

**This electronic collection of documents is provided  
for the convenience of the user  
and is Not a Certified Document –**

**The documents contained herein were originally issued  
and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

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

09.08/99

TIP PROJECT: R-2514C

CONTRACT: C203591

3/20/2015 P:\9522-01\Cadd\R2514C\_Roadway\Proj\R2514C\_Rdy\_tsh.dgn TnuFFmcm

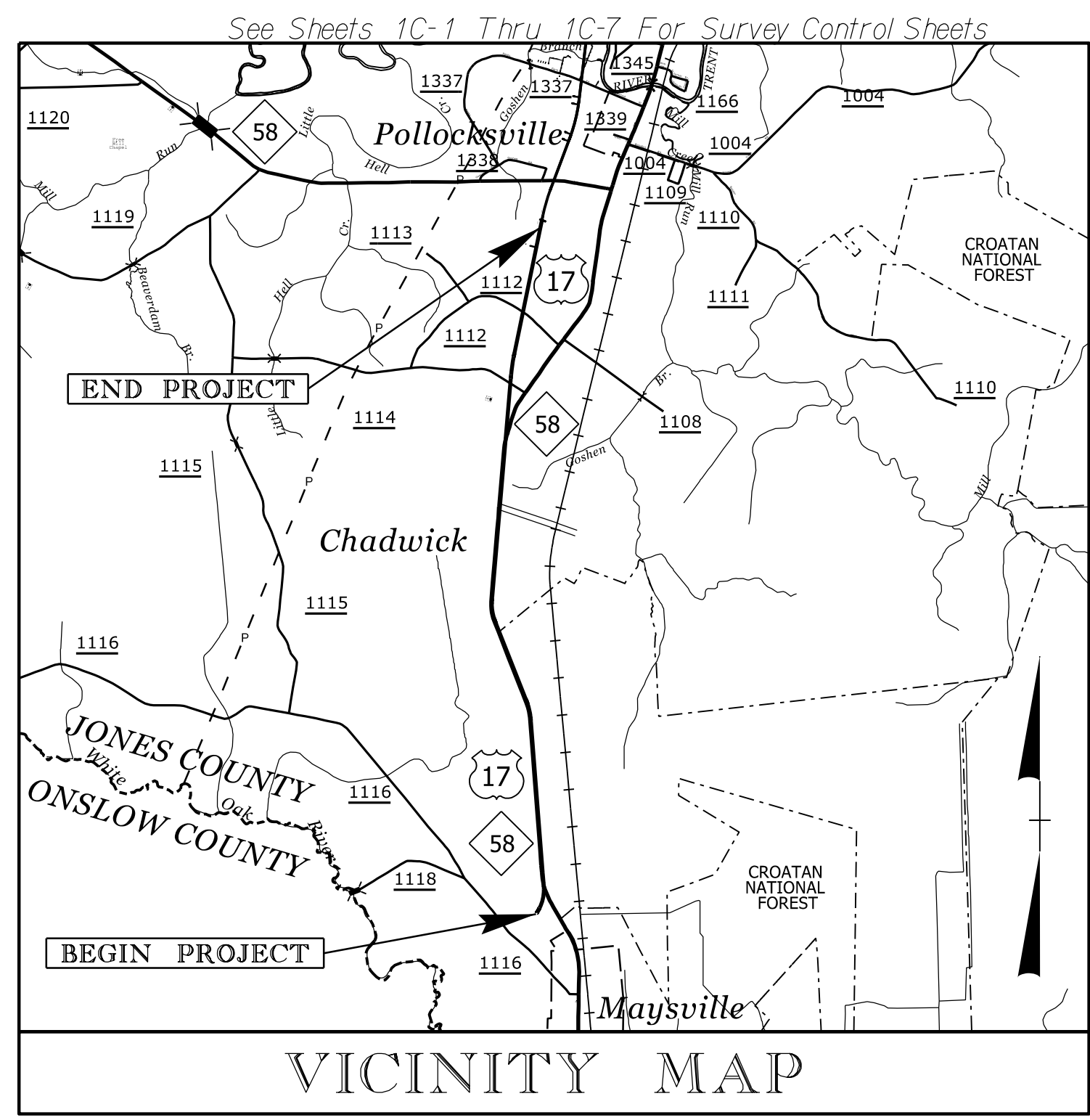
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

JONES COUNTY

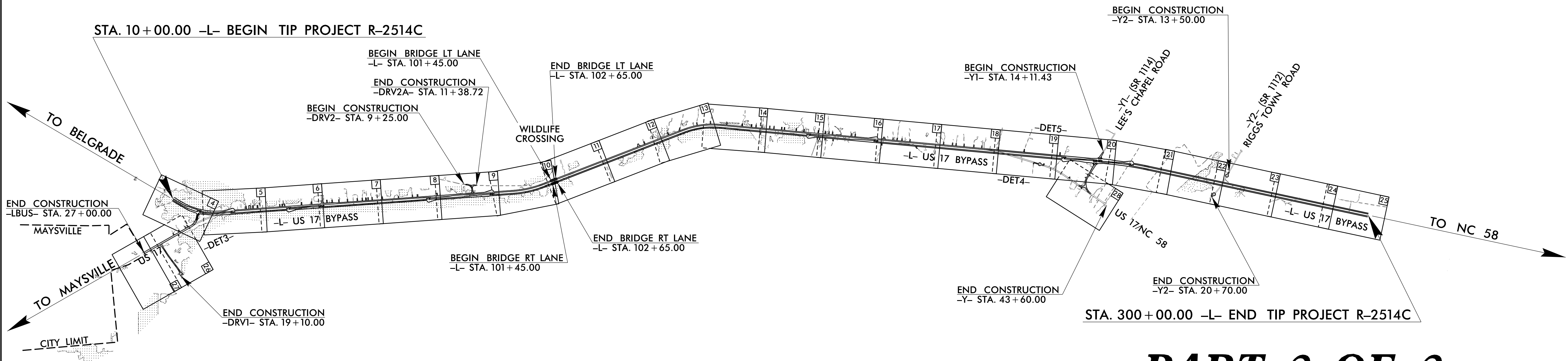
LOCATION: US 17 SOUTH OF BELGRADE TO NORTH OF MAYSVILLE  
TO SOUTH OF NC 58 NEAR POLLOCKSVILLE

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2514C	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34442.1.4		PE	
34442.2.4		RW	
34442.2.SU4		UTILITIES	
34442.3.S4		CONST.	



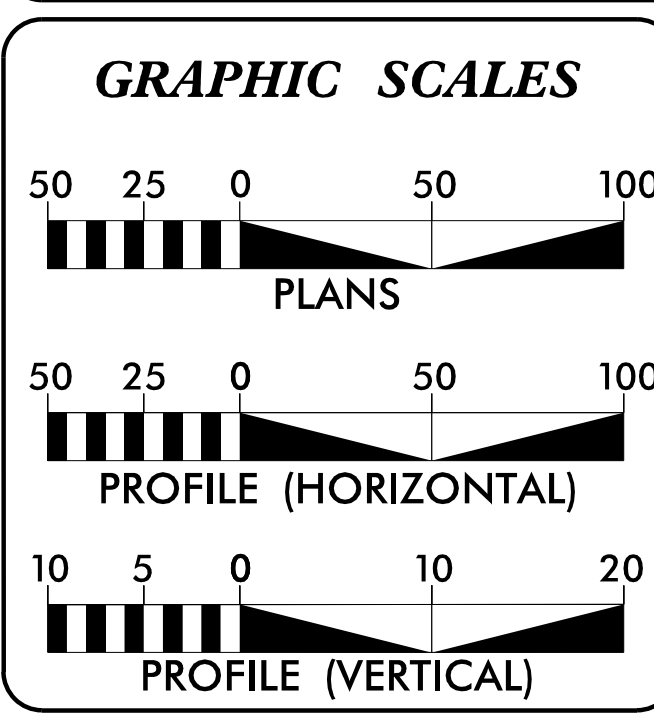
NAD 83/  
NSRS 2007



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING AT DESIGNATED POINTS ONLY.

PART 2 OF 2

SEE SHEET 18-A FOR -DET4- PLAN  
SEE SHEET 18-B FOR -DET5- PLAN  
SEE SHEETS 26-A & 26-B FOR -DET3- PLAN



**DESIGN DATA**

ADT 2015 =	12,000
ADT 2035 =	17,700
K =	12 %
D =	60 %
T =	9 % *
V =	60 MPH
* TTST =	5 % DUAL= 4 %
FUNC CLASS=	EXPRESSWAY STATEWIDE TIER

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT R-2514C	=	5.469 MILES
LENGTH STRUCTURE OF TIP PROJECT R-2514C	=	0.023 MILES
TOTAL LENGTH OF TIP PROJECT R-2514C	=	5.492 MILES

NOTE: -L- NBL USED TO DETERMINE LENGTH OF PROJECT

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 20, 2013

LETTING DATE: JUNE 16, 2015

JAMES A. SPEER, PE  
PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

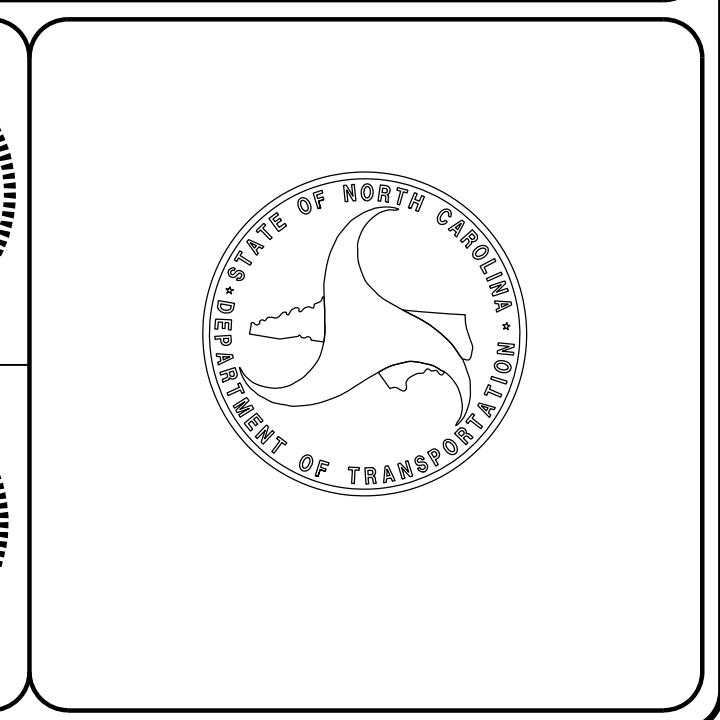
3/25/2015

DocuSigned by:  
Book E. Anderson  
SIGNATURE:

**ROADWAY DESIGN ENGINEER**

3/26/2015

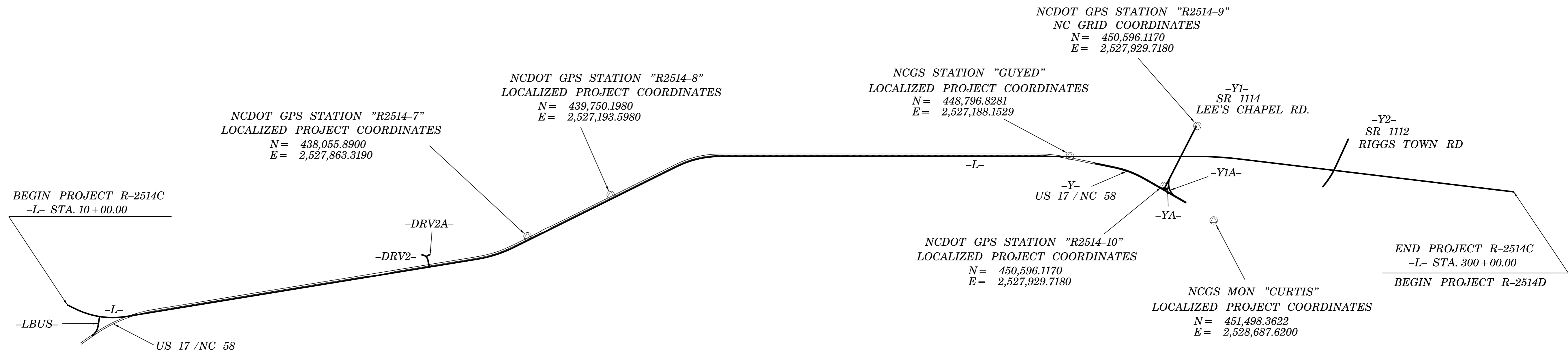
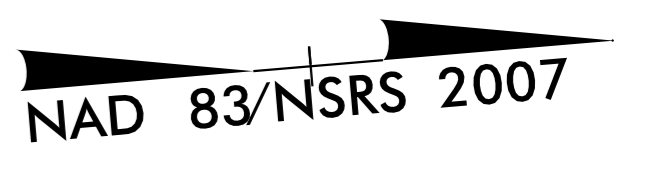
DocuSigned by:  
Daniel W. Gardner, Jr.  
SIGNATURE:



6/2/09

# SURVEY CONTROL SHEET R-2514C

PROJECT REFERENCE NO.	SHEET NO.
R-2514C	1C-1
Location and Surveys	



- 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:  
R2514C\_LS\_CONTROL.TXT  
R2514\_LS\_GPSCALIB.HTML  
R2514\_LS\_WGS84.TXT  
R2514\_LS\_LOCAL.TXT
- ⊙ 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.  
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)  
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.  
IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2514-9"

WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 451335.4480 (ft) EASTING: 2526812.771 (ft) ELEVATION: 38.950 (ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999887960

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS R2514-9" TO -L- STATION 10+00.00 IS  
S04°09'54.41"E 22,449.166'

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

NOTE: DRAWING NOT TO SCALE

18-MAR-2015 07:55 R2514C-LS-1C-1.dgn

# SURVEY CONTROL SHEET R-2514C

PROJECT REFERENCE NO. <i>R-2514C</i>	SHEET NO. <i>1C-2</i>
Location and Surveys	

## GPS Calibration Report

Project : R2514 calibrated

TIP Number	R-2514	Date & Time	2:01:53 PM 8/21/2008
User name	breigner	Zone	North Carolina 3200
Coordinate System	US State Plane 1983(at ground)		
Horizontal Datum	NAD 1983 (Comus)		
Vertical Datum	NAVD 88	Geoid Model	Geoid03 (Comus) NC Sub Grid
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

### LOCAL SITE INFORMATION

Localized around	R2514-9
Latitude	34°58'38.28832"N
Longitude	77°14'28.40172"W
Site Scale Factor	1.0001120526
Height	-82.978sft

The North Carolina Department of Transportation uses a **Localized Coordinate System** which is very similar to North Carolina Zone 3200 from which it is derived.  
**Please take care in utilizing these coordinates to eliminate confusion of the two systems.**  
 This file is to aid in the use of Real Time Kinematic (RTK) GPS during construction layout.

### Datum Transformation Parameters

Datum Transformation computation not requested

### Updated Default Projection (Transverse Mercator) Definition

Updated default projection not requested

### Horizontal Adjustment Parameters

Northing coordinate of rotation center	448950.369sft
Easting coordinate of rotation center	2529467.657sft
Rotation about the center point	0°00'00"
Translation north	0.013sft
Translation east	0.036sft
Scale factor	1.00000000

### Vertical Adjustment Parameters

Northing coordinate of origin point	407827.968sft
Easting coordinate of origin point	2519418.699sft
Vertical separation at origin	-0.080sft
Slope north	1.441ppm
Slope east	-1.370ppm

### Geoid Model Definition

Geoid03 (Comus) NC Sub Grid

### Residual Differences Between GPS (WGS84) And Local Coordinates

Summary			
	Maximum error	Root Mean Square error	Point
Horizontal	0.044sft	0.006	R2514-11_GPS
Vertical	0.067sft	0.006	R2514-8_GPS
Three-dimensional	0.067sft	0.008	R2514-8_GPS

Point Residuals					
WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	R2514-1_GPS	Northing	407827.968sft	Point R2514-1	
Latitude	34°51'29.31483"N	Easting	2519418.699sft	Northing	407827.974sft
Longitude	77°16'06.35983"W	Elevation	43.564sft	Easting	2519418.713sft
Height	-78.235sft	Horz error	0.015sft	Elevation	43.599sft
		Vert error	0.035sft	Utilized	Horz and Vert
		3D error	0.038sft	Quality	Control quality
Point	R2514-2_GPS	Northing	408945.433sft	Point R2514-2	
Latitude	34°51'40.14315"N	Easting	2520708.019sft	Northing	408945.434sft
Longitude	77°15'50.65691"W	Elevation	43.503sft	Easting	2520708.029sft
Height	-78.318sft	Horz error	0.010sft	Elevation	43.506sft
		Vert error	0.003sft	Utilized	Horz and Vert
		3D error	0.011sft	Quality	Adjusted quality
Point	R2514-3_GPS	Northing	418524.531sft	Point R2514-3	
Latitude	34°53'14.34116"N	Easting	2523780.188sft	Northing	418524.533sft
Longitude	77°15'11.77526"W	Elevation	41.639sft	Easting	2523780.196sft
Height	-80.263sft	Horz error	0.008sft	Elevation	41.637sft
		Vert error	0.002sft	Utilized	Horz and Vert
		3D error	0.008sft	Quality	Adjusted quality
Point	R2514-4_GPS	Northing	417924.703sft	Point R2514-4	
Latitude	34°53'08.13703"N	Easting	2525342.246sft	Northing	417924.702sft
Longitude	77°14'53.15509"W	Elevation	39.040sft	Easting	2525342.253sft
Height	-82.883sft	Horz error	0.007sft	Elevation	39.040sft
		Vert error	0.000sft	Utilized	Horz and Vert
		3D error	0.007sft	Quality	Adjusted quality
Point	R2514-5_GPS	Northing	430538.609sft	Point R2514-5	
Latitude	34°55'12.87095"N	Easting	2525393.067sft	Northing	430538.608sft
Longitude	77°14'49.87198"W	Elevation	36.480sft	Easting	2525393.069sft
Height	-85.455sft	Horz error	0.002sft	Elevation	36.480sft
		Vert error	0.000sft	Utilized	Horz and Vert
		3D error	0.002sft	Quality	Adjusted quality
Point	R2514-6_GPS	Northing	429038.515sft	Point R2514-6	
Latitude	34°54'57.80480"N	Easting	2526715.834sft	Northing	429038.512sft

Longitude	77°14'34.30907"W	Elevation	35.502sft	Easting	2526715.836sft
Height	-86.455sft	Horz error	0.004sft	Elevation	35.502sft
		Vert error	0.000sft	Utilized	Horz and Vert
		3D error	0.004sft	Quality	Adjusted quality
Point	R2514-7_GPS	Northing	438055.893sft	Point R2514-7	
Latitude	34°56'26.77905"N	Easting	2527863.322sft	Northing	438055.890sft
Longitude	77°14'18.61136"W	Elevation	41.766sft	Easting	2527863.319sft
Height	-80.199sft	Horz error	0.004sft	Elevation	41.764sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.004sft	Quality	Adjusted quality
Point	R2514-8_GPS	Northing	439750.202sft	Point R2514-8	
Latitude	34°56'43.65198"N	Easting	2527193.599sft	Northing	439750.198sft
Longitude	77°14'26.29372"W	Elevation	40.123sft	Easting	2527193.598sft
Height	-81.825sft	Horz error	0.004sft	Elevation	40.056sft
		Vert error	0.067sft	Utilized	Horz and Vert
		3D error	0.067sft	Quality	Control quality
Point	R2514-9_GPS	Northing	451335.456sft	Point R2514-9	
Latitude	34°58'38.28827"N	Easting	2526812.792sft	Northing	451335.448sft
Longitude	77°14'28.40192"W	Elevation	38.949sft	Easting	2526812.771sft
Height	-82.951sft	Horz error	0.023sft	Elevation	38.950sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.023sft	Quality	Adjusted quality
Point	R2514-10_GPS	Northing	450596.123sft	Point R2514-10	
Latitude	34°58'30.78091"N	Easting	2527929.733sft	Northing	450596.117sft
Longitude	77°14'15.13979"W	Elevation	37.739sft	Easting	2527929.718sft
Height	-84.186sft	Horz error	0.017sft	Elevation	37.738sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.017sft	Quality	Adjusted quality
Point	R2514-12_GPS	Northing	459392.719sft	Point R2514-12	
Latitude	34°59'57.63114"N	Easting	2528733.702sft	Northing	459392.709sft
Longitude	77°14'03.60057"W	Elevation	30.746sft	Easting	2528733.674sft
Height	-91.132sft	Horz error	0.030sft	Elevation	30.745sft
		Vert error	0.000sft	Utilized	Horz and Vert
		3D error	0.030sft	Quality	Adjusted quality
Point	R2514-11_GPS	Northing	459319.015sft	Point R2514-11	
Latitude	34°59'57.21553"N	Easting	2526949.865sft	Northing	459319.001sft
Longitude	77°14'25.05454"W	Elevation	25.752sft	Easting	2526949.823sft
Height	-96.095sft	Horz error	0.044sft	Elevation	25.768sft
		Vert error	0.016sft	Utilized	Horz and Vert
		3D error	0.047sft	Quality	Control quality
Point	R2514-13_GPS	Northing	469303.134sft	Point R2514-13	
Latitude	35°01'34.93473"N	Easting	2532710.956sft	Northing	469303.132sft
Longitude	77°13'13.66659"W	Elevation	37.360sft	Easting	2532710.950sft
Height	-84.483sft	Horz error	0.007sft	Elevation	37.359sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.007sft	Quality	Adjusted quality
Point	R2514-14_GPS	Northing	468754.272sft	Point R2514-14	
Latitude	35°01'29.23639"N	Easting	2534234.861sft	Northing	468754.269sft

### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2514-9"  
 WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF  
 NORTHING: 451335.4480 (ft) EASTING: 2526812.771 (ft)  
 ELEVATION: 38.950 (ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999887960  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS R2514-9" TO L- STATION 10+00.00 IS  
 S04°09'54.41"E 22,449.166'  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

# SURVEY CONTROL SHEET R-2514C

<b>Longitude</b>	77°12'55.46485"W	<b>Elevation</b>	27.784sft	<b>Easting</b>	2534234.852sft
<b>Height</b>	-94.092sft	<b>Horz error</b>	0.010sft	<b>Elevation</b>	27.782sft
		<b>Vert error</b>	0.002sft	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	0.010sft	<b>Quality</b>	Adjusted quality

<b>Point</b>	R2514-15 GPS	<b>Northing</b>	477274.384sft	<b>Point R2514-15</b>
<b>Latitude</b>	35°02'53.82459"N	<b>Easting</b>	2532367.167sft	<b>Northing</b>
<b>Longitude</b>	77°13'16.08227"W	<b>Elevation</b>	37.069sft	<b>Easting</b>
<b>Height</b>	-84.670sft	<b>Horz error</b>	0.012sft	<b>Elevation</b>
		<b>Vert error</b>	0.002sft	<b>Utilized</b>
		<b>3D error</b>	0.012sft	<b>Quality</b>

<b>Point</b>	R2514-16 GPS	<b>Northing</b>	478923.276sft	<b>Point R2514-16</b>
<b>Latitude</b>	35°03'09.71350"N	<b>Easting</b>	2534716.028sft	<b>Northing</b>
<b>Longitude</b>	77°12'47.47979"W	<b>Elevation</b>	34.233sft	<b>Easting</b>
<b>Height</b>	-87.520sft	<b>Horz error</b>	0.013sft	<b>Elevation</b>
		<b>Vert error</b>	0.001sft	<b>Utilized</b>
		<b>3D error</b>	0.013sft	<b>Quality</b>

<b>Point</b>	R2514-17 GPS	<b>Northing</b>	488782.056sft	<b>Point R2514-17</b>
<b>Latitude</b>	35°04'45.44499"N	<b>Easting</b>	2544527.004sft	<b>Northing</b>
<b>Longitude</b>	77°10'47.32099"W	<b>Elevation</b>	35.852sft	<b>Easting</b>
<b>Height</b>	-85.910sft	<b>Horz error</b>	0.039sft	<b>Elevation</b>
		<b>Vert error</b>	0.017sft	<b>Utilized</b>
		<b>3D error</b>	0.043sft	<b>Quality</b>

<b>Point</b>	R2514-18 GPS	<b>Northing</b>	486820.575sft	<b>Point R2514-18</b>
<b>Latitude</b>	35°04'25.95814"N	<b>Easting</b>	2545021.401sft	<b>Northing</b>
<b>Longitude</b>	77°10'41.80660"W	<b>Elevation</b>	35.889sft	<b>Easting</b>
<b>Height</b>	-85.910sft	<b>Horz error</b>	0.033sft	<b>Elevation</b>
		<b>Vert error</b>	0.000sft	<b>Utilized</b>
		<b>3D error</b>	0.033sft	<b>Quality</b>

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
106	BL-106	428946.4757	2528442.6383	38.07	10+00.44	1.01 LT
104	BL-104	429675.9636	2528885.8601	39.56	18+18.57	135.62 RT
105	BL-105	430616.6090	2528664.6367	40.66	27+45.84	60.78 LT
1	BL-1	431650.2222	2528633.9850	39.74	37+78.72	11.26 LT
2	BL-2	432686.6308	2528553.9907	39.36	48+18.21	10.72 LT
3	BL-3	433770.8507	2528469.9620	39.25	59+05.68	10.50 LT
4	BL-4	434873.2175	2528382.2263	41.20	70+11.53	12.57 LT
5	BL-5	435957.7758	2528296.0025	40.77	80+99.51	14.51 LT
6	BL-6	437137.2573	2528223.9206	41.33	92+00.79	7.29 RT
GPS7	GPS R2514-7	438055.8900	2527863.3190	41.76	102+73.16	75.97 LT
7	BL-7	438962.1073	2527571.5981	40.35	112+23.20	14.60 LT
GPS8	GPS R2514-8	439750.1980	2527193.5980	40.06	120+95.03	76.85 LT
8	BL-8	440701.5606	2526823.1616	41.22	131+15.96	72.12 LT
9	BL-9	441715.8308	2526541.9536	40.51	141+50.43	73.20 LT
10	BL-10	442673.4918	2526668.5495	39.68	151+07.00	11.78 LT
11	BL-11	443798.4366	2526760.3491	38.54	162+35.68	15.08 LT
12	BL-12	444775.1619	2526782.5219	37.16	172+10.80	75.27 LT
13	BL-13	445860.1941	2526951.9915	37.75	183+06.25	2.18 RT
14	BL-14	446823.1649	2526954.1032	37.09	192+65.98	76.84 LT
15	BL-15	447806.2700	2527040.9353	36.85	202+52.90	73.14 LT
16	NCOS GUYED	448796.8281	2527188.1529	37.82	212+52.34	9.90 LT
17	BL-17	449880.8597	2527289.9111	39.95	223+41.09	0.17 RT
18	BL-18	450978.8309	2527380.1037	38.70	234+42.76	2.46 LT
19	BL-19	452467.6158	2527508.6733	38.17	249+30.39	94.13 LT
20	BL-20	453327.0435	2527581.4698	35.34	257+86.80	196.49 LT
21	BL-21	454094.4237	2527659.3541	31.72	265+54.09	275.27 LT
22	BL-22	455171.3972	2527839.5990	29.62	276+45.27	316.36 LT
23	BL-23	455686.6481	2527950.6041	28.04	281+72.32	311.76 LT
24	BL-24	456734.0858	2528219.3289	27.78	292+52.45	260.22 LT

BY POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
500	NCOS GUYED	448796.8281	2527188.1529	37.82	OUTSIDE PROJECT LIMITS	
29	BY-29	449886.1022	2527526.9204	38.83	27+81.44	43.74 LT
GPS10	GPS R2514-10	450596.1170	2527929.7180	37.74	35+88.18	76.10 LT
30	NCOS CURTIS	451498.3622	2528687.6200	37.59	OUTSIDE PROJECT LIMITS	

BY1 POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
GPS9	GPS R2514-9	451335.4480	2526812.7710	38.95	OUTSIDE PROJECT LIMITS	
502	BL-18	450978.8309	2527380.1037	38.70	16+58.04	12.63 LT
501	GPS R2514-10	450596.1170	2527929.7180	37.74	23+26.94	20.77 RT

BY2 POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
31	BY2-31	454514.8150	2526894.4916	34.48	OUTSIDE PROJECT LIMITS	
503	BL-21	454094.4237	2527659.3541	31.72	13+81.97	17.37 LT
32	BY2-32	453666.7331	2528252.7321	31.85	OUTSIDE PROJECT LIMITS	

BYA POINT	DESC.	NORTH	EAST	ELEVATION	LBUS STATION	OFFSET
499	BL-104	429675.9636	2528885.8601	39.56	11+28.82	155.24 LT
103	BYA-103	428803.0910	2529464.3769	39.04	21+04.62	38.84 LT
102	BYA-102	428403.0226	2529711.2058	40.40	25+74.52	52.23 LT

BYB POINT	DESC.	NORTH	EAST	ELEVATION	DRV1 STATION	OFFSET
101	BYB-101	429071.1205	2530123.5438	38.46	17+45.59	14.06 RT
E01	BYA-102	428403.0226	2529711.2058	40.40	10+33.39	318.06 RT

.....

BM1 ELEVATION = 40.95  
N 431654 E 2528804  
L STATION 37+69.00 158 RIGHT  
RR SPIKE IN 16' PINE  
.....

BM2 ELEVATION = 41.22  
N 433796 E 2528635  
L STATION 59+18.00 156 RIGHT  
RR SPIKE IN 19' HARDWOOD  
.....

BM3 ELEVATION = 40.96  
N 435960 E 2528525  
L STATION 80+84.00 214 RIGHT  
RR SPIKE IN 20' OAK  
.....

BM4 ELEVATION = 38.91  
N 438178 E 2528242  
L STATION 102+48.00 321 RIGHT  
RR SPIKE IN 20' LEANING PINE  
.....

BM5 ELEVATION = 42.52  
N 439869 E 2527405  
L STATION 121+28.00 163 RIGHT  
RR SPIKE IN 16' PINE  
.....

BM6 ELEVATION = 43.13  
N 441959 E 2526345  
L STATION 143+73.00 275 LEFT  
RR SPIKE IN 9' PINE  
.....

BM7 ELEVATION = 40.86  
N 443809 E 2526516  
L STATION 162+25.00 260 LEFT  
RR SPIKE IN 12' GUM  
.....

BM8 ELEVATION = 33.35  
N 445739 E 2527202  
L STATION 182+06.00 262 RIGHT  
RR SPIKE IN 8' MAPLE  
.....

BM9 ELEVATION = 40.50  
N 448659 E 2526680  
L STATION 210+72.00 505 LEFT  
RR SPIKE IN 7' PINE  
.....

BM10 ELEVATION = 39.97  
N 451220 E 2526911  
L STATION 236+44.00 490 LEFT  
RR SPIKE IN POWER POLE(RUA 04) OFF OF  
LEE CHAPEL ROAD(SR 1114)  
.....

BM11 ELEVATION = 36.69  
N 453048 E 2527040  
L STATION 254+04.00 671 LEFT  
RR SPIKE IN 15' PINE  
.....

BM12 ELEVATION = 34.34  
N 454301 E 2527329  
L STATION 266+89.00 640 LEFT  
RR SPIKE IN POWER POLE(B-316-29) OFF  
RIGGS TOWN ROAD(SR 1112)  
.....

BM13 ELEVATION = 26.14  
N 456740 E 2528046  
L STATION 292+23.00 431 LEFT  
RR SPIKE IN 8' MAPLE  
.....

BM33 ELEVATION = 39.84  
N 428817 E 2529831  
L STATION 14+20.00 1287 RIGHT  
RR SPIKE IN GUY POLE(135469)  
.....

### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2514-9"  
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF  
NORTHING: 451335.4480 (ft) EASTING: 2526812.771 (ft)  
ELEVATION: 38.950 (ft)  
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999887960  
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS R2514-9" TO -L- STATION 10+00.00 IS  
S04°09'54.41"E 22,449.166'  
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

# SURVEY CONTROL SHEET R-2514C

## FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+57.80	100.00	428943.2295	2528558.7548
L	10+57.80	-100.00	429046.8073	2528387.6652
L	12+97.80	-100.00	429248.6429	2528503.3295
L	12+97.80	100.00	429157.8497	2528681.5333
L	14+82.60	110.00	429333.6814	2528769.8851
L	20+77.77	-100.00	429954.4946	2528671.1456
L	20+77.77	-130.00	429954.3632	2528641.1459
L	22+18.49	100.00	430102.0227	2528865.4619
L	23+17.77	100.00	430202.2837	2528858.0945
L	23+17.77	-135.00	430184.0778	2528623.8008
L	24+90.00	-165.00	430353.4660	2528580.5479
L	25+55.00	-150.00	430419.4328	2528590.4671
L	25+80.00	-130.00	430445.9071	2528608.4702
L	28+04.00	-130.00	430669.2338	2528591.1165
L	28+23.66	-235.07	430680.6945	2528484.8401
L	29+22.07	-235.21	430778.0014	2528477.0713
L	31+20.00	-130.00	430984.2841	2528566.6352
L	33+00.00	-115.00	431164.9052	2528567.6452
L	35+90.00	-115.00	431454.0336	2528545.1782
L	37+60.00	100.00	431640.1792	2528746.3618
L	37+65.00	-115.00	431628.5077	2528531.6206
L	38+15.00	135.00	431697.7254	2528776.9956
L	38+50.00	-125.00	431712.4775	2528515.0655
L	39+55.00	100.00	431834.5931	2528731.2547
L	41+10.00	-125.00	431971.6960	2528494.9227
L	41+70.00	-125.00	432031.5157	2528490.2744
L	43+50.00	-125.00	432210.9747	2528476.3294
L	44+10.00	-125.00	432270.7944	2528471.6811
L	45+90.00	-125.00	432450.2534	2528457.7361
L	46+90.00	-135.00	432549.1781	2528440.0189
L	48+20.00	-135.00	432678.7874	2528429.9475
L	50+00.00	-125.00	432859.0212	2528425.9724
L	50+60.00	-125.00	432918.8408	2528421.3241
L	52+21.00	-125.00	433079.3569	2528408.8511
L	52+53.00	-125.00	433111.2608	2528406.3720
L	54+43.00	-125.00	433300.6897	2528391.6523
L	58+55.00	-125.00	433711.4515	2528359.7337
L	59+00.00	-125.00	433756.3162	2528356.2474
L	59+50.00	-135.00	433805.3912	2528342.4039
L	60+41.00	-124.08	433896.9637	2528346.2411
L	61+01.00	-116.88	433957.3412	2528348.7711
L	62+00.00	-105.00	434056.9640	2528352.9457
L	64+25.00	-105.00	434281.2878	2528335.5144
L	64+73.00	-105.00	434329.1435	2528331.7958
L	66+50.00	-105.00	434505.6115	2528318.0832
L	67+50.00	-115.00	434604.5363	2528300.3660
L	69+40.00	-115.00	434793.9652	2528285.6463
L	71+00.00	100.00	434970.1409	2528487.6046
L	71+60.00	135.00	435032.6721	2528517.8510
L	73+47.00	-115.00	435199.7420	2528254.1151
L	73+50.00	100.00	435219.3895	2528468.2365
L	74+07.00	-115.00	435259.5617	2528249.4668
L	77+00.00	100.00	435568.3376	2528441.1212
L	79+00.00	110.00	435768.5112	2528435.5967
L	81+90.00	-115.00	436040.2084	2528188.8060
L	82+50.00	-115.00	436100.0280	2528184.1577
L	82+70.00	-115.00	436119.9681	2528182.6102
L	85+00.00	-120.00	436348.8893	2528159.8047
L	85+56.00	110.00	436422.5396	2528384.7750
L	85+93.00	110.00	436459.4284	2528381.9085
L	86+00.00	-150.00	436446.2646	2528122.1476
L	86+80.00	-160.00	436525.2494	2528105.9799
L	87+15.00	-150.00	436560.9190	2528113.2383

ALIGN	STATION	OFFSET	NORTH	EAST
L	87+50.00	-120.00	436598.1379	2528140.4366
L	89+00.00	-125.00	436747.2997	2528123.8308
L	89+55.00	110.00	436820.3404	2528353.8635
L	89+95.00	110.00	436860.2202	2528350.7647
L	90+92.17	110.00	436957.1030	2528343.2363
L	90+92.17	-125.00	436938.8922	2528108.9430
L	92+92.17	125.00	437162.4778	2528339.5013
L	92+92.17	-125.00	437132.9918	2528091.2462
L	94+05.00	-120.00	437239.8312	2528081.1158
L	94+06.00	125.00	437280.8835	2528322.6540
L	94+44.00	125.00	437320.2234	2528315.8121
L	95+60.00	-120.00	437384.4357	2528052.4696
L	97+56.00	-120.00	437564.2254	2528003.3090
L	97+62.00	125.00	437644.2137	2528234.9614
L	97+89.00	125.00	437671.1924	2528226.1802
L	97+93.00	-120.00	437597.6965	2527992.4296
L	98+26.23	-120.00	437627.6141	2527982.2308
L	98+26.23	125.00	437708.2310	2528213.5875
L	99+68.00	-120.00	437756.2356	2527934.1968
L	99+68.00	-545.00	437601.5588	2527538.3432
L	100+26.23	125.00	437899.9903	2528140.9205
L	101+75.00	125.00	438038.3708	2528086.2989
L	102+35.00	125.00	438094.1805	2528064.2698
L	104+43.00	-545.00	438041.6616	2527364.6944
L	104+43.00	-135.00	438192.1942	2527746.0603
L	106+12.00	125.00	438444.8511	2527925.8532
L	106+59.00	125.00	438488.5686	2527908.5971
L	110+12.00	125.00	438816.9154	2527778.9922
L	110+59.00	125.00	438860.6329	2527761.7360
L	114+08.00	125.00	439185.2590	2527633.5997
L	115+50.00	125.00	439317.3418	2527581.4640
L	116+50.00	-135.00	439314.8982	2527302.9070
L	116+50.00	110.00	439404.8506	2527530.7964
L	118+18.00	110.00	439561.1176	2527469.1147
L	118+52.00	110.00	439592.7431	2527456.6315
L	119+00.00	110.00	439637.3908	2527439.0082
L	123+90.00	100.00	440089.4980	2527249.0018
L	125+67.00	-120.00	440173.3628	2526980.1804
L	131+17.00	-120.00	440684.9512	2526778.2465
L	131+77.00	-120.00	440740.7609	2526756.2173
L	133+93.78	-120.00	440942.4030	2526676.6252
L	133+93.78	100.00	441023.1766	2526881.2606
L	134+35.00	-119.13	440981.2783	2526662.2405
L	134+95.00	-118.18	441038.6069	2526641.0277
L	136+33.78	100.00	441242.2022	2526800.0627
L	136+33.78	-120.00	441174.6106	2526590.7033
L	138+27.00	-120.00	441373.0798	2526537.6864
L	138+87.00	-120.00	441435.7012	2526525.3917
L	141+44.00	-120.00	441707.2059	2526495.4649
L	141+96.00	-120.00	441762.4931	2526493.9264
L	142+61.44	-120.00	441832.0909	2526494.1582
L	142+61.44	100.00	441827.5400	2526714.1111
L	145+01.44	-120.00	442079.1971	2526509.6971
L	145+01.44	100.00	442060.6626	2526728.9150
L	145+16.00	-120.00	442093.7093	2526510.9241
L	145+68.00	-120.00	442145.5245	2526515.3050
L	148+90.00	-120.00	442466.3797	2526542.4328
L	149+27.00	-120.00	442503.2482	2526545.5500
L	151+00.00	100.00	442657.0986	2526779.3427
L	151+10.00	-120.00	442685.5976	2526560.9673
L	152+50.00	115.00	442805.3016	2526806.9266
L	153+35.00	115.00	442889.9994	2526814.0876
L	153+95.00	115.00	442949.7861	2526819.1425
L	154+11.00	-120.00	442985.5275	2526586.3259

ALIGN	STATION	OFFSET	NORTH	EAST
L	155+46.00	-120.00	443120.0475	2526597.6994
L	156+91.00	-120.00	443264.5320	2526609.9153
L	157+50.00	120.00	443303.1028	2526854.0327
L	158+32.00	-120.00	443405.0307	2526621.7943
L	158+75.00	100.00	443429.3433	2526844.6348
L	159+57.00	-120.00	443529.5863	2526632.3253
L	161+80.00	-120.00	443751.7935	2526651.1125
L	162+29.00	-120.00	443800.6193	2526655.2407
L	163+76.00	-120.00	443947.0967	2526667.6251
L	164+25.00	-120.00	443995.9225	2526671.7533
L	164+35.00	100.00	443987.3524	2526891.8136
L	165+05.00	145.00	444053.3124	2526942.5510
L	167+00.00	105.00	444250.9891	2526919.1215
L	167+07.00	-120.00	444276.9200	2526695.5111
L	167+67.00	-120.00	444336.7067	2526700.5660
L	168+74.00	-120.00	444443.3263	2526709.5805
L	169+45.00	105.00	444495.1181	2526939.7622
L	170+67.52	105.00	444617.2025	2526950.0843
L	171+01.00	-120.00	444669.5192	2526728.7048
L	171+20.92	112.71	444669.7644	2526962.2673
L	171+22.90	105.00	444672.3856	2526954.7499
L	175+10.00	-120.00	445077.0652	2526763.1622
L	176+44.00	-120.00	445210.5888	2526774.4514
L	179+40.00	-120.00	445505.5364	2526799.3887
L	179+75.00	105.00	445521.4563	2527026.5375
L	179+75.00	135.00	445518.9288	2527056.4308
L	181+25.00	105.00	445670.9230	2527039.1747
L	181+25.00	135.00	445668.3955	2527069.0680
L	181+30.00	-160.00	445698.2309	2526775.5380
L	182+10.00	-110.00	445773.7341	2526832.1001
L	182+40.00	105.00	445785.5141	2527048.8632
L	182+75.00	-110.00	445838.5030	2526837.5762
L	183+00.00	105.00	445845.3008	2527053.9180
L	183+37.00	-110.00	445900.2826	2526842.7996
L	184+96.00	-110.00	446058.7173	2526856.1950
L	185+50.00	105.00	446094.4120	2527074.9800
L	189+41.00	-110.00	446502.1369	2526893.6818
L	190+85.00	120.00	446626.2463	2527134.9993
L	191+45.00	130.00	446685.1905	2527150.0186
L	191+50.00	-110.00	446710.3922	2526911.2931
L	192+05.00	130.00	446744.9772	2527155.0734
L	193+50.00	-125.00	446913.9449	2526913.1959
L	195+50.00	-125.00	447110.2339	2526930.0455
L	197+05.00	-115.00	447263.8403	2526953.0684
L	197+52.00	-115.00	447310.6732	2526957.0280
L	199+00.00	115.00	447438.7701	2527198.6790
L	199+00.00	130.00	447437.5064	2527213.6257
L	199+18.00	-115.00	447476.0831	2526971.0132
L	200+64.00	-115.00	447621.5640	252698

# SURVEY CONTROL SHEET R-2514C

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	217+49.00	-125.00	449301.4160	2527115.3065
L	219+27.87	125.00	449458.5870	2527379.4870
L	224+88.00	-125.00	450037.7888	2527177.5657
L	225+48.00	-125.00	450097.5755	2527182.6205
L	225+50.00	125.00	450078.5064	2527431.9002
L	226+10.00	160.00	450135.3444	2527471.8307
L	228+05.00	125.00	450332.5998	2527453.3834
L	231+96.34	125.00	450722.5454	2527486.3527
L	234+00.00	-125.00	450946.5465	2527254.3997
L	234+75.00	125.00	451000.2179	2527509.8295
L	235+60.00	-125.00	451105.9776	2527267.8793
L	236+12.25	125.00	451136.9812	2527521.3926
L	236+12.25	-125.00	451158.0432	2527272.2814
L	237+62.25	125.00	451285.1838	2527534.4091
L	237+62.25	-125.00	451308.6885	2527285.5165
L	240+50.00	-125.00	451599.2605	2527318.4850
L	242+30.00	-160.00	451785.7323	2527310.0808
L	243+00.00	-125.00	451850.5537	2527355.9883
L	245+22.89	125.00	452025.3424	2527641.6633
L	245+22.89	-125.00	452073.4535	2527396.3363
L	246+72.89	-125.00	452221.6593	2527426.4068
L	246+72.89	130.00	452170.1376	2527676.1477
L	252+00.00	130.00	452686.3747	2527782.6566
L	256+00.00	110.00	453082.1650	2527843.8940
L	263+61.33	110.00	453827.7909	2527997.7298
L	264+38.23	110.00	453903.1063	2528013.2687
L	264+40.00	-125.00	453952.3227	2527783.4735
L	265+24.05	-125.00	454034.6375	2527800.4564
L	276+00.00	110.00	455040.9105	2528248.0180
L	276+50.00	120.00	455087.8585	2528267.9148
L	280+00.00	120.00	455430.6390	2528338.6365
L	280+00.00	-125.00	455480.1442	2528098.6902
L	290+50.00	120.00	456458.9804	2528550.8016
L	291+00.00	-125.00	456557.4542	2528320.9584
L	291+50.00	120.00	456556.9176	2528571.0078
L	292+00.00	-125.00	456655.3915	2528341.1646

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
LBUS	12+38.24	80.00	429421.4725	2528921.0750
LBUS	14+26.49	90.00	429325.6309	2529013.3620
LBUS	14+26.49	-82.00	429411.7362	2529162.2575
LBUS	19+75.00	90.00	428850.8020	2529287.9525
LBUS	19+75.00	60.00	428865.8203	2529313.9226
LBUS	20+37.14	-82.00	428883.1166	2529467.9548
LBUS	22+05.00	-60.00	428726.7893	2529532.9440
LBUS	23+00.00	-60.00	428644.5505	2529580.5022
LBUS	24+50.00	60.00	428454.6263	2529551.7134
LBUS	24+50.00	50.00	428459.6324	2529560.3702
LBUS	24+50.00	-60.00	428514.6998	2529655.5940
LBUS	24+50.00	-50.00	428509.6937	2529646.9373

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
DRV1	10+70.00	35.00	428659.3843	2529585.7353
DRV1	10+70.00	-35.00	428717.7919	2529547.1535
DRV1	13+12.29	-35.00	428851.3345	2529749.3188
DRV1	13+12.29	35.00	428792.9269	2529787.9006
DRV1	13+77.62	-35.00	428887.7750	2529800.7498
DRV1	13+77.62	35.00	428832.0108	2529843.0624
DRV1	17+48.65	-35.00	429112.0496	2530096.3242
DRV1	17+48.65	35.00	429056.2853	2530138.6367
DRV1	18+52.33	-58.78	429185.8858	2530195.6681
DRV1	18+70.81	-322.01	429449.7229	2530170.8697
DRV1	18+93.17	-319.88	429454.4019	2530220.6503
DRV1	18+93.27	-54.88	429190.5647	2530245.4487
DRV1	19+01.27	35.00	429101.6095	2530260.6791
DRV1	19+10.00	35.00	429102.1513	2530269.3923
DRV1	19+10.00	-42.88	429179.8857	2530264.5593

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
DRV2	9+25.00	30.00	435877.1024	2528076.7127
DRV2	9+25.00	-30.00	435881.5287	2528016.8761
DRV2	10+00.00	30.00	435951.8981	2528082.2455
DRV2	10+00.00	-30.00	435956.3243	2528022.4089
DRV2	10+65.00	-30.00	436031.6195	2528048.5227
DRV2	11+35.00	-30.00	436086.6102	2528114.2145
DRV2	11+73.65	30.00	436039.3385	2528166.7659
DRV2	11+73.65	-30.00	436098.9902	2528160.3107

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
DRV2A	10+35.00	-30.00	436054.8454	2528049.5563
DRV2A	10+88.72	30.00	436119.1759	2528094.5570
DRV2A	10+88.72	-30.00	436122.2105	2528034.6338
DRV2A	11+38.72	-30.00	436172.1465	2528037.1626
DRV2A	11+38.72	30.00	436169.1119	2528097.0858

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	14+11.43	-30.00	451124.2117	2527180.1533
Y1	14+11.43	-40.00	451132.6929	2527185.4513
Y1	14+11.43	40.00	451064.8433	2527143.0670
Y1	14+11.43	30.00	451073.3245	2527148.3651
Y1	18+15.00	-60.00	450935.8453	2527538.3192
Y1	18+85.00	60.00	450796.9846	2527534.1112
Y1	20+22.98	60.00	450723.8819	2527651.1356
Y1	20+25.00	-60.00	450824.5866	2527716.4245

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1A	10+00.00	60.00	450670.8789	2527735.9839
Y1A	10+00.00	-60.00	450772.6534	2527799.5603
Y1A	11+22.15	60.00	450620.6515	2527873.0139
Y1A	14+49.16	-60.00	450837.9968	2528117.1402
Y1A	14+49.16	-50.00	450832.2961	2528125.3562

FINAL ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	13+63.00	-35.00	454119.1108	2527651.5331
Y2	13+90.87	47.00	454034.0257	2527635.3706
Y2	13+91.07	35.00	454044.3695	2527641.4571
Y2	14+50.00	75.00	453980.5207	2527673.0222
Y2	14+50.00	-80.00	454115.3899	2527749.4114
Y2	18+52.11	-35.00	453859.2175	2528071.6447
Y2	19+25.00	35.00	453758.7849	2528082.6597
Y2	19+70.00	-84.39	453816.1876	2528196.9046
Y2	19+88.00	80.00	453684.4586	2528096.8827
Y2	20+55.00	-35.00	453721.3890	2528224.7503
Y2	20+70.00	35.00	453660.3951	2528187.2704

FINAL CONTROL ACCESS MARKER CONCRETE-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	28+23.81	-130.00	430688.9886	2528589.5814
L	28+70.00	-130.00	430735.0355	2528586.0033
L	29+22.23	-130.00	430787.1070	2528581.9570
L	29+62.00	-130.00	430826.7590	2528578.8758
L	30+02.00	-130.00	430866.6388	2528575.7770
L	30+60.00	-130.00	430924.4644	2528571.2836
L	36+39.00	-115.00	431502.8863	2528541.3821
L	36+65.00	-115.00	431528.8082	2528539.3678
L	47+18.00	-135.00	432577.0940	2528437.8497
L	47+78.00	-135.00	432636.9137	2528433.2013
L	48+42.00	-133.78	432700.8160	2528429.4617
L	49+02.00	-130.44	432760.8939	2528428.1366
L	54+92.00	-125.00	433349.5425	2528387.8561
L	55+61.00	-125.00	433418.3351	2528382.5105
L	56+03.00	-125.00	433460.2088	2528379.2567
L	56+47.00	-125.00	433504.0766	2528375.8479
L	57+05.00	-125.00	433561.9023	2528371.3545
L	57+06.00	-125.00	433562.8993	2528371.2771
L	57+40.00	-125.00	433596.7971	2528368.6430
L	57+95.00	-125.00	433651.6318	2528364.3820
L	68+10.00	-115.00	434664.3559	2528295.7177
L	68+80.00	-115.00	434734.1456	2528290.2946
L	123+57.00	-120.00	439978.0291	2527057.2825
L	124+17.00	-120.00	440033.8387	2527035.2533
L	125+07.00	-120.00	440117.5532	2527002.2096
L	151+70.00	-120.00	442745.3843	2526566.0222
L	152+18.00	-120.00	442793.2136	2526570.0661
L	152+75.00	-120.00	442850.0110	2526574.8682
L	153+64.00	-120.00	442938.6946	2526582.3663
L	155+90.00	-120.00	443163.8911	2526601.4063
L	156+46.00	-120.00	443219.6920	2526606.1242
L	158+92.00	-120.00	443464.8174	2526626.8492
L	159+17.00	-120.00	443489.7286	2526628.9553
L	159+18.00	-120.00	443490.7250	2526629.0396
L	167+49.00	105.00	444299.8149	2526923.2496
L	167+50.00	105.00	444300.8113	2526923.3339
L	168+10.00	105.00	444360.5980	2526928.3888
L	168+85.00	105.00	444435.3314	2526934.7073
L	169+34.00	-120.00	444503.1129	2526714.6354
L	169+70.00	-120.00	444538.9850	2526717.6683
L	170+00.00	-120.00	444568.8783	2526720.1958
L	170+48.00	-120.00	444616.7077	2526724.2397
L	175+38.00	-120.00	445104.9656	2526765.5211
L	175+90.00	-120.00	445156.7808	2526769.9020
L	185+41.00	-110.00	446103.5573	2526859.9861
L	185+92.00	-110.00	446154.3760	2526864.2828
L	186+41.00	-110.00	446203.2018	2526868.4109
L	187+15.00	-110.00	446276.9387	2526874.6452
L	187+60.00	-110.00	446321.7787	2526878.4364
L	189+02.00	-110.00	446463.2739	2526890.3996
L	199+78.00	-115.00	447535.8698	2526976.0680
L	200+18.00	-115.00	447575.7276	2526979.4379
L	206+74.00	-115.00	448229.3954	2527034.7045
L	216+89.00	-125.00	449241.6294	2527110.2516

## DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2514-9" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 451335.4480 (ft) EASTING: 2526812.771 (ft) ELEVATION: 38.950 (ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999887960

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS R2514-9" TO -L- STATION 10+00.00 IS S04°09'54.41"E 22,449.166'

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

NOTE: DRAWING NOT TO SCALE

# SURVEY CONTROL SHEET R-2514C

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	14+85.00	-100.00	429409.4796	2528574.0270
L	15+16.00	-136.00	429448.7910	2528549.9821
L	15+38.00	-118.00	429462.1251	2528573.6068
L	15+38.00	-136.00	429467.8683	2528556.5476
L	17+95.00	-140.00	429696.8731	2528610.0317
L	20+77.77	-145.00	429954.2976	2528626.1460
L	23+17.77	-150.00	430182.9158	2528608.8459
L	24+90.00	-180.00	430352.3040	2528565.5930
L	26+25.00	-151.00	430489.1449	2528584.0471
L	28+23.79	-145.00	430687.8045	2528574.6282
L	29+22.21	-145.00	430785.9229	2528567.0038
L	29+91.88	-323.00	430841.5970	2528384.1410
L	30+07.00	-145.00	430870.4616	2528560.4347
L	30+12.00	-323.00	430861.6566	2528382.5823
L	31+20.00	-145.00	430983.1220	2528551.6803
L	35+34.77	-130.00	431397.8125	2528534.5017
L	35+34.80	-135.00	431397.4535	2528529.5145
L	37+00.00	-130.00	431562.5409	2528521.7014
L	37+60.00	-127.00	431622.5930	2528520.0440
L	38+40.00	-139.00	431701.4229	2528501.8823
L	38+40.00	-151.00	431700.4932	2528489.9184
L	38+60.00	-151.00	431720.4331	2528488.3689
L	38+60.00	-140.00	431721.2853	2528499.3359
L	45+89.81	-163.00	432447.1208	2528419.8649
L	45+91.11	-140.00	432450.1972	2528442.6952
L	46+15.56	-163.00	432472.7910	2528417.8702
L	46+15.58	-142.56	432474.3962	2528438.2486
L	46+90.00	-150.00	432548.0160	2528425.0640
L	47+95.00	-150.00	432652.7005	2528416.9294
L	47+95.00	-161.00	432651.8483	2528405.9624
L	48+12.00	-161.00	432668.7972	2528404.6454
L	48+12.00	-150.00	432669.6494	2528415.6124
L	50+00.00	-140.00	432857.8591	2528411.0175
L	52+13.00	-140.00	433070.2189	2528394.5159
L	52+54.00	-174.00	433108.4616	2528357.4418
L	52+62.00	-140.00	433119.0716	2528390.7198
L	58+90.00	-140.00	433745.1795	2528342.0676
L	58+90.00	-151.00	433744.3320	2528331.1003
L	59+10.00	-151.00	433764.2719	2528329.5509
L	59+10.00	-142.00	433764.9691	2528338.5238
L	59+50.00	-150.00	433804.2291	2528327.4490
L	60+62.00	-137.00	433916.8997	2528331.7330
L	64+95.00	-121.00	434349.8378	2528314.1395
L	67+50.00	-130.00	434603.3742	2528285.4111
L	67+63.00	-130.00	434616.3351	2528284.4040
L	67+63.00	-141.00	434615.4829	2528273.4370
L	67+83.00	-141.00	434635.4228	2528271.8876
L	67+83.00	-130.00	434636.2750	2528282.8545
L	81+90.57	-130.00	436039.6164	2528173.8068
L	82+50.51	-130.00	436099.3755	2528169.1632
L	82+70.00	-130.00	436118.8058	2528167.6533
L	85+00.00	-135.00	436347.7272	2528144.8497
L	86+00.00	-165.00	436445.1025	2528107.1927
L	86+80.00	-175.00	436524.0873	2528091.0250
L	87+22.00	-165.00	436566.7358	2528097.7411
L	87+55.00	-135.00	436601.9608	2528125.0943
L	89+00.00	-140.00	436746.1377	2528108.8759
L	90+92.17	-140.00	436937.7301	2528093.9880
L	92+92.17	-140.00	437131.2230	2528076.3509
L	98+26.23	-135.00	437622.6784	2527968.0661
L	99+68.00	-142.00	437748.2288	2527913.7055
L	104+43.00	-150.00	438186.6869	2527732.1078

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	115+70.00	-161.00	439230.9394	2527308.0950
L	115+70.00	-150.00	439234.9780	2527318.3268
L	115+90.00	-161.00	439249.5426	2527300.7520
L	115+90.00	-150.00	439253.5813	2527310.9837
L	116+50.00	-150.00	439309.3909	2527288.9546
L	123+57.00	-135.00	439972.5218	2527043.3301
L	133+84.00	-146.00	440923.7582	2526656.0325
L	133+84.00	-135.00	440927.7968	2526666.2643
L	134+04.00	-135.00	440946.4147	2526658.9159
L	134+04.00	-146.00	440942.3772	2526648.6837
L	136+10.00	-146.00	441142.3730	2526573.9532
L	136+10.00	-134.00	441146.1965	2526585.3278
L	136+33.78	-146.00	441166.6204	2526565.9615
L	136+33.78	-135.00	441170.0000	2526576.4294
L	138+78.00	-135.00	441423.5578	2526512.3585
L	138+78.00	-146.00	441421.5590	2526501.5416
L	138+98.00	-146.00	441442.7697	2526497.7384
L	138+98.00	-135.00	441444.6537	2526508.5758
L	142+61.44	-135.00	441832.4012	2526479.1614
L	143+84.00	-133.00	441961.2051	2526487.2890
L	143+84.00	-145.00	441962.0337	2526475.3176
L	143+95.63	-133.00	441973.1850	2526488.1337
L	143+97.44	-145.00	441975.9179	2526476.3001
L	145+01.44	-135.00	442080.4648	2526494.7508
L	153+95.00	141.00	442947.5957	2526845.0501
L	154+15.00	115.28	442969.6913	2526821.1082
L	154+15.00	141.00	442967.5246	2526846.7350
L	166+66.00	-147.00	444238.3404	2526665.1530
L	166+66.00	-135.00	444237.3294	2526677.1103
L	166+80.59	-147.00	444252.8770	2526666.3820
L	166+80.70	-135.00	444251.9817	2526678.3491
L	167+11.00	105.00	444261.9500	2526920.0482
L	167+22.00	157.00	444268.5300	2526972.7901
L	167+38.00	105.00	444288.8540	2526922.3229
L	167+47.00	152.00	444293.8623	2526969.9140
L	171+21.00	124.00	444668.8917	2526973.5223
L	171+30.00	105.00	444679.4604	2526955.3481
L	171+41.00	132.00	444688.1466	2526983.1788
L	171+53.00	105.00	444702.3786	2526957.2858
L	172+35.00	-135.00	444804.3066	2526725.0473
L	172+41.00	-148.00	444811.3804	2526712.5990
L	172+60.00	-135.00	444829.2177	2526727.1535
L	172+60.00	-140.00	444829.6389	2526722.1713
L	179+35.00	-135.00	445501.8179	2526784.0208
L	179+42.00	-148.00	445509.8883	2526771.6568
L	179+60.00	-139.00	445527.0661	2526782.1412
L	181+30.00	-175.00	445699.4946	2526760.5913
L	182+14.00	-125.00	445778.9836	2526817.4904
L	191+50.00	-125.00	446711.6559	2526896.3464
L	193+50.00	-140.00	446912.2086	2526898.2493
L	194+17.00	-140.00	446978.9704	2526903.8939
L	194+17.00	-151.00	446979.8971	2526892.9330
L	194+37.00	-151.00	446999.8260	2526894.6179
L	194+37.00	-140.00	446998.8993	2526905.5788
L	195+50.00	-140.00	447111.4976	2526915.0988
L	197+05.00	-130.00	447265.1041	2526938.1217
L	206+65.00	-141.00	448222.6178	2527008.0387
L	206+65.00	-130.00	448221.6911	2527018.9996
L	206+85.00	-141.00	448242.5467	2527009.7237
L	206+85.00	-130.00	448241.6200	2527020.6846
L	207+84.00	-126.00	448339.9310	2527033.0109
L	210+73.00	-127.00	448627.9878	2527056.3621

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	212+72.00	-146.00	448827.8811	2527054.1949
L	212+72.00	-135.00	448826.9543	2527065.1558
L	212+93.00	-147.00	448848.8907	2527054.9677
L	212+93.00	-136.00	448847.9639	2527065.9286
L	214+00.00	-140.00	448954.9205	2527070.9573
L	214+81.00	-152.00	449036.6435	2527065.8241
L	214+81.00	-140.00	449035.6325	2527077.7814
L	215+01.00	-140.00	449055.5614	2527079.4664
L	215+01.00	-152.00	449056.5724	2527067.5090
L	224+72.00	-154.00	450024.2888	2527147.3208
L	224+74.00	-140.00	450025.1023	2527161.4395
L	224+92.00	-158.00	450044.5547	2527145.0200
L	224+94.00	-140.00	450045.0312	2527163.1245
L	225+01.00	145.00	450027.9956	2527447.7010
L	225+03.00	125.00	450031.6735	2527427.9406
L	225+12.00	146.00	450038.8723	2527449.6242
L	225+39.00	125.00	450067.5455	2527430.9735
L	234+13.46	-140.00	450961.2231	2527240.5871
L	235+77.00	-136.00	451123.8439	2527258.3507
L	235+89.00	-125.00	451134.8745	2527270.3225
L	235+89.00	-132.00	451135.4643	2527263.3474

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
LBUS	11+17.50	186.00	429347.3045	2528793.3462
LBUS	11+77.00	176.00	429342.8013	2528853.5138
LBUS	11+80.00	159.00	429358.5925	2528860.4879
LBUS	12+60.00	125.00	429374.7851	2528914.1653
LBUS	14+47.00	112.00	429296.8631	2529004.5844
LBUS	16+97.00	119.00	429076.9409	2529123.6778
LBUS	17+35.00	124.00	429041.5423	2529138.3727
LBUS	17+35.00	137.00	429035.0344	2529127.1189
LBUS	17+55.00	90.00	429041.2497	2529177.8178
LBUS	17+55.00	137.00	429017.7209	2529137.1312
LBUS	21+93.55	-61.50	428737.4480	2529528.5129
LBUS	21+94.00	-80.00	428746.3240	2529544.7507
LBUS	22+89.36	-79.00	428663.2736	2529591.6230
LBUS	24+75.00	76.00	428424.9747	2529550.3780
LBUS	24+75.00	50.00	428437.9906	2529572.8855
LBUS	24+84.00	-66.00	428488.2706	2529677.8089
LBUS	24+84.00	-50.00	428480.2608	2529663.9581
LBUS	24+95.00	76.00	428407.6613	2529560.3902
LBUS	24+95.00	50.00	428420.6772	2529582.8977

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y	26+19.00	-65.00	449737.3289	2527448.5325
Y	26+19.00	-50.00	449732.6049	2527462.7692
Y	26+46.00	-65.00	449763.3721	2527457.2218
Y	26+46.00	-50.00	449758.5486	2527471.4251
Y	29+55.00	-50.00	450048.8962	2527598.9128
Y	29+89.00	-50.00		



# SURVEY CONTROL SHEET R-2514C

## FINAL ALIGNMENTS

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	14+27.00	-43.89	451127.7463	2527200.7136
Y1	17+92.87	-75.00	450960.2895	2527527.5008
Y1	19+75.00	-84.00	450871.4317	2527686.7337
Y1	19+75.00	-75.00	450863.7986	2527681.9655
Y1	19+95.00	-84.00	450860.8356	2527703.6962
Y1	19+95.00	-75.00	450853.2025	2527698.9279

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1A	10+00.00	-75.00	450785.3752	2527807.5074
Y1A	14+33.00	-60.00	450827.6254	2528109.5149
Y1A	14+33.00	-71.00	450834.3816	2528100.8342

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
DRV1	10+83.00	-51.00	428738.3074	2529549.1819
DRV1	11+28.00	-51.00	428763.1100	2529586.7296
DRV1	11+28.00	-35.00	428749.7597	2529595.5483
DRV1	11+80.00	-50.00	428790.9363	2529630.6693
DRV1	11+80.00	-35.00	428778.4204	2529638.9368
DRV1	12+25.00	-50.00	428815.7389	2529668.2170
DRV1	12+25.00	-35.00	428803.2230	2529676.4845
DRV1	16+80.00	35.00	429014.7888	2530083.9479
DRV1	17+35.00	70.00	429020.1523	2530148.9189
DRV1	17+80.00	75.00	429036.8010	2530181.3544
DRV1	18+00.00	35.00	429079.4875	2530176.4512

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	428945.5726	2528443.2754
TS	10+57.80	428995.0184	2528473.2100
SC	12+97.80	429203.2463	2528592.4314
CS	20+77.77	429954.9325	2528771.1446
ST	23+17.77	430194.5365	2528758.3951
TS	90+92.17	436948.5811	2528233.5669
SC	92+92.17	437147.7371	2528215.3735
CS	98+26.23	437667.0999	2528095.5483
ST	100+26.23	437854.0962	2528024.6504
TS	133+93.78	440986.4613	2526788.2445
SC	136+33.78	441211.4787	2526704.8993
CS	142+61.44	441829.6086	2526614.1325
ST	145+01.44	442069.0874	2526629.2705
TS	236+12.25	451147.5122	2527396.8370
SC	237+62.25	451296.9362	2527409.9628
CS	245+22.89	452049.3980	2527518.9998
ST	246+72.89	452196.4016	2527548.8284
TS	303+88.75	457794.3621	2528703.7872
SC	305+38.75	457941.1675	2528734.5766
CS	315+87.09	458947.3544	2529025.9119
ST	317+37.09	459087.8993	2529078.3231
TS	338+28.06	461044.6780	2529815.3308
SC	340+28.06	461232.1964	2529884.8724
CS	354+10.43	462572.5925	2530212.3259
ST	356+10.43	462771.0529	2530237.0774
TS	442+43.39	471342.9698	2531261.9397
SC	444+43.39	471541.4302	2531286.6912
CS	466+44.51	473633.0857	2531938.3204
ST	468+44.51	473810.4885	2532030.6644
PC	545+85.01	480658.2396	2535639.4853
PT	595+26.13	484282.1944	2538921.7678
TS	635+62.27	486507.1987	2542289.2323
SC	638+24.74	486648.9461	2542510.1093
CS	639+83.96	486728.0012	2542648.3039
ST	642+46.43	486846.5529	2542882.4501
POT	651+71.43	487253.3502	2543713.1994

LBUS

TYPE	STATION	NORTH	EAST
POT	10+00.00	429555.9876	2528723.6809
PC	11+84.91	429511.8171	2528903.2349
PT	14+26.49	429370.6860	2529091.2724
POT	27+50.00	428224.9616	2529753.8374

Y

TYPE	STATION	NORTH	EAST
POT	21+50.00	449267.5894	2527375.7333
PC	24+81.61	449585.8715	2527468.7983
PT	25+89.30	449688.6698	2527500.8713
PC	26+33.53	449730.6495	2527514.8011
PCC	29+07.76	449983.2690	2527620.8027
PCC	31+40.98	450184.2526	2527738.8719
PT	33+45.40	450353.2666	2527853.8406
POT	44+00.00	451219.7295	2528455.0319

Y1

TYPE	STATION	NORTH	EAST
POT	10+00.00	451316.7477	2526815.3127
POT	24+04.13	450572.8338	2528006.1863

Y1A

TYPE	STATION	NORTH	EAST
PC	10+00.00	450721.7662	2527767.7721
PT	14+49.16	450803.7929	2528166.4362

Y2

TYPE	STATION	NORTH	EAST
POT	10+00.00	454267.5549	2527318.4290
PC	14+98.11	454022.0678	2527751.8498
PT	16+46.21	453947.5009	2527879.7959
PC	16+70.90	453934.8038	2527900.9775
PT	19+79.83	453747.9728	2528146.2055
POT	20+72.79	453683.7847	2528213.4569

Y3

TYPE	STATION	NORTH	EAST
POT	10+00.00	432484.1457	2528319.5028
POT	12+60.19	432504.6362	2528578.8870

YA

TYPE	STATION	NORTH	EAST
POT	10+00.00	450683.5119	2527985.8837
PC	10+31.53	450652.6785	2527992.4651
PT	11+78.57	450512.4924	2527964.3187

DRV1

TYPE	STATION	NORTH	EAST
POT	10+00.00	428650.0063	2529508.0368
PC	13+12.29	428822.1307	2529768.6097
PT	13+77.62	428859.8929	2529821.9061
PC	17+48.65	429084.1675	2530117.4804
PT	19+01.27	429136.5421	2530258.5072
POT	19+50.00	429139.5660	2530307.1433

DRV2

TYPE	STATION	NORTH	EAST
POT	9+25.00	435879.3156	2528046.7944
PC	10+00.00	435954.1112	2528052.3272
PT	11+73.65	436069.1643	2528163.5383
POT	13+11.66	436084.0125	2528300.7489

DRV2A

TYPE	STATION	NORTH	EAST
POT	10+00.00	436040.7396	2528096.7505
PC	10+13.96	436051.4467	2528087.7876
PT	10+88.72	436120.6932	2528064.5954
POT	11+38.72	436170.6292	2528067.1242

### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2514-9" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 451335.4480 (ft) EASTING: 2526812.771 (ft) ELEVATION: 38.950 (ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999887960

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS R2514-9" TO -L- STATION 10+00.00 IS S04°09'54.41"E 22,449.166'

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

NOTE: DRAWING NOT TO SCALE

6/2/09

18-MAR-2015 08:01 R2514C-LS-1C-7.DGN

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**CENTERLINE COORDINATE LIST**

Point #	Chain	Station	Northing (Y)	Easting (X)	Point #	Chain	Station	Northing (Y)	Easting (X)	Point #	Chain	Station	Northing (Y)	Easting (X)	Point #	Chain	Station	Northing (Y)	Easting (X)	Point #	Chain	Station	Northing (Y)	Easting (X)
1	L	10+00.00	428945.5726	2528443.2754	83	L	92+00.00	437056.0477	2528224.7902	165	L	174+00.00	444957.3465	2526873.4683	247	L	256+00.00	453104.3919	2527736.1630	329	L	338+00.00	461018.4213	2529805.4414
2	L	11+00.00	429031.1338	2528495.0371	84	L	93+00.00	437155.5061	2528214.4383	166	L	175+00.00	445056.9910	2526881.8931	248	L	257+00.00	453202.3291	2527756.3692	330	L	339+00.00	461112.0202	2529840.6442
3	L	12+00.00	429117.2846	2528545.8070	85	L	94+00.00	437254.4970	2528200.3160	167	L	176+00.00	445156.6355	2526890.3178	249	L	258+00.00	453300.2664	2527776.5754	331	L	340+00.00	461205.8114	2529875.3305
4	L	13+00.00	429205.2062	2528593.4283	86	L	95+00.00	437352.8321	2528182.1825	168	L	177+00.00	445256.2799	2526898.7426	250	L	259+00.00	453398.2037	2527796.7816	332	L	341+00.00	461300.0327	2529908.8291
5	L	14+00.00	429295.6936	2528635.9599	87	L	96+00.00	437450.3491	2528160.0677	169	L	178+00.00	445355.9244	2526907.1674	251	L	260+00.00	453496.1410	2527816.9878	333	L	342+00.00	461394.7527	2529940.8903
6	L	15+00.00	429388.6046	2528672.8982	88	L	97+00.00	437546.8867	2528134.0081	170	L	179+00.00	445455.5689	2526915.5922	252	L	261+00.00	453594.0782	2527837.1940	334	L	343+00.00	461489.9505	2529971.5038
7	L	16+00.00	429483.5939	2528704.1061	89	L	98+00.00	437642.2856	2528104.0469	171	L	180+00.00	445555.2134	2526924.0170	253	L	262+00.00	453692.0155	2527857.4002	335	L	344+00.00	461585.6039	2530000.6627
8	L	17+00.00	429580.3085	2528729.4676	90	L	99+00.00	437736.4355	2528070.3609	172	L	181+00.00	445654.8579	2526932.4418	254	L	263+00.00	453789.9528	2527877.6064	336	L	345+00.00	461681.6906	2530028.3601
9	L	18+00.00	429678.3887	2528748.8884	91	L	100+00.00	437829.6964	2528034.2749	173	L	182+00.00	445754.5024	2526940.8665	255	L	264+00.00	453887.8901	2527897.8126	337	L	346+00.00	461778.1884	2530054.5896
10	L	19+00.00	429777.4701	2528762.2963	92	L	101+00.00	437922.7147	2527997.5653	174	L	183+00.00	445854.1468	2526949.2913	256	L	265+00.00	453985.8273	2527918.0188	338	L	347+00.00	461875.0748	2530079.3451
11	L	20+00.00	429877.1845	2528769.6415	93	L	102+00.00	438015.7308	2527960.8500	175	L	184+00.00	445953.7913	2526957.7161	257	L	266+00.00	454083.7646	2527938.2250	339	L	348+00.00	461972.3273	2530102.6208
12	L	21+00.00	429977.1612	2528770.9013	94	L	103+00.00	438108.7469	2527924.1348	176	L	185+00.00	446053.4358	2526966.1409	258	L	267+00.00	454181.7019	2527958.4312	340	L	349+00.00	462069.9232	2530124.4114
13	L	22+00.00	430077.0706	2528766.8291	95	L	104+00.00	438201.7629	2527887.4195	177	L	186+00.00	446153.0803	2526974.5657	259	L	268+00.00	454279.6391	2527978.6374	341	L	350+00.00	462167.8401	2530144.7118
14	L	23+00.00	430176.8198	2528759.7694	96	L	105+00.00	438294.7790	2527850.7042	178	L	187+00.00	446252.7248	2526982.9905	260	L	269+00.00	454377.5764	2527998.8436	342	L	351+00.00	462266.0549	2530163.5173
15	L	24+00.00	430276.5195	2528752.0245	97	L	106+00.00	438387.7951	2527813.9890	179	L	188+00.00	446352.3693	2526991.4152	261	L	270+00.00	454475.5137	2528019.0498	343	L	352+00.00	462364.5450	2530180.8234
16	L	25+00.00	430376.2189	2528744.2773	98	L	107+00.00	438480.8111	2527777.2737	180	L	189+00.00	446452.0137	2526999.8400	262	L	271+00.00	454573.4510	2528039.2560	344	L	353+00.00	462463.2875	2530196.6220
17	L	26+00.00	430475.9184	2528736.5301	99	L	108+00.00	438573.8272	2527740.5585	181	L	190+00.00	446551.6582	2527008.2648	263	L	272+00.00	454671.3882	2528059.4622	345	L	354+00.00	462562.2594	2530210.9220
18	L	27+00.00	430575.6178	2528728.7829	100	L	109+00.00	438666.8433	2527703.8432	182	L	191+00.00	446651.3027	2527016.6896	264	L	273+00.00	454769.3255	2528079.6684	346	L	355+00.00	462661.4264	2530223.7981
19	L	28+00.00	430675.3173	2528721.0356	101	L	110+00.00	438759.8593	2527667.1279	183	L	192+00.00	446750.9472	2527025.1144	265	L	274+00.00	454867.2628	2528099.8746	347	L	356+00.00	462760.6987	2530235.8393
20	L	29+00.00	430775.0167	2528713.2884	102	L	111+00.00	438852.8754	2527630.4127	184	L	193+00.00	446850.5917	2527033.5392	266	L	275+00.00	454965.2001	2528120.0808	348	L	357+00.00	462859.9915	2530247.7109
21	L	30+00.00	430874.7162	2528705.5412	103	L	112+00.00	438945.8915	2527593.6974	185	L	194+00.00	446950.2362	2527041.9639	267	L	276+00.00	455063.1373	2528140.2870	349	L	358+00.00	462959.2843	2530259.5824
22	L	31+00.00	430974.4156	2528697.7940	104	L	113+00.00	439038.9076	2527556.9821	186	L	195+00.00	447049.8806	2527050.3887	268	L	277+00.00	455161.0746	2528160.4932	350	L	359+00.00	463058.5772	2530271.4539
23	L	32+00.00	431074.1151	2528690.0467	105	L	114+00.00	439131.9236	2527520.2689	187	L	196+00.00	447149.5251	2527058.8135	269	L	278+00.00	455259.0119	2528180.6994	351	L	360+00.00	463157.8700	2530283.3254
24	L	33+00.00	431173.8145	2528682.2995	106	L	115+00.00	439224.9397	2527483.5516	188	L	197+00.00	447249.1696	2527067.2383	270	L	279+00.00	455356.9492	2528200.9056	352	L	361+00.00	463257.1628	2530295.1969
25	L	34+00.00	431273.5140	2528674.5523	107	L	116+00.00	439317.9558	2527446.8363	189	L	198+00.00	447348.8141	2527076.6631	271	L	280+00.00	455454.8864	2528221.1118	353	L	362+00.00	463356.4557	2530307.0684
26	L	35+00.00	431373.2134	2528666.8051	108	L	117+00.00	439410.9718	2527410.1211	190	L	199+00.00	447448.4586	2527084.0879	272	L	281+00.00	455552.8237	2528241.3180	354	L	363+00.00	463455.7485	2530318.9399
27	L	36+00.00	431472.9129	2528659.0579	109	L	118+00.00	439503.9879	2527373.4058	191	L	200+00.00	447548.1031	2527092.5126	273	L	282+00.00	455650.7610	2528261.5242	355	L	364+00.00	463555.0413	2530330.8114
28	L	37+00.00	431572.6123	2528651.3106	110	L	119+00.00	439597.0040	2527336.6905	192	L	201+00.00	447647.7475	2527100.9374	274	L	283+00.00	455748.6982	2528281.7304	356	L	365+00.00	463654.3342	2530342.6829
29	L	38+00.00	431672.3118	2528643.5634	111	L	120+00.00	439690.0200	2527299.9753	193	L	202+00.00	447747.3920	2527109.3622	275	L	284+00.00	455846.6355	2528301.9365	357	L	366+00.00	463753.6270	2530354.5544
30	L	39+00.00	431772.0112	2528635.8162	112	L	121+00.00	439783.0361	2527263.2600	194	L	203+00.00	447847.0365	2527117.7870	276	L	285+00.00	455944.5728	2528322.1427	358	L	367+00.00	463852.9199	2530366.4259
31	L	40+00.00	431871.7107	2528628.0690	113	L	122+00.00	439876.0522	2527226.5447	195	L	204+00.00	447946.6810	2527126.2118	277	L	286+00.00	456042.5101	2528342.3489	359	L	368+00.00	463952.2127	2530378.2974
32	L	41+00.00	431971.4101	2528620.3218	114	L	123+00.00	439969.0683	2527189.8295	196	L	205+00.00	448046.3255	2527134.6366	278	L	287+00.00	456140.4473	2528362.5551	360	L	369+00.00	464051.5055	2530390.1689
33	L	42+00.00	432071.1096	2528612.5745	115	L	124+00.00	440062.0843	2527153.1142	197	L	206+00.00	448145.9700	2527143.0613	279	L	288+00.00	456238.3846	2528382.7613	361	L	370+00.00	464150.7984	2530402.0404
34	L	43+00.00	432170.8090	2528604.8273	116	L	125+00.00	440155.1004	2527116.3989	198	L	207+00.00	448245.6144	2527151.4861	280	L	289+00.00	456336.3219	2528402.9675	362	L	371+00.00	464250.0912	2530413.9119
35	L	44+00.00	432270.5085	2528597.0801	117	L	126+00.00	440248.1165	2527079.6837	199	L	208+00.00	448345.2589	2527159.9109	281	L	290+00.00	456434.2592	2528423.1737	363	L	372+00.00	464349.3840	2530425.7834
36	L	45+00.00	432370.2079	2528589.3329	118	L	127+00.00	440341.1325	2527042.9684	200	L	209+00.00	448444.9034	2527168.3357	282	L	291+00.00	456532.1964	2528443.3799	364	L	373+00.00	464448.6769	2530437.6549
37	L	46+00.00	432469.9074	2528581.5856	119	L	128+00.00	440434.1486	2527006.2531	201	L	210+00.00	448544.5479	2527176.7605	283	L	292+00.00	456630.1337	2528463.5861	365	L	374+00.00	464547.9697	2530449.5264
38	L	47+00.00	432569.6068	2528573.8384	120	L	129+00.00	440527.1647	2526969.5379	202	L	211+00.00	448644.1924	2527185.1853	284	L	293+00.00	456728.0710	2528483.7923	366	L	375+00.00	464647.2626	2530461.3979
39	L	48+00.00	432669.3063	2528566.0912	121	L	130+00.00	440620.1807	2526932.8226	203	L	212+00.00	448743.8369	2527193.6100	285	L	294+00.00	456826.0083	2528503.9985	367	L	376+00.00	464746.5554	2530473.2694
40	L	49+00.00	432769.0057	2528558.3440	122	L	131+00.00	440713.1968	2526896.1073	204	L	213+00.00	448843.4813	2527202.0348	286	L	295+00.00	456923.94						

**STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS**

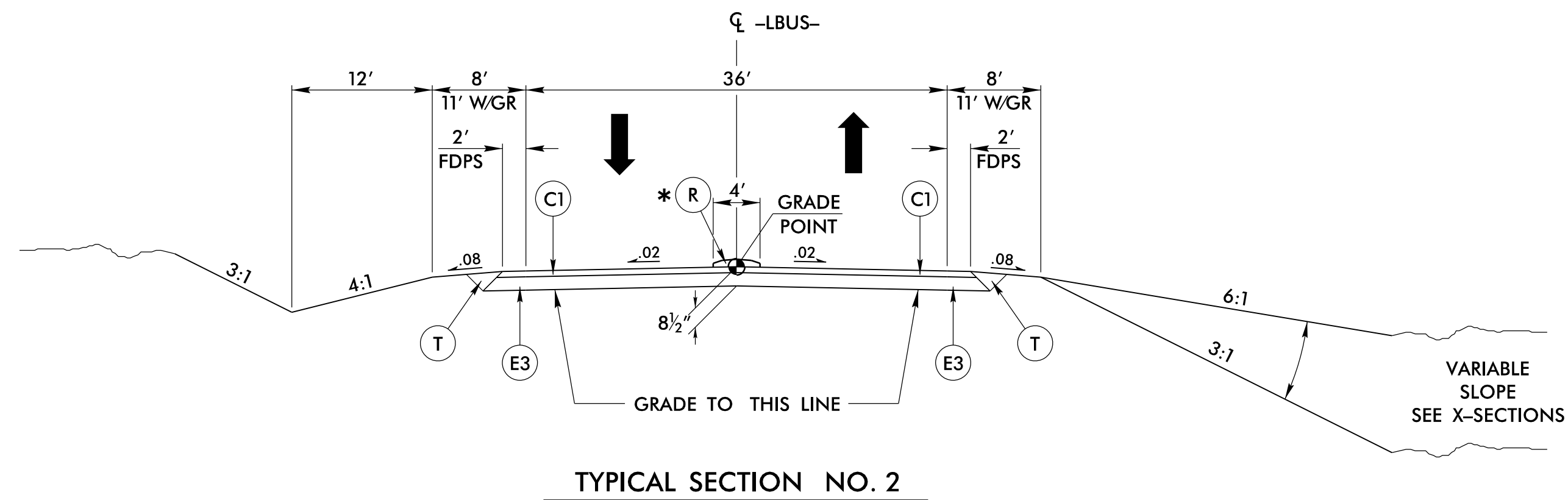
**CENTERLINE COORDINATE LIST**

Point #	Chain	Station	Northing (Y)	Easting (X)
411	L	420+00.00	469115.4402	2530995.6153
412	L	421+00.00	469214.7331	2531007.4868
413	L	422+00.00	469314.0259	2531019.3583
414	L	423+00.00	469413.3188	2531031.2298
415	L	424+00.00	469512.6116	2531043.1013
416	L	425+00.00	469611.9044	2531054.9728
417	L	426+00.00	469711.1973	2531066.8443
418	L	427+00.00	469810.4901	2531078.7158
419	L	428+00.00	469909.7829	2531090.5873
420	L	429+00.00	470009.0758	2531102.4588
421	L	430+00.00	470108.3686	2531114.3303
422	L	431+00.00	470207.6615	2531126.2017
423	L	432+00.00	470306.9543	2531138.0732
424	L	433+00.00	470406.2471	2531149.9447
425	L	434+00.00	470505.5400	2531161.8162
426	L	435+00.00	470604.8328	2531173.6877
427	L	436+00.00	470704.1256	2531185.5592
428	L	437+00.00	470803.4185	2531197.4307
429	L	438+00.00	470902.7113	2531209.3022
430	L	439+00.00	471002.0042	2531221.1737
431	L	440+00.00	471101.2970	2531233.0452
432	L	441+00.00	471200.5898	2531244.9167
433	L	442+00.00	471299.8827	2531256.7882
434	L	443+00.00	471399.1728	2531268.6626
435	L	444+00.00	471498.4691	2531281.0155
436	L	445+00.00	471597.4936	2531294.5091
437	L	446+00.00	471696.3624	2531309.5013
438	L	447+00.00	471794.9912	2531325.9988
439	L	448+00.00	471893.3570	2531343.9978
440	L	449+00.00	471991.4371	2531363.4942
441	L	450+00.00	472089.2086	2531384.4833
442	L	451+00.00	472186.6487	2531406.9604
443	L	452+00.00	472283.7350	2531430.9201
444	L	453+00.00	472380.4447	2531456.3570
445	L	454+00.00	472476.7554	2531483.2652
446	L	455+00.00	472572.6448	2531511.6383
447	L	456+00.00	472668.0906	2531541.4697
448	L	457+00.00	472763.0705	2531572.7526
449	L	458+00.00	472857.5625	2531605.4797
450	L	459+00.00	472951.5447	2531639.6434
451	L	460+00.00	473044.9952	2531675.2356
452	L	461+00.00	473137.8923	2531712.2483
453	L	462+00.00	473230.2144	2531750.6727
454	L	463+00.00	473321.9401	2531790.4999
455	L	464+00.00	473413.0480	2531831.7207
456	L	465+00.00	473503.5170	2531874.3255
457	L	466+00.00	473593.3260	2531918.3044
458	L	467+00.00	473682.4642	2531963.6279
459	L	468+00.00	473771.1034	2532009.9208
460	L	469+00.00	473859.5752	2532056.5335
461	L	470+00.00	473948.0418	2532103.1561
462	L	471+00.00	474036.5084	2532149.7787
463	L	472+00.00	474124.9749	2532196.4013
464	L	473+00.00	474213.4415	2532243.0239
465	L	474+00.00	474301.9081	2532289.6465
466	L	475+00.00	474390.3746	2532336.2691
467	L	476+00.00	474478.8412	2532382.8918
468	L	477+00.00	474567.3077	2532429.5144
469	L	478+00.00	474655.7743	2532476.1370
470	L	479+00.00	474744.2409	2532522.7596
471	L	480+00.00	474832.7074	2532569.3822
472	L	481+00.00	474921.1740	2532616.0048
473	L	482+00.00	475009.6406	2532662.6274
474	L	483+00.00	475098.1071	2532709.2500
475	L	484+00.00	475186.5737	2532755.8726
476	L	485+00.00	475275.0403	2532802.4952
477	L	486+00.00	475363.5068	2532849.1178
478	L	487+00.00	475451.9734	2532895.7404
479	L	488+00.00	475540.4399	2532942.3630
480	L	489+00.00	475628.9065	2532988.9856
481	L	490+00.00	475717.3731	2533035.6082
482	L	491+00.00	475805.8396	2533082.2308
483	L	492+00.00	475894.3062	2533128.8534
484	L	493+00.00	475982.7728	2533175.4760
485	L	494+00.00	476071.2393	2533222.0986
486	L	495+00.00	476159.7059	2533268.7212
487	L	496+00.00	476248.1725	2533315.3438
488	L	497+00.00	476336.6390	2533361.9664
489	L	498+00.00	476425.1056	2533408.5890
490	L	499+00.00	476513.5721	2533455.2116
491	L	500+00.00	476602.0387	2533501.8342
492	L	501+00.00	476690.5053	2533548.4568

Point #	Chain	Station	Northing (Y)	Easting (X)
493	L	502+00.00	476778.9718	2533595.0794
494	L	503+00.00	476867.4384	2533641.7020
495	L	504+00.00	476955.9050	2533688.3246
496	L	505+00.00	477044.3715	2533734.9472
497	L	506+00.00	477132.8381	2533781.5698
498	L	507+00.00	477221.3047	2533828.1924
499	L	508+00.00	477309.7712	2533874.8150
500	L	509+00.00	477398.2378	2533921.4376
501	L	510+00.00	477486.7043	2533968.0603
502	L	511+00.00	477575.1709	2534014.6829
503	L	512+00.00	477663.6375	2534061.3055
504	L	513+00.00	477752.1040	2534107.9281
505	L	514+00.00	477840.5706	2534154.5507
506	L	515+00.00	477929.0372	2534201.1733
507	L	516+00.00	478017.5037	2534247.7959
508	L	517+00.00	478105.9703	2534294.4185
509	L	518+00.00	478194.4369	2534341.0411
510	L	519+00.00	478282.9034	2534387.6637
511	L	520+00.00	478371.3700	2534434.2863
512	L	521+00.00	478459.8365	2534480.9089
513	L	522+00.00	478548.3031	2534527.5315
514	L	523+00.00	478636.7697	2534574.1541
515	L	524+00.00	478725.2362	2534620.7767
516	L	525+00.00	478813.7028	2534667.3993
517	L	526+00.00	478902.1694	2534714.0219
518	L	527+00.00	478990.6359	2534760.6445
519	L	528+00.00	479079.1025	2534807.2671
520	L	529+00.00	479167.5691	2534853.8897
521	L	530+00.00	479256.0356	2534900.5123
522	L	531+00.00	479344.5022	2534947.1349
523	L	532+00.00	479432.9687	2534993.7575
524	L	533+00.00	479521.4353	2535040.3801
525	L	534+00.00	479609.9019	2535087.0027
526	L	535+00.00	479698.3684	2535133.6253
527	L	536+00.00	479786.8350	2535180.2479
528	L	537+00.00	479875.3016	2535226.8705
529	L	538+00.00	479963.7681	2535273.4931
530	L	539+00.00	480052.2347	2535320.1157
531	L	540+00.00	480140.7013	2535366.7383
532	L	541+00.00	480229.1678	2535413.3609
533	L	542+00.00	480317.6344	2535459.9835
534	L	543+00.00	480406.1009	2535506.6061
535	L	544+00.00	480494.5675	2535553.2288
536	L	545+00.00	480583.0341	2535599.8514
537	L	546+00.00	480671.4953	2535646.4841
538	L	547+00.00	480759.9518	2535693.1067
539	L	548+00.00	480847.3243	2535741.7878
540	L	549+00.00	480934.5037	2535790.7742
541	L	550+00.00	481021.1810	2535840.6436
542	L	551+00.00	481107.3473	2535891.3908
543	L	552+00.00	481192.9937	2535943.0106
544	L	553+00.00	481278.1114	2535995.4977
545	L	554+00.00	481362.6916	2536048.8466
546	L	555+00.00	481446.7255	2536103.0519
547	L	556+00.00	481530.2045	2536158.1079
548	L	557+00.00	481613.1200	2536214.0090
549	L	558+00.00	481695.4634	2536270.7495
550	L	559+00.00	481777.2263	2536328.3234
551	L	560+00.00	481858.4001	2536386.7248
552	L	561+00.00	481938.9765	2536445.9477
553	L	562+00.00	482018.9473	2536505.9859
554	L	563+00.00	482098.3041	2536566.8334
555	L	564+00.00	482177.0387	2536628.4838
556	L	565+00.00	482255.1431	2536690.9307
557	L	566+00.00	482332.6092	2536754.1677
558	L	567+00.00	482409.4290	2536818.1883
559	L	568+00.00	482485.5945	2536882.9859
560	L	569+00.00	482561.0979	2536948.5538
561	L	570+00.00	482635.9314	2537014.8852
562	L	571+00.00	482710.0874	2537081.9733
563	L	572+00.00	482783.5581	2537149.8111
564	L	573+00.00	482856.3359	2537218.3917
565	L	574+00.00	482928.4134	2537287.7080
566	L	575+00.00	482999.7831	2537357.7528
567	L	576+00.00	483070.4377	2537428.5190
568	L	577+00.00	483140.3698	2537499.9991
569	L	578+00.00	483209.5723	2537572.1859
570	L	579+00.00	483278.0380	2537645.0718
571	L	580+00.00	483345.7598	2537718.6495
572	L	581+00.00	483412.7308	2537792.9112
573	L	582+00.00	483478.9441	2537867.8493
574	L	583+00.00	483544.3928	2537943.4561

Point #	Chain	Station	Northing (Y)	Easting (X)
575	L	584+00.00	483609.0701	2538019.7237
576	L	585+00.00	483672.9694	2538096.6444
577	L	586+00.00	483736.0841	2538174.2101
578	L	587+00.00	483798.4078	2538252.4130
579	L	588+00.00	483859.9338	2538331.2448
580	L	589+00.00	483920.6560	2538410.6975
581	L	590+00.00	483980.5680	2538490.7629
582	L	591+00.00	484039.6637	2538571.4326
583	L	592+00.00	484097.9370	2538652.6985
584	L	593+00.00	484155.3818	2538734.5521
585	L	594+00.00	484211.9922	2538816.9849
586	L	595+00.00	484267.7625	2538899.9885
587	L	596+00.00	484322.9183	2538983.4021
588	L	597+00.00	484378.0453	2539066.8348
589	L	598+00.00	484433.1723	2539150.2675
590	L	599+00.00	484488.2993	2539233.7002
591	L	600+00.00	484543.4263	2539317.1329
592	L	601+00.00	484598.5532	2539400.5656
593	L	602+00.00	484653.6802	2539483.9983

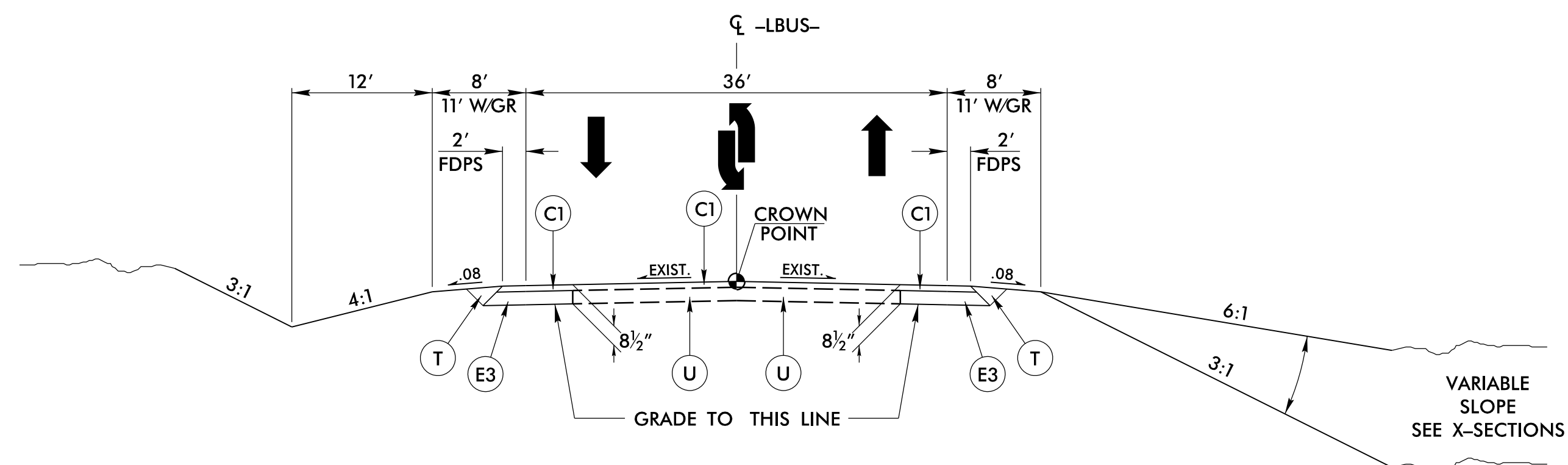




TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 FOR:  
 \*LBUS- STA. 11+07.68 TO -LBUS- STA. 12+26.49  
 -LBUS- STA. 12+26.49 TO -LBUS- STA. 17+00.00

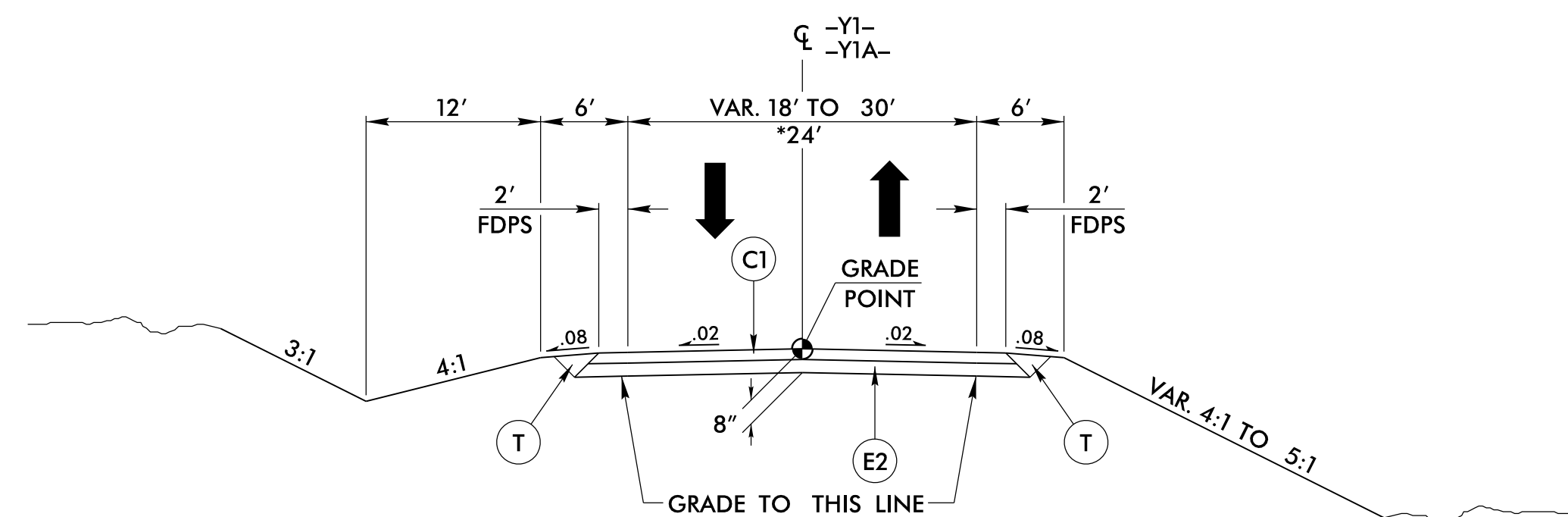
- NOTE:
- 1) TRANSITION TO THREE LANE SECTION  
 -LBUS- STA. 12+26.49 TO -LBUS- STA. 14+26.49
  - 2) USE 3:1 FILL SLOPE IN WETLAND AREAS  
 -LBUS- STA. 11+07.68 (LT) TO -LBUS- STA. 12+10.00 (LT)  
 -LBUS- STA. 11+07.68 (RT) TO -LBUS- STA. 13+00.00 (RT)



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 FOR:  
 -LBUS- STA. 17+00.00 TO -LBUS- STA. 27+00.00

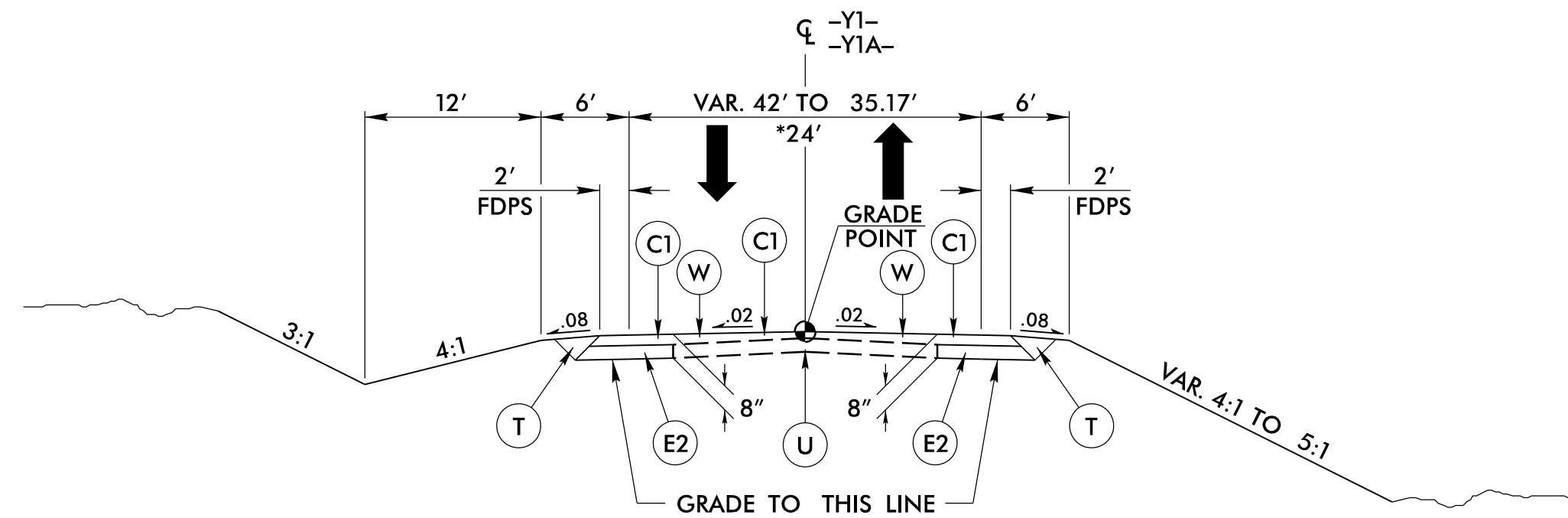
- NOTE:
- 1) MILLING WILL BE REQUIRED TO HANDLE PAVEMENT TIE-IN.



TYPICAL SECTION NO. 4

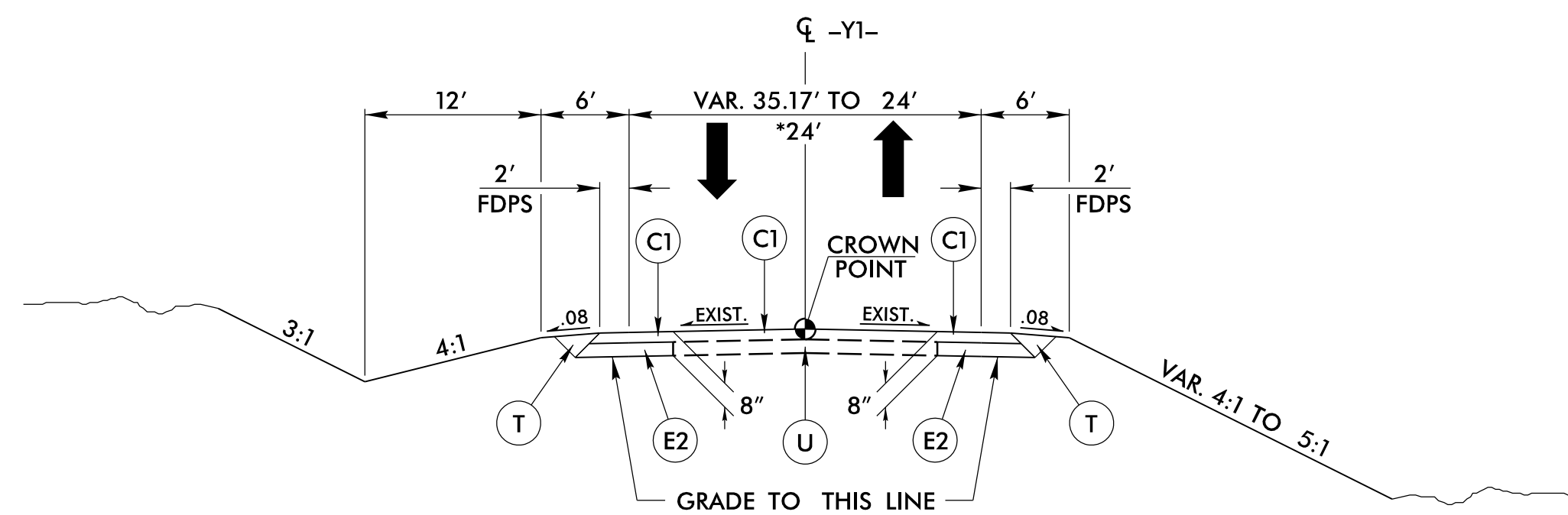
USE TYPICAL SECTION NO. 4 FOR:  
 -Y1- STA. 14+11.43 TO -Y1- STA. 15+11.43  
 \*-Y1A- STA. 10+75.00 TO -Y1A- STA. 14+49.16

PROJECT REFERENCE NO. R-2514C		SHEET NO. 2A-2	
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. SEAL 033871 3/20/05		PAVEMENT DESIGN ENGINEER VLADIMIR MITCHELL SEAL 031484 3/20/05	
<b>PAVEMENT SCHEDULE</b>			
C1	3" S9.5B		
C2	3" S9.5C		
C3	VAR. S9.5B		
D1	4" I19.0C		
E1	4" B25.0B		
E2	5" B25.0B		
E3	5 1/2" B25.0B		
E4	VAR. B25.0B		
E5	4" B25.0C		
J1	8" ABC		
J2	VAR. ABC		
L	3" CL IV AGG. STAB.		
P	.35 PRIME COAT		
R	5" MONOLITHIC ISLAND		
T	EARTH MATERIAL		
U	EX. PAVEMENT		
W	WEDGING		



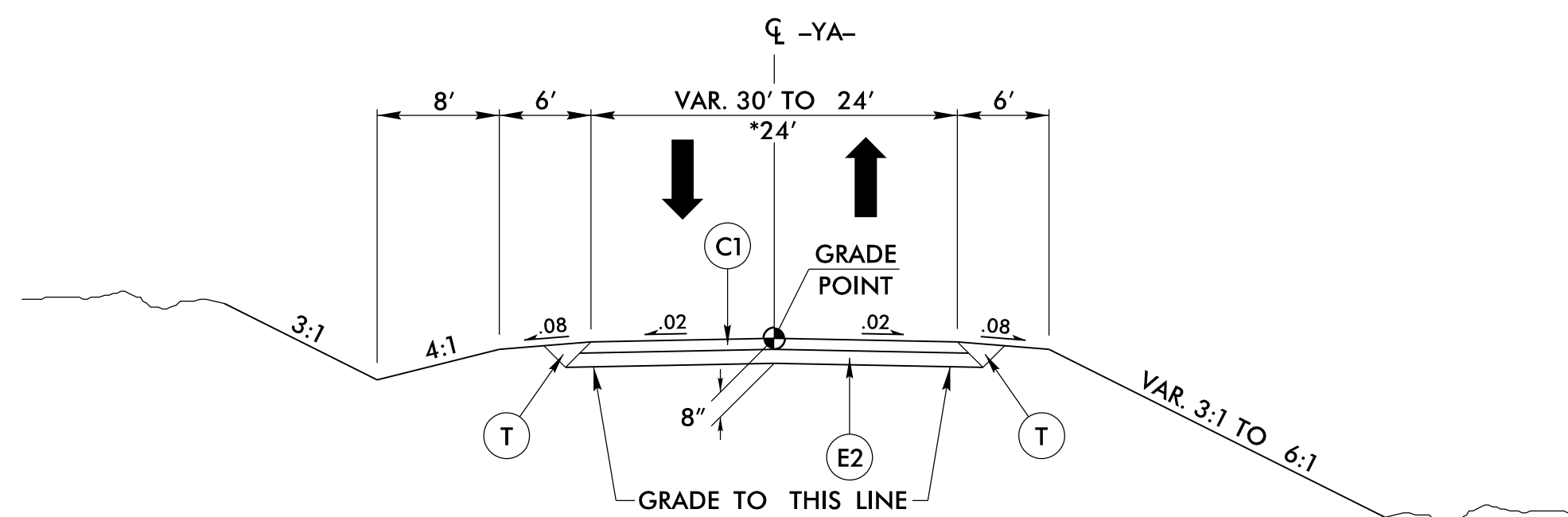
TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5 FOR:  
 -Y1- STA. 18+29.30 TO -Y1- STA. 19+00.00  
 \*-Y1A- STA. 10+00.00 TO -Y1A- STA. 10+75.00



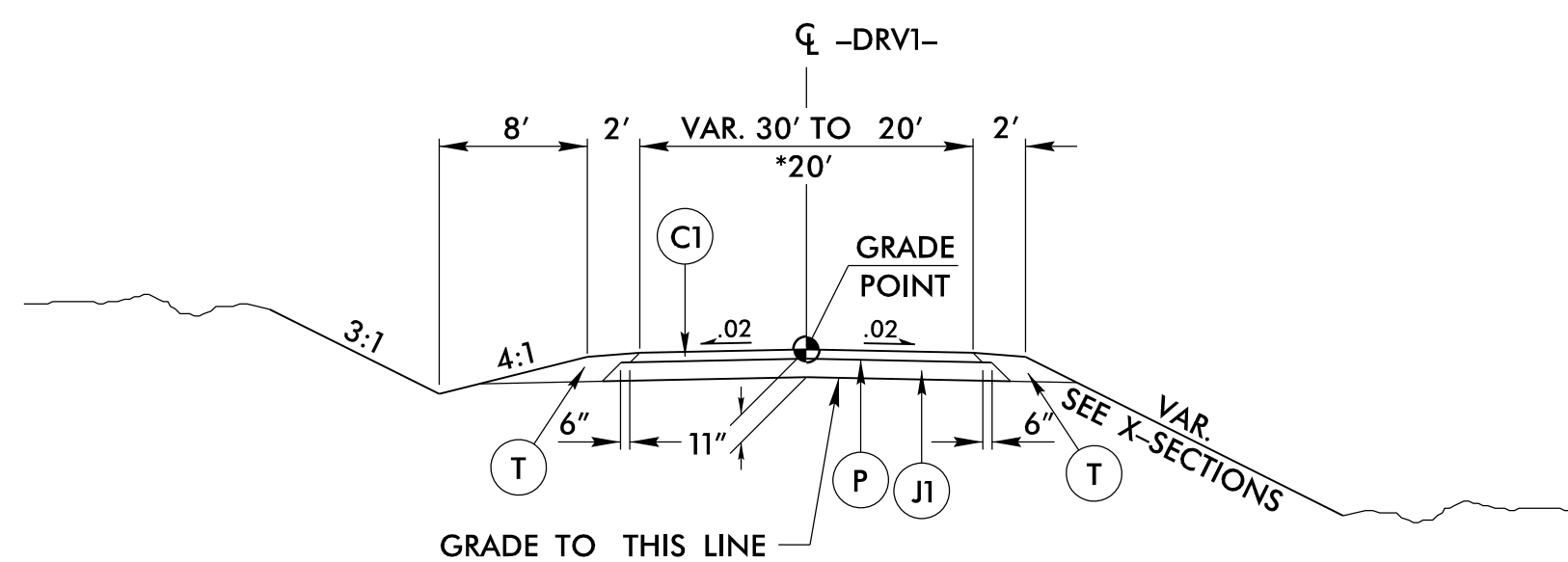
TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6 FOR:  
 -Y1- STA. 19+00.00 TO -Y1- STA. 20+54.30  
 \*-Y1- STA. 20+54.30 TO -Y1- STA. 21+23.02



TYPICAL SECTION NO. 7

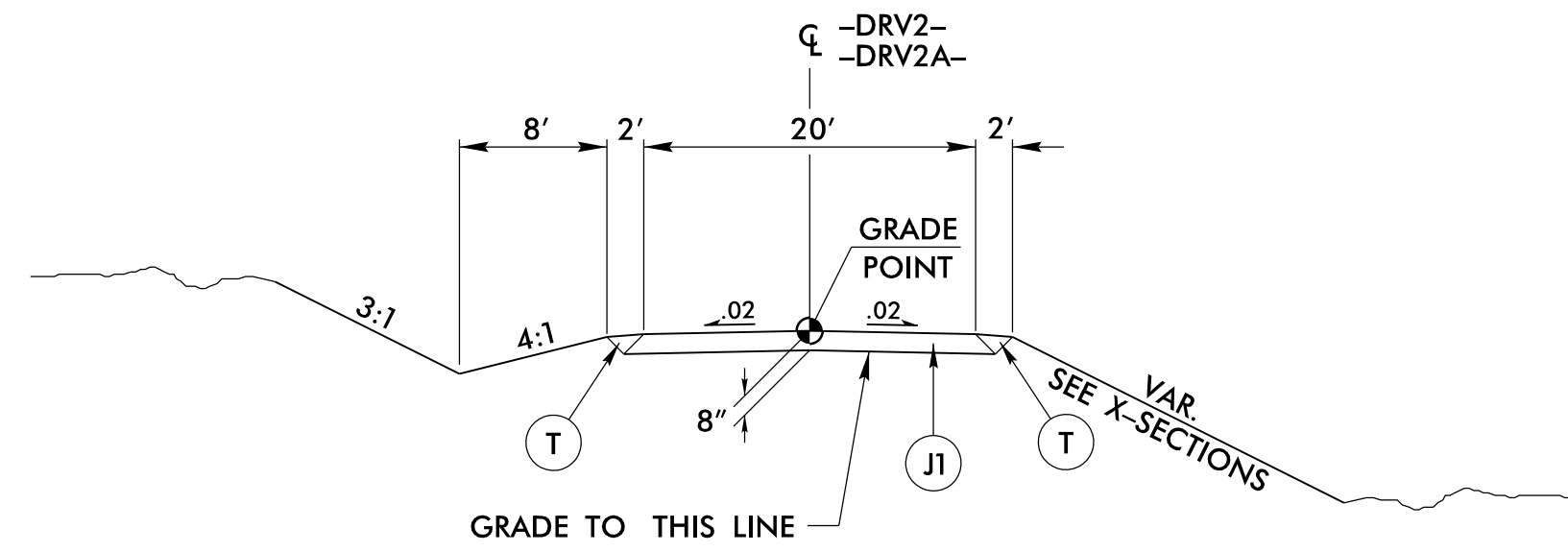
USE TYPICAL SECTION NO. 7 FOR:  
 -YA- STA. 10+69.48 TO -YA- STA. 11+69.48  
 \*-YA- STA. 11+69.48 TO -YA- STA. 11+78.57



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8 FOR:  
 -DRV1- STA. 10+45.00 TO -DRV1- STA. 11+45.00  
 \*-DRV1- STA. 11+45.00 TO -DRV1- STA. 19+02.38

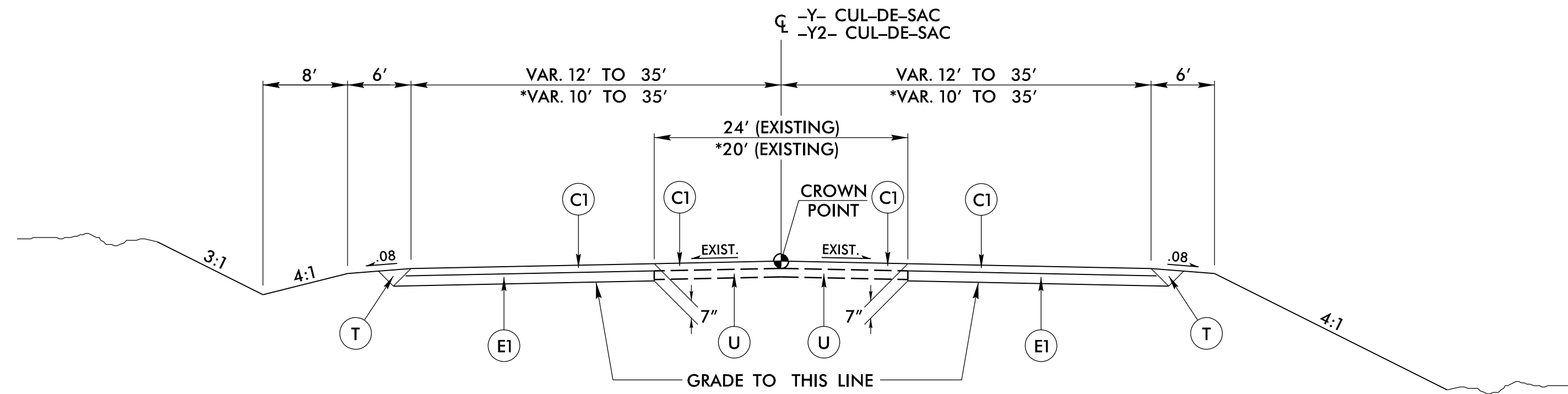
PROJECT REFERENCE NO. R-2514C		SHEET NO. 2A-3	
ROADWAY DESIGN ENGINEER SEAL 033871 DANIEL W. GARDNER, JR.		PAVEMENT DESIGN ENGINEER SEAL 031484 VLADIMIR G. NITCHEV	
<b>PAVEMENT SCHEDULE</b>			
C1	3" S9.5B		
C2	3" S9.5C		
C3	VAR. S9.5B		
D1	4" I19.0C		
E1	4" B25.0B		
E2	5" B25.0B		
E3	5 1/2" B25.0B		
E4	VAR. B25.0B		
E5	4" B25.0C		
J1	8" ABC		
J2	VAR. ABC		
L	3" CL IV AGG. STAB.		
P	.35 PRIME COAT		
R	5" MONOLITHIC ISLAND		
T	EARTH MATERIAL		
U	EX. PAVEMENT		
W	WEDGING		



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9 FOR:  
 -DRV2- STA. 10+00.00 TO -DRV2- STA. 11+93.57  
 -DRV2A- STA. 10+19.76 TO -DRV2A- STA. 10+88.72

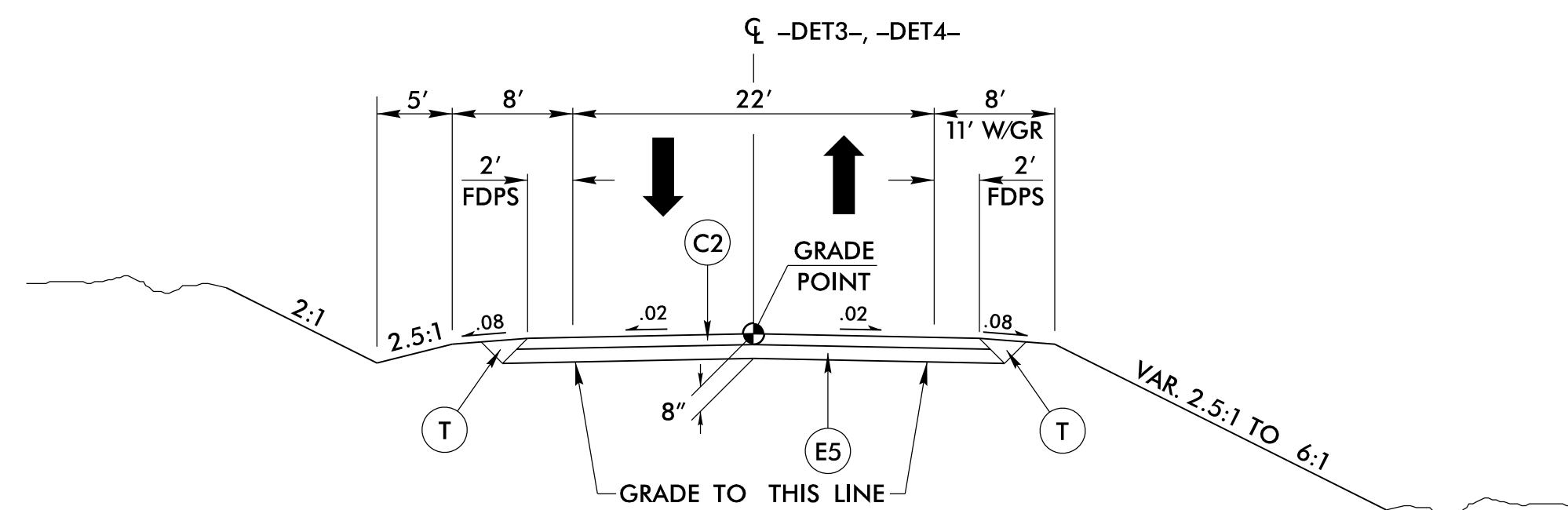
- NOTE:
- 1) TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 9  
 -DRV2- STA. 9+50.00 TO -DRV2- STA. 10+00.00
  - 2) TRANSITION FROM 20' WIDTH TO 30' WIDTH  
 -DRV2- STA. 11+93.57 TO -DRV2- STA. 12+43.57
  - 3) TRANSITION FROM TYPICAL SECTION NO. 9 TO EXISTING  
 -DRV2A- STA. 10+88.72 TO -DRV2A- STA. 11+38.72
  - 4) USE 3:1 FILL SLOPE IN WETLAND AREAS  
 -DRV2- STA. 12+00.00 (LT) TO -DRV2- STA. 12+43.57 (LT)  
 -DRV2- STA. 12+00.00 (RT) TO -DRV2- STA. 12+43.57 (RT)



TYPICAL SECTION NO. 10

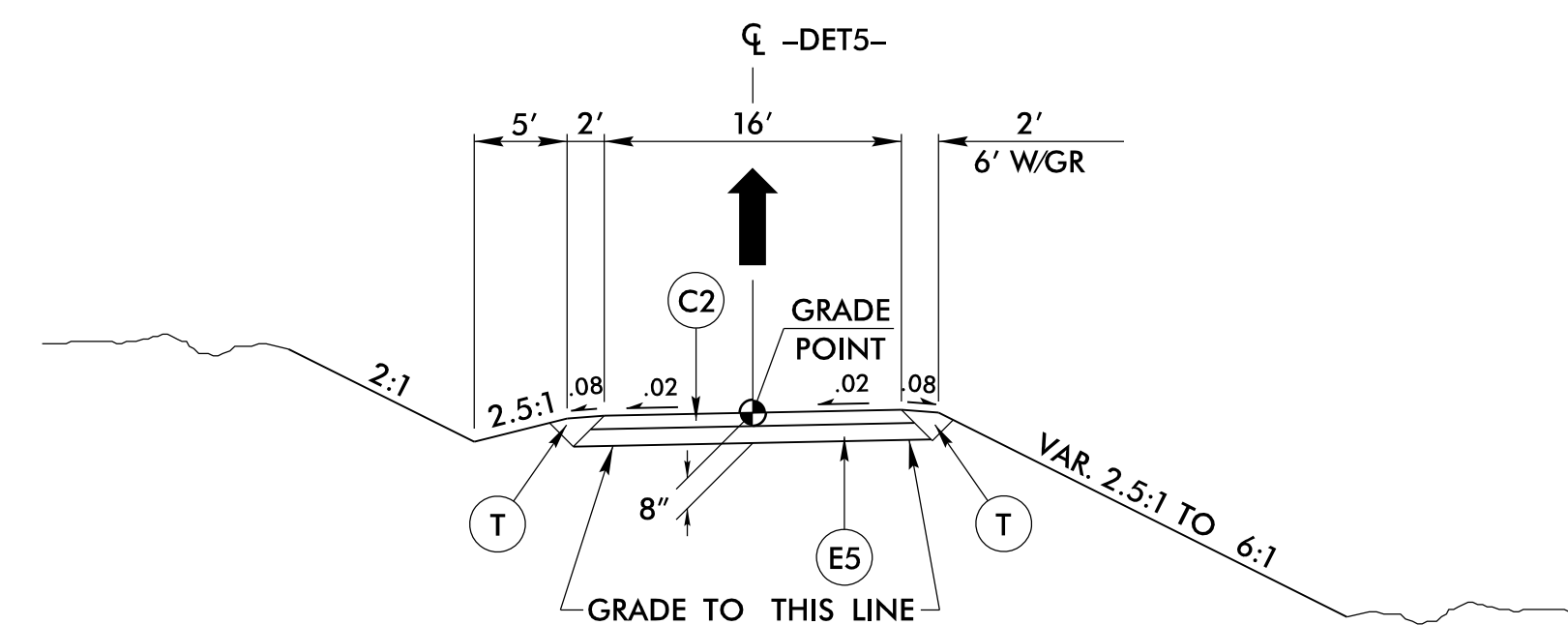
USE TYPICAL SECTION NO. 10 FOR:  
 -Y- STA. 24+45.00 TO -Y- STA. 25+70.00  
 \*-Y2- STA. 13+50.00 TO -Y2- STA. 14+84.71  
 \*-Y2- STA. 19+55.00 TO -Y2- STA. 20+70.00

- NOTE:  
 1) MILLING WILL BE REQUIRED TO HANDLE PAVEMENT TIE-IN.



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11 FOR:  
 -DET3- STA. 16+00.00 TO -DET3- STA. 32+26.17  
 -DET4- STA. 12+50.00 TO -DET4- STA. 18+22.22

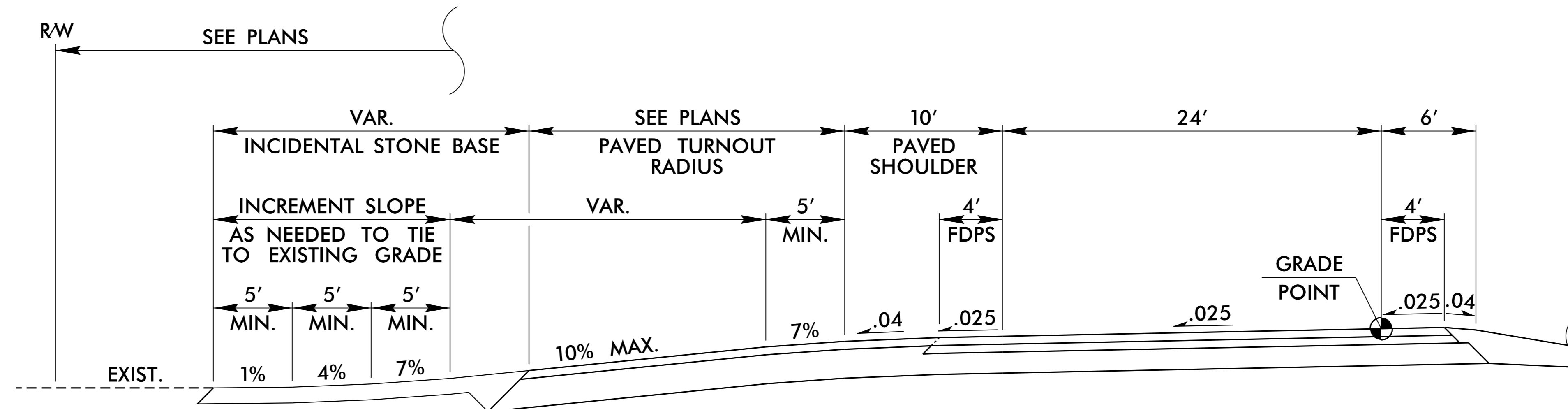


TYPICAL SECTION NO. 12

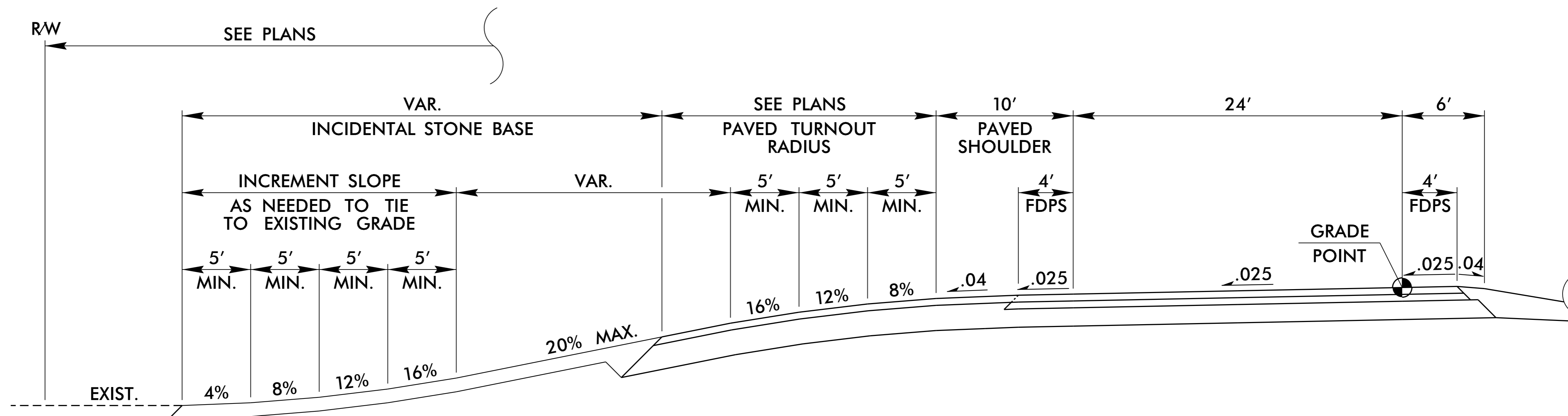
USE TYPICAL SECTION NO. 12 FOR:  
 -DET5- STA. 17+40.13 TO -DET5- STA. 25+25.40

PROJECT REFERENCE NO. R-2514C		SHEET NO. 2A-4	
ROADWAY DESIGN ENGINEER SEAL 033871 DANIEL W. GARDNER, JR.		PAVEMENT DESIGN ENGINEER SEAL 031484 VLADIMIR G. MITCHELL	
<b>PAVEMENT SCHEDULE</b>			
C1	3" S9.5B		
C2	3" S9.5C		
C3	VAR. S9.5B		
D1	4" I19.0C		
E1	4" B25.0B		
E2	5" B25.0B		
E3	5 1/2" B25.0B		
E4	VAR. B25.0B		
E5	4" B25.0C		
J1	8" ABC		
J2	VAR. ABC		
L	3" CL IV AGG. STAB.		
P	.35 PRIME COAT		
R	5" MONOLITHIC ISLAND		
T	EARTH MATERIAL		
U	EX. PAVEMENT		
W	WEDGING		

## DESIRABLE DRIVEWAY GRADES



## MAXIMUM DRIVEWAY GRADES

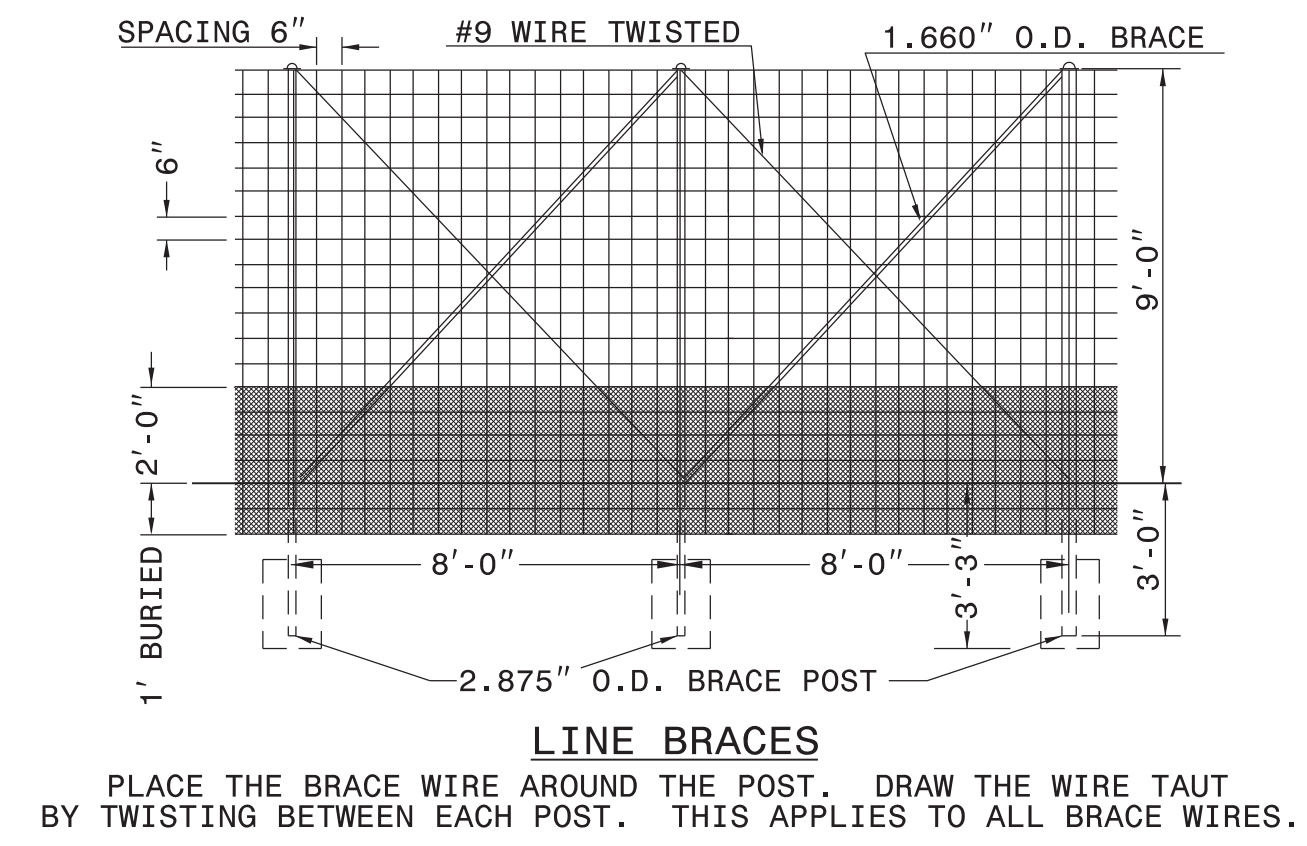
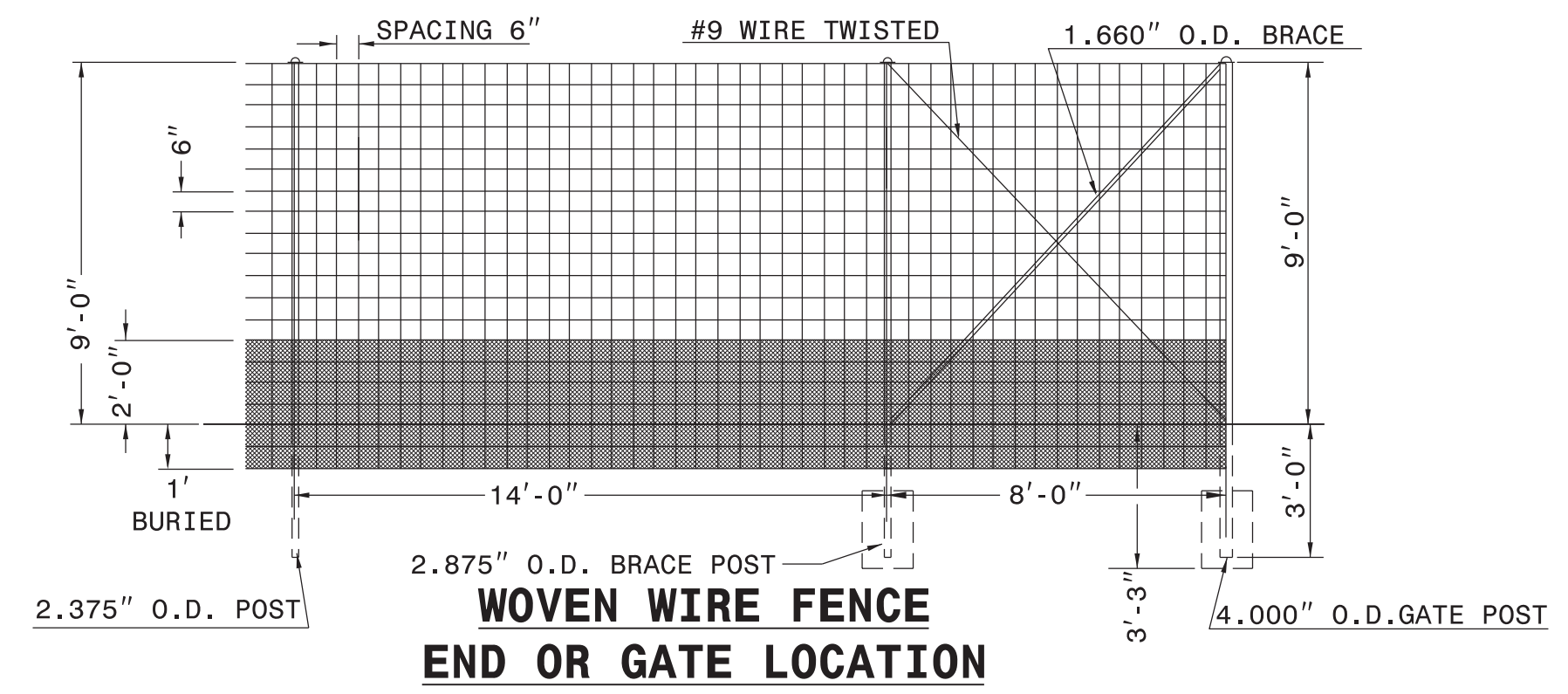


**GENERAL NOTES:**

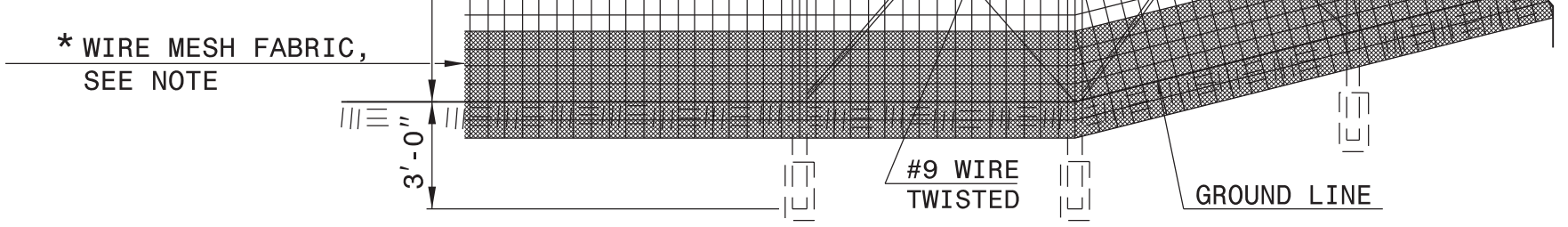
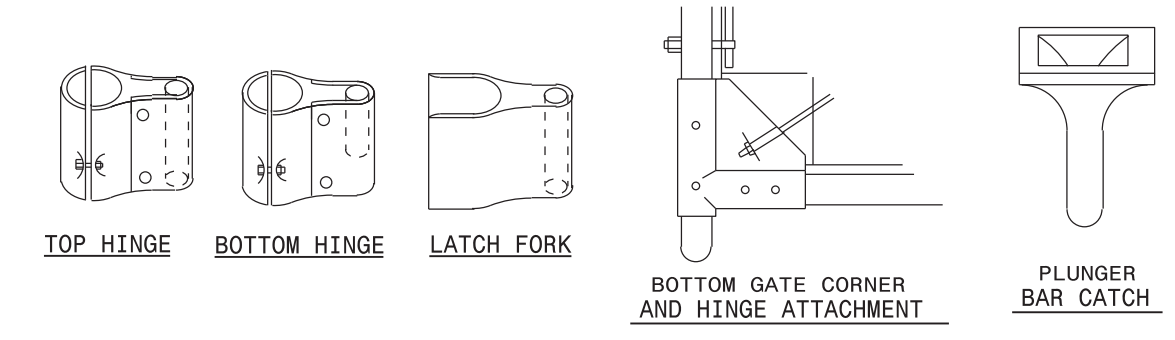
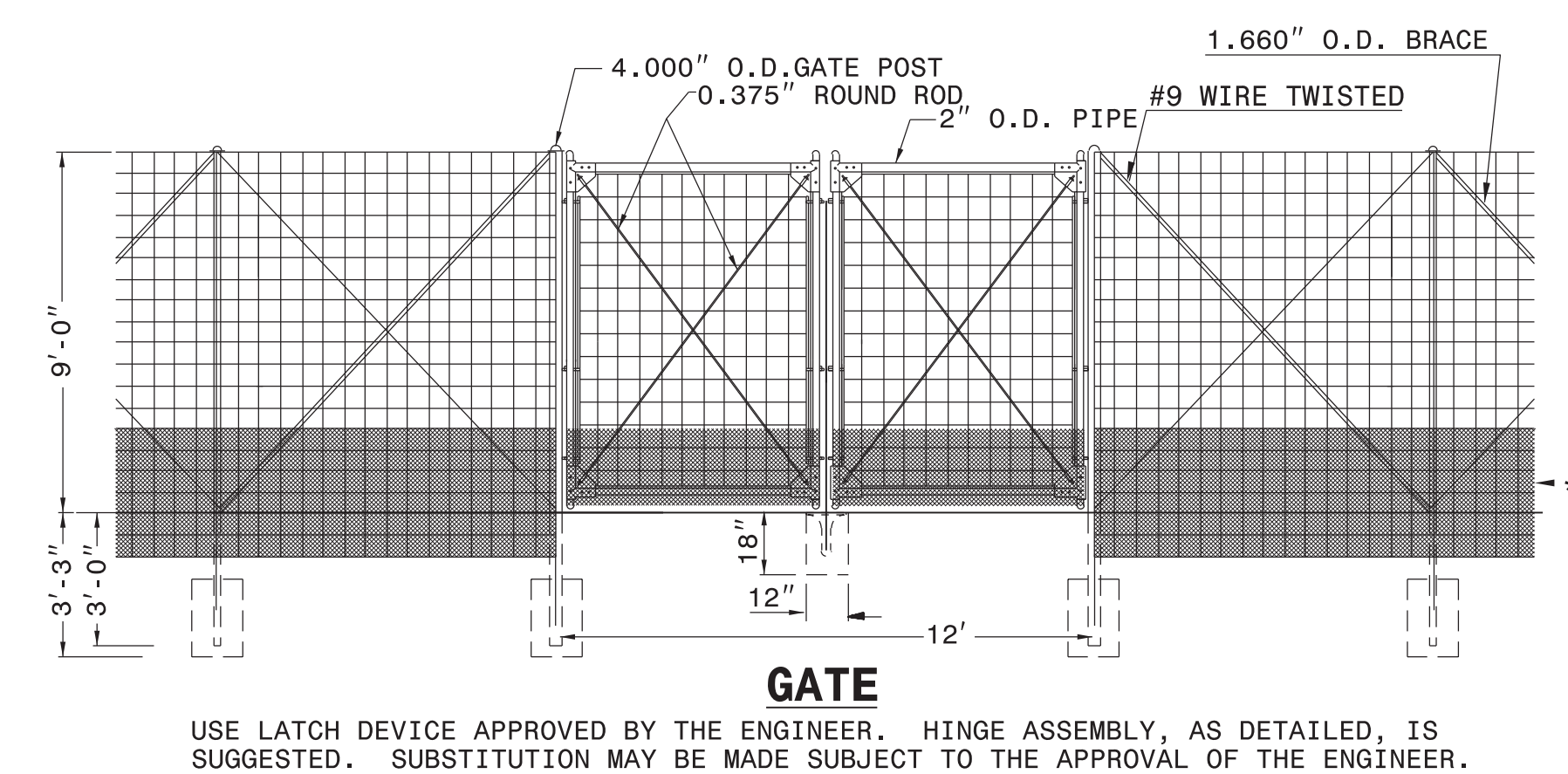
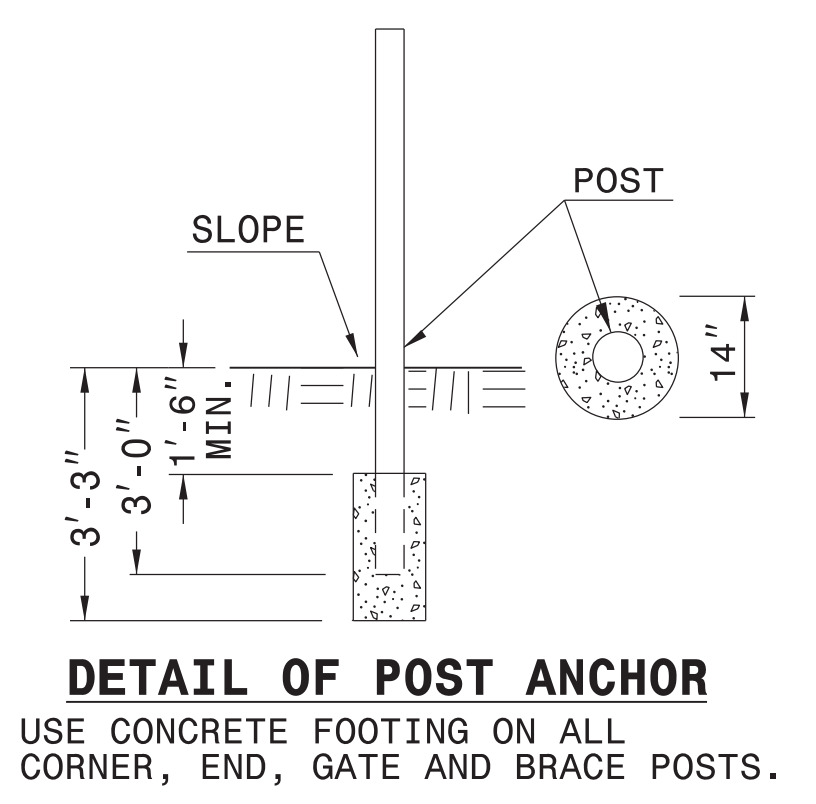
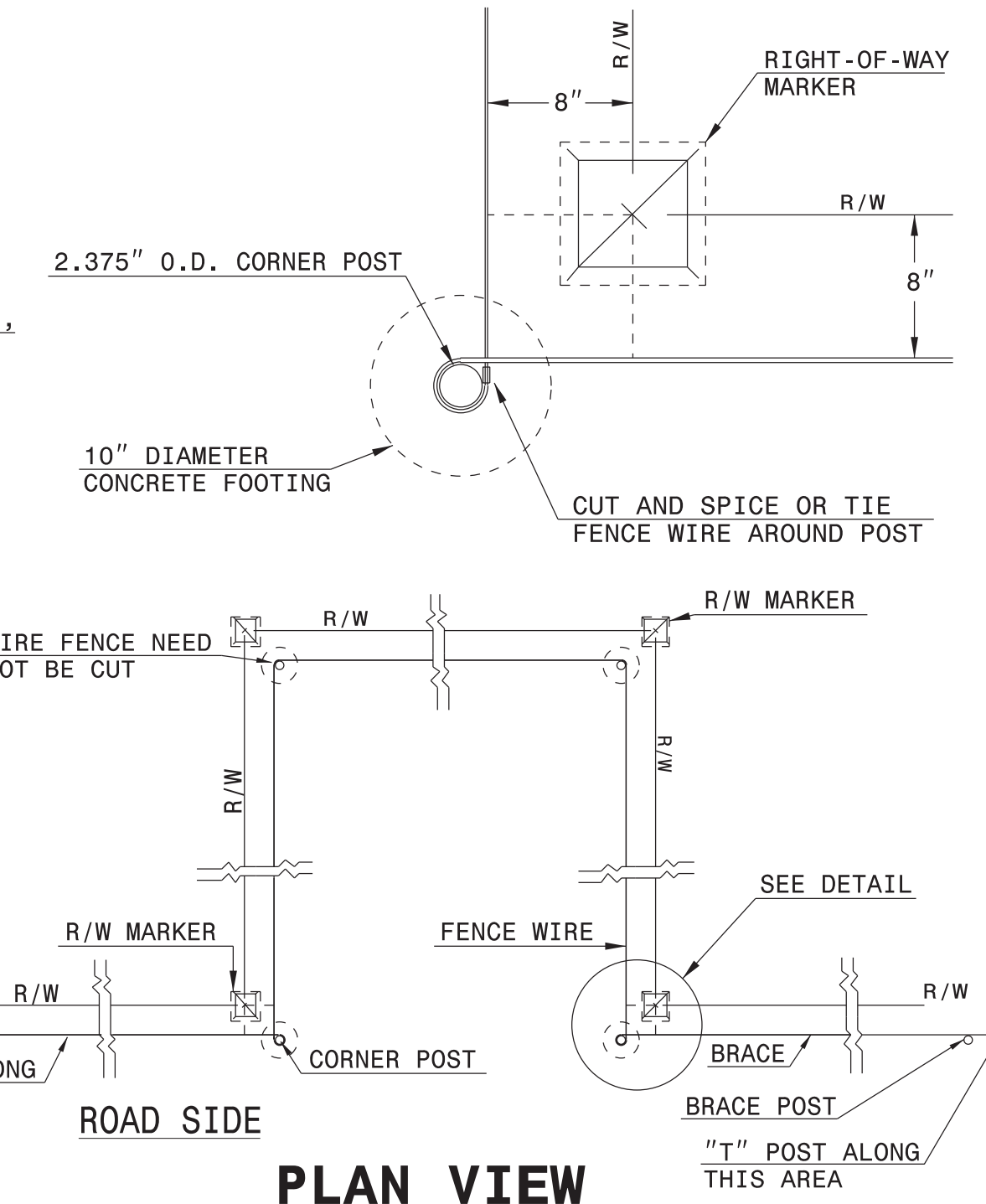
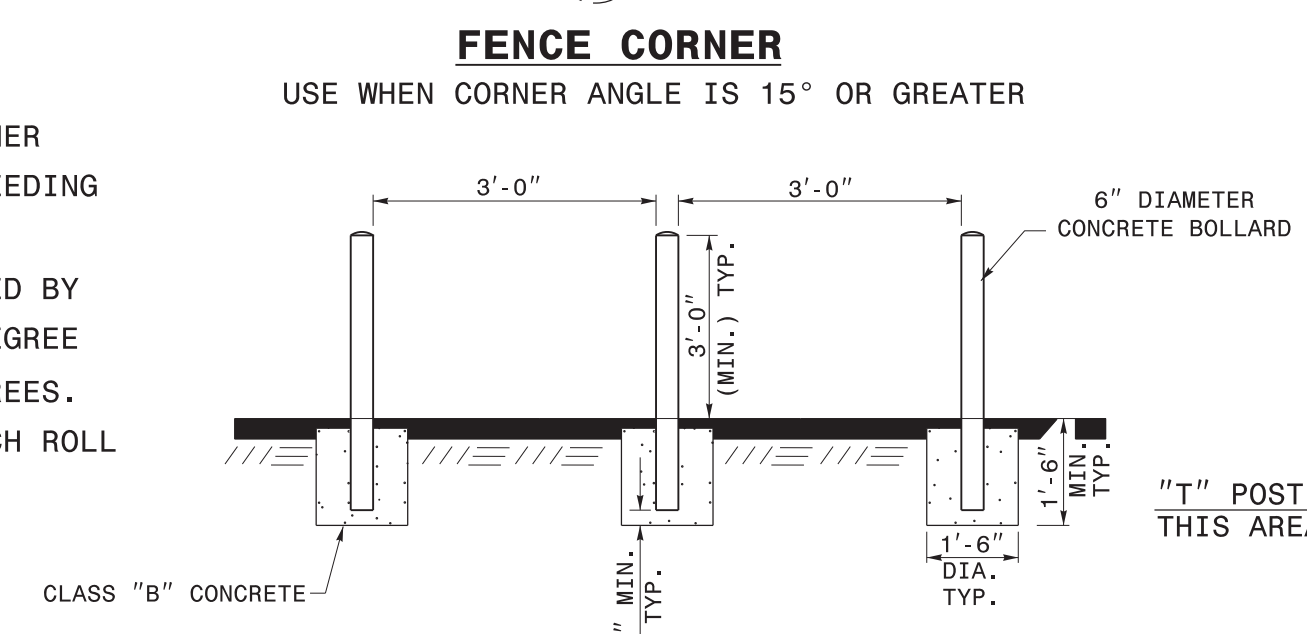
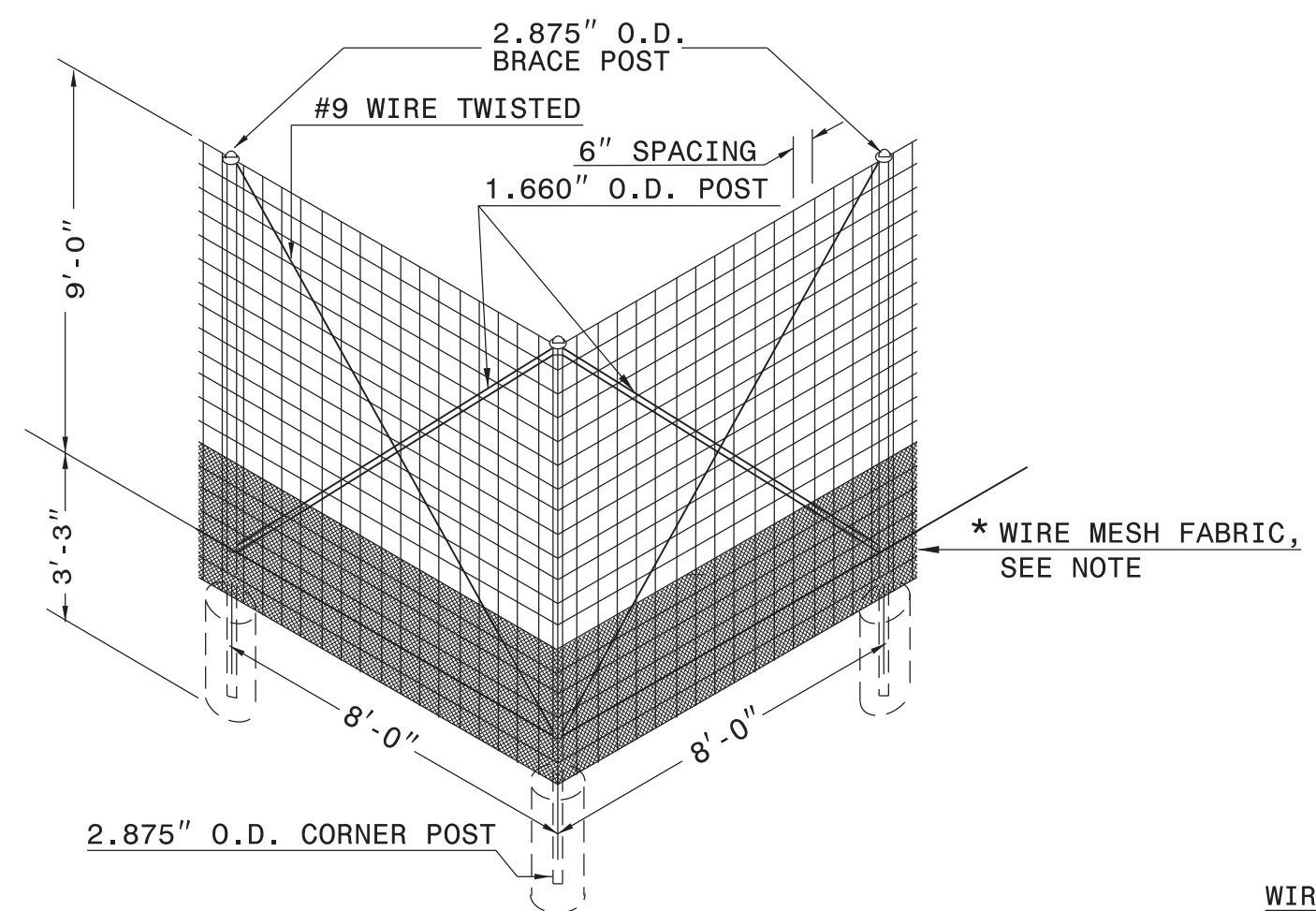
- DRIVEWAYS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON PLANS.
- CONSTRUCT DRIVEWAYS WITHIN RW LIMITS USING FLATTEST POSSIBLE SLOPES.
- WHEN DRIVEWAY CANNOT BE CONSTRUCTED WITHIN RW LIMITS USING THE STANDARDS PROVIDED, DIMENSIONS AND SLOPES MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.



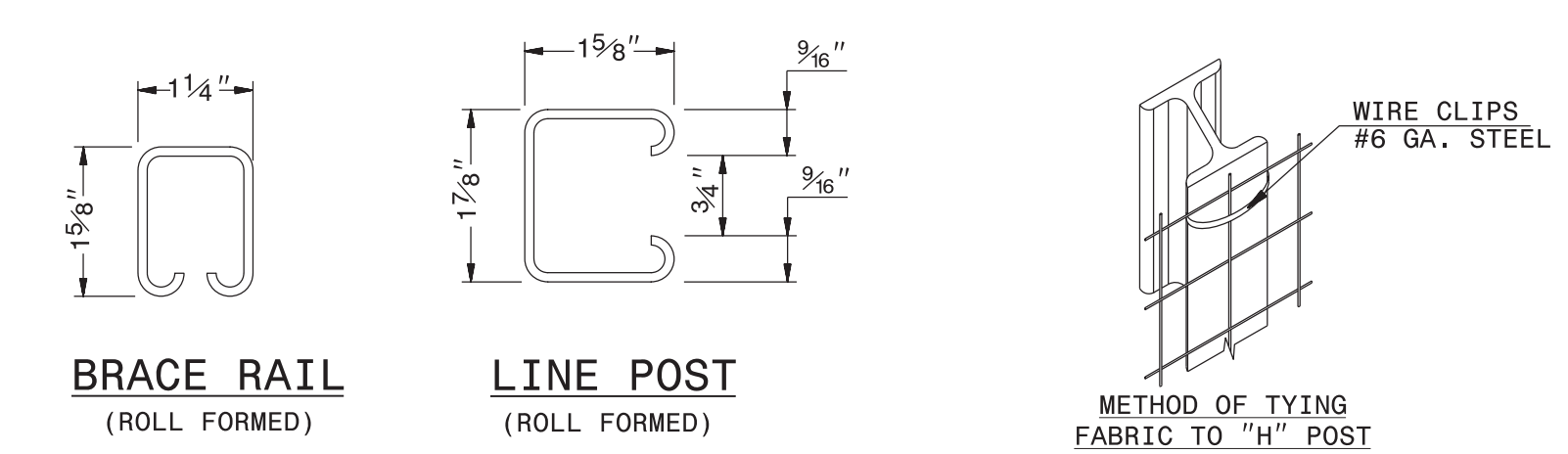
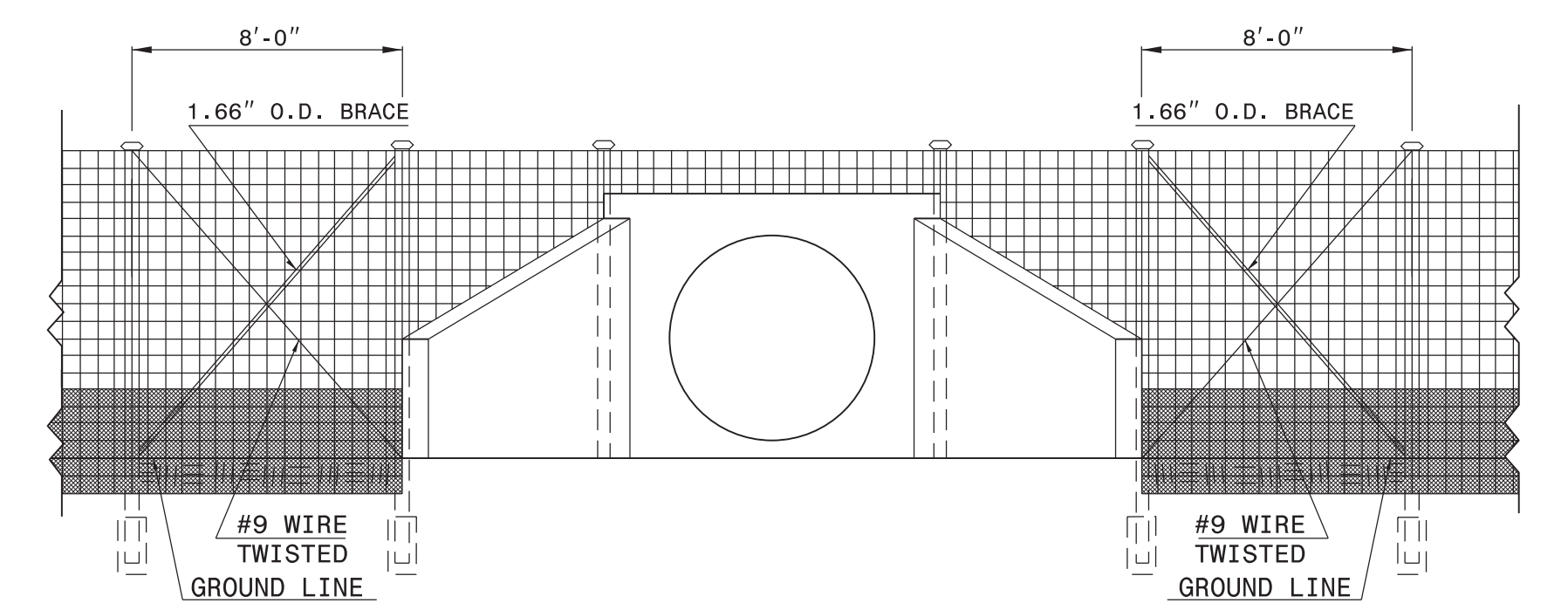
- GENERAL NOTES:
- INSTALL THE FENCE FACING THE PROPERTY OWNER EXCEPT ON HORIZONTAL CURVES GREATER THAN THREE DEGREES, INSTALL THE FENCE TO PULL AGAINST ALL POSTS.
  - IN LIEU OF 2.375" O.D. TUBULAR POSTS 2 1/2" x 2 1/2" x 1/4" ANGLE SECTIONS MAY BE USED.
  - IN LIEU OF 1.660" O.D. TUBULAR BRACES 2" x 2" x 1/4" ANGLE SECTIONS MAY BE USED.



ERECT LINE BRACES BETWEEN END, CORNER OR GATE POSTS AT INTERVALS NOT EXCEEDING 324 FEET. THIS MAXIMUM INTERVAL MAY BE REDUCED BY THE ENGINEER ON CURVES WHERE THE DEGREE OF CURVATURE IS GREATER THAN 3 DEGREES. PLACE LINE BRACES AT THE END OF EACH ROLL OR PIECE OF WOVEN WIRE.



**DETAIL SHOWING METHOD OF  
CONSTRUCTING FENCE ON SHARP BREAK IN GRADE**



- \* 1/4" x 1/4" OPENING, 23 GAUGE HOT DIPPED GALVANIZED WIRE MESH.
- MESH TIES @ 24' CENTERS TO WELDED FABRIC. 18 GA OR 20 GA STAINLESS STEEL.

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

**WILDLIFE FENCE**

ORIGINAL BY: K A KEMPF DATE: 10/30/12  
MODIFIED BY: DATE:  
CHECKED BY: DATE:  
FILE SPEC.: k Kempf/english/wildlifefence.dgn

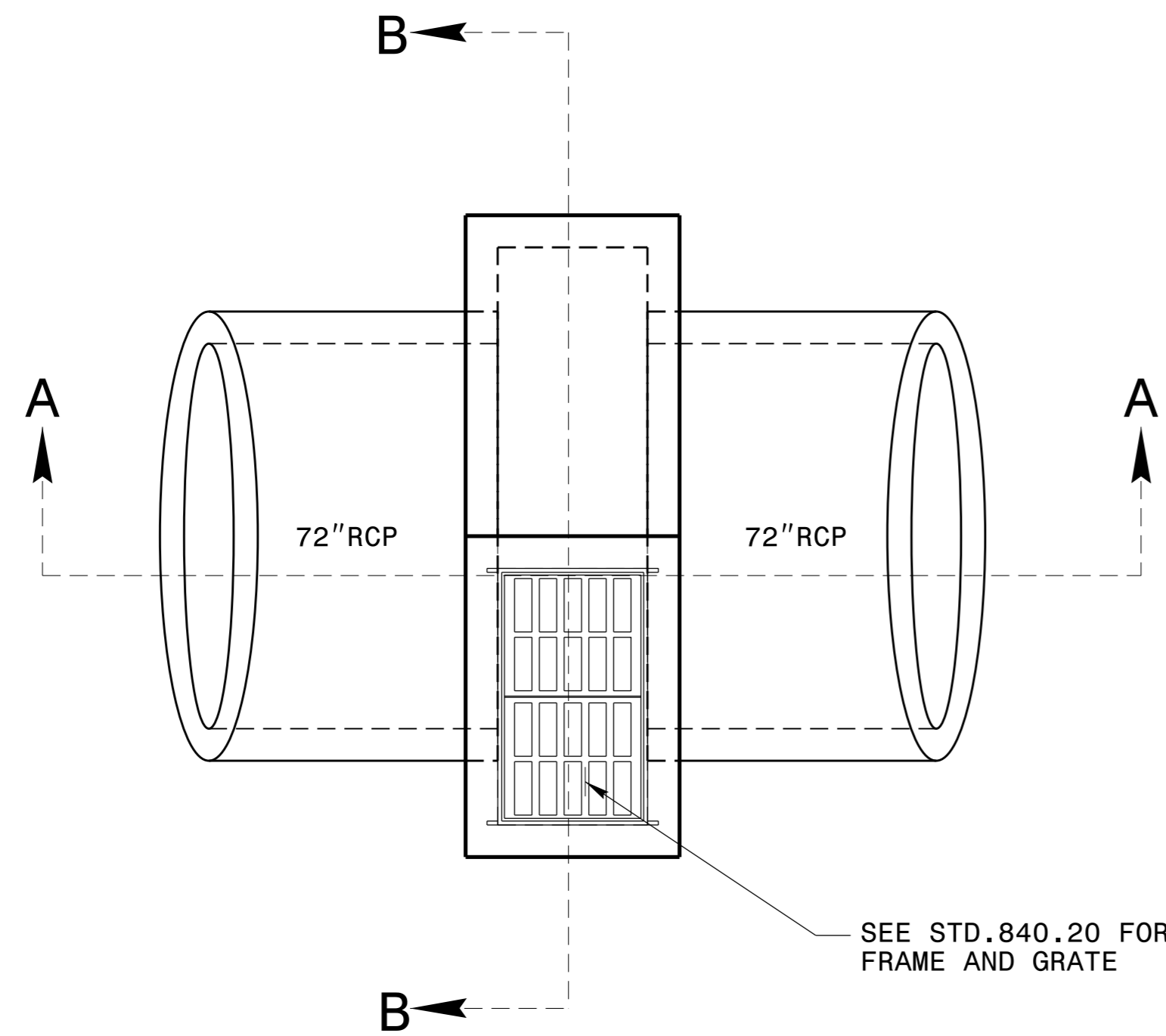
\$\$\$\$\$\$SYTIME\$\$\$\$\$  
 \$\$\$\$\$\$CONUSERNAME\$\$\$\$\$  
 \$\$\$\$\$\$\$\$\$\$\$



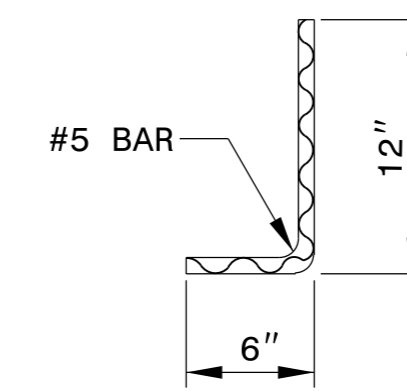
3/25/2015  
DocuSigned by:  
Joel Howerton  
873F3D170C048F...







PLAN



DOWEL

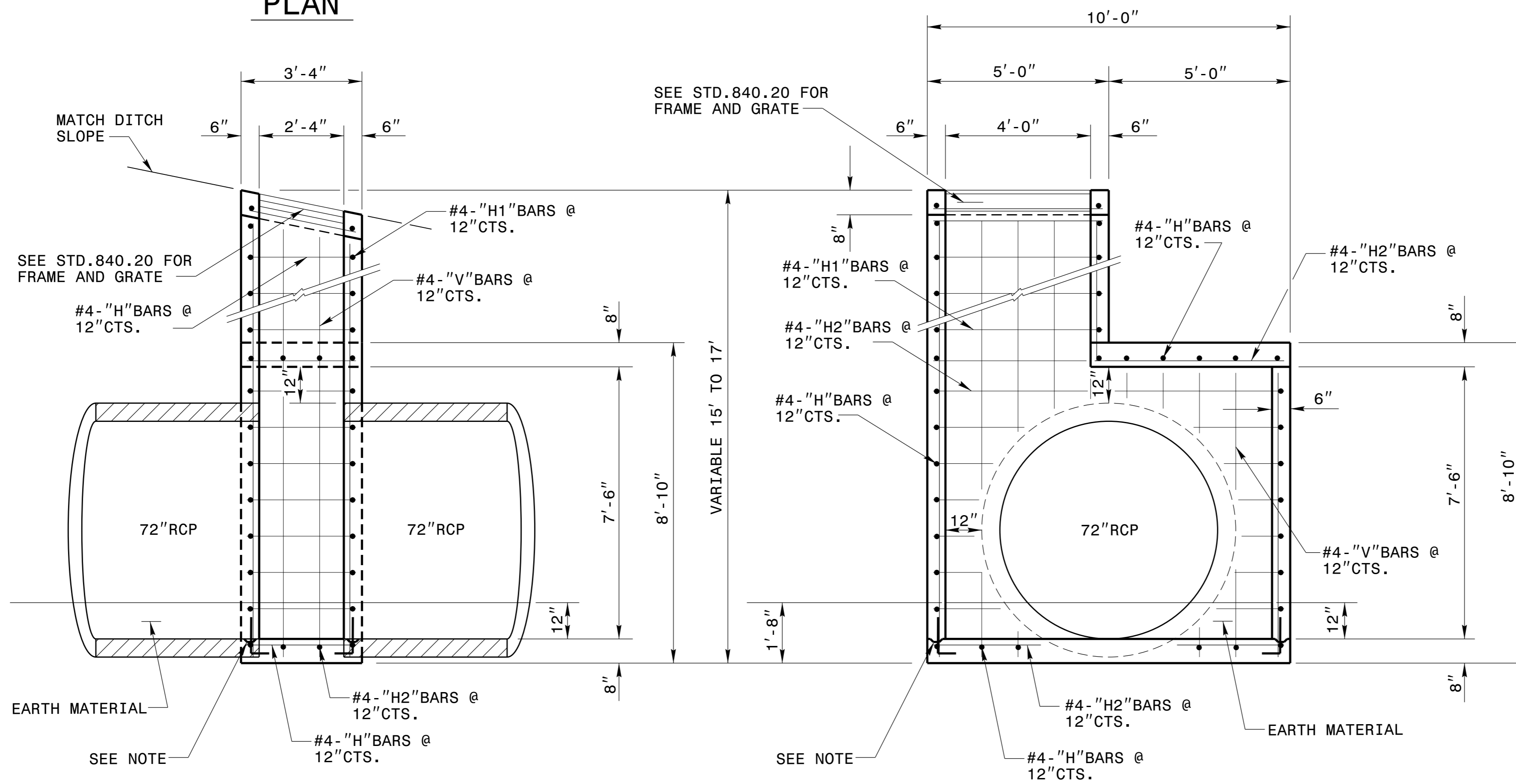
GENERAL NOTES:

- THE BASE SLAB SHALL BE CONSTRUCTED BY FORMING.
- SEE STD. DWG. 840.00 FOR CONSTRUCTION OF BASE SLAB
- IF PIPE IS SET INTO BASE SLAB.
- CLASS 'B' CONCRETE SHALL BE USED THROUGHOUT.
- CONSTRUCTION OPTIONS: MONOLITHIC POUR; 2" KEYWAY, OR #5 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
- REINFORCING STEEL SHALL BE CUT, BENT OR RELOCATED TO POSITION PIPE AS DIRECTED BY THE ENGINEER.
- ALL EXPOSED CORNERS SHALL BE CHAMFERED 1".
- MINIMUM OF 2" COVERAGE ON ALL REINFORCING STEEL.

**BILL OF MATERIAL**

CODE	BAR#	LENGTH	LBS/FT.	QTY.	LBS/ST.
H	4	3'-0"	0.668	46	93
H1	4	4'-8"	0.668	16	50
H2	4	9'-8"	0.668	22	142
V	4	16'-0"	0.668	12	129
V1	4	7'-8"	0.668	12	62
TOTAL WEIGHT STEEL					476
MASONRY QUANTITIES					
CLASS "B" CONCRETE				6.7	CU.YDS.
PIPE DEDUCTIONS					
2-72" RCP				-1.4	CU.YDS.
TOTAL CLASS "B" CONCRETE					5.3 CU.YDS.

\*\*QUANTITIES BASED ON 17' HEIGHT



SECTION A-A

SECTION B-B



3/25/2015  
Designed by  
Joel Howerton  
879F3D17DCDC46F...

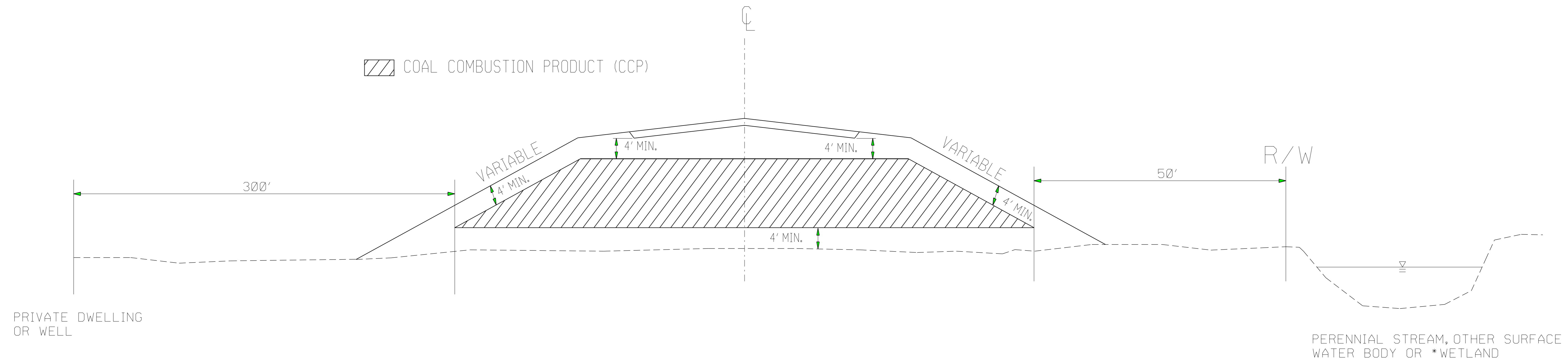
**CONTRACT STANDARDS AND DEVELOPMENT UNIT**  
Office 919-250-4128 FAX 919-250-4119

**DETAIL OF SPECIAL JUNCTION BOX**

ORIGINAL BY: rnbritt DATE: 12-13-12  
MODIFIED BY: DATE:  
CHECKED BY: DATE:  
FILE SPEC.: details/rnbritt/english/hydro/72jb\_animal.dgn



# COAL COMBUSTION PRODUCT PLACEMENT



PLACE CCP IN HATCHED AREA IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS

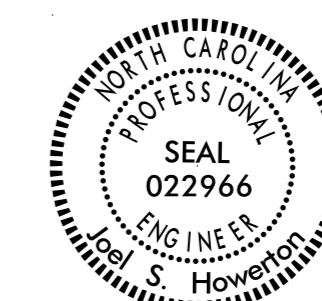
PLACE CCP A MINIMUM OF 5' ABOVE SEASONAL HIGH GROUND WATER

PLACE AT LOCATIONS AS APPROVED BY THE ENGINEER

PLACE SOIL BORROW MATERIAL ON THE OUTSIDE OF CCP AS EACH LIFT OF CCP IS PLACED

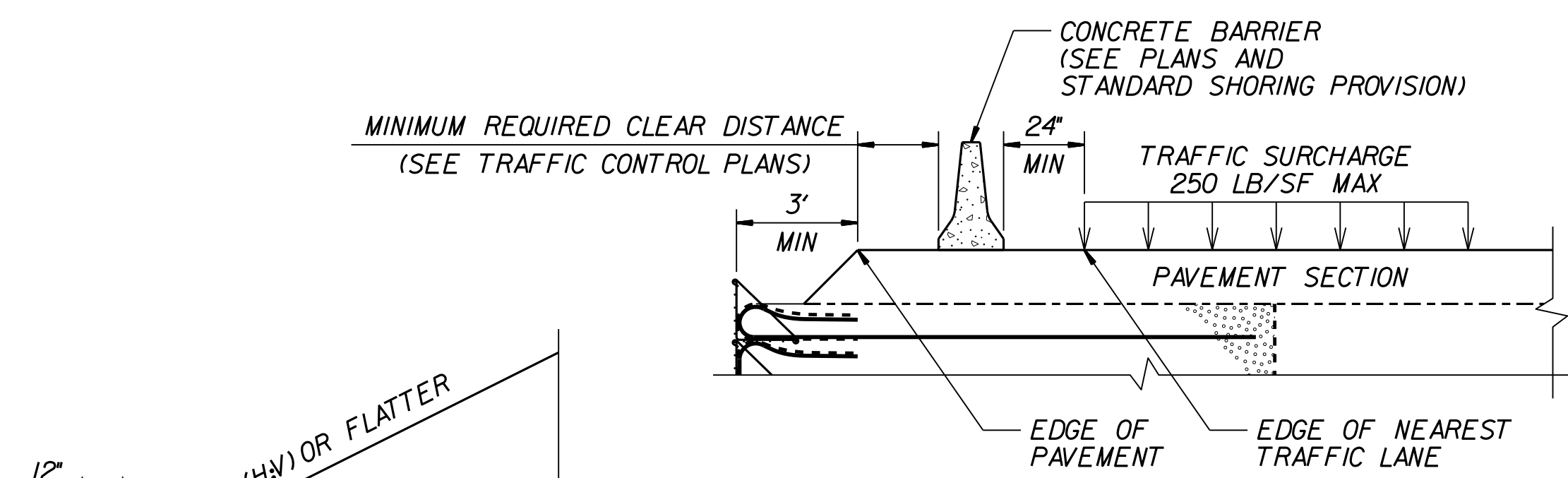
\*(OBTAIN PERMISSION FROM ARMY CORPS OF ENGINEERS)

01  
02  
03  
04  
05  
06  
07  
08  
09  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
00

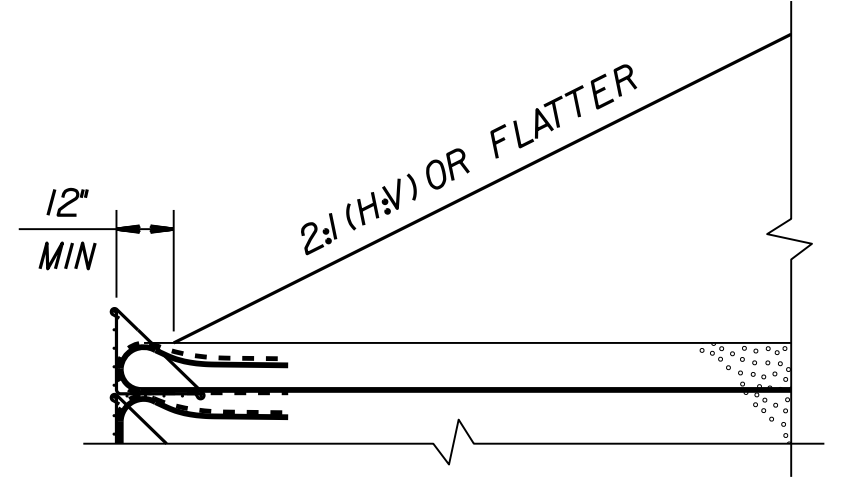


3/27/2015  
 DocuSigned by:  
 Joel Howerton  
 873F3D17DCC48F...

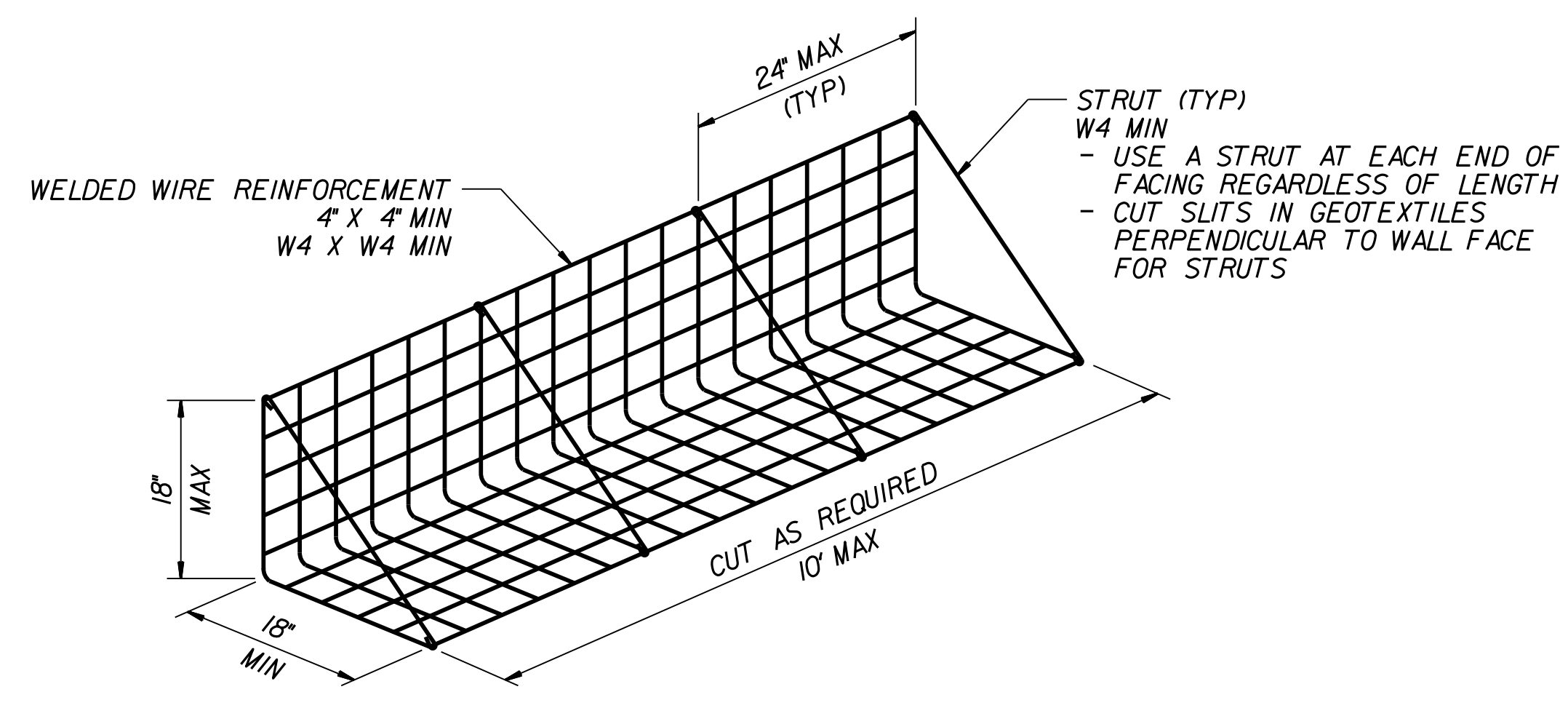
<b>CONTRACT STANDARDS AND DEVELOPMENT UNIT</b>	
Office 919-707-6950 FAX 919-250-4119	
<b>COAL COMBUSTION PRODUCT PLACEMENT DETAIL</b>	
ORIGINAL BY: J.S.H.	DATE: JAN. 2015
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: joel/coal combustion material detail.dgn	



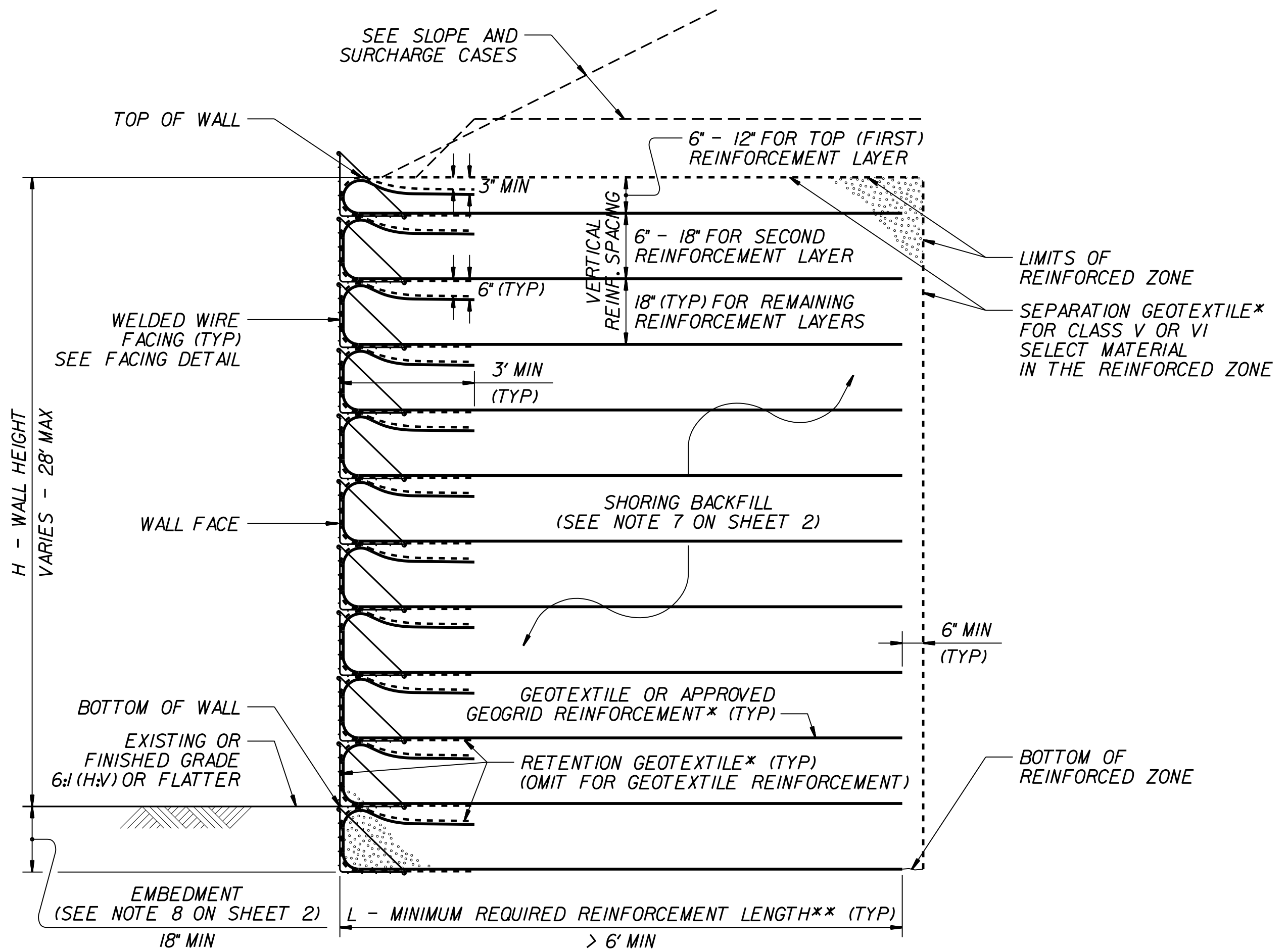
**SURCHARGE CASE**



**SLOPE CASE**

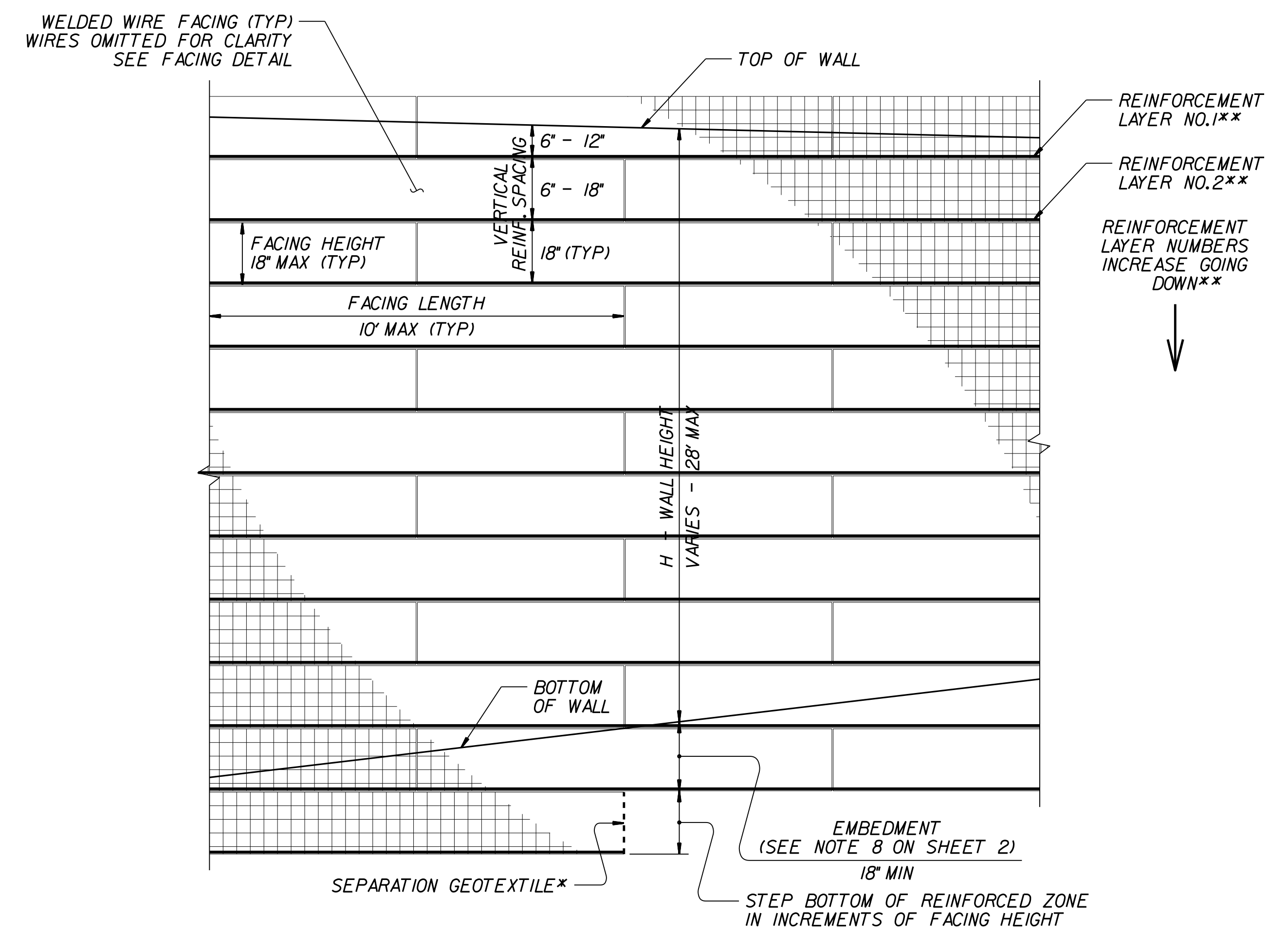


**FACING DETAIL**



**STANDARD TEMPORARY WALL**

(FOR STANDARD TEMPORARY WALLS ON STRUCTURES, SEE TEMPORARY WALL ON STRUCTURE DETAIL ON SHEET 2.)  
 \*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.  
 \*\*SEE REINFORCEMENT TABLES ON SHEET 3.



**STANDARD TEMPORARY WALL - PARTIAL ELEVATION**

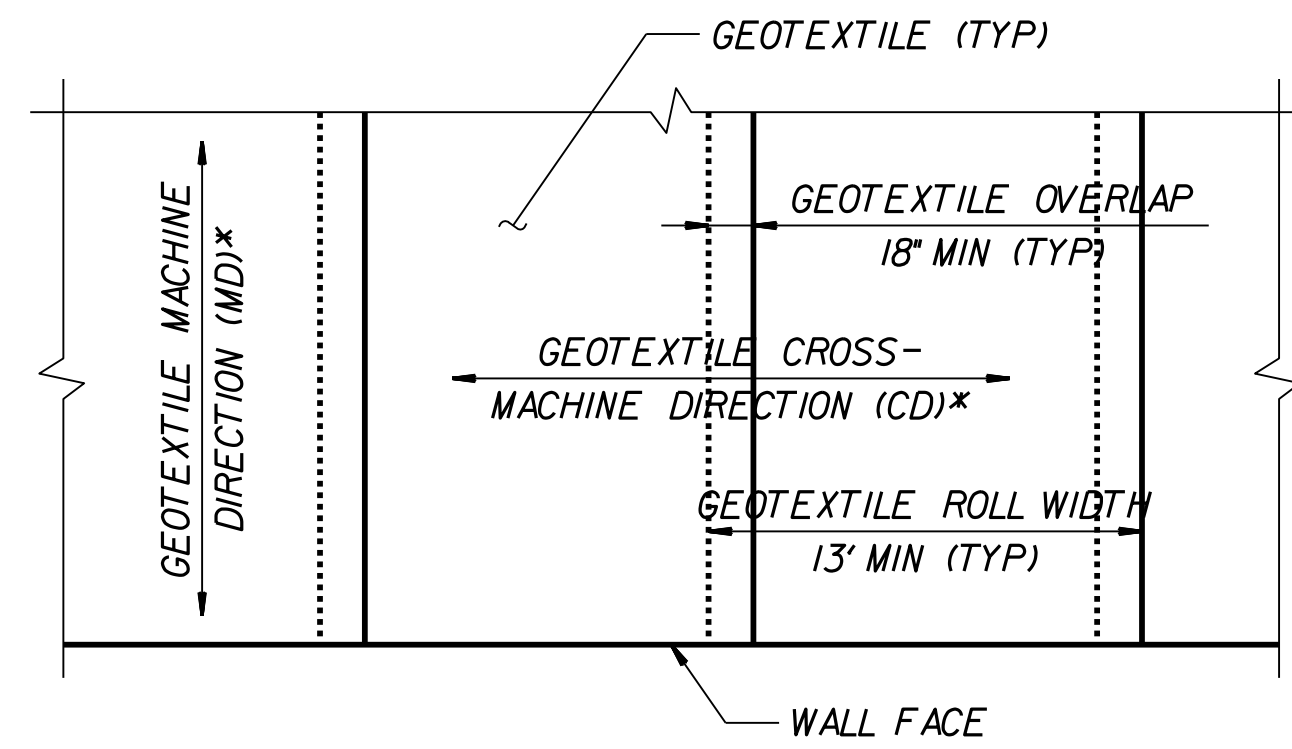
\*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.  
 \*\*SEE REINFORCEMENT TABLES ON SHEET 3.



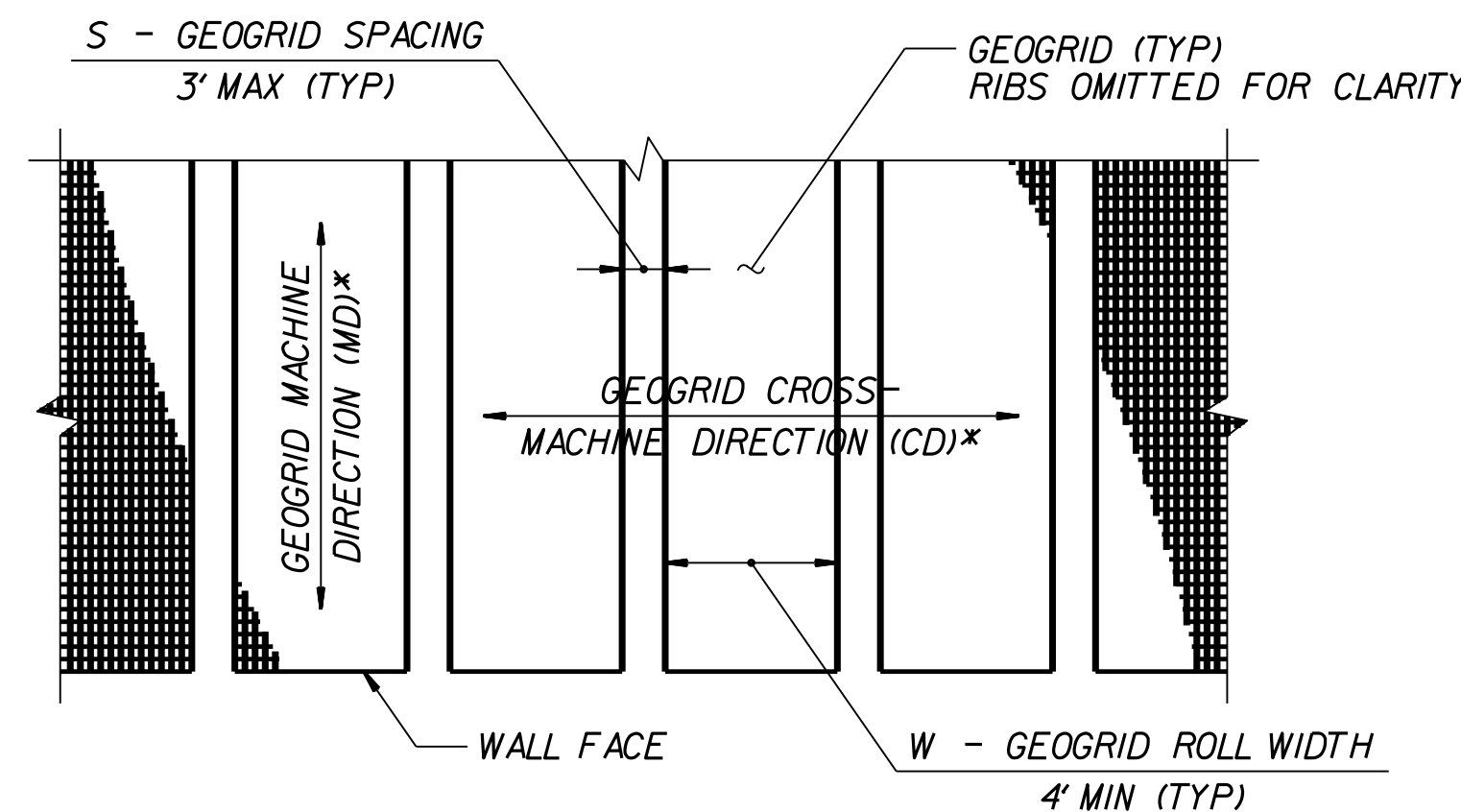
NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
**GEOTECHNICAL  
 ENGINEERING UNIT**

STANDARD DETAIL NO. 1801.02

STANDARD  
 TEMPORARY WALL  
 SHEET 1 OF 3



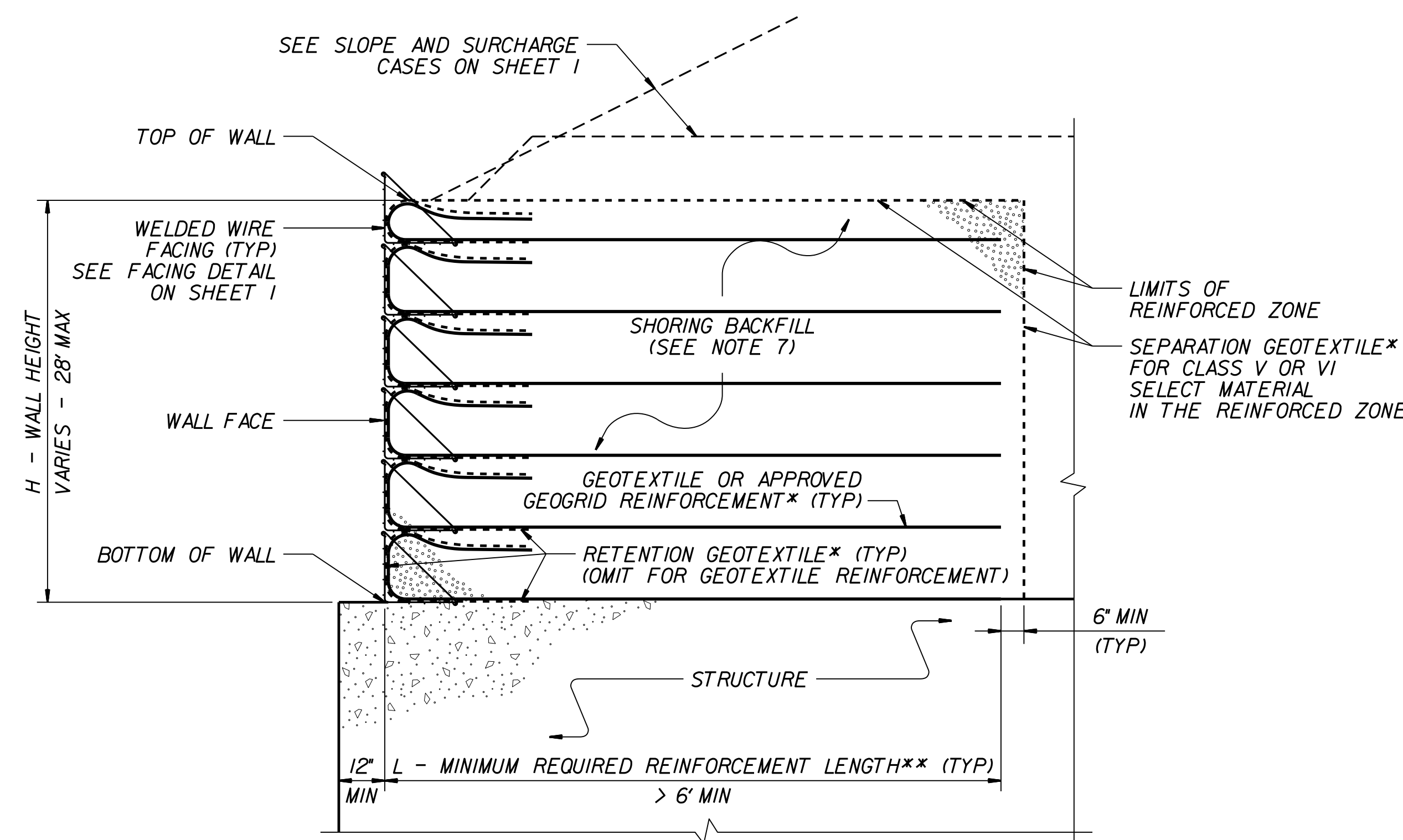
**GEOTEXTILE PLACEMENT**  
(100% COVERAGE MIN FOR GEOTEXTILE REINFORCEMENT)



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

**GEOSYNTHETIC PLACEMENT DETAILS**

(PLAN VIEW)  
\*SEE NOTE 12.



**TEMPORARY WALL ON STRUCTURE DETAIL**

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

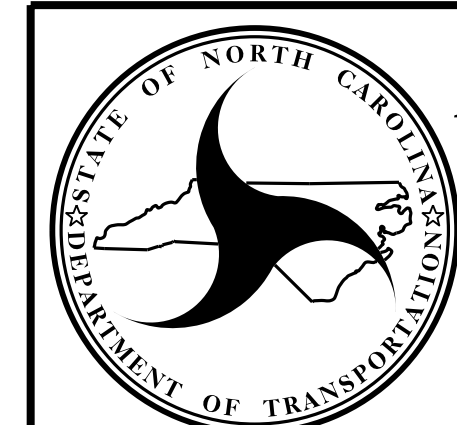
**NOTES:**

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

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

IF THE WEBSITE DOES NOT LIST A SHORT-TERM DESIGN STRENGTH FOR AN APPROVED GEOGRID, USE A SHORT-TERM DESIGN STRENGTH EQUAL TO THE ULTIMATE TENSILE STRENGTH DIVIDED BY 3.5 FOR THE GEOGRID REINFORCEMENT.

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



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
  
GEOTECHNICAL  
ENGINEERING UNIT

STANDARD DETAIL NO. 1801.02

STANDARD  
TEMPORARY WALL  
SHEET 2 OF 3







# DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA **SUMMARY OF EARTHWORK IN CUBIC YARDS**

LOCATION		UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT + %	BORROW	TOTAL WASTE
STATION	STATION					
<b>PHASE I</b>						
SUMMARY NO. 1						
-L- STA. 10+00.00	-L- STA. 20+00.00			42906	42906	
-DET3- STA. 17+50.00	-DET3- STA. 32+26.17	84		10645	10561	
-LBUS- STA. 11+07.79	-LBUS- STA. 27+00.00	3343	939	19564	16221	939
-DRV1- STA. 10+18.03	-DRV1- STA. 19+00.00	1319	1890	2681	1362	1890
-DET5- STA. 18+50.00	-DET5- STA. 24+00.00	50		649	599	
TOTAL SUMMARY NO. 1		4796	2829	76445	71649	2829
SUMMARY NO. 2 (RT.)						
-L- STA. 20+00.00	-L- STA. 50+00.00		1950	58340	58340	1950
TOTAL SUMMARY NO. 2			1950	58340	58340	1950
SUMMARY NO. 3 (RT.)						
-L- STA. 50+00.00	-L- STA. 80+00.00			62581	62581	
TOTAL SUMMARY NO. 3				62581	62581	
SUMMARY NO. 4 (RT.)						
-L- STA. 80+00.00	-L- STA. 101+45.00 (BB)		316	106780	106780	316
TOTAL SUMMARY NO. 4			316	106780	106780	316
SUMMARY NO. 5 (RT.)						
-L- STA. 102+65.00 (EB)	-L- STA. 132+00.00			116629	116629	
TOTAL SUMMARY NO. 5				116629	116629	
SUMMARY NO. 6 (RT.)						
-L- STA. 132+00.00	-L- STA. 162+00.00			51438	51438	
TOTAL SUMMARY NO. 6				51438	51438	
SUMMARY NO. 7 (RT.)						
-L- STA. 162+00.00	-L- STA. 192+00.00	470	2107	29131	28763	2209
TOTAL SUMMARY NO. 7		470	2107	29131	28763	2209
SUMMARY NO. 8 (RT.)						
-L- STA. 192+00.00	-L- STA. 217+00.00	2330		34435	32105	
-DET4- STA. 12+50.00	-DET4- STA. 18+50.00	273		1689	1416	
TOTAL SUMMARY NO. 8		2603		36124	33521	
SUMMARY NO. 9						
-L- STA. 217+00.00	-L- STA. 235+00.00	2681	534	33148	30467	534
-Y- STA. 21+50.00	-Y- STA. 25+49.96	319	185	628	309	185
-Y1- STA. 14+11.43	-Y1- STA. 15+49.83	136	14	355	219	14
-Y1- STA. 17+84.75	-Y1- STA. 21+23.02	824	487	1359	636	588
-Y1A- STA. 10+00.00	-Y1A- STA. 14+49.16	1210	342	1524	498	526
-YA- STA. 10+69.48	-YA- STA. 11+78.57	276		196		80
TOTAL SUMMARY NO. 9		5446	1562	37210	32129	1927
SHEET TOTALS		13315	8764	574678	561830	9231

**NOTE:** 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:** "Quantities are approximate only. The Resident Engineer will re-cross-section the work accurately when the project is staked out. These cross-section notes will be used in computing the final quantities for which the contractor will be paid."

LOCATION		UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT + %	BORROW	TOTAL WASTE
STATION	STATION					
SUMMARY NO. 10						
-L- STA. 235+00.00	-L- STA. 265+00.00	5617	167	102581	96964	167
-Y2- STA. 13+87.00	-Y2- STA. 15+00.00	159	267	438	279	267
-Y2- STA. 19+35.00	-Y2- STA. 20+52.50	47	235	433	386	235
TOTAL SUMMARY NO. 10		5823	669	103452	97629	669
SUMMARY NO. 11						
-L- STA. 265+00.00	-L- STA. 295+00.00	2065		111810	109745	
TOTAL SUMMARY NO. 11		2065		111810	109745	
SUMMARY NO. 12						
-L- STA. 295+00.00	-L- STA. 300+00.00	89		25859	25770	
TOTAL SUMMARY NO. 12		89		25859	25770	
<b>PHASE II</b>						
SUMMARY NO. 13 (LT.)						
-L- STA. 20+00.00	-L- STA. 50+00.00			40699	40699	
TOTAL SUMMARY NO. 13				40699	40699	
SUMMARY NO. 14 (LT.)						
-L- STA. 50+00.00	-L- STA. 80+00.00		161	86545	86545	161
TOTAL SUMMARY NO. 14			161	86545	86545	161
SUMMARY NO. 15 (LT.)						
-L- STA. 80+00.00	-L- STA. 101+45.00 (BB)		233	88266	88266	233
-DRV2- STA. 10+00.00	-DRV2- STA. 12+43.87	76	100	1346	1307	137
-DRV2A- STA. 10+13.96	-DRV2A- STA. 11+38.72	27	69	300	297	93
TOTAL SUMMARY NO. 15		103	402	89912	89870	463
SUMMARY NO. 16 (LT.)						
-L- STA. 102+65.00 (EB)	-L- STA. 132+00.00			106988	106988	
TOTAL SUMMARY NO. 16				106988	106988	
SUMMARY NO. 17 (LT.)						
-L- STA. 132+00.00	-L- STA. 162+00.00			48223	48223	
TOTAL SUMMARY NO. 17				48223	48223	
SUMMARY NO. 18 (LT.)						
-L- STA. 162+00.00	-L- STA. 192+00.00	971	1054	22069	21200	1156
TOTAL SUMMARY NO. 18		971	1054	22069	21200	1156
SUMMARY NO. 19 (LT.)						
-L- STA. 192+00.00	-L- STA. 217+00.00	2550		29319	26769	
TOTAL SUMMARY NO. 19		2550		29319	26769	
SHEET TOTALS		11601	2286	664876	653438	2449

6/4/99  
 24-MAR-2015 15:45  
 R-2514C-Fdy-sum.dgn

## DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA **SUMMARY OF EARTHWORK** **IN CUBIC YARDS**

LOCATION		UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT + %	BORROW	TOTAL WASTE
STATION	STATION					
<b>SUMMARY TOTALS</b>		24916	11050	1239554	1215268	11680
WASTE IN LIEU OF BORROW					-80	-80
UNDERCUT CONTINGENCY			3500	4375	4375	3500
GRADEPOINT UNDERCUT			500	625	625	500
SHOULDER MATERIAL				46250	46250	
SELECT GRANULAR MAT'L USED TO BACKFILL UNDERCUT				-18813	-18813	
CLASS IV AGGREGATE STABILIZATION IN LIEU OF BORROW				-26905	-26905	
<b>PROJECT TOTALS</b>		24916	15050	1245086	1220720	15600
+5% TO REPLACE TOPSOIL IN BORROW PIT					61036	
<b>GRAND TOTALS</b>		24916	15050	1245086	1281756	15600
<b>SAY</b>		25500	15050		1300000	

EST. DDE = 23722 CY  
 EST. SELECT GRANULAR MATERIAL = 45350 CY  
 EST. GEOTEXTILE FOR SOIL STABILIZATION = 31350 SY  
 EST. GEOTEXTILE FOR EMBANKMENT STABILIZATION = 16000 SY  
 EST. SHALLOW UNDERCUT = 1000 CY  
 EST. CLASS IV SUBGRADE STABILIZATION = 1900 TONS  
 EST. CLASS IV AGGREGATE STABILIZATION = 57200 TONS  
 -L- PAVEMENT STRUCTURE VOLUME = 89400 CY

NOTE: 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: "Quantities are approximate only. The Resident Engineer will re-cross-section the work accurately when the project is staked out. These cross-section notes will be used in computing the final quantities for which the contractor will be paid."

6/4/99

31-MAR-2015 15:27 P:\2514C\_Rdly\_sum.dgn



STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS  
**SUMMARY OF QUANTITIES**

**SHOULDER BERM  
 GUTTER SUMMARY**

SURVEY LINE	LOC.	STATION	STATION	LENGTH
-L-	LT	87 + 40.00	101 + 20.83	1380.83
-L-	RT	99 + 45.00	101 + 20.83	175.83
-L-	LT	102 + 89.17	116 + 27.00	1337.83
-L-	RT	102 + 89.17	117 + 95.00	1505.83
TOTAL:				4400.32
SAY:				4450

**ASPHALT PAVEMENT  
 REMOVAL SUMMARY**

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD <sup>2</sup>
-EL-	15 + 23.71	30 + 24.15	LT/RT	4668.04
-L-	101 + 20.00	102 + 90.00	LT	528.89
-L-	167 + 00.00	176 + 00.00	LT	2800.00
-EL-	209 + 81.42	-Y- 24 + 47.69	LT/RT	4067.62
-Y1-	14 + 11.43	18 + 29.30	LT/RT	835.74
-Y1-	22 + 00.00	-Y- 38 + 93.75	LT/RT	1629.12
-Y2-	14 + 84.71	19 + 55.00	LT/RT	1045.09
-DET3-	16 + 00.00	32 + 26.00	LT/RT	4352.22
-DET4-	12 + 50.00	18 + 22.00	LT/RT	1356.67
-DET5-	17 + 40.00	25 + 25.00	LT/RT	703.33
-L-	13 + 90.00	16 + 40.00	LT/RT	344.44
TOTAL:				22331.16
SAY:				23000

**SUMMARY OF BREAKING  
 EXISTING ASPHALT PAVEMENT**

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD <sup>2</sup>
-L-	26 + 50.00	101 + 20.00	LT	23240.00
-L-	102 + 90.00	167 + 00.00	LT	19942.22
-L-	176 + 00.00	206 + 65.00	LT	9535.56
TOTAL:				52717.78
SAY:				55000

5/28/99  
 3/18/2015  
 P:\862501\Cadd\2514C\_Roadway\Proj\2514C\_Rdy\_sum.dgn  
 thurman





















STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS  
**SUMMARY OF QUANTITIES**

**SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION**

LINE	STATION	STATION	AGGREGATE TYPE ASU/AST	AGGREGATE THICKNESS INCHES	SHALLOW UNDERCUT CY	CLASS IV SUBGRADE STABILIZATION TONS	GEOTEXTILE FOR SOIL STABILIZATION SY	STABILIZER AGGREGATE TONS	CLASS IV AGGREGATE STABILIZATION TONS
			CONTINGENCY (GEOTECH)	ASU	12	1,000	1,900	3,000	57,200
					TOTAL CY/TONSSY:	1,000	1,900	3,000*	57,200

ASU = AGGREGATE SUBGRADE, AST = AGGREGATE STABILIZATION  
 \*TOTAL SQUARE YARDS OF GEOTEXTILE FOR SOIL STABILIZATION IS ONLY THE ESTIMATED QUANTITY FOR ASU/AST AND MAY ONLY REPRESENT A PORTION OF THE GEOTEXTILE QUANTITY SHOWN IN THE ITEM SHEETS OF THE PROPOSAL.

**SUMMARY OF SUBSURFACE DRAINAGE**

LINE	STATION	STATION	LOCATION LT/RT/CL	DRAIN TYPE* UD/BD/SD	LF
				SUBTOTAL:	
			CONTINGENCY	SD	1000
				TOTAL LF:	1000

\*UD = UNDERDRAIN  
 \*BD = BLIND DRAIN  
 \*SD = SUBSURFACE DRAIN

**SUMMARY OF GEOTEXTILE FOR EMBANKMENT STABILIZATION**

LINE	STATION	STATION	SY	
			CONTINGENCY	8000
			TOTAL SY:	8000

THE DETAILS FOR GEOTEXTILE FOR EMBANKMENT STABILIZATION, IF NEEDED, WILL BE PROVIDED BY ENGINEER DURING CONSTRUCTION.

**SUMMARY OF BRIDGE WAITING PERIODS**

BRIDGE DESCRIPTION	END BENT/ BENT No.	MONTHS
WILDLIFE CROSSING ON US 17 BETWEEN SR 1116 AND NC 58 (LT, STR#1)	1	2
WILDLIFE CROSSING ON US 17 BETWEEN SR 1116 AND NC 58 (LT, STR#1)	2	2
WILDLIFE CROSSING ON US 17 BETWEEN SR 1116 AND NC 58 (RT, STR#2)	1	1
WILDLIFE CROSSING ON US 17 BETWEEN SR 1116 AND NC 58 (RT, STR#2)	2	1



# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4, 5, 6, 26	FRANK JENKINS HEIRS
2	4	DONELLE MAURICE MYERS
3	4, 5	AMBROSE ROBERTS, JR.
4	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 26	UNITED STATES DEPARTMENT OF AGRICULTURE
5	5	EDITH MATTOCKS, ET UX
6	5	MARION G. HILL, ET UX
7	5	ROSALEE SMITH HEIRS
8	5	LEAMON GODLEY HEIRS
9	5	MICHEAL FROST
10		NOT USED
11	5	LOUISE DUDLEY, HEIRS
12	5	ROLAND BARBER, HEIRS
13	5	CENTURYLINK
14, 14Z	5	ALPHONSO HILL
15	6	ELEANOR JEAN HOLT
16	6	ROCHELLE ANITA HOLT, ET UX
17	6	LYNELL MATTOCKS, ET UX
18	6	NORMAN HILL
19	6	ELVERT LEE HOLT
20	6	WOODROW F. LASSITER, ET UX
20A	7	GREEN CO LAND, LLC.
21	7	DORIS L. HILL (LIFE ESTATE)
21A	7	BRADLEY HILL
22	7	ABBY B. HEATH, ET UX
23	7	MICHEAL ANTHONY DUDLEY, ET UX
24, 24Z	7	MEDA J. KING (WIDOW)
25	7	PAULINE J. KING (WIDOW)
26	7	ROY L. KING, ET AL
27	7	BOBBY A. FLOWERS, ET UX
28, 28Z	7, 8	RAYMOND C. BANKS, JR. ET UX
29, 29Z	8	KAREN H. TAYLOR (WIDOW)
30	8	MARVIN L. GOODSON
31	8	EDWARD E. DUDLEY, ET UX
32	8, 9	LARRY E. EUBANK
33	9, 10	JACK L. HOLLAND
34	10, 11, 12, 16, 17, 19	WEYERHAEUSER COMPANY
35	12	CAROLYN M. BLACKMON & GAIL MORGAN BUTLER REVOCABLE TRUST
36	12	GLENN ALLEN
37	12	JESSE JAMES, ET UX
38	12, 13	ELNITA SCOTT HEIRS
38A	13	KATINA SCOTT OGBEIDE, ET UX
39	12, 13	JOSEPH L. JACKSON, ET UX
40	13	JAMES V. BENDER, JR.
41	13	JIMMY LEE JONES
42	13	LINDA JONES
43	13, 14, 16, 17	J. MANLY FOSCUE, JR. HEIRS (Historic Property - Eligible for NRHP)
44	13	EDWARD EARL DUDLEY, ET UX
45	13	BETTY L. SHORT (WIDOW)
46	13	NC DEPARTMENT OF TRANSPORTATION
47	13	THELMA J. JONES (WIDOW)
48	13	BERNARD JONES, SR.
49	13	CRISSIE SIMMONS
50	13, 14	WILLIE G. SMITH, ET UX
51	14	ABUNDANT BLESSINGS MINISTRIES INC, NEW HOPE CHURCH OF GOD c/o OLIVER J. COLLINS
52	14	WILLIAM E. HASSELL
53	14	SHERRY M. JARMAN
54	14	MAZIE W. ISLER

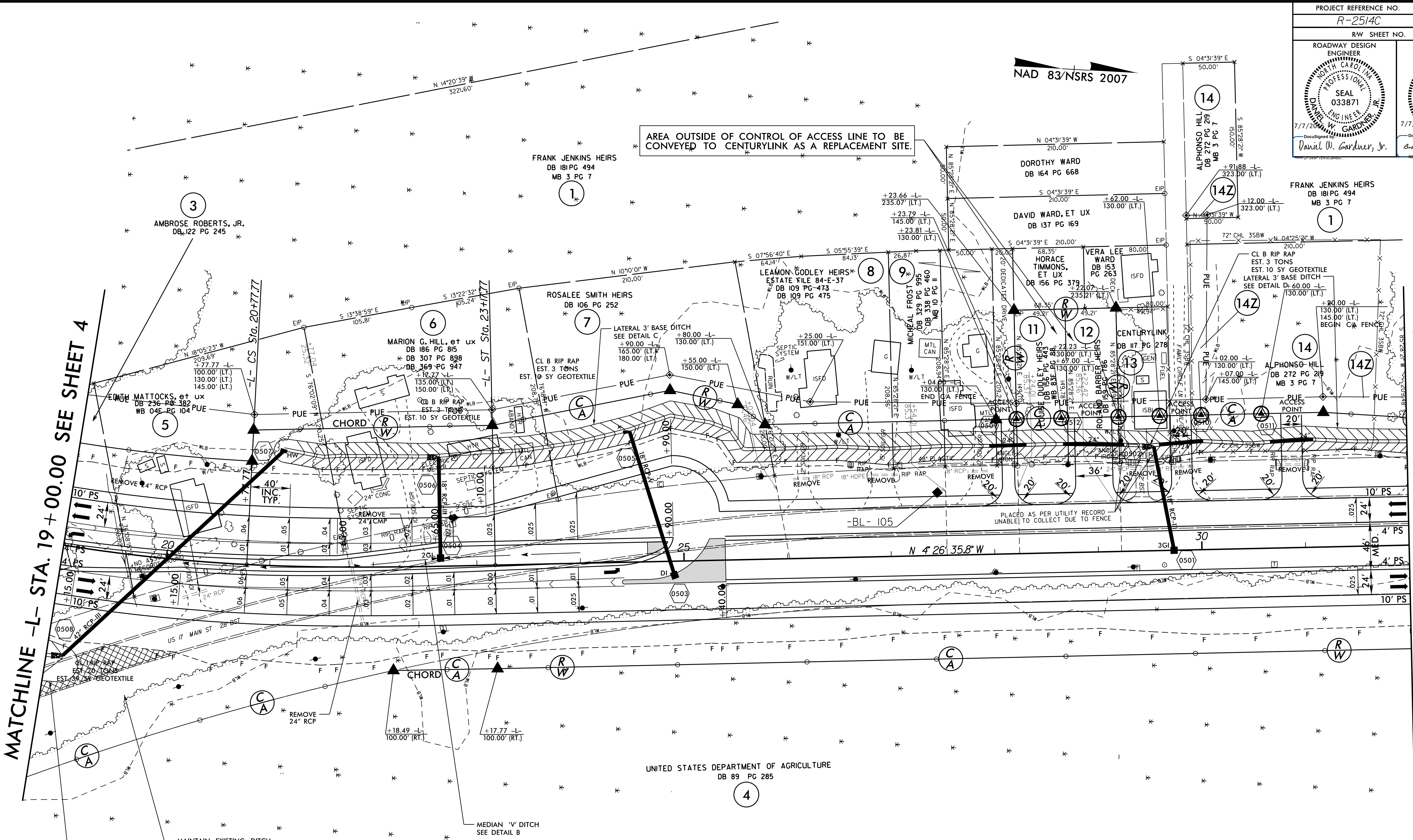
PARCEL No.	SHEET No.	PROPERTY OWNER NAME
55	14	MARY SIMMONS-ISLER, ET AL
56	14	TYRONE SMITH
57	14	JAMES V. BENDER, JR.
58	14, 15	BLUE ROCK STRUCTURES, INC.
59	14	DENNIS A. HEWITT
60	14	EDWARD DUDLEY
61	14, 15	TALMAGE DOCKERY, ET AL
62	15	LAVON CARTER
63	15	EDDIE HUMPHREY
64	15	JACK L. BROWN, ET UX
65	15	JEFFERY MORRIS
66	15	WILLIAM F. DUDLEY
67	15	MARY L. WHITE
68	15	LINWOOD WILLIAMS HEIRS
69	15	MABEL S. WEAVER
69A	15	MARAGRET J. WILLIAMS, ET AL
70	15	CHARLES HARGETT
71	15	LONELL MATTOCKS, ET UX
72	15	E. L. WILLIAMS, JR.
73	15	SARAH SMALLWOOD HEIRS
74	15	JAMES LANARD SMALLWOOD
75	15	E. L. WILLIAMS, JR.
76	15	CARL JUNIOR KOONCE
77	15	JAMES V. BENDER, JR.
78	15	MARAGRET J. WILLIAMS, ET AL
79	15	ANDREW FRANKS, ET AL
80	15	LAVON CARTER
81	15	JAMES LANARD SMALLWOOD
82	15	GREE TREE SERVICE, LLC
83	15	MABEL S. WEAVER
83A	15	SARAH SMALLWOOD HEIRS
83B	15	MARGARET J. WILLIAMS, ET AL
84	15	ALEXANDER SMITH, III
85	15	ADELL DUDLEY, ET UX
86	15	VAN S. SMITH
87	15	JOSEPH BRYANT, ET UX
87A	15	ROBERT L. BRYANT
88	15	LOUISE MURRELL FOYE, ET AL c/o ROBERT HORRY
89	15	HENRY D. SMITH
90	15, 16	MATTHEW MOORE, JR., ET UX
90A	15	LEVY MOORE
90B	16	JAMES RAY MOORE
91	15, 16	FLORETTA BRYANT, ET VIR
92	16	CYNTHIA D. YOUNG, ET VIR
93	16	BENJAMIN BROWN, ET UX
94	16	LOTTIE HARRELL
95, 95Z	16	EDWARD E. BRYANT, ET UX
96	16	JOSEPH O. BRYANT
97	16	ELEANOR J. JACKSON, ET VIR
98, 98Z	16	JAMES HENRY BRYANT
99	16	ESTELLA BURGE
100	16	MINNIE V. BRYANT
101	16	RONALD ERIC WILLIE
102	16	EVELYN D. WILLIE, ET VIR
103	16	MILDRED B. MORGAN
104	16	MINNIE V. BRYANT
105	17	SUE BOWLING FOSCUE
106		NOT USED
107	17	NANCY M. CHADWICK
108	17	EVERA COLLINS





REVISIONS

RAW REVISION ON A LET PROJECT 7-7-15 (DWG) - PUE WAS ADDED FROM -L- STA. 28+23.79 TO -L- STA. 29+22.23 LT. ACROSS PARCEL II (LOUISE DUDLEY HEIRS) AND PARCEL 12 (ROLAND BARBER HEIRS). THE PROPOSED CONCRETE ACCESS MARKER WAS SHIFTED FROM -L- STA. 28+70.00 LT. SOUTH TO -L- STA. 28+67.00 LT. ON PARCEL II (LOUISE DUDLEY HEIRS).  
A NOTE WAS ADDED FOR PARCELS II & 12 THAT STATES "AREA OUTSIDE OF CONTROL OF ACCESS LINE TO BE CONVEYED TO CENTURYLINK AS A REPLACEMENT SITE."



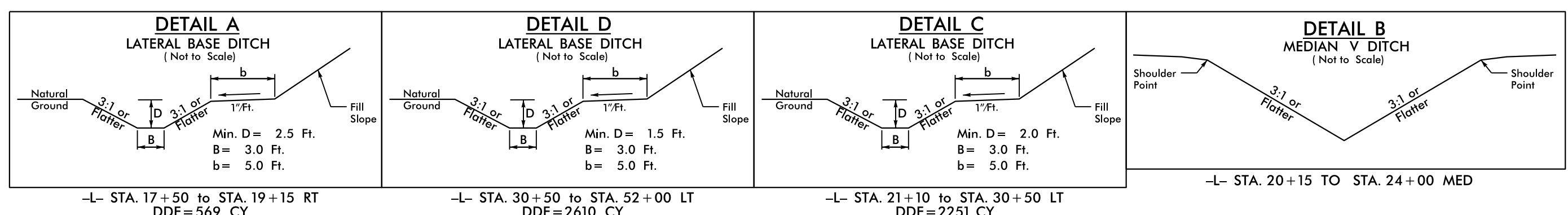
MATCHLINE -L- STA. 19 + 00.00 SEE SHEET 4

MATCHLINE -L- STA. 32 + 00.00 SEE SHEET 6

AREA OUTSIDE OF CONTROL OF ACCESS LINE TO BE CONVEYED TO CENTURYLINK AS A REPLACEMENT SITE.

-L-

PI Sta 16+95.31	Pls Sta 21+57.81
$\Delta = 27^{\circ} 14' 57.6''$ (LT)	$\Theta_s = 4^{\circ} 11' 32.5''$
$D = 3' 29' 37.1''$	$L_s = 240.00'$
$L = 779.97'$	$LT = 160.04'$
$T = 397.51'$	$ST = 80.04'$
$R = 1640.00'$	
$SE = .06$	
$RO = 240'$	

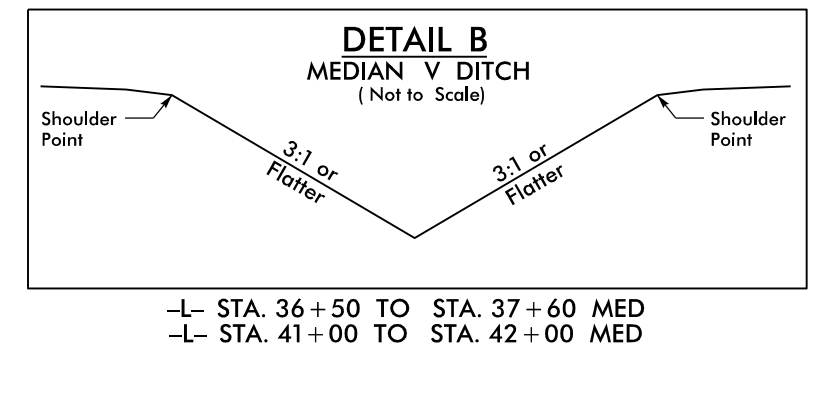
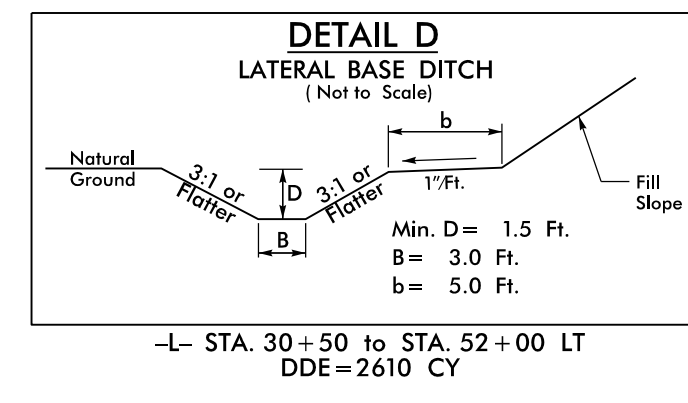
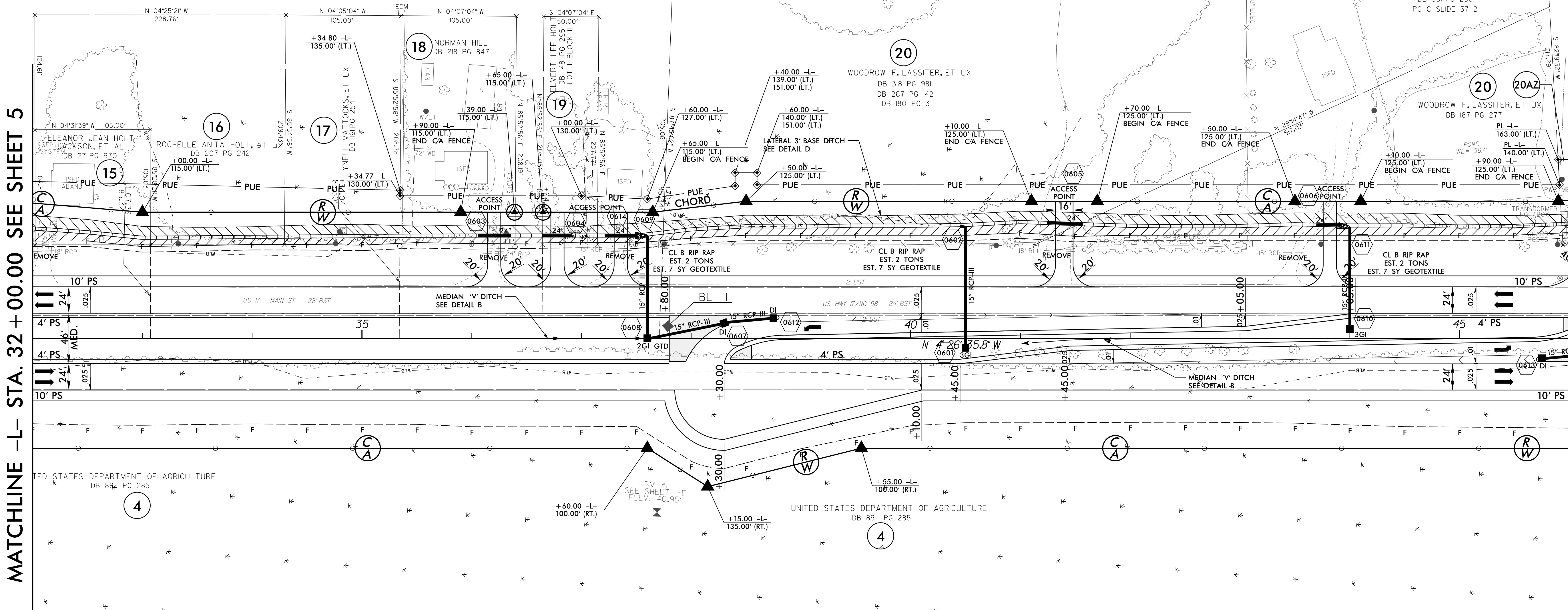


NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAVE ALL DRIVES TO BACK OF TURNOUT RADIUS.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS  
SEE SHEET 29 FOR -L- PROFILE

NAD 83/NSRS 2007

MATCHLINE -L- STA. 32 + 00.00 SEE SHEET 5

MATCHLINE -L- STA. 46 + 00.00 SEE SHEET 7



NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAVE ALL DRIVES TO BACK OF TURNOUT RADIUS.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS.

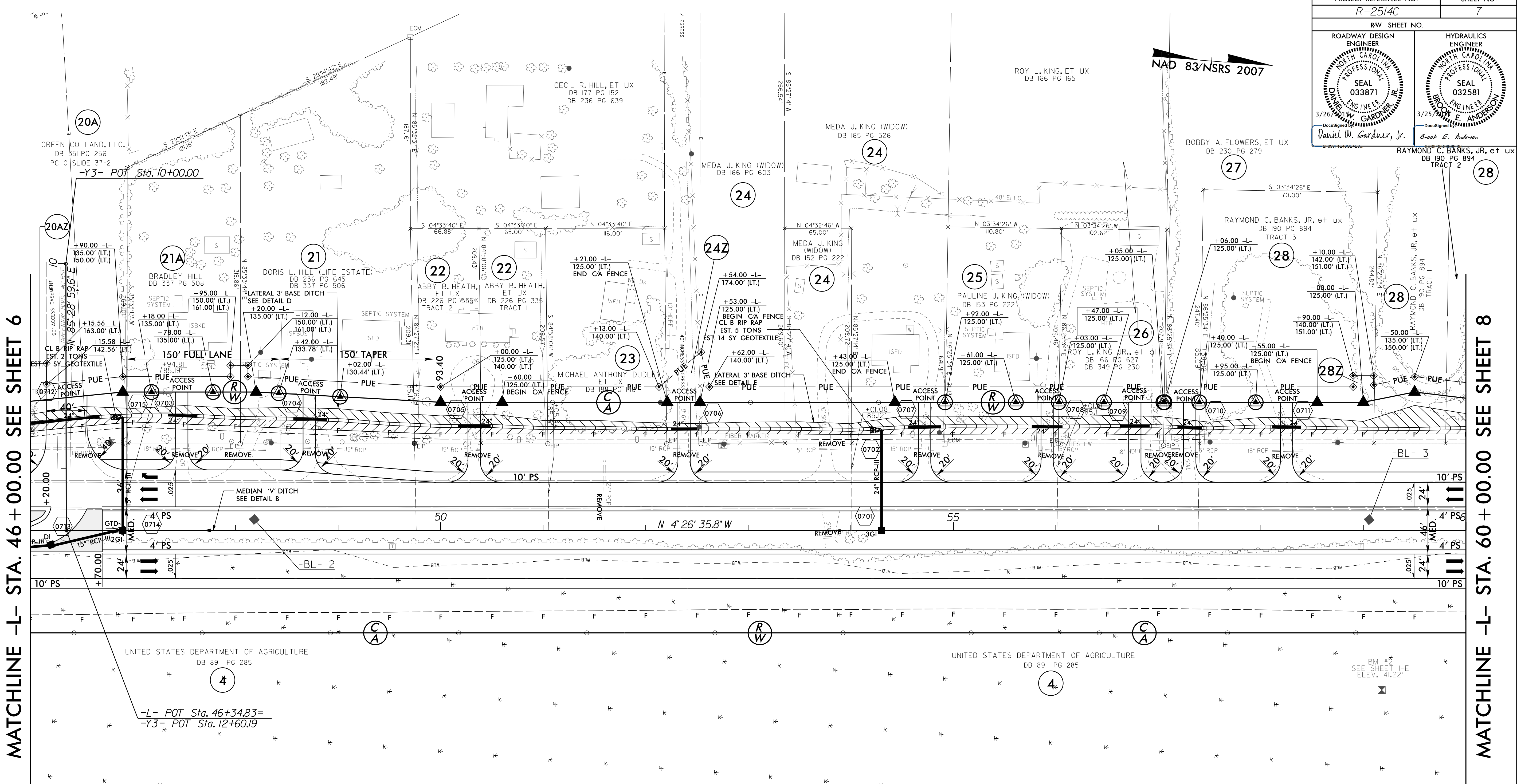
SEE SHEET 30 FOR -L- PROFILE

REVISIONS

8/17/99

F:\8625201\Cadd\2514C\Roadway\Proj\NR2514C\_Rdwy\_psh\_06.dgn  
3/18/2015 10:11:00 AM

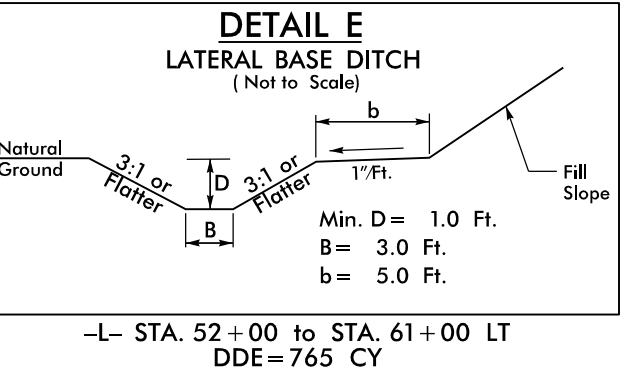
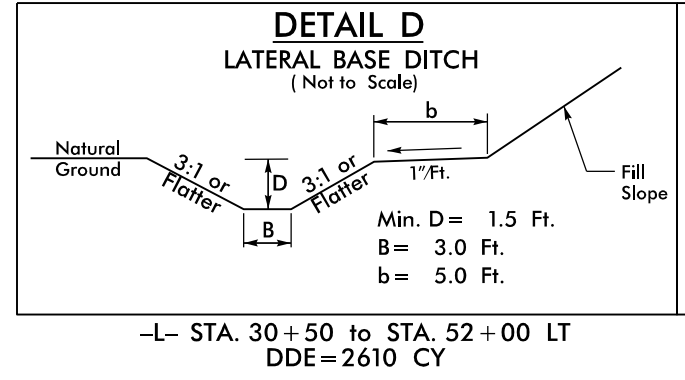
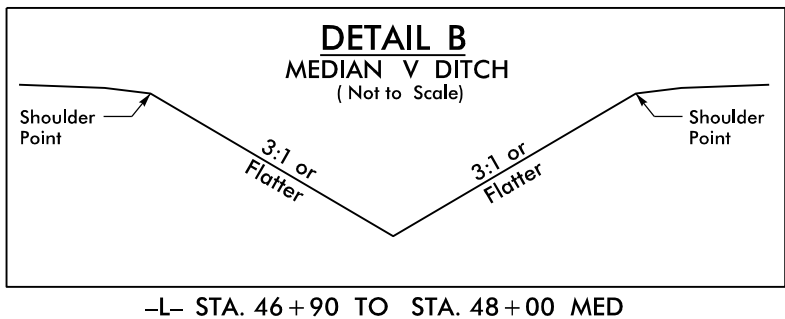
NAD 83/NSRS 2007



MATCHLINE -L- STA. 46 + 00.00 SEE SHEET 6

MATCHLINE -L- STA. 60 + 00.00 SEE SHEET 8

REVISIONS

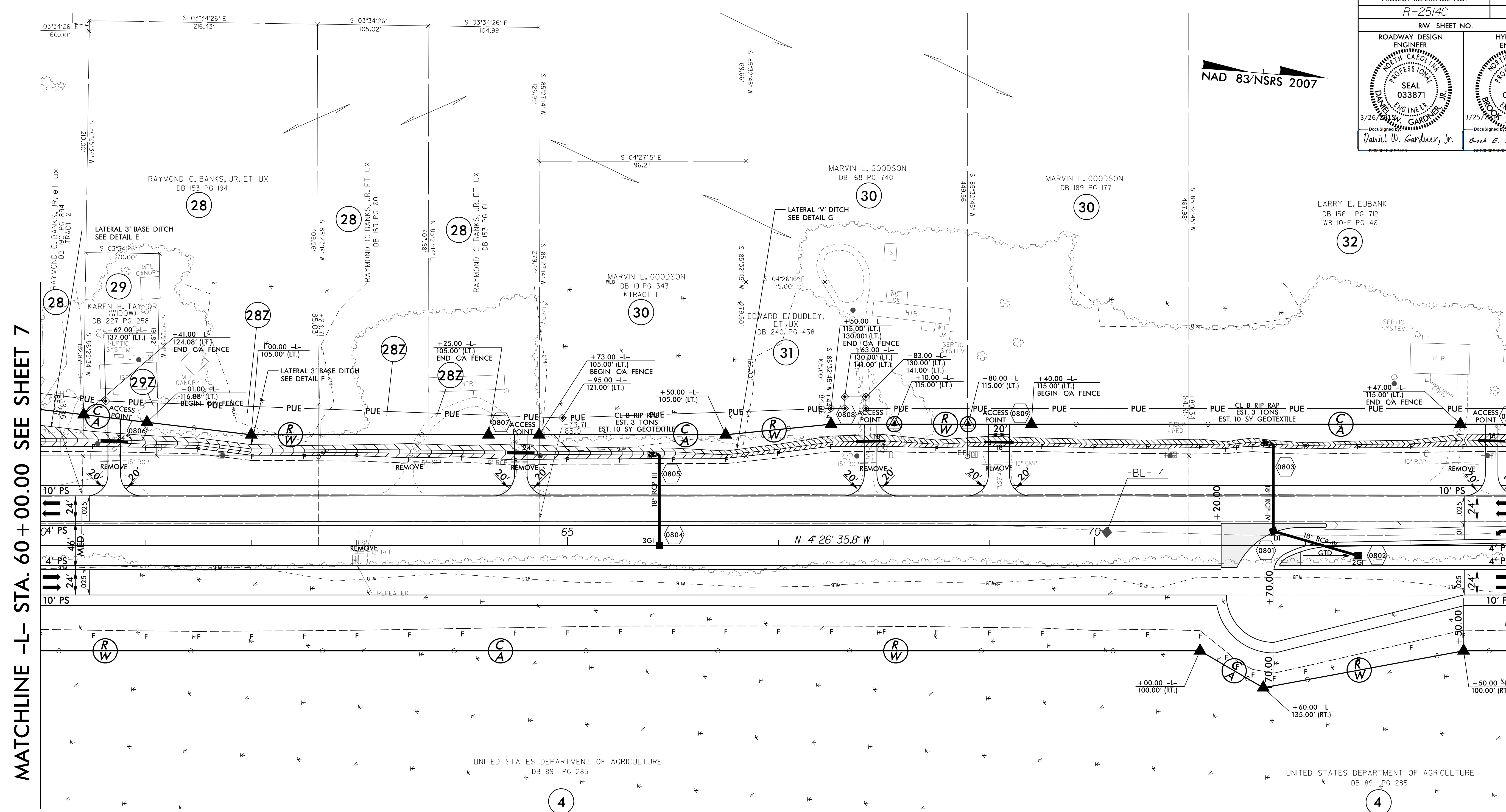


NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAYE ALL DRIVES TO BACK OF TURNOUT RADIUS.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS.  
SEE SHEET 30 FOR -L- PROFILE

8/17/99  
 3/18/2015  
 P:\2514C\Roadway\Proj\NR2514C\_Roadway\psh\_07.dgn  
 1:1

PROJECT REFERENCE NO. R-2514C	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 033871 DANIEL W. GARDNER, JR. 3/26/2015	HYDRAULICS ENGINEER SEAL 032581 BOB E. ANDERSON 3/25/2015

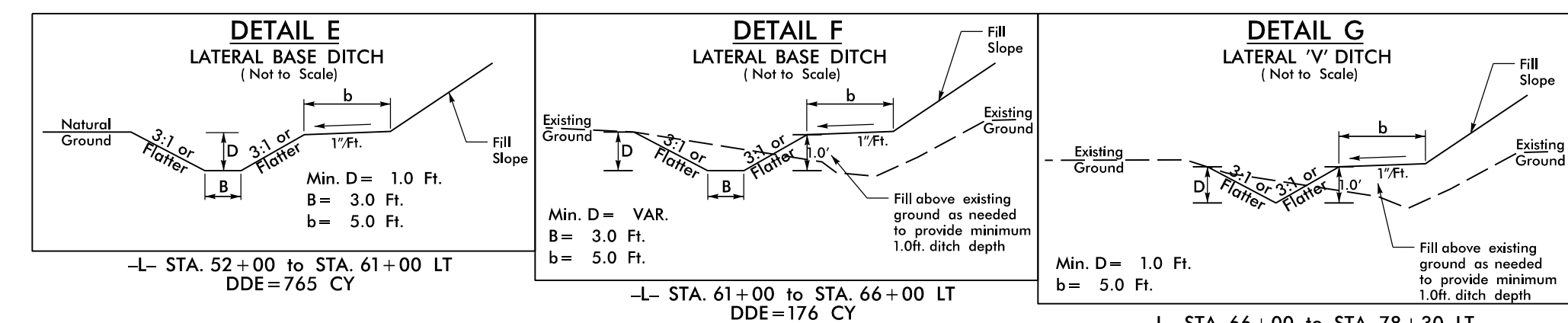
NAD 83/NSRS 2007



MATCHLINE -L- STA. 60 + 00.00 SEE SHEET 7

MATCHLINE -L- STA. 74 + 00.00 SEE SHEET 9

REVISIONS



NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE. PAVE ALL DRIVES TO BACK OF TURNOUT RADIUS. SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS. SEE SHEET 31 FOR -L- PROFILE

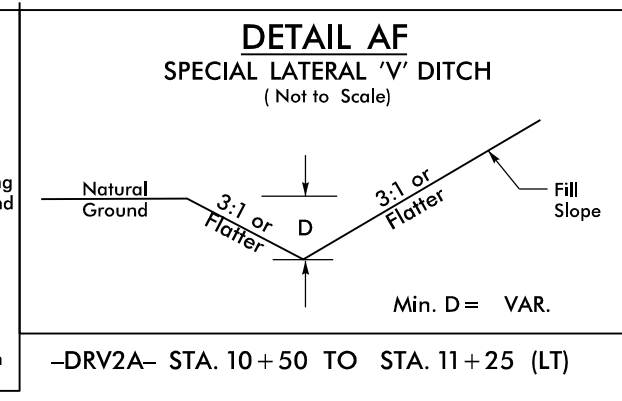
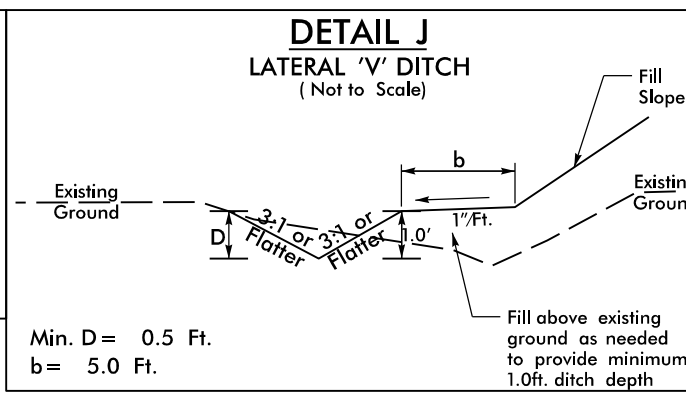
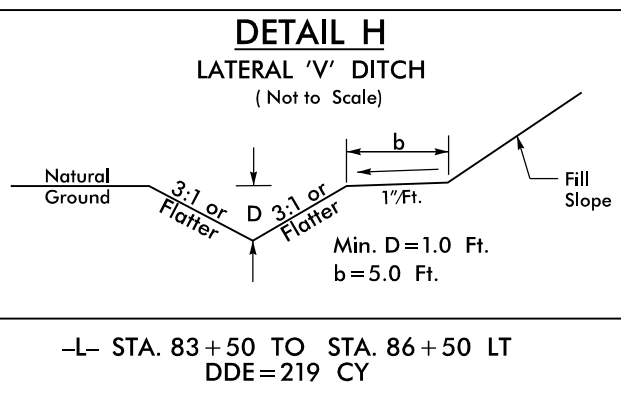
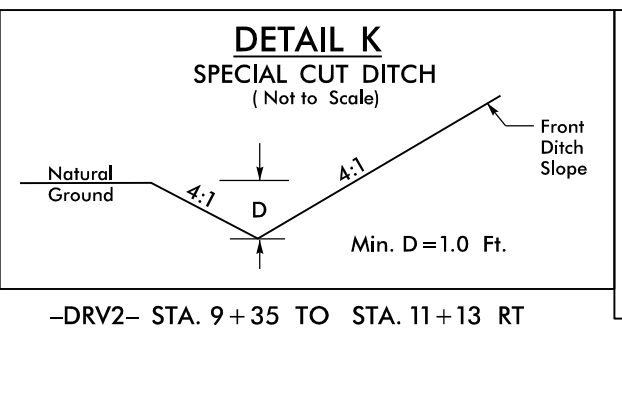
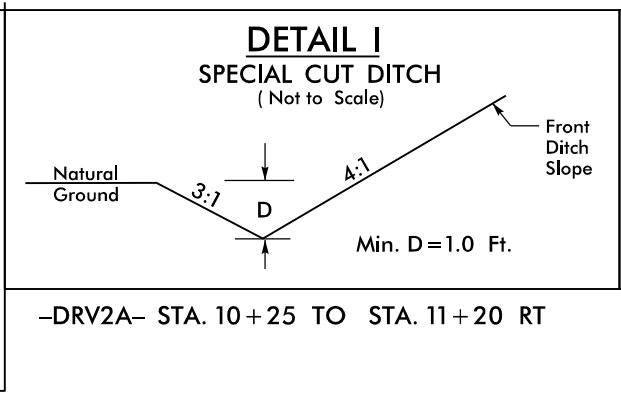
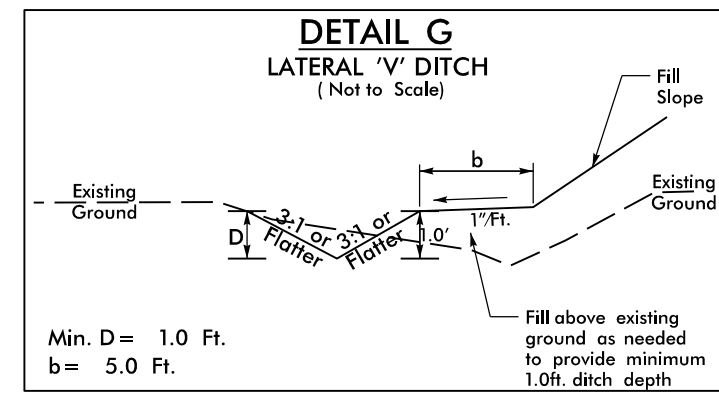
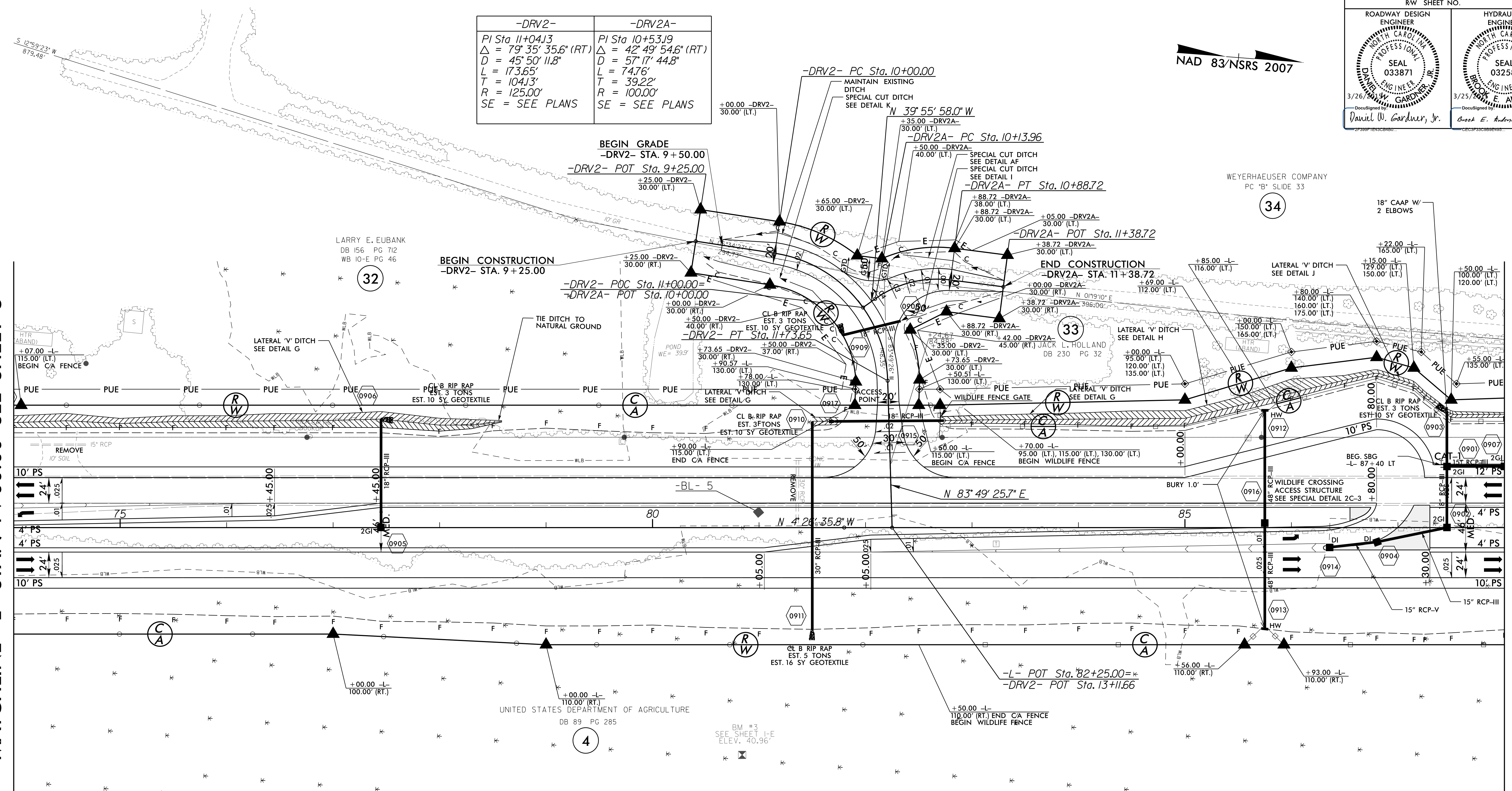
3/18/2015 P:\Roadway\2514C\Roadway\Proj\NR2514C\_Roadway\_psh\_08.dgn  
 8/17/99



-DRV2-	-DRV2A-
PI Sta 11+04.13	PI Sta 10+53.19
$\Delta = 79^\circ 35' 35.6" (RT)$	$\Delta = 42^\circ 49' 54.6" (RT)$
$D = 45^\circ 50' 11.8"$	$D = 57^\circ 17' 44.8"$
$L = 173.65'$	$L = 74.76'$
$T = 104.13'$	$T = 39.22'$
$R = 125.00'$	$R = 100.00'$
SE = SEE PLANS	SE = SEE PLANS

MATCHLINE -L- STA. 74 + 00.00 SEE SHEET 8

MATCHLINE -L- STA. 88 + 00.00 SEE SHEET 10



-L- STA. 66+00 TO STA. 78+30 LT DDE=439 CY  
-L- STA. 81+50 TO STA. 83+50 LT DDE=47 CY

-L- STA. 83+50 TO STA. 86+50 LT  
DDE=219 CY

-L- STA. 86+50 TO STA. 89+00 LT  
DDE=30 CY

NOTE: SBG - "SHOULDER BERM GUTTER"  
ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAVE ALL DRIVES TO BACK OF TURNOUT RADIUS.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS.  
SEE SHEET 2C-1 FOR WILDLIFE FENCE DETAIL.

SEE SHEET 31 FOR -L- PROFILE  
SEE SHEET 43 FOR -DRV2- PROFILE  
SEE SHEET 43 FOR -DRV2A- PROFILE

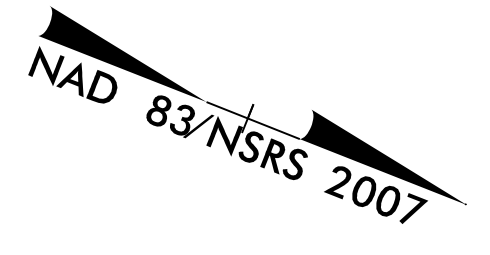
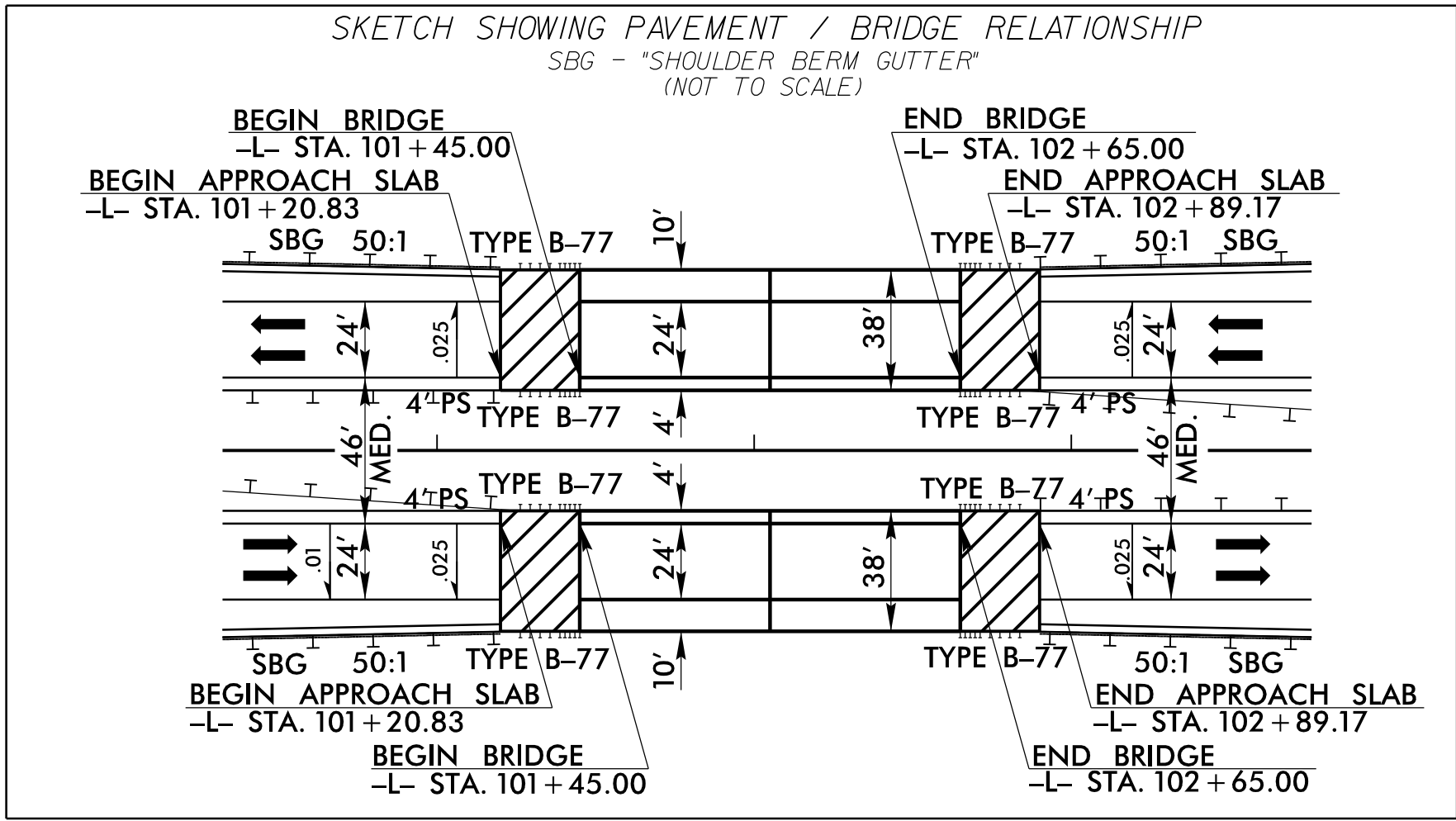
REVISIONS

8/17/99

F:\862201\Cadd\2514C\Roadway\Proj\NR2514C.RDBy\_psh\_09.dgn

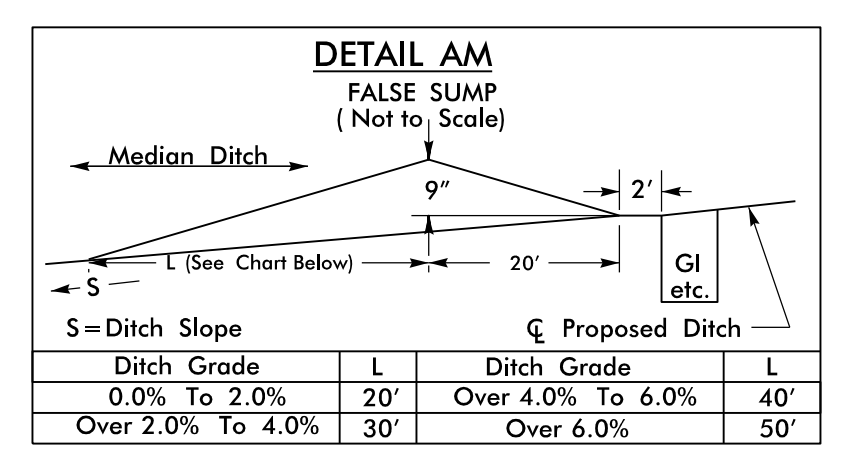
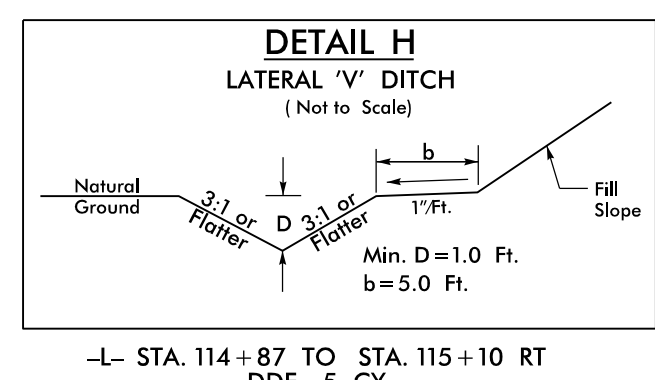
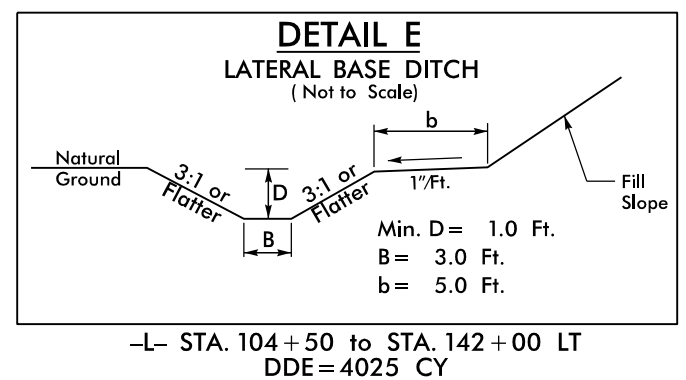
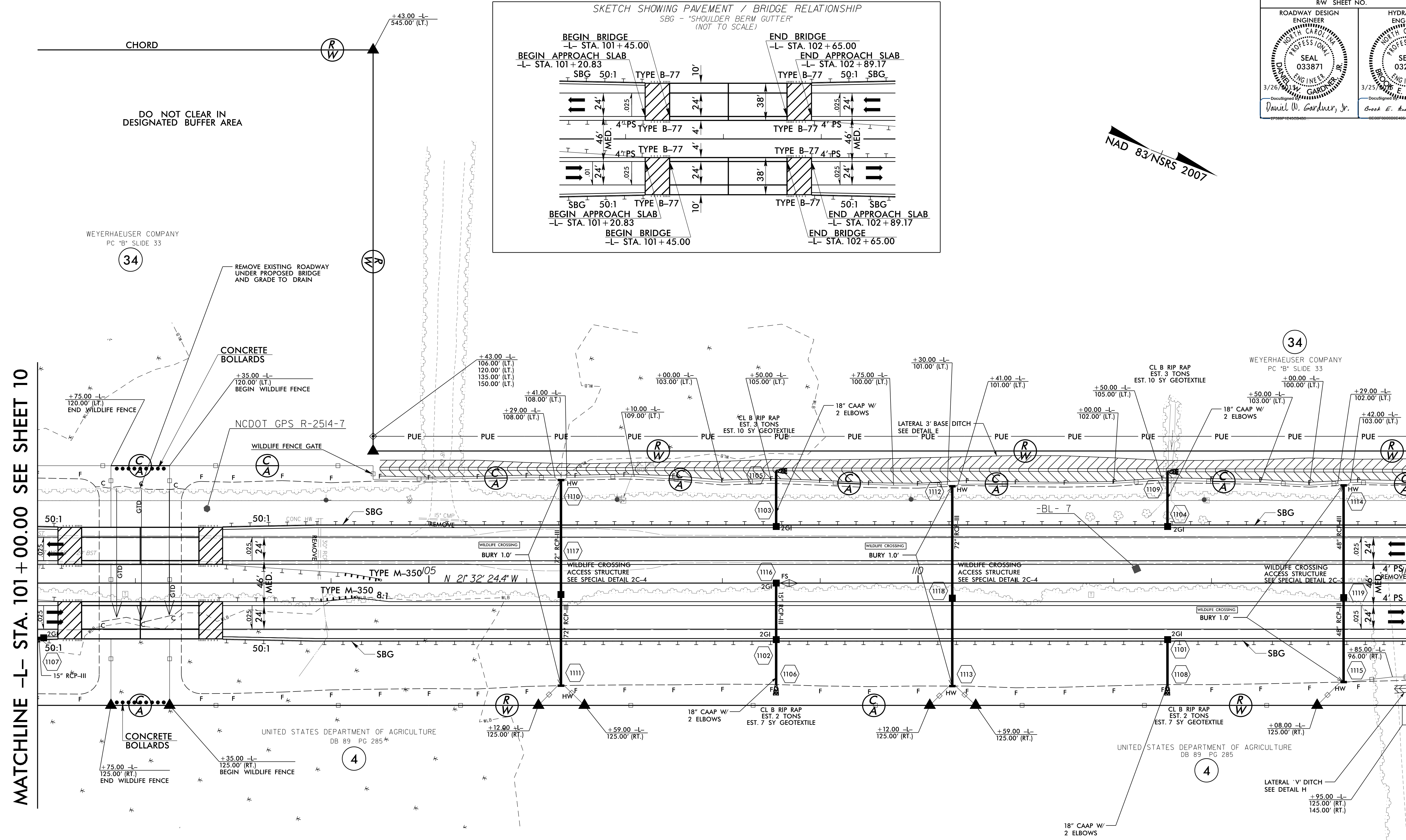






MATCHLINE -L- STA. 101 + 00.00 SEE SHEET 10

MATCHLINE -L- STA. 115 + 00.00 SEE SHEET 12



NOTE: SBG - "SHOULDER BERM GUTTER"  
SEE SHEET 2C-1 FOR WILDLIFE FENCE DETAIL  
SEE SHEET 32 FOR -L- PROFILE  
SEE SHEETS S-1 THRU S-56 FOR STRUCTURE PLANS

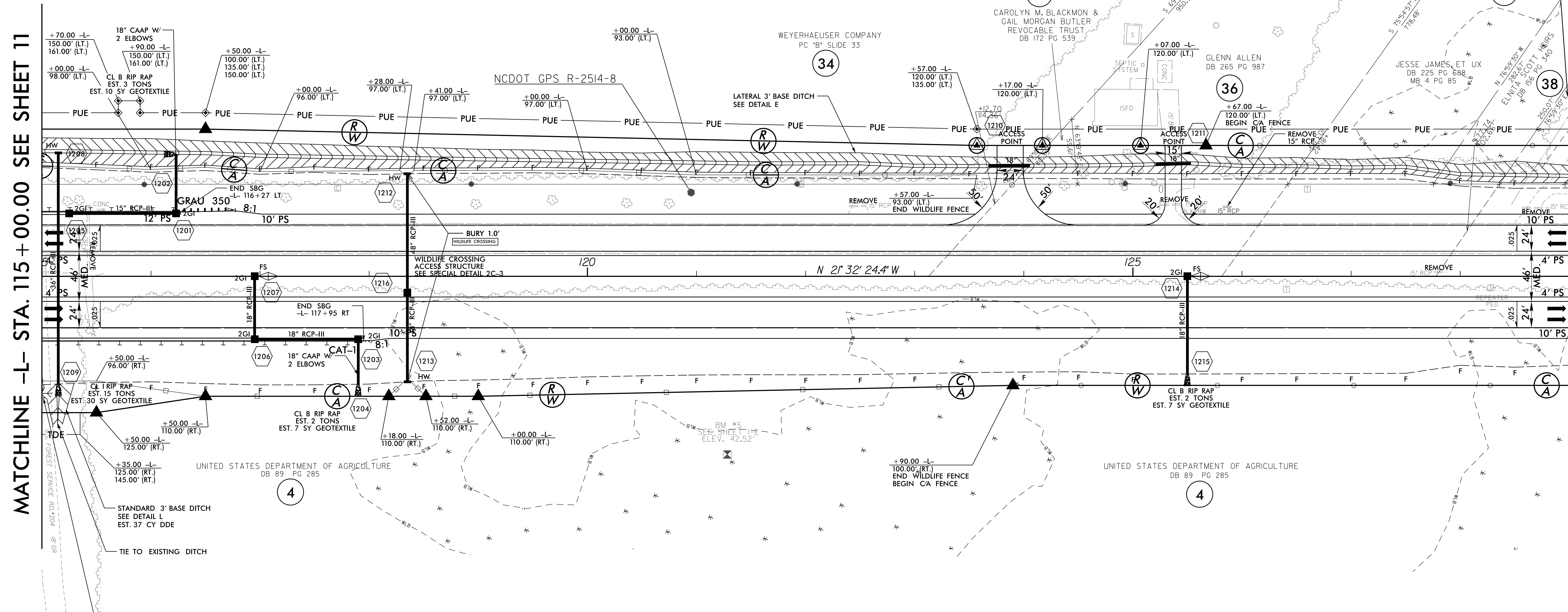
REVISIONS

3/23/2015 11:01:01 Cadd\2514C\Roadway\Proj\2514C\_Rdwy\_psh\_11.dgn

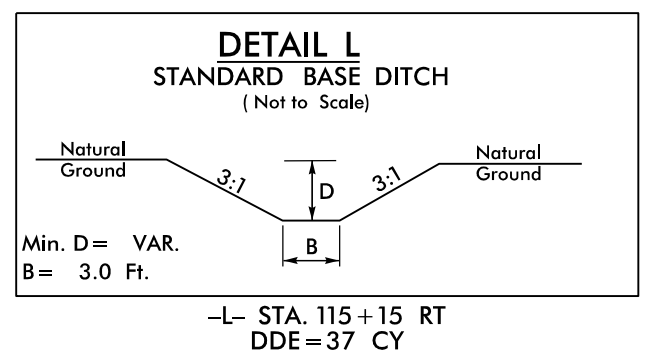
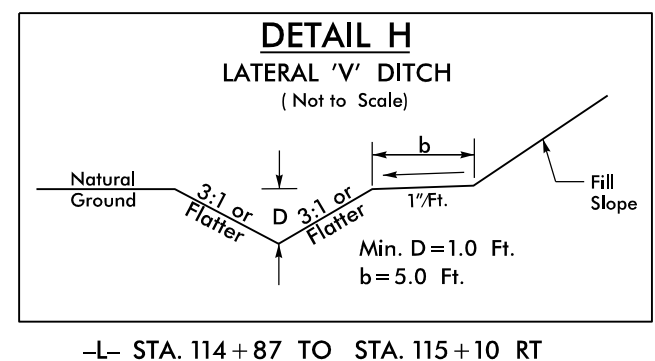
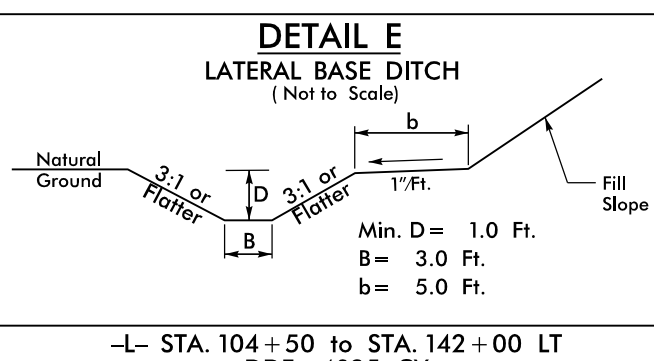
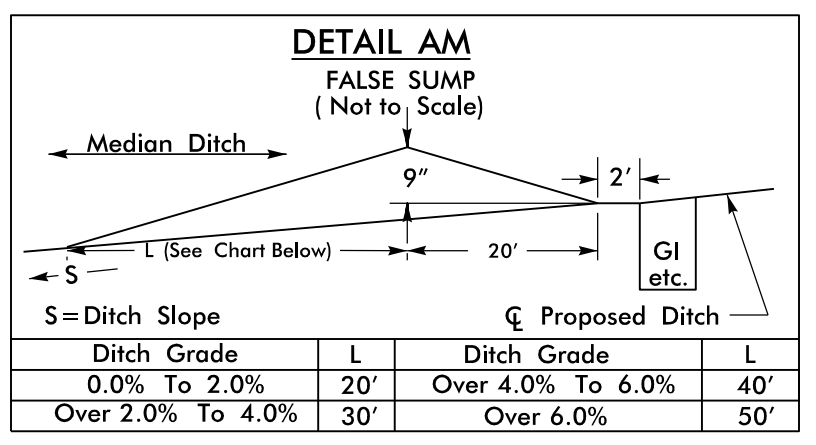
NAD 83/NRS 2007

MATCHLINE -L- STA. 115 + 00.00 SEE SHEET 11

MATCHLINE -L- STA. 129 + 00.00 SEE SHEET 13



REVISIONS



-L- STA. 104+50 TO STA. 142+00 LT  
DDE=4025 CY

-L- STA. 114+87 TO STA. 115+10 RT  
DDE=5 CY

-L- STA. 115+15 RT  
DDE=37 CY

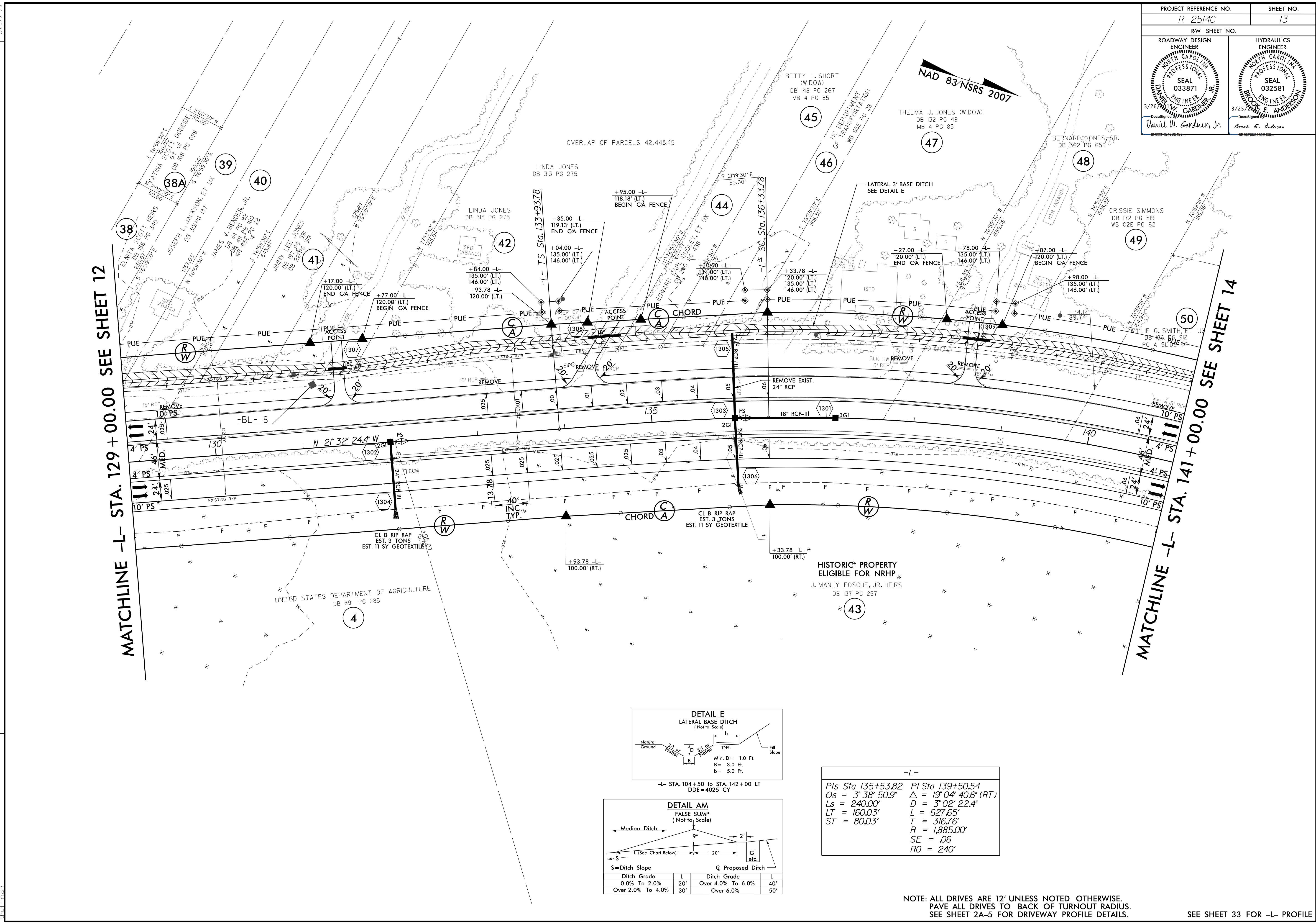
NOTE: SBG - "SHOULDER BERM GUTTER"  
ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAVE ALL DRIVES TO BACK OF TURNOUT RADII.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS.  
SEE SHEET 2C-1 FOR WILDLIFE FENCE DETAIL.

SEE SHEET 33 FOR -L- PROFILE

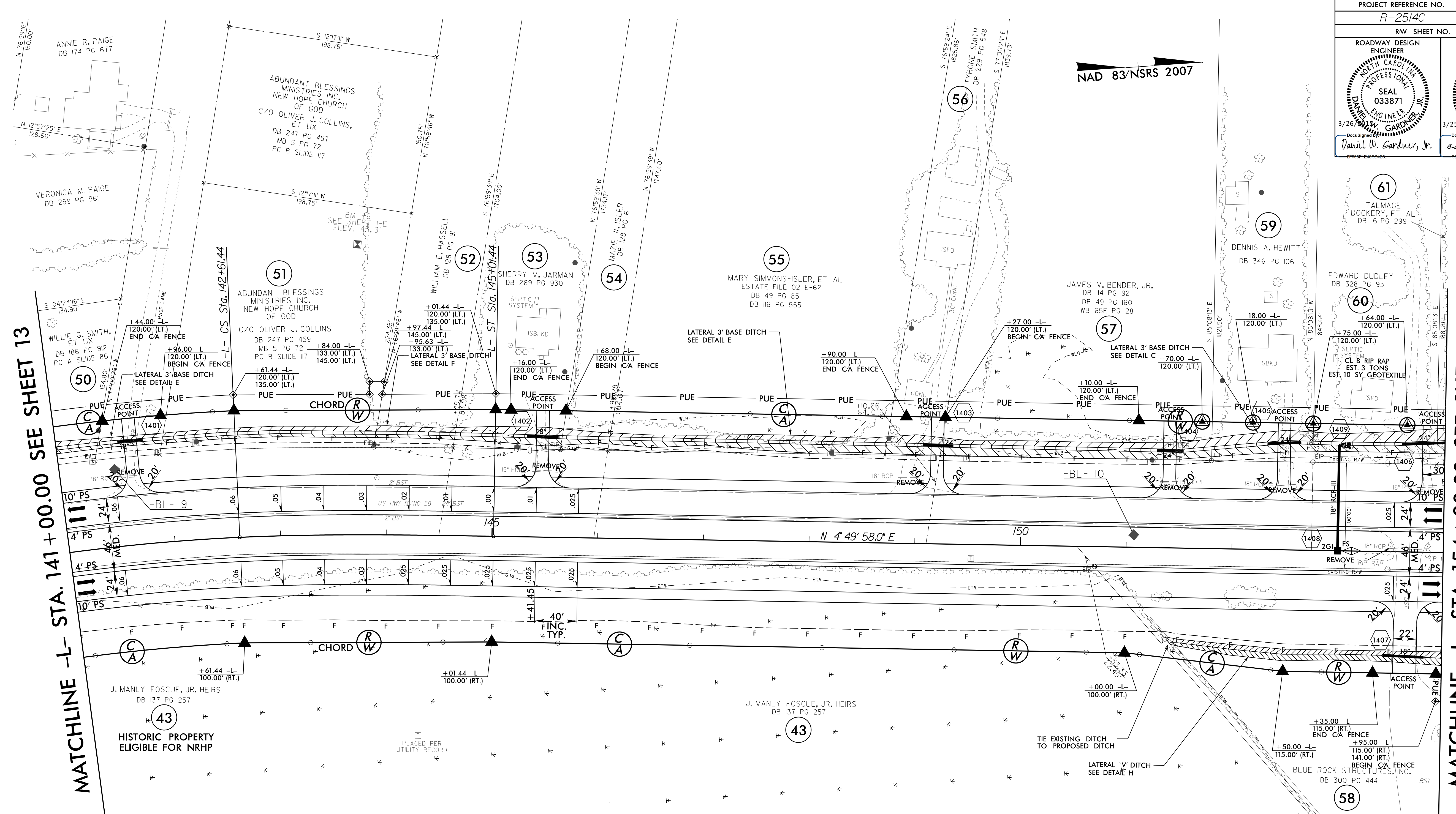
8/17/99  
P:\2015\201501\Cadd\2514C\Roadway\Proj\2514C\_Rdwy\_psh\_12.dgn  
3/23/2015 10:22:01 AM

MATCHLINE -L- STA. 129 + 00.00 SEE SHEET 12

MATCHLINE -L- STA. 141 + 00.00 SEE SHEET 14



NAD 83/NSRS 2007



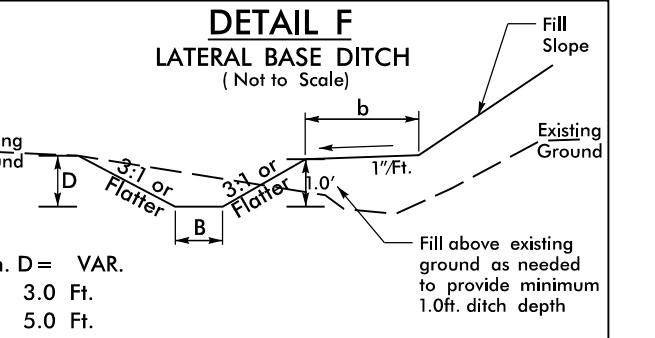
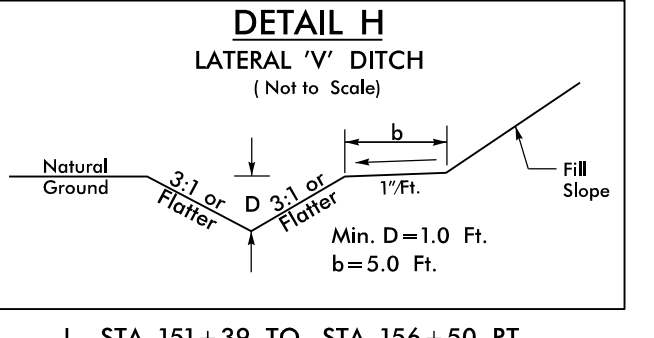
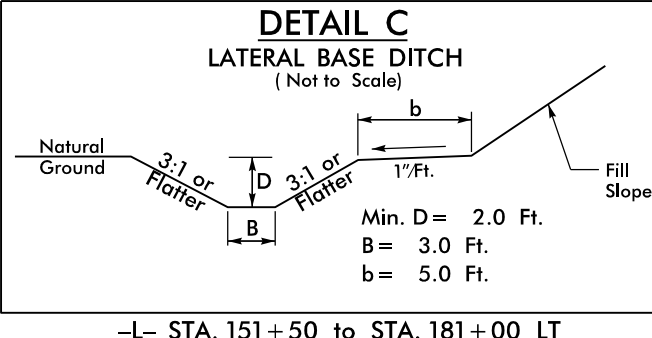
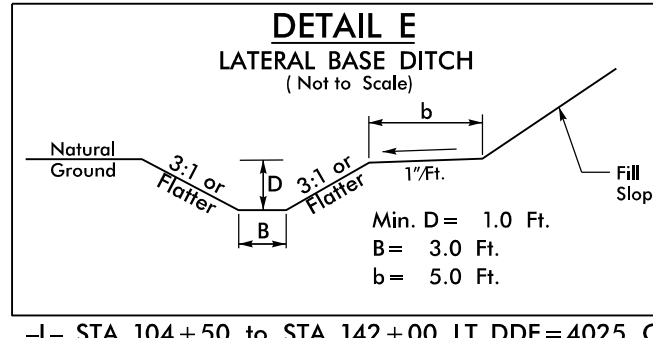
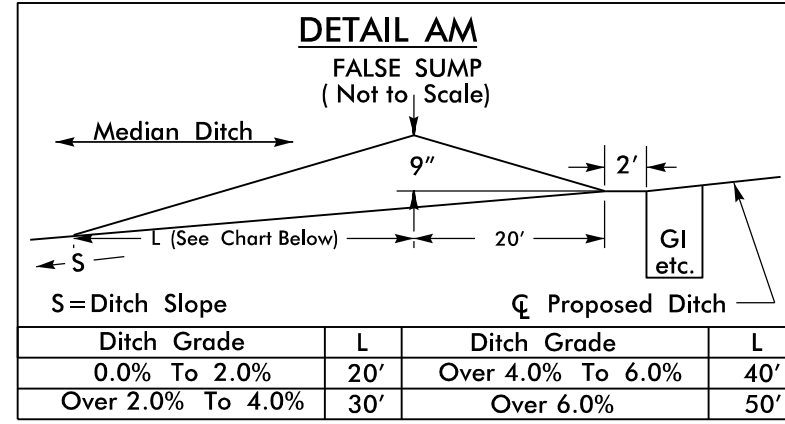
MATCHLINE -L- STA. 141 + 00.00 SEE SHEET 13

MATCHLINE -L- STA. 154 + 00.00 SEE SHEET 15

REVISIONS

-L-

PI Sta 139+50.54	PIs Sta 143+41.47
$\Delta = 19^{\circ}04'40.6''$ (RT)	$\Theta_s = 3^{\circ}38'50.9''$
$D = 3^{\circ}02'22.4''$	$L_s = 240.00'$
$L = 627.65'$	$LT = 160.03'$
$T = 316.76'$	$ST = 80.03'$
$R = 1,885.00'$	
$SE = .06$	
$RO = 240'$	



-L- STA. 104+50 TO STA. 142+00 LT DDE=4025 CY  
-L- STA. 147+00 TO STA. 151+50 LT DDE=264 CY

-L- STA. 151+50 TO STA. 181+00 LT  
DDE=6255 CY

-L- STA. 151+39 TO STA. 156+50 RT  
DDE=261 CY

-L- STA. 142+00 TO STA. 147+00 LT  
DDE=202 CY

NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAYE ALL DRIVES TO BACK OF TURNOUT RADIUS.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS.

SEE SHEET 34 FOR -L- PROFILE

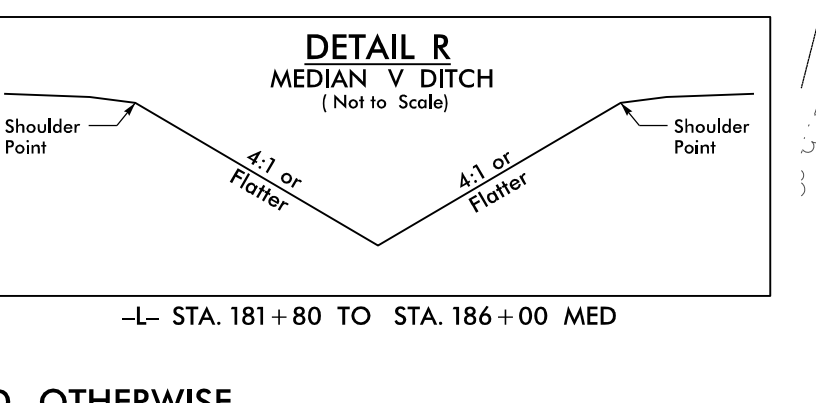
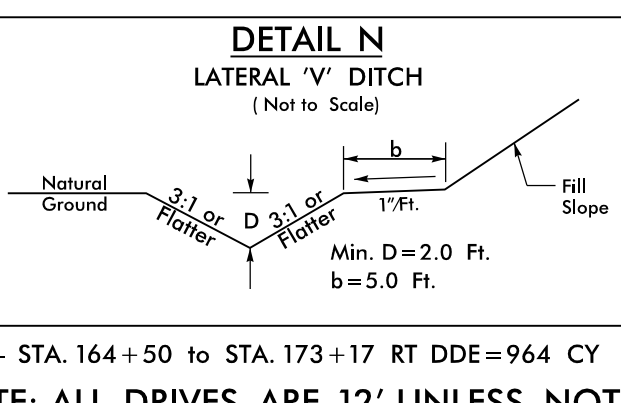
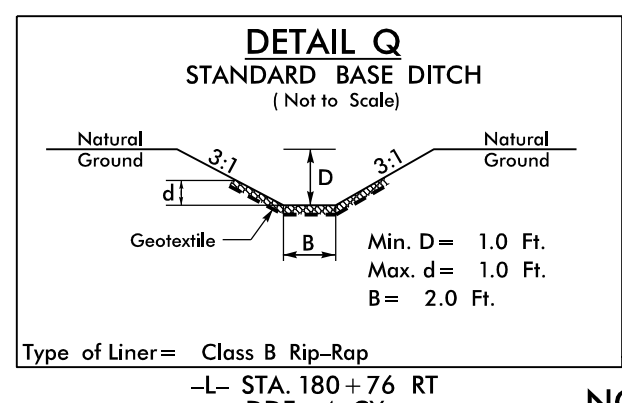
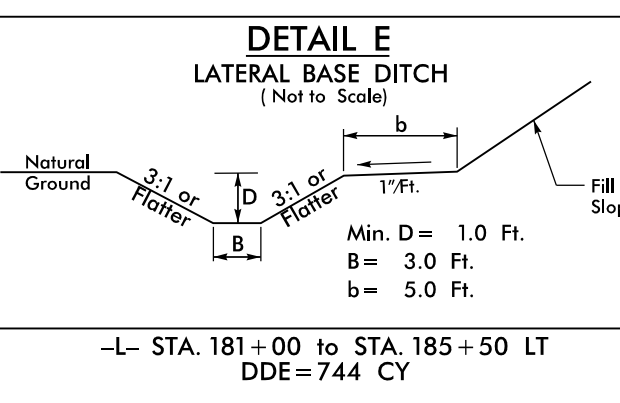
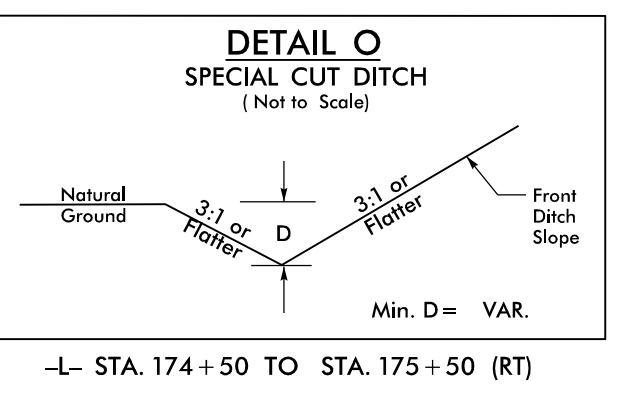
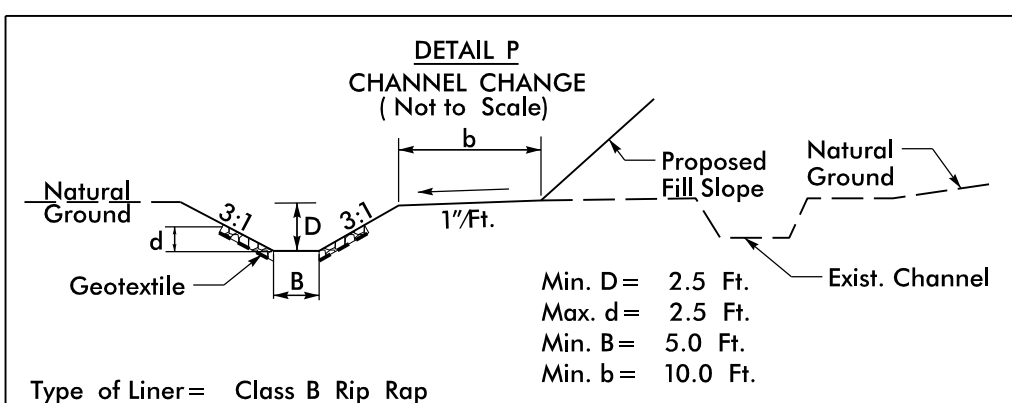
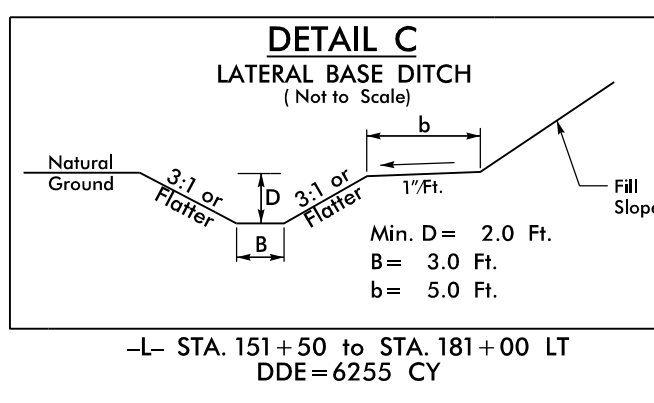
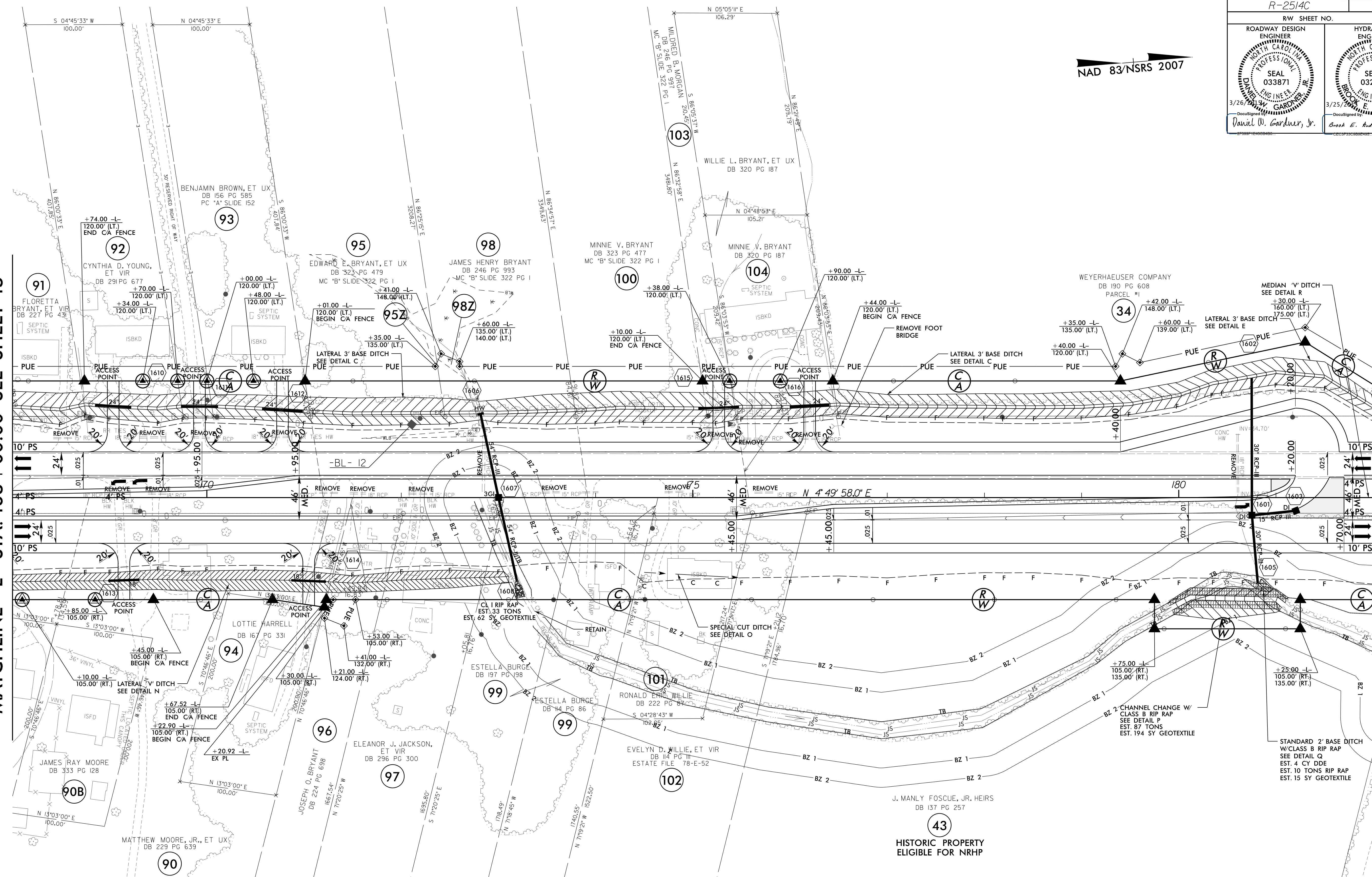
8/17/99  
3/23/2015  
F:\32522\01\Cadd\2514C\Roadway\Proj\NR2514C\_RHy\_psh\_14.dgn



NAD 83/NSRS 2007

MATCHLINE -L- STA. 168 + 00.00 SEE SHEET 15

MATCHLINE -L- STA. 182 + 00.00 SEE SHEET 17



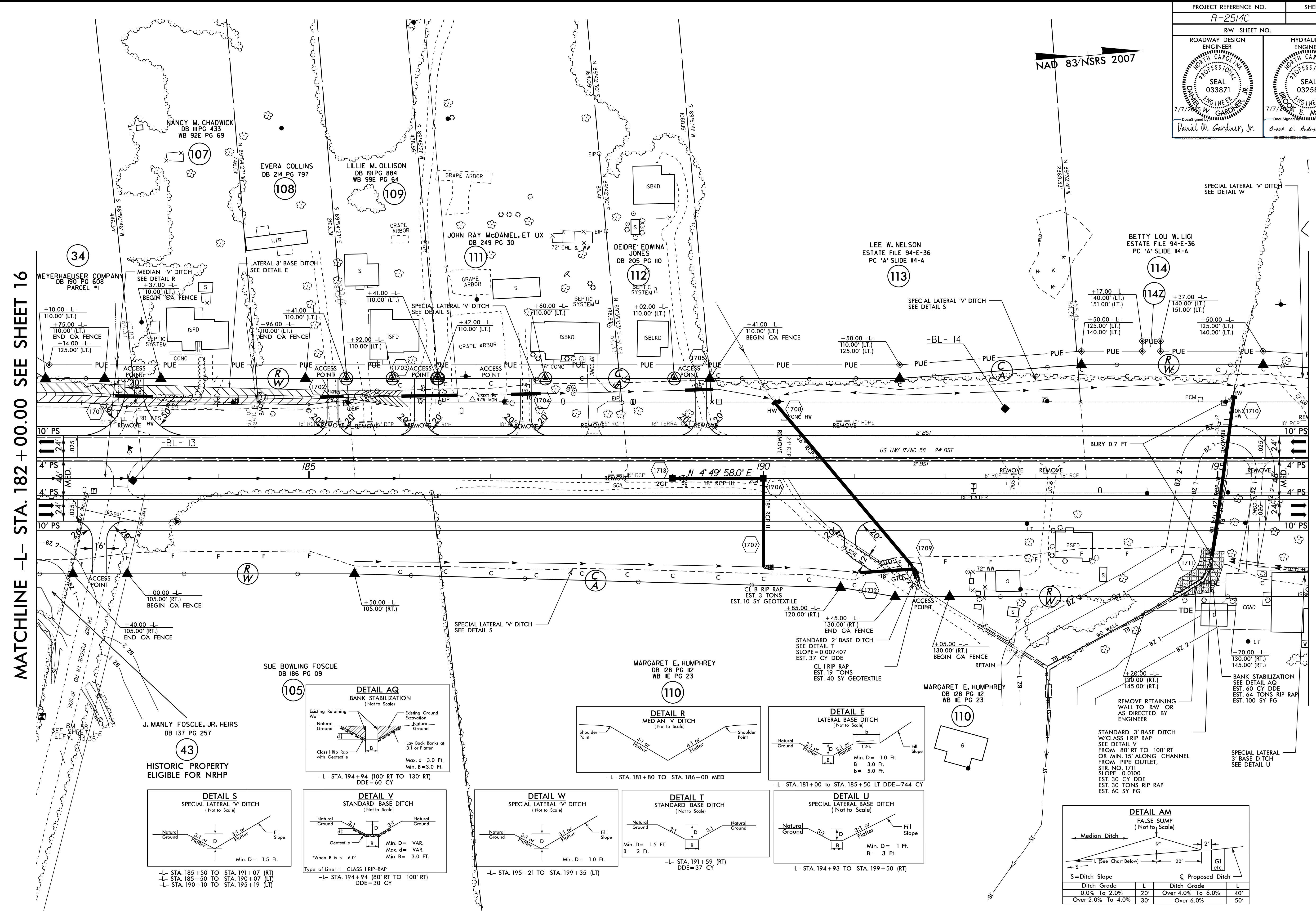
NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAVE ALL DRIVES TO BACK OF TURNOUT RADIUS.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS.

SEE SHEET 35 FOR -L- PROFILE

REVISIONS

8/17/99  
F:\320\2015\1\Roadway\2514C\Roadway\Proc\NR2514C\_RRBy\_psh\_16.dgn

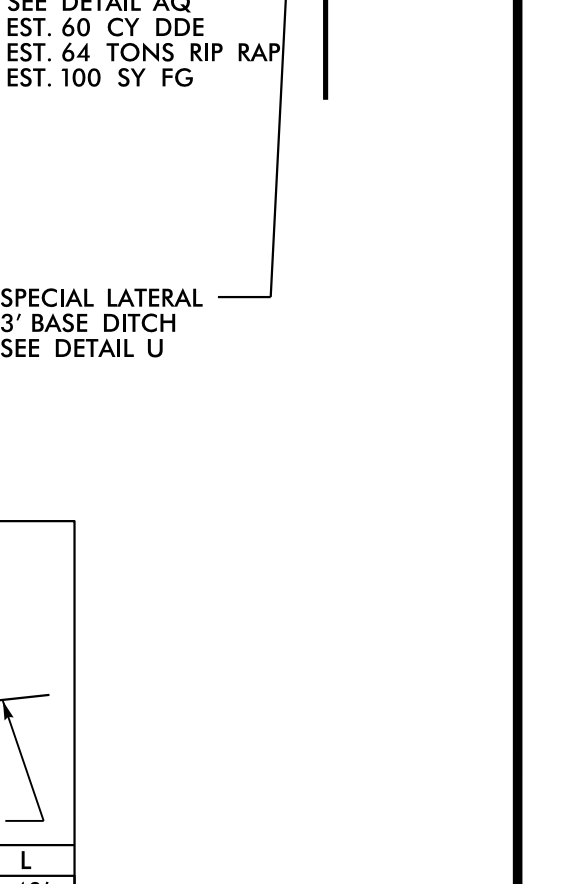
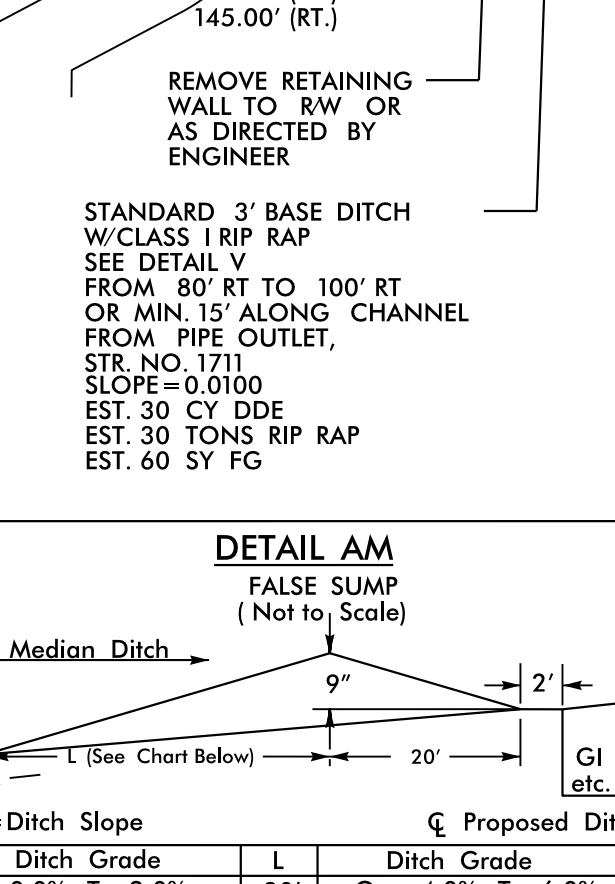
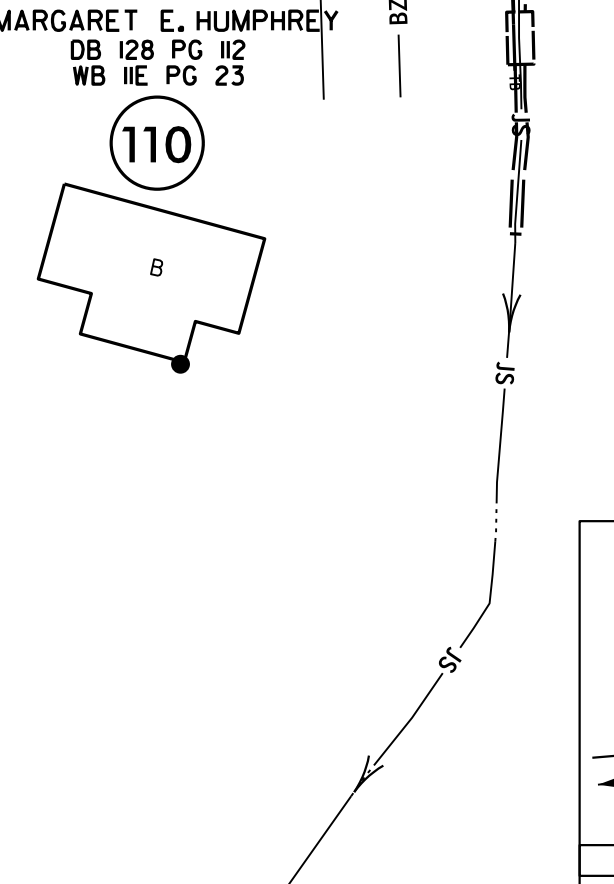
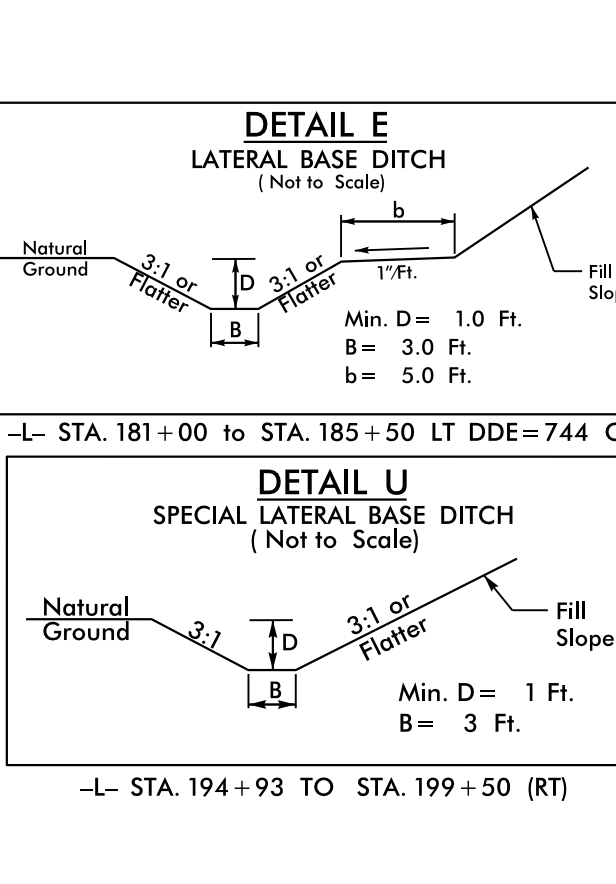
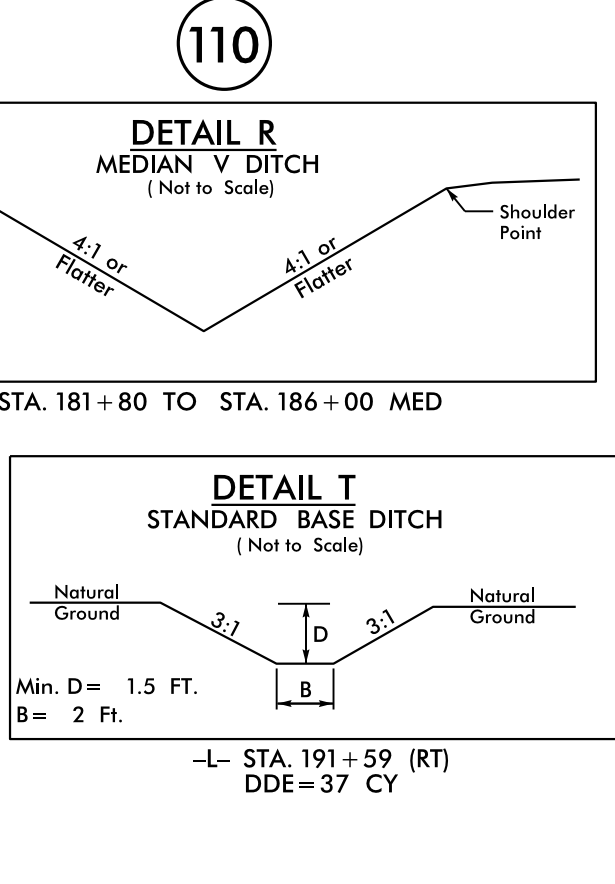
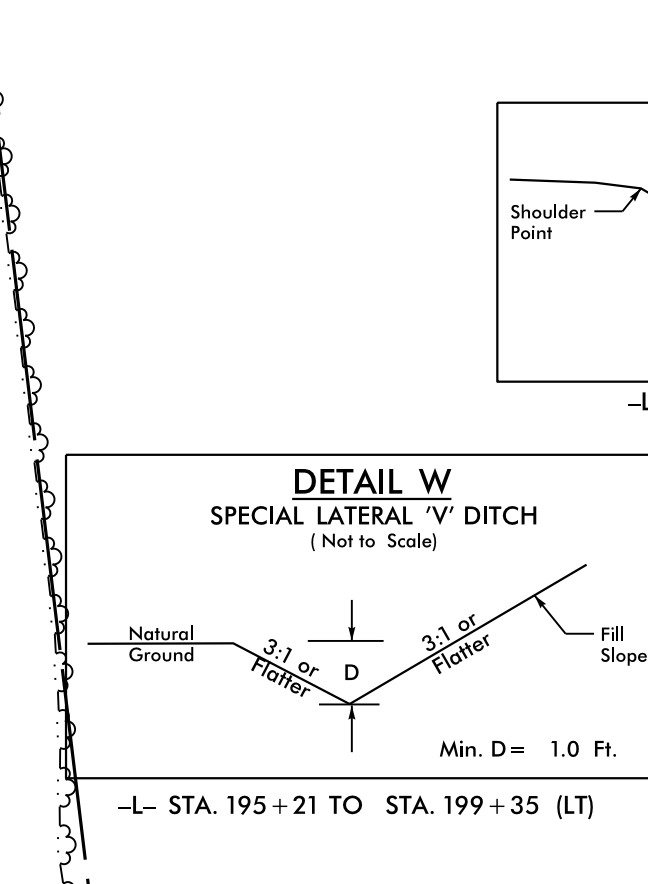
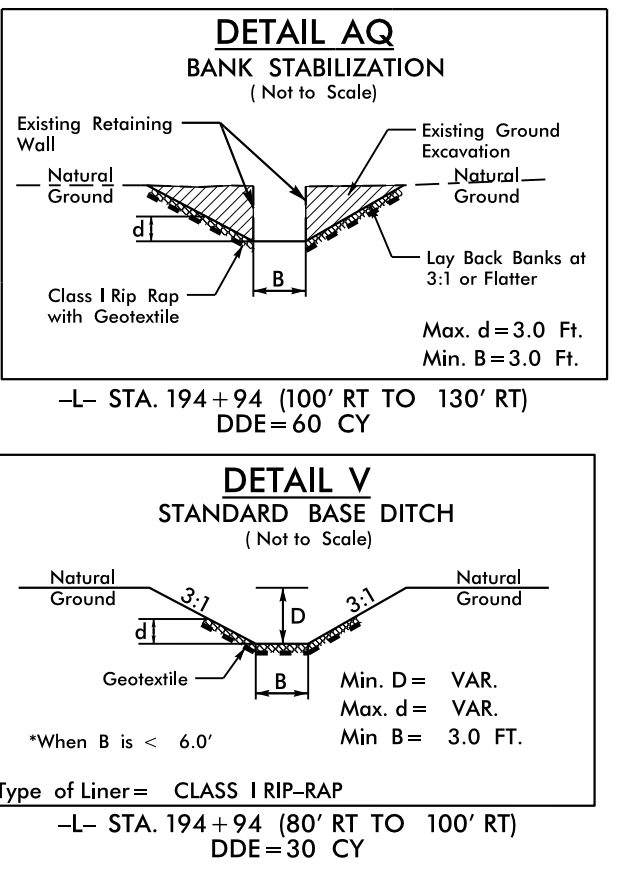
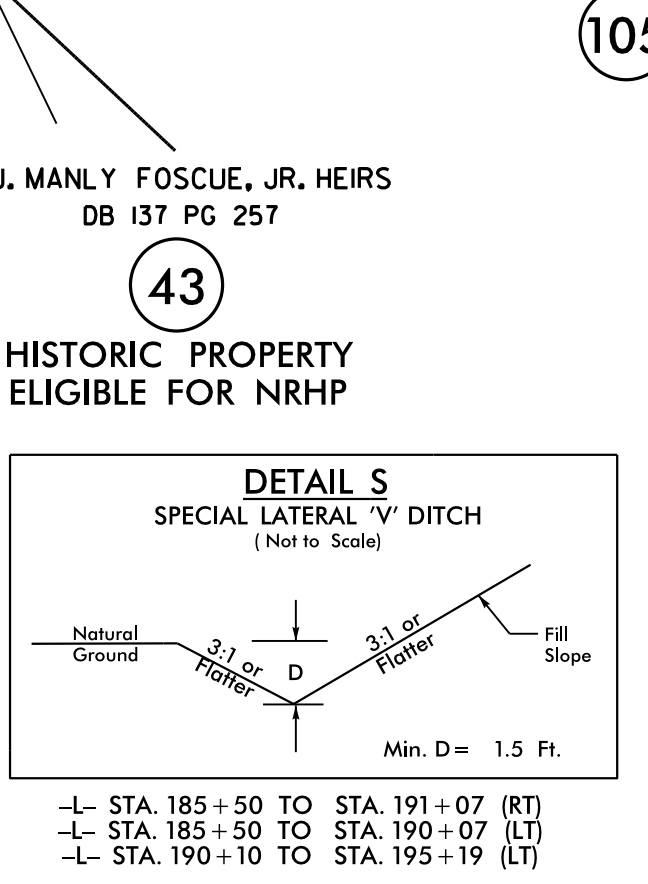
NAD 83/NSRS 2007



MATCHLINE -L- STA. 182 + 00.00 SEE SHEET 16

MATCHLINE -L- STA. 196 + 00.00 SEE SHEET 18

REVISIONS  
RAW REVISION ON A LET PROJECT 7-7-15 (DMG) - THE PROPOSED CONCRETE ACCESS MARKER LOCATED AT -L- STA. 187+15.00 LT. WAS SHIFTED SOUTH TO -L- STA. 186+42.00 LT. FOR ADDITIONAL ACCESS TO PARCEL III (JOHN RAY MCDANIEL ET UX).



**DETAIL AM**  
FALSE SUMP  
(Not to Scale)

S = Ditch Slope		Proposed Ditch	
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAVE ALL DRIVES TO BACK OF TURNOUT RADIUS.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS.  
SEE SHEET 35 FOR -L- PROFILE

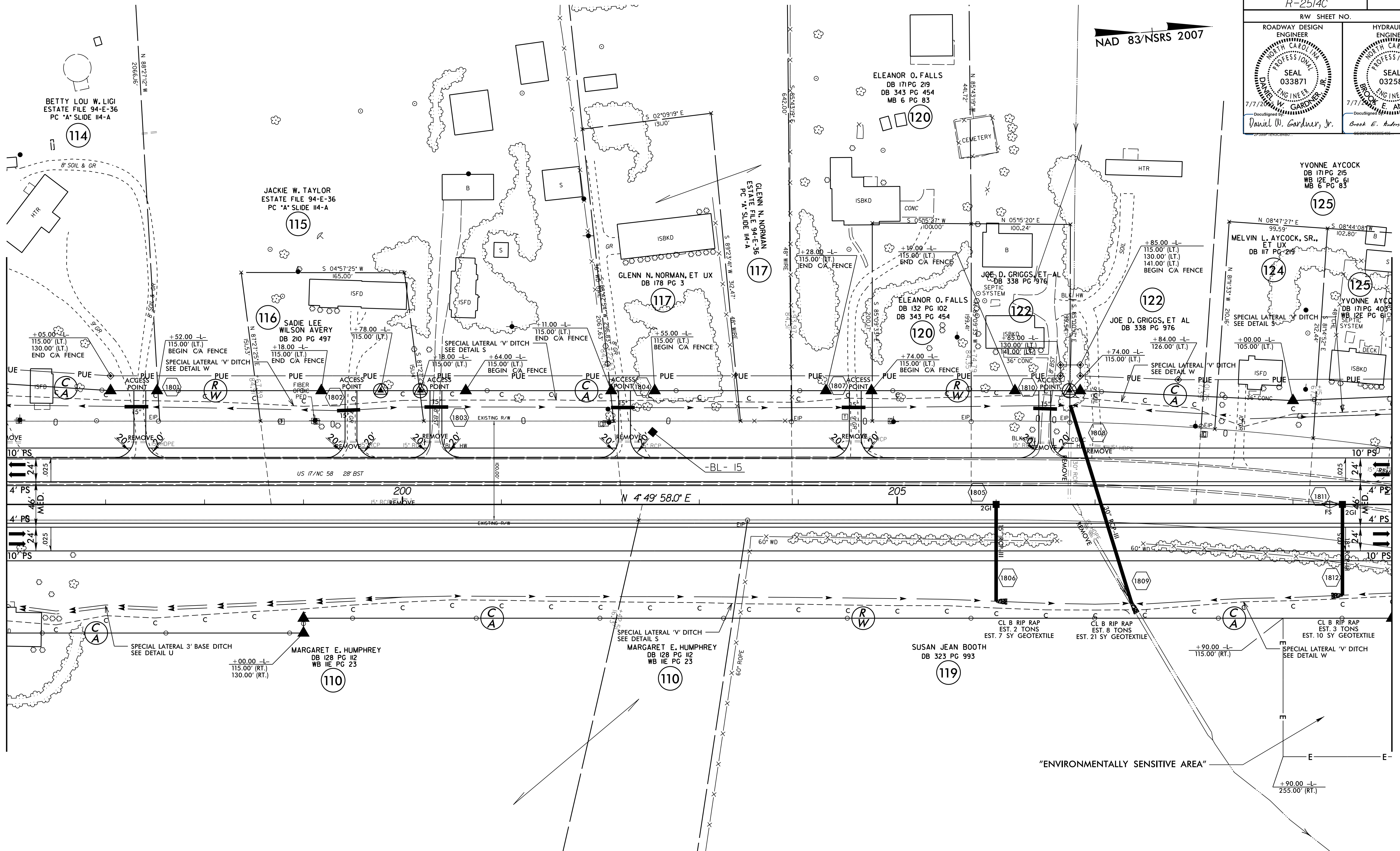
07 JUL 2015 12:25 P2514C\_Rd17.dgn  
S:\PROJECTS\2015\2514C\RD17.dgn



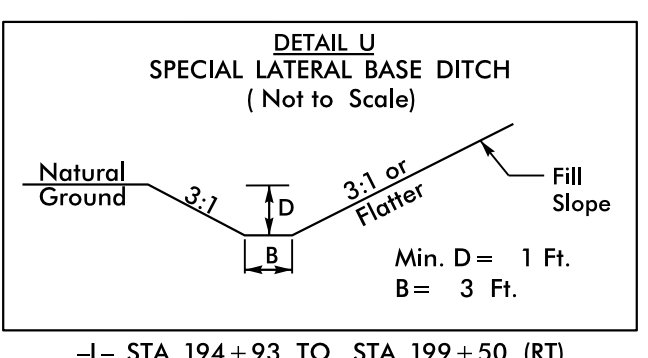
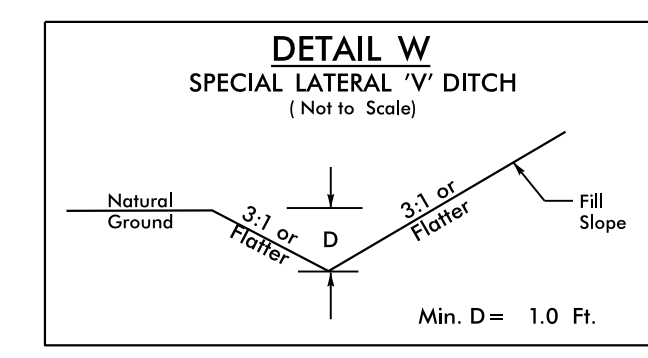
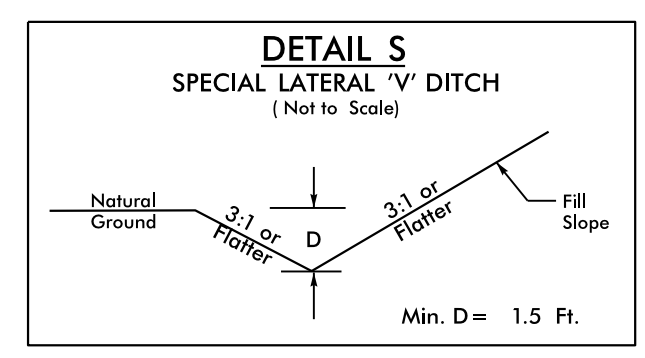
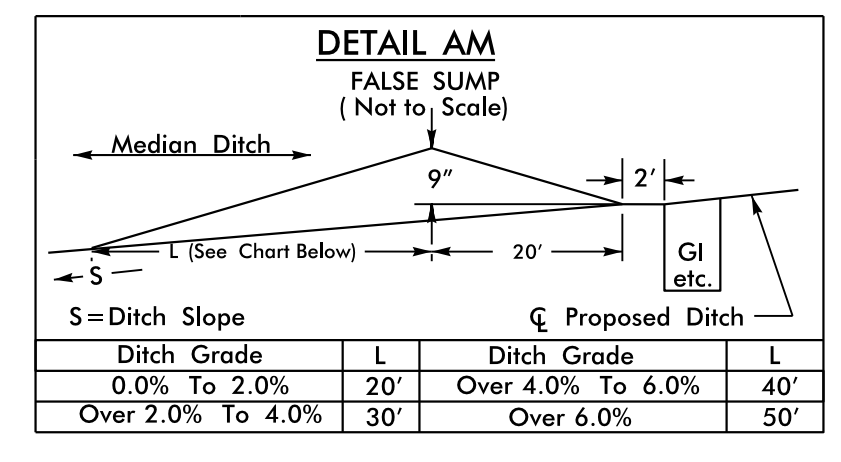
NAD 83/NSRS 2007

MATCHLINE -L- STA. 196 + 00.00 SEE SHEET 17

MATCHLINE -L- STA. 210 + 00.00 SEE SHEET 19



REVISIONS  
R/W REVISION ON A LET PROJECT 7-7-15 (DMG) - DELETED THE 122Z NOTES ON PARCEL 122 (JOE D. GRIGGS, ET AL.)



- L- STA. 199+50 TO STA. 207+35 (RT)
- L- STA. 199+57 TO STA. 206+73 (LT)
- L- STA. 208+56 TO STA. 214+40 (LT)
- L- STA. 207+39 TO STA. 214+22 (RT)
- L- STA. 199+21 TO STA. 199+35 (LT)
- L- STA. 206+76 TO STA. 208+37 (LT)

NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAVE ALL DRIVES TO BACK OF TURNOUT RADIUS.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS.

SEE SHEET 36 FOR -L- PROFILE

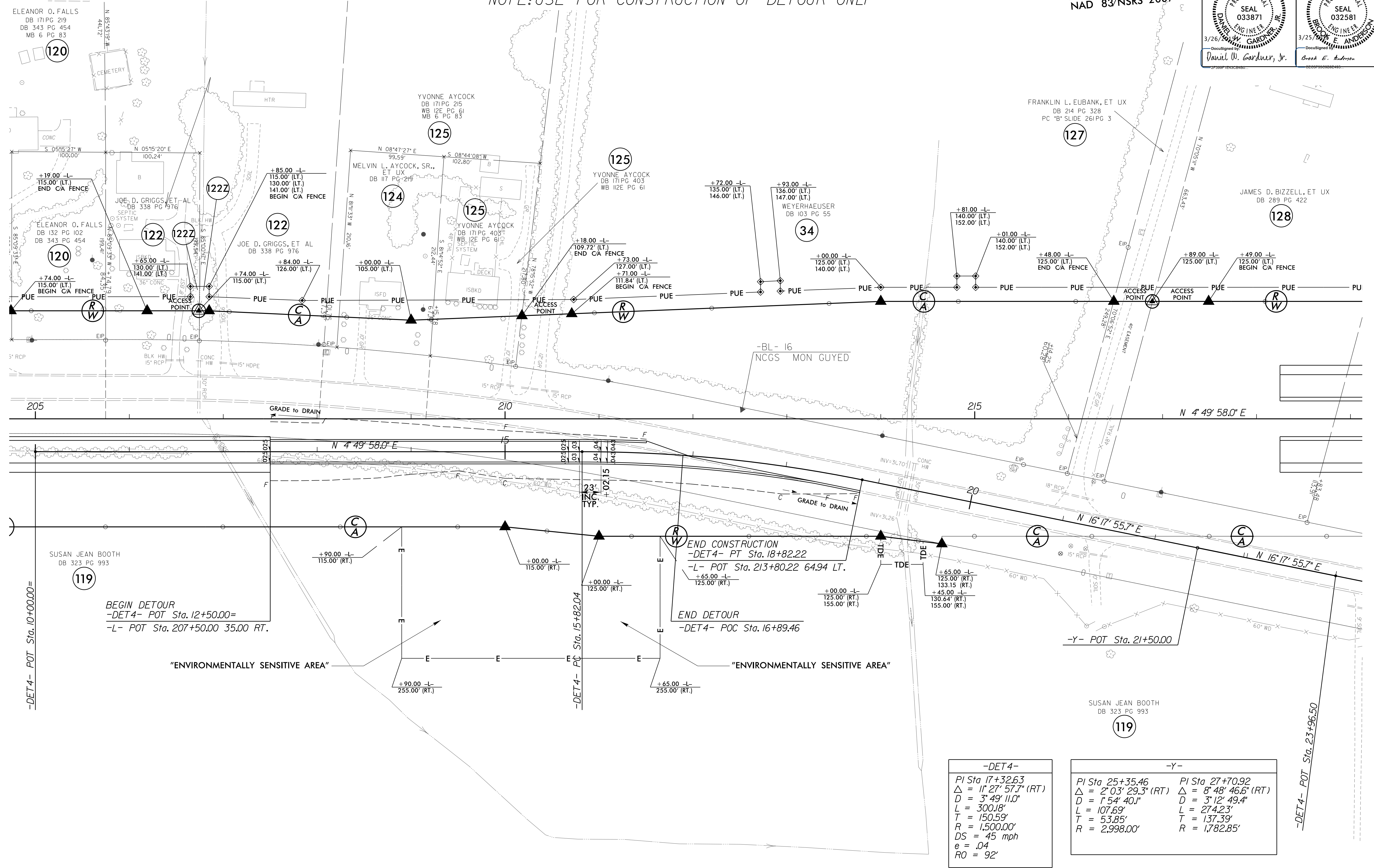
07 JUL 2015 12:27 P2514C\_RdL\_psh\_18.dgn

# -DET4- DETOUR SHEET

NOTE: USE FOR CONSTRUCTION OF DETOUR ONLY

PROJECT REFERENCE NO. R-2514C	SHEET NO. 18A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 033871 DAVID W. GARDNER, JR. 3/26/2015	HYDRAULICS ENGINEER SEAL 032581 BROOK E. ANDERSON 3/25/2015

NAD 83/NSRS 2007



REVISIONS

-DET4-
PI Sta 17+32.63
$\Delta = 1^\circ 27' 57.7''$ (RT)
D = 3' 49' 11.0"
L = 300.18'
T = 150.59'
R = 1,500.00'
DS = 45 mph
e = .04
RO = 92'

-Y-	
PI Sta 25+35.46	PI Sta 27+70.92
$\Delta = 2^\circ 03' 29.3''$ (RT)	$\Delta = 8^\circ 48' 46.6''$ (RT)
D = 1' 54' 40.1"	D = 3' 12' 49.4"
L = 107.69'	L = 274.23'
T = 53.85'	T = 137.39'
R = 2,998.00'	R = 1,782.85'

NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE. PAVE ALL DRIVES TO BACK OF TURNOUT RADIUS. SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS. SEE SHEET 45 FOR -DET4- PROFILE

8/17/99  
3/18/2015  
F:\825201\Cadd\2514C\Roadway\Proc\NR2514C\_BBH.psh\_18A.dgn

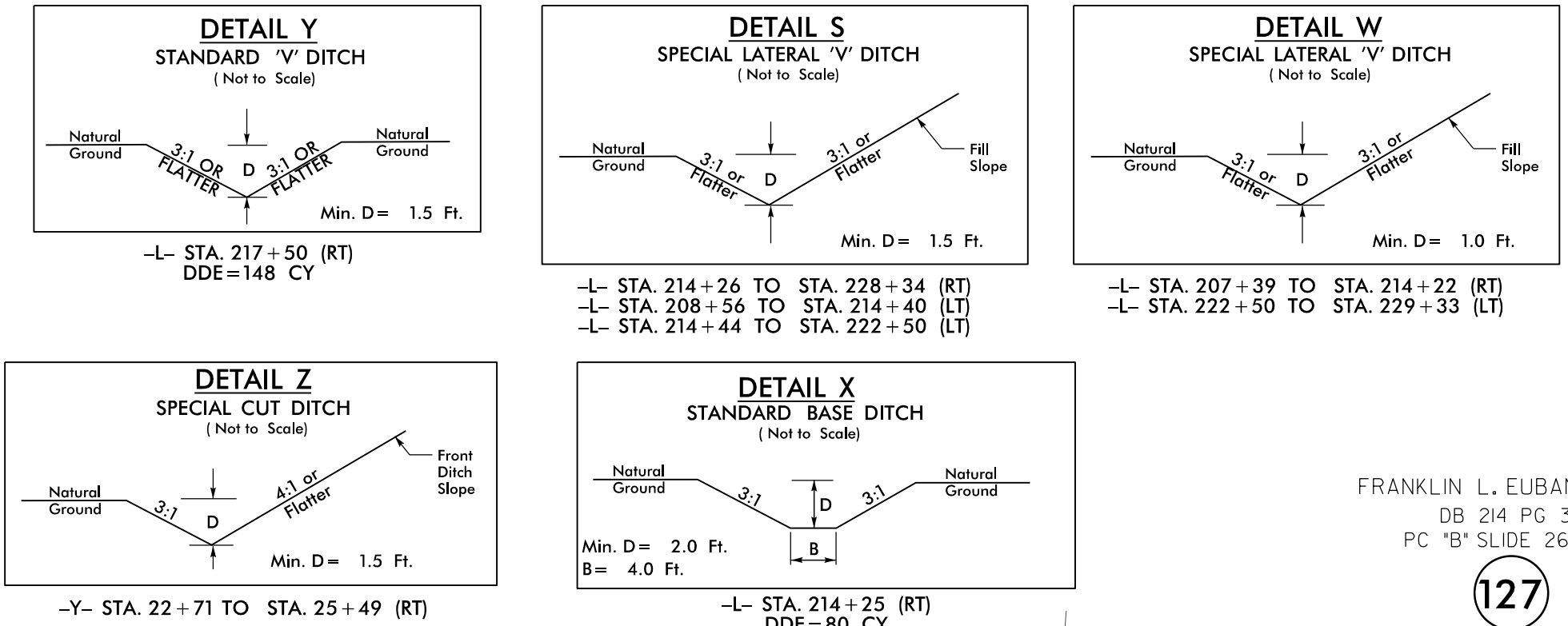
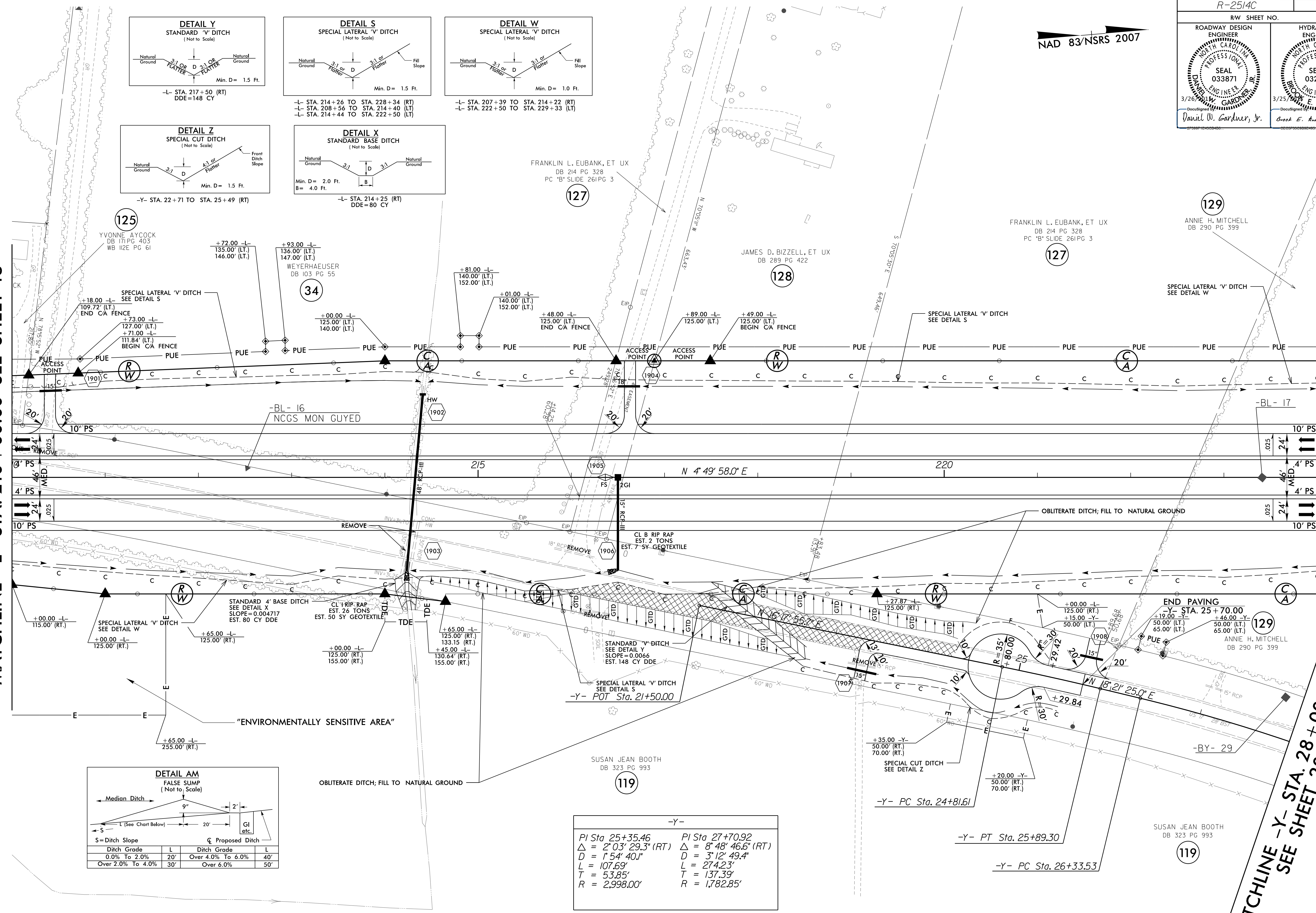


NAD 83/NSRS 2007

MATCHLINE -L- STA. 210 + 00.00 SEE SHEET 18

MATCHLINE -L- STA. 224 + 00.00 SEE SHEET 20

MATCHLINE -Y- STA. 28 + 00.00 SEE SHEET 20



**DETAIL AM**  
FALSE SUMP  
(Not to Scale)

S = Ditch Slope		C = Proposed Ditch	
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-Y-

PI Sta 25+35.46	PI Sta 27+70.92
$\Delta = 2^{\circ} 03' 29.3" (RT)$	$\Delta = 8^{\circ} 48' 46.6" (RT)$
$D = 1^{\circ} 54' 40.1"$	$D = 3^{\circ} 12' 49.4"$
$L = 107.69'$	$L = 274.23'$
$T = 53.85'$	$T = 137.39'$
$R = 2,998.00'$	$R = 1,782.85'$

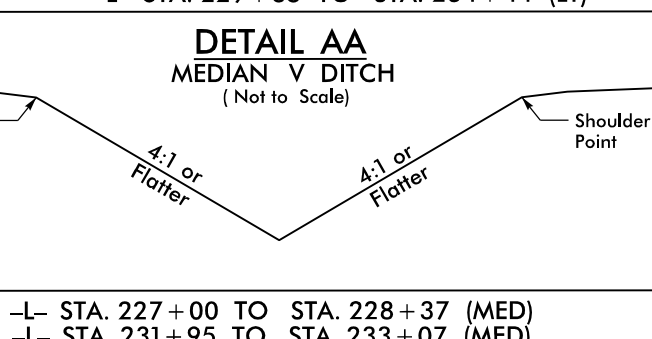
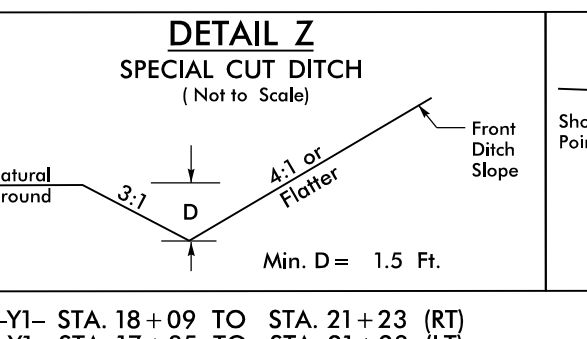
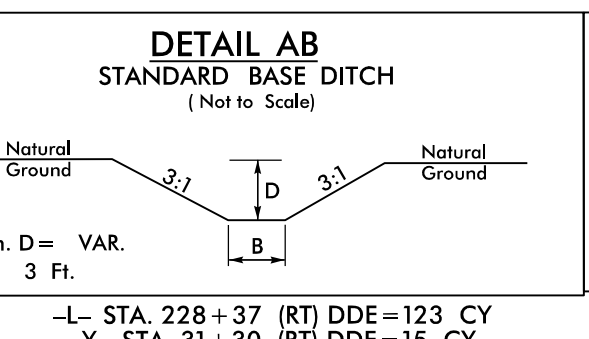
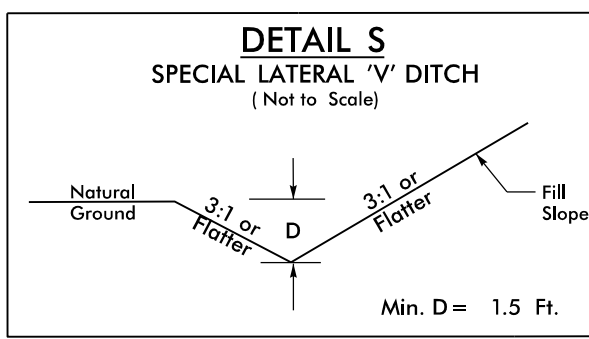
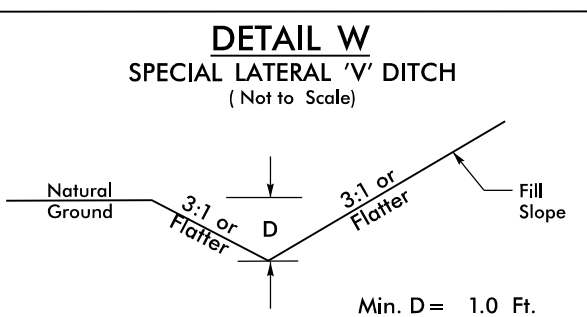
NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAVE ALL DRIVES TO BACK OF TURNOUT RADIUS.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS.

SEE SHEET 36 FOR -L- PROFILE  
SEE SHEET 42 FOR -Y- PROFILE

REVISIONS

8/17/99  
3/23/2015  
C:\Cadd\2514C\Roadway\Proj\NR2514C\_Rdwy\_psh\_19.dgn

-L-	-Y-	-L-	-Y-	-L-	-Y-
PI Sta 237+12.25	PI Sta 241+42.88	PI Sta 27+70.92	PI Sta 30+24.50	PI Sta 32+43.19	
Es = 0° 33' 43.5"	Δ = 5° 42' 02.2" (RT)	Δ = 8° 48' 46.6" (RT)	Δ = 6° 31' 30.1" (RT)	Δ = 1° 03' 35.2" (RT)	
Ls = 150.00'	D = 0° 44' 58.0"	D = 3° 12' 49.4"	D = 2° 47' 51.9"	D = 0° 31' 06.4"	
LT = 100.00'	L = 760.63'	L = 233.22'	L = 204.41'	L = 204.41'	
ST = 50.00'	T = 380.63'	T = 137.39'	T = 116.74'	T = 102.21'	
	SE = .03	R = 1,782.85'	R = 2,047.92'	R = 11,051.47'	
	RO = 150'				

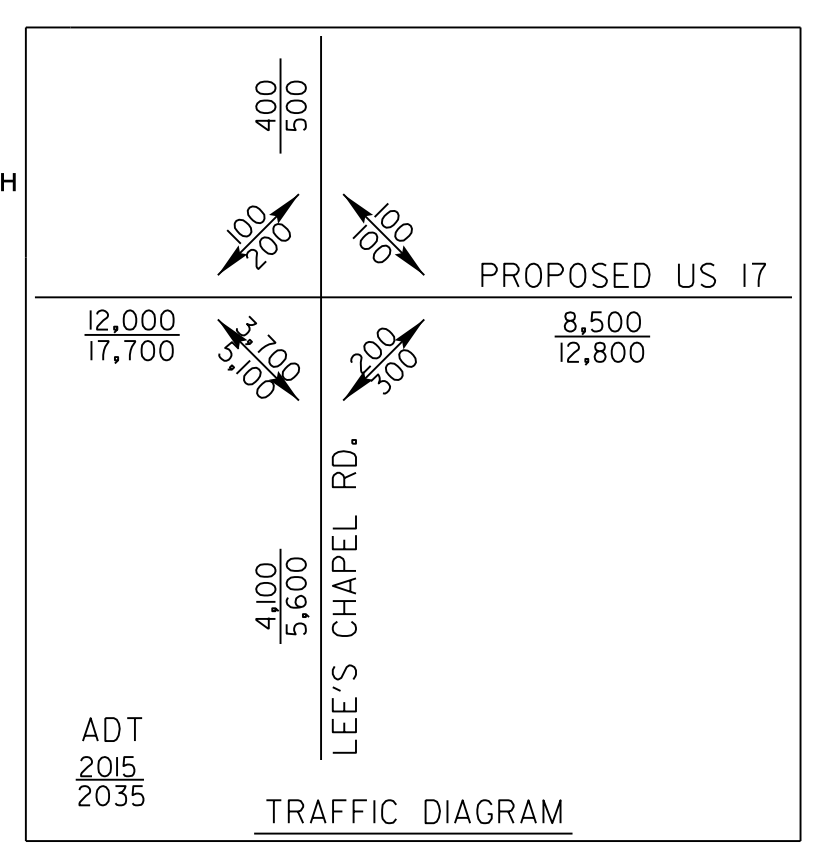
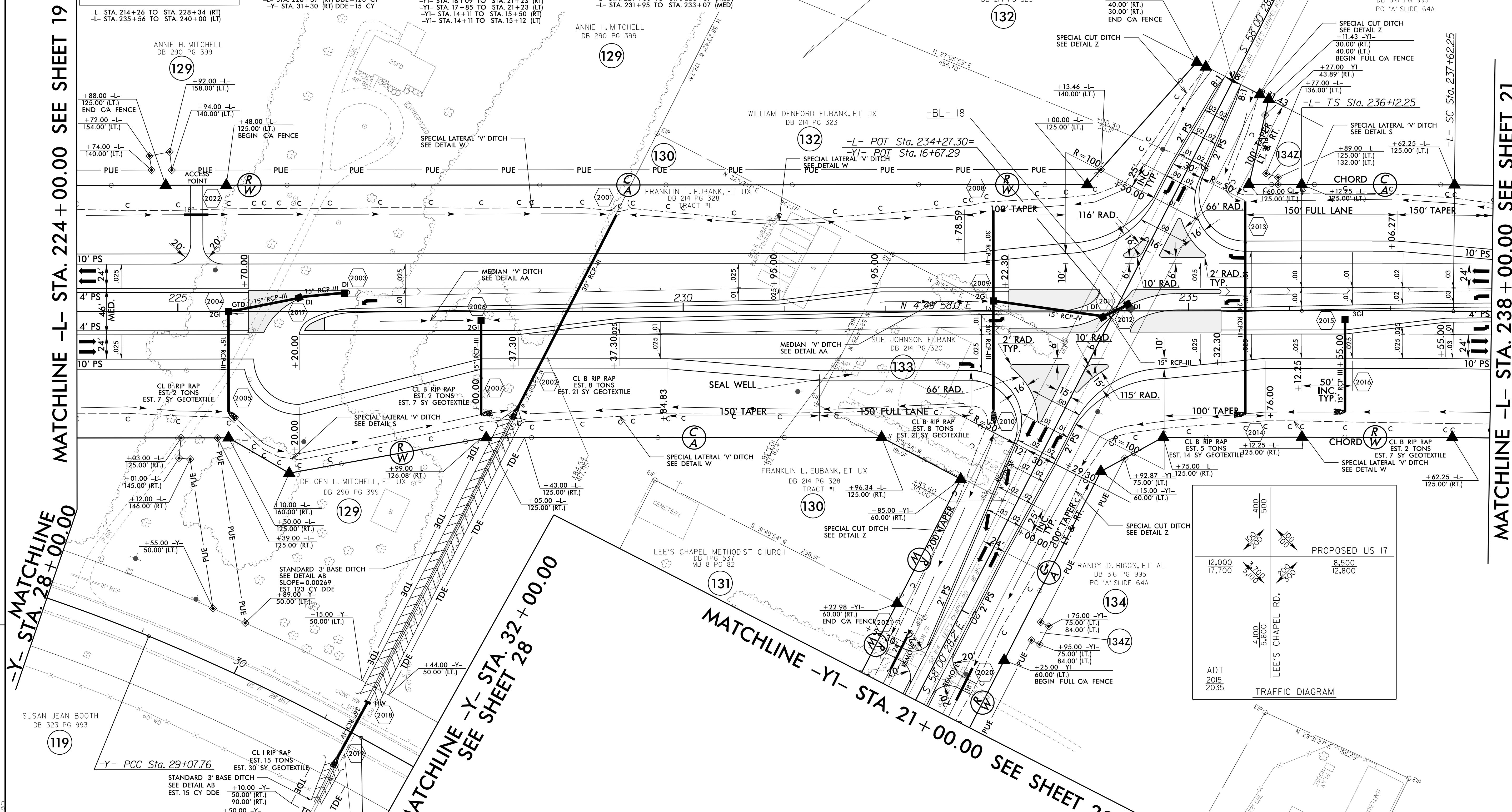


-L- STA. 214+26 TO STA. 228+34 (RT)  
-L- STA. 235+56 TO STA. 240+00 (LT)

-L- STA. 228+37 TO STA. 228+37 (RT) DDE=123 CY  
-Y- STA. 31+30 TO STA. 31+30 (RT) DDE=15 CY

-Y1- STA. 18+09 TO STA. 21+23 (RT)  
-Y1- STA. 17+85 TO STA. 21+23 (LT)  
-Y1- STA. 14+11 TO STA. 15+50 (RT)  
-Y1- STA. 14+11 TO STA. 15+12 (LT)

-L- STA. 227+00 TO STA. 228+37 (MED)  
-L- STA. 231+95 TO STA. 233+07 (MED)



NOTE: ALL DRIVES ARE 12' UNLESS NOTED OTHERWISE.  
PAVE ALL DRIVES TO BACK OF TURNOUT RADIUS.  
SEE SHEET 2A-5 FOR DRIVEWAY PROFILE DETAILS.

SEE SHEET 37 FOR -L- PROFILE  
SEE SHEET 41 FOR -Y1- PROFILE

MATCHLINE -L- STA. 224 + 00.00 SEE SHEET 19

MATCHLINE -L- STA. 238 + 00.00 SEE SHEET 21

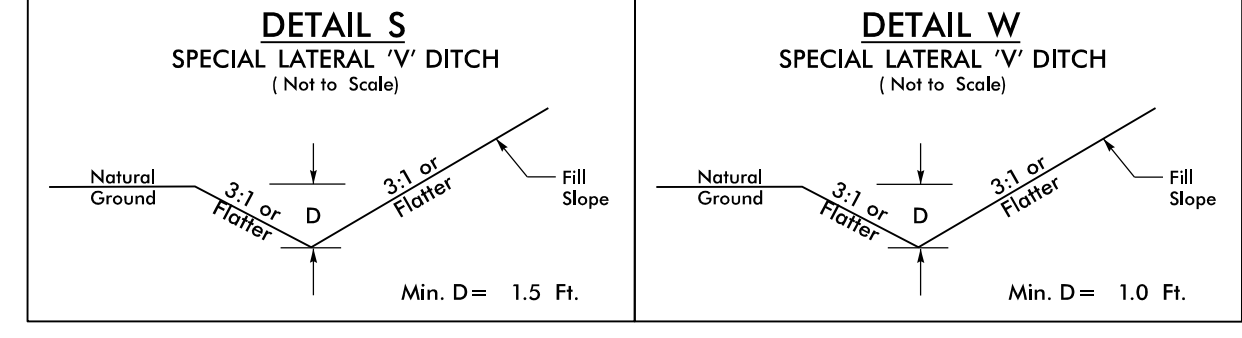
REVISIONS

8.17.99

F:\2015\15000\15000\15000\Roadway\Project\2514C\Roadway\20.dgn

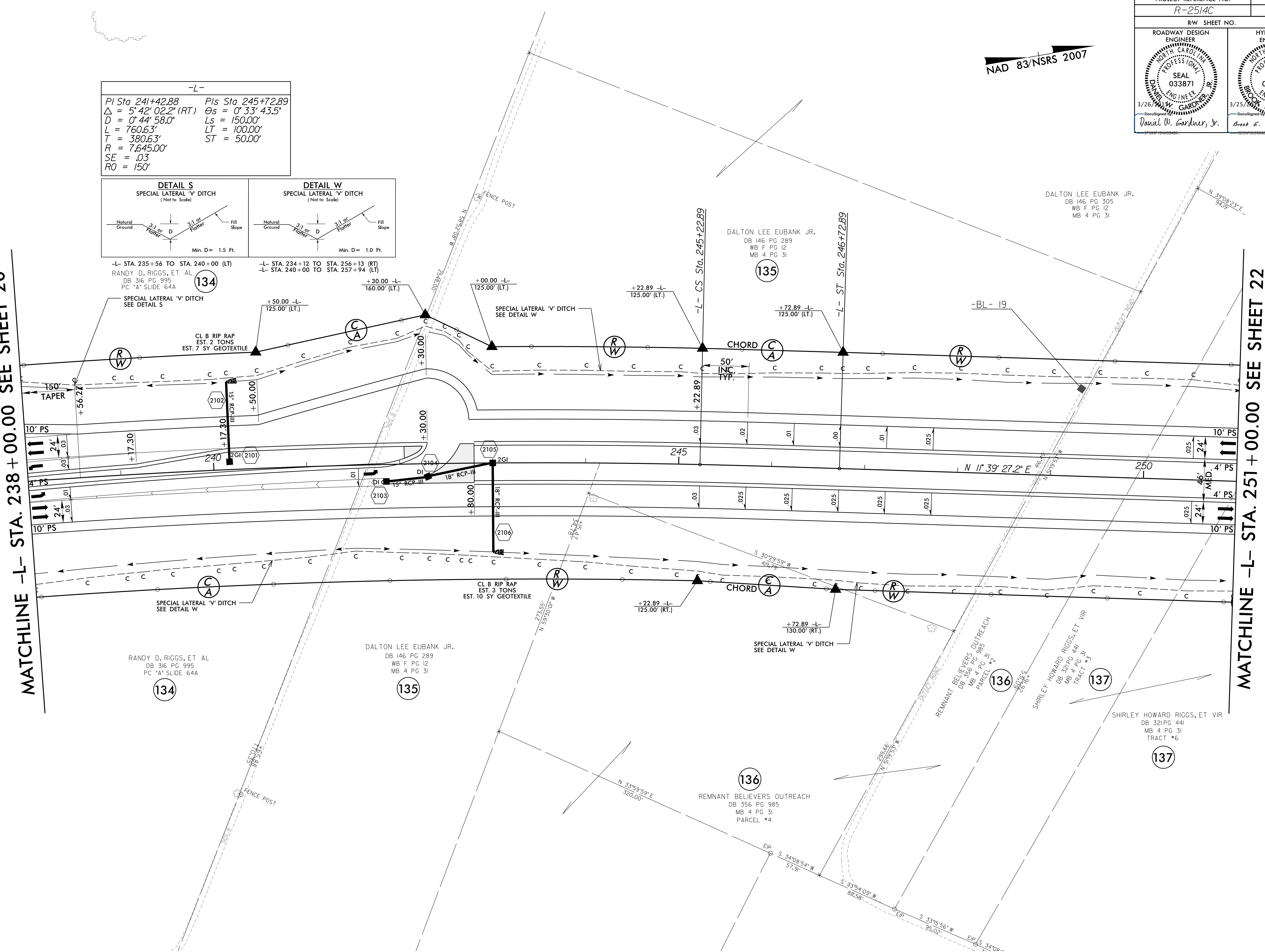
NAD 83/NSRS 2007

-L-  
 PI Sta 241+42.88    Pls Sta 245+72.89  
 $\Delta = 5^{\circ} 42' 02.2''$  (RT)     $\Theta_s = 0^{\circ} 33' 43.5''$   
 $D = 0^{\circ} 44' 58.0''$      $L_s = 150.00'$   
 $L = 760.63'$      $LT = 100.00'$   
 $T = 380.63'$      $ST = 50.00'$   
 $R = 7,645.00'$   
 $SE = .03$   
 $RO = 150'$



MATCHLINE -L- STA. 238 + 00.00 SEE SHEET 20

MATCHLINE -L- STA. 251 + 00.00 SEE SHEET 22

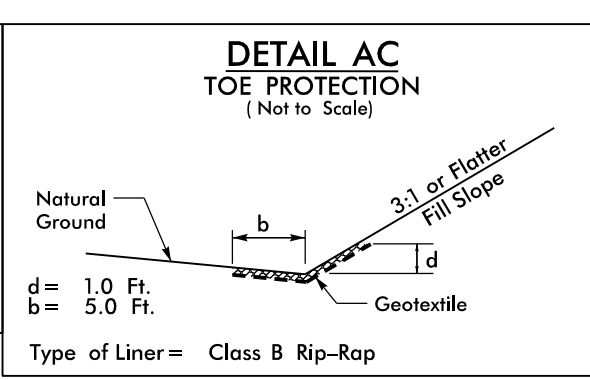
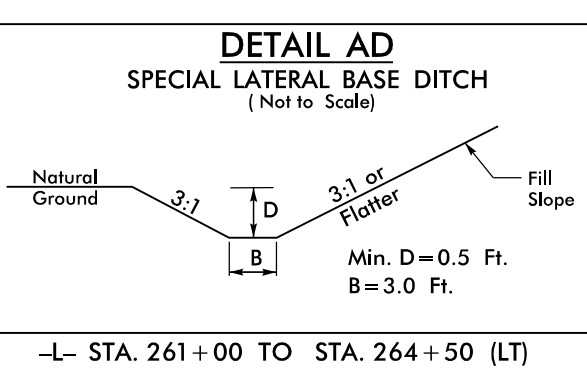
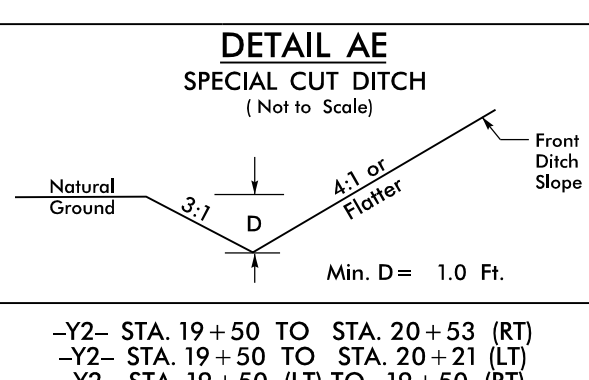
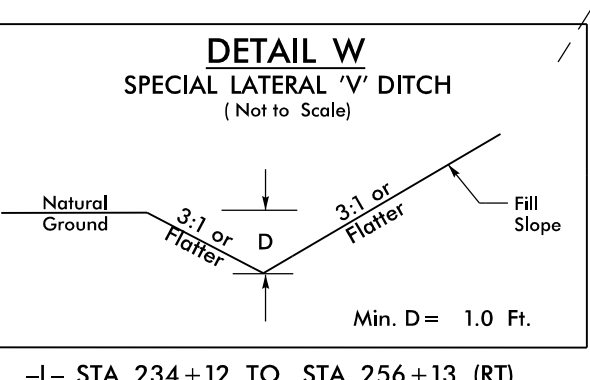
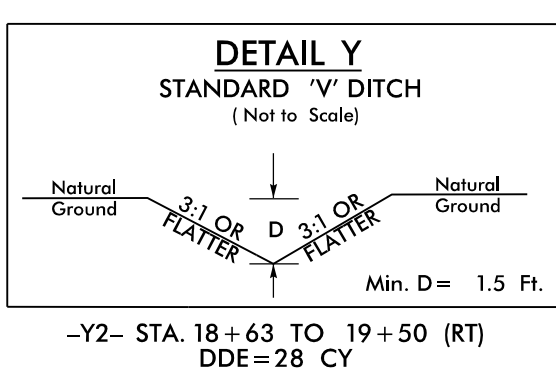
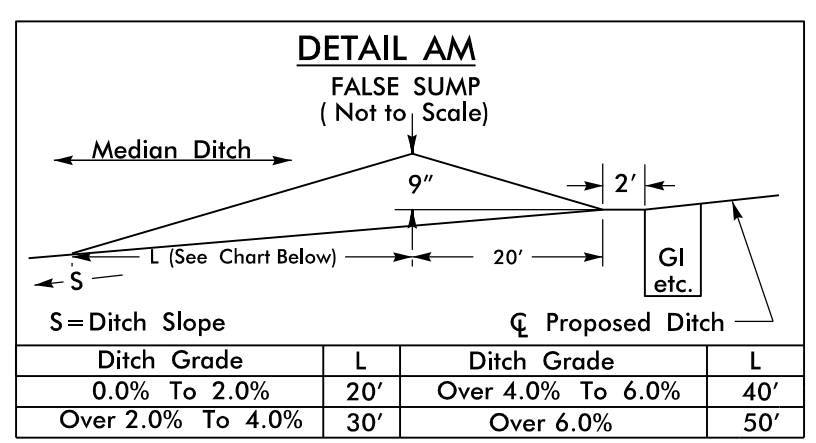
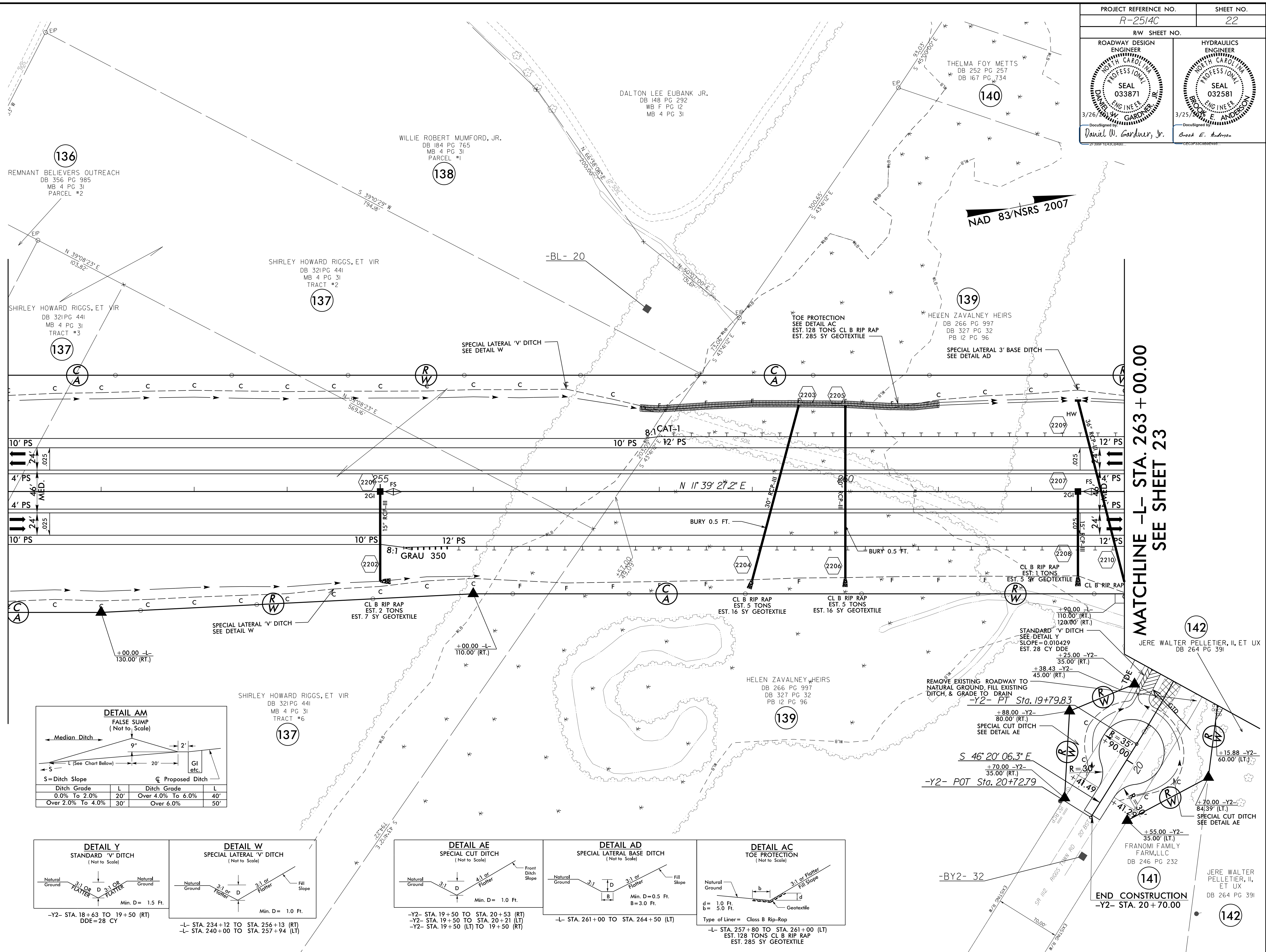


REVISIONS

3/18/2015  
 P:\2514C\2015\Roadway\Roadway\Proj\NR2514C\_RR\psh\_21.dgn  
 D:\psh

MATCHLINE -L- STA. 251 + 00.00 SEE SHEET 21

MATCHLINE -L- STA. 263 + 00.00 SEE SHEET 23



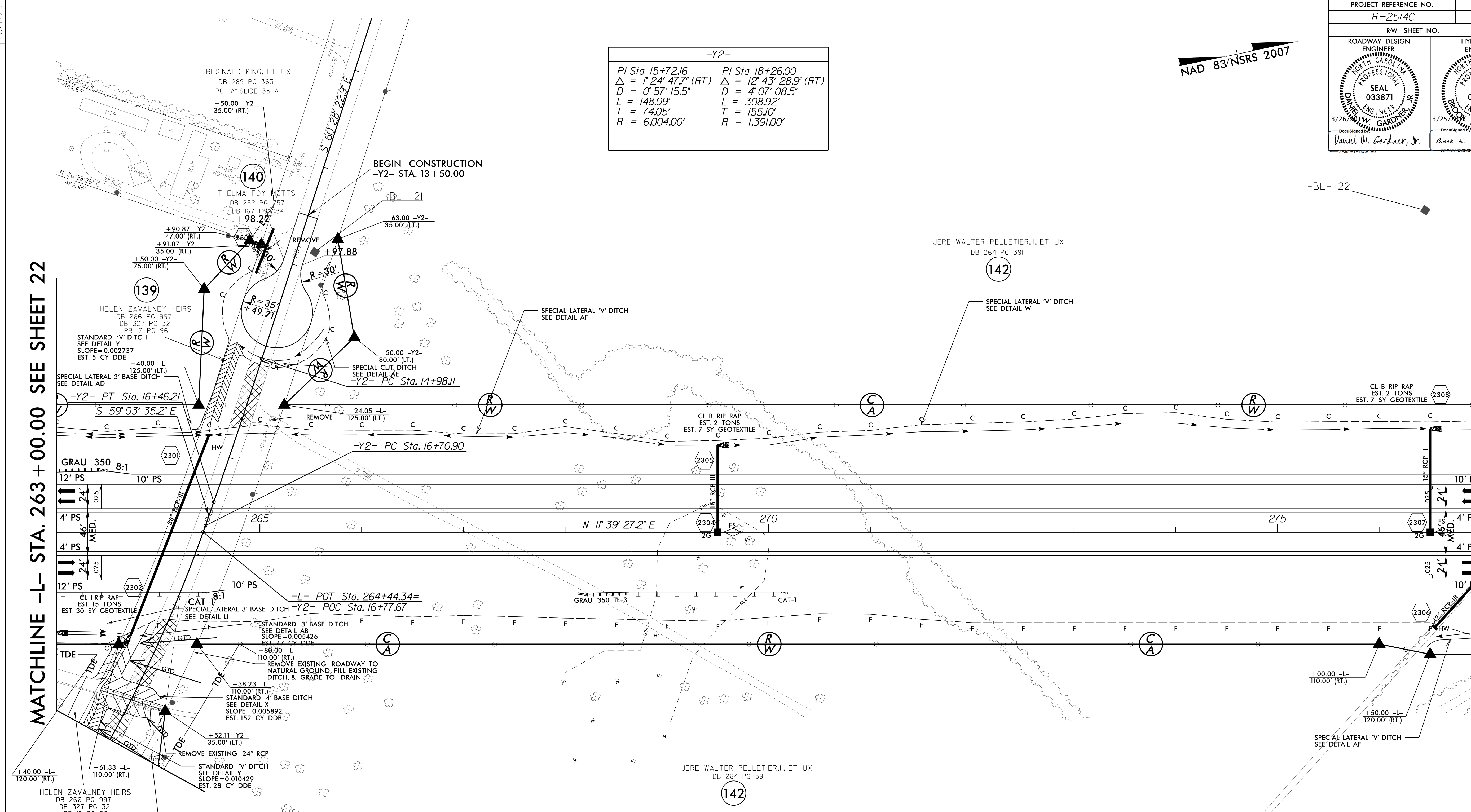
REVISIONS

8/17/99  
3/23/2015  
C:\Cadd\2514C\Roadway\Proj\2514C\_Roadway\22.dgn

SEE SHEET 38 FOR -L- PROFILE  
SEE SHEET 42 FOR -Y2- PROFILE

NAD 83/NSRS 2007

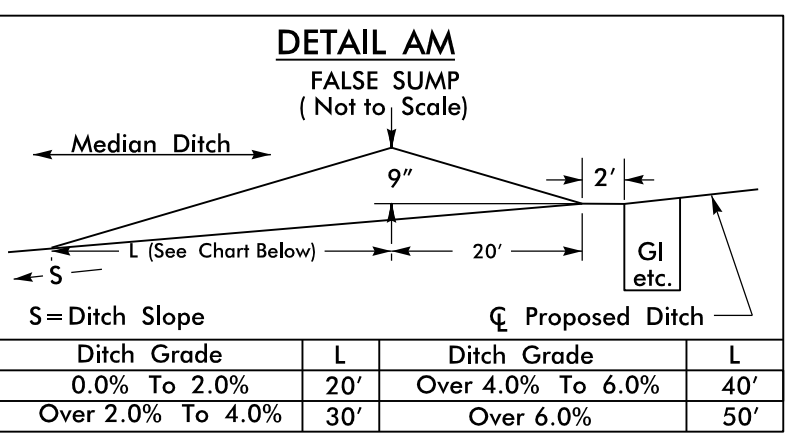
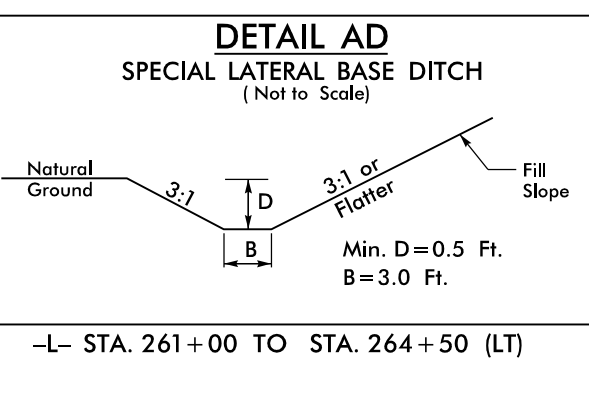
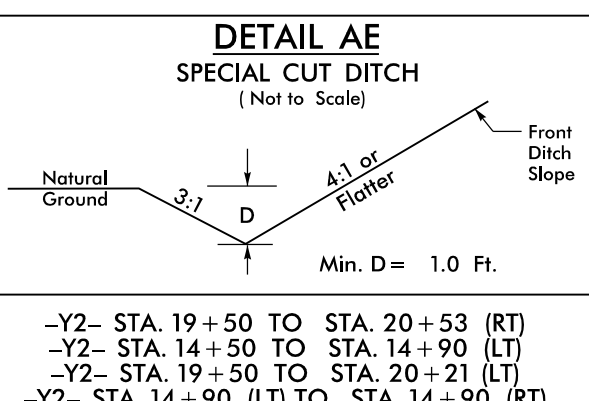
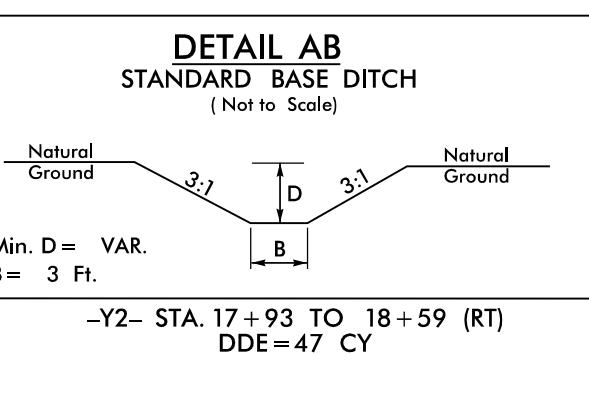
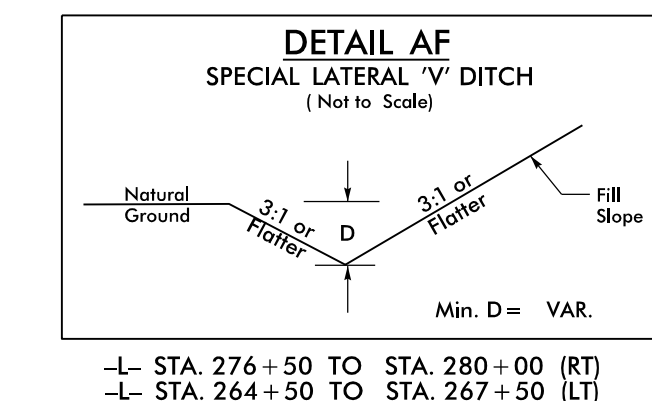
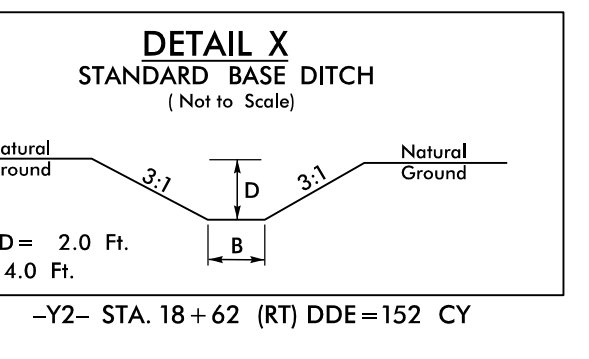
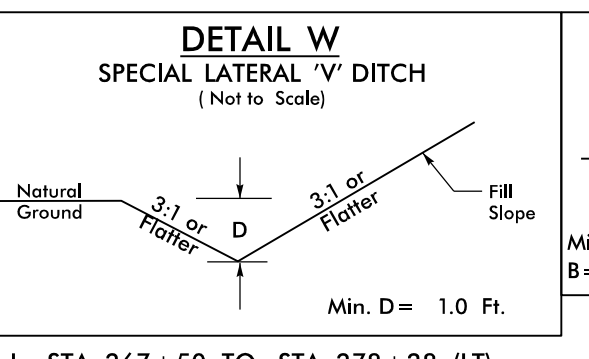
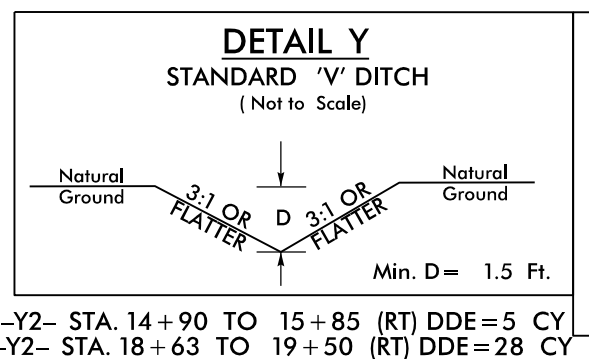
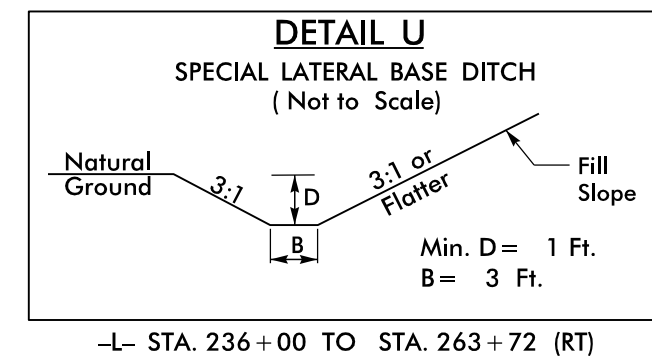
-Y2-	
PI Sta 15+72.16 Δ = 1°24'47.7" (RT) D = 0°57'15.5" L = 148.09' T = 74.05' R = 6,004.00'	PI Sta 18+26.00 Δ = 12°43'28.9" (RT) D = 4°07'08.5" L = 308.92' T = 155.00' R = 1,391.00'



MATCHLINE -L- STA. 263 + 00.00 SEE SHEET 22

MATCHLINE -L- STA. 277 + 00.00 SEE SHEET 24

REVISIONS





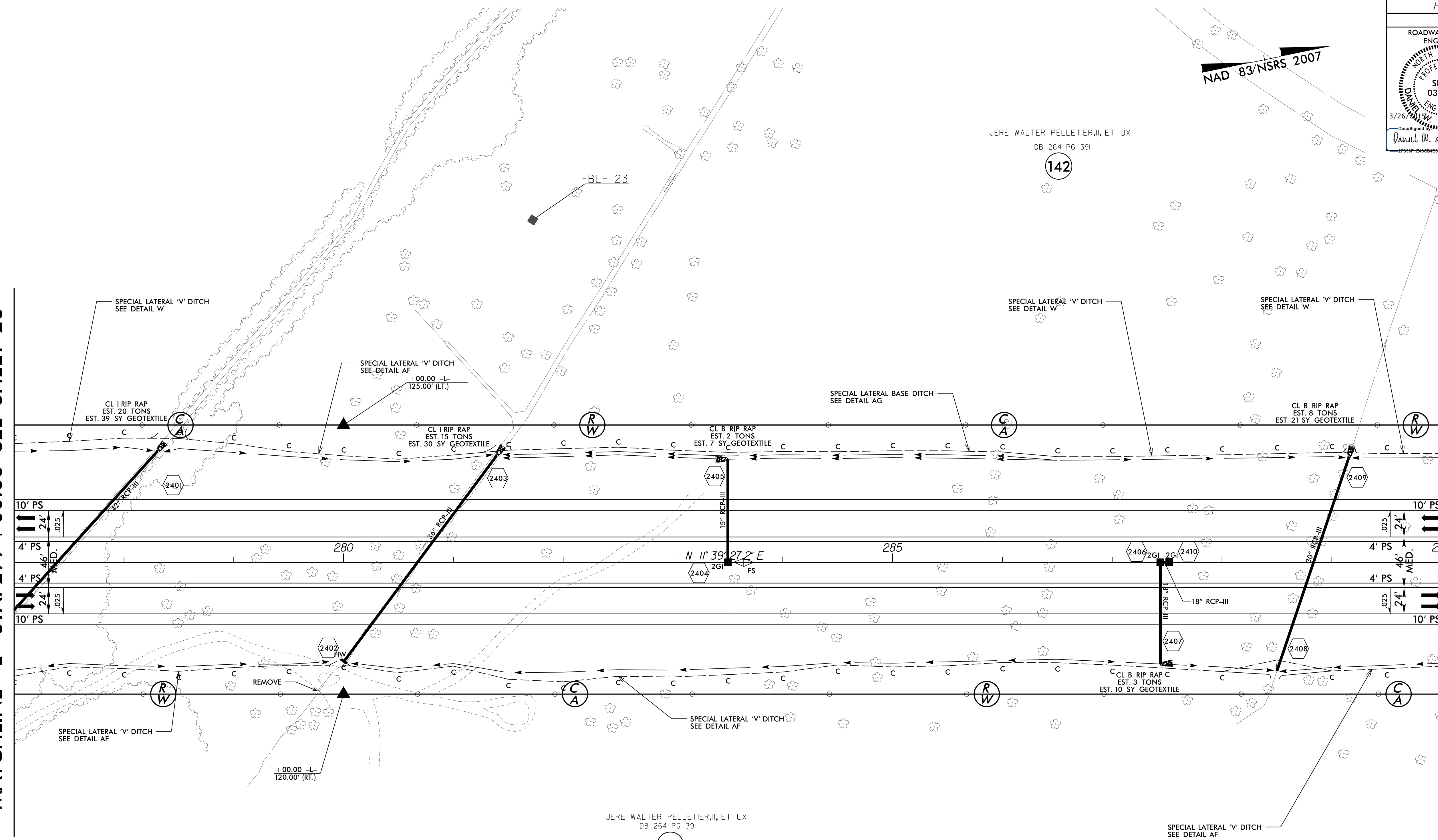
NAD 83/NSRS 2007

JERE WALTER PELLETIER, II, ET UX  
DB 264 PG 39I

142

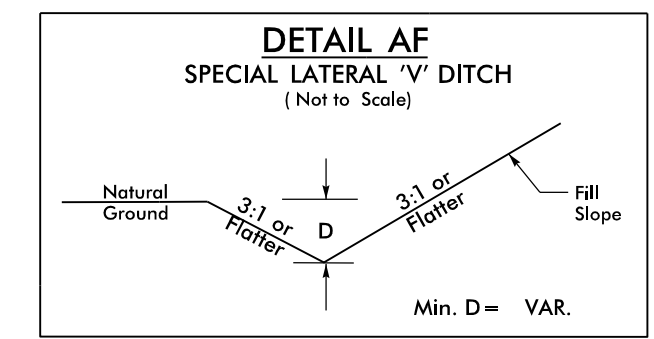
MATCHLINE -L- STA. 277 + 00.00 SEE SHEET 23

MATCHLINE -L- STA. 290 + 00.00 SEE SHEET 25

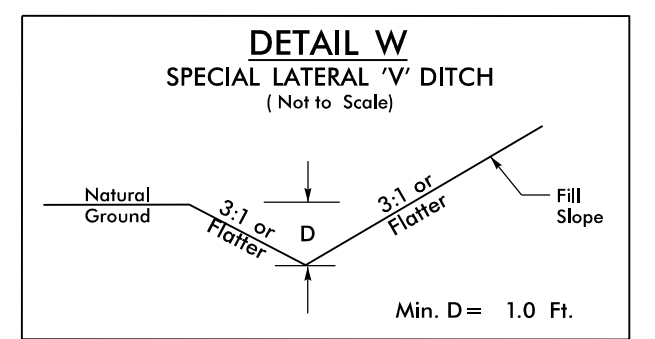


JERE WALTER PELLETIER, II, ET UX  
DB 264 PG 39I

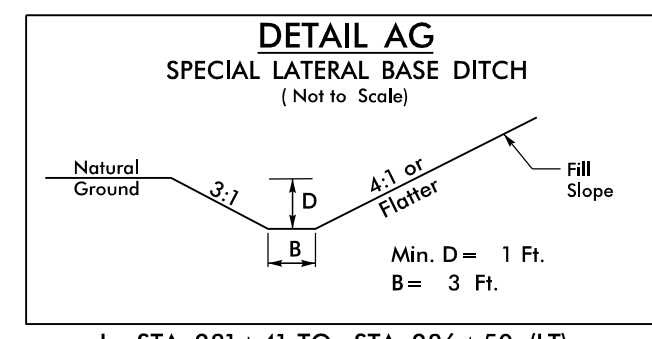
142



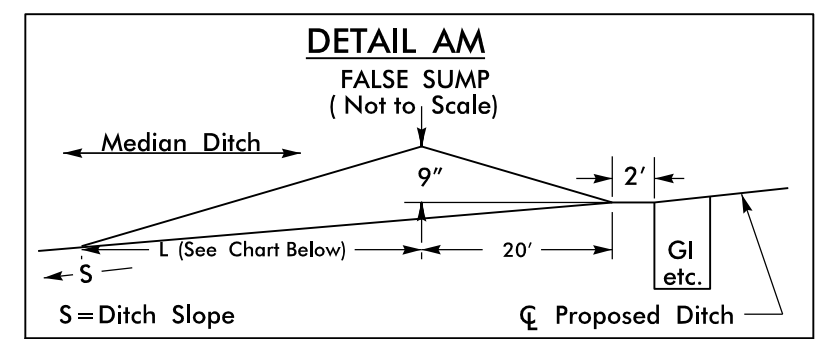
- L- STA. 276+50 TO STA. 280+00 (RT)
- L- STA. 280+04 TO STA. 288+49 (RT)
- L- STA. 288+51 TO STA. 290+96 (RT)
- L- STA. 278+32 TO STA. 281+37 (LT)



- L- STA. 267+50 TO STA. 278+28 (LT)
- L- STA. 286+50 TO STA. 289+14 (LT)
- L- STA. 289+17 TO STA. 291+63 (LT)



- L- STA. 281+41 TO STA. 286+50 (LT)



S = Ditch Slope      C = Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

REVISIONS

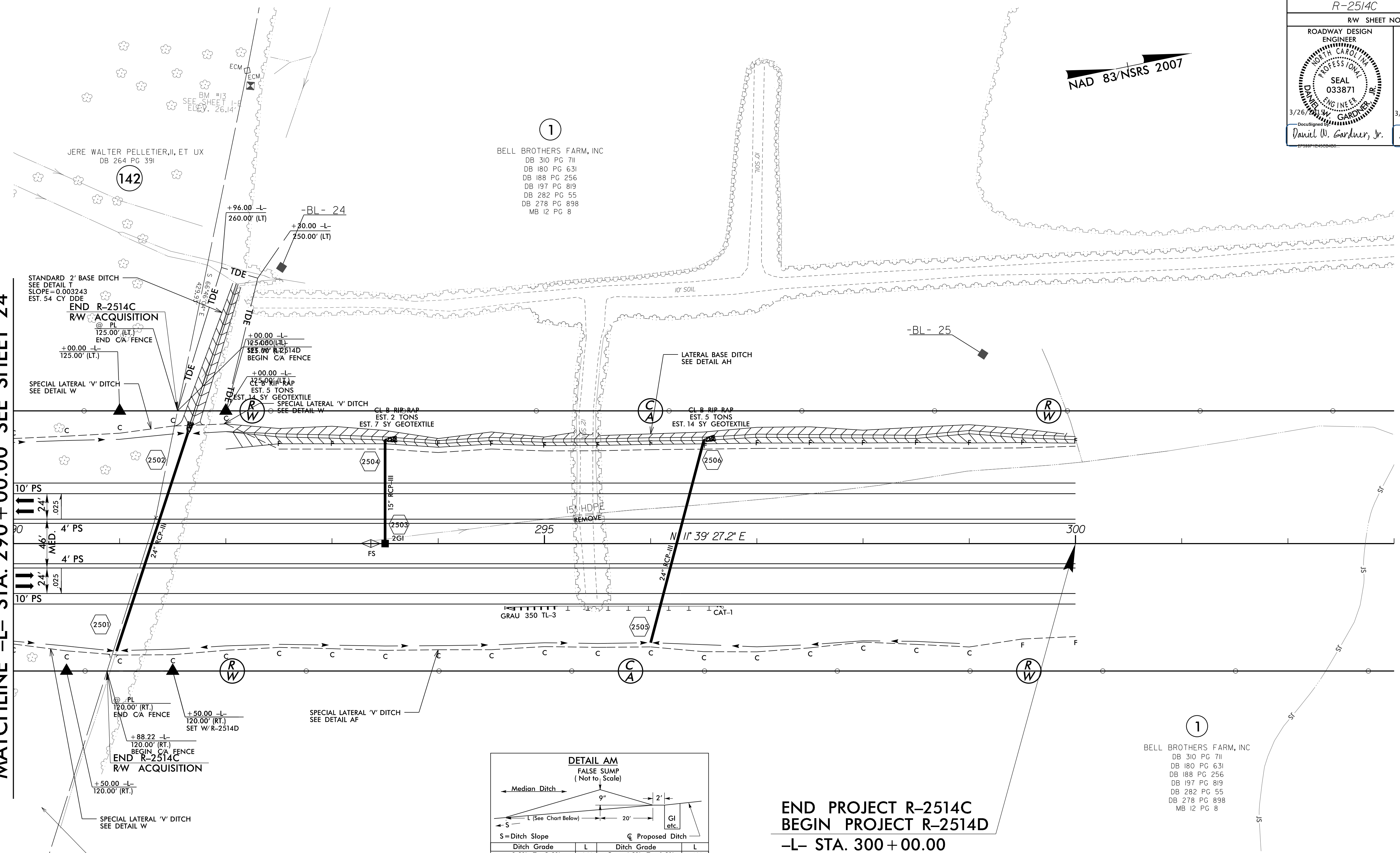
8/17/99

F:\23\2015\01\Cadd\NR2514C\Roadway\Proj\NR2514C\_RRBy\_psh\_24.dgn

0.007800  
S 67.141.09  
67.1901  
67.1904

NAD 83/NSRS 2007

MATCHLINE -L- STA. 290 + 00.00 SEE SHEET 24

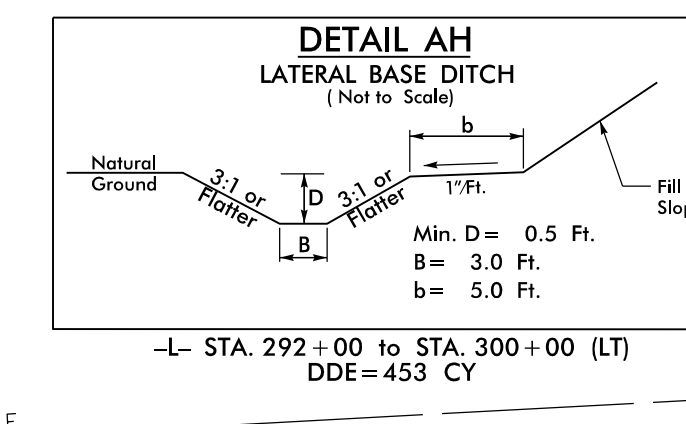
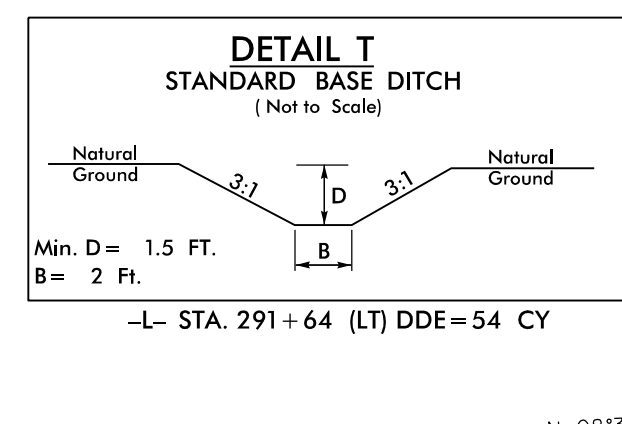
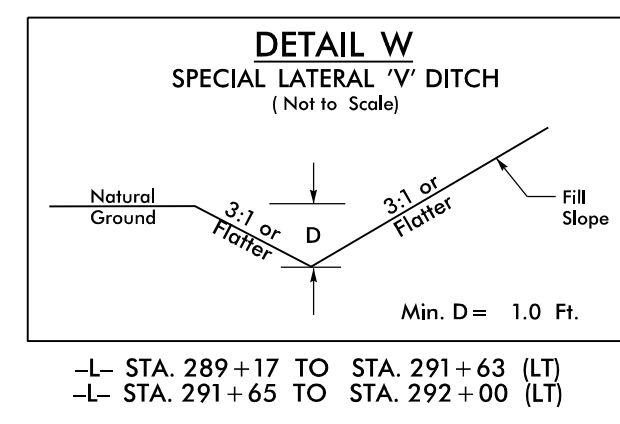
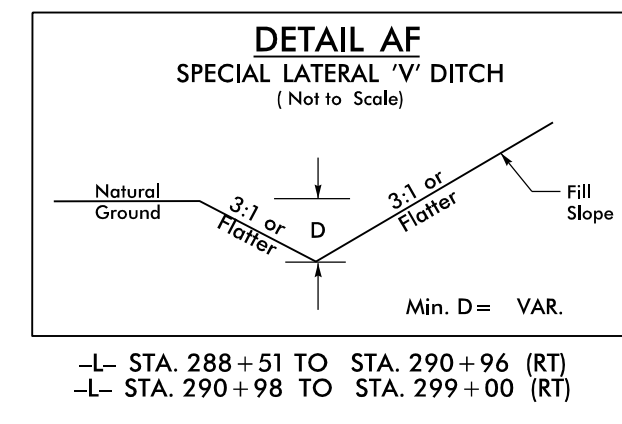
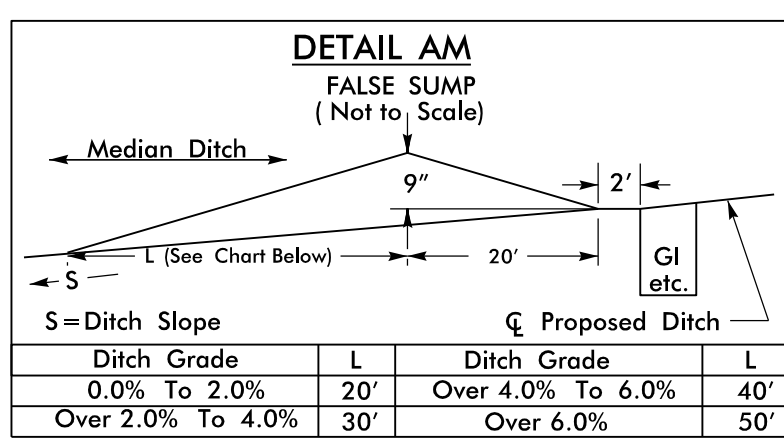


①  
BELL BROTHERS FARM, INC  
DB 310 PG 711  
DB 180 PG 631  
DB 188 PG 256  
DB 197 PG 819  
DB 282 PG 55  
DB 278 PG 898  
MB 12 PG 8

STANDARD 2' BASE DITCH  
SEE DETAIL T  
SLOPE=0.003243  
EST. 54 CY DDE  
END R-2514C  
RW ACQUISITION  
@ PL  
125.00' (LT.)  
END C/A FENCE  
+00.00 -L-  
125.00' (LT.)  
SPECIAL LATERAL 'V' DITCH  
SEE DETAIL W  
+00.00 -L-  
125.00' (LT.)  
TDE  
+96.00 -L-  
260.00' (LT)  
-BL- 24  
+30.00 -L-  
250.00' (LT)  
+00.00 -L-  
125.00' (LT.)  
END R-2514D  
BEGIN C/A FENCE  
+00.00 -L-  
125.00' (LT.)  
CL B RIP RAP  
EST. 5 TONS  
SPECIAL LATERAL 'V' DITCH  
SEE DETAIL W  
EST. 7 SY GEOTEXTILE  
CL B RIP RAP  
EST. 2 TONS  
SPECIAL LATERAL 'V' DITCH  
SEE DETAIL W  
EST. 14 SY GEOTEXTILE  
LATERAL BASE DITCH  
SEE DETAIL AH  
-BL- 25  
10' SOIL  
15' HDPE REMOVE  
N 11° 39' 27.2" E  
GRAU 350 TL-3  
CAT-1  
+50.00 -L-  
120.00' (RT.)  
END C/A FENCE  
+88.22 -L-  
120.00' (RT.)  
BEGIN C/A FENCE  
END R-2514C  
RW ACQUISITION  
+50.00 -L-  
120.00' (RT.)  
SPECIAL LATERAL 'V' DITCH  
SEE DETAIL W  
JERE WALTER PELLETIER, II, ET UX  
DB 264 PG 391  
①42

①  
BELL BROTHERS FARM, INC  
DB 310 PG 711  
DB 180 PG 631  
DB 188 PG 256  
DB 197 PG 819  
DB 282 PG 55  
DB 278 PG 898  
MB 12 PG 8

END PROJECT R-2514C  
BEGIN PROJECT R-2514D  
-L- STA. 300 + 00.00

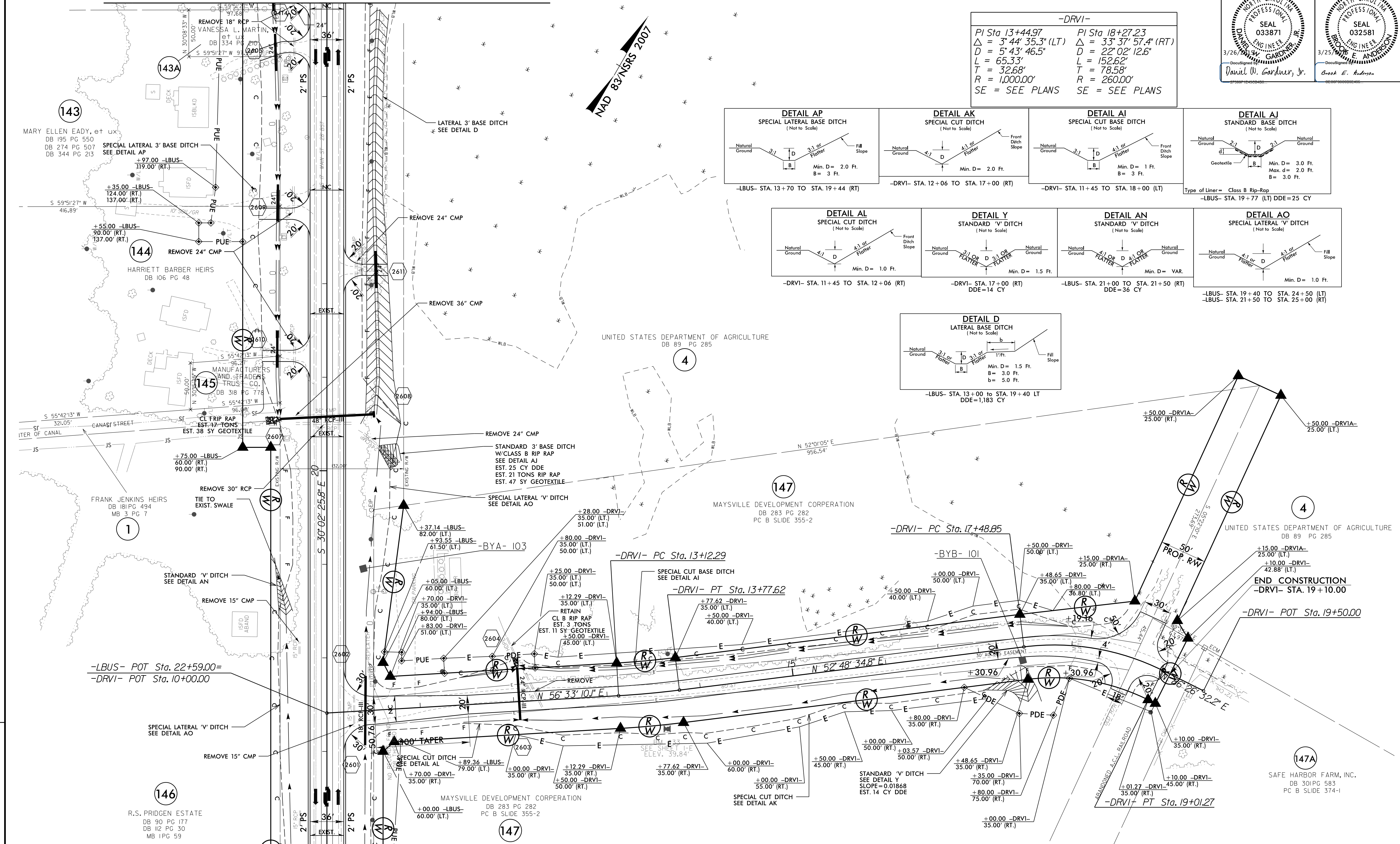
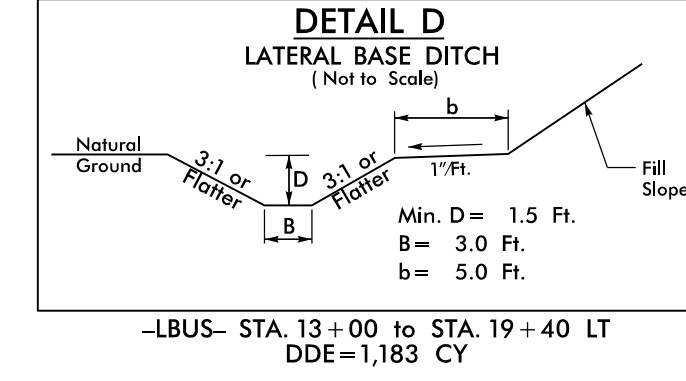
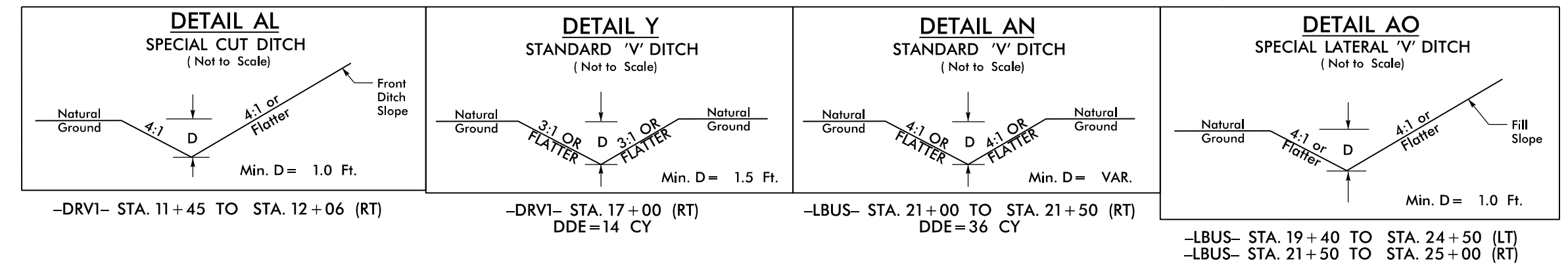
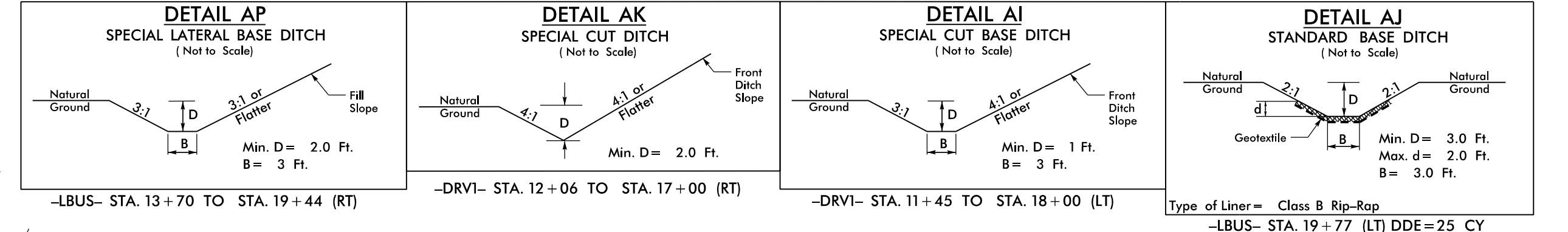


N 08°33'40" E  
1758.58'

**MATCHLINE -LBUS- STA. 15+00.00 SEE SHEET 4**

**-DRVI-**

PI Sta 13+44.97 $\Delta = 3^{\circ}44'35.3"$ (LT) D = 5'43'46.5" L = 65.33' T = 32.68' R = 1,000.00' SE = SEE PLANS	PI Sta 18+27.23 $\Delta = 33^{\circ}37'57.4"$ (RT) D = 22'02'12.6" L = 152.62' T = 78.58' R = 260.00' SE = SEE PLANS
---	--

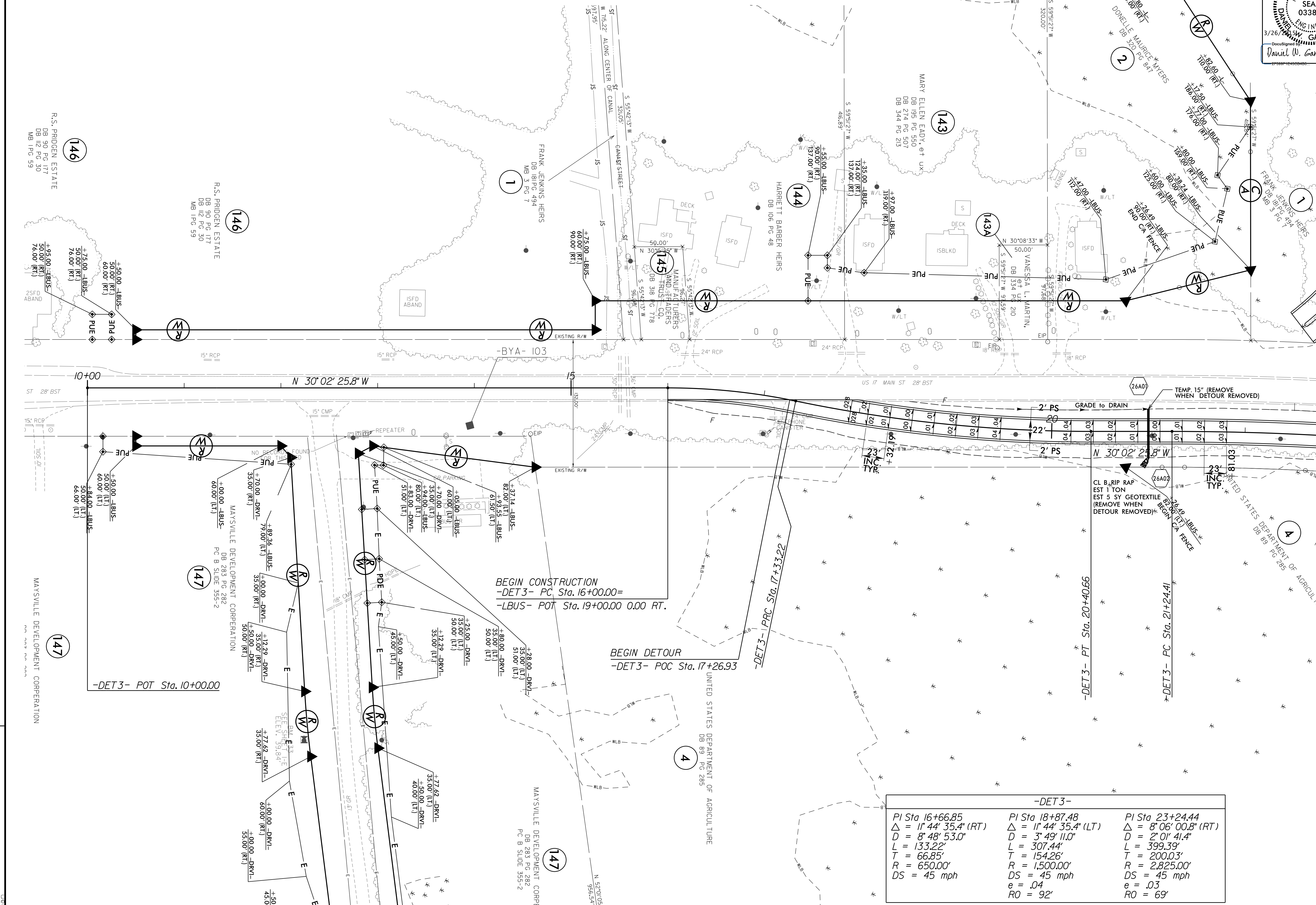


**MATCHLINE -LBUS- STA. 24+00.00 SEE SHEET 27**

# -DET3- DETOUR SHEET

NOTE: USE FOR CONSTRUCTION OF DETOUR ONLY

PROJECT REFERENCE NO. <b>R-2514C</b>	SHEET NO. <b>26A</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <b>DANIEL W. GARDNER, JR.</b> SEAL 033871 3/26/2015	HYDRAULICS ENGINEER <b>BRUCE E. ANDERSON</b> SEAL 032581 3/25/2015



MATCHLINE -DET3- STA. 23 + 00.00 SEE SHEET 26B

-DET3-		
PI Sta 16+66.85 $\Delta = 11^{\circ} 44' 35.4''$ (RT) $D = 8^{\circ} 48' 53.0''$ $L = 133.22'$ $T = 66.85'$ $R = 650.00'$ $DS = 45$ mph	PI Sta 18+87.48 $\Delta = 11^{\circ} 44' 35.4''$ (LT) $D = 3^{\circ} 49' 11.0''$ $L = 307.44'$ $T = 154.26'$ $R = 1,500.00'$ $DS = 45$ mph $e = .04$ $RO = 92'$	PI Sta 23+24.44 $\Delta = 8^{\circ} 06' 00.8''$ (RT) $D = 2^{\circ} 01' 41.4''$ $L = 399.39'$ $T = 200.03'$ $R = 2,825.00'$ $DS = 45$ mph $e = .03$ $RO = 69'$

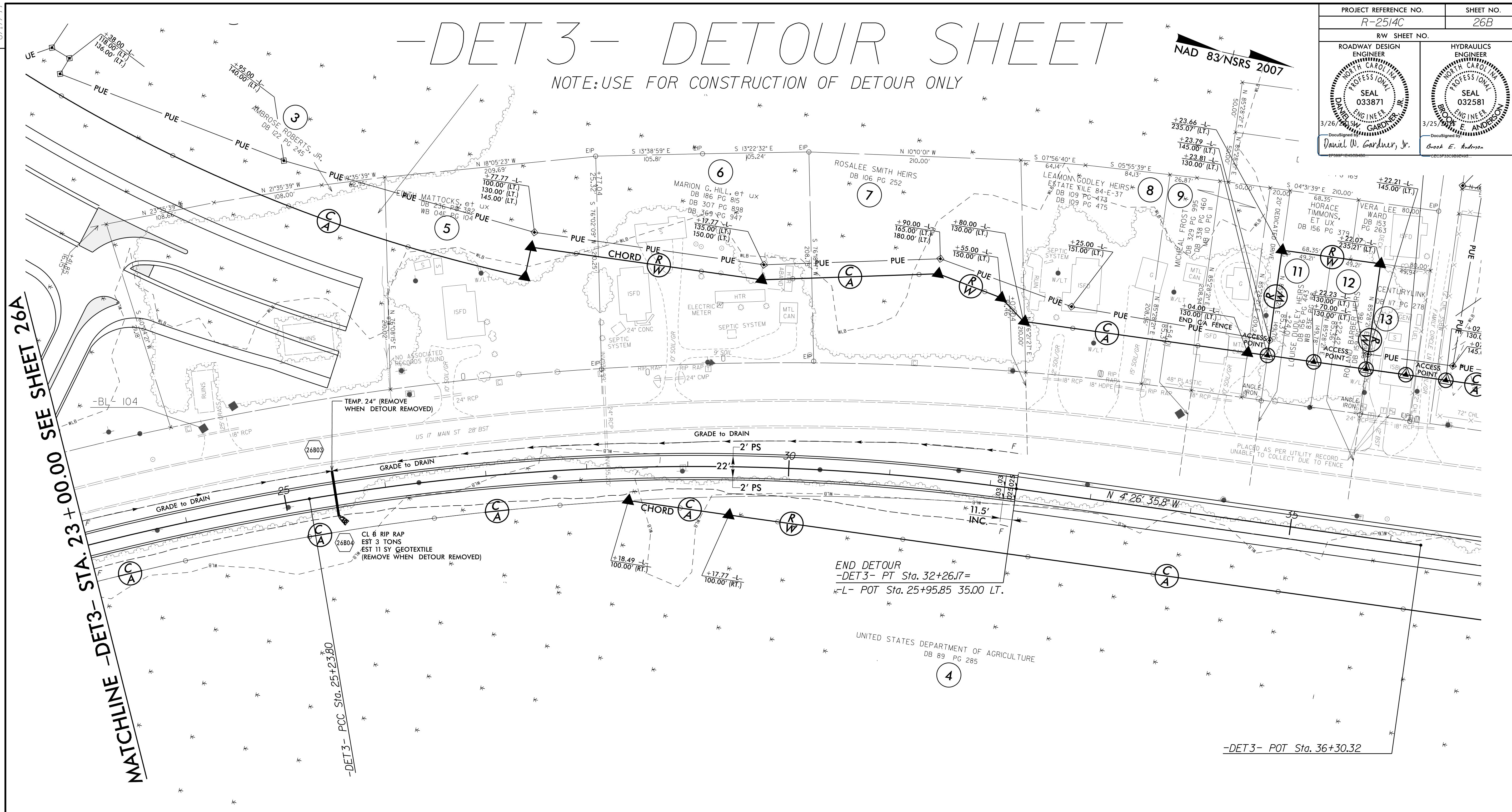
REVISIONS

# -DET3- DETOUR SHEET

NOTE: USE FOR CONSTRUCTION OF DETOUR ONLY

PROJECT REFERENCE NO. <b>R-2514C</b>	SHEET NO. <b>26B</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. 033871 3/26/2015	HYDRAULICS ENGINEER BOOK E. ANDERSON 032581 3/25/2015

NAD 83/NSRS 2007



MATCHLINE -DET3- STA. 23+00.00 SEE SHEET 26A

END DETOUR  
 -DET3- PT Sta. 32+26.17=  
 L- POT Sta. 25+95.85 35.00 LT.

-DET3-	
PI Sta 23+24.44	PI Sta 28+77.74
$\Delta = 8^{\circ}06'00.8''$ (RT)	$\Delta = 17^{\circ}29'49.2''$ (RT)
D = 2'01'41.4"	D = 2'29'28.0"
L = 399.39'	L = 702.37'
T = 200.03'	T = 353.94'
R = 2,825.00'	R = 2,300.00'
DS = 45 mph	DS = 45 mph
e = .03	e = .03
RO = 69'	RO = 69'

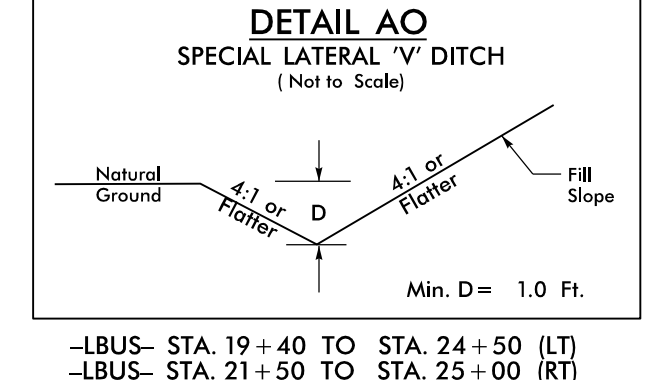
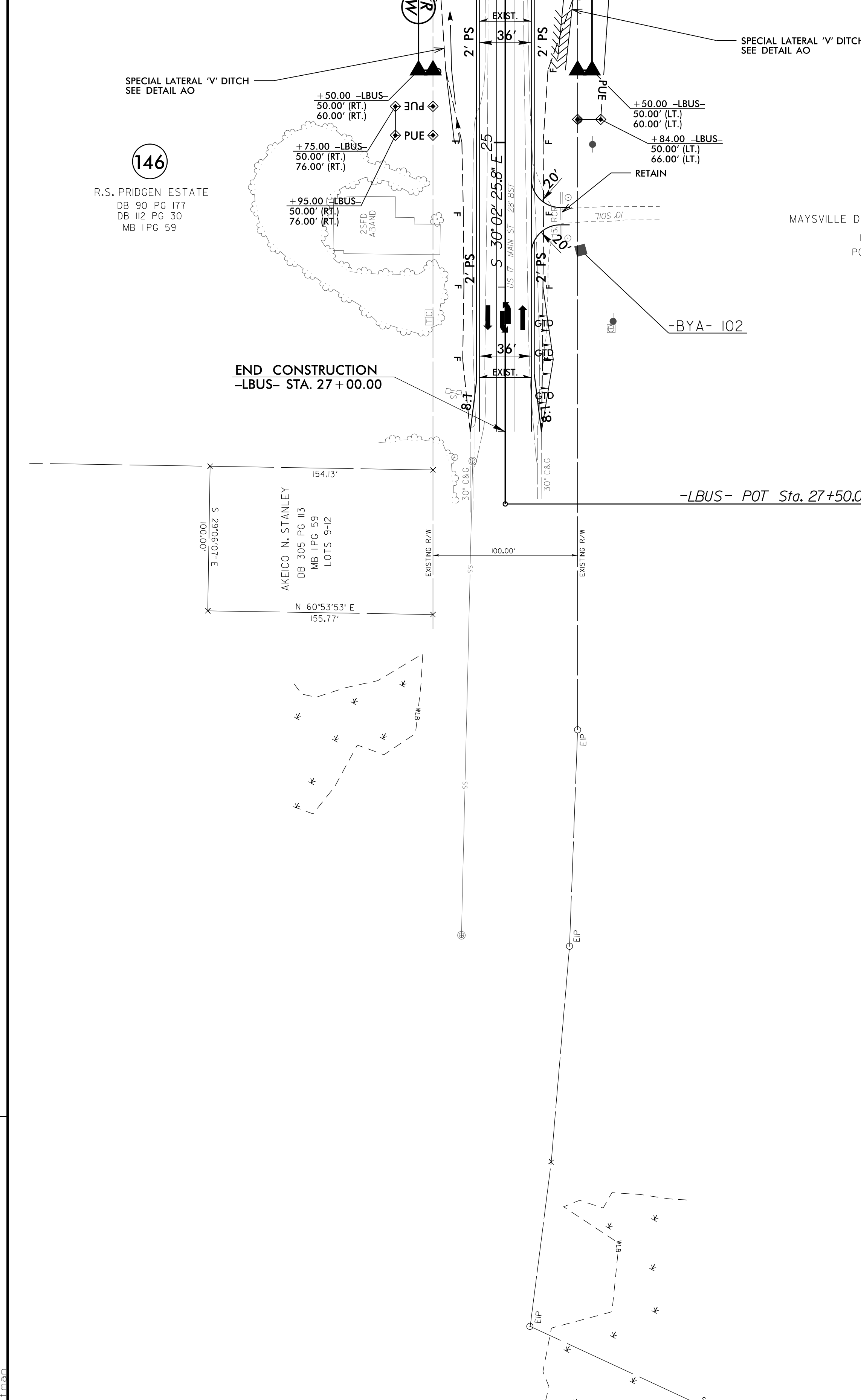
REVISIONS

8.17/09  
 3/18/2015  
 P:\825201\Cadd\NR2514C\Roadway\Proj\NR2514C\_Rdwy\_psh\_26B.dgn

SEE SHEET 44 FOR -DET3- PROFILE

PROJECT REFERENCE NO. R-2514C	SHEET NO. 27
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 033871 DANIEL W. GARDNER, JR. 3/26/2015	HYDRAULICS ENGINEER SEAL 032581 BROOK E. ANDERSON 3/25/2015

**MATCHLINE -LBUS- STA. 24 + 00.00 SEE SHEET 26**



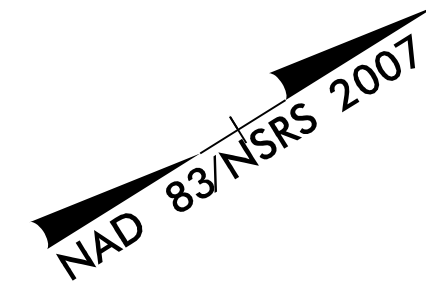
-LBUS- STA. 19+40 TO STA. 24+50 (LT)  
-LBUS- STA. 21+50 TO STA. 25+00 (RT)

NAD 83/NSRS 2007

REVISIONS

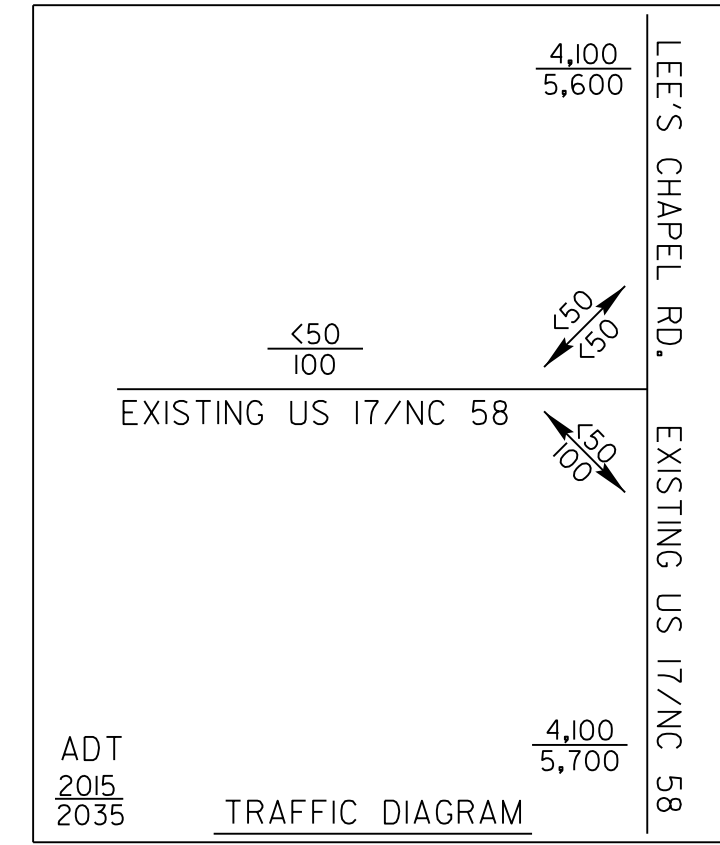
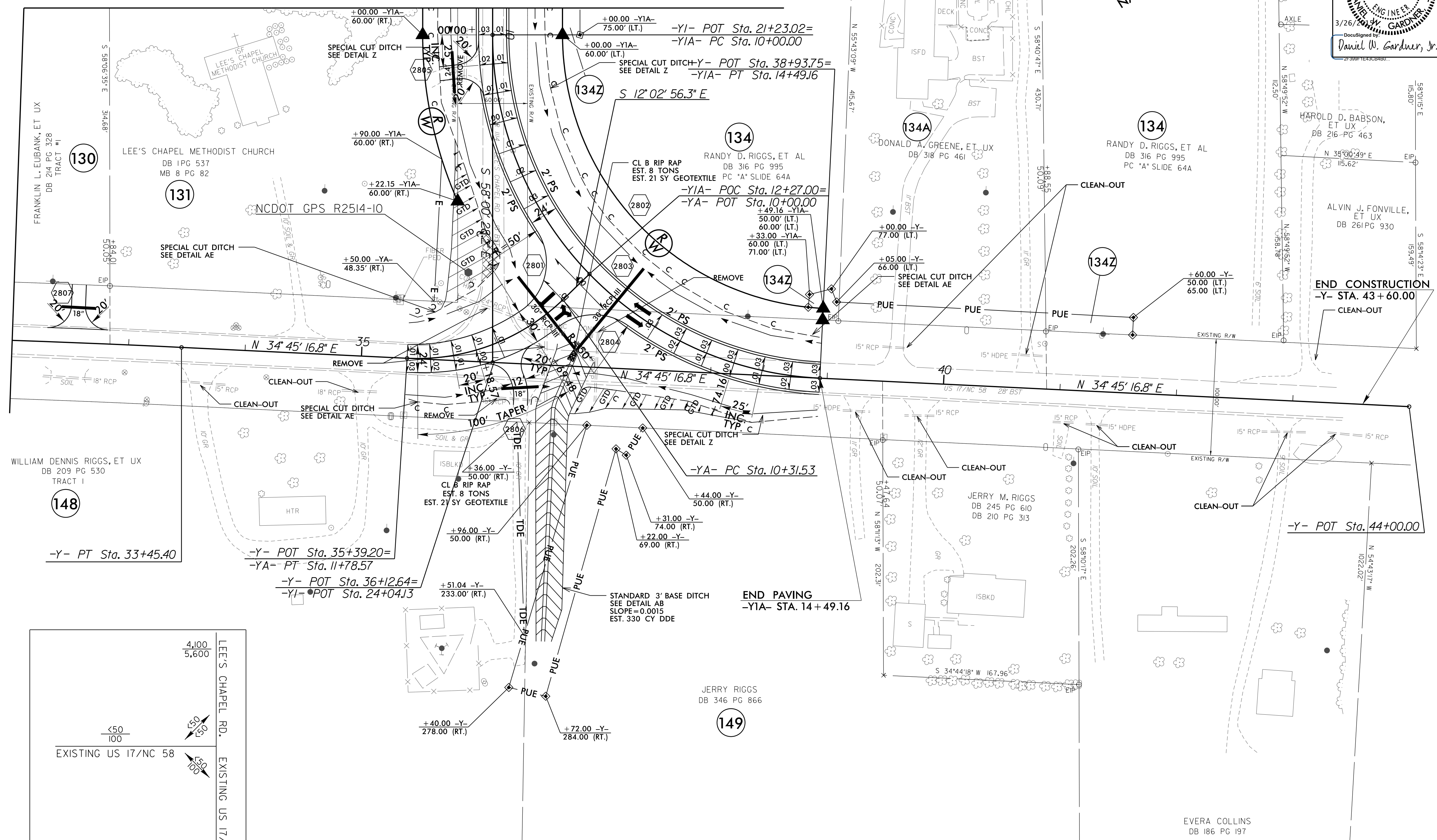
3/18/2015  
 P:\852201\Cadd\2514C\Roadway\Proj\NR2514C\_Roadway\psh\_27.dgn  
 8/17/99

SEE SHEET 40 FOR -LBUS- PROFILE

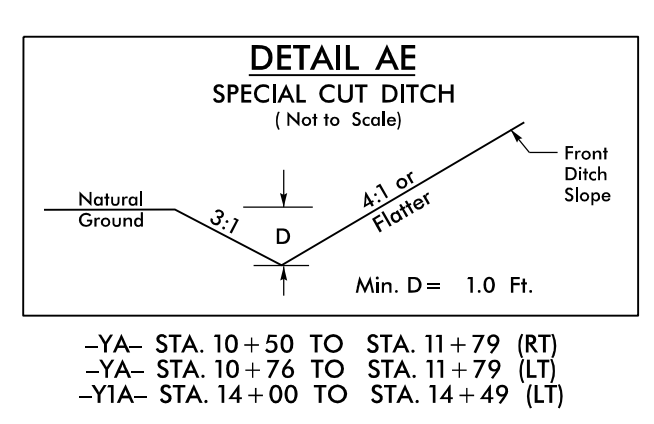
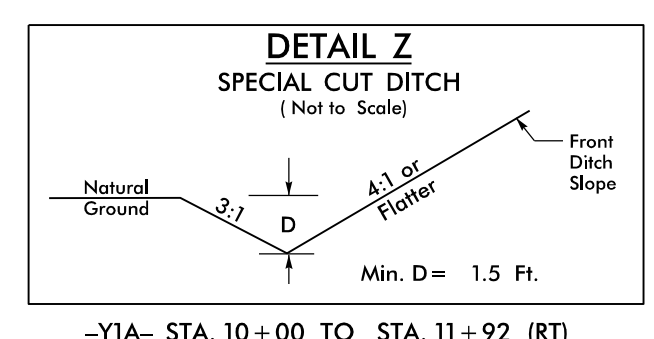
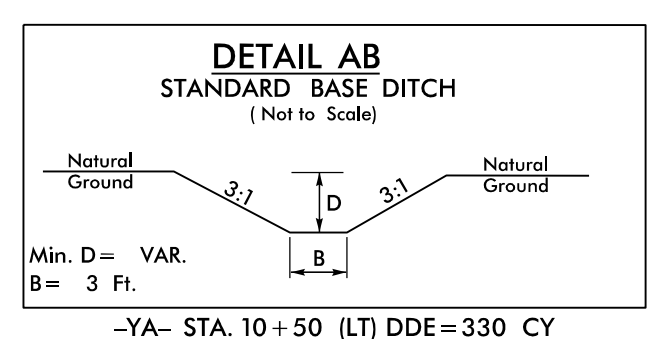


MATCHLINE -Y1- STA. 21+00.00 SEE SHEET 20

MATCHLINE -Y- STA. 32+00.00  
SEE SHEET 20



-Y-	-YA-	-Y1A-
PI Sta 32+43.19	PI Sta 11+09.43	PI Sta 12+81.11
$\Delta = 1' 03'' 35.2''$ (RT)	$\Delta = 46' 48'' 13.2''$ (RT)	$\Delta = 87' 14'' 15.0''$ (LT)
$D = 0' 31'' 06.4''$	$D = 31' 49'' 51.6''$	$D = 19' 25'' 20.3''$
$L = 204.41'$	$L = 147.04'$	$L = 449.16'$
$T = 102.21'$	$T = 77.90'$	$T = 281.11'$
$R = 11,051.47'$	$R = 180.00'$	$R = 295.00'$
	SE = SEE PLANS	SE = SEE PLANS



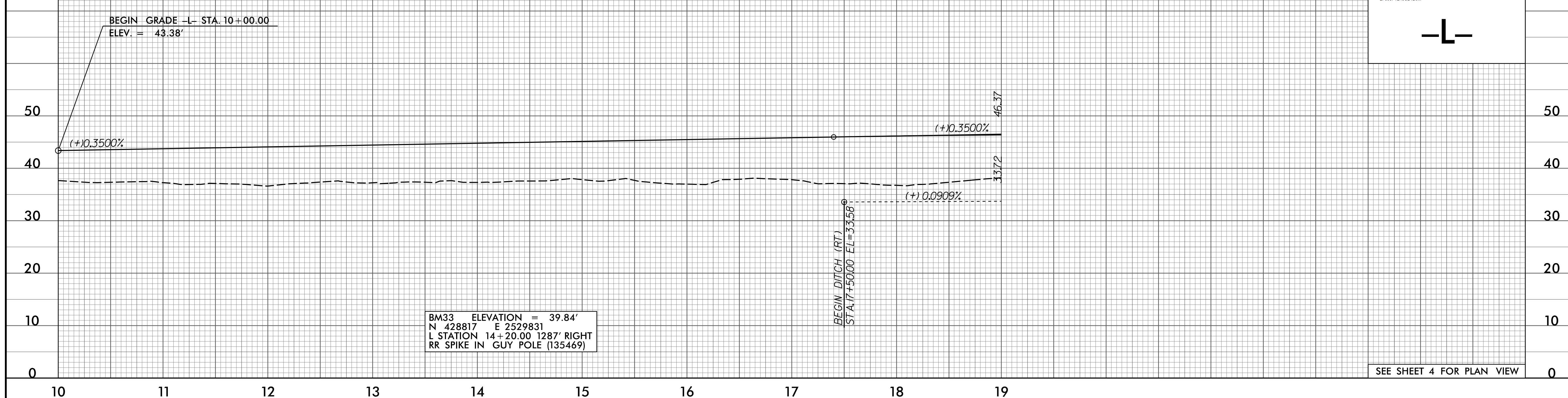
SEE SHEET 41 FOR -Y1- PROFILE  
SEE SHEET 41 FOR -Y1A- PROFILE  
SEE SHEET 41 FOR -YA- PROFILE

REVISIONS

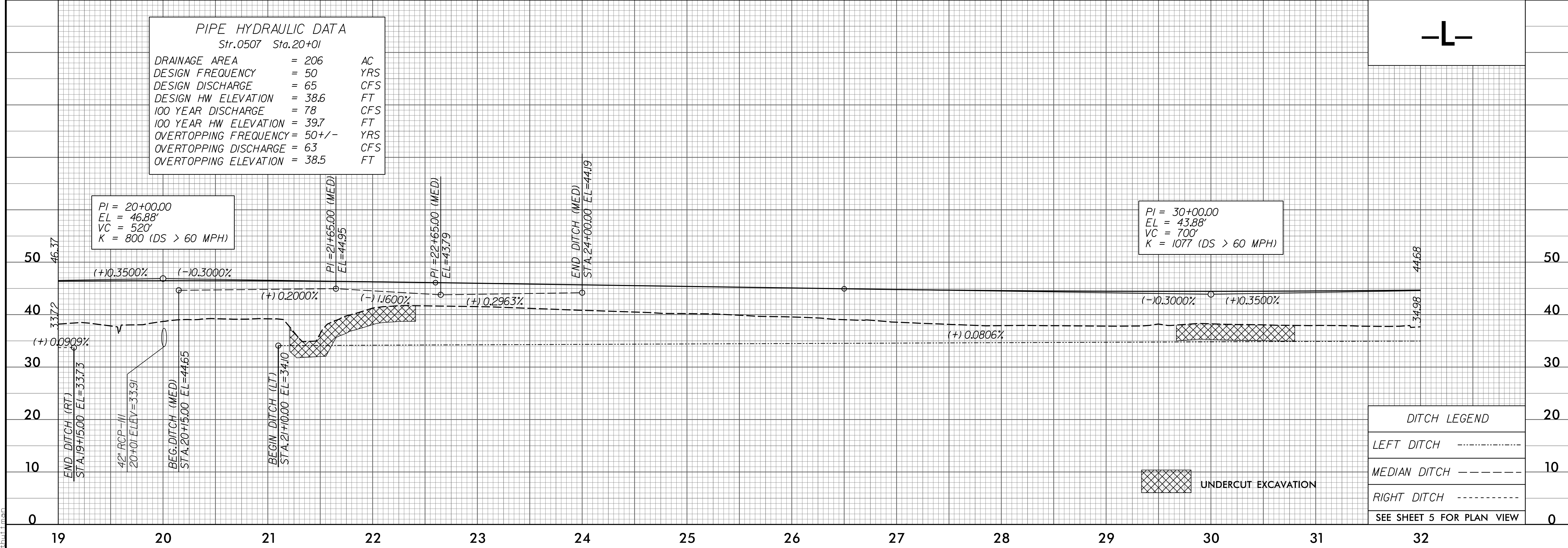
8/17/99  
3/18/2015  
F:\825201\Roadway\Proj\2514C\Roadway\Proj\2514C\_Roadway\28.dgn  
5/17/2015  
10:53:41

5/28/99

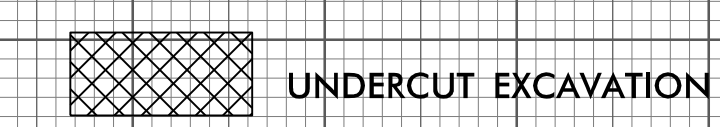
PROJECT REFERENCE NO. R-2514C	SHEET NO. 29
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. NORTH CAROLINA PROFESSIONAL SEAL 033871 3/27/99	HYDRAULICS ENGINEER BROOK E. ANDERSON NORTH CAROLINA PROFESSIONAL SEAL 032581 3/27/99



PIPE HYDRAULIC DATA	
Str.0507 Sta.20+01	
DRAINAGE AREA	= 206 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 65 CFS
DESIGN HW ELEVATION	= 38.6 FT
100 YEAR DISCHARGE	= 78 CFS
100 YEAR HW ELEVATION	= 39.7 FT
OVERTOPPING FREQUENCY	= 50+/- YRS
OVERTOPPING DISCHARGE	= 63 CFS
OVERTOPPING ELEVATION	= 38.5 FT



DITCH LEGEND	
LEFT DITCH	-----
MEDIAN DITCH	-----
RIGHT DITCH	-----
SEE SHEET 5 FOR PLAN VIEW	

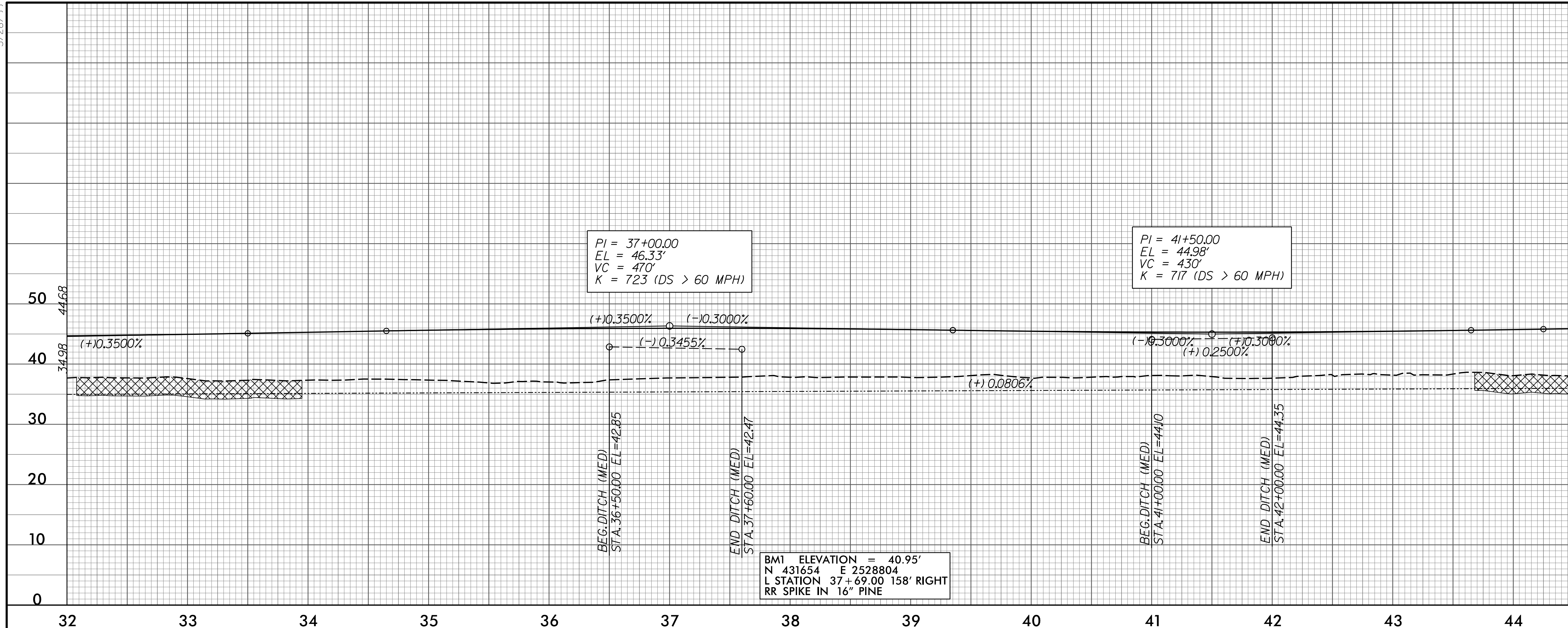


F:\18\2015\01\Cadd\2514C\Roadway\Proj\R2514C\_Rdy.plt.dgn



5/28/99

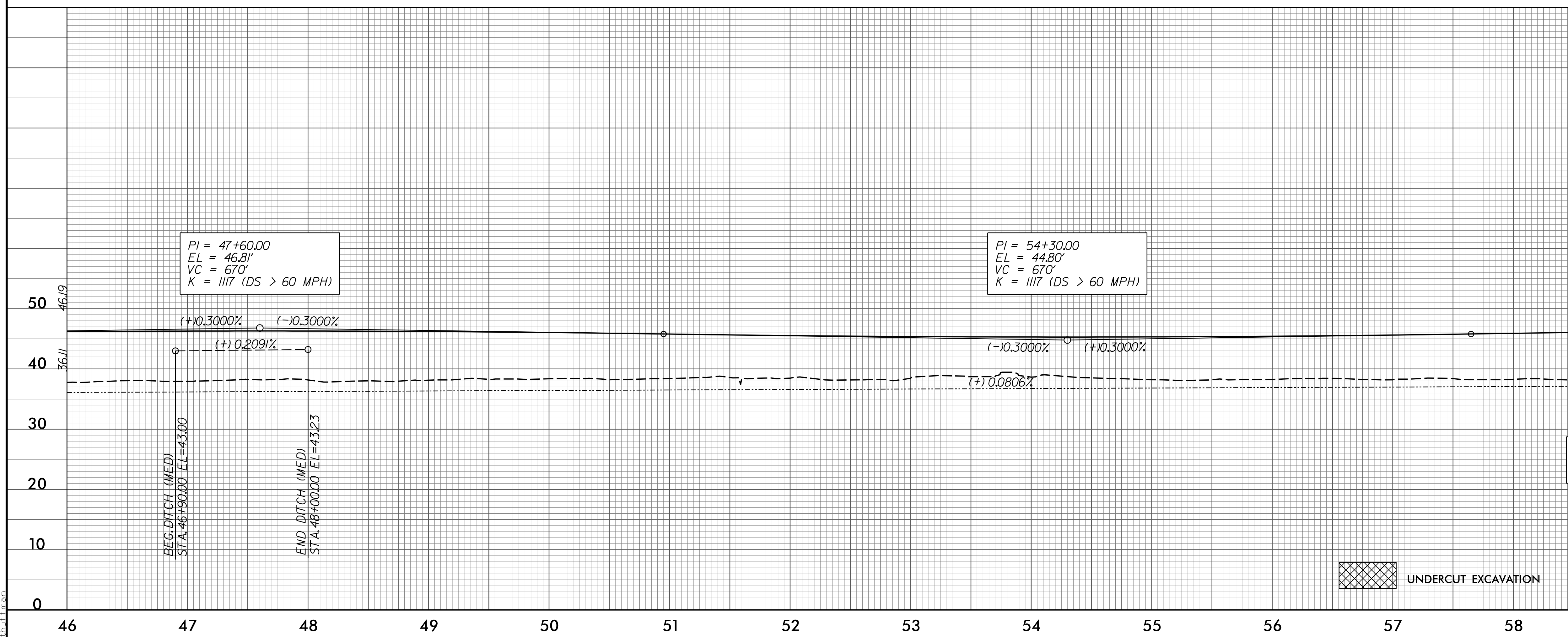
PROJECT REFERENCE NO. R-2514C	SHEET NO. 30
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. SEAL 033871 3/27/99	HYDRAULICS ENGINEER BROOK E. ANDERSON SEAL 032581 3/27/99



—L—

SEE SHEET 6 FOR PLAN VIEW

F:\18\2015\01\Cadd\2514C\Roadway\Proj\2514C\_Rdy.plt.dgn



—L—

BM2 ELEVATION = 41.22'  
N 433796 E 2528635  
L STATION 59+18.00 156' RIGHT  
RR SPIKE IN 19" HARDWOOD

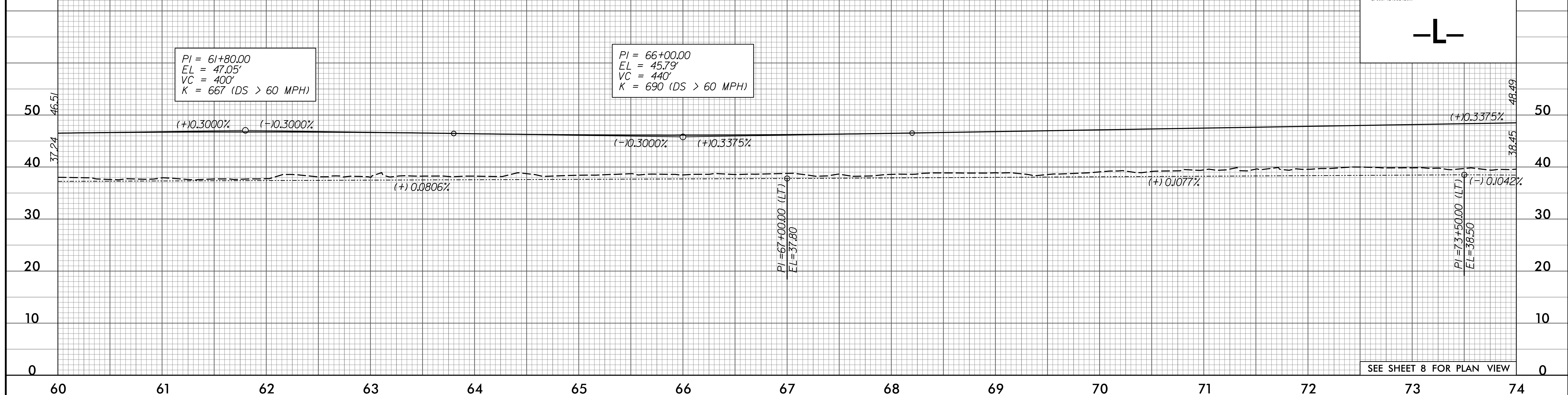
DITCH LEGEND

LEFT DITCH	-----	10
MEDIAN DITCH	- - - - -	10

SEE SHEET 7 FOR PLAN VIEW

5/28/99

PROJECT REFERENCE NO. <i>R-2514C</i>	SHEET NO. <i>31</i>
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 033871 3/27/99 DANIEL W. GARDNER, JR.	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 3/27/99 BROOK E. ANDERSON



SEE SHEET 8 FOR PLAN VIEW

**PIPE HYDRAULIC DATA**  
Str. 0910 Sta. 81+50

DRAINAGE AREA	= 13.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 22	CFS
DESIGN HW ELEVATION	= 40.4	FT
100 YEAR DISCHARGE	= 25	CFS
100 YEAR HW ELEVATION	= 40.7	FT
OVERTOPPING FREQUENCY	= <5	YRS
OVERTOPPING DISCHARGE	= 1	CFS
OVERTOPPING ELEVATION	= 38.5	FT

BM3 ELEVATION = 40.96'  
N 435960 E 2528525  
L STATION 80+84.00 214' RIGHT  
RR SPIKE IN 20" OAK

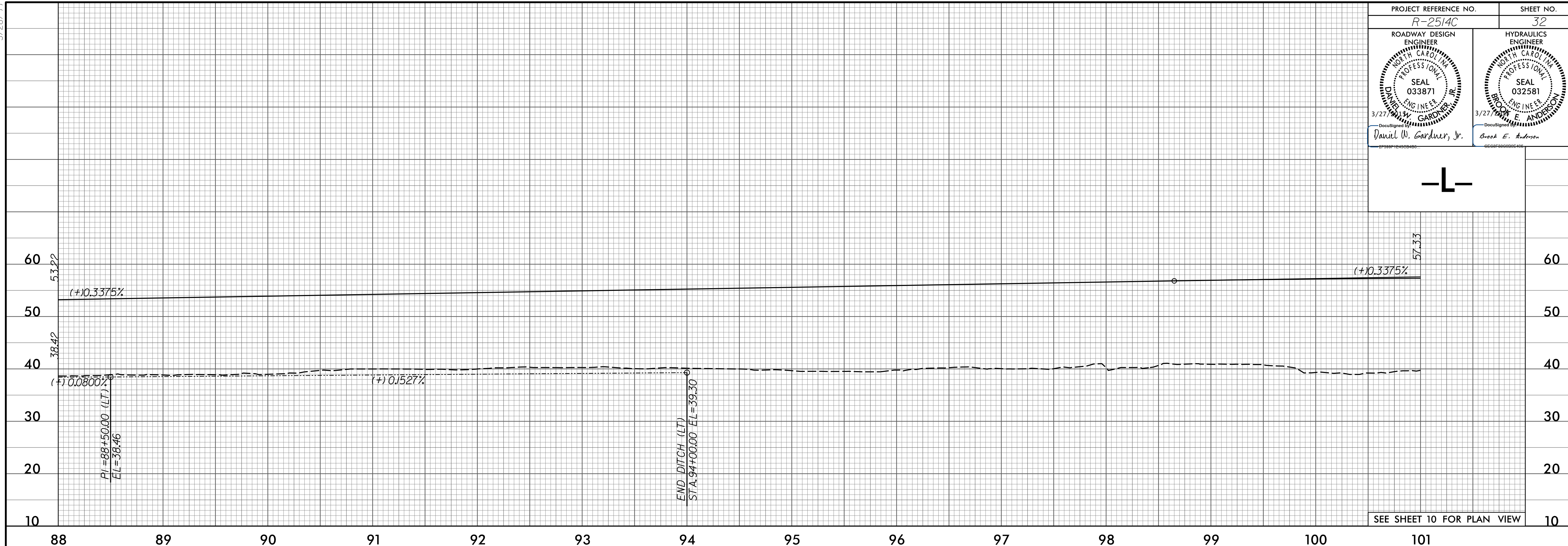
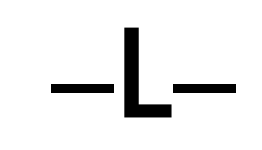
UNDERCUT EXCAVATION

**DITCH LEGEND**  
LEFT DITCH - - - - -  
SEE SHEET 9 FOR PLAN VIEW

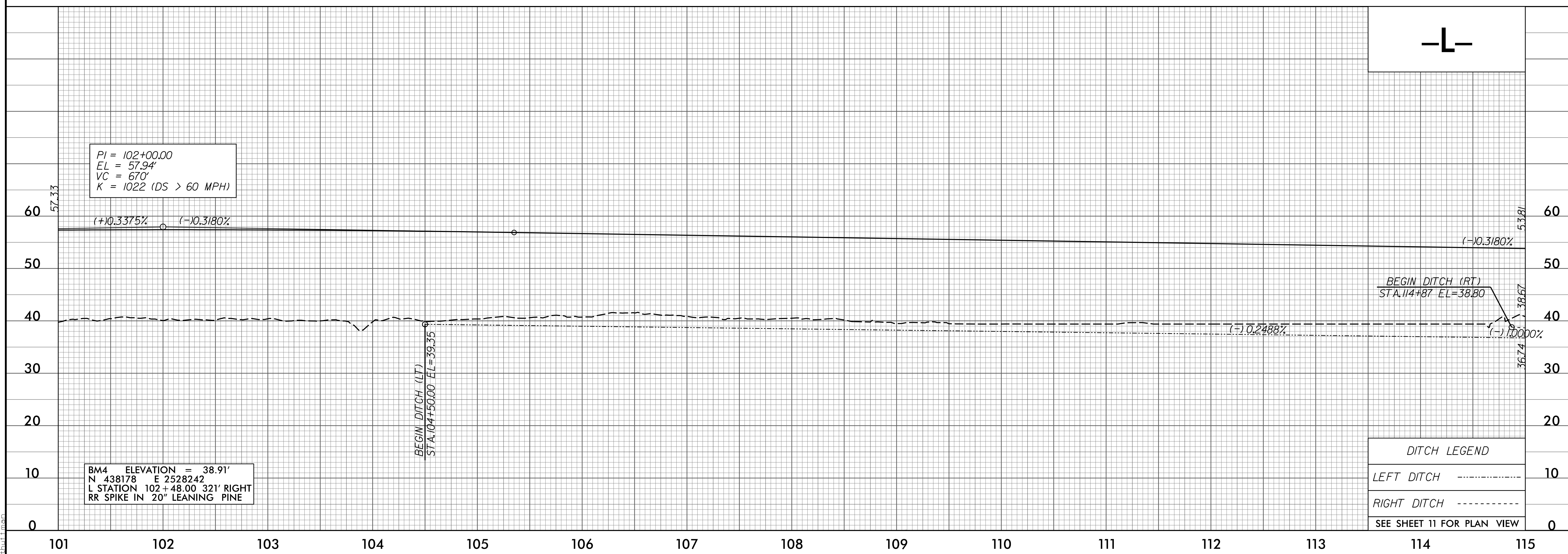
F:\18\2015\01\Cadd\2514C\Roadway\Proj\2514C\_Rdy.plt.dgn

5/28/99

PROJECT REFERENCE NO. <i>R-2514C</i>	SHEET NO. <i>32</i>
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. NORTH CAROLINA PROFESSIONAL SEAL 033871 3/27/99	HYDRAULICS ENGINEER BROOK E. ANDERSON NORTH CAROLINA PROFESSIONAL SEAL 032581 3/27/99



SEE SHEET 10 FOR PLAN VIEW



PI = 102+00.00  
 EL = 57.94'  
 VC = 670'  
 K = 1022 (DS > 60 MPH)

BM4 ELEVATION = 38.91'  
 N 438178 E 2528242  
 L STATION 102+48.00 321' RIGHT  
 RR SPIKE IN 20" LEANING PINE

DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----
SEE SHEET 11 FOR PLAN VIEW	

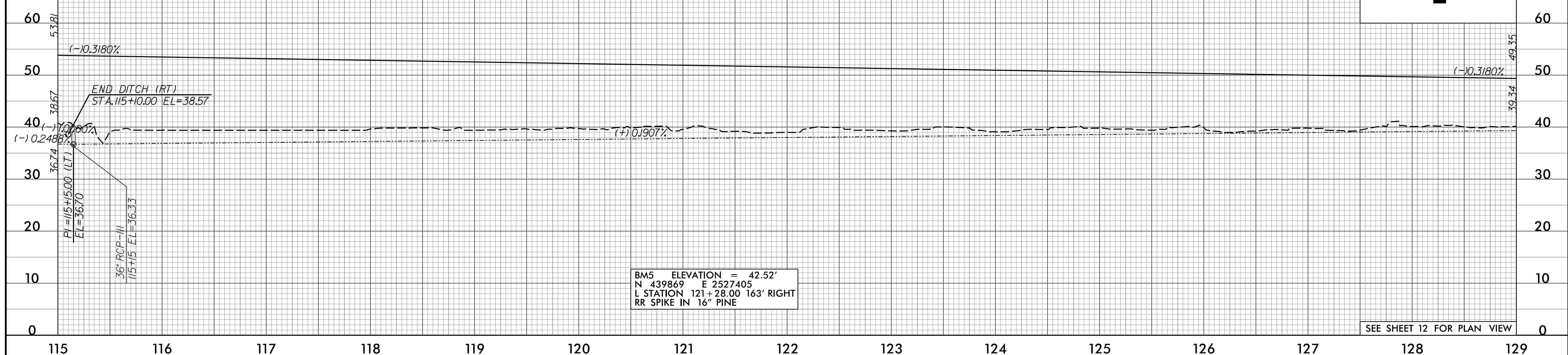
P:\86205\01\Cadd\2514C\Roadway\Proj\2514C\_Rdy.plt.dgn

5/28/99

PROJECT REFERENCE NO. R-2514C	SHEET NO. 33
ROADWAY DESIGN ENGINEER SEAL 033871 3/27/99 DANIEL W. GARDNER, JR.	HYDRAULICS ENGINEER SEAL 032581 3/27/99 BOB E. ANDERSON

PIPE HYDRAULIC DATA  
Str.1208 Sta.115+15

DRAINAGE AREA	= 56	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 20	CFS
DESIGN HW ELEVATION	= 39	FT
100 YEAR DISCHARGE	= 25	CFS
100 YEAR HW ELEVATION	= 39.3	FT
OVERTOPPING FREQUENCY	= 200+/-	YRS
OVERTOPPING DISCHARGE	= 33	CFS
OVERTOPPING ELEVATION	= 40.2	FT



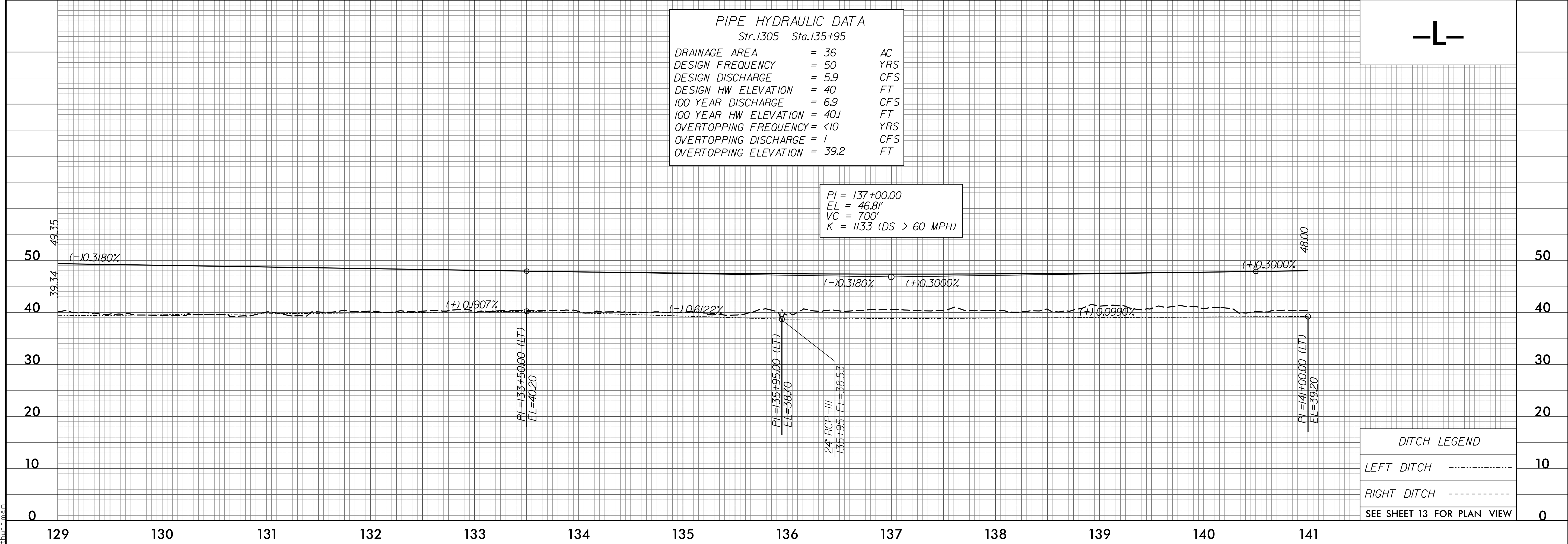
BM5 ELEVATION = 42.52'  
N 439869 E 2527405  
L STATION 121+28.00 163' RIGHT  
RR SPIKE IN 16\"/>

SEE SHEET 12 FOR PLAN VIEW

PIPE HYDRAULIC DATA  
Str.1305 Sta.135+95

DRAINAGE AREA	= 36	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 5.9	CFS
DESIGN HW ELEVATION	= 40	FT
100 YEAR DISCHARGE	= 6.9	CFS
100 YEAR HW ELEVATION	= 40.1	FT
OVERTOPPING FREQUENCY	= <10	YRS
OVERTOPPING DISCHARGE	= 1	CFS
OVERTOPPING ELEVATION	= 39.2	FT

PI = 137+00.00  
EL = 46.81'  
VC = 700'  
K = 1133 (DS > 60 MPH)



DITCH LEGEND

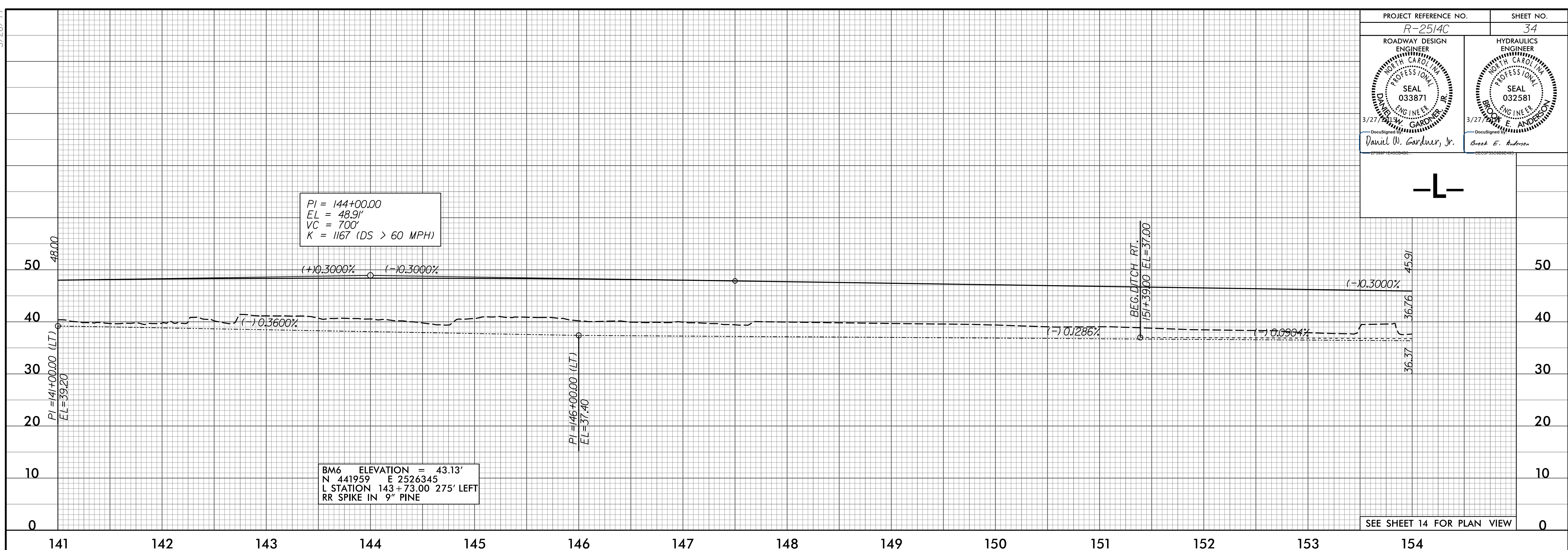
LEFT DITCH	-----	10
RIGHT DITCH	-----	10

SEE SHEET 13 FOR PLAN VIEW

F:\862501\Cadd\2514C\Roadway\Proj\2514C\_Rdy.plt.dgn

5/28/99

PROJECT REFERENCE NO. R-2514C	SHEET NO. 34
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. SEAL 033871 3/27/99	HYDRAULICS ENGINEER BOB E. ANDERSON SEAL 032581 3/27/99



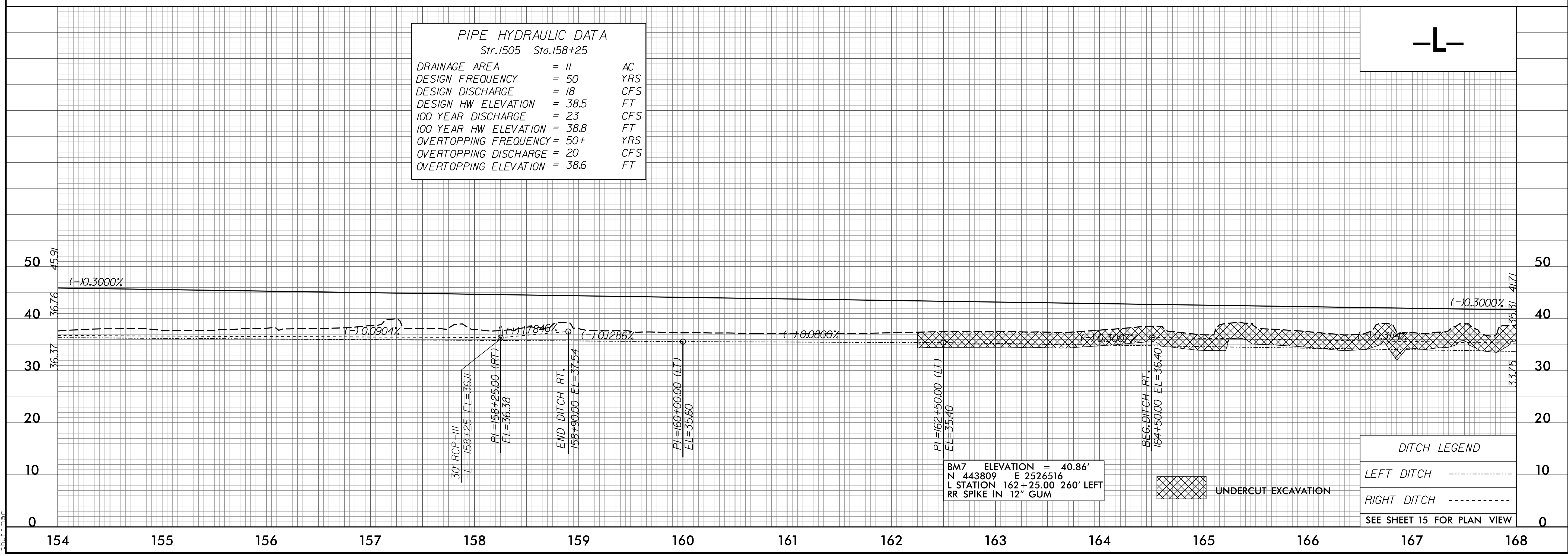
PI = 144+00.00  
EL = 48.91'  
VC = 700'  
K = 1167 (DS > 60 MPH)

BM6 ELEVATION = 43.13'  
N 441959 E 2526345  
L STATION 143+73.00 275' LEFT  
RR SPIKE IN 9" PINE

SEE SHEET 14 FOR PLAN VIEW

PIPE HYDRAULIC DATA  
Str. 1505 Sta. 158+25

DRAINAGE AREA	= 11	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 18	CFS
DESIGN HW ELEVATION	= 38.5	FT
100 YEAR DISCHARGE	= 23	CFS
100 YEAR HW ELEVATION	= 38.8	FT
OVERTOPPING FREQUENCY	= 50+	YRS
OVERTOPPING DISCHARGE	= 20	CFS
OVERTOPPING ELEVATION	= 38.6	FT



BM7 ELEVATION = 40.86'  
N 443809 E 2526516  
L STATION 162+25.00 260' LEFT  
RR SPIKE IN 12" GUM

UNDERCUT EXCAVATION

DITCH LEGEND

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

SEE SHEET 15 FOR PLAN VIEW

F:\18\2015\01\Cadd\2514C\Roadway\Proj\2514C\_Rdy.plt.dgn

5/28/99

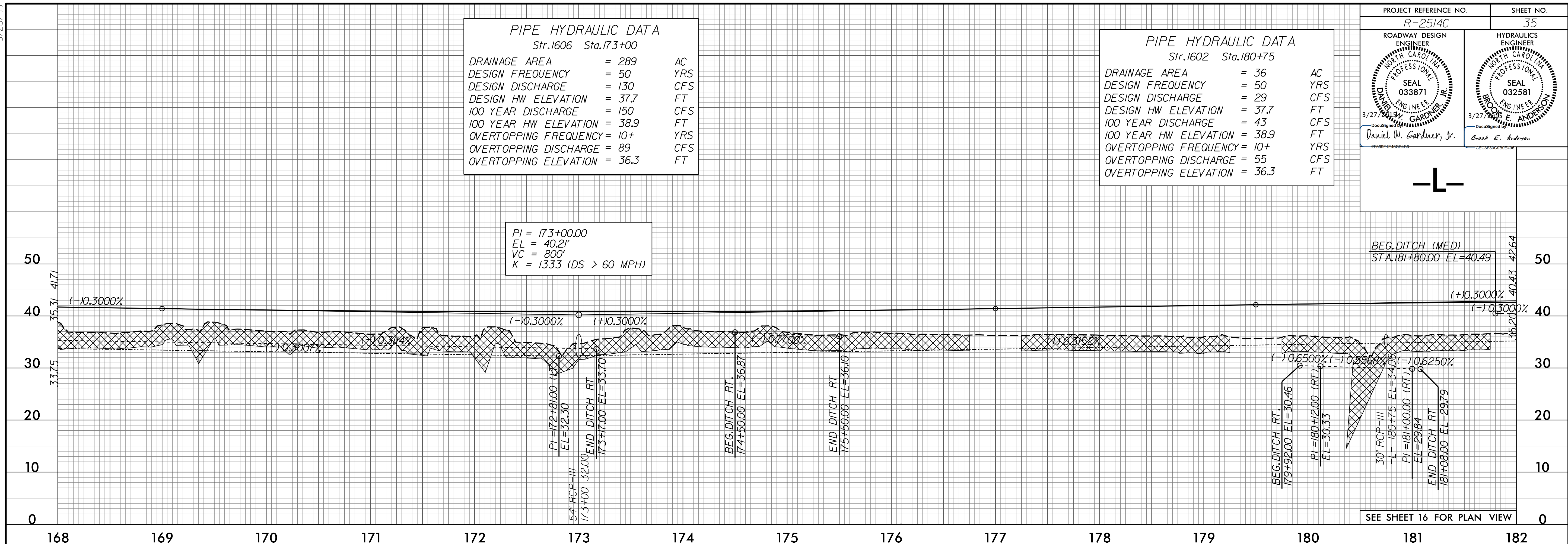
PROJECT REFERENCE NO. R-2514C	SHEET NO. 35
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. 3/27/99 SEAL 033871	HYDRAULICS ENGINEER BROOK E. ANDERSON 3/27/99 SEAL 032581

**PIPE HYDRAULIC DATA**  
Str.1606 Sta.173+00

DRAINAGE AREA	= 289	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 130	CFS
DESIGN HW ELEVATION	= 37.7	FT
100 YEAR DISCHARGE	= 150	CFS
100 YEAR HW ELEVATION	= 38.9	FT
OVERTOPPING FREQUENCY	= 10+	YRS
OVERTOPPING DISCHARGE	= 89	CFS
OVERTOPPING ELEVATION	= 36.3	FT

**PIPE HYDRAULIC DATA**  
Str.1602 Sta.180+75

DRAINAGE AREA	= 36	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 29	CFS
DESIGN HW ELEVATION	= 37.7	FT
100 YEAR DISCHARGE	= 43	CFS
100 YEAR HW ELEVATION	= 38.9	FT
OVERTOPPING FREQUENCY	= 10+	YRS
OVERTOPPING DISCHARGE	= 55	CFS
OVERTOPPING ELEVATION	= 36.3	FT



PI = 173+00.00  
EL = 40.21'  
VC = 800'  
K = 1333 (DS > 60 MPH)

BEG. DITCH (MED)  
STA.181+80.00 EL=40.49

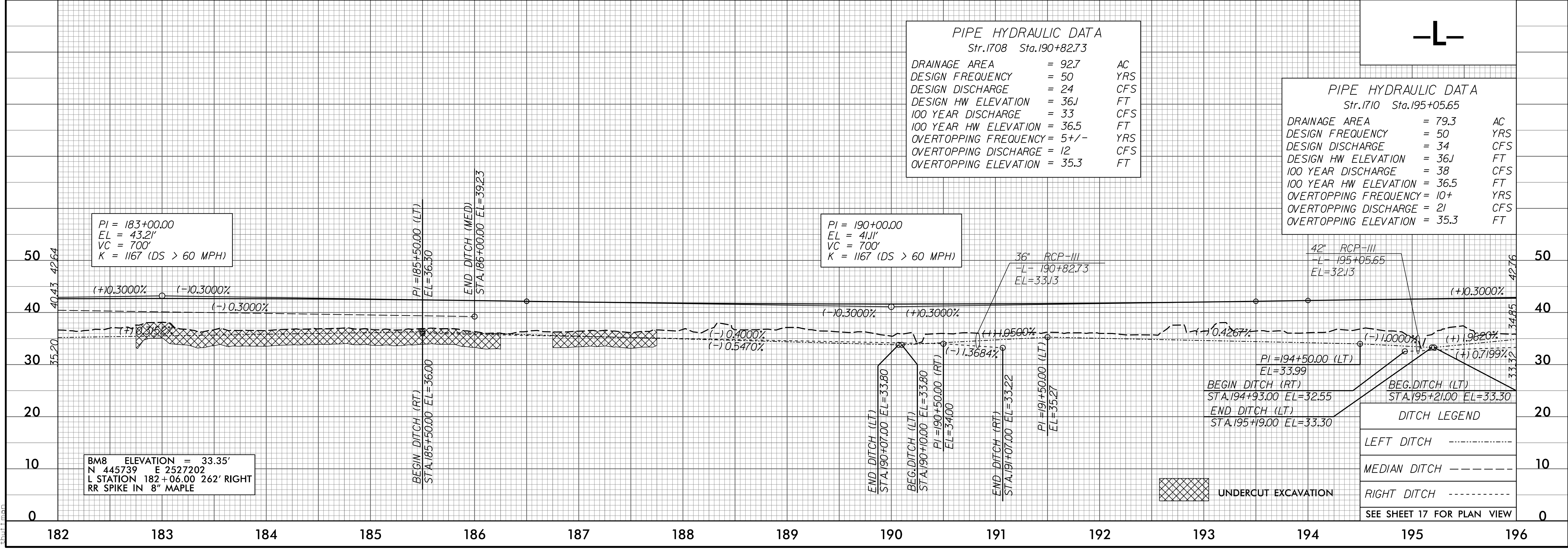
SEE SHEET 16 FOR PLAN VIEW

**PIPE HYDRAULIC DATA**  
Str.1708 Sta.190+82.73

DRAINAGE AREA	= 92.7	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 24	CFS
DESIGN HW ELEVATION	= 36J	FT
100 YEAR DISCHARGE	= 33	CFS
100 YEAR HW ELEVATION	= 36.5	FT
OVERTOPPING FREQUENCY	= 5+/-	YRS
OVERTOPPING DISCHARGE	= 12	CFS
OVERTOPPING ELEVATION	= 35.3	FT

**PIPE HYDRAULIC DATA**  
Str.1710 Sta.195+05.65

DRAINAGE AREA	= 79.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 34	CFS
DESIGN HW ELEVATION	= 36J	FT
100 YEAR DISCHARGE	= 38	CFS
100 YEAR HW ELEVATION	= 36.5	FT
OVERTOPPING FREQUENCY	= 10+	YRS
OVERTOPPING DISCHARGE	= 21	CFS
OVERTOPPING ELEVATION	= 35.3	FT



PI = 183+00.00  
EL = 43.21'  
VC = 700'  
K = 1167 (DS > 60 MPH)

PI = 190+00.00  
EL = 41.11'  
VC = 700'  
K = 1167 (DS > 60 MPH)

BM8 ELEVATION = 33.35'  
N 445739 E 2527202  
L STATION 182+06.00 262' RIGHT  
RR SPIKE IN 8" MAPLE

**DITCH LEGEND**

LEFT DITCH	-----
MEDIAN DITCH	-----
RIGHT DITCH	-----

SEE SHEET 17 FOR PLAN VIEW

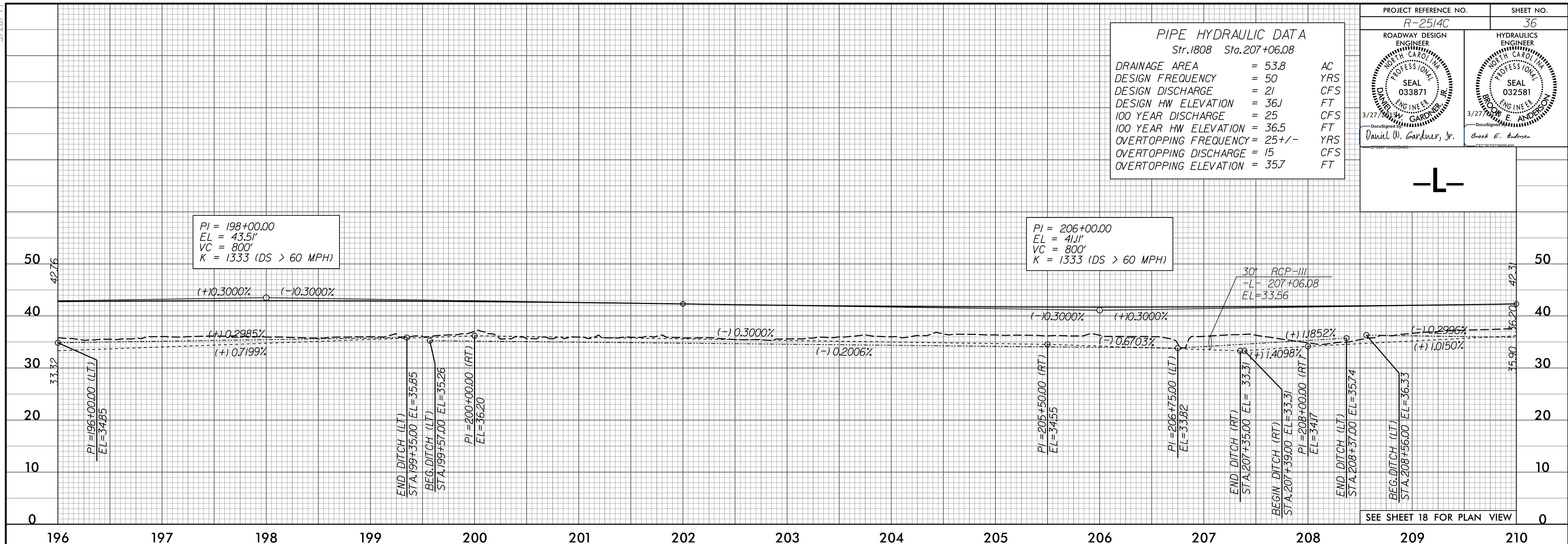
UNDERCUT EXCAVATION

P:\862015\01\Cadd\2514C\Roadway\Proj\R2514C\_Rdy.plt.dgn

PROJECT REFERENCE NO. R-2514C	SHEET NO. 36
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. SEAL 033871 3/27/2005	HYDRAULICS ENGINEER BROOK E. ANDERSON SEAL 032581 3/27/2005

**PIPE HYDRAULIC DATA**  
Str.1808 Sta.207+06.08

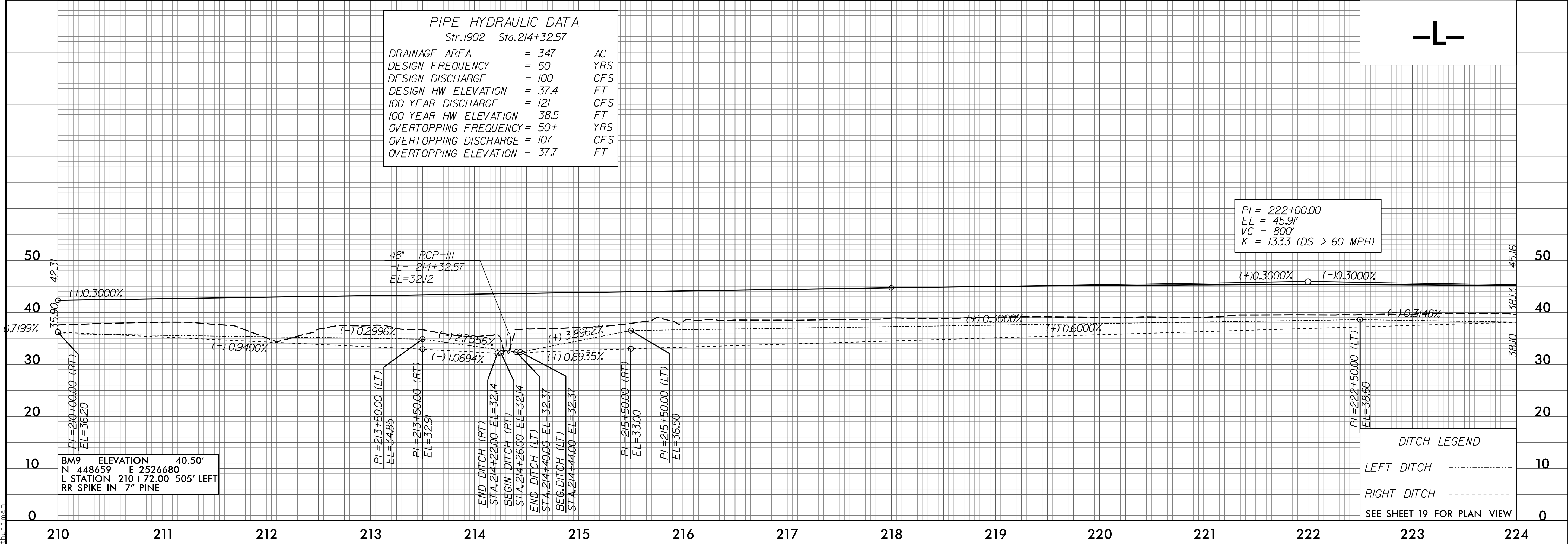
DRAINAGE AREA	= 53.8	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 21	CFS
DESIGN HW ELEVATION	= 36.1	FT
100 YEAR DISCHARGE	= 25	CFS
100 YEAR HW ELEVATION	= 36.5	FT
OVERTOPPING FREQUENCY	= 25+/-	YRS
OVERTOPPING DISCHARGE	= 15	CFS
OVERTOPPING ELEVATION	= 35.7	FT



SEE SHEET 18 FOR PLAN VIEW

**PIPE HYDRAULIC DATA**  
Str.1902 Sta.214+32.57

DRAINAGE AREA	= 347	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 100	CFS
DESIGN HW ELEVATION	= 37.4	FT
100 YEAR DISCHARGE	= 121	CFS
100 YEAR HW ELEVATION	= 38.5	FT
OVERTOPPING FREQUENCY	= 50+	YRS
OVERTOPPING DISCHARGE	= 107	CFS
OVERTOPPING ELEVATION	= 37.7	FT



**DITCH LEGEND**

LEFT DITCH - - - - -

RIGHT DITCH - - - - -

SEE SHEET 19 FOR PLAN VIEW

BM9 ELEVATION = 40.50'  
N 448659 E 252680  
L STATION 210+72.00 505' LEFT  
RR SPIKE IN 7" PINE

5/28/99

F:\862015\01\Cadd\2514C\Roadway\Proj\2514C\_Rdy.plt.dgn

PROJECT REFERENCE NO. R-2514C	SHEET NO. 37
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. SEAL 033871 3/27/2013	HYDRAULICS ENGINEER BOOK E. ANDERSON SEAL 032581 3/27/2013

**PIPE HYDRAULIC DATA**  
Str. 2001 Sta. 228+85.14

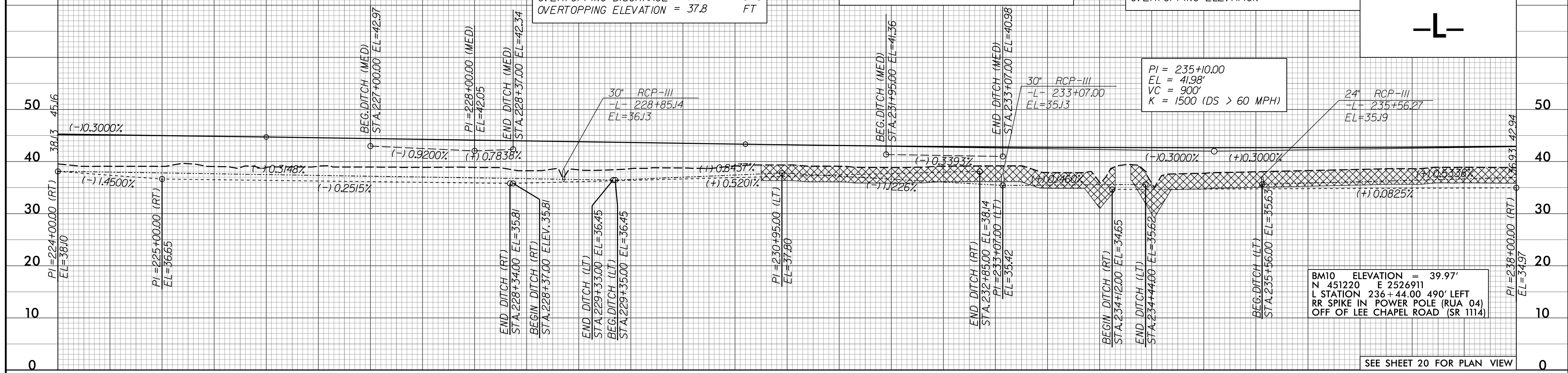
DRAINAGE AREA	= 25.6	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 14	CFS
DESIGN HW ELEVATION	= 38.2	FT
100 YEAR DISCHARGE	= 17	CFS
100 YEAR HW ELEVATION	= 38.5	FT
OVERTOPPING FREQUENCY	= <5	YRS
OVERTOPPING DISCHARGE	= 8.8	CFS
OVERTOPPING ELEVATION	= 37.8	FT

**PIPE HYDRAULIC DATA**  
Str. 2008 Sta. 233+07

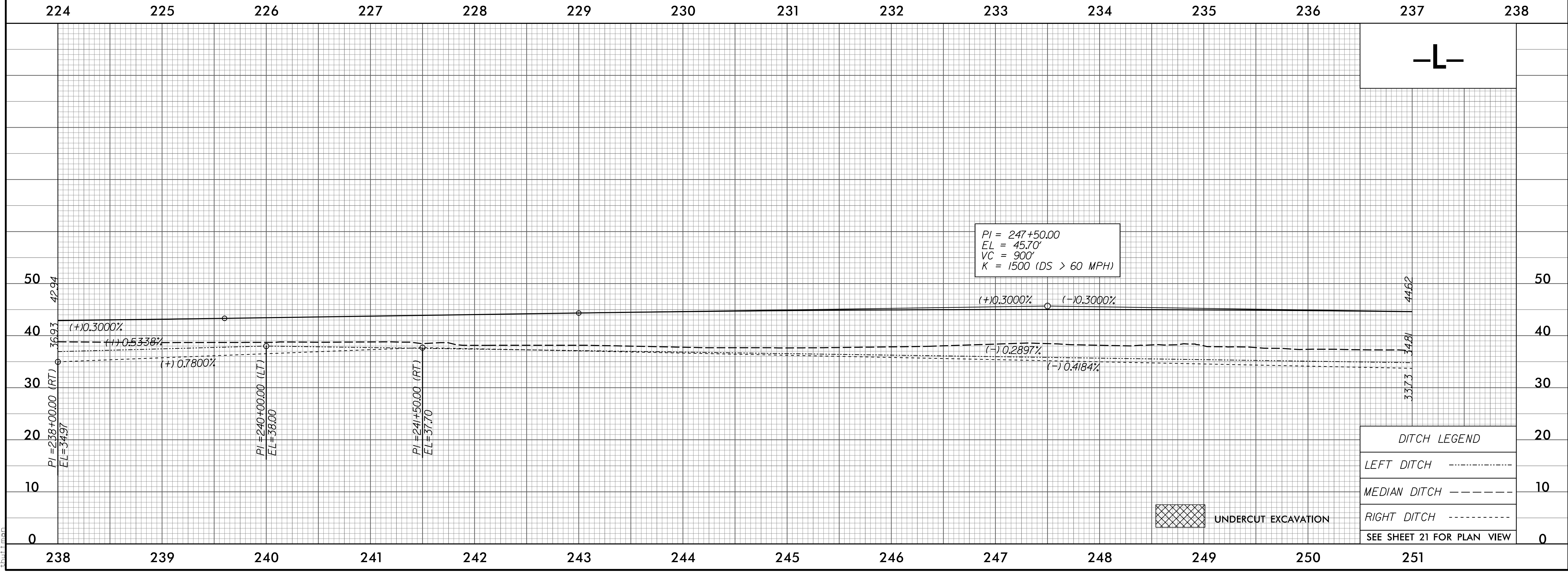
DRAINAGE AREA	= 17.5	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 25	CFS
DESIGN HW ELEVATION	= 38.2	FT
100 YEAR DISCHARGE	= 28	CFS
100 YEAR HW ELEVATION	= 38.5	FT
OVERTOPPING FREQUENCY	= 10+	YRS
OVERTOPPING DISCHARGE	= 22	CFS
OVERTOPPING ELEVATION	= 37.8	FT

**PIPE HYDRAULIC DATA**  
Str. 2013 Sta. 235+56.27

DRAINAGE AREA	= 8.9	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 10.6	CFS
DESIGN HW ELEVATION	= 37.4	FT
100 YEAR DISCHARGE	= 11.9	CFS
100 YEAR HW ELEVATION	= 37.6	FT
OVERTOPPING FREQUENCY	= 200+/-	YRS
OVERTOPPING DISCHARGE	= 14	CFS
OVERTOPPING ELEVATION	= 38	FT



SEE SHEET 20 FOR PLAN VIEW



**DITCH LEGEND**

LEFT DITCH	-----
MEDIAN DITCH	-----
RIGHT DITCH	-----

SEE SHEET 21 FOR PLAN VIEW

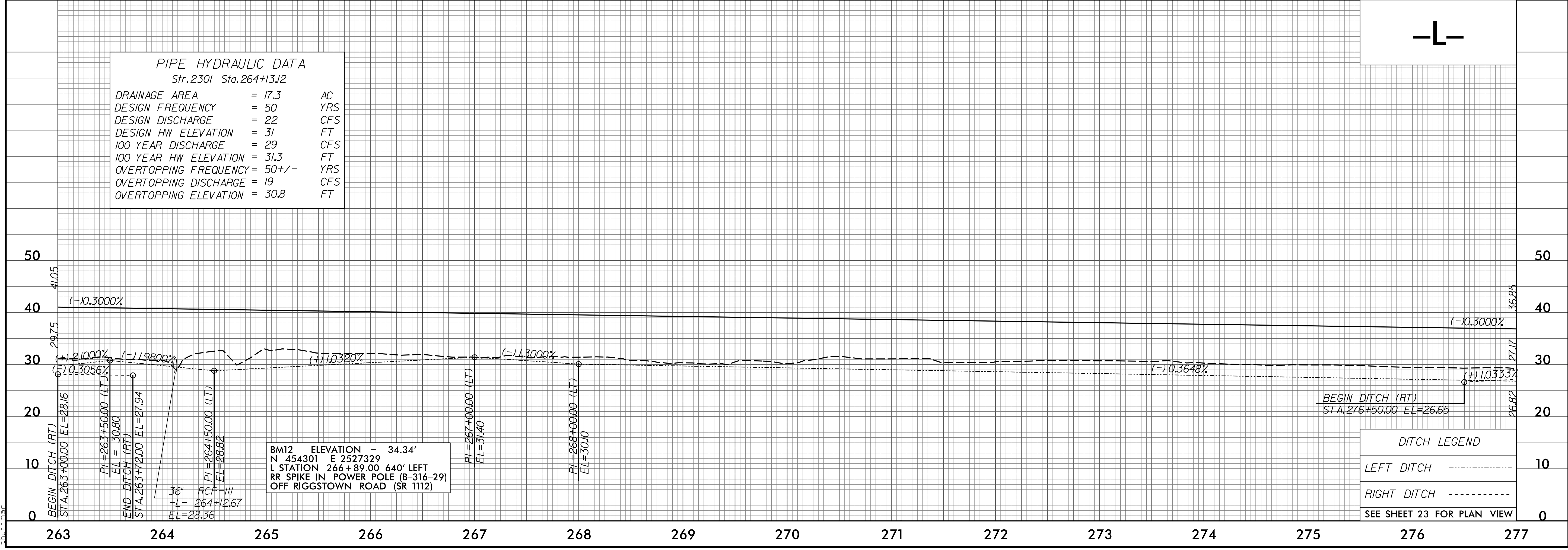
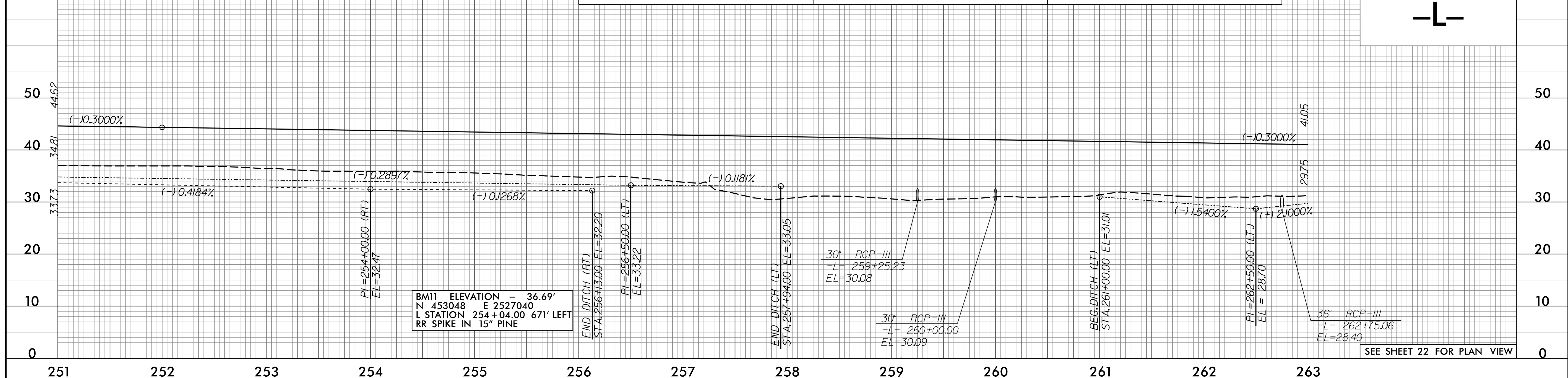
UNDERCUT EXCAVATION



5/28/99

PIPE HYDRAULIC DATA Str.2203 Sta.259+25.23		PIPE HYDRAULIC DATA Str.2205 Sta.260+00		PIPE HYDRAULIC DATA Str.2209 Sta.262+75.06	
DRAINAGE AREA	= 60.7 AC	DRAINAGE AREA	= 60.7 AC	DRAINAGE AREA	= 11 AC
DESIGN FREQUENCY	= 50 YRS	DESIGN FREQUENCY	= 50 YRS	DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 7.9 CFS	DESIGN DISCHARGE	= 7.9 CFS	DESIGN DISCHARGE	= 25 CFS
DESIGN HW ELEVATION	= 32 FT	DESIGN HW ELEVATION	= 32 FT	DESIGN HW ELEVATION	= 31 FT
100 YEAR DISCHARGE	= 7.9 CFS	100 YEAR DISCHARGE	= 7.9 CFS	100 YEAR DISCHARGE	= 32 CFS
100 YEAR HW ELEVATION	= 32 FT	100 YEAR HW ELEVATION	= 32 FT	100 YEAR HW ELEVATION	= 31.3 FT
OVERTOPPING FREQUENCY	= <10 YRS	OVERTOPPING FREQUENCY	= <10 YRS	OVERTOPPING FREQUENCY	= 10+ YRS
OVERTOPPING DISCHARGE	= 7.9 CFS	OVERTOPPING DISCHARGE	= 7.9 CFS	OVERTOPPING DISCHARGE	= 22 CFS
OVERTOPPING ELEVATION	= 32 FT	OVERTOPPING ELEVATION	= 32 FT	OVERTOPPING ELEVATION	= 30.8 FT

PROJECT REFERENCE NO. R-2514C	SHEET NO. 38
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. SEAL 033871 3/27/2005 DocuSigned by: Daniel W. Gardner, Jr.	HYDRAULICS ENGINEER BROOK E. ANDERSON SEAL 032581 3/27/2005 DocuSigned by: Brook E. Anderson



F:\8625201\Cadd\2514C\_Roadway\Proj\2514C\_Rdy.plt.dgn

5/28/99

**PIPE HYDRAULIC DATA**  
Str.2306 Sta.277+39.30

DRAINAGE AREA	= 3.2	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 21.4	CFS
DESIGN HW ELEVATION	= 28.8	FT
100 YEAR DISCHARGE	= 24	CFS
100 YEAR HW ELEVATION	= 28.9	FT
OVERTOPPING FREQUENCY	= <10	YRS
OVERTOPPING DISCHARGE	= 4J	CFS
OVERTOPPING ELEVATION	= 28.2	FT

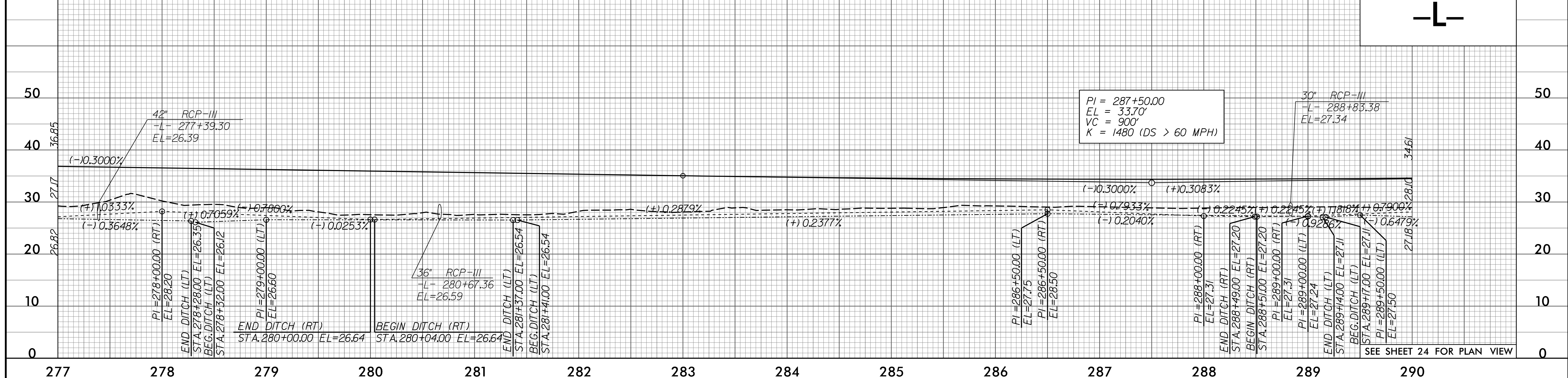
**PIPE HYDRAULIC DATA**  
Str.2402 Sta.280+67.36

DRAINAGE AREA	= 13.9	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 13.4	CFS
DESIGN HW ELEVATION	= 28.8	FT
100 YEAR DISCHARGE	= 16	CFS
100 YEAR HW ELEVATION	= 28.9	FT
OVERTOPPING FREQUENCY	= <10	YRS
OVERTOPPING DISCHARGE	= <1	CFS
OVERTOPPING ELEVATION	= 28.2	FT

**PIPE HYDRAULIC DATA**  
Str.2408 Sta.288+83.38

DRAINAGE AREA	= 2.4	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 4.7	CFS
DESIGN HW ELEVATION	= 28.8	FT
100 YEAR DISCHARGE	= 6.6	CFS
100 YEAR HW ELEVATION	= 28.9	FT
OVERTOPPING FREQUENCY	= <10	YRS
OVERTOPPING DISCHARGE	= <1	CFS
OVERTOPPING ELEVATION	= 28.1	FT

PROJECT REFERENCE NO.	R-2514C	SHEET NO.	39
ROADWAY DESIGN ENGINEER	DANIEL W. GARDNER, JR.	HYDRAULICS ENGINEER	BROOK E. ANDERSON
SEAL	033871	SEAL	032581
DATE	3/27/99	DATE	3/27/99

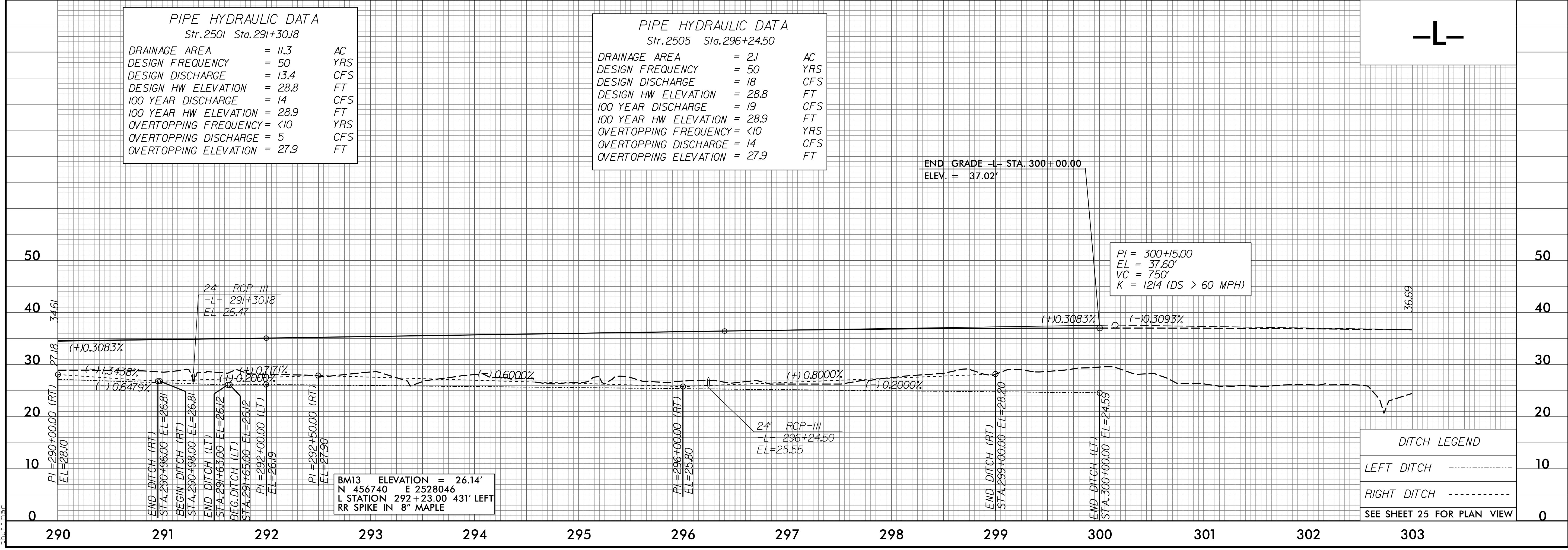


**PIPE HYDRAULIC DATA**  
Str.2501 Sta.291+30J8

DRAINAGE AREA	= 11.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 13.4	CFS
DESIGN HW ELEVATION	= 28.8	FT
100 YEAR DISCHARGE	= 14	CFS
100 YEAR HW ELEVATION	= 28.9	FT
OVERTOPPING FREQUENCY	= <10	YRS
OVERTOPPING DISCHARGE	= 5	CFS
OVERTOPPING ELEVATION	= 27.9	FT

**PIPE HYDRAULIC DATA**  
Str.2505 Sta.296+24.50

DRAINAGE AREA	= 2J	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 18	CFS
DESIGN HW ELEVATION	= 28.8	FT
100 YEAR DISCHARGE	= 19	CFS
100 YEAR HW ELEVATION	= 28.9	FT
OVERTOPPING FREQUENCY	= <10	YRS
OVERTOPPING DISCHARGE	= 14	CFS
OVERTOPPING ELEVATION	= 27.9	FT



**DITCH LEGEND**

LEFT DITCH	-----	10
RIGHT DITCH	-----	10

SEE SHEET 25 FOR PLAN VIEW

F:\86205\01\Cadd\2514C\Roadway\Proj\2514C\_Rdy.plt.dgn

5/28/99

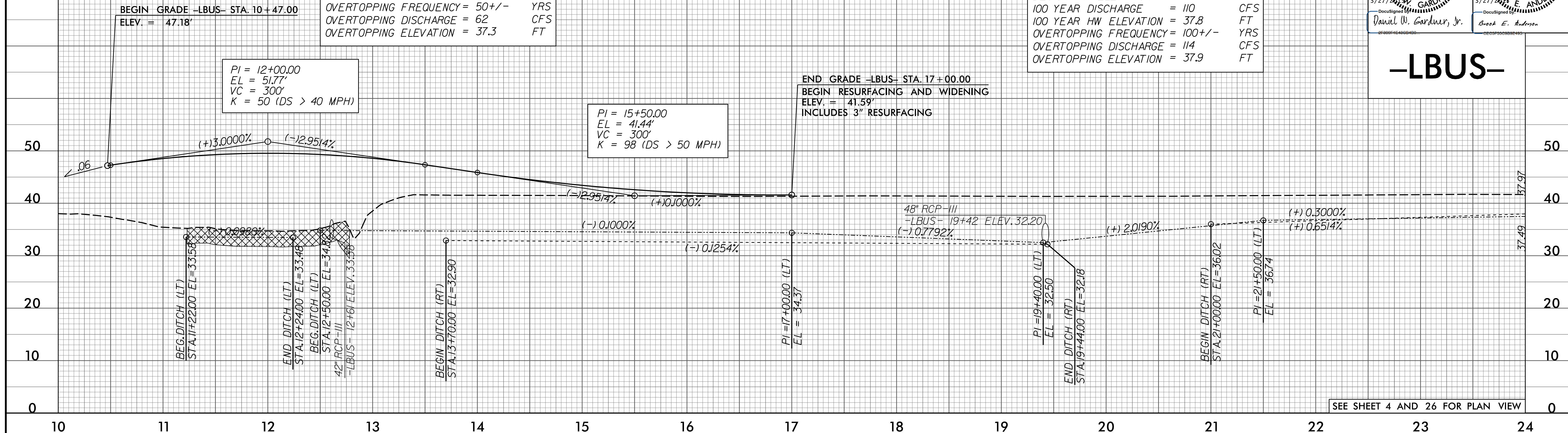
**PIPE HYDRAULIC DATA**  
Str.0413 Sta.12+61

DRAINAGE AREA	= 196	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 65	CFS
DESIGN HW ELEVATION	= 37.5	FT
100 YEAR DISCHARGE	= 78	CFS
100 YEAR HW ELEVATION	= 38.5	FT
OVERTOPPING FREQUENCY	= 50+/-	YRS
OVERTOPPING DISCHARGE	= 62	CFS
OVERTOPPING ELEVATION	= 37.3	FT

**PIPE HYDRAULIC DATA**  
Str.2607 Sta.19+42

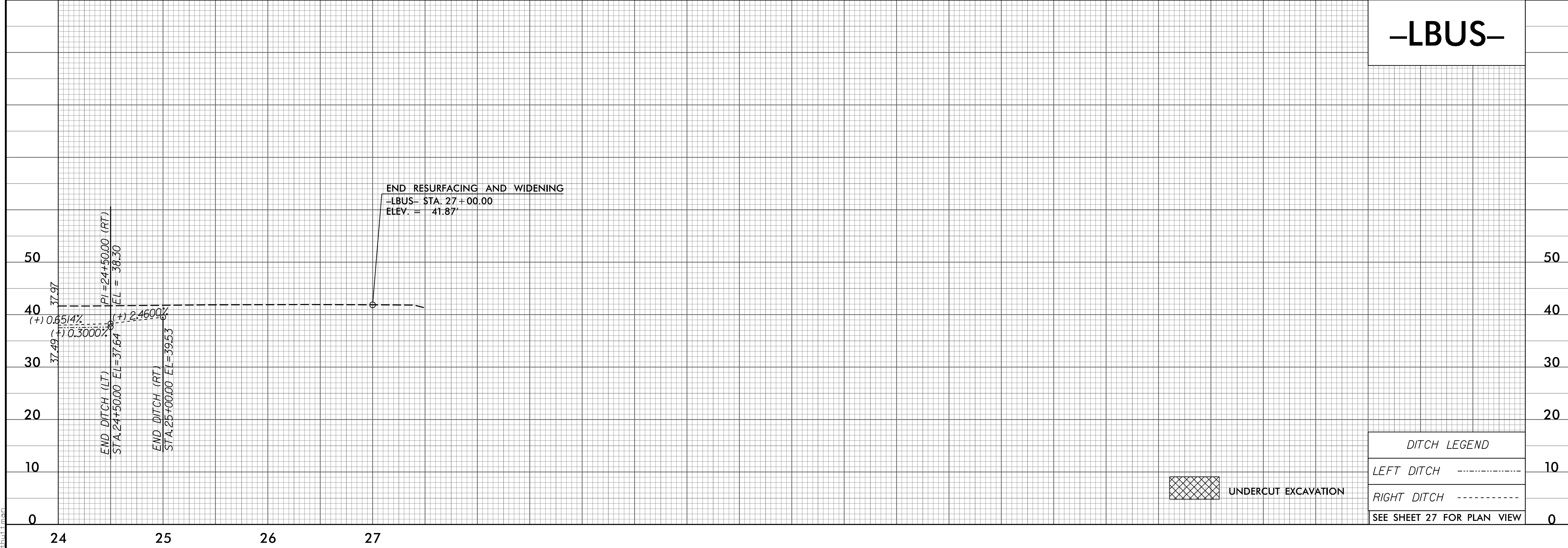
DRAINAGE AREA	= 354	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 91	CFS
DESIGN HW ELEVATION	= 37	FT
100 YEAR DISCHARGE	= 110	CFS
100 YEAR HW ELEVATION	= 37.8	FT
OVERTOPPING FREQUENCY	= 100+/-	YRS
OVERTOPPING DISCHARGE	= 114	CFS
OVERTOPPING ELEVATION	= 37.9	FT

PROJECT REFERENCE NO.	R-2514C	SHEET NO.	40
ROADWAY DESIGN ENGINEER	DANIEL W. GARDNER, JR.	HYDRAULICS ENGINEER	BOB E. ANDERSON
SEAL	033871	SEAL	032581
DATE	3/27/99	DATE	3/27/99



SEE SHEET 4 AND 26 FOR PLAN VIEW

**-LBUS-**



UNDERCUT EXCAVATION

**DITCH LEGEND**

LEFT DITCH	-----	10
RIGHT DITCH	-----	10

SEE SHEET 27 FOR PLAN VIEW

F:\86205\01\Cadd\2514C\Roadway\Proj\2514C\_Rdy.plt.dgn

5/28/99

**PIPE HYDRAULIC DATA**  
Str. 2803 Sta. 12+60

DRAINAGE AREA	= 27.6	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 31	CFS
DESIGN HW ELEVATION	= 37.3	FT
100 YEAR DISCHARGE	= 35	CFS
100 YEAR HW ELEVATION	= 37.7	FT
OVERTOPPING FREQUENCY	= 100	YRS
OVERTOPPING DISCHARGE	= 35	CFS
OVERTOPPING ELEVATION	= 37.7	FT

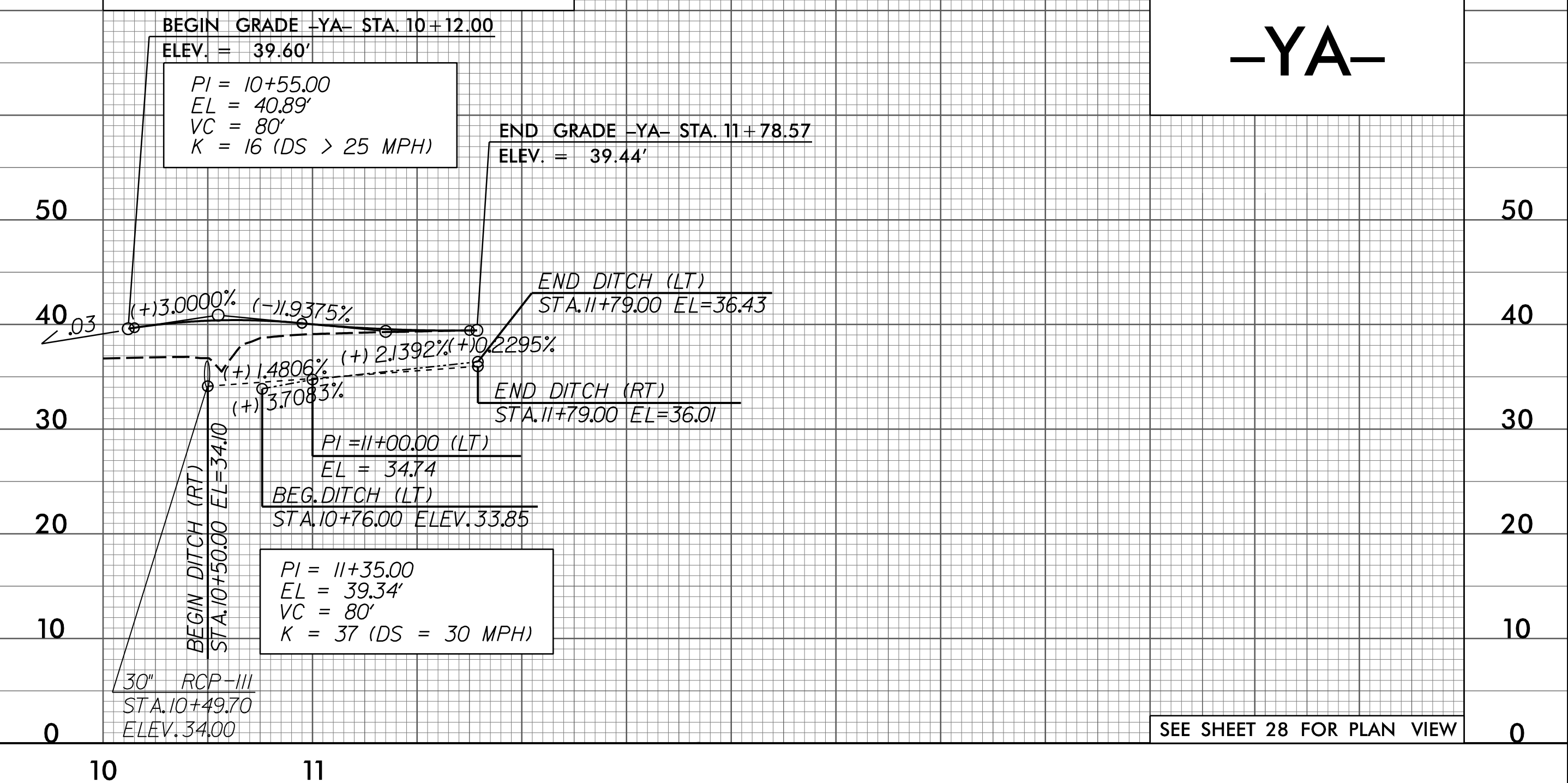
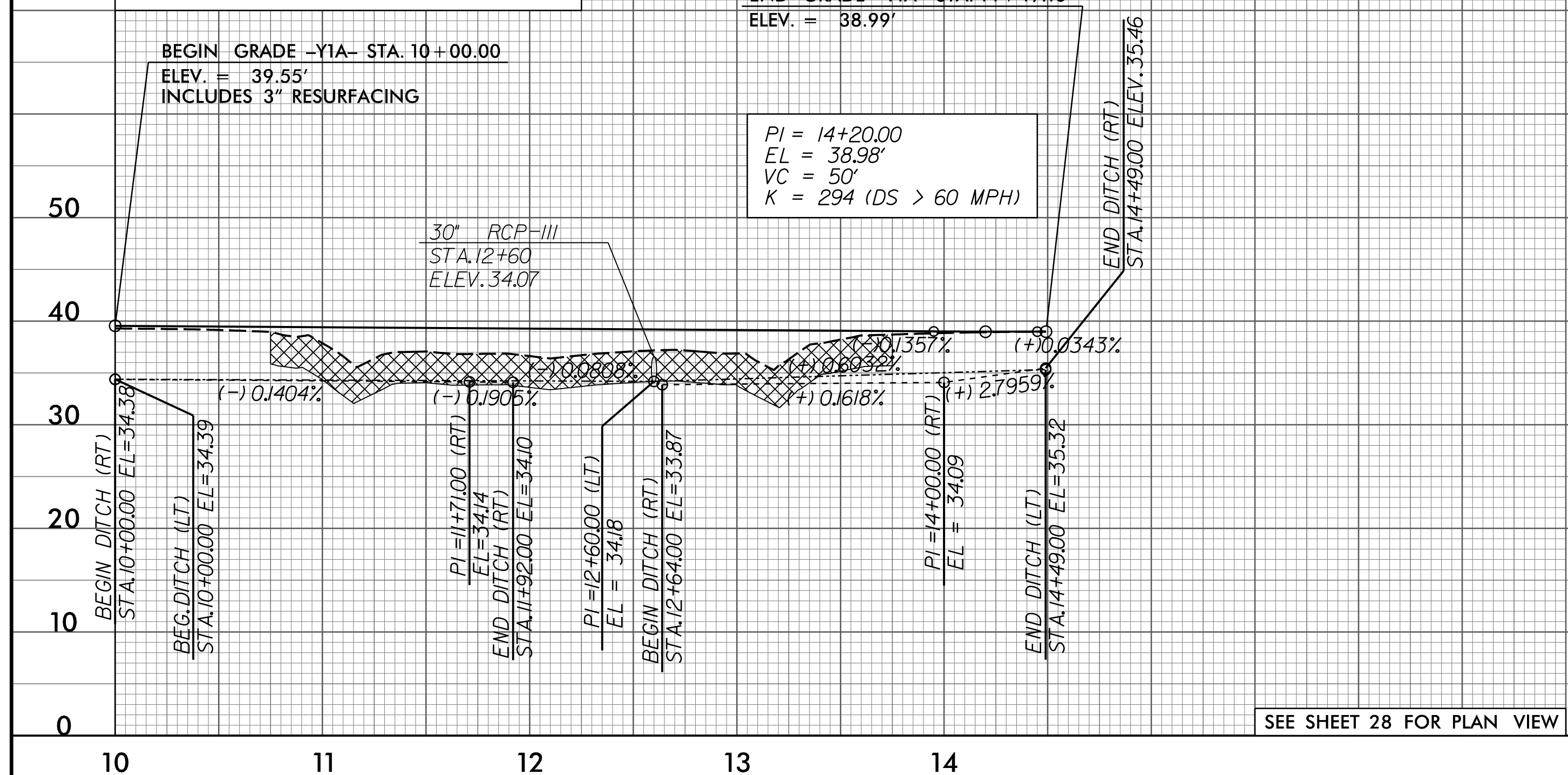
**-Y1A-**

**PIPE HYDRAULIC DATA**  
Str. 2801 Sta. 10+49.70

DRAINAGE AREA	= 20.4	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 28	CFS
DESIGN HW ELEVATION	= 37	FT
100 YEAR DISCHARGE	= 31	CFS
100 YEAR HW ELEVATION	= 37.3	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 37	CFS
OVERTOPPING ELEVATION	= 38.9	FT

PROJECT REFERENCE NO.	R-2514C	SHEET NO.	41
ROADWAY DESIGN ENGINEER	DANIEL W. GARDNER, JR.	HYDRAULICS ENGINEER	BOB E. ANDERSON
SEAL	033871	SEAL	032581
DATE	3/27/99	DATE	3/27/99

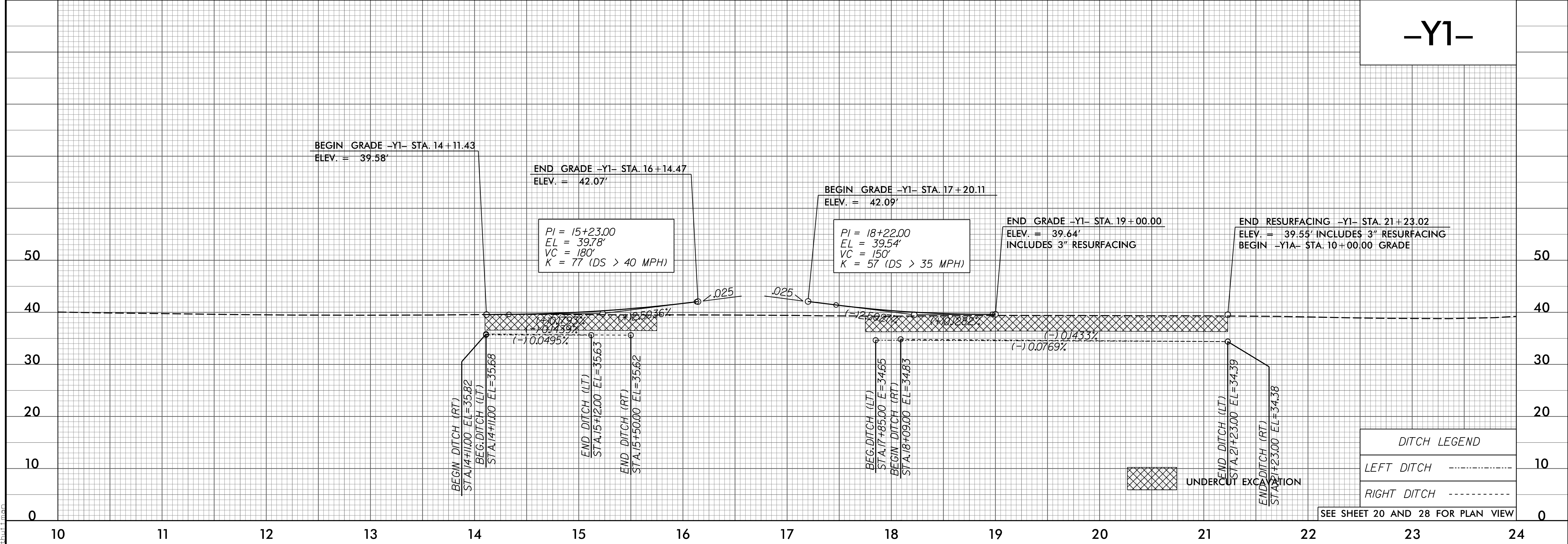
**-YA-**



SEE SHEET 28 FOR PLAN VIEW

SEE SHEET 28 FOR PLAN VIEW

**-Y1-**



**DITCH LEGEND**

LEFT DITCH	-----	10
RIGHT DITCH	-----	10

SEE SHEET 20 AND 28 FOR PLAN VIEW

P:\862015\01\Cadd\2514C\Roadway\Proj\R2514C\_Rdy.plt.dgn

5/28/99

PROJECT REFERENCE NO. R-2514C	SHEET NO. 42
ROADWAY DESIGN ENGINEER SEAL 033871 3/27/99 DANIEL W. GARDNER, JR.	HYDRAULICS ENGINEER SEAL 032581 3/27/99 BROOK E. ANDERSON

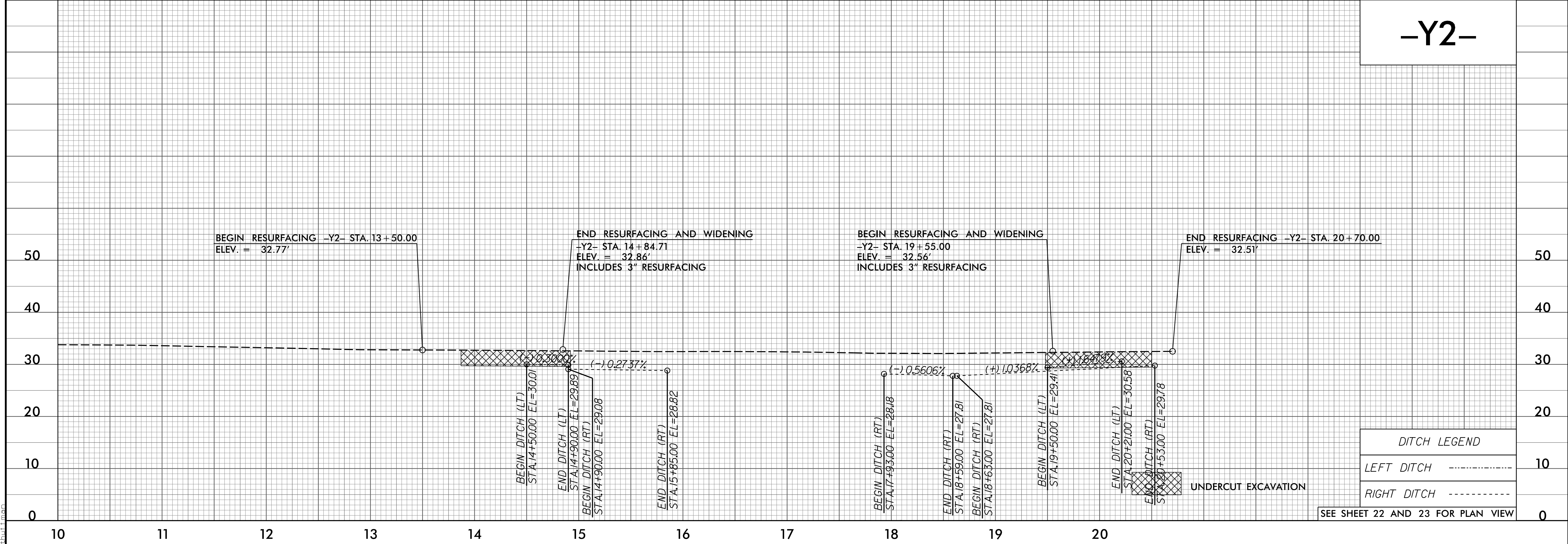
**PIPE HYDRAULIC DATA**  
Str. 2017 Sta. 31+29.58

DRAINAGE AREA	= 33.9	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 19	CFS
DESIGN HW ELEVATION	= 37.1	FT
100 YEAR DISCHARGE	= 23	CFS
100 YEAR HW ELEVATION	= 37.2	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 34+	CFS
OVERTOPPING ELEVATION	= 38.1	FT



SEE SHEET 19 FOR PLAN VIEW

**-Y2-**



**DITCH LEGEND**

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

SEE SHEET 22 AND 23 FOR PLAN VIEW

Z:\18\2015\01\Cadd\2514C\Roadway\Proj\R2514C\_Rdy.plt.dgn

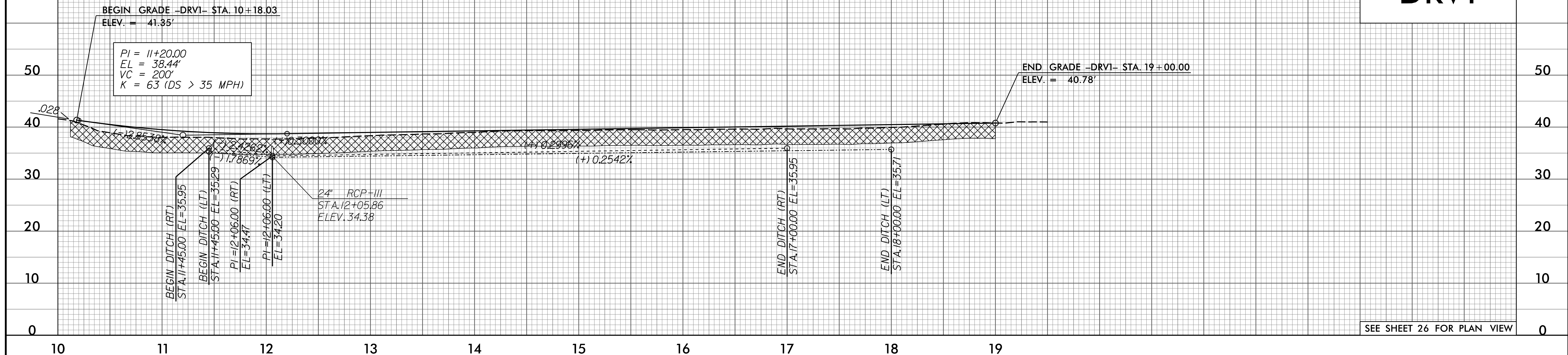
5/28/99

**PIPE HYDRAULIC DATA**  
Str. 2603 Sta. 12+05.86

DRAINAGE AREA	= 13J	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 18.3	CFS
DESIGN HW ELEVATION	= 37	FT
100 YEAR DISCHARGE	= 20.5	CFS
100 YEAR HW ELEVATION	= 37.2	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 25.9	CFS
OVERTOPPING ELEVATION	= 38.3	FT

PROJECT REFERENCE NO.	R-2514C	SHEET NO.	43
ROADWAY DESIGN ENGINEER	DANIEL W. GARDNER, JR.	HYDRAULICS ENGINEER	BRAD E. ANDERSON
SEAL	033871	SEAL	032581
DATE	3/27/99	DATE	3/27/99

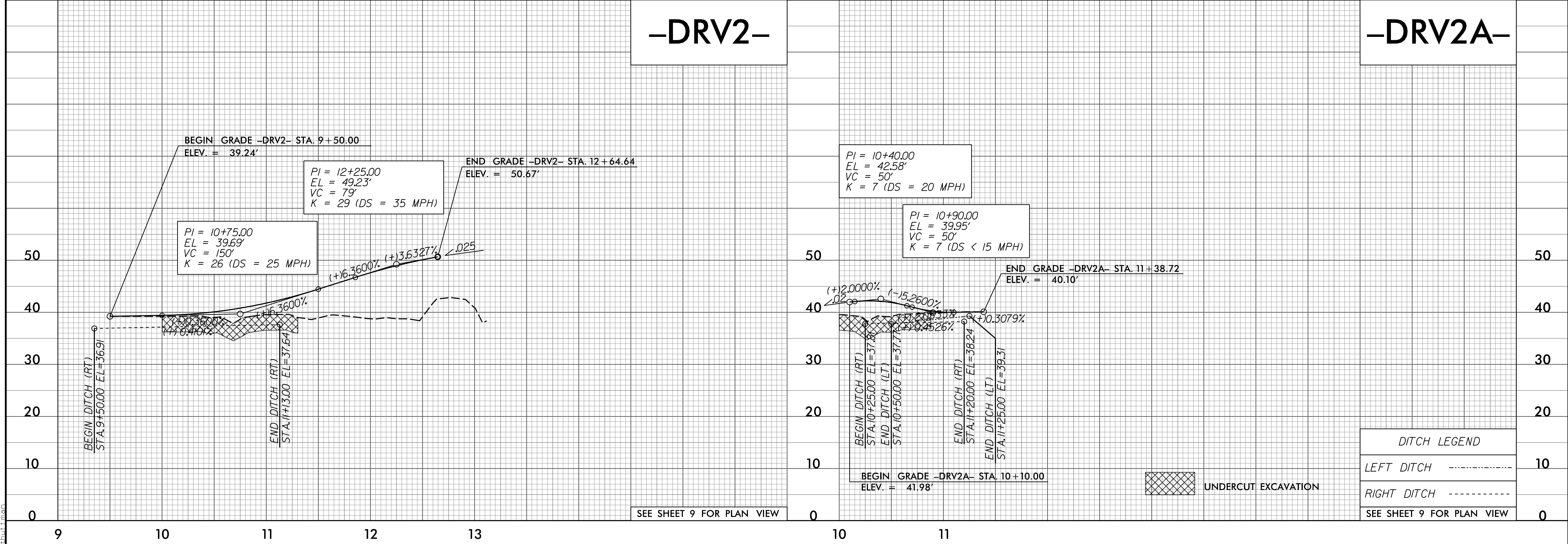
# -DRV1-



SEE SHEET 26 FOR PLAN VIEW

# -DRV2-

# -DRV2A-



SEE SHEET 9 FOR PLAN VIEW

UNDERCUT EXCAVATION

**DITCH LEGEND**

LEFT DITCH	-----	10
RIGHT DITCH	-----	10

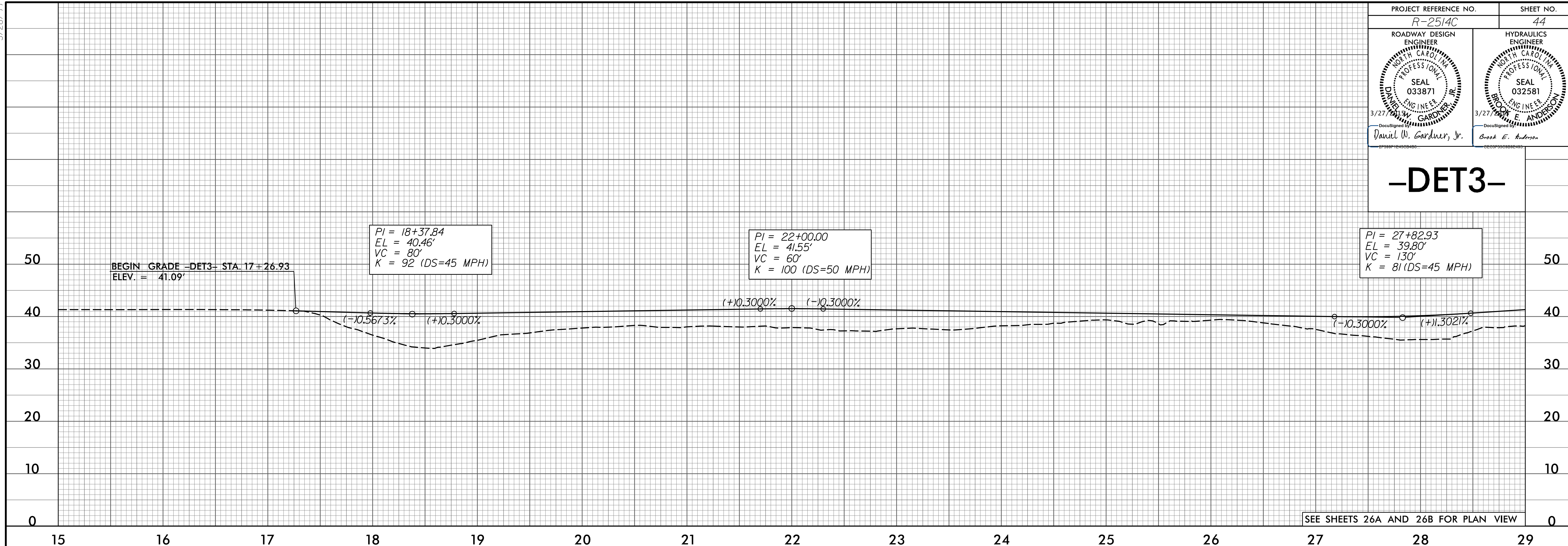
SEE SHEET 9 FOR PLAN VIEW

F:\862501\Cadd\2514C\Roadway\Proj\2514C\_Rdy.plt.dgn

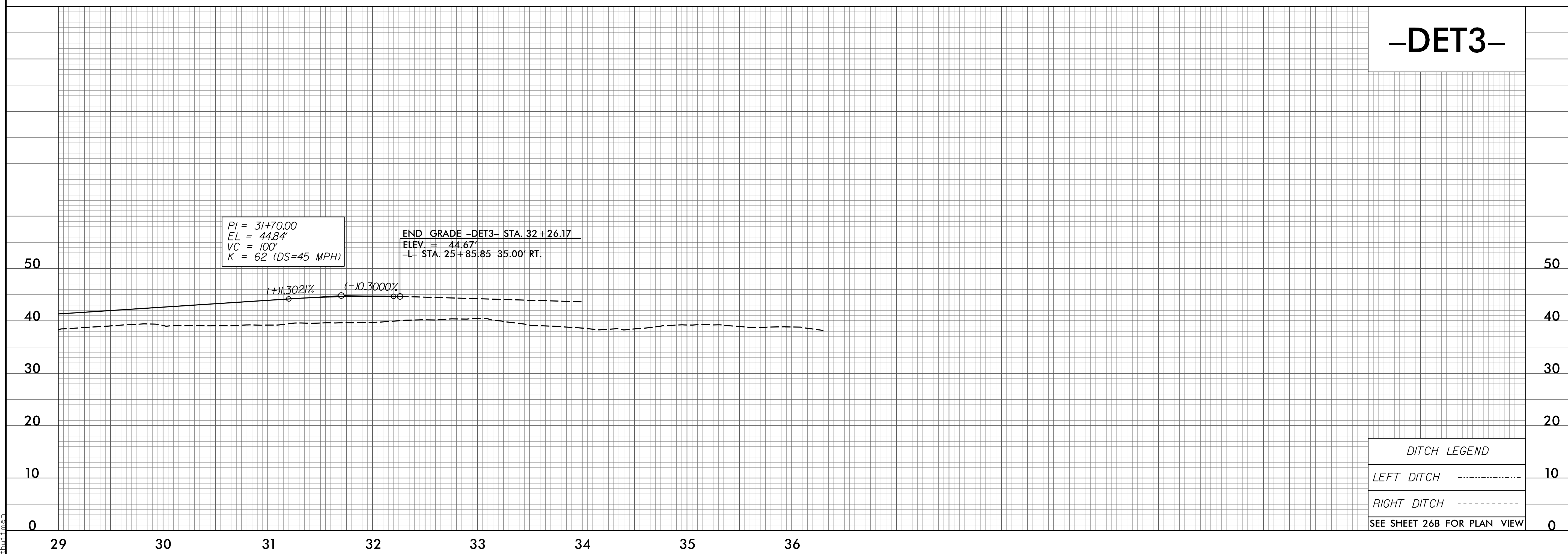
5/28/99

PROJECT REFERENCE NO. R-2514C	SHEET NO. 44
ROADWAY DESIGN ENGINEER DANIEL W. GARDNER, JR. SEAL 033871 3/27/05	HYDRAULICS ENGINEER BOB E. ANDERSON SEAL 032581 3/27/05

# -DET3-



# -DET3-



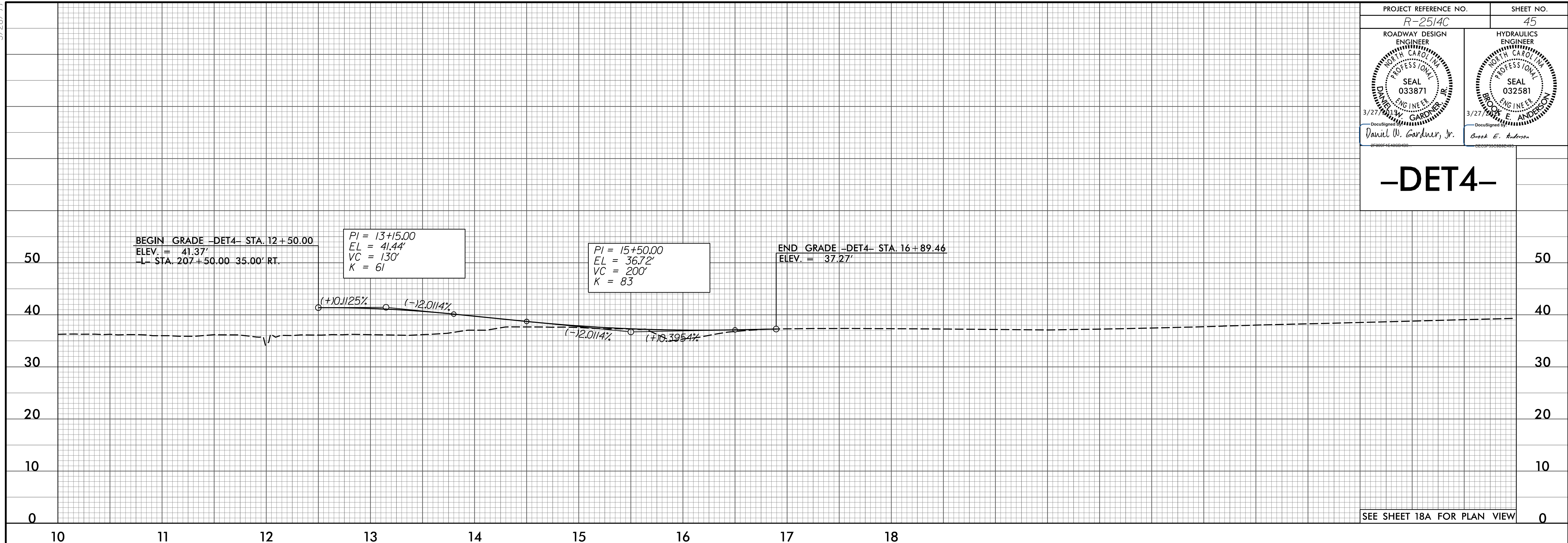
DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----
SEE SHEET 26B FOR PLAN VIEW	

P:\82514C\Roadway\2514C\_Roadway\Proj\2514C\_Rdy.plt.dgn

5/28/99

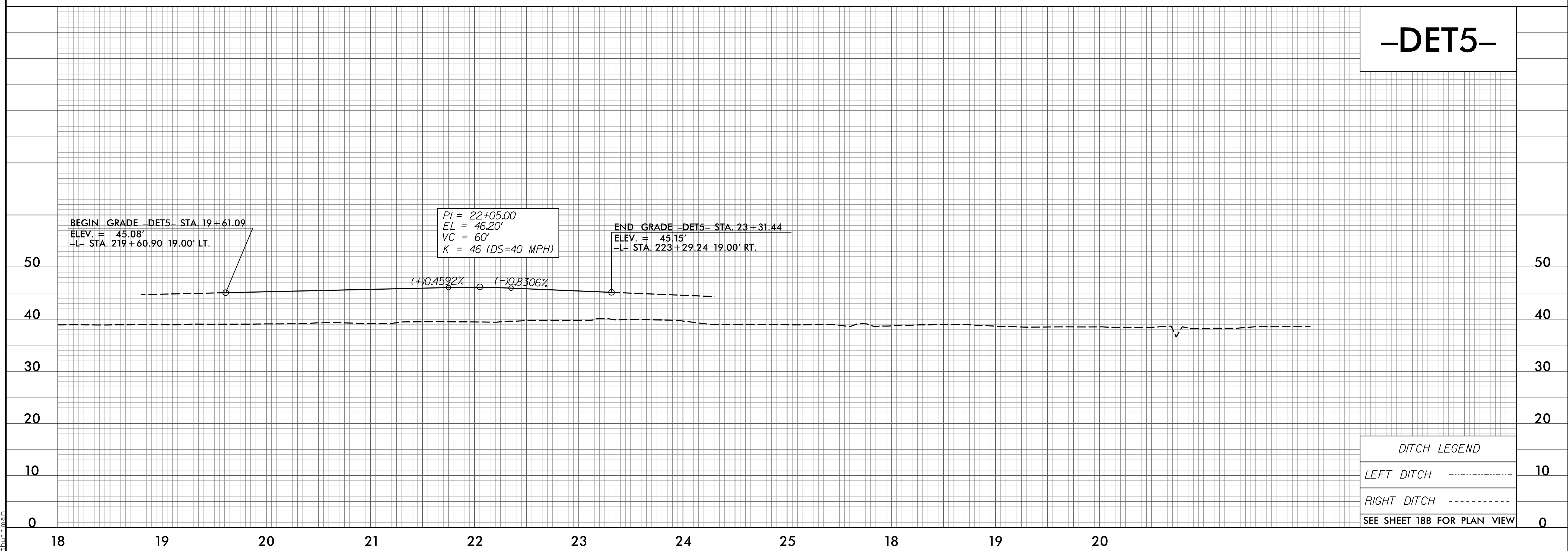
PROJECT REFERENCE NO. <i>R-2514C</i>	SHEET NO. 45
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 033871 3/27/00 DANIEL W. GARDNER, JR.	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 3/27/00 BOB E. ANDERSON

# -DET4-



SEE SHEET 18A FOR PLAN VIEW

# -DET5-



DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----
SEE SHEET 18B FOR PLAN VIEW	

P:\8\2015\01\Cadd\2514C\Roadway\Proj\2514C\_Rdy.pfl.dgn