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09/08/99

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RANDOLPH COUNTY

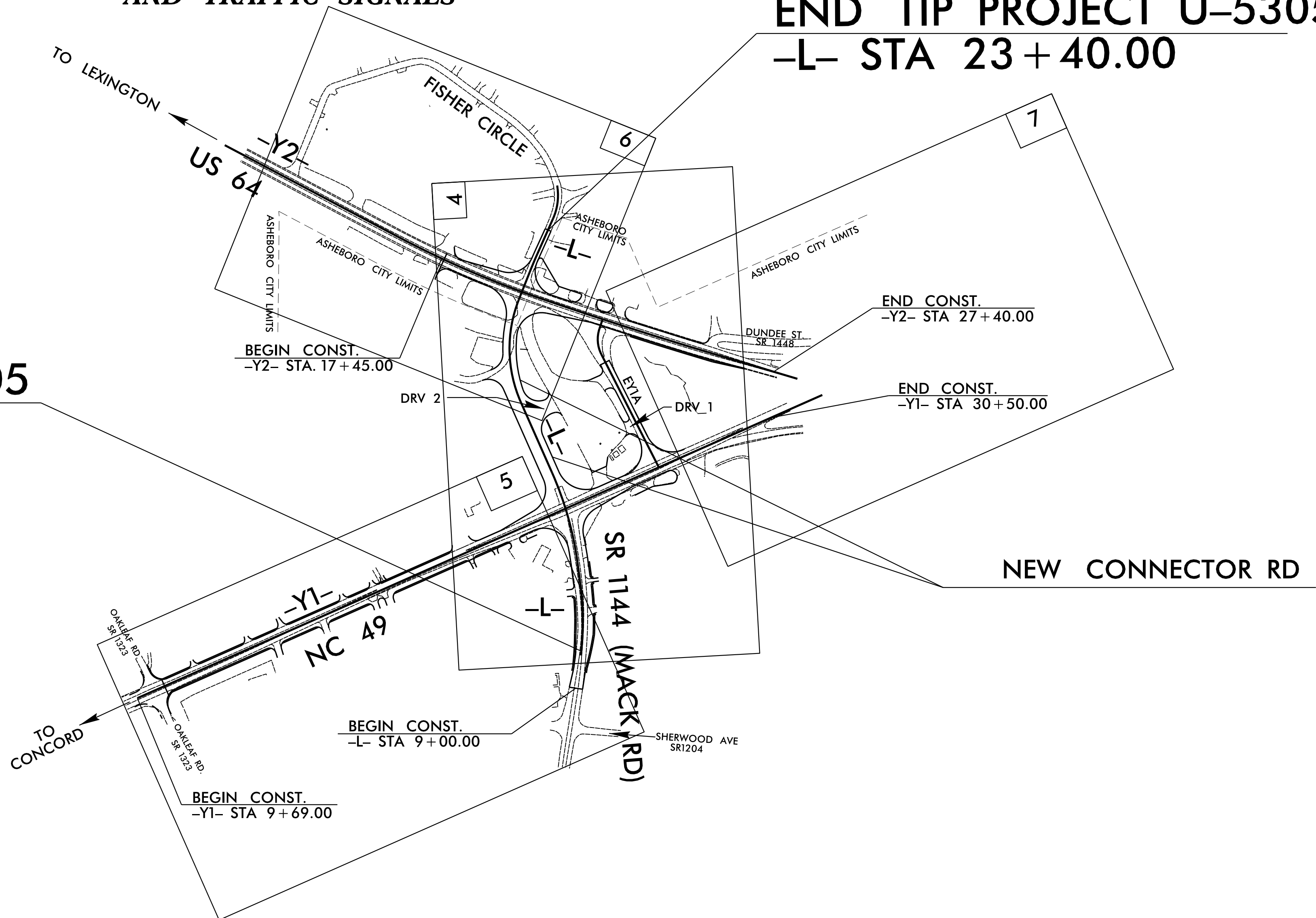
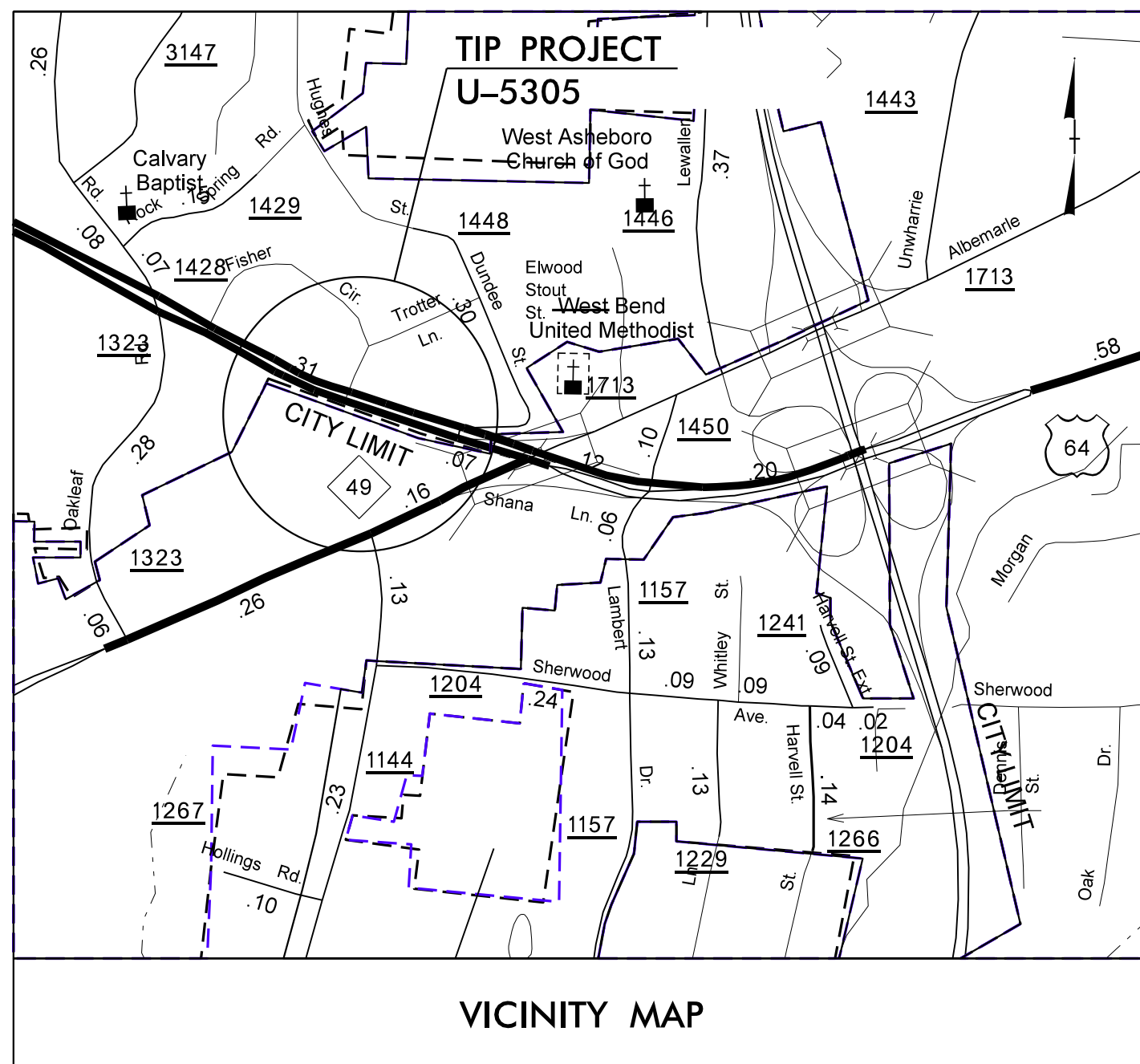
**LOCATION: ASHEBORO- NC 49 INTERSECTION WITH
SR 1144 (MACK ROAD) AND CONNECTOR
ROAD REALIGNMENT WITH US 64 WEST**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING, CURB & GUTTER
AND TRAFFIC SIGNALS**

**END TIP PROJECT U-5305
-L- STA 23 + 40.00**

**BEGIN TIP PROJECT U-5305
-L- STA 9 + 66.96**

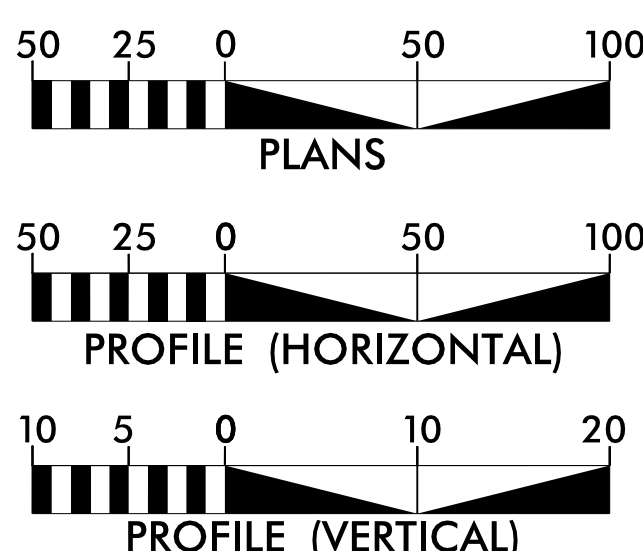
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5305	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
47025.1.1	STPNHS-0049(30)	PE	
47025.2.1	STPNHS-0049(30)	ROW	
47025.2.U1	STPNHS-0049(30)	UTL	
47025.3.FSI	STPNHS-0049(30)	CONST.	



TIP PROJECT: U-5305

CONTRACT: C203460

GRAPHIC SCALES



DESIGN DATA

ADT 2015 = 4400
 ADT 2040 = 5600
 K = 11 %
 D = 90 %
 T = 9 % *
 V = 35 MPH
 * TTST = 6% DUAL 3%
 FUNC CLASS = URBAN, ARTERIAL
 REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-5305 = 0.260 MILES
 TOTAL LENGTH TIP PROJECT U-5305 = 0.260 MILES

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

2012 STANDARD SPECIFICATIONS

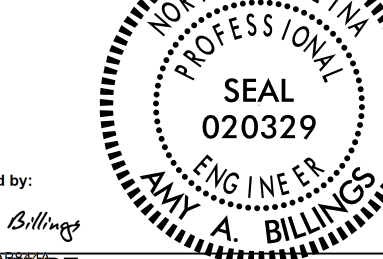
RIGHT OF WAY DATE:
 AUGUST 30, 2013

LETTING DATE:
 MAY 19, 2015

JAMES A. SPEER, PE
 PROJECT ENGINEER

ALLISON K. WHITE
 PROJECT DESIGN ENGINEER

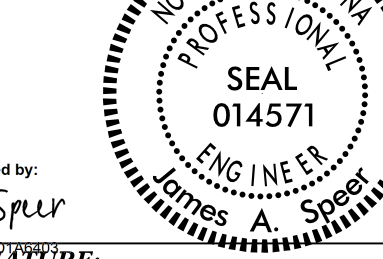
HYDRAULIC ENGINEER



DocuSigned by:
 Amy A. Billings
 SIGNATURE

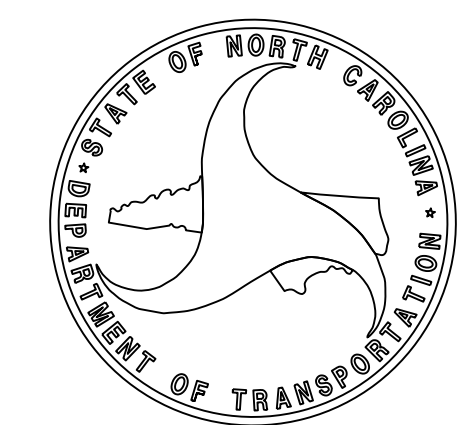
3/4/2015
 P.E.

ROADWAY DESIGN ENGINEER

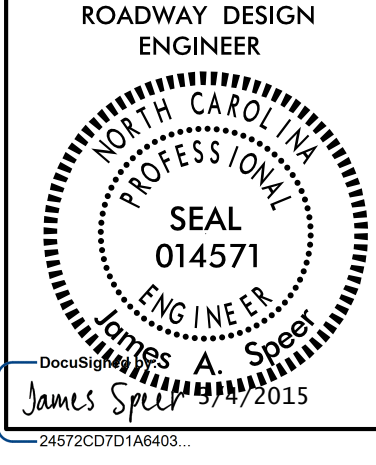


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 James A. Speer
 SIGNATURE

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 P.E.



04-MAR-2015 08:56
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 \$\$\$USERNAME\$\$\$



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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
1C-1 - 1C-2	SURVEY CONTROL SHEET
2A-1 THRU 2A-3	PAVEMENT SCHEDULE, TYPICAL SECTIONS, WEDGING DETAILS
2B-1	INTERSECTION DETAIL
2C-1	CONCRETE CATCH BASIN DETAIL
2H-1	DETAIL FOR TEMPORARY CONTAINMENT OF CONTAMINATED SOIL
3B-1	SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, BREAKING OF EXISTING ASPHALT PAVEMENT SUMMARY AND ASPHALT PAVEMENT REMOVAL SUMMARY
3D-1 THRU 3D-3	SUMMARY OF DRAINAGE QUANTITIES
3P-1	PARCEL INDEX SHEET
4-7	PLAN SHEET
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TMP-1 THRU TMP-11	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-4	PAVEMENT MARKING PLANS
EC-1 THRU EC-11	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-6	SIGNING PLANS
SIG-1 THRU SIG-15	SIGNAL PLANS
UC-1 THRU UC-5	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-3	UTILITY BY OTHERS PLANS
X-1A	CROSS SECTION VOLUME SHEET
X-1 THRU X-24	PROPOSED CROSS SECTIONS

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

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

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

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

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

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

STREET TURNOUT:
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.

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE CITY OF ASHEBORO, DUKE ENERGY, CENTURYLINK, TIME WARNER CABLE, PIEDMONT NATURAL GAS. 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
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.04	Concrete Open Throat Catch Basin - 12" thru 48" Pipe
840.05	Brick Open Throat Catch Basin - 12" thru 48" Pipe
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat 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
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
848.01	Concrete Curb, Gutter and Curb & Gutter
848.04	Street Turnout
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

12/05/11

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	○ 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	--- NLB ---
Proposed Wetland Boundary	--- NLB ---
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	← FLOW
False Sump	▽

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○ R/W ▲
Proposed Right of Way Line with Concrete or Granite R/W Marker	○ R/W ▲
Proposed Control of Access Line with Concrete CA Marker	○ C/A
Existing Control of Access	○ C/A
Proposed Control of Access	○ C/A
Existing Easement Line	--- E ---
Proposed Temporary Construction Easement	--- E ---
Proposed Temporary Drainage Easement	--- TDE ---
Proposed Permanent Drainage Easement	--- PDE ---
Proposed Permanent Drainage / Utility Easement	--- DUE ---
Proposed Permanent Utility Easement	--- PUE ---
Proposed Temporary Utility Easement	--- TUE ---
Proposed Aerial Utility Easement	--- AUE ---
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	☼ ☼ ☼ ☼
Vineyard	□ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	□ CONC
Bridge Wing Wall, Head Wall and End Wall	} CONC WW {
MINOR:	
Head and End Wall	--- CONC HW ---
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○
Storm Sewer	--- S ---

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

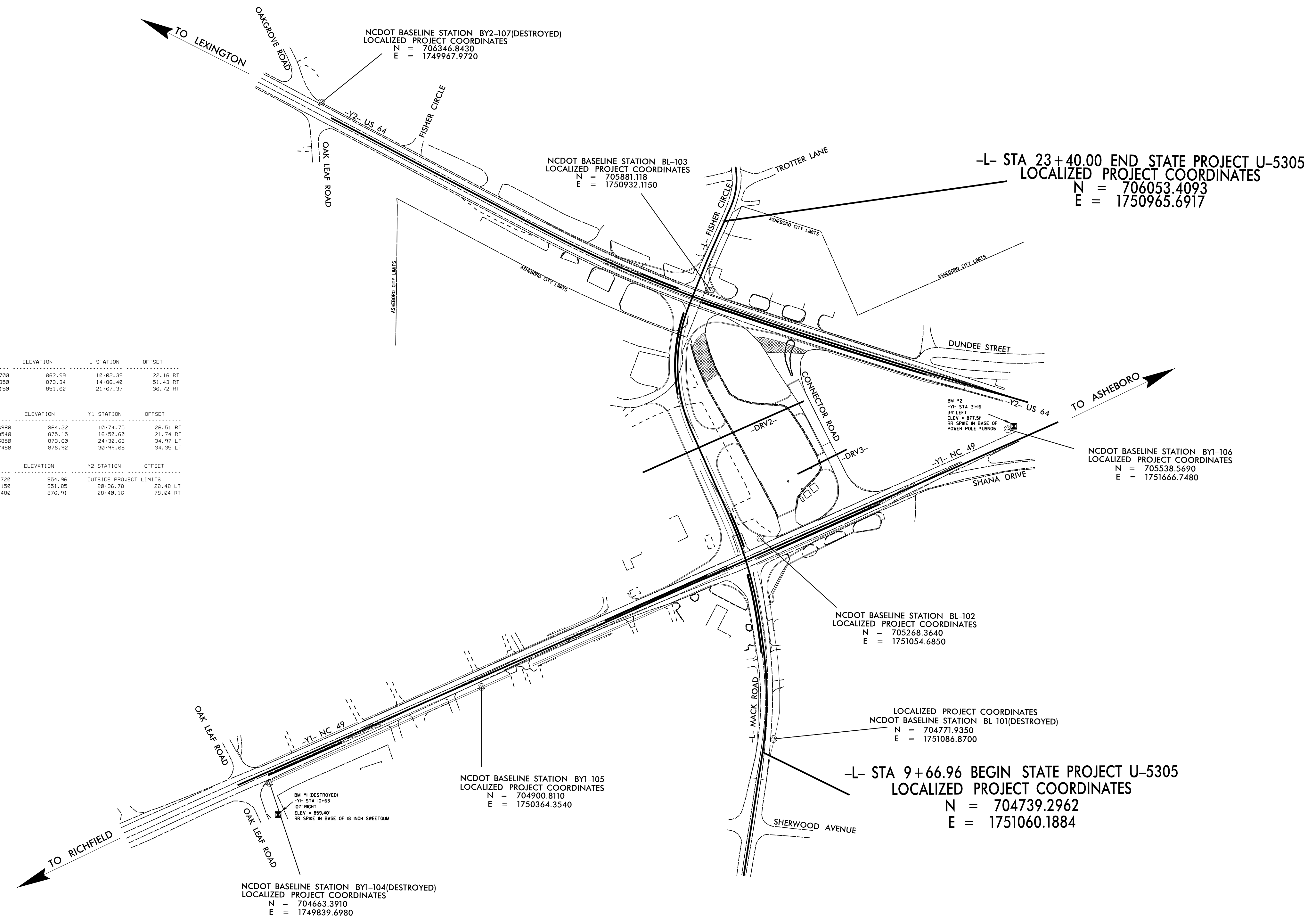
SANITARY SEWER:

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

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line	--- ?U/L ---
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	□ UST
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 U-5305



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "TL6A"

WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 720780.4317(ft) EASTING: 1722528.0049(ft)
 ELEVATION: 454.894(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988402

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "TL6A" TO -L- STATION 9+66.96 IS
 S 60° 39' 17.2" E 32,732.301'

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

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRCONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRCONSTRUCT/HIGHWAY/LOCATION/PROJECT/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 U5305_LS_CONTROL.TXT

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

⊙ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION

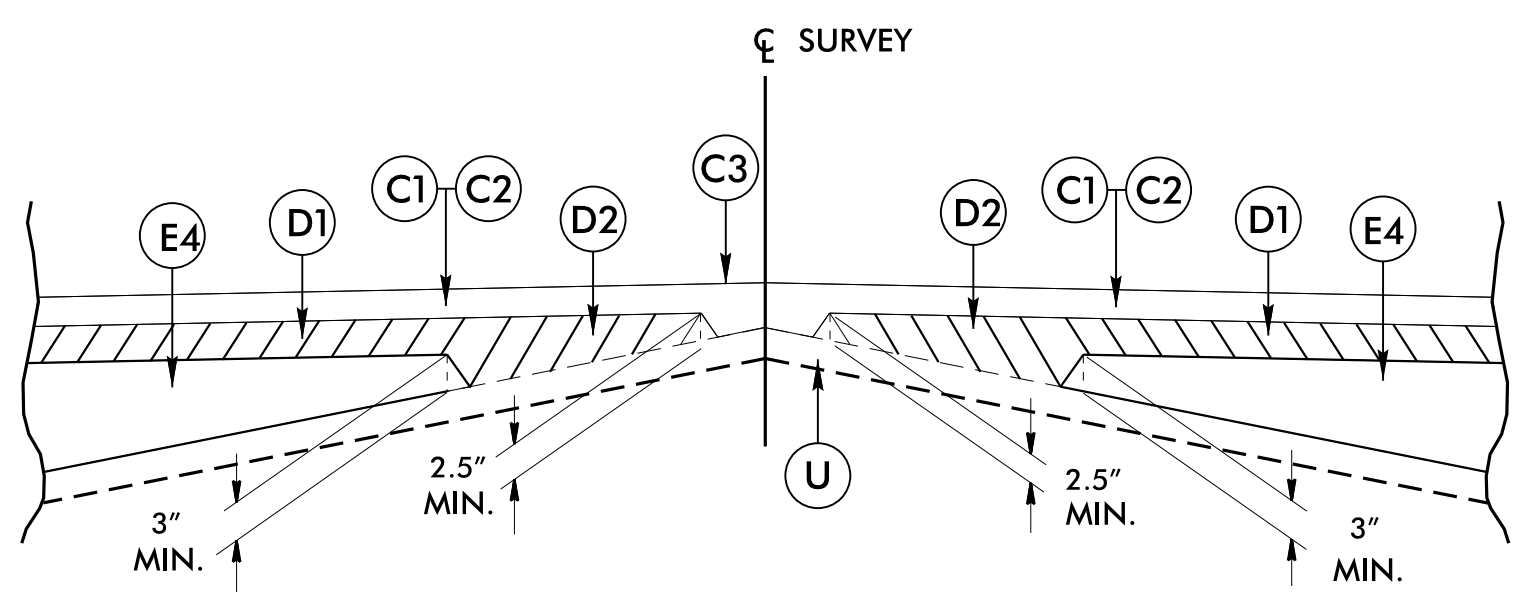
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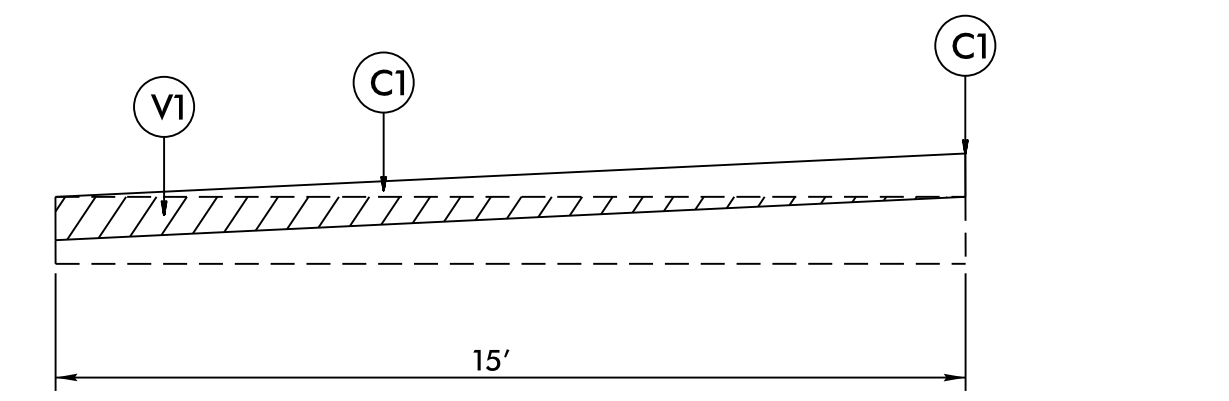
6/2/99

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.
E2	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ.YD.
E3	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ.YD. IN EACH OF TWO LAYERS
E4	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.
R1	PROPOSED 2'-6" CONCRETE CURB AND GUTTER
R2	PROPOSED 5" CONCRETE MONOLITHIC ISLAND
T	EARTH MATERIAL
U	EXISTING PAVEMENT.
V1	MILLING BITUMINOUS PAVEMENT. 0" - 1.5" DEPTH.
V2	MILLING BITUMINOUS PAVEMENT. 0" - 3.0" DEPTH.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

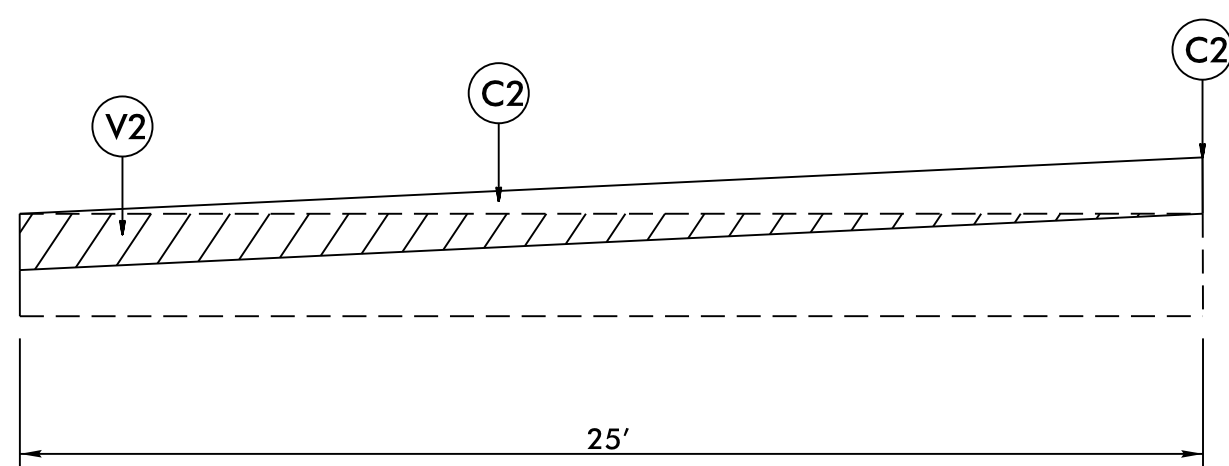
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



Detail Showing Method of Wedging on -L-, -Y1- and -Y2-

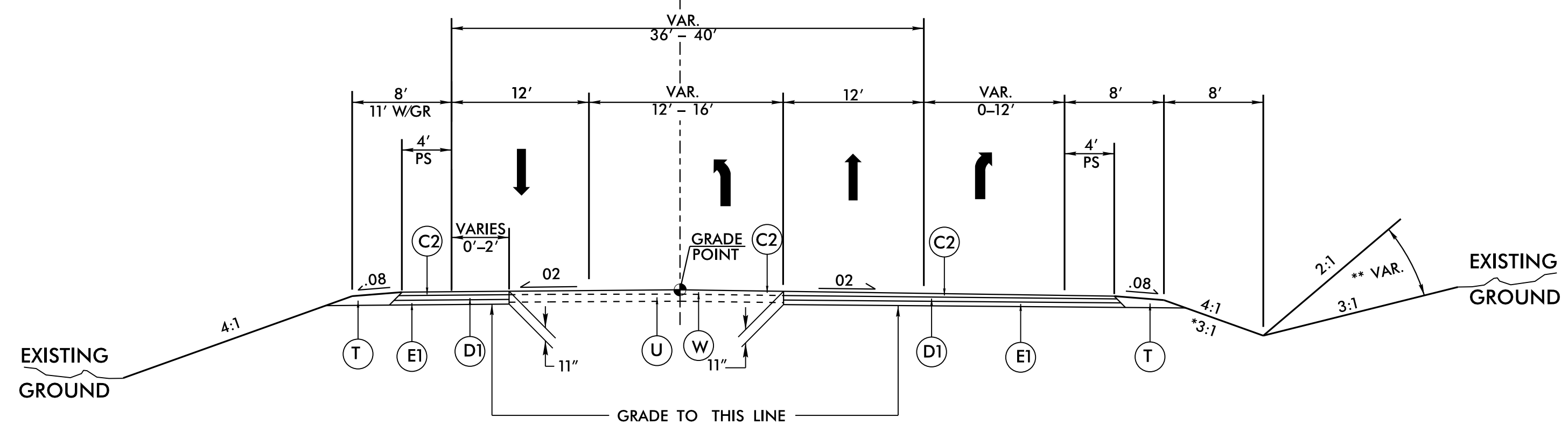


Milling Detail and Resurfacing (-Y2-)

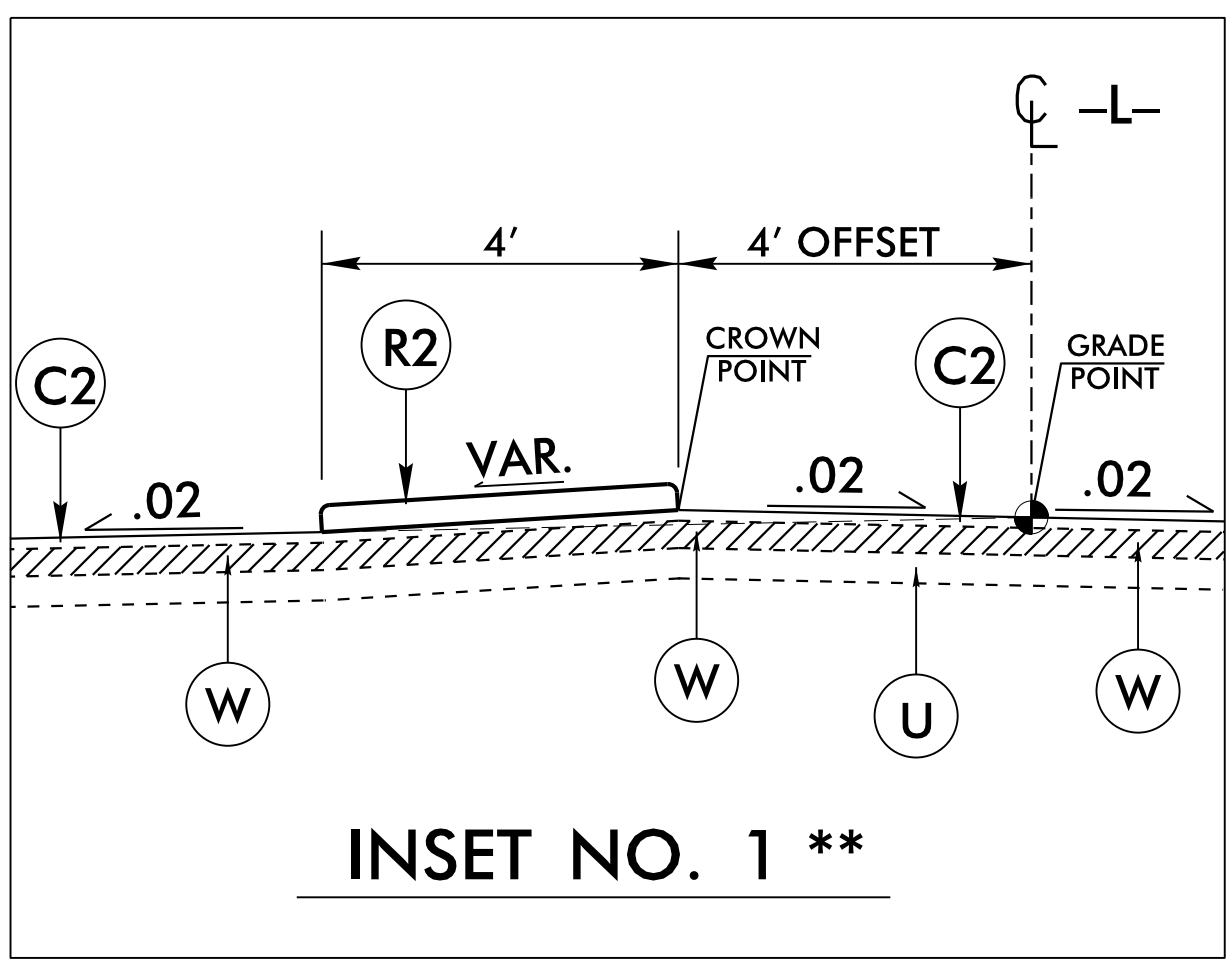


Milling Detail and Resurfacing (-L- AND -Y1-)

CL-L- SR 1144 (MACK ROAD)



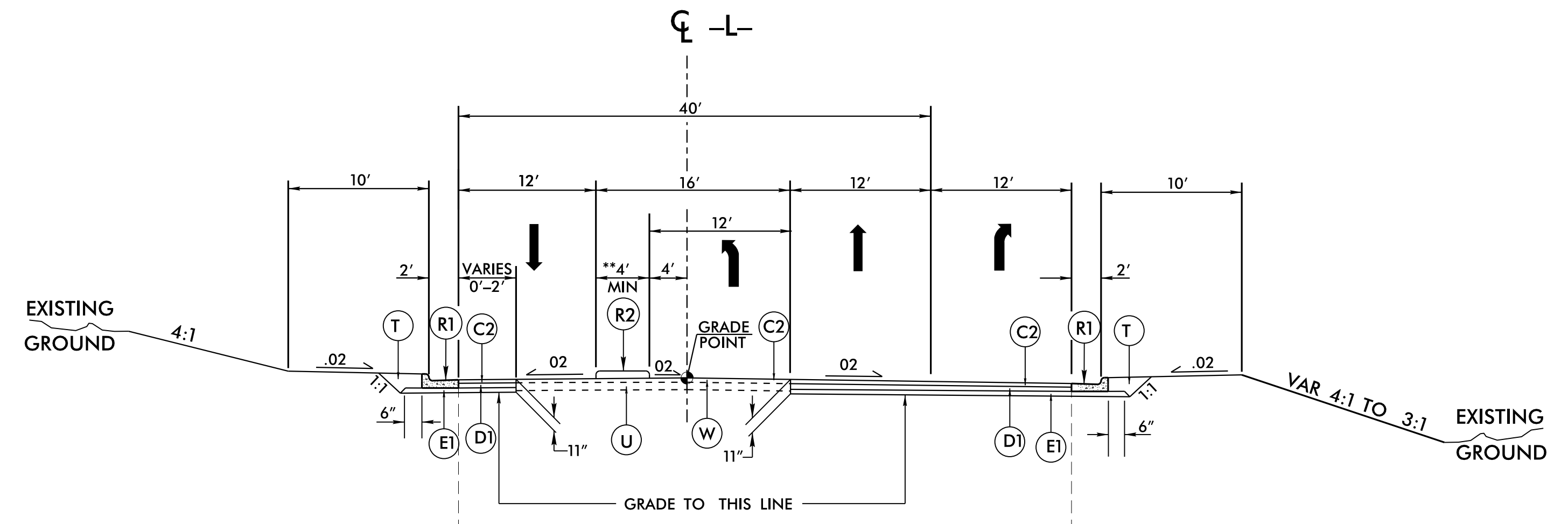
TYPICAL SECTION NO. 1



INSET NO. 1 **

USE WITH TYPICAL SECTIONS NO. 2

-L- STA. 12+33.00 TO STA 13+53.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AS FOLLOWS

-L- STA. 10+65.00 TO STA 14+25.98

**SEE INSET NO. 1 AND PLANS FOR ISLAND LOCATION

*NOTE: USE SHOULDER SECTION
 *-L- STA 10+65.00 TO STA 12+04.47 LT
 *-L- STA 10+65.00 TO STA 12+87.26 RT

*PER DRAINAGE DESIGN
 SEE CROSS SECTIONS

PROJECT REFERENCE NO. U-5305	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER JAMES A. SPUR SEAL 014571 NORTH CAROLINA PROFESSIONAL ENGINEER	PAVEMENT DESIGN ENGINEER CLAYTON S. MORRISON SEAL 022896 NORTH CAROLINA PROFESSIONAL ENGINEER
DocuSigned by: James Spurr 3/4/2015	DocuSigned by: Clark S. Morrison 3/4/2015

TRANSITION FROM EXISTING TO TYPICAL NO. 1
 -L- STA 9+00.00 TO STA 9+75.00

USE TYPICAL SECTION NO. 1 AS FOLLOWS

-L- STA. 9+75.00 TO STA 10+65.00

NOTE: PER DRAINAGE REC.S
 *-L- STA 10+50.00 TO STA 12+00.00 RT
 *-L- STA 10+50.00 TO STA 12+00.00 LT

NOTE: MILL AND RESURFACE WITH V2 AND C2
 -L- STA 9+00.00 TO STA 9+25.00

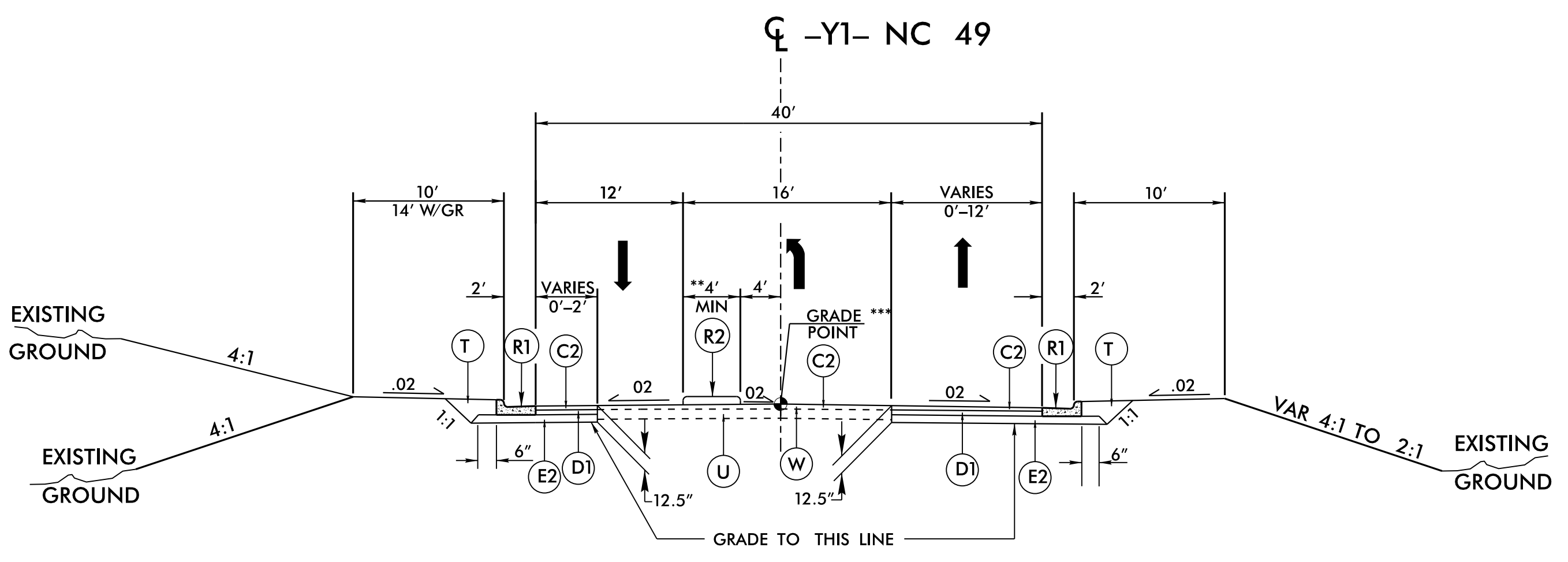
NOTE: RESURFACE WITH C2
 -L- STA 9+25.00 TO STA 9+75.00

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PROJECT REFERENCE NO. U-5305	SHEET NO. 2A-3
ROADWAY DESIGN ENGINEER SEAL 014571 James A. Spurr	PAVEMENT DESIGN ENGINEER SEAL 022896 Clark S. Morrison
DocuSigned by James Spurr 3/4/2015	DocuSigned by Clark S. Morrison 3/4/2015

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.
E2	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ.YD.
E3	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ.YD. IN EACH OF TWO LAYERS
E4	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.
R1	PROPOSED 2'-6" CONCRETE CURB AND GUTTER
R2	PROPOSED 5" CONCRETE MONOLITHIC ISLAND
T	EARTH MATERIAL
U	EXISTING PAVEMENT.
V1	MILLING BITUMINOUS PAVEMENT. 0" - 1.5" DEPTH.
V2	MILLING BITUMINOUS PAVEMENT. 0" - 3.0" DEPTH.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

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



TYPICAL SECTION NO. 6

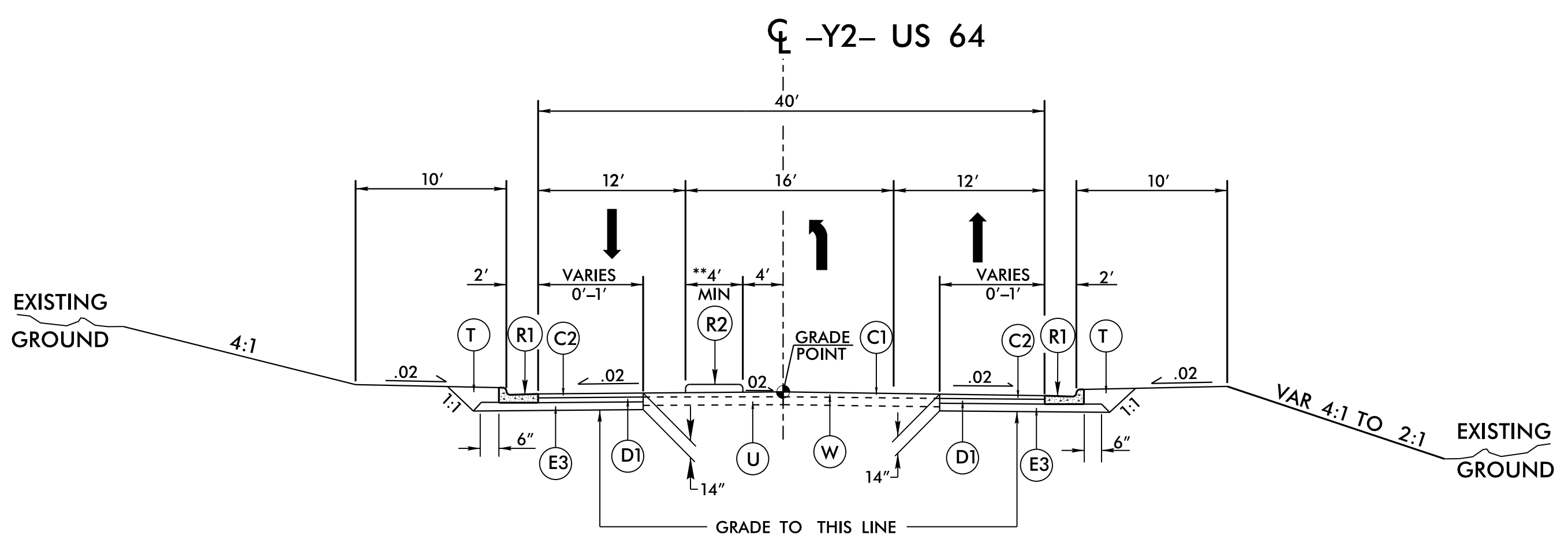
USE TYPICAL SECTION NO. 6 AS FOLLOWS

-Y1- STA. 21+69.00 TO STA 27+29.50

**SEE INSET 3 AND PLANS FOR ISLAND LOCATIONS

*** RESURFACE EXISTING PAVEMENT FROM -Y1- STA 27+29.50 TO 28+10.00

NOTE: MILL AND RESURFACE WITH V2 AND C2 -Y1- STA 28+10.00 TO STA 28+35.00



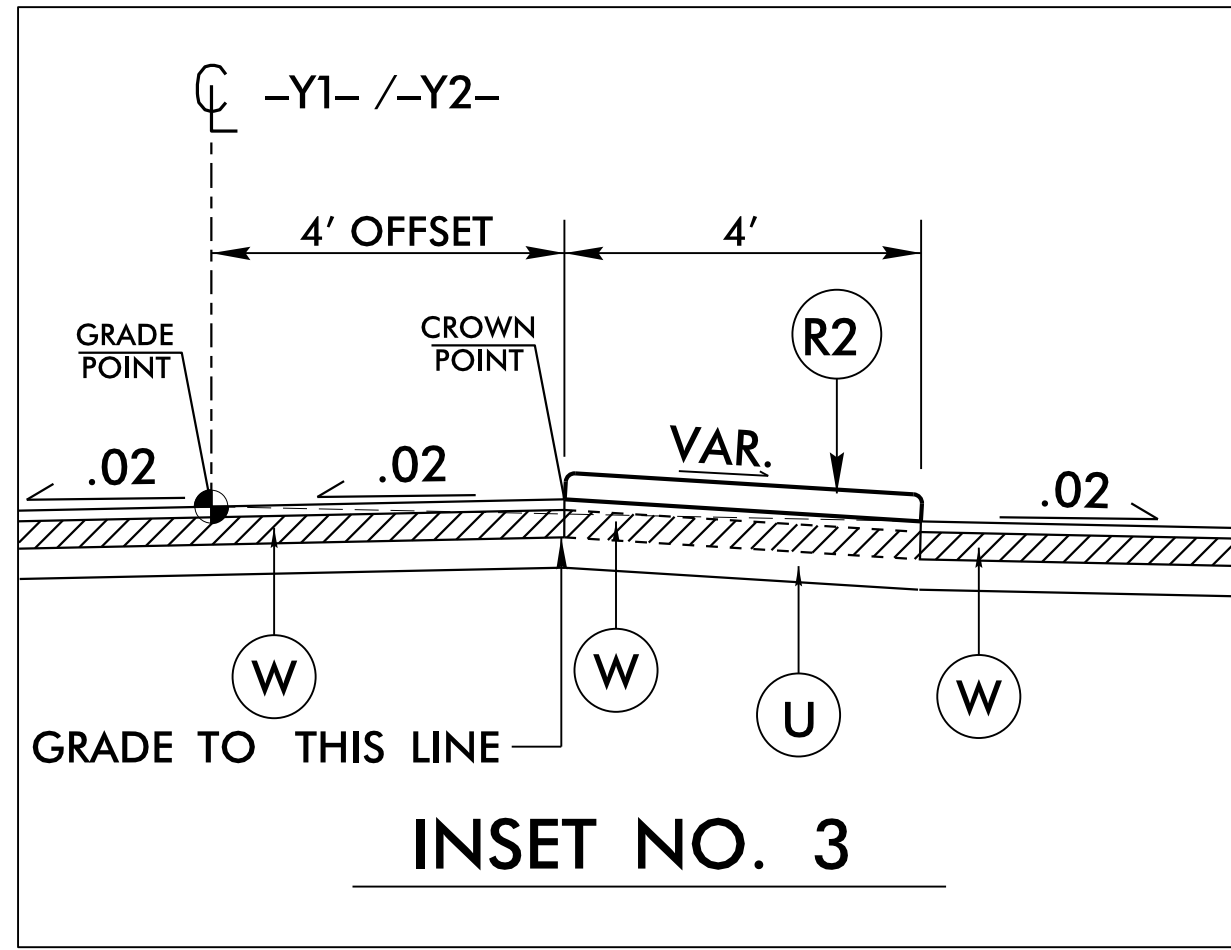
TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7 AS FOLLOWS

-Y2- STA. 17+60.00 TO STA 27+10.00

**SEE INSET 3 AND PLANS FOR ISLAND LOCATIONS

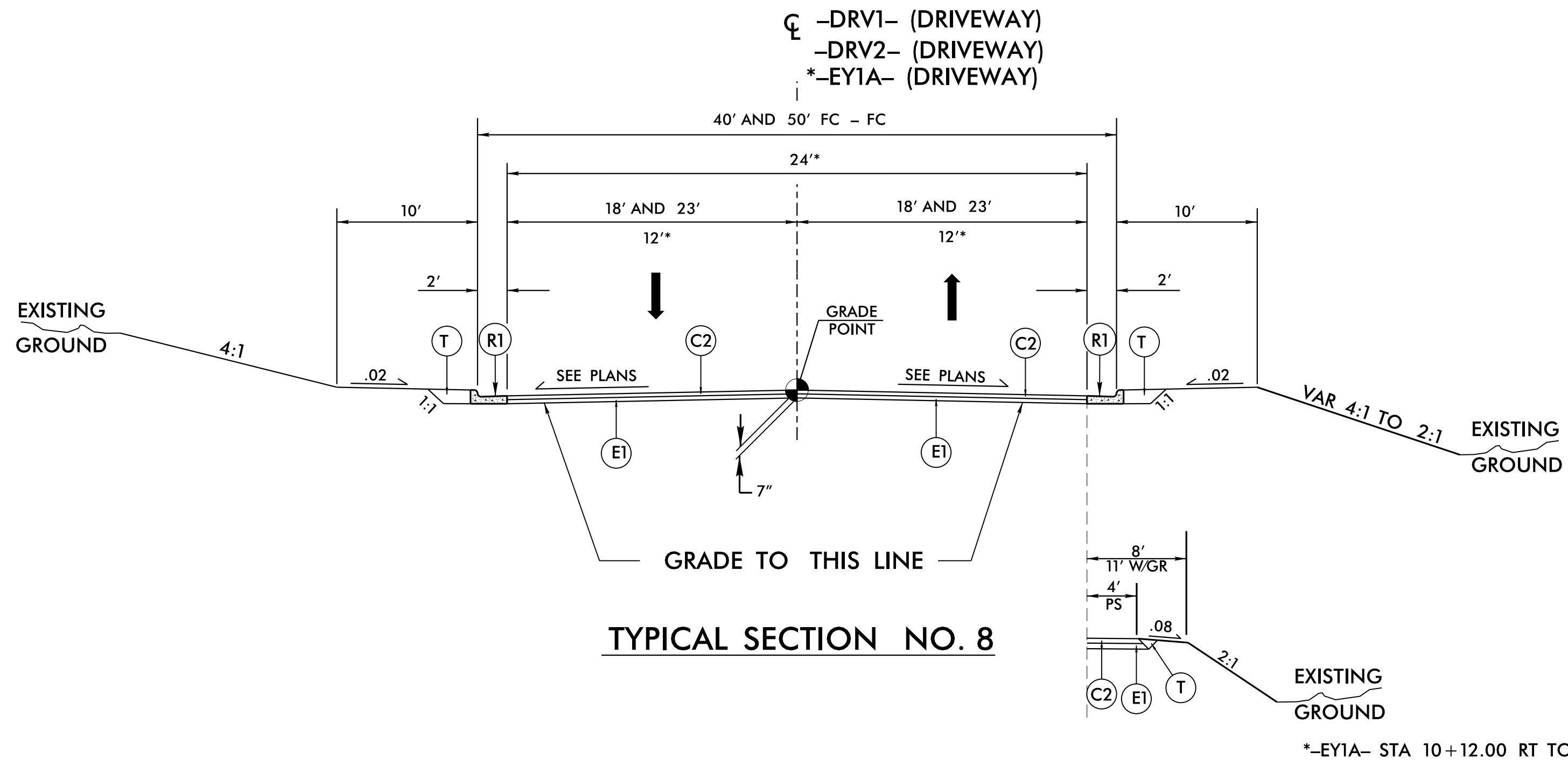
NOTE: MILL AND RESURFACE WITH V1 AND C1 -Y2- STA 17+45.00 TO STA 17+60.00
-Y2- STA 27+10.00 TO STA 27+25.00



USE WITH TYPICAL SECTION NO. 6, AND 7

- * -Y1- STA. 19+96.00 TO STA 22+74.00
- Y1- STA. 24+55.00 TO STA 27+35.00
- * -Y2- STA. 18+60.00 TO STA 19+30.00
- Y2- STA. 20+77.00 TO STA 26+09.00

*ISLAND LOCATED LEFT OF CENTERLINE

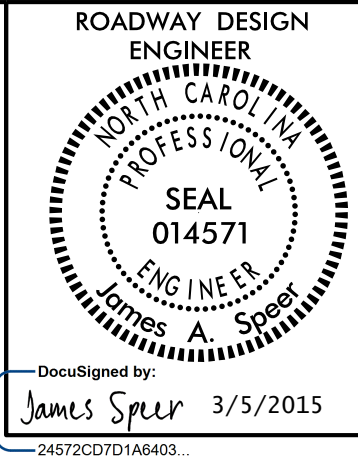


TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8 AS FOLLOWS

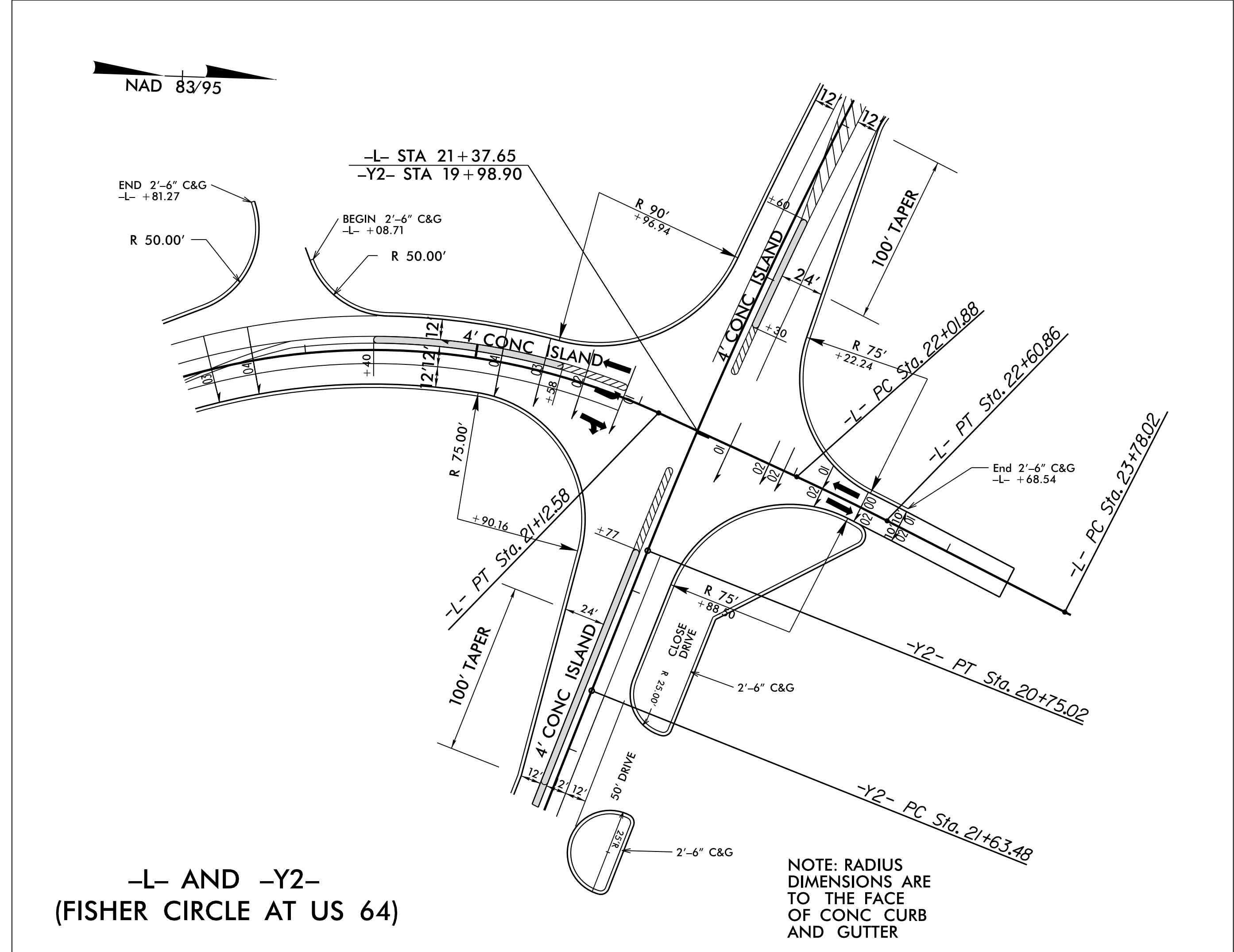
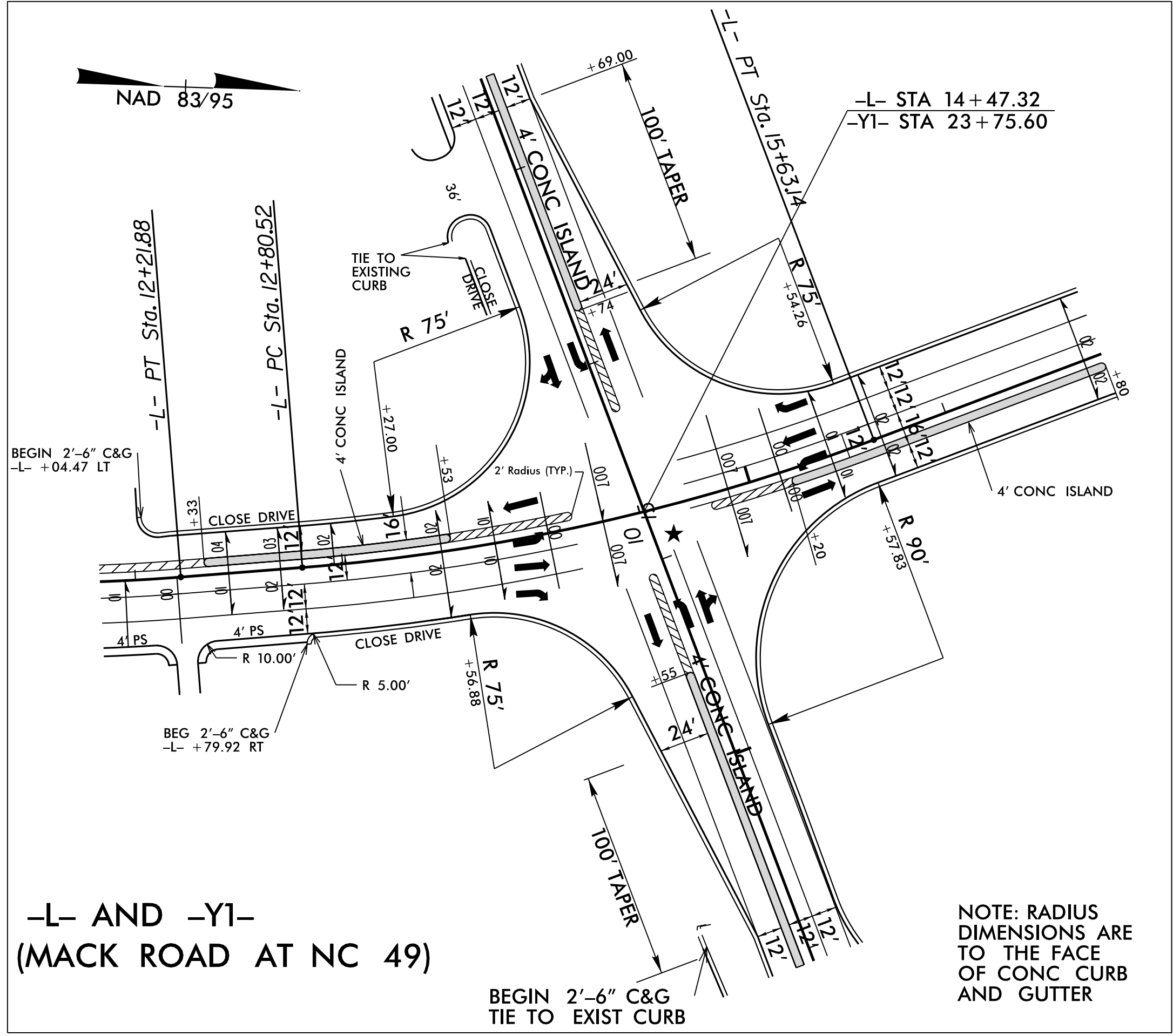
- DRV1- STA 10+25.00 TO STA. 10+83.89 (40' FC - FC)
- DRV2- STA. 11+72.01 TO STA. 14+36.38 (50' FC - FC)
- *-EY1A- STA 10+12.00 TO STA. 13+47.78

*-EY1A- STA 10+12.00 RT TO STA. 13+47.78 RT



INTERSECTION DETAIL SHEET

REVISIONS



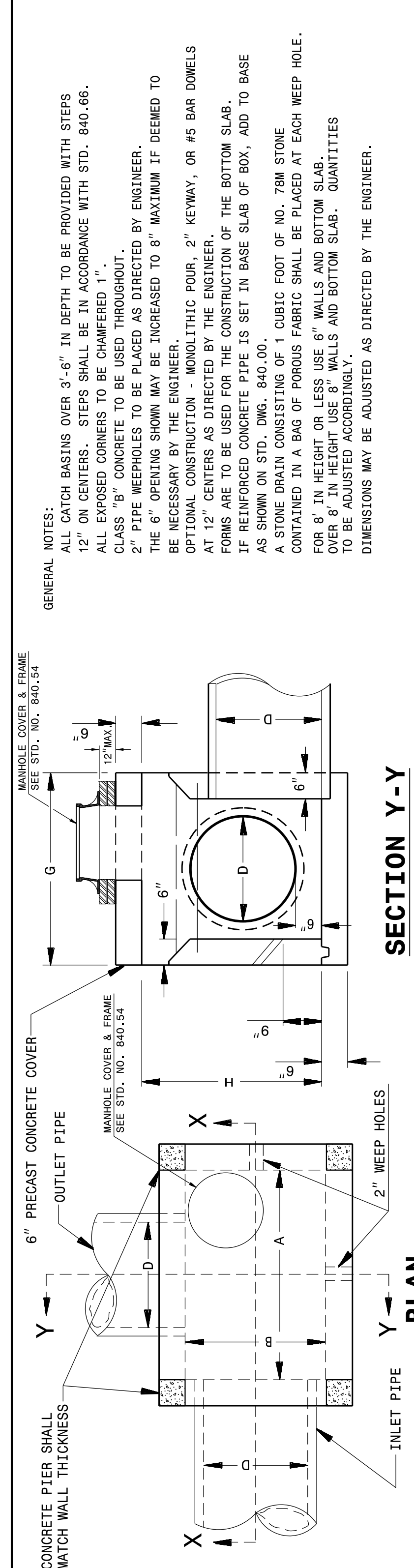
05-MAR-2015 11:48 AM
S:\PROJECTS\U5305_Rdly_dtl_Intersection.dgn
JAS

\$\$\$\$\$SYTIME\$\$\$\$\$
 \$\$\$\$\$\$USERNAME\$\$\$\$\$

5/14/99

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

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



ENGLISH DETAIL DRAWING FOR
CONCRETE CATCH BASIN
 (3 OR 4 SIDE OPEN THROAT)
 (MANHOLE OPTIONAL)

ENGLISH DETAIL DRAWING FOR
CONCRETE CATCH BASIN
 (3 OR 4 SIDE OPEN THROAT)
 (MANHOLE OPTIONAL)

PART SECTION Y-Y
 SHOWING METHOD OF CONSTRUCTION FOR 6" OPENING

PART SECTION Y-Y
 SHOWING METHOD OF CONSTRUCTION IF INCREASED OPENING IS USED

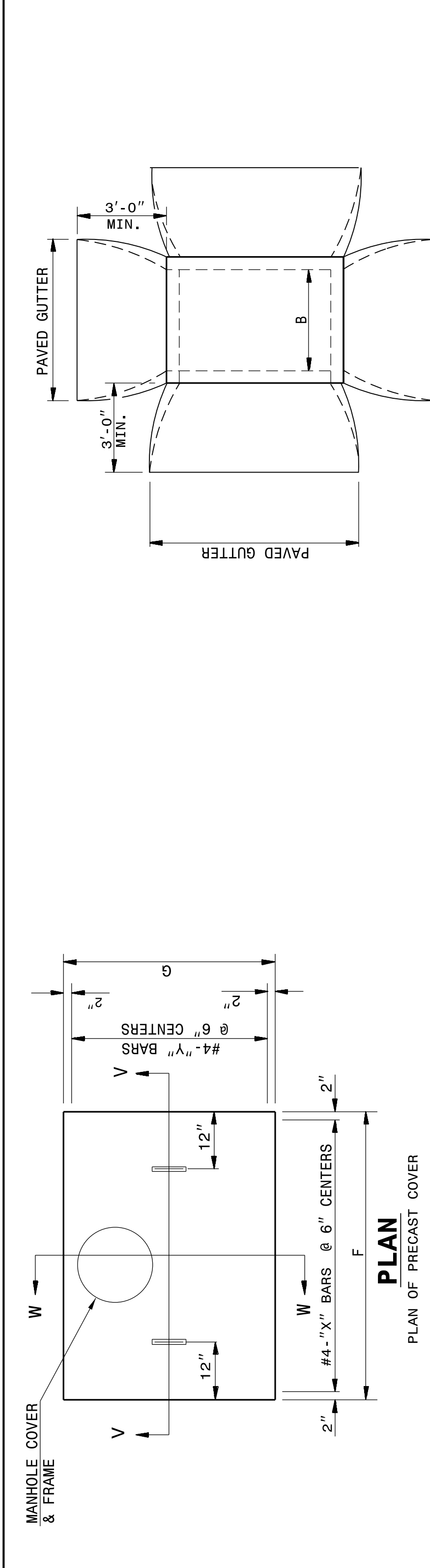
PIPE DIA.	DIMS OF BOX & PIPE		MIN DIMENSIONS AND REINFORCING			TOP & BOT SLAB DIMENSIONS			CU YDS CONC. IN BOX			TOTAL QUANTITIES BOX & SLABS			DED. ONE 6" THROAT OPENING	
	SPAN	WIDTH	HEIGHT	NO.	LENGTH	BARS - X	BARS - Y	BARS - Z	F	G	TOP SLAB BOT. SURF	MULTIPLY BY	US. REINF. 10' (MIN. H)	C. S.		R. C.
12"	3'-6"	2'-3"	1'-10"	4	3'-0"	4	4'-3"	2	4'-3"	4	4'-6"	2	1.046	0.015	0.032	0.046
15"	3'-6"	2'-3"	2'-1"	4	3'-0"	4	4'-3"	2	4'-3"	4	4'-6"	2	1.108	0.023	0.036	0.046
18"	4'-0"	2'-8"	2'-4"	5	3'-5"	7	4'-9"	2	4'-9"	5	5'-0"	3	1.379	0.033	0.049	0.053
24"	4'-0"	2'-8"	2'-10"	5	3'-5"	7	4'-9"	2	4'-9"	5	5'-0"	3	1.521	0.059	0.065	0.053
30"	4'-0"	3'-6"	3'-4"	5	4'-3"	9	4'-9"	2	4'-9"	5	5'-0"	4	1.916	0.092	0.127	0.063
36"	4'-6"	4'-0"	3'-10"	5	4'-9"	10	5'-3"	2	5'-3"	5	5'-6"	5	2.390	0.132	0.178	0.066
42"	5'-0"	4'-6"	4'-4"	5	5'-3"	12	5'-9"	2	5'-9"	6	6'-0"	6	2.914	0.180	0.243	0.066
48"	5'-0"	5'-0"	4'-10"	5	5'-9"	13	5'-9"	2	5'-9"	6	6'-0"	6	3.298	0.235	0.317	0.066

SHEET 1 OF 2
840D04

SHEET 1 OF 2
840D04

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

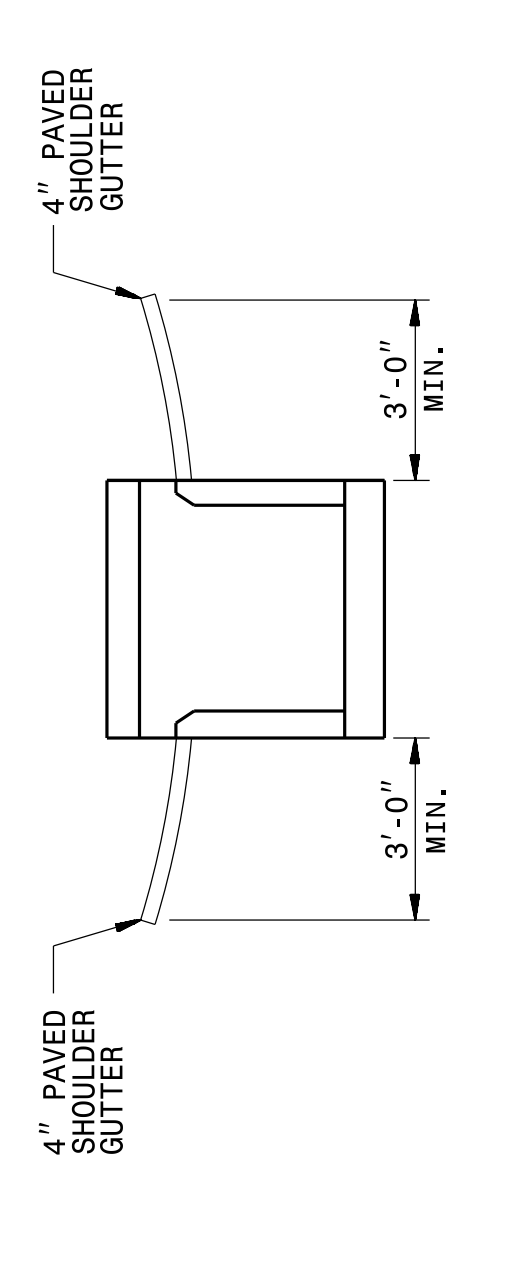
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.



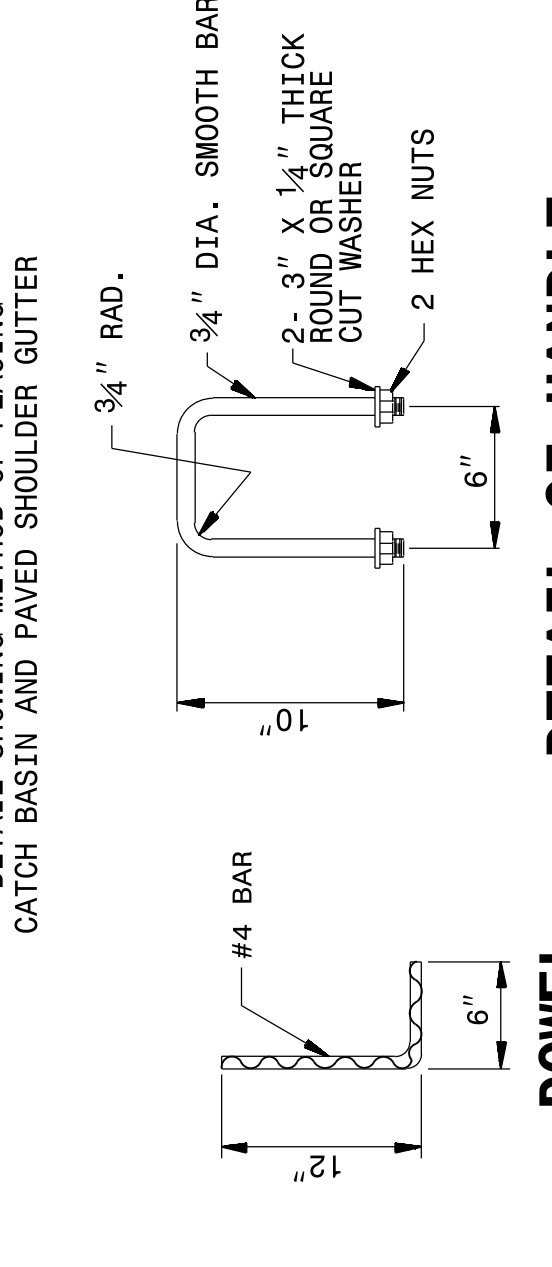
ENGLISH DETAIL DRAWING FOR
CONCRETE CATCH BASIN
 (3 OR 4 SIDE OPEN THROAT)
 (MANHOLE OPTIONAL)

ENGLISH DETAIL DRAWING FOR
CONCRETE CATCH BASIN
 (3 OR 4 SIDE OPEN THROAT)
 (MANHOLE OPTIONAL)

PLAN OF CATCH BASIN IN MEDIAN STRIP



SECTION OF CATCH BASIN MEDIAN STRIP



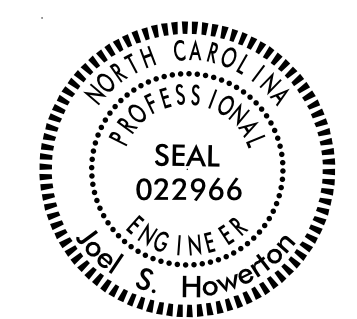
SHEET 2 OF 2
840D04

SHEET 2 OF 2
840D04

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

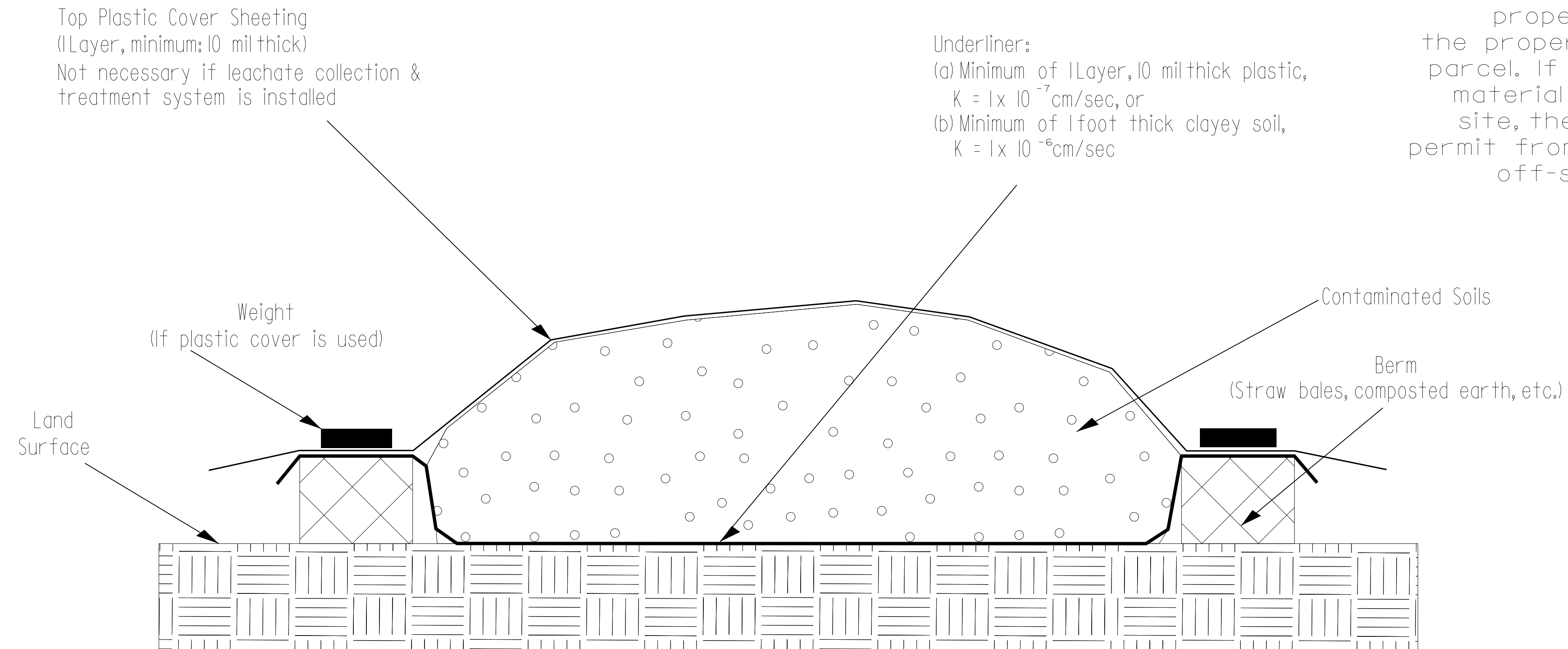
SEE PLATE FOR TITLE

ORIGINAL BY: _____ DATE: _____
 MODIFIED BY: rnbritt DATE: 07-03-2014
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: details/nbritt/english/hydro/840d04.dgn



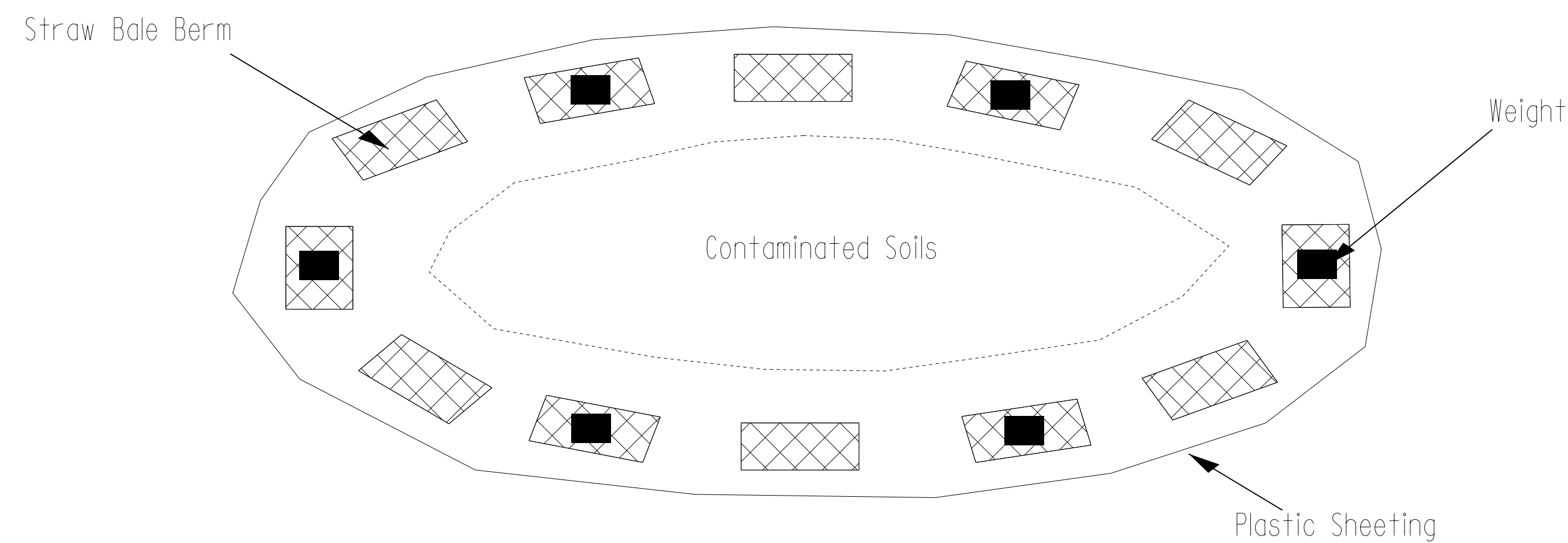
Detail for Temporary Containment of Contaminated Soil

Cross-Section View



NOTE:
The Contractor shall stockpile all contaminated soil excavated from a property in a location within the property boundaries of the source parcel. If the volume of contaminated material exceeds available space on site, the Contractor shall obtain a permit from the NCDENR UST Section for off-site temporary storage.

Map View



PREPARED BY: -	DATE: -
REVIEWED BY: -	DATE: -

GEOTECHNICAL ENGINEERING UNIT

EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE
 CONTRACT OFFICE

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STOCKPILE CONTAINMENT DETAIL

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	-	-	3	-	-
2	-	-	4	-	-

12/06/07

COMPUTED BY: WAD DATE: 3/25/14
 CHECKED BY: AKW DATE: 3/4/2015

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. SHEET NO.
 U-5305 3B-1

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD ²
-EY1A-	10+12	11+75	CL	434.67
-EY1A-	14+25	14+49	CL	305.11
-L-	19+09	20+57	RT	468.67
			TOTAL:	1208.44
			SAY:	1210.00

SUMMARY OF BREAKING EXISTING ASPHALT PAVEMENT

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD ²
-EY1A-	11+75	14+25	CL	666.67
			TOTAL:	666.67
			SAY:	670.00

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-L- STA 9+00.00	-L- STA 22+68.54	2218	1081		1137
-Y1- STA 10+80.00	-Y1- STA 27+29.50	988	3312	2324	
-Y2- STA 17+60	-Y2- STA 27+10	444	1469	1025	
-EY1A- STA 10+12	-EY1A- STA 14+25	162	4231	4069	
	TOTAL	3812	10093	7418	1137
SHOULDER MATERIAL			628	628	
WASTE IN LIEU OF BORROW				-1137	
PROJECT TOTALS:		3812	10721	6909	
EST. 5% TO REP. TOPSOIL ON BOR. PIT				345	
GRAND TOTALS:		3812	10721	7254	
SAY:		4010		7620	

DDE = 11 CY
 UNDERCUT (CONTINGENCY) = 700 CY
 SHALLOW UNDERCUT (CONTINGENCY) = 150 CY
 SELECT GRANULAR MATERIAL = 700 CY
 CLASS IV SUBGRADE STABILIZATION = 300 CY

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

Note: Approximate quantities only. Unclassified Excavation, 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."

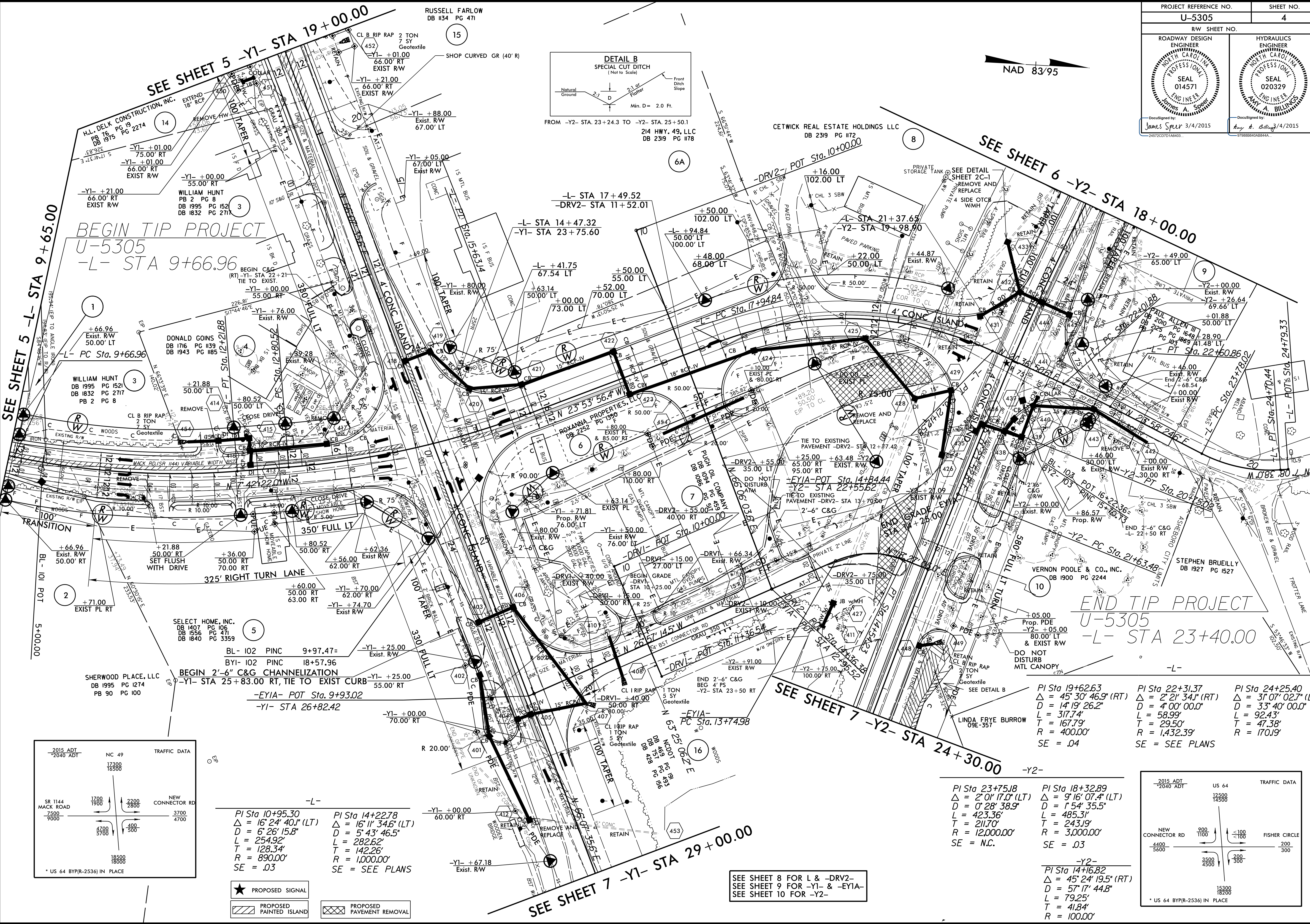
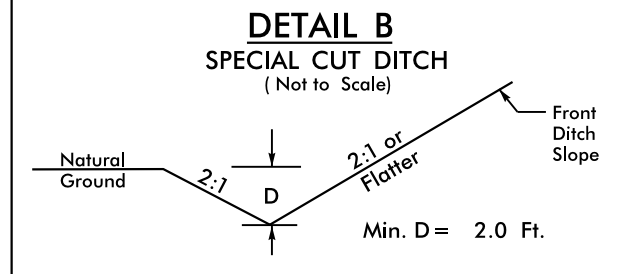
"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING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

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS					IMPACT ATTENUATOR TYPE 350	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS			
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GRAU 350 TL-3	AT-1	GRAU 350 TL-2	TES	EA						G	NG	
-Y1-	18+25.00	20+00.00	RT	175			18+25.00	20+00.00	8	11	50	50	1	1	2												
-Y1-	18+50.00	20+15.00	LT	126	50		20+15.00	18+50.00	8	11		50		1	1	1											
-EY1A-	12+05.00	13+48.00	RT	143			12+34.00	13+42.00	8	11						1	1										
-EY1A-	13+49.75		CL	40																							PAVEMENT AND ROAD ENDS
			SUBTOTAL	484	50																						
			DEDUCTION FOR ANCHOR UNITS																								
			TYPE GRAU 350 TL-3 3 @ 50 FT	-150.00																							
			TYPE GRAU 350 TL-2 1 @ 25 FT	-25.00																							
			TYPE AT-1 2 @ 6.25 FT	-12.50																							
			TOTAL DEDUCTIONS	-187.50																							
			PROJECT TOTAL	296.50	50																						
			ADDITIONAL GUARDRAIL POST = 5 EA																								
			SAY	300	50																						

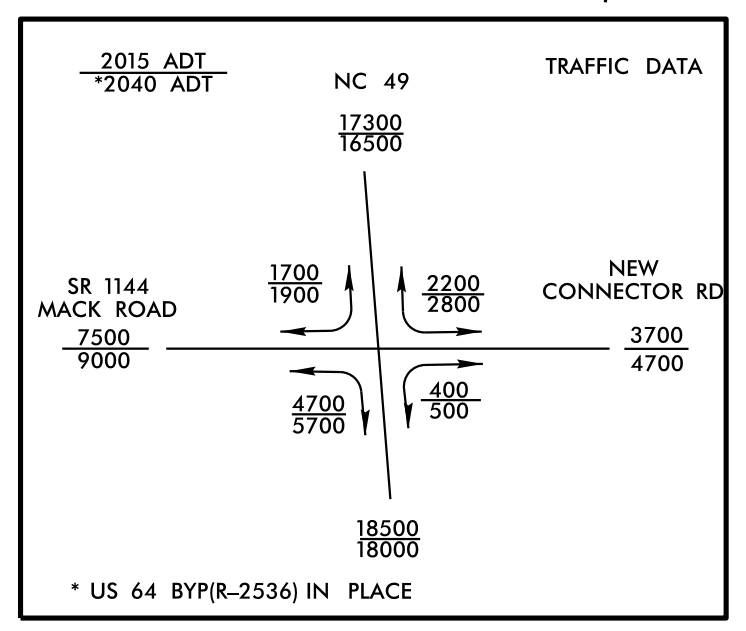
23-MAR-2015 10:05 U-5305_RdJ_sum.dgn

NAD 83/95



SEE SHEET 5 -L- STA 9+65.00
BEGIN TIP PROJECT U-5305
 -L- STA 9+66.96

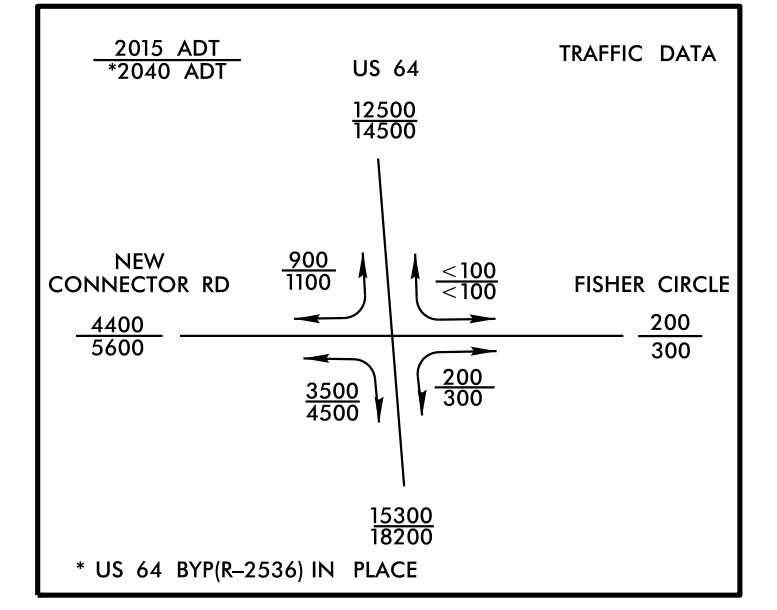
SEE SHEET 6 -Y2- STA 18+00.00
END TIP PROJECT U-5305
 -L- STA 23+40.00



PI Sta 10+95.30 $\Delta = 16' 24' 40.1''$ (LT) $D = 6' 26' 15.8''$ $L = 254.92'$ $T = 128.34'$ $R = 890.00'$ $SE = .03$	PI Sta 14+22.78 $\Delta = 16' 11' 34.6''$ (LT) $D = 5' 43' 46.5''$ $L = 282.62'$ $T = 142.26'$ $R = 1,000.00'$ $SE = SEE PLANS$
--	--

PI Sta 19+62.63 $\Delta = 45' 30' 46.9''$ (RT) $D = 14' 19' 26.2''$ $L = 317.74'$ $T = 167.79'$ $R = 400.00'$ $SE = .04$	PI Sta 22+31.37 $\Delta = 2' 21' 34.1''$ (RT) $D = 4' 00' 00.0''$ $L = 58.99'$ $T = 29.50'$ $R = 1,432.39'$ $SE = SEE PLANS$	PI Sta 24+25.40 $\Delta = 3' 07' 02.7''$ (L) $D = 3' 30' 00.0''$ $L = 92.43'$ $T = 47.38'$ $R = 170.19'$
---	---	--

PI Sta 23+75.18 $\Delta = 2' 01' 17.0''$ (LT) $D = 0' 28' 38.9''$ $L = 423.36'$ $T = 211.70'$ $R = 12,000.00'$ $SE = N.C.$	PI Sta 18+32.89 $\Delta = 9' 16' 07.4''$ (LT) $D = 1' 54' 35.5''$ $L = 485.31'$ $T = 243.19'$ $R = 3,000.00'$ $SE = .03$
PI Sta 14+16.82 $\Delta = 45' 24' 19.5''$ (RT) $D = 57' 17' 44.8''$ $L = 79.25'$ $T = 41.84'$ $R = 100.00'$	



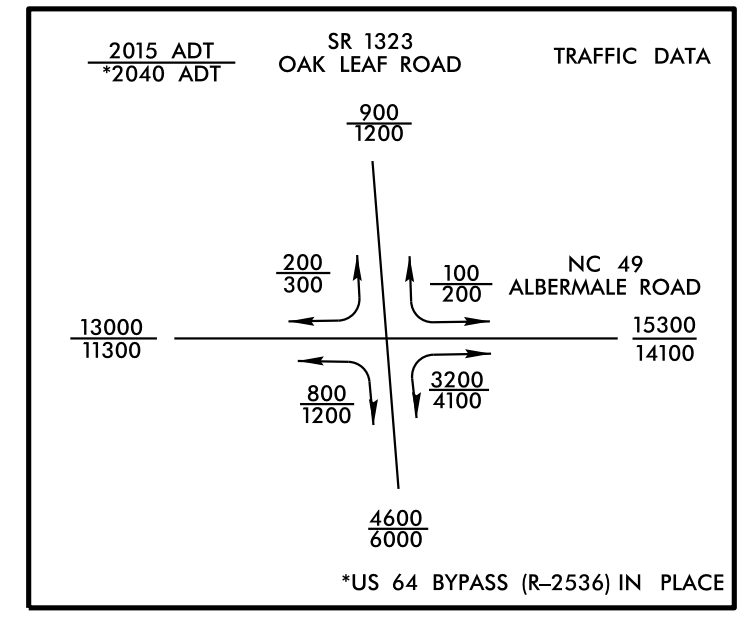
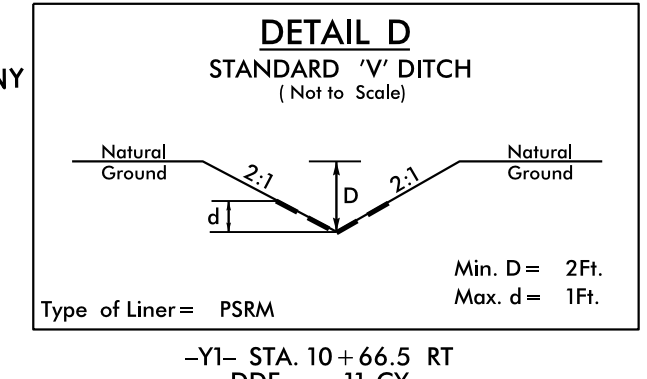
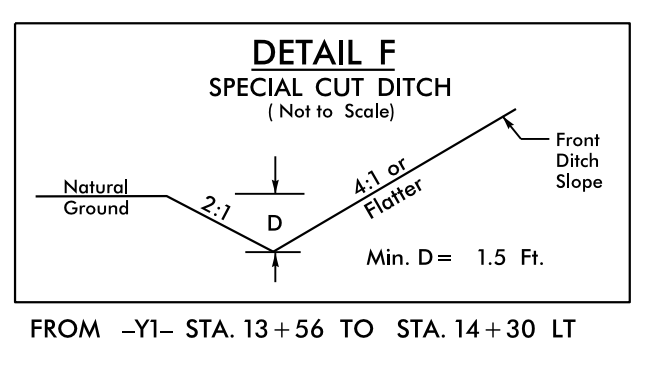
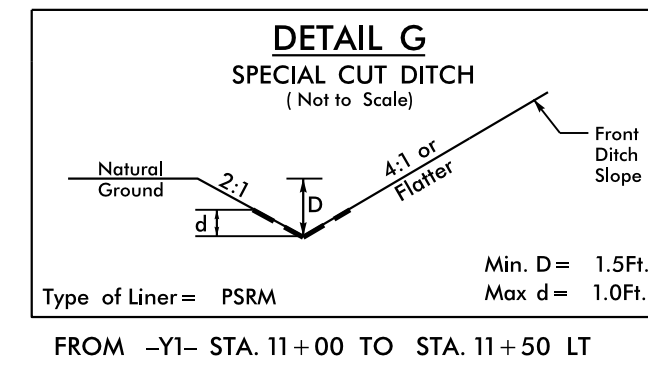
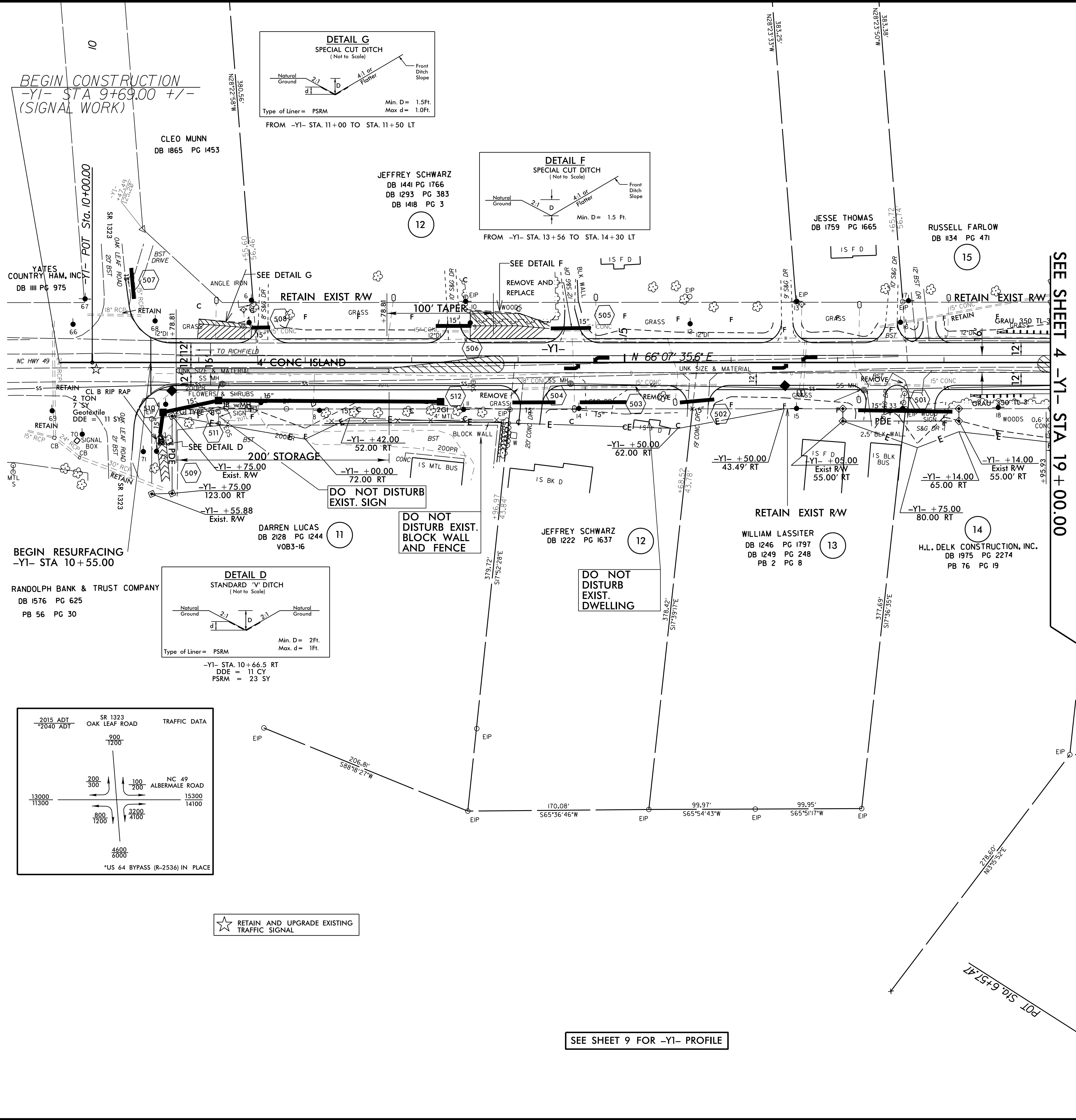
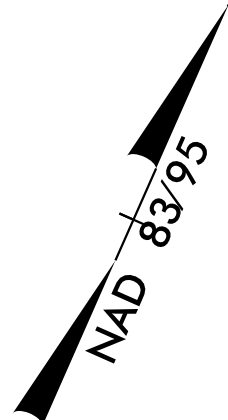
SEE SHEET 8 FOR L & -DRV2-
 SEE SHEET 9 FOR -Y1- & -EY1A-
 SEE SHEET 10 FOR -Y2-

- ★ PROPOSED SIGNAL
- ▨ PROPOSED PAINTED ISLAND
- ▨ PROPOSED PAVEMENT REMOVAL

REVISIONS

8/17/99

94-MAR-2015 08:56 U5305_RDY_PSH_4.dgn



★ RETAIN AND UPGRADE EXISTING TRAFFIC SIGNAL

SEE SHEET 9 FOR -Y1- PROFILE

SEE SHEET 4 -Y1- STA 19+00.00

SEE SHEET 4 -L- STA 9+65.00

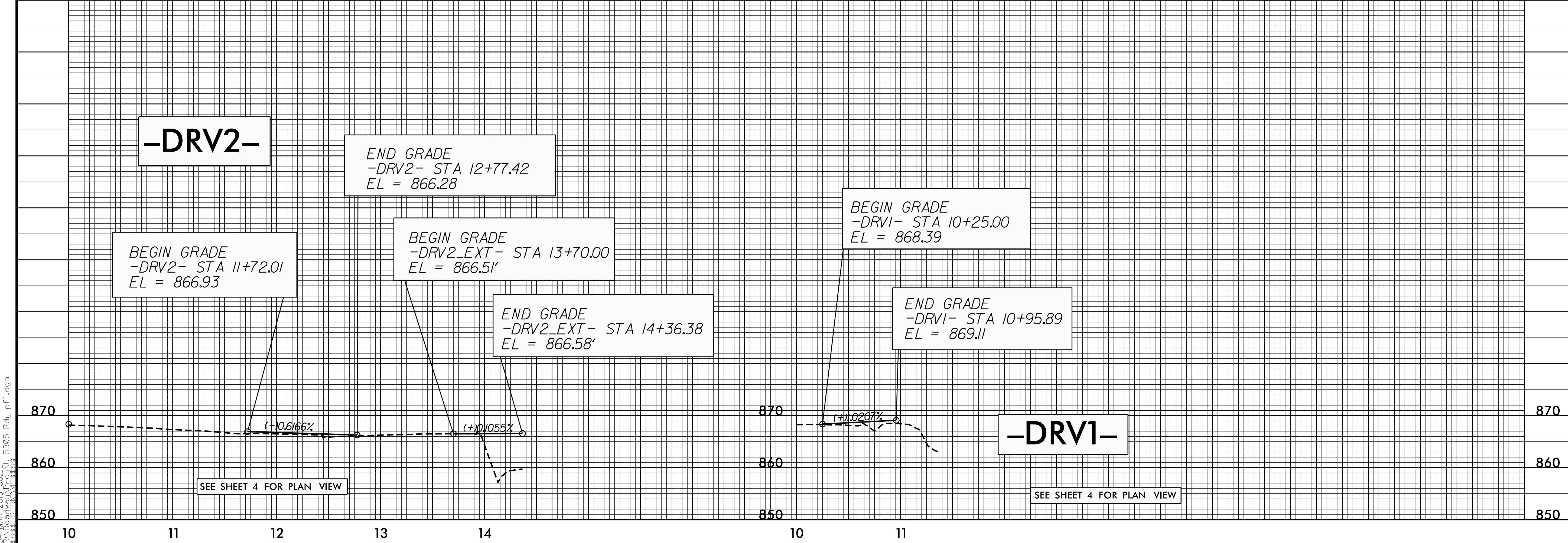
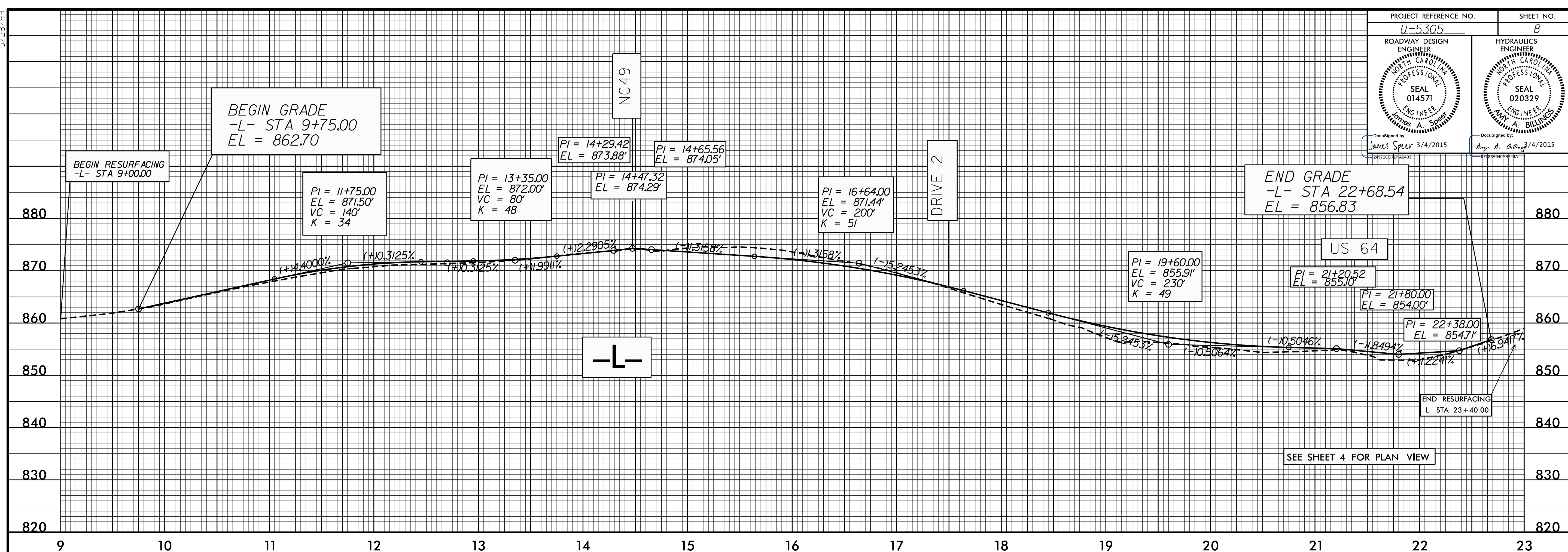
BEGIN CONSTRUCTION -L- STA 9+00.00

REVISIONS

8/17/99

04-MAR-2015 08:56 U5305_RDY_PSH.5.dgn
3:44:05 PM JAMES A. SPEER

5/28/99



04-MAR-2015 08:55 U-5305_P01.dgn
448307528146

5/28/99

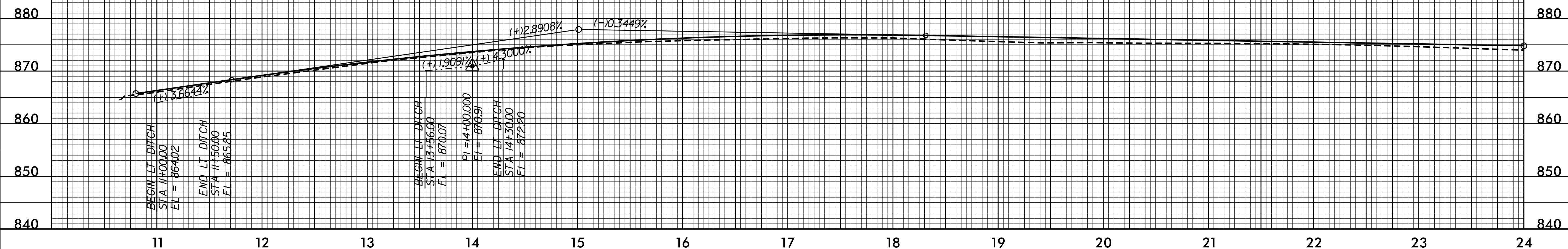
PROJECT REFERENCE NO. U-5305	SHEET NO. 9
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 014571 JAMES A. SPEER	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 020329 AMY A. BILLINGS
DocuSigned by: James A. Speer 3/4/2015	DocuSigned by: Amy A. Billings 3/4/2015

BEGIN GRADE
-Y1- STA 10+80.00
EL = 865.73

-Y1-

SEE SHEETS 4 & 5 FOR PLAN VIEW

PI = 15+01.20
EL = 877.91'
VC = 660'
K = 204



-Y1-

-EY1A-

DRIVE TIE TO TANK & TUMMY
FROM EXISTING CONNECTOR RD.

END GRADE
-Y1- STA 27+29.50
EL = 873.67

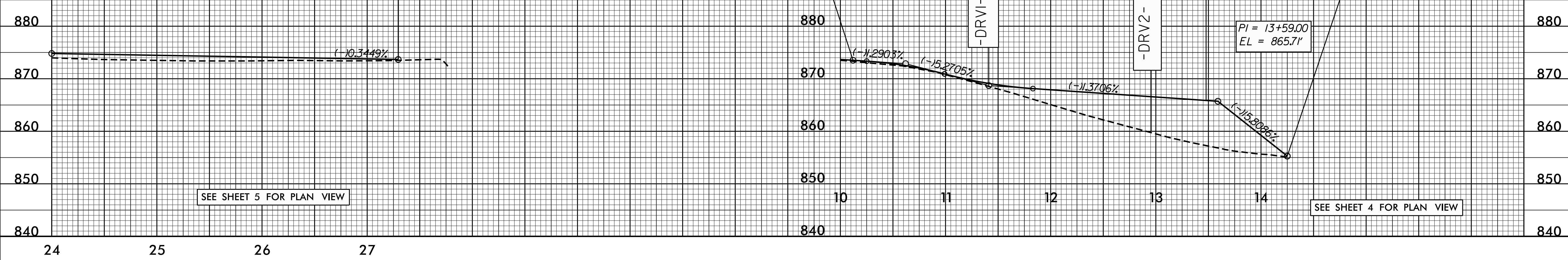
BEGIN GRADE
-EY1A- STA 10+12.00
EL = 873.52'

PI = 10+62.00
EL = 872.87'
VC = 74'
K = 19

PI = 11+41.12
EL = 868.70'
VC = 84'
K = 22

END PAVEMENT
STA 13+47.78

END GRADE
-EY1A- STA 14+25.00
EL = 855.28'



SEE SHEET 5 FOR PLAN VIEW

SEE SHEET 4 FOR PLAN VIEW

04-MAR-2015 08:55 U-5305_Pdy.plt.dgn
14:30:00 14:30:00 14:30:00

5/28/99

PROJECT REFERENCE NO. U-5305	SHEET NO. 10
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 014571 JAMES A. SPURK Documented by James Spurr 3/4/2015	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 020329 ARMY A. BILLINGS Documented by Army A. Billings 3/4/2015

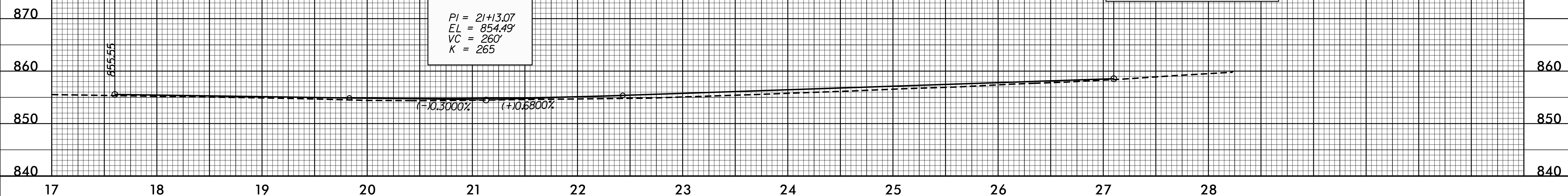
BEGIN GRADE
 -Y2- STA 17+60.00
 EL = 855.55

-Y2-

SEE SHEETS 4, 6 & 7 FOR PLAN VIEW

END GRADE
 -Y2- STA 27+10.00
 EL = 858.55

PI = 21+13.07
 EL = 854.49'
 VC = 260'
 K = 265



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