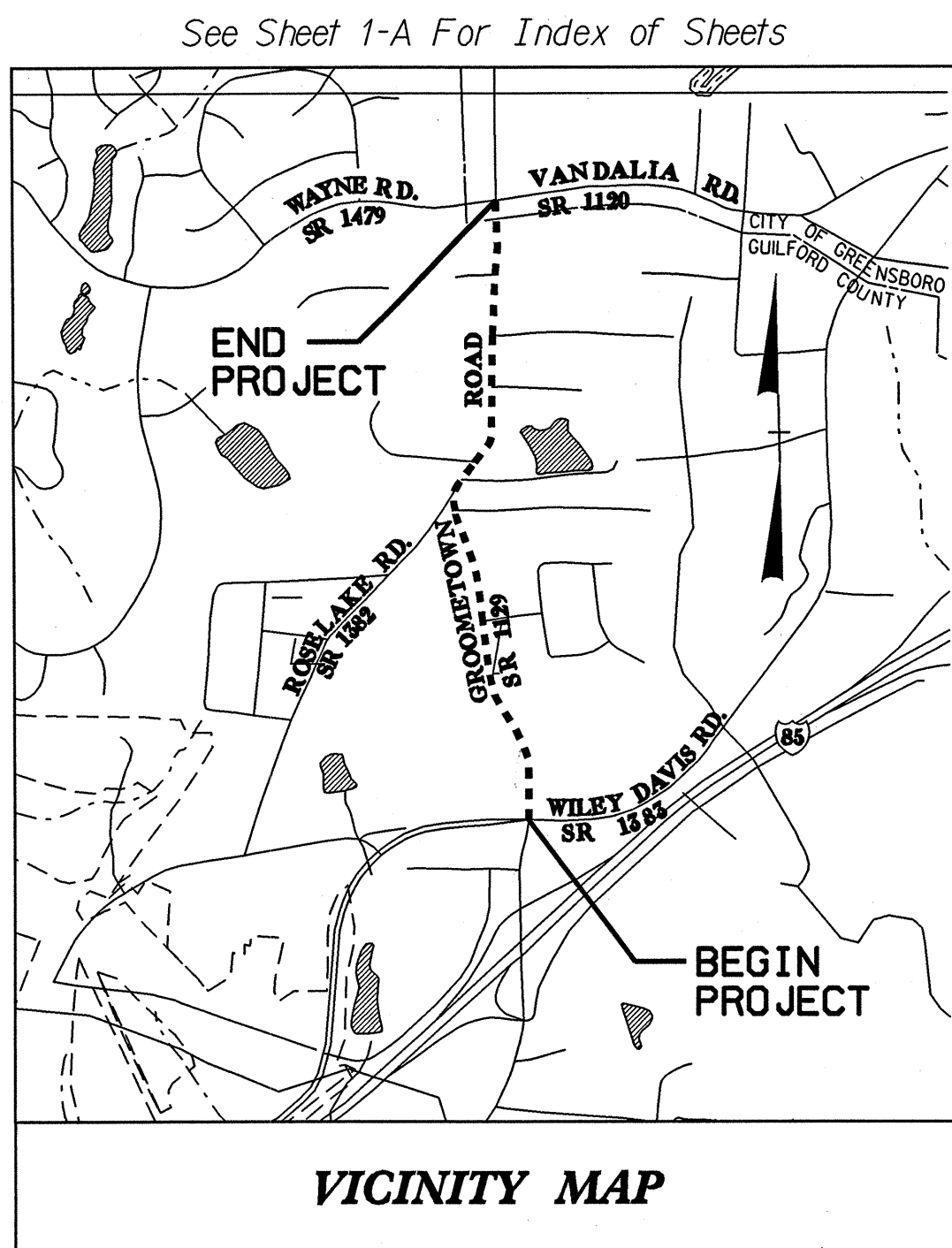


CONTRACT: C201475 TIP PROJECT: U-3313



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

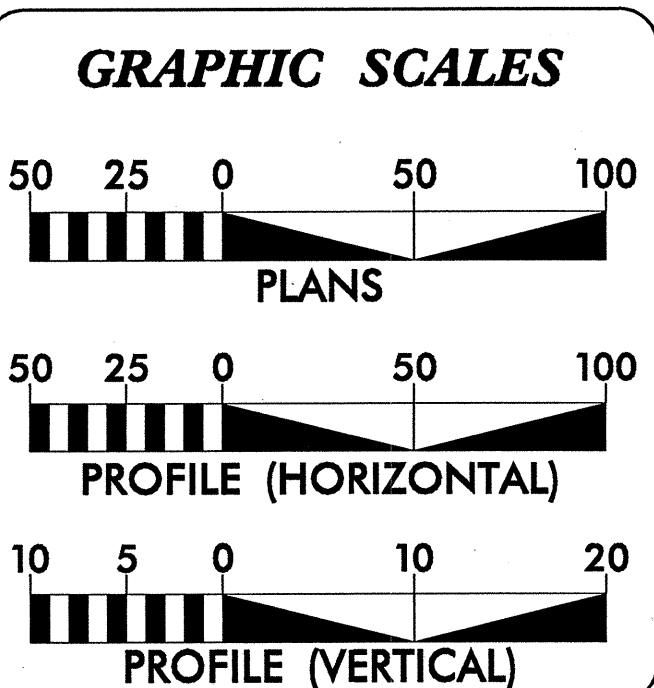
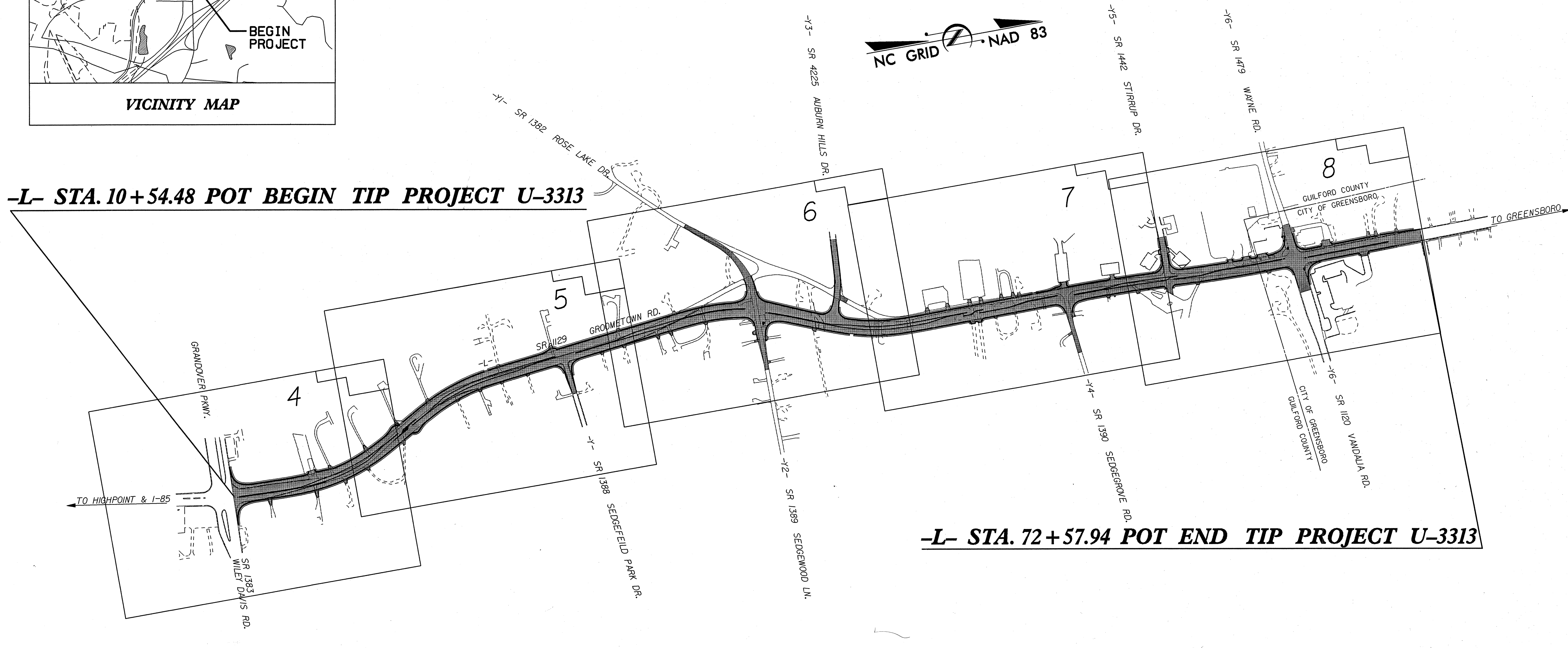


PLAN PREPARED BY:
PARSONS
TRANSPORTATION GROUP
Engineers and Planners
5540 Centerville Drive Suite 217
Raleigh, North Carolina 27606
919.554.1345

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3313	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34919.1.1	STP-1129(4)	P.E.	
34919.2.2	STP-1129(4)	R.O.W.	
34919.3.2	STP-1129(11)	CONST.	

GUILFORD COUNTY

LOCATION: GREENSBORO - SR 1129 (GROOMETOWN ROAD) FROM SR 1383 (WILEY DAVIS ROAD) TO SR 1479 (WAYNE ROAD)
TYPE OF WORK: WIDENING, GRADING, DRAINAGE, PAVING, SIGNING, AND SIGNALS.



DESIGN DATA

ADT 2006 =	18,645-28,620
ADT 2026 =	13,545-21,020
DHV =	11%
D =	55%
T =	8%
(5% Duals + 3% TTST)	
V =	50 mph

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3313 =	1.175 MILES
TOTAL LENGTH OF TIP PROJECT U-3313 =	1.175 MILES

Plans prepared by:
Parsons
401 Harrison Oaks Blvd., Suite 200
Cary, N.C. for the
DIVISION OF HIGHWAYS

2006 STANDARD SPECIFICATIONS	VICTOR M. CHAVEZ, P.E. PROJECT ENGINEER
RIGHT OF WAY DATE: SEPTEMBER 16, 2004	DAVID GARRETT PROJECT DESIGN ENGINEER
LETTING DATE: NOVEMBER 21, 2006	CATHY S. HOUSER, P.E. PROJECT ENGINEER ROADWAY DESIGN

HYDRAULICS ENGINEER

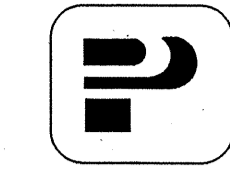
SIGNATURE: *Victor M. Chavez* 5/05/06

ROADWAY DESIGN ENGINEER

SIGNATURE: *Victor M. Chavez* P.E. 03/08/06

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

Victor M. Chavez
STATE HIGHWAY DESIGN ENGINEER



PLAN PREPARED BY: PARSONS TRANSPORTATION GROUP Engineers and Planners 8540 Centerville Drive Suite 217 Raleigh, North Carolina 27606 919.854.3145

INDEX OF SHEETS

Table listing sheet numbers and titles: 1 Title Sheet, 1-A Index of Sheets, General Notes, and List of Standards, 1-B Conventional Symbols, 1-C thru 1-E Survey Control Sheets, 2 thru 2-E Typical Sections, and Pavement Schedule, 2-F & 2-G U-turn Detail and Crossover Details, 2-H Energy Dissipator Detail, 2-I Detail of Slotted Drain, 2-J Detail of Proposed Pedestrian Safety Rail, 2-K Gravity Retaining Wall, 3 Summary of Quantities, 3-A thru 3-E Summary of Drainage Quantities, 3-F Summary of Pavement Removal & Guardrail Summary, 3-G Summary of Earthwork, 3-H Parcel Index Sheet, 4 thru 8 Plan Sheets, 9 thru 13 Profile Sheets, TCP-1 thru TCP-17 Traffic Control Plans, PM-1 thru PM-7 Pavement Marking Plans, EC-1 thru EC-13 Erosion Control Plans, SIGN-1 thru SIGN-9 Signing Plans, SIG-1 thru SIG-27 Signal Plans, UC-1 thru UC-7 Utility Construction Plans, UO-1 thru UO-6 Utility By Others Plans, X-1A thru X-55 Cross-Sections, Cross-Section Index Sheet, and Cross-Section Summary Sheet

GENERAL NOTES:

2006 SPECIFICATIONS EFFECTIVE: 7-18-06 REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE AREAS IN THE PLANS DESIGNATED SAFETY CLEARING. THE LIMITS ARE AS SHOWN AND THE CLEARING AND GRUBBING IS CONSIDERED A PART OF THE LUMP SUM ITEM FOR "CLEARING AND GRUBBING".

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT AND EARTH SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

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

UNDERDRAINS:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS IN PLANS AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE SOUTHERN BELL CO., DUKE ENERGY CORPORATION, TIME WARNER CABLETV, CITY OF GREENSBORO, PIEDMONT NATURAL GAS, AND WILLIAMS COMMUNICATIONS. ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

WHEELCHAIR RAMPS:

WHEELCHAIR RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. THE CONSTRUCTION OF ALL WHEELCHAIR RAMPS SHALL BE IN ACCORDANCE WITH DETAILS IN PLANS.

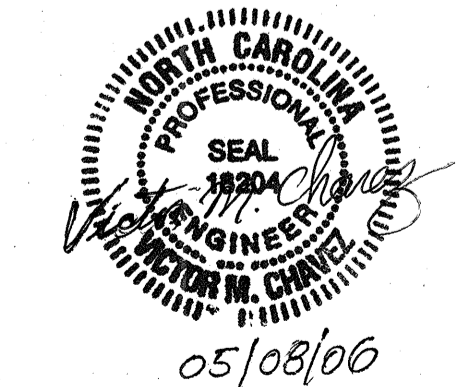
2006 ROADWAY STANDARD DRAWINGS

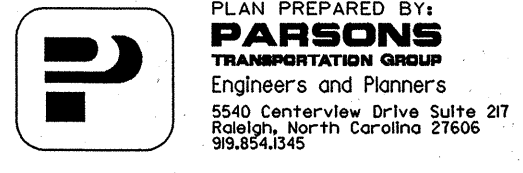
The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

Table with columns: STD.NO., TITLE, and list of standards including: DIVISION 2 - EARTHWORK (200.03, 225.02, 225.04, 225.06), DIVISION 3 - PIPE CULVERTS (300.01, 310.10), DIVISION 5 - SUBGRADE, BASES AND SHOULDERS (560.01), DIVISION 6 - ASPHALT BASES AND PAVEMENTS (654.01), DIVISION 8 - INCIDENTALS (806.02, 815.03, 840.00, 840.01, 840.02, 840.03, 840.14, 840.15, 840.16, 840.18, 840.24, 840.27, 840.31, 840.32, 840.35, 840.46, 840.54, 840.71, 840.72, 846.01, 848.01, 848.03, 848.04, 848.05, 852.01, 852.04, 852.05, 852.06, 852.10, 862.01, 862.02, 876.01, 876.02)

EFF. 07-18-06

09-MAY-2006 10:25 J:\03313\TIP\Roadwork\09\U3313_FSH_01-A.dgn





Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	⊙
Property Corner	⊙
Property Monument	⊙
Parcel/Sequence Number	②③
Existing Fence Line	-----
Proposed Woven Wire Fence	-----
Proposed Chain Link Fence	-----
Proposed Barbed Wire Fence	-----
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙
Well	⊙
Small Mine	⊗
Foundation	▭
Area Outline	▭
Cemetery	⊕
Building	▭
School	▭
Church	▭
Dam	▭

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	-----
Buffer Zone 1	-----
Buffer Zone 2	-----
Flow Arrow	←
Disappearing Stream	-----
Spring	⊙
Swamp Marsh	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▭

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	⊙
Switch	⊙
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	⊙
Existing Right of Way Marker	⊙
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	⊙
Proposed Control of Access	⊙
Existing Easement Line	-----
Proposed Permanent Construction Easement	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Wheel Chair Ramp	-----
Curb Cut for Future Wheel Chair Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊙
Pavement Removal	-----

VEGETATION:

Single Tree	⊙
Single Shrub	⊙
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

Existing Telephone Pole	⊙
Proposed Telephone Pole	⊙
Telephone Manhole	⊙
Telephone Booth	⊙
Telephone Pedestal	⊙
Telephone Cell Tower	⊙
U/G Telephone Cable Hand Hole	⊙
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	⊙
Water Meter	⊙
Water Valve	⊙
Water Hydrant	⊙
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

Utility Pole	⊙
Utility Pole with Base	⊙
Utility Located Object	⊙
Utility Traffic Signal Box	⊙
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	-----
A/G Tank; Water, Gas, Oil	-----
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

U-3313 SURVEY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
U-3313	1C
LOCATION AND SURVEYS	



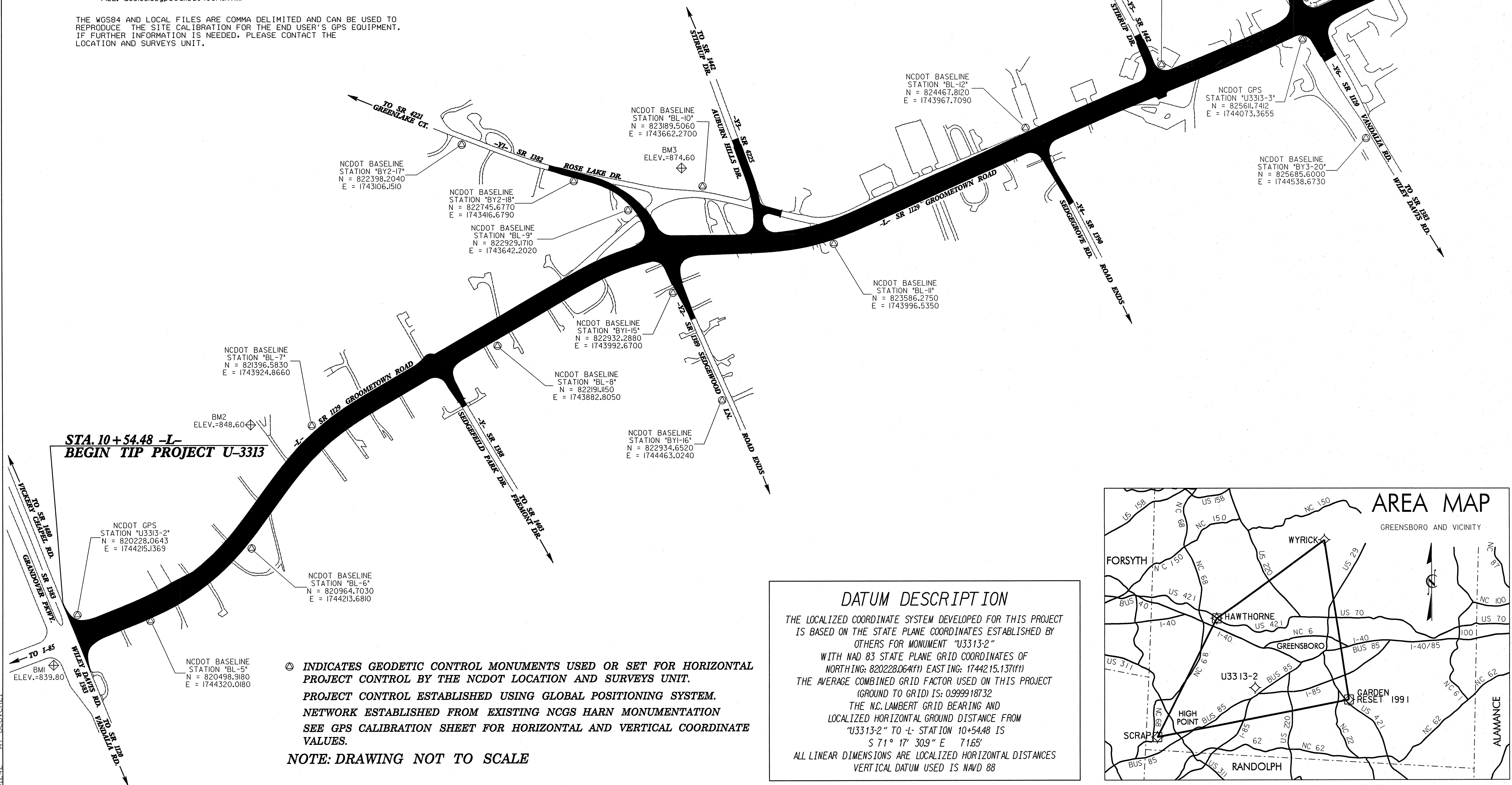
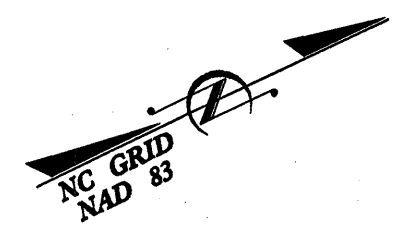
STA. 72+57.94 -L-
END TIP PROJECT U-3313

NOTES

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAYBE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.
2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:

[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)
 FILE: u3313_ls_control.040614.txt
 FILE: u3313_ls_wgs84.040614.txt
 FILE: u3313_ls_local.040614.txt
 FILE: u3313_ls_gpscalib.040614.html

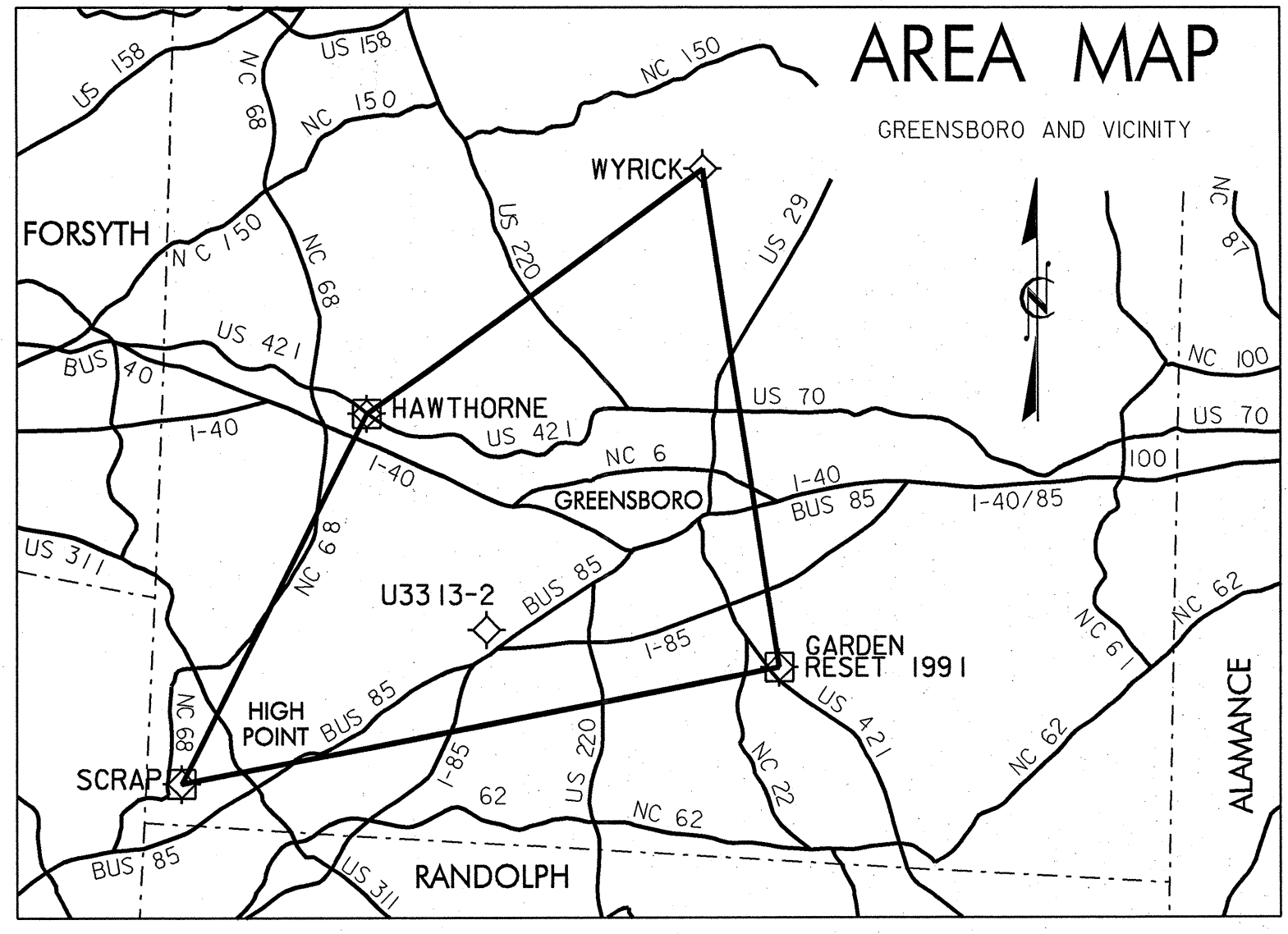
THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



STA. 10+54.48 -L-
BEGIN TIP PROJECT U-3313

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "U3313-2" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 820228.064(f1) EASTING: 1744215.137(f1) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999918732 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U3313-2" TO -L- STATION 10+54.48 IS S 71° 17' 30.9" E 7.165' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88



⊙ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM. NETWORK ESTABLISHED FROM EXISTING NCGS HARN MONUMENTATION SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.
NOTE: DRAWING NOT TO SCALE

U-3313 SURVEY CONTROL SHEET



PLAN PREPARED BY:
PARSONS
 TRANSPORTATION GROUP
 Engineers and Planners
 5540 Centerville Drive Suite 217
 Raleigh, North Carolina 27606
 919.854.1345

PROJECT REFERENCE NO.	SHEET NO.
U-3313	ID
LOCATION AND SURVEYS	

NOTES

- THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAYBE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.
- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:

HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/
 FILE: u3313_ls_control_040614.txt
 FILE: u3313_ls_wgs84_040614.txt
 FILE: u3313_ls_local_040614.html
 FILE: u3313_ls_gpsscalb_040614.html

THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

GPS CALIBRATION REPORT

PROJECT : U3313SITECAL

TIP NUMBER U-3313

USER NAME KHUDSON DATE & TIME 12:56:03 PM 6/10/04

COORDINATE SYSTEM US STATE PLANE 1983(AT GROUND) ZONE NORTH CAROLINA 3200
 HORIZONTAL DATUM NAD 1983 (CONUS) GEOID MODEL GEOID99 (CONUS)
 VERTICAL DATUM NAVD88
 COORDINATE UNITS US SURVEY FEET
 DISTANCE UNITS US SURVEY FEET
 HEIGHT UNITS US SURVEY FEET

LOCAL SITE INFORMATION
 LOCALIZED AROUND U3313-2
 LATITUDE 36°00'02.13263"N
 LONGITUDE 79°51'53.06753"W
 SITE SCALE FACTOR 1.0000012750
 HEIGHT 736.452SFT

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 830172.565SFT
 EASTING COORDINATE OF ROTATION CENTER 1743525.032SFT
 ROTATION ABOUT THE CENTER
 POINT 0°00'00"
 TRANSLATION NORTH 0.006SFT
 TRANSLATION EAST -0.056SFT
 SCALE FACTOR 1.00000093

VERTICAL ADJUSTMENT PARAMETERS
 NORTHING COORDINATE OF ORIGIN POINT 797483.131SFT
 EASTING COORDINATE OF ORIGIN POINT 1695577.462SFT
 VERTICAL SEPARATION AT ORIGIN 0.001SFT
 SLOPE NORTH -0.035PPM
 SLOPE EAST 0.014PPM

GEOID MODEL DEFINITION
 GEOID99 (CONUS)

RESIDUAL DIFFERENCES BETWEEN GPS (WGS84) AND LOCAL COORDINATES

SUMMARY			
HORIZONTAL	MAXIMUM ERROR	ROOT MEAN SQUARE ERROR	POINT
VERTICAL	0.090SFT	0.018	SCRAP - WGS84
THREE-DIMENSIONAL	0.003SFT	0.001	GARDEN - WGS84
	0.090SFT	0.018	SCRAP - WGS84

POINT RESIDUALS FOR DISPLAY ONLY		
WGS84 COORDINATES	CALCULATED POINT	LOCAL COORDINATES
POINT SCRAP - WGS84	NORTHING 797483.131SFT	POINT SCRAP - LOCAL
LATITUDE 35°56'12.63704"N	EASTING 1695577.462SFT	NORTHING 797483.173SFT
LONGITUDE 80°01'42.06427"W	ELEVATION 908.655SFT	EASTING 1695577.382SFT
HEIGHT 886.554SFT	HORIZ ERROR 0.090SFT	ELEVATION 908.657SFT
	VERT ERROR 0.002SFT	UTILIZED HORIZ AND VERT
	3D ERROR 0.090SFT	QUALITY CONTROL QUALITY
POINT HAWTHOR - WGS84	NORTHING 851338.895SFT	POINT HAWTHOR - LOCAL
LATITUDE 36°05'07.81268"N	EASTING 1722539.382SFT	NORTHING 851338.902SFT
LONGITUDE 79°56'20.41903"W	ELEVATION 890.889SFT	EASTING 1722539.321SFT
HEIGHT 787.630SFT	HORIZ ERROR 0.061SFT	ELEVATION 890.891SFT
	VERT ERROR 0.002SFT	UTILIZED HORIZ AND VERT
	3D ERROR 0.061SFT	QUALITY CONTROL QUALITY
POINT WYRICK - WGS84	NORTHING 886496.501SFT	POINT WYRICK - LOCAL
LATITUDE 36°10'59.62260"N	EASTING 1771532.903SFT	NORTHING 886496.456SFT
LONGITUDE 79°46'26.92195"W	ELEVATION 800.822SFT	EASTING 1771532.834SFT
HEIGHT 698.024SFT	HORIZ ERROR 0.083SFT	ELEVATION 800.822SFT
	VERT ERROR 0.000SFT	UTILIZED HORIZ AND VERT
	3D ERROR 0.083SFT	QUALITY CONTROL QUALITY
POINT GARDEN - WGS84	NORTHING 814371.364SFT	POINT GARDEN - LOCAL
LATITUDE 35°59'07.27851"N	EASTING 1782618.953SFT	NORTHING 814371.344SFT
LONGITUDE 79°44'05.19724"W	ELEVATION 807.191SFT	EASTING 1782618.953SFT
HEIGHT 707.420SFT	HORIZ ERROR 0.021SFT	ELEVATION 807.194SFT
	VERT ERROR 0.003SFT	UTILIZED HORIZ AND VERT
	3D ERROR 0.021SFT	QUALITY CONTROL QUALITY
POINT U3313-1 - WGS84	NORTHING 820062.700SFT	POINT U3313-1 - LOCAL
LATITUDE 36°00'00.36044"N	EASTING 1742628.864SFT	NORTHING 820062.709SFT
LONGITUDE 79°52'12.35332"W	ELEVATION 825.922SFT	EASTING 1742628.864SFT
HEIGHT 724.798SFT	HORIZ ERROR 0.050SFT	ELEVATION 825.920SFT
	VERT ERROR 0.002SFT	UTILIZED HORIZ AND VERT
	3D ERROR 0.050SFT	QUALITY CONTROL QUALITY
POINT U3313-2 - WGS84	NORTHING 820228.057SFT	POINT U3313-2 - LOCAL
LATITUDE 36°00'02.13259"N	EASTING 1744215.090SFT	NORTHING 820228.063SFT
LONGITUDE 79°51'53.06753"W	ELEVATION 837.522SFT	EASTING 1744215.138SFT
HEIGHT 736.452SFT	HORIZ ERROR 0.049SFT	ELEVATION 837.520SFT
	VERT ERROR 0.002SFT	UTILIZED HORIZ AND VERT
	3D ERROR 0.049SFT	QUALITY CONTROL QUALITY
POINT U3313-3 - WGS84	NORTHING 825611.739SFT	POINT U3313-3 - LOCAL
LATITUDE 36°00'55.35571"N	EASTING 1744073.314SFT	NORTHING 825611.741SFT
LONGITUDE 79°51'55.36388"W	ELEVATION 873.881SFT	EASTING 1744073.366SFT
HEIGHT 772.631SFT	HORIZ ERROR 0.052SFT	ELEVATION 873.880SFT
	VERT ERROR 0.001SFT	UTILIZED HORIZ AND VERT
	3D ERROR 0.052SFT	QUALITY CONTROL QUALITY
POINT U3313-4 - WGS84	NORTHING 825788.185SFT	POINT U3313-4 - LOCAL
LATITUDE 36°00'57.18137"N	EASTING 1745013.897SFT	NORTHING 825788.185SFT
LONGITUDE 79°51'43.93445"W	ELEVATION 879.642SFT	EASTING 1745013.948SFT
HEIGHT 778.422SFT	HORIZ ERROR 0.051SFT	ELEVATION 879.640SFT
	VERT ERROR 0.002SFT	UTILIZED HORIZ AND VERT
	3D ERROR 0.051SFT	QUALITY CONTROL QUALITY

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "U3313-2"
 WITH NAD 83 STATE PLANE GRID COORDINATES OF
 NORTHING: 820228.064(ft) EASTING: 1744215.137(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999918732
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U3313-2" TO L- STATION 10+54.48 IS
 S 71° 17' 30.9" E 71.65'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM EXISTING NCGS HARN MONUMENTATION

U-3313 SURVEY CONTROL SHEET



PLAN PREPARED BY:
PARSONS
 TRANSPORTATION GROUP
 Engineers and Planners
 5540 Centerville Drive Suite 217
 Raleigh, North Carolina 27606
 919.854.1345

PROJECT REFERENCE NO.	SHEET NO.
U-3313	1E
LOCATION AND SURVEYS	

NOTES

- THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAYBE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.
- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
 HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/
 FILE: u3313_ls_control_040614.txt
 FILE: u3313_ls_wgs84_040614.txt
 FILE: u3313_ls_local_040614.txt
 FILE: u3313_ls_gpscallb_040614.html

THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

CONTROL DATA

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
2	GPS STA. *U3313	820228.0643	1744215.1369	837.52	10+75.54	68.48 LT
5	BL STA. *BL-5*	820498.9100	1744320.0100	839.36	13+48.41	29.71 RT
6	BL STA. *BL-6*	820964.7030	1744213.6810	844.73	18+17.26	28.99 RT
7	BL STA. *BL-7*	821396.5830	1743924.8660	849.51	23+28.98	31.09 LT
8	BL STA. *BL-8*	822191.1150	1743882.8050	870.84	31+18.29	38.44 RT
9	BL STA. *BL-9*	822929.1710	1743642.2020	874.99	38+32.60	169.95 LT
10	BL STA. *BL-10*	823189.5060	1743662.2700	876.57	40+53.19	225.91 LT
11	BL STA. *BL-11*	823586.2750	1743996.5350	871.40	45+53.44	22.69 LT
12	BL STA. *BL-12*	824467.8120	1743967.7090	869.10	54+37.83	47.05 LT
13	BL STA. *BL-13*	825027.1310	1743995.2200	863.30	59+95.58	27.80 LT
3	GPS STA. *U3313	825611.7412	1744073.3655	873.88	65+80.69	42.96 RT
14	BL STA. *BL-14*	826156.5930	1743993.4450	875.34	71+26.92	26.90 LT
115		826684.1690	1743985.2850	867.76	OUTSIDE PROJECT LIMITS	

BY1 POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
109	BL STA. *BL-9*	822929.1710	1743642.2020	874.99	OUTSIDE PROJECT LIMITS	
15	BY STA. *BY1-15	822932.2800	1743992.6700	869.10	11+73.22	12.91 RT
16	BY STA. *BY1-16	822934.6520	1744463.0240	846.80	OUTSIDE PROJECT LIMITS	

BY2 POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
17	BY STA. *BY2-17	822398.2040	1743106.1510	862.90	OUTSIDE PROJECT LIMITS	
18	BY STA. *BY2-18	822745.6770	1743416.6790	865.73	10+83.84	10.10 RT
110	BL STA. *BL-10*	823189.5060	1743662.2700	876.57	14+37.43	251.21 LT

BY3 POINT	DESC.	NORTH	EAST	ELEVATION	Y6 STATION	OFFSET
19	BY STA. *BY3-19	825603.4960	1743540.1190	869.18	OUTSIDE PROJECT LIMITS	
103	GPS STA. *U3313	825611.7412	1744073.3655	873.88	12+51.50	42.26 RT
20	BY STA. *BY3-20	825685.6000	1744538.6730	876.37	OUTSIDE PROJECT LIMITS	

BENCHMARK INFORMATION

.....
 BM1 ELEVATION = 839.80
 N 820080 E 1744341
 L STATION 10+00
 S 40° 07' 49.6" E DIST 92.37
 RR SPIKE IN BASE OF POWER POLE 30' RT
 OF GROOMETOWN RD. CURB AT INTERSECTION
 WITH WILEY DAVIS RD.

 BM2 ELEVATION = 848.60
 N 821173 E 1743793
 L STATION 21+90 238 LEFT
 RR SPIKE IN BASE OF POWER POLE 207' LT
 OF GROOMETOWN ROAD EP, RESIDENCE #4110

 BM3 ELEVATION = 874.60
 N 823147 E 1743553
 L STATION 39+85 314 LEFT
 RR SPIKE IN BASE OF 8" MAPLE 101' LT OF
 GROOMTOWN RD. CENTERLINE AND NORTH OF
 ROSE LAKE RD.

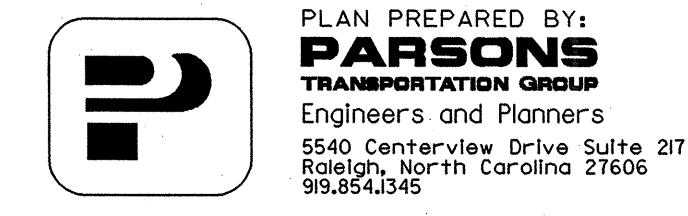
 BM4 ELEVATION = 876.58
 N 826335 E 1744055
 L STATION 72+62
 N 41° 13' 08.6" E DIST 56.39
 RR SPIKE IN BASE OF POWER POLE WITH
 SPEED LIMIT SIGN, 2' RIGHT OF CURB.

DATUM DESCRIPTION

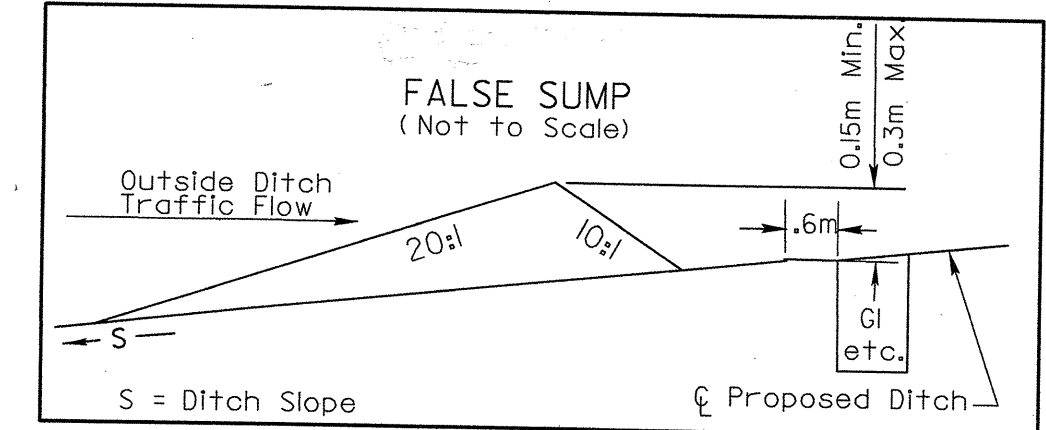
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "U3313-2"
 WITH NAD 83 STATE PLANE GRID COORDINATES OF
 NORTHING: 820228.064(f) EASTING: 1744215.137(f)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999918732
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U3313-2" TO -L- STATION 10+54.48 IS
 S 71° 17' 30.9" E 71.65'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM EXISTING NCGS HARN MONUMENTATION.
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

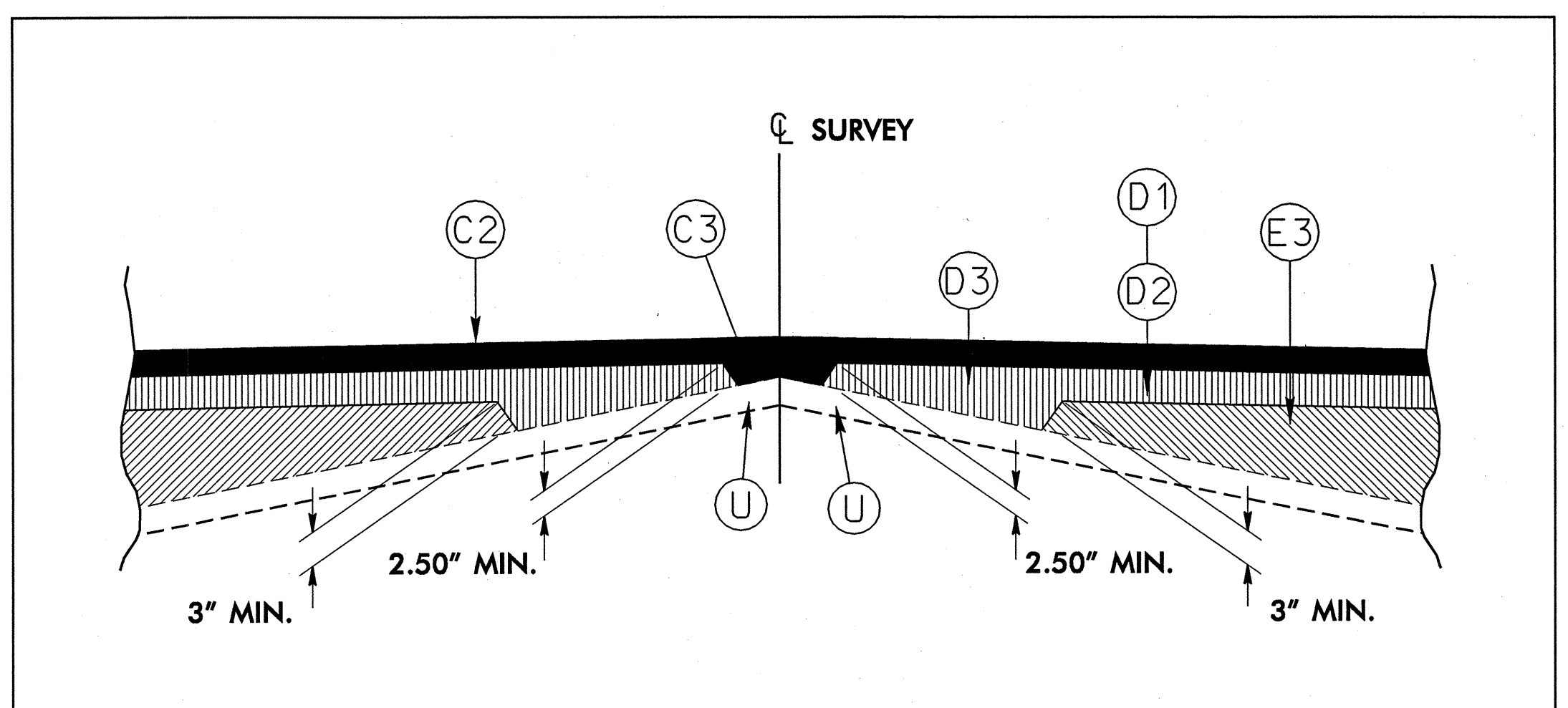
NOTE: DRAWING NOT TO SCALE



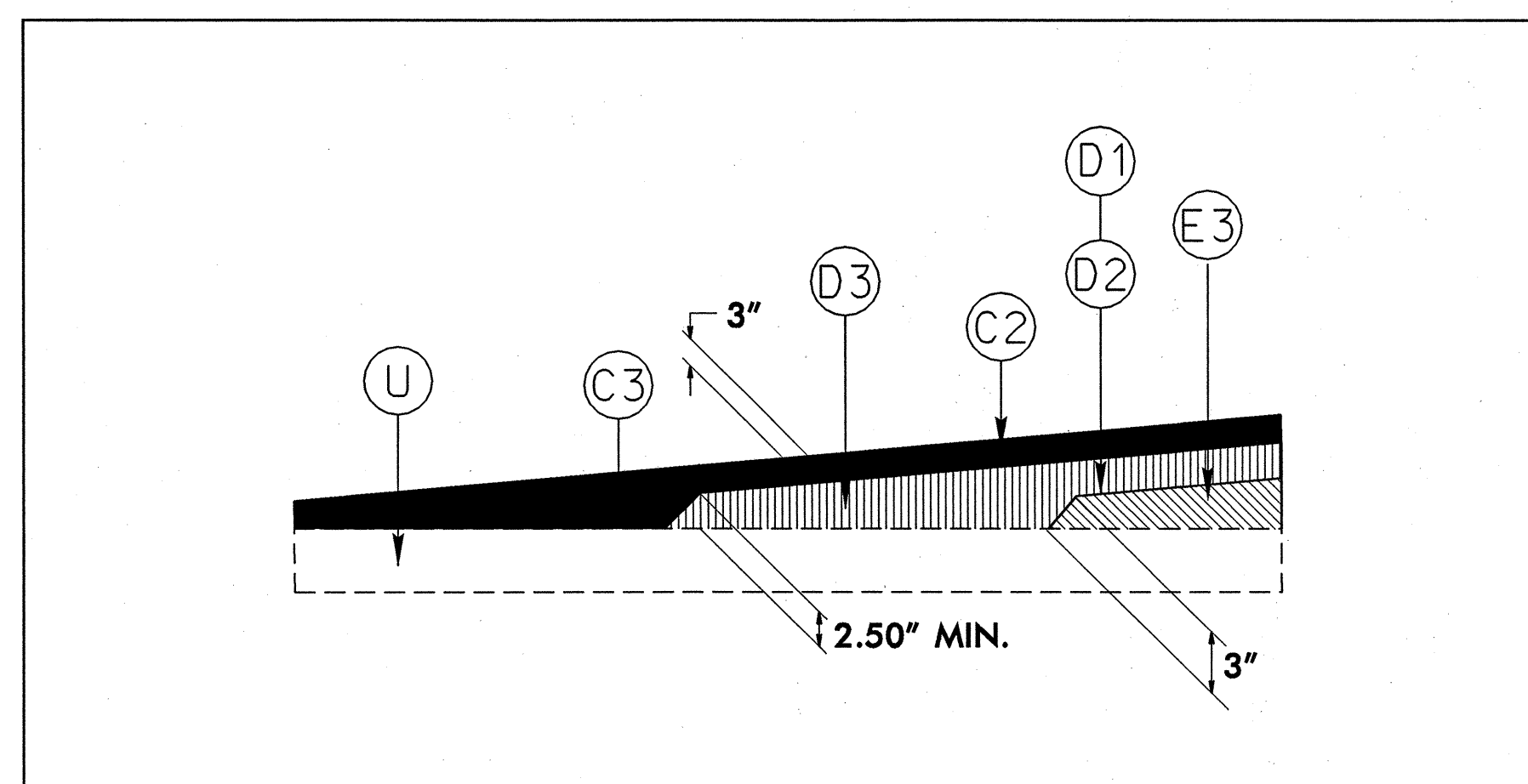
PAVEMENT SCHEDULE			
C1	NOT USED	E3	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS PER SQ. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5 IN. IN DEPTH.
C2	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD IN EACH OF TWO LAYERS.	R	2'-6" CONCRETE CURB AND GUTTER.
C3	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS PER SQ. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 1.5 IN. IN DEPTH.	R1	1'-6" CONCRETE CURB AND GUTTER.
D1	PROP. APPROX. 2.5 IN. ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS PER SQ. YARD.	R3	5" MONOLITHIC CONCRETE ISLAND (KEY-IN).
D2	PROP. APPROX. 4 IN. ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS PER SQ. YARD.	S	4" CONCRETE SIDEWALK.
D3	PROP. VAR. DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.	T	EARTH MATERIAL.
E1	PROP. APPROX. 4.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YARD.	U	EXISTING PAVEMENT.
E2	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS PER SQ. YARD IN EACH OF TWO LAYERS.	W	WEDGING (SEE DETAIL).



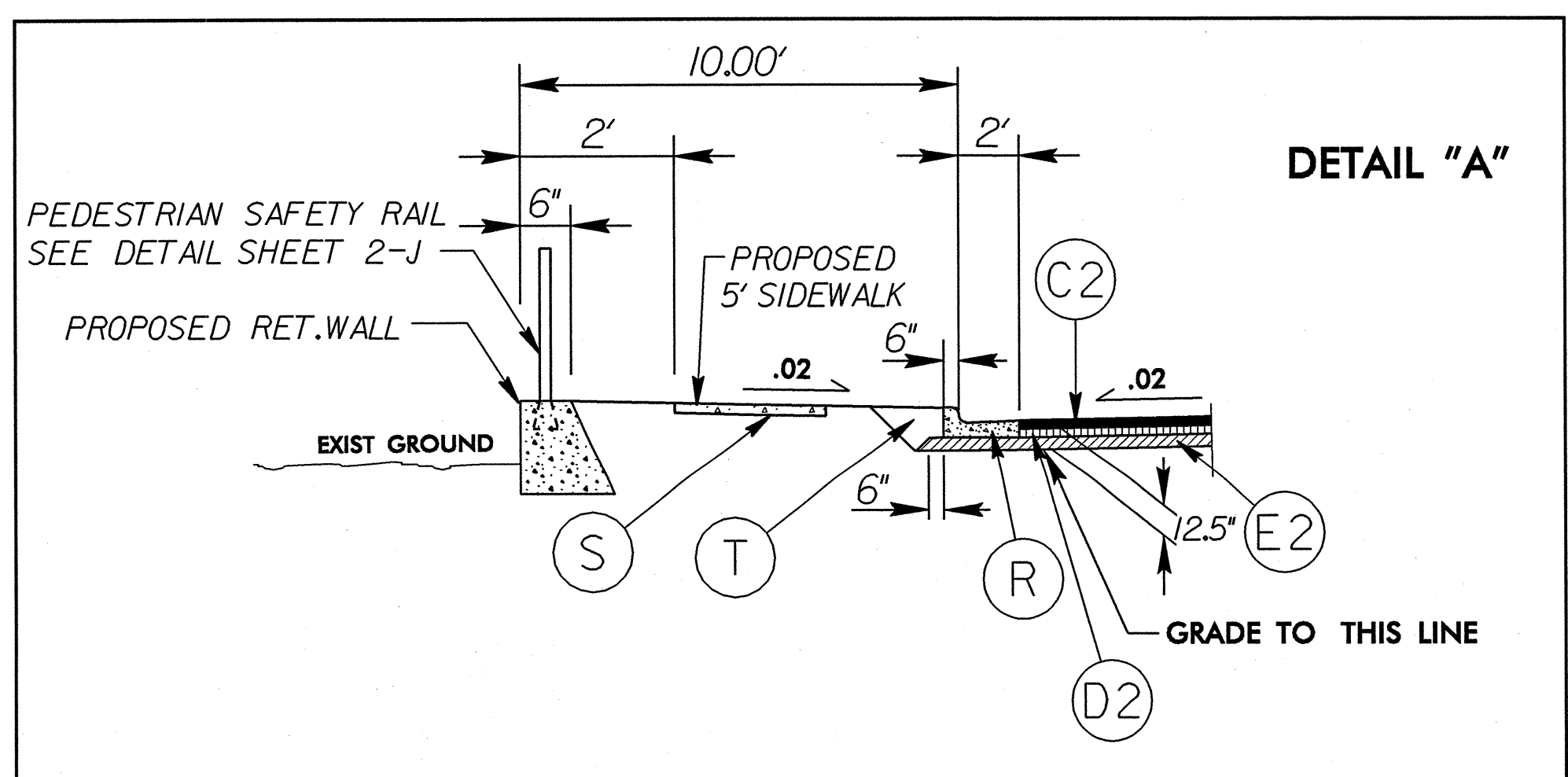
NOTES: (1) PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



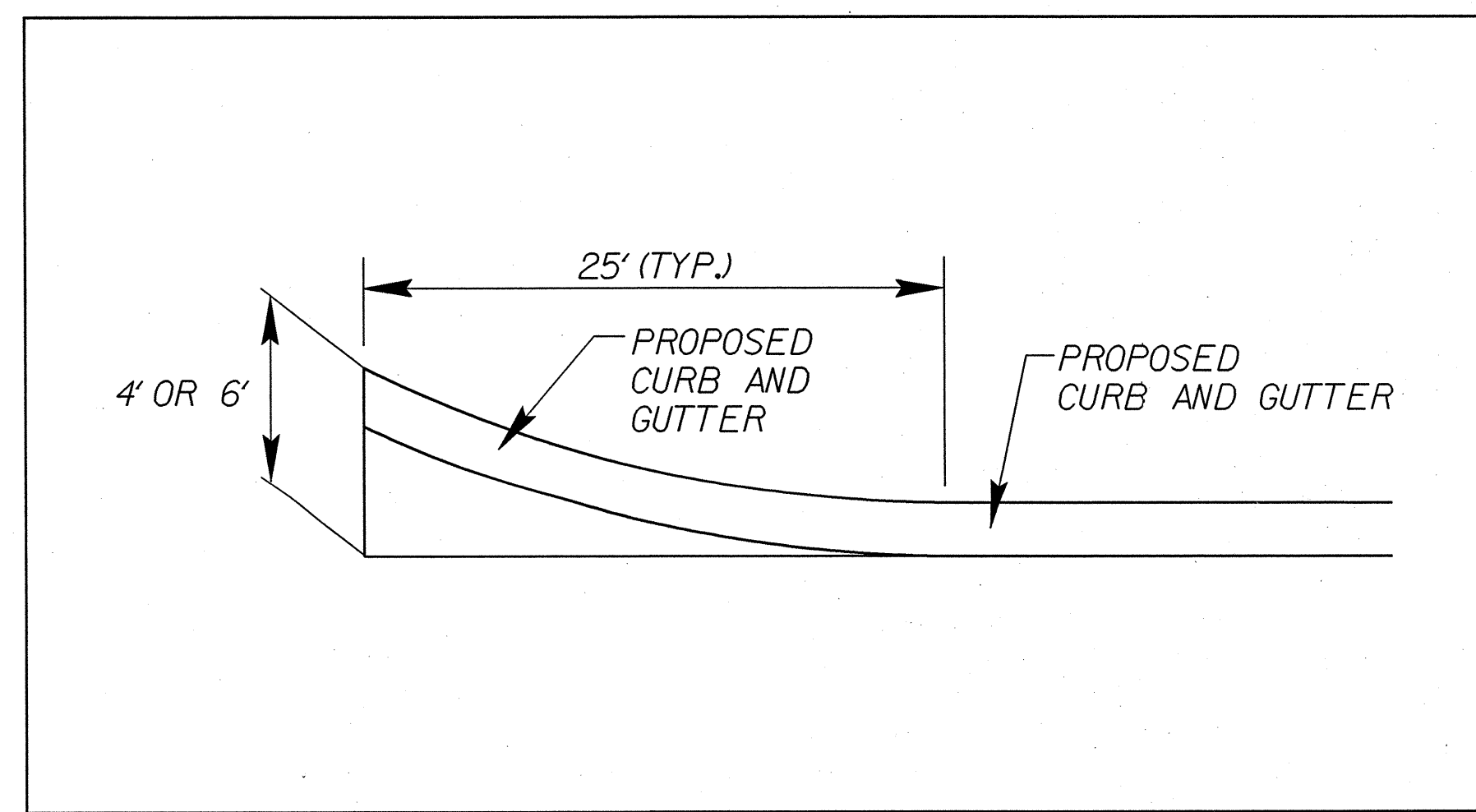
DETAIL SHOWING METHOD OF WEDGING NO. 1



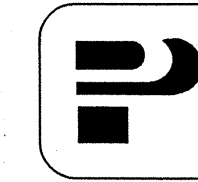
DETAIL SHOWING METHOD OF WEDGING NO. 2



USE DETAIL "A" IN CONJUNCTION W/ TYPICAL SECTION NO. 2 FROM: STA. 45+75.00 TO STA. 47+00.00, -L- LT. SIDE.



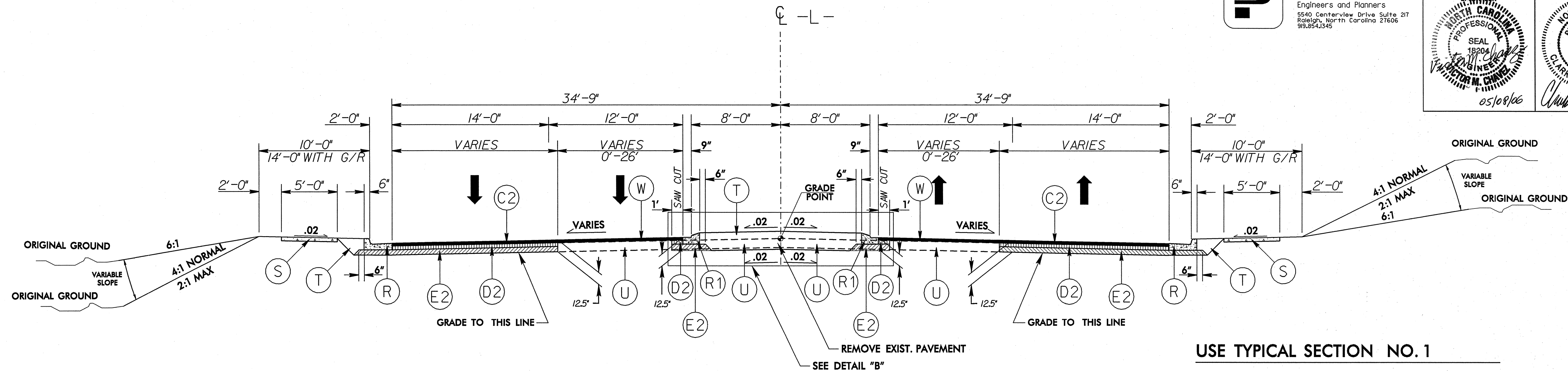
DETAIL SHOWING FLARE OF CURB AND GUTTER



PLAN PREPARED BY:
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PROJECT REFERENCE NO. U-3313	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER SEAL 18204 PROF. M. CHINE	PAVEMENT DESIGN ENGINEER SEAL 22896 CLARK S. MORRISON

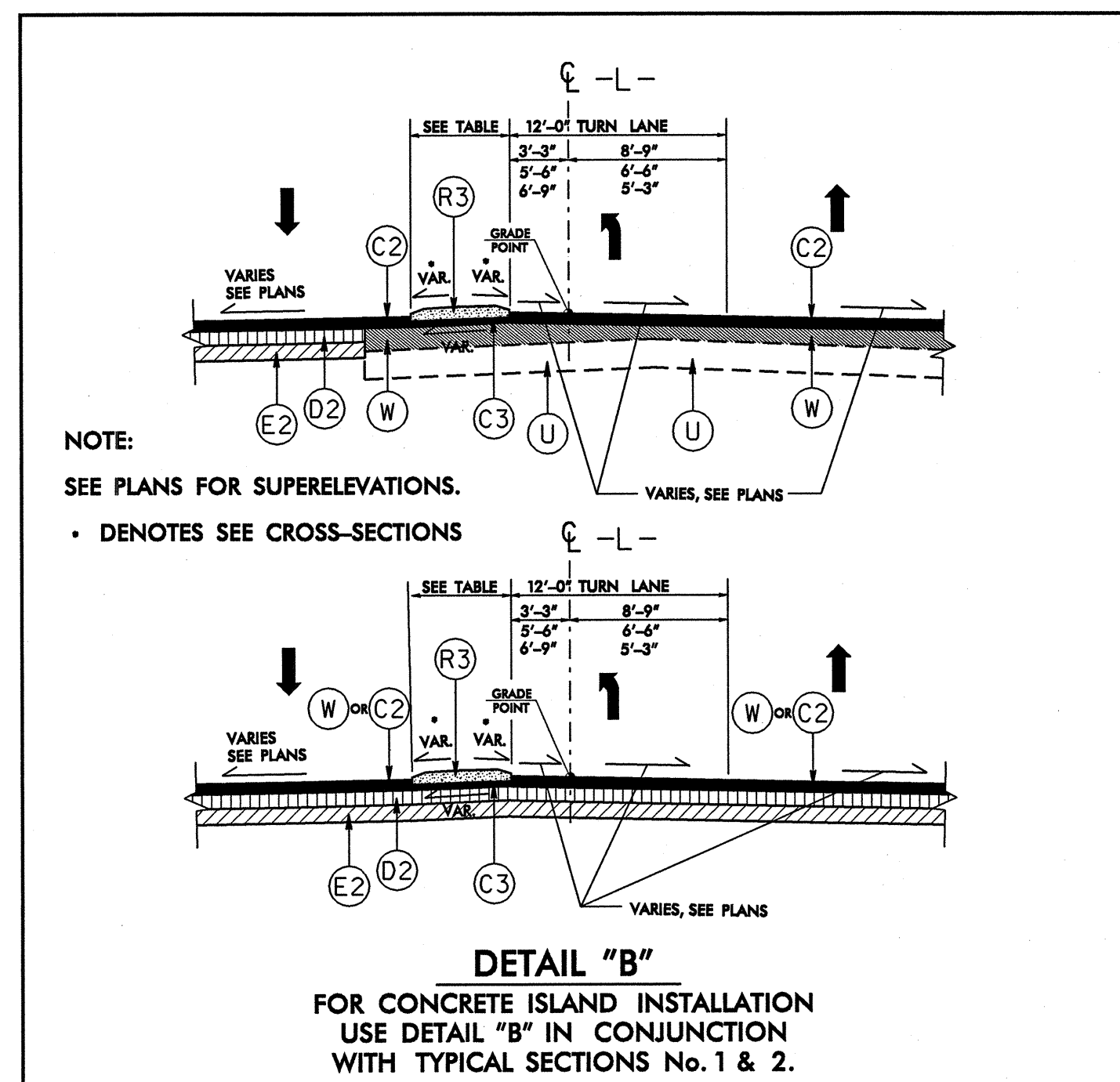
05/08/06



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

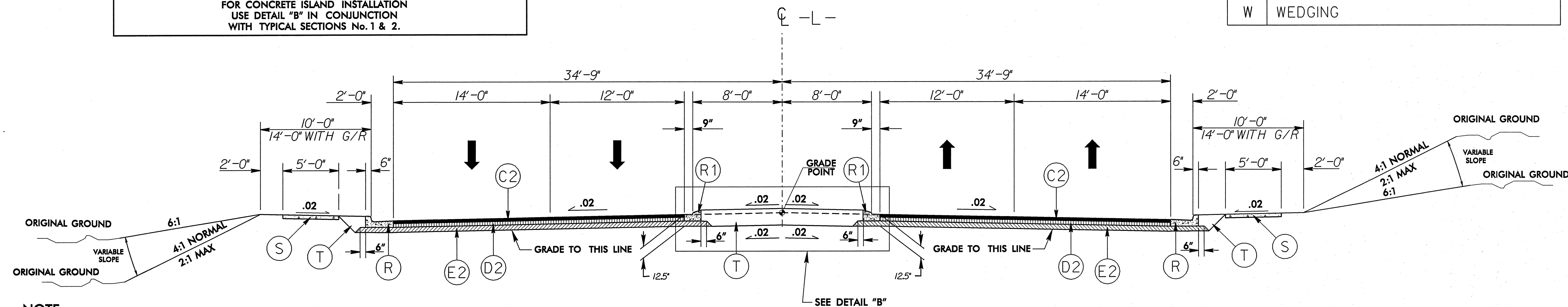
-L- STA. 10+54.48 TO STA. 36+00.00
 -L- STA. 53+50.00 TO STA. 72+57.94



USE WITH DETAIL "B"

ISLAND WIDTH	STATION RANGE
4' - 0"	-L- STA. 10+67.12 TO STA. 13+97.12
2' - 6"	-L- STA. 18+58.00 TO STA. 19+58.00 (REVERSE)
2' - 6"	-L- STA. 20+42.00 TO STA. 21+42.00
4' - 0"	-L- STA. 27+42.59 TO STA. 28+42.59 (REVERSE)
4' - 0"	-L- STA. 29+47.89 TO STA. 31+62.89
4' - 0"	-L- STA. 34+95.68 TO STA. 38+25.68 (REVERSE)
4' - 0"	-L- STA. 39+30.00 TO STA. 42+60.00
2' - 6"	-L- STA. 48+50.20 TO STA. 49+50.20 (REVERSE)
2' - 6"	-L- STA. 50+12.18 TO STA. 51+60.85
4' - 0"	-L- STA. 52+60.85 TO STA. 54+10.85 (REVERSE)
2' - 3"	-L- STA. 54+94.81 TO STA. 56+44.81
4' - 0"	-L- STA. 60+00.00 TO STA. 61+35.00
4' - 0"	-L- STA. 62+35.00 TO STA. 65+65.00 (REVERSE)
4' - 0"	-L- STA. 66+65.00 TO STA. 70+90.00

PAVEMENT SCHEDULE	
C2	3" A.C.S.C. TYPE S9.5C
C3	VAR. DEPTH A.C.S.C. TYPE S9.5C
D2	4" A.C.I.C. TYPE I19.0C
E2	5.5" A.C.B.C. TYPE B25.0C
E3	VAR. DEPTH A.C.B.C. TYPE B25.0C
R	2'-6" CONC. CURB & GUTTER
R1	1'-6" CONC. CURB & GUTTER
R3	5" MON. CONCRETE ISLAND (KEY-IN)
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 2

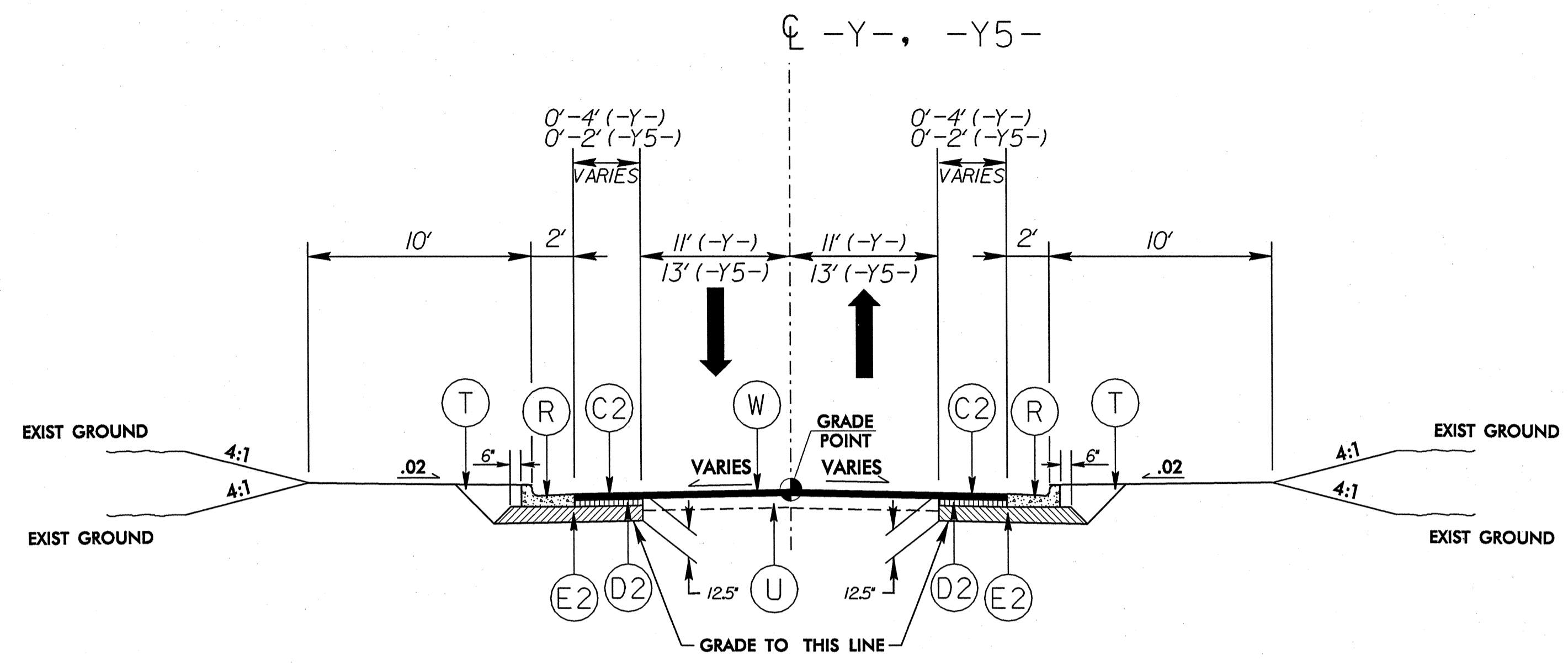
USE TYPICAL SECTION NO. 2

-L- STA. 36+00.00 TO STA. 53+50.00

NOTE:
 SEE DETAIL "A" ON SHEET 2 FOR
 RETAINING WALL PLACEMENT.

PROJECT REFERENCE NO. U-3313	SHEET NO. 2-B
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 18204 M. CHIVEL 05/08/00	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 22896 CLARK S. MORRISON 05/08/00

PLAN PREPARED BY:
PARSONS
TRANSPORTATION GROUP
Engineers and Planners
5540 Centerview Drive Suite 217
Raleigh, North Carolina 27606
919.854.1345

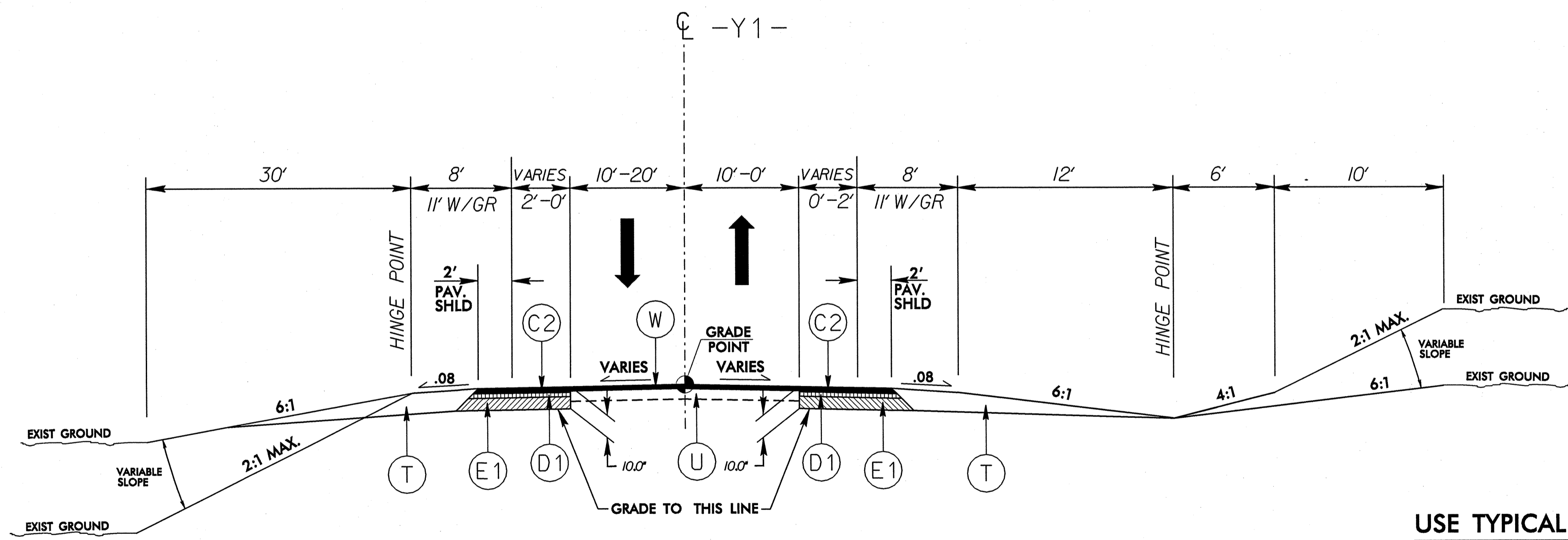


TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-Y-, SR 1388, STA. 11+09.95 TO STA. 11+75.00
-Y5-, SR 1442, STA. 14+37.50 TO STA. 15+35.44

PAVEMENT SCHEDULE	
C2	3" A.C.S.C. TYPE S9.5C
D1	2.5" A.C.I.C. TYPE I19.0C
D2	4" A.C.I.C. TYPE I19.0C
E1	4.5" A.C.B.C. TYPE B25.0C
E2	5.5" A.C.B.C. TYPE B25.0C
R	2'-6" CONC. CURB & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

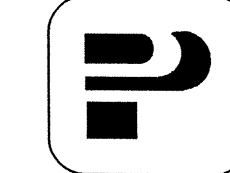


TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4

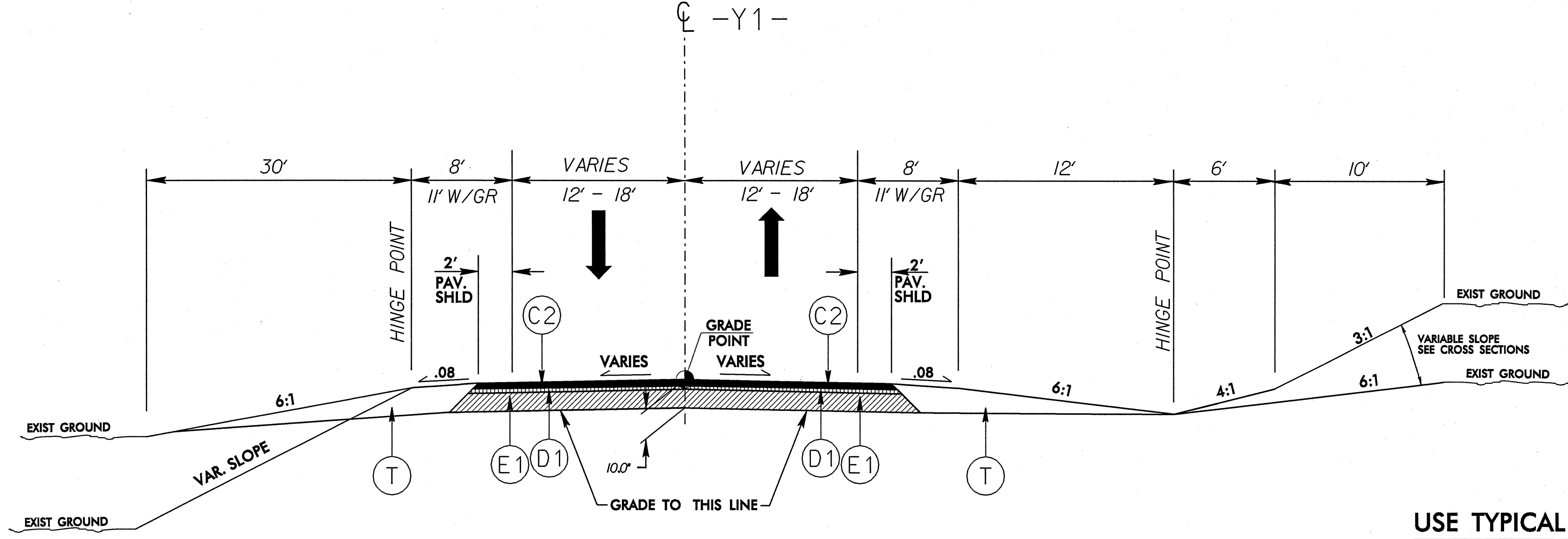
-Y1-, SR 1382, STA. 10+00.00 TO STA. 12+71.29

6/2/99



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 919.854.1345

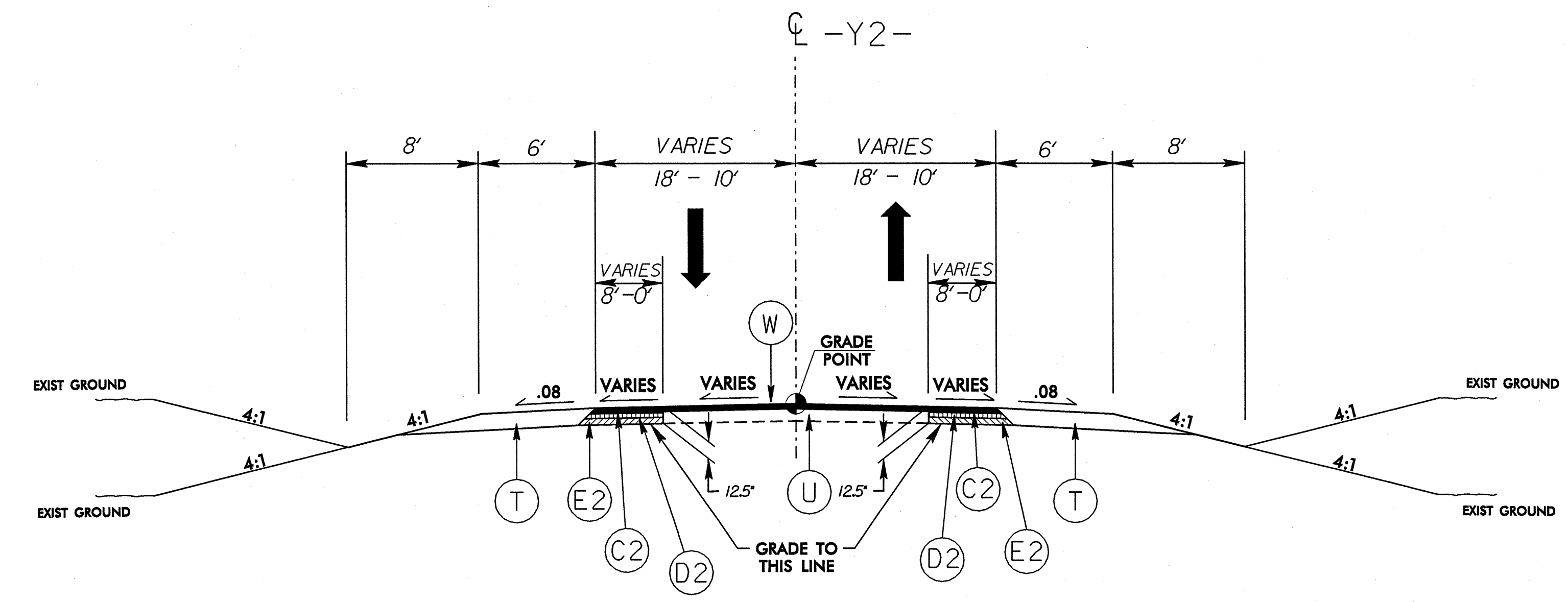
PROJECT REFERENCE NO. U-3313	SHEET NO. 2-C
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER



USE TYPICAL SECTION NO. 5

-Y1-, SR 1382, STA. 12+71.29 TO STA. 13+91.29

TYPICAL SECTION NO. 5



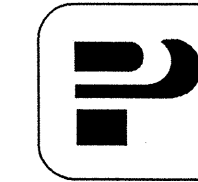
USE TYPICAL SECTION NO. 6

-Y2-, SR 1389, STA. 11+51.64 TO STA. 12+75.00

TYPICAL SECTION NO. 6

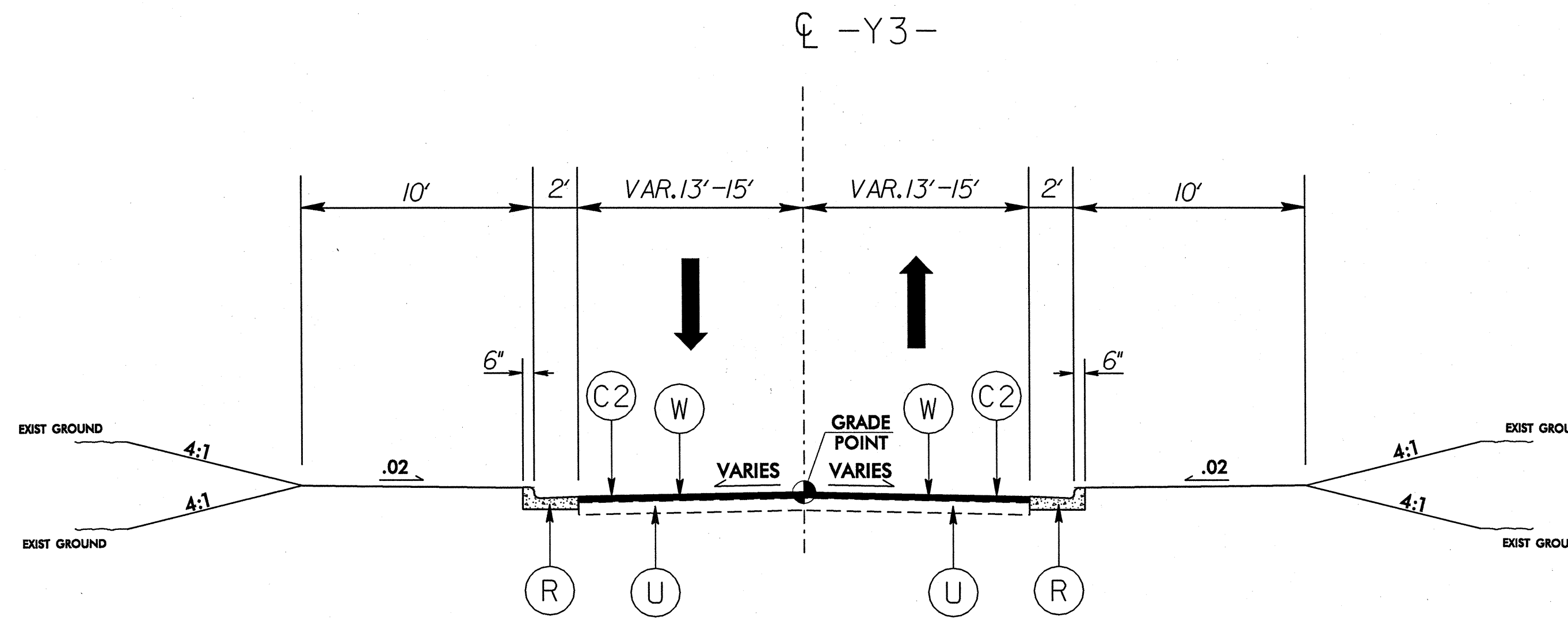
PAVEMENT SCHEDULE	
C2	3" A.C.S.C. TYPE S9.5C
D1	2.5" A.C.I.C. TYPE 119.0C
D2	4" A.C.I.C. TYPE 119.0C
E1	4.5" A.C.B.C. TYPE B25.0C
E2	5.5" A.C.B.C. TYPE B25.0C
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

J:\MAY-2006\0335
 J:\U3313\TIP\Roadway\Drawings\U3313_RDY_TYP_02.DGN
 5/20/06 12:42 AT DC5VLR21



PLAN PREPARED BY:
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 Raleigh, North Carolina 27606
 919.854.1345

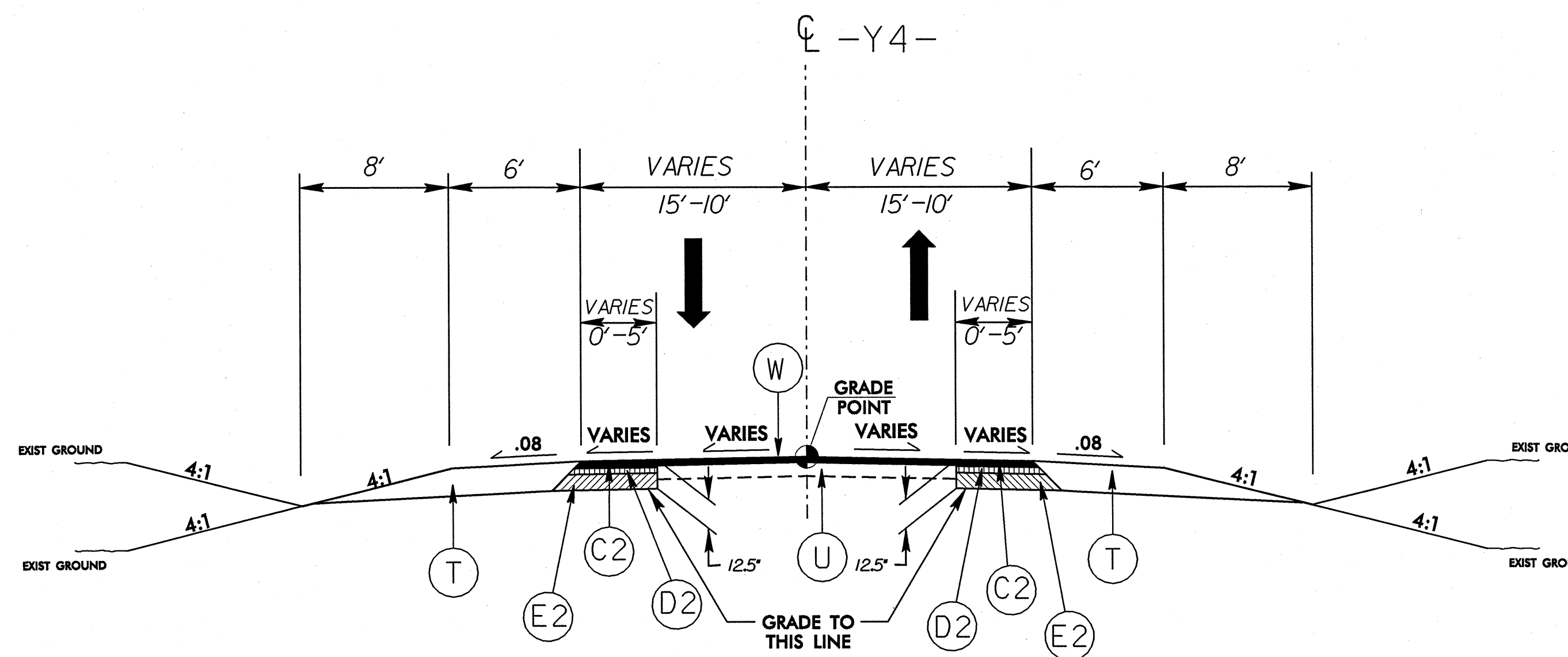
PROJECT REFERENCE NO. U-3313	SHEET NO. 2-D
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7

-Y3-, SR 4225, STA. 10+00.00 TO STA. 12+84.08



TYPICAL SECTION NO. 8

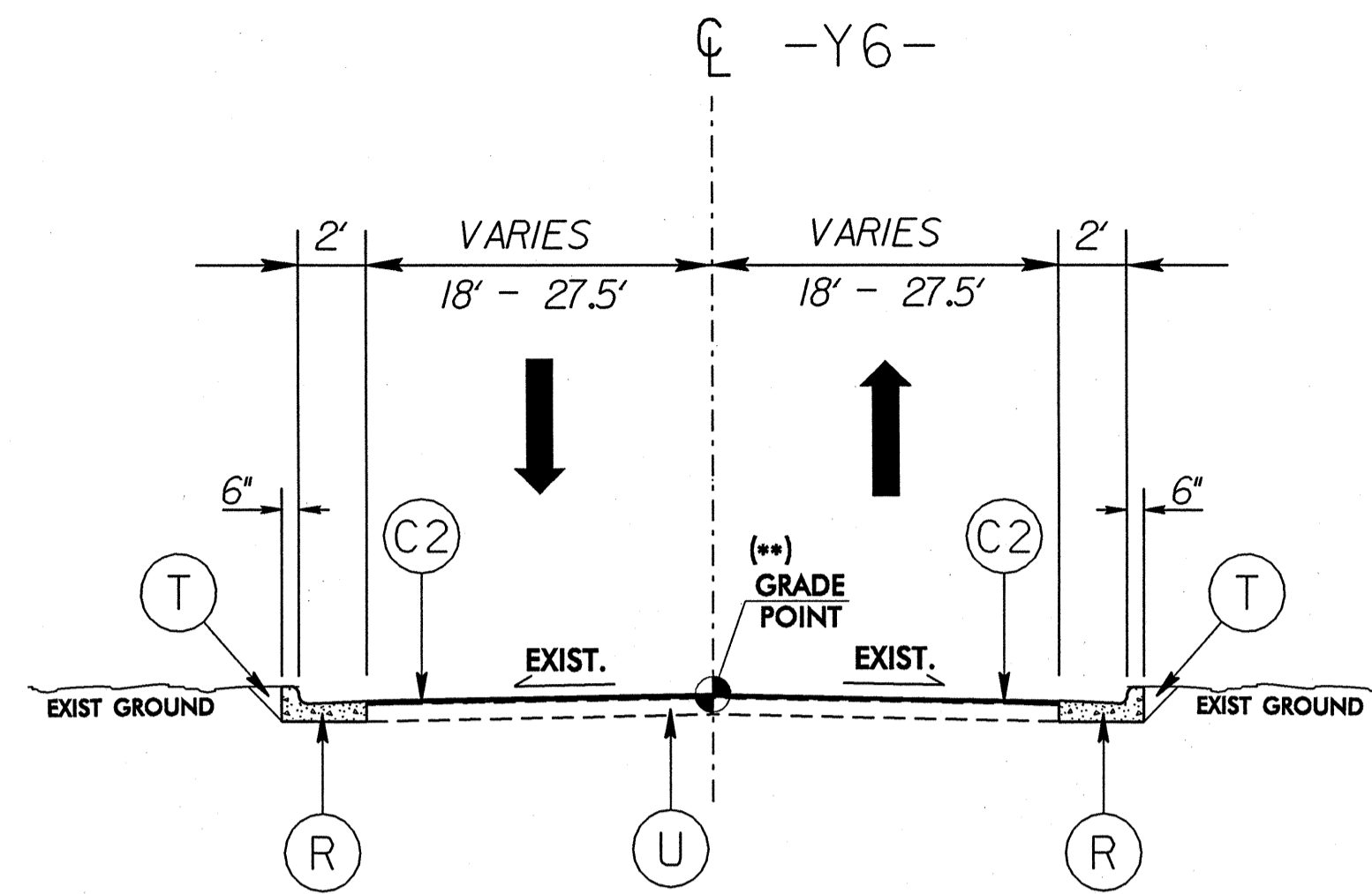
USE TYPICAL SECTION NO. 8

-Y4-, SR 1390, STA. 10+86.84 TO STA. 12+70.00

PAVEMENT SCHEDULE	
C2	3" A.C.S.C. TYPE S9.5C
D2	4" A.C.I.C. TYPE 119.0C
E2	5.5" A.C.B.C. TYPE B25.0C
R	2'-6" CONC. CURB & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

PROJECT REFERENCE NO. U-3313	SHEET NO. 2-E
ROADWAY DESIGN ENGINEER <i>Victor M. Chang</i> SEAL 18204 NORTH CAROLINA PROFESSIONAL ENGINEER	PAVEMENT DESIGN ENGINEER <i>Clark S. Morrison</i> SEAL 22896 NORTH CAROLINA PROFESSIONAL ENGINEER

PLAN PREPARED BY:
PARSONS
TRANSPORTATION GROUP
Engineers and Planners
5540 Centerview Drive, Suite 27
Raleigh, North Carolina 27606
919.854.1345



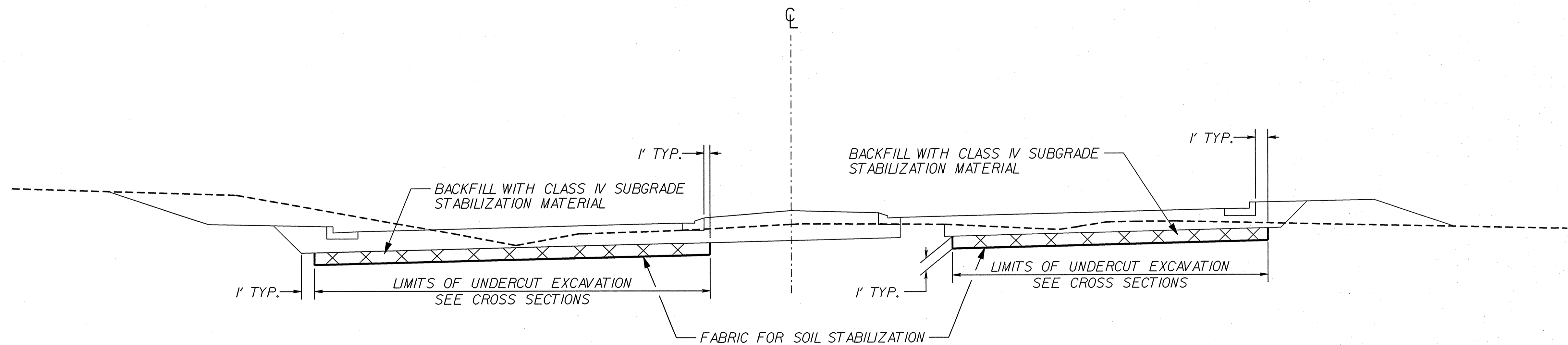
TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9

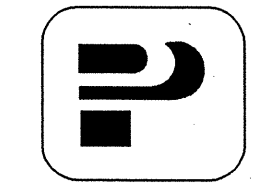
-Y6-, SR 1179, STA. 10+64.59 TO STA. 11+77.50
 -Y6-, SR 1120, STA. 12+47.32 TO STA. 13+62.42

(**) = OVERLAY

PAVEMENT SCHEDULE	
C2	3" A.C.S.C. TYPE S9.5C
R	2'-6" CONC. CURB & GUTTER
U	EXISTING PAVEMENT
T	EARTH MATERIAL

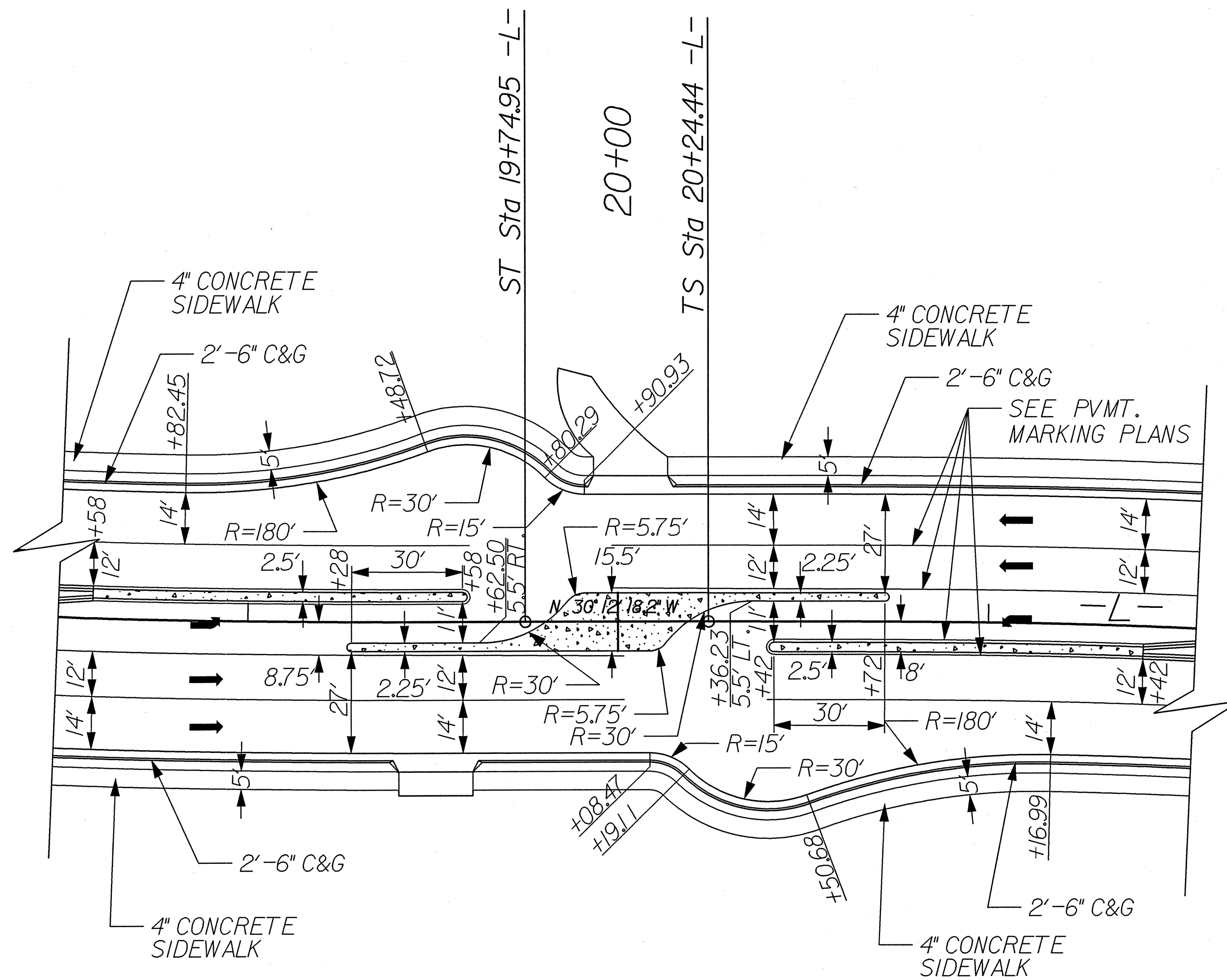
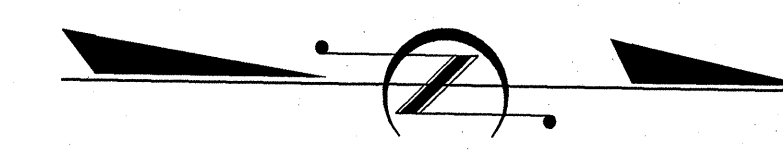


DETAIL OF UNDERCUT EXCAVATION



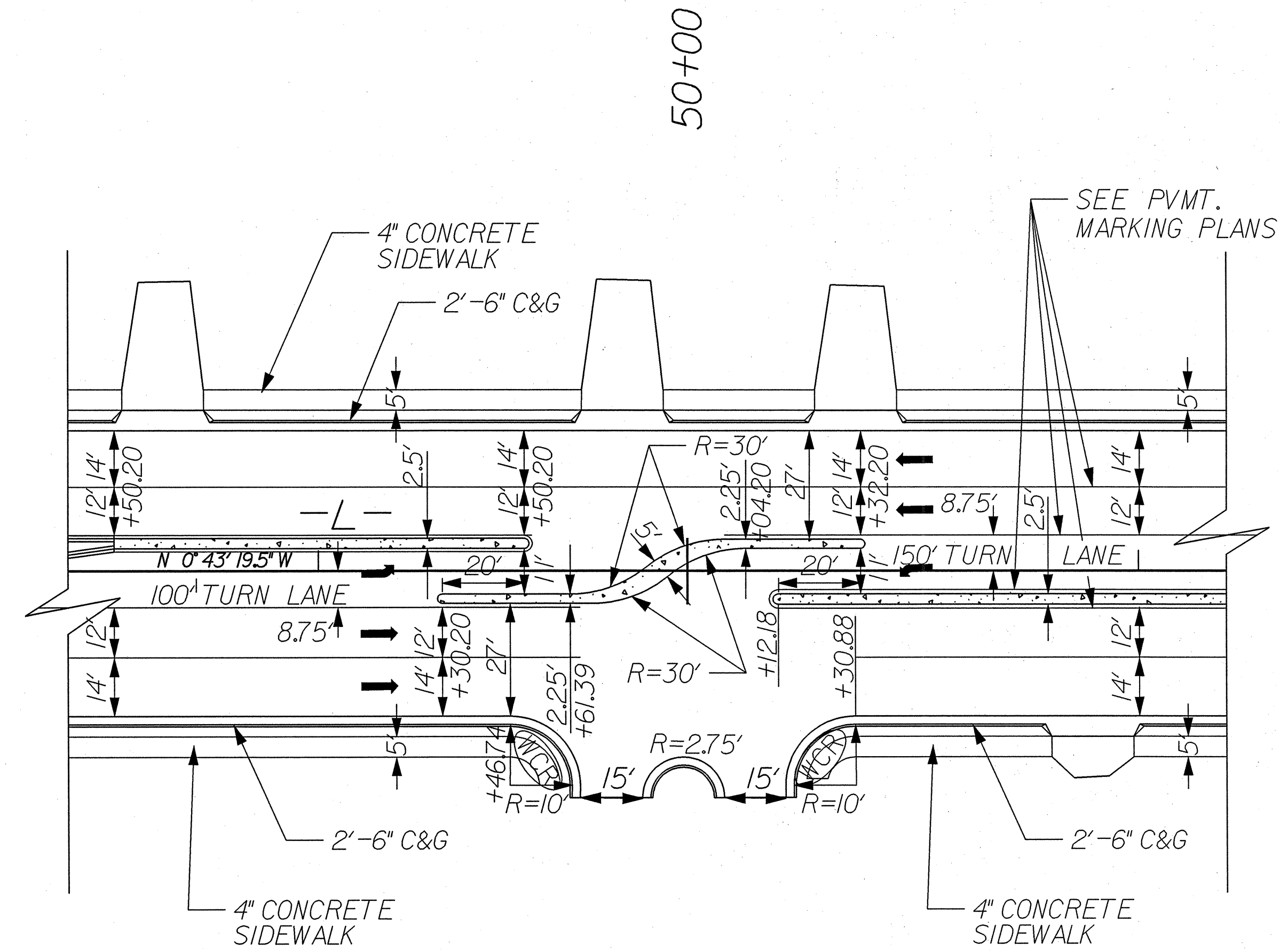
PLAN PREPARED BY:
PARSONS
 TRANSPORTATION GROUP
 Engineers and Planners
 5540 Centerview Drive Suite 217
 Raleigh, North Carolina 27606
 919.444.4145

PROJECT REFERENCE NO. U-3313	SHEET NO. 2-F
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER



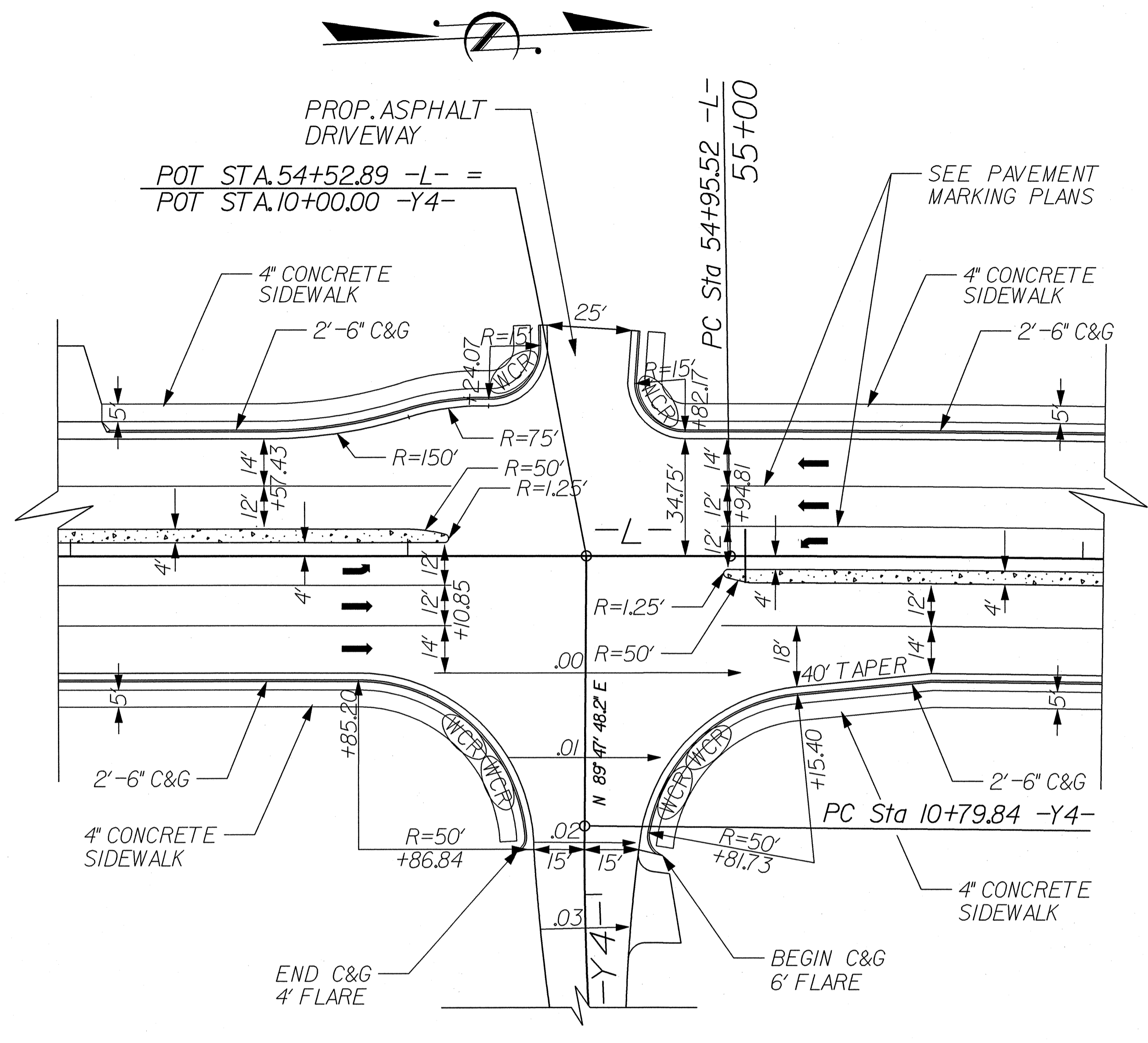
U-TURN DETAIL

N.T.S.



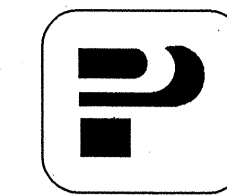
CROSSOVER DETAIL

N.T.S.



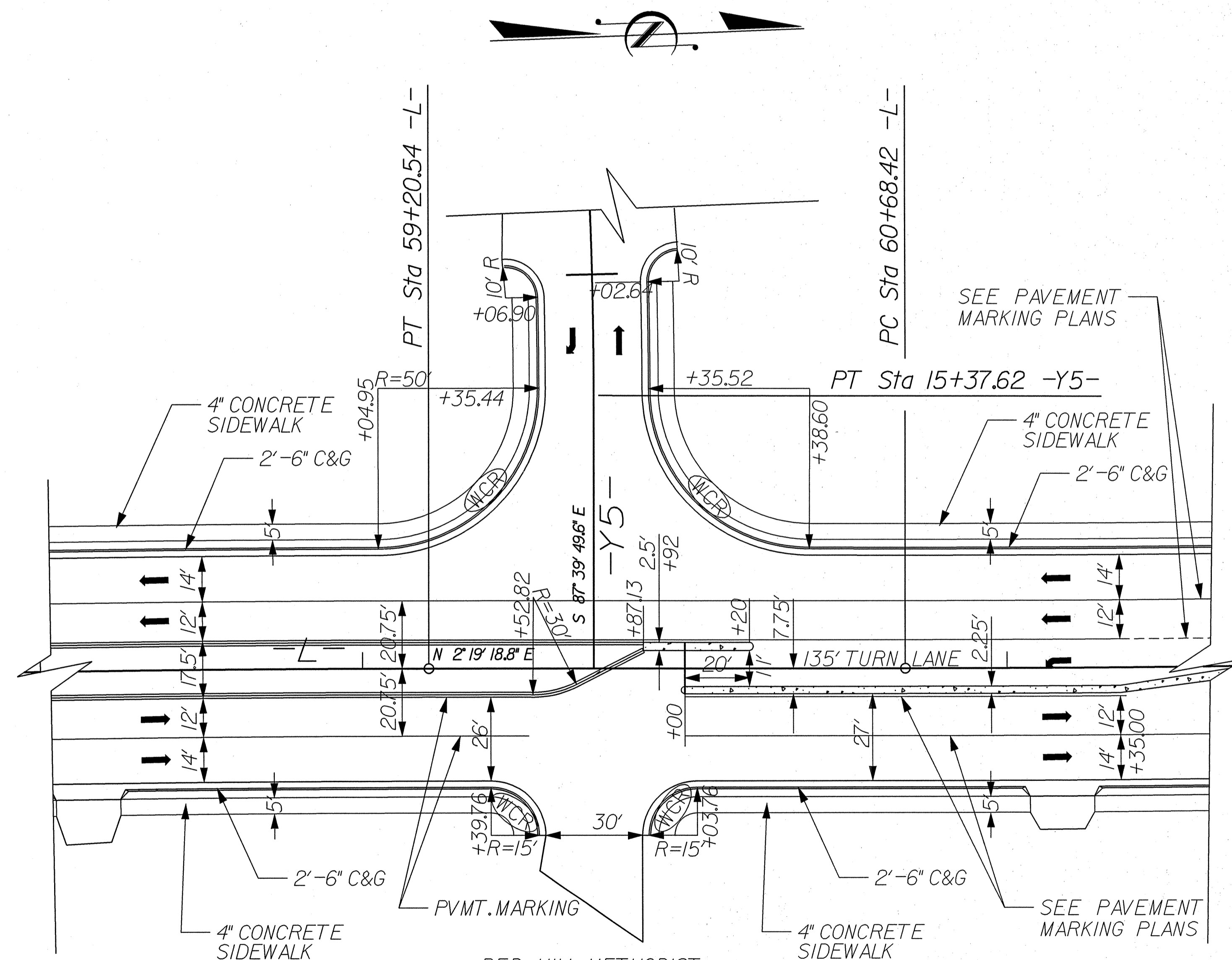
INTERSECTION DETAIL

N.T.S.



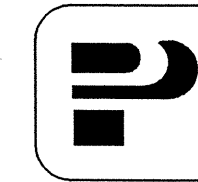
PLAN PREPARED BY:
PARSONS
TRANSPORTATION GROUP
Engineers and Planners
5540 Centerville Drive Suite 217
Raleigh, North Carolina 27606
919.854.1345

PROJECT REFERENCE NO. U-3313		SHEET NO. 2-G	
ROADWAY DESIGN ENGINEER		PAVEMENT DESIGN ENGINEER	
asteb/oc			



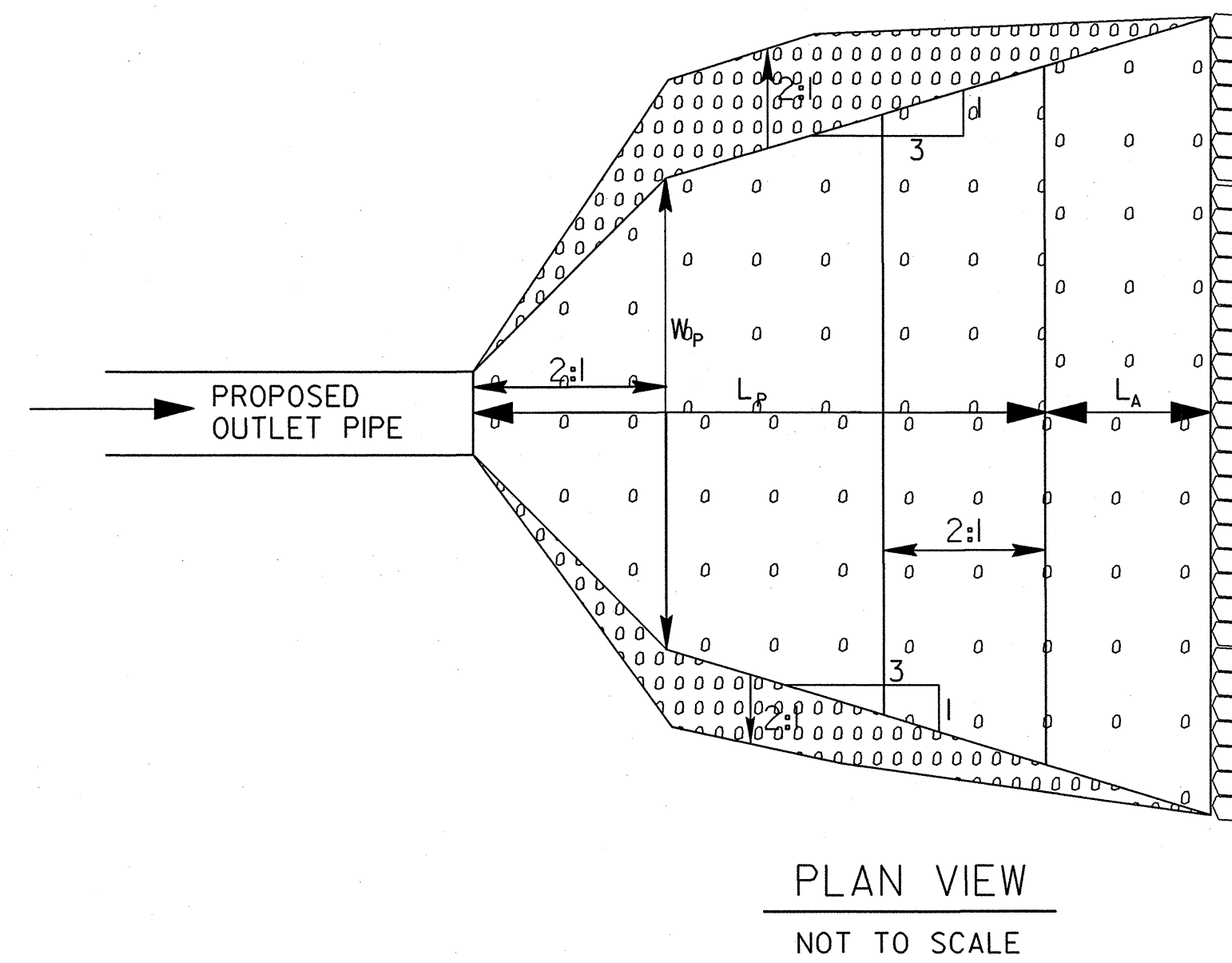
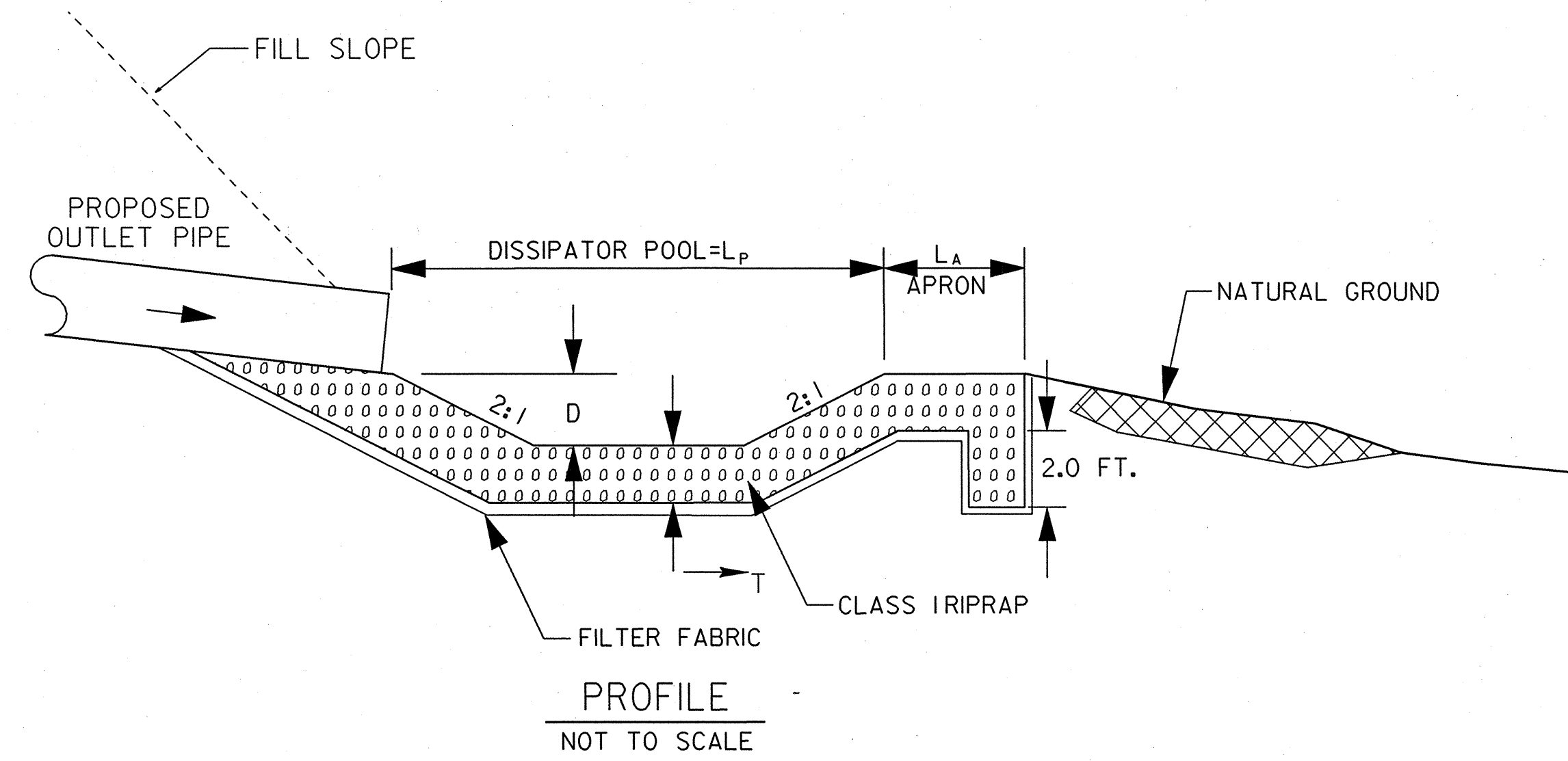
CROSSOVER DETAIL

N.T.S.



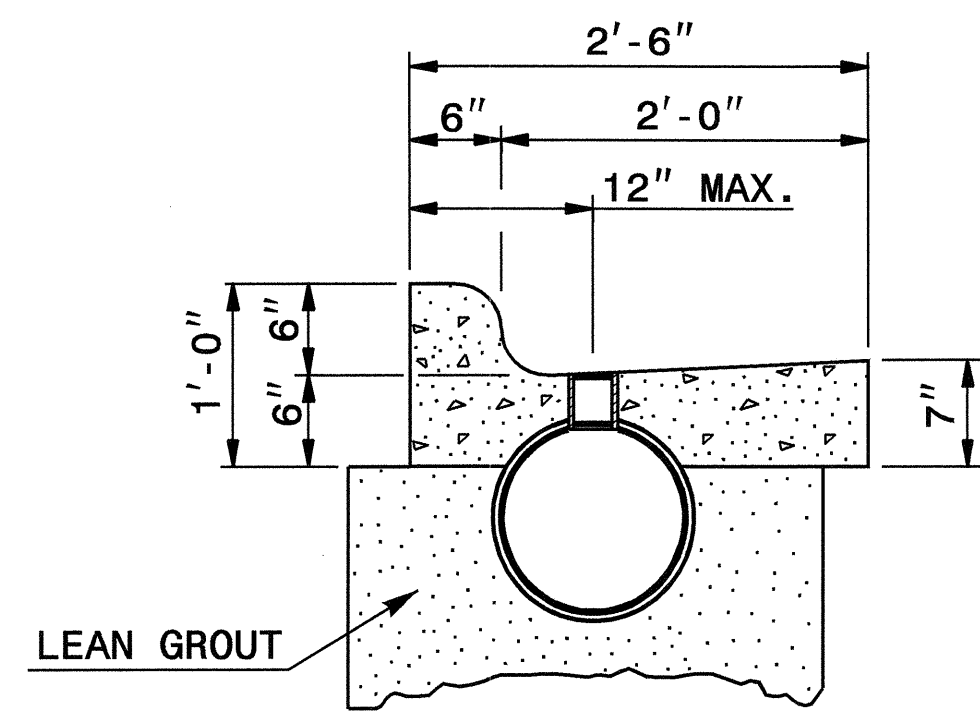
PLAN PREPARED BY:
PARSONS
 TRANSPORTATION GROUP
 Engineers and Planners
 5540 Centerville Drive Suite 217
 Raleigh, North Carolina 27606
 919.854.1345

PROJECT REFERENCE NO. U-3313	SHEET NO. 2-H
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

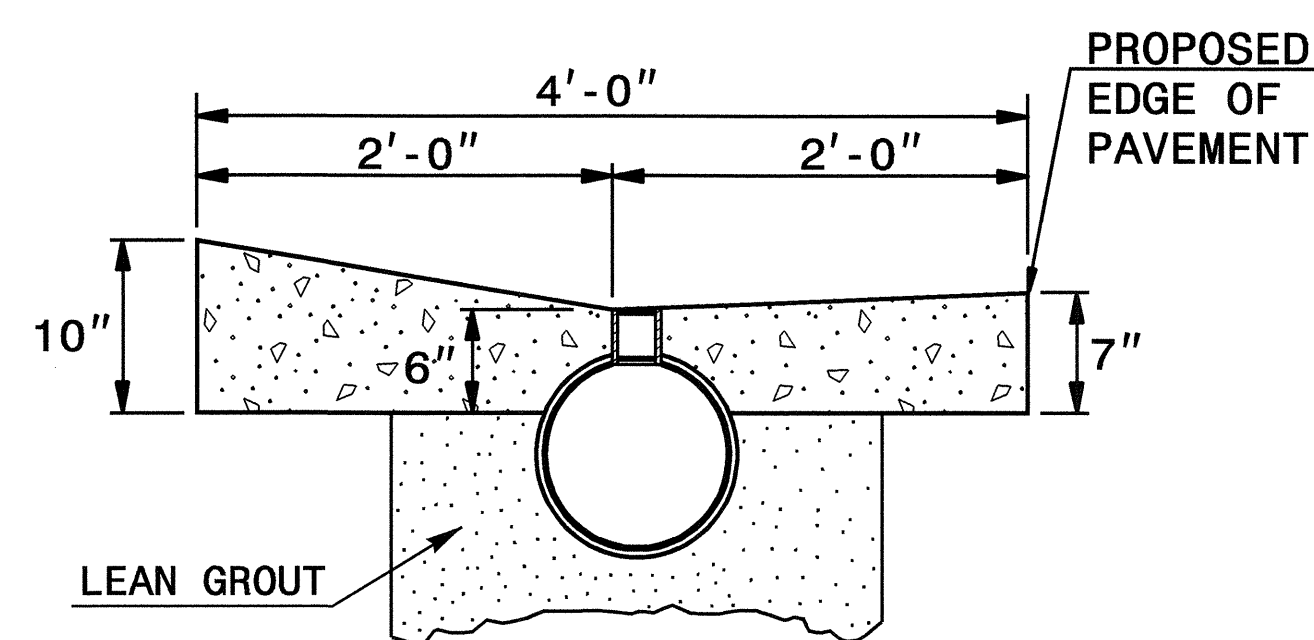


ENERGY DISSIPATOR
NOT TO SCALE

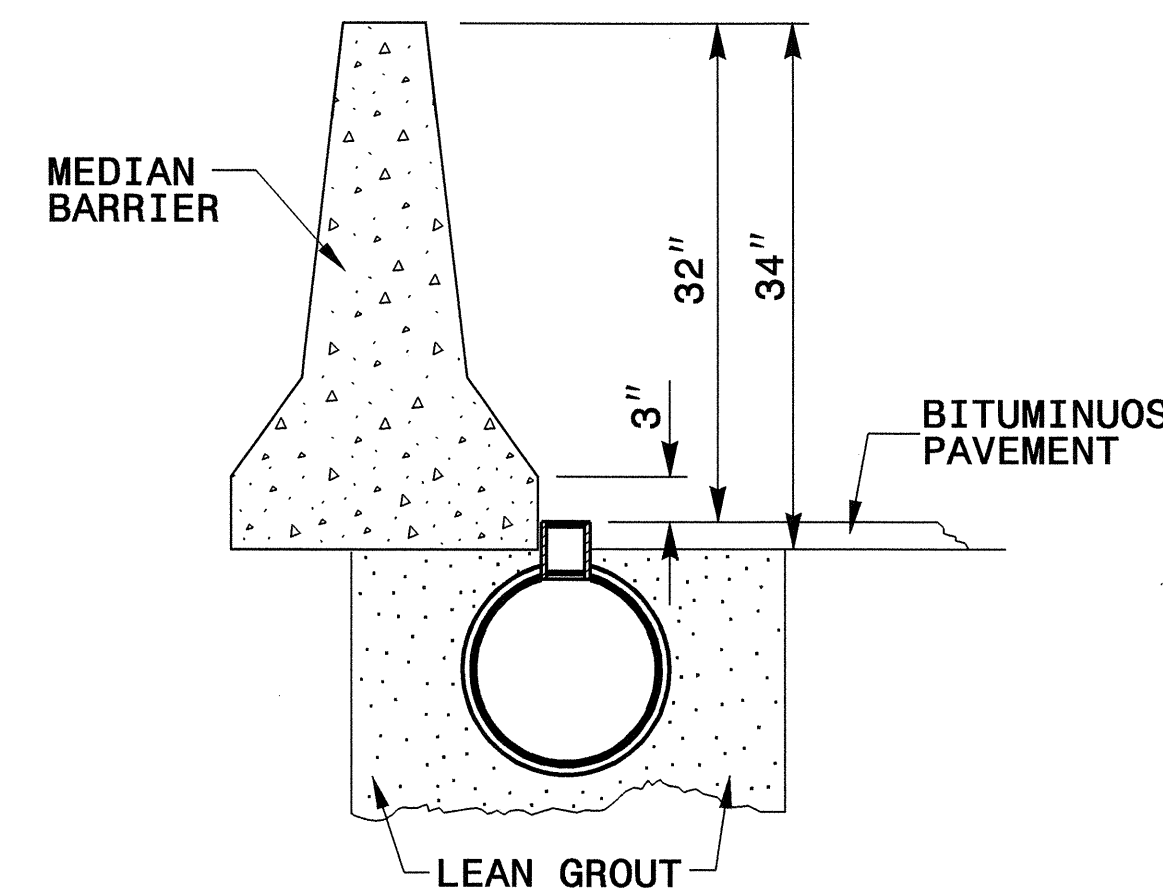
STATION	L _P FT.	W _P FT.	L _A FT.	T FT.	D FT.	CLASS I RIP RAP TONS	DDE YD ³	FILTER FABRIC YD ²
47+65 -L- RT.	27	17	5	1.7	3.2	78	102	92



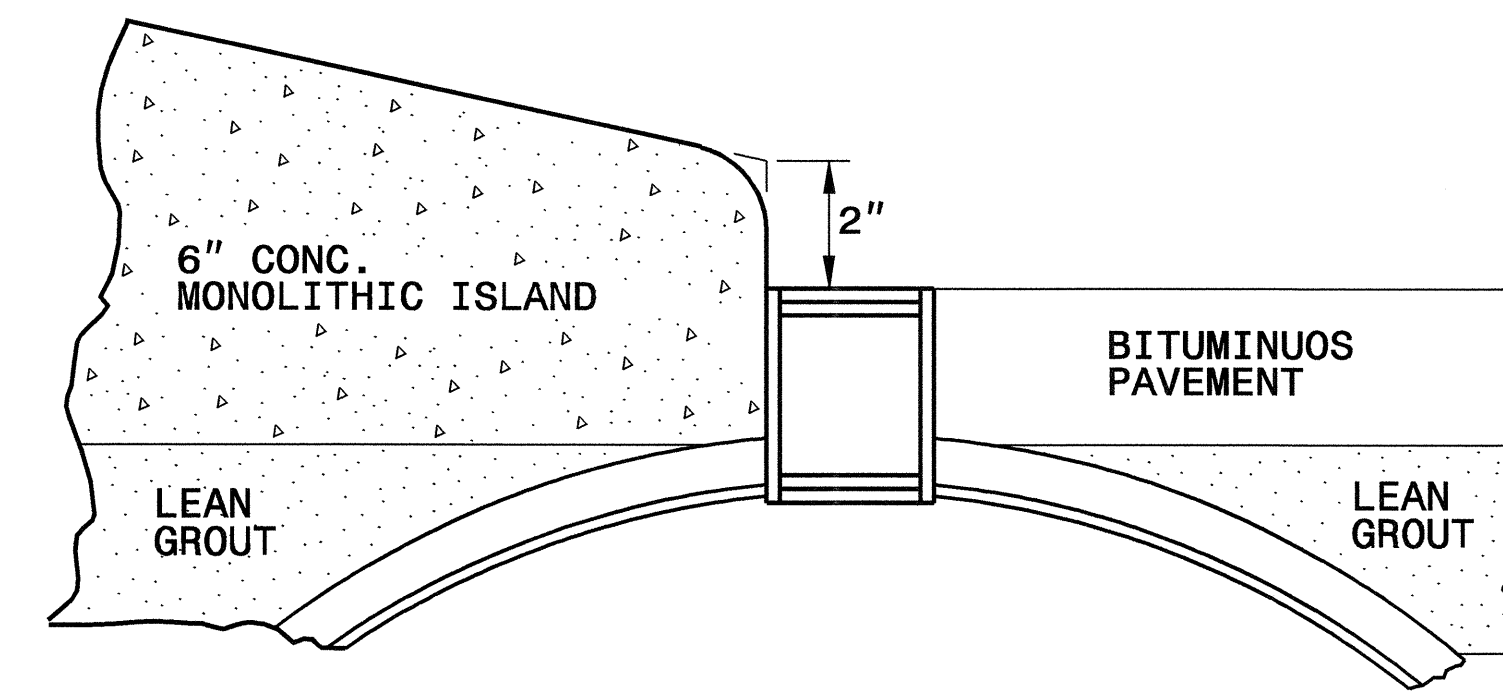
ALTERNATE NO.1



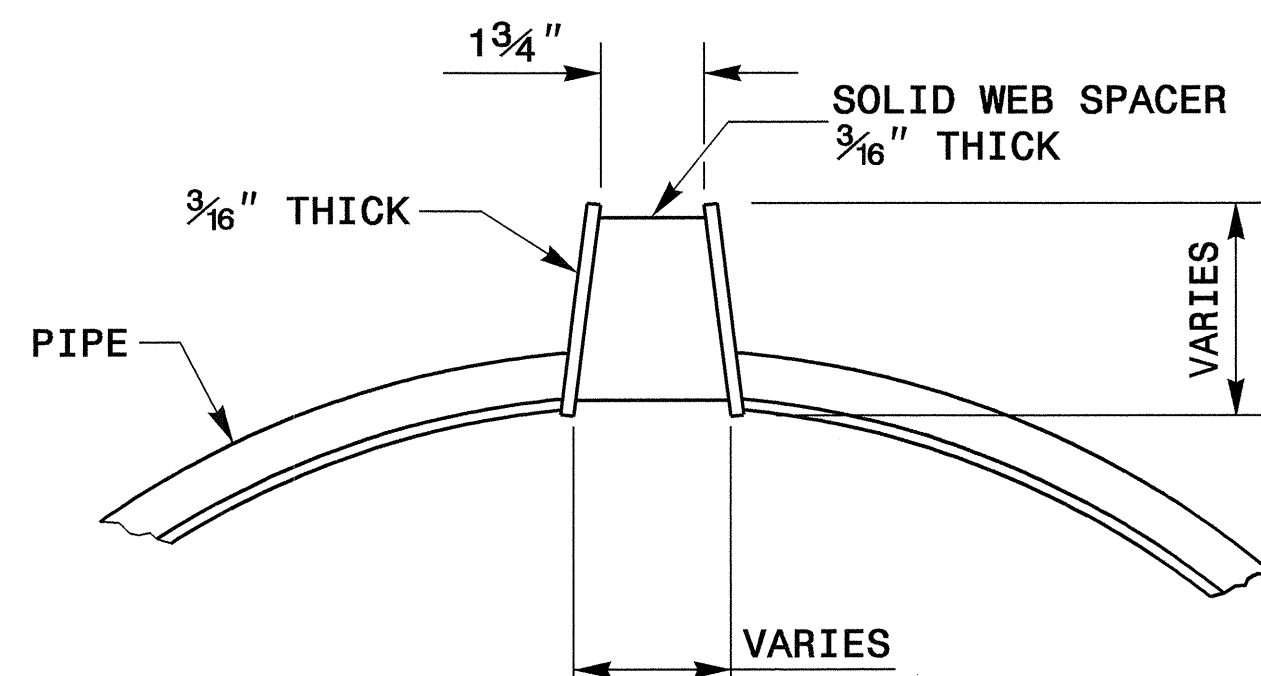
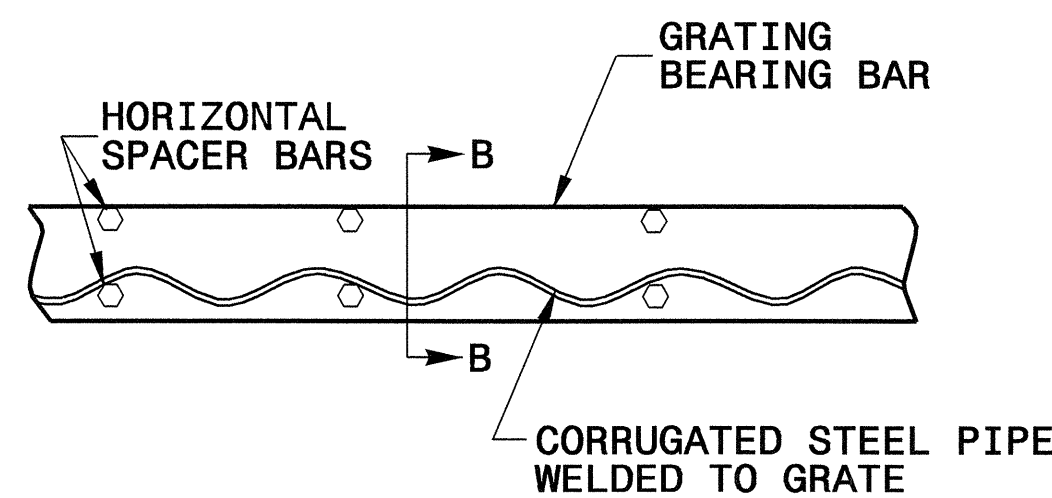
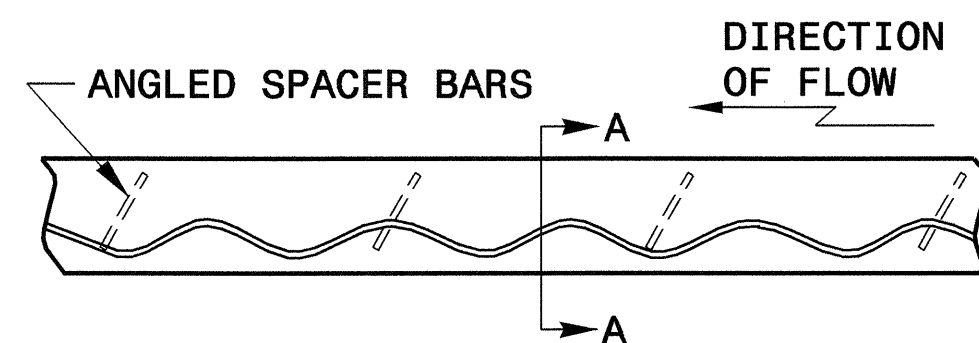
ALTERNATE NO.2



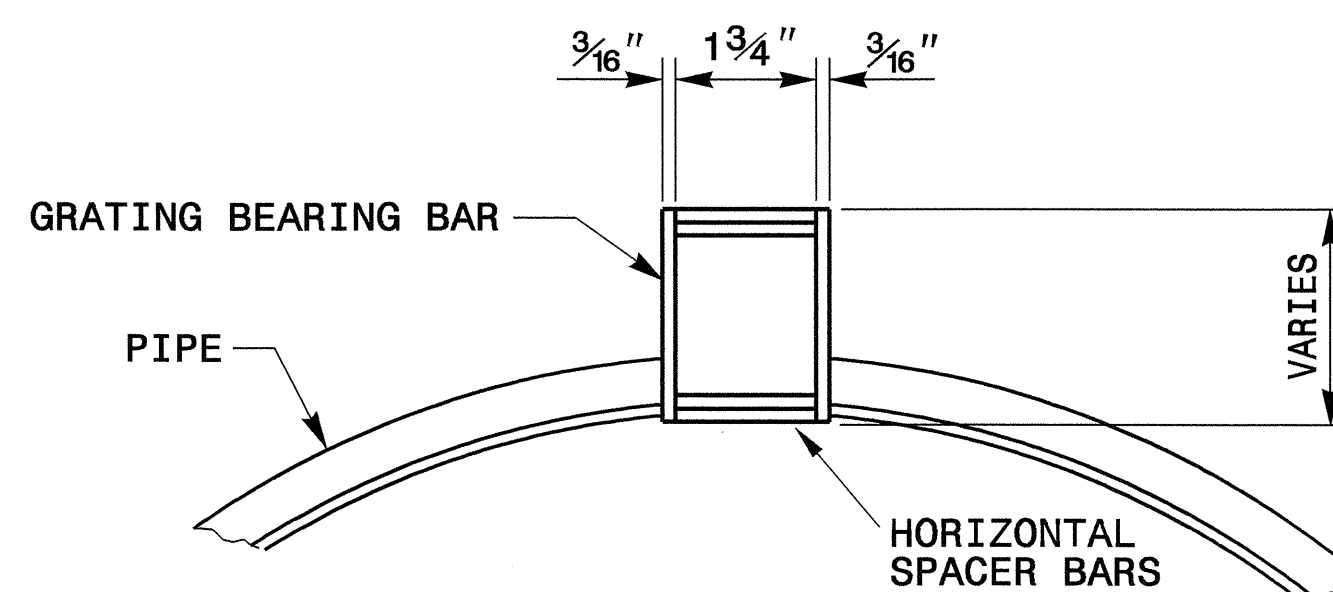
ALTERNATE NO.3



ALTERNATE NO.4

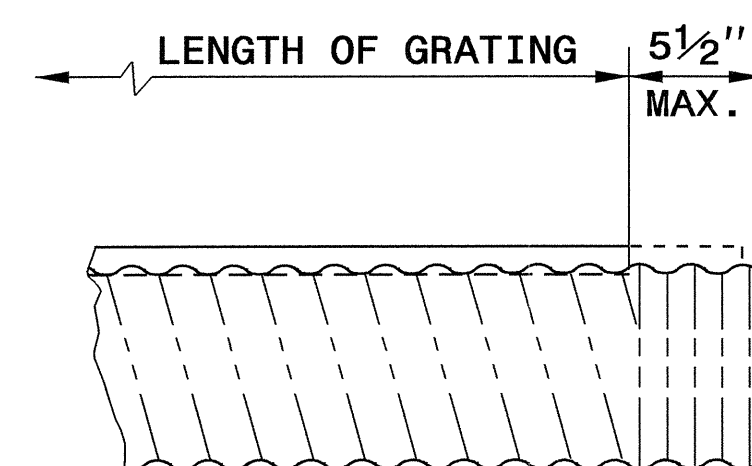


SECTION A-A

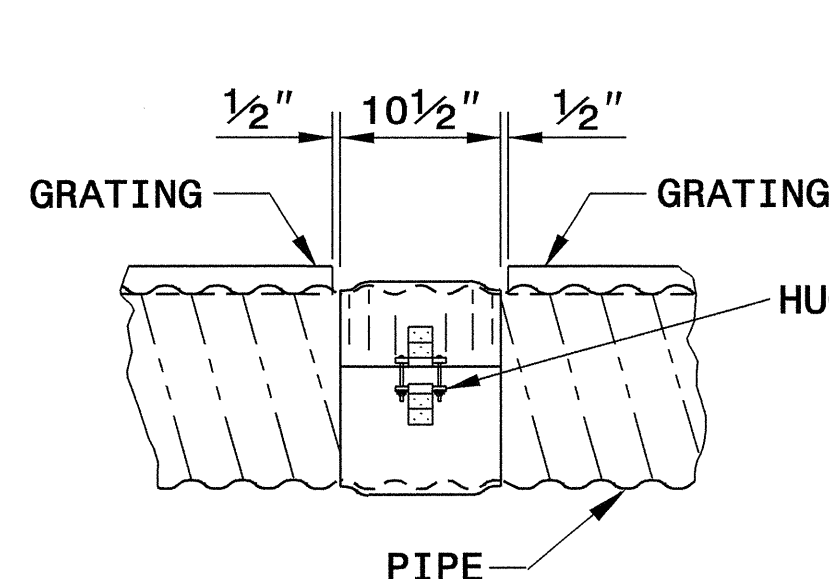


SECTION B-B

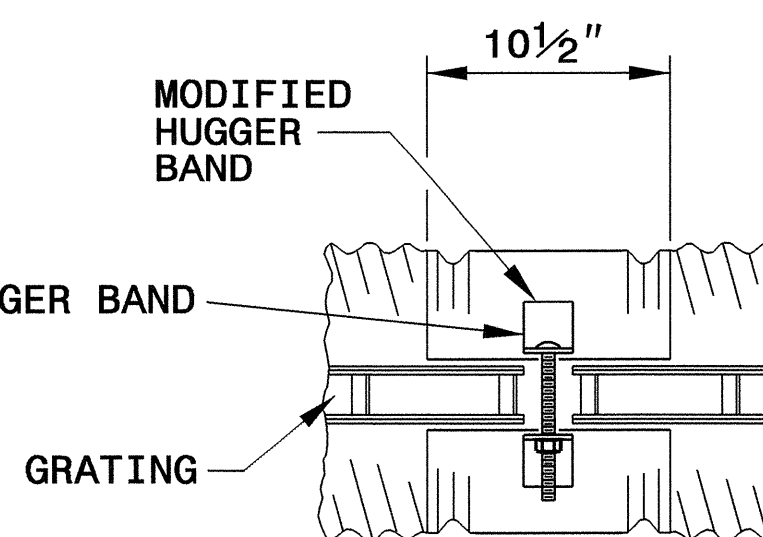
TYPICAL GRATE DETAILS



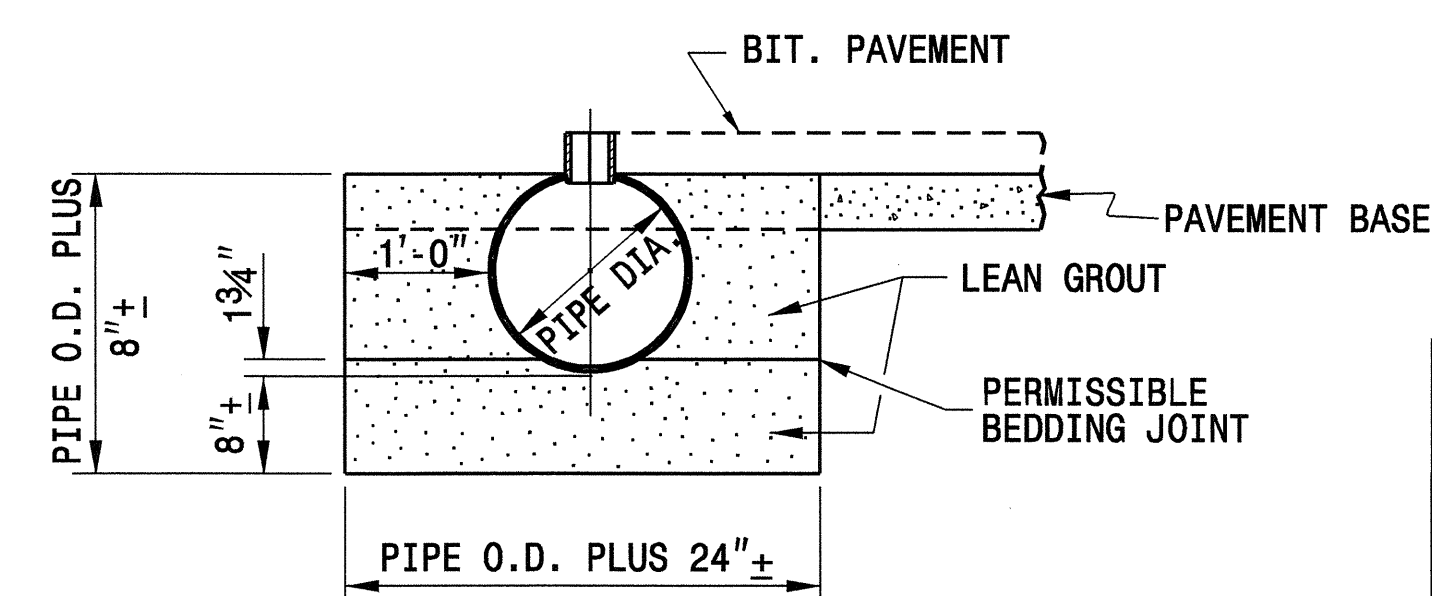
DETAIL AT END OF PIPE



TYPICAL COUPLING BAND



MODIFIED COUPLING BAND



SLOTTED DRAIN PIPE INSTALLATION

NOTES:

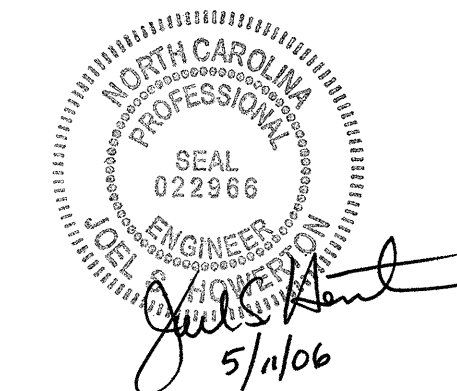
USE GRATE ASSEMBLIES FABRICATED FROM STRUCTURAL STEEL MEETING THE REQUIREMENTS OF ASTM A 570, GRADE 36 OR ASTM A 36.

HOT-DIP GALVANIZE GRATES AFTER FABRICATION TO MEET ASTM A123.

USE SLOTTED DRAIN PIPE THAT IS ADEQUATE FOR AASHTO H20 LOADING WHEN INSTALLED AS SHOWN.

USE SLOTTED DRAIN PIPE FABRICATED FROM ALUMINIZED CORRUGATED STEEL PIPE MEETING THE REQUIREMENTS OF AASHTO M274 TYPE 2.

NCDOT ALLOWS THE USE OF SIMILAR GRATE CONFIGURATIONS MEETING THE REQUIREMENTS OF THIS DETAIL, THE REQUIREMENTS OF THE SPECIAL PROVISIONS, AND THE APPROVAL OF THE ENGINEER.

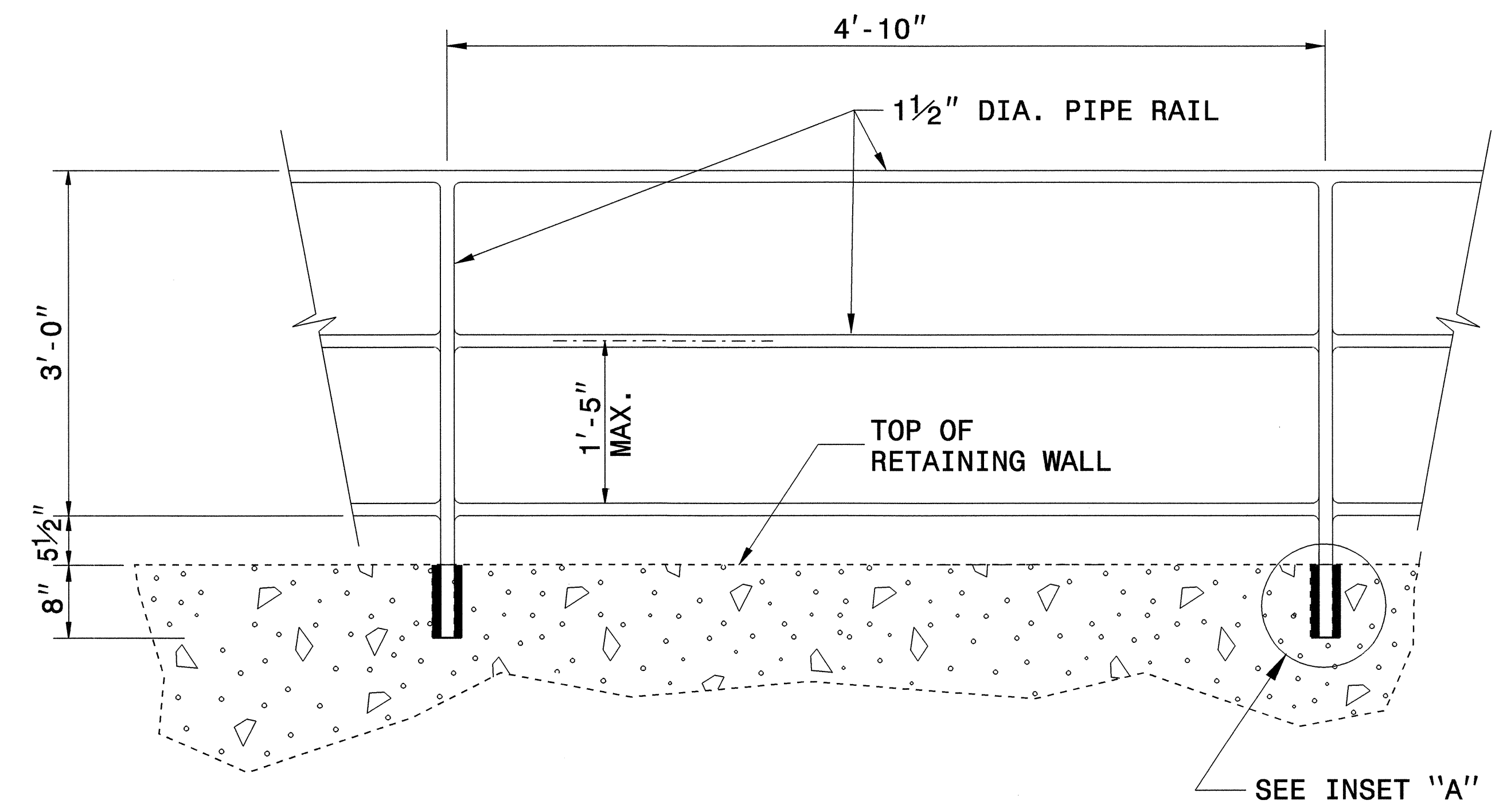


**PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN**
Office 919-250-4128 FAX 919-250-4119

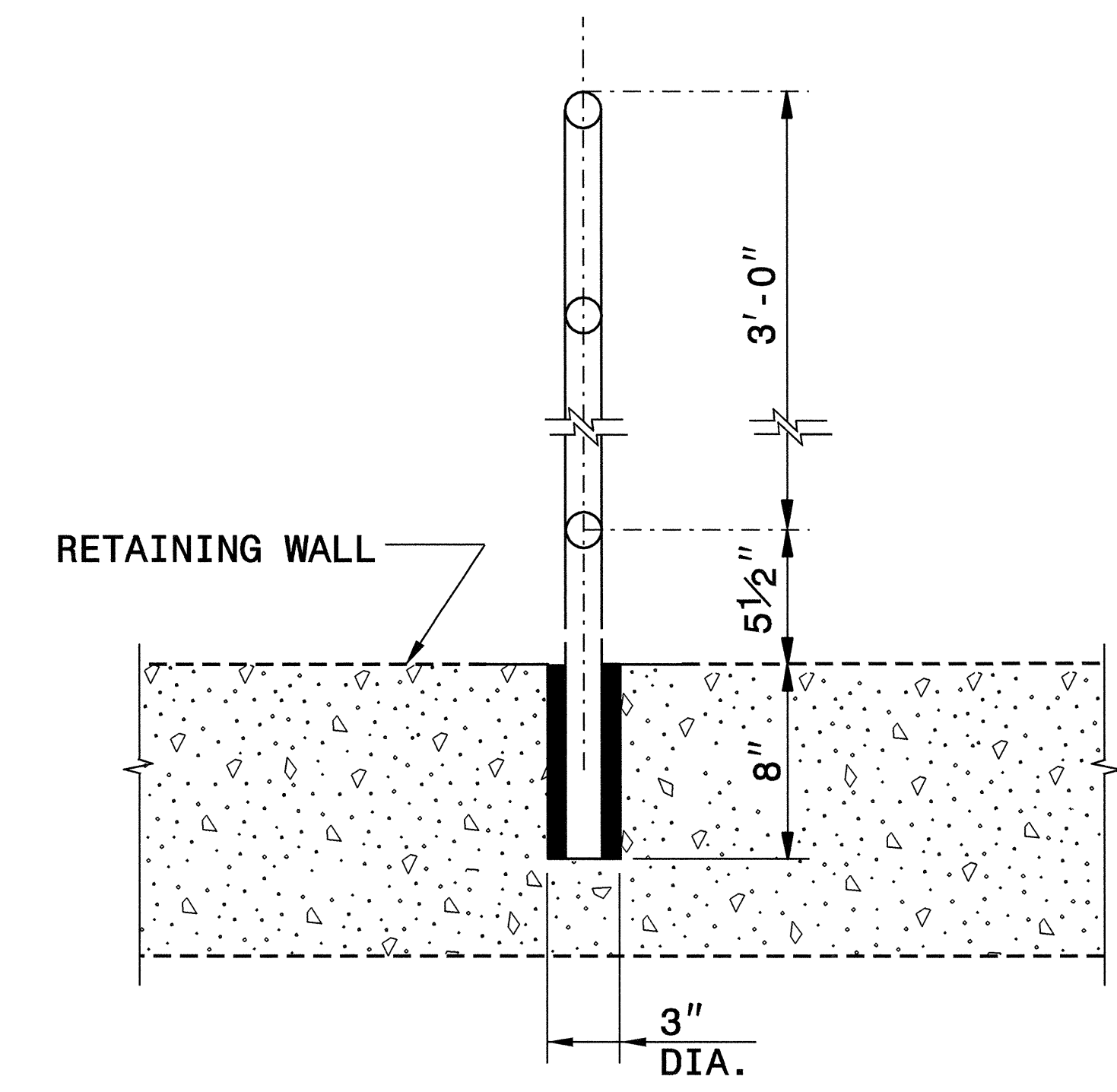
**DETAILS OF SLOTTED DRAIN
12" THRU 36" DIAMETER PIPE**

ORIGINAL BY: T. Spell DATE: 5-21-99
 MODIFIED BY: [Signature] DATE: [Blank]
 CHECKED BY: [Signature] DATE: 5/1/06
 FILE SPEC.: 69174:usr\details\stand\slotdrain.dgn

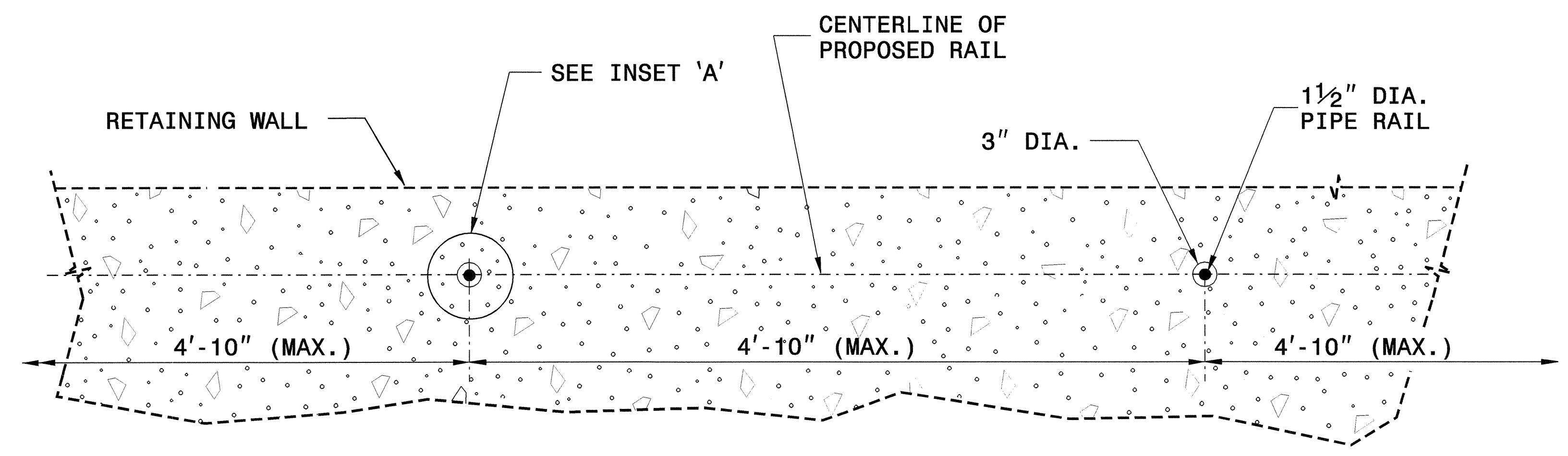
10-MAY-2006 12:09
 s:\contracts\contract\special_details\spell\details\stand\slotdrain.dgn
 jlower\ton A1 P3212260



ELEVATION OF PROPOSED PEDESTRIAN HANDRAIL



INSET 'A'



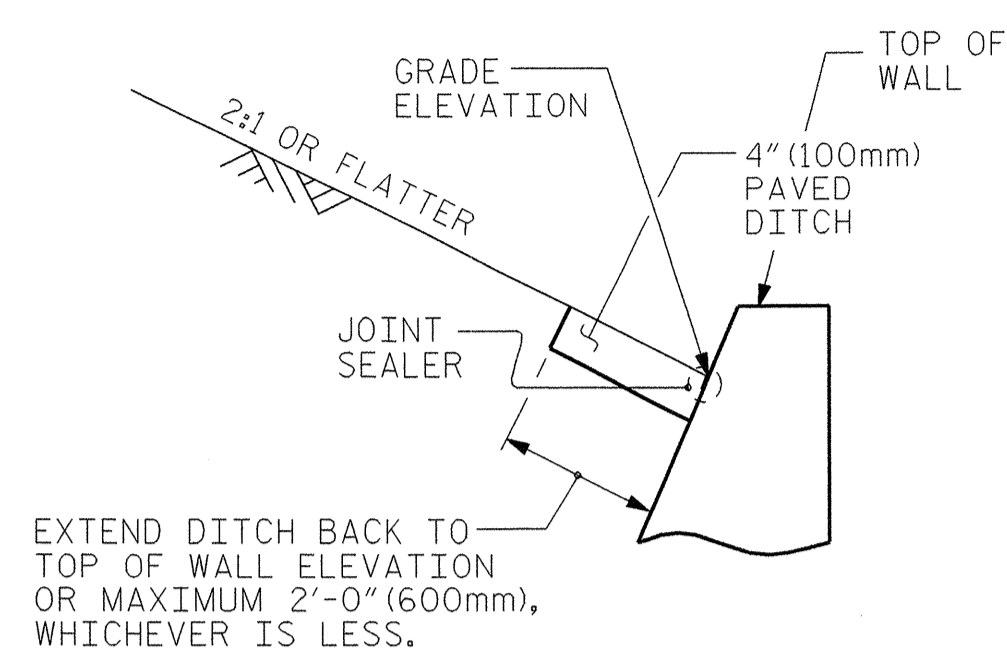
PLAN VIEW

NOTES:

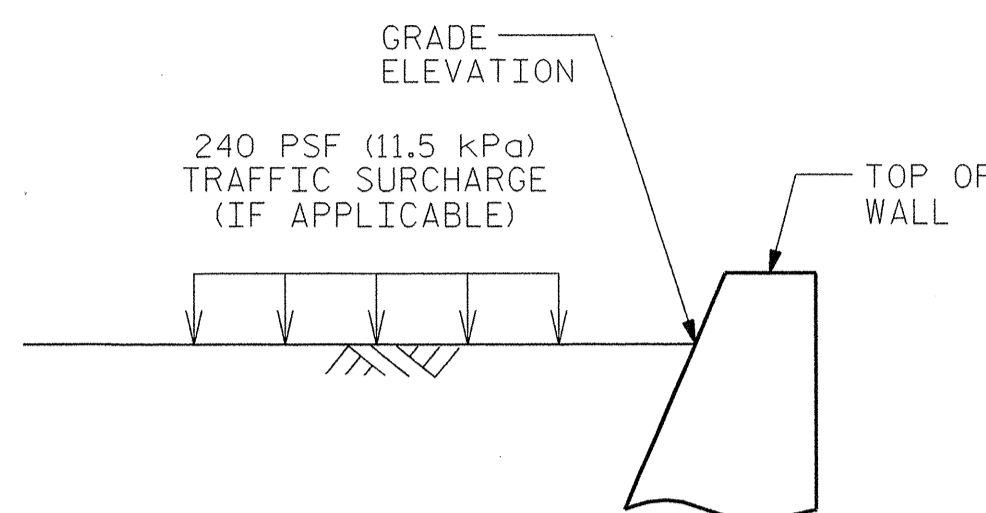
- CONSTRUCT PROPOSED STEEL PIPE RAIL OF 1 1/2" DIAMETER SCHEDULE 40 PLAIN END GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53.
- REPAIR GALVANIZING IN ACCORDANCE WITH SECTION 1076 OF THE NCDOT STANDARD SPECIFICATIONS.
- PAINT, IF REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH SECTION 1080 OF THE STANDARD SPECIFICATIONS.
- WELD IN ACCORDANCE WITH ARTICLE 1072-20 OF THE STANDARD SPECIFICATIONS.

JOEL S. HUNT
 5/11/06

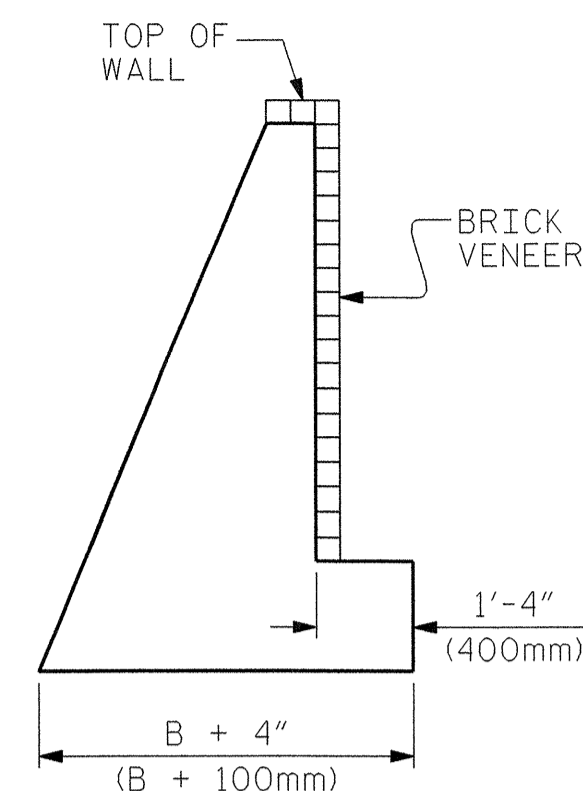
PROJECT SERVICES UNIT STANDARDS AND SPECIAL DESIGN Office 919-250-4128 FAX 919-250-4119	
PROPOSED PEDESTRIAN SAFETY RAIL	
ORIGINAL BY: E.E. WARD	DATE: 12-99
MODIFIED BY: T.S. Spe11	DATE: 1-4-05
CHECKED BY: <i>Joel S. Hunt</i>	DATE: 5/11/06
FILE SPEC.: @details/stand/metric/0842d03.dgn	



SLOPE CONDITION



NO SLOPE CONDITION



BRICK VENEER DETAIL

(WHEN APPLICABLE)

NOTES

FOR GRAVITY RETAINING WALLS, SEE SECTION 453 OF THE STANDARD SPECIFICATIONS.

THE STANDARD GRAVITY RETAINING WALL IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
 TOTAL UNIT WEIGHT = 120 PCF (18.8 KN/m³)
 COHESION = 0 PSF (0 kPa)
 FRICTION ANGLE = 35 DEGREES
 (GROUNDWATER WITHIN 5'-0" (1.5m) OF BOTTOM OF FOOTING)
 FRICTION ANGLE = 30 DEGREES
 (GROUNDWATER MORE THAN 5'-0" (1.5m) BELOW BOTTOM OF FOOTING)

DO NOT USE A STANDARD GRAVITY RETAINING WALL IF THE ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE OR GROUNDWATER IS ABOVE THE BOTTOM OF FOOTING.

DO NOT USE A STANDARD GRAVITY RETAINING WALL WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS PRESENT BELOW THE WALL.

DO NOT PLACE CONCRETE UNTIL OBTAINING APPROVAL OF THE EXCAVATION DEPTH AND CHECKING FOUNDATION MATERIAL FOR IN-SITU ASSUMED SOIL PARAMETERS.

USE CLASS "A" CONCRETE AND PROVIDE CLASS I SURFACE FINISH FOR ALL EXPOSED SURFACES.

PROVIDE 3" (75mm) DIAMETER WEEP HOLES ON 10'-0" (3m) CENTERS ALONG WALL. SLOPE WEEP HOLES ON A 1" (25mm) PER FOOT (300mm) SLOPE THROUGH THE WALL SO THAT WATER DRAINS OUT OF THE FRONT OF THE WALL.

CONSTRUCT A HORIZONTAL DRAIN IN SUBDRAIN FINE AGGREGATE AT LEAST 1'-0" (300mm) TALL AND 1'-0" (300mm) WIDE TO CONNECT ALL STONE DRAINS.

PROVIDE GROOVED CONTRACTION JOINTS EVERY 10'-0" (3m) AND EXPANSION JOINTS EVERY 30'-0" (9m) ALONG THE WALL.

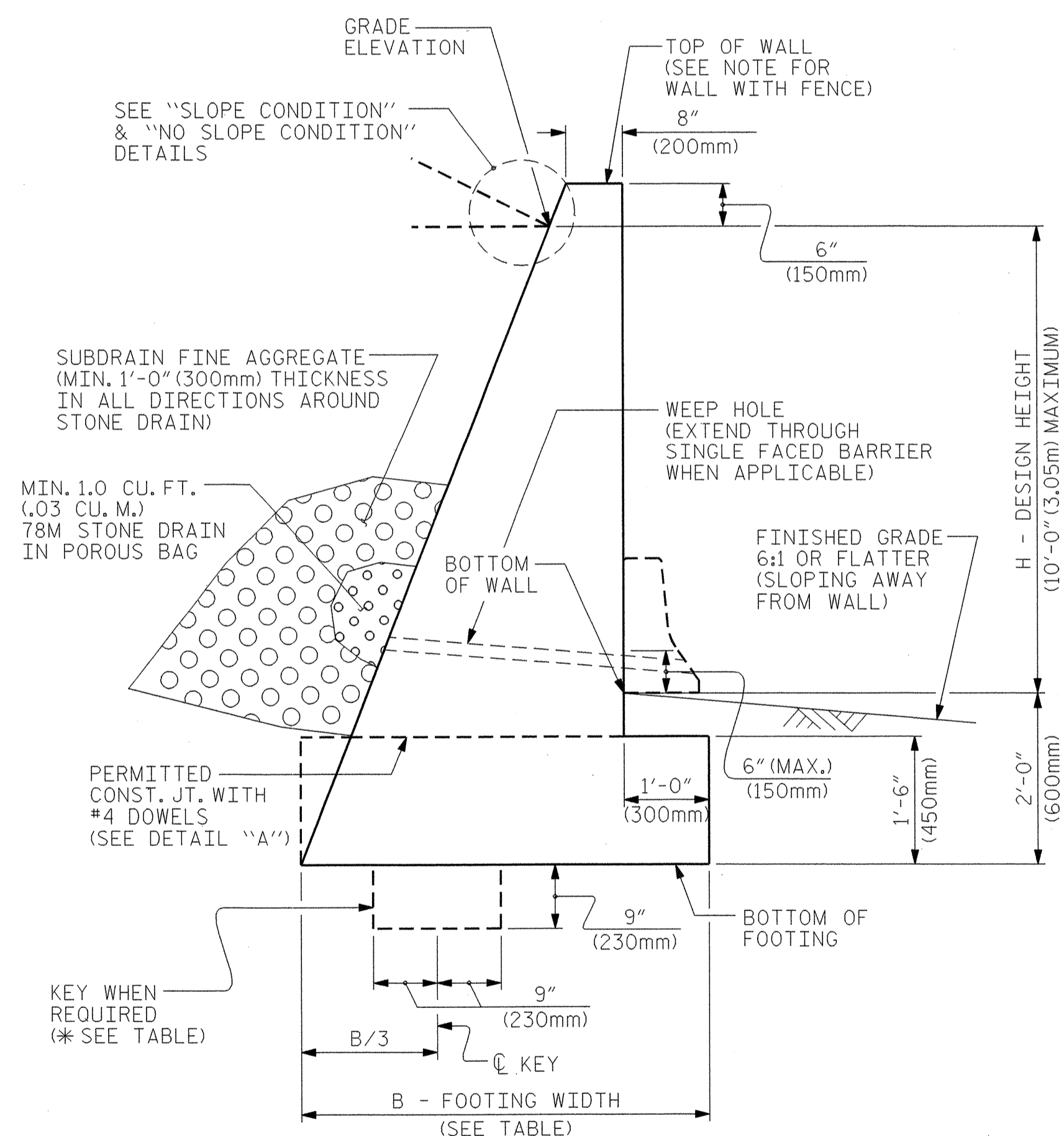
FOR WALL WITH BRICK VENEER, SUBMIT BRICK SAMPLES TO THE ENGINEER FOR APPROVAL BEFORE BEGINNING CONSTRUCTION. ANCHOR BRICK VENEER TO CONCRETE RETAINING WALL WITH BRICK TO CONCRETE TYPE ANCHORS ACCORDING TO MANUFACTURER'S SPECIFICATIONS WITH A MINIMUM VERTICAL SPACING OF 1'-4" (400mm) AND A MINIMUM HORIZONTAL SPACING OF 2'-8" (800mm) WITH EACH ROW STAGGERED 1'-4" (400mm) FROM THE ROW OF ANCHORS ABOVE AND BELOW.

DO NOT BACKFILL BEHIND WALL UNTIL CONCRETE DEVELOPS A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI (20.7 MPa). COMPACT BACKFILL IN ACCORDANCE WITH SUBARTICLE 235-4(C) OF THE STANDARD SPECIFICATIONS. PLACE BACKFILL WITHIN 3'-0" (1m) OF THE BACK OF THE WALL WITH HAND OPERATED EQUIPMENT. DO NOT OPERATE HEAVY EARTH MOVING EQUIPMENT WITHIN 10'-0" (3m) OF THE BACK OF WALL.

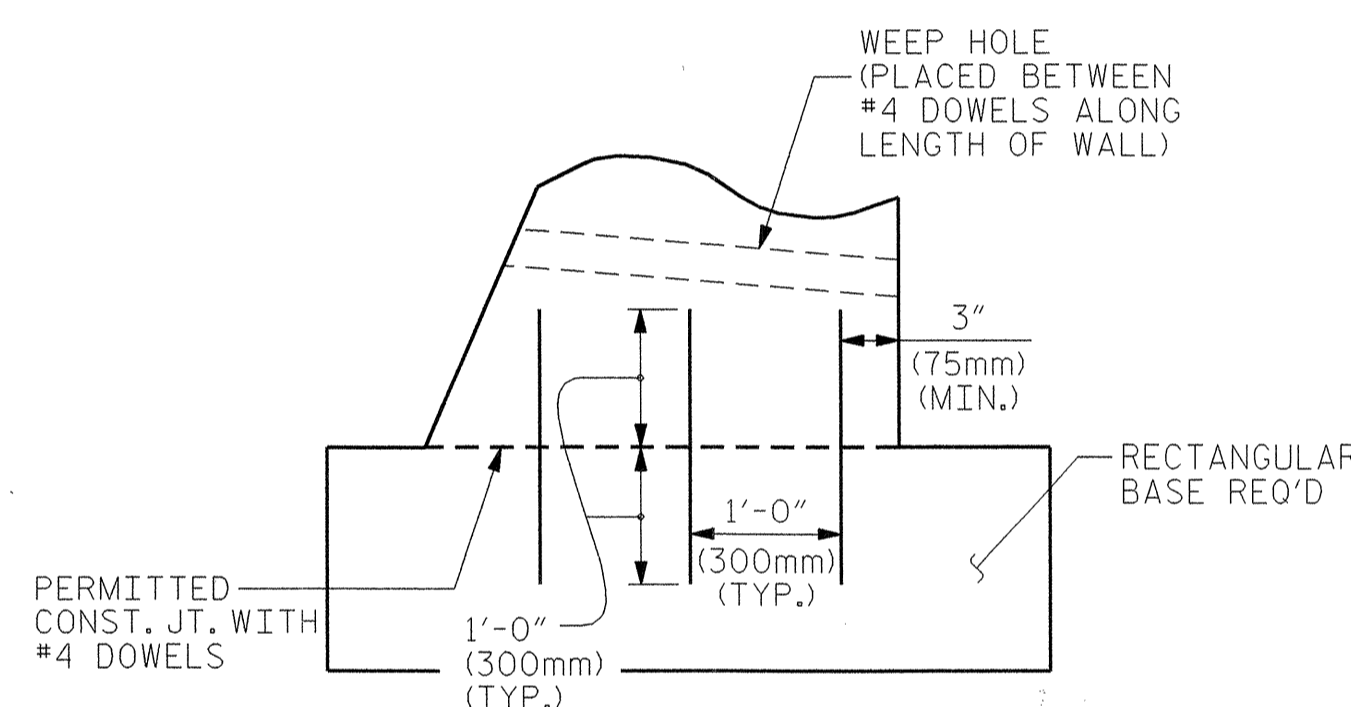
WHEN A CONSTRUCTION JOINT IS LOCATED AT THE BASE OF THE WALL, IN SECTION, PROVIDE A MINIMUM OF 3-#4 DOWELS AT AN EQUAL SPACING. SPACE ALL DOWELS AT 1'-6" (460mm) CENTERS ALONG THE LENGTH OF THE WALL.

SEE PREVIOUS SHEET(S) FOR PLAN AND PROFILE VIEW (WALL ENVELOPE) AND PROPOSED ELEVATIONS FOR GRAVITY RETAINING WALL(S).

FOR WALL WITH FENCE, USE SLEEVES IN ACCORDANCE WITH SECTION 866 OF THE STANDARD SPECIFICATIONS FOR FENCE POSTS, OR SUBMIT FENCE POST ANCHOR PLATE DETAILS.



TYPICAL SECTION



DETAIL "A"

	H + 2 (ft)	< 6	6 - 9	> 9 - 12
	H + 0.6 (m)	< 1.83	1.83 - 2.74	> 2.74 - 3.65
NO SLOPE CONDITION WITHOUT TRAFFIC SURCHARGE		.60	.60	.60
NO SLOPE CONDITION WITH TRAFFIC SURCHARGE		.80	.75 *	.70 *
SLOPE CONDITION		.66	.70 *	.75 *

B/(H + 2) RATIO

* KEY IS REQUIRED FOR SLOPE CONDITION OR NO SLOPE CONDITION WITH TRAFFIC SURCHARGE WHEN H + 2ft (H + 0.6m) IS 6'-0" (1.83m) OR GREATER.

PROJECT NO. _____ COUNTY _____

STATION: _____

SHEET OF _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

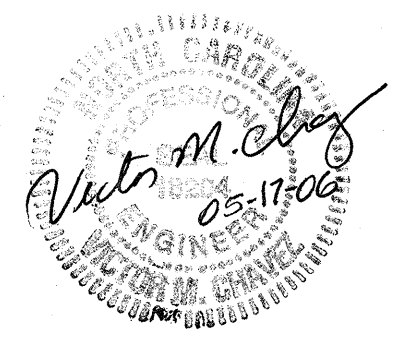
STANDARD
 GRAVITY
 RETAINING
 WALL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			
2			4			

ASSEMBLED BY :	DATE :
CHECKED BY :	DATE :
DRAWN BY : KMM 12/05	REV.
CHECKED BY :	

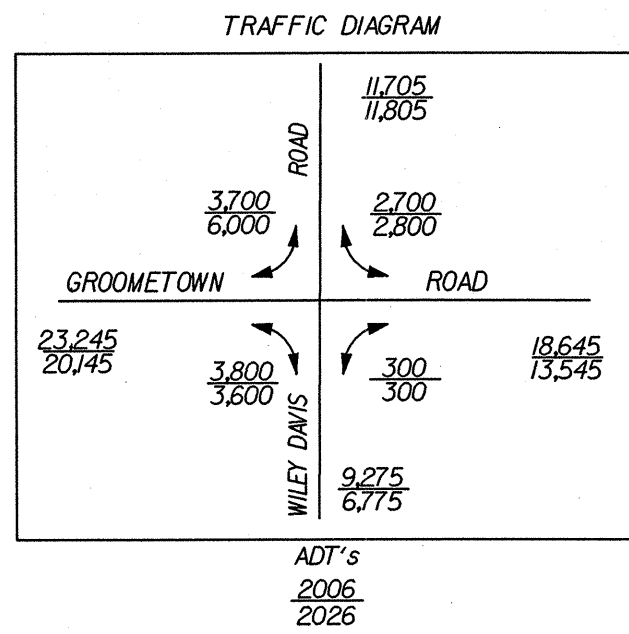
DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA
SUMMARY OF EARTHWORK
 IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT	BORROW	WASTE
STA.10+54.48 TO 36+50.00 -L- LT.	5,467	367	581		5,253
SUB TOTAL	5,467	367	581		5,253
STA.10+54.48 TO 36+50.00 -L- RT.	1,776	403	4,326	2,550	403
STA.10+50.00 TO 11+50.00 -Y-	182		47		135
SUB TOTAL	1,958	403	4,373	2,550	538
STA.36+50.00 TO 40+00.00 -L-	1,179	671	595		1,255
STA.10+00.00 TO 15+00.00 -Y1-	1,601	387	261		1,727
STA.10+50.00 TO 12+50.00 -Y2-	339	148	48		439
SUB TOTAL	3,119	1,206	904		3,421
STA.40+00.00 TO 53+50.00 -L-	2,538	1,380	7,551	5,013	1,380
STA.10+00.00 TO 13+50.00 -Y3-	263		302	39	
SUB TOTAL	2,801	1,380	7,853	5,052	1,380
STA.53+50.00 TO 65+00.00 -L-LT.	1,041	858	850		1,049
STA.14+50.00 TO 15+50.00 -Y5-	62	38	16		84
STA.11+00.00 TO 11+50.00 -Y6-	78		49		29
SUB TOTAL	1,181	896	915		1,162
STA.53+50.00 TO 65+00.00 -L-RT.	2,089	1,202	127		3,164
STA.10+50.00 TO 12+50.00 -Y4-	284	69	6		347
STA.13+00.00 TO 13+50.00 -Y6-	55		11		44
SUB TOTAL	2,428	1,271	144		3,555
STA.65+00.00 TO 72+57.94 -L-LT.	143	48	1,303	1,160	48
SUB TOTAL	143	48	1,303	1,160	48
STA.65+00.00 TO 72+57.94 -L-RT.	74	11	350	276	11
SUB TOTAL	74	11	350	276	11
TOTAL	17,171	5,582	16,423	9,038	15,368
LOSS DUE TO CLEAR.& GRUBBING	-4,000			4,000	
EARTH WASTE TO REP. BORROW				-9,786	-9,786
ESTIMATED SHOULDER MATERIAL			5,865	5,865	
ADDITIONAL UNDERCUT		450	518	518	450
PROJECT TOTALS	13,171	6,032	22,806	9,635	6,032
EST.FOR REPLACING TOPSOIL ON				482	
BORROW PITS					
GRAND TOTAL	13,171			10,117	
SAY	13,500			10,500	

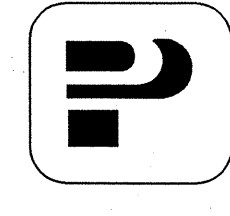


NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".

17-MAY-2006 14:35 48481 P:\PJ\U3313_RDY_SUM_03-06.DGN



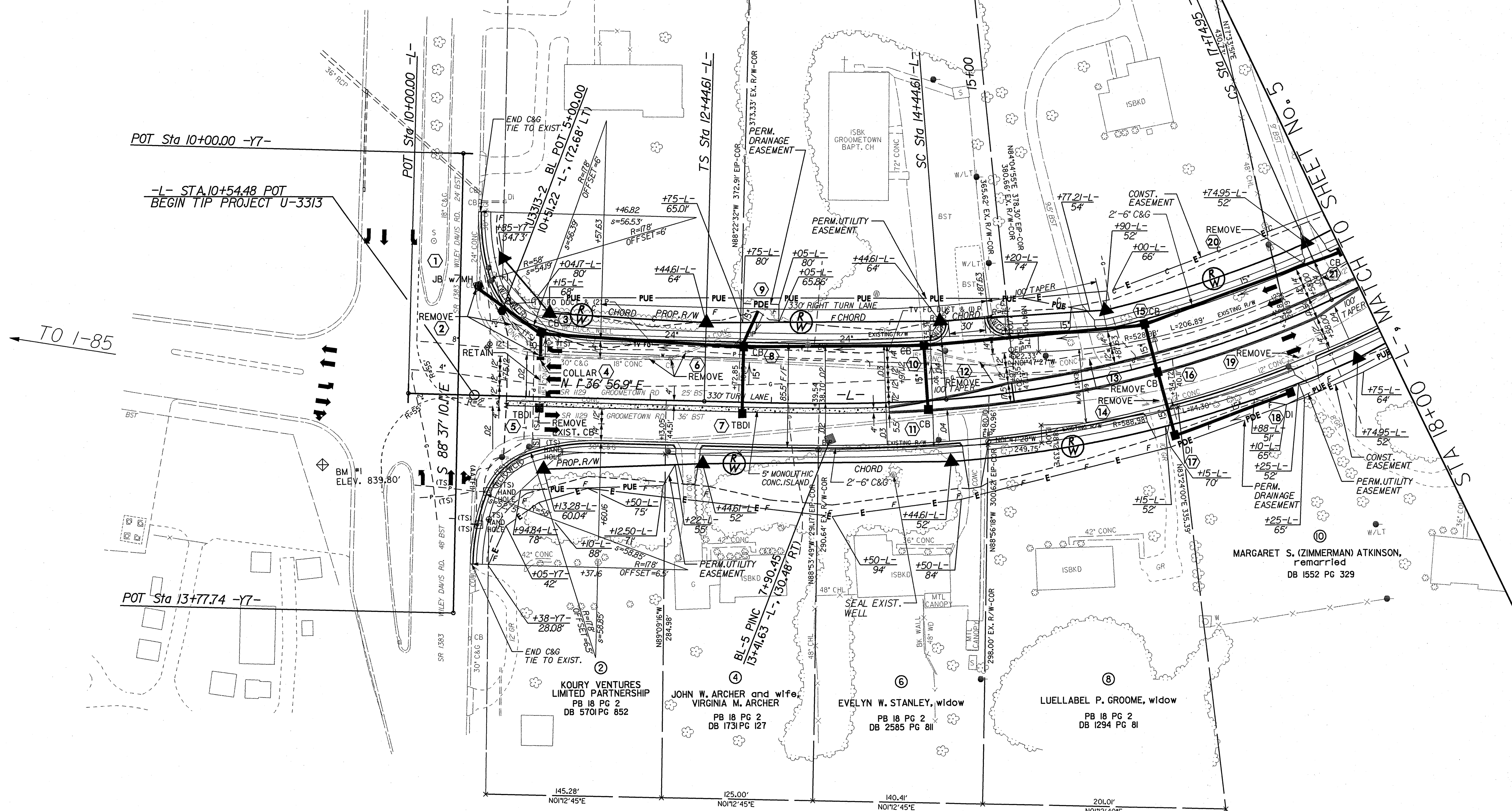
-L-
 P.I. = 16+17.27
 $\Delta = 3^\circ 49' 15.1''$ (LT)
 $L_s = 200.00'$
 $\theta_s = 6^\circ 00' 00.0''$
 $T_s = 372.67'$
 $L = 330.35'$
 $R = 954.930'$
 $U = 133.41'$
 $V = 66.74'$
 $e = 0.04$
 D.S. = 50.00 Mph



PLAN PREPARED BY:
PARSONS
 TRANSPORTATION GROUP
 Engineers and Planners
 5540 Centerville Drive Suite 217
 Raleigh, North Carolina 27606
 919.854.1345

PROJECT REFERENCE NO. U-3313	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 18284 W. HENRY WELLS	HYDRAULICS ENGINEER SEAL 18284 W. HENRY WELLS
05/06/06	5/5/06

NOTE:
 TIE EXISTING ROOF GUTTER DRAIN TO NEW DRAINAGE SYSTEM ON PARCEL NUMBER 5.

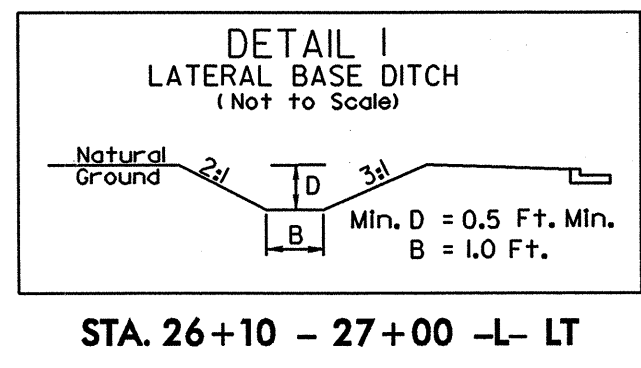
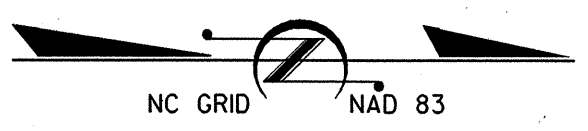


NOTE:
 USE RSD No. 852.05 FOR PLACEMENT OF CATCH BASINS IN 1'-6" MEDIAN C&G.
 USE RSD No. 852.06 FOR PLACEMENT OF DROP INLETS IN ISLANDS.

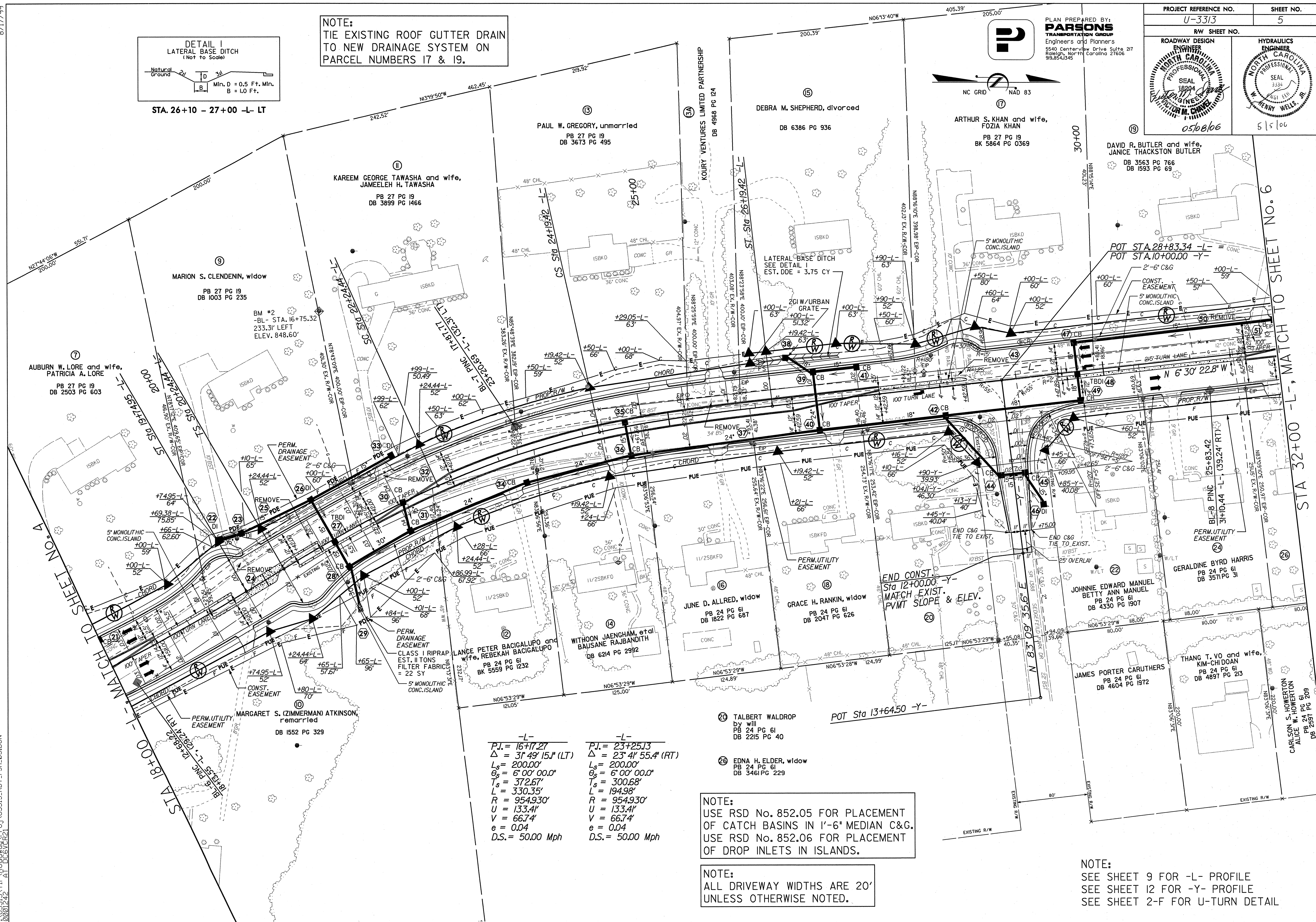
NOTE:
 ALL DRIVEWAY WIDTHS ARE 20' UNLESS OTHERWISE NOTED.

NOTE:
 SEE SHEET 9 FOR -L- PROFILE

PLAN PREPARED BY:
PARSONS
TRANSPORTATION GROUP
Engineers and Planners
5540 Centerville Drive Suite 217
Raleigh, North Carolina 27606
919.854.1345



NOTE:
TIE EXISTING ROOF GUTTER DRAIN
TO NEW DRAINAGE SYSTEM ON
PARCEL NUMBERS 17 & 19.



P.I. = 16+17.27	P.I. = 23+25.13
Δ = 31° 49' 15.1" (LT)	Δ = 23° 41' 55.4" (RT)
L _s = 200.00'	L _s = 200.00'
θ _s = 6° 00' 00.0"	θ _s = 6° 00' 00.0"
T _s = 372.67'	T _s = 300.68'
L = 330.35'	L = 194.98'
R = 954.930'	R = 954.930'
U = 133.41'	U = 133.41'
V = 66.74'	V = 66.74'
e = 0.04	e = 0.04
D.S. = 50.00 Mph	D.S. = 50.00 Mph

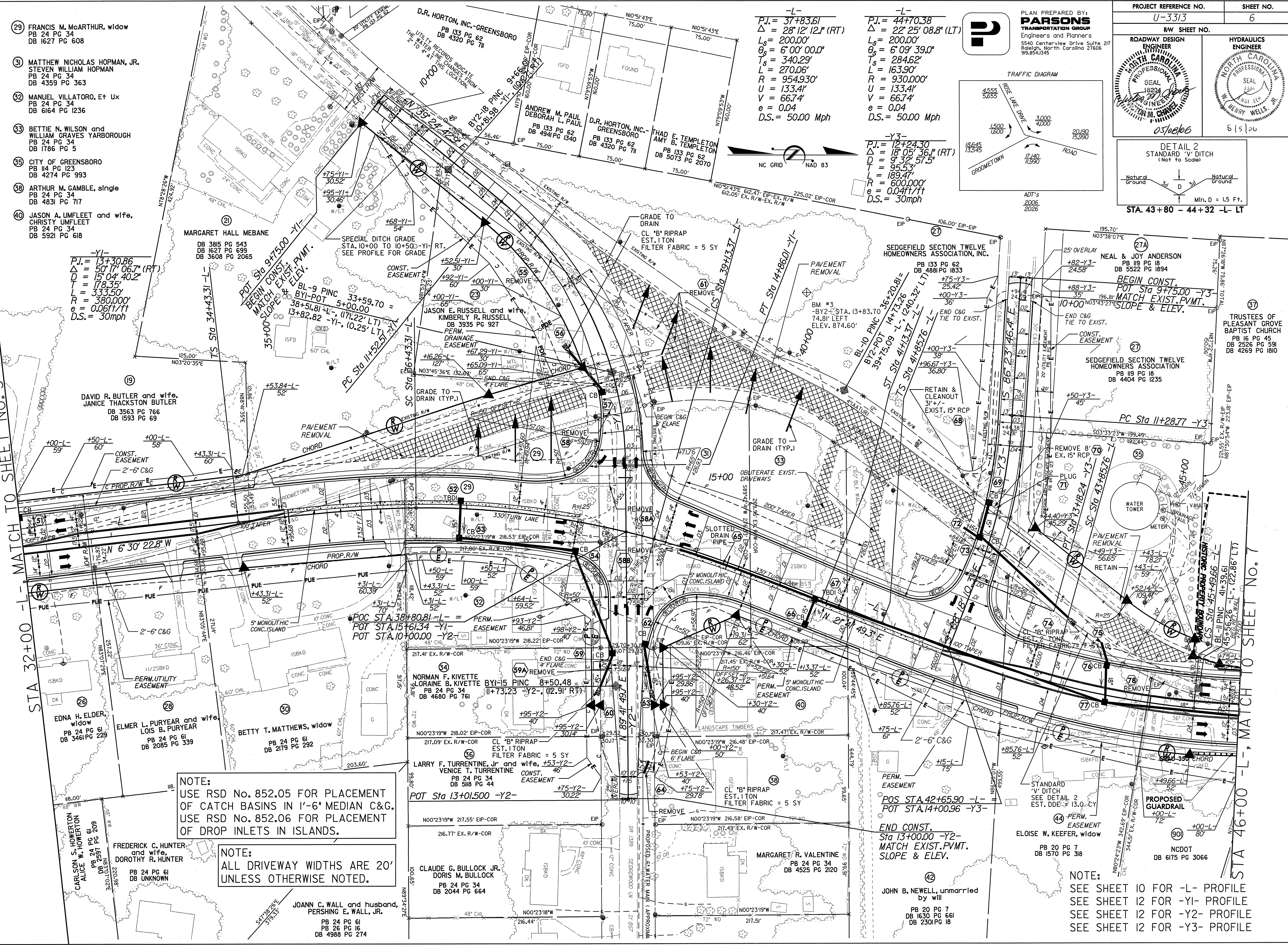
NOTE:
USE RSD No. 852.05 FOR PLACEMENT
OF CATCH BASINS IN 1'-6" MEDIAN C&G.
USE RSD No. 852.06 FOR PLACEMENT
OF DROP INLETS IN ISLANDS.

NOTE:
ALL DRIVEWAY WIDTHS ARE 20'
UNLESS OTHERWISE NOTED.

NOTE:
SEE SHEET 9 FOR -L- PROFILE
SEE SHEET 12 FOR -Y- PROFILE
SEE SHEET 2-F FOR U-TURN DETAIL

- 9 MARION S. CLENDENIN, widow
PB 27 PG 19
DB 1003 PG 235
- 10 MARGARET S. (ZIMMERMAN) ATKINSON, remarried
DB 1552 PG 329
- 11 KAREEM GEORGE TAWASHA and wife, JAMEELEH H. TAWASHA
PB 27 PG 19
DB 3899 PG 1466
- 12 LANCE PETER BACIGALUPO and wife, REBEKAH BACIGALUPO
PB 24 PG 61
BK 5559 PG 1232
- 13 PAUL W. GREGORY, unmarried
PB 27 PG 19
DB 3673 PG 495
- 14 WITHOON JAENGHAM, et al BAUSANE RAJBANDITH
DB 6214 PG 2992
- 15 DEBRA M. SHEPHERD, divorced
DB 6386 PG 936
- 16 JUNE D. ALLRED, widow
PB 24 PG 61
DB 1822 PG 687
- 17 ARTHUR S. KHAN and wife, FOZIA KHAN
PB 27 PG 19
BK 5864 PG 0369
- 18 GRACE H. RANKIN, widow
PB 24 PG 61
DB 2047 PG 626
- 19 TALBERT WALDROP
BY WILL
PB 24 PG 61
DB 2215 PG 40
- 20 EDNA H. ELDER, widow
PB 24 PG 61
DB 3461 PG 229
- 21 DAVID R. BUTLER and wife, JANICE THACKSTON BUTLER
DB 3563 PG 766
DB 1593 PG 69
- 22 JOHNIE EDWARD MANUEL BETTY ANN MANUEL
PB 24 PG 61
DB 4330 PG 1907
- 23 JAMES PORTER CARUTHERS
PB 24 PG 61
DB 4604 PG 1972
- 24 GERALDINE BYRD HARRIS
PB 24 PG 61
DB 3571 PG 31
- 25 THANG T. VO and wife, KIM-CHI DOAN
PB 24 PG 61
DB 4897 PG 213
- 26 CARLSON S. HOWERTON ALICE W. HOWERTON
PB 24 PG 61
DB 2557 PG 209

MATCH TO SHEET NO. 4 (left side)
MATCH TO SHEET NO. 6 (right side)
STA 18+00 -L- MATCH TO SHEET NO. 4
STA 32+00 -L- MATCH TO SHEET NO. 6

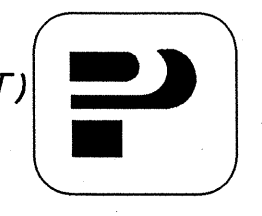


- 29 FRANCIS M. McARTHUR, widow
PB 24 PG 34
DB 1627 PG 608
- 31 MATTHEW NICHOLAS HOPMAN, JR.
STEVEN WILLIAM HOPMAN
PB 24 PG 34
DB 4359 PG 363
- 32 MANUEL VILLATORO, E+ Ux
PB 24 PG 34
DB 6164 PG 1236
- 33 BETTIE N. WILSON and
WILLIAM GRAVES YARBOROUGH
PB 24 PG 34
DB 1786 PG 5
- 35 CITY OF GREENSBORO
PB 14 PG 123
DB 4274 PG 993
- 36 ARTHUR M. GAMBLE, single
PB 24 PG 34
DB 4831 PG 717
- 40 JASON A. UMFLEET and wife,
CHRISTY UMFLEET
PB 24 PG 34
DB 5921 PG 618

-Y1-
P.I. = 13+30.86
Δ = 50°17'06.7" (RT)
L_s = 1504.40'
T = 178.35'
R = 333.50'
e = 0.0671/ft
D.S. = 30mph

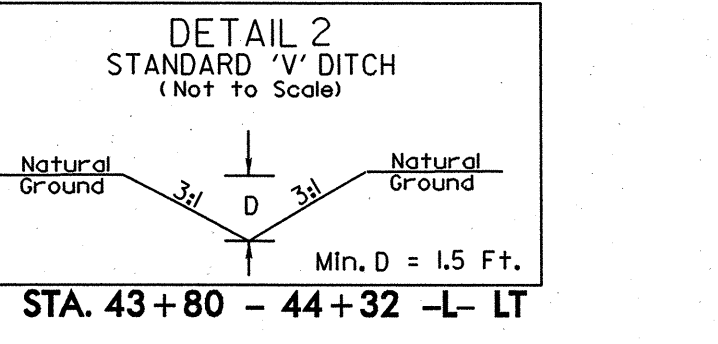
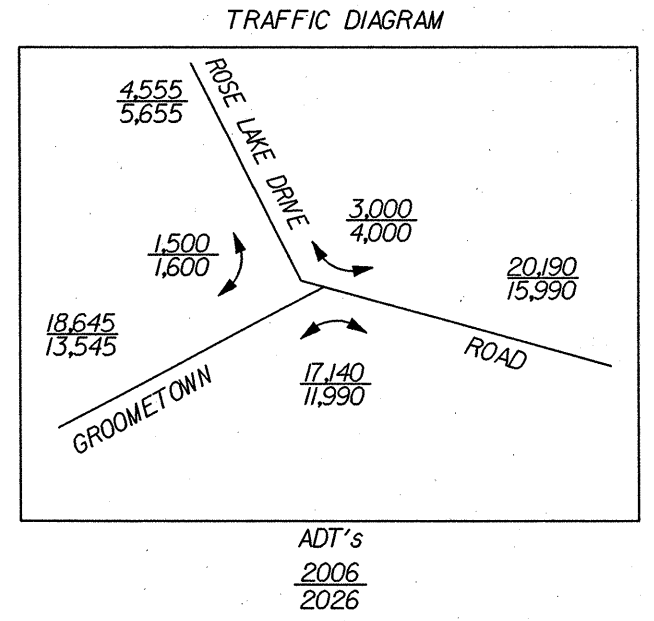
-L-
P.I. = 37+83.61
Δ = 28°12'12.1" (RT)
L_s = 200.00'
G_s = 6°00'00.0"
T_s = 340.29'
R = 270.06'
U = 954.930'
V = 133.41'
e = 0.04
D.S. = 50.00 Mph

-L-
P.I. = 44+70.38
Δ = 22°25'08.8" (LT)
L_s = 200.00'
G_s = 6°09'39.0"
T_s = 284.62'
R = 163.90'
U = 930.000'
V = 133.41'
e = 0.04
D.S. = 50.00 Mph



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PROJECT REFERENCE NO. U-3313	SHEET NO. 6
ROADWAY DESIGN ENGINEER SEAL MARTIN W. CHAMBERLAIN 12/20/06	HYDRAULICS ENGINEER SEAL HENRY WELLS, JR. 5/15/06



NOTE:
USE RSD No. 852.05 FOR PLACEMENT
OF CATCH BASINS IN 1'-6" MEDIAN C&G.
USE RSD No. 852.06 FOR PLACEMENT
OF DROP INLETS IN ISLANDS.

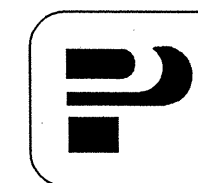
NOTE:
ALL DRIVEWAY WIDTHS ARE 20'
UNLESS OTHERWISE NOTED.

NOTE:
SEE SHEET 10 FOR -L- PROFILE
SEE SHEET 12 FOR -Y1- PROFILE
SEE SHEET 12 FOR -Y2- PROFILE
SEE SHEET 12 FOR -Y3- PROFILE

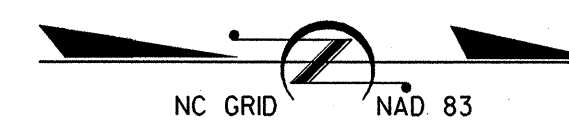
-L-
 P.I. = 44+70.38
 $\Delta = 22' 25" 08.8" (LT)$
 L_s = 200.00'
 G_s = 6' 09" 39.0"
 T_s = 284.62'
 L = 163.90'
 R = 930.000'
 U = 133.41'
 V = 66.74'
 e = 0.04
 D.S. = 50.00 Mph

-L-
 P.I. = 57+08.08
 $\Delta = 3' 02' 38.3" (RT)$
 L = 200.00'
 T = 212.56'
 L = 425.02'
 R = 8,000.000'
 e = n.c.
 D.S. = 50mph

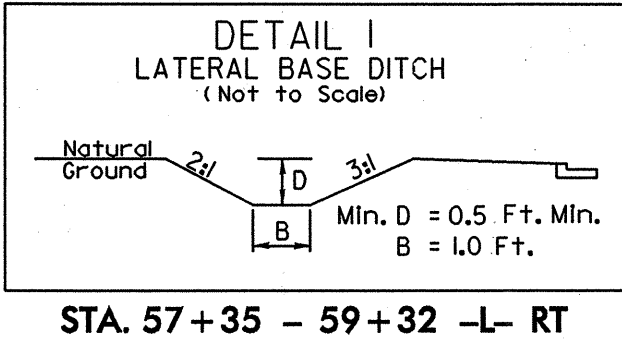
-Y4-
 P.I. = 11+29.06
 $\Delta = 6' 15' 37.0" (LT)$
 L = 6' 21' 58.3"
 T = 49.22'
 L = 98.34'
 R = 900.000'
 e = 0.03ft/ft
 D.S. = 30mph



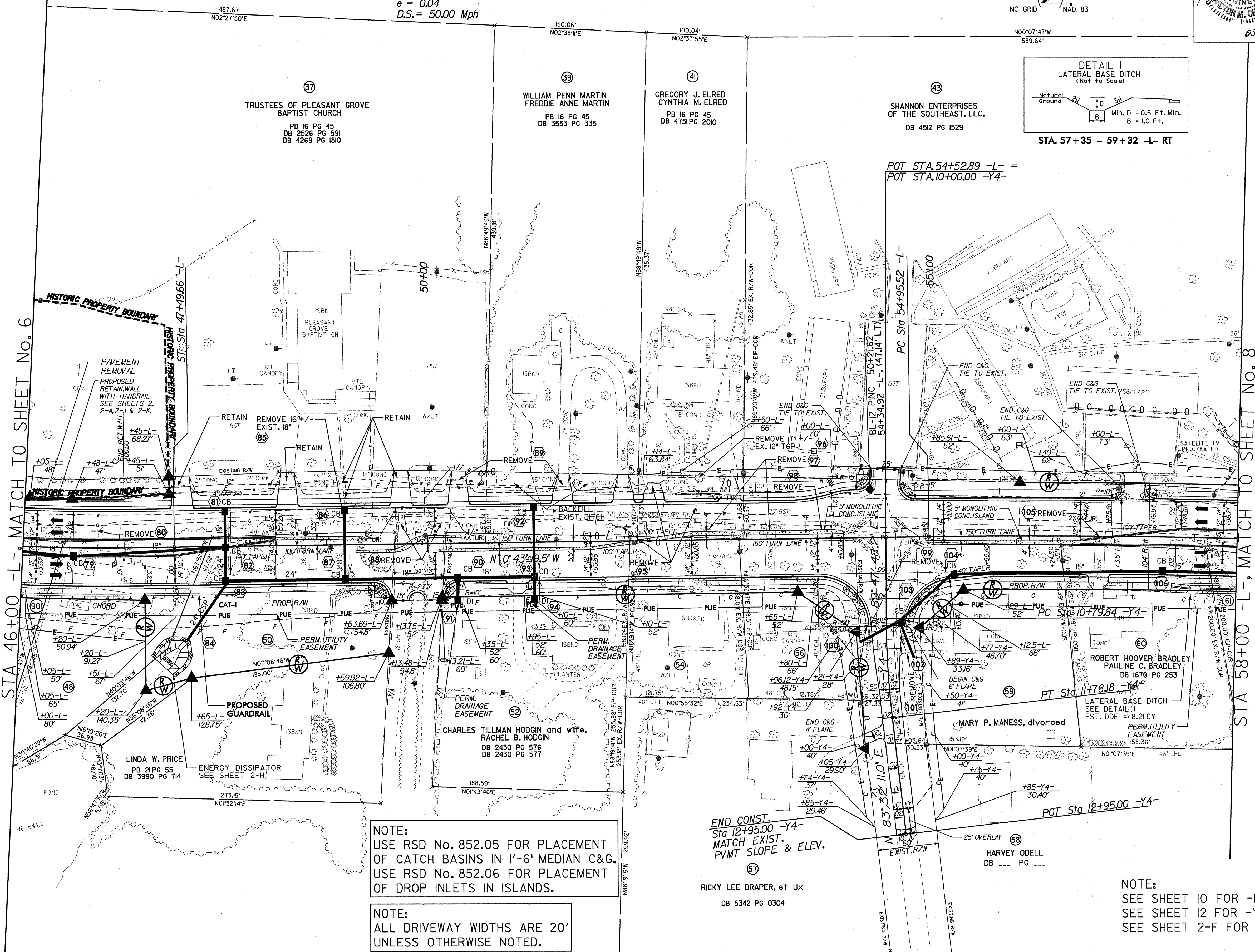
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 Raleigh, North Carolina 27606
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PROJECT REFERENCE NO. U-3313	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 18000 FOR THE STATE OF NORTH CAROLINA OSLO/AC	HYDRAULICS ENGINEER SEAL 3334 FOR THE STATE OF NORTH CAROLINA HERRY WELLS, JR. 5/16/06



STA. 57+35 - 59+32 -L- RT



NOTE:
 USE RSD No. 852.05 FOR PLACEMENT
 OF CATCH BASINS IN 1'-6" MEDIAN C&G.
 USE RSD No. 852.06 FOR PLACEMENT
 OF DROP INLETS IN ISLANDS.

NOTE:
 ALL DRIVEWAY WIDTHS ARE 20'
 UNLESS OTHERWISE NOTED.

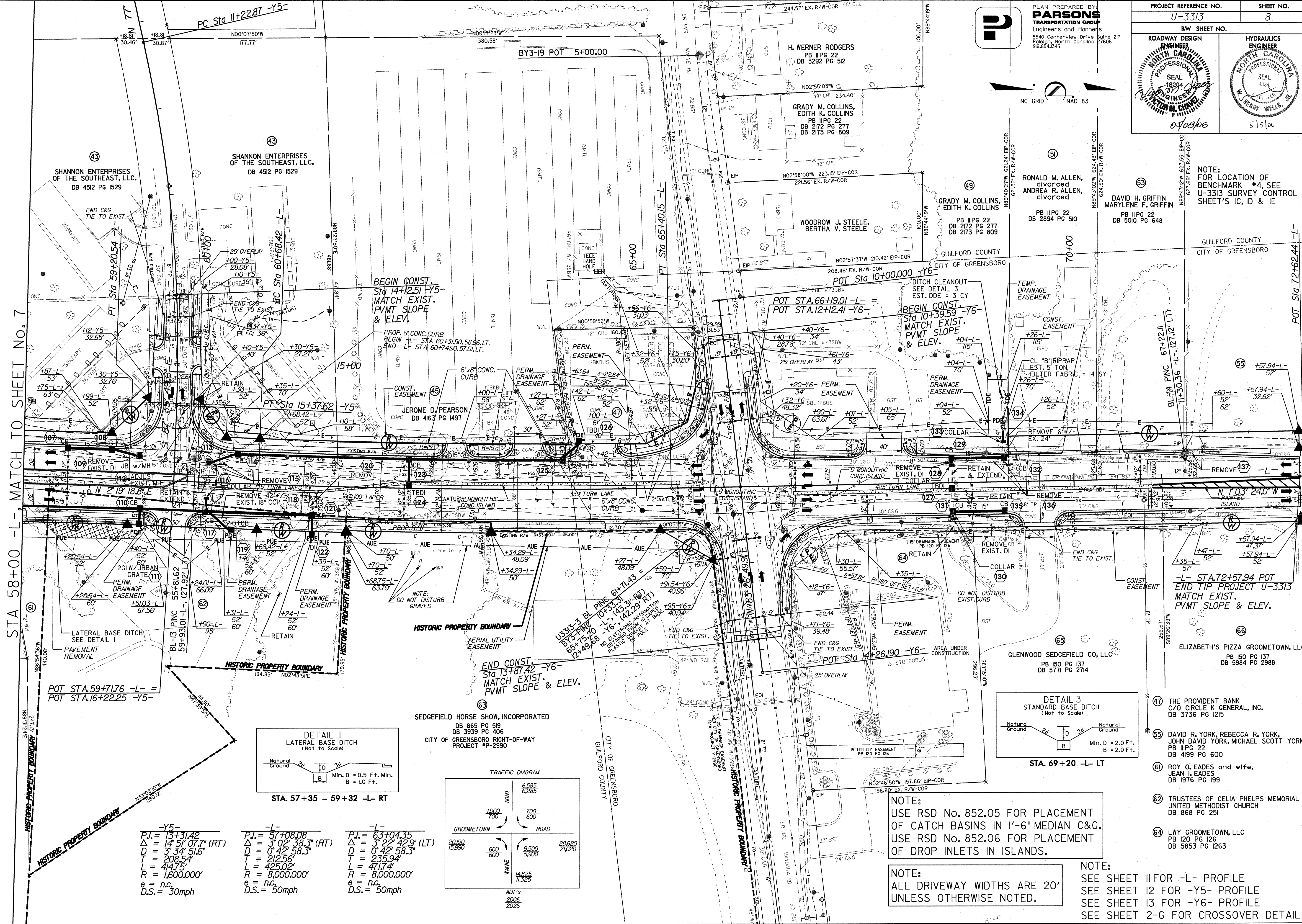
END CONST.
 Sta 12+95.00 -Y4-
 MATCH EXIST.
 PVMT SLOPE & ELEV.

⑦
 RICKY LEE DRAPER, et Ux
 DB 5342 PG 0304

⑨
 HARVEY ODELL
 DB --- PG ---

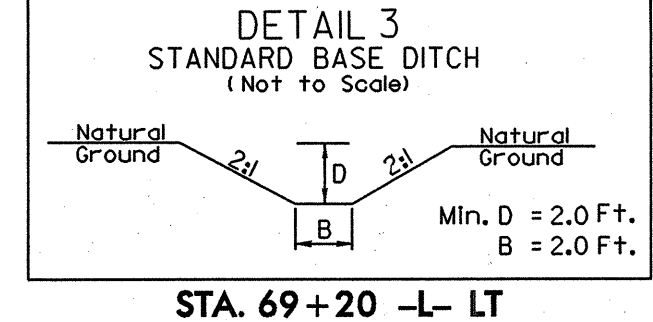
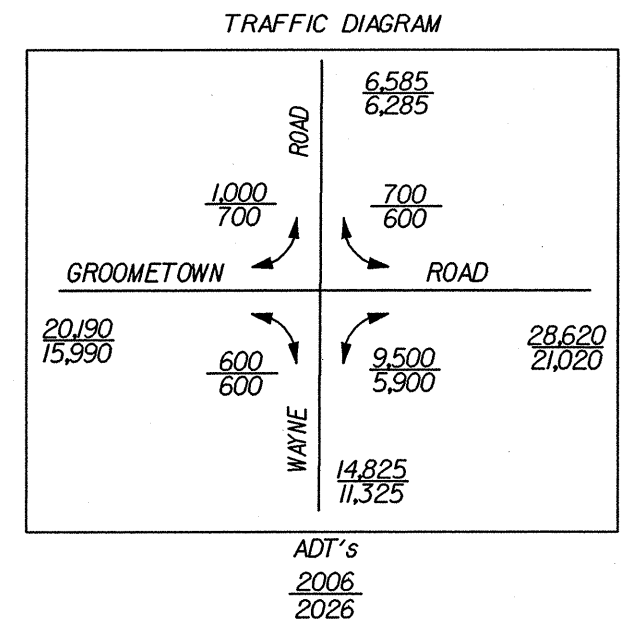
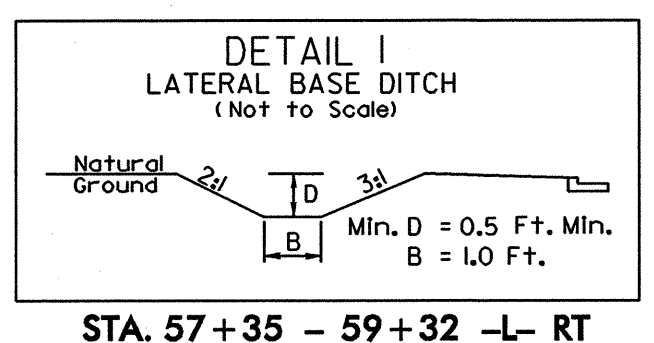
- ④⑧ NORMAN B. BOYLES, SR. and wife, CATHARINE BOYLES
PB 21 PG 55
DB 4633 PG 842
- ⑤⑩ KAREN YOUNTS, Et Vir
PB 21 PG 55
DB 3127 PG 833
- ⑤④ RONALD E. PETTY, SR. BETTY B. PETTY
DB 4734 PG 1766
- ⑤⑨ WILLIAM WALKER, Et Ux
DB 5381 PG 0441
- ⑥① ROY O. EADES and wife, JEAN L. EADES
DB 1976 PG 199
- ⑥⑩ NCDOT
DB 6175 PG 3066

NOTE:
 SEE SHEET 10 FOR -L- PROFILE
 SEE SHEET 12 FOR -Y4- PROFILE
 SEE SHEET 2-F FOR CROSSOVER DETAIL



STA 58+00 -L- MATCH TO SHEET No. 7

-Y5-	-L-	-L-
P.I. = 13+31.42	P.I. = 57+08.08	P.I. = 63+04.35
Δ = 14° 51' 07.7" (RT)	Δ = 3° 02' 38.3" (RT)	Δ = 3° 22' 42.9" (LT)
D = 3' 34.516'	D = 0' 42' 58.3"	D = 0' 42' 58.3"
T = 208.54'	T = 212.56'	T = 235.94'
L = 414.75'	L = 425.02'	L = 471.74'
R = 1,600.000'	R = 8,000.000'	R = 8,000.000'
e = n.c.	e = n.c.	e = n.c.
D.S. = 30mph	D.S. = 50mph	D.S. = 50mph



NOTE:
USE RSD No. 852.05 FOR PLACEMENT OF CATCH BASINS IN 1'-6" MEDIAN C&G.
USE RSD No. 852.06 FOR PLACEMENT OF DROP INLETS IN ISLANDS.

NOTE:
ALL DRIVEWAY WIDTHS ARE 20' UNLESS OTHERWISE NOTED.

NOTE:
SEE SHEET IIF FOR -L- PROFILE
SEE SHEET I2 FOR -Y5- PROFILE
SEE SHEET I3 FOR -Y6- PROFILE
SEE SHEET 2-C FOR CROSSOVER DETAIL

PLAN PREPARED BY:
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PROJECT REFERENCE NO. U-3313	SHEET NO. 8
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 09/28/06	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 5/15/06

NOTE:
FOR LOCATION OF BENCHMARK #4, SEE U-3313 SURVEY CONTROL SHEET'S IC, ID & IE

- (17) THE PROVIDENT BANK
C/O CIRCLE K GENERAL, INC.
DB 3736 PG 1215
- (18) DAVID R. YORK, REBECCA R. YORK,
JOHN DAVID YORK, MICHAEL SCOTT YORK
PB IIPG 22
DB 4199 PG 600
- (19) ROY O. EADES and wife,
JEAN L. EADES
DB 1976 PG 199
- (20) TRUSTEES OF CELIA PHELPS MEMORIAL
UNITED METHODIST CHURCH
DB 868 PG 251
- (21) LWY GROOMETOWN, LLC
PB 120 PG 126
DB 5853 PG 1263

SHANNON ENTERPRISES OF THE SOUTHEAST, LLC.
DB 4512 PG 1529

SHANNON ENTERPRISES OF THE SOUTHEAST, LLC.
DB 4512 PG 1529

H. WERNER RODGERS
PB IIPG 22
DB 3292 PG 512

GRADY M. COLLINS,
EDITH K. COLLINS
PB IIPG 22
DB 2172 PG 277
DB 2173 PG 809

GRADY M. COLLINS,
EDITH K. COLLINS
PB IIPG 22
DB 2172 PG 277
DB 2173 PG 809

RONALD M. ALLEN,
divorced
ANDREA R. ALLEN,
divorced
PB IIPG 22
DB 2894 PG 510

DAVID H. GRIFFIN
MARYLENE F. GRIFFIN
PB IIPG 22
DB 5010 PG 648

BEGIN CONST.
Sta 14+12.51 -Y5-
MATCH EXIST.
P.V.M.T. SLOPE & ELEV.

JEROME D. PEARSON
CONC
DB 4163 PG 1497

POT STA.66+19.01 -L- =
POT STA.12+12.41 -Y6-

BEGIN CONST.
Sta 10+39.59 -Y6-
MATCH EXIST.
P.V.M.T. SLOPE & ELEV.

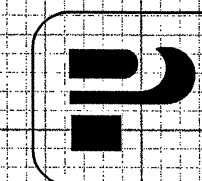
END CONST.
Sta 13+87.42 -Y6-
MATCH EXIST.
P.V.M.T. SLOPE & ELEV.

-L- STA.72+57.94 POT
END TIP PROJECT U-3313
MATCH EXIST.
P.V.M.T. SLOPE & ELEV.

5/28/99

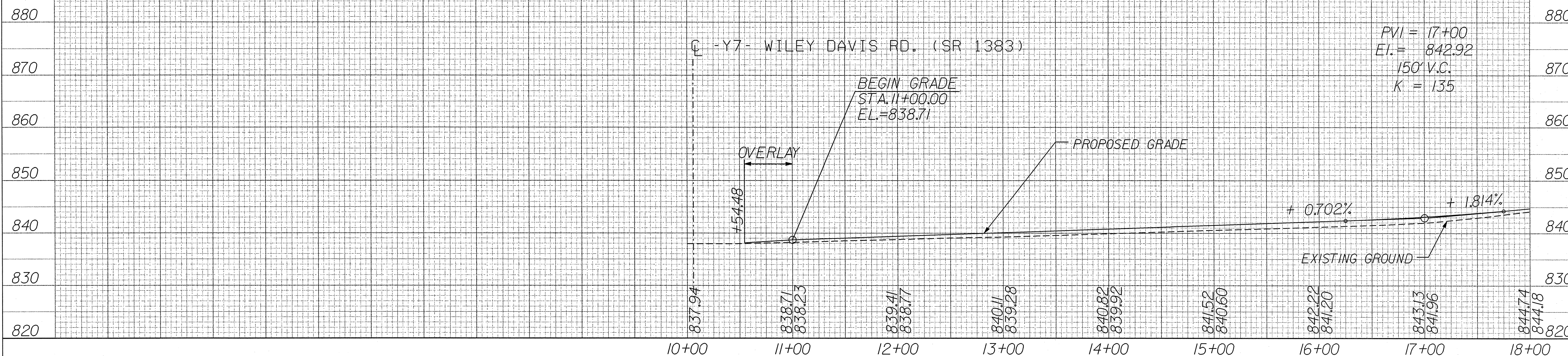
BM #1
RAILROAD SPIKE IN BASE OF POWER POLE
30' +/- RIGHT OF GROOMTOWN RD. CURB
AT INTERSECTION WITH WILEY DAVIS RD.
ELEV. = 839.80'

-L- PROFILE



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PROJECT REFERENCE NO. U-3313	SHEET NO. 9
ROADWAY DESIGN ENGINEER SEAL 15204 VICTOR M. CHENEY 05/08/06	HYDRAULICS ENGINEER SEAL 9334 W. HENRY WELLS, JR. 5/15/06

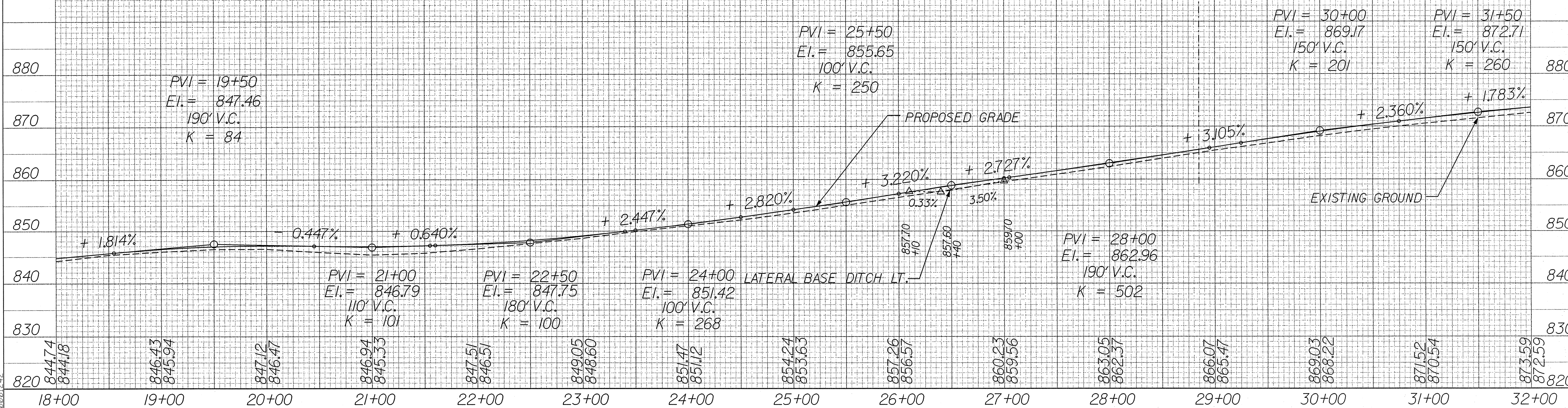


BM #2
-BL- STA. 16+75.32, 233.31' LT.
RAILROAD SPIKE IN BASE OF POWER POLE
207' LEFT OF EDGE OF PAVEMENT OF
GROOMTOWN RD. AT RESIDENCE # 4110
ELEV. = 848.60'

-L- PROFILE

PVI = 26+50
El. = 858.87
100' V.C.
K = 203

-Y- (SR 1388)



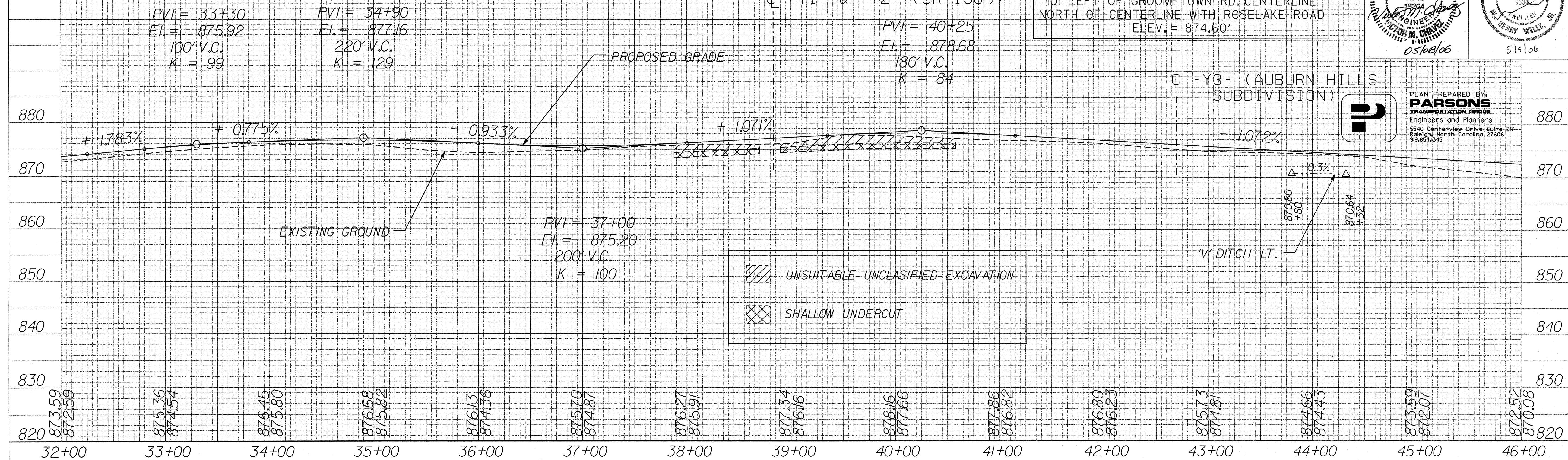
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5/28/00 2:42

5/28/99

PROJECT REFERENCE NO. U-3313		SHEET NO. 10	
ROADWAY DESIGN ENGINEER 		HYDRAULICS ENGINEER 	

-L- PROFILE

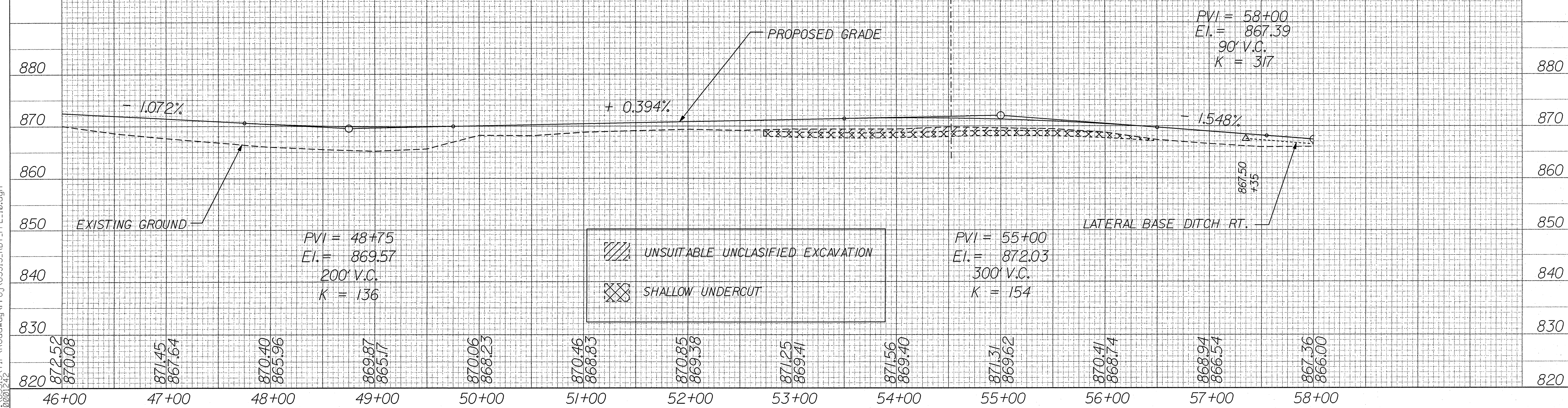
BM #3
 -BY2- STA. 13+83.70, 74.81' LT.
 RAILROAD SPIKE IN BASE OF 8" MAPLE
 101' LEFT OF GROOMETOWN RD. CENTERLINE
 NORTH OF CENTERLINE WITH ROSELAKE ROAD
 ELEV. = 874.60'



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-L- PROFILE

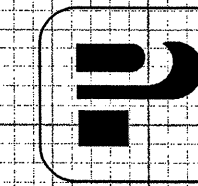
Q -Y4- (SR 1390)



94-MAY-2006 15:23
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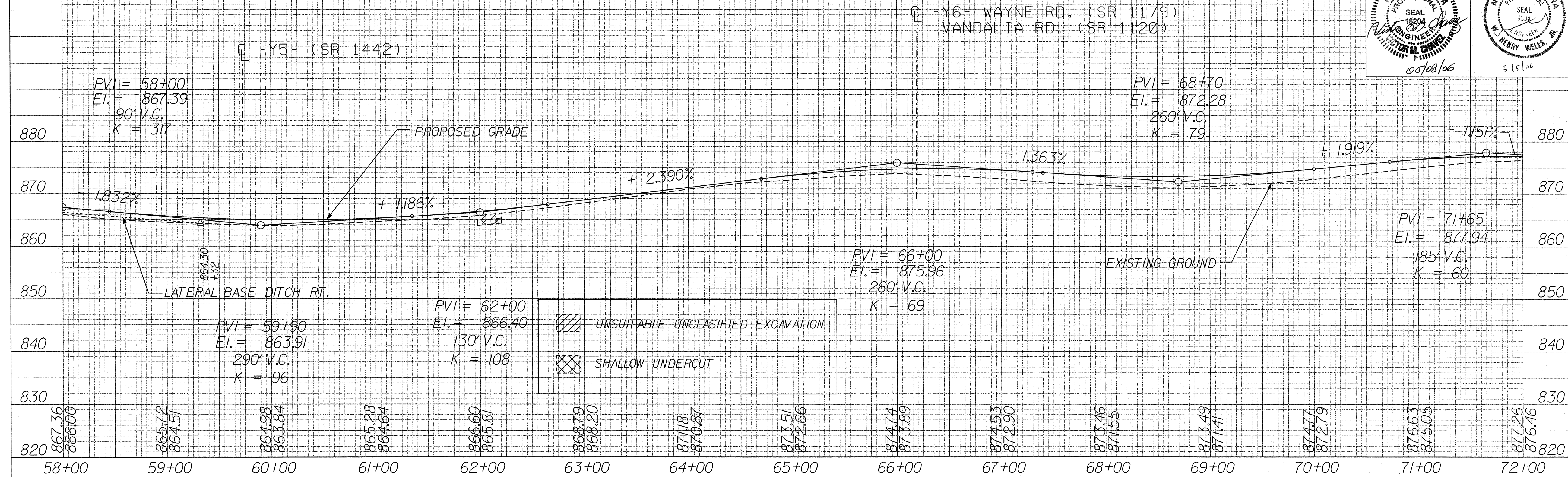
5/28/99

-L- PROFILE

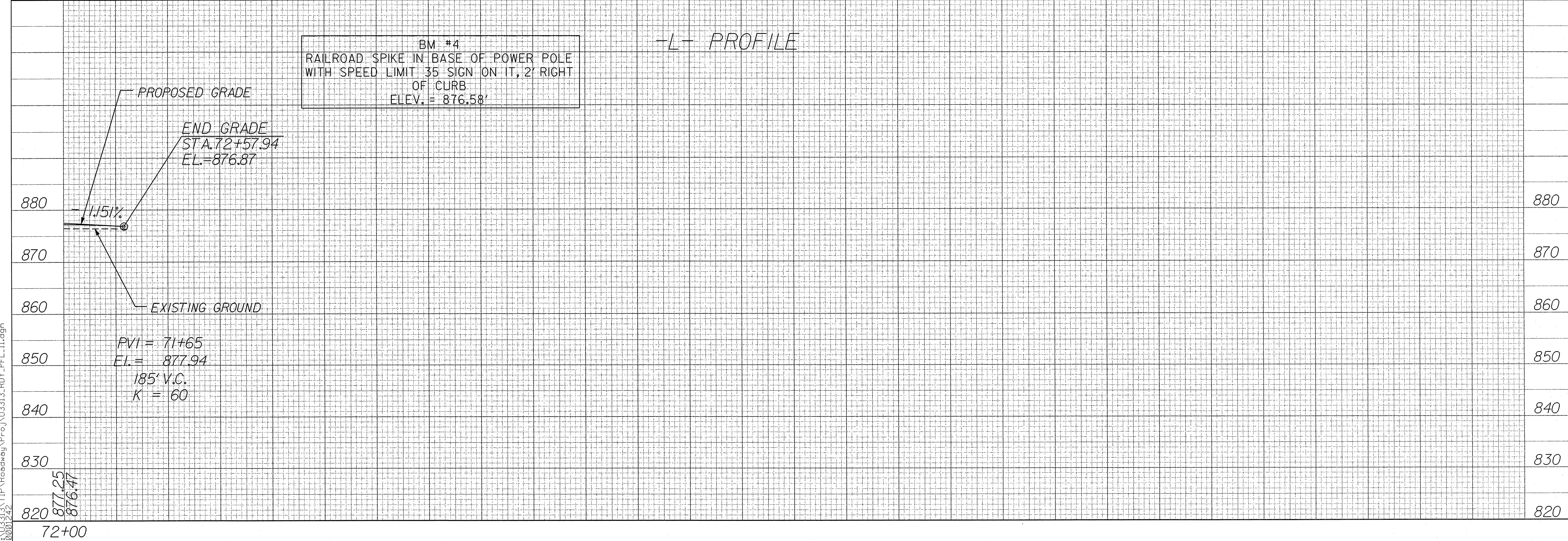


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PROJECT REFERENCE NO. U-3313		SHEET NO. 11	
ROADWAY DESIGN ENGINEER SEAL 18204 W. HENRY WELLS, III	HYDRAULICS ENGINEER SEAL 9334 W. HENRY WELLS, III	05/08/06	



-L- PROFILE



04-MAY-2006 15:24 J:\U3313\TIP\Roadway\Proj\U3313-RDY_PFL_11.dgn 5/28/06 2:42

5/28/99

-Y- (SR 1388)

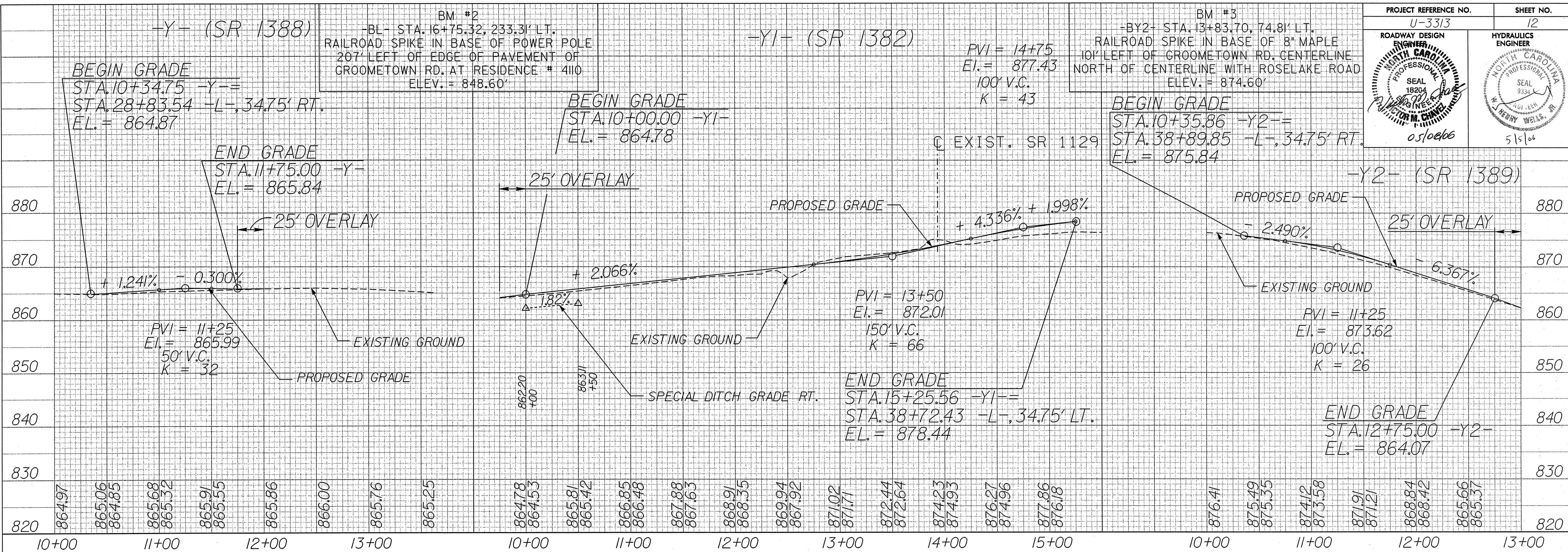
BM #2
-BL- STA. 16+75.32, 233.3' LT.
RAILROAD SPIKE IN BASE OF POWER POLE
207' LEFT OF EDGE OF PAVEMENT OF
GROOMTOWN RD. AT RESIDENCE # 4110.
ELEV. = 848.60'

-Y1- (SR 1382)

PVI = 14+75
Ei. = 877.43
100' V.C.
K = 43

BM #3
-BY2- STA. 13+83.70, 74.8' LT.
RAILROAD SPIKE IN BASE OF 8" MAPLE
101' LEFT OF GROOMTOWN RD. CENTERLINE
NORTH OF CENTERLINE WITH ROSELAKE ROAD
ELEV. = 874.60'

PROJECT REFERENCE NO. U-3313	SHEET NO. 12
ROADWAY DESIGN ENGINEER SEAL 18204 W. HENRY WELLS, JR. 05/06/66	HYDRAULICS ENGINEER SEAL 9336 W. HENRY WELLS, JR. 5/6/06



-Y3- (SR 4225)

BEGIN GRADE
STA. 10+00.00 -Y3- =
EL. = 874.10

END GRADE
STA. 13+66.20 -Y3- =
STA. 42+66.50 -L-,
34.75' LT.
EL. = 875.53

-Y4- (SR 1390)

PVI = 10+45
Ei. = 871.13
20' V.C.
K = 24

END GRADE
STA. 12+70.00 -Y4- =
EL. = 876.70

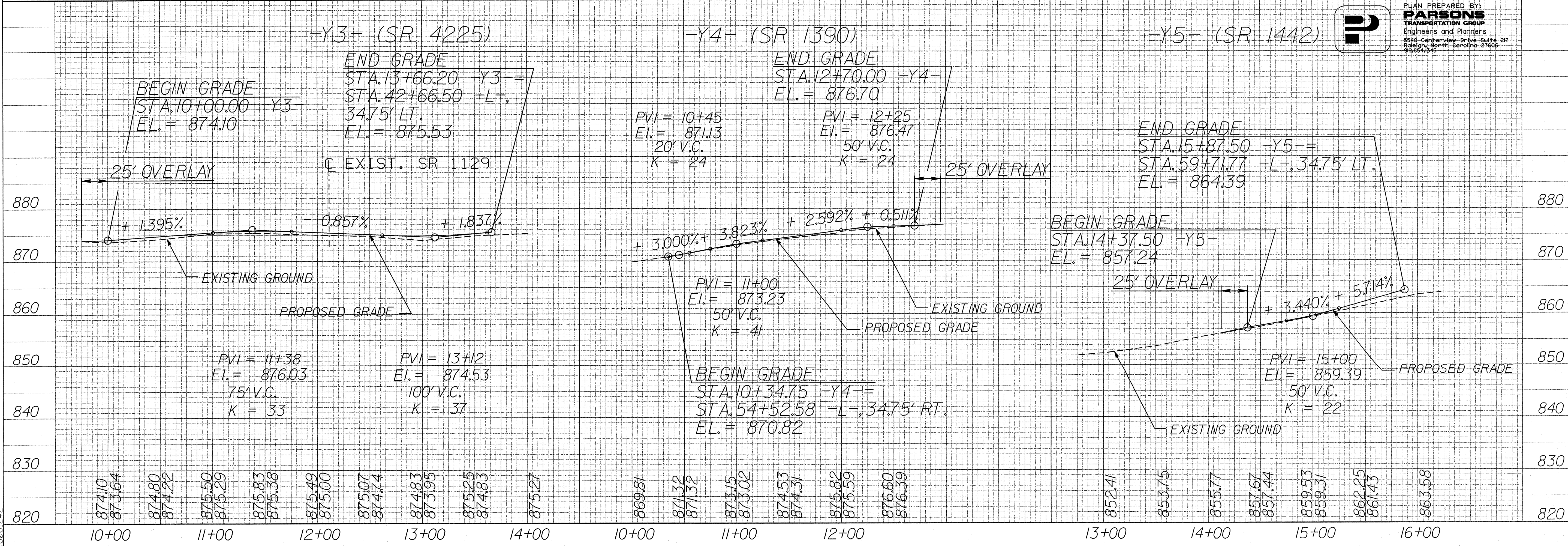
PVI = 12+25
Ei. = 876.47
50' V.C.
K = 24

-Y5- (SR 1442)

END GRADE
STA. 15+87.50 -Y5- =
STA. 59+71.77 -L-, 34.75' LT.
EL. = 864.39

BEGIN GRADE
STA. 14+37.50 -Y5- =
EL. = 857.24

PVI = 15+00
Ei. = 859.39
50' V.C.
K = 22

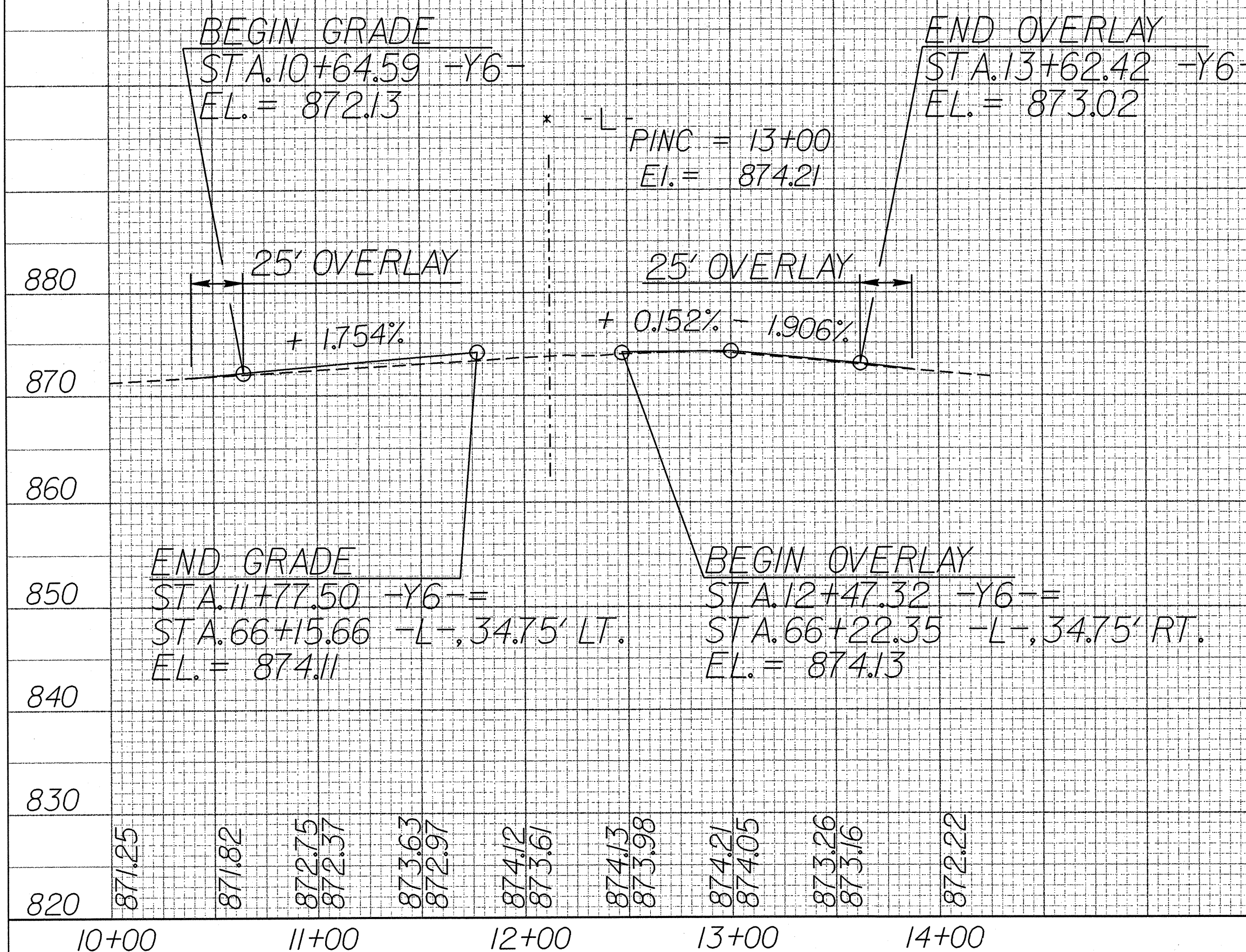


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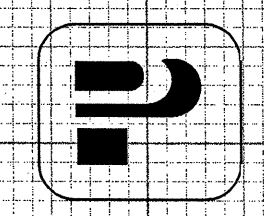
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5/28/99

-Y6- (SR 1120)



BM #3
-BY2- STA. 13+83.70, 74.81' LT.
RAILROAD SPIKE IN BASE OF 8" MAPLE
101' LEFT OF GROOMETOWN RD. CENTERLINE
NORTH OF CENTERLINE WITH ROSELAKE ROAD
ELEV. = 874.60'



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919.874.1345

PROJECT REFERENCE NO. U-3313	SHEET NO. 13
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 16204 W. T. CHINE	HYDRAULICS ENGINEER
05/08/06	

BM #4
RAILROAD SPIKE IN BASE OF POWER POLE
WITH SPEED LIMIT 35 SIGN ON IT, 2' RIGHT
OF CURB
ELEV. = 876.58'

04-MAY-2006 15:24
J:\U3313\TP\Roadway\Proj\U3313.RDY_PFL_13.dgn
5/28/06