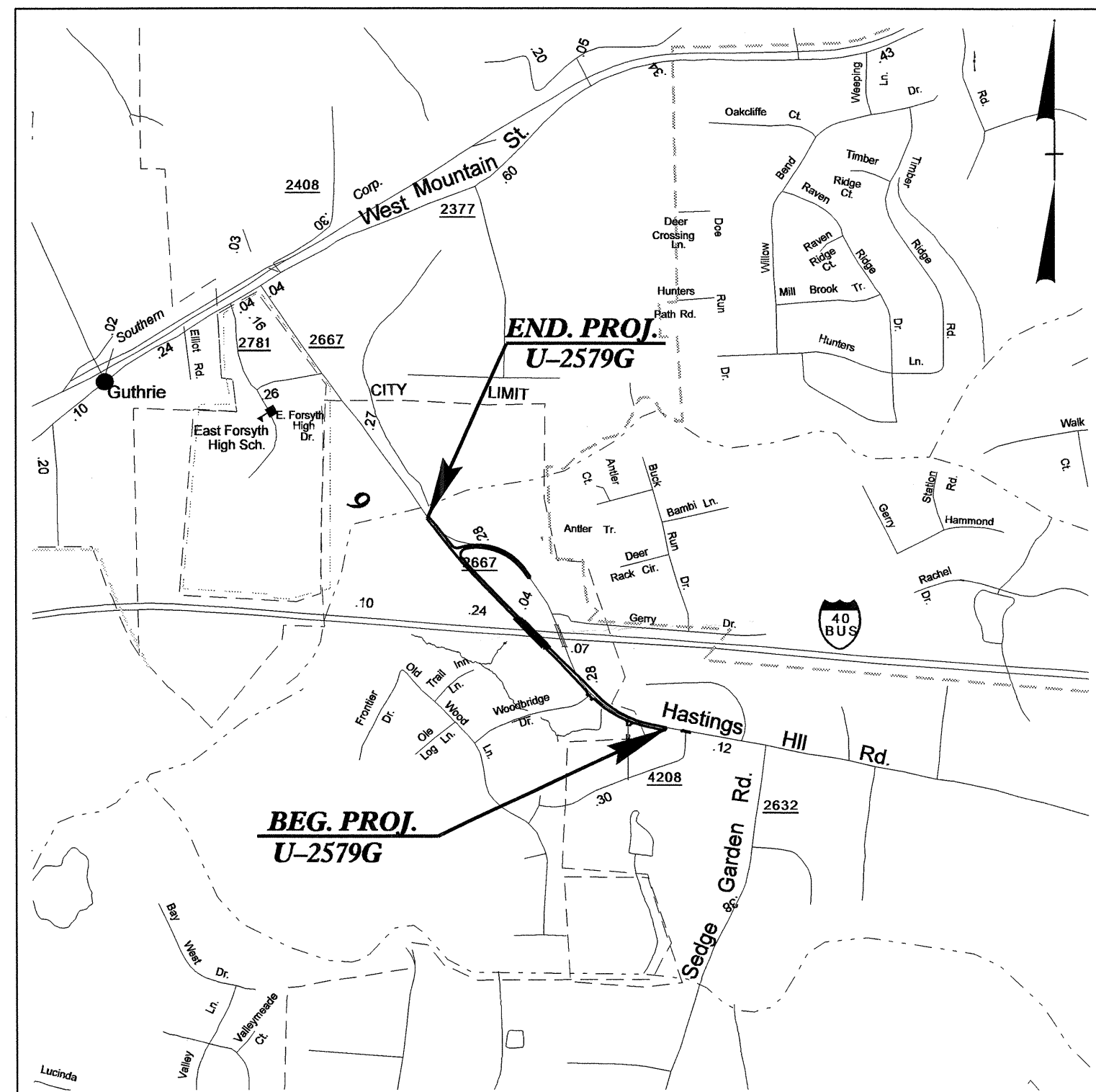


See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbol

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
FORSYTH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2579G	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34839.1.1		PE	
34839.2.15	* MULTIPLE	R/W & UTIL	
34839.3.10	HPPNHF-0918(46)	CONST	
* F.A. PROJ. NO. DESCRIPTION			
HPPNHF-0918(46)			
HPP-0918(80)			
HPP-0918(87)			

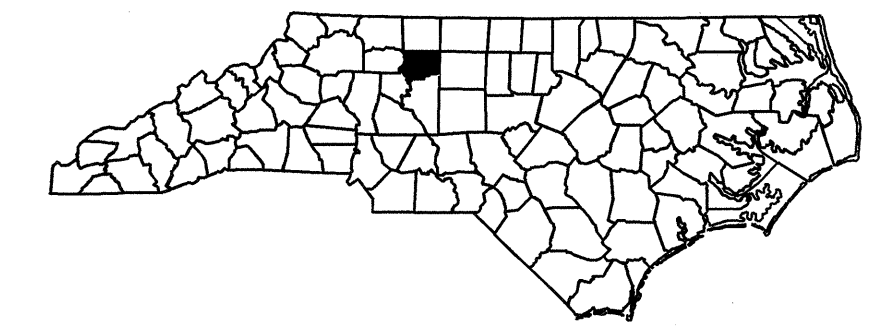
TIP PROJECT: U-2579G



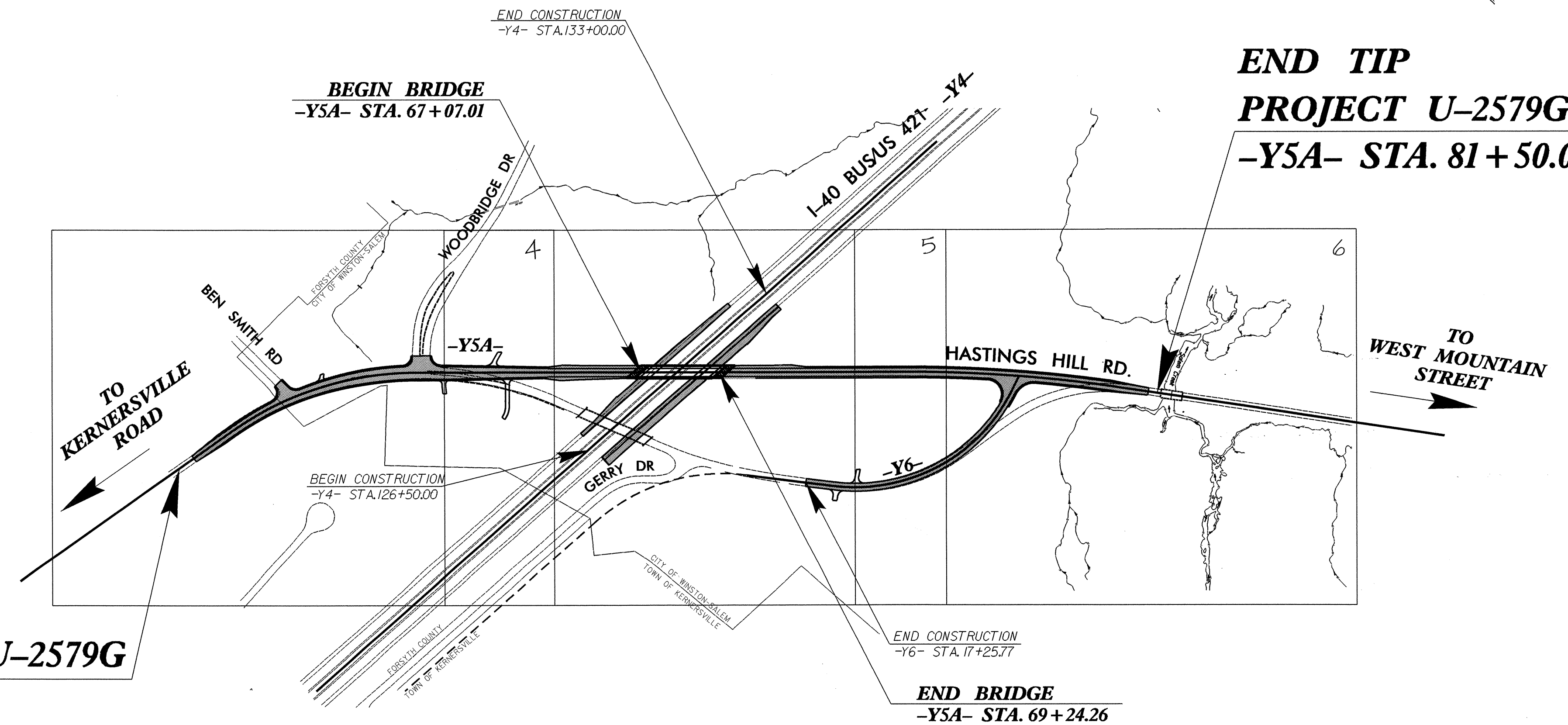
VICINITY MAP SHOWING LOCATION OF PROJECT U-2579G

**LOCATION: BRIDGE NO. 366 ON SR 2667 (HASTINGS HILL RD)
OVER I-40 BUS/US 421**

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



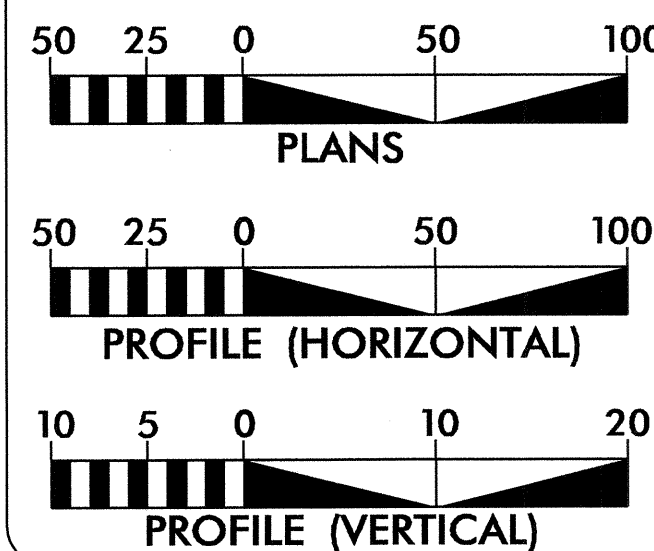
**END TIP
PROJECT U-2579G
-Y5A- STA. 81 + 50.00**



**BEG. TIP PROJECT U-2579G
-Y5A- STA. 53 + 48.46**

THERE IS PARTIAL CONTROL OF ACCESS ON THIS PROJECT

GRAPHIC SCALES



DESIGN DATA

ADT 2012	=	5,560
ADT 2032	=	8,600
DHV	=	11 %
D	=	60 %
T	=	3 % *
V	=	40 MPH
* TTST	=	1 % DUAL 2 %
STATEWIDE TIER FUNC CLASS = RURAL LOCAL		

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT U-2579B	=	0.490 Miles
LENGTH OF STRUCTURE PROJECT U-2579B	=	0.041 Miles
TOTAL LENGTH OF PROJECT U-2579B	=	0.531 Miles

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

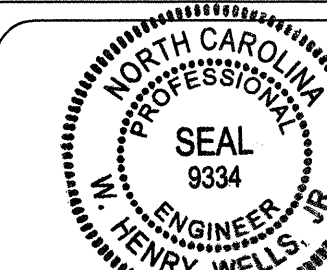
2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
December 21, 2010

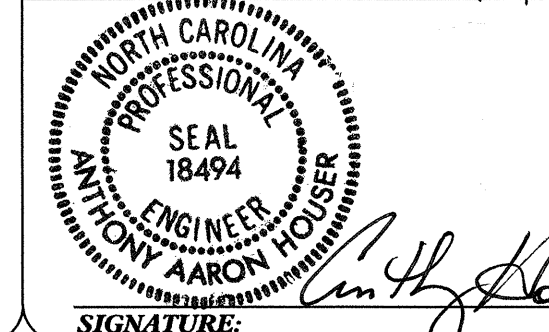
LETTING DATE:
October 16, 2012

TONY HOUSER, PE
PROJECT ENGINEER

LEE ANN MOORE
PROJECT DESIGN ENGINEER



SIGNATURE: *Henry Wells* 8/16/12

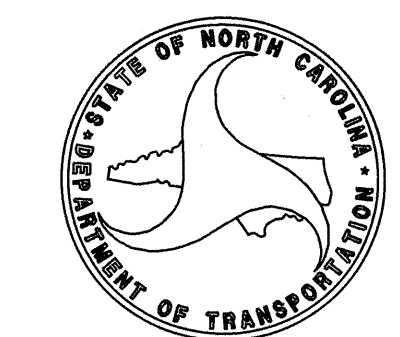


SIGNATURE: *Tony Houser* 8-1-12

**HYDRAULICS
ENGINEER**

**ROADWAY
DESIGN
ENGINEER**

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

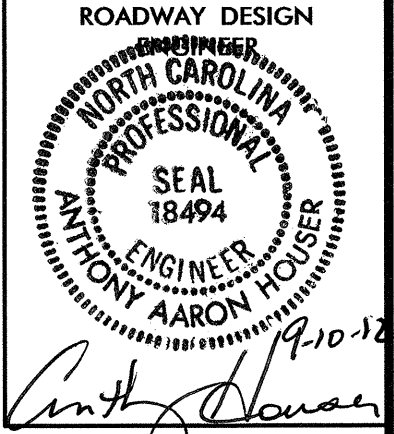


STATE HIGHWAY DESIGN ENGINEER

09/08/99

01-AUC-2012 14:08 P:\PROJECTS\U2579G\U2579g_rdy_tsh.dgn \$\$\$\$USERNAME\$\$\$\$

CONTRACT: C203015



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-F	SURVEY CONTROL SHEETS
1-G	CENTERLINE COORDINATE LIST
2 THRU 2-B	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-C	STRUCTURE RECOMMENDATIONS
2-D	STANDARD TEMPORARY SHORING
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF EARTHWORK, SUMMARY OF PAVEMENT REMOVAL, SHOULDER BERM GUTTER SUMMARY, GUARDRAIL SUMMARY, BREAKING OF PAVEMENT SUMMARY, AND SUMMARY OF WOVEN WIRE FENCE
3-B THRU 3-C	DRAINAGE SUMMARY
3-D	PARCEL INDEX SHEET
4 THRU 6	PLAN SHEETS
7 THRU 11	PROFILE SHEETS
TMP-1 THRU TMP-7	TRANSPORTATION MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-9	EROSION CONTROL PLANS
SIGN-1	SIGNING PLANS
SD-1	WORK ZONE SIGNS
UC-1 THRU UC-7	UTILITY CONSTRUCTION PLANS
UD-1 THRU UD-4	UTILITIES BY OTHERS PLANS
X-A	CROSS-SECTION INDEX SHEET
X-B	CROSS-SECTION SUMMARY
X-1 THRU X-61	CROSS-SECTIONS
S-1 THRU S-29	STRUCTURE PLANS
W-1 THRU W-7	WALL PLANS

GENERAL NOTES

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 11/01/11

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

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

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

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

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

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

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

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

END BENTS:
THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE:
AT&T
CITY OF WINSTON-SALEM
DUKE ENERGY
PIEDMONT NATURAL GAS
TIME WARNER CABLE

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

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

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.22	Frames and Wide Slot Sag Grates
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
857.01	Precast Reinforced Concrete Barrier - 41" Single Faced
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
866.02	Woven Wire Fence - with Wood Post
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

04/16/11

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	①23
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-w.l.b.-
Proposed Wetland Boundary	-w.l.b.-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ?

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
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 RW Marker	-----
Proposed Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
Proposed Control of Access	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb 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	-----

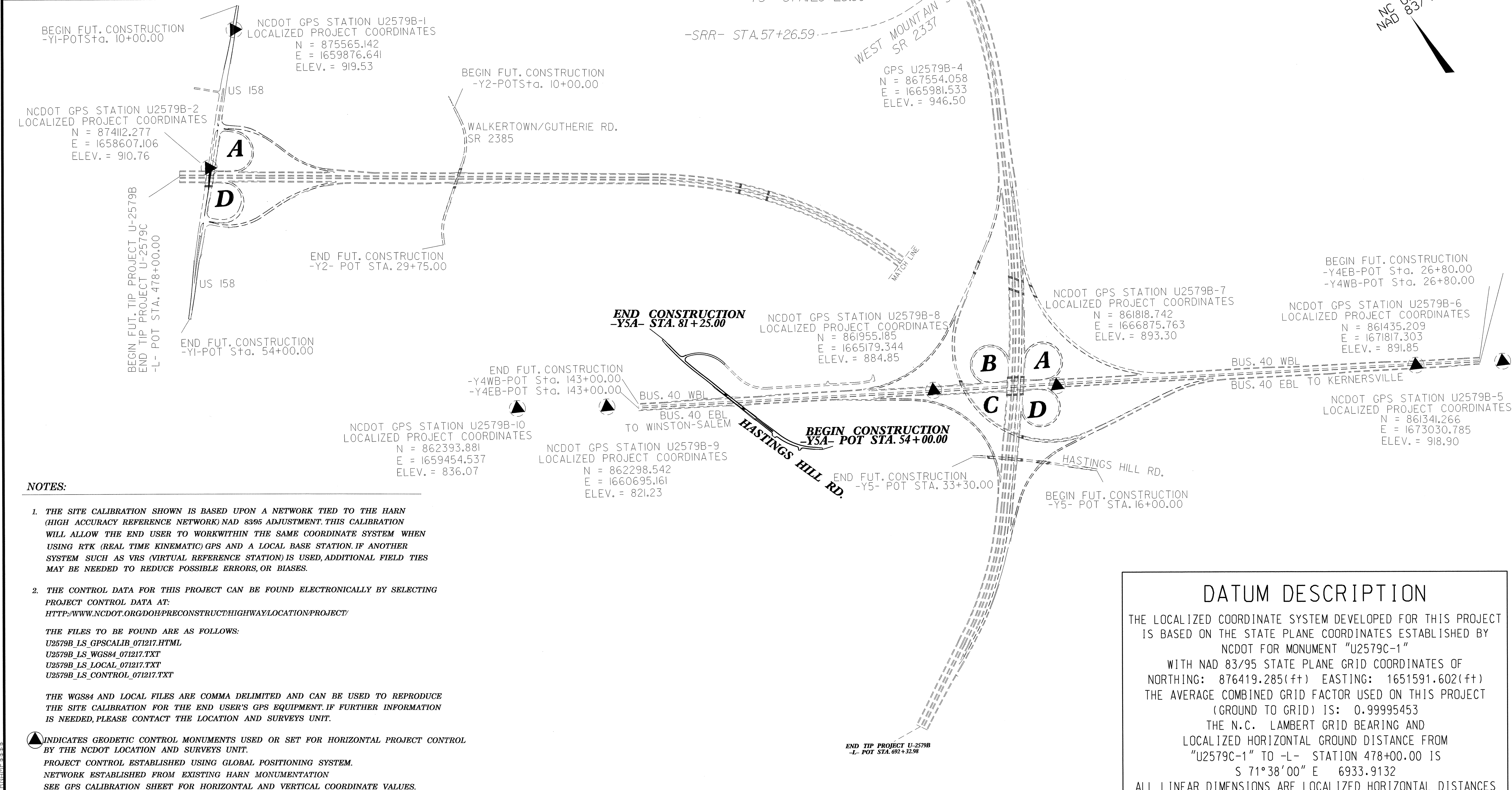
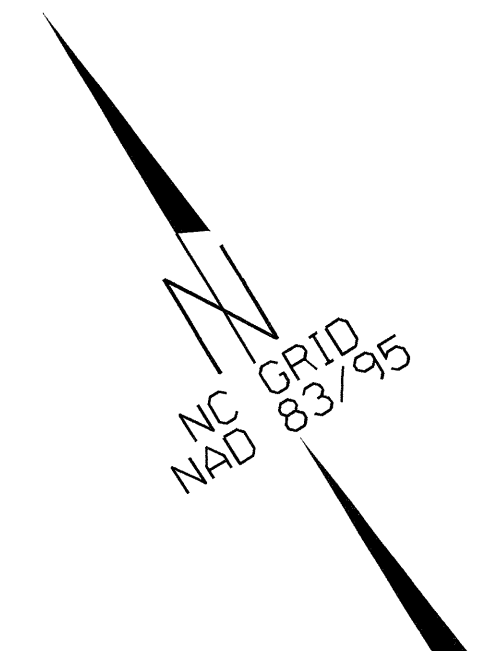
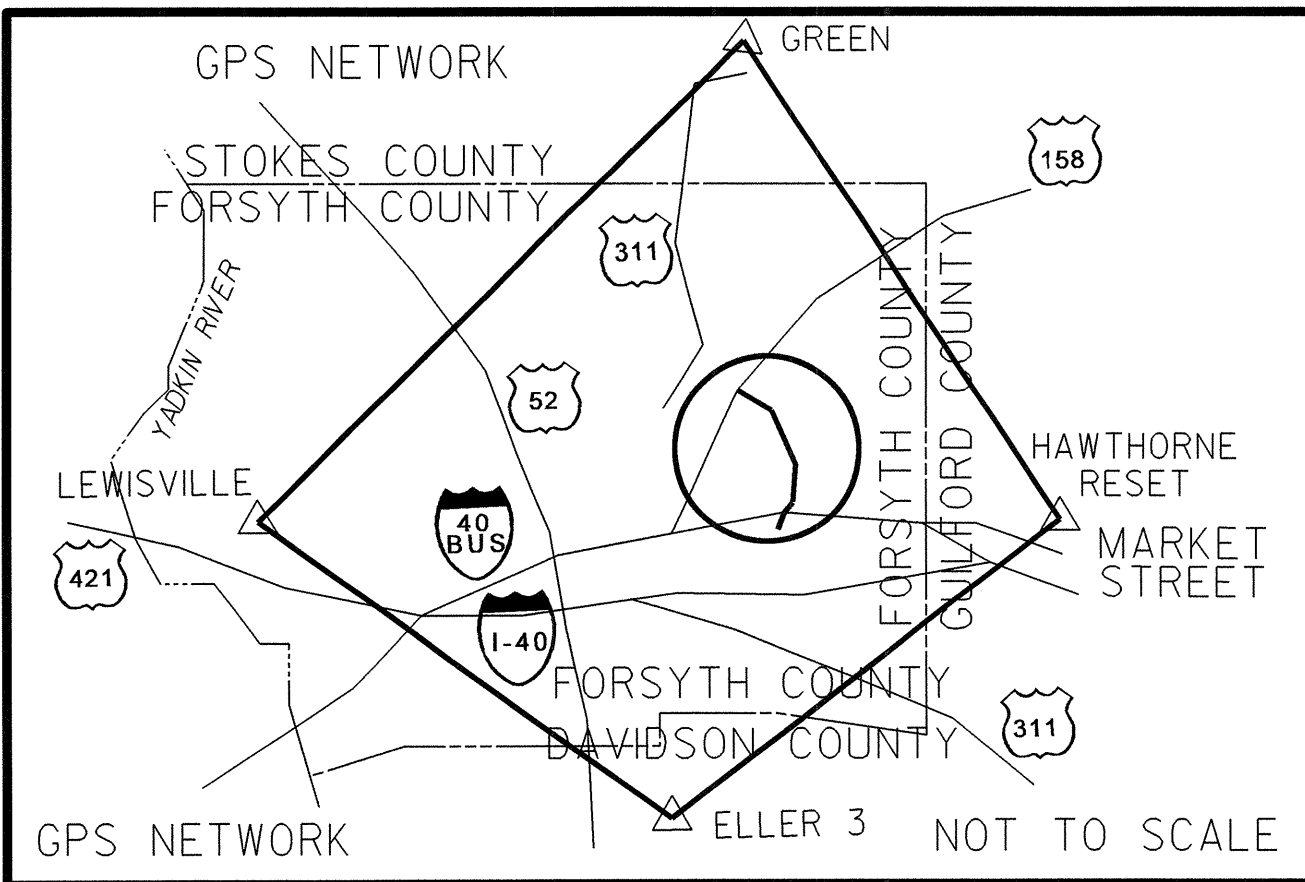
SANITARY SEWER:

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	-----
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET FOR PROJECT U-2579B (TO BE USED FOR PROJECT U-2579G)



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 MAY BE 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.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)
THE FILES TO BE FOUND ARE AS FOLLOWS:
U2579B_LS_GPSCALIB_071217.HTML
U2579B_LS_WGS84_071217.TXT
U2579B_LS_LOCAL_071217.TXT
U2579B_LS_CONTROL_071217.TXT
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.

▲ 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 EXISTING HARN MONUMENTATION
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U2579C-1" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 876419.285(ft) EASTING: 1651591.602(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99995453
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U2579C-1" TO -L- STATION 478+00.00 IS
S 71°38'00" E 6933.9132
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

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SURVEY CONTROL SHEET FOR PROJECT U-2579B (TO BE USED FOR PROJECT TIP U-2579G)

Point Residuals
WGS84 Coordinates Calculated point
FOR DISPLAY ONLY Local Coordinates

GPS Calibration Report

Project : U2579B FieldCalibration

TIP Number
User name tbovender Date & Time 12:41:06 PM 12/11/2007
Coordinate System US State Plane 1983 Zone North Carolina 3200
Horizontal Datum NAD 1983 (Conus)
Vertical Datum Geoid Model Geoid03 (Conus) NC Sub Grid
Coordinate Units US survey feet
Distance Units US survey feet
Height Units US survey feet

LOCAL SITE INFORMATION

Localized around U2579C-1
Latitude 36°09'08.35562" N
Longitude 80°10'48.38377" W
Site Scale Factor 1.000045472
Height 870.594

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 864170.124sft
Easting coordinate of rotation center 1664837.355sft
Rotation about the center point 0°00'00"
Translation north -0.529sft
Translation east 0.589sft
Scale factor 1.00004635

Vertical Adjustment Parameters

Northing coordinate of origin point 875565.201sft
Easting coordinate of origin point 1659876.674sft
Vertical separation at origin 0.158sft
Slope north 1.193ppm
Slope east -0.561ppm

Geoid Model Definition

Geoid03 (Conus) NC Sub Grid

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean	Square error Point
Horizontal	0.137sft	0.025	U2579B-4 GPS
Vertical	0.119sft	0.020	U2579B-10 GPS
Three-dimensional	0.155sft	0.032	U2579B-4 GPS

Point U2579B-1 GPS
Latitude 36°09'00.87235"N
Longitude 80°09'07.26064"W
Height 812.331sft

Northing 875565.201sft
Easting 1659876.674sft
Elevation 919.540sft
Horz error 0.068sft
Vert error 0.010sft
3D error 0.069sft

Point U2579B-1 LOCAL
Northing 875565.142sft
Easting 1659876.641sft
Elevation 919.530sft
Utilized Horz and Vert
Quality Survey quality

Point U2579B-2 GPS
Latitude 36°08'46.36004"N
Longitude 80°09'22.53339"W
Height 803.624sft

Northing 874112.260sft
Easting 1658607.033sft
Elevation 910.820sft
Horz error 0.075sft
Vert error 0.060sft
3D error 0.096sft

Point U2579B-2 LOCAL
Northing 874112.277sft
Easting 1658607.106sft
Elevation 910.760sft
Utilized Horz and Vert
Quality Survey quality

Point U2579B-3 GPS
Latitude 36°07'48.69349"N
Longitude 80°07'40.32920"W
Height 840.897sft

Northing 868184.488sft
Easting 1666923.146sft
Elevation 947.570sft
Horz error 0.108sft
Vert error 0.050sft
3D error 0.120sft

Point U2579B-3 LOCAL
Northing 868184.593sft
Easting 1666923.175sft
Elevation 947.620sft
Utilized Horz and Vert
Quality Survey quality

Point U2579B-4 GPS
Latitude 36°07'42.35263"N
Longitude 80°07'51.71822"W
Height 839.746sft

Northing 867553.926sft
Easting 1665981.571sft
Elevation 946.428sft
Horz error 0.137sft
Vert error 0.072sft
3D error 0.155sft

Point U2579B-4 LOCAL
Northing 867554.058sft
Easting 1665981.533sft
Elevation 946.500sft
Utilized Horz and Vert
Quality Survey quality

Point U2579B-5 GPS
Latitude 36°06'41.70853"N
Longitude 80°06'24.95413"W
Height 812.800sft

Northing 861341.303sft
Easting 1673030.811sft
Elevation 918.962sft
Horz error 0.045sft
Vert error 0.062sft
3D error 0.077sft

Point U2579B-5 LOCAL
Northing 861341.266sft
Easting 1673030.785sft
Elevation 918.900sft
Utilized Horz and Vert
Quality Survey quality

Point U2579B-6 GPS
Latitude 36°06'42.50385"N
Longitude 80°06'39.75439"W
Height 785.713sft

Northing 861435.294sft
Easting 1671817.327sft
Elevation 891.926sft
Horz error 0.089sft
Vert error 0.076sft
3D error 0.117sft

Point U2579B-6 LOCAL
Northing 861435.209sft
Easting 1671817.303sft
Elevation 891.850sft
Utilized Horz and Vert
Quality Survey quality

Point U2579B-7 GPS
Latitude 36°06'45.74473"N
Longitude 80°07'40.02458"W
Height 786.818sft

Northing 861818.786sft
Easting 1666875.807sft
Elevation 893.236sft
Horz error 0.063sft
Vert error 0.064sft
3D error 0.090sft

Point U2579B-7 LOCAL
Northing 861818.742sft
Easting 1666875.763sft
Elevation 893.300sft
Utilized Horz and Vert
Quality Survey quality

Point U2579B-8 GPS
Latitude 36°06'46.90138"N
Longitude 80°08'00.71711"W
Height 778.296sft

Northing 861955.088sft
Easting 1665179.317sft
Elevation 884.783sft
Horz error 0.101sft
Vert error 0.067sft
3D error 0.122sft

Point U2579B-8 LOCAL
Northing 861955.185sft
Easting 1665179.344sft
Elevation 884.850sft
Utilized Horz and Vert
Quality Survey quality

Point U2579B-9 GPS
Latitude 36°06'49.78833"N
Longitude 80°08'55.41020"W
Height 714.479sft

Northing 862298.609sft
Easting 1660695.139sft
Elevation 821.142sft
Horz error 0.071sft
Vert error 0.088sft
3D error 0.113sft

Point U2579B-9 LOCAL
Northing 862298.542sft
Easting 1660695.161sft
Elevation 821.230sft
Utilized Horz and Vert
Quality Survey quality

Point U2579B-10 GPS
Latitude 36°06'50.58887"N
Longitude 80°09'10.54199"W
Height 729.478sft

Northing 862393.955sft
Easting 1659454.533sft
Elevation 836.189sft
Horz error 0.074sft
Vert error 0.119sft
3D error 0.140sft

Point U2579B-10 LOCAL
Northing 862393.881sft
Easting 1659454.537sft
Elevation 836.070sft
Utilized Horz and Vert
Quality Survey quality

Point BL-21 GPS
Latitude 36°06'13.76877"N
Longitude 80°08'00.73239"W
Height 800.390sft

Northing 858604.732sft
Easting 1665139.800sft
Elevation 906.741sft
Horz error 0.049sft
Vert error 0.001sft
3D error 0.049sft

Point BL-21
Northing 858604.777sft
Easting 1665139.780sft
Elevation 906.740sft
Utilized Horz and Vert
Quality Survey quality

Point U2579AB-1 GPS
Latitude 36°05'35.79056"N
Longitude 80°08'08.30858"W
Height 832.735sft

Northing 854771.500sft
Easting 1664474.164sft
Elevation 938.953sft
Horz error 0.041sft
Vert error 0.013sft
3D error 0.044sft

Point U2579AB-1 Local
Northing 854771.471sft
Easting 1664474.194sft
Elevation 938.940sft
Utilized Horz and Vert
Quality Survey quality

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 MAY BE 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.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
U2579B_LS_GPSCALIB_071217.HTML
U2579B_LS_WGS84_071217.TXT
U2579B_LS_LOCAL_071217.TXT
U2579B_LS_CONTROL_071217.TXT

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.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U2579C-1" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 876419.285(++) EASTING: 1651591.602(++) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99995453 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U2579C-1" TO -L- STATION 478+00.00 IS S 71°38'00" E 6933.9132 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

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SURVEY CONTROL SHEET FOR PROJECT U-2579B (TO BE USED FOR PROJECT U-2579G)

PROJECT REFERENCE NO.	SHEET NO.
U-2579G	1F
Location and Surveys	

BY100	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	529	BY100-529	866890.7600	1665115.8010	946.98	589+70.43	1278.65 RT
	526	BY10-526	867154.5320	1665453.1690	949.62	587+49.64	889.57 RT
BY11	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	531	BY11-531	864467.4530	1666904.1690	883.83	616+59.28	452.96 LT
	530	BY11-530	864318.0230	1666601.0320	862.75	618+18.03	154.83 LT
	44	BL-44	864347.1850	1666470.9430	852.96	617+93.39	23.83 LT
BY12	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	532	BY12-532	863832.5420	1666898.1940	876.56	622+79.68	475.21 LT
	46	BL-46	863878.8700	1666470.1900	862.00	622+60.26	45.16 LT
	533	BY12-533	863802.7380	1666255.6600	857.77	623+50.31	164.05 RT
BY13	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	49	BL-49	862956.6260	1666344.9590	833.65	631+88.77	3.03 LT
	534	BY13-534	863085.9780	1666097.1000	834.02	630+87.91	258.03 RT
	535	BY13-535	863036.9320	1665764.2930	851.68	631+76.97	583.05 RT
	537	BY13-537	862847.8920	1665373.6250	887.38	634+24.75	947.15 RT
BY14	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	51	BL-51	862578.8310	1666211.5370	859.60	635+81.61	80.30 RT
	536	BY14-536	862629.4630	1665760.3960	880.66	635+95.78	534.07 RT
BY15	POINT	DESC.	NORTH	EAST	ELEVATION	Y4WB STATION	OFFSET
	537	BY13-537	862847.8920	1665373.6250	906.16	100+02.93	878.79 RT
	538	BY15-538	862013.4480	1665775.6540	889.45	95+37.55	77.95 RT
	539	BY15-539	862048.5420	1665285.3520	900.52	100+29.10	75.00 RT
	540	BY15-540	862136.1210	1664523.5520	872.31	107+95.39	103.38 RT
	541	BY15-541	862160.0280	1663843.0690	907.66	114+75.68	74.57 RT
	542	BY15-542	862275.9630	1662769.6730	895.79	125+54.83	107.11 RT
	559	BY17-559	862260.5112	1662528.1924	900.04	127+94.39	73.02 RT
BY15A	POINT	DESC.	NORTH	EAST	ELEVATION	Y4WB STATION	OFFSET
	540	BY15-540	862136.1210	1664523.5520	873.54	107+95.39	103.38 RT
	543	BY15A-543	862241.0550	1664301.1190	888.03	110+25.27	190.79 RT
BY15B	POINT	DESC.	NORTH	EAST	ELEVATION	Y4WB STATION	OFFSET
	542	BY15-542	862275.9630	1662769.6730	920.74	125+54.83	107.11 RT
	544	BY15B-544	862261.7510	1663673.7690	908.11	116+52.34	162.89 RT
BY16	POINT	DESC.	NORTH	EAST	ELEVATION	Y4WB STATION	OFFSET
	5	U2579B-5	861341.2660	1673030.7850	UNKNOWN	22+52.16	30.91 LT
	6	U2579B-6	861435.2090	1671817.3030	UNKNOWN	34+69.27	31.13 LT
	545	BY16-545	861531.5670	1670683.4880	860.57	46+07.14	22.78 LT
	546	BY16-546	861616.8460	1669575.7410	850.65	57+18.17	23.46 LT
	547	BY16-547	861728.7350	1668130.4650	875.72	71+67.77	23.73 LT
	7	U2579B-7	861818.7420	1666875.7630	893.34	84+25.67	31.06 LT
	52	BL-52	861914.1300	1666379.8520	893.64	89+27.48	25.67 RT
	8	U2579B-8	861955.1850	1665179.3440	884.84	101+27.56	26.28 LT
	548	BY16-548	862036.7340	1664165.1230	889.03	111+45.05	23.44 LT
	549	BY16-549	862152.4420	1663289.7930	895.45	120+26.71	24.20 RT
	550	BY16-550	862172.8450	1662390.6940	872.66	129+24.70	25.02 LT
	551	BY16-551	862249.0870	1661414.2780	832.75	139+04.08	24.55 LT
	9	U2579B-9	862298.5420	1660695.1610	821.22	146+24.87	30.88 LT
	10	U2579B-10	862393.8810	1659454.5370	836.06		OUTSIDE PROJECT LIMITS
BY17	POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
	552	BY17-552	860346.5342	1667955.8719	930.58		OUTSIDE PROJECT LIMITS
	553	BY17-553	860538.5346	1667421.6769	936.63	13+51.50	25.23 RT
	554	BY17-554	860684.2984	1666736.5504	941.66	20+50.42	21.21 LT
	54	BL-54	860906.9530	1666066.1526	934.84	27+55.06	26.07 RT
	555	BY17-555	861000.7094	1665374.5603	923.98	34+51.21	18.20 LT
	556	BY17-556	861259.4359	1664179.7838	928.14		OUTSIDE PROJECT LIMITS
	557	BY17-557	861349.2905	1663433.5059	915.63		OUTSIDE PROJECT LIMITS
	558	BY17-558	861625.1304	1662811.0303	901.34		OUTSIDE PROJECT LIMITS
	559	BY17-559	862260.5112	1662528.1924	900.04		OUTSIDE PROJECT LIMITS
	560	BY17-560	862589.7741	1662386.4463	893.47		OUTSIDE PROJECT LIMITS
	561	BY17-561	862880.1116	1662103.4311	857.77		OUTSIDE PROJECT LIMITS

BY18	POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
	553	BY17-553	860538.5346	1667421.6769	936.63	13+51.50	25.23 RT
	562	BY18-562	860895.4838	1667404.8146	938.88	14+62.27	354.46 RT
	563	BY18-563	861414.6149	1667510.7937	899.57	15+04.48	892.44 RT
	564	BY18-564	861426.0247	1668207.0326	881.18		OUTSIDE PROJECT LIMITS
BY18A	POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
	562	BY18-562	860895.4838	1667404.8146	938.88	14+62.27	354.46 RT
	565	BY18A-565	861003.7781	1667499.0310	927.86	14+03.85	493.95 RT
BY19	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	566	BY19-566	860784.0747	1664251.2393	906.47	657+78.47	1646.12 RT
	556	BY17-556	861259.4359	1664179.7838	928.14	653+31.22	1822.31 RT
BY20	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	556	BY17-556	861259.4359	1664179.7838	928.14	653+31.22	1822.31 RT
	567	BY20-567	861723.1292	1663959.2562	914.42	649+23.92	2141.12 RT
BY21	POINT	DESC.	NORTH	EAST	ELEVATION	Y4EB STATION	OFFSET
	568	BY21-568	861499.9268	1662484.7121	870.31	127+78.90	634.65 LT
	558	BY17-558	861625.1304	1662811.0303	901.34	124+63.24	484.57 LT

BM*1 ELEVATION = 884.23
 R/R SPIKE SET IN BASE OF 18" OAK,
 27' OFF OF WEST EP OF OLD BELEWS
 CREEK RD.
 N 872364 E 1656715
 Y1 STATION 58+42 354 RIGHT

BM*8 ELEVATION = 881.42
 R/R SPIKE SET IN BASE OF 24" BURCH
 24' OFF OF NORTH EP OF REGENTS PARK RD.
 N 864512 E 1666936
 L STATION 616+14 483 LEFT

BM*9 ELEVATION = 899.76
 R/R SPIKE SET IN PAVEMENT OF
 RACHEL ST. -BY14- @ INTERSECTION
 OF GERRY RD.
 N 862500 E 1665571
 L STATION 637+58 702 RIGHT

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
 MAY BE 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.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/doh/preconstruct/highway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
 U2579B_LS_GPSCALIB_071217.HTML
 U2579B_LS_WGS84_071217.TXT
 U2579B_LS_LOCAL_071217.TXT
 U2579B_LS_CONTROL_071217.TXT

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.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
 IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
 NCDOT FOR MONUMENT "U2579C-1"
 WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 876419.285(+) EASTING: 1651591.602(+)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
 (GROUND TO GRID) IS: 0.99995453
 THE N.C. LAMBERT GRID BEARING AND
 LOCALIZED HORIZONTAL GROUND DISTANCE FROM
 "U2579C-1" TO -L- STATION 478+00.00 IS
 S 71°38'00" E 6933.9132

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

NOTE: DRAWING NOT TO SCALE

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 24-JUL-2012 09:43
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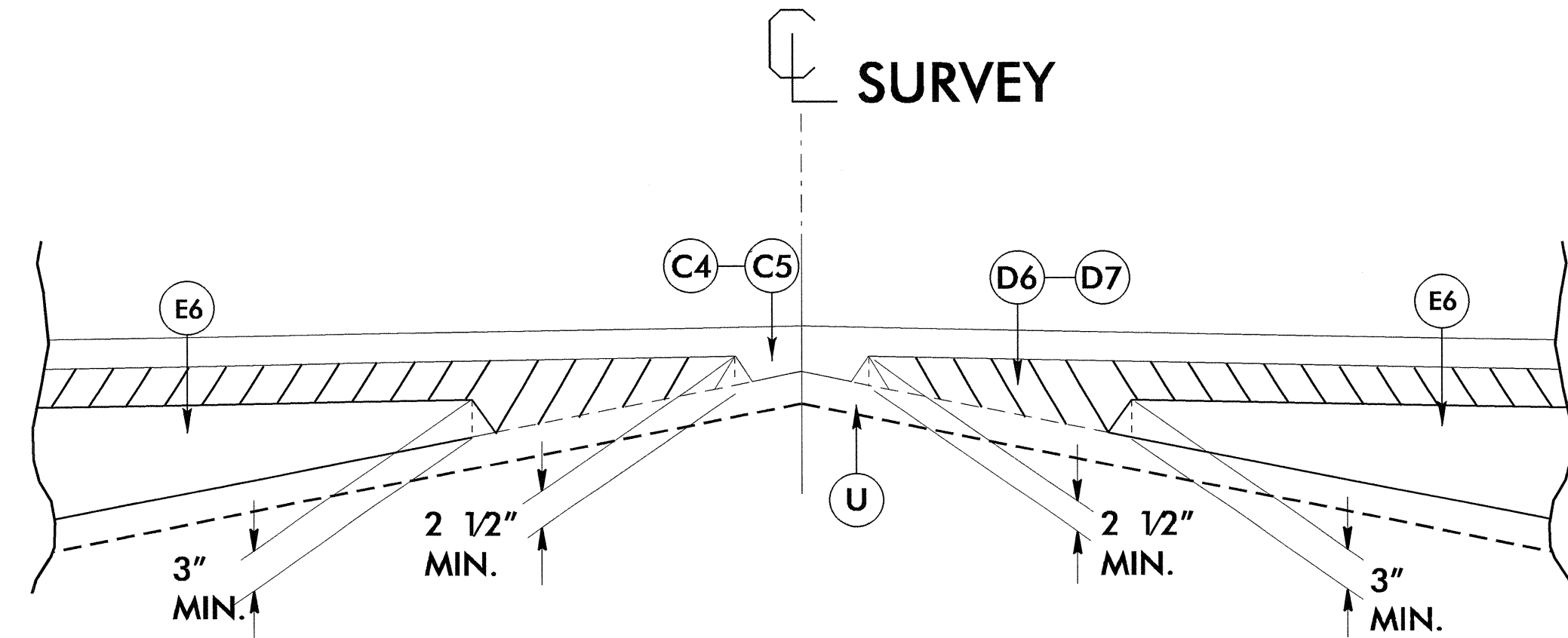
5/14/99

PAVEMENT SCHEDULE

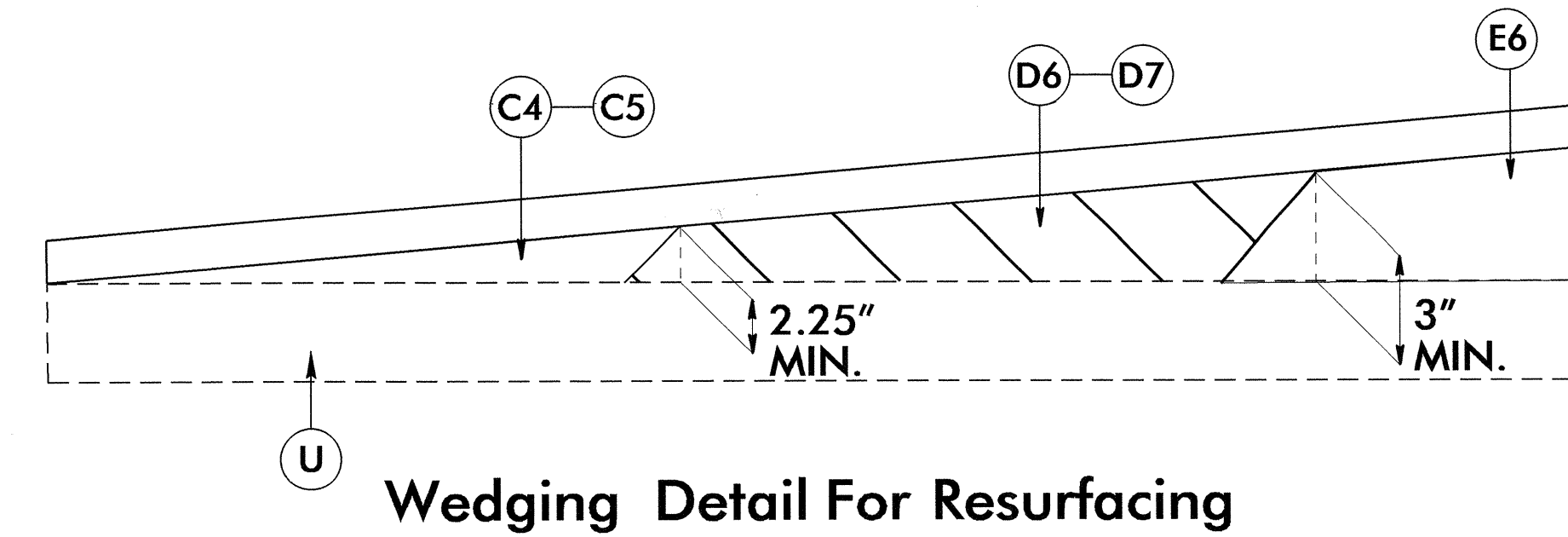
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
C5	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D3	PROP. APPROX. 3.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D5	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D6	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
D7	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E2	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E5	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E6	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
J2	PROP. 8" AGGREGATE BASE COURSE.
J5	PROP. VAR. DEPTH AGGREGATE BASE COURSE.
P	PRIME COAT
R4	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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

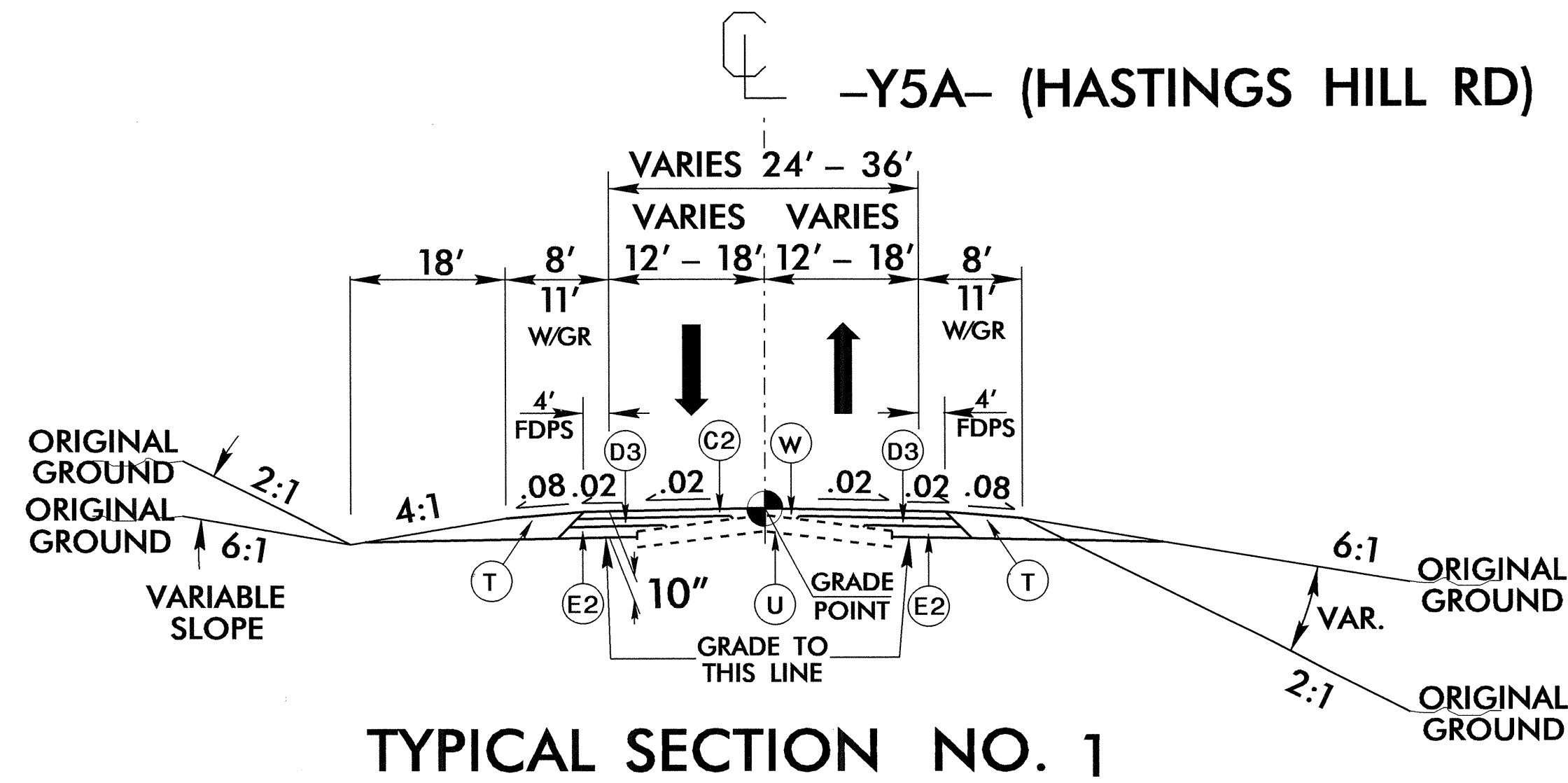
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RW SHEET NO.	
ROADWAY DESIGN NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494 ANTHONY AARON HOUSER 8-1-12	PAVEMENT DESIGN NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22893 CLARK S. MORRISON 8/2/12



Detail Showing Method of Wedging

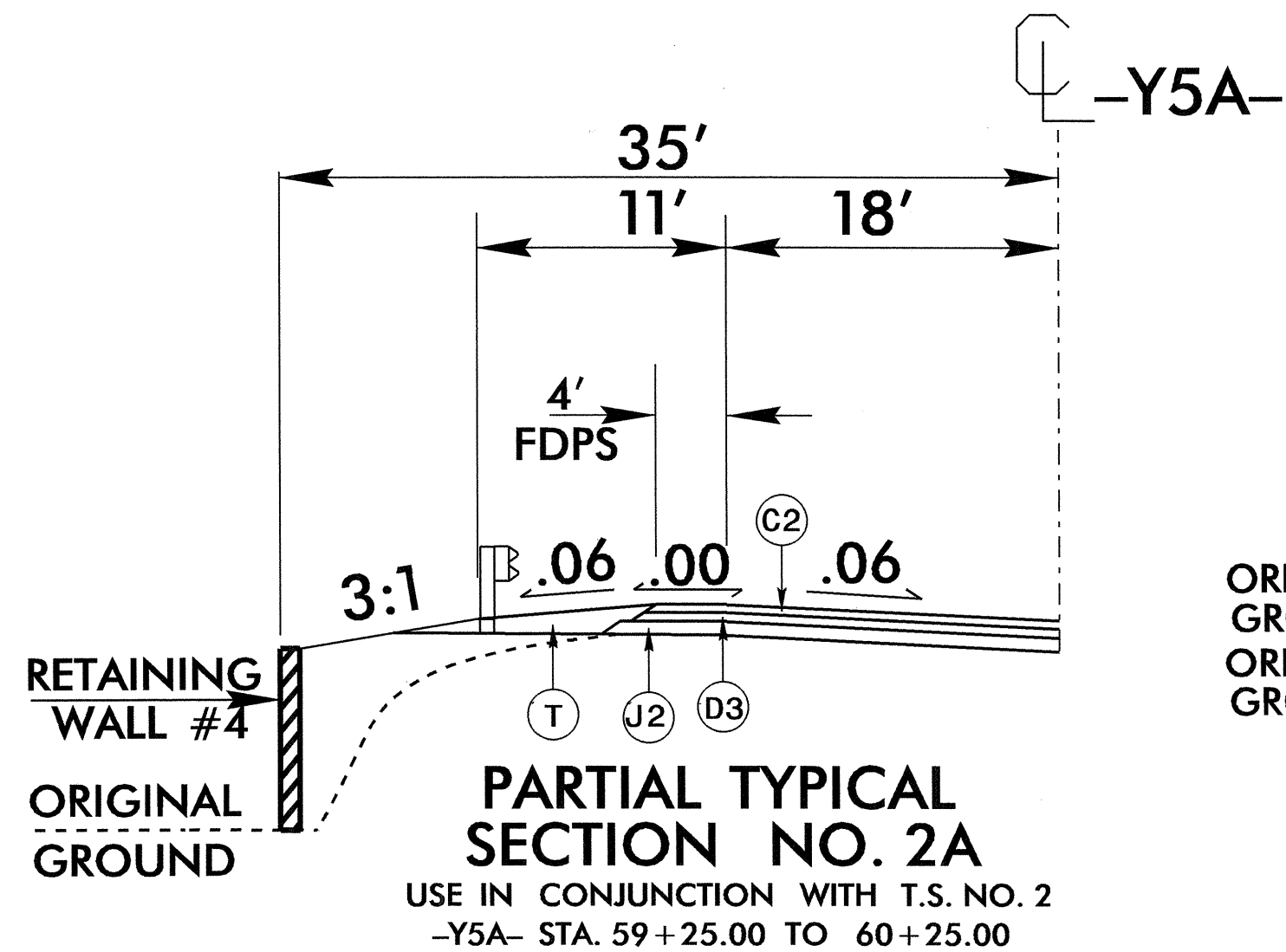


Wedging Detail For Resurfacing

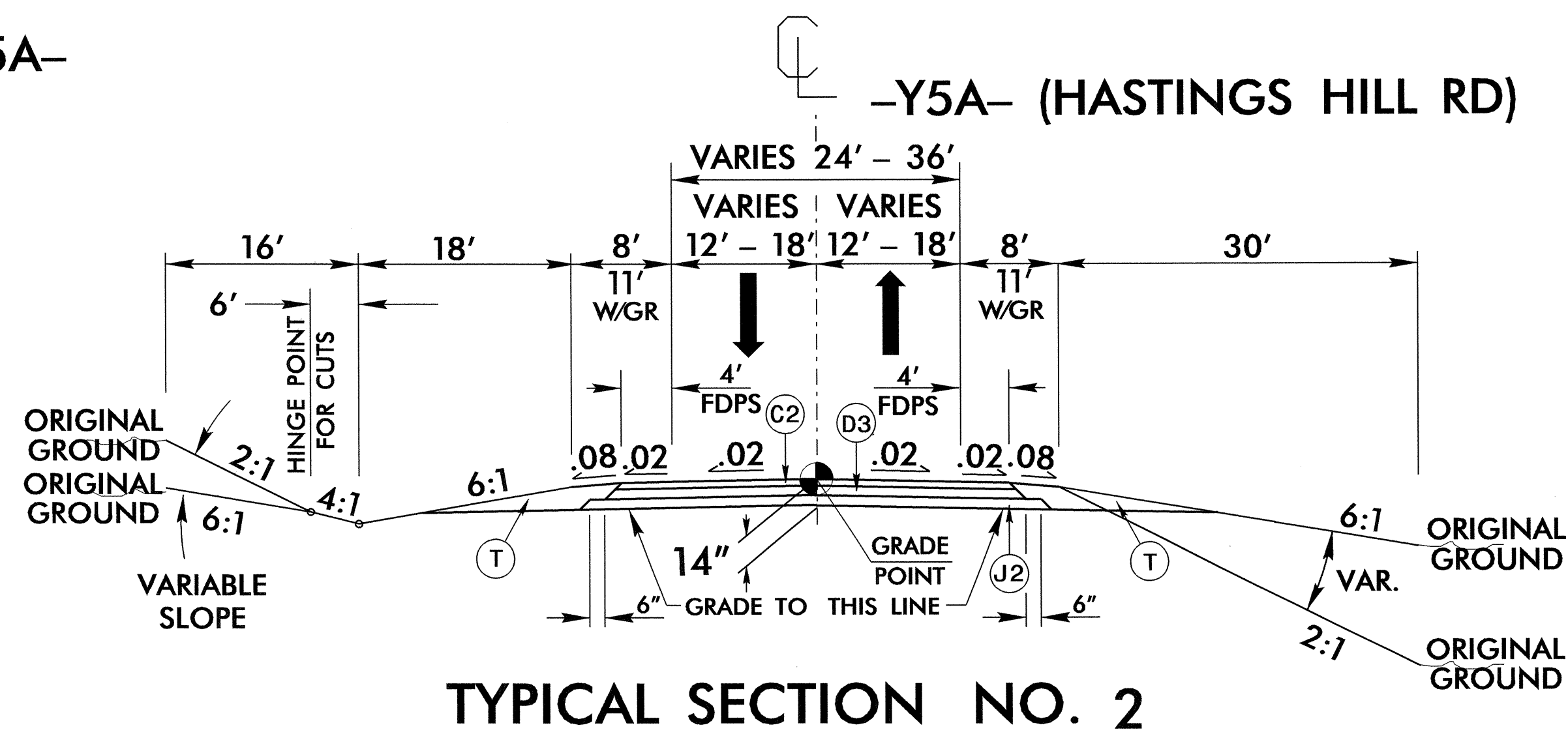


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1:
-Y5A- STA. 54+00.00 TO 57+50.00
-Y5A- STA. 79+75.00 TO 81+25.00



PARTIAL TYPICAL SECTION NO. 2A
USE IN CONJUNCTION WITH T.S. NO. 2
-Y5A- STA. 59+25.00 TO 60+25.00



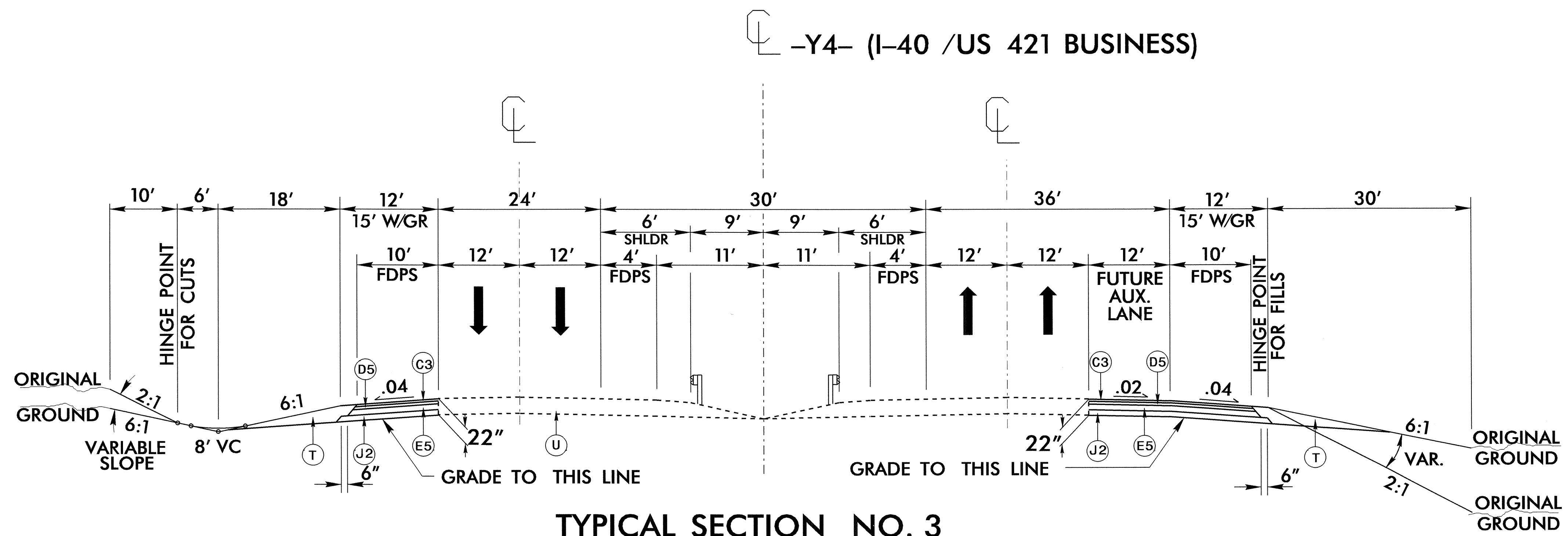
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2:
-Y5A- STA. 57+50.00 TO 67+07.01 (BEG. BR.)
-Y5A- STA. 69+24.26 (END BR.) TO 79+75.00

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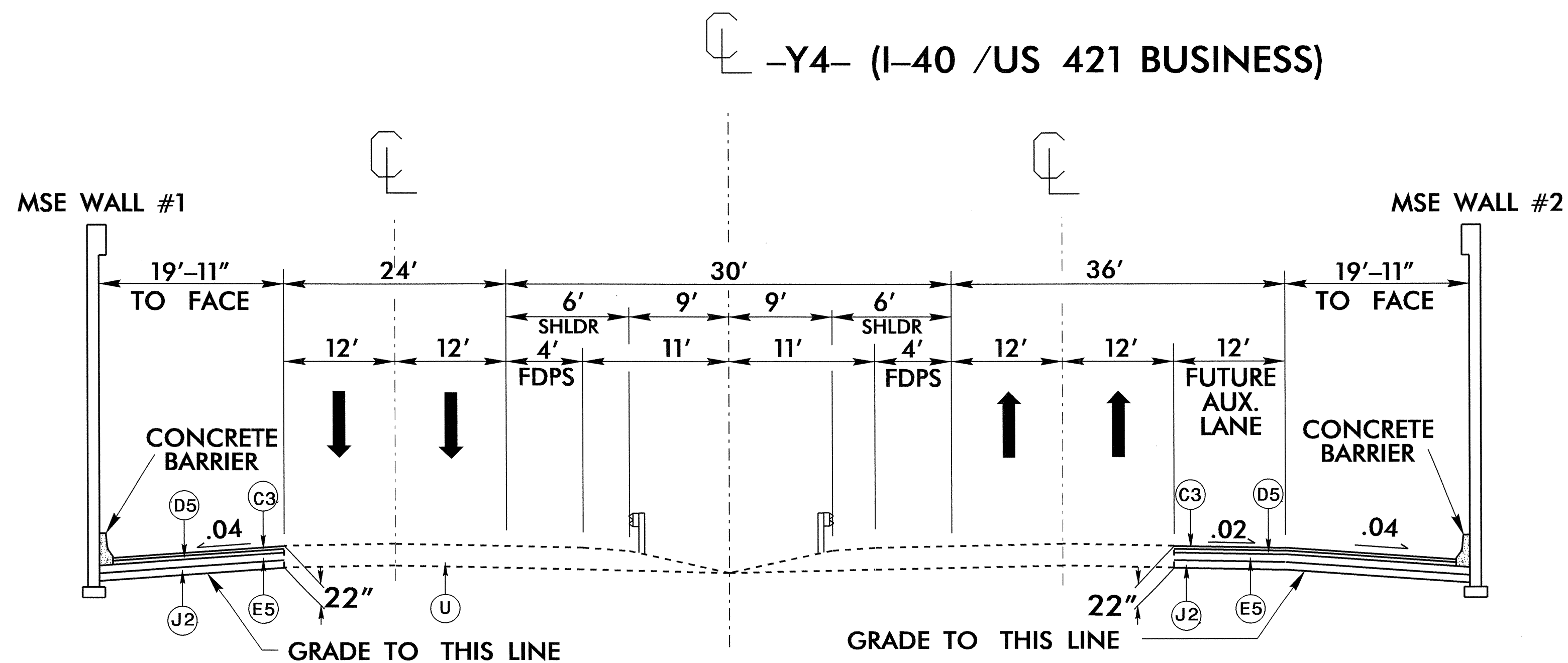
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER ANTHONY AARON HOUSER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494 8-1-12	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22888 2/7/12



C2	3"	S9.5B
C3	3"	S9.5C
C4	VAR.	S9.5B
C5	VAR.	S9.5C
D3	3.0"	I19.0B
D5	4"	I19.0C
D6	VAR.	I19.0B
D7	VAR.	I19.0C
E2	4"	B25.0B
E5	7"	B25.0C
E6	VAR.	B25.0B
J2	8"	ABC
J5	VAR.	ABC
P		PRIME COAT
R4		SHOULDER BERM GUTTER
T		EARTH MATERIAL.
U		EXISTING PAVEMENT.
W		WEDGING

USE TYPICAL SECTION NO. 3:

- Y4- STA. 126+50.00 TO STA. 127+93.50 (BEGIN WALL #1) LT.
- Y4- STA. 130+26.37 (END WALL #1) TO STA. 132+00.00 LT.
- Y4- STA. 126+50.00 TO STA. 129+53.10 (BEGIN WALL #2) RT.
- Y4- STA. 131+63.57 (END WALL #2) TO STA. 133+00.00 RT.

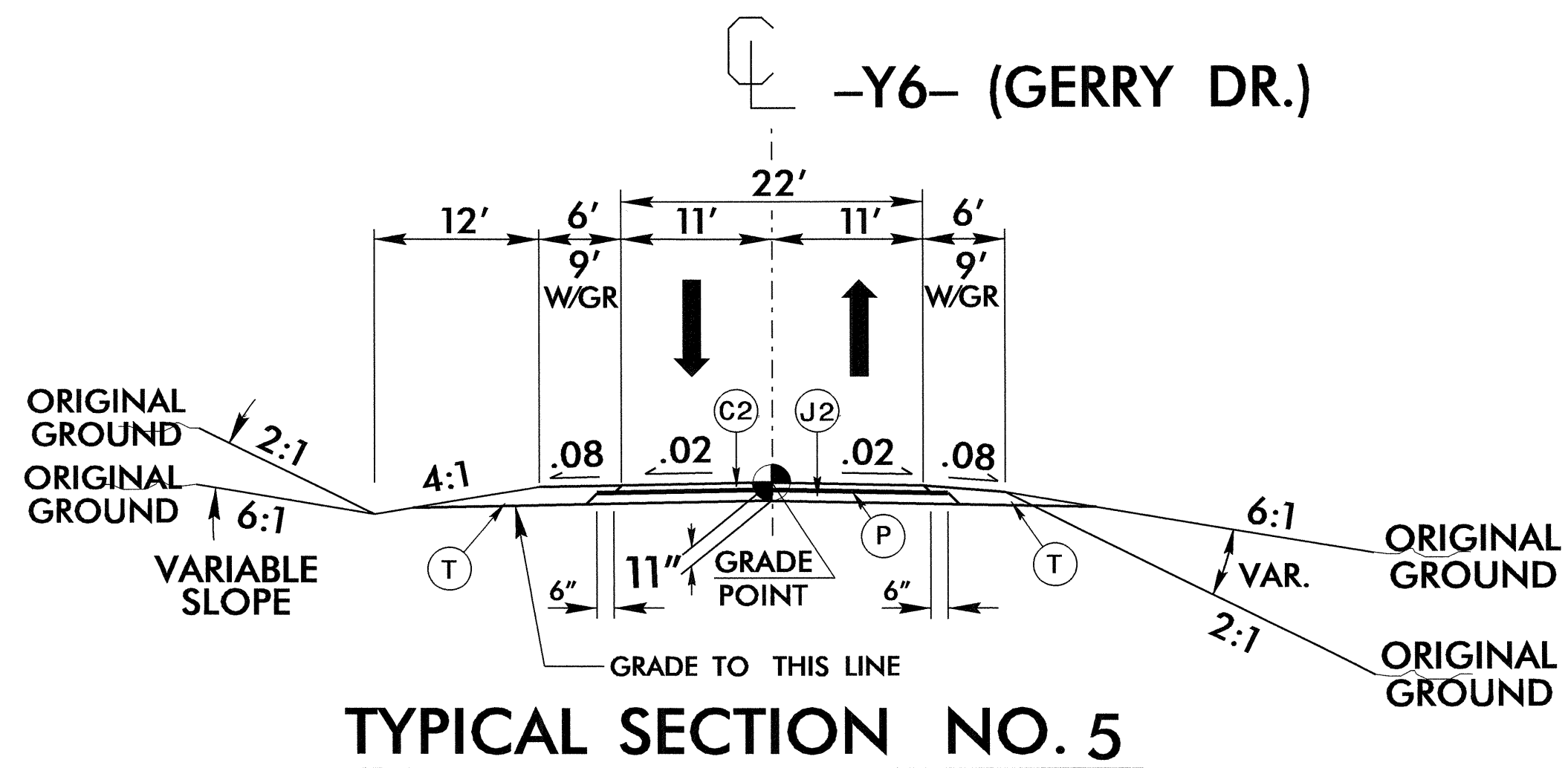


USE TYPICAL SECTION NO. 4:

- Y4- STA. 127+93.50 (BEGIN WALL #1) TO STA. 130+26.37 (END WALL #2) LT.
- Y4- STA. 129+53.10 (BEGIN WALL #2) TO STA. 131+63.57 (END WALL #2) RT.

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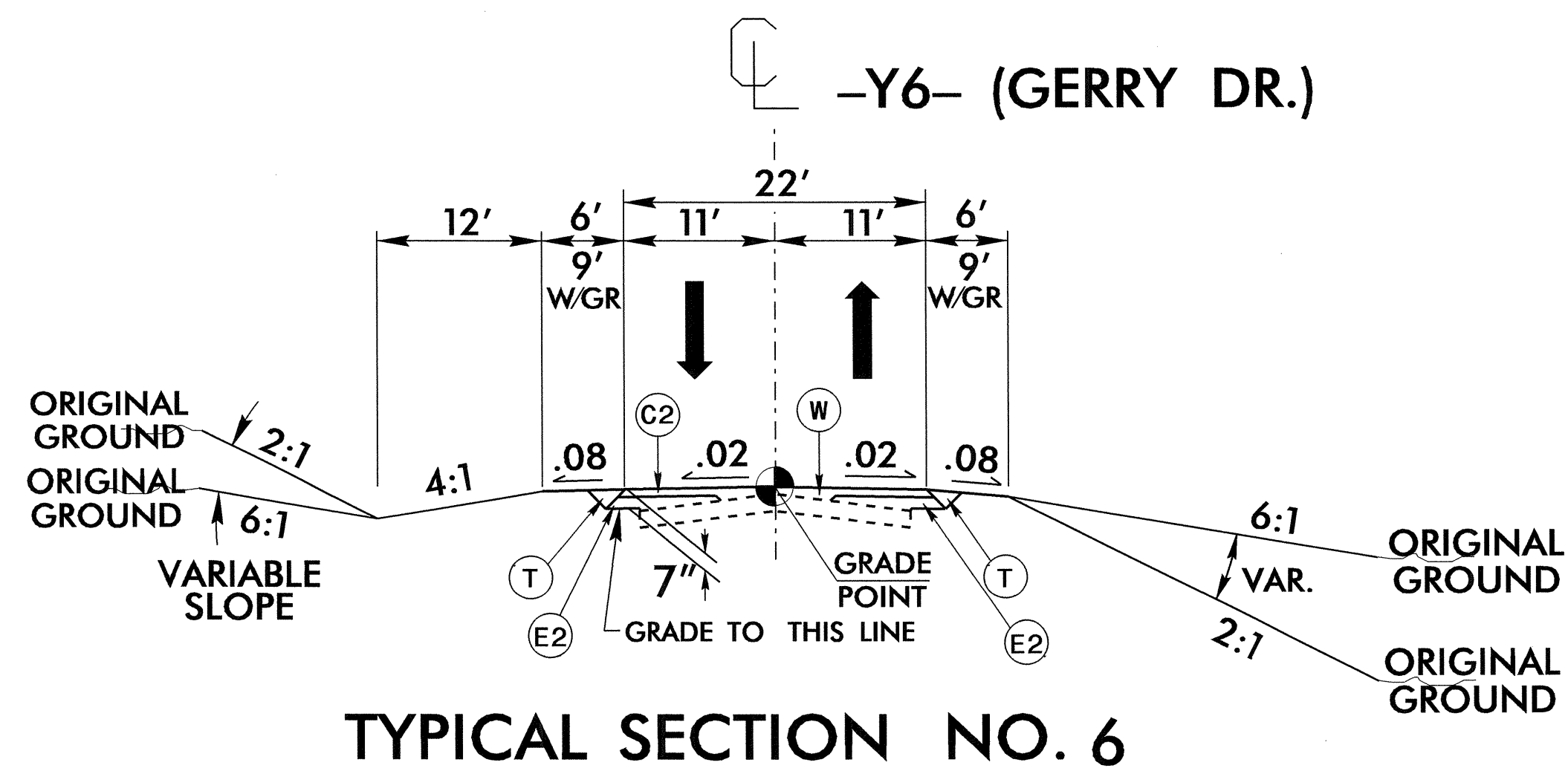
PROJECT REFERENCE NO. U-2579G	SHEET NO. 2-B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER ANTHONY AARON HOUSER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22898



USE TYPICAL SECTION NO. 5:

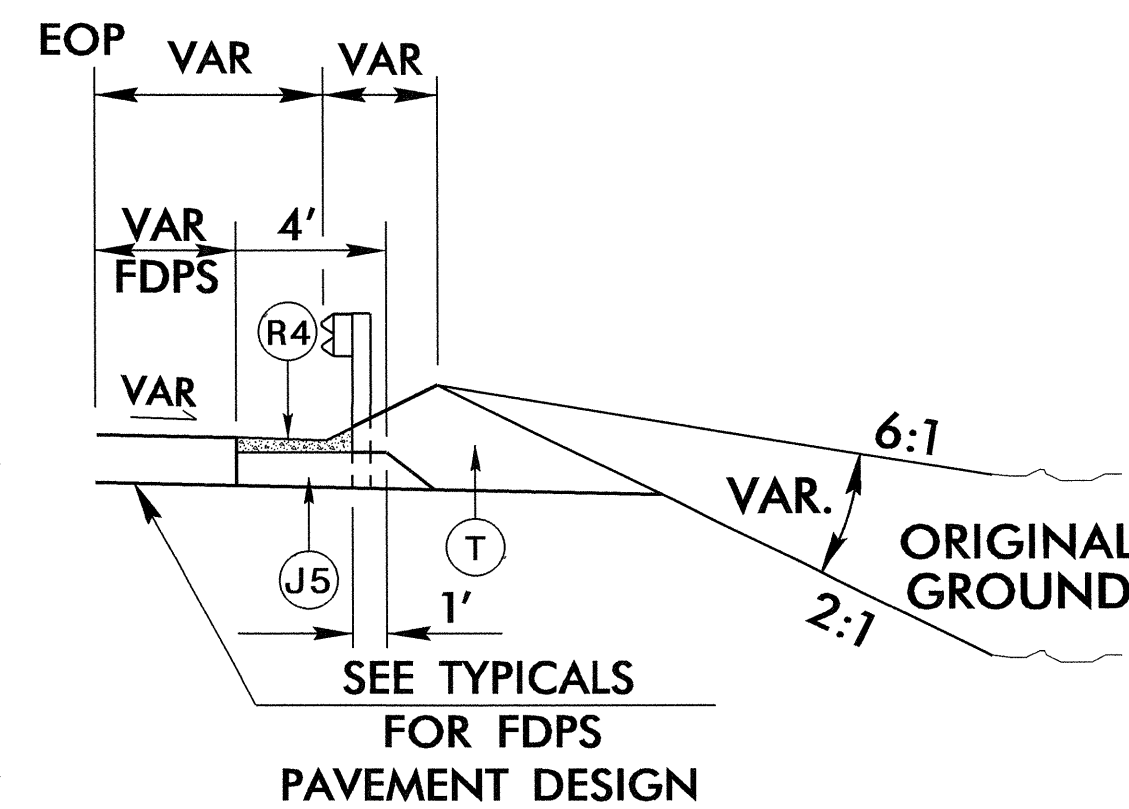
-Y6- STA. 10+12.91 TO 12+00.00
-Y6- STA. 15+50.00 TO 17+25.77

C2	3"	S9.5B
C3	3"	S9.5C
C4	VAR.	S9.5B
C5	VAR.	S9.5C
D3	3.0"	I19.0B
D5	4"	I19.0C
D6	VAR.	I19.0B
D7	VAR.	I19.0C
E2	4"	B25.0B
E5	7"	B25.0C
E6	VAR.	B25.0B
J2	8"	ABC
J5	VAR.	ABC
P		PRIME COAT
R4		SHOULDER BERM GUTTER
T		EARTH MATERIAL.
U		EXISTING PAVEMENT.
W		WEDGING



USE TYPICAL SECTION NO. 6:

-Y6- STA. 12+00.00 TO 15+50.00



SHOULDER BERM GUTTER DETAIL

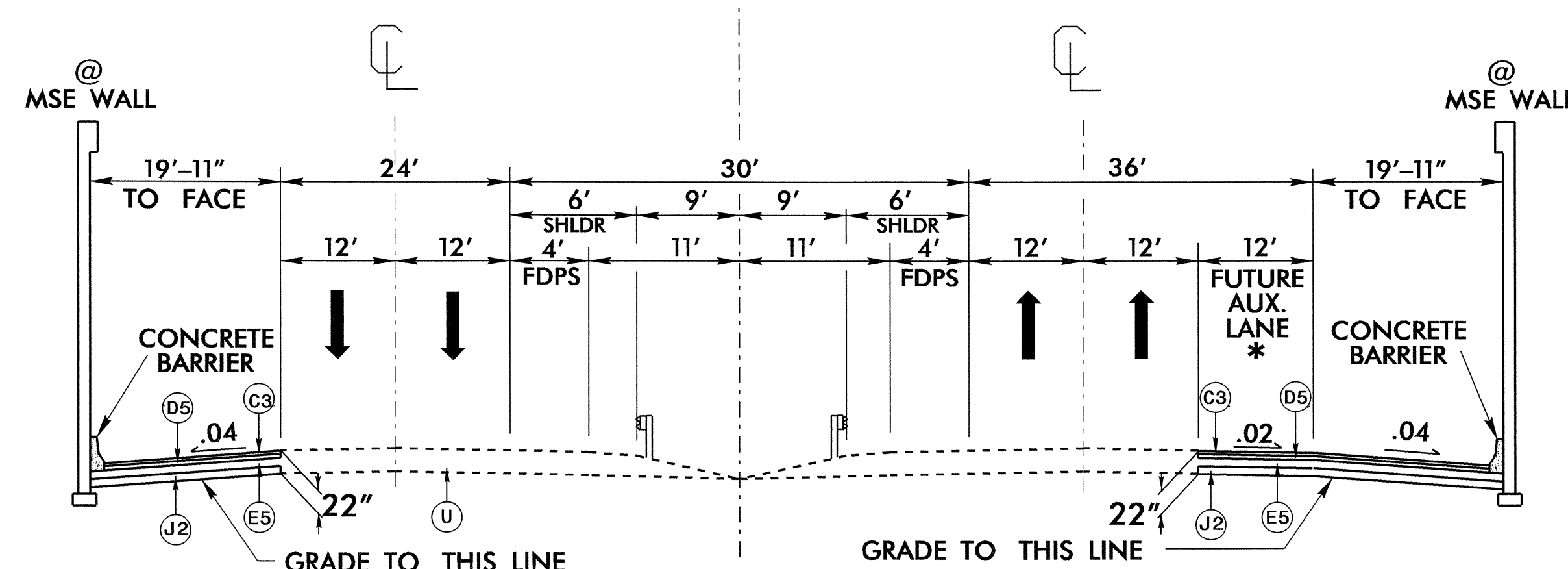
-Y5A- FROM STA. 69+34.99 TO STA. 69+79.94 RT.
-Y5A- FROM STA. 69+75.18 TO STA. 70+16.97 LT.

PROJECT REFERENCE NO. U-2579G	SHEET NO. 2-C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	

STRUCTURE RECOMMENDATION DETAILS

① -Y4- (I-40 /US 421 BUSINESS)

⑪



TYPICAL SECTION ON ROADWAY UNDER STRUCTURE

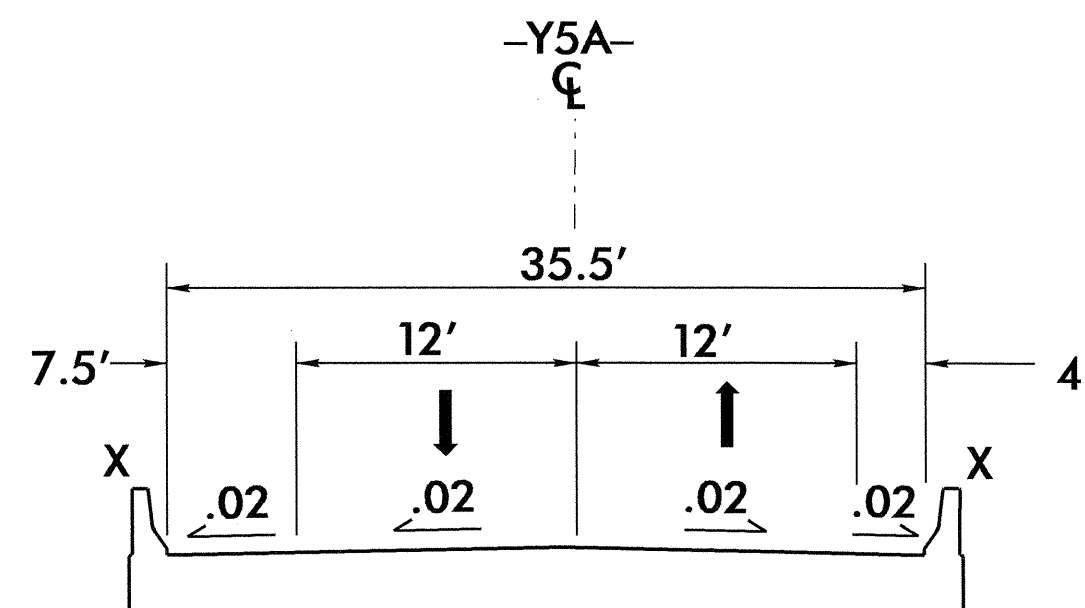
⑪

DESIGN DATA -Y5A-

- 2010 ADT 5,260
- 2030 ADT 8,300
- DHV = 11
- D = 60
- DUAL = 2
- TTST = 1
- V = 40 MPH
- FUNC CLASS - RURAL LOCAL
- MINIMUM VERTICAL CLEARANCE = 16'-6"
- X BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT
- @ MSE WALLS DETERMINED BY GEOTECHNICAL ENGINEERING UNIT
- * THIS AUX. LANE PROVIDES SEPARATION TO MITIGATE WEAVE AREA BETWEEN LOOPS.

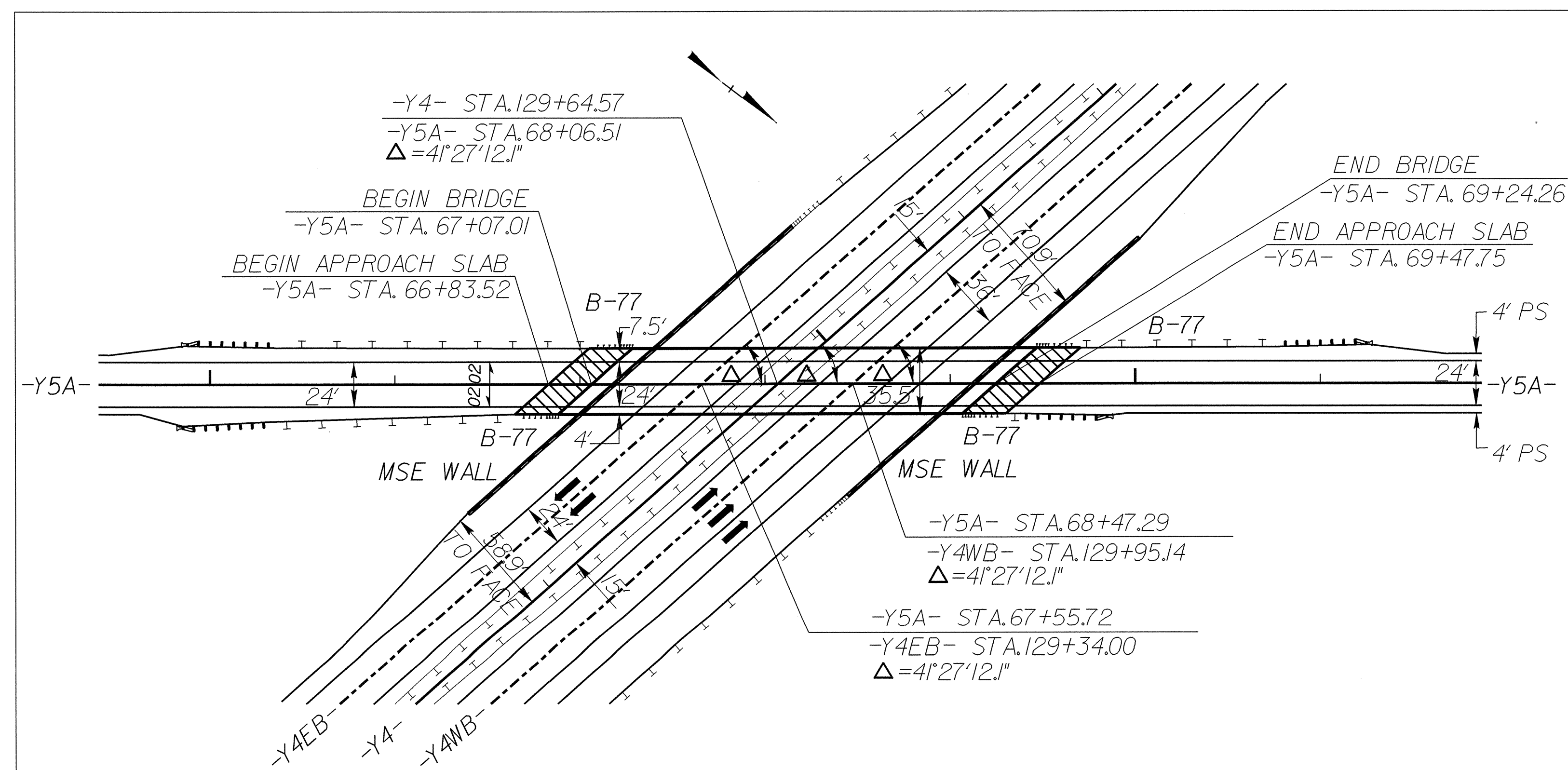
REVISIONS

-Y5A- STRUCTURE
-Y5A- (HASTING HILLS ROAD) OVER -Y4- (US 421/I-40 BUSINESS)



TYPICAL SECTION ON STRUCTURE

⑪



DETAIL SHOWING PAVEMENT & BRIDGE RELATIONSHIP FOR -Y5A- OVER -Y4-

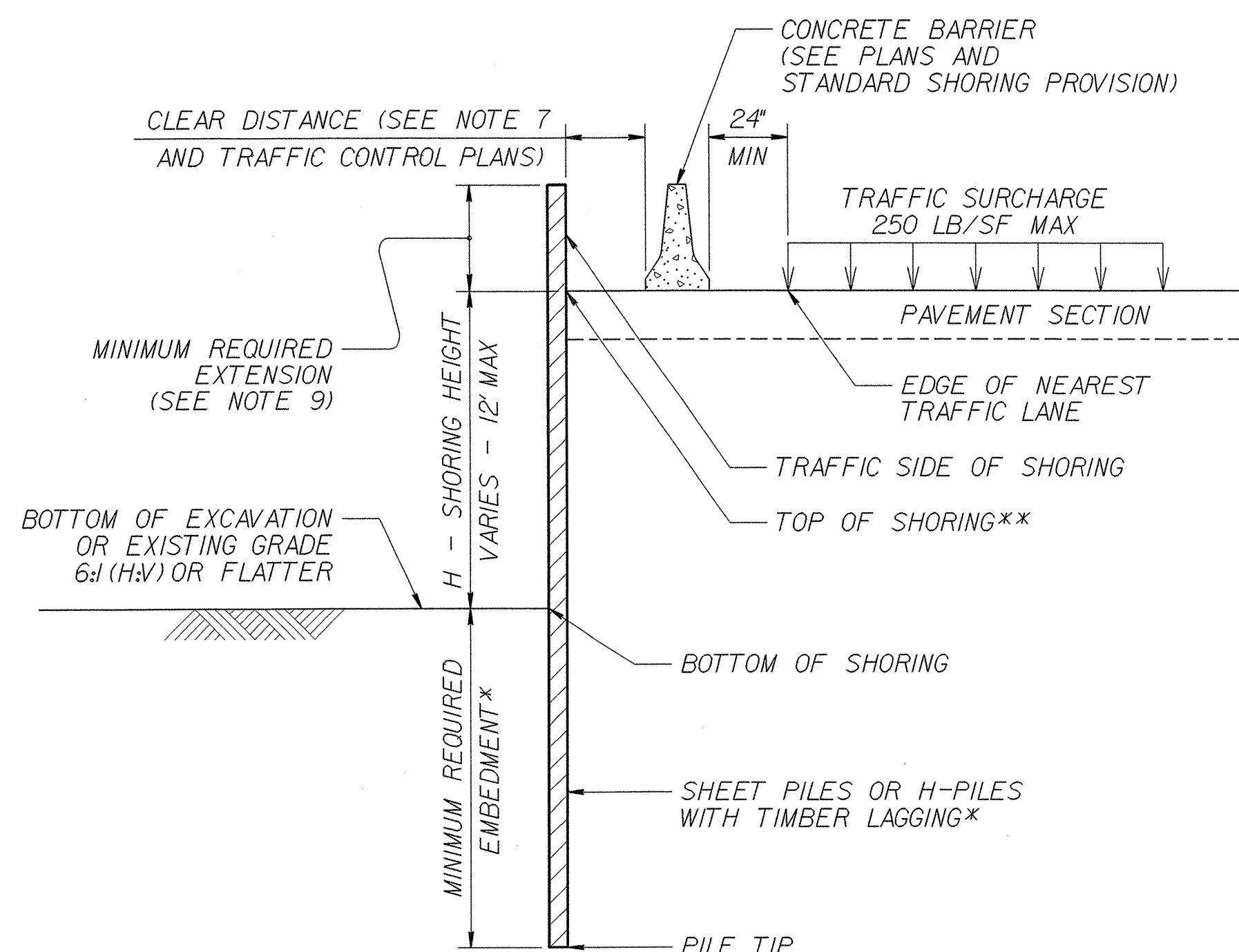
GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H-PILES WITH TIMBER LAGGING			SHEET PILES		H-PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS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

MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

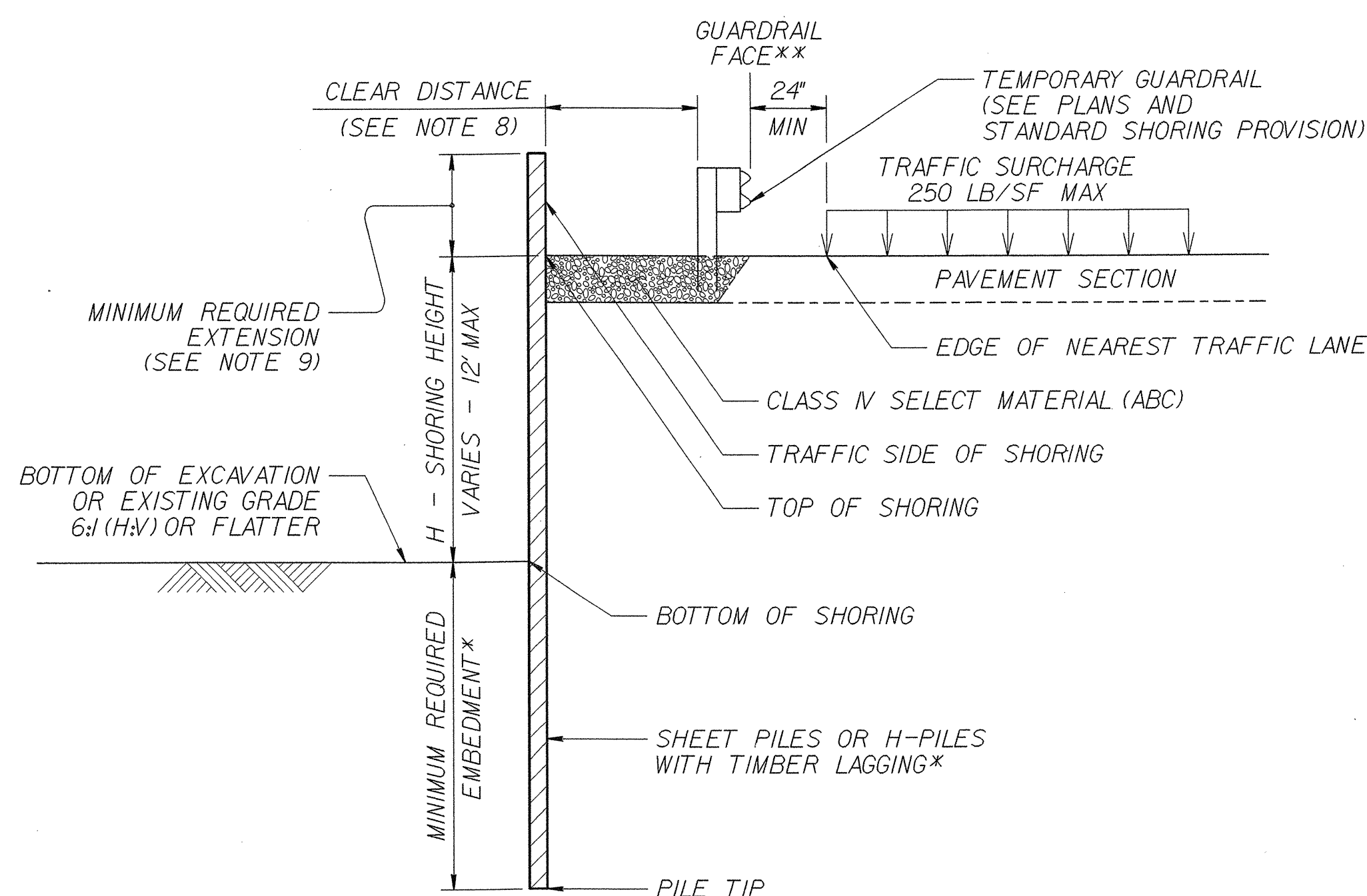
***DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "--".**

NOTES:

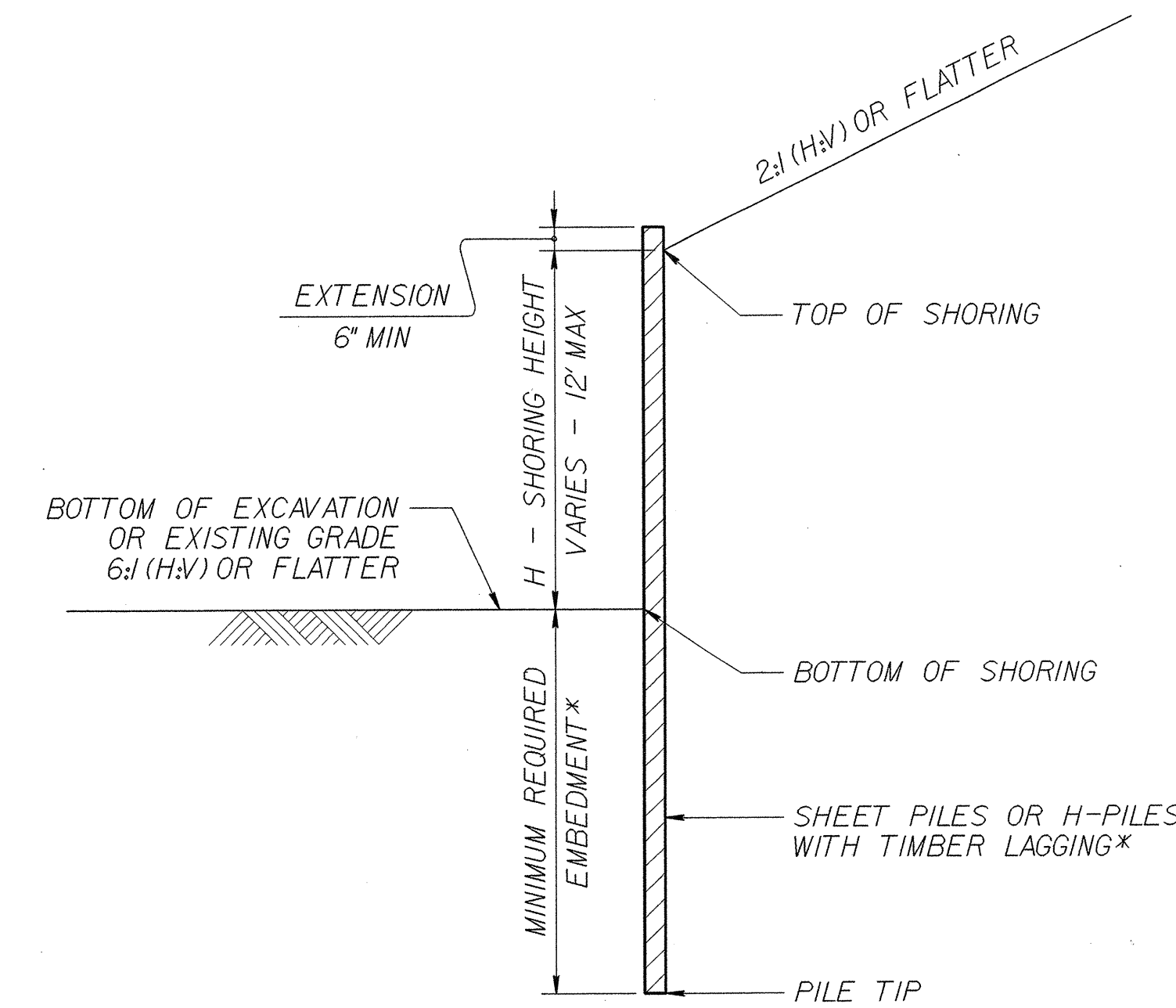
- AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
- FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
- STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ LB/CF
FRICTION ANGLE, $\phi = 30$ DEGREES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



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

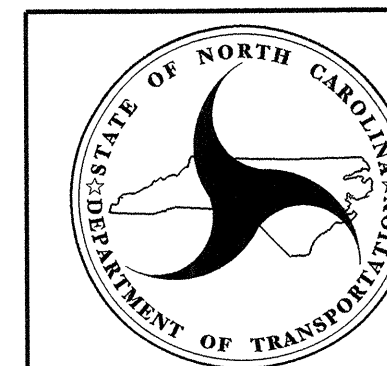


TEMPORARY GUARDRAIL
****GUARDRAIL FACE =**
EDGE OF PAVEMENT



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

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



GEOTECHNICAL ENGINEERING UNIT
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD DRAWING NO. 1801.01

STANDARD TEMPORARY SHORING

DATE: 1-17-12

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203015**

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0022000000-E	225	89,600	CY	UNCLASSIFIED EXCAVATION
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0057000000-E	226	1,200	CY	UNDERCUT EXCAVATION
0063000000-N	SP	Lump Sum		GRADING
0134000000-E	240	80	CY	DRAINAGE DITCH EXCAVATION
0196000000-E	270	2,200	SY	GEOTEXTILE FOR SOIL STABILIZA-TION
0199000000-E	SP	640	SF	TEMPORARY SHORING
0318000000-E	300	327	TON	FOUNDATION CONDITIONING MATE-RIAL, MINOR STRUCTURES
0320000000-E	300	1,010	SY	FOUNDATION CONDITIONING GEO-TEXTILE
0343000000-E	310	76	LF	15" SIDE DRAIN PIPE
0366000000-E	310	1,220	LF	15" RC PIPE CULVERTS, CLASS III
0372000000-E	310	1,008	LF	18" RC PIPE CULVERTS, CLASS III
0378000000-E	310	452	LF	24" RC PIPE CULVERTS, CLASS III
0384000000-E	310	92	LF	30" RC PIPE CULVERTS, CLASS III
0448200000-E	310	48	LF	15" RC PIPE CULVERTS, CLASS IV
0582000000-E	310	100	LF	15" CS PIPE CULVERTS, 0.064" THICK
0588000000-E	310	44	LF	18" CS PIPE CULVERTS, 0.064" THICK
0636000000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (15", 0.064")
0995000000-E	340	599	LF	PIPE REMOVAL
1099500000-E	505	675	CY	SHALLOW UNDERCUT
1099700000-E	505	1,250	TON	CLASS IV SUBGRADE STABILIZA-TION
1121000000-E	520	5,800	TON	AGGREGATE BASE COURSE

ItemNumber	Sec #	Quantity	Unit	Description
4420000000-N	1120	2	EA	PORTABLE CHANGEABLE MESSAGE SIGN
4430000000-N	1130	80	EA	DRUMS
4445000000-E	1145	200	LF	BARRICADES (TYPE III)
4450000000-N	1150	480	HR	FLAGGER
4465000000-N	1160	4	EA	TEMPORARY CRASH CUSHIONS
4480000000-N	1165	3	EA	TMA
4485000000-E	1170	1,640	LF	PORTABLE CONCRETE BARRIER
4510000000-N	SP	96	HR	LAW ENFORCEMENT
4516000000-N	1180	25	EA	SKINNY DRUM
4650000000-N	1251	36	EA	TEMPORARY RAISED PAVEMENT MARKERS
4695000000-E	1205	120	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
4710000000-E	1205	35	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
4725000000-E	1205	2	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
4810000000-E	1205	10,425	LF	PAINT PAVEMENT MARKING LINES (4")
4815000000-E	1205	1,654	LF	PAINT PAVEMENT MARKING LINES (6")
4847000000-E	1205	17,378	LF	POLYUREA PAVEMENT MARKING LINES (4", *****) (HIGHLY REFLECTIVE ELEMENTS)
4855000000-E	1205	1,654	LF	REMOVAL OF PAVEMENT MARKING LINES (6")
5326600000-E	1510	668	LF	16" WATER LINE
5558600000-E	1515	2	EA	16" VALVE
5648000000-N	1515	2	EA	RELOCATE WATER METER
5672000000-N	1515	2	EA	RELOCATE FIRE HYDRANT
5810000000-E	1530	290	LF	ABANDON 16" UTILITY PIPE
5814000000-E	1530	132	LF	ABANDON 30" UTILITY PIPE
5836400000-E	1540	166	LF	36" ENCASEMENT PIPE

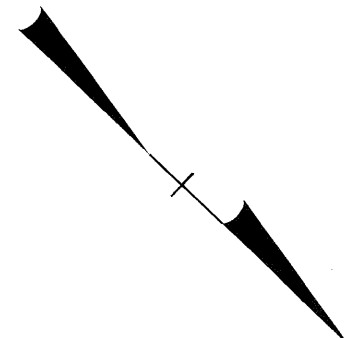
SUMMARY OF QUANTITIES - U-2579G

ItemNumber	Sec #	Quantity	Unit	Description
1220000000-E	545	200	TON	INCIDENTAL STONE BASE
1275000000-E	600	421	GAL	PRIME COAT
1330000000-E	607	670	SY	INCIDENTAL MILLING
1489000000-E	610	970	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1491000000-E	610	1,300	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C
1498000000-E	610	1,590	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1503000000-E	610	720	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C
1519000000-E	610	1,920	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1523000000-E	610	530	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5C
1575000000-E	620	360	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	20	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2000000000-N	806	39	EA	RIGHT OF WAY MARKERS
2022000000-E	815	224	CY	SUBDRAIN EXCAVATION
2033000000-E	815	168	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	1,000	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	2	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	12	LF	6" OUTLET PIPE
2253000000-E	840	1.4	CY	PIPE COLLARS
2286000000-N	840	28	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	6.5	LF	MASONRY DRAINAGE STRUCTURES
2364200000-N	840	5	EA	FRAME WITH TWO GRATES, STD 840.20
2365000000-N	840	5	EA	FRAME WITH TWO GRATES, STD 840.22
2366000000-N	840	13	EA	FRAME WITH TWO GRATES, STD 840.24
2367000000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29
2396000000-N	840	3	EA	FRAME WITH COVER, STD 840.54

ItemNumber	Sec #	Quantity	Unit	Description
5872400000-E	1550	83	LF	TRENCHLESS INSTALLATION OF 36" IN SOIL
5872410000-E	1550	83	LF	TRENCHLESS INSTALLATION OF 36" NOT IN SOIL
6000000000-E	1605	5,700	LF	TEMPORARY SILT FENCE
6006000000-E	1610	360	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	2,770	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	1,070	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	15	ACR	TEMPORARY MULCHING
6018000000-E	1620	500	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	3	TON	FERTILIZER FOR TEMPORARY SEED-ING
6024000000-E	1622	1,170	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	300	LF	SAFETY FENCE
6030000000-E	1630	2,350	CY	SILT EXCAVATION
6036000000-E	1631	14,000	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	50	SY	COIR FIBER MAT
6038000000-E	SP	5,000	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	1,050	LF	1/4" HARDWARE CLOTH
6071012000-E	SP	210	LF	COIR FIBER WATTLE
6071020000-E	SP	540	LB	POLYACRYLAMIDE (PAM)
6071030000-E	1640	710	LF	COIR FIBER BAFFLE
6071050000-E	SP	5	EA	*** SKIMMER (1-1/2")
6084000000-E	1660	12	ACR	SEEDING & MULCHING
6087000000-E	1660	8	ACR	MOWING
6090000000-E	1661	150	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.5	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	425	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	12.5	TON	FERTILIZER TOPDRESSING

ItemNumber	Sec #	Quantity	Unit	Description
2556000000-E	846	100	LF	SHOULDER BERM GUTTER
2724000000-E	857	450	LF	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED
3030000000-E	862	2,450	LF	STEEL BM GUARDRAIL
3045000000-E	862	25	LF	STEEL BM GUARDRAIL, SHOP CURVED
3105000000-N	862	2	EA	STEEL BM GUARDRAIL TERMINAL SECTIONS
3150000000-N	862	10	EA	ADDITIONAL GUARDRAIL POSTS
3195000000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1
3210000000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1
3270000000-N	SP	6	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3317000000-N	862	6	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
3360000000-E	863	1,880	LF	REMOVE EXISTING GUARDRAIL
3503000000-E	866	940	LF	WOVEN WIRE FENCE, 47" FABRIC
3509000000-E	866	60	EA	4" TIMBER FENCE POSTS, 7-6" LONG
3515000000-E	866	30	EA	5" TIMBER FENCE POSTS, 8-0" LONG
3628000000-E	876	70	TON	RIP RAP, CLASS 1
3649000000-E	876	165	TON	RIP RAP, CLASS B
3656000000-E	876	2,115	SY	GEOTEXTILE FOR DRAINAGE
4072000000-E	903	156	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4102000000-N	904	12	EA	SIGN ERECTION, TYPE E
4155000000-N	907	17	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4400000000-E	1110	888	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	224	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	106	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	4	EA	FLASHING ARROW BOARD

ItemNumber	Sec #	Quantity	Unit	Description
6114500000-N	1667	40	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	25	EA	RESPONSE FOR EROSION CONTROL



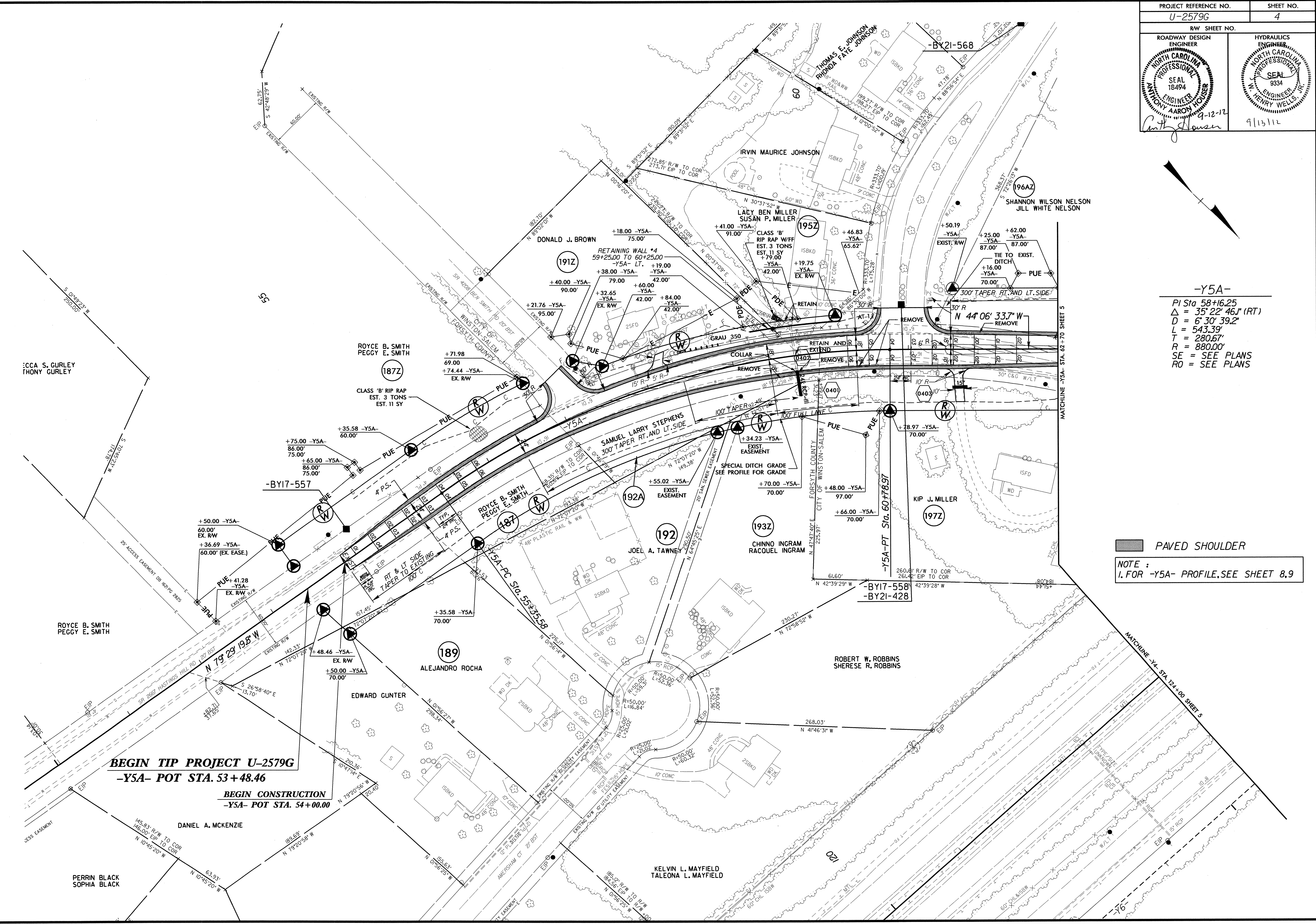
-Y5A-
 PI Sta 58+16.25
 $\Delta = 35^{\circ} 22' 46.1''$ (RT)
 $D = 6^{\circ} 30' 39.2''$
 $L = 543.39'$
 $T = 280.67'$
 $R = 880.00'$
 SE = SEE PLANS
 RO = SEE PLANS

PAVED SHOULDER

NOTE:
 1. FOR -Y5A- PROFILE, SEE SHEET 8.9

REVISIONS

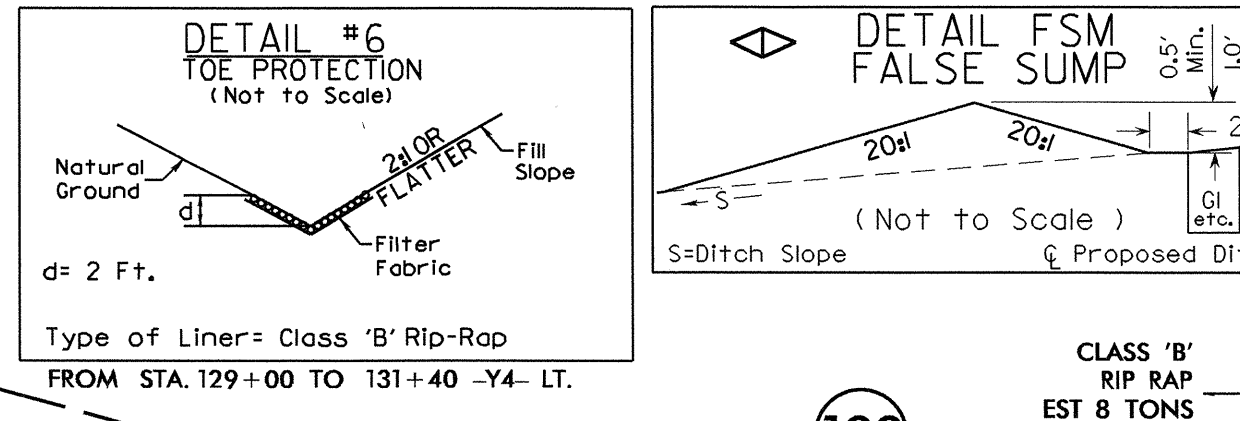
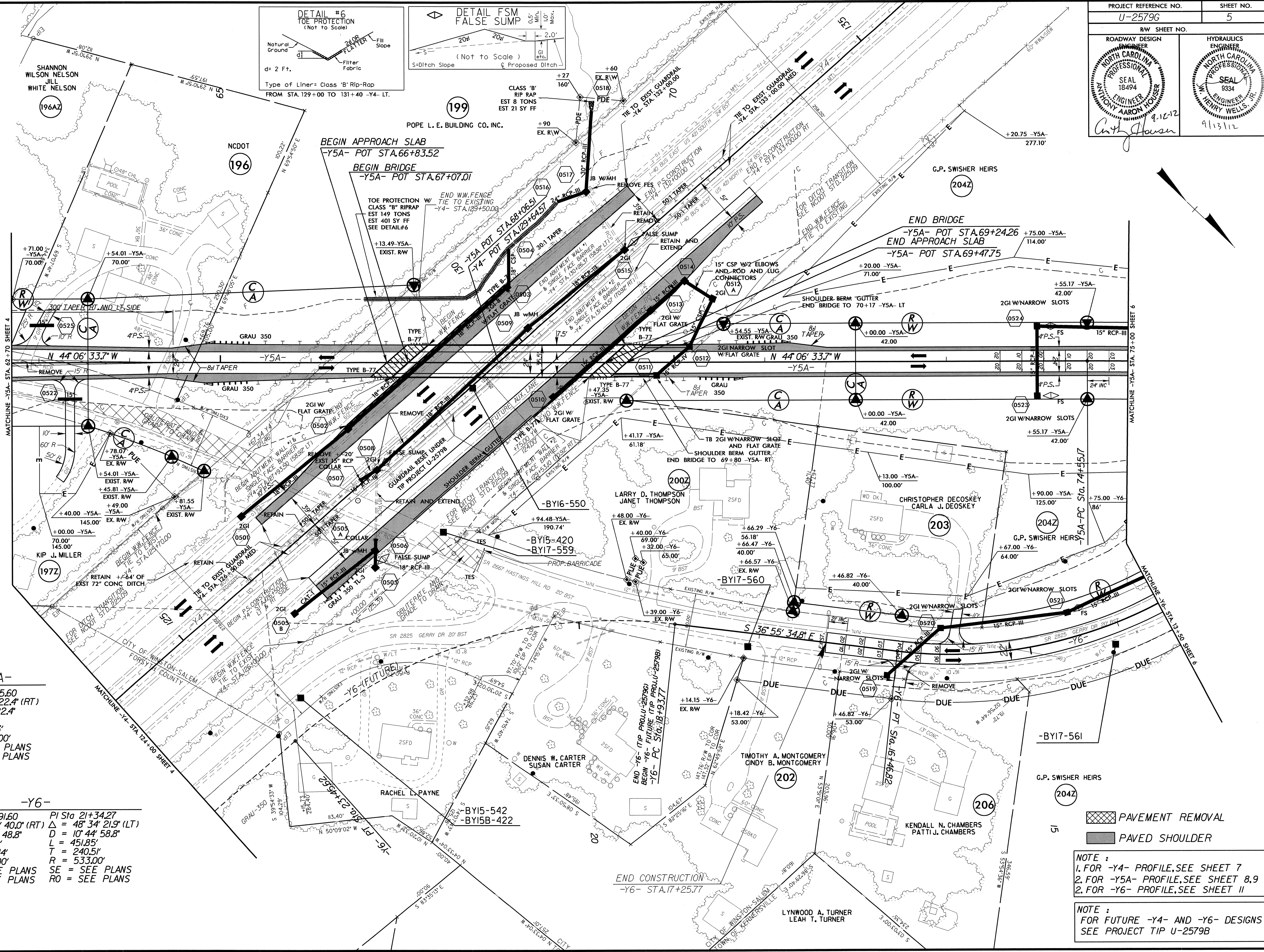
RIGHT OF WAY REVISION, 82/02 - PARCEL 187Z PERMANENT UTILITY EASEMENT ADDED FROM -Y5A- STA. 57+30.75 TO STA. 57+84.00 LT.
 RIGHT OF WAY REVISION, 82/02 - PARCEL 187Z PERMANENT UTILITY EASEMENT ADDED FROM -Y5A- STA. 57+30.75 TO STA. 57+84.00 LT.
 RIGHT OF WAY REVISION, 82/02 - ADJUSTED TEMPORARY CONSTRUCTION EASEMENT AT -Y5A- STA. 57+60.00 (42') TO STA. 57+84.00 (42') LT.
 RIGHT OF WAY REVISION, 82/02 - PARCEL 193Z PERMANENT UTILITY EASEMENT ADDED AT -Y5A- STA. 57+70.00 RT.
 RIGHT OF WAY REVISION, 82/02 - PARCEL 193Z PERMANENT UTILITY EASEMENT ADDED AT -Y5A- STA. 57+70.00 RT.
 RIGHT OF WAY REVISION, 82/02 - PARCEL 192Z PERMANENT UTILITY EASEMENT ADDED AT -Y5A- STA. 57+70.00 RT.
 RIGHT OF WAY REVISION, 82/02 - PARCEL 192Z PERMANENT UTILITY EASEMENT ADDED AT -Y5A- STA. 57+70.00 RT.
 RIGHT OF WAY REVISION, 82/02 - PARCEL 192Z PERMANENT UTILITY EASEMENT ADDED AT -Y5A- STA. 57+70.00 RT.
 RIGHT OF WAY REVISION, 82/02 - PARCEL 192Z PERMANENT UTILITY EASEMENT ADDED AT -Y5A- STA. 57+70.00 RT.



BEGIN TIP PROJECT U-2579G
-Y5A- POT STA. 53+48.46

BEGIN CONSTRUCTION
-Y5A- POT STA. 54+00.00

12-SEP-2012 10:27:57 2579g-rdy.pln_sht04.dgn
 P:\2579G\PROJECT\TOP\12-SEP-2012 10:27:57 2579g-rdy.pln_sht04.dgn



RIGHT OF WAY REVISION 82402 - PARCEL 1972, PERMANENT UTILITY EASEMENT ADDED FROM -Y5A- STA 63+78.07 TO STA 64+49.00 RT
 RIGHT OF WAY REVISION 82402 - PARCEL 2002, PERMANENT UTILITY EASEMENT ADDED FROM -Y6- STA 17+40.00 TO STA 17+40.00 AND PARCEL 1964Z
 RIGHT OF WAY REVISION 82402 - PARCEL 1964Z, PERMANENT UTILITY EASEMENT ADDED FROM -Y5A- STA 62+16.00 TO STA 62+71.00 LT

-Y5A-
 PI Sta 77+45.60
 $\Delta = 8^{\circ} 32' 22.4" (RT)$
 $D = 1^{\circ} 28' 22.4"$
 $L = 579.78'$
 $T = 290.43'$
 $R = 3,890.00'$
 SE = SEE PLANS
 RO = SEE PLANS

-Y6-
 PI Sta 13+91.60 PI Sta 21+34.27
 $\Delta = 7^{\circ} 04' 40.0" (RT)$ $\Delta = 48^{\circ} 34' 21.9" (LT)$
 $D = 1^{\circ} 48' 48.8"$ $D = 10^{\circ} 44' 58.8"$
 $L = 601.66'$ $L = 451.85'$
 $T = 346.44'$ $T = 240.51'$
 $R = 485.00'$ $R = 533.00'$
 SE = SEE PLANS SE = SEE PLANS
 RO = SEE PLANS RO = SEE PLANS

PAVEMENT REMOVAL
 PAVED SHOULDER

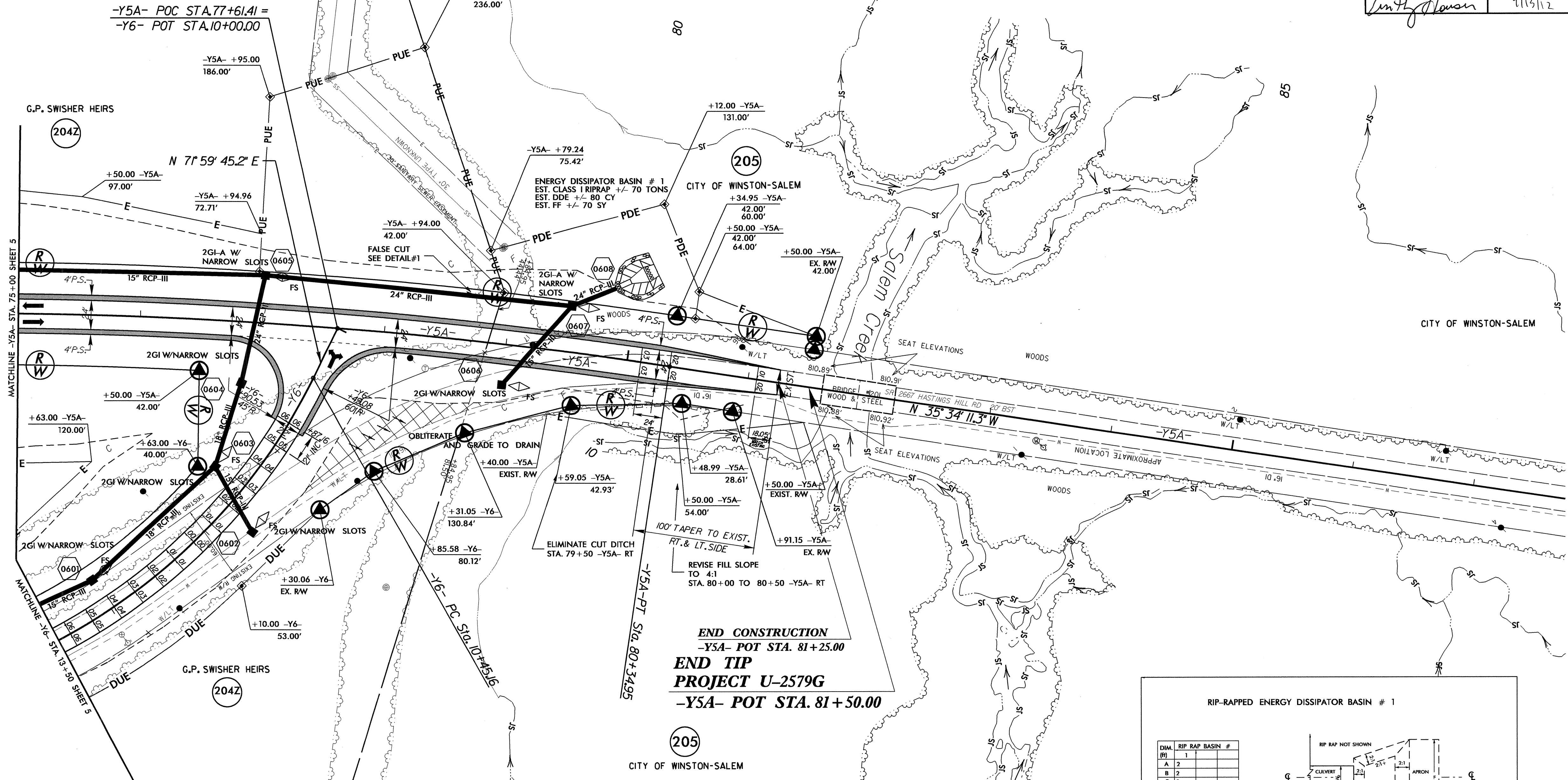
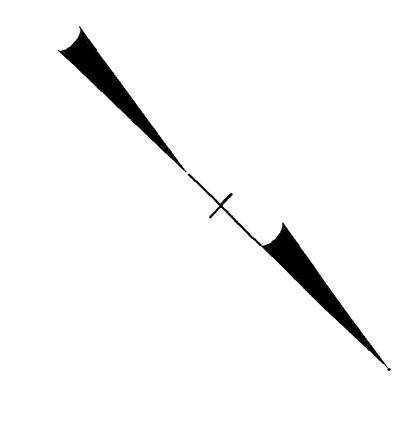
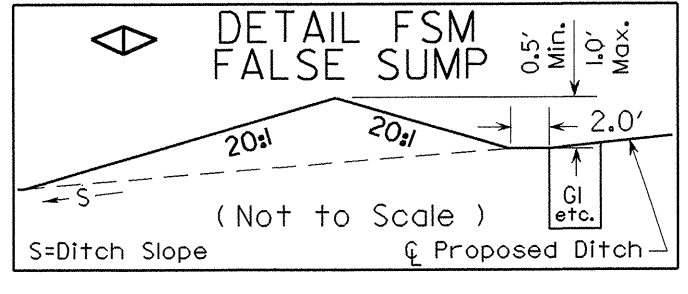
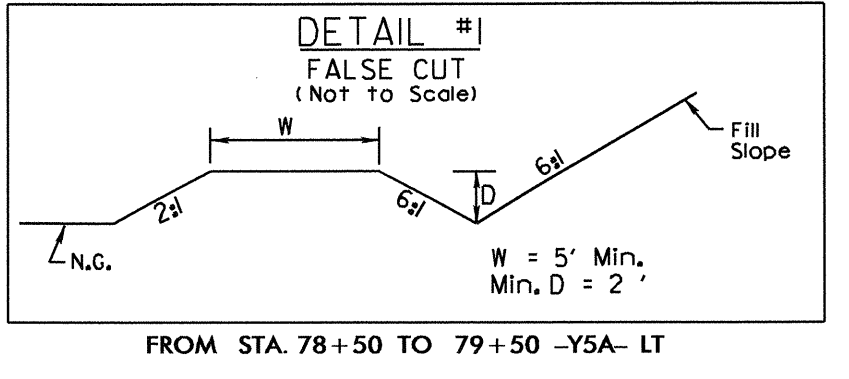
NOTE :
 1. FOR -Y4- PROFILE, SEE SHEET 7
 2. FOR -Y5A- PROFILE, SEE SHEET 8, 9
 3. FOR -Y6- PROFILE, SEE SHEET 11

NOTE :
 FOR FUTURE -Y4- AND -Y6- DESIGNS
 SEE PROJECT TIP U-2579B

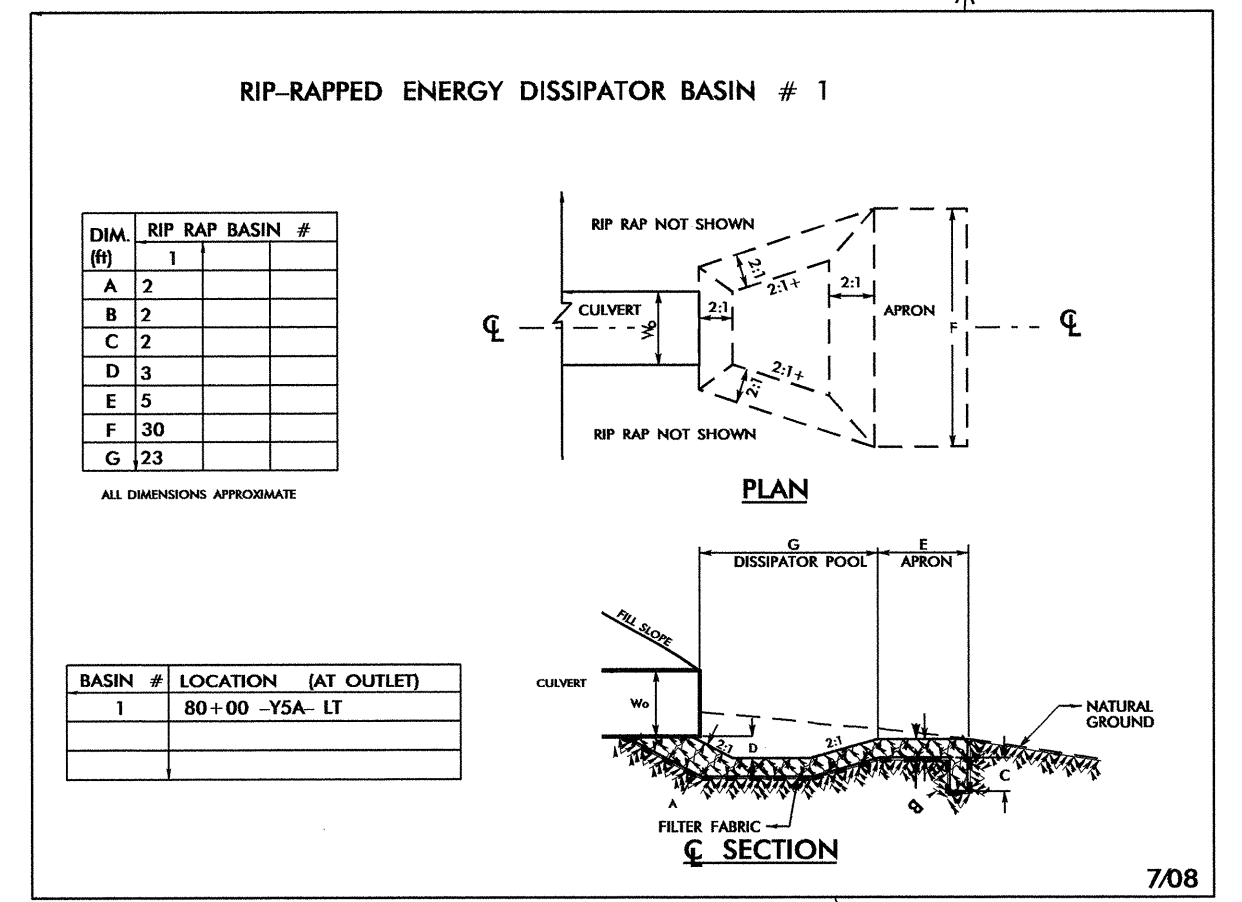
REVISIONS

5/14/99

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END CONSTRUCTION
-Y5A- POT STA. 81+25.00
END TIP
PROJECT U-25796
-Y5A- POT STA. 81+50.00



PAVEMENT REMOVAL
 PAVED SHOULDER

NOTE:
1. FOR -Y5A- PROFILE, SEE SHEET 9,10
2. FOR -Y6- PROFILE, SEE SHEET 11

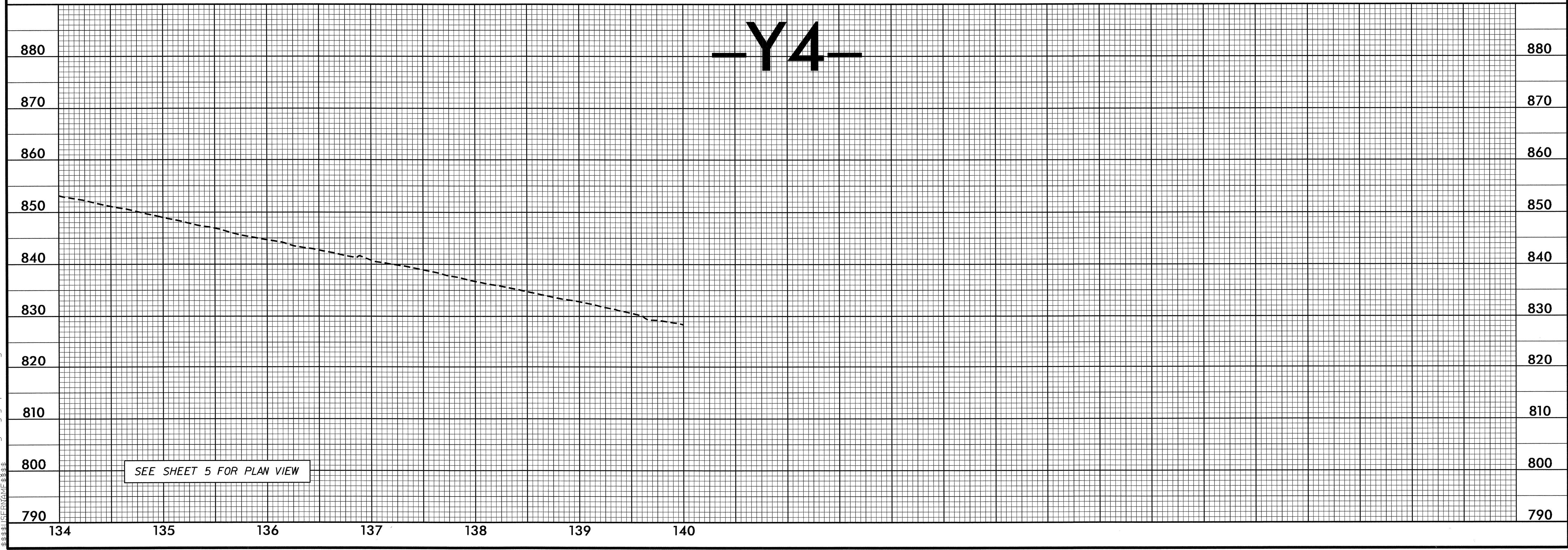
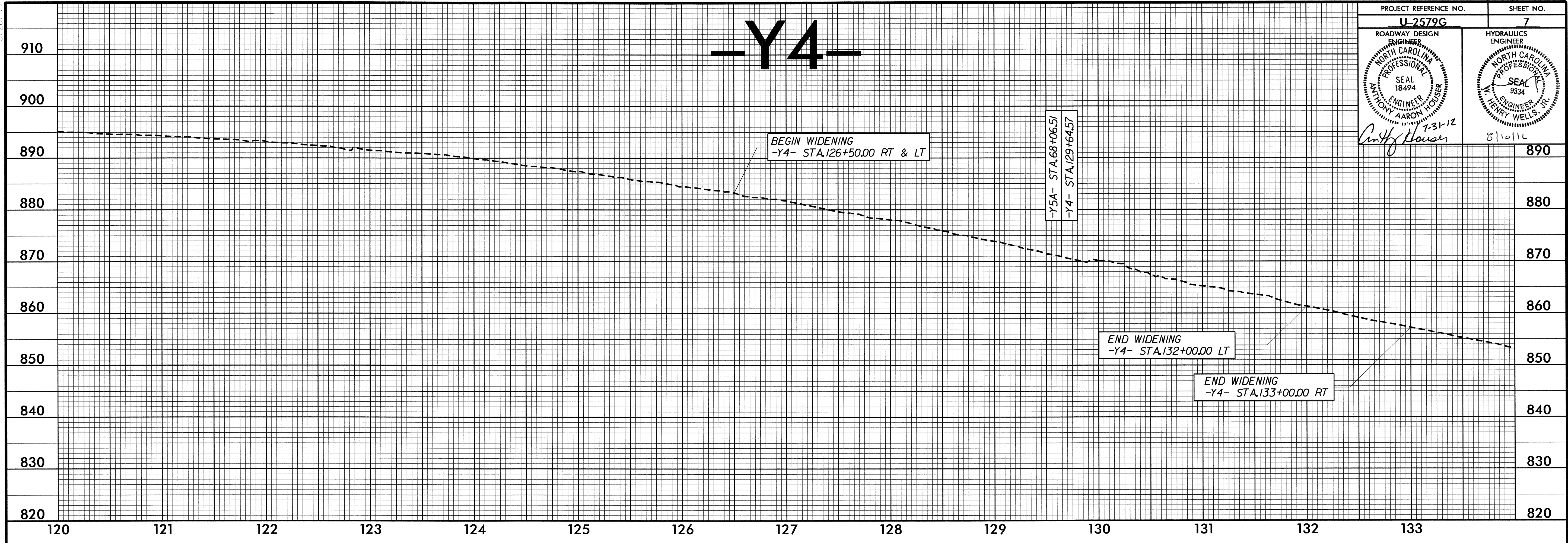
-Y5A-	-Y6-
PI Sta 77+45.60	PI Sta 13+91.60
$\Delta = 8^\circ 32' 22.4''$ (RT)	$\Delta = 71^\circ 04' 40.0''$ (RT)
D = 1' 28' 22.4"	D = 1' 48' 48.8"
L = 579.78'	L = 601.66'
T = 290.43'	T = 346.44'
R = 3,890.00'	R = 485.00'
SE = SEE PLANS	SE = SEE PLANS
RO = SEE PLANS	RO = SEE PLANS

REVISIONS

8/17/09
P:\SEP-2012\10-27\U-25796-rdy.pln_sht+06.dgn

5/28/99

PROJECT REFERENCE NO. U-2579G	SHEET NO. 7
ROADWAY DESIGN NORTH CAROLINA PROFESSIONAL SEAL 18494 HENRY AARON HOUSE	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 9334 HENRY WELLS JR.
<i>Amity House</i> 7/31/12	8/10/12



24 JUL 2012 09:13
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5/28/99

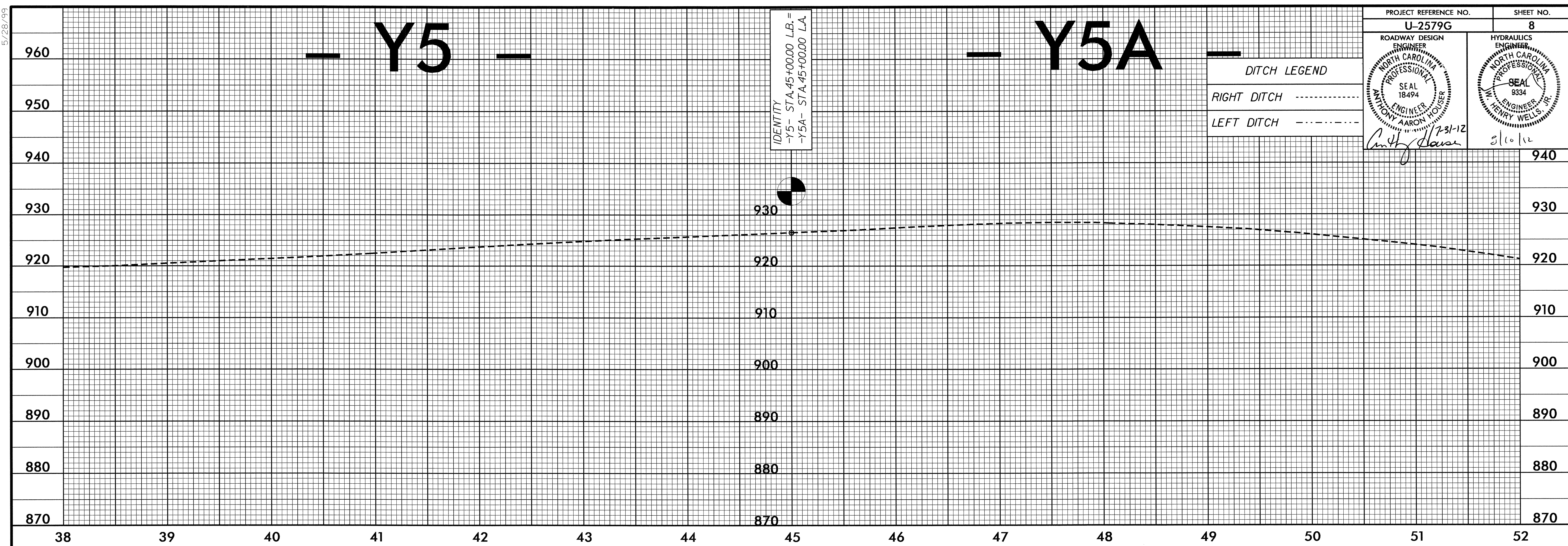
— Y5 —

— Y5A —

PROJECT REFERENCE NO. U-2579G	SHEET NO. 8
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 18494 ANTHONY AARON TOULBER	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 9394 HENRY WELLS JR.
<i>Anthony Toulber</i> 7/31/12	5/10/12

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

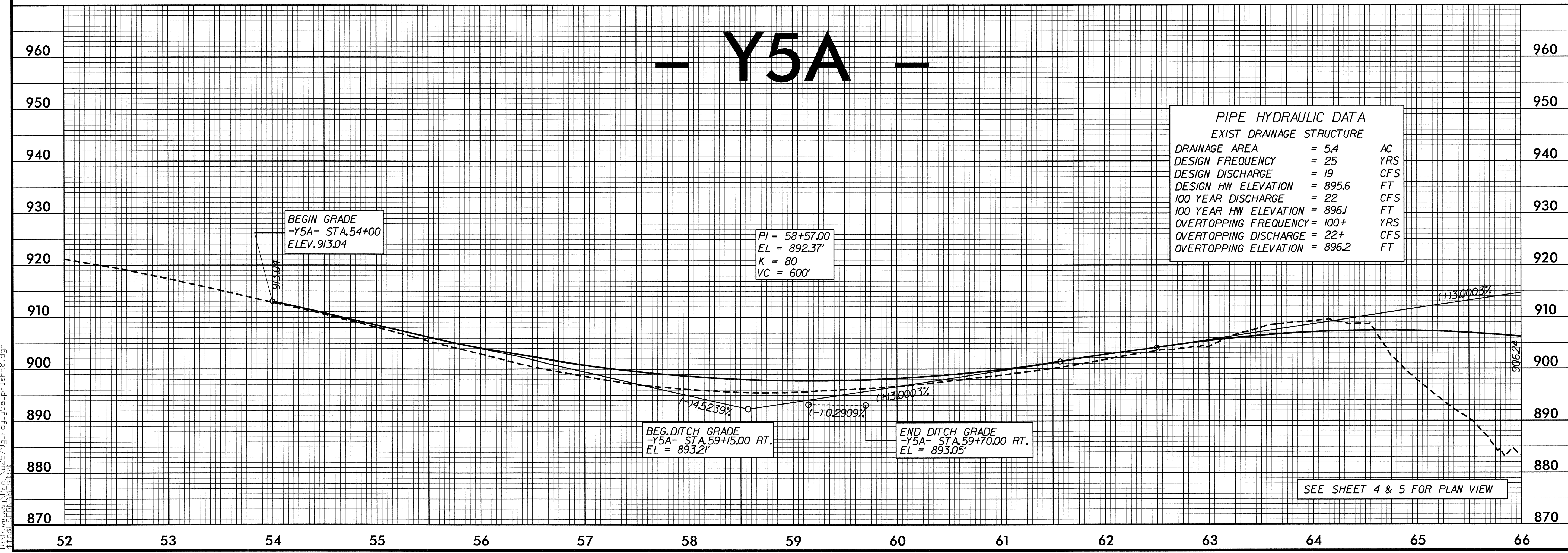
IDENTITY
 -Y5- STA.45+00.00 L.B.=
 -Y5A- STA.45+00.00 L.A.



— Y5A —

PIPE HYDRAULIC DATA
EXIST DRAINAGE STRUCTURE

DRAINAGE AREA	= 5.4	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 19	CFS
DESIGN HW ELEVATION	= 895.6	FT
100 YEAR DISCHARGE	= 22	CFS
100 YEAR HW ELEVATION	= 896.1	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 22+	CFS
OVERTOPPING ELEVATION	= 896.2	FT



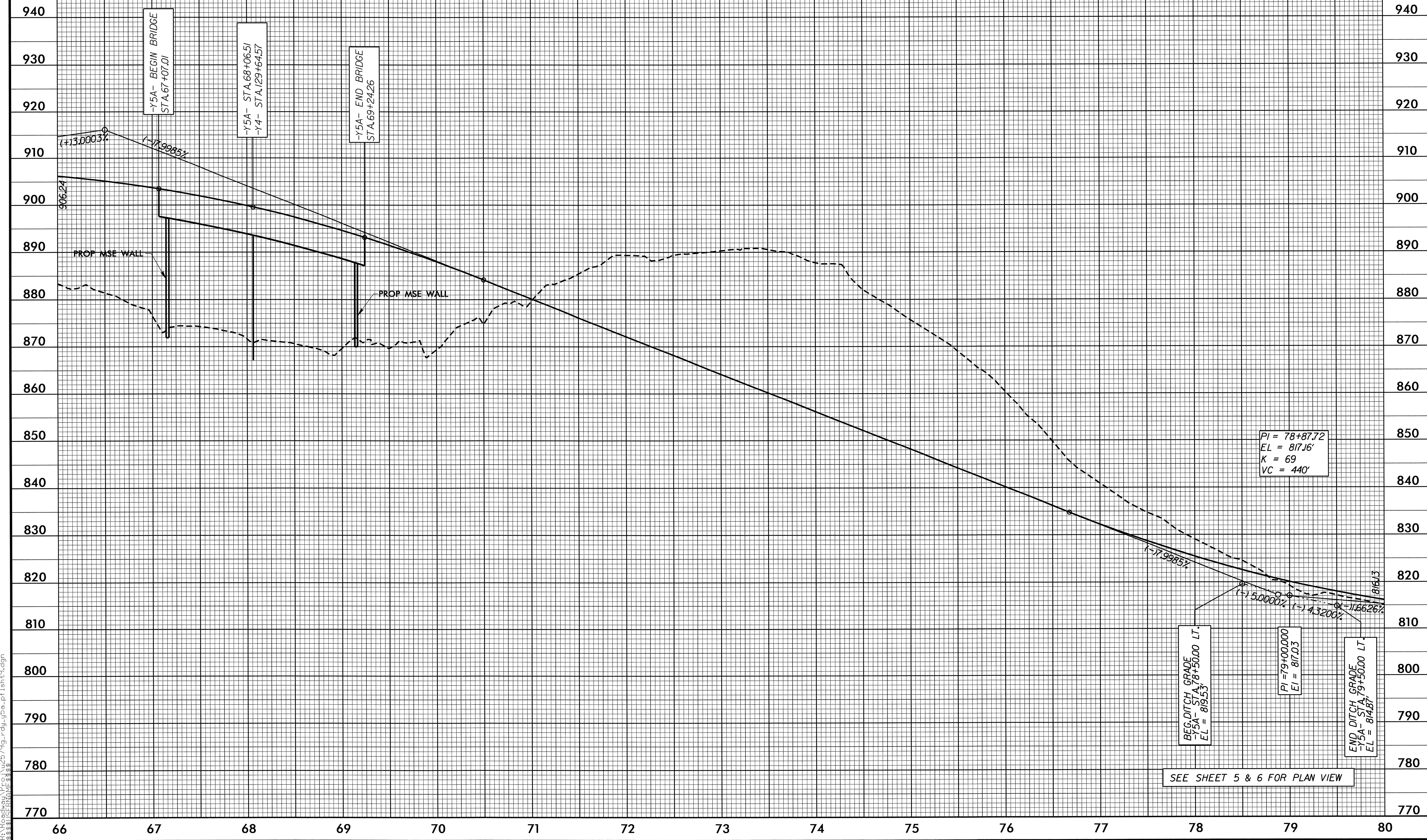
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5/14/99

- Y5A -

DITCH LEGEND RIGHT DITCH ----- LEFT DITCH -----	PROJECT REFERENCE NO. U-2579G	SHEET NO. 9
	ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494 ANTHONY AARON HOUSER	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 8334 HENRY WELLS, JR.

PI = 66+50.00
EL = 916.16'
VC = 800'
K = 73



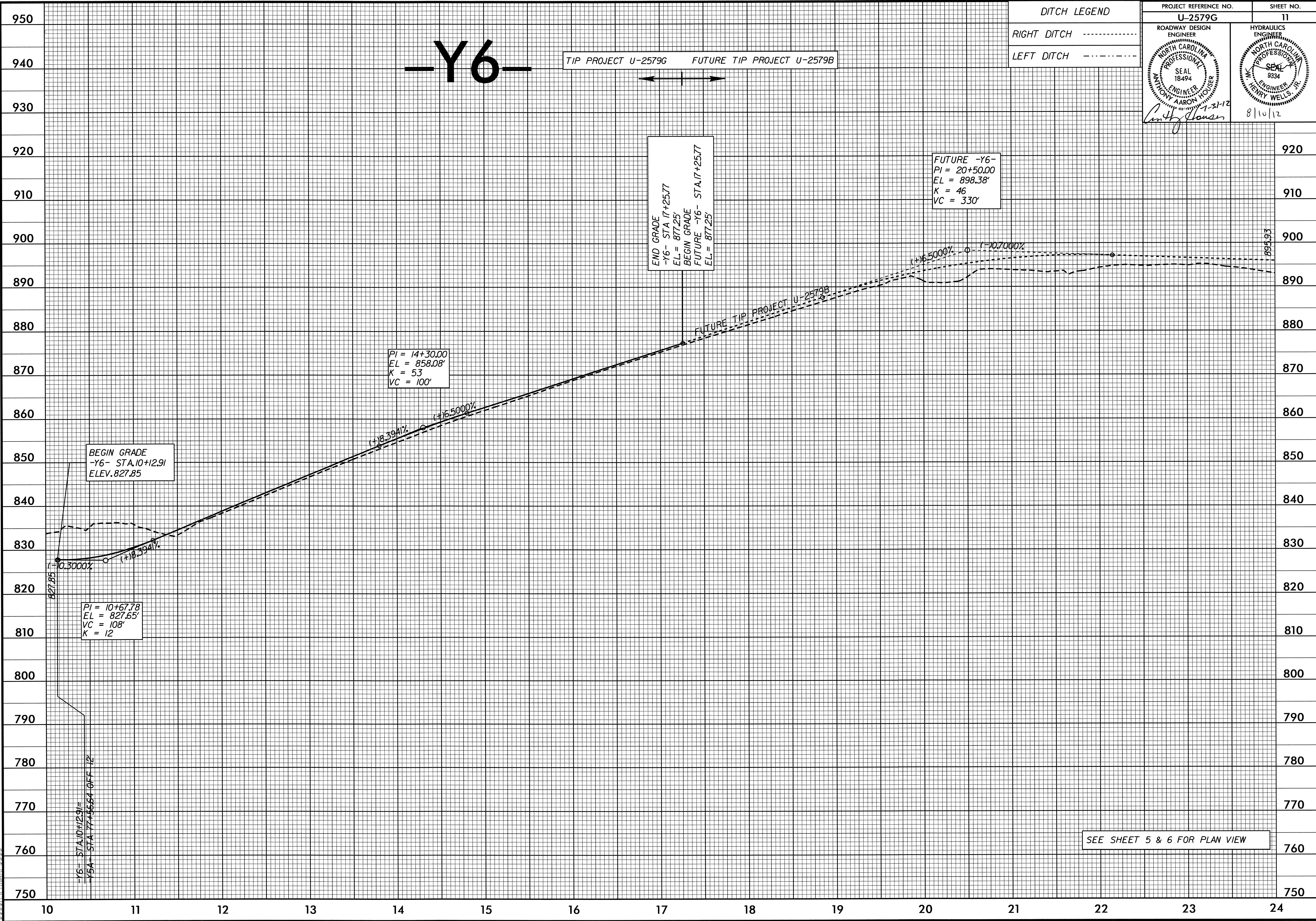
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5/14/99

24-JUL-2012 09:43
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5/14/99
 24-JUL-2012 09:42
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 15A STA 77+56.64 OFF 12



DITCH LEGEND

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

PROJECT REFERENCE NO. U-2579G	SHEET NO. 11
ROADWAY DESIGN ENGINEER ANTHONY AARON HOUSER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494	HYDRAULICS ENGINEER HENRY WELLS NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 9334
<i>Anthony Houser</i> 8/23/12	8/10/12

SEE SHEET 5 & 6 FOR PLAN VIEW