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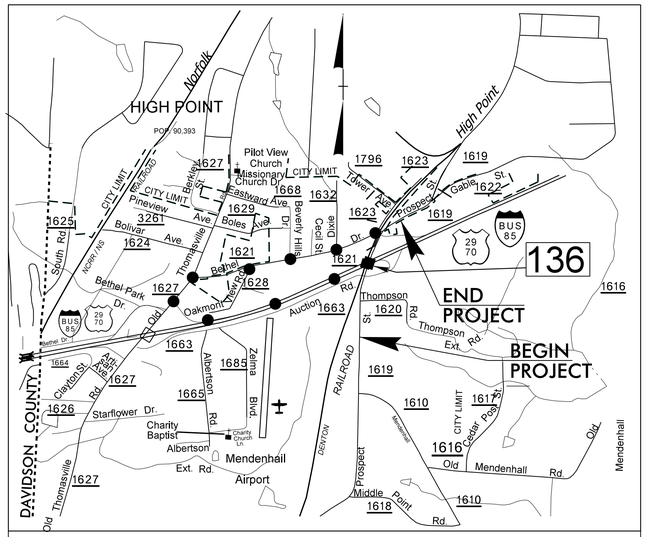
09/08/99

TIP PROJECT: B–5114

CONTRACT: C203589

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



VICINITY MAP

OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

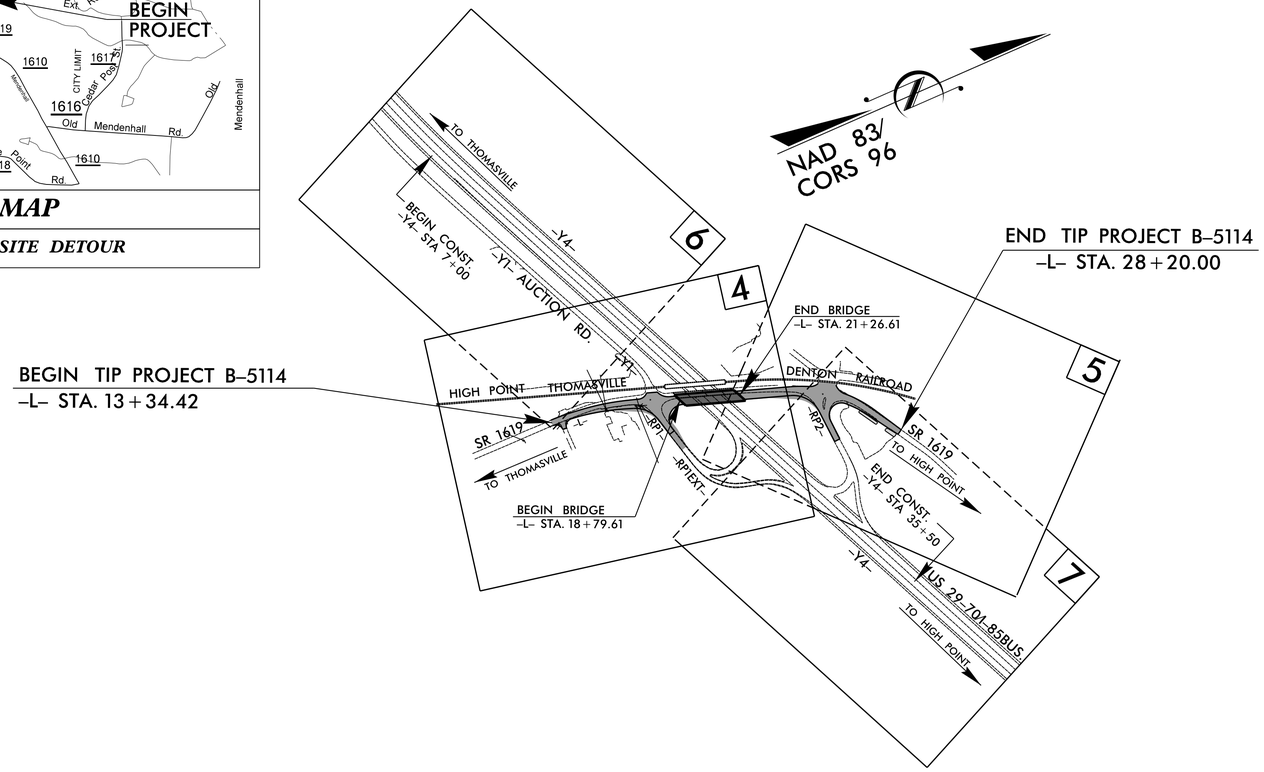
RANDOLPH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B–5114	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42252.1.1	BRZ–1619(5)	PE
42252.2.FR1	BRZ–1619(5)	ROW
42252.2.FRU1	BRZ–1619(5)	UTL
42252.3.FR1	BRZ–1619(5)	CONST.

LOCATION: BRIDGE 136 OVER US 29–70/I–85 BUSINESS ON SR 1619 (PROSPECT STREET) IN HIGH POINT

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE AND SIGNALS



BEGIN TIP PROJECT B–5114
–L– STA. 13+34.42

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2015 = 8,300
ADT 2035 = 12,300
K = 11 %
D = 70 %
T = 8 % *
V = 40 MPH
* TTST 3% DUAL 5%
FUNC CLASS = MINOR ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B–5114 = 0.234 MI
LENGTH STRUCTURE TIP PROJECT B–5114 = 0.047 MI
TOTAL LENGTH OF TIP PROJECT B–5114 = 0.281 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: APRIL 16, 2014

LETTING DATE: JUNE 16, 2015

JAMES A. SPEER, PE
PROJECT ENGINEER

ALLISON K. WHITE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
DocuSigned by: Ray D. Lovinggood 4/6/2015
SIGNATURE: P.E.
NORTH CAROLINA PROFESSIONAL SEAL 019775 ENGINEER RAY D LOVINGGOOD

ROADWAY DESIGN ENGINEER
DocuSigned by: James Speer 4/6/2015
SIGNATURE: P.E.
NORTH CAROLINA PROFESSIONAL SEAL 014571 ENGINEER James A Speer

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5114	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014571 ENGINEER James A. Speer

DocuSigned by: James Speer 4/21/2015

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 THRU 1C-2	SURVEY CONTROL SHEETS
2A-1 THRU 2A-3	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2B-1 THRU 2B-2	MEDIAN CROSSOVER AND BRIDGE IN RELATION TO PAVEMENT DETAILS
2C-1	TEMPORARY STEEL COVER DETAIL
2H-1	TEMPORARY CONTAINMENT OF CONTAMINATED SOIL DETAIL
3B-1	SUMMARY OF GUARDRAIL, SUMMARY OF EARTHWORK, SUMMARY OF SHOULDER BERM GUTTER, SUMMARY OF EXPRESSWAY GUTTER SUMMARY OF BREAKING EXISTING ASPHALT PAVEMENT SUMMARY OF PAVEMENT REMOVAL
3D-1	SUMMARY OF DRAINAGE QUANTITIES
3P-1	PARCEL INDEX SHEET
4-7	PLAN SHEETS
8-10	PROFILE SHEETS
TMP-1 THRU TMP-19	TRANSPORATATION MANAGEMENT PLANS
PMP-1 THRU PMP-5	PAVEMENT MARKING PLANS
EC-1 THRU EC-11	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-8	SIGNING PLANS
SIG-1 THRU SIG-3.3	SIGNAL PLANS
SCP-1	WIRELESS COMMUNICATIONS PLANS
UC-1 THRU UC-6	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-3	UTILITY BY OTHERS PLANS
X-1A	CROSS SECTION VOLUME SHEET
X-1 THRU X-25	PROPOSED CROSS SECTIONS
S-1 THRU S-36	STRUCTURE PLANS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 10-31-2014

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.

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.

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 DUKE POWER
NORTH STATE COMMUNICATION, PIEDMONT NATURAL GAS
DAVIDSON WATER INC., CITY OF HIGH POINT (WATER)

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.

EFF. 01-17-2012
REV. 10-30-2012

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
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
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	
610.01	Guide for Paving Shoulders Under Bridges - Method I
610.03	Guide for Paving Shoulders Under Bridges - Method III
654.01	Pavement Repairs
665.01	Asphalt Shoulders - Milled Rumble Strips
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.22	Frames and Wide Slot Sag Grates
840.24	Frames and Narrow Slot Sag Grates
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
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.52	Precast Manhole - 4', 5' and 6' Diameter
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.02	Drop Inlet Installation in Expressway Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
852.01	Concrete Islands
857.01	Precast Reinforced Concrete Barrier - 41" Single Faced
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units (Beg. March 2013 Letting use detail in lieu of Standard)
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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12/05/11

PROJECT REFERENCE NO.	SHEET NO.
B-5114	1-B

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 — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

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

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — 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 — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- 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 — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- 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 — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- 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 — W
- 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 — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- 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

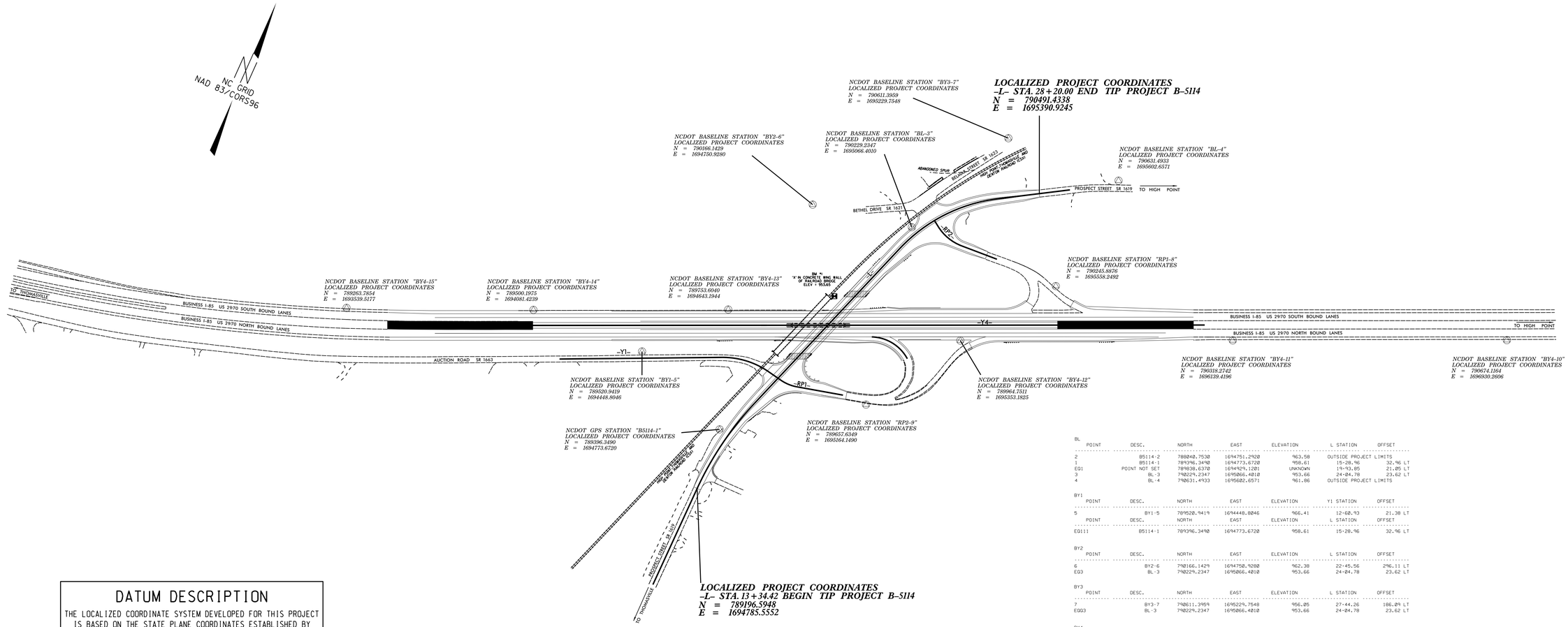
MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- 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.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B–5114	1C–1
Location and Surveys	

SURVEY CONTROL SHEET B–5114



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NGS FOR MONUMENT "B5114-2" WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF NORTHING: 788040.753(ft) EASTING: 1694751.292(ft) ELEVATION: 963.58(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99989792 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5114-2" TO -L- STATION 11+50.00 IS N 01°55'09.4" E 971.975' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: HTTPS://CONNECT.NCDOT.GOVRESOURCES/LOCATION/*

   THE FILES TO BE FOUND ARE AS FOLLOWS: B5114_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 NGS ONLINE POSITIONING SERVICE (OPUS)

△ *NCDOT GPS STATION "B5115-2"*
LOCALIZED PROJECT COORDINATES
N = 788040.7530
E = 1694751.2920

NOTE: DRAWING NOT TO SCALE

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
2	B5114-2	788040.7530	1694751.2920	963.58	OUTSIDE PROJECT LIMITS	
1	B5114-1	789396.3490	1694773.6720	958.61	15+20.96	32.96 LT
EQ1	POINT NOT SET	789830.6370	1694929.1201	UNKNOWN	19+93.85	21.85 LT
3	BL-3	790229.2347	1695066.4010	953.66	24+04.78	23.62 LT
4	BL-4	790631.4933	1695602.6571	961.86	OUTSIDE PROJECT LIMITS	

BY1

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
5	BY1-5	789520.9419	1694448.8046	966.41	12+68.93	21.38 LT

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
EQ111	B5114-1	789396.3490	1694773.6720	958.61	15+20.96	32.96 LT

BY2

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
6	BY2-6	790166.1429	1694750.9280	962.38	22+45.56	296.11 LT
EQ3	BL-3	790229.2347	1695066.4010	953.66	24+04.78	23.62 LT

BY3

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
7	BY3-7	790611.3959	1695229.7548	956.85	27+44.26	186.09 LT
EQG3	BL-3	790229.2347	1695066.4010	953.66	24+04.78	23.62 LT

BY4

POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
15	BY4-15	789263.7854	1693539.5177	944.73	OUTSIDE PROJECT LIMITS	
14	BY4-14	789500.1975	1694081.4239	954.67	13+11.77	49.16 LT
13	BY4-13	789753.6940	1694643.1944	948.85	19+26.85	49.91 LT
EQ11	POINT NOT SET	789830.6370	1694929.1201	UNKNOWN	22+23.70	10.21 LT
12	BY4-12	789964.7511	1695353.1825	932.31	26+62.18	48.67 RT
11	BY4-11	790318.2742	1696139.4196	927.52	OUTSIDE PROJECT LIMITS	
10	BY4-10	790674.1164	1696930.2606	920.29	OUTSIDE PROJECT LIMITS	

BRP1

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
EQG03	BL-3	790229.2347	1695066.4010	953.66	24+04.78	23.62 RT

POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
8	RP1-8	790245.8876	1695558.2492	934.89	29+64.51	123.64 LT

BRP2

POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
EQ12	BY4-12	789964.7511	1695353.1825	932.31	26+62.18	48.67 RT

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
9	RP2-9	789657.6349	1695164.1490	945.18	18+99.17	260.89 RT

.....

BM1 ELEVATION = 955.65
N 789930 E 1694932
L STATION 20+81.00 47 LEFT
CHISLED SQUARE IN NORTH EAST CORNER OF
WING WALL OF RAILROAD BRIDGE

.....

.....

BM2 ELEVATION = 944.73
N 789264 E 1693540
Y4 STATION 34+35.00
S 66°58'0.11" W DIST 2715.44
REBAR & CAP BY5-15

.....

.....

BM3 ELEVATION = 927.52
N 790318 E 1696139
Y4 STATION 34+35.00
S 85°29'6.96" E DIST 181.26
REBAR & CAP BY5-11

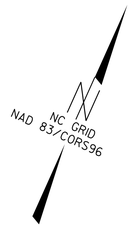
.....

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-5114	1C-2
Location and Surveys	

SURVEY CONTROL SHEET B-5114

FINAL



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TYPE	STATION	NORTH	EAST
POT	10+00.00	788862.1892	1694782.4534
PC	13+34.42	789196.5920	1694785.5552
PT	16+60.74	789516.8078	1694840.6363
PC	23+32.93	790152.4144	1695059.3529
PT	26+87.37	790422.7410	1695277.4648
POT	29+17.13	790541.7391	1695474.0135

RP1

TYPE	STATION	NORTH	EAST
POT	10+00.00	789619.7487	1694876.0589
PC	10+11.00	789617.7547	1694886.8798
PT	10+66.34	789619.4361	1694941.7777
POT	12+14.33	789655.1099	1695085.3954

RP1_EXT

TYPE	STATION	NORTH	EAST
POT	12+14.33	789655.1099	1695085.3954
PC	13+13.64	789679.0510	1695181.7789
PT	15+26.14	789820.7988	1695326.5913
PC	16+09.72	789901.4644	1695348.4699
PT	16+91.81	789973.7301	1695386.0699
PC	16+95.89	789976.8618	1695388.6793
PT	17+42.72	790008.8286	1695422.7516

RP2

TYPE	STATION	NORTH	EAST
POT	10+00.00	790277.8873	1695123.0600
PC	10+22.40	790265.3541	1695141.6233
PT	11+20.44	790239.9400	1695234.5195
POT	12+39.67	790247.0627	1695353.5290

Y1

TYPE	STATION	NORTH	EAST
POT	10+00.00	789392.2396	1694220.8197
PC	15+13.54	789607.3299	1694687.1472
PT	16+69.61	789626.4736	1694839.5786
POT	17+06.71	789619.7487	1694876.0589

Y4

TYPE	STATION	NORTH	EAST
POT	10+00.00	789327.5061	1693817.2312
POT	36+00.00	790393.7250	1696188.5551

ROW MARKER CONCRETE OR GRANITE-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	14+66.00	22.16	789324.6463	1694817.2515
L	15+35.00	35.00	789388.4714	1694841.4472
L	16+10.00	35.00	789458.7140	1694858.9574
L	16+60.74	40.00	789503.7925	1694878.4596
L	26+71.23	-40.00	790447.7111	1695242.0063
L	26+87.37	-40.00	790456.9583	1695256.7483
L	28+20.00	-40.00	790525.6512	1695370.2080
L	28+20.00	-30.00	790517.0969	1695375.3871

ROW MARKER CONCRETE OR GRANITE-E

ALIGN	STATION	OFFSET	NORTH	EAST
RP1	10+66.34	50.82	789570.1149	1694954.0288

ROW MARKER CONCRETE OR GRANITE-E

ALIGN	STATION	OFFSET	NORTH	EAST
RP1_EXT	13+13.64	47.70	789632.7577	1695193.2754
RP1_EXT	15+26.14	57.06	789805.8613	1695381.6653
RP1_EXT	16+19.08	45.24	789896.4720	1695394.1720

REBAR PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	15+96.00	82.00	789433.2803	1694900.6232
L	28+20.00	-70.00	790551.3142	1695354.6706
L	27+44.28	-70.00	790512.0961	1695289.8942
L	15+55.00	90.00	789394.9471	1694899.1960
L	15+35.00	50.00	789385.3844	1694856.1261
L	17+00.00	80.00	789527.8962	1694929.0558
L	16+88.00	70.00	789519.8030	1694915.6954

REBAR PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
RP1_EXT	15+26.14	80.00	789799.8573	1695403.8017
RP1_EXT	16+10.94	75.82	789882.3273	1695421.8366
RP1_EXT	16+45.29	79.28	789900.1725	1695432.2629

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NGS FOR MONUMENT "B5114-2"
WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF
NORTHING: 788040.753(ft) EASTING: 1694751.292(ft)
ELEVATION: 963.58(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99989792
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5114-2" TO -L- STATION 12+00.00 IS N 01°51'05.0" E 1021.961'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:*
   HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B5114_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 NGS ONLINE POSITIONING SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

09-APR-2015 09:53
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$$$$USERNAME$$$$

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-5114	2A-1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014571 ENGINEER James A. Speer

DocuSigned by: James Speer 4/6/2015

PAVEMENT DESIGN ENGINEER

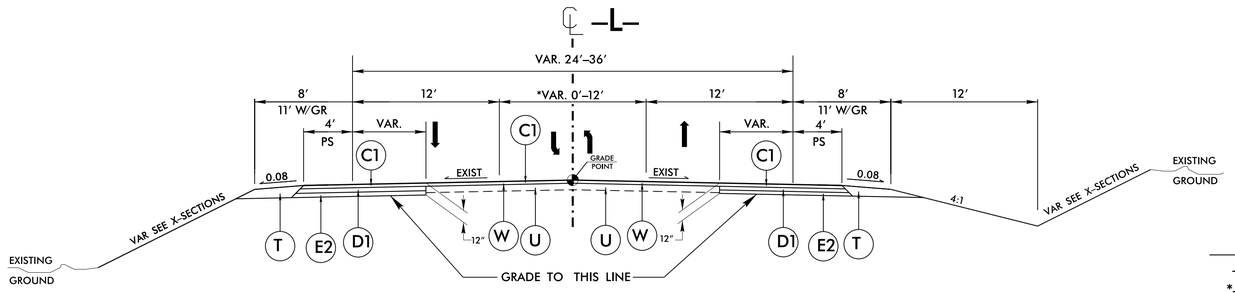
NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CLARK S. MORRISON

DocuSigned by: Clark Morrison 4/6/2015

PAVEMENT SCHEDULE

C1	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.
C2	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.
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. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
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 2½″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.
D3	PROP. APPROX. 2.5″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D4	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D5	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 2½″ 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″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E3	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 5½″ IN DEPTH.
E4	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E5	PROP. APPROX. 8.5″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 484.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E6	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, 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 5½″ IN DEPTH.
J1	PROP. 8″ AGGREGATE BASE COURSE
J2	PROP. VAR. DEPTH AGGREGATE BASE COURSE
R1	EXPRESSWAY GUTTER
R2	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	MILLING EXISTING ASPHALT PAVEMENT, 1½″ DEPTH
V2	MILLING EXISTING ASPHALT PAVEMENT, 1½″ DEPTH TO 2½″ DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

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



TYPICAL SECTION NO. 1

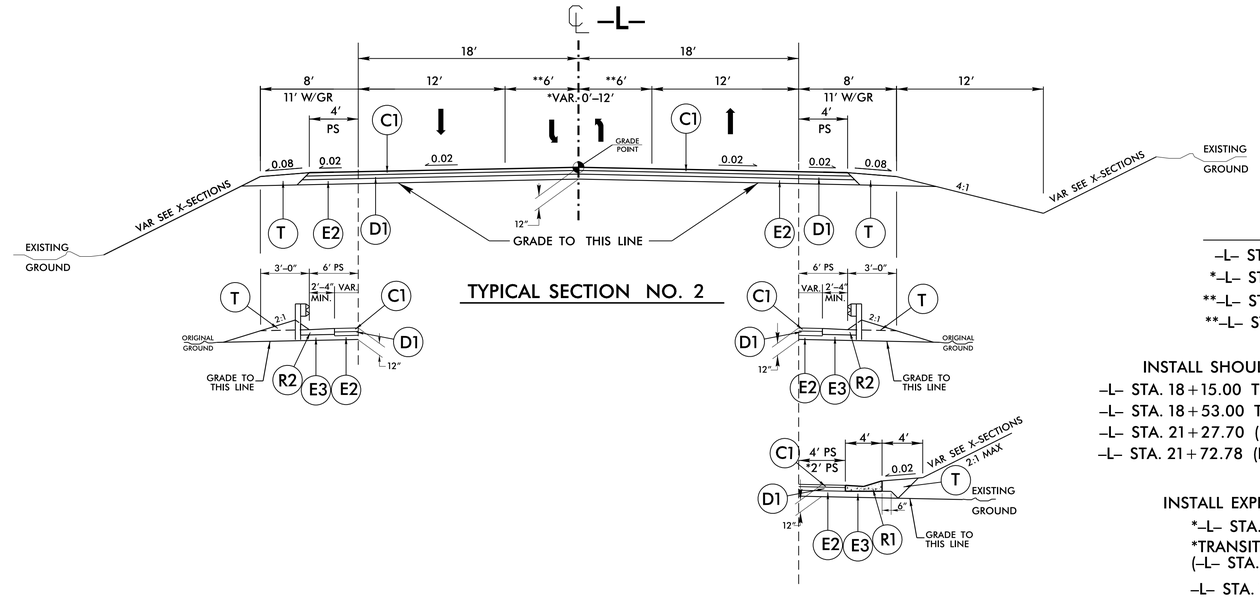
USE TYPICAL NO. 1

–L– STA. 13+34.42 TO STA. 14+00.00
*–L– STA. 25+80.00 TO STA. 27+22.00

OVERLAY EXISTING PAVEMENT WITH (C1)

–L– STA. 27+22.00 TO STA. 28+20.00

NOTE: USE INCIDENTAL MILLING AT ALL TIE–INS FOR –L–, –Y1–, –RP1–, –RP2–, AND AT OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.



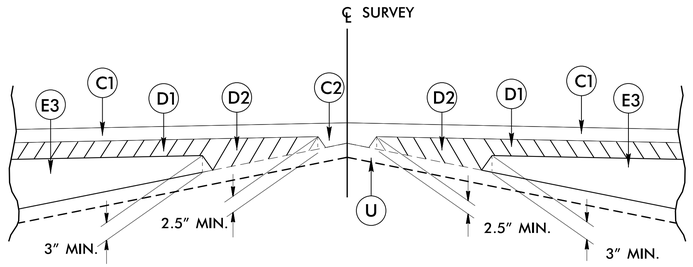
TYPICAL SECTION NO. 2

USE TYPICAL NO. 2

–L– STA. 14+00.00 TO STA. 14+60.00
*–L– STA. 14+60.00 TO STA. 17+00.00
**–L– STA. 17+00.00 TO STA. 18+79.61 (BEGIN BRIDGE)
**–L– STA. 21+26.61 (END BRIDGE) TO STA. 25+80.00

INSTALL SHOULDER BERM GUTTER (SBG) AS FOLLOWS.
–L– STA. 18+15.00 TO STA. 18+33.44 (BEGIN APPROACH SLAB) LT
–L– STA. 18+53.00 TO STA. 18+78.52 (BEGIN APPROACH SLAB) RT
–L– STA. 21+27.70 (END APPROACH SLAB) TO STA. 22+30.00 LT
–L– STA. 21+72.78 (END APPROACH SLAB) TO STA. 22+30.00 RT

INSTALL EXPRESSWAY GUTTER (EXG) AS FOLLOWS.
*–L– STA. 13+96.45 TO STA. 15+00.00 RT
*TRANSITION FROM 2′ PS TO 4′ PS
(–L– STA. 15+00.00 TO 15+50.00 RT)
–L– STA. 15+50.00 TO STA. 17+85.76 RT



Detail Showing Method of Wedging

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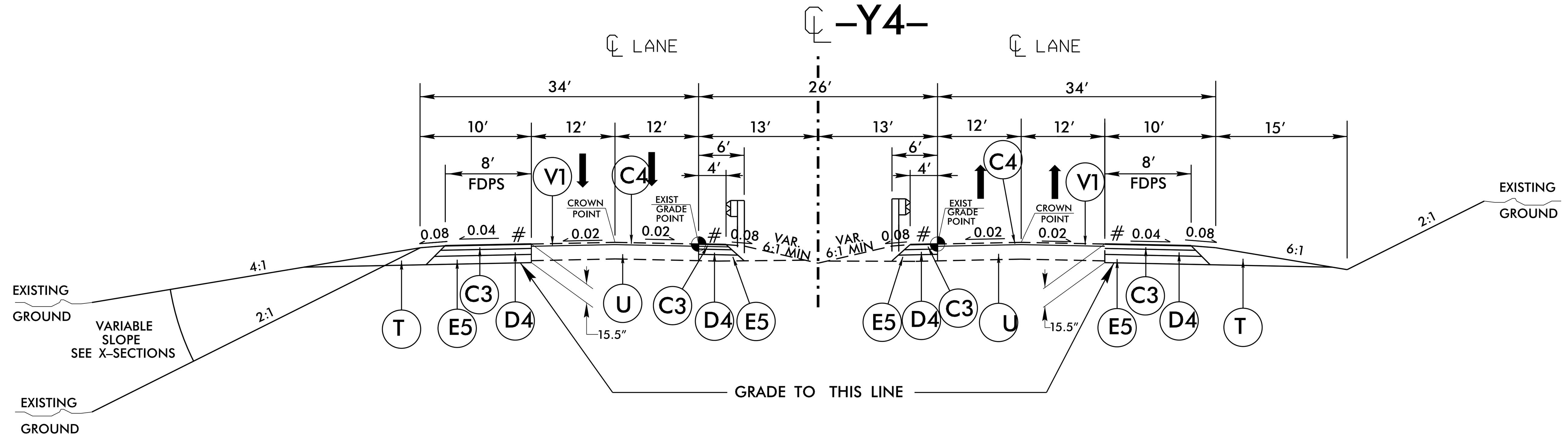
PROJECT REFERENCE NO.	SHEET NO.
B-5114	2A-2

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 014571 James A. Speer — DocuSigned by: James Speer 4/6/2015

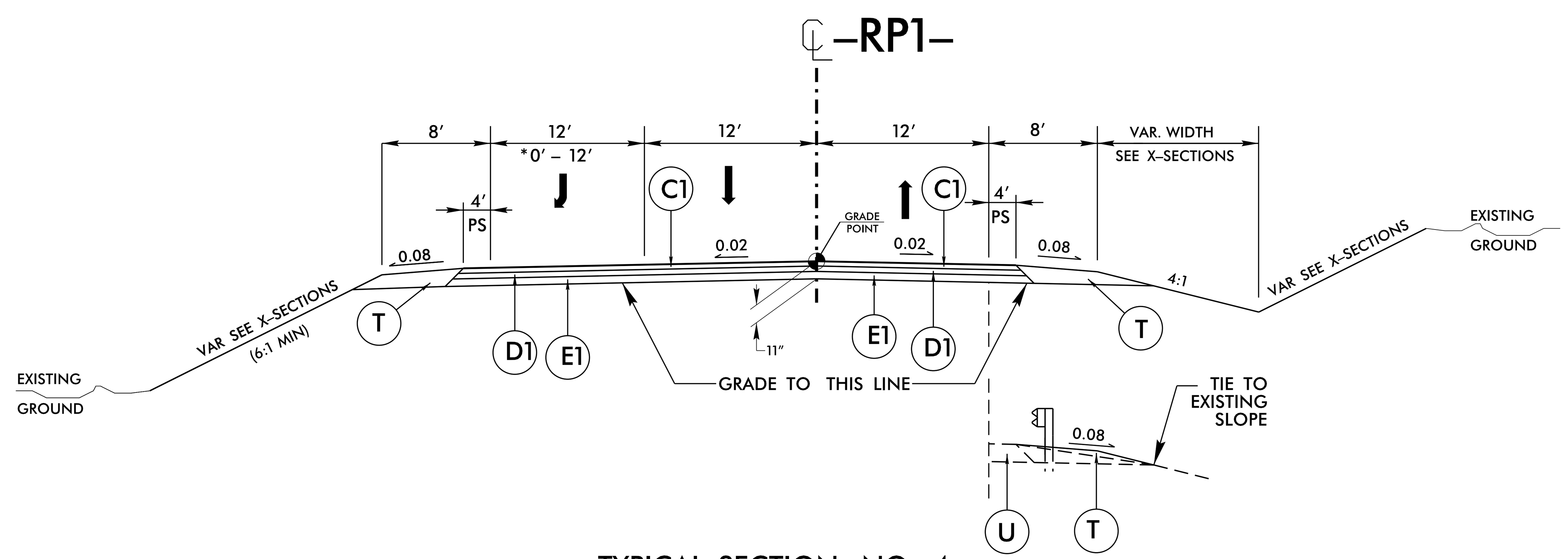
PAVEMENT DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022896 CLARK S. MORRISON — DocuSigned by: Clark Morrison 4/6/2015

C1	3″ S9.5B
C2	VARIABLE DEPTH S9.5B
C3	3″ S9.5C
C4	1½″ S9.5C
D1	4″ I19.0B
D2	VARIABLE DEPTH I19.0B
D3	2.5″ I19.0C
D4	4″ I19.0C
D5	VARIABLE DEPTH I19.0C
E1	4″ B25.0B
E2	5″ B25.0B
E3	VARIABLE DEPTH B25.0B
E4	4″ B25.0C
E5	8.5″ B25.0C
E6	VARIABLE DEPTH B25.0C
R1	EXPRESSWAY GUTTER
R2	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	MILL EXIST. PAVEMENT 1½″
V2	MILL EXIST. PAVEMENT 1½″ TO 2½″
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2A-1)

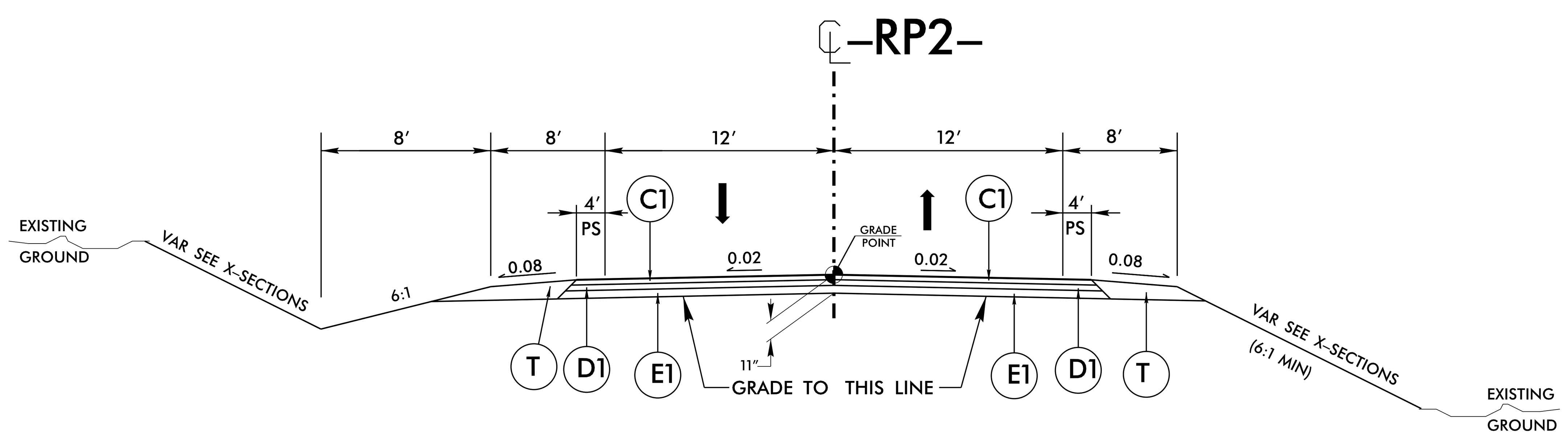
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 3



TYPICAL SECTION NO. 4



TYPICAL SECTION NO. 5

USE TYPICAL NO. 3

-Y4- STA. 12+80.00 TO -Y4- STA. 29+70.00

1) REMOVE EXIST. 8′ PAVED SHOULDER AND REPLACE WITH 8′ WIDE STRENGTHENED PAVED SHOULDER
2) ADD 4′ MEDIAN PAVED SHOULDERS
3) SEE CROSS - SECTIONS FOR PROPOSED GRADING OF MEDIAN SLOPES
4) MILL (V1) AND FILL (C4) THE EXISTING -Y4- LANES AFTER TRAFFIC SHIFTS AND MEDIAN CONSTRUCTION HAS BEEN COMPLETED. REFER TO TMP FOR GUIDANCE IN PHASING THE WORK.

\# MILLED RUMBLE STRIPS (SEE STD. 665.01)

USE TYPICAL NO. 4

-RP1- STA. 10+18.24 TO -RP1- STA. 11+46.00
RESURFACE AND WIDEN -RP1- AND -RP1EXT- STA 11+46.00 TO 12+25.00

*-RP1- STA. 11+46.00 TO STA. 12+25.00 LT

NOTE: INSTALL GUARDRAIL AND REPAIR EXISTING SHOULDER
-RP1EXT- STA. 14+00.00 TO STA. 17+14.54
(SEE CROSS - SECTIONS X-20 TO X-23)

USE TYPICAL NO. 5

-RP2- STA. 10+18.00 TO -RP2- STA. 12+05.00

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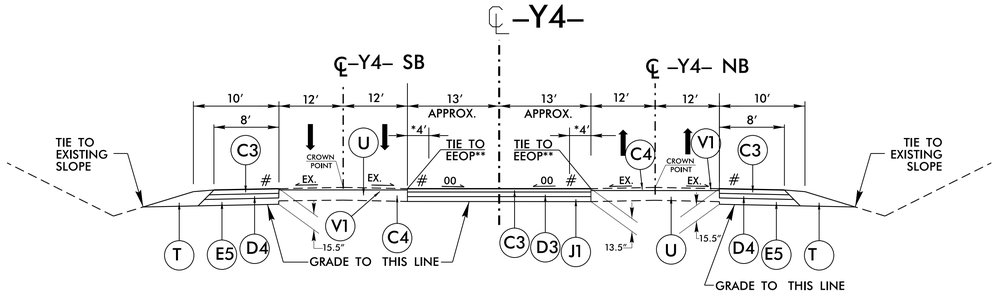
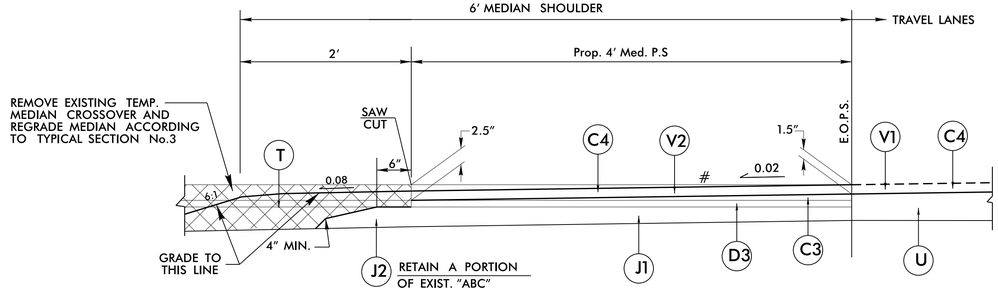
C1	3″ S9.5B
C2	VARIABLE DEPTH S9.5B
C3	3″ S9.5C
C4	1½″ S9.5C
D1	4″ I19.0B
D2	VARIABLE DEPTH I19.0B
D3	2.5″ I19.0C
D4	4″ I19.0C
D5	VARIABLE DEPTH I19.0C
E1	4″ B25.0B
E2	5″ B25.0B
E3	VARIABLE DEPTH B25.0B
E4	4″ B25.0C
E5	8.5″ B25.0C
E6	VARIABLE DEPTH B25.0C
J1	PROP. 8″ ABC
J2	PROP. VAR. DEPTH ABC
R1	EXPRESSWAY GUTTER
R2	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	MILL EXIST. PAVEMENT 1½″
V2	MILL EXIST. PAVEMENT 1½″ TO 2½″
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2)

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

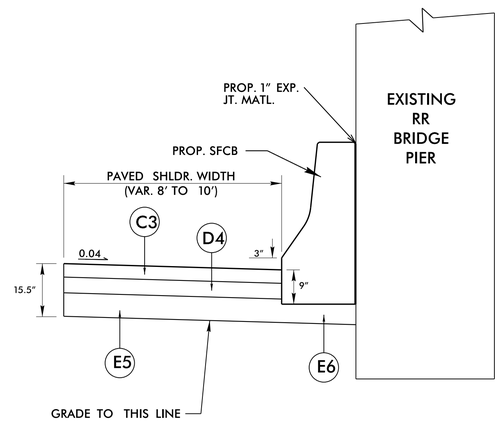


TYPICAL SECTION NO. 6
SEE PLAN SHEETS 6 AND 7

**EEOP DENOTES EXIST. EDGE OF PAVEMENT



DETAIL OF RETROFITTING TEMP. MEDIAN CROSSOVER PAVEMENT TO FINAL MEDIAN SHOULDERS



DETAIL OF PAVED SHOULDER AND SINGLE FACED CONCRETE BARRIER AT RR. BRIDGE PIERS ALONG –Y4–

PROJECT REFERENCE NO.	SHEET NO.
B-5114	2A-3

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 014571 ENGINEER James A. Speer
DocuSigned by: James Speer 4/6/2015

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CLARK S. MORRISON
DocuSigned by: Clark Morrison 4/6/2015

USE TYPICAL NO. 6

–Y4– STA. 8+50.00 TO –Y4– STA. 12+80.00 (FOR MEDIAN CROSSOVER)
–Y4– STA. 29+70.00 TO –Y4– STA. 34+00.00 (FOR MEDIAN CROSSOVER)

(STRENGTHEN OUTSIDE PAVED SHOULDERS FOR TRAFFIC SHIFT)

* IN LOCATIONS OF TEMP MEDIAN CROSSOVERS, RETAIN 4′ WIDE PAVEMENT ADJACENT TO TRAVEL LANES. RETROFIT PAVED SHOULDER BY USING (V2) AND (C4) AND REGRADE MEDIAN SLOPES TO DRAIN, SEE TYPICAL SECTION 3 AND DETAIL ON THIS SHEET FOR GUIDANCE.

MILL (V1) AND FILL (C4) ON THE EXISTING –Y4– LANES AFTER THE NEED FOR WORK ZONE TRAFFIC SHIFTS AND MEDIAN CONSTRUCTION HAS BEEN COMPLETED. REFER TO TMP FOR GUIDANCE IN PHASING THE WORK.

\# MILLED RUMBLE STRIPS (SEE STD. 665.01) TO BE ADDED TO PAVED SHOULDERS AFTER THE NEED FOR WORK ZONE TRAFFIC SHIFTS AND MEDIAN CONSTRUCTION HAS BEEN COMPLETED. REFER TO TMP FOR GUIDANCE IN PHASING THE WORK.

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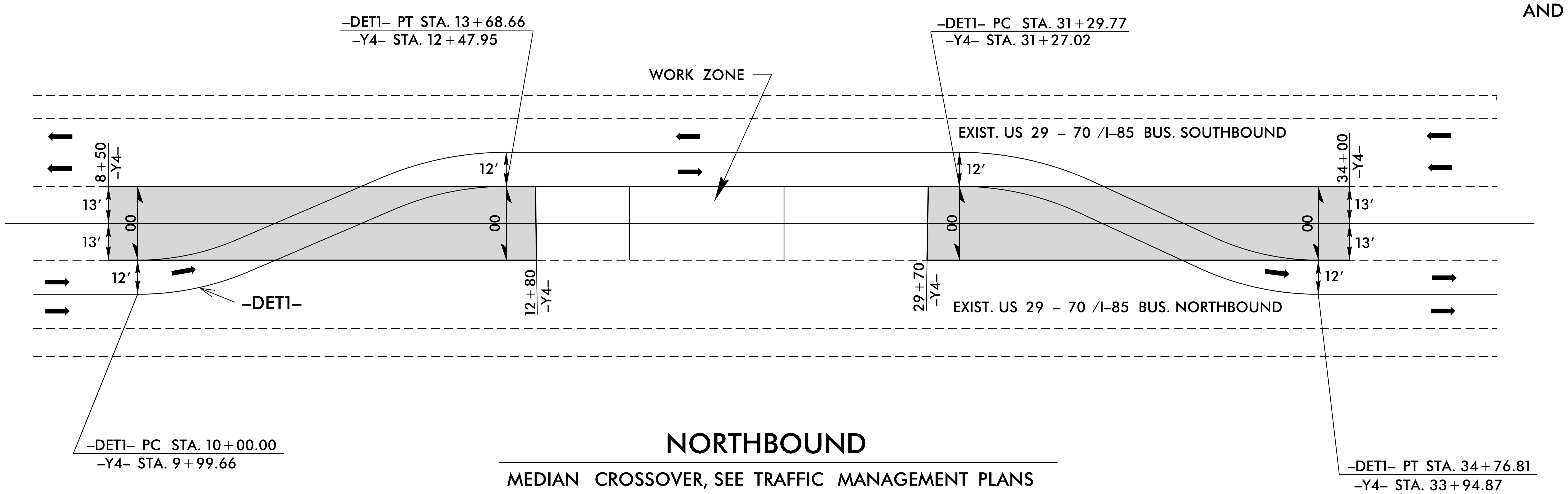
ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014571 ENGINEER James A. Speer

DocuSigned by: James Speer 4/7/2015

SKETCH OF MEDIAN CROSSOVER PAVEMENT IN RELATION TO TRAFFIC PATTERN

USE THIS DETAIL IN JUNCTION WITH TMP AND ALL APPLICABLE ROADWAY STD. DWGS.



NORTHBOUND

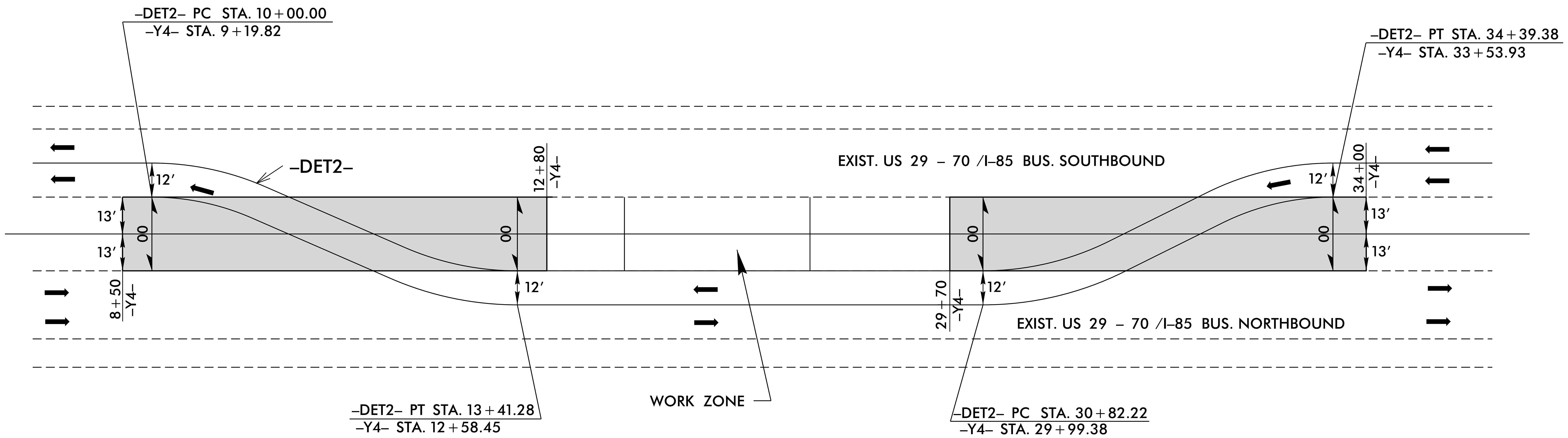
MEDIAN CROSSOVER, SEE TRAFFIC MANAGEMENT PLANS

SCALE: NOT TO SCALE

-DET1-

PI Sta 10+64.73 △ = 10° 16' 30.5" (LT) D = 7° 57' 27.9" L = 129.12' T = 64.73' R = 720.00'	PI Sta 13+09.83 △ = 9° 23' 02.3" (RT) D = 7° 57' 27.9" L = 117.92' T = 59.09' R = 720.00'
PI Sta 31+91.92 △ = 9° 52' 01.2" (RT) D = 7° 57' 27.9" L = 123.99' T = 62.15' R = 720.00'	PI Sta 34+14.92 △ = 9° 52' 28.0" (LT) D = 7° 57' 27.9" L = 124.09' T = 62.20' R = 720.00'

V = 45 mph



-DET2-

PI Sta 10+60.16 △ = 9° 33' 09.3" (RT) D = 7° 57' 27.9" L = 120.04' T = 60.16' R = 720.00'	PI Sta 12+77.58 △ = 10° 09' 54.4" (LT) D = 7° 57' 27.9" L = 127.74' T = 64.04' R = 720.00'
PI Sta 31+40.28 △ = 9° 13' 16.6" (LT) D = 7° 57' 27.9" L = 115.88' T = 58.06' R = 720.00'	PI Sta 33+81.57 △ = 9° 13' 16.6" (RT) D = 7° 57' 27.9" L = 115.88' T = 58.06' R = 720.00'

V = 45 mph

SOUTHBOUND

MEDIAN CROSSOVER, SEE TRAFFIC MANAGEMENT PLANS

SCALE: NOT TO SCALE

SEE SHEET 2A-3 TYPICAL SECTION 6

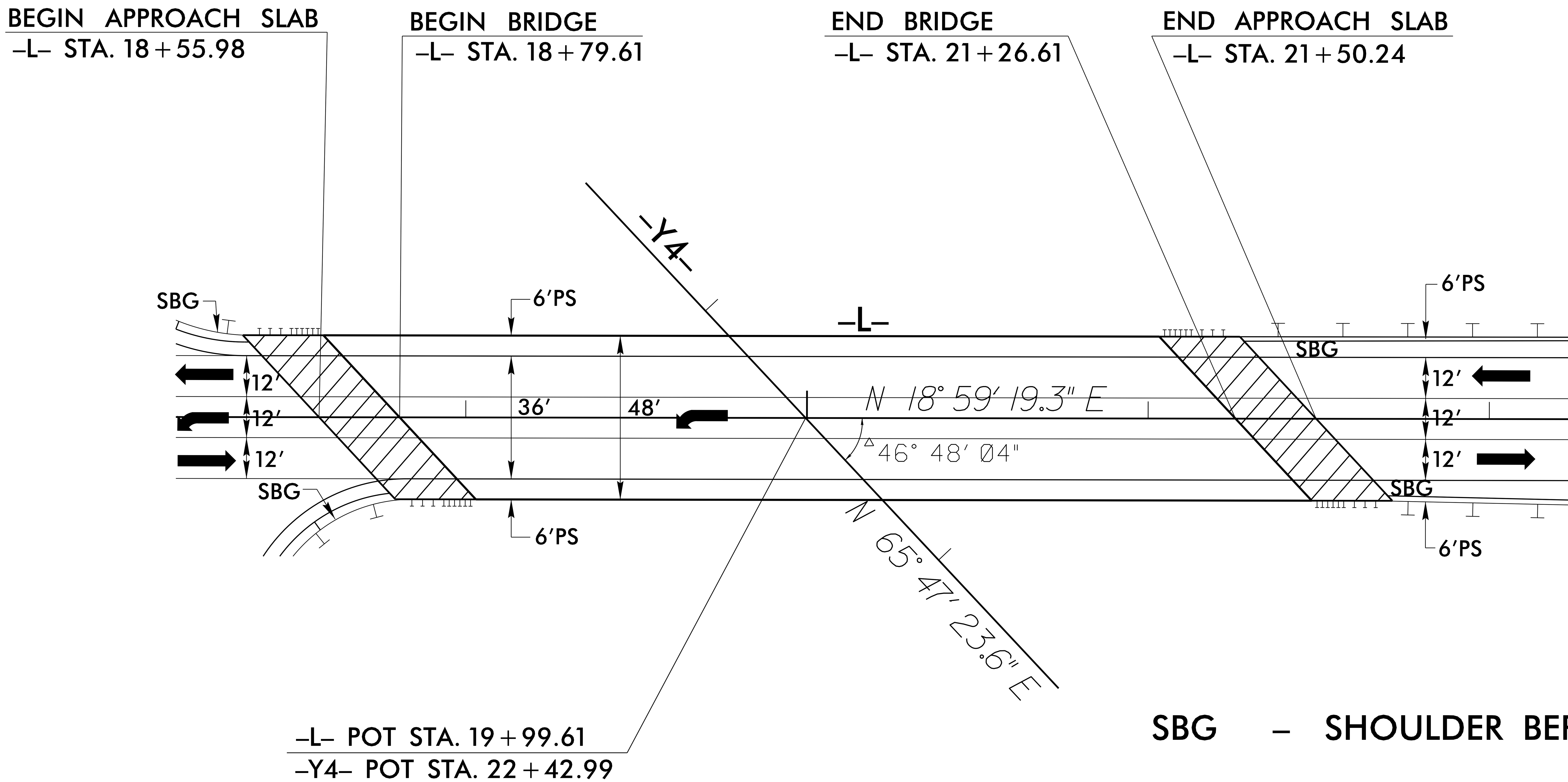
PROJECT REFERENCE NO.	SHEET NO.
B-5114	2B-2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 014571 ENGINEER James A. Speer

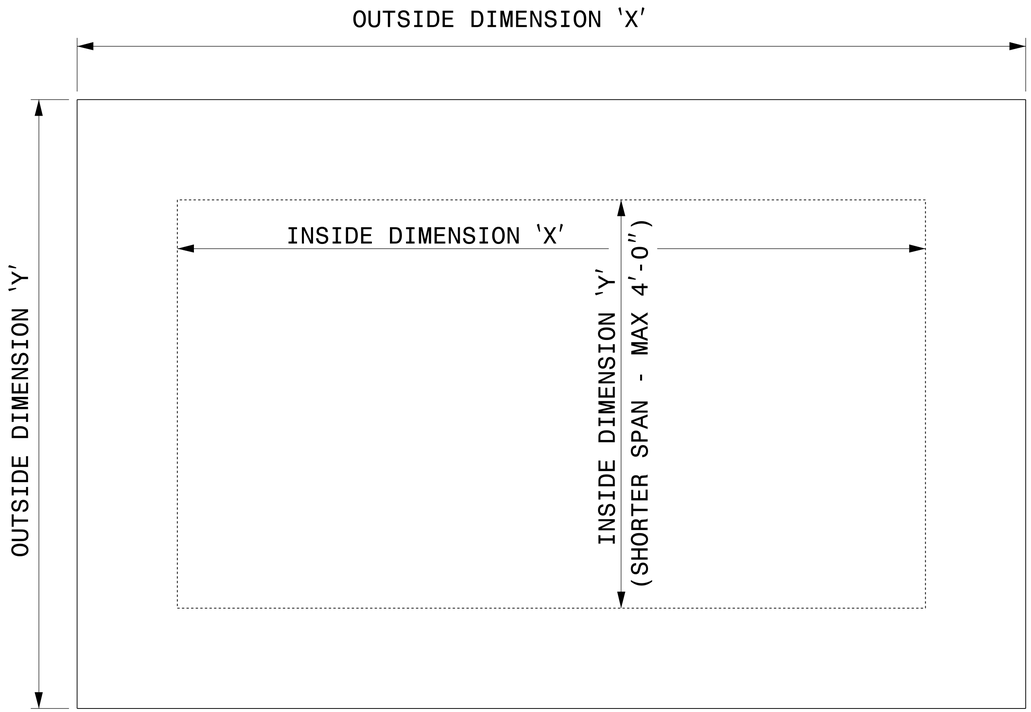
DocuSigned by: James Speer 4/6/2015

DETAIL SHOWING BRIDGE IN RELATION TO PAVEMENT



SBG – SHOULDER BERM GUTTER

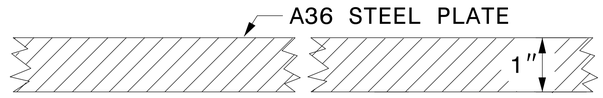
PROJECT REFERENCE NO.	SHEET NO.
B-5114	2C-1



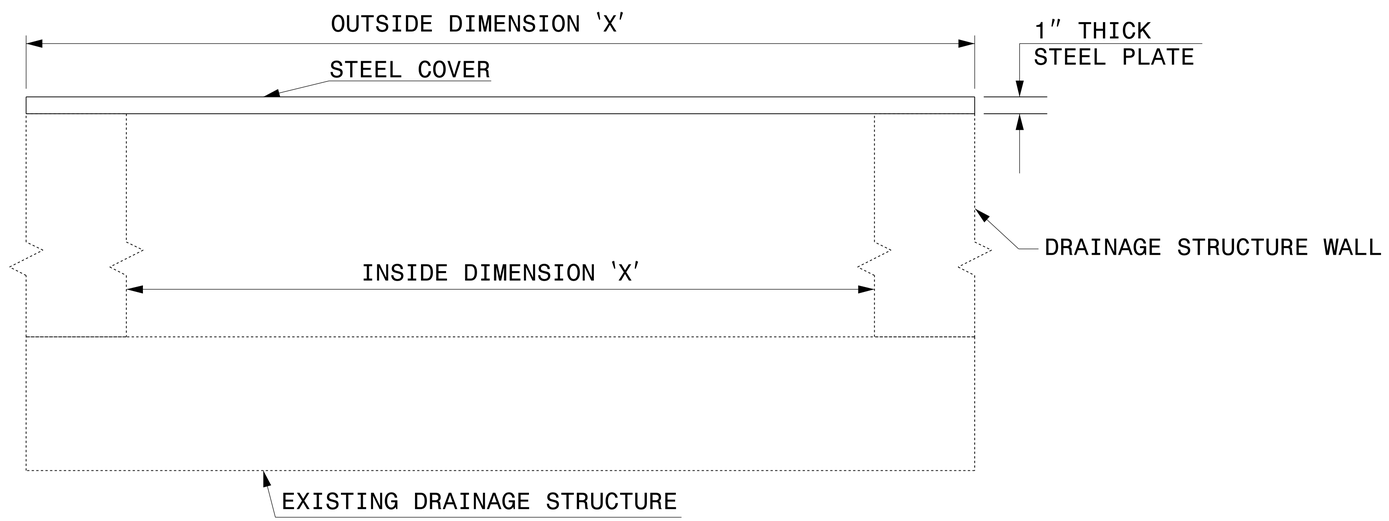
PLAN VIEWS

GENERAL NOTES:

-USE GRADE A36 STEEL
-STEEL COVERS ARE FOR TEMPORARY USE DURING PHASE CONSTRUCTION.
-FILL SHALL BE PLACED DIRECTLY OVER THE STEEL PLATES.
-SEE ROADWAY PLANS AND PROVISIONS FOR LOCATIONS
-QUANTITES TO BE PAID FOR AT THE UNIT PRICE BID PER EACH.



SECTION VIEW OF STEEL TOP PLATE



ELEVATION VIEWS

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S Howerton

DocuSigned by: Joel Howerton 873F3D17DCDC45F... 4/13/2015

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

DETAIL OF TEMPORARY 1" STEEL COVER OVER DRAINAGE STRUCTURE

ORIGINAL BY: E.E. WARD DATE: 2-2-98
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
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$$$$TIME$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET
B-5114	2H-1

GEOENVIRONMENTAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 31499 ENGINEER CYRUS F. PARKER

DocuSigned by: Cyrus Parker 3/12/2015 C06492AF5E824DF...

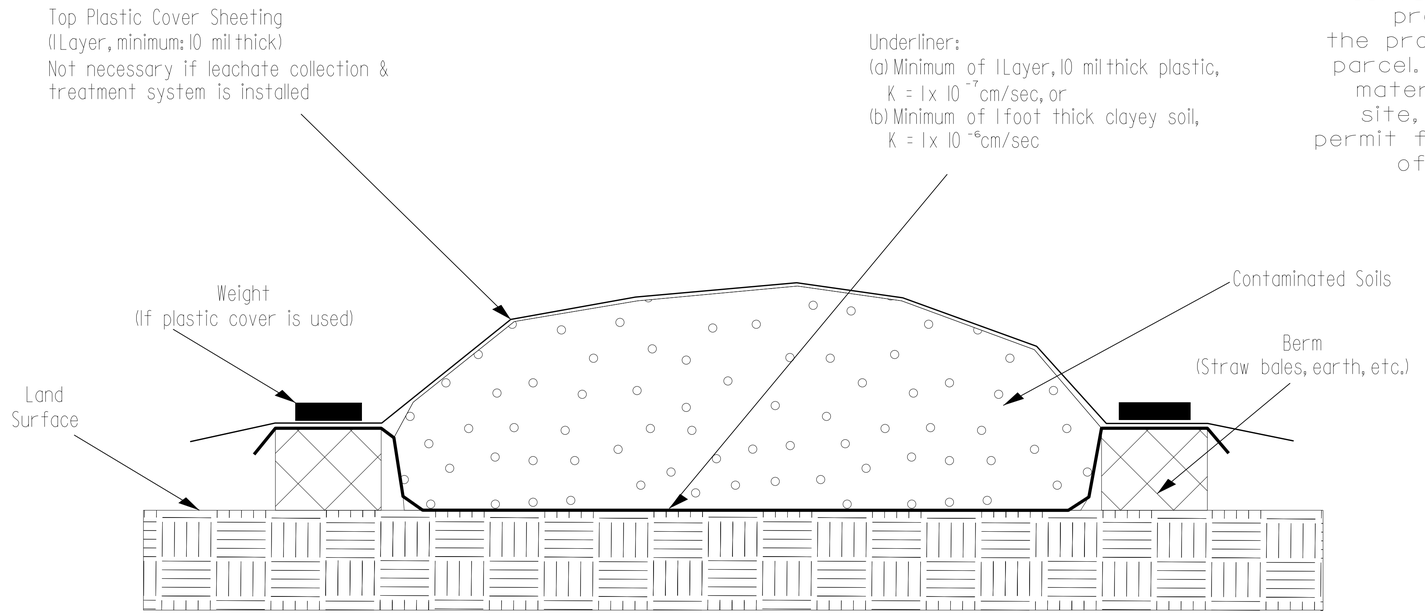
SIGNATURE DATE

ENGINEER

SIGNATURE DATE

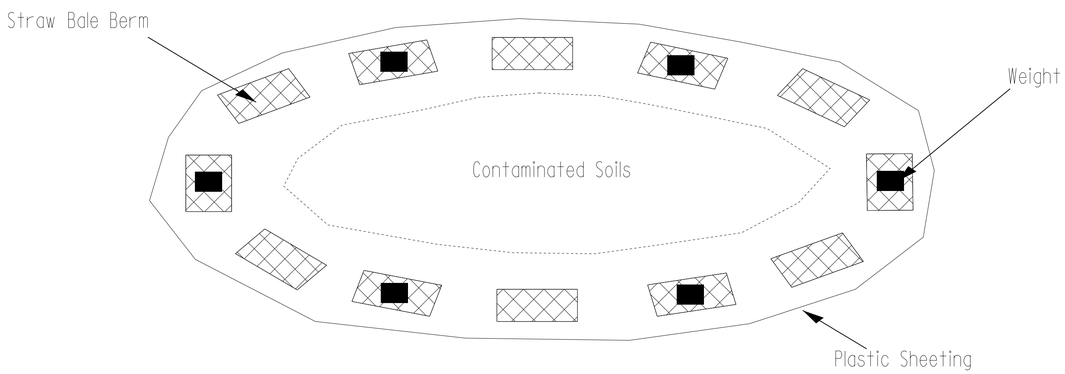
Detail for Temporary Containment of Contaminated Soil

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		

COMPUTED BY: AKW	DATE: 3/2014
CHECKED BY: WAD	DATE: 3/24/2015

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-5114	3B-1

SUMMARY OF EARTHWORK

(IN CUBIC YARDS)

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. +%	BORROW	WASTE
-L- 13+34.42	-L- 18+79.61	1252		916		336
-RP1- 10+18.00	-RP1- 11+46.00	285		26		259
-RP1_EXT- 12+50.00	-RP1_EXT- 17+00.00	173		36		137
SUBTOTALS:		1710		978		732
-L- 21+26.61	-L- 28+20.00	457		7481	7024	
-RP2- 10+50.00	-RP2- 12+05.00	379		113		266
SUBTOTALS:		836		7594		266
-Y4- 10+00.00	-Y4- 34+00.00	926	108	1918	992	108
SUBTOTALS:		926	108	1918	992	108
TOTAL:		3472	108	10489	8015	1106
MATERIAL FOR SHOULDER CONSTRUCTION				240	240	
UNDERCUT EXCAVATION (CONTINGENCY)			500			500
WASTE IN LIEU OF BORROW					-998	-998
PROJECT TOTALS:		3472	608	10729	7257	608
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					359	
GRAND TOTALS:		3472	608	10729	7616	608
SAY:		3900	625		8400	

SHALLOW UNDERCUT EXCAVATION (CONTINGENCY) = 500 CY
SELECT GRANULAR MATERIAL (CONTINGENCY) = 600 CY
GEOTEXTILE FOR SOIL STABILIZATION (CONTINGENCY) = 2100 SY
CLASS IV SUBGRADE STABILIZATION (CONTINGENCY) = 1000 TON
DRAINAGE DITCH EXCAVATION = 75 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."

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH (LF)
-L- LT	18+15.00	18+33.44	18.44
-L- RT	18+53.00	18+78.52	25.52
-L- LT	21+27.70	22+30.00	102.30
-L- RT	21+72.80	22+30.00	57.20
TOTAL:			203.40
SAY:			210.00

EXPRESSWAY GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH (LF)
-L- RT	13+92.27	17+90.79	398.52
TOTAL:			398.52
SAY:			400.00

SUMMARY OF BREAKING EXISTING ASPHALT PAVEMENT

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	SY
-L-	17+70.00	18+79.61	LT	848.09
-L-	21+26.61	24+00.00	LT	30.38
-RP1-	10+18.24	10+60.00	LT & RT	199.52
TOTAL:				1077.98
SAY:				1080

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	SY
-L-	14+00.00	17+70.00	LT & RT	986.67
-L-	24+00.00	25+80.00	LT & RT	480.00
-RP1-	10+60.00	11+46.00	LT & RT	210.22
SHOULDER				
-Y4-	8+50.00	34+00.00	LT & RT	4533.33
MEDIAN CROSSOVER				
-Y4-	8+50.00	12+80.00	LT	860.00
-Y4-	29+70.00	34+00.00	LT	860.00
TOTAL:				7930.22
SAY:				7940

"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 CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL		REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	TYPE III	GRAU TYPE TL-2	AT-1	GRAU TYPE TL-3	CAT-1	TYPE B-77		TEMP. GRAU TYPE TL-3		EA	G	NG				
-L-	17+89.31	18+57.23	LT	25	53			18+58.23	6	9					1		1													
-L-	21+04.23	22+63.97	LT	162.23			21+03.23		6	9					1	1														
-L-	18+51.53	19+01.99	RT	25	99		19+02.99		6	9					1		1											109		
-L-	21+48.99	23+41.96	RT	191.75				21+47.99	6	11		73.5		1.47	1	1														
-Y4-	5+50.00	36+82.50	RT	3112.91			22+42.99		4	6	50		1					1	1											TIE PROP MEDIAN GR TO EXIST GR (SEE PROJECT W-5208L)
-Y4-	5+50.00	36+65.00	LT	3095.11			22+42.99				50		1					1	1											TIE PROP MEDIAN GR TO EXIST GR (SEE PROJECT W-5208L)
-Y4-	18+92.50	20+92.50	RT	200			20+92.50		8	10	50		1					1		1										SEE TRANSPORTATION MANAGEMENT PLANS
-Y4-	22+25.77	24+27.77	LT	202			22+25.77		8	10	50		1					1		1										
-Y4-	20+75.00 +/-	24+30.00 +/-	MED.																			4								
-Y4-	20+92.50	21+32.50	RT																								40			CONC BARRIER AT EXIST RR PIER
-Y4-	21+85.80	22+25.80	LT																								40			CONC BARRIER AT EXIST RR PIER
-RP1EXT- /-Y4-	-RP1EXT- 12+63.59	-Y4- 31+40.59	RT	873.46			15+00.00		4	8	50	50	1	1				2												
			SUBTOTAL	7887.46	152										4	2	2	6	2	2		4					80	109		
		LESS ANCHOR DEDUCTIONS																												
			GRAU TL-3 6@50'	-300																										
			GRAU TL-2 2@25'	-50																										
			TYPE B-77 2@18.75'	-37.5																										
			TYPE III 4@18.75'	-75																										
			AT-1 2@6.25'	-12.5																										
			CAT-1 2@6.25	-12.5																										
			PROJECT TOTAL	7399.96	152																									
			SAY	7400	162.5																									
			15 ADDITIONAL GR POSTS																											

R0206193

COMPUTED BY: M. Kelly DATE: 8/28/2014

CHECKED BY: P. Schulken DATE: 9/08/2014

PROJECT NO.	SHEET NO.
B-5114	3D-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

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

LINE & STATION	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Side Drain Pipe (RCP, CSP, CAAP, HDPE, or PVC) SIZE	Side Drain Pipe THICKNESS OR GAUGE	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	C. S. PIPE SIZE	C. S. PIPE THICKNESS OR GAUGE	R. C. PIPE CLASS III SIZE	R. C. PIPE CLASS IV SIZE	R. C. PIPE CLASS V SIZE	24" WELDED STEEL PIPE .500" THICK, GRADE B IN SOIL	24" WELDED STEEL PIPE .500" THICK, GRADE B NOT IN SOIL	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) A: 0' THRU 5' EACH	B: 5' THRU 10' LIN. FT.	B: 10' AND ABOVE LIN. FT.	G.D.I. TYPE "A" STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	MANHOLE FRAME AND COVER 840.54	T.B.D.I. STD. 840.35	M.H. STD. 840.52	SIDE DRAIN PIPE ELBOWS	TEMP STEEL PLATE	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
Y4 23+30	58	LT	0405		934.3				15							12	.064									1	0.4			1												
			0405	0421		928.9	927.8	0.3											56																						
Y4 23+30	58	RT	0406		932.0																					1			1		1										
			0406	0422		927.3	924.9	1.0										100																						
L 16+00	22	RT	0407		956.4																					1					1										
			0407	0408		953.7	952.3	0.4													96																			
L 17+00	36	RT	0408		955.4																					1					1										
			0408	0410		951.2	950.4	0.3														72																		
L 17+00	46	LT	0409		955.0																																				
			0409	0408		951.4	951.2											84																						
RP1 10+59	22	RT	0410		953.4																					1					1										
			0410	0411		950.4	949.5	0.4										44																						
L 18+20	26	LT	0412		956.6																					1					1										
			0412	0413		954.1	953.9																																		
L 18+60	31	RT	0413		957.3																					1					1										
			0413	0414		953.6	947.3		24																																
L 22+27	24	LT	0415		957.7																					1					1										
			0415	0416		955.2	955.0																																		
L 22+27	25	RT	0416		957.5																					1					1										
			0416	0417		954.8	931.5		52																																
Y4 22+40	55	LT	0420		932.6																					1				1	1										
			0420	0405		929.1	928.9											88																						
Y4 23+30	0	CL	0421		932.5																					1				1	1										
			0421	0406		927.8	927.3	0.5											56																						
Y4 24+29	69	RT	0422		929.6																					1	2.5			1	1										
Y4 26+32	70	RT	0424		931.5																					1				1	1										
			0424	0425		928.8	928.4											104																						
Y4 25+50	132	RT	0425		935.1																					1	5.0	6.9				1				1					
RP2 12+05	26	LT	0501		944.1																					1	2.4			1			1								
Y4 28+26	82	LT	0701		918.5																					1				1	1										
			0701	0702		915.0	912.7											84																						
Y4 28+16	0	CL	0702		930.3																					1	5.0	7.6		1		1									
			0702	0703		912.7	905.0	0.4										116																						
Y4 31+00			0704	0705		919.4	917.8	0.5																	70	70														Trenchless installation 24" welded steel.
Y4 29+90	57	LT	0706		930.0																					1				1	1										
			0706	0718		927.3	926.0											72																						
Y4 31+25.74	0	CL	0712													164																					1				TEMPORARY PIPE
RP1_EXT 15+53	35	RT	0423															16																					0.5526			Remove FES & 8' of 24" conc. pipe.
			0000																																					
L 13+85	15	RT	0000																																				33	
Y4 28+15	7	RT	0000																																				158	
Y4 22+67	29	LT	0000																																		9			
Y4 23+63	33	RT	0000																																		17			
Y4 30+73	4	RT	0000																																		9			
SHEET TOTALS									76							164		176	128	404	112		116	96	72		70	70	18	15.3	14.5	5	5	9	1	7	1	7	1	4	1	35	0.5526		191	
PROJECT TOTALS									76							164		176	128	404	112		116	96	72		70	70	18	34.2		5	5	9	1	7	1	7	1	4	1	35	0.5526		191	

ABBREVIATIONS

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

PROJ. REFERENCE NO.	SHEET NO.
B-5114	3P-1

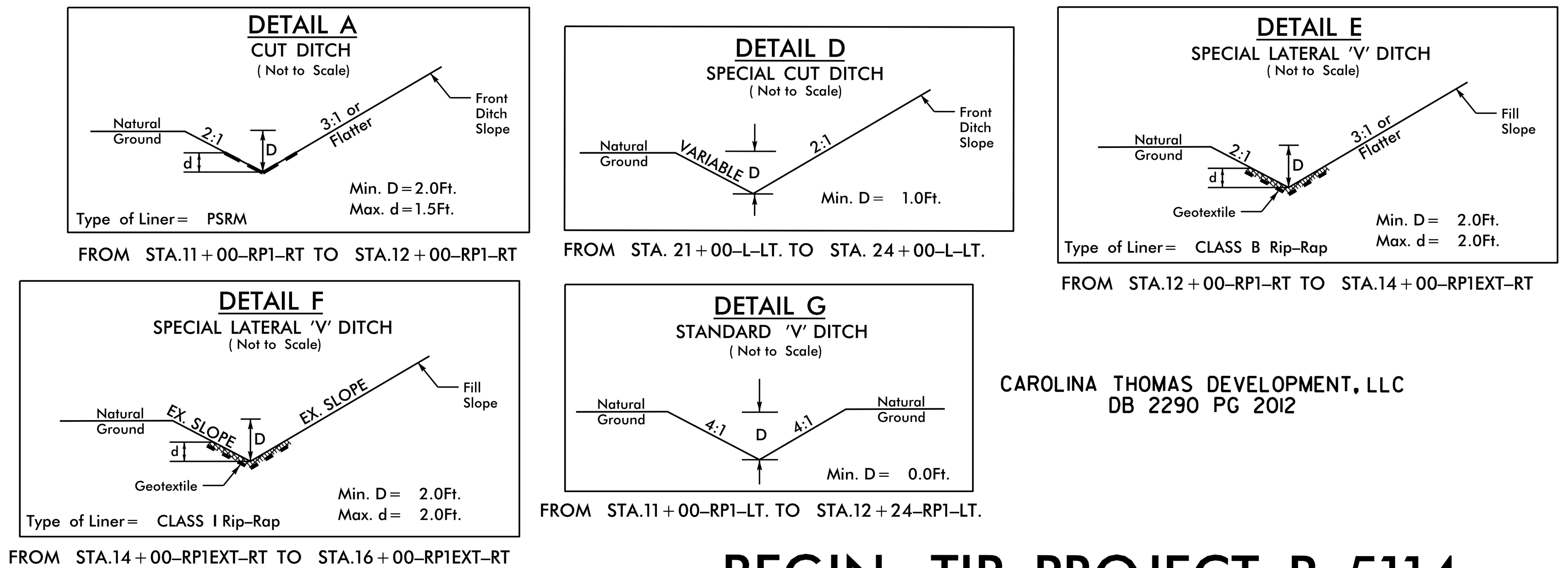
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

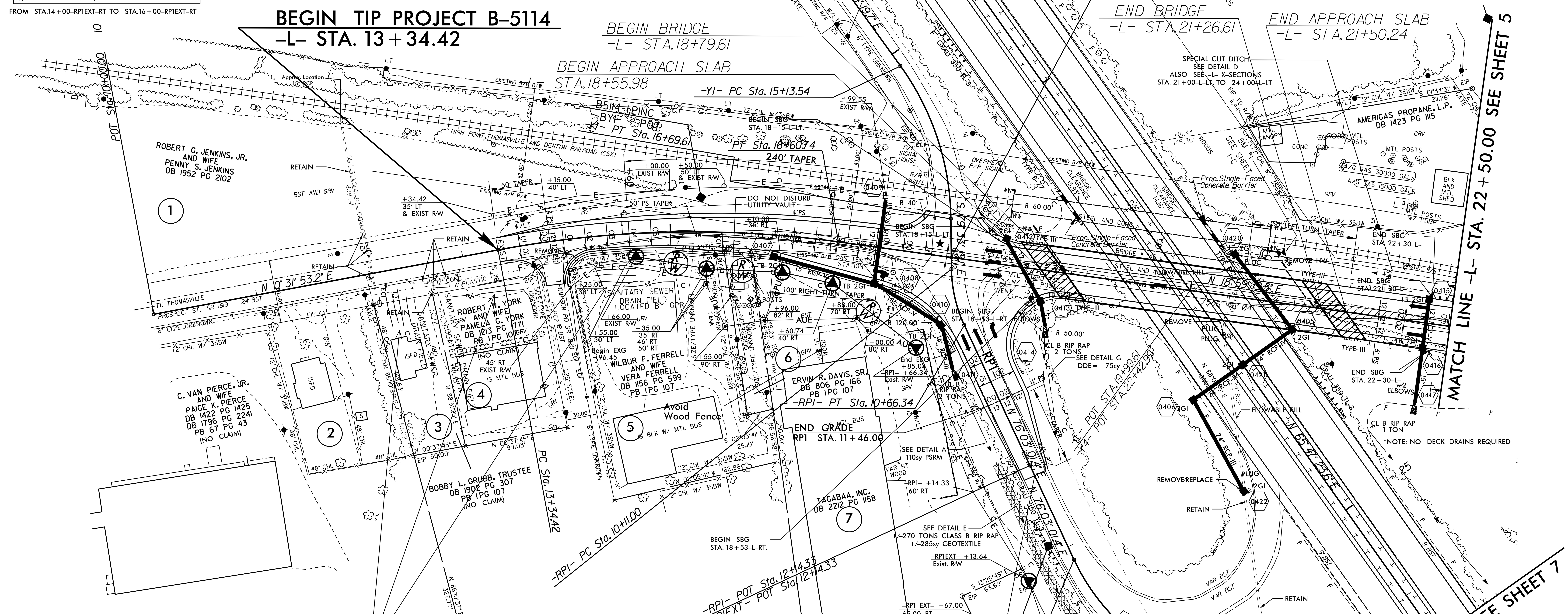
PARCEL No.	SHEET No.	PROPERTY OWNER NAME	
1	4	ROBERT G. JENKINS, JR.AND WIFE PENNY S. JENKINS DB 1952 PG 2102	
2	4	C. VAN PIERCE, JR. AND WIFE PAIGE K.PIERCE DB 1422 PG 1425 DB 1796 PG 2241 PB 67 PG 43	(NO CLAIM)
3	4	BOBBY L.GRUBB, TRUSTEE DB 1902 PG 307 PB 1 PG 107	(NO CLAIM)
4	4	ROBERT W.YORK AND WIFE PAMELA G. YORK DB 1213 PG 1771 PB 1 PG 107	(NO CLAIM)
5	4	WILBUR F. FERRELL AND WIFE VERA FERRELL DB 1156 PG 599 PB 1 PG 107	
6	4	ERVIN R. DAVIS, SR. DB 806 PG 166 PB 1 PG 107	
7	4	TAGABAA, INC. DB 2212 PG 1158	
8	5	KENNEDY OIL COMPANY DB 644 PG 366 DB 536 PG 336 PB 22 PG 16	
9	5	DTJ PROPERTIES, L.L.C. DB 2066 PG 2621 PB 14 PG 70	
10	4&7	RONALD W. McKAGUE AND WIFE JUDITH R. McKAGUE DB 2040 PG 2255	

PROJECT REFERENCE NO.	SHEET NO.
B-5114	4
R/W SHEET NO.	

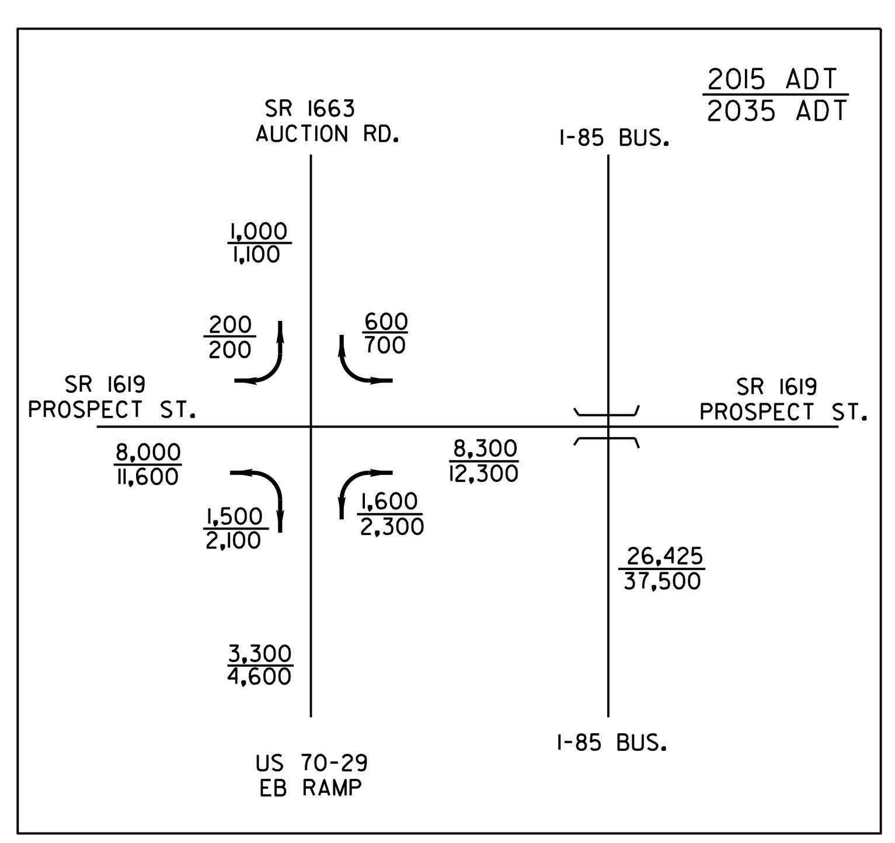
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEAL 014571 James A. Speer 4/14/2015	SEAL 019775 Ray D. Lovinggood 4/13/2015



DETAIL A
CUT DITCH
(Not to Scale)
Type of Liner= PSRM
Min. D=2.0Ft.
Max. d=1.5Ft.
FROM STA.11+00-RP1-RT TO STA.12+00-RP1-RT
DETAIL D
SPECIAL CUT DITCH
(Not to Scale)
Min. D= 1.0Ft.
FROM STA. 21+00-L-LT. TO STA. 24+00-L-LT.
DETAIL E
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Type of Liner= CLASS B Rip-Rap
Min. D= 2.0Ft.
Max. d= 2.0Ft.
FROM STA.12+00-RP1-RT TO STA.14+00-RP1EXT-RT
DETAIL F
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Type of Liner= CLASS I Rip-Rap
Min. D= 2.0Ft.
Max. d= 2.0Ft.
FROM STA.14+00-RP1EXT-RT TO STA.16+00-RP1EXT-RT
DETAIL G
STANDARD 'V' DITCH
(Not to Scale)
Min. D= 0.0Ft.
FROM STA.11+00-RP1-LT. TO STA.12+24-RP1-LT.



MATCH LINE -Y4- 17+00.00
SEE SHEET 6
NAD 83/CORS 96
CAROLINA THOMAS DEVELOPMENT, LLC
DB 2290 PG 2012
DUKE POWER COMPANY
DB 555 PG 157
BEGIN TIP PROJECT B-5114
-L- STA. 13+34.42
BEGIN BRIDGE
-L- STA.18+79.61
BEGIN APPROACH SLAB
STA.18+55.98
END BRIDGE
-L- STA.21+26.61
END APPROACH SLAB
-L- STA.21+50.24
-L- POT Sta. 17+69.61
-RP1- POT Sta. 10+00.00
-Y1- POT Sta. 17+06.71
-Y1- PC Sta. 15+13.54
-Y1- PT Sta. 16+69.61
PT Sta. 16+60.74
240' TAPER
HIGH POINT THOMASVILLE AND DENTON RAILROAD (CSX)
ROBERT G. JENKINS, JR.
AND WIFE
PENNY S. JENKINS
DB 1952 PG 2102
AMERIGAS PROPANE, L.P.
DB 1423 PG 1115
C. VAN PIERCE, JR.
AND WIFE
PAIGE K. PIERCE
DB 1422 PG 1425
DB 1796 PG 2241
PB 67 PG 43
(NO CLAIM)
ROBERT W. YORK
AND WIFE
PAMELA G. YORK
DB 1213 PG 771
PB 1 PG 107
WILBUR F. FERRELL
AND WIFE
VERA FERRELL
DB 1156 PG 599
PB 1 PG 107
ERVIN R. DAVIS, SR.
DB 806 PG 166
PB 1 PG 107
BOBBY L. GRUBB, TRUSTEE
DB 1902 PG 307
PB 1 PG 107
(NO CLAIM)
TAGABAA, INC.
DB 2212 PG 1158
RONALD W. McKAGUE
AND WIFE
JUDITH R. McKAGUE
DB 2040 PG 2255
Avoid Wood Fence
PC Sta. 13+34.42
-RP1- PT Sta. 10+66.34
END GRADE
-RP1- STA. 11+46.00
-RP1- PC Sta. 10+11.00
-RP1- POT Sta. 12+14.33
-RP1EXT- POT Sta. 12+14.33
RP2-9 POT
END PAVEMENT CONST.
-RP1EXT- STA. 12+25.00
-RP1EXT- PC Sta. 13+13.64
-RP1EXT- PT Sta. 15+26.14
-RP1EXT- PC Sta. 16+09.72
DO NOT DISTURB
SANITARY SEWER
DRAIN FIELD
DO NOT DISTURB
UTILITY VAULT
-L- POT STA. 19+99.61
-Y4- POT STA. 22+12.99
MATCH LINE -L- STA. 22+50.00 SEE SHEET 5
MATCH LINE -Y4- STA. 26+50.00 SEE SHEET 7
*NOTE: NO DECK DRAINS REQUIRED



SEE SHEETS 8 & 9 FOR PROFILES

-L-

PI Sta 14+99.01	PI Sta 25+17.64
Δ = 18° 27' 26.1" (RT)	Δ = 39° 49' 08.3" (RT)
D = 5° 39' 21.8"	D = 11° 14' 04.1"
L = 326.33'	L = 354.44'
T = 164.59'	T = 184.71'
R = 1,013.00'	R = 510.00'
SUPER = .05	SUPER = .06
RO = 105'	RO = 124'

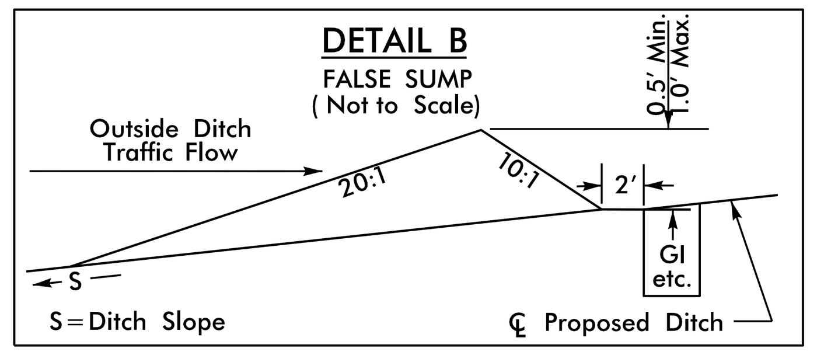
-RP1-	-Y1-	-Y4LOOP1-	-RP1EXT-
PI Sta 10+39.10	PI Sta 15+94.13	PI Sta 10+76.53	PI Sta 14+31.16
Δ = 24° 23' 26.2" (LT)	Δ = 35° 12' 21.2" (RT)	Δ = 59° 21' 50.4" (RT)	Δ = 60° 52' 31.2" (LT)
D = 44° 04' 25.2"	D = 22° 33' 26.6"	D = 43° 24' 21.2"	D = 28° 38' 52.4"
L = 55.34'	L = 156.07'	L = 136.76'	L = 212.49'
T = 28.10'	T = 80.59'	T = 75.24'	T = 117.52'
R = 130.00'	R = 254.00'	R = 132.00'	R = 200.00'
SUPER = N/A	SUPER = N/A	SUPER = N/A	SUPER = N/A

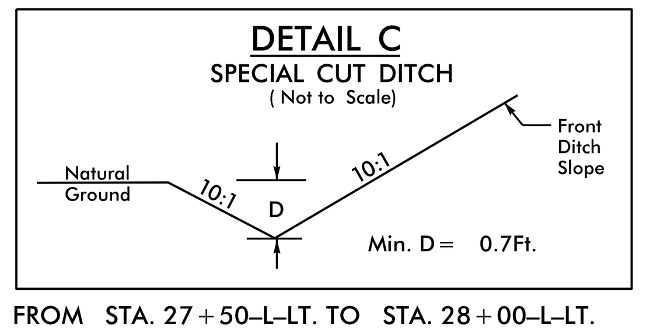
SEE SHEETS 8 & 9 FOR PROFILES
SEE SHEETS S1 THRU S36 FOR STRUCTURE PLANS
EXG - DENOTES EXPRESSWAY GUTTER
SBG - DENOTES SHOULDER BERM GUTTER
★ - DENOTES PROPOSED TRAFFIC SIGNAL

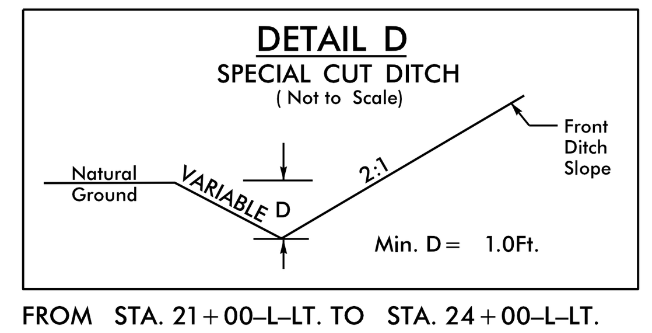
8/17/99
13-APR-2015 10:03
R:\Roadway\Proj\B5114_Rdy_psh4.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-5114	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 014571 James A. Speer — James Speer 4/14/2015	HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019775 Ray D. Lovingood — Ray D. Lovingood 4/15/2015

SEE SHEETS 8 & 9 FOR PROFILES

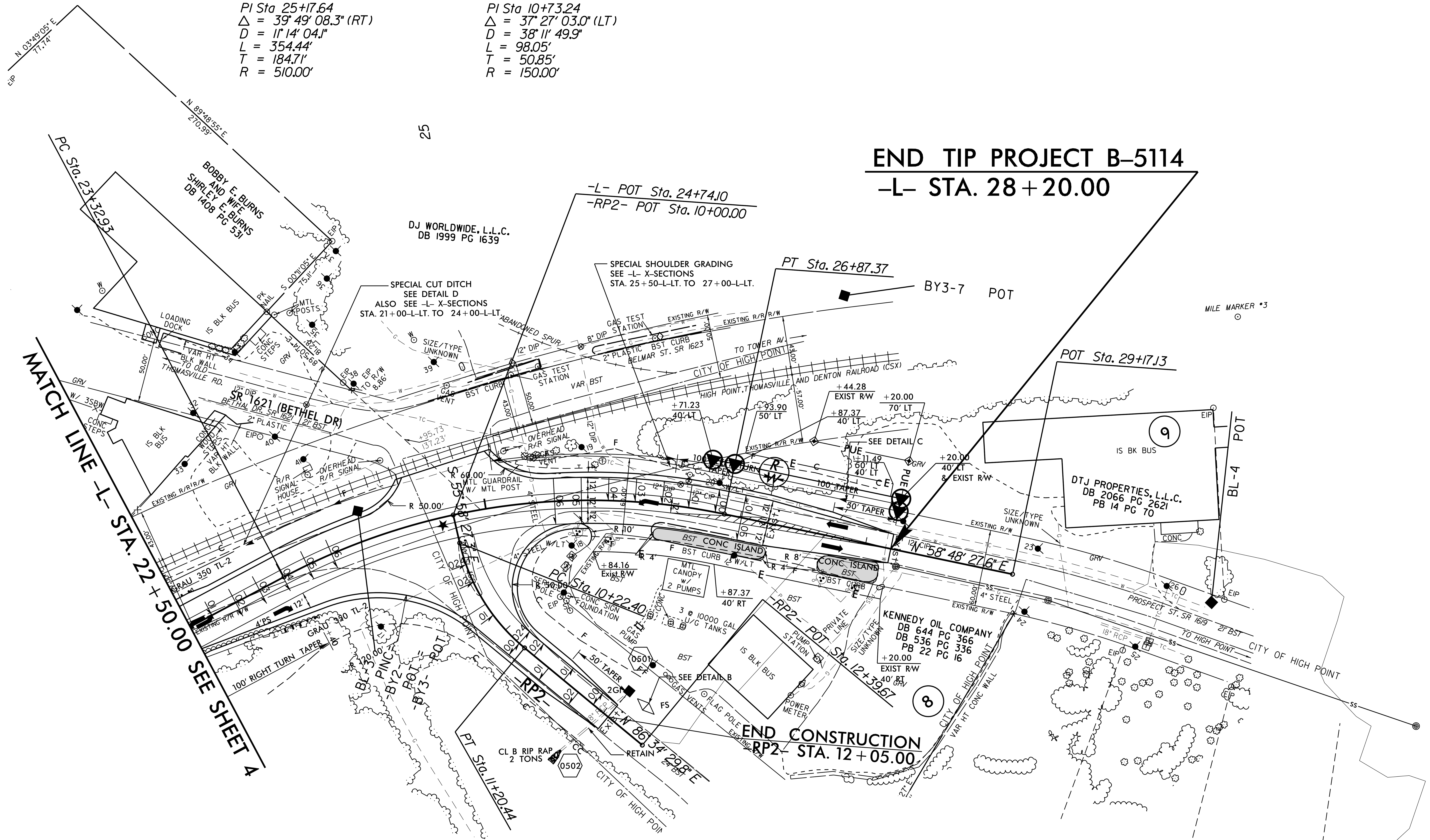


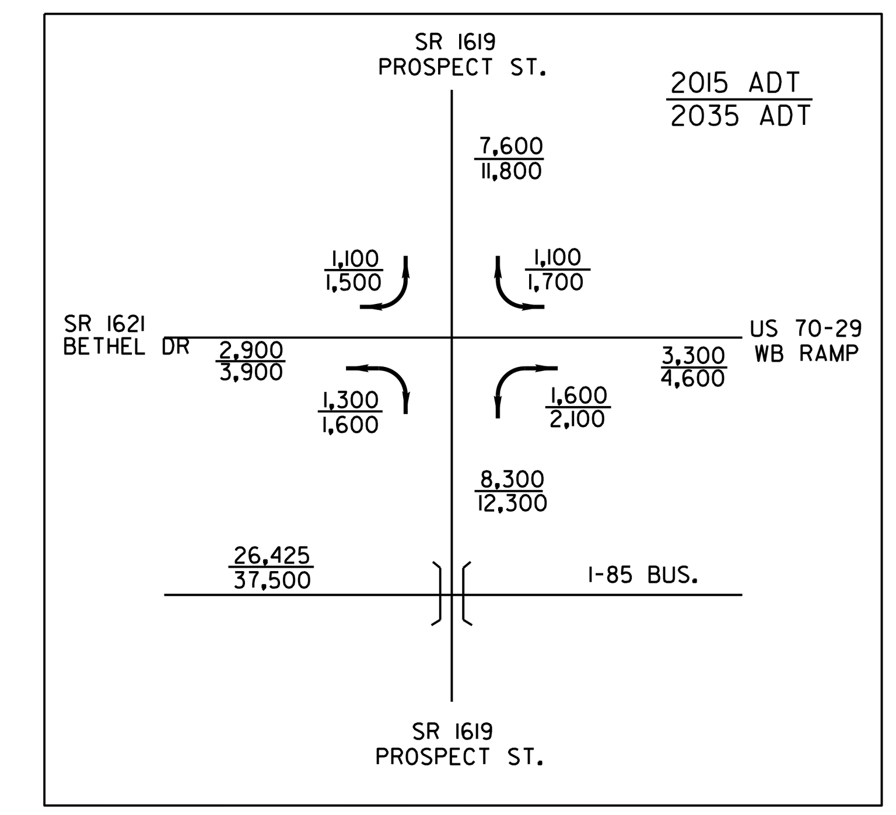




NAD 83/CORS 96

-L-	-RP2-
PI Sta 25+17.64	PI Sta 10+73.24
Δ = 39° 49' 08.3" (RT)	Δ = 37° 27' 03.0" (LT)
D = 11° 14' 04.1"	D = 38° 11' 49.9"
L = 354.44'	L = 98.05'
T = 184.71'	T = 50.85'
R = 510.00'	R = 150.00'





★ – DENOTES PROPOSED TRAFFIC SIGNAL

▭ – DENOTES PROPOSED 5" MONOL. CONC. ISLAND (SURFACE MOUNTED)

REVISIONS

8/17/99

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PROJECT REFERENCE NO.
B-5114
SHEET NO.
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 014571 ENGINEER James A. Speer
NORTH CAROLINA PROFESSIONAL SEAL 019775 ENGINEER RAY D. LOVINGGOOD
James Speer 4/14/2015
Ray D. Lovinggood 4/13/2015
-Y4-
PI Sta 8+77.89
Δ = 1° 51' 56.9" (LT)
D = 0° 45' 50.2"
L = 244.23'
T = 122.13'
R = 7,500.00'
NAD 83/CORS 96
SEE SHEET 9 FOR PROFILE
SEE SHEET 2A-3 FOR MEDIAN CROSSOVER DETAIL
-Y4- STA. 7+50.00 BEGIN MEDIAN GRADING TRANSITION INTO MEDIAN CROSSOVER
BEGIN -Y4- CONST. (-Y4- STA 7+00) TIE PROPOSED MEDIAN GUARDRAIL TO EXISTING MEDIAN GUARDRAIL CONSTRUCTED BY PROJECT W-5208L (RDWY STD. DWG. 862.01, SHEET 7 OF 12 FOR GUARDRAIL PLACEMENT DETAILS)
SHIPWASH ENTERPRISES, L.L.C. DB 2000 PG 1463
POT Sta. 7+00.00
POT Sta. 7+15.97
BY4-15 POT
PC Sta. 7+55.77
PT Sta. 10+00.00
DIRECTIONAL ONLY END OF PIPE N/A
BY4-14 PINC
DO NOT DISTURB STREAM
IGLESIA NUEVA VIDA OF HIGH POINT DB 2024 PG 2416
WOODS
72" CHL W/ 3SBW
EXISTING R/W
ADD 4' MEDIAN PAVED SHOULDERS (SEE TYP. SECTION NO. 3)
150.00'
MEDIAN CROSSOVER (SEE TYP. SECTION NO. 6)
GRAU 350 TL-3
20'
CAT-1
MATCH LINE -Y4- 17+00.00 SEE SHEET 4
BY1-5 POT
N 65° 14'
SR 1663 AUCTION RD
6" TYPE UNKNOWN
4" PLASTIC
GATE
S W/ BK FOUNDATION
SEE TRANSPORTATION MANAGEMENT PLANS FOR BEGINNING I-85 BUS(NB) WORK ZONE LIMITS (RDWY STD. DWG. 1101.03, SHEET 4 OF 9 FOR MEDIAN CROSSOVER DETAILS)
MENDENHALL AUCTION COMPANY, INC. DB 1147 PG 347
REMOVE EXIST. 8' PAVED SHOULDER AND REPLACE WITH 8' WIDE STRENGTHENED PAVED SHOULDER (SEE TYP. SECTION NO. 3)
-Y1- POT Sta. 10+00.00
MILL V1 AND FILL C4 THE EXISTING -Y4- LANES AFTER TRAFFIC SHIFTS AND MEDIAN CONSTRUCTION HAS BEEN COMPLETED. REFER TO TYP. SECTIONS 3 & 6 AND TMP FOR GUIDANCE IN PHASING THE WORK
MENDENHALL AUCTION COMPANY, INC. DB 2313 PG 1354
REVISIONS
8/17/99
13-APR-2015 10:01
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PROJECT REFERENCE NO.
B-5114
SHEET NO.
7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 014571 James A. Speer
James Speer 4/14/2015
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019775 RAY D. LOVINGGOOD
Ray D. Lovinggood 4/13/2015
NAD 83/CORS 96
SEE SHEET 9 FOR PROFILE
SEE SHEET 2A-3 FOR MEDIAN CROSSOVER DETAIL
REVISIONS
8/17/99
MATCH LINE -Y4- STA. 26+50.00 SEE SHEET 4
MILL V1 AND FILL C4 THE EXISTING -Y4- LANES AFTER TRAFFIC SHIFTS AND MEDIAN CONSTRUCTION HAS BEEN COMPLETED. REFER TO TYP. SECTIONS 3 & 6 AND TMP FOR GUIDANCE IN PHASING THE WORK
REMOVE EXIST. 8' PAVED SHOULDER AND REPLACE WITH 8' WIDE STRENGTHENED PAVED SHOULDER (SEE TYP. SECTION NO. 3)
SEE TRANSPORTATION MANAGEMENT PLANS FOR I-85 BUS WORK ZONE LIMITS (RDWY STD. DWG. 1101.03, SHEET 4 OF 9 FOR MEDIAN CROSSOVER DETAILS)
-Y4- STA. 35+35.46 BEGIN MEDIAN GRADING TRANSITION INTO MEDIAN CROSSOVER
STEVEN G. GORDON DB 1577 PG 1315 DB 1577 PG 1318 DB 1577 PG 1309 PB 9 PG 53
RPI-8 POT
CITY OF HIGH POINT
GAS TEST STATION
SEE DETAIL F 150 TONS CLASS B RIP RAP 165sy GEOTEXTILE
REMOVE HW
CL B RIP RAP 2 TONS GRADE TO DRAIN
MEDIAN CROSSOVER(SEE TYP. SECTION NO. 6)
TEMPORARY 12" CSP
FLOWABLE FILL
TEMP STEEL PLATE
RETAIN
CAT-1
GRAU 350 TL-3
TIE TEMPORARY 12" CSP TO EXIST DI
GRAU 350 TL-3
TRENCHLESS INSTALLATION 24" WELDED STEEL
US 29/70 (BUS 85) S.BOUND
US 29/70 (BUS 85) N.BOUND
TO HIGH POINT
-Y4-
9' BST
25' BST
8' BST
150.00'
BY4-II PINC
POT Sta. 36+00.00
REMOVE
ADD 4' MEDIAN PAVED SHOULDERS (SEE TYP. SECTION NO. 3)
CL B RIP RAP 3 TONS
CL B RIP RAP 3 TONS
STREAM REAPPEARS
STREAM DISAPPEARS
EXISTING R/W
WOODS
PLUG
FES
-RPIEXT- PT Sta. 17+42.72
-RPIEXT- PC Sta. 16+95.89
-RPIEXT- PT Sta. 16+91.81
TIE PDE TO EIP Exist. R/W
-RP1 EXT-+09.72 Exist R/W 80.00' RT
BY4-I2 PINC = -RP2- POT
SEE DETAIL F +/-270 TONS CLASS I RIP RAP +/-550SY GEOTEXTILE
END -Y4- CONST. (-Y4- STA 35+50) TIE PROPOSED MEDIAN GUARDRAIL TO EXISTING MEDIAN GUARDRAIL CONSTRUCTED BY PROJECT W-5208L (RDWY STD. DWG. 862.01, SHEET 7 OF 12 FOR GUARDRAIL PLACEMENT DETAILS)
DMW ENTERPRISES INC. DB 1235 PG 7
10
RONALD W. McKAGUE AND WIFE JUDITH R. McKAGUE DB 2040 PG 2255
DETAIL F
TOE PROTECTION (Not to Scale)
NATURAL GROUND
2:1 OR FLATTER
FILL SLOPE
GEOTEXTILE
d= 2.0Ft.
Type of Liner= CLASS B Rip-Rap
FROM STA.26+50 TO STA.27+50-Y4-LT
DETAIL F
SPECIAL LATERAL 'V' DITCH (Not to Scale)
Natural Ground
EX SLOPE
Fill Slope
Geotextile
Min. D= 2.0Ft.
Max. d= 2.0Ft.
Type of Liner= CLASS I Rip-Rap
FROM STA.14+00-RP1EXT-RT TO STA.16+00-RP1EXT-RT
13-APR-2015 10:00
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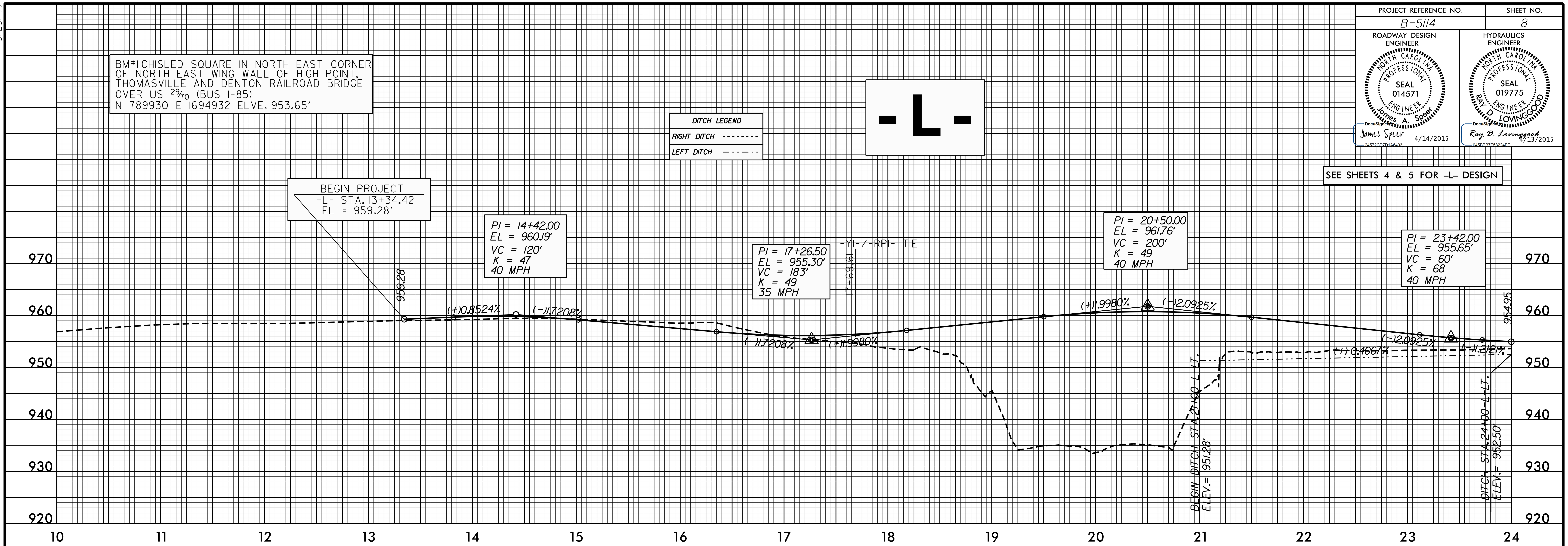
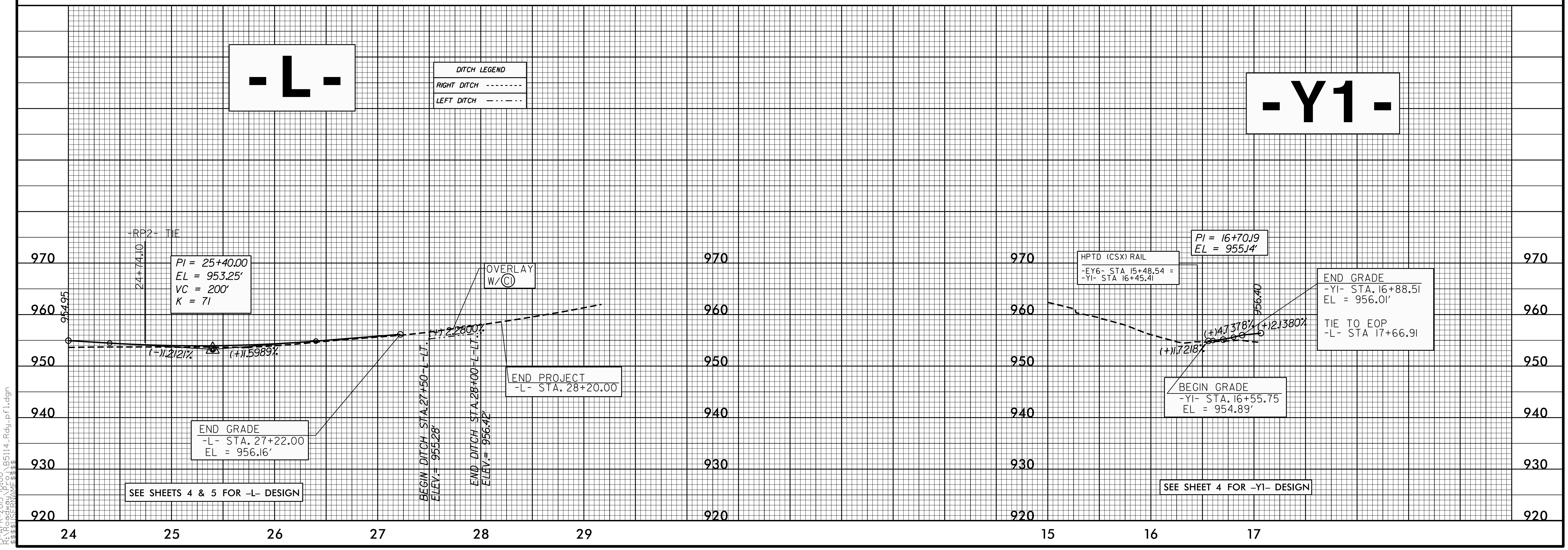
PROJECT REFERENCE NO.	SHEET NO.
B-5114	8

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 014571 James A. Speer — DocuSigned by: James Speer 4/14/2015 — 24572CD7D1A6403...

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019775 RAY D. LOVINGGOOD — DocuSigned by: Ray D. Lovinggood 4/13/2015 — 045BBB7F58224FE...



BM#1 CHISLED SQUARE IN NORTH EAST CORNER OF NORTH EAST WING WALL OF HIGH POINT, THOMASVILLE AND DENTON RAILROAD BRIDGE OVER US 29/70 (BUS I-85)
N 789930 E 1694932 ELVE. 953.65'
DITCH LEGEND
RIGHT DITCH
LEFT DITCH
-L-
SEE SHEETS 4 & 5 FOR -L- DESIGN
BEGIN PROJECT
-L- STA. 13+34.42
EL = 959.28'
959.28
PI = 14+42.00
EL = 960.19'
VC = 120'
K = 47
40 MPH
(+)0.8524%
(-)1.7208%
PI = 17+26.50
EL = 955.30'
VC = 183'
K = 49
35 MPH
-Y1-/-RP1- TIE
17+69.61
(-)1.7208%
(+)1.9980%
PI = 20+50.00
EL = 961.76'
VC = 200'
K = 49
40 MPH
(+)1.9980%
(-)2.0925%
PI = 23+42.00
EL = 955.65'
VC = 60'
K = 68
40 MPH
(-)2.0925%
(+)0.4067%
(-)1.2121%
954.95
BEGIN DITCH STA.21+00-L-LT.
ELEV.= 951.28'
DITCH STA.24+00-L-LT.
ELEV.= 952.50'
970
960
950
940
930
920
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24



-L-
DITCH LEGEND
RIGHT DITCH
LEFT DITCH
-Y1-
-RP2- TIE
24+74.10
954.95
PI = 25+40.00
EL = 953.25'
VC = 200'
K = 71
(-)1.2121%
(+)1.5989%
(+)2.2800%
OVERLAY W/ C1
END GRADE
-L- STA. 27+22.00
EL = 956.16'
BEGIN DITCH STA.27+50-L-LT.
ELEV.= 955.28'
END DITCH STA.28+00-L-LT.
ELEV.= 956.42'
END PROJECT
-L- STA. 28+20.00
SEE SHEETS 4 & 5 FOR -L- DESIGN
HPTD (CSX) RAIL
-EY6- STA 15+48.54 =
-Y1- STA 16+45.41
PI = 16+70.19
EL = 955.14'
(+)1.7218%
(+)4.7378%
(+)12.1380%
956.40
END GRADE
-Y1- STA. 16+88.51
EL = 956.01'
TIE TO EOP
-L- STA 17+66.91
BEGIN GRADE
-Y1- STA. 16+55.75
EL = 954.89'
SEE SHEET 4 FOR -Y1- DESIGN
970
960
950
940
930
920
24
25
26
27
28
29
15
16
17

5/28/99

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PROJECT REFERENCE NO.	SHEET NO.
B-5114	9

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 014571 James A. Speer

DocuSigned by: James Speer 4/14/2015

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HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019775 RAY D. LOVINGGOOD

DocuSigned by: Ray D. Lovinggood 4/13/2015

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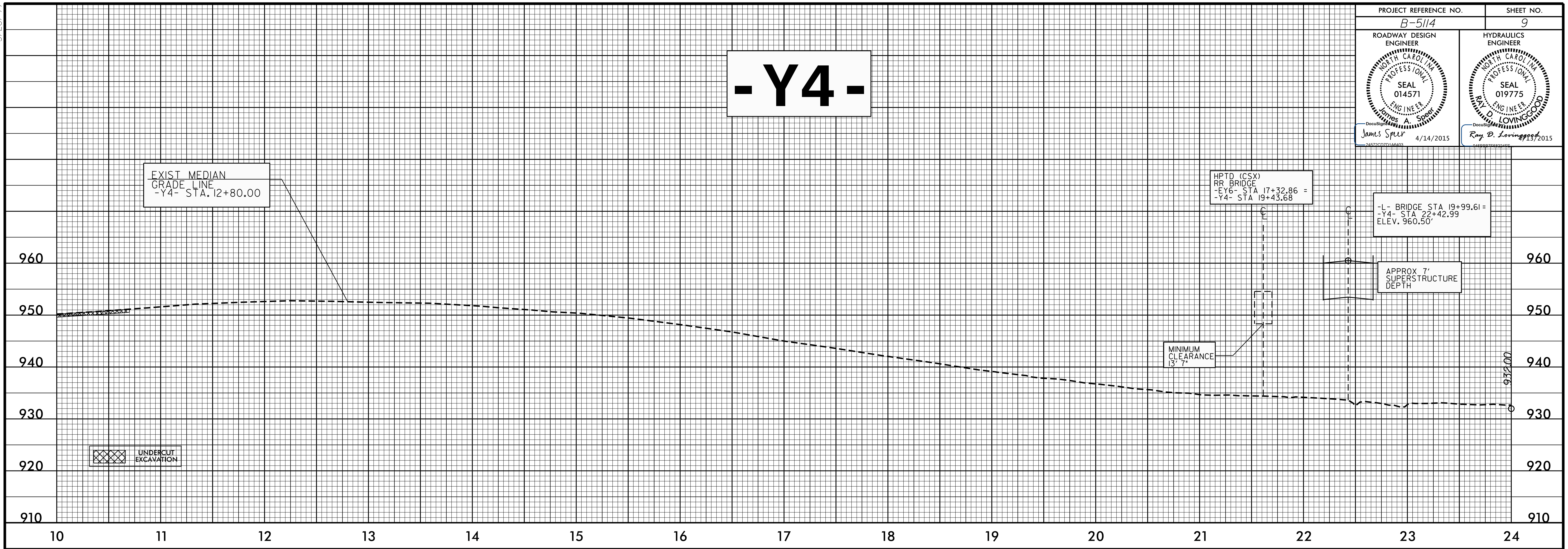

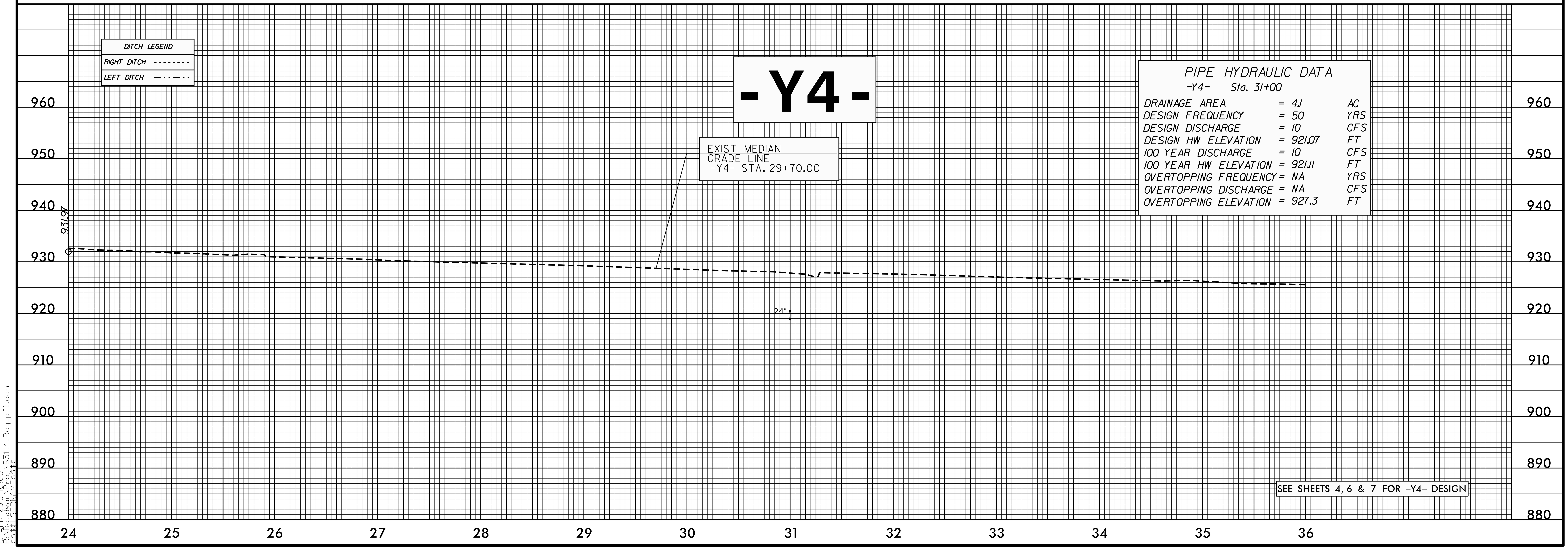

PIPE HYDRAULIC DATA

-Y4- Sta. 31+00

DRAINAGE AREA	= 4J	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 10	CFS
DESIGN HW ELEVATION	= 921.07	FT
100 YEAR DISCHARGE	= 10	CFS
100 YEAR HW ELEVATION	= 921.11	FT
OVERTOPPING FREQUENCY	= NA	YRS
OVERTOPPING DISCHARGE	= NA	CFS
OVERTOPPING ELEVATION	= 927.3	FT

SEE SHEETS 4, 6 & 7 FOR -Y4- DESIGN

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PROJECT REFERENCE NO.	SHEET NO.
B-5114	10

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 014571 ENGINEER James A. Speer	NORTH CAROLINA PROFESSIONAL SEAL 019775 ENGINEER RAY D. LOVINGGOOD
DocuSigned by: James Speer 24572CD7D1A6403... 4/14/2015	DocuSigned by: Ray D. Lovinggood 045BBB7F58224FE... 4/13/2015

5/28/99
-RP1-
DITCH LEGEND
RIGHT DITCH
LEFT DITCH
BEGIN GRADE
-RPI- STA. 10+18.24
EL = 956.07'
TIE TO EOP
-L- STA 17+72.52
END GRADE
-RPI- STA. 11+46.00
EL = 950.28'
-RP1_EXT-
PI = 11+10.00
EL = 951.51'
VC = 72'
K = 46
BEGIN -RPI_EXT-
STA. 12+14.33
956.40
(-)11.8092%
(-)4.9695%
(-)3.4167%
(-)2.9800%
(-)1.0934%
(-)4.2116%
BEGIN DITCH STA.11+00-RPI-
EL.=949.44' (RT)
BEGIN DITCH
STA.11+00-RPI-LT
EL.=947.35'
PI =12+00.000
EI = 946.46 (RT)
END DITCH
STA.12+23.6-RPIEXT-
EL.=946.00'
END DITCH STA.14+00-RPIEXT-
EL.=938.04' (RT)
SEE SHEET 4 FOR -RPI- DESIGN
960
950
940
930
920
10
11
12
13
14
15
16
17
-RP2-
BEGIN GRADE
-RP2- STA. 10+18.00
EL = 953.05'
PI = 10+70.00
EL = 949.93'
VC = 88'
K = 27
PI = 11+80.00
EL = 946.91'
VC = 50'
K = 31
(-)16.0000%
(-)2.7455%
(-)4.3600%
END GRADE
-RP2- STA. 12+05.00
EL = 945.82'
SEE SHEET 5 FOR -RP2- DESIGN
910
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