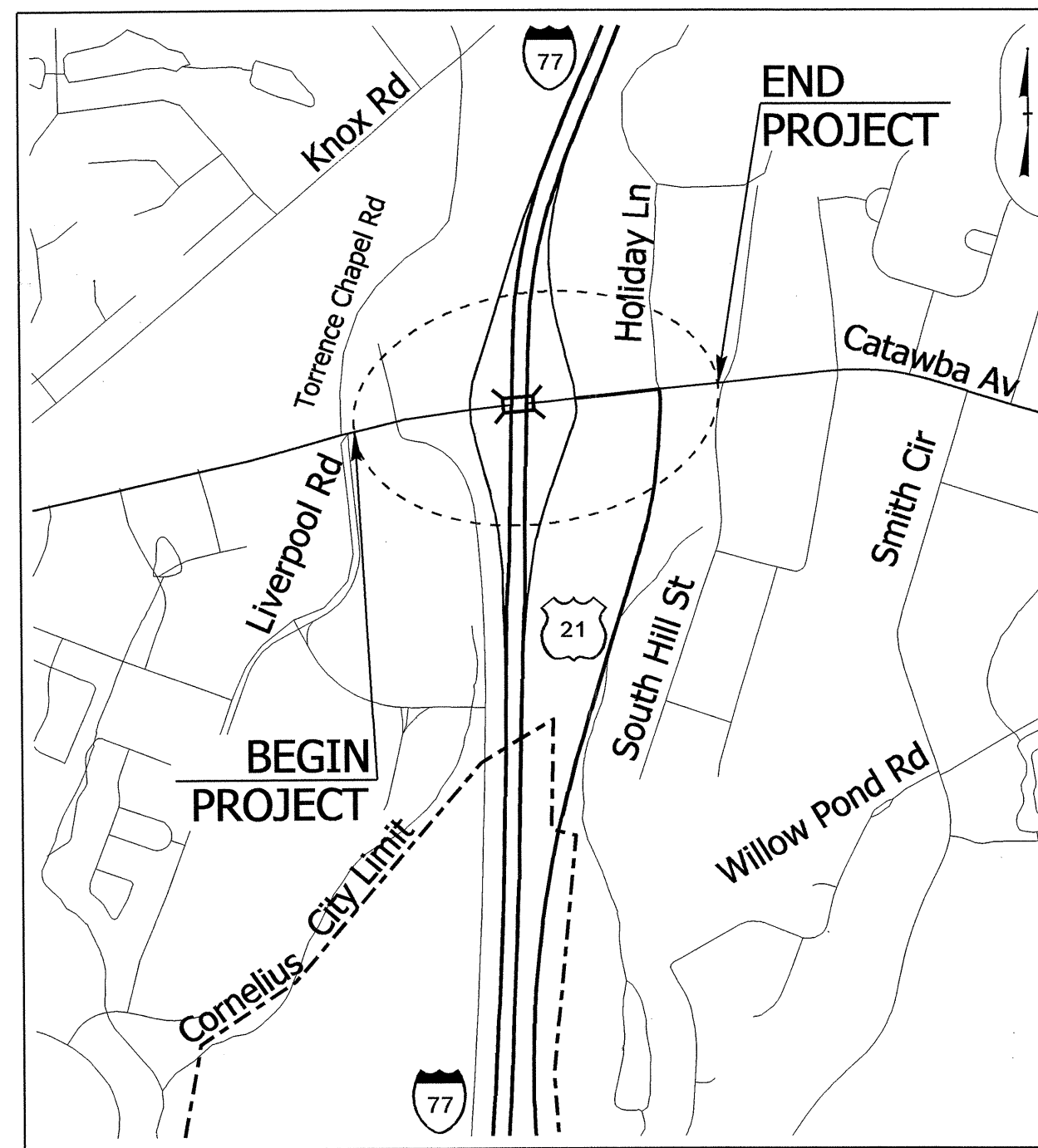


See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



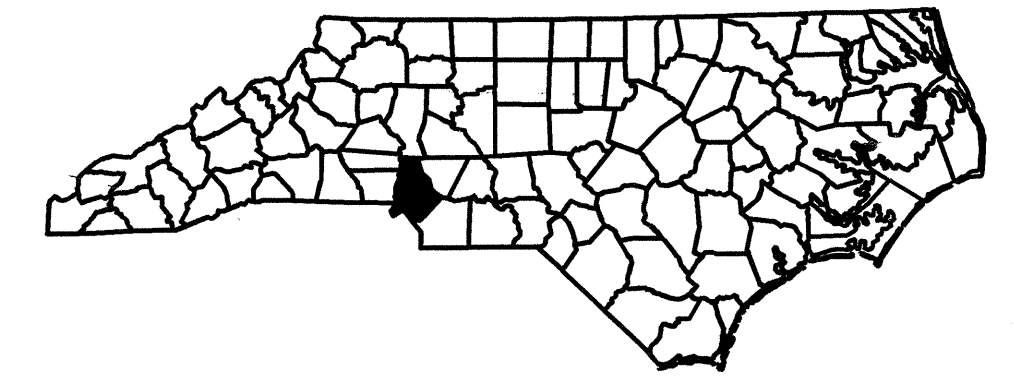
VICINITY MAP SHOWING LOCATION OF PROJECT I-4733

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
MECKLENBURG COUNTY

LOCATION: CORNELIUS, MODIFY INTERCHANGE AT
I-77 AND SR 5544 (W CATAWBA AVE.)
TYPE OF WORK: GRADING, DRAINAGE, PAVING,
SIGNALS, ITS AND STRUCTURE

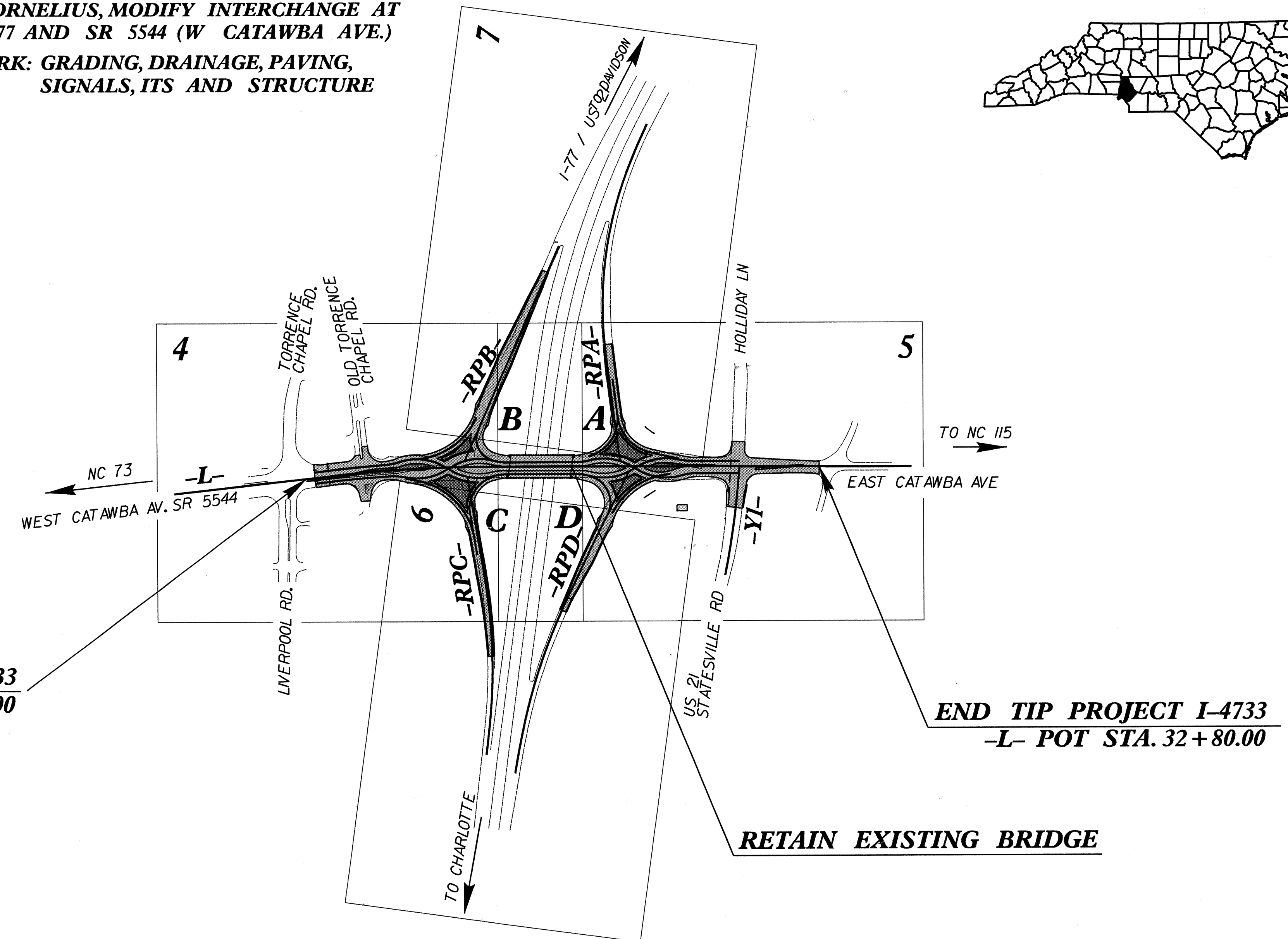
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-4733	1	
STATE PROJ. NO.	F.A. PROJ. NO. *	DESCRIPTION	
38063.1.1		PE	
38063.2.1		ROW & UTIL	
38063.3.FS1		CONST.	

* HPP-077-1(206)29 & TI-077-1(207)29



TIP PROJECT: I-4733

CONTRACT: C203203

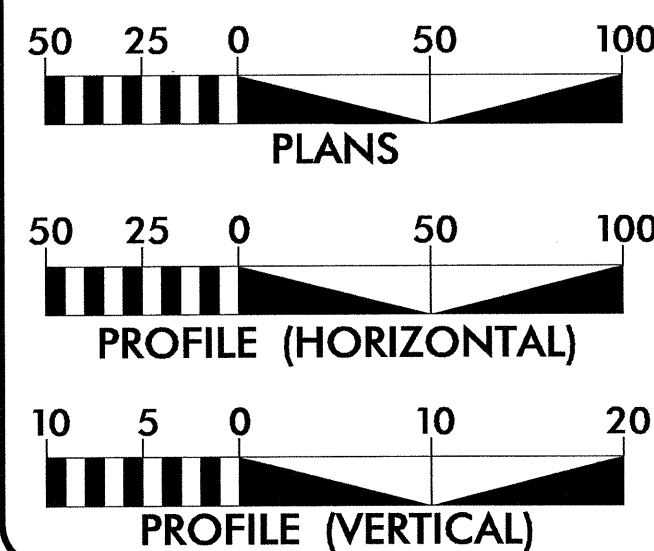


BEGIN TIP PROJECT I-4733
-L- POT STA. 14+69.00

END TIP PROJECT I-4733
-L- POT STA. 32+80.00

THERE IS AN EXISTING FULL CONTROL OF ACCESS FROM OLD TORRENCE CHAPEL ROAD TO US 21 ON THIS PROJECT

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 45,861
ADT 2033 = 58,731
DHV = 9 %
D = 55 %
T = 3 % *
V = 40 MPH
* TTST 1 DUAL 2
FUNC CLASS =
PRINCIPAL ARTERIAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT I-4733 = 0.343 MILES
LENGTH OF STRUCTURE TIP PROJECT I-4733 = 0.000 MILES
TOTAL LENGTH OF TIP PROJECT I-4733 = 0.343 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 20, 2012

LETTING DATE:
SEPTEMBER 17, 2013

TONY HOUSER, P.E.
PROJECT ENGINEER

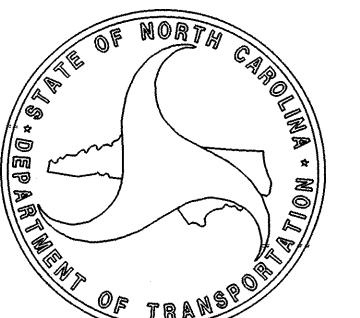
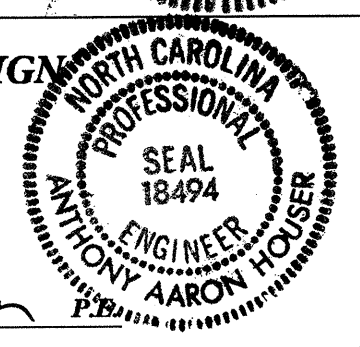
LEE ANN MOORE
PROJECT DESIGN ENGINEER

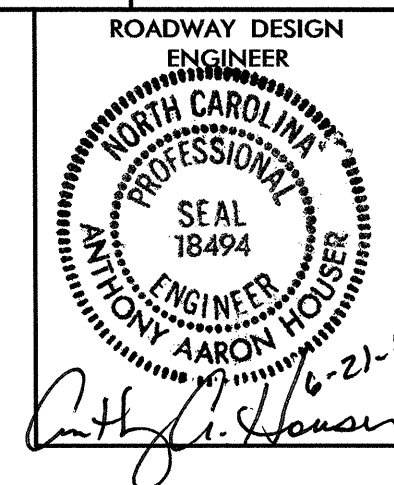
HYDRAULICS ENGINEER

W. Stalder 6/19/13
SIGNATURE: [Signature]

ROADWAY DESIGN ENGINEER

6-10-13
SIGNATURE: [Signature]





8/17/99

SHEET NUMBER	SHEET	2012 ROADWAY ENGLISH STANDARD DRAWINGS
1	TITLE SHEET	2012 ROADWAY ENGLISH STANDARD DRAWINGS
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF 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:
1-B	CONVENTIONAL SYMBOLS	STD. NO. TITLE
1-C THRU 1-E	SURVEY CONTROL SHEETS	DIVISION 2 - EARTHWORK
2 THRU 2G	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS	200.03 Method of Clearing - Method III
2H	SHEAR POINT DIAGRAM	225.04 Method of Obtaining Superelevation - Two Lane Pavement
2-I THRU 2J	DETAIL OF ALIGNMENT AND CURVE DATA	DIVISION 3 - PIPE CULVERTS
2K	-RPB- & -RPC- INTERSECTION DETAIL	300.01 Method of Pipe Installation
2L	-RPA- & -RPD- INTERSECTION DETAIL	DIVISION 5 - SUBGRADE, BASES AND SHOULDERS
2M	DDI ISOMETRIC VIEW	560.02 Method of Shoulder Construction - High Side of Superelevated Curve - Method II (Sheet 2 of 3 is no longer applicable)
2N THRU 2-O	MILLING DETAIL	DIVISION 6 - ASPHALT BASES AND PAVEMENTS
2P THRU 2Q	GUARDRAIL LOCATION DETAIL FOR DYNAMIC MESSAGE SIGN	654.01 Pavement Repairs
2R	DDI BARRIER RAIL DETAIL	DIVISION 8 - INCIDENTALS
2S	TRANSITION FROM 2'-6" CURB & GUTTER TO 6"x8" APPROACH SLAB CURB DETAIL	838.02 Concrete Endwall and Sluice Gate - 15" thru 36" Pipe 90 Skew
2T	GUARDRAIL ANCHOR UNIT, TYPE B-83 SHOP CURVE DETAIL	840.00 Concrete Base Pad for Drainage Structures
2U	DDI 8" MEDIAN ISLAND DETAIL	840.01 Brick Catch Basin - 12" thru 54" Pipe
2V	CONVERT EXISTING CATCH BASIN TO JUNCTION BOX WITH MANHOLE COVER	840.02 Concrete Catch Basin - 12" thru 54" Pipe
2-W	TEMPORARY STEEL PLATE COVERS FOR MASONRY DRAINAGE STRUCTURE	840.03 Frame, Grates and Hood - for Use on Standard Catch Basin
3 (3 SHEETS)	SUMMARY OF QUANTITIES	840.14 Concrete Drop Inlet - 12" thru 30" Pipe
3A	SUMMARY OF ASPHALT PAVEMENT REMOVAL SUMMARY	840.15 Brick Drop Inlet - 12" thru 30" Pipe
3-B THRU 3-C	SUMMARY OF DRAINAGE	840.16 Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
3-D	PARCEL INDEX SHEET	840.25 Anchorage for Frames - Brick or Concrete or Precast
4 THRU 7	PLAN SHEET	840.31 Concrete Junction Box - 12" thru 66" Pipe
8 THRU 13	PROFILE SHEET	840.32 Brick Junction Box - 12" thru 66" Pipe
TMP-1 THRU TMP-10B	TRANSPORTATION MANAGEMENT PLANS	840.34 Traffic Bearing Junction Box - for use with pipes 42" and under
E1 THRU E4	LIGHTING / ELECTRICAL CONSTRUCTION PLANS	840.45 Precast Drainage Structure
EC-1 THRU EC-11/CONST.7	EROSION CONTROL PLANS	840.54 Manhole Frame and Cover
SIG.1 THRU SIG.50	INTELLIGENT TRANSPORTATION & SIGNAL PLANS	840.66 Drainage Structure Steps
ITS-1 THRU ITS-13	DYNAMIC MESSAGE SIGN AND CAMERA INSTALLATION PLANS	840.72 Pipe Collar
SIGN-1 THRU SIGN-8	SIGNING PLANS	846.01 Concrete Curb, Gutter and Curb & Gutter
PMP-1 THRU PMP-5	PAVEMENT MARKING PLANS	848.01 Concrete Sidewalk
UC-1 THRU UC-7	UTILITIES PLANS	848.04 Street Turnout
UD-1 THRU UD-5	UTILITIES BY OTHER PLANS	848.05 Curb Ramp - Proposed Curb & Gutter
A-1 THRU A-25	ASTHETICS	848.06 Curb Ramp - Existing Curb & Gutter
X-1 THRU X-55	CROSS-SECTIONS	852.01 Concrete Islands
S-1 THRU S-4	STRUCTURE PLANS	852.02 Concrete Mountable Median - for Use with Rigid or Flexible Pavement

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

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 AND/OR STD. NO. 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:
ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 AND/OR STD. NO. 560.02

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.

DRIVEWAYS:
STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADI1 NOTED ON PLANS.

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.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE ENERGY UNITED (POWER)
AT&T (TELEPHONE), PIEDMONT NATURAL GAS (NATURAL GAS), PSNC (NATURAL GAS)
TIME WARNER TELECOM (ISP), MI COMMUNICATION (ISP),
CHARLOTTE-MECKLENBURG UTILITY DEPARTMENT (WATER & SEWER)
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 OTHERS.

CURB RAMPS
CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS.
CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

20-JUN-2013 15:35
R:\Roadwork\14733-Rdg_1A.dgn
\$\$\$\$\$

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	○ EIP
Property Corner	-----
Property Monument	EDM
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-
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	○
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 C/A Marker	▲ C/A
Existing Control of Access	○ C/A
Proposed Control of Access	○ C/A
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	▭ 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:

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-

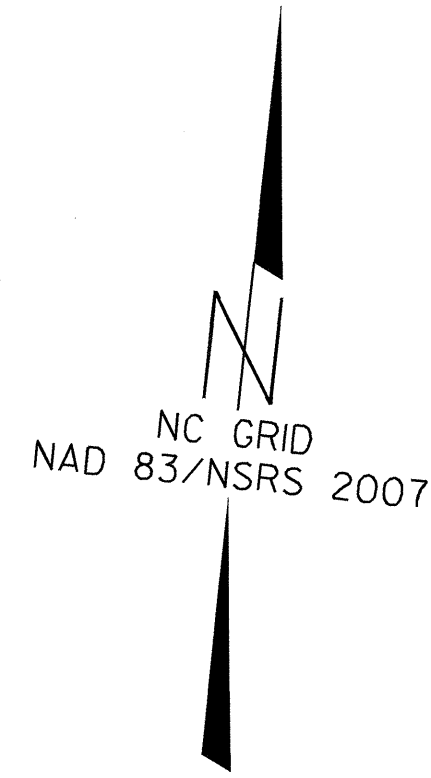
SANITARY SEWER:

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 I-4733



BM#4
N = 637168
E = 1441911
ELEV. = 790.71'

BEGIN TIP PROJECT I-4733
-L- POT STA. 14+48.00

END TIP PROJECT I-4733
-L- POT STA. 32+80.00

NCDOT GPS
STATION "I-4733-1"
N = 635992.2910
E = 1440674.4240
ELEV = 813.26'

NCDOT GPS
STATION "I-4733-2"
N = 636060.3680
E = 1441393.2800
ELEV = 814.21'

BM#5
N = 635598
E = 1442128
ELEV. = 807.81'

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "14733-1" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 635992.2910(ft) EASTING: 1440674.4240(ft) ELEVATION: 813.26'(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984676

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "14733-1" TO -L- STATION 10+00.00 IS S 37°26'33.0" W 71.14'

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

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATIONPROJECT/](http://www.ncdot.org/doh/preconstruct/highway/locationproject/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
I-4733_LS_CONTROL.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

NOTE: DRAWING NOT TO SCALE

SURVEY CONTROL SHEET I-4733

PROJECT REFERENCE NO.	SHEET NO.
I-4733	ID
Location and Surveys	

BENCHMARKS (NAVD88)

```

*****
BM*1      ELEVATION = 813.26'      BM*4      ELEVATION = 790.71'
N 635992   E 1440674
L STATION 10+55 46' LEFT
GPS I-4733-1
*****
BM*2      ELEVATION = 819.46'      BM*5      ELEVATION = 807.81'
N 636343   E 1443339
L STATION 36+05
  N 76°37'41" E DIST 136.87'
BL-14
*****
BM*3      ELEVATION = 821.94'
NCGS MON. "164 JAS RESET"
N 636117   E 1441794
L STATION 21+80 41' RIGHT
PUBLISHED COORDINATES ARE NAD 83 AND
NAVD 88
NAD 83/NSRS2007 STATE PLANE COORDINATES
AND NAVD 88 VERTICAL DATUM HAS BEEN
APPLIED FROM GPS
*****

```

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	GPS I-4733-1	635992.2910	1440674.4240	813.26	10+54.60	45.62 LT
10	BL-10	635945.1127	1440970.5814	810.80	13+33.18	65.41 RT
2	GPS I-4733-2	636060.3680	1441393.2800	814.21	17+72.68	41.25 RT
11	BL-11	636148.4840	1442132.1644	821.56	25+19.89	46.44 RT
12	BL-12	636188.7820	1442531.8279	819.02	29+21.69	49.43 RT
13	BL-13	636258.2545	1442964.2224	817.27	33+59.04	26.64 RT
14	BL-14	636342.7552	1443339.3633	819.46	OUTSIDE PROJECT LIMITS	
BY1 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
20	BY1-20	636358.3907	1441046.3711	810.32	14+97.82	321.16 LT
BY2 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
21	BY2-21	635696.8376	1441022.2283	804.68	13+29.08	318.96 RT
BY3 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
23	BY3-23	635714.4203	1442596.5745	800.64	29+35.28	527.99 RT
BY4 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
24	BY4-24	636438.9798	1443007.8642	811.86	34+21.77	148.37 LT
BY5 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
25	BY5-25	636052.1806	1442878.8188	813.78	32+52.06	222.39 RT
BY6 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
22	BY6-22	636626.3150	1442597.6741	807.26	30+33.99	378.54 LT
RPA POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
26	RPA-26	636610.9632	1442067.0538	801.71	25+05.86	420.39 LT
RPB POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
27	RPB-27	636424.8911	1441659.3017	812.61	20+82.15	280.26 LT
RPC POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
28	RPC-28	635707.7768	1441733.2702	798.45	20+71.00	440.57 RT
RPD POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
29	RPD-29	635668.4207	1442059.5773	798.77	23+95.12	515.65 RT

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "I4733-1"

WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
 NORTHING: 635992.2910(ft) EASTING: 1440674.4240(ft)
 ELEVATION: 813.26'(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984676

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "I4733-1" TO -L- STATION 10+00.00 IS
 S 37°26'33.0" W 71.14'

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

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATIONPROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATIONPROJECT/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 I-4733_LS_CONTROL.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

NOTE: DRAWING NOT TO SCALE

SURVEY CONTROL SHEET I-4733

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	635935.8053	1440631.1710
PC	15+60.25	636058.7595	1441177.7595
PT	21+17.47	636150.5359	1441727.0842
PC	25+62.83	636199.3465	1442169.7564
PT	26+91.19	636213.2509	1442297.3605
POT	36+05.29	636311.1027	1443206.2080

Y1			
TYPE	STATION	NORTH	EAST
POT	10+00.00	636246.1203	1442602.6521
PC	10+50.82	636195.3120	1442603.9394
PT	13+79.70	635866.7886	1442593.3687
POT	13+87.09	635859.4280	1442592.7070

RPA			
TYPE	STATION	NORTH	EAST
TS	10+00.00	637407.0232	1442150.8596
SC	11+89.00	637226.2360	1442095.8986
CS	17+34.19	636685.3611	1442073.7701
ST	19+23.19	636500.6884	1442113.7792
POT	22+13.41	636218.6042	1442181.9776

RPAEB			
TYPE	STATION	NORTH	EAST
PC	10+00.00	636383.6943	1442154.4101
PT	11+98.43	636223.2508	1442069.4731

RPAWB			
TYPE	STATION	NORTH	EAST
POT	10+00.00	636503.5083	1442125.4431
PC	11+31.26	636375.9251	1442156.2985
PT	13+20.19	636258.9911	1442289.5676
POT	14+18.22	636248.5468	1442387.0344

RPB			
TYPE	STATION	NORTH	EAST
POT	10+00.00	636948.9317	1441887.7548
POT	18+28.03	636159.7910	1441636.9670

RPBEB			
TYPE	STATION	NORTH	EAST
PC	10+00.00	636274.7329	1441673.4954
PT	11+38.25	636172.0007	1441738.2690

ROW MARKER CONCRETE OR GRANITE-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	16+94.72	-90.93	636175.7180	1441291.7760
L	17+60.00	-75.00	636172.4646	1441359.9421
L	18+00.00	-75.00	636179.6259	1441399.9054
L	19+60.37	-140.81	636270.2715	1441551.4013
L	26+58.22	106.75	636103.5854	1442276.0807
L	26+63.85	-133.19	636342.7294	1442255.8542
L	27+07.12	75.70	636139.6924	1442321.3024
L	27+08.00	-100.00	636314.4759	1442303.3708
L	28+78.35	75.66	636158.0630	1442491.5420
L	29+14.89	131.52	636106.4300	1442533.8560
L	29+65.27	-75.00	636317.1600	1442561.8429

RPBWB			
TYPE	STATION	NORTH	EAST
PC	10+00.00	636318.4509	1441662.2061
PT	12+78.83	636146.8940	1441460.7604

RPC			
TYPE	STATION	NORTH	EAST
TS	10+00.00	635138.5160	1441822.6947
SC	11+80.00	635318.4904	1441821.0604
CS	15+31.88	635666.7161	1441774.1465
ST	17+11.88	635840.7063	1441728.0936
POT	19+89.35	636107.7761	1441652.8482

RPCEB			
TYPE	STATION	NORTH	EAST
PC	10+00.00	635893.4210	1441700.7743
PT	13+00.89	636074.5527	1441483.2670
POT	13+50.60	636079.1509	1441433.7680

RPCWB			
TYPE	STATION	NORTH	EAST
POT	10+00.00	635837.4521	1441716.5433
PC	11+49.72	635981.5608	1441675.9415
PT	13+16.24	636116.9816	1441744.2335

RPD			
TYPE	STATION	NORTH	EAST
TS	10+00.00	635085.7112	1441929.8298
SC	11+80.00	635265.1042	1441944.4110
CS	15+76.89	635652.9006	1442025.9216
ST	17+56.89	635822.9835	1442084.7964
POT	21+44.13	636187.0313	1442216.8096

RPDEB			
TYPE	STATION	NORTH	EAST
PC	10+00.00	636033.6581	1442173.9571
PT	12+59.68	636194.2034	1442363.1944

RPDWB			
TYPE	STATION	NORTH	EAST
PC	10+00.00	636026.9449	1442158.7581
PT	11+73.89	636157.0922	1442080.5015

WBL			
TYPE	STATION	NORTH	EAST
POT	10+00.00	636064.8059	1441114.6468
PC	10+60.25	636078.0280	1441173.4251
PRC	12+51.60	636116.4559	1441360.8724
PRC	13+00.43	636131.0926	1441407.3290
PT	14+63.11	636134.3510	1441565.5260
PC	14+97.11	636121.5473	1441597.0231
PRC	16+46.73	636119.7872	1441743.1710
PT	16+97.17	636131.5454	1441792.0032
PC	19+37.17	636157.8492	1442030.6374
PRC	19+87.17	636157.0922	1442080.5015
PT	21+37.17	636191.1801	1442222.9898
PC	21+71.17	636210.6526	1442250.8613
PRC	23+14.49	636245.5639	1442386.7147
PT	23+57.29	636245.5746	1442429.4336
POT	25+31.33	636264.2048	1442602.4708

EBL			
TYPE	STATION	NORTH	EAST
POT	10+00.00	636026.2689	1441123.3157
PC	10+60.25	636039.4910	1441182.0940
PCC	12+61.81	636079.7358	1441379.5840
PRC	13+16.49	636082.1381	1441434.0455
PT	14+57.80	636117.7983	1441567.7558
PC	14+91.80	636137.3841	1441595.5478
PRC	16+42.18	636172.0007	1441738.2690
PT	16+91.74	636171.3044	1441787.6992
PC	19+31.74	636197.6082	1442026.2534
PRC	19+81.74	636209.2114	1442074.7547
PT	21+31.74	636206.9874	1442221.2468
PC	21+65.74	636194.0553	1442252.6914
PRC	23+20.25	636193.4660	1442403.3844
PT	23+75.27	636206.7593	1442456.5968
POT	25+26.45	636222.9433	1442606.9132

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "I4733-1" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 635992.2910(++) EASTING: 1440674.4240(++) ELEVATION: 813.26'(++)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984676

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "I4733-1" TO -L- STATION 10+00.00 IS
S 37°26'33.0" W 71.14'

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

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)
THE FILES TO BE FOUND ARE AS FOLLOWS:
I-4733_LS_CONTROL.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

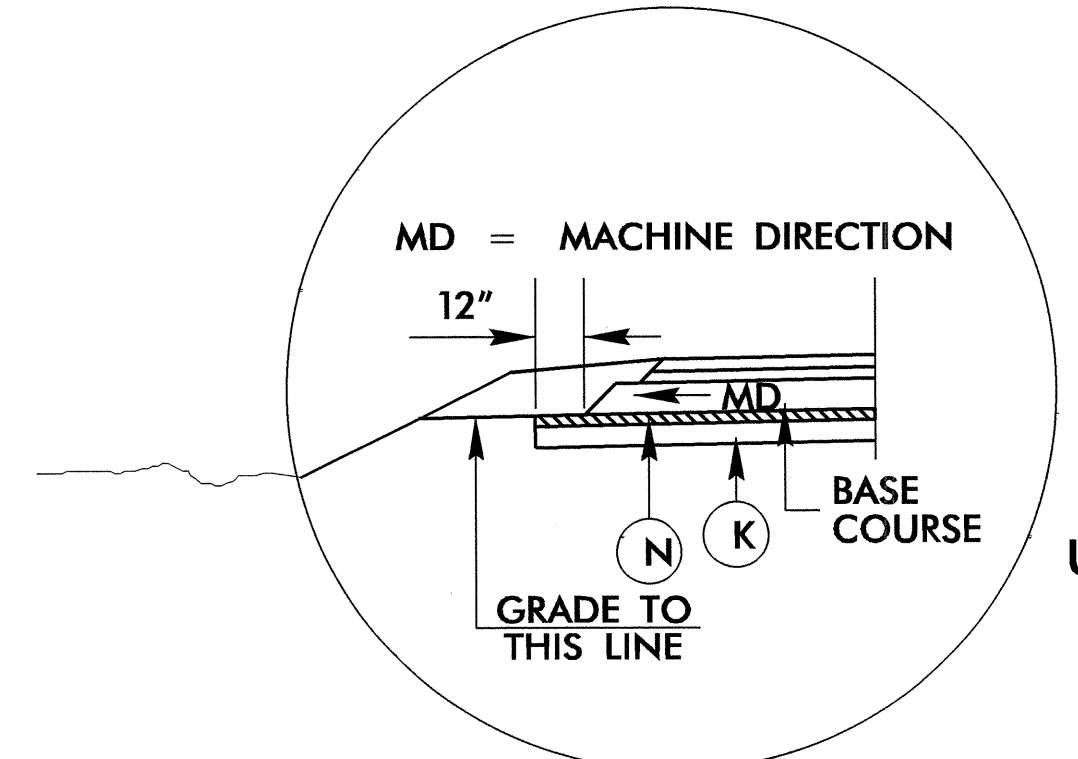
NOTE: DRAWING NOT TO SCALE

5/14/09

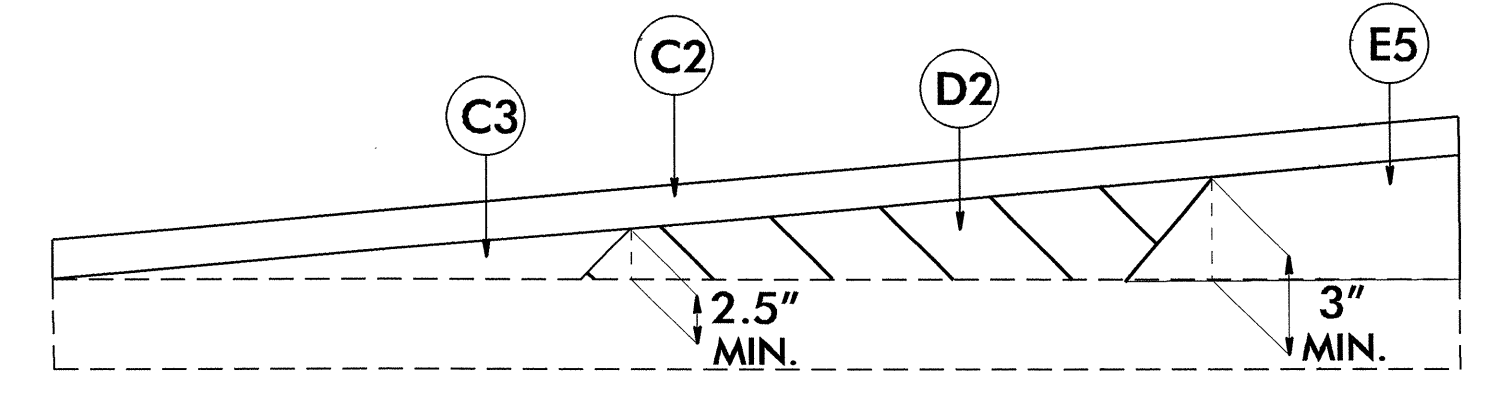
PROJECT REFERENCE NO. 1-4733	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494 AARON HOUSE	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 0399 JUNE 27, 2013

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	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.
C3	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. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 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 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E3	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.5B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E4	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.5B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E5	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 5.5" IN DEPTH.
K	STABILIZED SUB-GRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION.
R1	2'-6" CONCRETE CURB AND GUTTER.
R2	1'-6" CONCRETE CURB AND GUTTER.
R3	5" MONOLITHIC CONCRETE ISLAND (KEYED-IN).
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	1.5" MILLING
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET NO. 2)

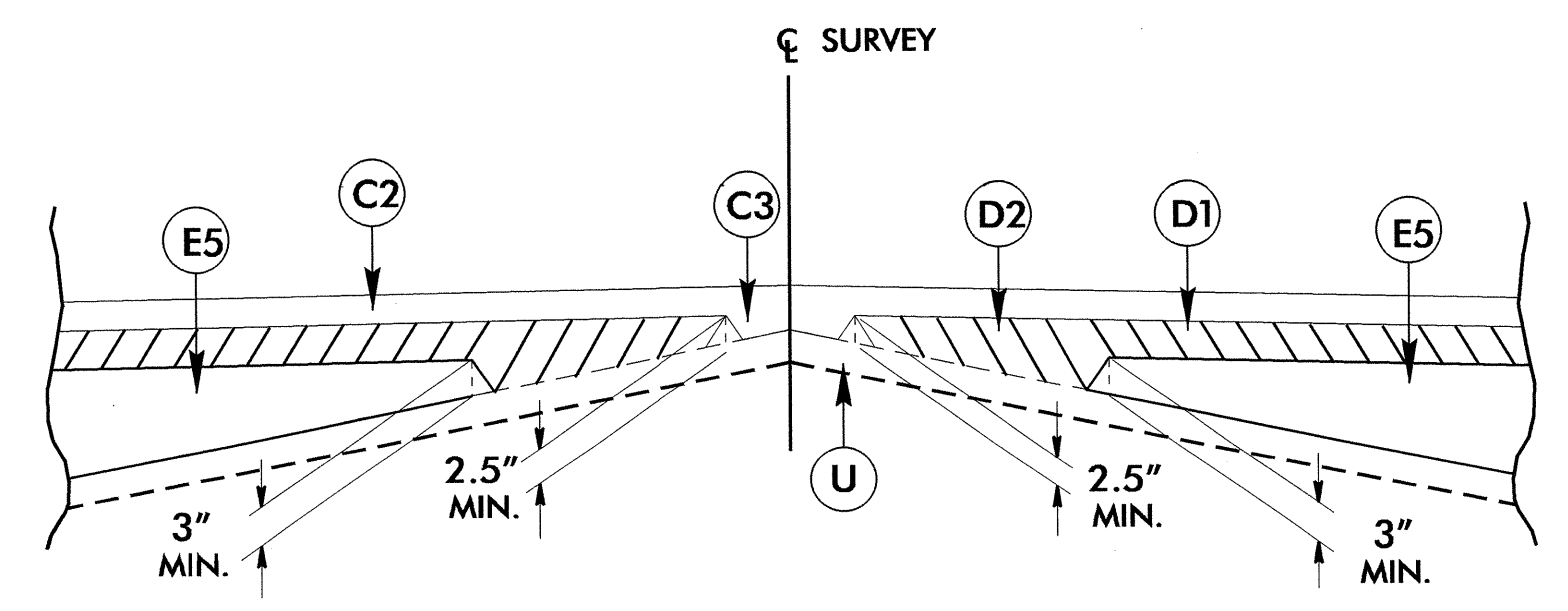
NOTE: PAV. EDGES ARE 1:1 UNLESS SHOW OTHERWISE



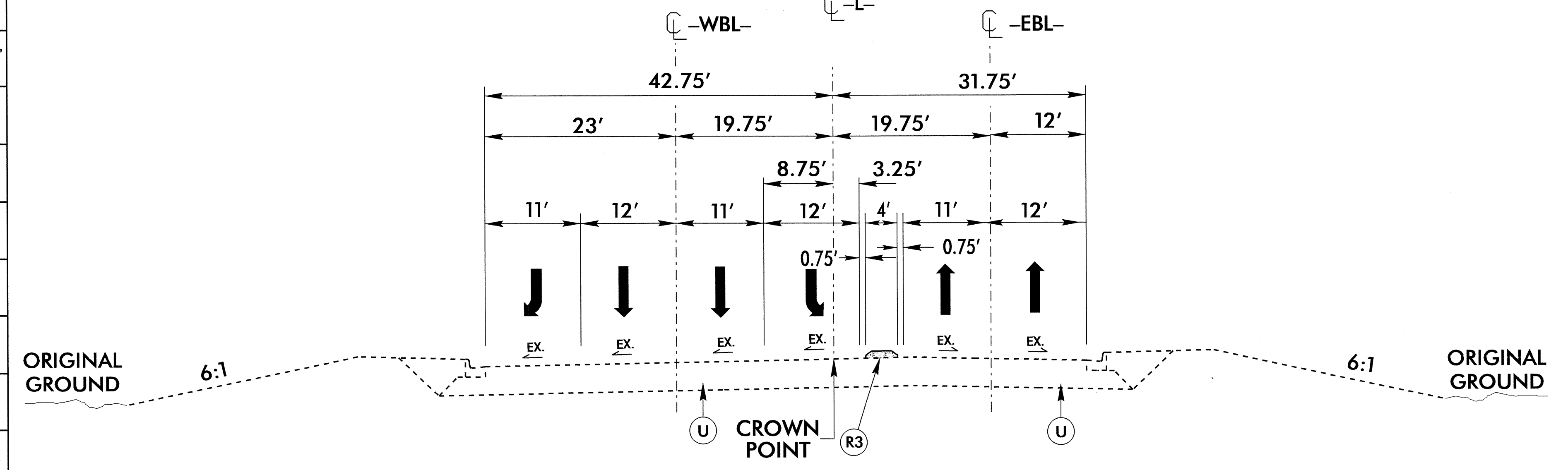
GEOTEXTILE FOR PAVEMENT STABILIZATION AND STABILIZER AGGREGATE DETAIL
USE DETAIL INCONJUNCTION WITH FULL DEPTH PAVEMENT AS RECOMMENDED BY GEOTECH



Wedge Detail For Resurfacing

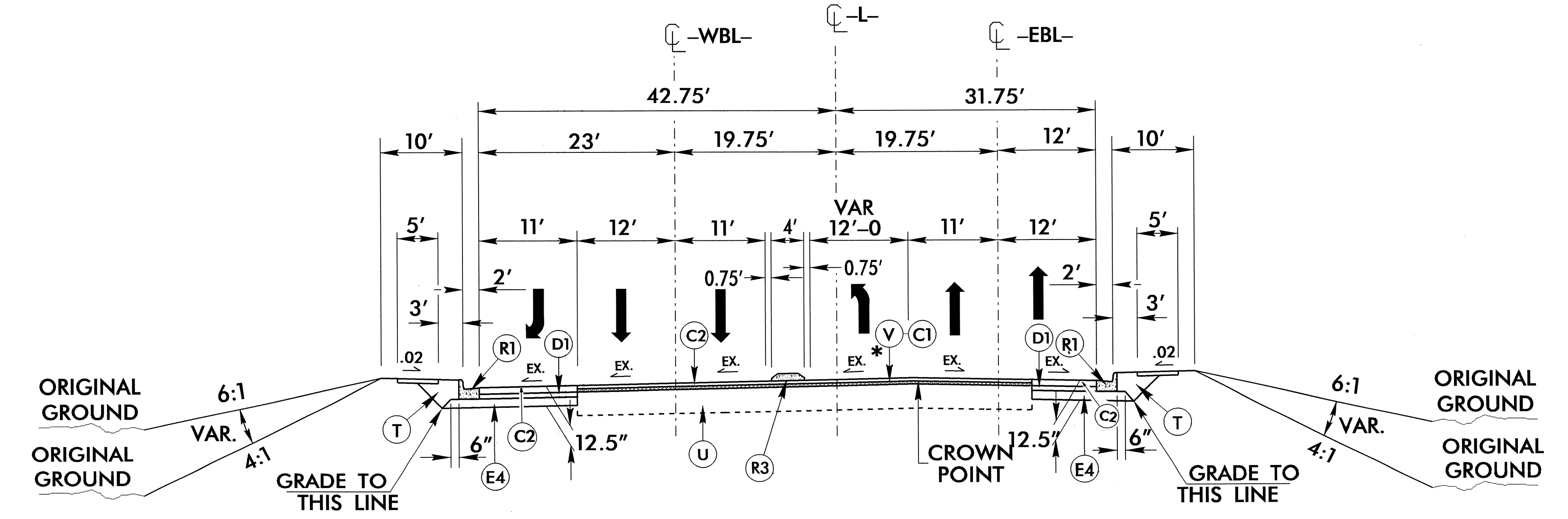


Detail Showing Method of Wedging



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1:
-L- STA. 14+69.00 TO STA. 15+00.00
IDENTITY:
-L- STA. 15+00.00 LB = -EBL- STA. 10+00.00 LA
-L- STA. 15+00.00 LB = -WBL- STA. 10+00.00 LA



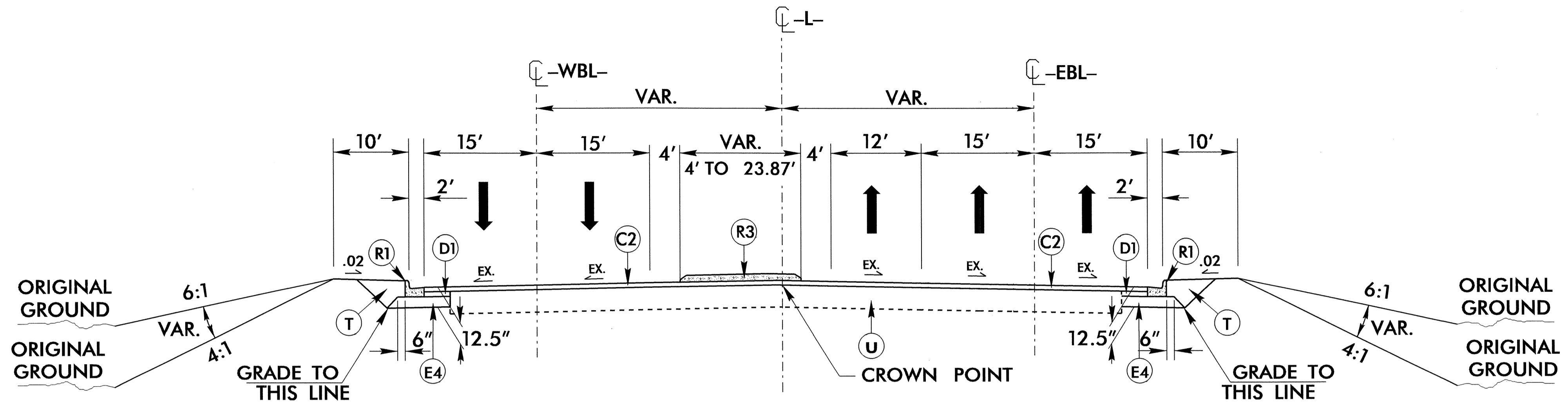
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2:
* -WBL- STA. 10+00.00 TO STA. 10+50.00
* -EBL- STA. 10+00.00 TO STA. 10+50.00
EXISTING PAVEMENT TO BE MILLED 1.5" IN DEPTH TO TRANSITION FROM EXISTING ELEVATION TO 3" OVERLAY AS DIRECTED BY THE CONSTRUCTION ENGINEER.
-WBL- STA. 10+50.00 TO STA. 12+51.60
-EBL- STA. 10+50.00 TO STA. 12+61.81

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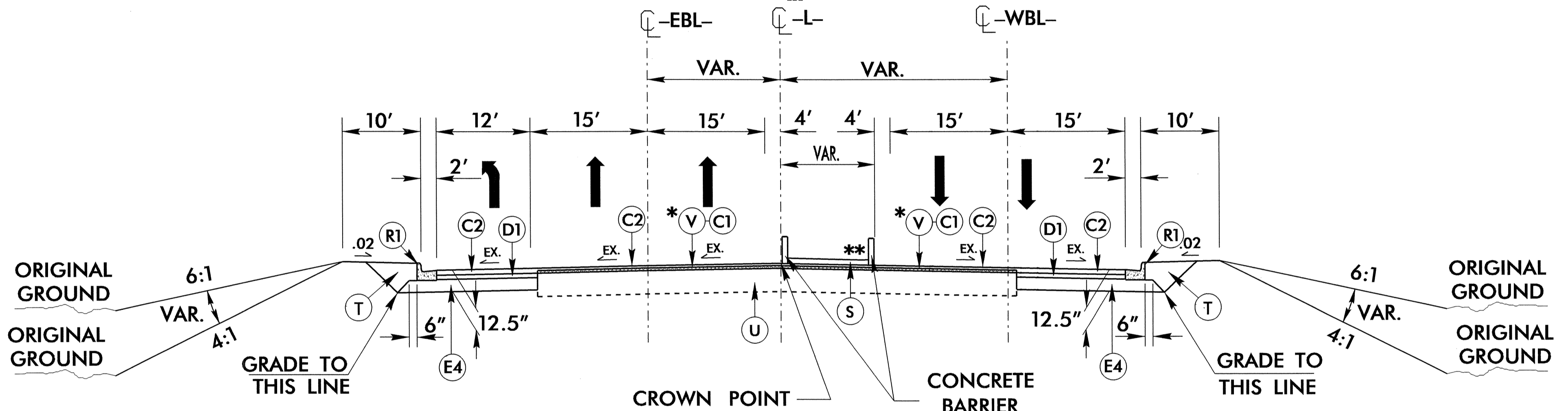
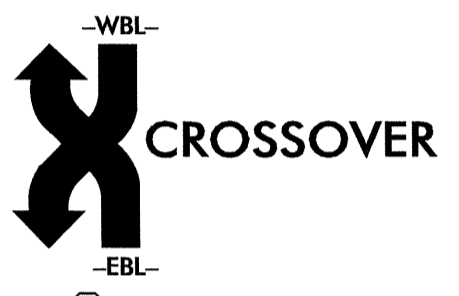
5/14/29

PROJECT REFERENCE NO. 1-4733	SHEET NO. 2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER ANTHONY AARON HOUSER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039819 JUNE 2013



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3:
 -WBL- STA. 12+51.60 TO STA. 14+80.72
 -EBL- STA. 12+61.81 TO STA. 14+75.02

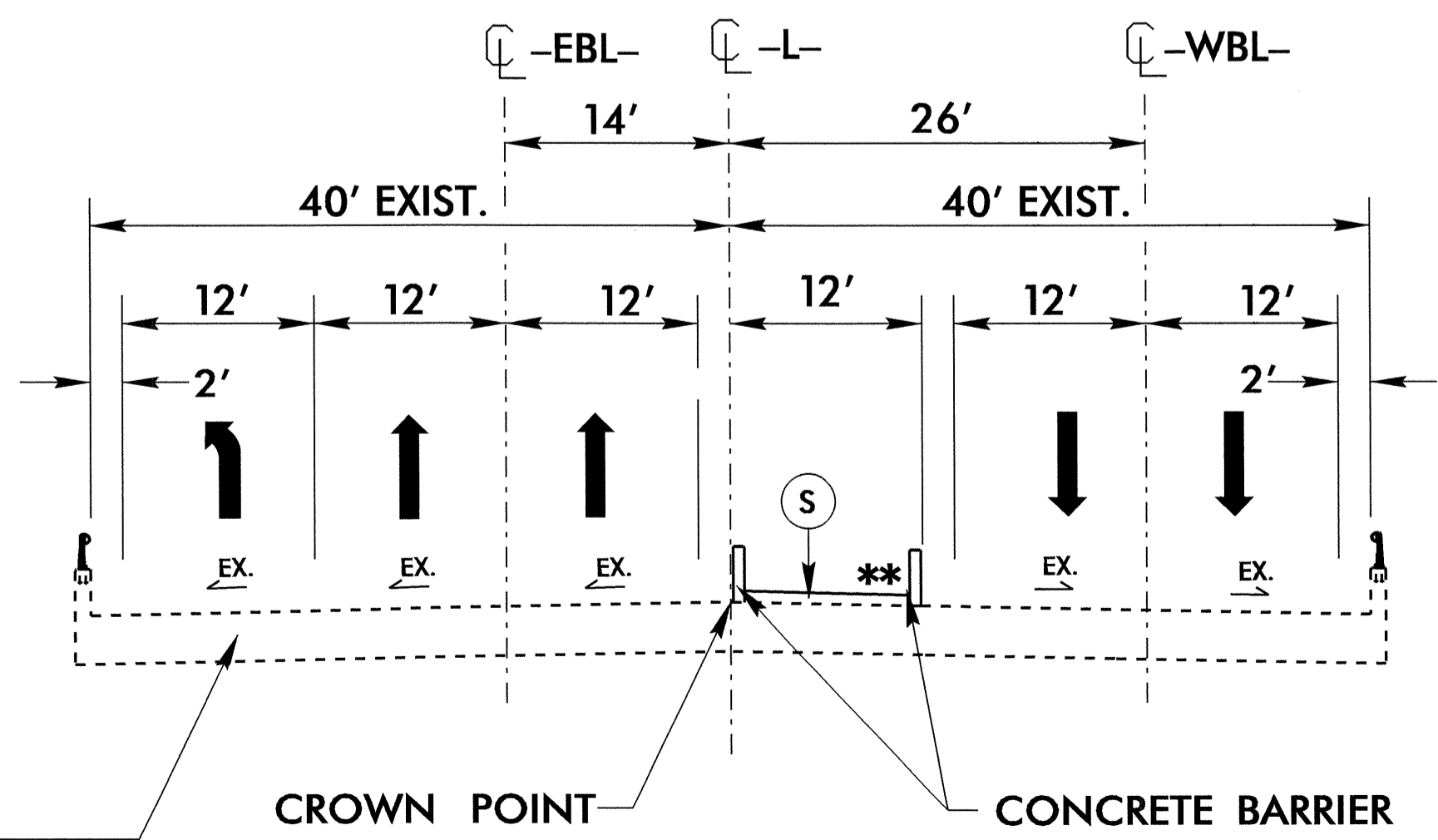


TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4:
 -WBL- STA. 14+80.72 TO STA. 17+00.96 (BEG. EXIST. BRIDGE)
 -EBL- STA. 14+75.02 TO STA. 17+00.82 (BEG. EXIST. BRIDGE)

* EXISTING PAVEMENT TO BE MILLED 1.5" IN DEPTH FOR 50' TO TRANSITION FROM 3" OVERLAY TO THE EXISTING APPROACH SLAB ELEVATION AND TO PROVIDE POSITIVE PAVEMENT DRAINAGE AS DIRECTED BY THE CONSTRUCTION ENGINEER.

** SIDEWALK BARRIER RAIL SLOT DRAINS 8" X 4" @ 10' O.C.
 -WBL- STA. 15+66.49 TO STA. 17+00.96 (BEG. EXIST. BRIDGE)

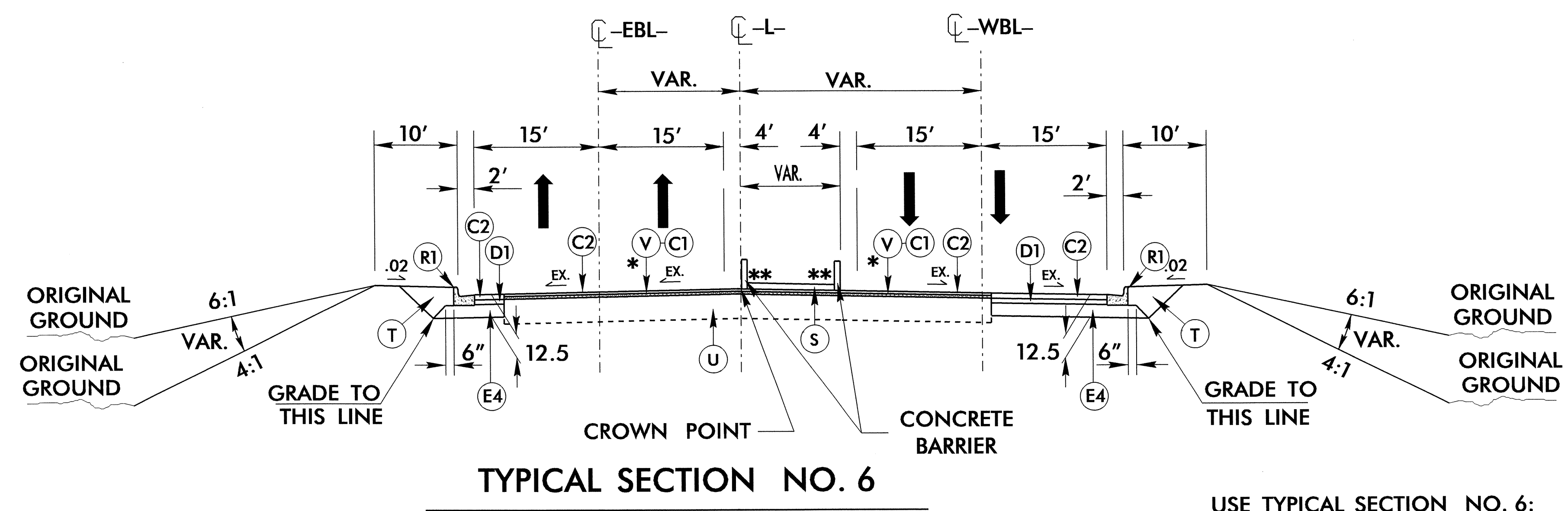


EXISTING BRIDGE TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5:
 -WBL- STA. 17+00.96 (BEG. EXIST. BRIDGE) TO STA. 19+20.39 (END EXIST. BRIDGE)
 -EBL- STA. 17+00.82 (BEG. EXIST. BRIDGE) TO STA. 19+20.20 (END EXIST. BRIDGE)
 ** SIDEWALK BARRIER RAIL SLOT DRAINS 8" X 4" @ 10' O.C.
 -WBL- STA. 17+00.96 (BEG. EXIST. BRIDGE) TO STA. 19+20.39 (END EXIST. BRIDGE)

PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.5B
E4	5.5" B25.0B
E5	VAR. DEPTH B25.0B
K	STABILIZED SUB-GRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R1	2'-6" C&G
R2	1'-6" C&G
R3	5" ISLAND
S	4" SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	1.5" MILLING
W	WEDGING

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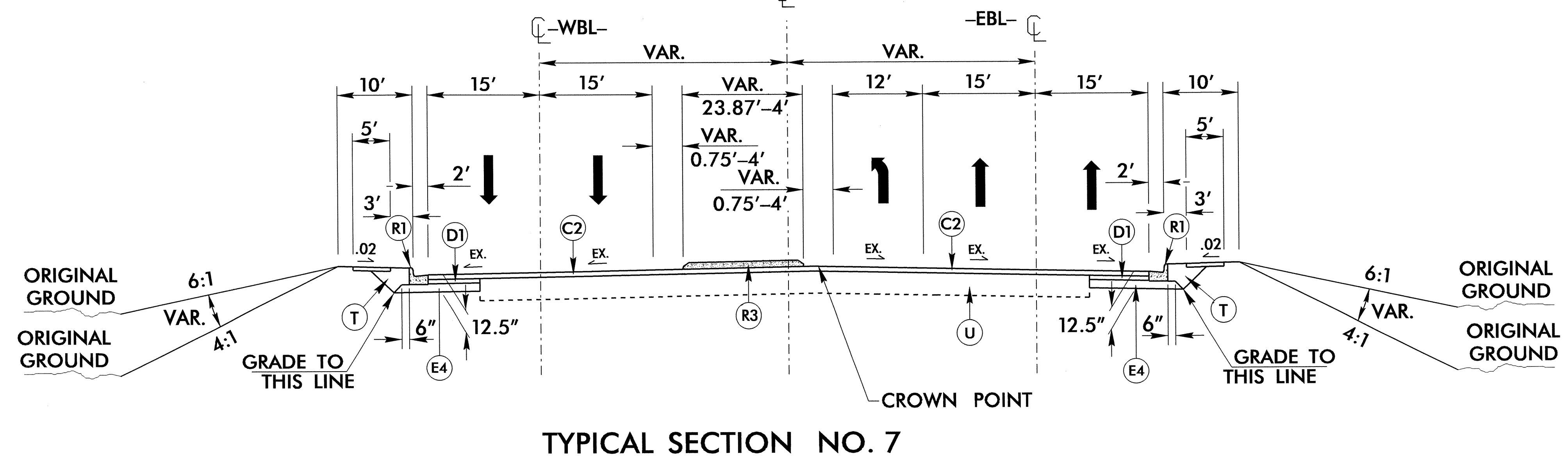
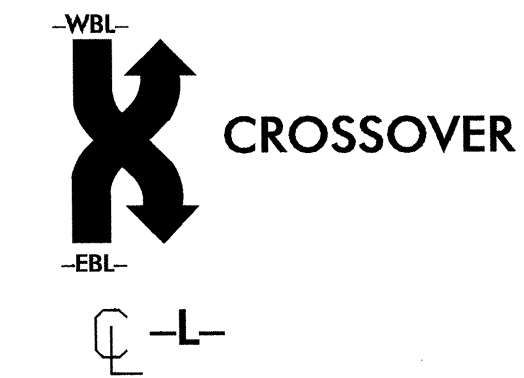
TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6:

-WBL- STA. 19+20.39 (END EXIST. BRIDGE) TO STA. 21+53.76
 -EBL- STA. 19+20.20 (END EXIST. BRIDGE) TO STA. 21+48.32

* EXISTING PAVEMENT TO BE MILLED 1.5" IN DEPTH FOR 50' TO TRANSITION FROM 3" OVERLAY TO THE EXISTING APPROACH SLAB ELEVATION AND TO PROVIDE POSITIVE PAVEMENT DRAINAGE AS DIRECTED BY THE CONSTRUCTION ENGINEER.

** SIDEWALK BARRIER RAIL 8" X 4" @ 10' O.C. SLOT DRAINS
 -WBL- STA. 19+20.39 (END. EXIST. BRIDGE) TO STA. 20+68.34
 -EBL- STA. 20+12.75 (END. EXIST. BRIDGE) TO STA. 20+62.90



TYPICAL SECTION NO. 7

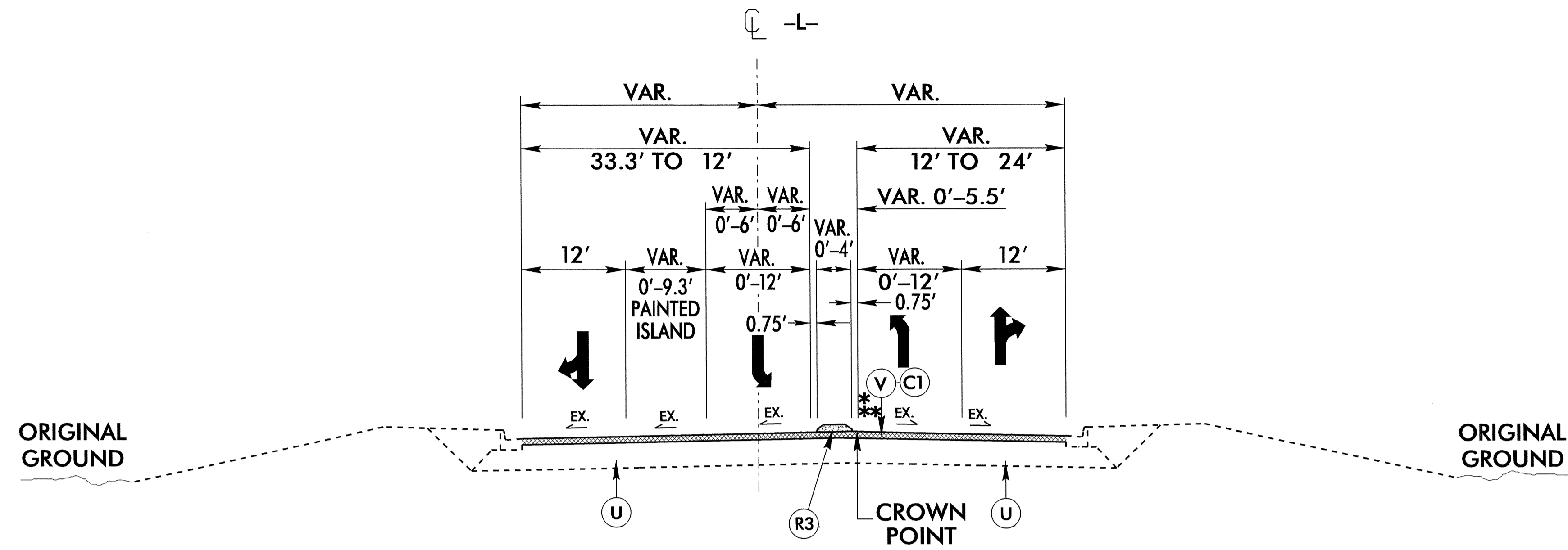
USE TYPICAL SECTION NO. 7:

-WBL- STA. 21+53.76 TO STA. 25+00.30
 -EBL- STA. 21+48.32 TO STA. 24+92.98

PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.5B
E4	5.5" B25.0B
E5	VAR. DEPTH B25.0B
K	STABILIZED SUB-GRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R1	2'-6" C&G
R2	1'-6" C&G
R3	5" ISLAND
S	4" SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	1.5" MILLING
W	WEDGING

5/14/99

PROJECT REFERENCE NO. 1-4733	SHEET NO. 2C
RW SHEET NO.	
ROADWAY DESIGN ANTHONY AARON ROUSE PROFESSIONAL ENGINEER SEAL 18494	PAVEMENT DESIGN ANTHONY AARON ROUSE PROFESSIONAL ENGINEER SEAL 039819



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8:

-WBL- STA. 25+00.30 TO STA. 25+31.33
 -EBL- STA. 24+92.98 TO STA. 25+26.45

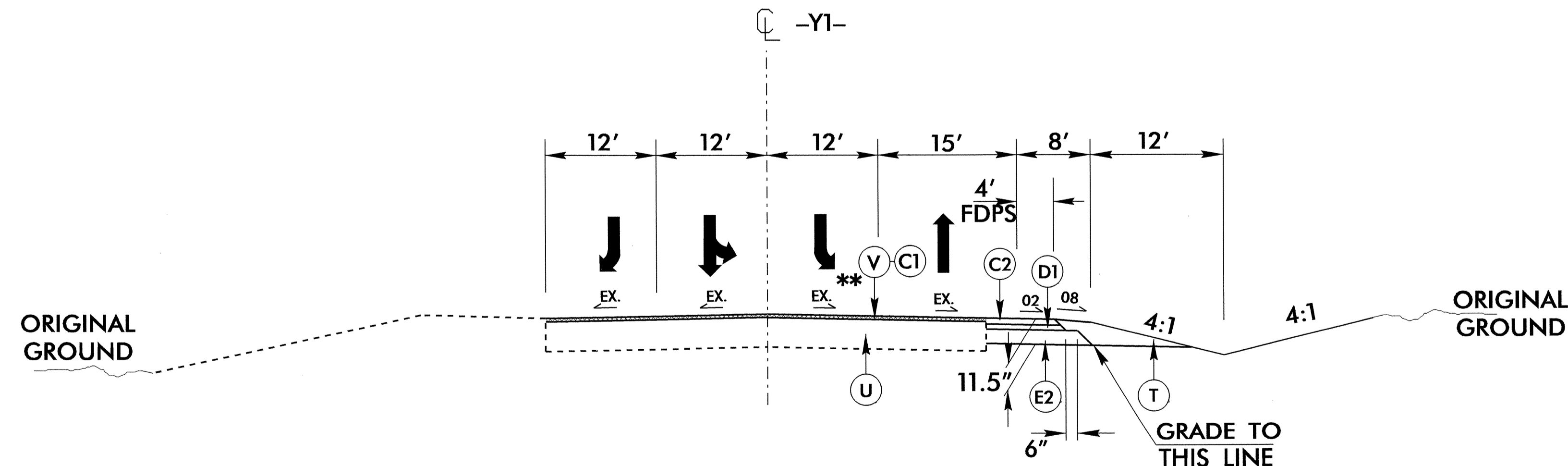
EQUALITY:
 -WBL- STA. 25+31.33 LB= -L- STA. 30+00.00 LA
 -EBL- STA. 25+26.45 LB= -L- STA. 30+00.00 LA

* -L- STA. 29+67.91 TO -L- STA. 30+19.38
 EXISTING PAVEMENT TO BE MILLED 1.5" IN DEPTH
 TRANSITION FROM 3" OVERLAY TO 1.5" OVERLAY
 AS DIRECTED BY THE CONSTRUCTION ENGINEER.

** -L- STA. 30+19.38 TO -L- STA. 32+80.00
 EXISTING PAVEMENT TO BE MILLED 1.5" IN DEPTH
 TO PROVIDE A 1.5" OVERLAY AS DIRECTED BY THE
 CONSTRUCTION ENGINEER.

PAVEMENT SCHEDULE

C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.5B
E4	5.5" B25.0B
E5	VAR. DEPTH B25.0B
K	STABILIZED SUB-GRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R1	2'-6" C&G
R2	1'-6" C&G
R3	5" ISLAND
S	4" SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	1.5" MILLING
W	WEDGING

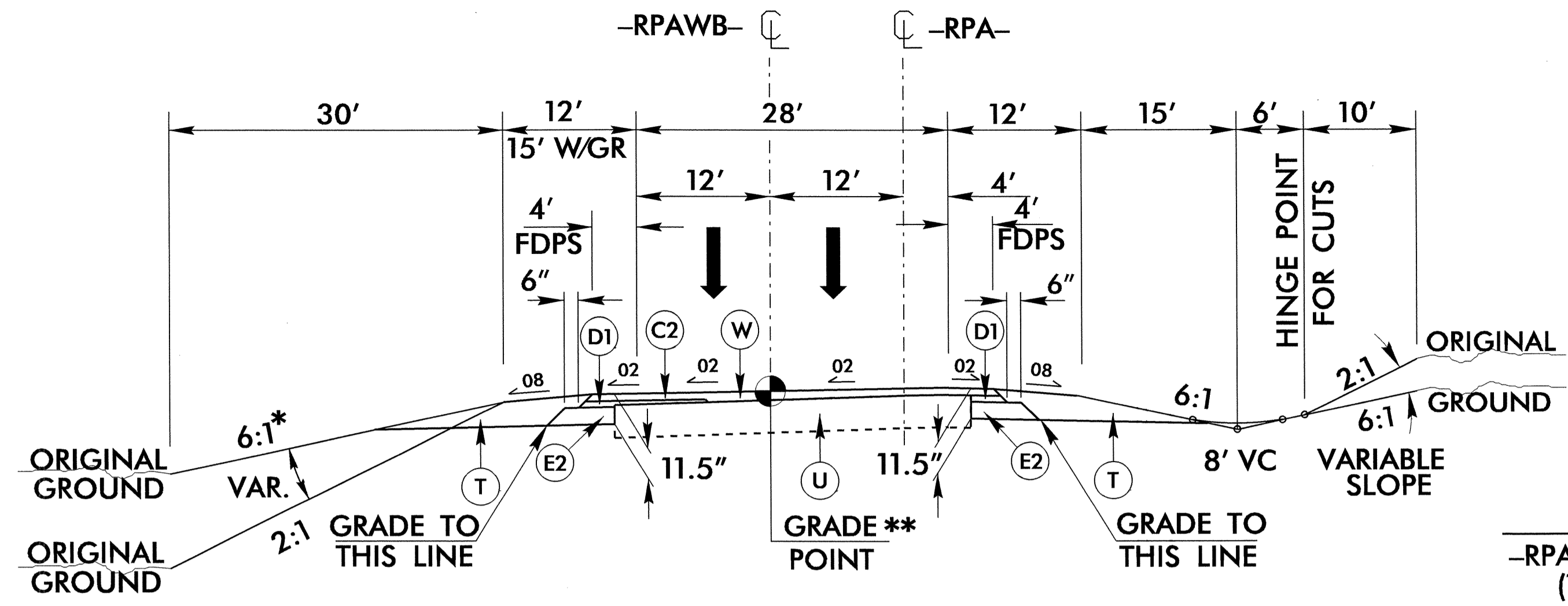


TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9:

** -Y1- STA. 10+35.62 TO STA. 11+44.00
 EXISTING PAVEMENT TO BE MILLED 1.5" IN DEPTH
 TO PROVIDE A 1.5" OVERLAY AS DIRECTED BY THE
 CONSTRUCTION ENGINEER.

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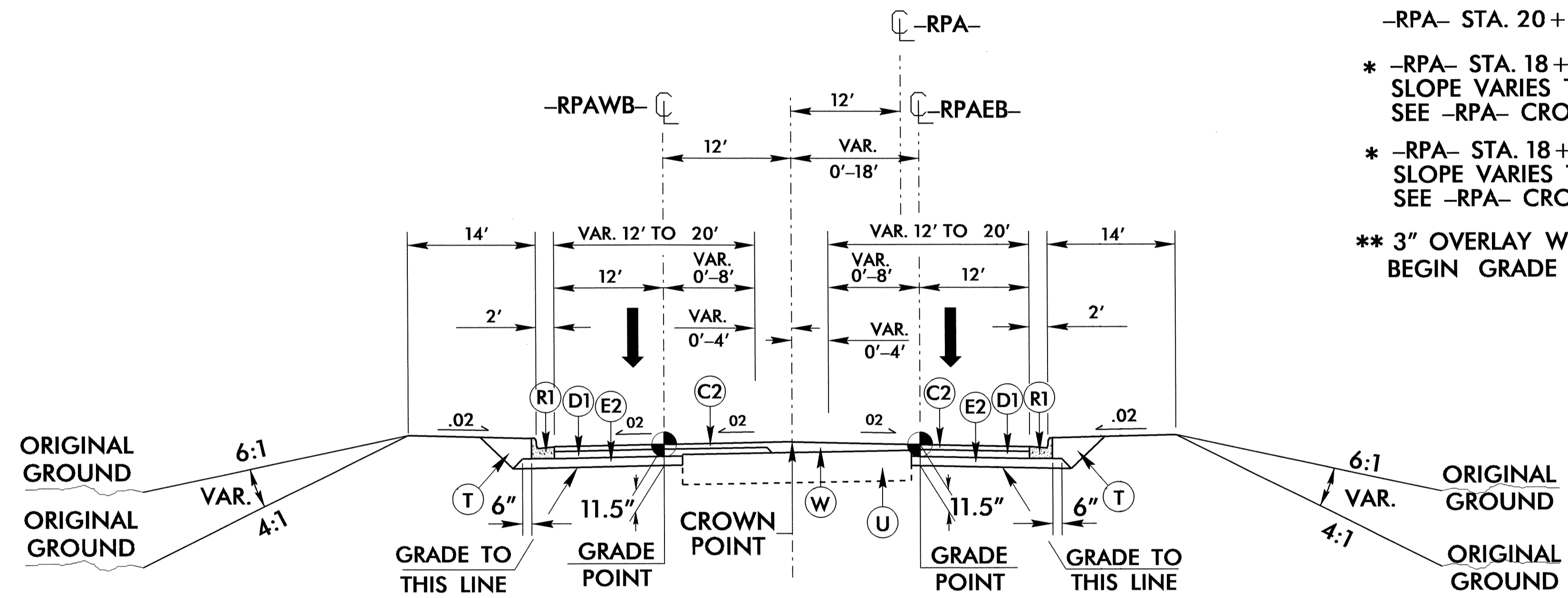


TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10:
 -RPA- STA. 18+00.00 TO STA. 18+50.00
 (1.5" MILLING REQUIRED, TRANSITION TO 3" OVERLAY)
 -RPA- STA. 18+50.00 TO STA. 20+72.61
 (BEGIN 3" OVERLAY)
 -RPA- STA. 20+72.61 TO STA. 20+82.10 LT

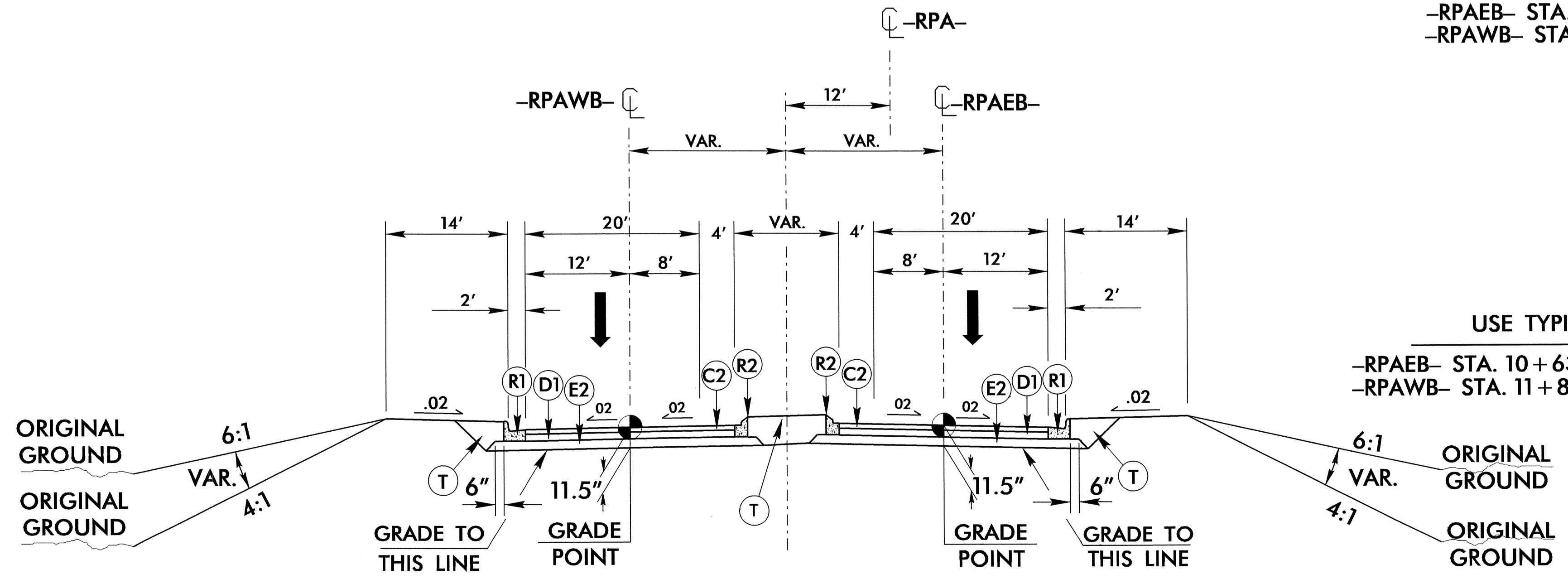
* -RPA- STA. 18+00 LT.
 SLOPE VARIES TO 7:1 TO MATCH EXISTING SLOPE
 SEE -RPA- CROSS SECTIONS
 * -RPA- STA. 18+00 TO 20+50.00 RT
 SLOPE VARIES TO 10:1 TO MATCH EXISTING SLOPE
 SEE -RPA- CROSS SECTIONS

** 3" OVERLAY WITH C2, -RPA- 18+00.00 TO STA. 19+23.19
 BEGIN GRADE -RPAWB- STA. 10+00.00 (-RPA- 19+23.19)



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11:
 -RPAEB- STA. 10+31.99 TO STA. 10+63.85
 -RPAWB- STA. 11+63.26 TO STA. 11+87.33



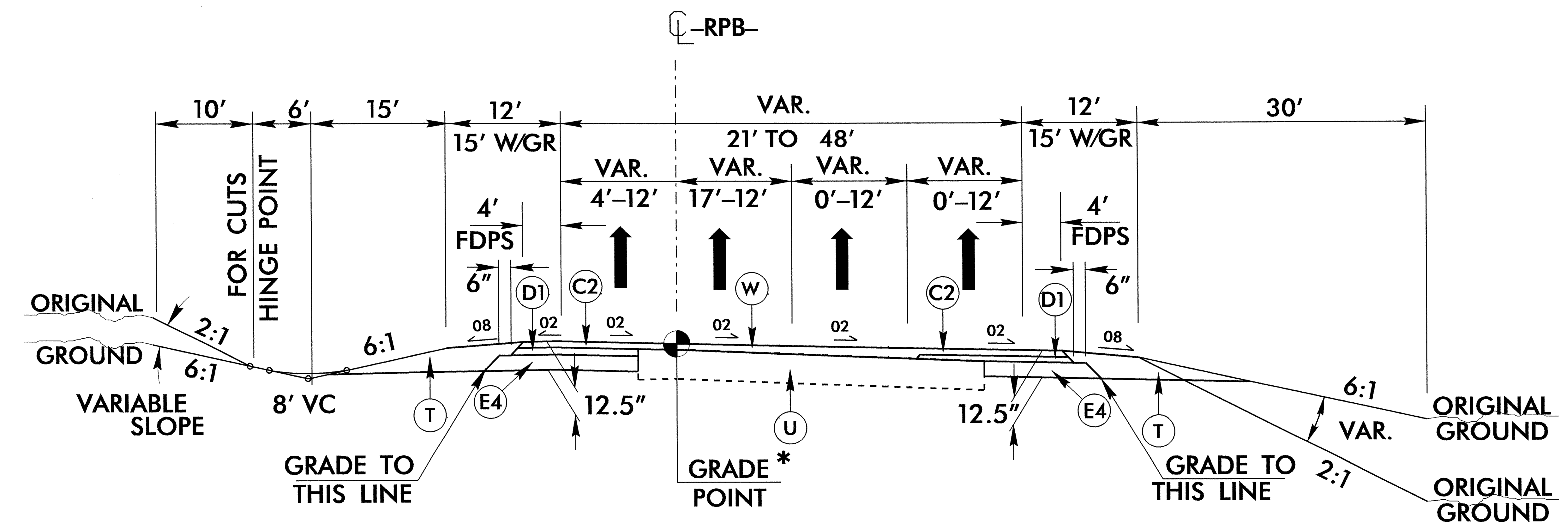
TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12:
 -RPAEB- STA. 10+63.85 TO STA. 11+98.43 (END GRADE)
 -RPAWB- STA. 11+87.33 TO STA. 13+47.39 (END GRADE)

PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.5B
E4	5.5" B25.0B
E5	VAR. DEPTH B25.0B
K	STABILIZED SUB-GRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R1	2'-6" C&G
R2	1'-6" C&G
R3	5" ISLAND
S	4" SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	1.5" MILLING
W	WEDGING

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 ASSIGNED



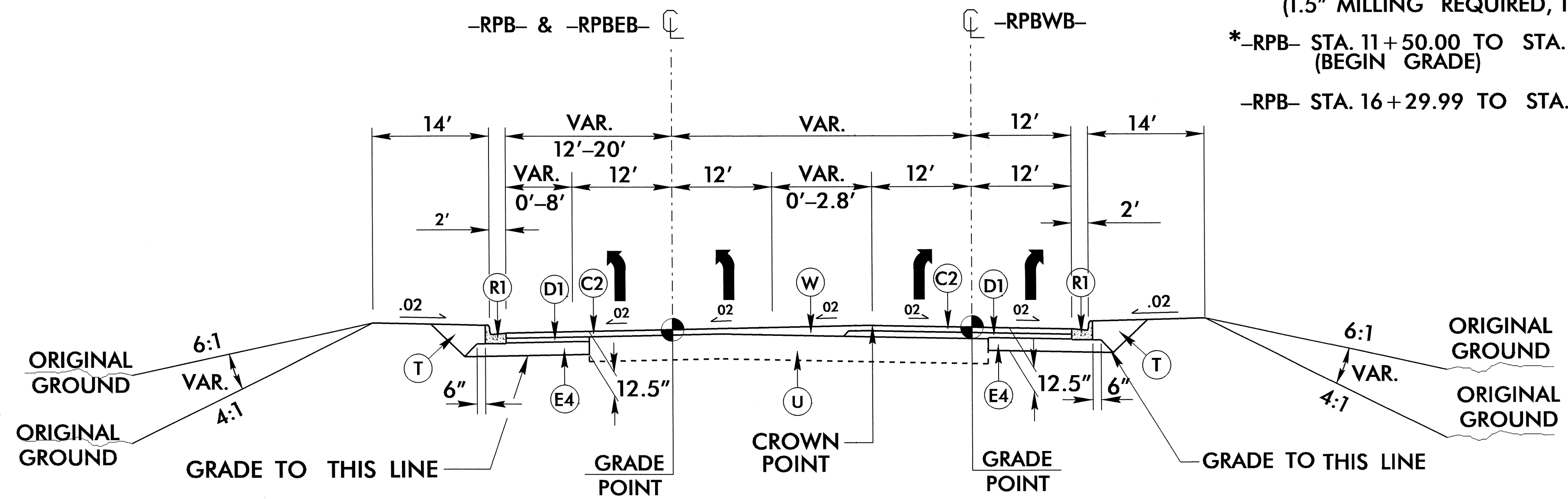
TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13:

-RPB- STA. 11+00.00 TO STA. 11+50.00
(1.5" MILLING REQUIRED, TRANSITION TO 3" OVERLAY)

*-RPB- STA. 11+50.00 TO STA. 16+29.99
(BEGIN GRADE)

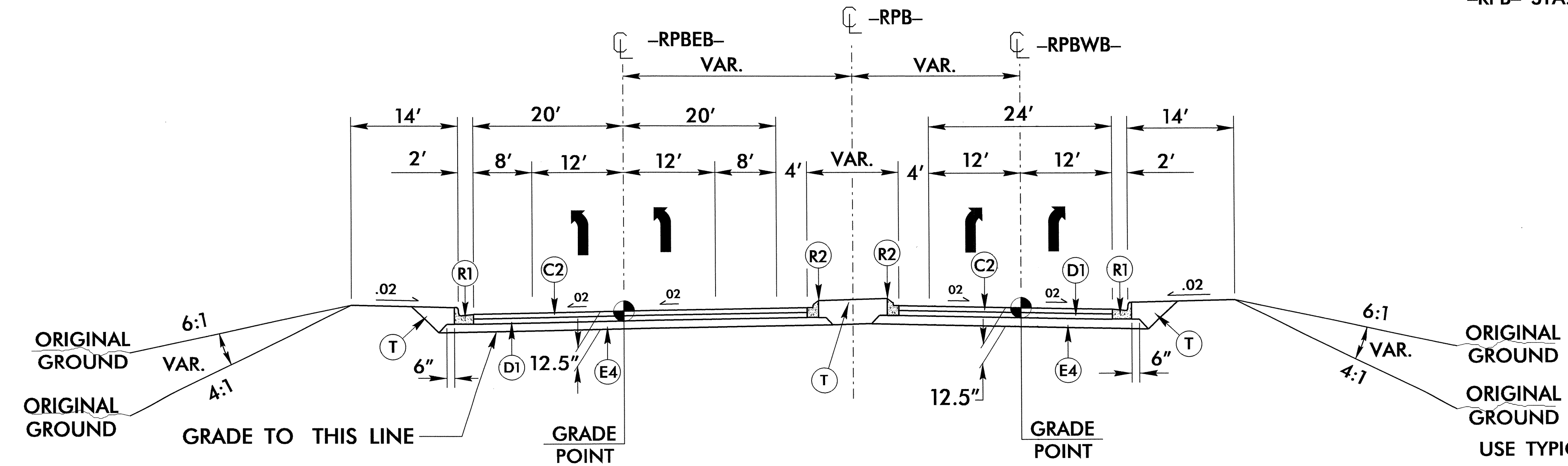
-RPB- STA. 16+29.99 TO STA. 16+74.93 LT.



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14:

-RPB- STA. 16+29.99 TO -RPBWB- STA. 10+74.00
-RPB- STA. 16+74.93 TO -RPBEB- STA. 10+30.87



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15:

-RPBEB- STA. 10+30.87 TO STA. 10+79.68 (END GRADE)
-RPBWB- STA. 10+74.00 TO STA. 12+25.54 (END GRADE)

PAVEMENT SCHEDULE

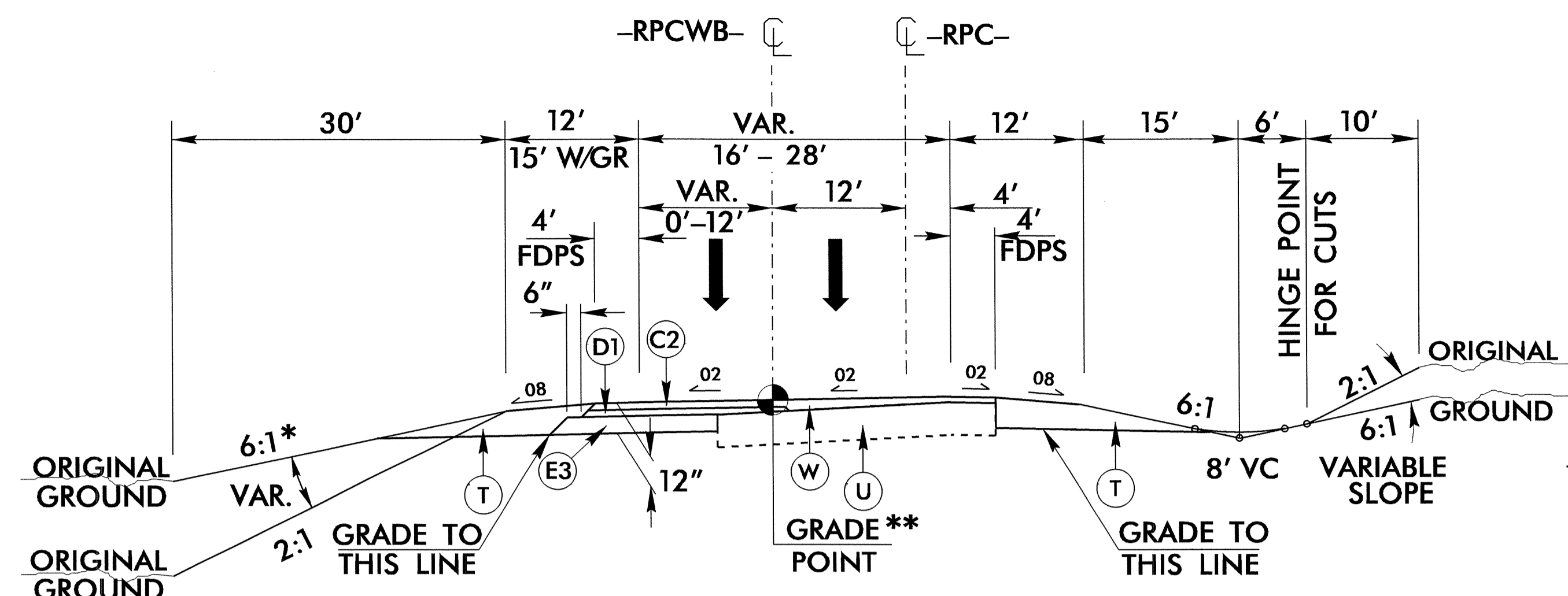
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.5B
E4	5.5" B25.0B
E5	VAR. DEPTH B25.0B
K	STABILIZED SUB-GRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R1	2'-6" C&G
R2	1'-6" C&G
R3	5" ISLAND
S	4" SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	1.5" MILLING
W	WEDGING

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AARON HODGE

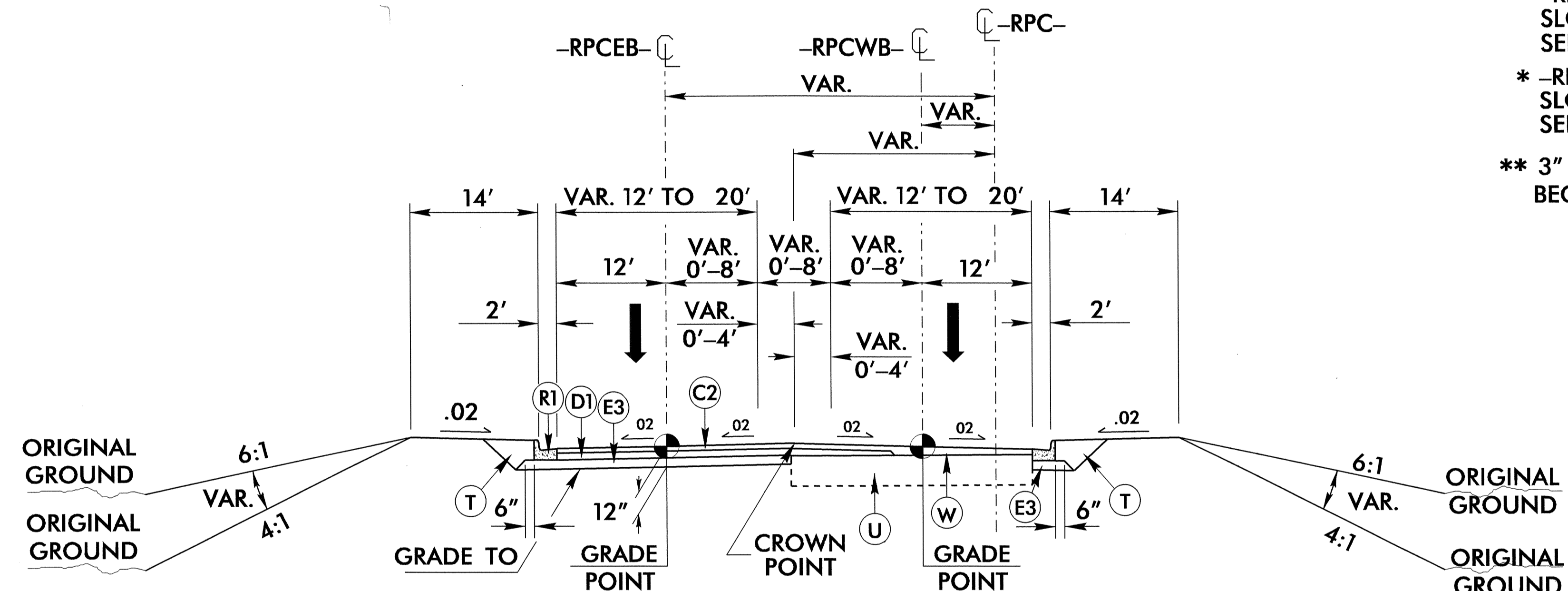
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PROJECT REFERENCE NO. 14733	SHEET NO. 2F
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER



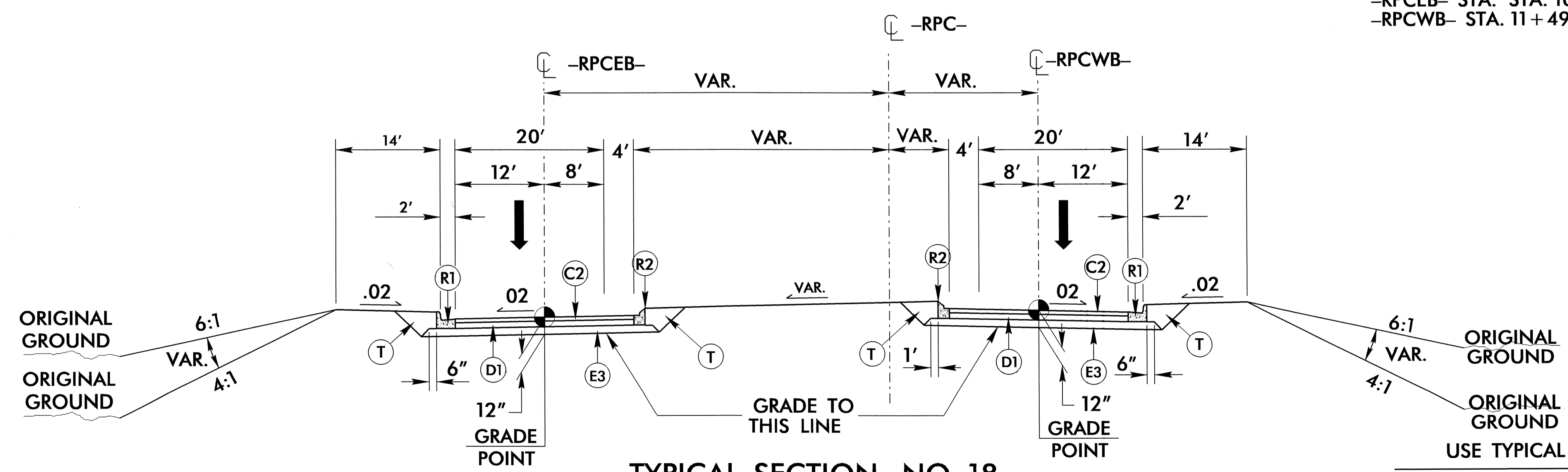
TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16:
 -RPC- STA. 13+50.00 TO STA. 14+00.00
 (1.5" MILLING REQUIRED, TRANSITION TO 3" OVERLAY)
 -RPC- STA. 14+00.00 TO STA. 18+15.72
 (BEGIN 3" OVERLAY)
 -RPC- STA. 18+15.72 TO STA. 18+61.60 RT
 *-RPC- STA. 13+50 TO 15+75 LT.
 SLOPE VARIES TO 14:1 TO MATCH EXISTING SLOPE
 SEE -RPC- CROSS SECTIONS
 *-RPC- STA. 14+75 TO 18+25 RT.
 SLOPE VARIES TO 9.3:1 TO MATCH EXISTING SLOPE
 SEE -RPC- CROSS SECTIONS
 ** 3" OVERLAY WITH C2, -RPC- 13+50.00 TO STA. 17+11.88
 BEGIN GRADE -RPCWB- STA. 10+00.00 (-RPC- 17+11.88)



TYPICAL SECTION NO. 17

USE TYPICAL SECTION NO. 17:
 -RPCEB- STA. STA. 10+50.00 TO 11+11.34
 -RPCWB- STA. 11+49.72 TO STA. 11+69.49

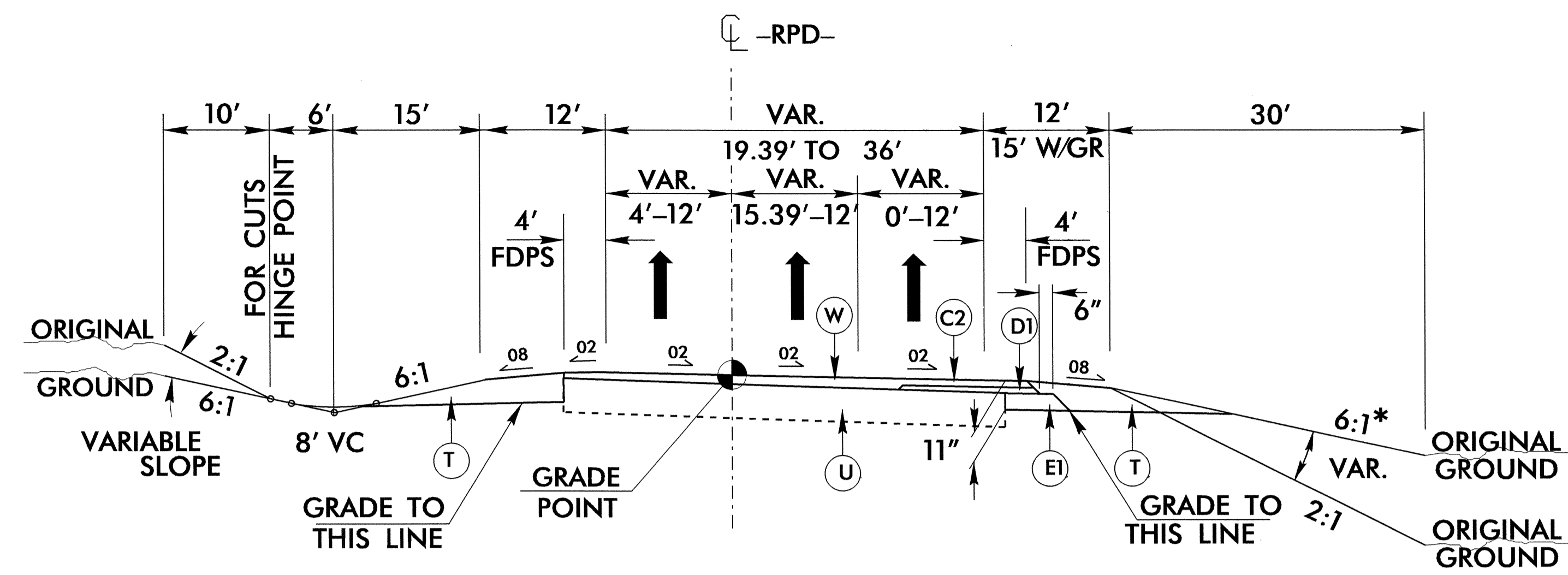


TYPICAL SECTION NO. 18

USE TYPICAL SECTION NO. 18:
 -RPCEB- STA. STA. 11+11.34 TO 12+82.45 (END GRADE)
 -RPCWB- STA. 11+69.49 TO STA. 13+07.97 (END GRADE)

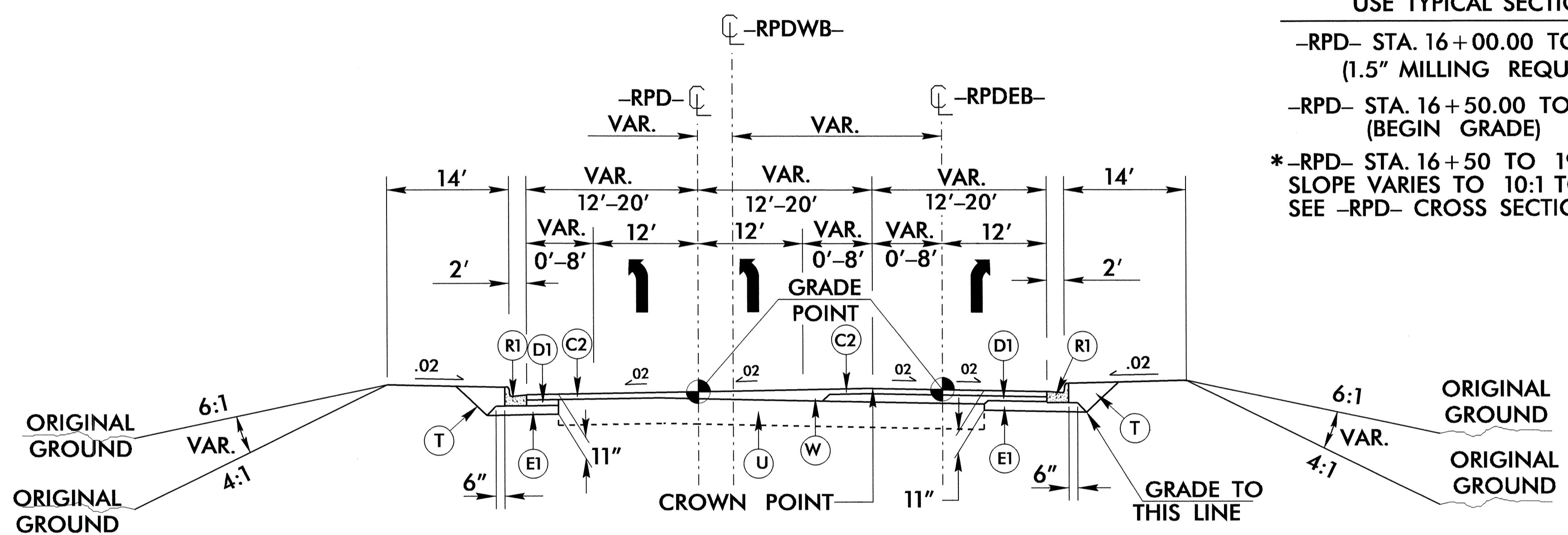
PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.5B
E4	5.5" B25.0B
E5	VAR. DEPTH B25.0B
K	STABILIZED SUB-GRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R1	2'-6" C&G
R2	1'-6" C&G
R3	5" ISLAND
S	4" SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	1.5" MILLING
W	WEDGING

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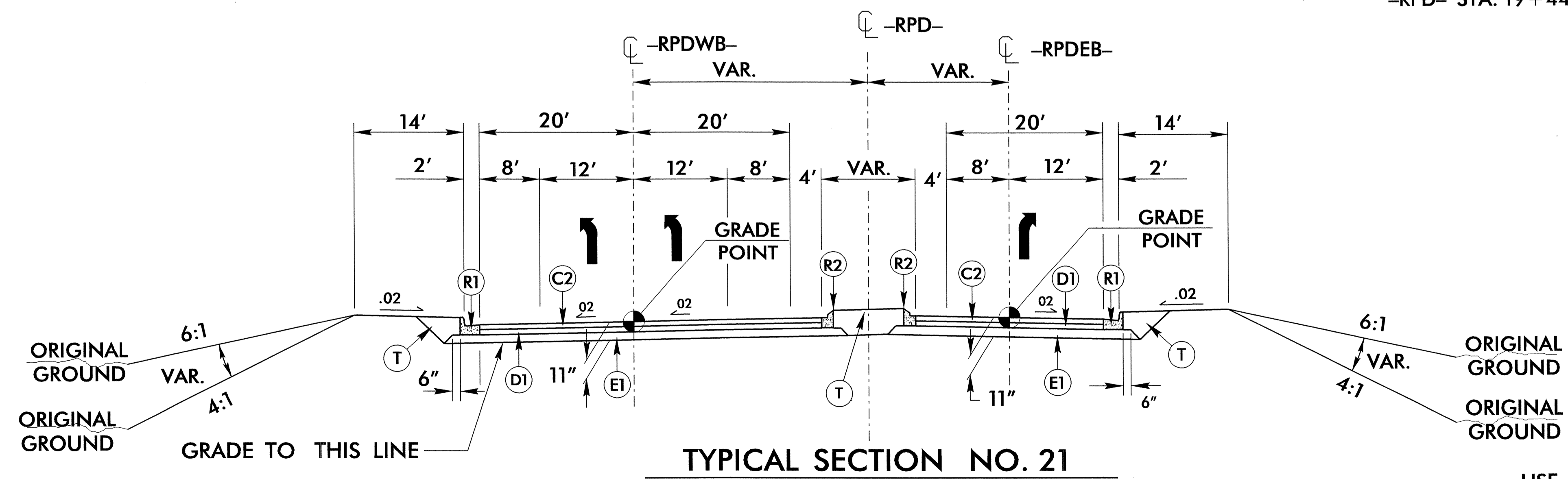
TYPICAL SECTION NO. 19

USE TYPICAL SECTION NO. 19:
 -RPD- STA. 16+00.00 TO STA. 16+50.00
 (1.5" MILLING REQUIRED, TRANSITION TO 3" OVERLAY)
 -RPD- STA. 16+50.00 TO STA. 19+44.52
 (BEGIN GRADE)
 *-RPD- STA. 16+50 TO 19+25 LT.
 SLOPE VARIES TO 10:1 TO MATCH EXISTING SLOPE
 SEE -RPD- CROSS SECTIONS



TYPICAL SECTION NO. 20

USE TYPICAL SECTION NO. 20:
 -RPD- STA. 19+44.52 TO -RPDEB- STA. 10+54.60
 -RPD- STA. 19+44.52 TO -RPDWB- STA. 10+57.68



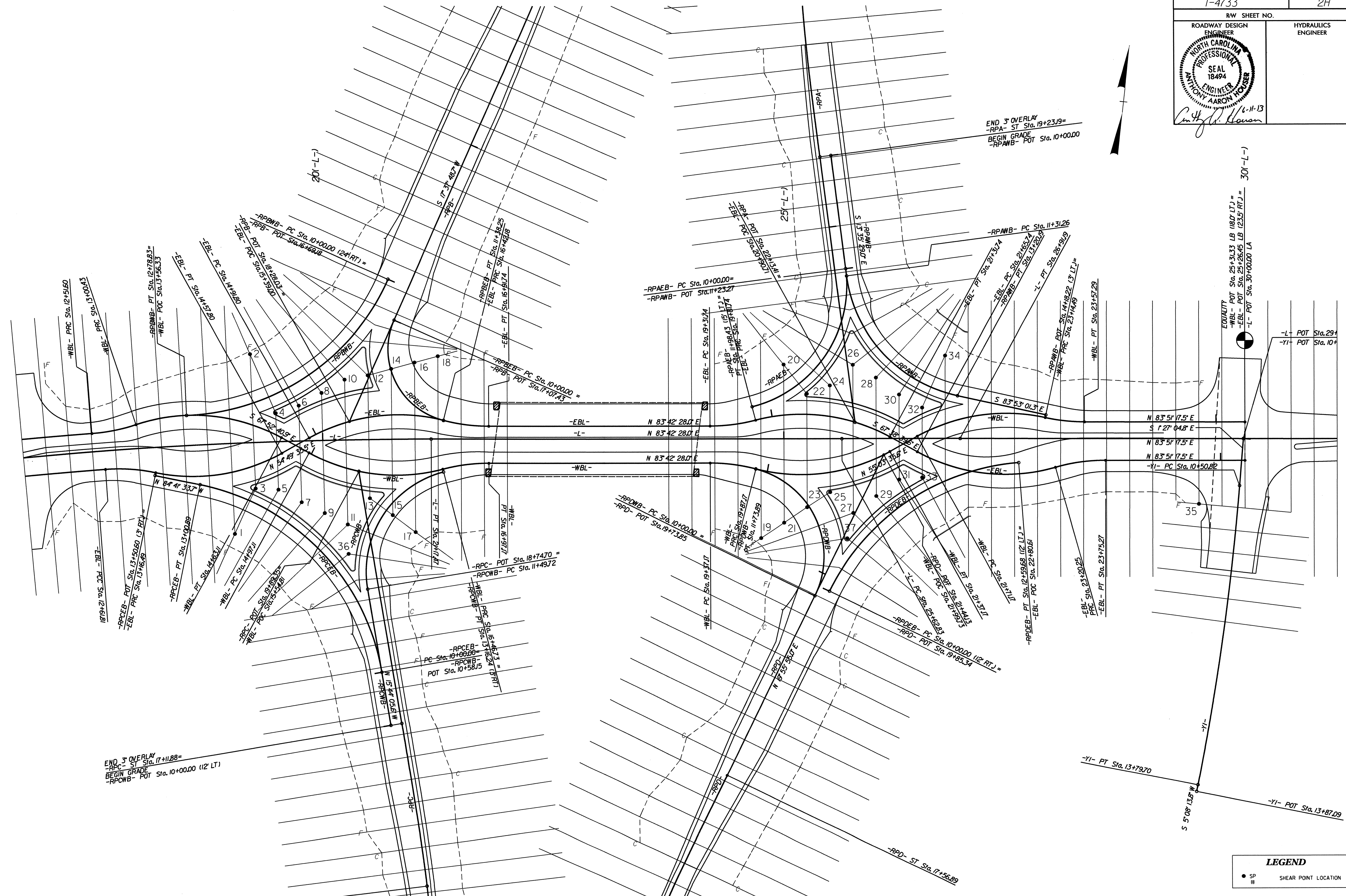
TYPICAL SECTION NO. 21

USE TYPICAL SECTION NO. 21:
 -RPDEB- STA. 10+54.60 TO STA. 11+80.54 (END GRADE)
 -RPDWB- STA. 10+57.68 TO STA. 11+28.27 (END GRADE)

PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4.0" B25.0B
E2	4.5" B25.0B
E3	5.0" B25.5B
E4	5.5" B25.0B
E5	VAR. DEPTH B25.0B
K	STABILIZED SUB-GRADE
N	GEOTEXTILE FOR PAVEMENT STABILIZATION
R1	2'-6" C&G
R2	1'-6" C&G
R3	5" ISLAND
S	4" SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	1.5" MILLING
W	WEDGING

5/14/99

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END 3' OVERLAY
-RPC- ST Sta. 17+11.88=
BEGIN GRADE
-RPCWB- POT Sta. 10+00.00 (12' LT)

END 3' OVERLAY
-RPA- ST Sta. 19+23.19=
BEGIN GRADE
-RPANB- POT Sta. 10+00.00

LEGEND
• SP
SHEAR POINT LOCATION

SHEAR POINT DIAGRAM

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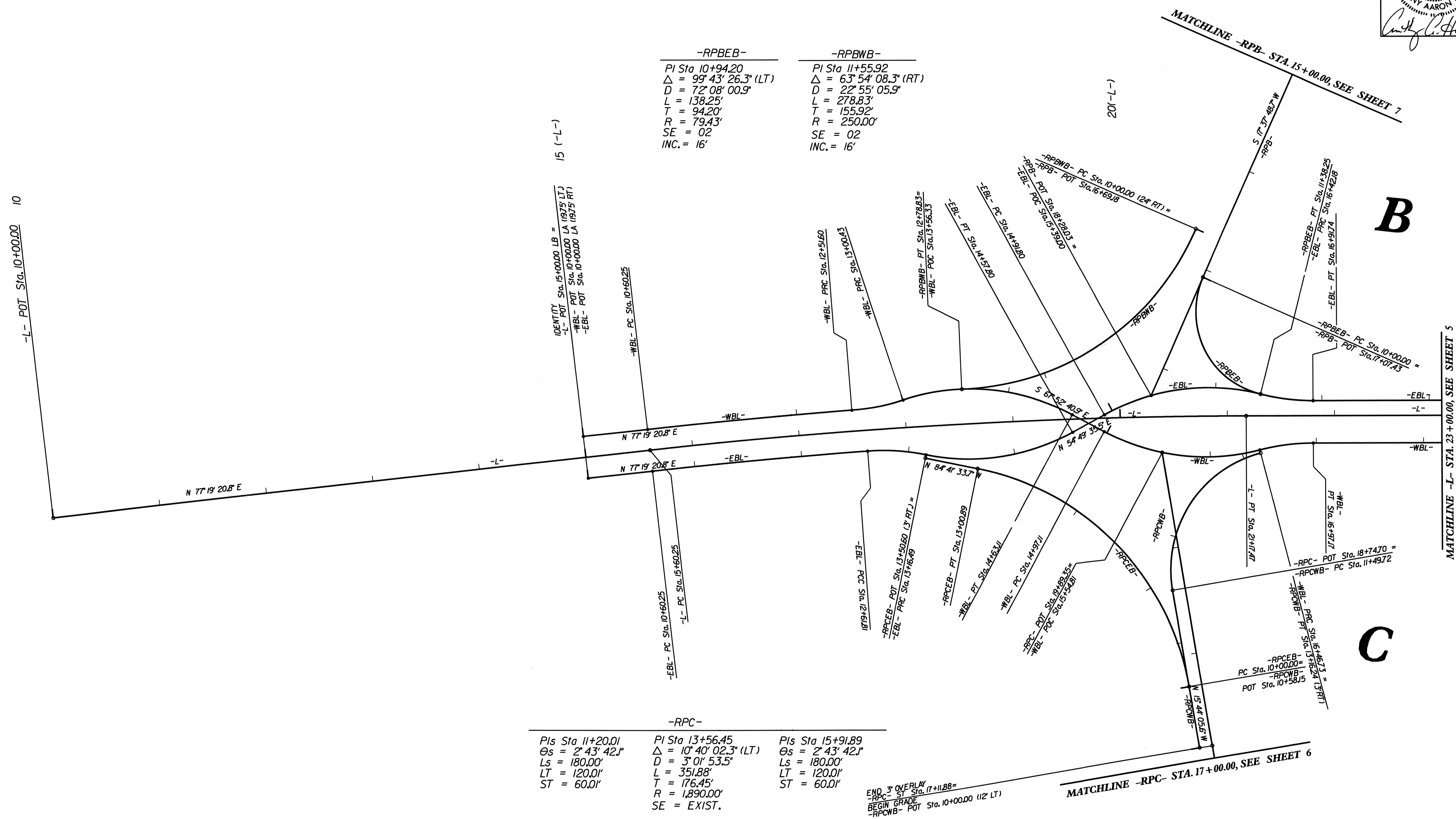
PROJECT REFERENCE NO. 1-4733	SHEET NO. 2-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER ANTHONY AARON HOUSER	HYDRAULICS ENGINEER

-L-	-WBL-	-EBL-
PI Sta 18+39.15 Δ = 6° 23' 07.3" (RT) D = 1' 08' 45.3" L = 557.23' T = 278.90' R = 5,000.00' SE = EXIST.	PI Sta 11+55.94 Δ = 2° 11' 03.0" (RT) D = 1' 08' 29.1" L = 191.36' T = 95.69' R = 5,019.75' SE = EXIST.	PI Sta 12+76.14 Δ = 13° 59' 18.5" (LT) D = 28' 38' 52.4" L = 48.83' T = 24.54' R = 200.00' SE = EXIST.
PI Sta 13+86.57 Δ = 46° 36' 13.8" (RT) D = 28' 38' 52.4" L = 162.68' T = 86.14' R = 200.00' SE = EXIST.	PI Sta 15+75.62 Δ = 42° 51' 50.2" (LT) D = 28' 38' 52.4" L = 149.62' T = 78.51' R = 200.00' SE = EXIST.	PI Sta 16+72.09 Δ = 14° 26' 59.2" (RT) D = 28' 38' 52.4" L = 50.44' T = 25.35' R = 200.00' SE = EXIST.
PI Sta 11+61.04 Δ = 2° 19' 08.0" (RT) D = 1' 09' 01.7" L = 201.56' T = 100.80' R = 4,980.25' SE = EXIST.	PI Sta 12+89.32 Δ = 15° 39' 57.5" (RT) D = 28' 38' 52.4" L = 54.68' T = 27.51' R = 200.00' SE = EXIST.	PI Sta 13+90.24 Δ = 40° 28' 50.8" (LT) D = 28' 38' 52.4" L = 141.30' T = 73.75' R = 200.00' SE = EXIST.
PI Sta 15+70.74 Δ = 43° 04' 46.9" (RT) D = 28' 38' 52.4" L = 150.38' T = 78.94' R = 200.00' SE = EXIST.	PI Sta 16+67.08 Δ = 14° 11' 54.4" (LT) D = 28' 38' 52.4" L = 49.56' T = 24.91' R = 200.00' SE = EXIST.	

-RPBEB-	-RPBWB-
PI Sta 10+94.20 Δ = 99° 43' 26.3" (LT) D = 72' 08' 00.9" L = 138.25' T = 94.20' R = 79.43' SE = 02 INC. = 16'	PI Sta 11+55.92 Δ = 63° 54' 08.3" (RT) D = 22' 55' 05.9" L = 278.83' T = 155.92' R = 250.00' SE = 02 INC. = 16'

-RPC-
PIs Sta 11+20.01 Os = 2° 43' 42.1" Ls = 180.00' LT = 120.01' ST = 60.01'
PI Sta 13+56.45 Δ = 10° 40' 02.3" (LT) D = 3° 01' 53.5" L = 351.88' T = 176.45' R = 1,890.00' SE = EXIST.
PIs Sta 15+91.89 Os = 2° 43' 42.1" Ls = 180.00' LT = 120.01' ST = 60.01'

-RPCEB-	-RPCWB-
PI Sta 11+71.68 Δ = 68° 57' 28.1" (LT) D = 22° 55' 05.9" L = 300.89' T = 171.68' R = 250.00' SE = 02 INC. = 16'	PI Sta 12+52.57 Δ = 84° 59' 34.4" (RT) D = 5° 02' 27.1" L = 166.52' T = 102.85' R = 112.25' SE = 02 INC. = 16'

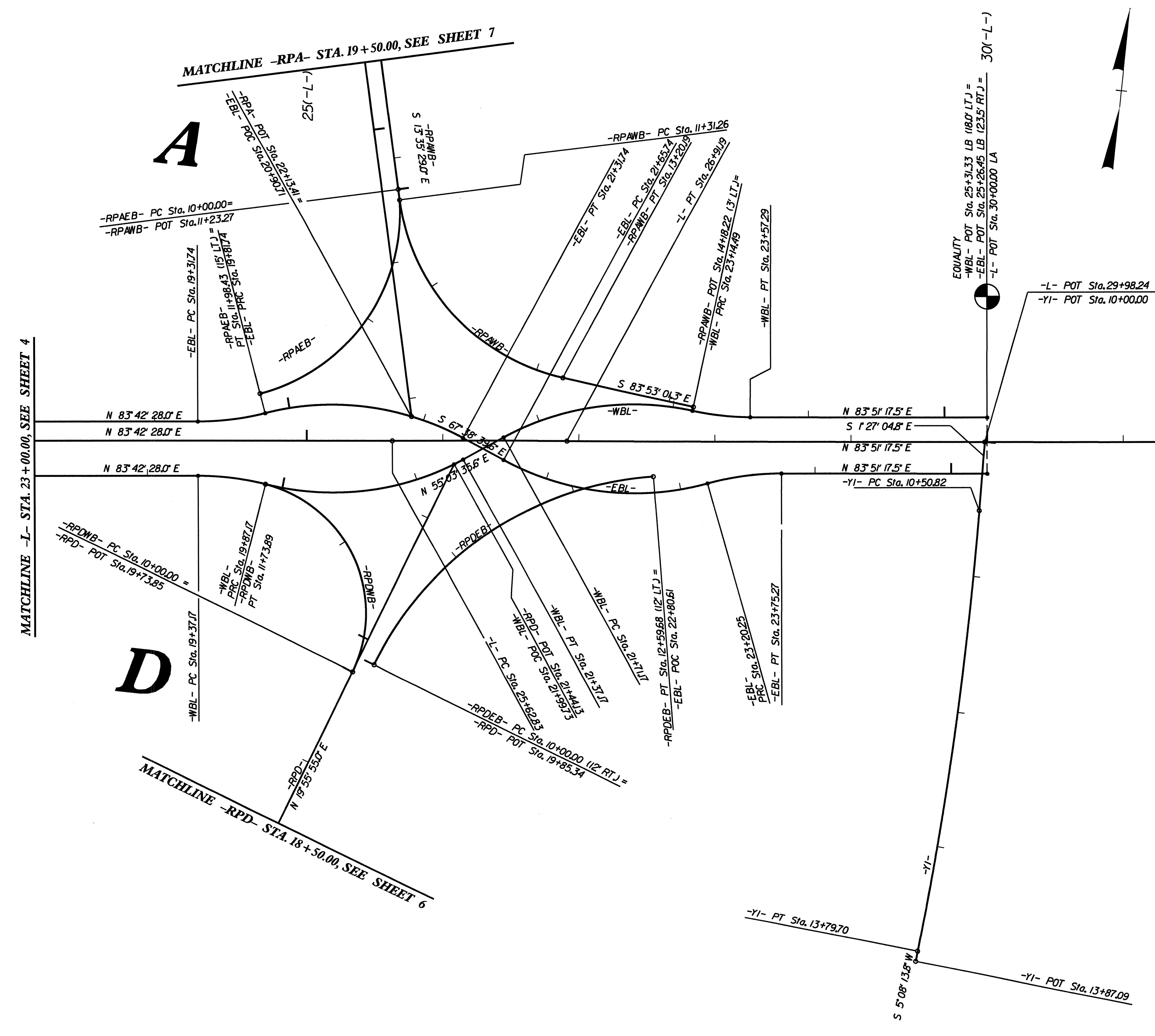


SEE SHEET 4, 6, & 7 FOR PLAN SHEETS
SEE SHEET 8 FOR -L- PROFILE
SEE SHEET 10 FOR -RPB-, -RPBEB- & -RPBWB- PROFILES
SEE SHEET 11 FOR -RPC-, -RPCEB- & -RPCWB- PROFILES

DETAIL OF ALIGNMENTS AND CURVE DATA

07-JUN-2013 13:53 Roadway Design Data - Alignments - Curve Data - 21.dgn

<p style="text-align: center;">-L-</p> <p>PI Sta 26+27.01 $\Delta = 0^{\circ} 08' 49.5''$ (RT) $D = 0^{\circ} 06' 52.5''$ $L = 128.36'$ $T = 64.18'$ $R = 50,000.00'$ SE = EXIST.</p>	<p style="text-align: center;">-WBL-</p> <table border="0"> <tr> <td>PI Sta 19+62.31 $\Delta = 14^{\circ} 19' 26.2''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 50.00'$ $T = 25.13'$ $R = 200.00'$ SE = EXIST.</td> <td>PI Sta 20+65.90 $\Delta = 42^{\circ} 58' 18.6''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 150.00'$ $T = 78.73'$ $R = 200.00'$ SE = EXIST.</td> <td>PI Sta 22+46.06 $\Delta = 41^{\circ} 03' 23.1''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 143.31'$ $T = 74.89'$ $R = 200.00'$ SE = EXIST.</td> <td>PI Sta 23+35.97 $\Delta = 12^{\circ} 15' 41.2''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 42.80'$ $T = 21.48'$ $R = 200.00'$ SE = EXIST.</td> </tr> </table>	PI Sta 19+62.31 $\Delta = 14^{\circ} 19' 26.2''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 50.00'$ $T = 25.13'$ $R = 200.00'$ SE = EXIST.	PI Sta 20+65.90 $\Delta = 42^{\circ} 58' 18.6''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 150.00'$ $T = 78.73'$ $R = 200.00'$ SE = EXIST.	PI Sta 22+46.06 $\Delta = 41^{\circ} 03' 23.1''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 143.31'$ $T = 74.89'$ $R = 200.00'$ SE = EXIST.	PI Sta 23+35.97 $\Delta = 12^{\circ} 15' 41.2''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 42.80'$ $T = 21.48'$ $R = 200.00'$ SE = EXIST.	<p style="text-align: center;">-EBL-</p> <table border="0"> <tr> <td>PI Sta 19+56.87 $\Delta = 14^{\circ} 19' 26.2''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 50.00'$ $T = 25.13'$ $R = 200.00'$ SE = EXIST.</td> <td>PI Sta 20+60.46 $\Delta = 42^{\circ} 58' 18.6''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 150.00'$ $T = 78.73'$ $R = 200.00'$ SE = EXIST.</td> <td>PI Sta 22+47.08 $\Delta = 44^{\circ} 15' 47.5''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 154.51'$ $T = 81.34'$ $R = 200.00'$ SE = EXIST.</td> <td>PI Sta 23+47.93 $\Delta = 15^{\circ} 45' 44.6''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 55.02'$ $T = 27.69'$ $R = 200.00'$ SE = EXIST.</td> </tr> </table>	PI Sta 19+56.87 $\Delta = 14^{\circ} 19' 26.2''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 50.00'$ $T = 25.13'$ $R = 200.00'$ SE = EXIST.	PI Sta 20+60.46 $\Delta = 42^{\circ} 58' 18.6''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 150.00'$ $T = 78.73'$ $R = 200.00'$ SE = EXIST.	PI Sta 22+47.08 $\Delta = 44^{\circ} 15' 47.5''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 154.51'$ $T = 81.34'$ $R = 200.00'$ SE = EXIST.	PI Sta 23+47.93 $\Delta = 15^{\circ} 45' 44.6''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 55.02'$ $T = 27.69'$ $R = 200.00'$ SE = EXIST.
PI Sta 19+62.31 $\Delta = 14^{\circ} 19' 26.2''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 50.00'$ $T = 25.13'$ $R = 200.00'$ SE = EXIST.	PI Sta 20+65.90 $\Delta = 42^{\circ} 58' 18.6''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 150.00'$ $T = 78.73'$ $R = 200.00'$ SE = EXIST.	PI Sta 22+46.06 $\Delta = 41^{\circ} 03' 23.1''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 143.31'$ $T = 74.89'$ $R = 200.00'$ SE = EXIST.	PI Sta 23+35.97 $\Delta = 12^{\circ} 15' 41.2''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 42.80'$ $T = 21.48'$ $R = 200.00'$ SE = EXIST.							
PI Sta 19+56.87 $\Delta = 14^{\circ} 19' 26.2''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 50.00'$ $T = 25.13'$ $R = 200.00'$ SE = EXIST.	PI Sta 20+60.46 $\Delta = 42^{\circ} 58' 18.6''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 150.00'$ $T = 78.73'$ $R = 200.00'$ SE = EXIST.	PI Sta 22+47.08 $\Delta = 44^{\circ} 15' 47.5''$ (LT) $D = 28^{\circ} 38' 52.4''$ $L = 154.51'$ $T = 81.34'$ $R = 200.00'$ SE = EXIST.	PI Sta 23+47.93 $\Delta = 15^{\circ} 45' 44.6''$ (RT) $D = 28^{\circ} 38' 52.4''$ $L = 55.02'$ $T = 27.69'$ $R = 200.00'$ SE = EXIST.							

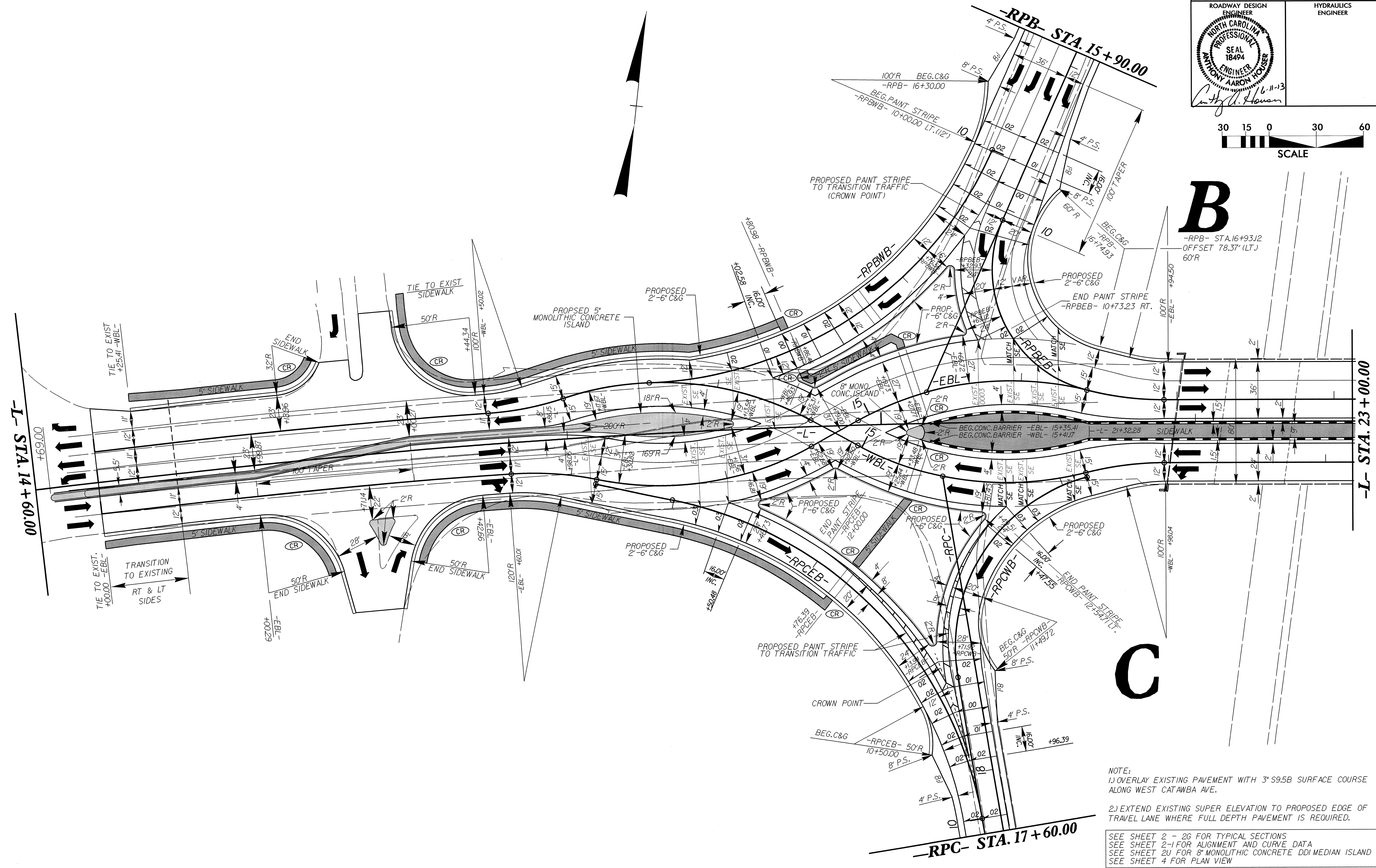
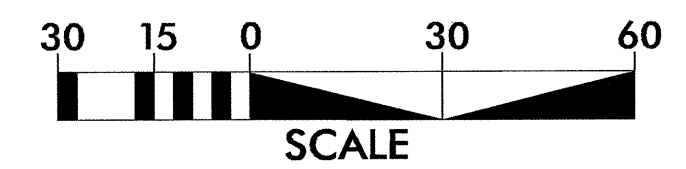


<p style="text-align: center;">-RPAWB-</p> <p>PI Sta 11+08.42 $\Delta = 70^{\circ} 17' 32.3''$ (LT) $D = 37^{\circ} 12' 18.2''$ $L = 188.93'$ $T = 108.42'$ $R = 154.00'$ SE = 02 INC. = 16'</p>	<p style="text-align: center;">-RPAEB-</p> <p>PI Sta 11+21.18 $\Delta = 82^{\circ} 58' 30.8''$ (RT) $D = 41^{\circ} 48' 46.6''$ $L = 198.44'$ $T = 121.18'$ $R = 137.03'$ SE = 02 INC. = 16'</p>	<p style="text-align: center;">-RPA-</p> <table border="0"> <tr> <td>PIs Sta 11+26.03 $\Theta_s = 4^{\circ} 06' 06.7''$ $L_s = 189.00'$ $LT = 126.03'$ $ST = 63.03'$</td> <td>PI Sta 14+65.54 $\Delta = 23^{\circ} 39' 52.7''$ (LT) $D = 4^{\circ} 20' 26.1''$ $L = 545.19'$ $T = 276.54'$ $R = 1,320.00'$ SE = EXIST.</td> <td>PIs Sta 17+97.23 $\Theta_s = 4^{\circ} 06' 06.7''$ $L_s = 189.00'$ $LT = 126.03'$ $ST = 63.03'$</td> </tr> </table>	PIs Sta 11+26.03 $\Theta_s = 4^{\circ} 06' 06.7''$ $L_s = 189.00'$ $LT = 126.03'$ $ST = 63.03'$	PI Sta 14+65.54 $\Delta = 23^{\circ} 39' 52.7''$ (LT) $D = 4^{\circ} 20' 26.1''$ $L = 545.19'$ $T = 276.54'$ $R = 1,320.00'$ SE = EXIST.	PIs Sta 17+97.23 $\Theta_s = 4^{\circ} 06' 06.7''$ $L_s = 189.00'$ $LT = 126.03'$ $ST = 63.03'$
PIs Sta 11+26.03 $\Theta_s = 4^{\circ} 06' 06.7''$ $L_s = 189.00'$ $LT = 126.03'$ $ST = 63.03'$	PI Sta 14+65.54 $\Delta = 23^{\circ} 39' 52.7''$ (LT) $D = 4^{\circ} 20' 26.1''$ $L = 545.19'$ $T = 276.54'$ $R = 1,320.00'$ SE = EXIST.	PIs Sta 17+97.23 $\Theta_s = 4^{\circ} 06' 06.7''$ $L_s = 189.00'$ $LT = 126.03'$ $ST = 63.03'$			
<p style="text-align: center;">-RPDWB-</p> <p>PI Sta 11+20.53 $\Delta = 101^{\circ} 54' 00.8''$ (LT) $D = 58^{\circ} 35' 59.4''$ $L = 173.89'$ $T = 120.53'$ $R = 97.77'$ SE = 02 INC. = 16'</p>	<p style="text-align: center;">-RPDEB-</p> <p>PI Sta 11+42.93 $\Delta = 59^{\circ} 30' 53.4''$ (RT) $D = 22^{\circ} 55' 05.9''$ $L = 259.68'$ $T = 142.93'$ $R = 250.00'$ SE = 02 INC. = 16'</p>	<p style="text-align: center;">-RPD-</p> <table border="0"> <tr> <td>PIs Sta 11+20.01 $\Theta_s = 2^{\circ} 30' 55.5''$ $L_s = 180.00'$ $LT = 120.01'$ $ST = 60.01'$</td> <td>PI Sta 13+79.07 $\Delta = 11^{\circ} 05' 33.8''$ (RT) $D = 2^{\circ} 47' 41.7''$ $L = 396.89'$ $T = 199.07'$ $R = 2,050.00'$ SE = EXIST.</td> <td>PIs Sta 16+36.90 $\Theta_s = 2^{\circ} 30' 55.5''$ $L_s = 180.00'$ $LT = 120.01'$ $ST = 60.01'$</td> </tr> </table>	PIs Sta 11+20.01 $\Theta_s = 2^{\circ} 30' 55.5''$ $L_s = 180.00'$ $LT = 120.01'$ $ST = 60.01'$	PI Sta 13+79.07 $\Delta = 11^{\circ} 05' 33.8''$ (RT) $D = 2^{\circ} 47' 41.7''$ $L = 396.89'$ $T = 199.07'$ $R = 2,050.00'$ SE = EXIST.	PIs Sta 16+36.90 $\Theta_s = 2^{\circ} 30' 55.5''$ $L_s = 180.00'$ $LT = 120.01'$ $ST = 60.01'$
PIs Sta 11+20.01 $\Theta_s = 2^{\circ} 30' 55.5''$ $L_s = 180.00'$ $LT = 120.01'$ $ST = 60.01'$	PI Sta 13+79.07 $\Delta = 11^{\circ} 05' 33.8''$ (RT) $D = 2^{\circ} 47' 41.7''$ $L = 396.89'$ $T = 199.07'$ $R = 2,050.00'$ SE = EXIST.	PIs Sta 16+36.90 $\Theta_s = 2^{\circ} 30' 55.5''$ $L_s = 180.00'$ $LT = 120.01'$ $ST = 60.01'$			
<p style="text-align: center;">-YI-</p> <p>PI Sta 12+15.44 $\Delta = 6^{\circ} 35' 18.6''$ (RT) $D = 2^{\circ} 00' 12.1''$ $L = 328.87'$ $T = 164.62'$ $R = 2,860.00'$ SE = EXIST.</p>					

SEE SHEET 5, 6, & 7 FOR PLAN SHEETS
 SEE SHEET 8 FOR -L- PROFILE
 SEE SHEET 9 FOR -RPA-, -RPAEB- & -RPAWB- PROFILES
 SEE SHEET 12 FOR -RPD-, -RPDEB- & -RPDWB- PROFILES
 SEE SHEET 13 FOR -YI- PROFILE

DETAIL OF ALIGNMENTS AND CURVE DATA

5/14/99
 07-JUN-2003 15:53
 Roadway\Projects\1-4733\Roadway-Alignments-CurveData-2J.dgn
 Matthew Aaron Houser



B

-RPB- STA. 16+93.12
OFFSET 78.37' (LT.)
60'R

C

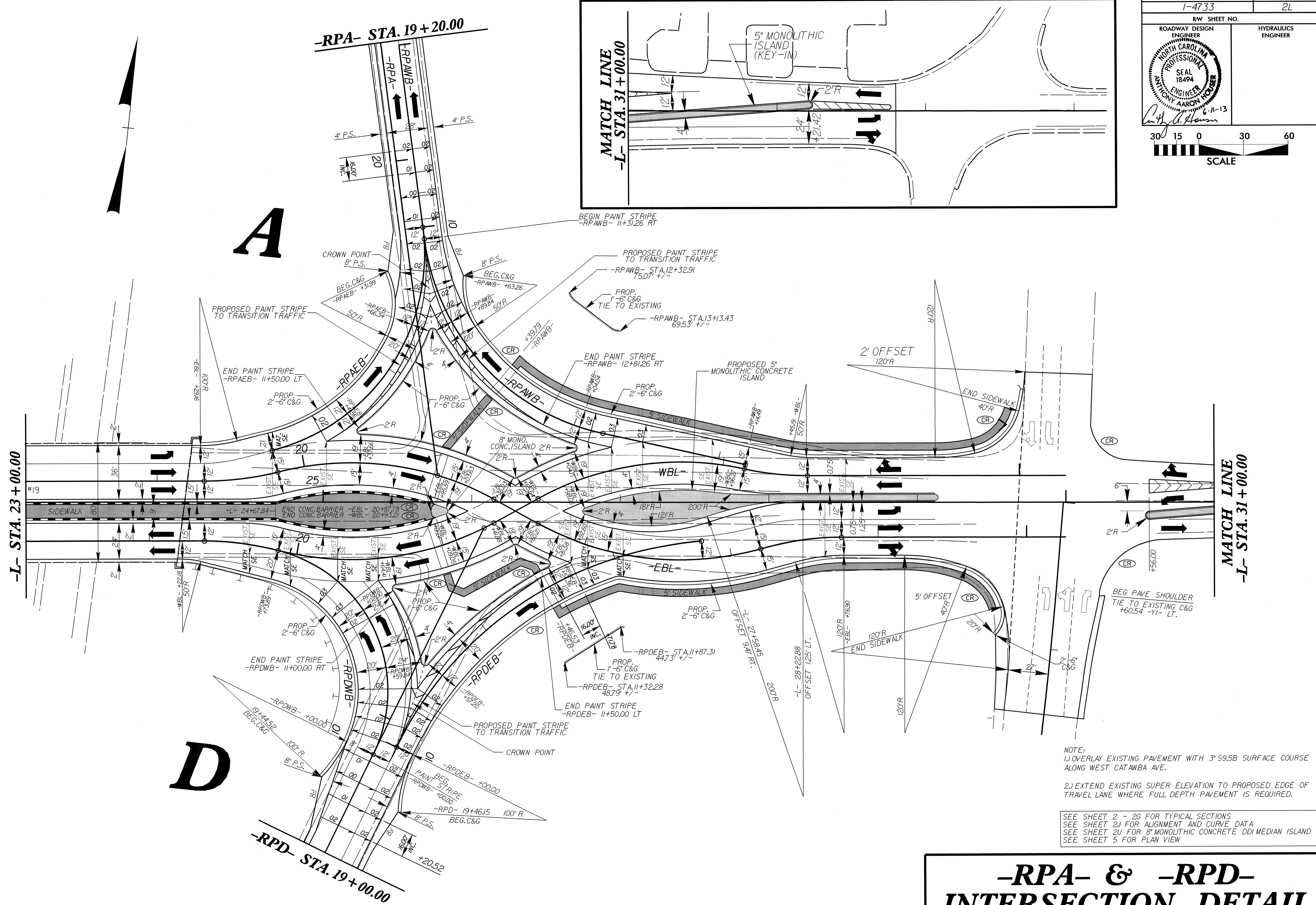
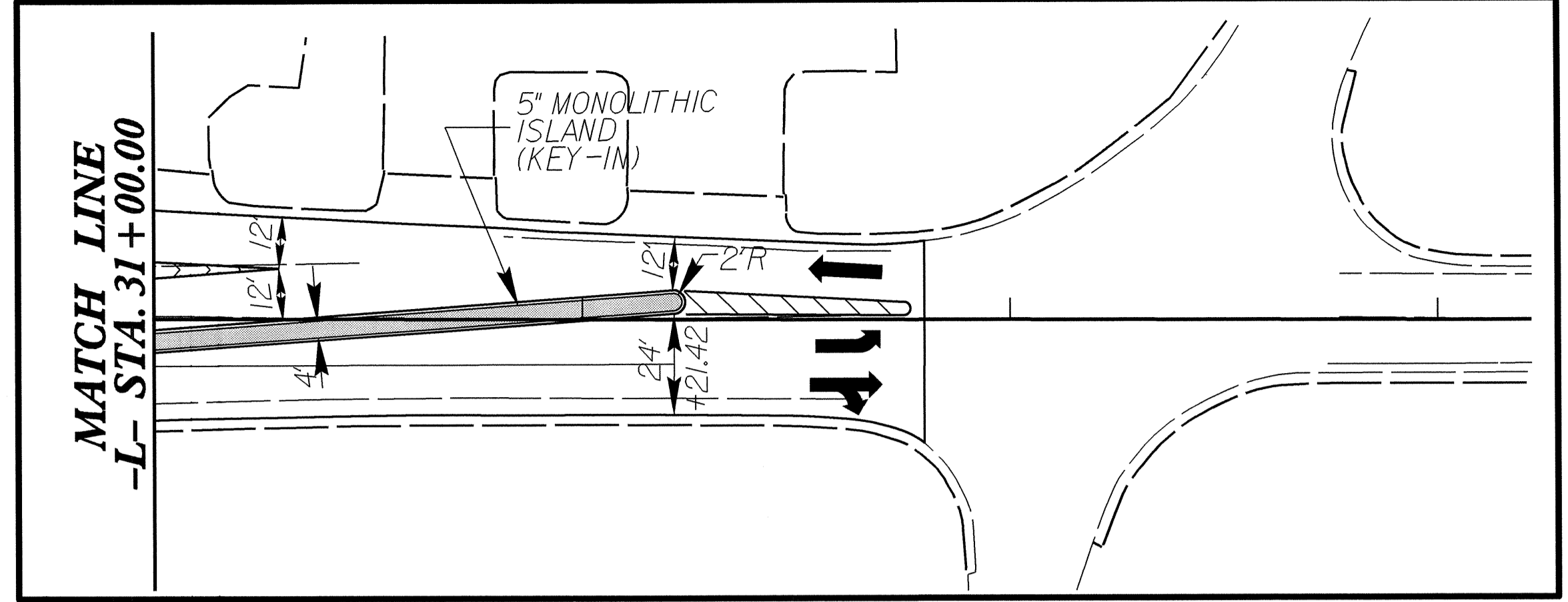
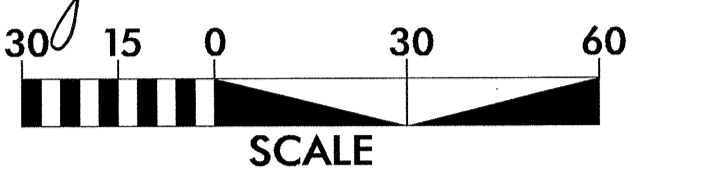
NOTE:
 1.) OVERLAY EXISTING PAVEMENT WITH 3" S9.5B SURFACE COURSE ALONG WEST CATAWBA AVE.
 2.) EXTEND EXISTING SUPER ELEVATION TO PROPOSED EDGE OF TRAVEL LANE WHERE FULL DEPTH PAVEMENT IS REQUIRED.

SEE SHEET 2 - 2G FOR TYPICAL SECTIONS
 SEE SHEET 2-1 FOR ALIGNMENT AND CURVE DATA
 SEE SHEET 2U FOR 8' MONOLITHIC CONCRETE DDI MEDIAN ISLAND
 SEE SHEET 4 FOR PLAN VIEW

-RPB- & -RPC- INTERSECTION DETAIL

5/14/99

07-JUN-2013 15:53
 d:\way\Proj\1-4733\ddi\dt1_Intersection_RPB_RPC_2k.dgn



SEE SHEET 2 - 2G FOR TYPICAL SECTIONS
 SEE SHEET 2J FOR ALIGNMENT AND CURVE DATA
 SEE SHEET 2U FOR 8' MONOLITHIC CONCRETE DDI MEDIAN ISLAND
 SEE SHEET 5 FOR PLAN VIEW

-RPA- & -RPD- INTERSECTION DETAIL

5/14/99

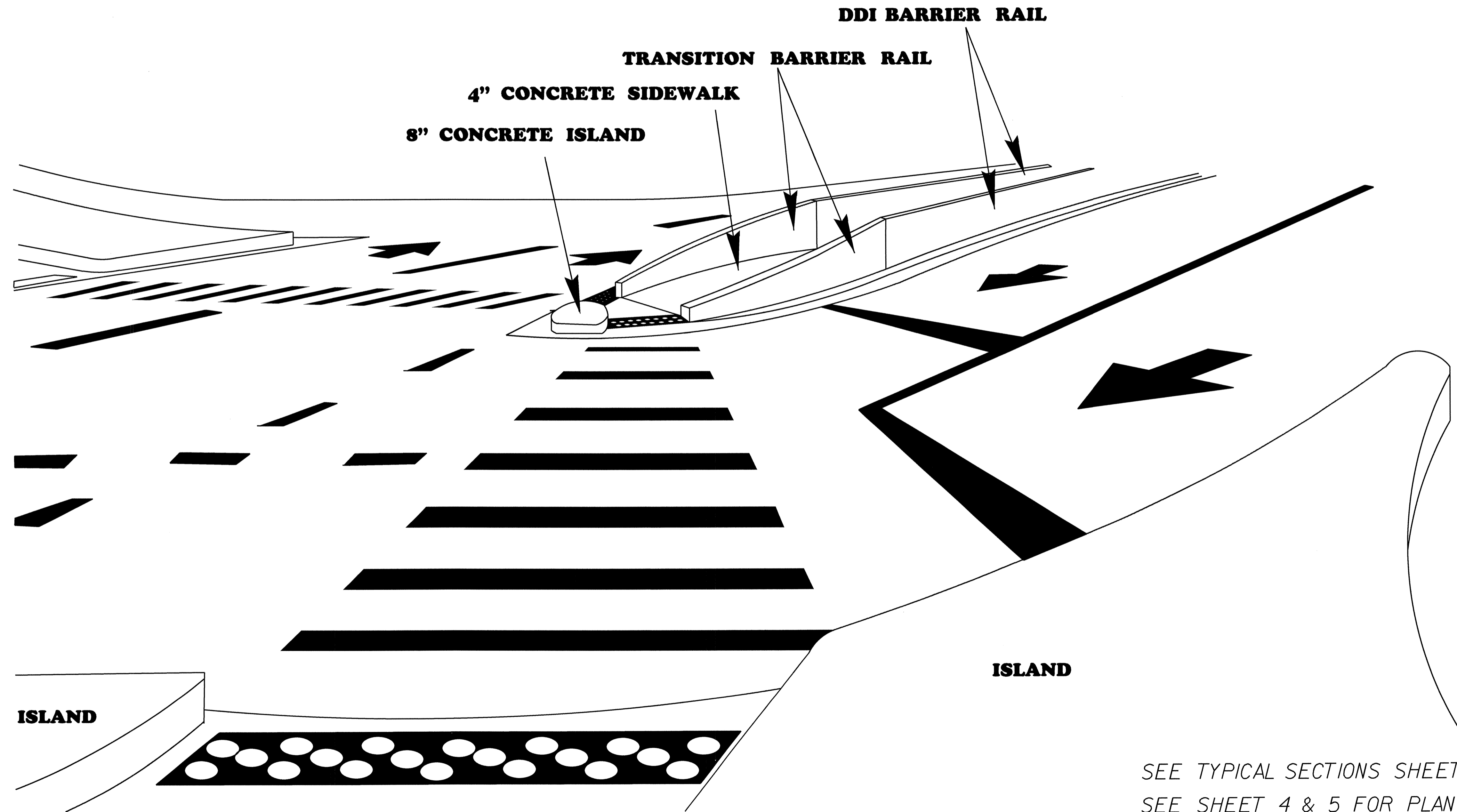
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 \$\$\$\$ USER:ADW \$\$\$

PROJECT REFERENCE NO. 1-4733	SHEET NO. 2M
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ISOMETRIC VIEW

USE FOR VISUAL PURPOSES ONLY

NOT TO SCALE



SEE TYPICAL SECTIONS SHEET 2 THRU 2G
SEE SHEET 4 & 5 FOR PLAN VIEW

**DDI
ISOMETRIC VIEW**

5/14/99

\\JUN-20-03-1040 Pdy-dtl.Isometric view-2M.dgn

MILLING ASPHALT PAVEMENT 0" TO 3" DEPTH

ALLOW FOR A MINIMUM OF 3" OVERLAY

SURVEY LINE	STATION	OFFSET LEFT	OFFSET RIGHT
L	15+75.00	6.6	9.9
L	16+00.00	13.0	11.6
L	16+25.00	13.6	11.6
L	16+50.00	12.5	16.4
L	16+75.00	6.1	11.1
L	17+00.00	7.9	12.6
L	17+25.00	7.8	14.2
L	17+50.00	8.0	11.6
L	17+75.00	6.9	11.0
L	18+00.00	8.6	11.1
L	18+25.00	11.7	7.8
L	18+50.00	2.0	4.6
L	18+75.00	4.7	3.2
L	19+00.00	7.0 & 0.3	
L	19+25.00	7.5 & 1.6	
L	19+50.00	7.3 & 2.3	
L	20+87.23	36.4	38.9
L	21+87.23	38.0	38.0

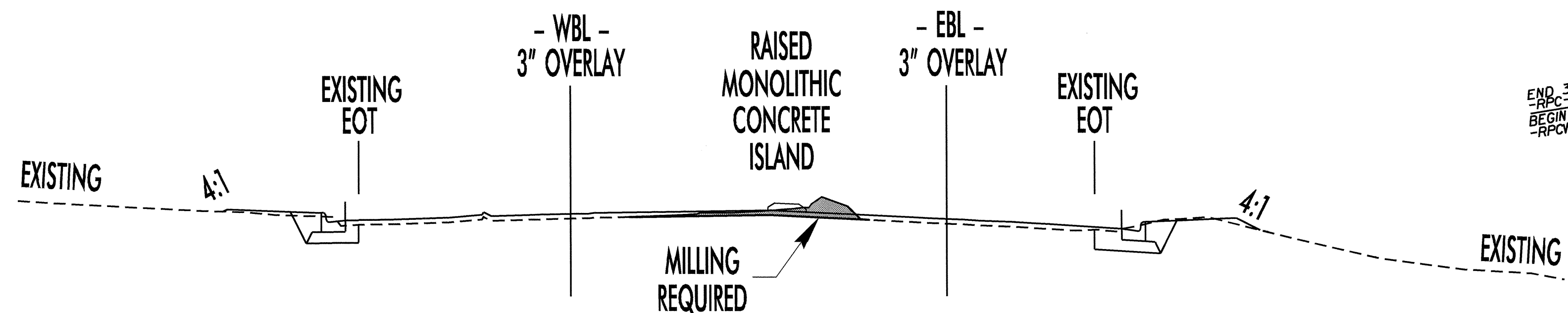
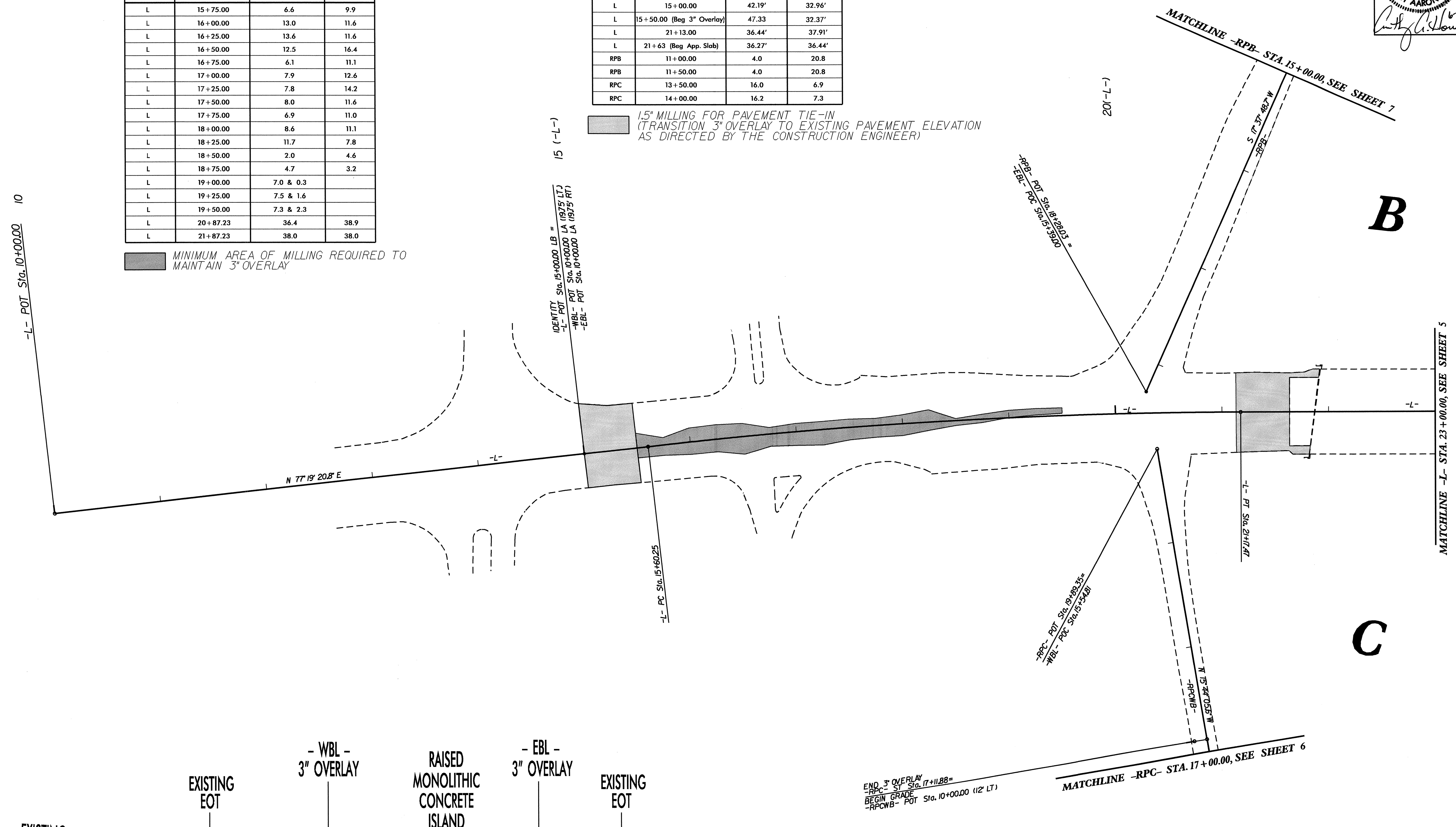
MINIMUM AREA OF MILLING REQUIRED TO MAINTAIN 3" OVERLAY

MILLING ASPHALT PAVEMENT 1.5" DEPTH

1.5" MINIMUM DEPTH FOR PAVEMENT TIE-IN

SURVEY LINE	STATION	OFFSET LEFT	OFFSET RIGHT
L	15+00.00	42.19'	32.96'
L	15+50.00 (Beg 3" Overlay)	47.33	32.37'
L	21+13.00	36.44'	37.91'
L	21+63 (Beg App. Slab)	36.27'	36.44'
RPB	11+00.00	4.0	20.8
RPB	11+50.00	4.0	20.8
RPC	13+50.00	16.0	6.9
RPC	14+00.00	16.2	7.3

1.5" MILLING FOR PAVEMENT TIE-IN
(TRANSITION 3" OVERLAY TO EXISTING PAVEMENT ELEVATION AS DIRECTED BY THE CONSTRUCTION ENGINEER)



MILLING TYPICAL

END 3" OVERLAY
-RPC- ST Sta. 17+11.88=
BEGIN GRADE
-RPCWB- POT Sta. 10+00.00 (12' LT)

MATCHLINE -RPC- STA. 17+00.00, SEE SHEET 6

SEE SHEET 4, 6, & 7 FOR PLAN SHEETS
SEE SHEET 8 FOR -L- PROFILE
SEE SHEET 10 FOR -RPB-, -RPBEB- & -RPBWB- PROFILES
SEE SHEET 11 FOR -RPC-, -RPCB- & -RPCWB- PROFILES

MILLING DETAIL

5/14/99

MILLING ASPHALT PAVEMENT 0" TO 3" DEPTH

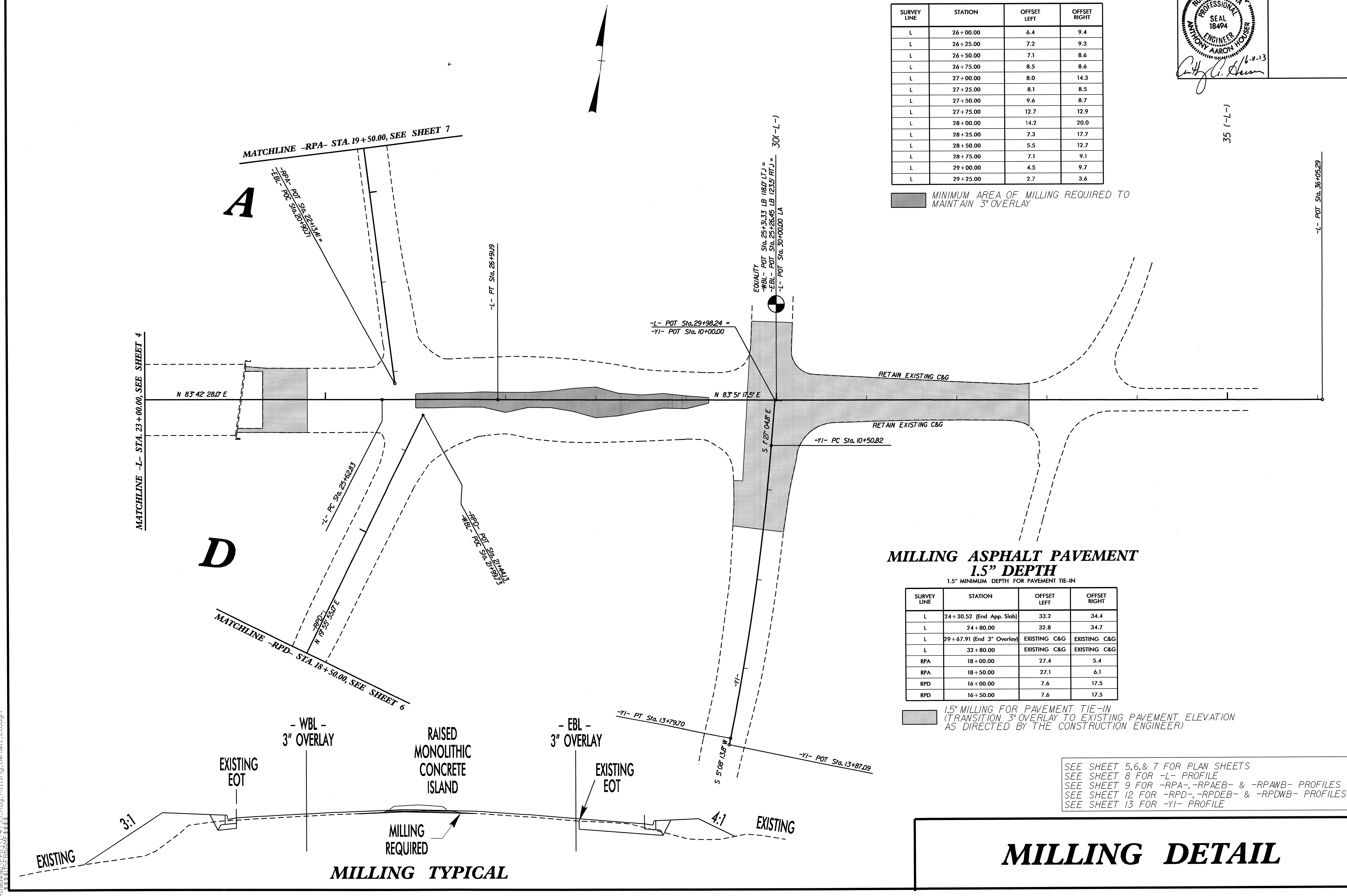
ALLOW FOR A MINIMUM OF 3" OVERLAY

SURVEY LINE	STATION	OFFSET LEFT	OFFSET RIGHT
L	26+00.00	6.4	9.4
L	26+25.00	7.2	9.3
L	26+50.00	7.1	8.6
L	26+75.00	8.5	8.6
L	27+00.00	8.0	14.3
L	27+25.00	8.1	8.5
L	27+50.00	9.6	8.7
L	27+75.00	12.7	12.9
L	28+00.00	14.2	20.0
L	28+25.00	7.3	17.7
L	28+50.00	5.5	12.7
L	28+75.00	7.1	9.1
L	29+00.00	4.5	9.7
L	29+25.00	2.7	3.6

PROJECT REFERENCE NO. 1-4733	SHEET NO. 2-0
RW SHEET NO.	
ROADWAY DESIGN NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494 ANTHONY AARON HOUSER	HYDRAULICS ENGINEER

16-11-13
C. H. Hooper

35 (-L-)



MINIMUM AREA OF MILLING REQUIRED TO MAINTAIN 3" OVERLAY

MILLING ASPHALT PAVEMENT 1.5" DEPTH

1.5" MINIMUM DEPTH FOR PAVEMENT TIE-IN

SURVEY LINE	STATION	OFFSET LEFT	OFFSET RIGHT
L	24+30.52 (End App. Slab)	33.2	34.4
L	24+80.00	32.8	34.7
L	29+67.91 (End 3" Overlay)	EXISTING C&G	EXISTING C&G
L	32+80.00	EXISTING C&G	EXISTING C&G
RPA	18+00.00	27.4	5.4
RPA	18+50.00	27.1	6.1
RPD	16+00.00	7.6	17.5
RPD	16+50.00	7.6	17.5

1.5" MILLING FOR PAVEMENT TIE-IN (TRANSITION 3" OVERLAY TO EXISTING PAVEMENT ELEVATION AS DIRECTED BY THE CONSTRUCTION ENGINEER)

SEE SHEET 5, 6, & 7 FOR PLAN SHEETS
SEE SHEET 8 FOR -L- PROFILE
SEE SHEET 9 FOR -RPA-, -RPAEB- & -RPAWB- PROFILES
SEE SHEET 12 FOR -RPD-, -RPDEB- & -RPDWB- PROFILES
SEE SHEET 13 FOR -YI- PROFILE

MILLING TYPICAL



MILLING DETAIL

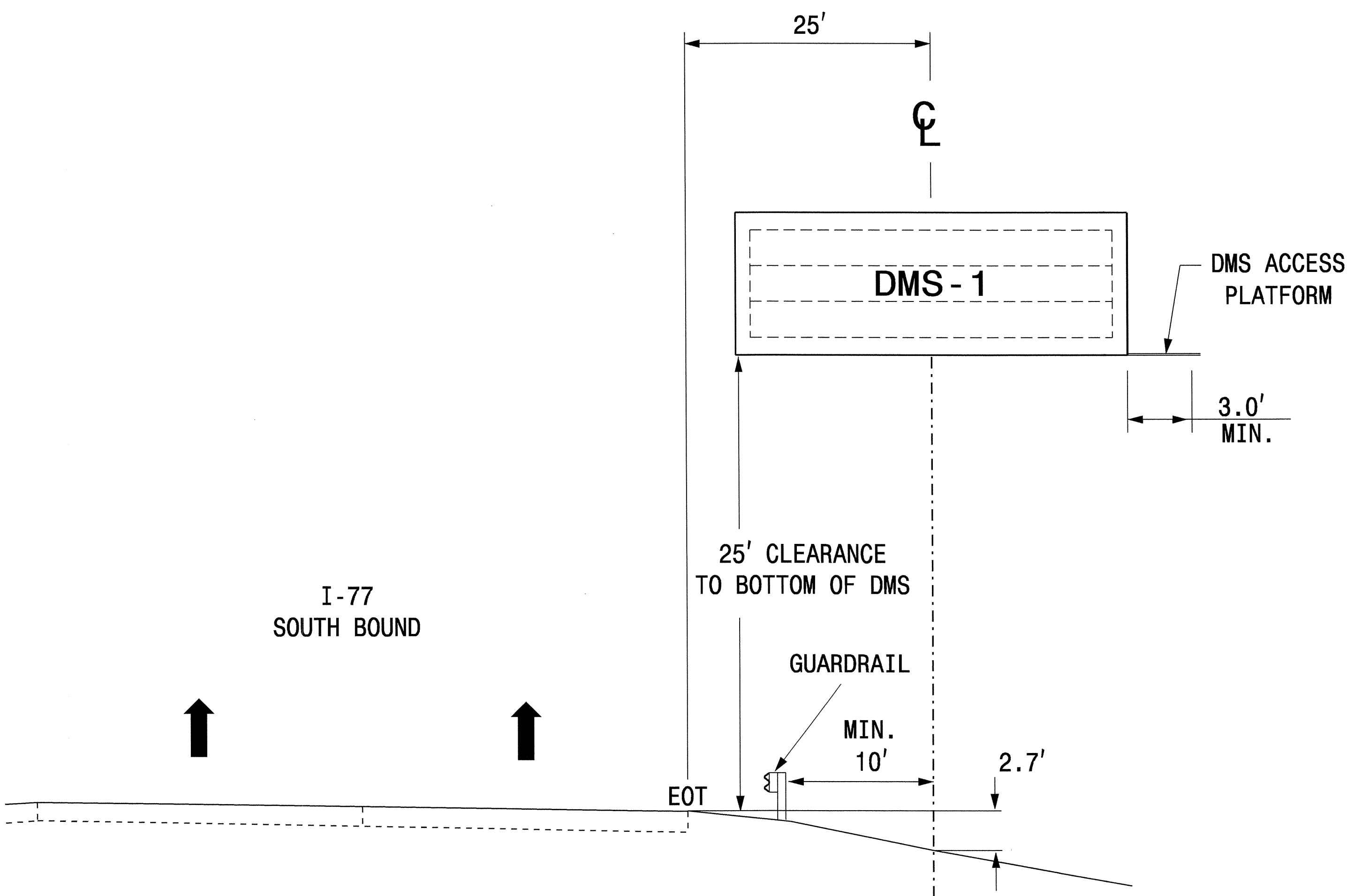
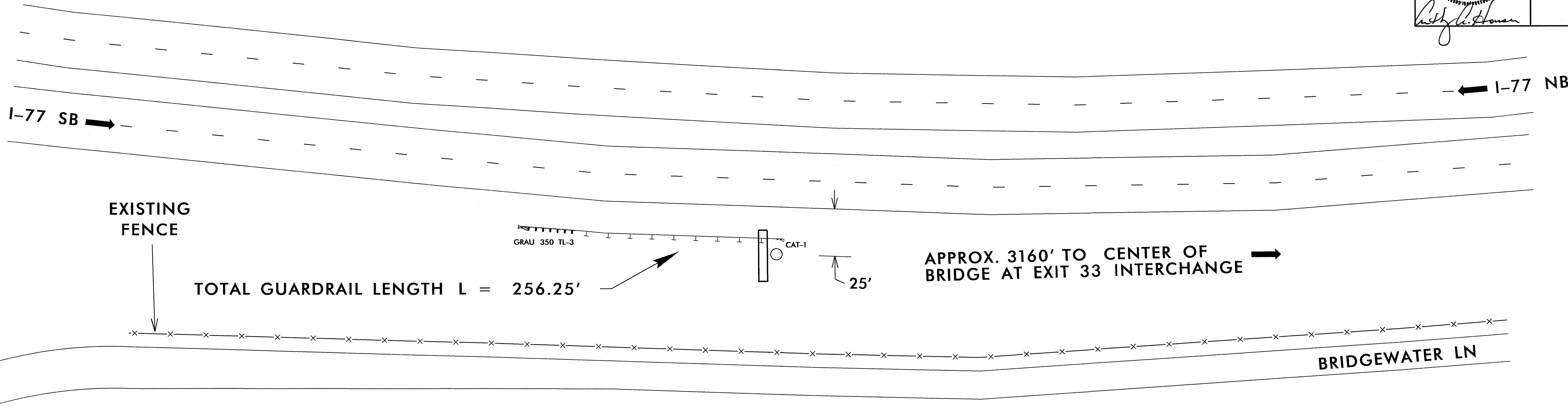
07-JUN-2013 13:53
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5/14/99

DMS-1 GPS COORDINATES

35 33.722 N
80 51.537 W

PROJECT REFERENCE NO. I-4733	SHEET NO. 2P
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
	



NOT TO SCALE

SEE SHEET ITS-3, ITS-4 FOR DMS INSTALLATION PLANS

GUARDRAIL LOCATION DETAIL FOR DYNAMIC MESSAGE SIGN

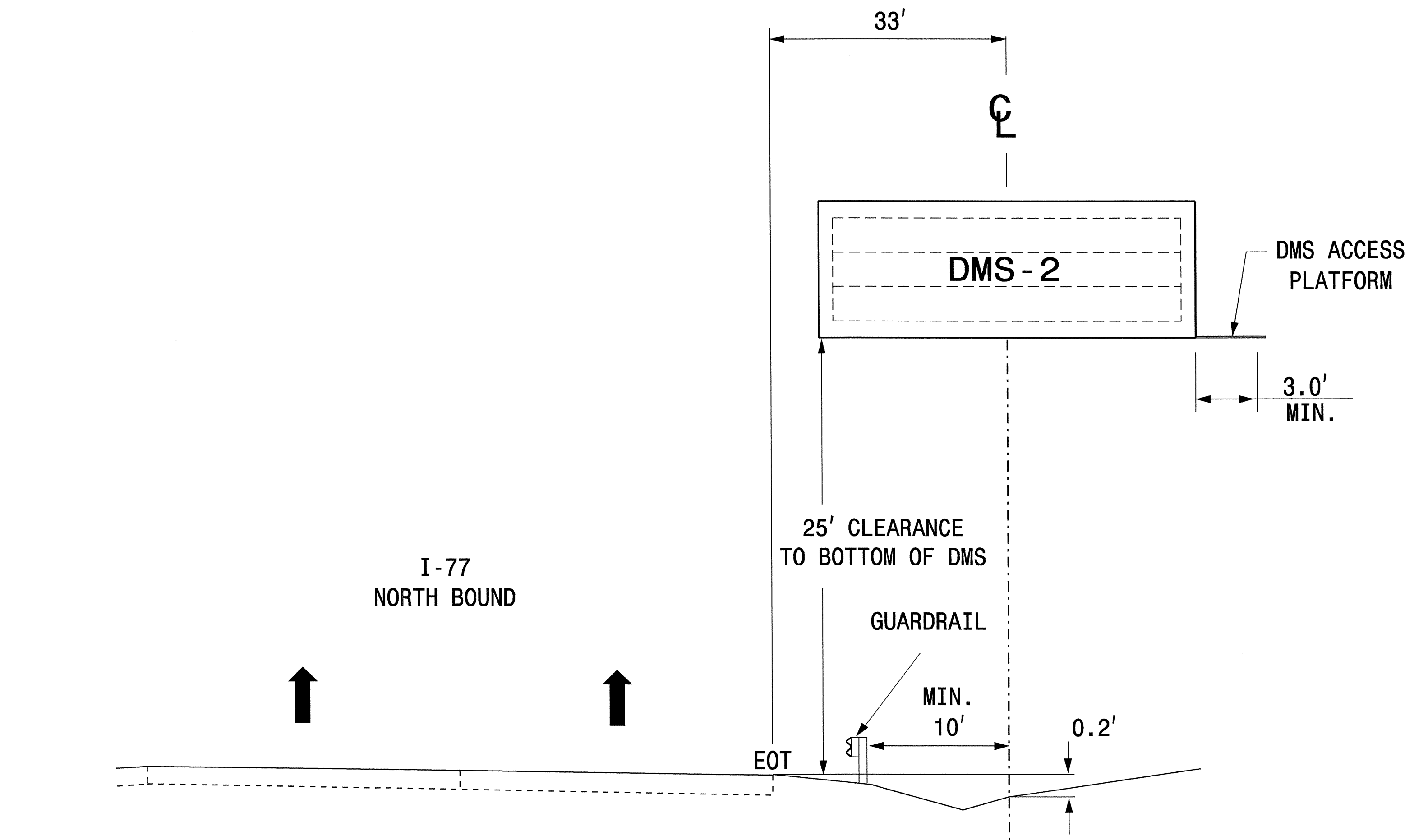
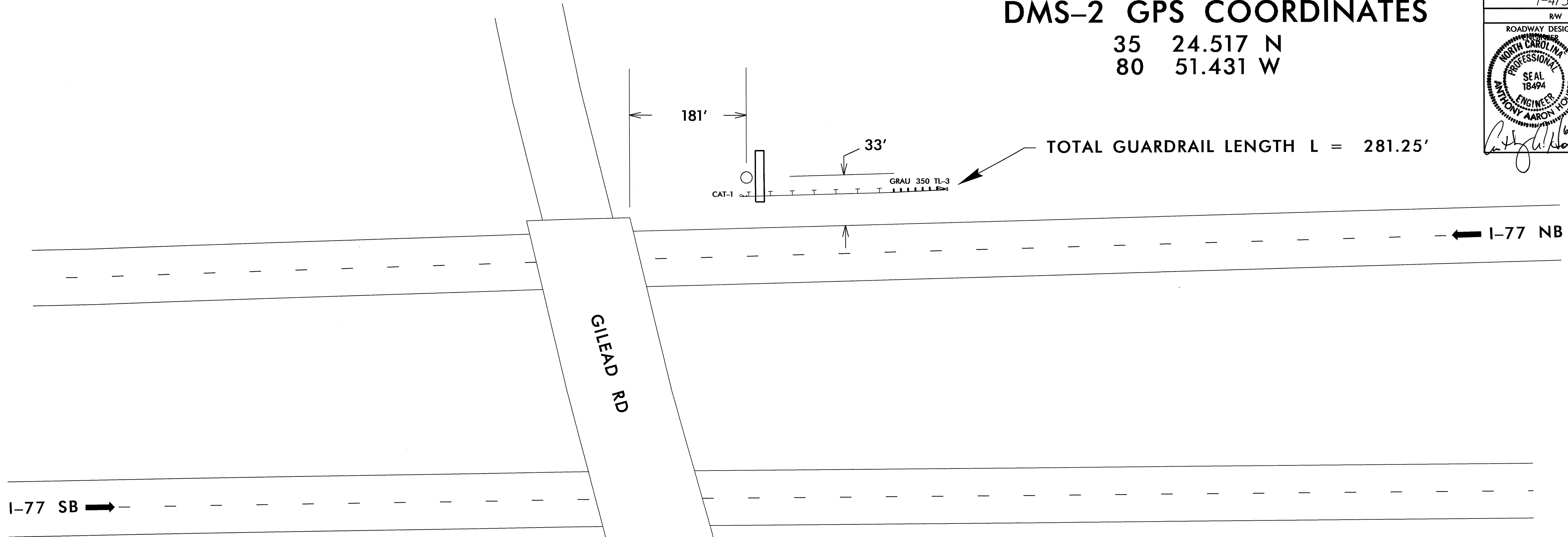
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5/14/99

DMS-2 GPS COORDINATES

35 24.517 N
80 51.431 W

PROJECT REFERENCE NO. 1-4733	SHEET NO. 20
RW SHEET NO.	
ROADWAY DESIGN NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494 ANTHONY AARON HOUSER	HYDRAULICS ENGINEER

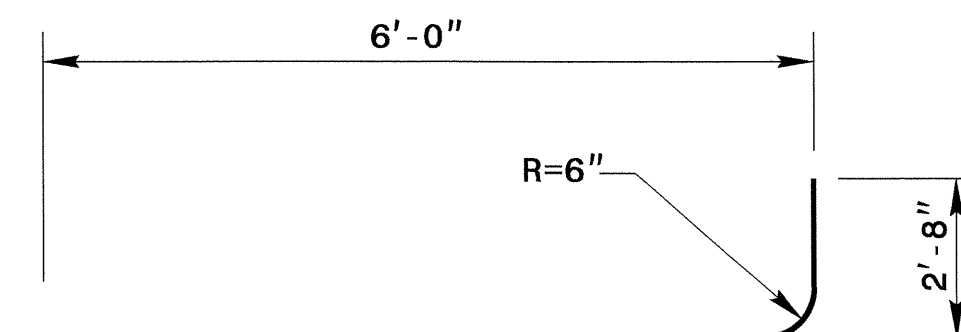
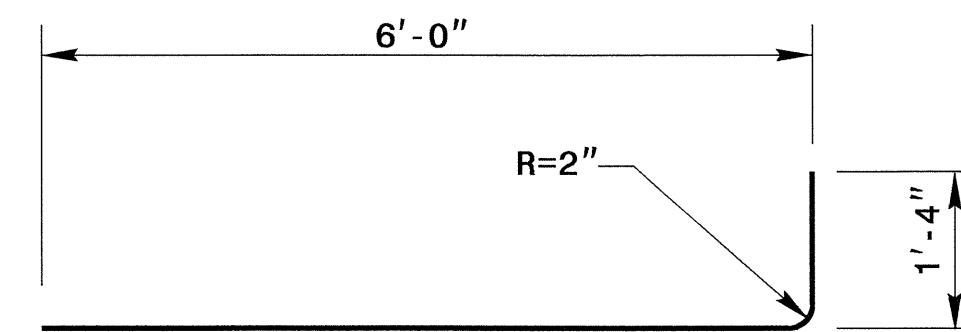
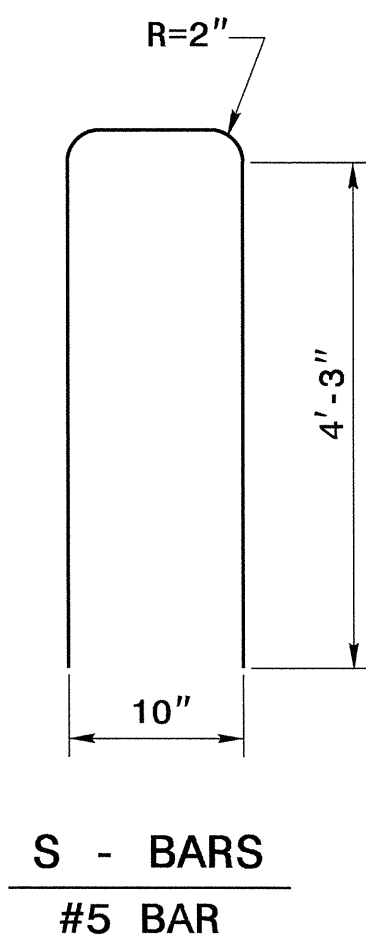
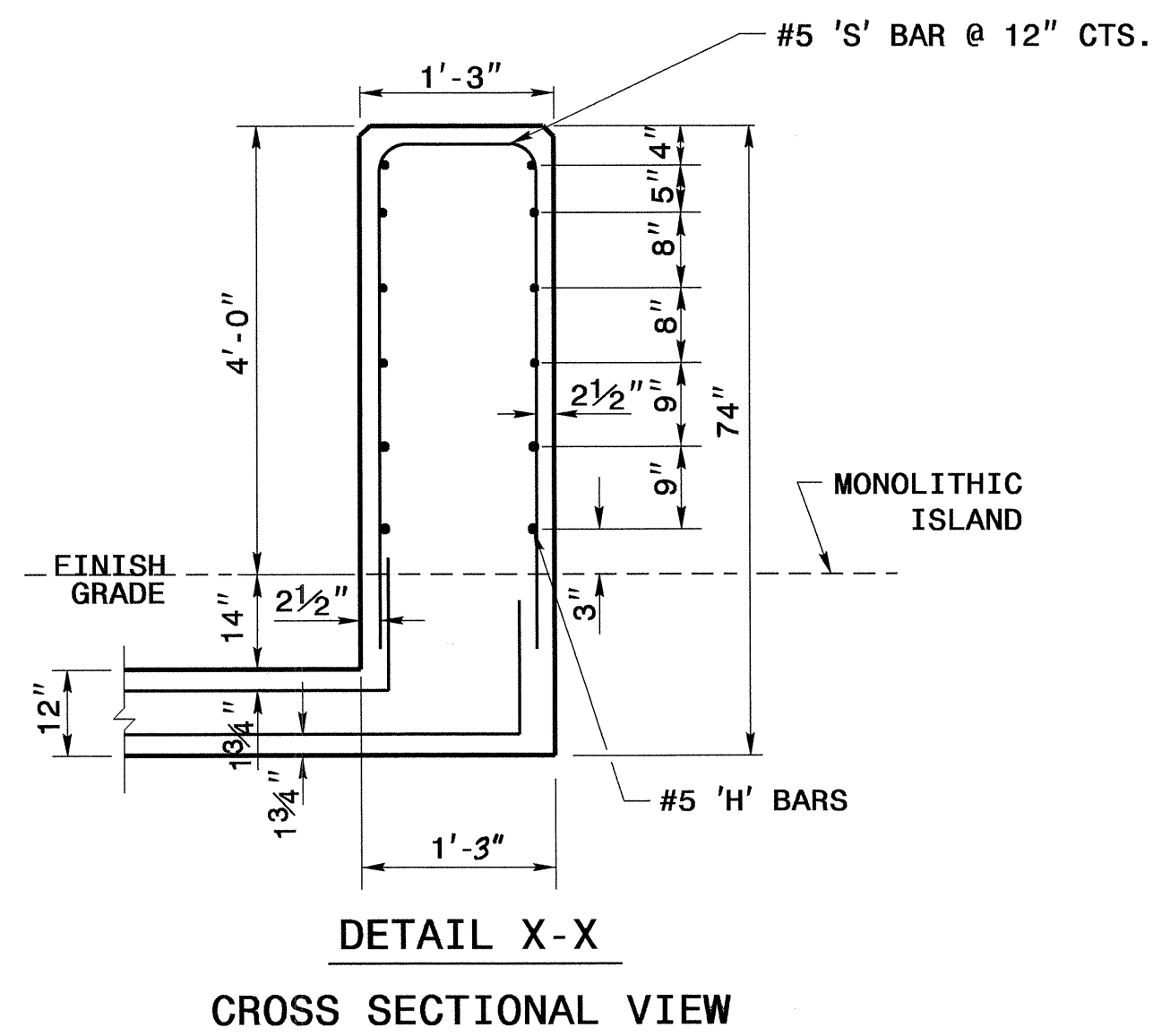


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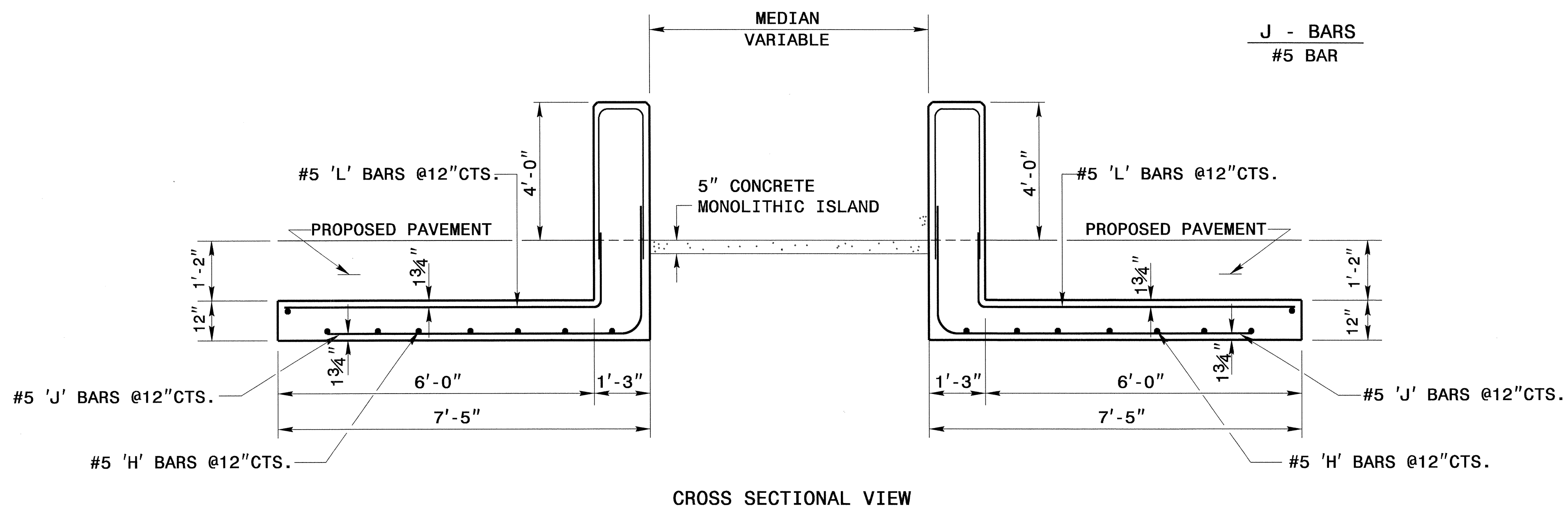
SEE SHEET ITS-7, ITS-8 FOR DMS INSTALLATION PLANS

GUARDRAIL LOCATION DETAIL FOR DYNAMIC MESSAGE SIGN

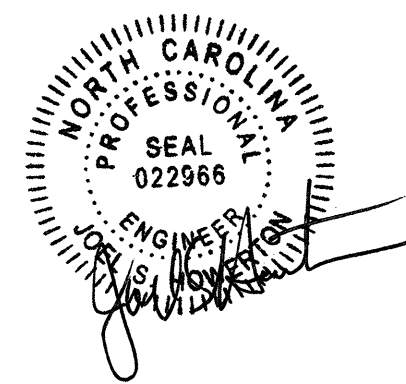
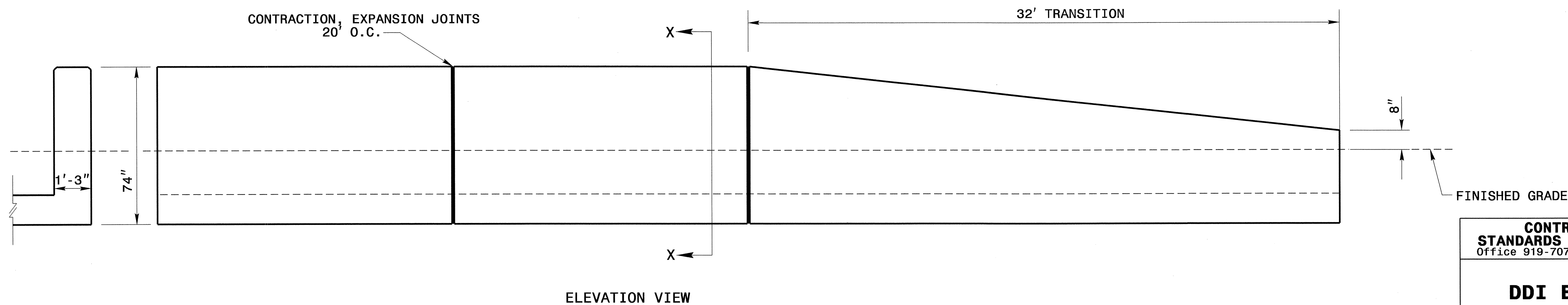
I:\JUN-2013\1135733.Rdy_dms2_Detail.20.dgn



- GENERAL NOTES:**
- CLASS 'B' CONCRETE TO BE USED THROUGHOUT.
 - REINFORCING STEEL TO BE CUT, BENT OR RELOCATED AS DIRECTED BY THE ENGINEER.
 - ALL EXPOSED CORNERS TO BE CHAMFERED 1".
 - MAINTAIN 1 3/4" MINIMUM CONCRETE COVERAGE ON ALL STEEL.
 - GRADE THE MEDIAN BETWEEN THE BARRIERS TO DRAIN AS DIRECTED BY THE ENGINEER.



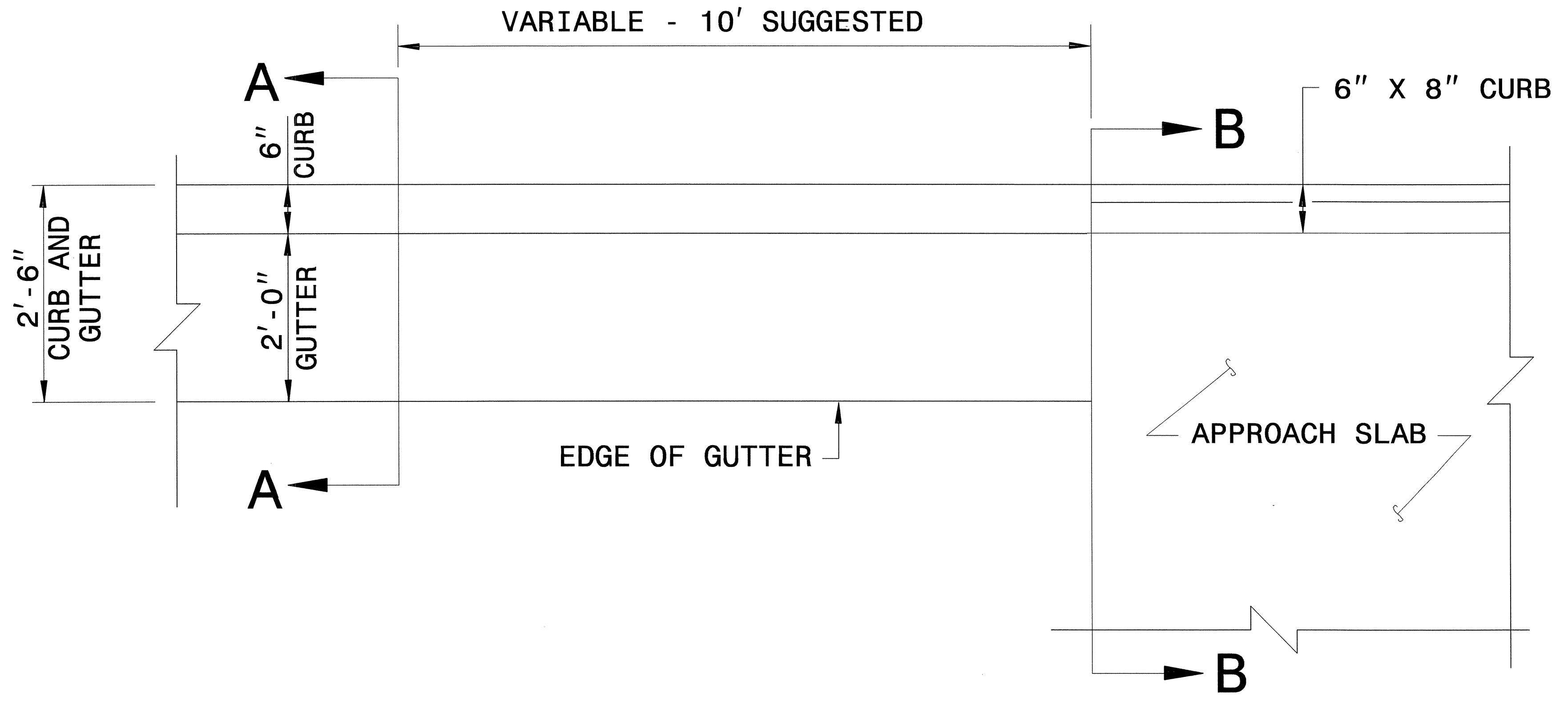
BILL OF MATERIAL					
CODE	BAR#	LENGTH	LBS/FT.	QTY.	LBS
H	5	19'-8"	1.043	540	11077
J	5	8'-8"	1.043	540	4883
L	5	7'-4"	1.043	540	4130
S	5	9'-6"	1.043	540	5351
TOTAL WEIGHT STEEL					25441
CLASS "B" CONCRETE					
SINGLE FACE BARRIER					275 CU.YDS.
TOTAL CLASS "B" CONCRETE 275 CU.YDS.					



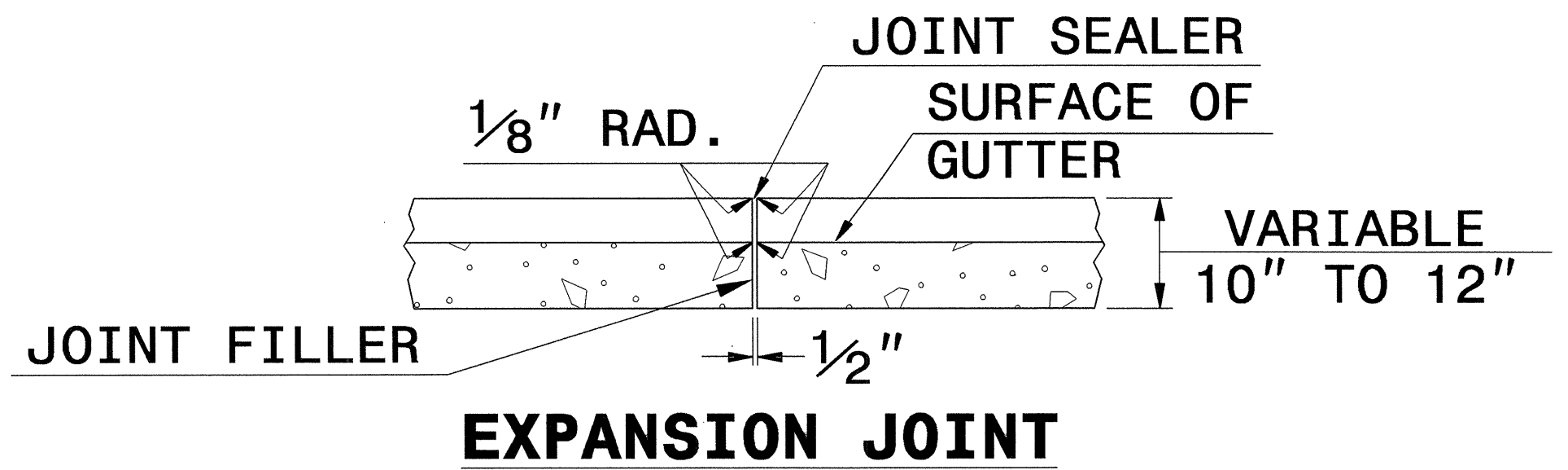
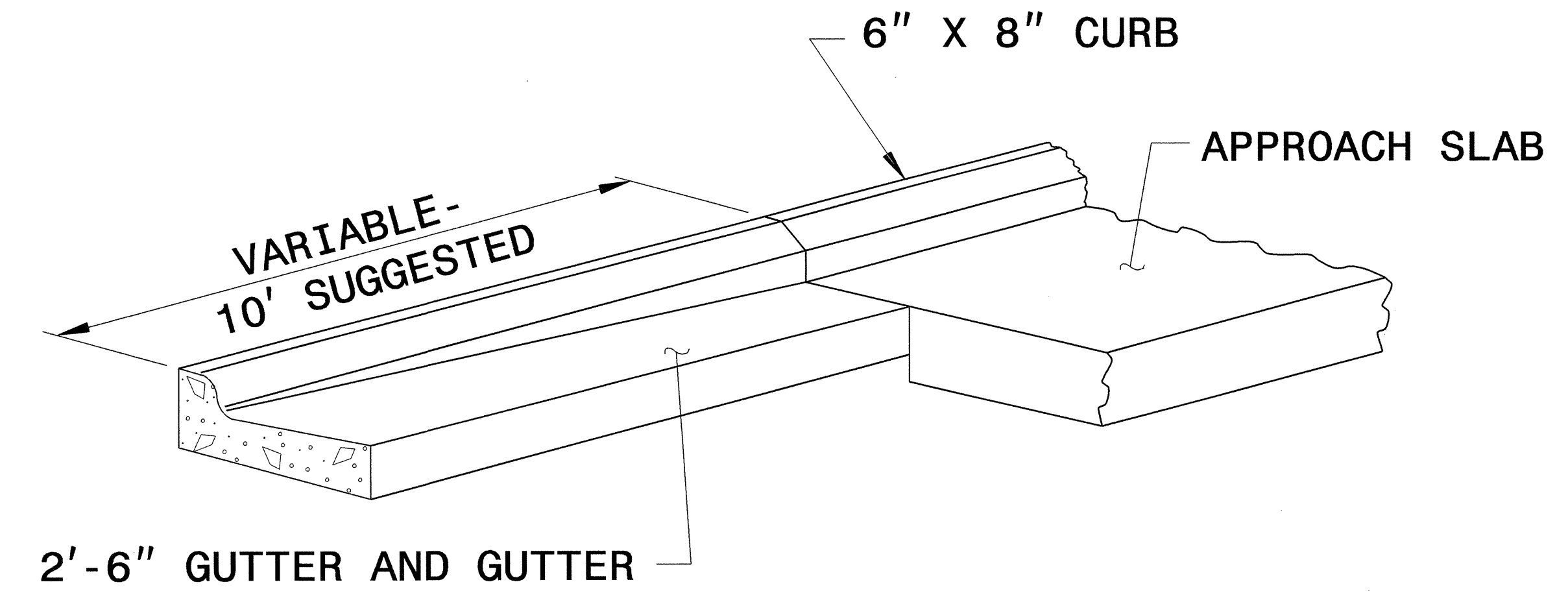
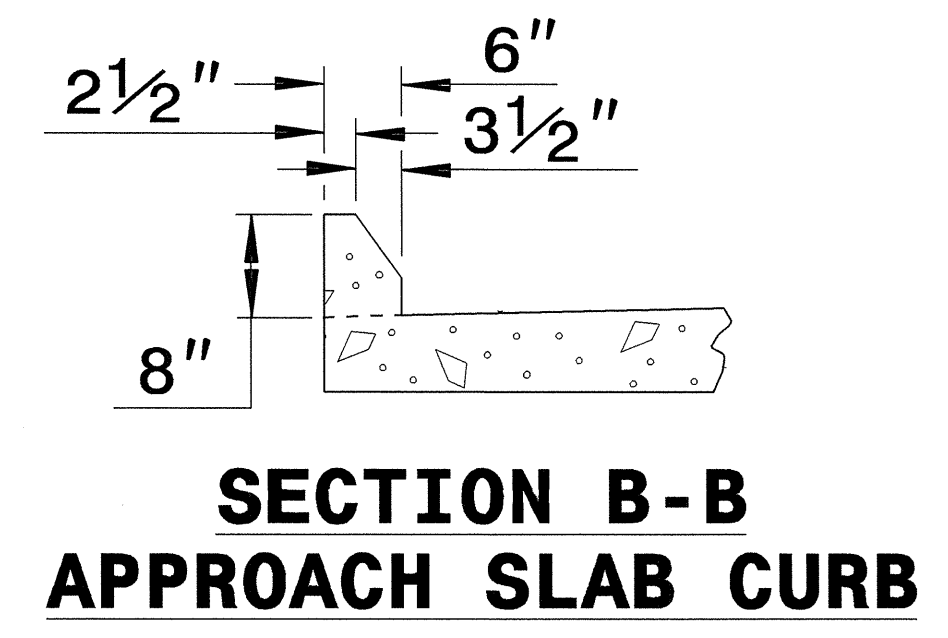
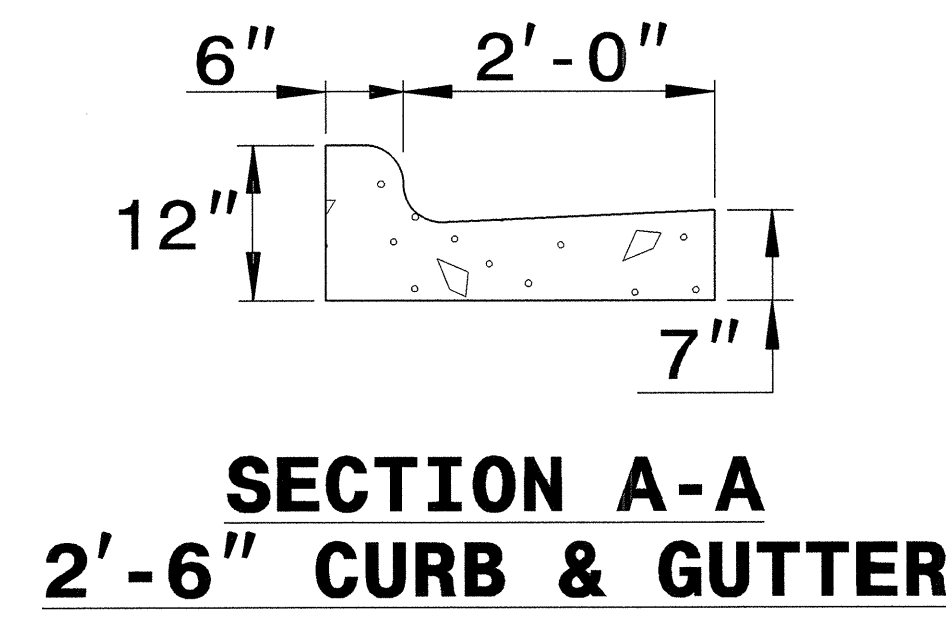
**CONTRACT STANDARDS
STANDARDS AND SPECIAL DESIGN**
Office 919-707-6900 FAX 919-250-4119

DDI BARRIER RAIL

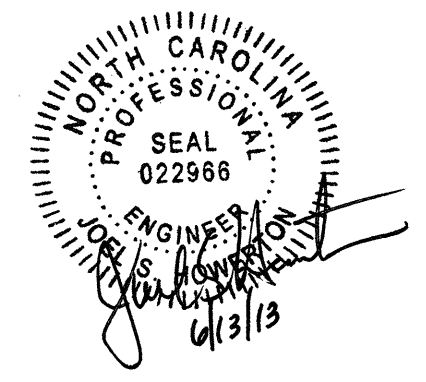
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 MODIFIED BY: nrbritt DATE: 04-24-13
 CHECKED BY: gulsbritt DATE: 4/30/13
 FILE SPEC.: gulsbritt\english\interstate\i4733\bridge\barrier.dgn



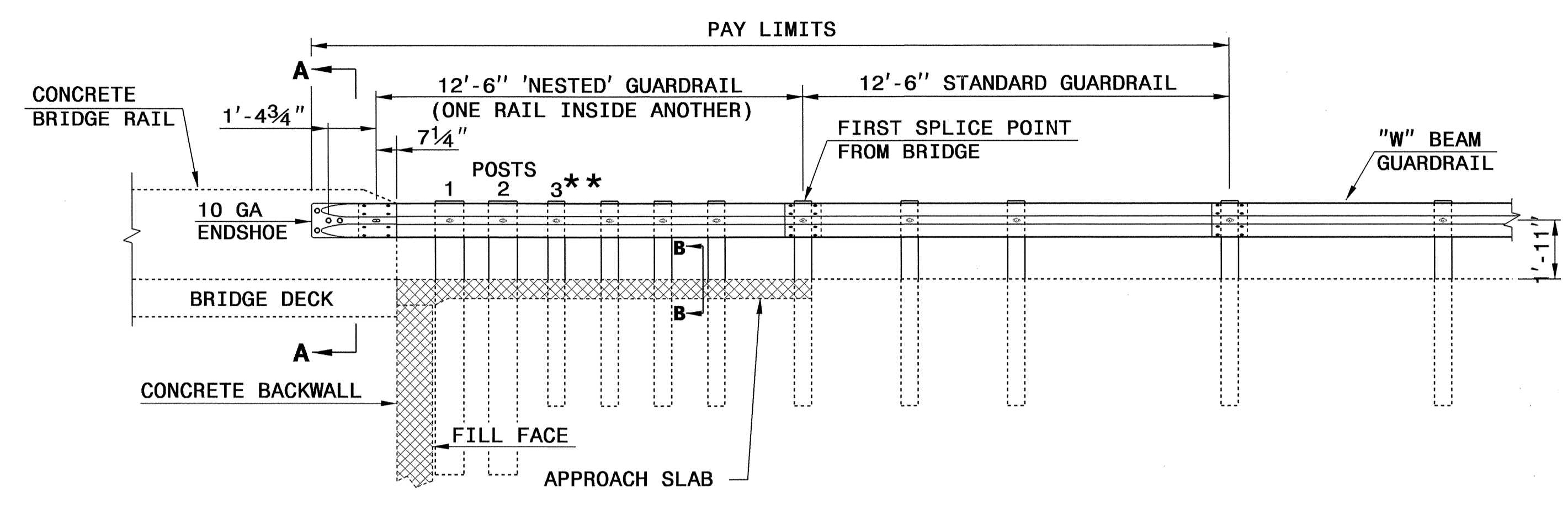
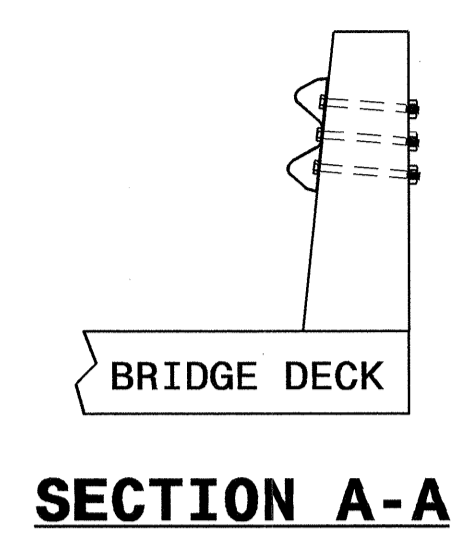
**PLAN VIEW OF TRANSITION
SHOULDER BERM GUTTER TO APPROACH SLAB CURB**



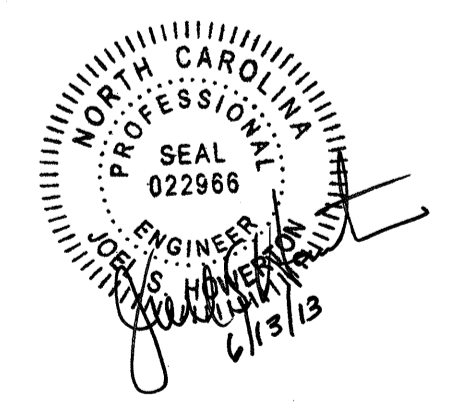
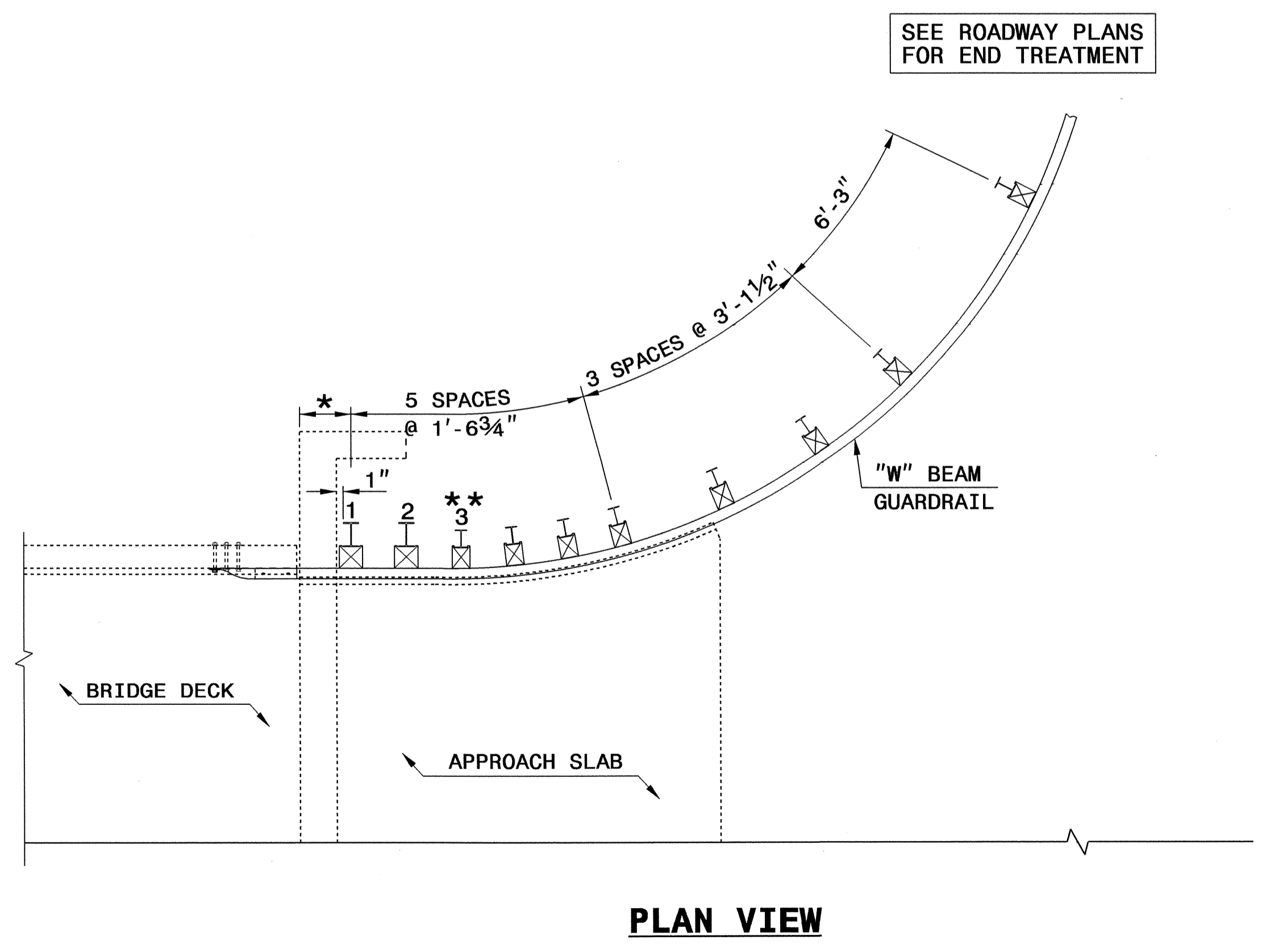
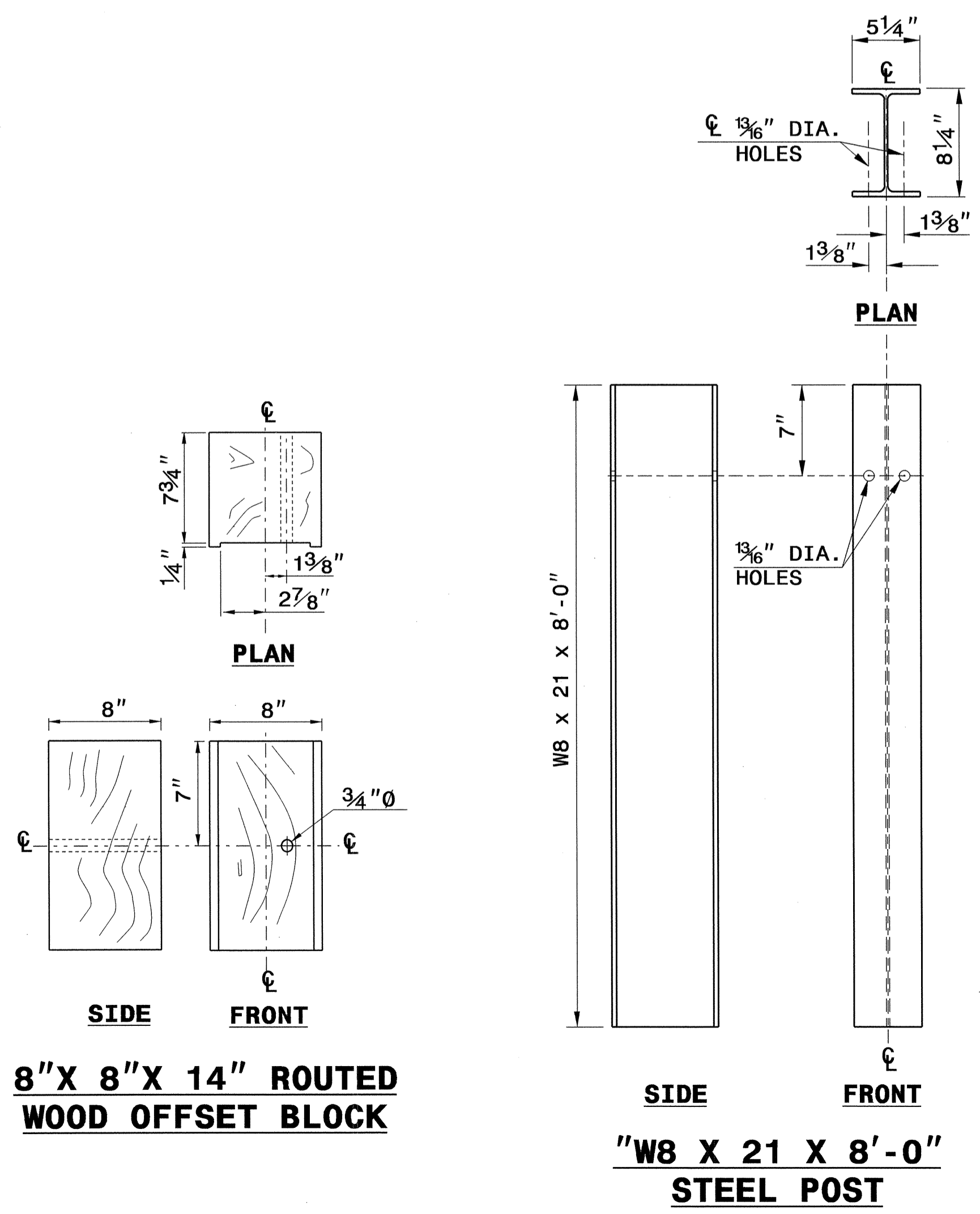
- NOTES:**
- PLACE EXPANSION JOINTS BETWEEN 2'-6" CURB & GUTTER AND TRANSITION AND APPROACH SLAB.
 - FILL AND SEAL THE EXPANSION JOINTS WITH APPROVED JOINT SEALING COMPOUND.



CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
TRANSITION FROM 2'-6" CURB AND GUTTER TO 6" X 8" APPROACH SLAB CURB	
ORIGINAL BY: T.S. Spell	DATE: 11-01
MODIFIED BY: E.E. WARD	DATE: 10-06
CHECKED BY: <i>[Signature]</i>	DATE: 5/2/13
FILE SPEC.: /e:\icward\usr\details\stand\cgtransit.dgn	



NOTE:
 **ELIMINATE POST 3 AND SHIFT POSTS 1 & 2 ON 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.
 -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
 -USE NO WOOD POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 -POSTS 1 AND 2 TO BE W8 x 21 x 8'-0" LONG STEEL POST AND 8" x 8" x 14" WOOD ROUTED OFFSET BLOCK.



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

GUARDRAIL ANCHOR UNIT TYPE B-83 SHOP CURVED

ORIGINAL BY: E.E. WARD DATE: 6-10-02
 MODIFIED BY: E.E. WARD DATE: 7-14-04
 CHECKED BY: *J. E. Ward* DATE: 5/10/13
 FILE SPEC.: *J. E. Ward*

 SYSTEM#####
 #####
 USERNAME#####

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

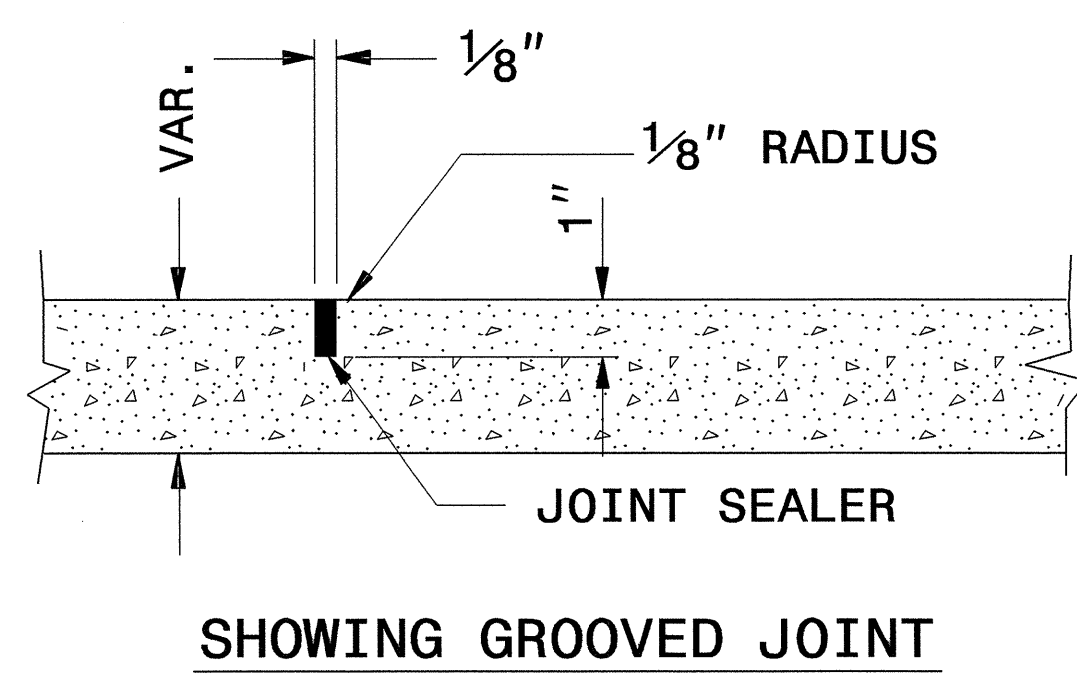
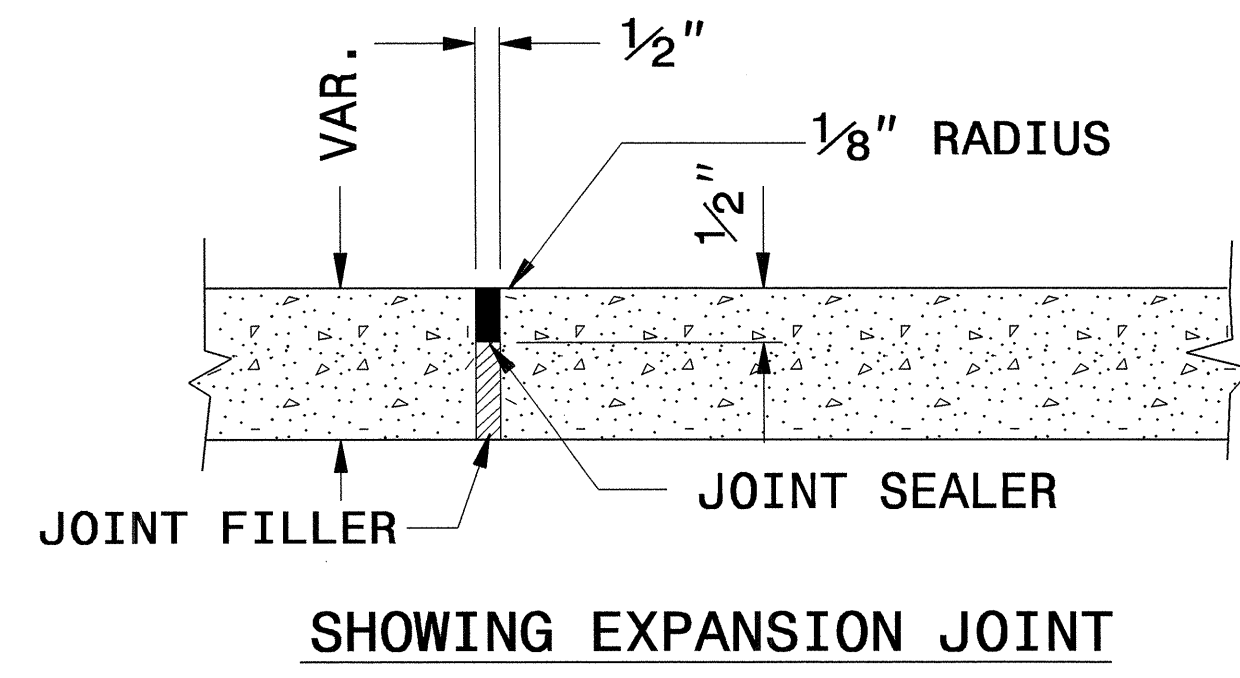
ENGLISH DETAIL DRAWING FOR
CONCRETE ISLANDS
8" NON-MOUNTABLE

SHEET 1 OF 1
852D01

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

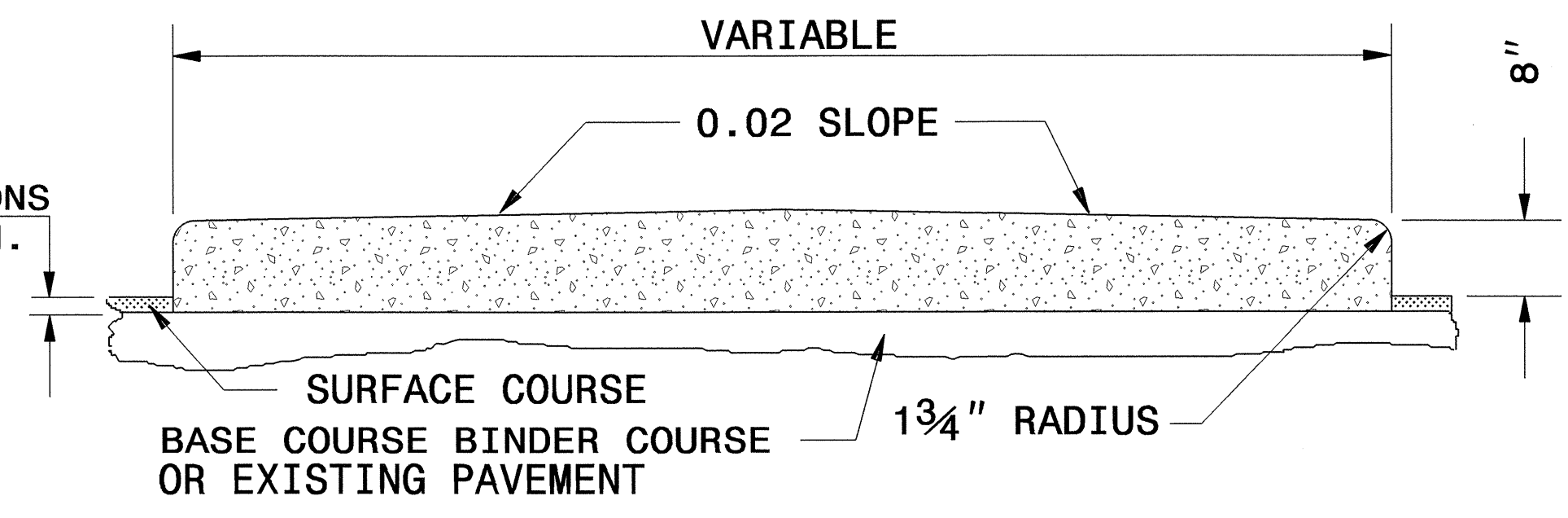
ENGLISH DETAIL DRAWING FOR
CONCRETE ISLANDS
8" NON-MOUNTABLE

SHEET 1 OF 1
852D01



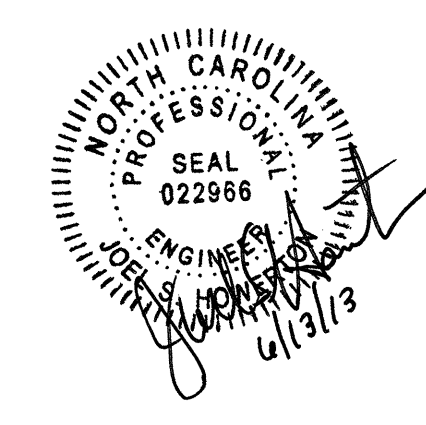
PARTIAL LONGITUDINAL SECTIONS
OF PAVED ISLANDS

SEE TYPICAL SECTIONS
FOR PAVEMENT DEPTH.
KEY IN ON THE
LAST LAYER OF
PAVEMENT SURFACE
COURSE



**8" MONOLITHIC CONCRETE ISLAND (KEYED IN)
ON ASPHALT OR CONCRETE PAVEMENT**

NOTE:
REFER TO ROADWAY STANDARD NO. 852.01
SEE ROADWAY PLANS FOR ISLAND DIMENSIONS
AND PAVEMENT DESIGN.

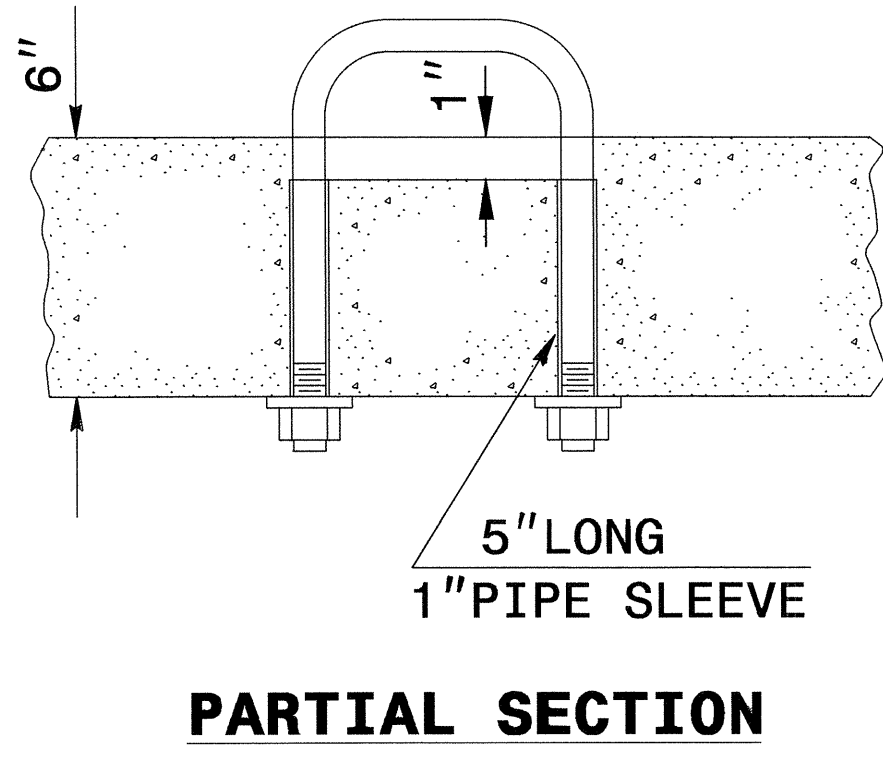


PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

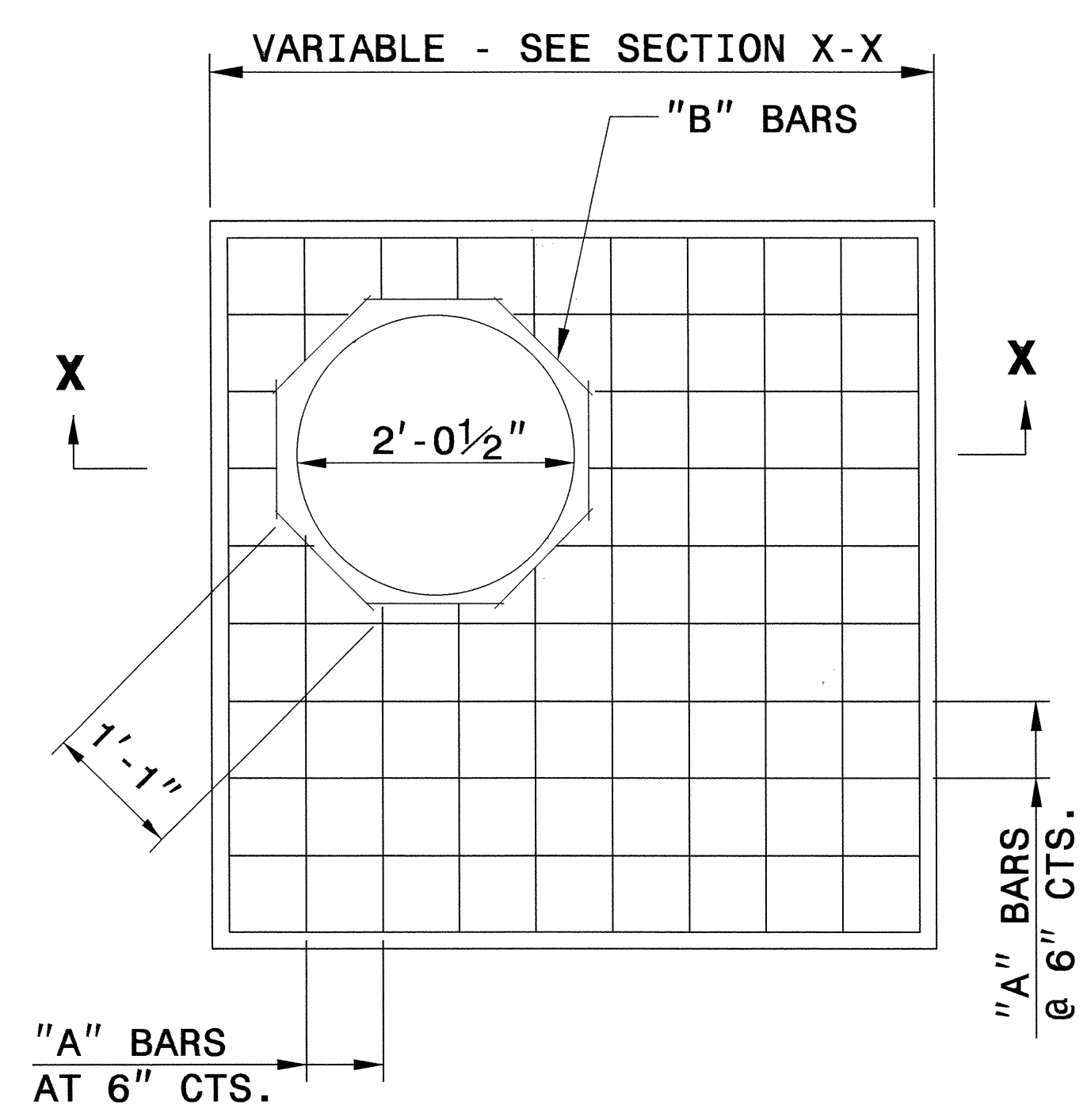
SEE PLATE FOR TITLE

ORIGINAL BY: STD.852.01 DATE:
MODIFIED BY: K.A. Kempf DATE: 1-31-08
CHECKED BY: [Signature] DATE: 5/10/12
FILE SPEC.: wjtspell/stand/852d01islkeyin.dgn

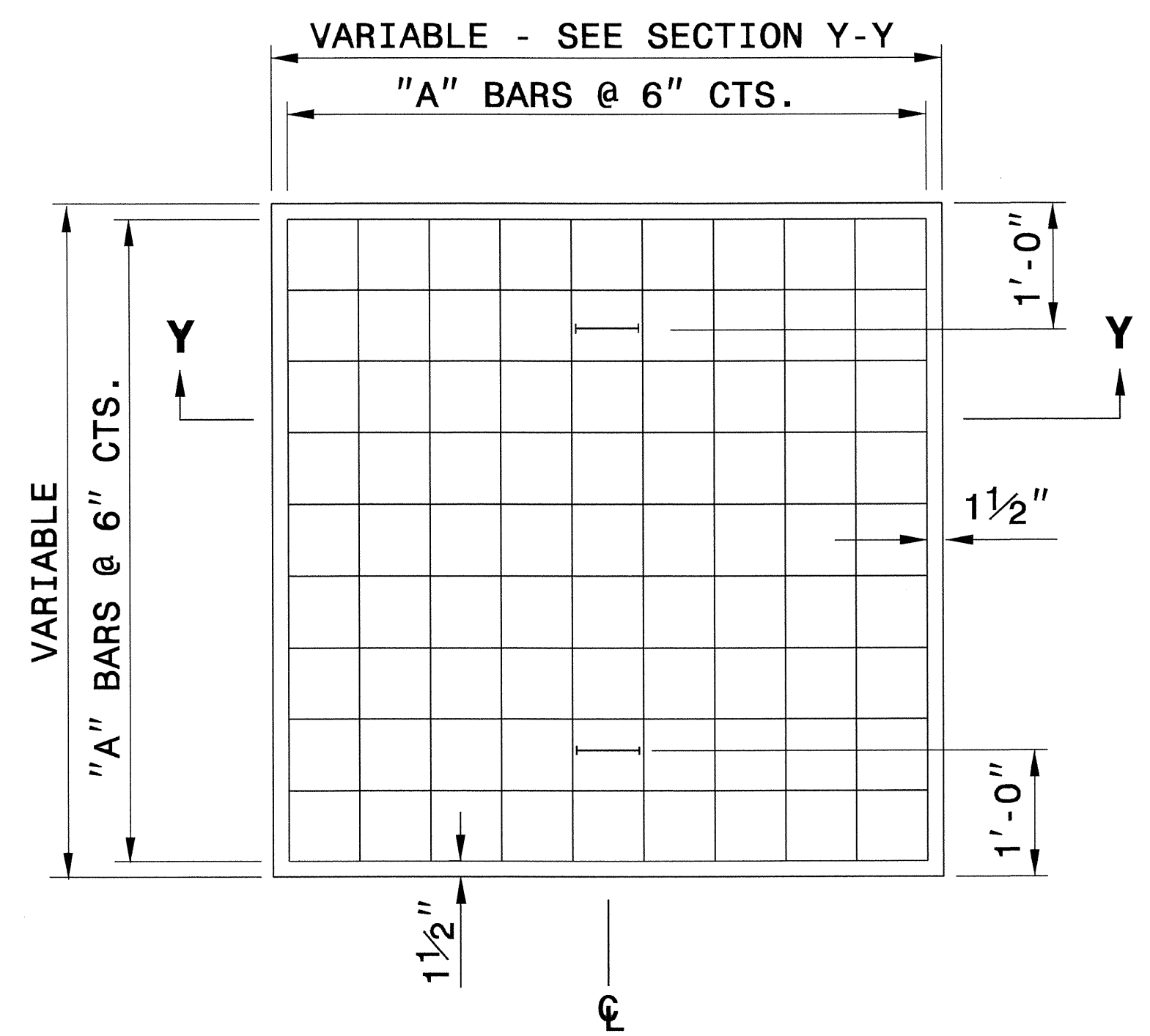
*****SYSTEMS*****
*****DONOR*****
*****SERVICES*****



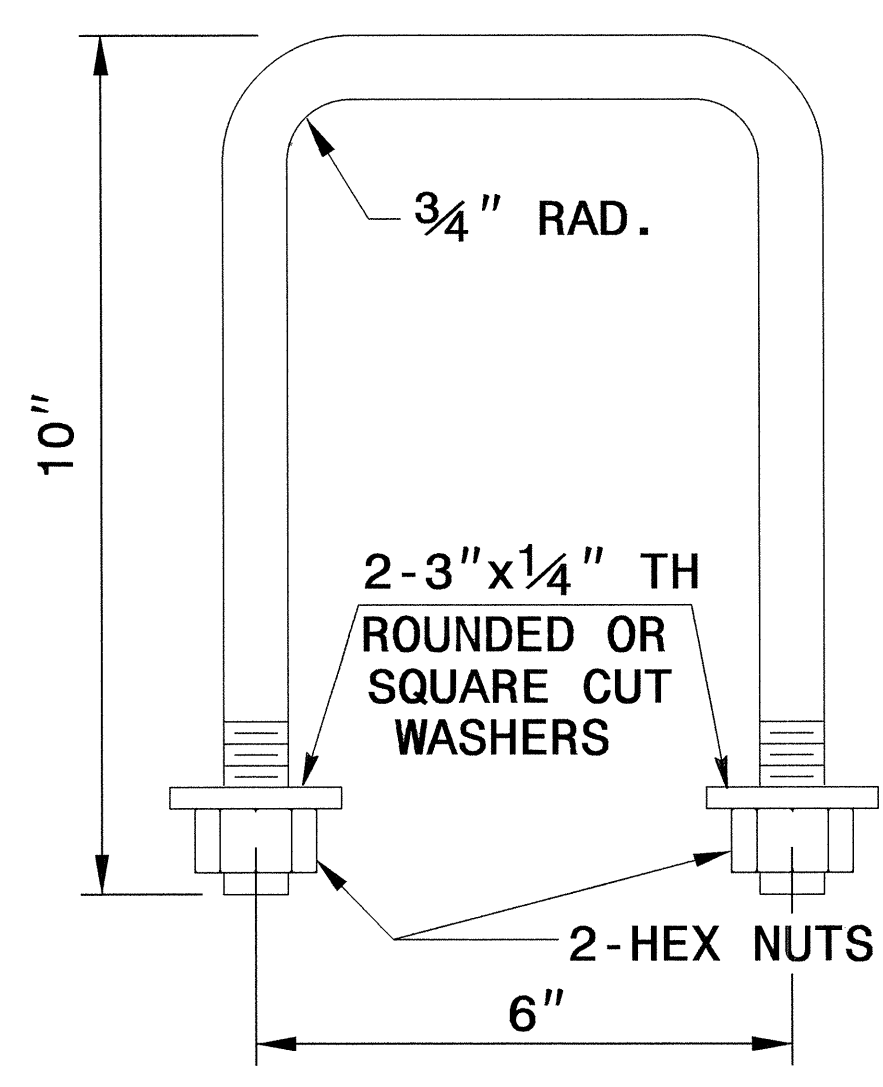
PARTIAL SECTION



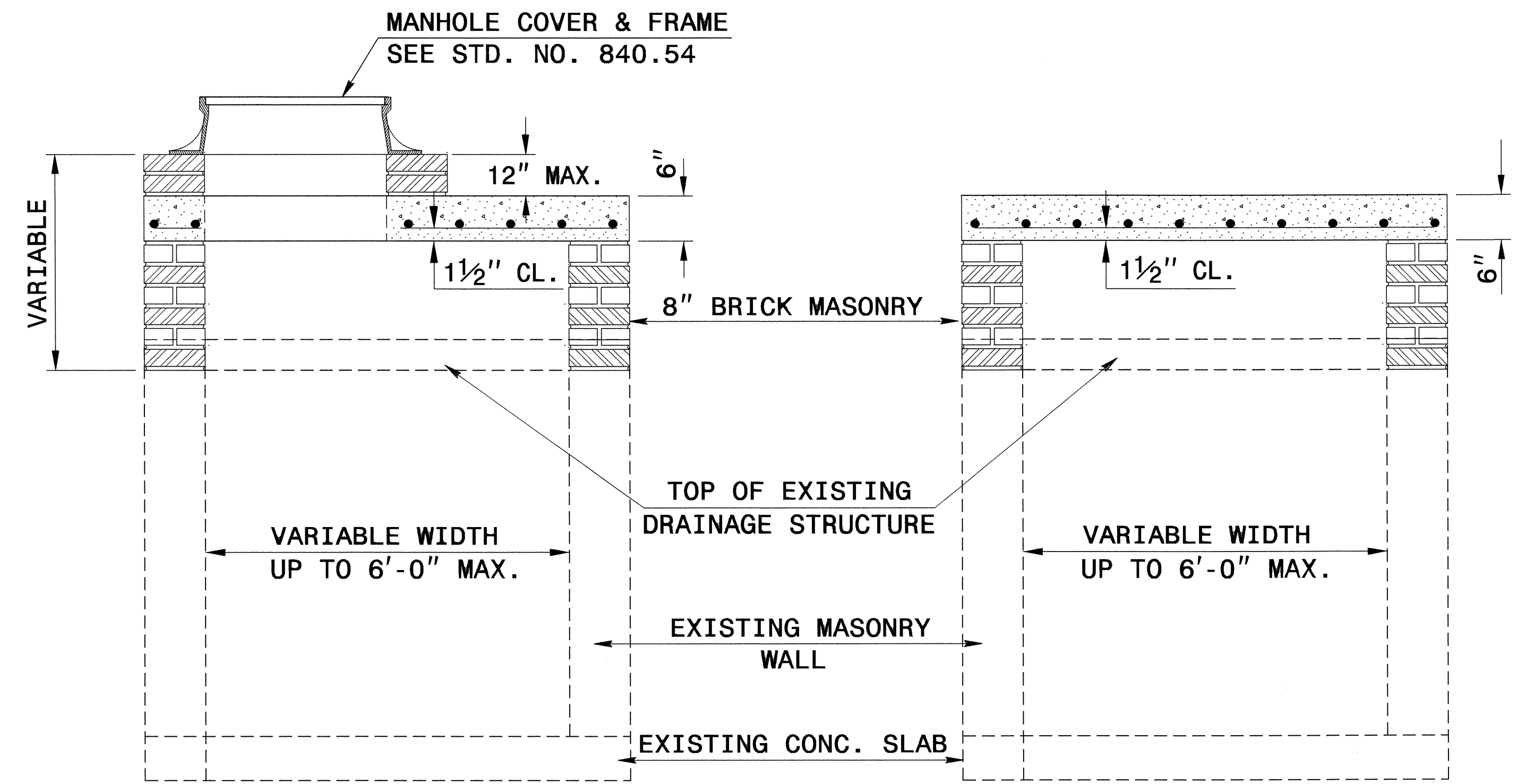
PLAN



PLAN



DETAIL OF HANDLE



SECTION X-X

SECTION Y-Y

GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.
 THE DIMENSIONS FOR THE EXISTING BOXES ARE APPROXIMATE AND MAY VARY SLIGHTLY.
 DETAIL INTENDED FOR NON-TRAFFIC BEARING DRAINAGE STRUCTURES.

BILL OF MATERIALS

REINFORCING STEEL				
CODE	SIZE	QTY.	LENGTH	REINF. STEEL LBS.
A	#4	20	4'-6"	60.12
B	#4	8	1'-1"	5.79
TOTAL				65.91 *
MASONRY				CU YDS
TOP SLAB CONCRETE CLASS "B"				.4326 *
BRICK MASONRY PER FT HT (MIN)				.4111

*** NOTE:**
 QUANTITIES BASED ON 3'-6" X 3'-6" DRAINAGE STRUCTURE. ADJUST QUANTITIES FOR LARGER STRUCTURES AND MANHOLE CONSTRUCTION.



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

DETAIL TO CONVERT EXISTING DROP INLET OR CATCH BASIN TO JUNCTION BOX (MANHOLE OPTIONAL)

ORIGINAL BY: T.S.S. DATE: NOV. 1997
 MODIFIED BY: T.S.S. DATE: FEB. 2000
 CHECKED BY: DATE:
 FILE SPEC.: ds174:/usr/details/stand/boxtojb.dgn

STATE OF NORTH CAROLINA SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
482500000-E	1205	3,412	LF	PAINT PAVEMENT MARKING LINES (12")	560600000-E	1515	1	EA	2" BLOW OFF	734800000-N	1716	24	EA	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)
483500000-E	1205	774	LF	PAINT PAVEMENT MARKING LINES (24")	564800000-N	1515	2	EA	RELOCATE WATER METER	736000000-N	1720	11	EA	WOOD POLE
484000000-N	1205	100	EA	PAINT PAVEMENT MARKING CHARACTER	564900000-N	1515	1	EA	RECONNECT WATER METER	737200000-N	1721	24	EA	GUY ASSEMBLY
484500000-N	1205	122	EA	PAINT PAVEMENT MARKING SYMBOL	567200000-N	1515	1	EA	RELOCATE FIRE HYDRANT	738400000-E	1722	1	EA	**** RISER WITH ***** (1-1/4", WEATHERHEAD)
485000000-E	1205	11,407	LF	REMOVAL OF PAVEMENT MARKING LINES (4")	567840000-E	1515	1	EA	6" LINE STOP	740800000-E	1722	2	EA	1" RISER WITH WEATHERHEAD
486000000-E	1205	130	LF	REMOVAL OF PAVEMENT MARKING LINES (8")	567860000-E	1515	2	EA	8" LINE STOP	742000000-E	1722	6	EA	2" RISER WITH WEATHERHEAD
487000000-E	1205	298	LF	REMOVAL OF PAVEMENT MARKING LINES (24")	569130000-E	1520	160	LF	8" SANITARY GRAVITY SEWER	743200000-E	1722	4	EA	2" RISER WITH HEAT SHRINK TUBING
487500000-N	1205	79	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	580000000-E	1530	316	LF	ABANDON 6" UTILITY PIPE	744400000-E	1725	5,610	LF	INDUCTIVE LOOP SAWCUT
490000000-N	1251	339	EA	PERMANENT RAISED PAVEMENT MARKERS	580100000-E	1530	168	LF	ABANDON 8" UTILITY PIPE	745600000-E	1726	7,485	LF	LEAD-IN CABLE (***** (14-2))
500500000-E	1401	2	EA	80' HIGH MOUNT STANDARD	600000000-E	1605	5,000	LF	TEMPORARY SILT FENCE	748100000-N	SP	2	EA	SITE SURVEY
501000000-E	1401	2	EA	100' HIGH MOUNT STANDARD	600600000-E	1610	950	TON	STONE FOR EROSION CONTROL, CLASS A	748124000-N	SP	8	EA	CAMERA WITHOUT INTERNAL LOOP EMULATOR PROCESSING UNIT
502000000-N	1401	1	EA	PORTABLE DRIVE UNIT	600900000-E	1610	700	TON	STONE FOR EROSION CONTROL, CLASS B	748126000-N	SP	2	EA	EXTERNAL LOOP EMULATOR PROCESSING UNIT
502500000-E	SP	24	CY	HIGH MOUNT FOUNDATIONS	601200000-E	1610	755	TON	SEDIMENT CONTROL STONE	748128000-N	SP	6	EA	RELOCATE CAMERA SENSOR UNIT
503000000-N	1403	16	EA	HIGH MOUNT LUMINAIRES ***** (400W HPS)	601500000-E	1615	12	ACR	TEMPORARY MULCHING	748128000-N	SP	6	EA	RELOCATE CAMERA SENSOR UNIT
503000000-N	1403	12	EA	HIGH MOUNT LUMINAIRES ***** (750W HPS)	601800000-E	1620	350	LB	SEED FOR TEMPORARY SEEDING	751600000-E	1730	1,200	LF	COMMUNICATIONS CABLE (**FIBER) (12)
505000000-N	1404	11	EA	LIGHT STANDARD, TYPE MLT ***** (45' (SA) 15')	602100000-E	1620	3	TON	FERTILIZER FOR TEMPORARY SEEDING	752800000-E	1730	320	LF	DROP CABLE
507000000-N	1405	7	EA	STANDARD FOUNDATION ***** (R1)	602400000-E	1622	950	LF	TEMPORARY SLOPE DRAINS	754000000-N	1731	2	EA	SPLICE ENCLOSURE
507000000-N	1405	4	EA	STANDARD FOUNDATION ***** (R2)	602900000-E	SP	100	LF	SAFETY FENCE	754100000-N	1731	5	EA	MODIFY SPLICE ENCLOSURE
509000000-N	1406	11	EA	LIGHT STANDARD LUMINAIRES, TYPE RDW 400W HPS	603000000-E	1630	2,100	CY	SILT EXCAVATION	755200000-N	1731	8	EA	INTERCONNECT CENTER
512500000-E	1407	100	LF	ELECTRIC SERVICE LATERAL ***** (3,#10 USE)	603600000-E	1631	11,200	SY	MATting FOR EROSION CONTROL	756400000-N	1732	4	EA	FIBER-OPTIC TRANSCEIVER, DROP & REPEAT
515500000-E	1409	320	LF	ELECTRICAL DUCT, TYPE BD, SIZE ***** (2")	603700000-E	SP	35	SY	COIR FIBER MAT	756600000-N	1733	1	EA	DELINEATOR MARKER
516000000-E	1409	505	LF	ELECTRICAL DUCT, TYPE JA, SIZE ***** (3")	603800000-E	SP	2,111	SY	PERMANENT SOIL REINFORCEMENT MAT	757516000-E	1734	1,900	LF	REMOVE EXISTING COMMUNICATIONS CABLE
516000000-E	1409	280	LF	ELECTRICAL DUCT, TYPE JA, SIZE ***** (4")	604200000-E	1632	1,500	LF	1/4" HARDWARE CLOTH	758800000-N	SP	6	EA	METAL POLE WITH SINGLE MAST ARM
517500000-E	1410	450	LF	** #6 W/G FEEDER CIRCUIT (2)	6071012000-E	SP	500	LF	COIR FIBER WATTLE	761300000-N	SP	6	EA	SOIL TEST
518000000-E	1410	300	LF	** #4 W/G FEEDER CIRCUIT (2)	607102000-E	SP	240	LB	POLYACRYLAMIDE (PAM)	761410000-E	SP	30	CY	DRILLED PIER FOUNDATION
520500000-E	1410	1,715	LF	** #8 W/G FEEDER CIRCUIT IN ***** CONDUIT (2, 1-1/2)	607103000-E	1640	350	LF	COIR FIBER BAFFLE	763100000-N	SP	6	EA	MAST ARM WITH METAL POLE DESIGN
521000000-E	1410	3,300	LF	** #6 W/G FEEDER CIRCUIT IN ***** CONDUIT (2, 1-1/2)	607105000-E	SP	2	EA	*** SKIMMER (1-1/2")	763600000-N	1745	41	EA	SIGN FOR SIGNALS
521500000-E	1410	1,940	LF	** #4 W/G FEEDER CIRCUIT IN ***** CONDUIT (2, 1-1/2)	607105000-E	SP	1	EA	*** SKIMMER (2")	764220000-N	1743	16	EA	TYPE II PEDESTAL WITH FOUNDATION
524000000-N	1411	17	EA	ELECTRICAL JUNCTION BOXES ***** (PC18)	608400000-E	1660	10	ACR	SEEDING & MULCHING	768400000-N	1750	2	EA	SIGNAL CABINET FOUNDATION
524000000-N	1411	4	EA	ELECTRICAL JUNCTION BOXES ***** (PC36)	608700000-E	1660	6	ACR	MOWING	775600000-N	1751	2	EA	CONTROLLER WITH CABINET (TYPE 2070L, BASE MOUNTED)
525500000-N	1413	Lump Sum		PORTABLE LIGHTING	609000000-E	1661	150	LB	SEED FOR REPAIR SEEDING	776800000-N	1751	2	EA	CONTROLLER WITH CABINET (TYPE 2070L, POLE MOUNTED)
527000000-N	SP	1	EA	GENERIC LIGHTING ITEM RELOCATE CONTROL SYSTEM	609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING	778000000-N	1751	18	EA	DETECTOR CARD (TYPE 2070L)
527000000-N	SP	2	EA	GENERIC LIGHTING ITEM REMOVE HIGH MAST LIGHT STANDARD	610800000-E	1665	7.5	TON	FERTILIZER TOPDRESSING	790100000-N	1753	2	EA	CABINET BASE EXTENDER
527000000-N	SP	2	EA	GENERIC LIGHTING ITEM REMOVE HIGH MAST STANDARD FOUNDATION	611450000-N	1667	40	MHR	SPECIALIZED HAND MOWING	798000000-N	SP	12	EA	GENERIC SIGNAL ITEM 5/8" X 10' GROUNDING ELECTRODE
527000000-N	SP	11	EA	GENERIC LIGHTING ITEM REMOVE LIGHT STANDARD FOUNDATION	611700000-N	SP	75	EA	RESPONSE FOR EROSION CONTROL	798000000-N	SP	1	EA	GENERIC SIGNAL ITEM 6" X 6' WOOD PEDESTAL
527000000-N	SP	11	EA	GENERIC LIGHTING ITEM REMOVE SINGLE ARM LIGHT STANDARD	704850000-E	1705	20	EA	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	798000000-N	SP	2	EA	GENERIC SIGNAL ITEM CCTV CAMERA ASSEMBLY
532560000-E	1510	18	LF	6" WATER LINE	706000000-E	1705	11,855	LF	SIGNAL CABLE	798000000-N	SP	2	EA	GENERIC SIGNAL ITEM DMS
532580000-E	1510	334	LF	8" WATER LINE	712000000-E	1705	73	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)	798000000-N	SP	2	EA	GENERIC SIGNAL ITEM DMS ACCESS LADDER
554600000-E	1515	2	EA	8" VALVE	713200000-E	1705	1	EA	VEHICLE SIGNAL HEAD (12", 4 SECTION)	798000000-N	SP	2	EA	GENERIC SIGNAL ITEM DMS STRUCTURE (SINGLE PEDESTAL)
555860000-E	1515	1	EA	16" VALVE	725200000-E	1710	660	LF	MESSENGER CABLE (1/4")	798000000-N	SP	3	EA	GENERIC SIGNAL ITEM EQUIPMENT CABINET DISCONNECT
					726400000-E	1710	1,830	LF	MESSENGER CABLE (3/8")	798000000-N	SP	2	EA	GENERIC SIGNAL ITEM FIELD EQUIPMENT CABINET
					727900000-E	1715	590	LF	TRACER WIRE	798000000-N	SP	2	EA	GENERIC SIGNAL ITEM METER BASE/DISCONNECT COMBINATION PANEL
					728800000-E	1715	10	LF	PAVED TRENCHING (***** (1, 2"))	798000000-N	SP	1	EA	GENERIC SIGNAL ITEM MODIFY EXISTING ELECTRICAL SERVICE EQUIPMENT
					730000000-E	1715	80	LF	UNPAVED TRENCHING (***** (1, 1'))	798000000-N	SP	2	EA	GENERIC SIGNAL ITEM MODIFY RADIO INSTALLATION
					730000000-E	1715	1,225	LF	UNPAVED TRENCHING (***** (1, 2"))	798000000-N	SP	1	EA	GENERIC SIGNAL ITEM MODIFY SIGNAL CABINET ELECTRICAL SERVICE
					730000000-E	1715	285	LF	UNPAVED TRENCHING (***** (2, 1-1/2"))					
					730100000-E	1715	260	LF	DIRECTIONAL DRILL (***** (1, 2"))					
					730100000-E	1715	310	LF	DIRECTIONAL DRILL (***** (2, 1-1/2"))					
					730100000-E	1715	460	LF	DIRECTIONAL DRILL (***** (2, 2"))					
					732400000-N	1716	19	EA	JUNCTION BOX (STANDARD SIZE)					

STATE OF NORTH CAROLINA
SUMMARY OF QUANTITIES

PROJECT REFERENCE No.	SHEET No.
I-4733	3 (of 3)

ItemNumber	Sec #	Quantity	Unit	Description
798000000-N	SP	16	EA	GENERIC SIGNAL ITEM PROTECTIVE BLACK COATING FOR PEDESTRIAN SIGNAL PEDESTAL
798000000-N	SP	6	EA	GENERIC SIGNAL ITEM PROTECTIVE BLACK COATING FOR SINGLE MAST ARM ASSEMBLY
798000000-N	SP	2	EA	GENERIC SIGNAL ITEM VIDEO ETHERNET DECODER
798000000-N	SP	2	EA	GENERIC SIGNAL ITEM VIDEO ETHERNET ENCODER
799000000-E	SP	150	LF	GENERIC SIGNAL ITEM #4 SOLID BARE COPPER GROUNDING CONDUCTOR
799000000-E	SP	340	LF	GENERIC SIGNAL ITEM 3-WIRE COPPER FEEDER CONDUCTORS
799000000-E	SP	420	LF	GENERIC SIGNAL ITEM 4-WIRE COPPER FEEDER CONDUCTORS
799200000-E	SP	16	CY	GENERIC SIGNAL ITEM FOOTINGS FOR DMS STRUCTURE

12/06/07

COMPUTED BY: L.A. WHIPPLE DATE: 5/30/2012
CHECKED BY: C. E. HARRIS DATE: 6/1/2012

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. SHEET NO.
1-4733 3-A

SUMMARY OF EARTHWORK

Table with columns: STATION, UNCL. EXCAV., EMBANK. +%, BORROW, WASTE. Rows include various stationing ranges and subtotals for different earthwork types like RPA, RPAEB, RPAWB, RPB, RPBEB, RPBWB, RPC, RPCEB, RPCWB, RPD, RPDEB, RPDWB.

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

PAVEMENT REMOVAL SUMMARY

Table with columns: SURVEY LINE, STATION, STATION, LOCATION LT/RT/C/L, YD. Rows list stationing and corresponding pavement removal quantities.

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

Note: Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

GUARDRAIL SUMMARY

Large table with columns: SURVEY LINE, BEG. STA., END STA., LOCATION, LENGTH (STRAIGHT, SHOP CURVED, DOUBLE FACED), WARRANT POINT (APPROACH END, TRAILING END), "N" DIST. FROM E.O.L., TOTAL SHOUL. WIDTH, FLARE LENGTH (APPROACH END, TRAILING END), W (APPROACH END, TRAILING END), ANCHORS (XI MOD, XI, GRAU 350-TL3, M-350, SHOP CURVE B-83, CAT-1, VI MOD, BIC, AT-1), IMPACT ATTENUATOR TYPE 350 (EA, G, NG), SINGLE FACED GUARDRAIL, REMOVE EXISTING GUARDRAIL, REMOVE AND STOCKPILE EXISTING GUARDRAIL, REMARKS. Rows include stationing and guardrail specifications.

OR: AUG-2013 0049 14733.Rdy_sum.dgn

RD266213

COMPUTED BY: John Braxton DATE: 3/27/2013
CHECKED BY: Matthew Lassiter DATE: 3/27/2013

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. SHEET NO.
I-4733 3-B

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

Table with columns for LINE & STATION, OFFSET, STRUCTURE NUMBER, TOP ELEVATION, INVERT ELEVATION, MINIMUM REQUIRED SLOPE, Side Drain Pipe, C. S. PIPE, R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, ENDWALLS, REINFORCED ENDWALLS, DRAINAGE STRUCTURE, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, and REMARKS. Includes a SHEET TOTALS row at the bottom.

ABBREVIATIONS
C.A.A. CORRUGATED ALUMINIUM ALLOY
C.B. CATCH BASIN
C.S. CORRUGATED STEEL
D.I. DROP INLET
G.D.I. GRATED DROP INLET
H.D.P.E. HIGH DENSITY POLYETHYLENE
J.B. JUNCTION BOX
M.H. MANHOLE
N.S. NARROW SLOT
P.V.C. POLYVINYL CHLORIDE
R.C. REINFORCED CONCRETE
T.B.D.I. TRAFFIC BEARING DROP INLET
T.B.J.B. TRAFFIC BEARING JUNCTION BOX
W.S. WIDE SLOT

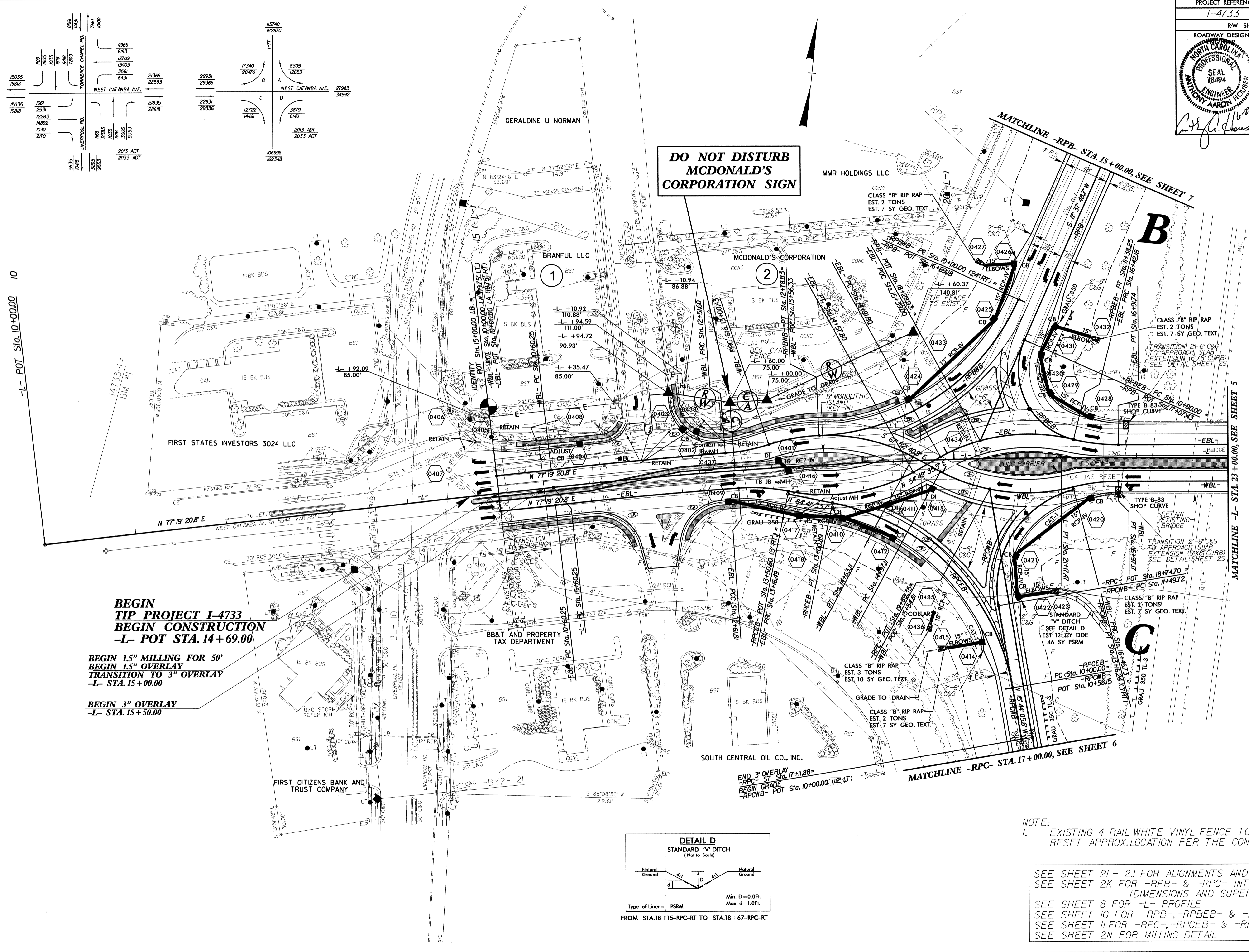
COMPUTED BY: John Braxton DATE: 3/27/2013
CHECKED BY: Matthew Lassiter DATE: 3/27/2013

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

Table with columns for LINE & STATION, OFFSET, STRUCTURE NUMBER, TOP ELEVATION, INVERT ELEVATION, MINIMUM REQUIRED SLOPE, Side Drain Pipe, C. S. PIPE, R. C. PIPE CLASS III, R. C. PIPE CLASS IV, R. C. PIPE CLASS V, ENDWALLS, REINFORCED ENDWALLS, DRAINAGE STRUCTURE, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, ADJUST D.I., 15" SIDEDRAIN ELBOWS, 30" SLUICE GATE, CONCRETE COLLARS, PIPE REMOVAL, and REMARKS. Includes SHEET TOTALS and PROJECT TOTALS rows.



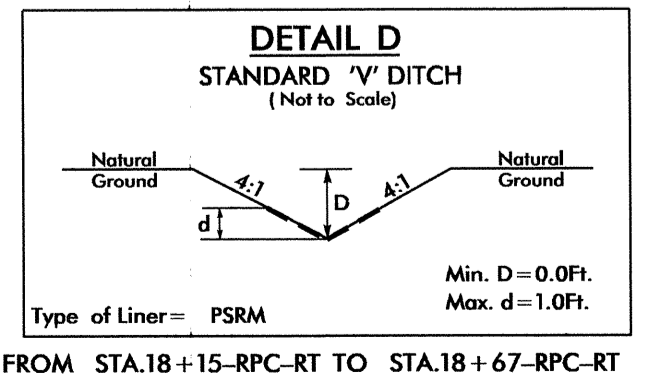
**DO NOT DISTURB
MCDONALD'S
CORPORATION SIGN**

-L- POT Sta. 10+00.00 IO

**BEGIN
TIP PROJECT I-4733
BEGIN CONSTRUCTION
-L- POT STA. 14+69.00**

**BEGIN 15" MILLING FOR 50'
BEGIN 15" OVERLAY
TRANSITION TO 3" OVERLAY
-L- STA. 15+00.00**

**BEGIN 3" OVERLAY
-L- STA. 15+50.00**



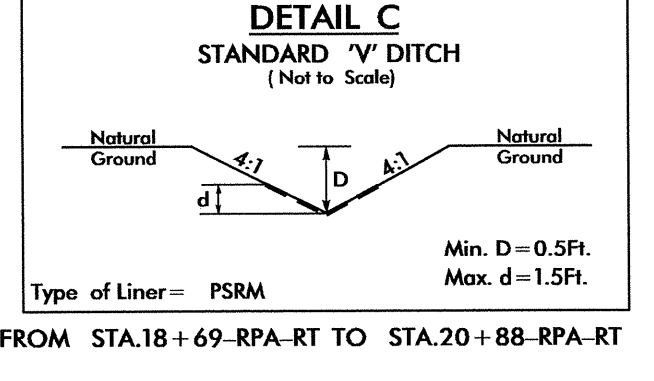
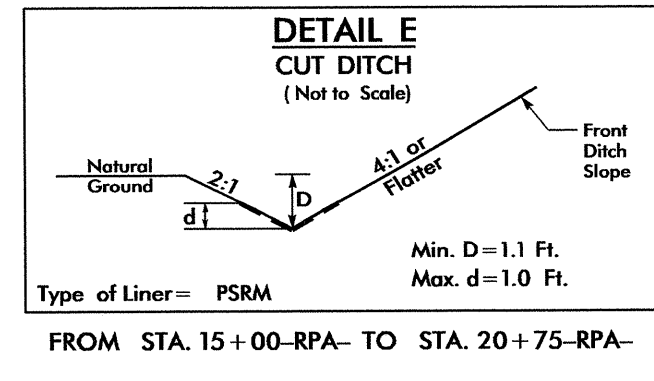
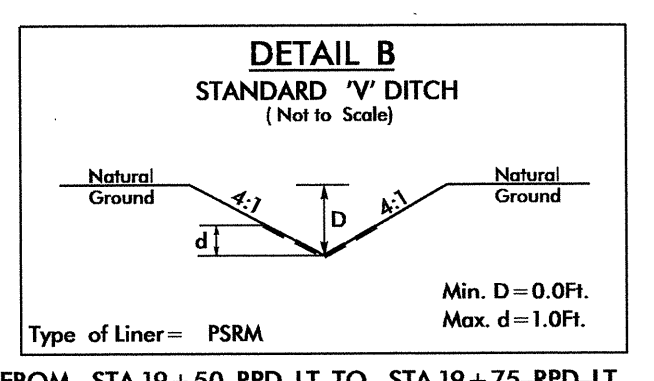
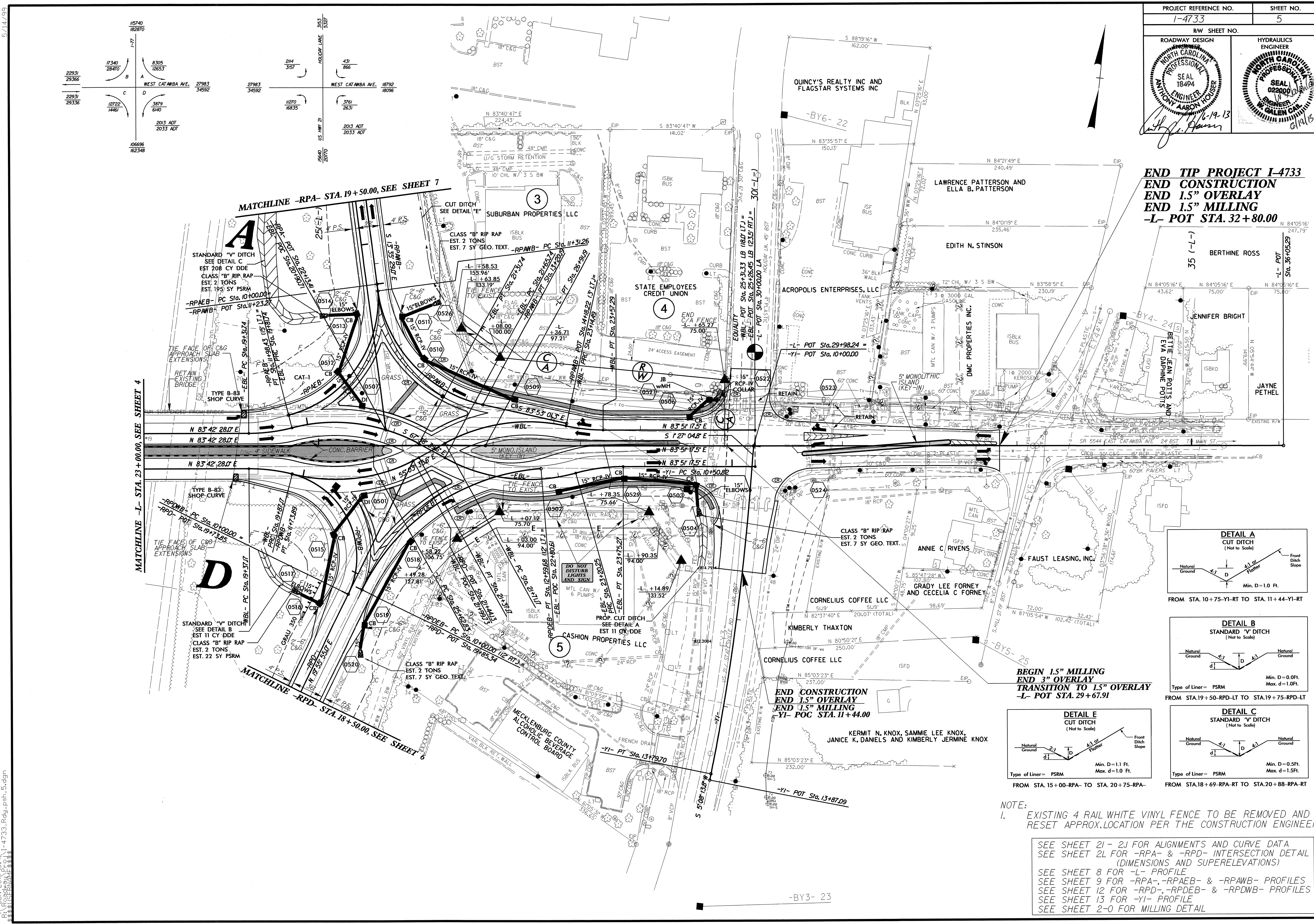
FROM STA. 18+15-RPC-RT TO STA. 18+67-RPC-RT

NOTE:
1. EXISTING 4 RAIL WHITE VINYL FENCE TO BE REMOVED AND RESET APPROX. LOCATION PER THE CONSTRUCTION ENGINEER

SEE SHEET 21 - 2J FOR ALIGNMENTS AND CURVE DATA
SEE SHEET 2K FOR -RPB- & -RPC- INTERSECTION DETAIL (DIMENSIONS AND SUPERELEVATIONS)
SEE SHEET 8 FOR -L- PROFILE
SEE SHEET 10 FOR -RPB-, -RPBEB- & -RPBWB- PROFILES
SEE SHEET 11 FOR -RPC-, -RPCEB- & -RPCWB- PROFILES
SEE SHEET 2N FOR MILLING DETAIL

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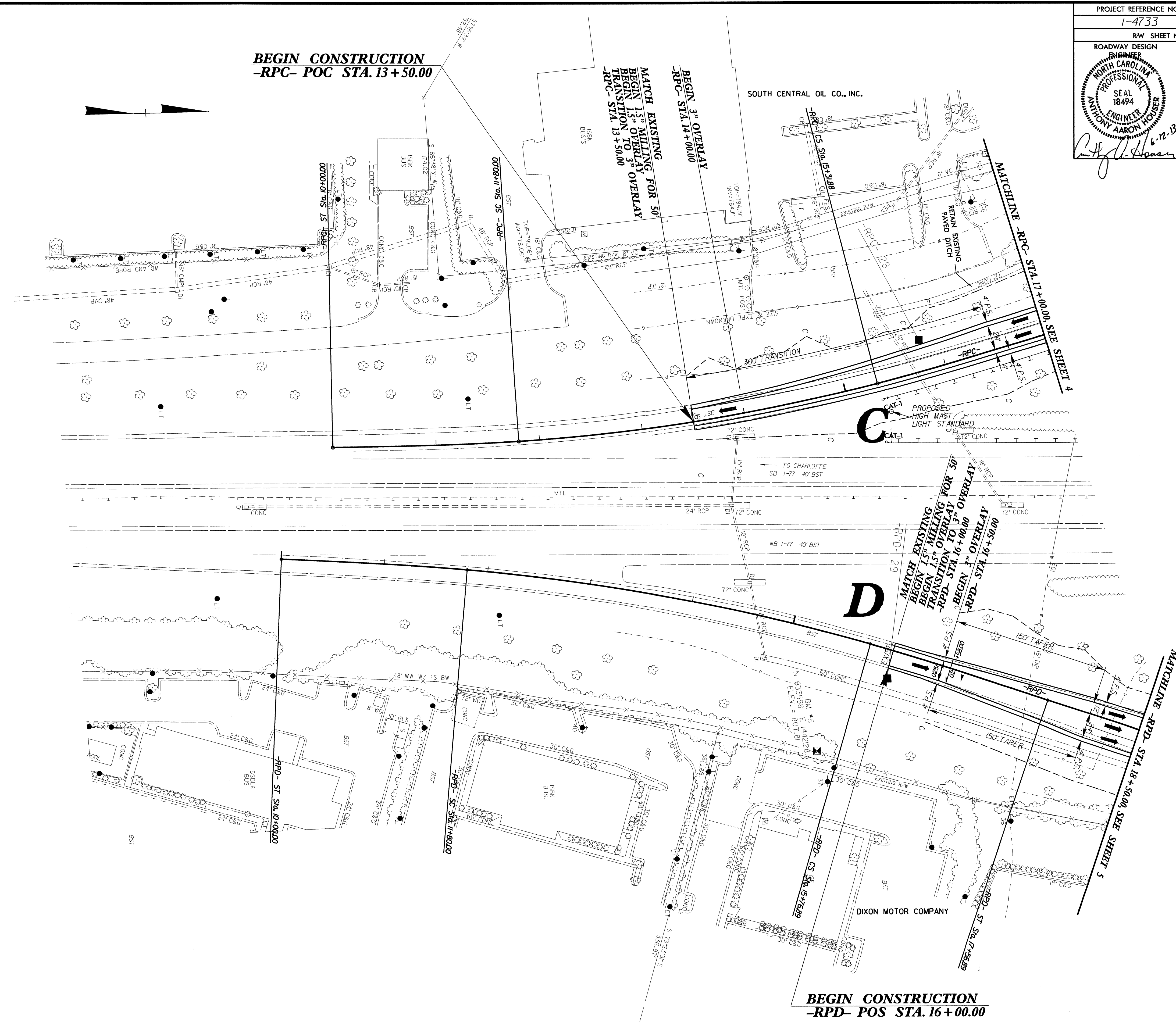
END TIP PROJECT 1-4733
END CONSTRUCTION
END 1.5" OVERLAY
END 1.5" MILLING
-L- POT STA. 32+80.00



NOTE:
 1. EXISTING 4 RAIL WHITE VINYL FENCE TO BE REMOVED AND RESET APPROX. LOCATION PER THE CONSTRUCTION ENGINEER

SEE SHEET 21-22 FOR ALIGNMENTS AND CURVE DATA
 SEE SHEET 22 FOR -RPA- & -RPD- INTERSECTION DETAIL (DIMENSIONS AND SUPERELEVATIONS)
 SEE SHEET 8 FOR -L- PROFILE
 SEE SHEET 9 FOR -RPA-, -RPAEB- & -RPWB- PROFILES
 SEE SHEET 12 FOR -RPD-, -RPDEB- & -RPDWB- PROFILES
 SEE SHEET 13 FOR -Y1- PROFILE
 SEE SHEET 2-0 FOR MILLING DETAIL

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BEGIN CONSTRUCTION
-RPC- POC STA. 13+50.00

BEGIN 3" OVERLAY
-RPC- STA. 14+00.00

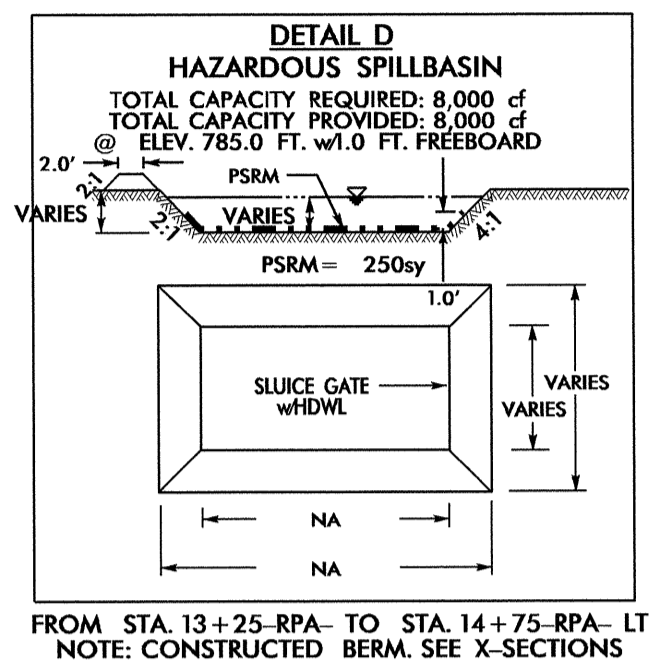
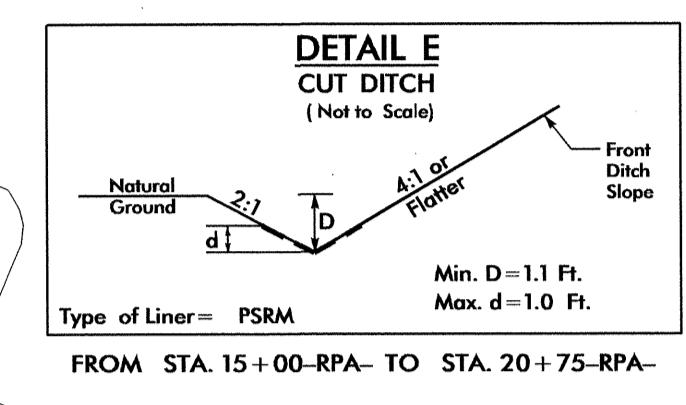
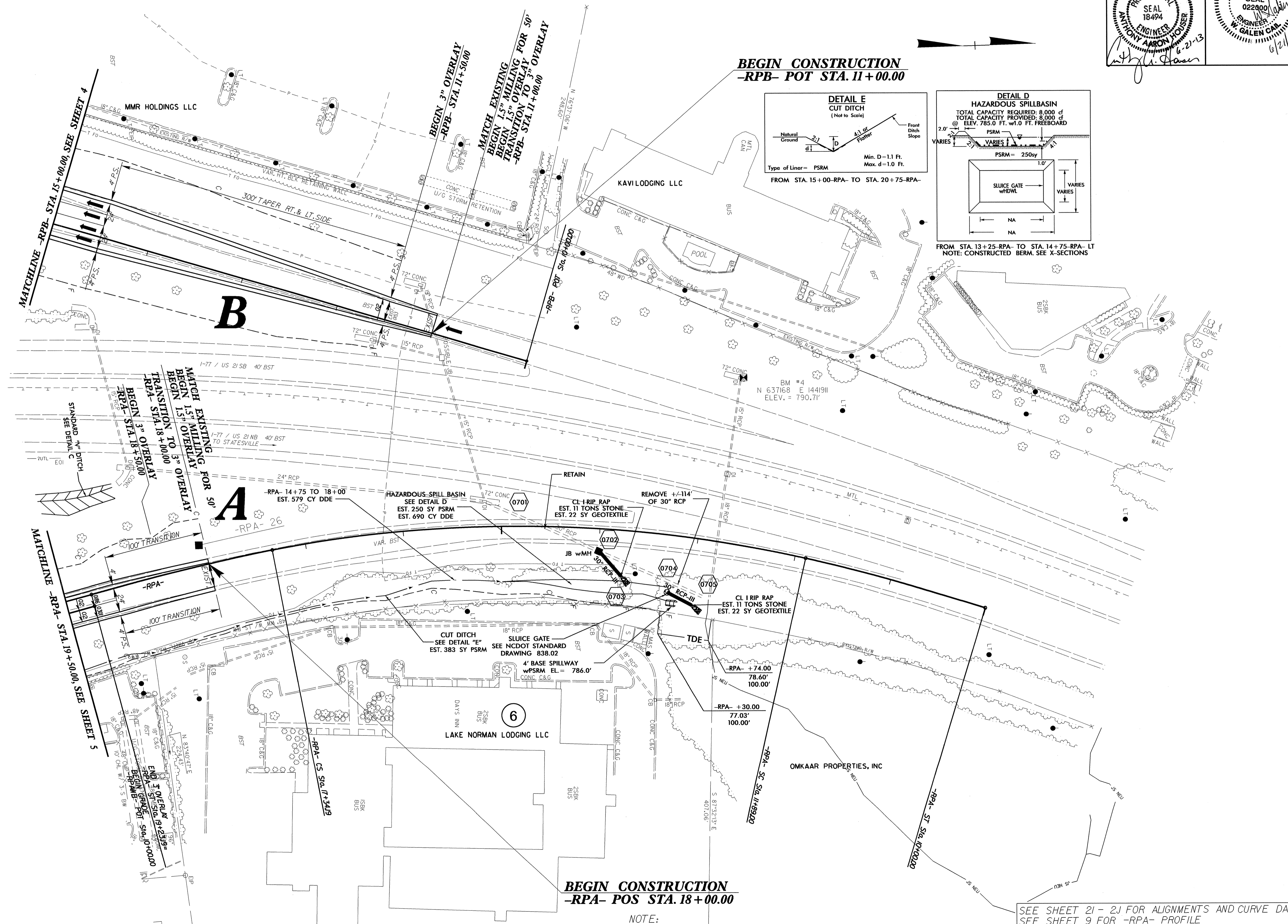
BEGIN CONSTRUCTION
-RPD- POS STA. 16+00.00

MATCH EXISTING
BEGIN 1.5" MILLING FOR 3" OVERLAY
-RPD- STA. 16+00.00

NOTE:
1. EXISTING 4 RAIL WHITE VINYL FENCE TO BE REMOVED AND RESET APPROX. LOCATION PER THE CONSTRUCTION ENGINEER.

SEE SHEET 2I - 2J FOR ALIGNMENTS AND CURVE DATA
SEE SHEET 11 FOR -RPC- PROFILE
SEE SHEET 12 FOR -RPD- PROFILE
SEE SHEET 2N & 2-O FOR MILLING DETAIL

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BEGIN CONSTRUCTION
-RPA- POS STA. 18+00.00

NOTE:
1. EXISTING 4 RAIL WHITE VINYL FENCE TO BE REMOVED AND RESET APPROX. LOCATION PER THE CONSTRUCTION ENGINEER

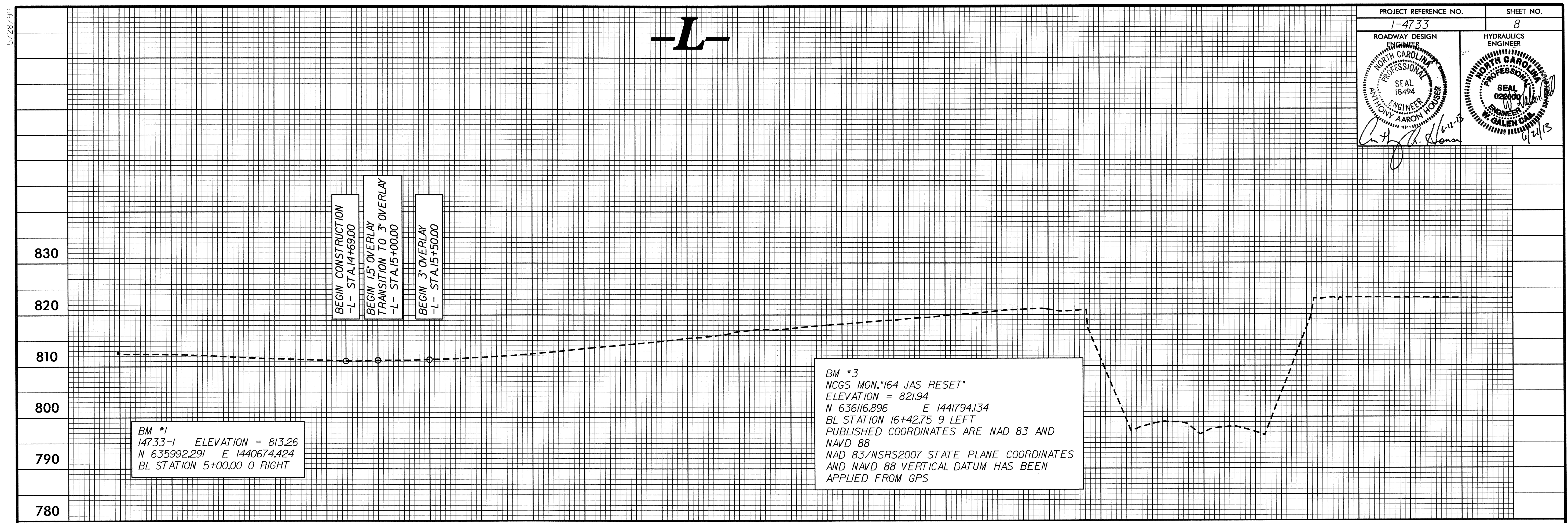
SEE SHEET 21 - 2J FOR ALIGNMENTS AND CURVE DATA
SEE SHEET 9 FOR -RPA- PROFILE
SEE SHEET 10 FOR -RPB- PROFILE
SEE SHEET 2N & 2-O FOR MILLING DETAIL

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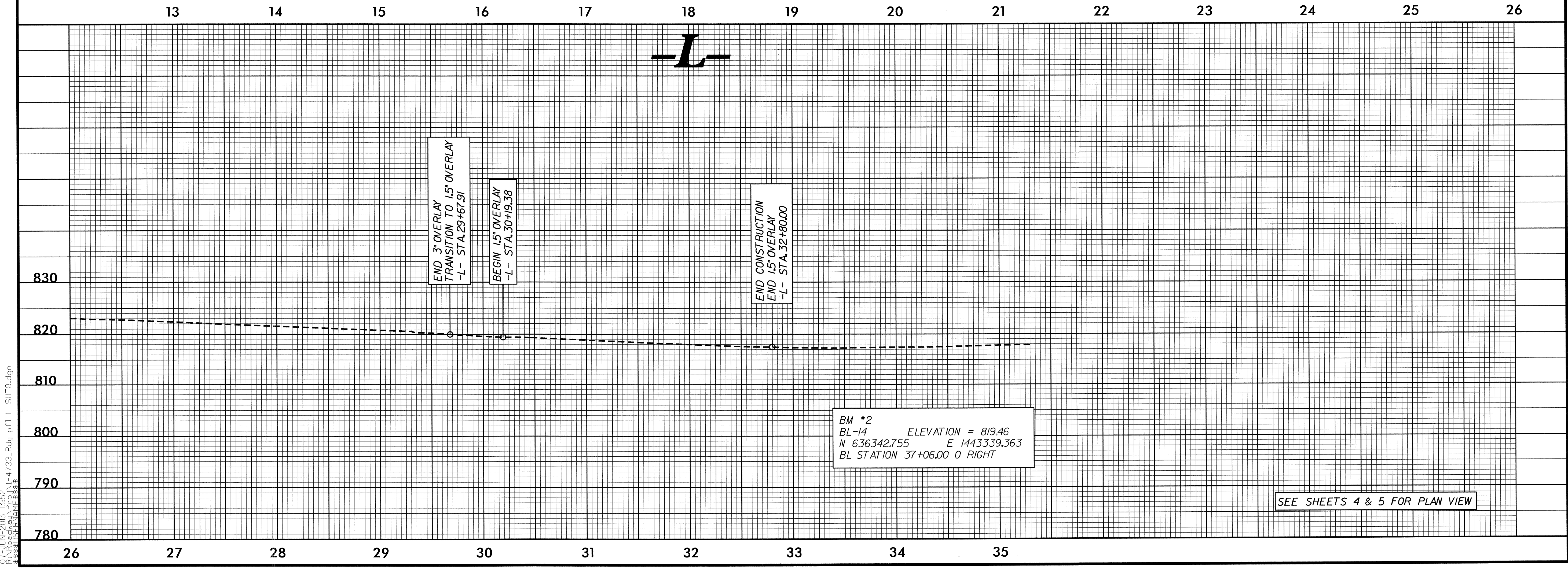
PROJECT REFERENCE NO. 1-4733	SHEET NO. 8
ROADWAY DESIGN ENGINEER ANTHONY AARON HOUSER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494	HYDRAULICS ENGINEER R. GALETTI NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022000

Anthony A. Houser 6/21/13
R. Galetti 6/21/13



BM #1
14733-1 ELEVATION = 813.26
N 635992.291 E 1440674.424
BL STATION 5+00.00 0 RIGHT

BM #3
NCGS MON.'164 JAS RESET"
ELEVATION = 821.94
N 636116.896 E 1441794.134
BL STATION 16+42.75 9 LEFT
PUBLISHED COORDINATES ARE NAD 83 AND
NAVD 88
NAD 83/NSRS2007 STATE PLANE COORDINATES
AND NAVD 88 VERTICAL DATUM HAS BEEN
APPLIED FROM GPS



BM #2
BL-14 ELEVATION = 819.46
N 636342.755 E 1443339.363
BL STATION 37+06.00 0 RIGHT

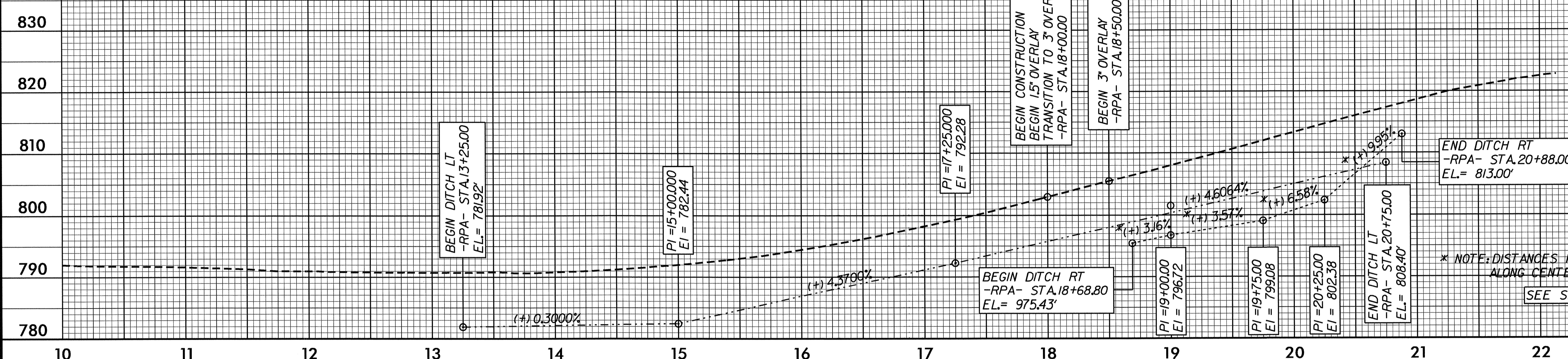
SEE SHEETS 4 & 5 FOR PLAN VIEW

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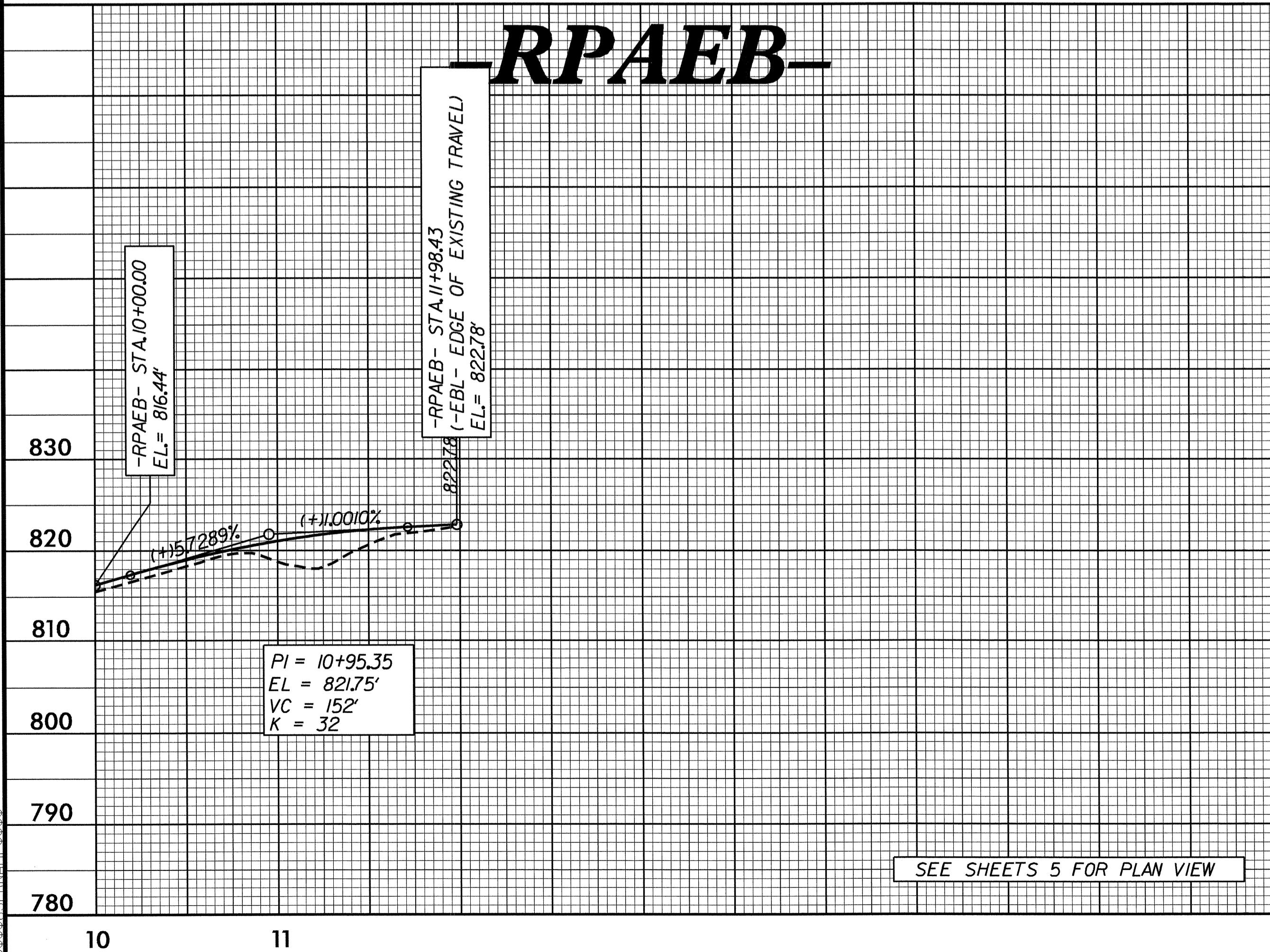
-RPA-

PROJECT REFERENCE NO. 1-4733	SHEET NO. 9
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 18494 AARON HOUSE	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 022086 GALEN CAL
<i>R. H. House</i> 6-12-13	<i>Galen Cal</i> 6/19/13



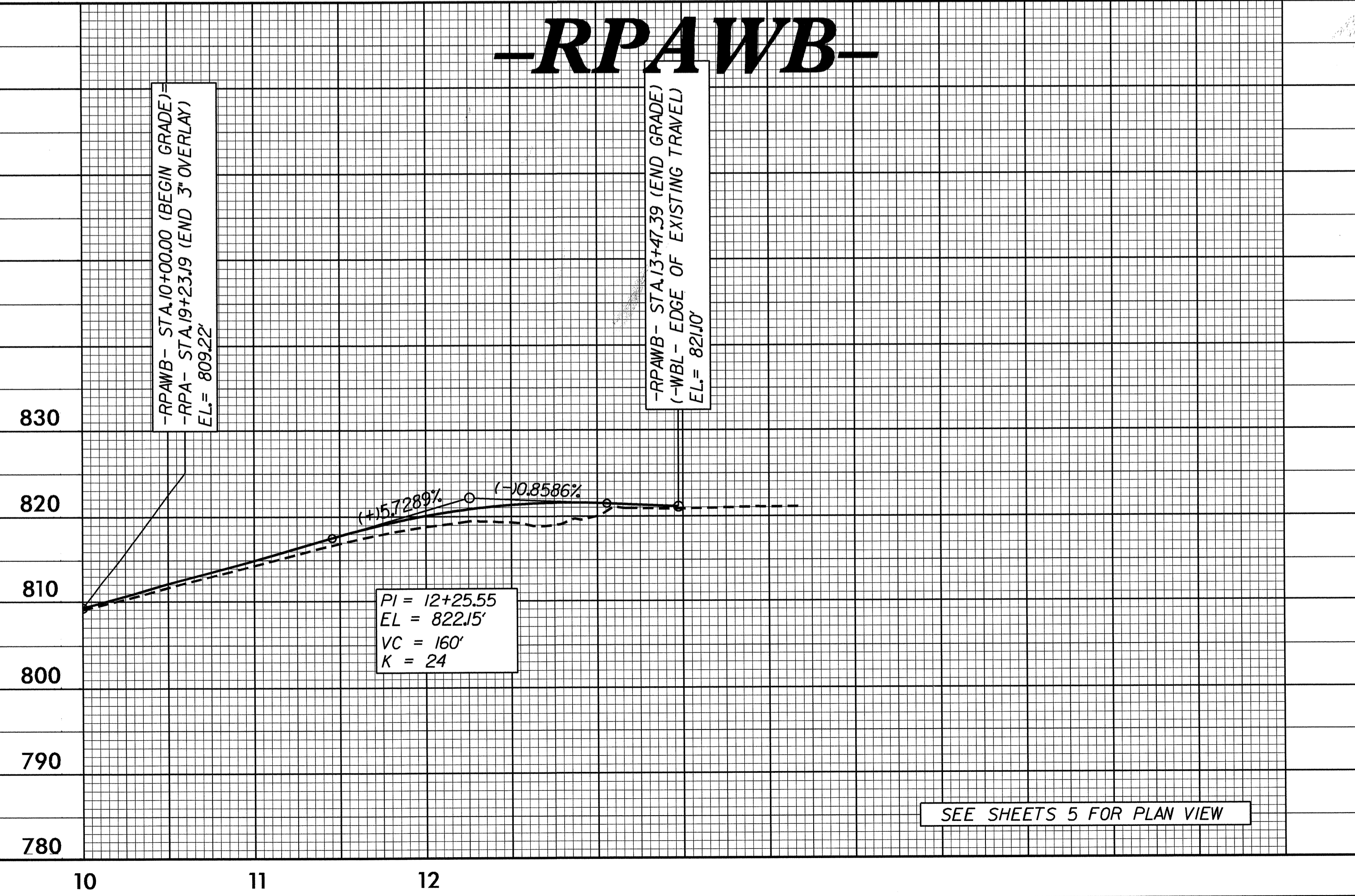
SEE SHEETS 5 & 7 FOR PLAN VIEW

-RPAEB-



SEE SHEETS 5 FOR PLAN VIEW

-RPAWB-



SEE SHEETS 5 FOR PLAN VIEW

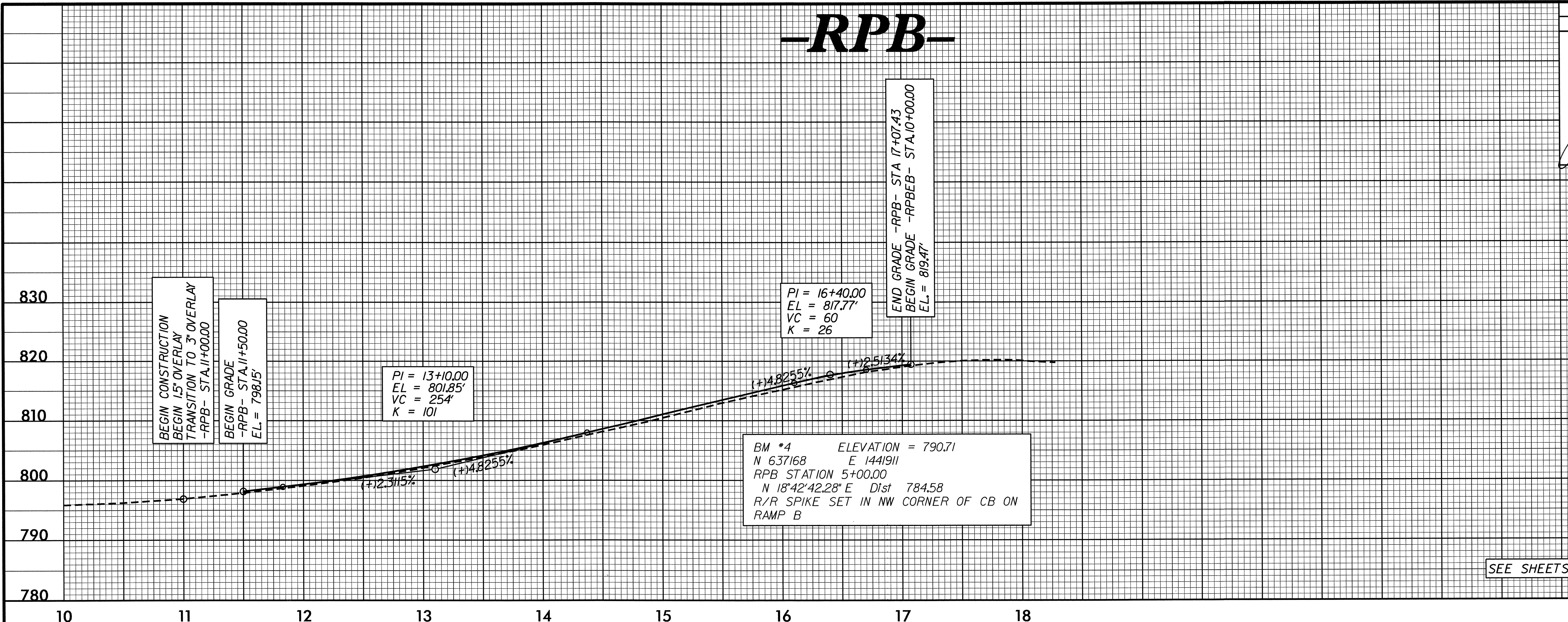
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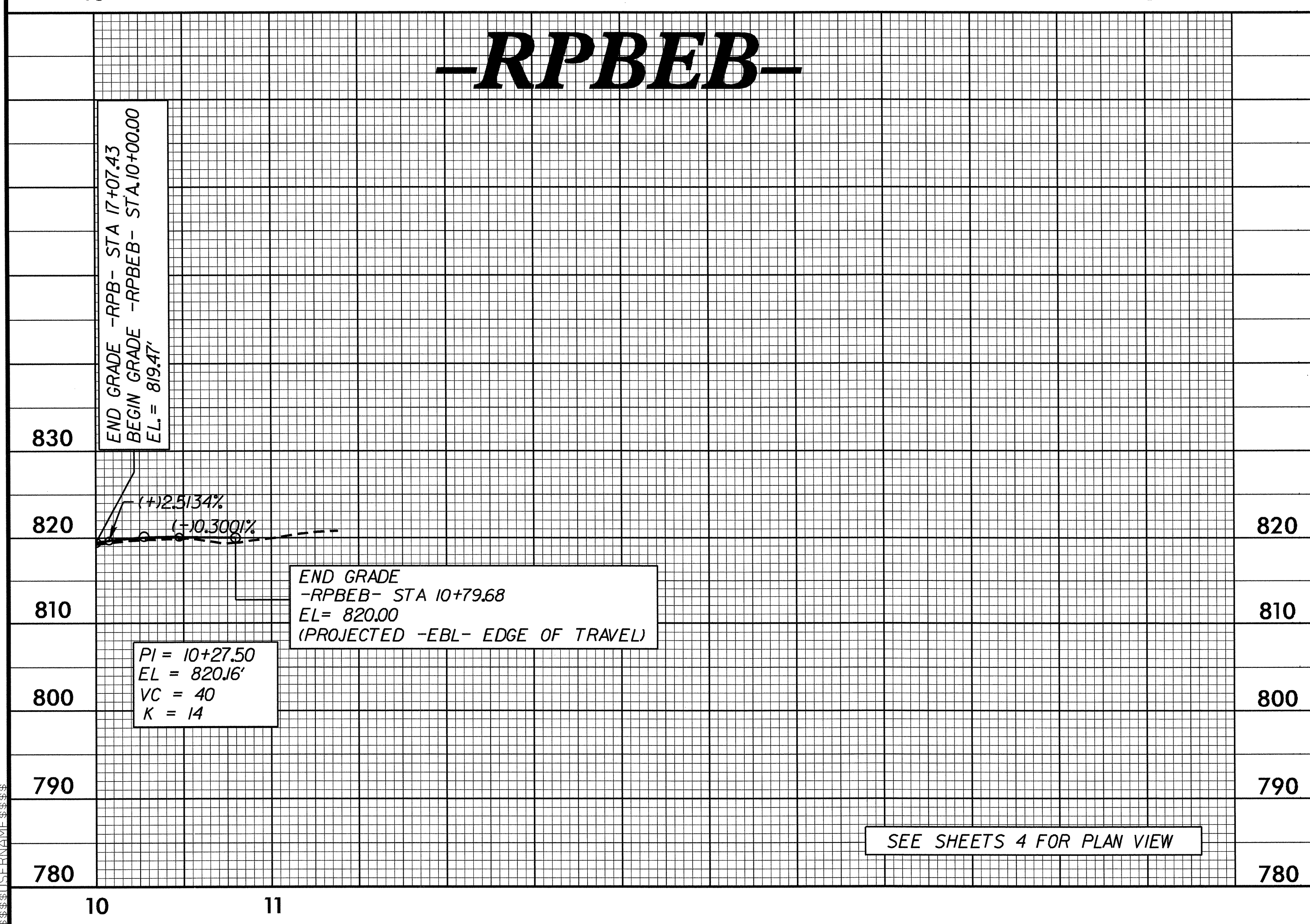
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PROJECT REFERENCE NO. 1-4733	SHEET NO. 10
ROADWAY DESIGN PROFESSIONAL ENGINEER SEAL 18494 ANTHONY AARON TOLIVER	HYDRAULICS ENGINEER SEAL 022000 GALLEN CAMPBELL

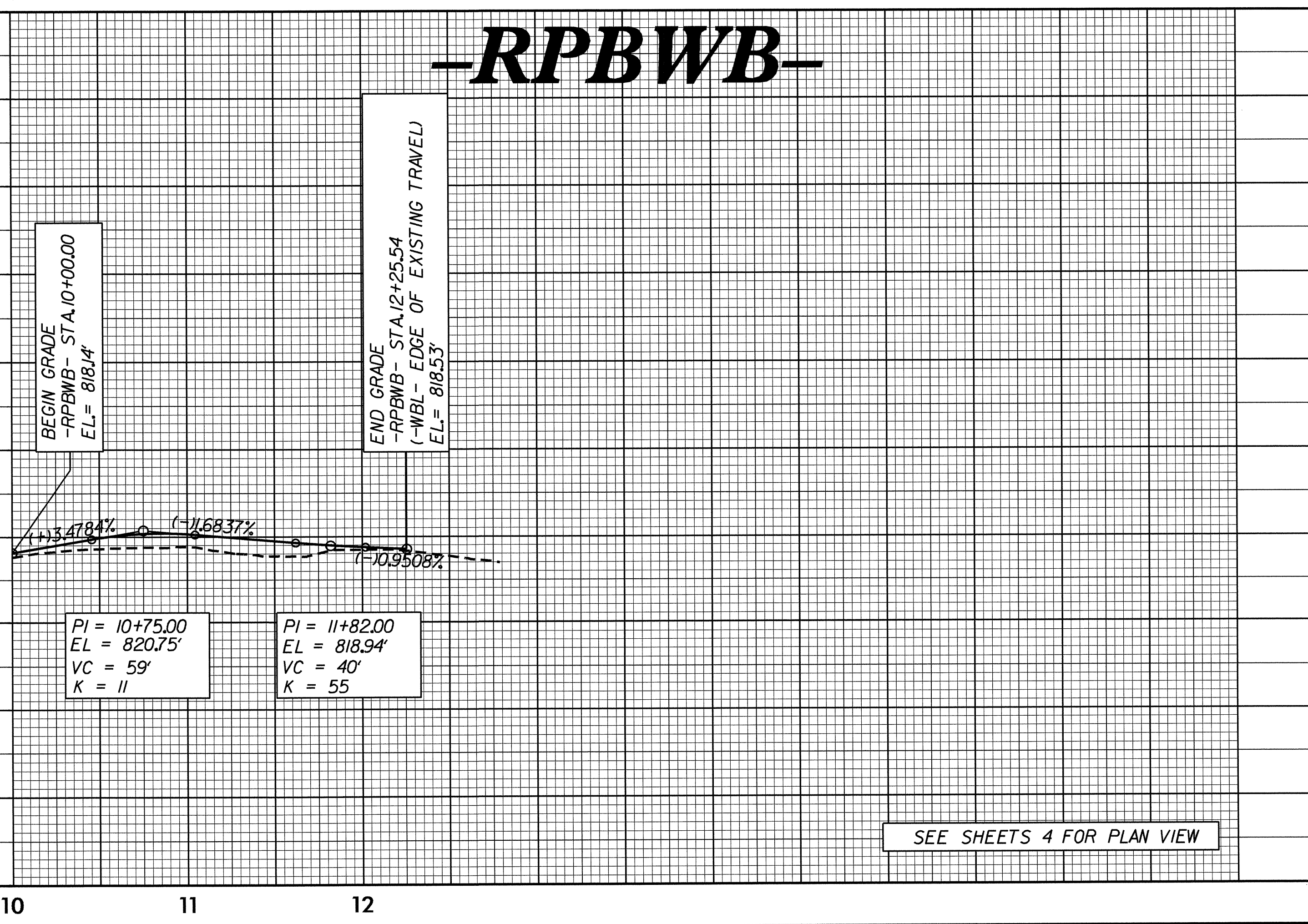
Anthony A. Toliver 6/21/13



-RPBEB-



-RPBWB-

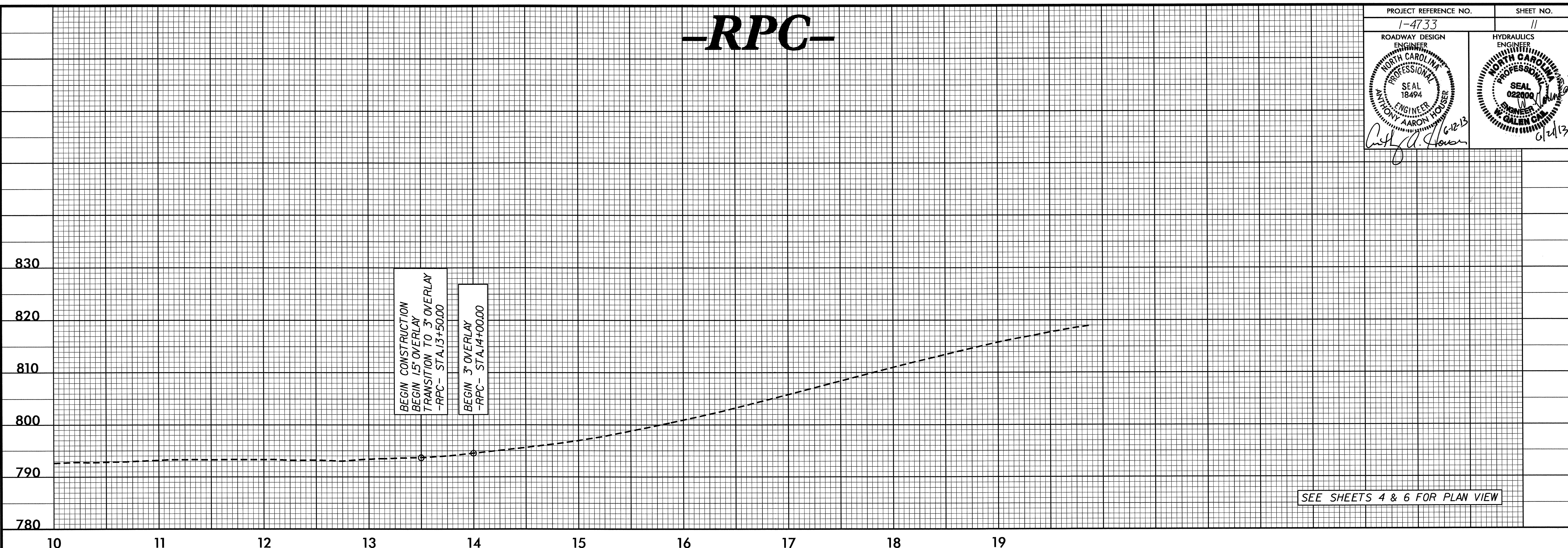


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5/28/99

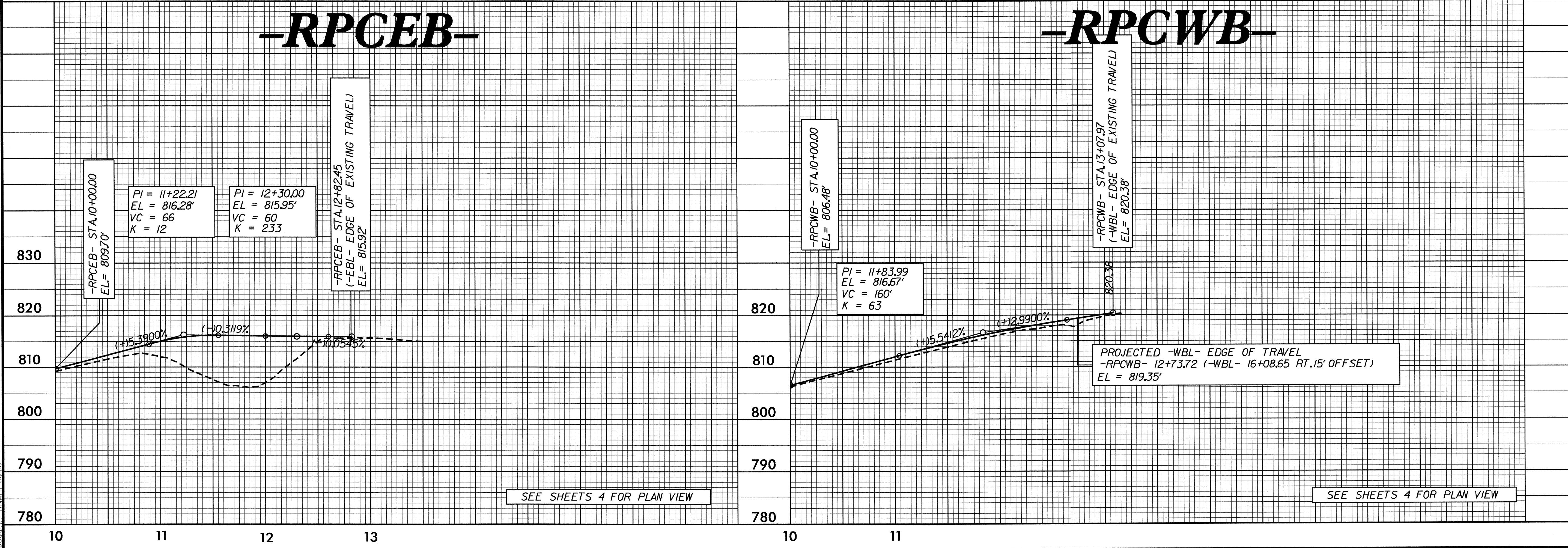
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PROJECT REFERENCE NO. 1-4733	SHEET NO. 11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
ANTHONY AARON HOUSER	W. GALEN CLINE
6-12-13	6-21-13



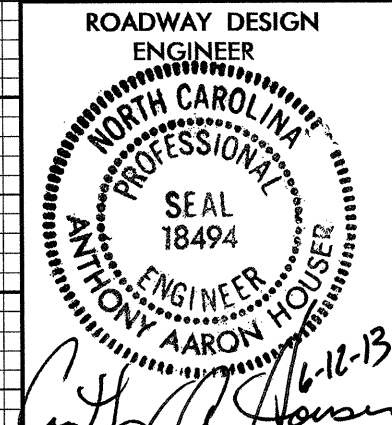
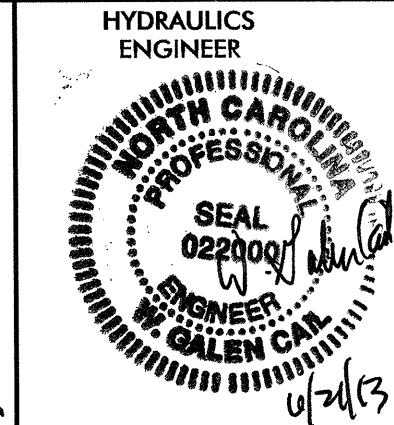
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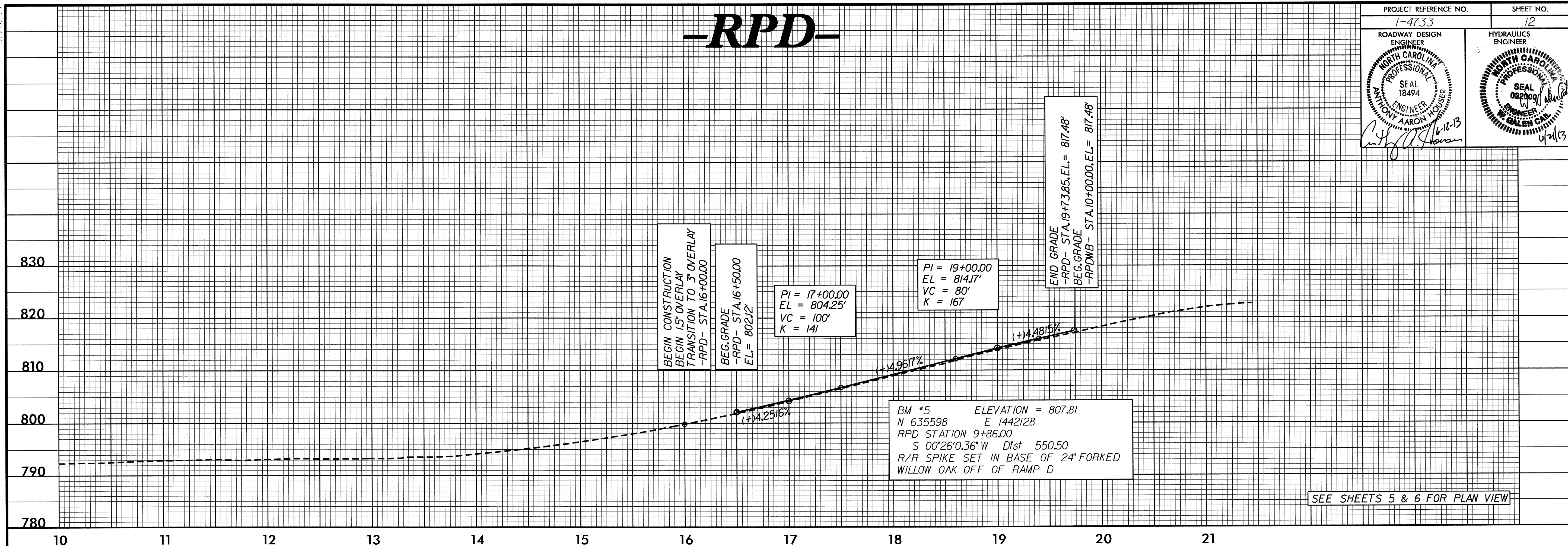


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ANTHONY AARON HOUSER

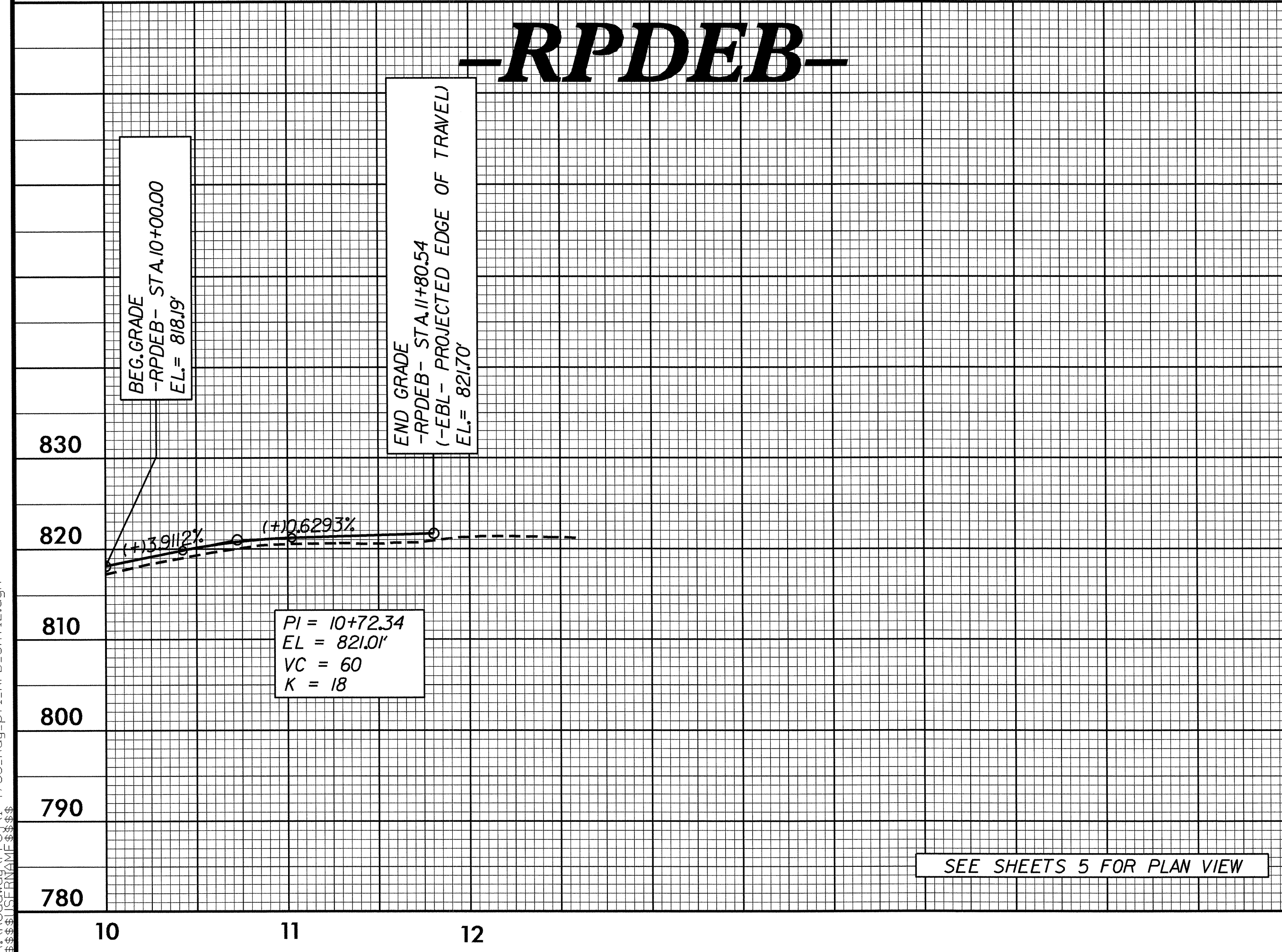
5/28/99

PROJECT REFERENCE NO. 1-4733	SHEET NO. 12
	

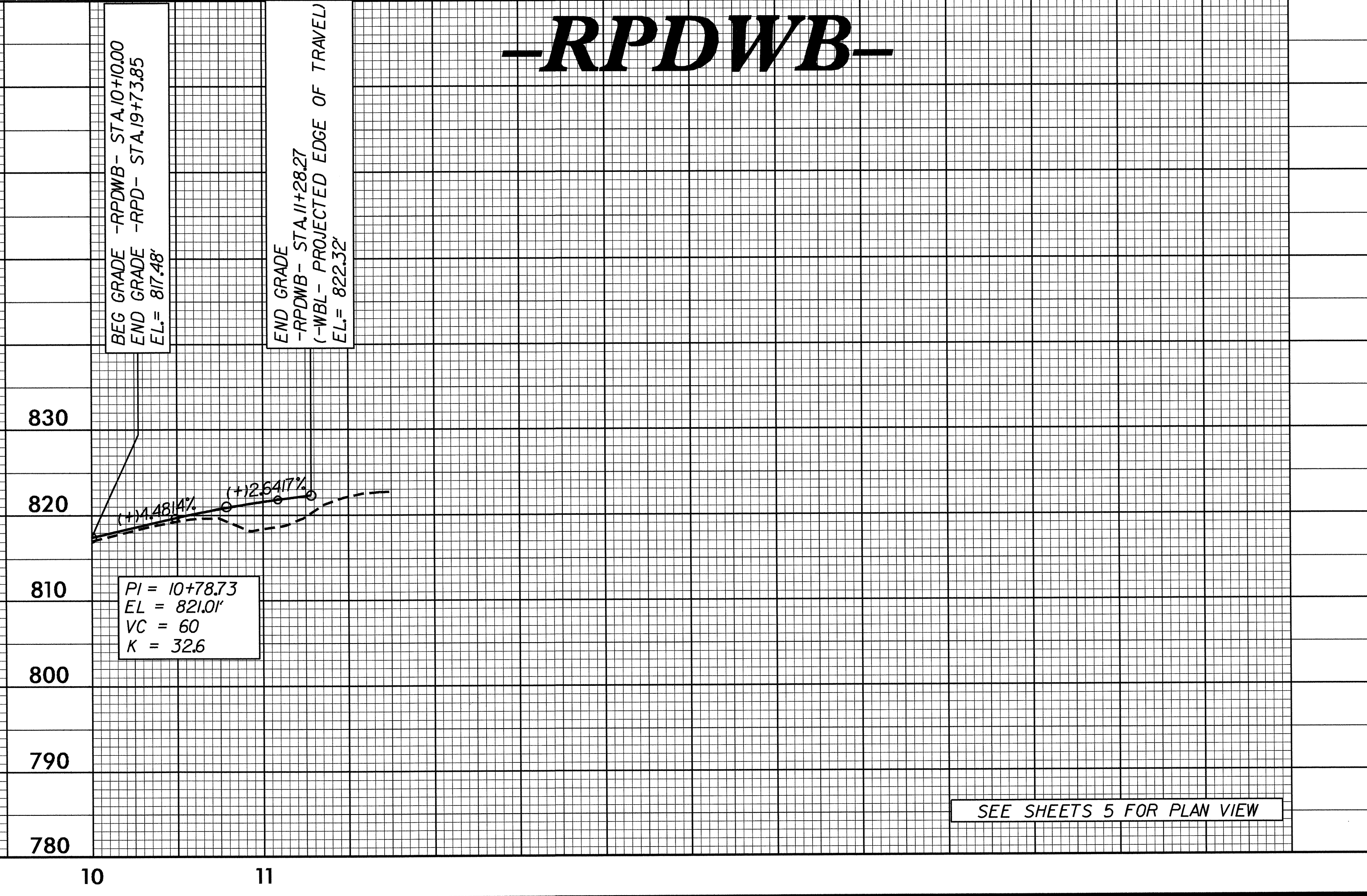
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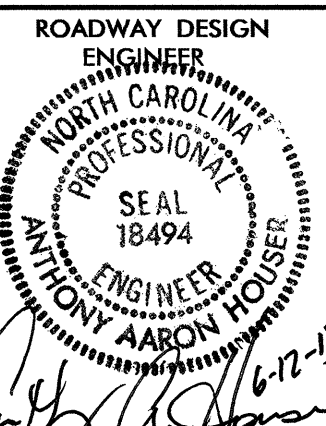
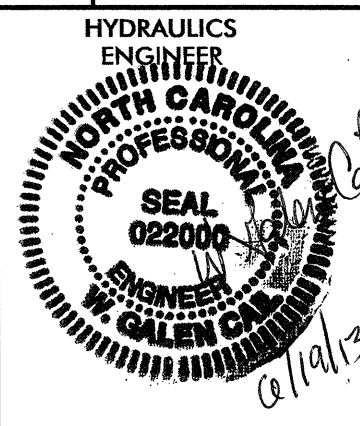
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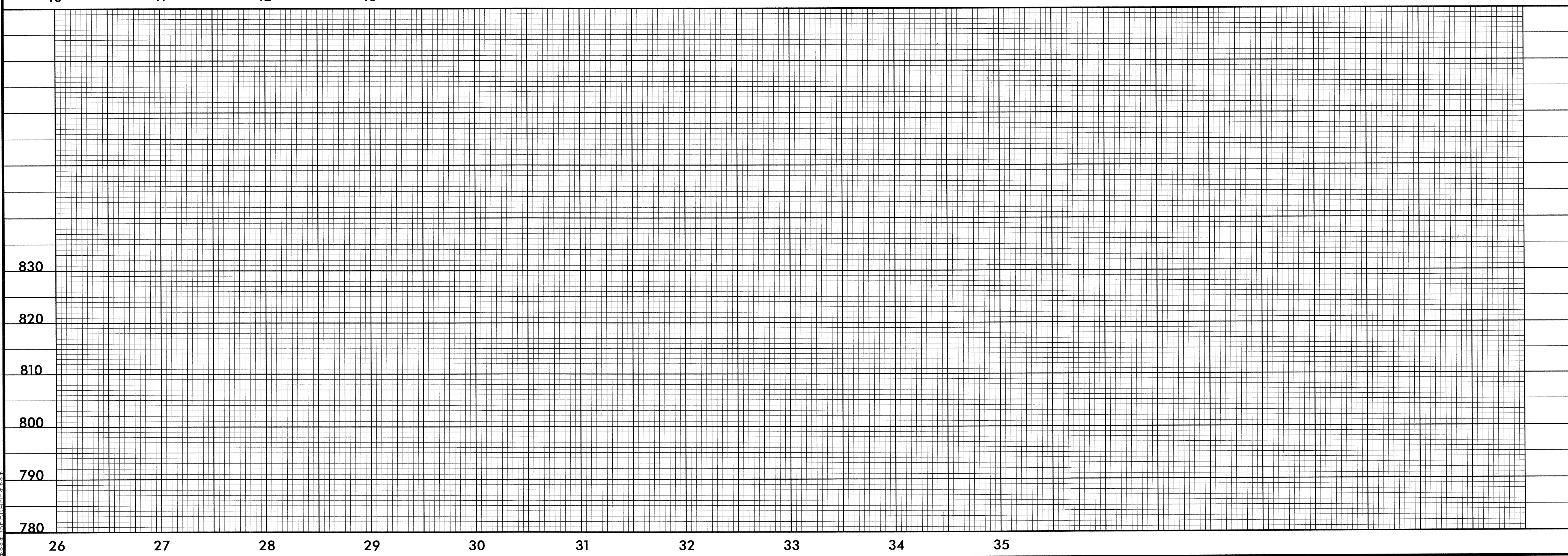
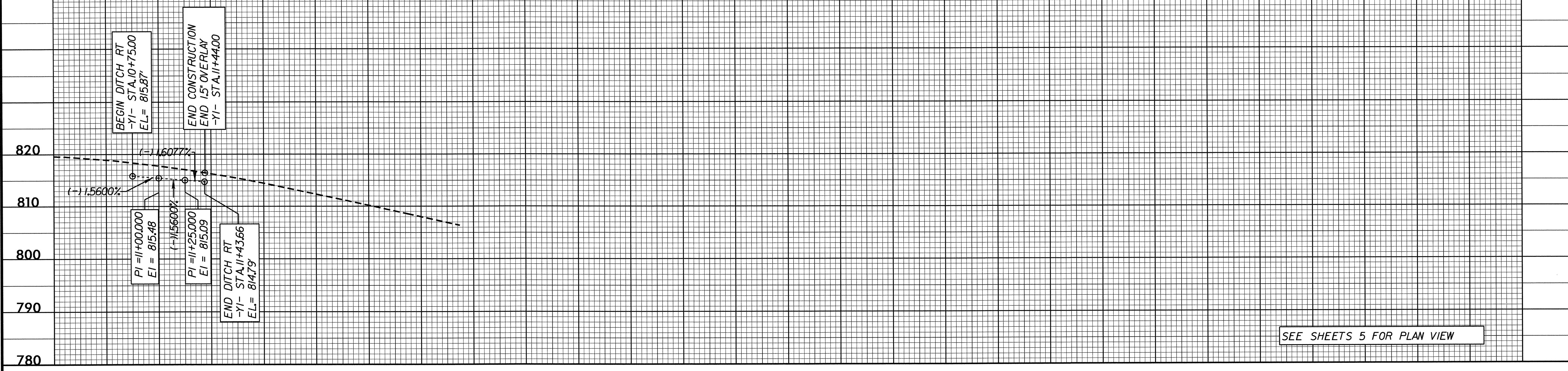


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-YI-

PROJECT REFERENCE NO. 1-4733	SHEET NO. 13
	



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