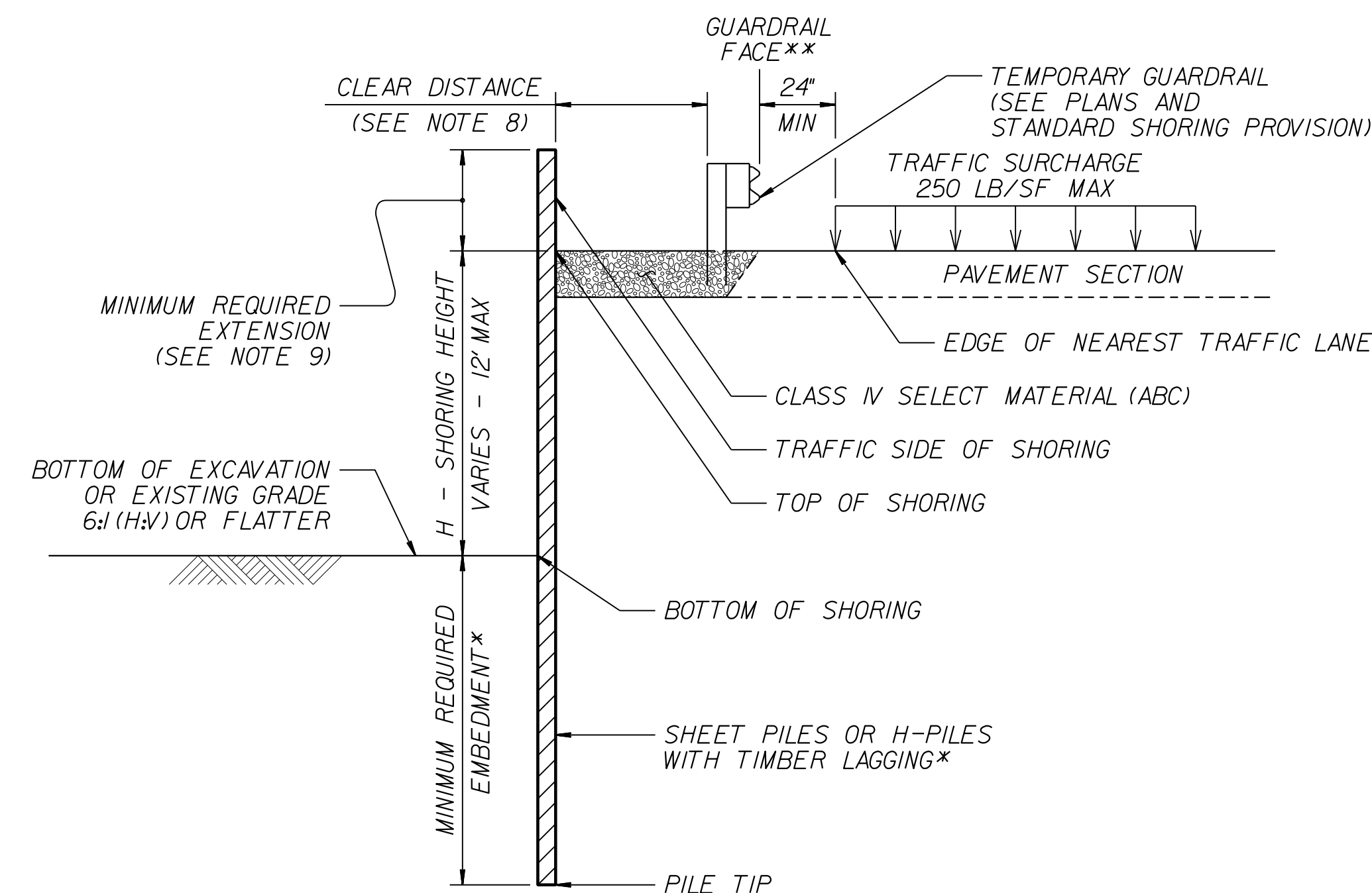
NOTES:

- AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
- FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
- STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ LB/CF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ LB/SF
- DO NOT USE STANDARD TEMPORARY SHORING IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
- DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS WITHIN THE EMBEDMENT DEPTH.
- USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, USE "GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP" FOR GROUNDWATER CONDITION. DO NOT USE STANDARD TEMPORARY SHORING IF GROUNDWATER IS ABOVE BOTTOM OF SHORING.
- AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN THE MINIMUM REQUIRED FOR CONCRETE BARRIER, SET BARRIER NEXT TO AND UP AGAINST TRAFFIC SIDE OF PILES AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
- AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN 4' FOR TEMPORARY GUARDRAIL, ATTACH GUARDRAIL TO TRAFFIC SIDE OF PILES AS SHOWN IN THE PLANS AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
- MINIMUM REQUIRED EXTENSION IS 6" FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32" FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".
- MINIMUM REQUIRED EMBEDMENT FOR H-PILES WITH TIMBER LAGGING IS BASED ON DRIVEN H-PILES AT MAXIMUM 6' SPACING. AT THE CONTRACTOR'S OPTION, EMBEDMENT DEPTHS MAY BE REDUCED BY 25% FOR DRILLED-IN H-PILES.
- SUBMIT A "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY SHORING CONSTRUCTION. UP TO 3 SHORING LOCATIONS MAY BE INCLUDED ON EACH FORM. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM:
connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
- CONTACT THE ENGINEER IF PILES DO NOT ATTAIN THE MINIMUM REQUIRED EMBEDMENT.

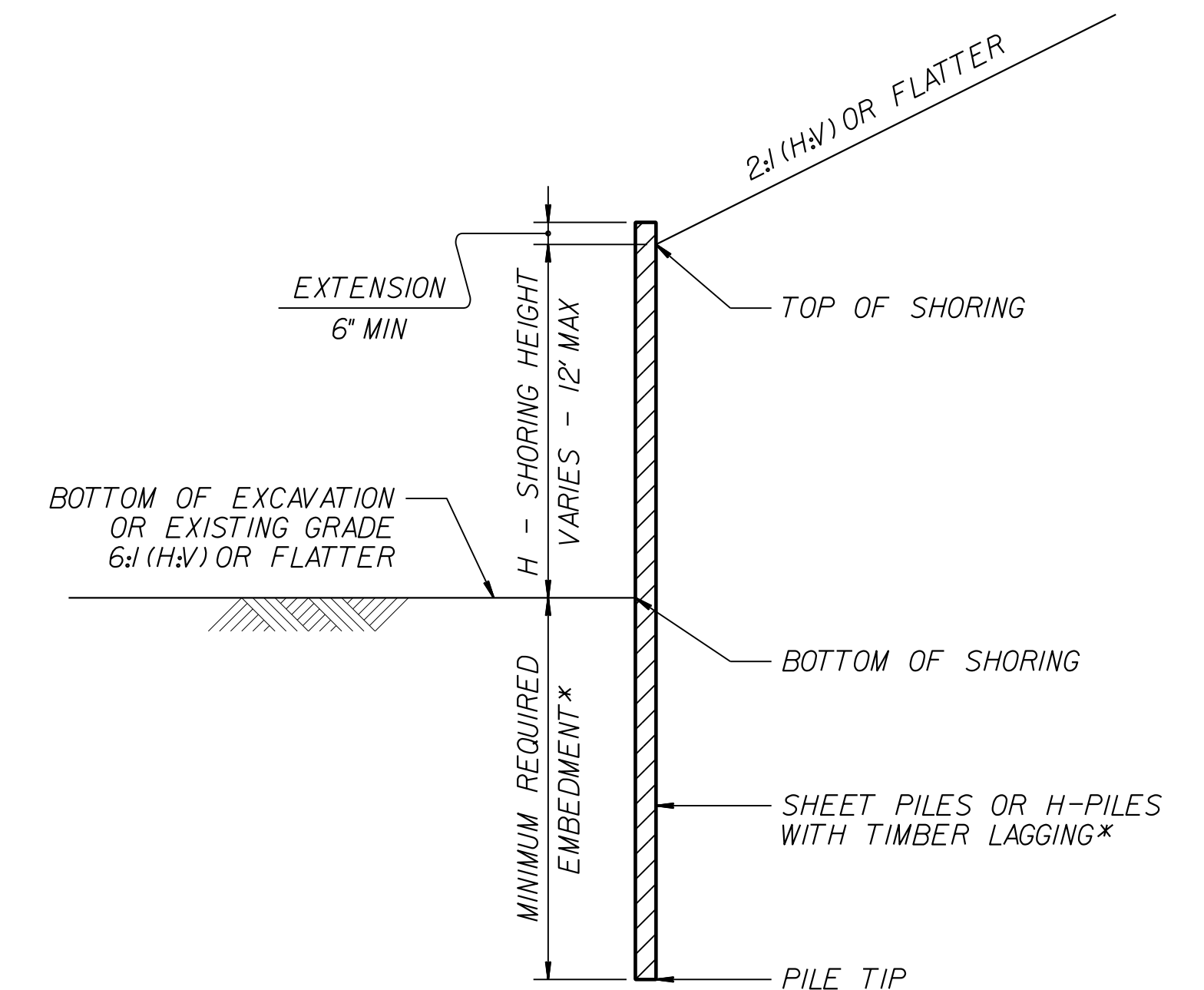


CONCRETE BARRIER
****TOP OF SHORING =**
EDGE OF PAVEMENT

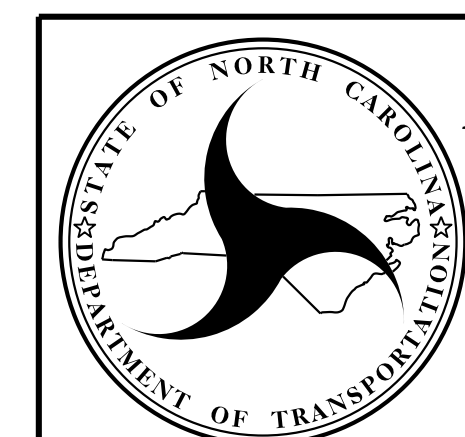
STANDARD TEMPORARY SHORING
(SURCHARGE CASE)
***SEE TABLE ABOVE.**



TEMPORARY GUARDRAIL
****GUARDRAIL FACE =**
EDGE OF PAVEMENT



STANDARD TEMPORARY SHORING
(SLOPE CASE)
***SEE TABLE ABOVE.**



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

STANDARD DETAIL NO. 1801.01

STANDARD
TEMPORARY SHORING

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

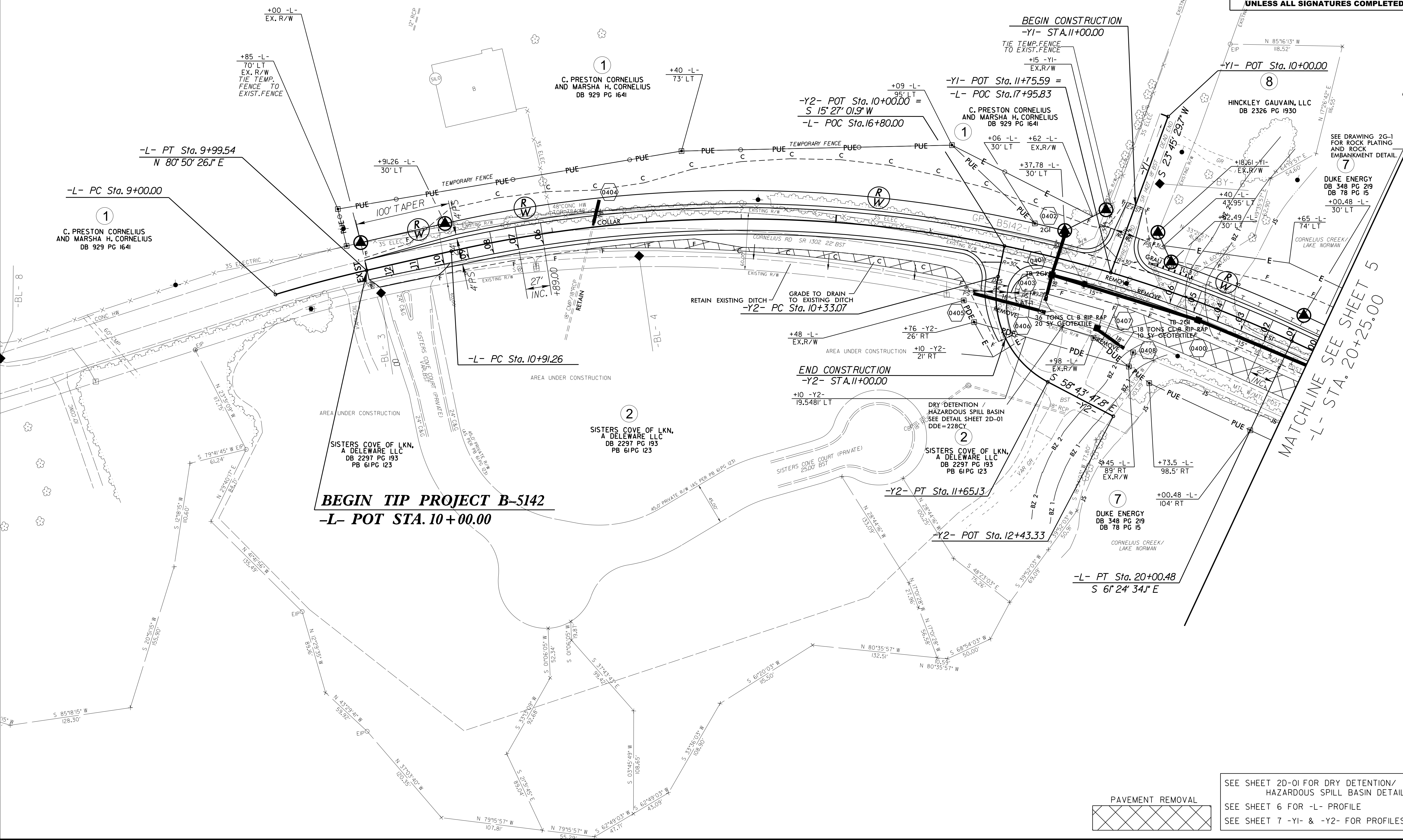
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 15

-L-

PI Sta 9+49.79 Δ = 4° 08' 54.5" (RT) D = 4° 10' 03.2" L = 99.54' T = 49.79' R = 1,374.80' SE = EXIST.	PI Sta 15+63.06 Δ = 37° 44' 59.7" (RT) D = 4° 09' 06.7" L = 909.23' T = 471.81' R = 1,380.00' SE = 06 V _D = 60 mph
---	--

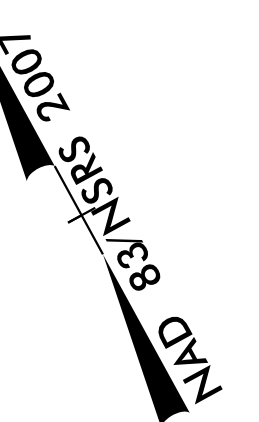
-Y2-

PI Sta 11+10.19 Δ = 74° 10' 49.8" (LT) D = 56° 10' 20.4" L = 132.06' T = 77.11' R = 102.00'
--



SEE SHEET 2D-01 FOR DRY DETENTION/
HAZARDOUS SPILL BASIN DETAIL
SEE SHEET 6 FOR -L- PROFILE
SEE SHEET 7 -Y1- & -Y2- FOR PROFILES

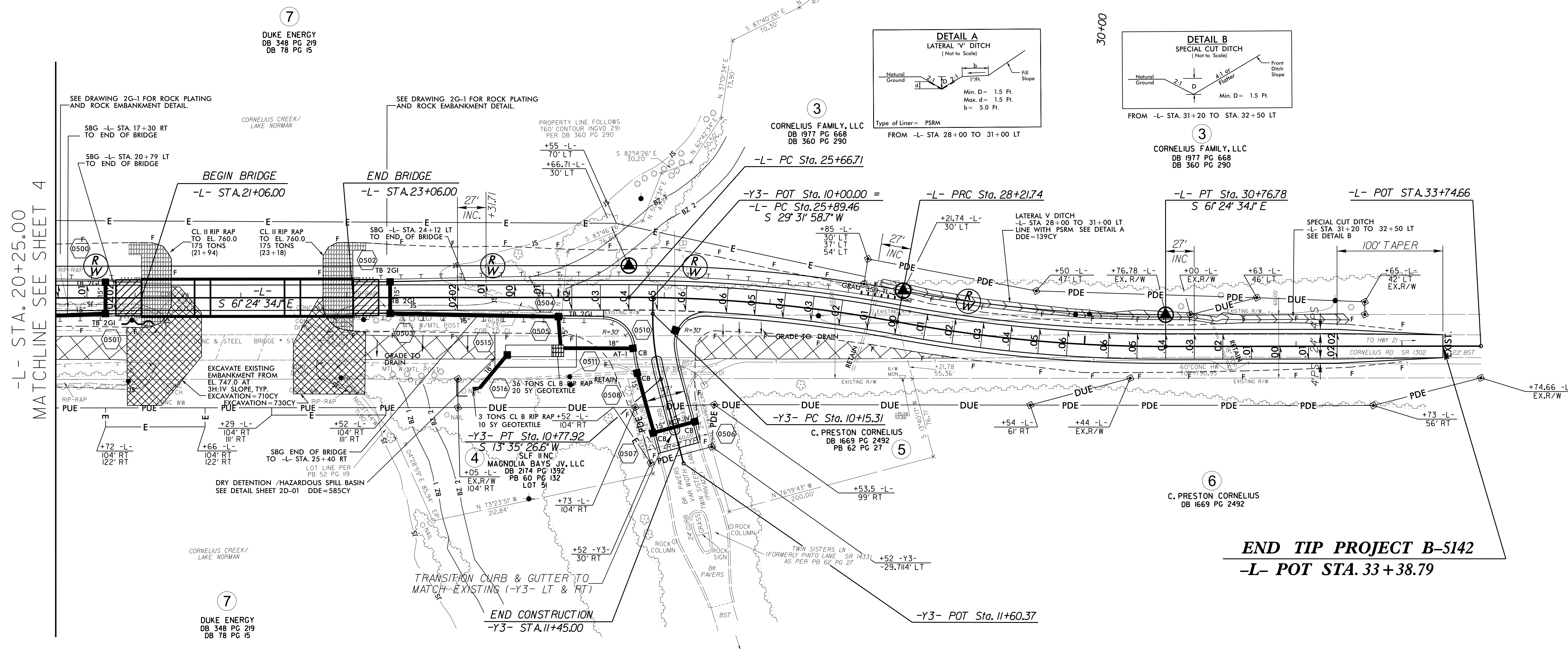




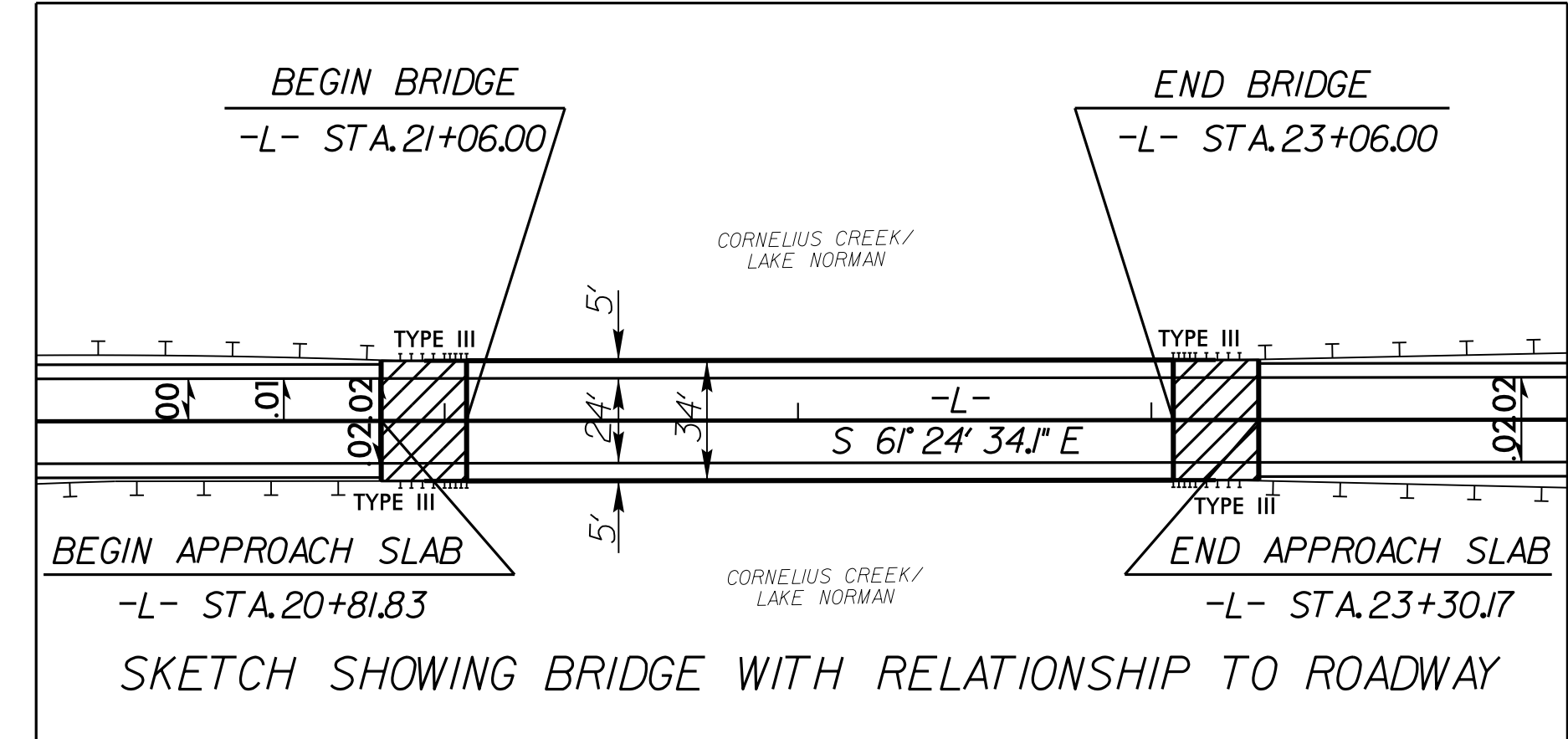
$-L-$
 PI Sta 26+94.59
 $\Delta = 10^\circ 35' 20.0''$ (RT)
 $D = 4^\circ 09' 06.7''$
 $L = 255.04'$
 $T = 127.88'$
 $R = 1,380.00'$
 $SE = .06$
 $V_D = 60$ mph

$-L-$
 PI Sta 29+49.63
 $\Delta = 10^\circ 35' 20.0''$ (LT)
 $D = 4^\circ 09' 06.7''$
 $L = 255.04'$
 $T = 127.88'$
 $R = 1,380.00'$
 $SE = .06$
 $V_D = 60$ mph

$-Y3-$
 PI Sta 10+46.82
 $\Delta = 15^\circ 56' 32.1''$ (LT)
 $D = 25^\circ 27' 53.2''$
 $L = 62.61'$
 $T = 31.51'$
 $R = 225.00'$



MATCHLINE SEE SHEET 4
 -L- STA. 20+25.00



END TIP PROJECT B-5142
-L- POT STA. 33+38.79

SEE SHEET 2B-01 FOR -Y3- BRICK PAVEMENT TRANSITION AND CONCRETE HEADER
 SEE SHEET 2B-02 FOR TEMPORARY WIDENING ALONG THE EXISTING -EL-
 SEE SHEET 2D-01 FOR DRY DETENTION/HAZARDOUS SPILL BASIN DETAIL
 SEE SHEET 6 FOR -L- PROFILE
 SEE SHEET 7 FOR -Y3- PROFILE
 SEE SHEET TMP-03 FOR SHORING LOCATION
 SEE SHEETS S-1 THRU S-38 FOR STRUCTURE PLANS



REVISIONS

8/17/99

27-OCT-2015 14:39 B-5142-Rdy_pst5.dgn
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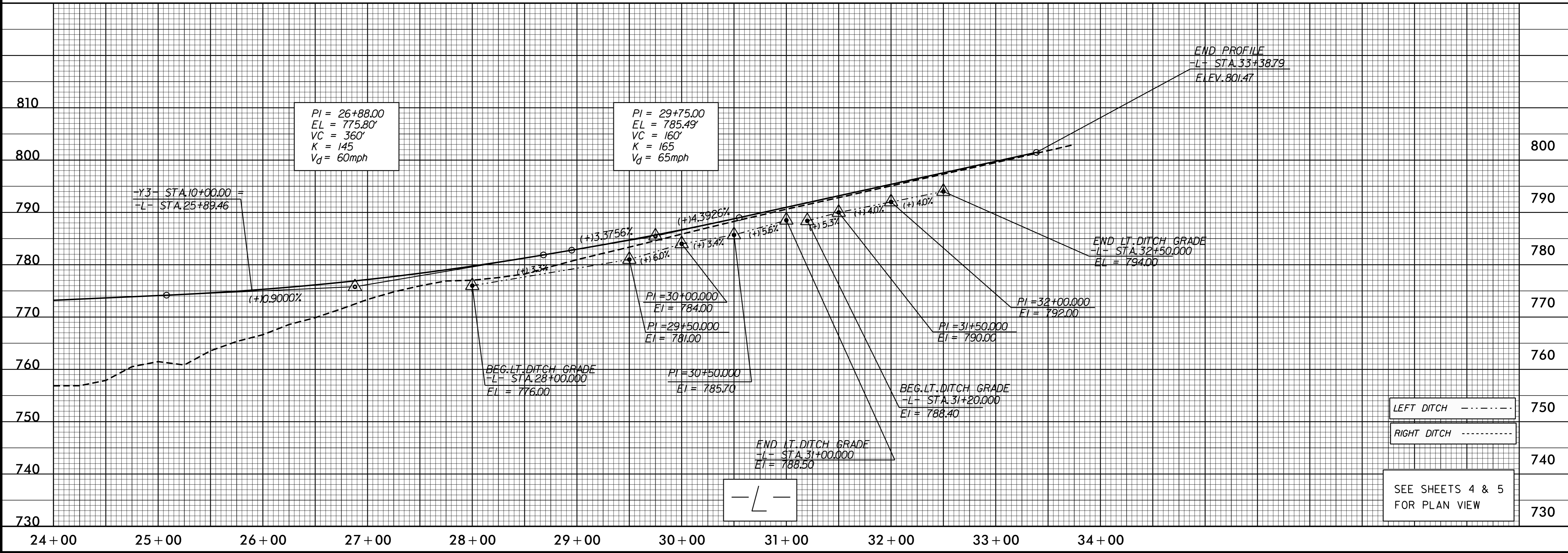
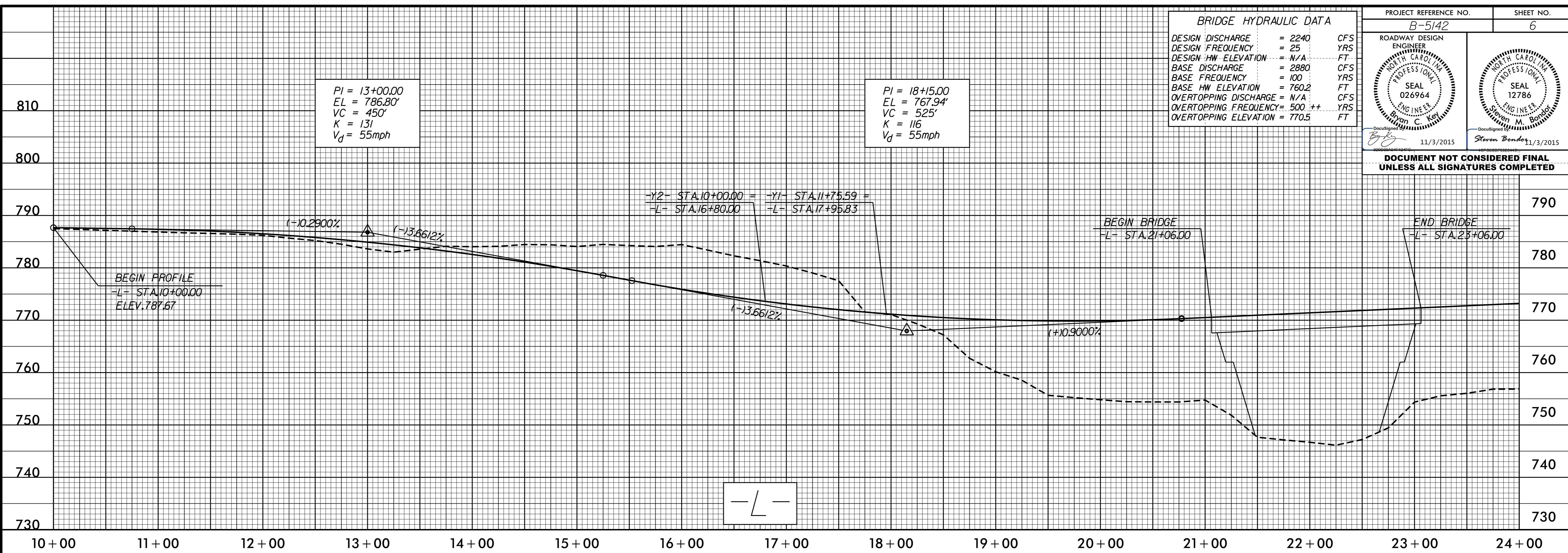
5/28/99

7/10/2015 14:30 B-5142-Rdy-pf1.dgn

BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 2240 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= N/A FT
BASE DISCHARGE	= 2880 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 760.2 FT
OVERTOPPING DISCHARGE	= N/A CFS
OVERTOPPING FREQUENCY	= 500 ++ YRS
OVERTOPPING ELEVATION	= 770.5 FT

PROJECT REFERENCE NO. B-5142	SHEET NO. 6
ROADWAY DESIGN ENGINEER SEAL 026964 Bryan C. Kay	SEAL 12786 Steven M. Bondot
11/3/2015	11/3/2015

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



LEFT DITCH - - - - -

RIGHT DITCH - - - - -

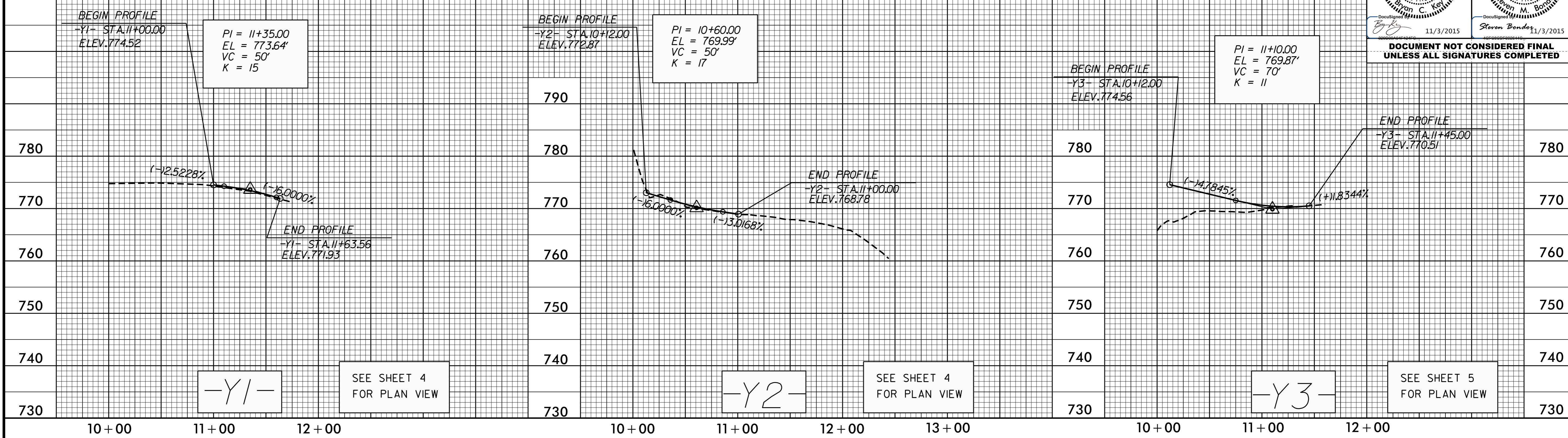
SEE SHEETS 4 & 5 FOR PLAN VIEW

5/28/15

27-OCT-2015 14:39
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PROJECT REFERENCE NO. B-5142	SHEET NO. 7
ROADWAY DESIGN ENGINEER SEAL 026964 Bryan C. Key	HYDRAULICS ENGINEER SEAL 12786 Steven M. Bondor
11/3/2015	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



-Y1-

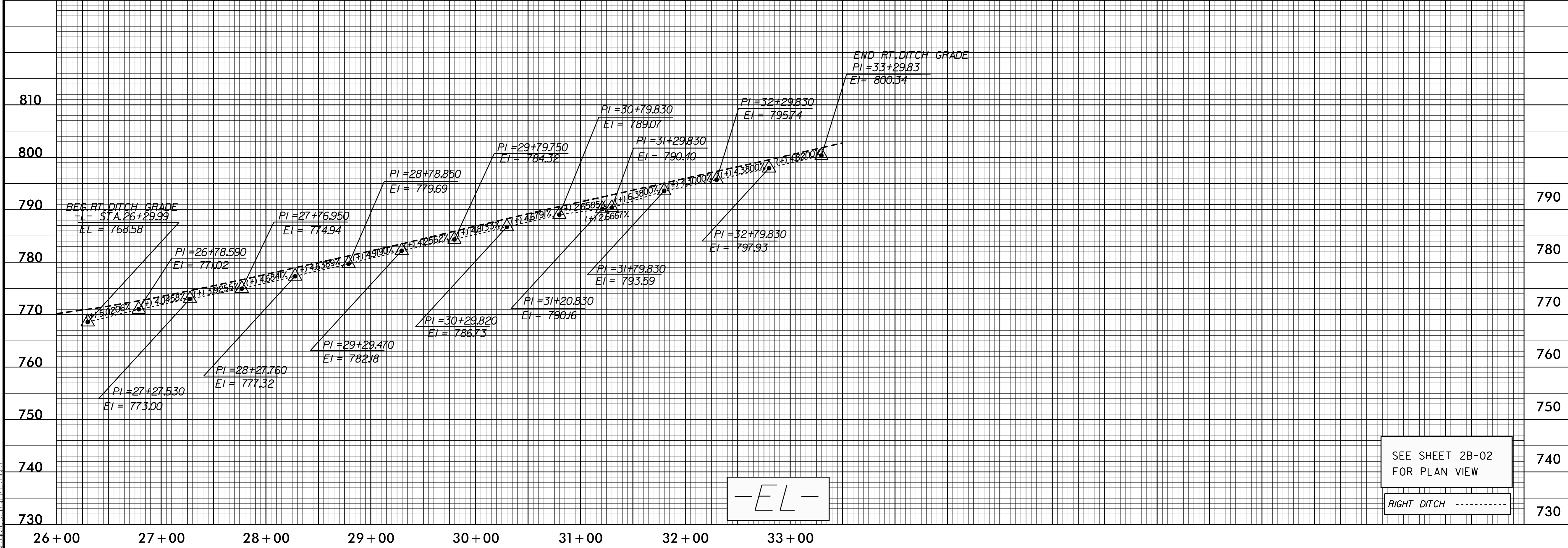
SEE SHEET 4
FOR PLAN VIEW

-Y2-

SEE SHEET 4
FOR PLAN VIEW

-Y3-

SEE SHEET 5
FOR PLAN VIEW



-EL-

SEE SHEET 2B-02
FOR PLAN VIEW

RIGHT DITCH - - - - -