See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

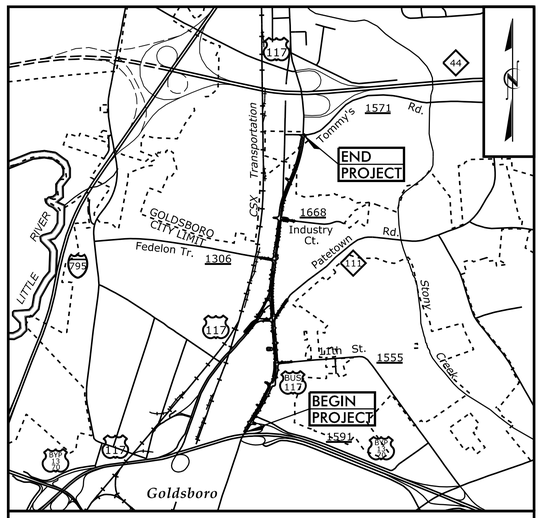
WAYNE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2714	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38979.1.2	N/A	PE
38979.2.1	N/A	ROW & UTIL.
38979.3.1	N/A	CONSTR.

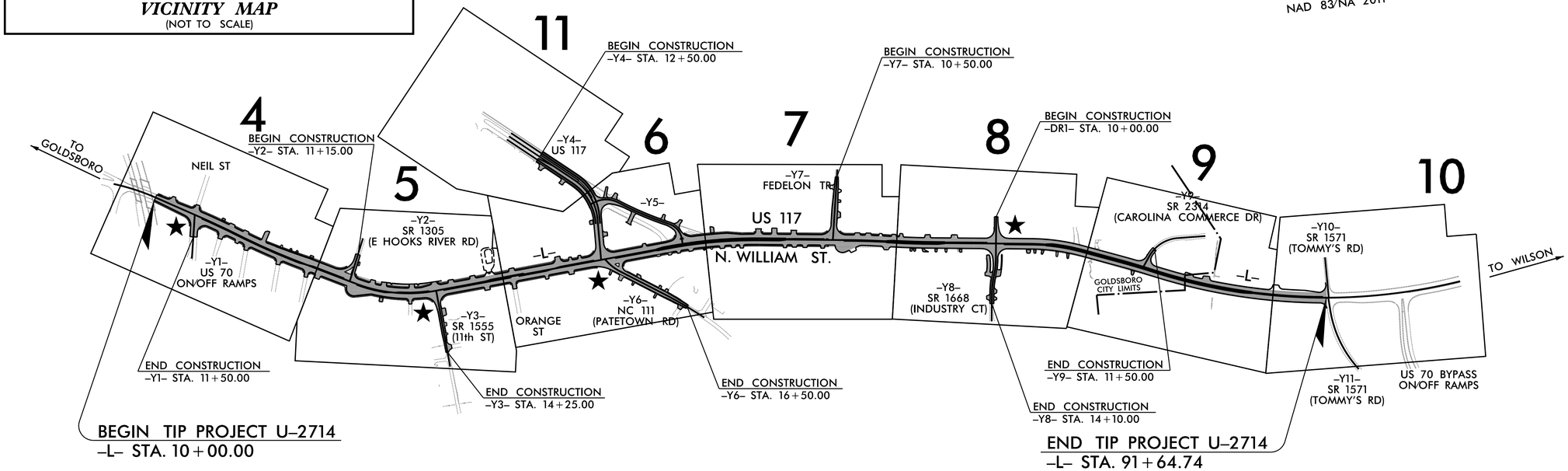
LOCATION: US 117 (N. WILLIAM ST) FROM NORTH OF US 70 TO SR 1571 (TOMMY'S RD)

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



VICINITY MAP
(NOT TO SCALE)

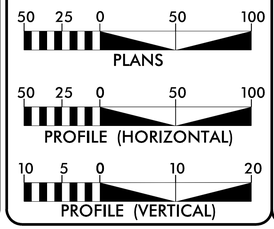
NAD 83/NA 2011



★ PROPOSED TRAFFIC SIGNAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2018 = 17,390
ADT 2038 = 27,310
K = 9 %
D = 60 %
T = 4 % *
V = 40 MPH
(* TTST =1% + DUAL 3%)
FUNC CLASS =
MINOR ARTERIAL (URBAN)
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U–2714 = 1.546 MILES
TOTAL LENGTH TIP PROJECT U–2714 = 1.546 MILES

Prepared by the Office of:
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 17, 2017

LETTING DATE:
MARCH 17, 2020

CALVIN W. MOODY, III, P.E.
PROJECT ENGINEER

CASEY E. HARRIS, P.E.
PROJECT DESIGN ENGINEER

MATT CLARKE, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 34526 ENGINEER MATT D. YELVERTON

SIGNATURE: 1/30/2020 *P.E.*

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

SIGNATURE: 1/30/2020 *P.E.*

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

TIP PROJECT: U–2714

CONTRACT: C204131

PLOT DRIVER: NCDOT_pdf_color_eng_50.pit
USER: CHARRIS
FILE: North_Carolina_Dept_of_Transportation\NCDOT_Western_Div_On-Call_M_\NCDOT-U2714_US117_c_\NCDOT-U2714_US117_c_\6.0_CAD_BIM\6.2_Work_In_Progress\U-2714_NCDOT_File_Structure\Roadway\Proj\U2714_RDY_TSH.dgn
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TIME: 12:43:53 PM
09/08/99

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-2714	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

1/30/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

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-5	SURVEY CONTROL SHEETS
2A-1 THRU 2A-6	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAIL
2B-1 THRU 2B-7	INTERSECTION DETAILS
2C-1	CATCH BASIN IN 2'-9" CURB AND GUTTER DETAIL
2C-2	GUARDRAIL INSTALLATION DETAIL
2C-3	MEDIAN OR TURN LANE CURB RAMP DETAILS
2D-1	HYDRAULICS DETAILS
2G-1	TEMPORARY SHORING DETAIL SHEET
3B-1 THRU 3B-2	EARTHWORK, PAVEMENT REMOVAL, AND GUARDRAIL SUMMARY
3D-1 THRU 3D-8	DRAINAGE SUMMARY
3G-1	GEOTECHNICAL SUMMARY
3P-1 THRU 3P-2	PARCEL INDEX SHEETS
4 THRU 11	PLAN SHEETS
RW-4 THRU RW-11	RIGHT-OF-WAY PLAN SHEETS
12 THRU 20	PROFILE SHEETS
TMP-1 THRU TMP-33	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-9	PAVEMENT MARKING PLANS
EC-1 THRU EC-19	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
SIGN-1 THRU SIGN-13A	SIGNING PLANS
SIG-1.0 THRU SCP-14	SIGNAL PLANS
UC-1 THRU UC-24	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-9	UTILITIES BY OTHERS PLANS
X-0	CROSS-SECTION INDEX SHEET
X-0A THRU X-0C	CROSS-SECTION SUMMARY
X-1 THRU X-42	CROSS-SECTIONS
C-1 THRU C-7	CULVERT PLANS

2018 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-16-2018
REV.

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 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

815.03 Pipe Underdrain and Blind Drain
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
840.00 Concrete Base Pad for Drainage Structures
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
840.14 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
840.19 Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.24 Frames and Narrow Slot Sag Grates
840.25 Anchorage for Frames - Brick or Concrete or Precast
840.28 Brick Grated Drop Inlet Type 'D' - 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
840.45 Precast Drainage Structure
840.46 Traffic Bearing Precast Drainage Structure
840.54 Manhole Frame and Cover
840.66 Drainage Structure Steps
846.01 Concrete Curb, Gutter and Curb & Gutter
848.01 Concrete Sidewalk
848.02 Driveway Turnout - Radius Type
848.04 Street Turnout
848.05 Curb Ramp - Proposed Curb & Gutter
850.11 Guide for Berm Drainage Outlet - 24" and 30" Pipe
852.01 Concrete Islands
852.06 Method for Placement of Drop Inlets in Concrete Islands
862.01 Guardrail Placement
862.02 Guardrail Installation
876.01 Rip Rap in Channels
876.02 Guide for Rip Rap at Pipe Outlets
876.04 Drainage Ditches with Class 'B' Rip Rap

GENERAL NOTES

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

UNDERDRAINS:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE: DUKE ENERGY-PROGRESS, PIEDMONT NATURAL GAS, AT&T, CHARTER COMMUNICATIONS, CITY OF GOLDSBORO AND TOWN OF FREEMONT.

RIGHT-OF-WAY MARKERS:

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

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

PROJECT REFERENCE NO.	SHEET NO.
U-2714	1-B

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed 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)
- Existing Historic Property Boundary (HPB)
- Known Contamination Area: Soil (S)
- Potential Contamination Area: Soil (S)
- Known Contamination Area: Water (W)
- Potential Contamination Area: Water (W)
- Contaminated Site: Known or Potential

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 & PROJECT CONTROL:

- Secondary Horiz and Vert Control Point
- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Exist Permanent Easement Pin and Cap
- New Permanent Easement Pin and Cap
- Vertical Benchmark
- Existing Right of Way Marker
- Existing Right of Way Line
- New Right of Way Line (RW)
- New Right of Way Line with Pin and Cap (RW)
- New Right of Way Line with Concrete or Granite R/W Marker (RW)
- New Control of Access Line with Concrete C/A Marker (C/A)
- Existing Control of Access (C/A)
- New Control of Access (C/A)
- Existing Easement Line (E)
- New Temporary Construction Easement (E)
- New Temporary Drainage Easement (TDE)
- New Permanent Drainage Easement (PDE)
- New Permanent Drainage / Utility Easement (DUE)
- New Permanent Utility Easement (PUE)
- New Temporary Utility Easement (TUE)
- New Aerial Utility Easement (AUE)

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

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
- U/G Power Line LOS B (S.U.E.*) (P)
- U/G Power Line LOS C (S.U.E.*) (P)
- U/G Power Line LOS D (S.U.E.*) (P)

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole (T)
- Telephone Pedestal (T)
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole (HH)
- U/G Telephone Cable LOS B (S.U.E.*) (T)
- U/G Telephone Cable LOS C (S.U.E.*) (T)
- U/G Telephone Cable LOS D (S.U.E.*) (T)
- U/G Telephone Conduit LOS B (S.U.E.*) (TC)
- U/G Telephone Conduit LOS C (S.U.E.*) (TC)
- U/G Telephone Conduit LOS D (S.U.E.*) (TC)
- U/G Fiber Optics Cable LOS B (S.U.E.*) (T FO)
- U/G Fiber Optics Cable LOS C (S.U.E.*) (T FO)
- U/G Fiber Optics Cable LOS D (S.U.E.*) (T FO)

WATER:

- Water Manhole (W)
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) (W)
- U/G Water Line LOS C (S.U.E*) (W)
- U/G Water Line LOS D (S.U.E*) (W)
- Above Ground Water Line (A/G Water)

TV:

- TV Pedestal (C)
- TV Tower
- U/G TV Cable Hand Hole (HH)
- U/G TV Cable LOS B (S.U.E.*) (TV)
- U/G TV Cable LOS C (S.U.E.*) (TV)
- U/G TV Cable LOS D (S.U.E.*) (TV)
- U/G Fiber Optic Cable LOS B (S.U.E.*) (TV FO)
- U/G Fiber Optic Cable LOS C (S.U.E.*) (TV FO)
- U/G Fiber Optic Cable LOS D (S.U.E.*) (TV FO)

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) (G)
- U/G Gas Line LOS C (S.U.E.*) (G)
- U/G Gas Line LOS D (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)
- SS Forced Main Line LOS B (S.U.E.*) (FSS)
- SS Forced Main Line LOS C (S.U.E.*) (FSS)
- SS Forced Main Line LOS D (S.U.E.*) (FSS)

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box (S)
- Utility Unknown U/G Line LOS B (S.U.E.*) (?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 LOS A (S.U.E.*)
- Abandoned According to Utility Records (AATUR)
- End of Information (E.O.I.)

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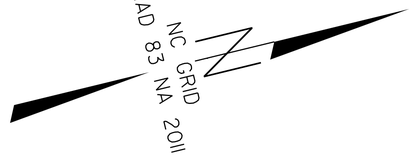
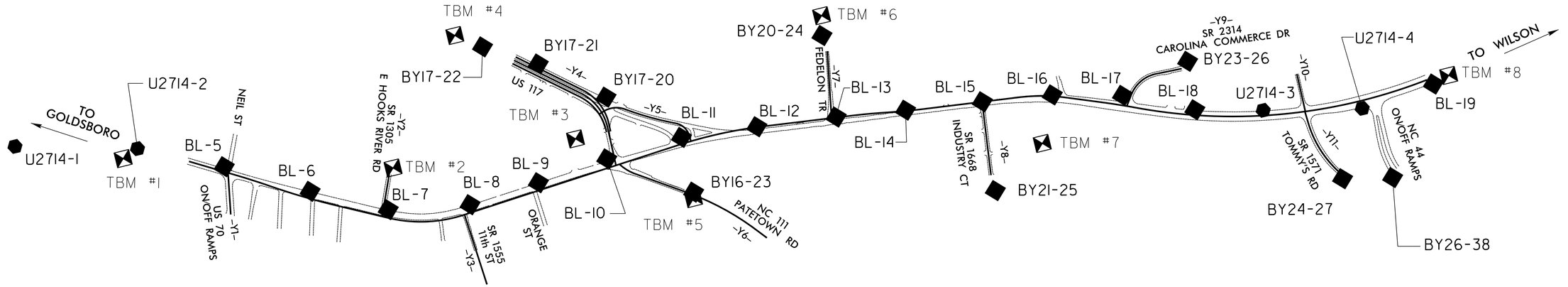
12/2/2016

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-2714	1C-1
Location and Surveys	

SURVEY CONTROL SHEET





DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U2714-3"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 609982.202(ft) EASTING: 2303750.060(ft)
ELEVATION: 127.072(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998761500
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U2714-3" TO -L- STATION 10+00.00 IS
S10°57'31.47"W 7,704.79'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

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:
   U2714_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.

1/3/2020
U-2714_LocationSurveys\U2714_1C1.dgn
8:04:00 PM

PROJECT REFERENCE NO.	SHEET NO.
U-2714	1C-2
Location and Surveys	

SURVEY CONTROL SHEET

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	U2714-1	601231.8628	2301886.1500	112.40	OUTSIDE PROJECT LIMITS	
2	U2714-2	602081.2260	2302108.9010	117.10	OUTSIDE PROJECT LIMITS	
5	BL-5	602654.1184	2302381.2800	117.61	12+52.53	34.99 LT
6	BL-6	603210.2189	2302697.9380	120.89	18+93.11	50.85 LT
7	BL-7	603722.7615	2302957.4770	120.26	24+69.68	58.06 LT
8	BL-8	604301.2794	2303059.9560	122.62	30+98.30	57.54 LT
9	BL-09	604813.9869	2303024.6140	123.06	36+12.21	54.18 LT
10	BL-10	605330.3187	2302975.0100	122.63	41+30.81	64.77 LT
11	BL-11	605886.1898	2302952.3290	127.17	46+86.23	45.80 LT
12	BL-12	606429.3656	2303005.6390	133.20	52+26.88	3.97 LT
13	BL-13	606998.0070	2303072.4450	127.95	57+99.38	4.03 LT
14	BL-14	607492.4040	2303142.3810	125.22	62+98.68	5.89 LT
15	BL-15	608041.0428	2303213.7620	124.71	68+52.07	0.93 LT
16	BL-16	608539.5689	2303284.6400	126.78	73+54.91	10.27 LT
17	BL-17	609027.3849	2303407.2770	124.93	78+51.54	70.71 LT
18	BL-18	609506.7019	2303629.6010	125.60	83+83.31	38.78 LT
3	U2714-3	609982.2020	2303750.0600	127.07	88+79.09	37.35 LT
4	U2714-4	610674.4130	2303903.7850	128.74	95+81.62	54.66 RT
19	BL-19	611210.8828	2303854.9150	128.42	OUTSIDE PROJECT LIMITS	

BY16

POINT	DESC.	NORTH	EAST	ELEVATION	Y6 STATION	OFFSET
10	BL-10	605330.3187	2302975.0100	122.63	OUTSIDE PROJECT LIMITS	
23	BY16-23	605878.2442	2303353.2920	128.33	15+70.49	18.77 LT

BY17

POINT	DESC.	NORTH	EAST	ELEVATION	Y4LT STATION	OFFSET
22	BY17-22	604590.2763	2301854.0240	118.83	OUTSIDE PROJECT LIMITS	
21	BY17-21	605013.8732	2302199.2220	119.65	11+66.71	27.28 LT
20	BY17-20	605429.3832	2302544.0730	120.24	16+83.45	67.27 LT
11	BL-11	605886.1898	2302952.3290	127.17	OUTSIDE PROJECT LIMITS	

BY20

POINT	DESC.	NORTH	EAST	ELEVATION	Y7 STATION	OFFSET
24	BY20-24	607037.0076	2302481.7030	129.16	OUTSIDE PROJECT LIMITS	
13	BL-13	606998.0070	2303072.4450	127.95	14+73.98	32.96 LT

BY21

POINT	DESC.	NORTH	EAST	ELEVATION	Y8 STATION	OFFSET
15	BL-15	608041.0428	2303213.7620	124.71	OUTSIDE PROJECT LIMITS	
25	BY21-25	607981.3537	2303853.2270	121.78	OUTSIDE PROJECT LIMITS	

BY23

POINT	DESC.	NORTH	EAST	ELEVATION	Y9 STATION	OFFSET
26	BY23-26	609538.3986	2303280.6010	125.04	OUTSIDE PROJECT LIMITS	
17	BL-17	609027.3849	2303407.2770	124.93	10+59.86	57.10 LT

BY24

POINT	DESC.	NORTH	EAST	ELEVATION	Y11 STATION	OFFSET
4	U2714-4	610674.4130	2303903.7850	128.74	11+05.83	400.37 LT
27	BY24-27	610421.3272	2304360.9330	132.07	OUTSIDE PROJECT LIMITS	

BY26

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
19	BL-19	611210.8828	2303854.9150	128.42	OUTSIDE PROJECT LIMITS	
28	BY26-28	610768.7889	2304435.9290	131.64	96+62.23	588.03 RT

TBM#1 ELEVATION = 117.49
N 601999 E 2302141
OUTSIDE PROJECT LIMITS
BM-NAIL IN WOOD POWERPOLE

TBM#2 ELEVATION = 117.40
N 603827 E 2302677
L STATION 24+34.00 355 LEFT
BM-NAIL IN WOOD POWERPOLE

TBM#3 ELEVATION = 124.89
N 605150 E 2302783
L STATION 39+66.00 270 LEFT
TBM#3 BM-NAIL IN 14INCH PECAN TREE

TBM#4 ELEVATION = 117.48
N 604525 E 2301769
Y4 STATION 10+00.00 489.25 RIGHT
BM-NAIL IN 20INCH SWEET GUM

TBM#5 ELEVATION = 129.48
N 605849 E 2303398
Y6 STATION 15+72.00 35 RIGHT
RR-SPIKE IN WOOD POWERPOLE

TBM#6 ELEVATION = 130.44
N 607053 E 2302407
Y7 STATION 10+00.00
OUTSIDE PROJECT LIMITS
60D NAIL IN WOOD LIGHTPOLE

TBM#7 ELEVATION = 123.21
N 608388 E 2303606
Y8 STATION 13+48.00 392 LEFT
12INCH SPIKE IN POWERPOLE

TBM#8 ELEVATION = 128.88
N 611289 E 2303836
L STATION 10+00.00
OUTSIDE PROJECT LIMITS
CHISELED X IN CONC W/ORANGE PAINT

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U2714-3"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 609982.202(ft) EASTING: 2303750.060(ft)
ELEVATION: 127.072(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998761500
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U2714-3" TO -L- STATION 10+00.00 IS
S10°57'31.47"W 7,704.7945
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

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: U-2714_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.

6/2/99

1/3/2020
\LocationSurveys\U2714_1C2.dgn
5:04:40 PM

SURVEY CONTROL SHEET

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+00.00	-30.10	602432.9549	2302259.2909
L	10+98.54	-45.00	602525.7514	2302295.6399
L	11+33.31	-50.00	602558.3679	2302308.6892
L	12+24.56	-50.72	602637.7581	2302353.6762
L	12+59.28	-65.99	602675.4646	2302357.8019
L	13+09.52	-66.27	602719.1166	2302382.6627
L	13+65.36	-50.00	602759.3515	2302424.6715
L	13+70.93	90.48	602693.8663	2302549.0825
L	13+98.00	50.00	602737.2903	2302527.5244
L	14+71.44	50.00	602799.6897	2302564.7533
L	15+63.02	50.00	602876.6946	2302612.5211
L	16+08.21	-50.00	602968.6813	2302552.6809
L	16+08.21	50.00	602914.3564	2302636.6380
L	16+65.00	50.00	602962.7190	2302667.5245
L	16+88.29	72.29	602970.8660	2302698.9423
L	17+27.22	65.00	603008.2939	2302713.4948
L	17+45.00	50.00	603031.4650	2302710.0534
L	17+63.26	-50.00	603098.8211	2302633.9190
L	18+95.00	50.00	603162.2448	2302786.6624
L	19+15.24	65.00	603172.7494	2302809.7736
L	19+66.13	65.00	603217.9048	2302834.7127
L	19+75.00	50.00	603232.9607	2302825.8284
L	20+82.85	50.00	603329.3164	2302876.7420
L	21+05.00	50.00	603349.0148	2302886.8673
L	21+25.47	65.00	603360.3611	2302909.5651
L	21+66.05	65.00	603396.4536	2302928.1172
L	21+80.00	50.00	603415.7187	2302921.1542
L	23+15.00	-60.00	603586.0731	2302885.0381
L	24+14.00	50.00	603623.8349	2303028.1292
L	24+45.00	100.00	603628.5479	2303086.7704
L	24+94.77	-62.58	603746.4420	2302964.4817
L	25+00.00	100.00	603679.1843	2303112.5890
L	26+05.00	50.00	603802.5525	2303111.0161
L	29+54.34	50.00	604161.8091	2303175.1778
L	31+15.49	50.00	604326.5189	2303165.8963
L	35+35.00	50.00	604744.8405	2303134.3123
L	35+47.34	65.00	604758.2743	2303148.3407
L	35+87.34	65.00	604798.1621	2303145.3291
L	36+00.00	50.00	604809.6561	2303129.4186
L	40+75.00	-55.53	605275.3629	2302988.4277
L	40+93.74	50.00	605301.9980	2303092.2459
L	42+81.17	-67.18	605480.0693	2302961.2848
L	44+00.94	50.00	605608.3264	2303069.1175
L	46+30.00	50.00	605836.7328	2303051.8724
L	46+81.78	50.00	605887.8099	2303048.2228
L	51+03.70	-56.86	606310.0486	2302942.2520
L	51+50.00	-50.00	606356.4745	2302952.5855
L	52+32.68	-58.11	606440.9305	2302952.4228
L	52+87.10	-58.06	606495.5831	2302958.7528
L	56+95.00	-50.00	606899.7299	2303014.5620
L	57+70.00	60.18	606961.2999	2303132.7737
L	58+00.00	100.00	606986.4263	2303175.8343
L	58+50.00	100.00	607036.0817	2303181.6943
L	58+67.00	-50.00	607070.5446	2303034.7204
L	58+88.35	-50.00	607091.7500	2303037.2229
L	59+36.00	59.95	607125.5604	2303152.1586
L	61+55.88	-50.00	607359.1856	2303076.4151
L	62+10.08	50.00	607395.9223	2303184.0649
L	64+23.40	-50.00	607621.0728	2303114.7941
L	64+23.40	50.00	607609.3529	2303214.1049
L	66+40.25	-50.00	607836.4336	2303140.2055
L	67+78.06	50.00	607961.5718	2303255.6714
L	68+20.49	77.83	608000.4426	2303288.2845
L	68+40.00	-70.00	608037.1465	2303143.7575
L	69+20.00	-70.00	608116.5951	2303153.1335
L	69+56.62	50.00	608138.9037	2303276.5989
L	71+13.92	50.00	608295.1164	2303295.0341
L	71+13.92	-50.00	608306.8364	2303195.7233
L	71+26.34	50.00	608306.9887	2303296.4897
L	73+92.80	-50.00	608588.4880	2303258.4846

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	11+15.00	30.00	603716.5443	2302807.9681
Y2	11+15.00	25.16	603720.9858	2302809.8864
Y2	11+15.00	-24.84	603766.8874	2302829.7115
Y2	11+15.00	-30.00	603771.6263	2302831.7583
Y2	11+80.00	30.00	603690.7716	2302867.6403
Y2	12+10.00	-30.00	603733.9586	2302918.9714

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y3	10+85.16	-40.00	604291.7370	2303203.8697
Y3	10+95.71	40.00	604212.7235	2303220.2454
Y3	13+50.00	40.00	604231.3318	2303473.8514
Y3	13+50.00	31.50	604239.8133	2303473.2294
Y3	13+50.00	-28.51	604299.6588	2303468.8400
Y3	13+50.00	-40.00	604311.1173	2303467.9971

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y4	20+19.26	40.86	605344.7625	2302922.0705
Y4	20+27.69	-40.00	605425.4282	2302932.1692

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y4LT	18+61.45	-25.25	605429.2776	2302746.3985

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y4RT	15+95.63	45.00	605254.2885	2302567.9869
Y4RT	18+30.00	45.00	605328.4960	2302755.2916
Y4RT	18+30.00	27.97	605345.5041	2302754.4114

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y6	10+72.42	46.54	605423.0273	2303122.7870
Y6	12+37.24	-40.00	605611.6768	2303151.3744
Y6	14+67.55	40.00	605759.8910	2303344.9584
Y6	14+67.55	-40.00	605803.9364	2303278.1752
Y6	15+77.07	40.00	605848.8133	2303406.1428
Y6	16+59.44	-40.00	605962.6079	2303390.8385
Y6	16+59.61	-30.00	605956.6768	2303398.8915

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y7	10+50.00	40.00	606998.7033	2302642.2300
Y7	10+50.00	30.45	607008.1172	2302643.8656
Y7	10+50.00	-29.53	607067.2030	2302654.1314
Y7	10+50.00	-40.00	607077.5225	2302655.9243
Y7	11+62.26	-35.00	607053.3792	2302765.6740
Y7	12+59.05	-35.00	607036.8104	2302861.0375
Y7	13+70.00	-40.00	607022.7451	2302971.2011
Y7	14+00.00	40.00	606938.7905	2302987.0640

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y8	10+91.81	-40.00	608093.1539	2303313.2917
Y8	11+03.14	-40.00	608091.8283	2303324.5466
Y8	12+20.63	-40.00	608063.8813	2303447.1912
Y8	12+36.70	40.00	607982.8568	2303437.5939
Y8	13+38.11	40.00	607960.2729	2303543.8482
Y8	13+38.11	-40.00	608039.7237	2303553.2060
Y8	13+55.00	40.00	607958.2973	2303560.6214
Y8	13+55.00	30.00	607968.2287	2303561.7911
Y8	14+10.00	-30.00	608021.3833	2303623.4319
Y8	14+10.00	-40.00	608031.3146	2303624.6016

NOTE: DRAWING NOT TO SCALE

SURVEY CONTROL SHEET

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	9+82.50	-52.70	602428.5034	2302230.7494
L	9+90.51	-50.91	602434.8421	2302236.3890
L	13+07.43	-86.61	602727.4708	2302364.0025
L	13+41.51	-56.95	602742.1688	2302406.7312
L	13+73.57	97.77	602692.4509	2302556.6792
L	13+86.74	98.34	602703.3211	2302563.6574
L	13+87.42	82.86	602711.6890	2302550.6225
L	14+40.00	-65.00	602832.0772	2302450.0045
L	14+40.00	-50.00	602824.3775	2302462.8776
L	14+55.00	50.00	602785.7725	2302556.3368
L	14+60.11	81.73	602773.6942	2302586.1108
L	14+73.00	160.00	602743.8961	2302659.5657
L	14+75.68	81.35	602786.9856	2302593.7181
L	14+86.41	158.77	602755.6062	2302665.2618
L	15+49.63	94.66	602841.7038	2302643.2363
L	15+65.86	78.14	602863.9934	2302637.7909
L	15+66.43	90.47	602857.8661	2302648.4996
L	16+90.00	-65.00	603044.9345	2302583.3309
L	16+98.04	201.69	602911.0339	2302814.1107
L	17+03.03	221.00	602905.2865	2302833.2670
L	17+21.71	195.57	602935.2251	2302821.8570
L	17+26.66	214.41	602929.7853	2302840.6174
L	17+63.75	204.35	602968.0996	2302852.1128
L	17+64.21	70.00	603037.7662	2302737.2288
L	17+73.49	201.77	602978.1363	2302855.1241
L	18+86.08	68.92	603145.0679	2302798.6796
L	19+36.18	188.80	603131.3464	2302928.4076
L	19+45.56	186.55	603140.9665	2302931.1508
L	19+87.14	152.44	603195.0952	2302921.8212
L	19+90.31	165.95	603191.5744	2302935.2670
L	20+02.51	144.04	603213.0396	2302921.9209
L	20+11.55	161.73	603212.9285	2302941.9206
L	20+17.49	88.73	603252.6100	2302880.3497
L	20+38.47	81.51	603274.8639	2302883.9484
L	20+38.47	71.87	603279.3531	2302875.4112
L	21+03.79	74.40	603336.7824	2302908.0178
L	21+06.73	108.02	603324.0313	2302939.2641
L	21+32.47	105.92	603347.8812	2302949.1611
L	21+70.73	92.38	603388.1049	2302954.6057
L	21+85.43	92.36	603401.1877	2302961.3112
L	21+87.20	76.87	603409.8409	2302948.3399
L	22+75.00	73.12	603489.6424	2302985.1437
L	22+75.00	50.00	603500.2103	2302964.5842
L	22+95.00	72.26	603507.8206	2302993.5273
L	22+95.00	50.00	603517.9980	2302973.7274
L	23+89.82	68.21	603594.0009	2303033.2729
L	24+23.30	65.00	603625.2488	2303045.7216
L	24+58.90	255.45	603569.8455	2303231.3762
L	24+83.98	229.68	603604.4208	2303220.1700
L	24+94.62	227.06	603617.2676	2303223.7152
L	29+78.28	72.95	604187.4517	2303197.8757
L	29+78.28	82.65	604187.6655	2303207.5691
L	30+88.86	75.00	604301.8487	2303192.8301
L	45+28.83	-124.75	605722.6905	2302885.2340
L	57+08.86	-62.42	606914.9495	2303003.8477
L	61+88.57	-168.69	607410.7639	2302964.8445
L	61+90.00	-50.00	607392.4653	2303082.1270
L	61+90.00	-70.00	607395.7780	2303062.4032
L	62+55.00	80.00	607436.1828	2303220.8337
L	62+95.00	80.00	607476.4054	2303226.8544
L	62+95.00	50.00	607480.7220	2303197.1665
L	68+07.57	-95.00	608007.8700	2303115.1290
L	68+25.00	-68.50	608022.0783	2303143.4909
L	68+36.00	-115.00	608038.4480	2303098.5988
L	68+48.00	-70.00	608045.0880	2303144.6947
L	68+49.00	-92.41	608048.7130	2303122.5608
L	69+39.65	94.55	608116.8199	2303318.8526
L	83+90.00	-95.00	609530.0608	2303578.0465
L	83+90.00	-75.91	609524.2735	2303596.2336
L	87+50.00	-95.00	609869.1150	2303668.6583
L	87+70.00	-81.57	609885.3990	2303685.8883

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	10+41.56	40.64	603735.8901	2302736.3318
Y2	10+41.56	25.16	603750.1030	2302742.4704
Y2	10+64.70	46.47	603721.3669	2302755.2558
Y2	10+64.70	41.47	603725.9604	2302757.2387

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y3	11+85.00	-50.00	604309.0161	2303302.7077
Y3	11+85.00	-40.00	604299.0429	2303303.4395
Y3	12+24.00	-50.00	604311.8701	2303341.6032
Y3	12+24.00	-40.00	604301.8969	2303342.3349

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y4	18+35.97	-60.54	605449.4588	2302737.8612
Y4	18+70.00	-60.00	605448.6907	2302774.9297
Y4	18+70.00	-40.00	605428.6950	2302774.5154
Y4	18+90.00	-40.00	605428.2807	2302794.5111
Y4	18+90.00	-60.00	605448.2764	2302794.9254
Y4	20+10.00	60.00	605325.8161	2302912.4136

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y4LT	14+00.00	-48.75	605206.7029	2302332.2775
Y4LT	14+00.00	-70.00	605220.3219	2302315.9695

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y5	11+49.34	-75.26	605522.6263	2302568.4280
Y5	11+49.34	-57.46	605516.9859	2302585.3129
Y5	12+30.45	88.33	605520.7572	2302753.2609
Y5	12+35.00	115.00	605510.1352	2302778.1821

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y6	10+49.84	87.36	605374.6881	2303131.2682
Y6	10+60.00	105.00	605370.6519	2303152.9299
Y6	10+74.66	64.04	605412.7548	2303137.1959
Y6	10+85.00	90.00	605404.4722	2303164.9374
Y6	15+64.98	55.42	605830.1871	2303411.7853
Y6	15+73.54	95.11	605813.9158	2303448.9390

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y7	11+49.81	66.66	606955.3545	2302736.0028
Y7	11+49.81	40.00	606981.6180	2302740.5660
Y7	11+50.60	-76.14	607095.9063	2302761.2248
Y7	11+50.60	-40.00	607060.3020	2302755.0388
Y7	11+66.71	65.97	606953.1392	2302752.7755
Y7	11+71.62	-35.00	607051.7773	2302774.8940
Y7	11+71.62	-79.25	607095.3753	2302782.4689
Y7	11+89.75	207.39	606809.8587	2302751.2681
Y7	11+97.72	69.71	606944.1456	2302782.6826
Y7	12+19.36	202.57	606809.5431	2302781.2664
Y7	12+66.80	-76.36	607076.2370	2302875.7475
Y7	12+66.80	-40.00	607040.4116	2302869.5200
Y7	12+87.39	-40.00	607036.8868	2302889.8071
Y7	12+87.39	-76.02	607072.3791	2302895.9770

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y8	11+70.00	69.65	607972.5962	2303369.1520
Y8	11+70.00	51.32	607990.4072	2303373.4880
Y8	11+95.00	48.02	607987.7193	2303396.3094
Y8	11+95.00	66.47	607970.0071	2303391.1345
Y8	12+32.27	-75.63	608094.4123	2303468.2974
Y8	12+32.27	-61.46	608080.9262	2303463.9764
Y8	12+57.20	-62.47	608075.6319	2303485.4799
Y8	12+57.20	-78.30	608090.9100	2303489.6135
Y8	13+31.37	-59.91	608060.2384	2303549.5701
Y8	13+31.37	-92.03	608092.0883	2303553.7232
Y8	13+63.53	-90.65	608087.0517	2303584.3778
Y8	13+63.53	-55.00	608051.6478	2303580.2016
Y8	14+10.00	-55.00	608046.2117	2303626.3562

NOTE: DRAWING NOT TO SCALE

6/2/99
1/3/2020
r:\LocationSurveys\U2714_1C4.dgn
5:06:12 PM

PROJECT REFERENCE NO.	SHEET NO.
U-2714	1C-5
Location and Surveys	

SURVEY CONTROL SHEET

L

TYPE	STATION	NORTH	EAST
POT	7·00.00	602144.7031	2302162.6808
PC	7·04.10	602148.5951	2302163.9856
PT	10·00.00	602417.9096	2302285.3626
PC	13·65.36	602734.3605	2302467.9780
PRC	16·08.21	602941.5189	2302594.6595
PT	20·82.85	603352.1743	2302832.2727
PC	24·81.60	603706.8183	2303014.5654
PT	30·31.76	604239.2642	2303122.3419
PC	46·45.05	605847.9745	2303000.8813
PT	52·65.96	606467.7841	2303013.9337
PC	58·88.35	607085.8900	2303086.8783
PRC	61·55.88	607350.5514	2303125.6639
PT	64·23.40	607615.2128	2303164.4495
PC	71·13.92	608300.9764	2303245.3787
PT	74·63.65	608639.3282	2303330.0127
PC	77·38.96	608895.7381	2303430.2748
PRC	79·62.39	609101.8420	2303516.4836
PT	100·81.71	611172.8606	2303815.2465

Y1

TYPE	STATION	NORTH	EAST
POT	10·00.00	602670.3599	2302431.0449
POT	12·98.38	602618.3724	2302724.8646

Y2

TYPE	STATION	NORTH	EAST
POT	10·00.00	603789.6831	2302714.2893
POT	13·05.63	603668.4996	2302994.8690

Y3

TYPE	STATION	NORTH	EAST
POT	10·00.00	604245.6122	2303121.8626
POT	15·24.14	604283.9679	2303644.5990

Y4

TYPE	STATION	NORTH	EAST
POT	10·00.00	604851.7672	2302133.2581
PC	15·31.69	605259.8657	2302474.0666
PT	18·54.15	605389.0319	2302757.8423
POT	21·32.34	605383.2688	2303035.9675

Y4LT

TYPE	STATION	NORTH	EAST
POT	10·00.00	604868.4330	2302113.3018
PC	15·29.77	605275.0579	2302452.8797
PT	18·52.23	605404.2241	2302736.6554
POT	19·05.77	605403.1150	2302790.1816

Y4RT

TYPE	STATION	NORTH	EAST
POT	10·00.00	604835.1015	2302153.2143
PC	15·33.61	605244.6735	2302495.2535
PT	18·56.07	605373.8397	2302779.0292
POT	18·66.62	605373.6213	2302789.5704

Y5

TYPE	STATION	NORTH	EAST
POT	10·00.00	605353.4608	2302651.9466
PC	10·33.49	605385.0333	2302640.7910
PRC	11·97.21	605541.5552	2302660.9575
PT	15·39.58	605838.8386	2302830.0691
PC	15·76.61	605872.3629	2302845.7903
PT	17·12.54	605944.1646	2302953.3597
POT	17·54.20	605946.0325	2302994.9805

Y6

TYPE	STATION	NORTH	EAST
POT	10·00.00	605409.0415	2303034.0216
PC	10·23.85	605423.4112	2303053.0521
PT	11·32.97	605502.6040	2303127.3540
PC	14·67.55	605781.9137	2303311.5668
PT	17·59.04	606016.4263	2303484.4582
POT	17·86.08	606037.3243	2303501.6191

Y7

TYPE	STATION	NORTH	EAST
POT	10·00.00	607046.6718	2302599.8152
POT	14·79.82	606964.5359	2303072.5570

Y8

TYPE	STATION	NORTH	EAST
POT	10·00.00	608064.1679	2303217.4321
PC	11·03.14	608052.1029	2303319.8677
PRC	12·20.63	608026.0506	2303434.1974
PT	13·38.11	607999.9983	2303548.5271
POT	15·30.57	607977.4863	2303739.6609

Y9

TYPE	STATION	NORTH	EAST
POT	10·00.00	609039.3264	2303489.1315
PC	10·88.76	609090.6740	2303416.7366
PT	13·28.57	609297.0414	2303314.9065
POT	15·16.60	609484.9438	2303321.8813

Y10

TYPE	STATION	NORTH	EAST
POT	10·00.00	610277.6329	2303554.0118
POT	12·75.17	610273.0706	2303829.1448

Y11

TYPE	STATION	NORTH	EAST
POT	10·00.00	610269.7377	2303828.8017
PC	10·84.47	610273.8769	2303913.1744
PT	15·30.77	610420.1460	2304328.2277
POT	15·37.12	610423.8816	2304333.3661

NOTE: DRAWING NOT TO SCALE

6/2/99

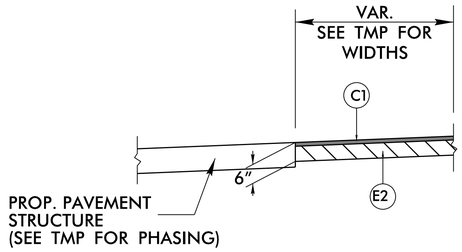
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	R1	2′-6″ CONCRETE CURB AND GUTTER.
C2	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R2	2′-9″ CONCRETE CURB AND GUTTER.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½″ IN DEPTH.	R3	5″ MONOLITHIC CONCRETE ISLAND (KEYED IN).
D1	PROP. APPROX. 2½″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	R4	8″ X 18″ CONCRETE CURB.
D2	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S	4″ CONCRETE SIDEWALK.
D3	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.	T	EARTH MATERIAL.
E1	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
E2	PROP. APPROX. 4½″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.	V1	VARIABLE DEPTH MILLING (SEE MILLING DETAIL)
E3	PROP. APPROX. 5½″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.	V2	UNIFORM MILLING. 1½″ IN DEPTH.
E4	PROP. APPROX. 8″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAILS)
E5	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.		

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

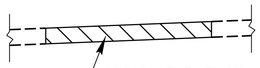
NOTES: BENCH NEW ASPHALT PAVEMENT TO EXISTING ASPHALT PAVEMENT TO STAGGER ASPHALT PAVEMENT JOINTS AT A MINIMUM OF 6″.

FOR 2′–9″ CURB AND GUTTER, SEE SPECIAL DETAIL SHEET 2C–1



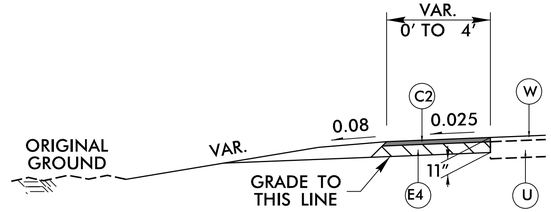
TEMPORARY PAVEMENT DETAIL

–L– Sta. 50+39± TO 54+48±



ASPHALT PATCHING DETAIL

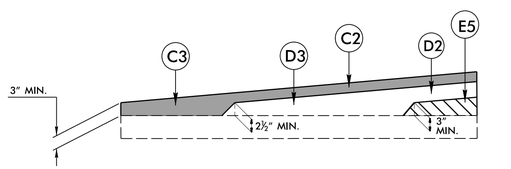
USE IN CONJUNCTION WITH TYPICAL SECTION 1



NARROW WIDENING DETAIL

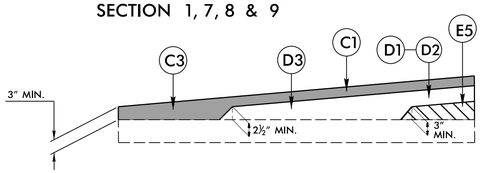
USE IN SHOULDER SECTIONS ONLY

NOTE: USE IN SECTIONS WHERE PAVEMENT WIDENING IS LESS THAN 4′.



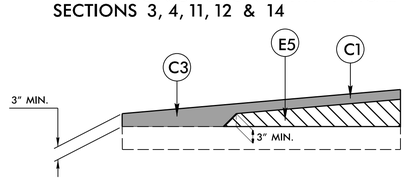
W1: WEDGING DETAIL FOR RESURFACING

USE IN CONJUNCTION WITH TYPICAL SECTION 1, 7, 8 & 9



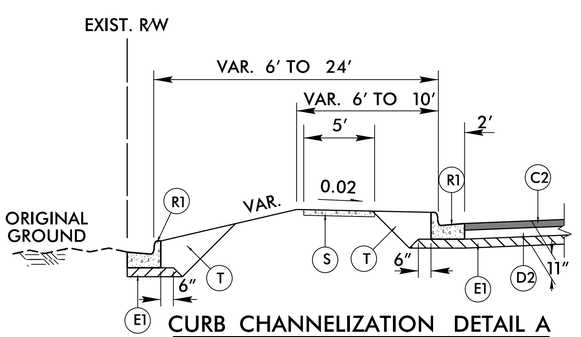
W2: WEDGING DETAIL FOR RESURFACING

USE IN CONJUNCTION WITH TYPICAL SECTIONS 3, 4, 11, 12 & 14



W3: WEDGING DETAIL FOR RESURFACING

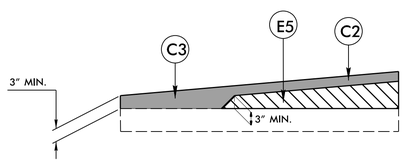
USE IN CONJUNCTION WITH TYPICAL SECTIONS 6 AND 15



CURB CHANNELIZATION DETAIL A

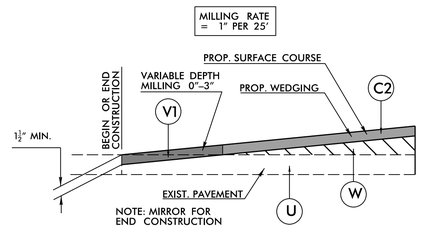
USE CURB CHANNELIZATION DETAIL A

–L– STA. 26+90± TO –L– STA. 30+20±



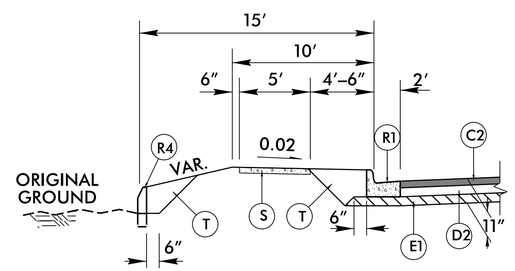
W4: WEDGING DETAIL FOR RESURFACING

USE IN CONJUNCTION WITH TYPICAL SECTION 13



INCIDENTAL MILLING DETAIL

USE IN CONJUNCTION WITH TYPICAL SECTIONS 1, 3, 4, 6, 7, 12, 13, 14, AND 15



CURB CHANNELIZATION DETAIL B

USE CURB CHANNELIZATION DETAIL B

–L– STA. 42+30± TO –L– STA. 44+50±

PROJECT REFERENCE NO.	SHEET NO.
U–2714	2A–1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

1/30/2020

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER ANDREW D. WARGO

1/30/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-2714	2A-2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

1/30/2020

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER ANDREW D. WARGO

1/30/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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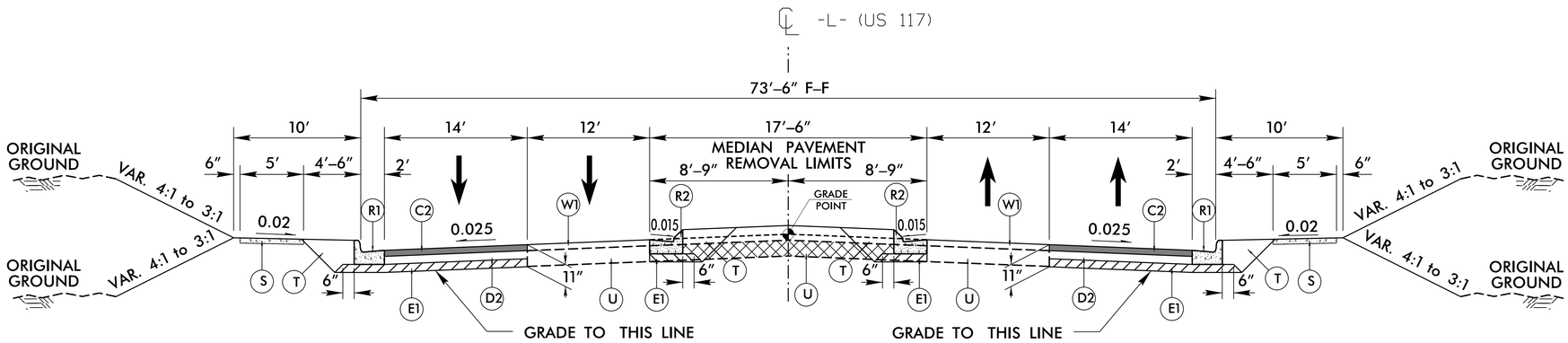
N.C.B.E.L.S. License Number: F-0116

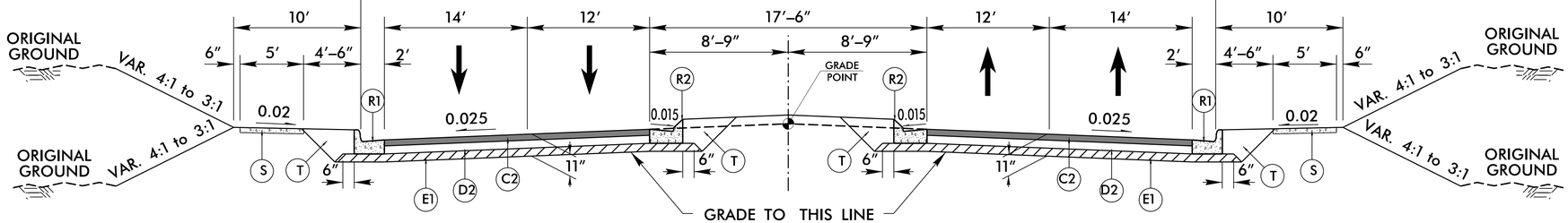


NOTE: SEE PLANS FOR SIDEWALK LOCATIONS.

TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

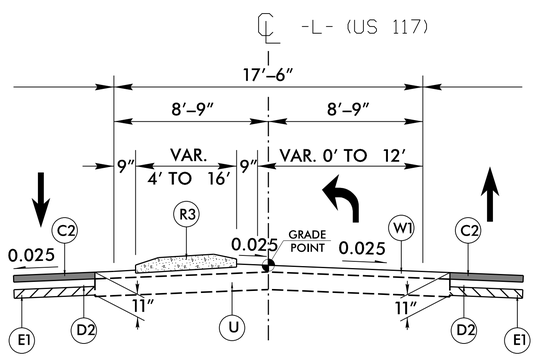
-L- STA. 10+00.00 TO -L- STA. 14+00.00
-L- STA. 22+00.00 TO -L- STA. 31+60.00
-L- STA. 36+60.00 TO -L- STA. 91+64.74



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

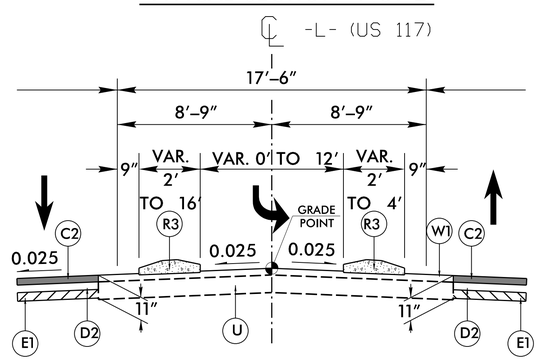
-L- STA. 14+00.00 TO -L- STA. 22+00.00
-L- STA. 31+60.00 TO -L- STA. 36+60.00



LEFT TURN DETAIL A

USE LEFT TURN DETAIL A

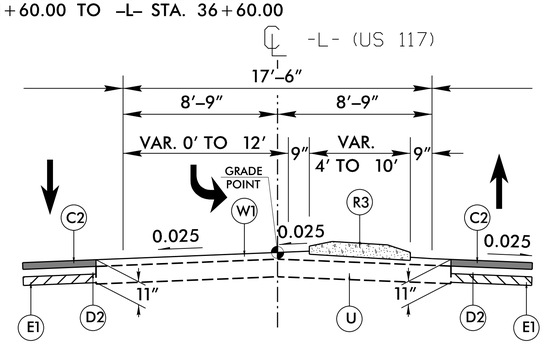
-L- STA. 21+22.25 TO -L- STA. 23+95.00
-L- STA. 27+40.00 TO -L- STA. 29+90.00
-L- STA. 38+47.25 TO -L- STA. 41+30.00
-L- STA. 53+89.25 TO -L- STA. 57+22.00
-L- STA. 64+83.25 TO -L- STA. 68+16.00
-L- STA. 85+90.00 TO -L- STA. 91+40.00



LEFT TURN DETAIL B

USE LEFT TURN DETAIL B

-L- STA. 35+54.00 TO -L- STA. 36+43.00



LEFT TURN DETAIL C

USE LEFT TURN DETAIL C

-L- STA. 13+46.00 TO -L- STA. 21+22.25
-L- STA. 24+65.00 TO -L- STA. 27+40.00
-L- STA. 30+90.00 TO -L- STA. 34+20.00
-L- STA. 36+43.00 TO -L- STA. 38+47.25
-L- STA. 42+74.43 TO -L- STA. 46+07.18
-L- STA. 58+28.00 TO -L- STA. 61+60.75
-L- STA. 69+29.25 TO -L- STA. 72+60.00

PAVEMENT SCHEDULE	
C2	3" S9.5B
D2	4" I19.0C
E1	4" B25.0C
R1	2'-6" CURB & GUTTER
R2	2'-9" CURB & GUTTER
R3	5" MONOLITHIC CONC. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	VAR. DEPTH ASPHALT PAVEMENT

REVISIONS

6/2/99

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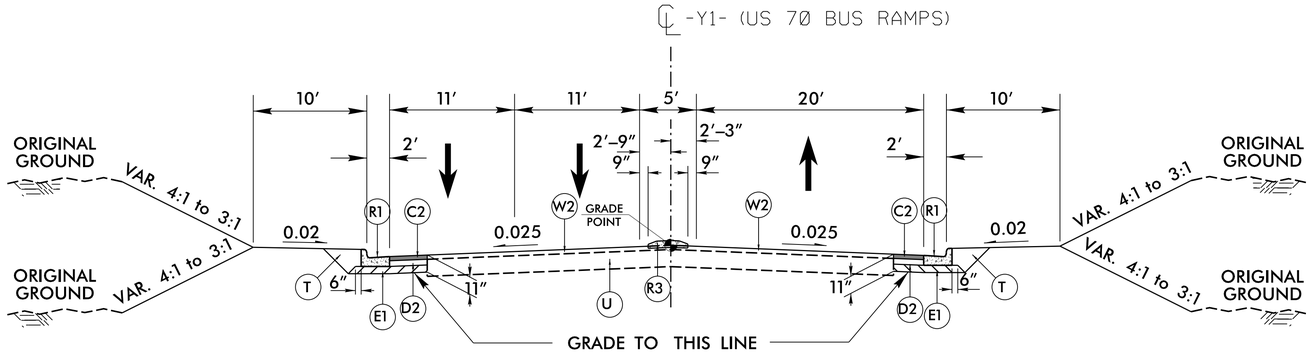
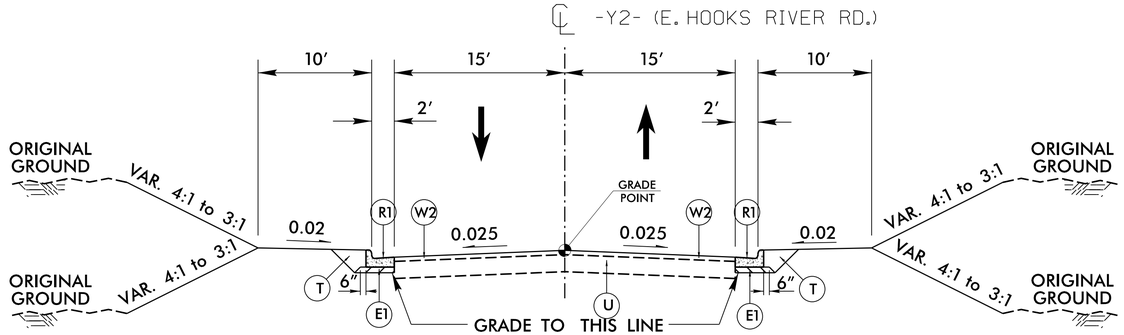


TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

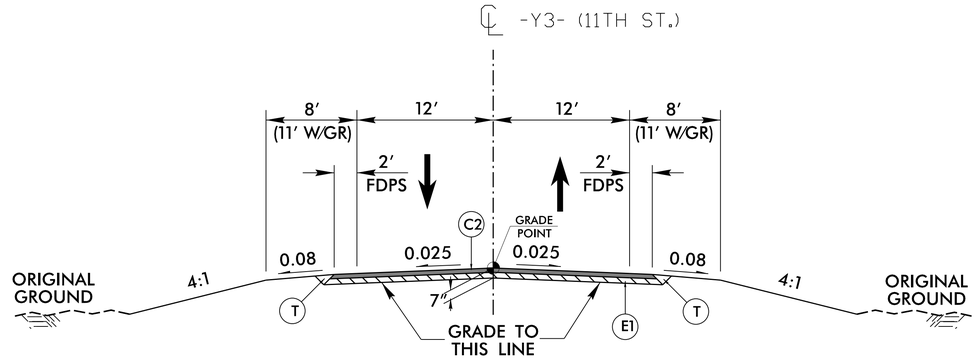
–Y1– STA. 10+35.29 TO –Y1– STA. 11+50.00



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4

–Y2– STA. 11+15.00 TO –Y2– STA. 12+70.80



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

–Y3– STA. 10+34.75 TO –Y3– STA. 12+50.00

PROJECT REFERENCE NO.	SHEET NO.
U–2714	2A–3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

1/30/2020

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER ANDREW D. WARGO

1/30/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PAVEMENT SCHEDULE	
C2	3″ S9.5B
D2	4″ I19.0C
E1	4″ B25.0C
R1	2′-6″ CURB & GUTTER
R3	5″ MONOLITHIC CONC. ISLAND
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	VAR. DEPTH ASPHALT PAVEMENT

REVISIONS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
U-2714	2A-4

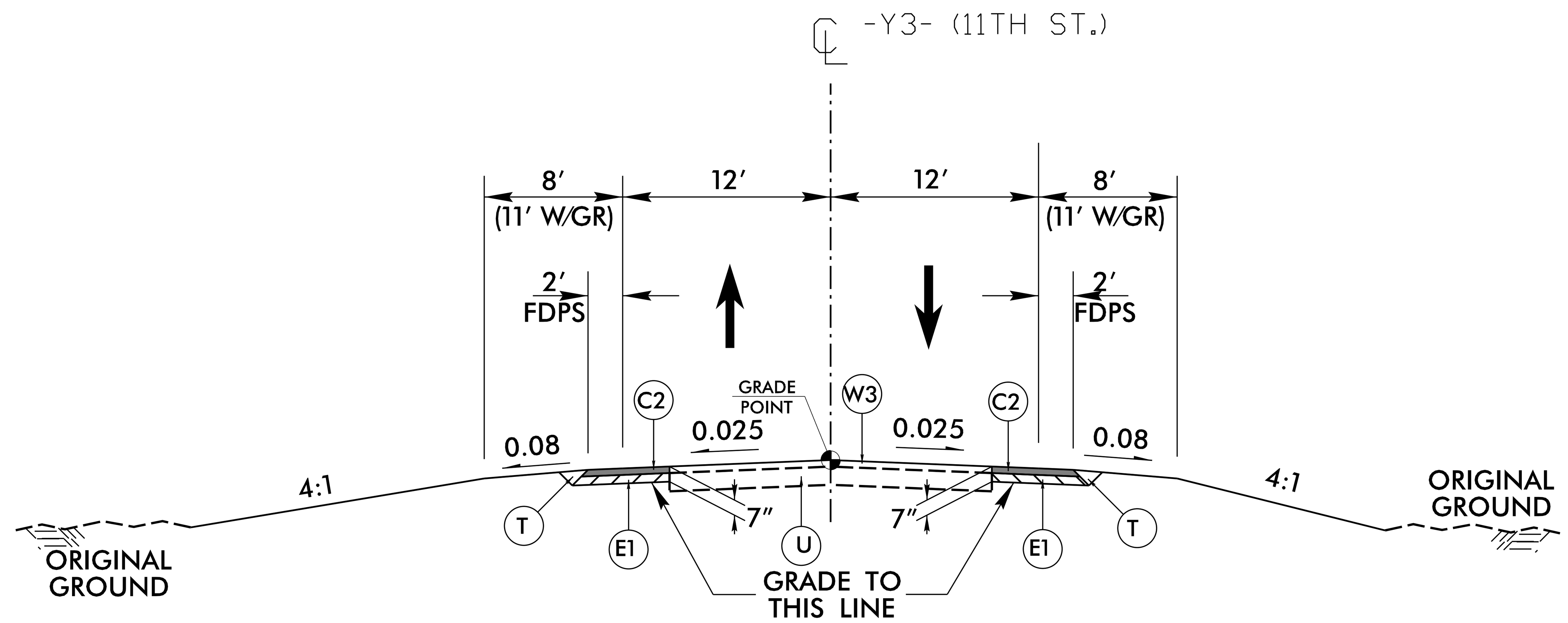
ROADWAY DESIGN ENGINEER — SEAL, NORTH CAROLINA PROFESSIONAL ENGINEER, CASEY E. HARRIS, 1/30/2020

PAVEMENT DESIGN ENGINEER — SEAL, NORTH CAROLINA PROFESSIONAL ENGINEER, ANDREW D. WARGO, 1/30/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

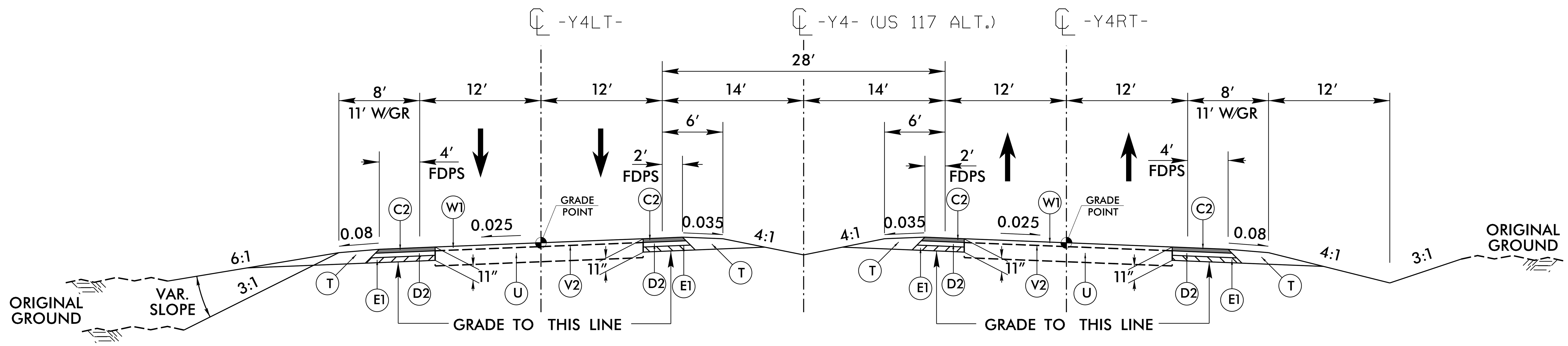
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PAVEMENT SCHEDULE	
C2	3" S9.5B
D2	4" I19.0C
E1	4" B25.0C
R1	2'-6" CURB & GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	VAR. DEPTH ASPHALT PAVEMENT



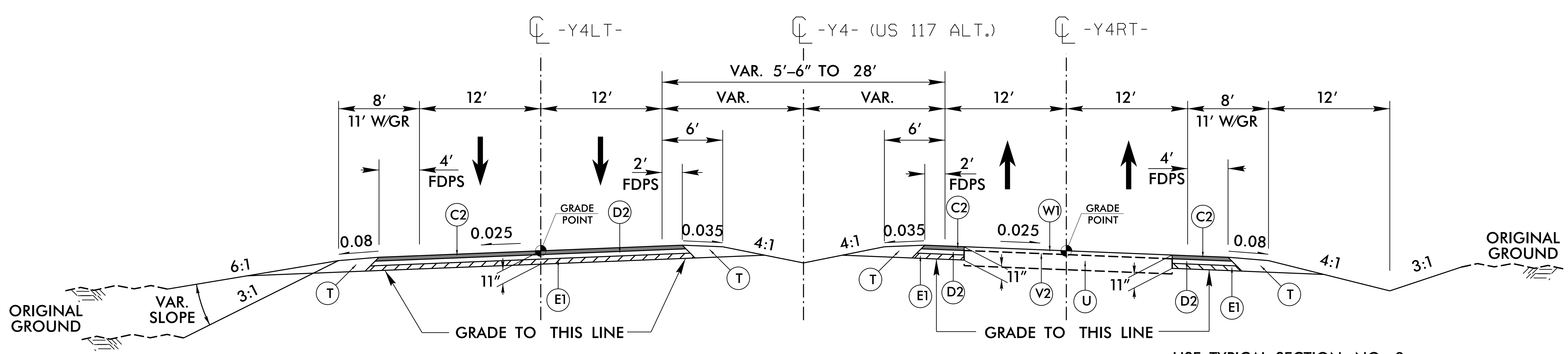
TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6
-Y3- STA. 12+50.00 TO -Y3- STA. 13+50.00



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7
-Y4- STA. 12+50.00 TO -Y4- STA. 14+50.00



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
-Y4- STA. 14+50.00 TO -Y4- STA. 18+86.19

NOTE: SEE PLANS FOR TURN LANE LOCATION

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U–2714	2A–5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS
1/30/2020

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER ANDREW D. WARGO
1/30/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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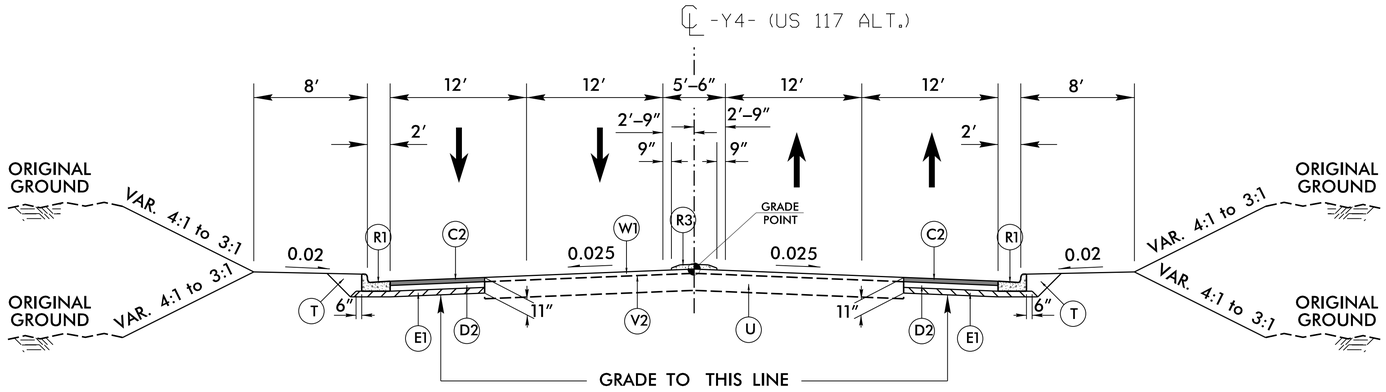
N.C.B.E.L.S. License Number: F-0116

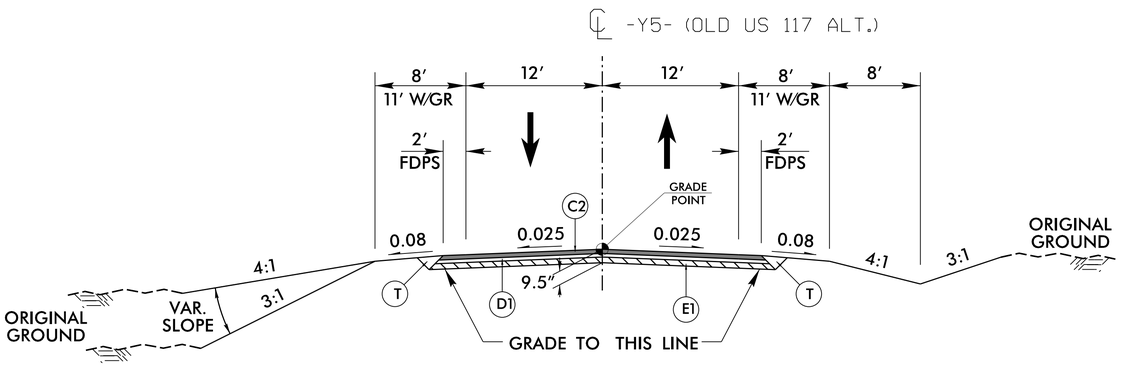
PAVEMENT SCHEDULE	
C2	3″ S9.5B
D1	2½″ I19.0C
D2	4″ I19.0C
E1	4″ B25.0C
R1	2′-6″ CURB & GUTTER
R3	5″ MONOLITHIC CONC. ISLAND
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	VAR. DEPTH ASPHALT PAVEMENT



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9

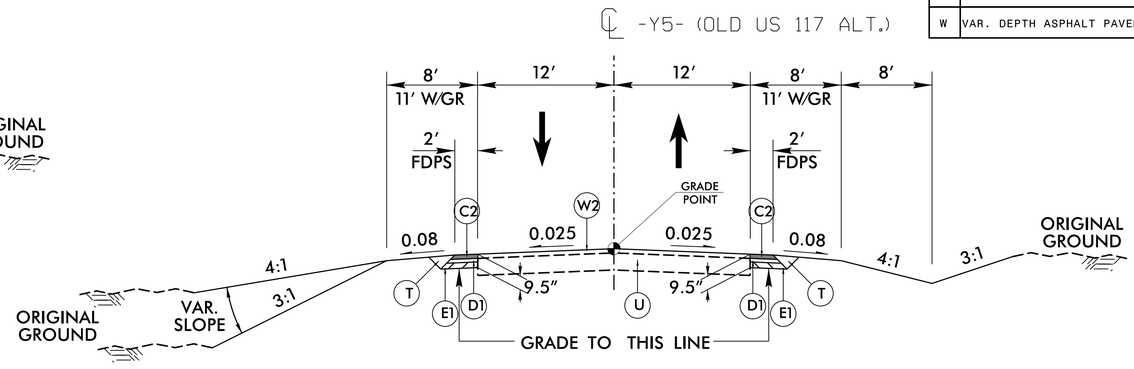
–Y4– STA. 18+86.19 TO –Y4– STA. 20+97.43



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10

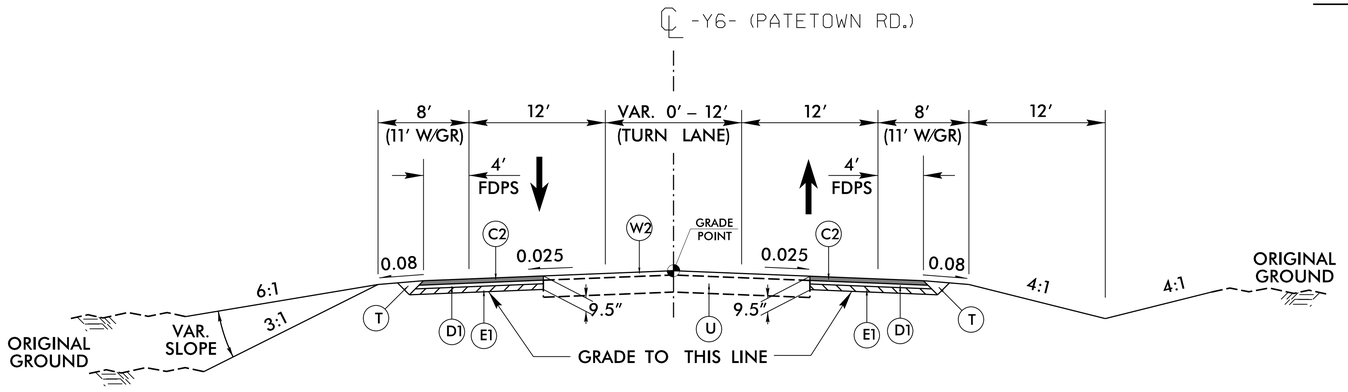
–Y5– STA. 10+53.49 TO –Y5– STA. 13+00.00



TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11

–Y5– STA. 13+00.00 TO –Y5– STA. 17+19.45



TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12

–Y6– STA. 10+41.64 TO –Y6– STA. 16+50.00

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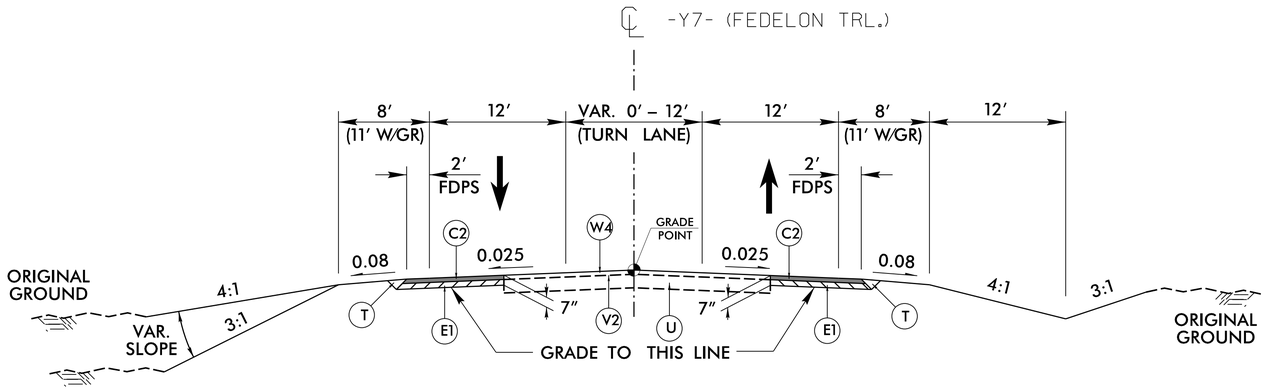
REVISIONS

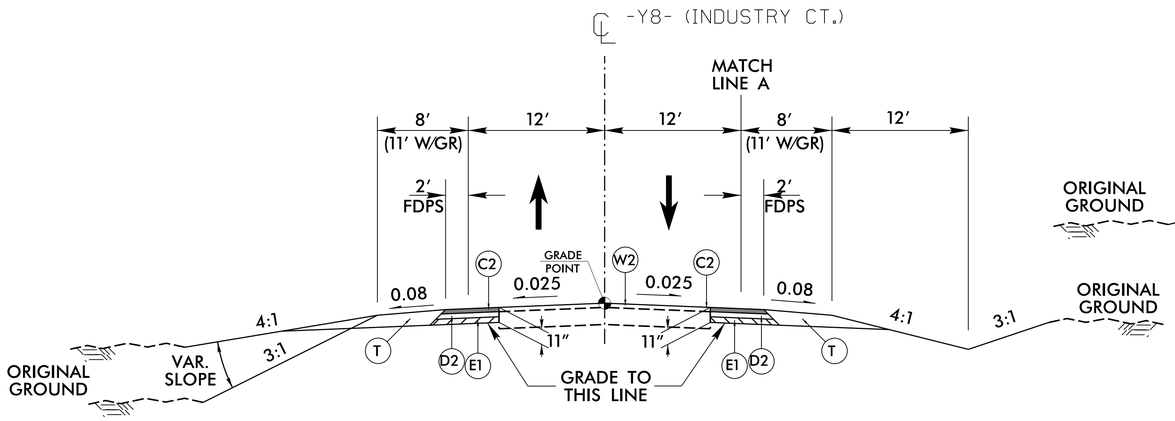
6/2/99



TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13

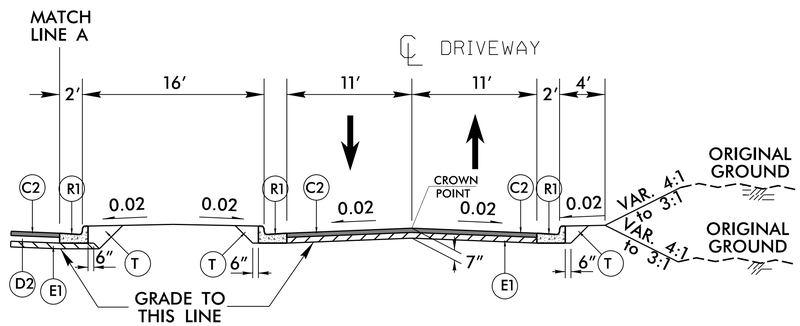
–Y7– STA. 10+50.00 TO –Y7– STA. 14+45.02



TYPICAL SECTION NO. 14

USE TYPICAL SECTION NO. 14

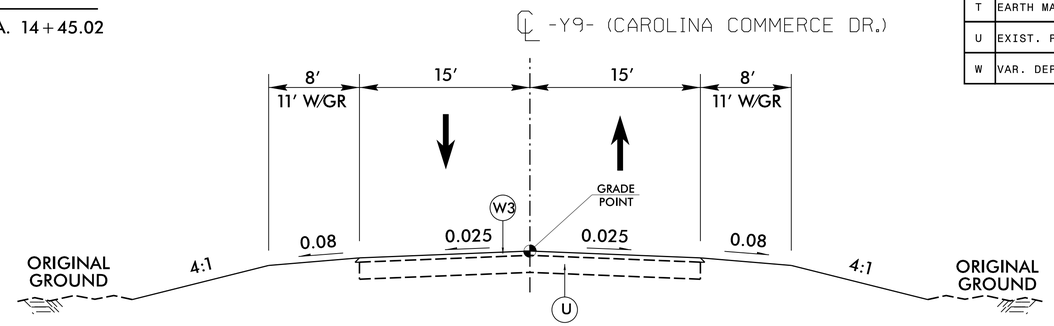
–Y8– STA. 10+34.75 TO –Y8– STA. 14+10.00



DRIVEWAY DETAIL

USE DRIVEWAY DETAIL

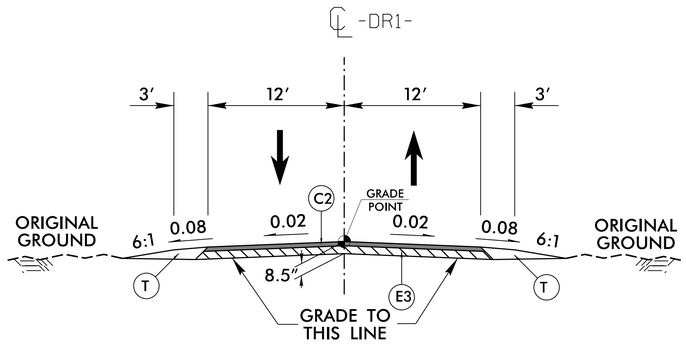
–Y8– STA. 10+80± TO –Y8– STA. 12+00±



TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15

–Y9– STA. 10+35.54 TO –Y9– STA. 11+50.00



TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16

–DR1– STA. 10+00.00 TO –DR1– STA. 11+47.85

PROJECT REFERENCE NO.	SHEET NO.
U–2714	2A–6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 40440286 ENGINEER CASEY E. HARRIS
1/30/2020

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER ANDREW D. WARGO
1/30/2020

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HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PAVEMENT SCHEDULE	
C2	3″ S9.5B
D2	4″ I19.0C
E1	4″ B25.0C
E3	5.5″ B25.0C
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	VAR. DEPTH ASPHALT PAVEMENT

PROJECT REFERENCE NO.	SHEET NO.
U-2714	2B-1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

1/30/2020

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N.C.B.E.L.S. License Number: F-0116

NAD 83 / NA 2011

-Y2- POT Sta. 10+00.00

-L- PT Sta. 20+82.85

-Y2- +50.82
15.00' RT

-L- +86.03
END SW

-L- +57.14
BEGIN SW

36'
TYP.

5' SIDEWALK

2'-6" C&G

100' TAPER

220' STORAGE

200' STORAGE

4' MONO. ISLAND

35' BST

-L- +27.24
34.75' RT

-L- +32.22
39.30' RT

-L- +82.00
34.75' RT

-L- +94.00
37.86' RT

-L- +03.17
79.46' RT

-Y2- POT Sta. 13+05.63 =
-L- POT Sta. 24+38.52

-L- PC Sta. 24+81.60

INTERSECTION -L- WITH -Y2-

SEE SHEET 5

30' 0' 30' 60'
15'

PROP. MONOLITHIC CONC. ISLAND (KEYED IN)

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-2714	2B-2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040286 CASEY E. HARRIS 1/30/2020

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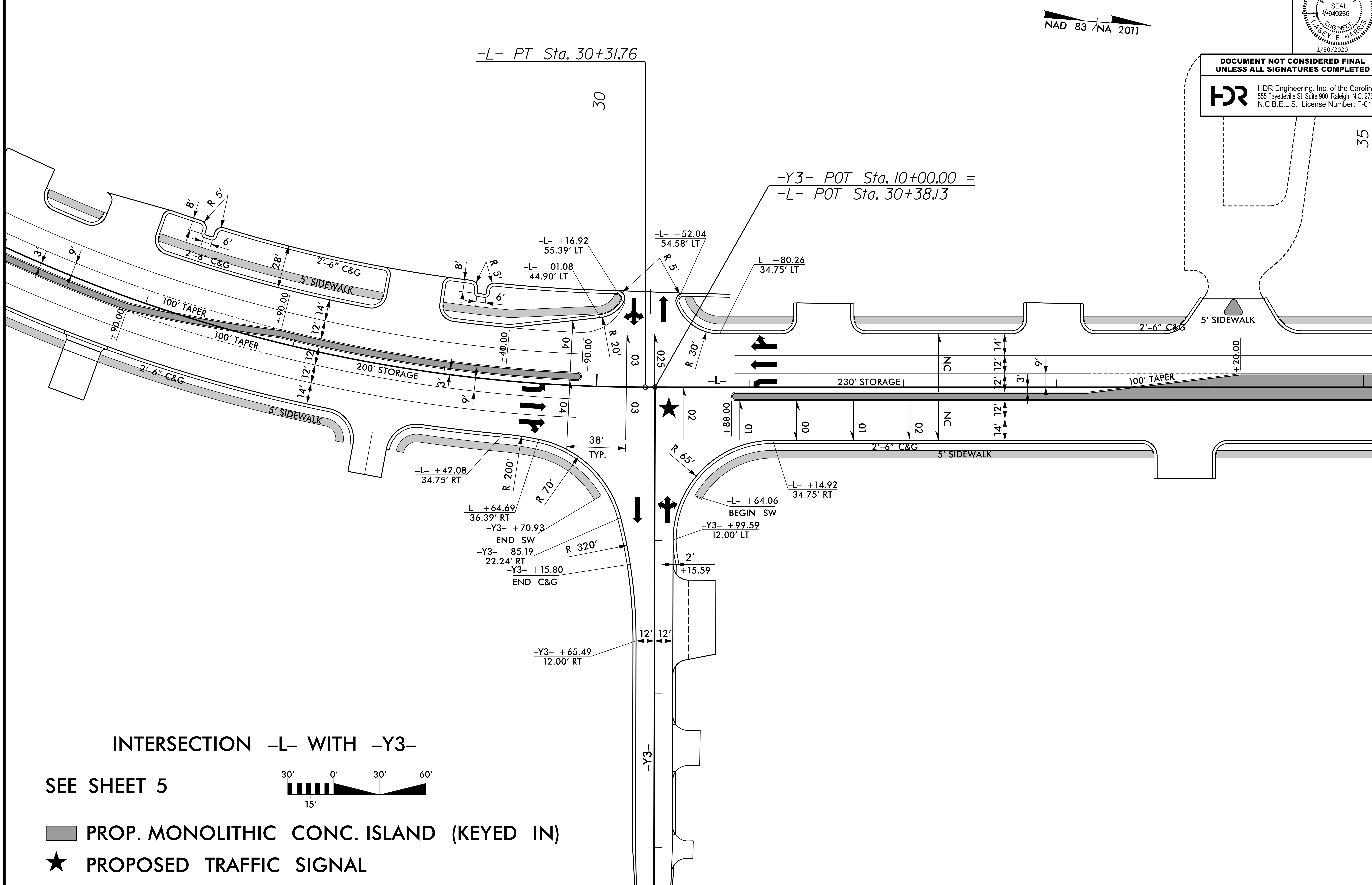
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116



INTERSECTION -L- WITH -Y3-

SEE SHEET 5

30' 0' 30' 60'
15'

PROP. MONOLITHIC CONC. ISLAND (KEYED IN)

★ PROPOSED TRAFFIC SIGNAL

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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PROJECT REFERENCE NO.	SHEET NO.
U-2714	2B-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

1/30/2020

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N.C.B.E.L.S. License Number: F-0116

NAD 83 /NA 2011

-Y4- PT Sta. 18+54.15

-Y4RT- PT Sta. 18+56.07

-Y4RT- POT Sta. 18+66.62 =
-Y4- POT Sta.18+86.19 (14.75' RT)

-Y4LT- POT Sta. 19+05.77 =
-Y4- POT Sta. 18+86.19 (14.75' LT)

-Y4- POT Sta. 21+32.34 =
-L- POT Sta. 41+79.02

-Y6- POT Sta. 10+00.00 =
-L- POT Sta. 42+04.87

-Y6-PC Sta. 10+23.85

-Y6- PT Sta. 11+32.97

2'6" C&G TRANSITIONS TO 8"x18" CURB ON DRIVEWAY

2'-6" C&G

20' TYP.

-Y4- +31.88
26.75' RT

-Y4- +67.79
END SW

-Y4- +23.28
26.75' LT

-Y4- +33.43
BEGIN CURB

-Y4- +58.96
BEGIN SW

-L- +87.38
34.75' LT

-L- +80.81
34.75' LT

-L- +70.00
END CURB

8"x18" CURB

5' SIDEWALK

2'-6" C&G

R 75'

R 65'

R 2'

R 1'

R 34'

NC

+44.08

+54.08

+09.08

+96.88

+97.25

+30.00

4' MONO. ISLAND

150' STORAGE

100' TAPER

230' STORAGE

12' 14'

14' 12'

3'

9'

+74.43

10'

R 40'

20'

R 225'

-L- +00.35
34.75' RT

-L- +44.63
END SW

-L- +53.14
34.75' RT

-Y6- +37.89
BEGIN SW

-Y6- +66.50
18.00' LT

-Y6- +66.37
END C&G

-Y6- +82.98
22.17' RT

-Y6- +83.93
END C&G

4'

01

02

00

INTERSECTION -L- WITH -Y4- & -Y6-

SEE SHEET 6

30' 0' 30' 60'
15'

PROP. MONOLITHIC CONC. ISLAND (KEYED IN)

★ PROPOSED TRAFFIC SIGNAL

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-2714	2B-4

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

1/30/2020

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N.C.B.E.L.S. License Number: F-0116

NAD 83 /NA 2011

-Y4LT- PC Sta. 15+29.77
-Y4- PC Sta. 15+31.69

-Y4RT- PC Sta. 15+33.61

-Y5- PC Sta. 10+33.49
-Y5- POC Sta. 10+41.49 =
-Y4LT- POC Sta. 17+52.88

-Y4- +88.43
34.55' LT

-Y5- +91.46
12.00' LT

-Y5- +97.21
12.00' LT

-Y5- PRC Sta. 11+97.21

-Y5- POT Sta. 10+00.00 =
-Y4RT- POC Sta. 17+26.67

-Y4- POC Sta. 17+39.67 =
-Y5- POT Sta. 10+21.06

-Y4- +60.88
BEGIN C&G

-Y5- +52.81
25.47' RT
END C&G

-Y4- +12.95
30.81' LT

-Y5- +52.51
12.00' RT

-Y4- PT Sta. 18+54.15

-Y4RT- PT Sta. 18+56.07

-Y4RT- POT Sta. 18+66.62 =
-Y4- POT Sta.18+86.19 (14.75' RT)

-Y4- +75.65
26.75' RT

-Y4LT- PT Sta. 18+52.23

-Y4- +34.21
27.34' LT

-Y4LT- POT Sta. 19+05.77 =
-Y4- POT Sta. 18+86.19 (14.75' LT)

-Y5- PT Sta. 15+39.58

100' TAPER
330' STORAGE
VAR. MONO. ISLAND
MONO. ISLAND
2'-6" C&G
+61.68
+04.33
+85.75
21' TYP.
19' TYP.
20' TYP.
R 372'
R 348'
R 380'
R 187'
R 180'
R 60'
R 2'
R 24'
4'
2'

INTERSECTION -Y4- WITH -Y5-

SEE SHEETS 6 & 11

30' 0' 30' 60'
15'

PROP. MONOLITHIC CONC. ISLAND (KEYED IN)

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-2714	2B-5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

1/30/2020

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N.C.B.E.L.S. License Number: F-0116

NAD 83 /NA 2011

-Y5- PT Sta. 15+39.58

-Y5- PC Sta. 15+76.61

-Y5- PT Sta. 17+12.54

-L- PC Sta. 46+45.05

-Y5- POT Sta. 17+54.20 =
-L- POC Sta. 47+43.29

-Y5- +53.69
12.00' RT

-Y5- +07.02
END C&G

-Y5- +25.78
18.12' RT

-Y5- +66.78
END SW

-Y5- +15.04
68.09' RT

-L- +28.84
34.75' LT

-Y5- +97.87
2.05' RT

-Y5- +12.00
10.84' RT

-Y5- +60.87
12.00' LT
END C&G

-Y5- +97.94
1.71' LT

-Y5- +82.44
BEGIN SW

-L- +18.52
46.75' LT

-Y5- +15.46
9.43' RT

-Y5- +12.07
11.07' LT

-Y5- +15.46
9.66' LT

37' TYP.

2'-6" C&G

5' SIDEWALK

230' STORAGE

100' LANE TAPER

4' MONO. ISLAND

2'-9" C&G

R 150'

R 230'

R 2'

R 30'

R 45'

R 50'

R 85'

INTERSECTION -L- WITH -Y5-

SEE SHEETS 6 & 7

30' 0' 30' 60'
15'

PROP. MONOLITHIC CONC. ISLAND (KEYED IN)

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-2714	2B-6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

1/30/2020

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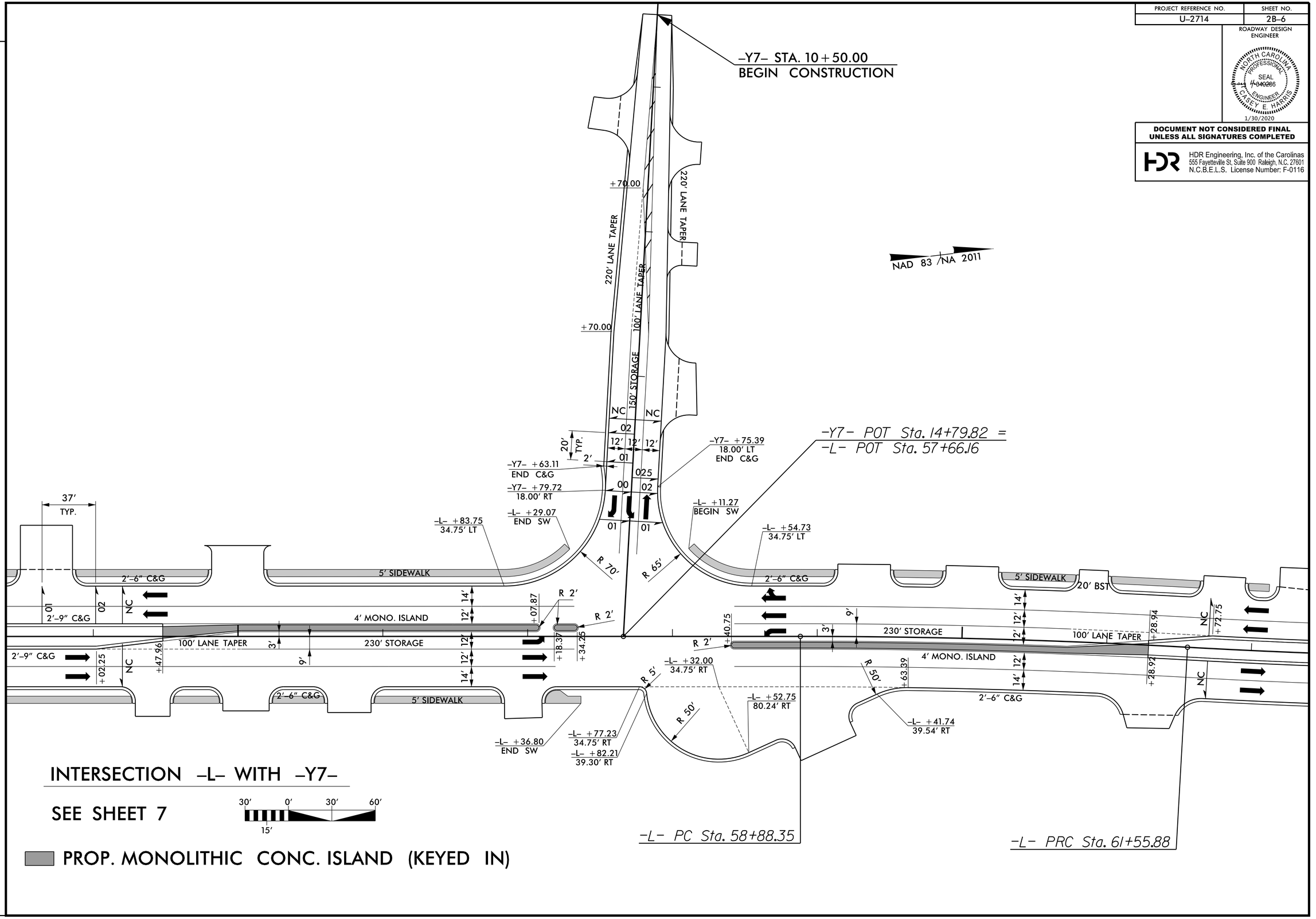
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REVISIONS



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TIME: 11:00:55 AM

PROJECT REFERENCE NO.	SHEET NO.
U-2714	2B-7

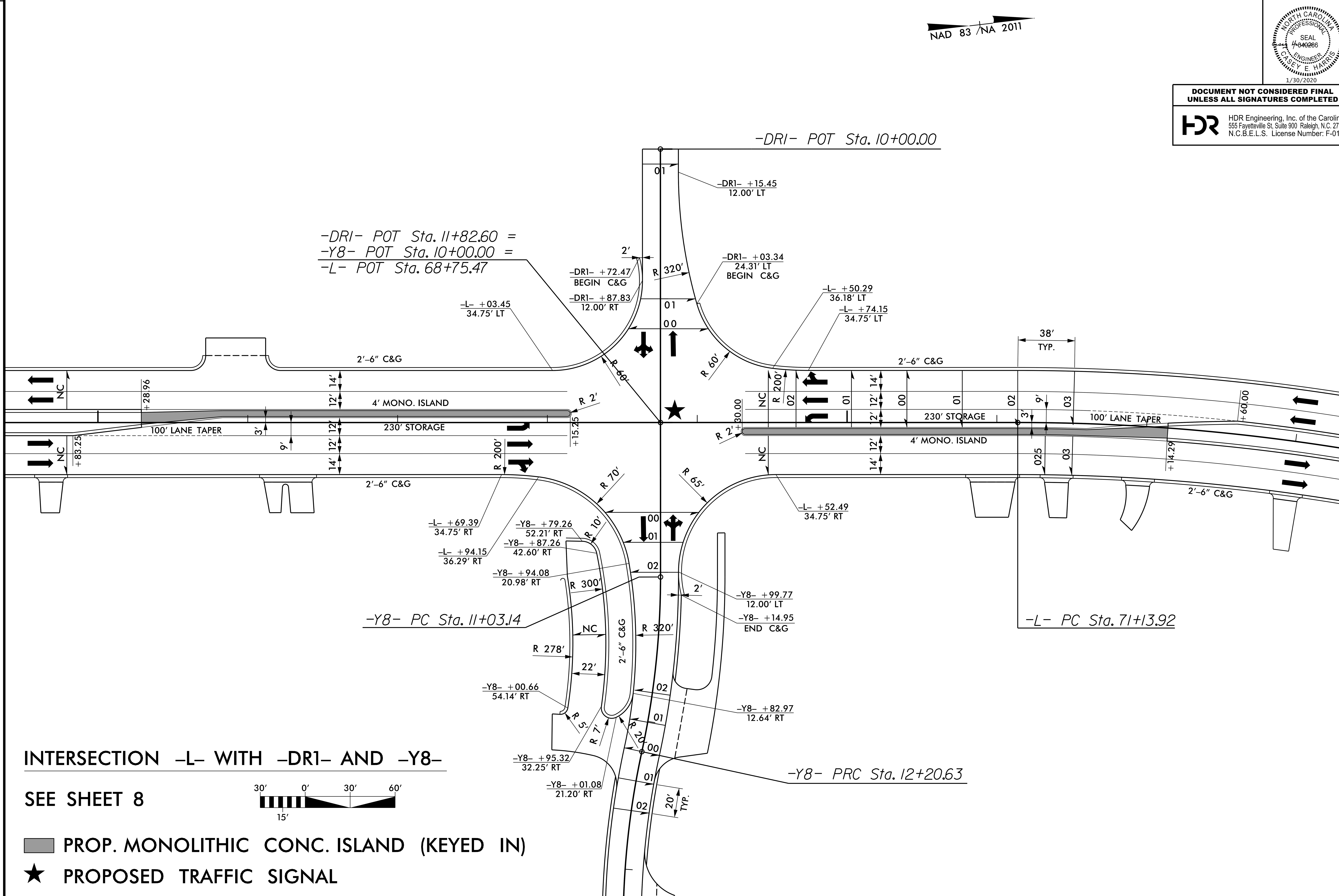
ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E. HARRIS

1/30/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116



INTERSECTION -L- WITH -DR1- AND -Y8-

SEE SHEET 8

PROP. MONOLITHIC CONC. ISLAND (KEYED IN)

★ PROPOSED TRAFFIC SIGNAL

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
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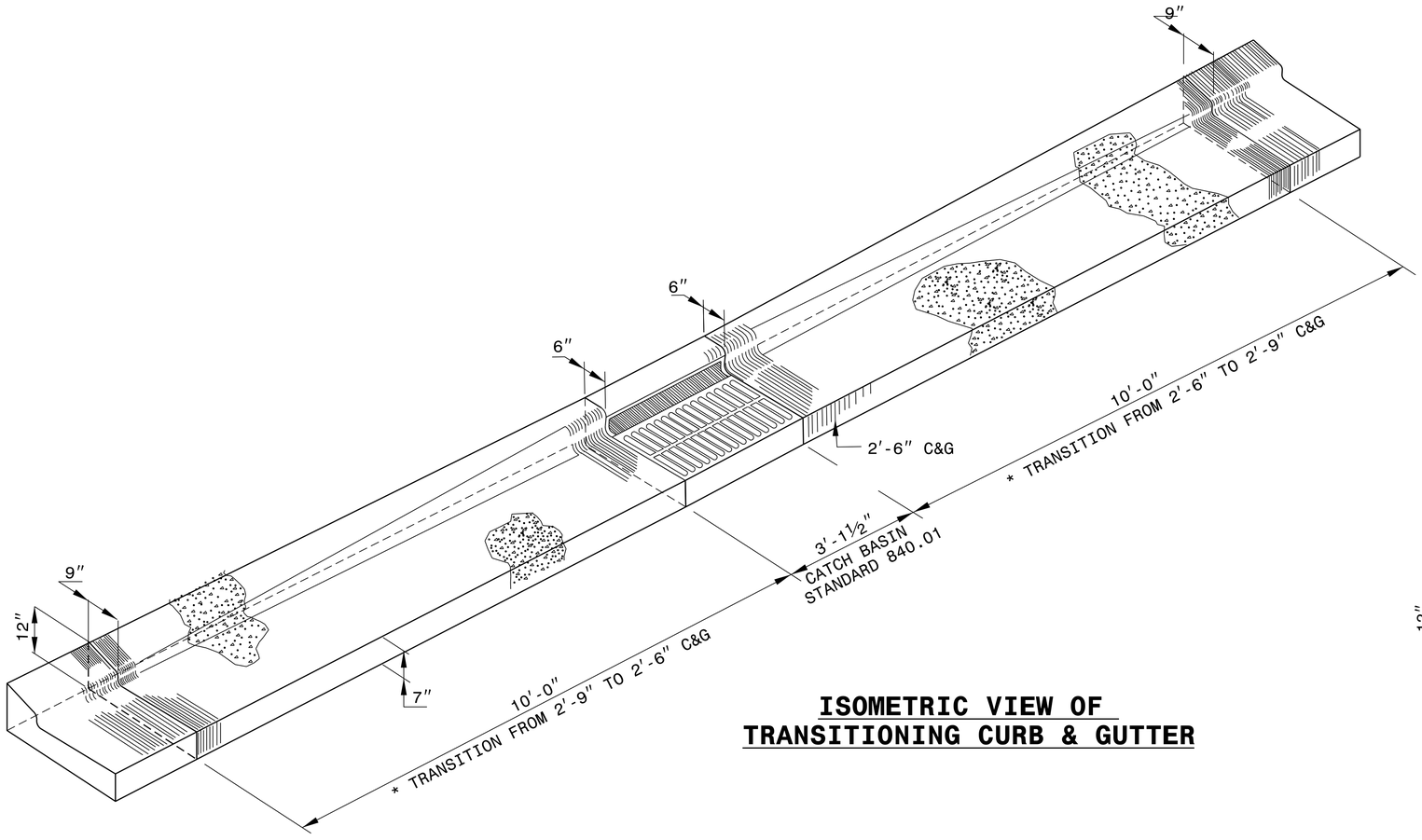
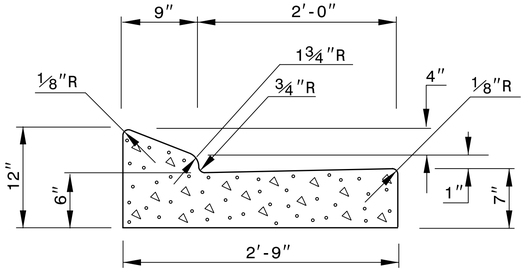
PROJECT REFERENCE NO.	SHEET NO.
U-2714	2C-1

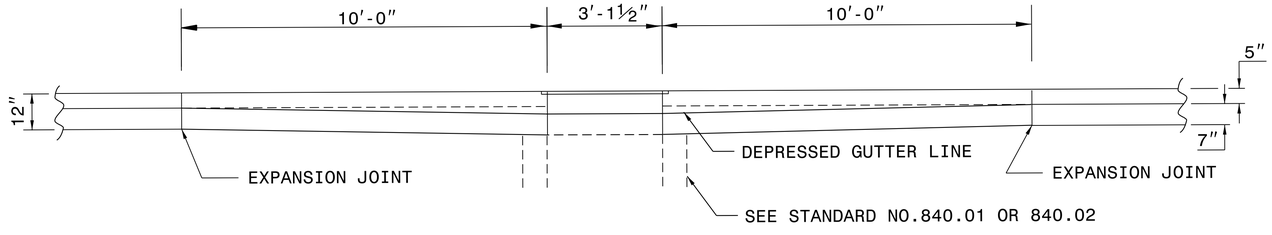
NOTE: SEE STD.DWG. 846.01 FOR 2′-6″ CURB AND GUTTER INFORMATION.



ISOMETRIC VIEW OF TRANSITIONING CURB & GUTTER



PROPOSED 2′-9″ CURB & GUTTER



ELEVATION

* MAINTAIN THE EDGE OF PAVEMENT. TRANSITION THE CURB ALONG THE BACK OF THE CURB.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022966 Robert S. Howerton
1/30/2020

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

CATCH BASIN IN 2′-9″ CURB AND GUTTER

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: tspell DATE: july 14,2009
CHECKED BY: _____ DATE: _____
FILE SPEC.: s:eric/usr/details/stand/cgtranst.dgn

22-OCT-2009 07:30
S:\Contracts\Special Details\ericward\usr\details\stand\c&g transition sectionsdgn
jhowerton AT CSD-292595

PROJECT REFERENCE NO.	SHEET NO.
U-2714	2C-2

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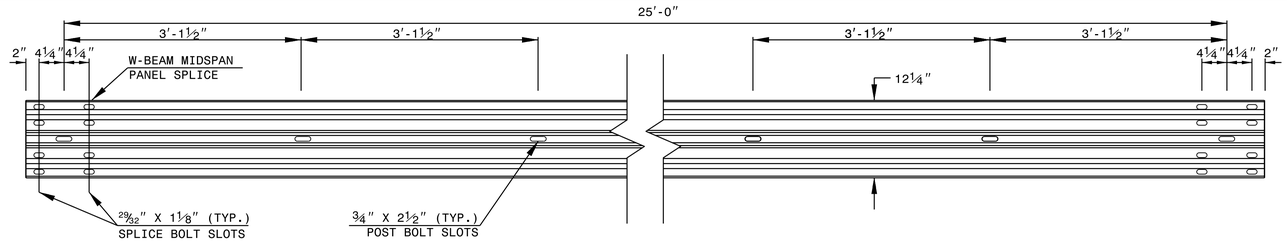
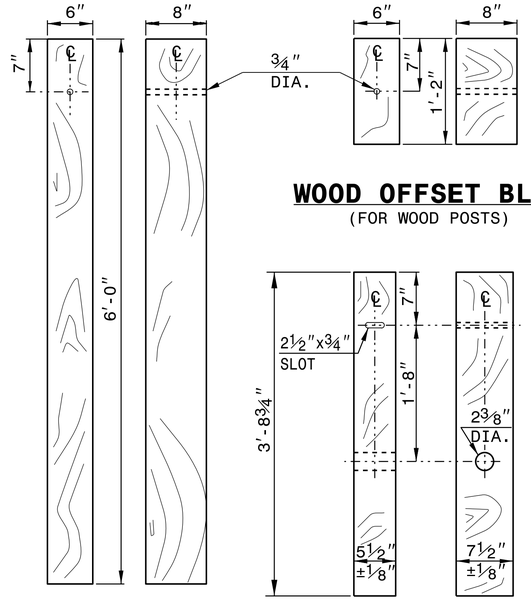
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



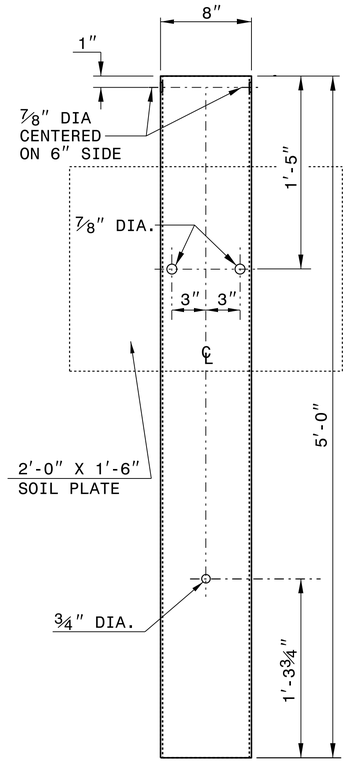
STANDARD W-BEAM GUARDRAIL



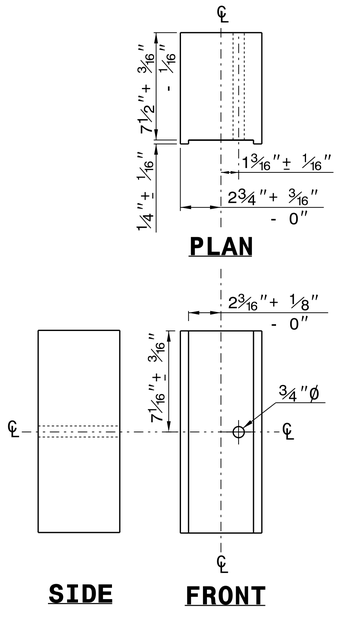
WOOD OFFSET BLOCK
(FOR WOOD POSTS)

STANDARD LINE POST

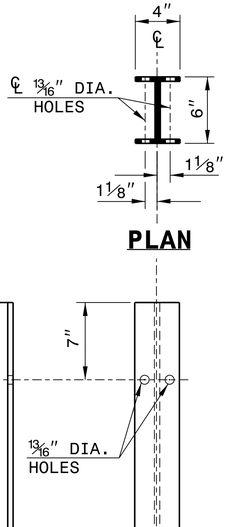
SHORT WOOD BREAKAWAY POST



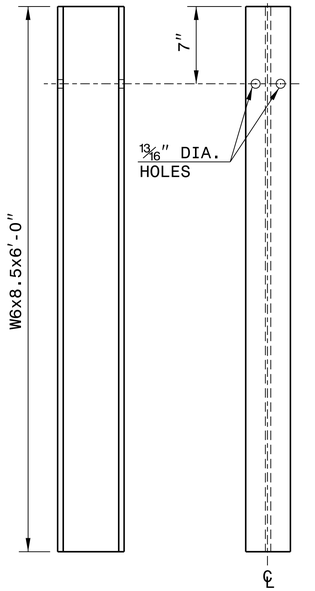
STEEL TUBE
TS 6"x8"x0.1875"



ROUTED OFFSET BLOCK



PLAN



SIDE FRONT
"W6" STEEL POST

SYSTEM PARTS

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

NORTH CAROLINA PROFESSIONAL SEAL 022766 ENGINEER JOHN S. HOWERTON
1/30/2020

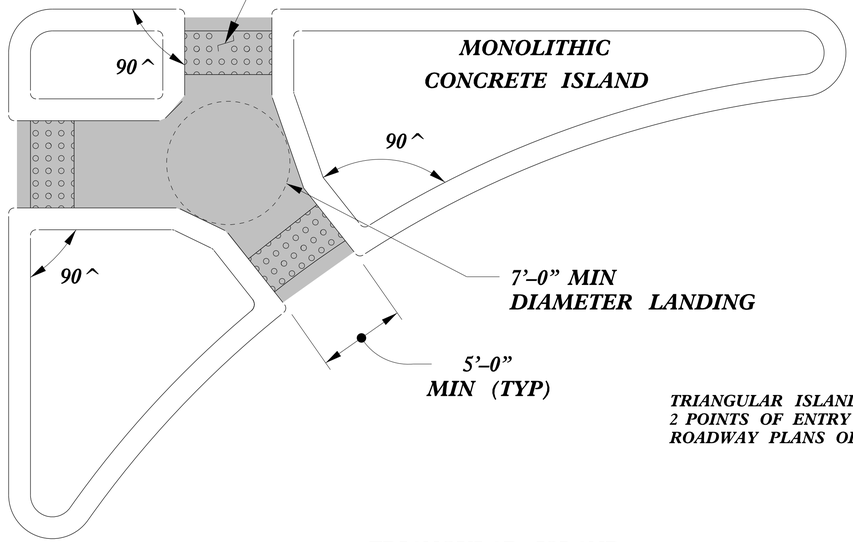
CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J.HOWERTON DATE: 3-7-2018
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

5/14/99

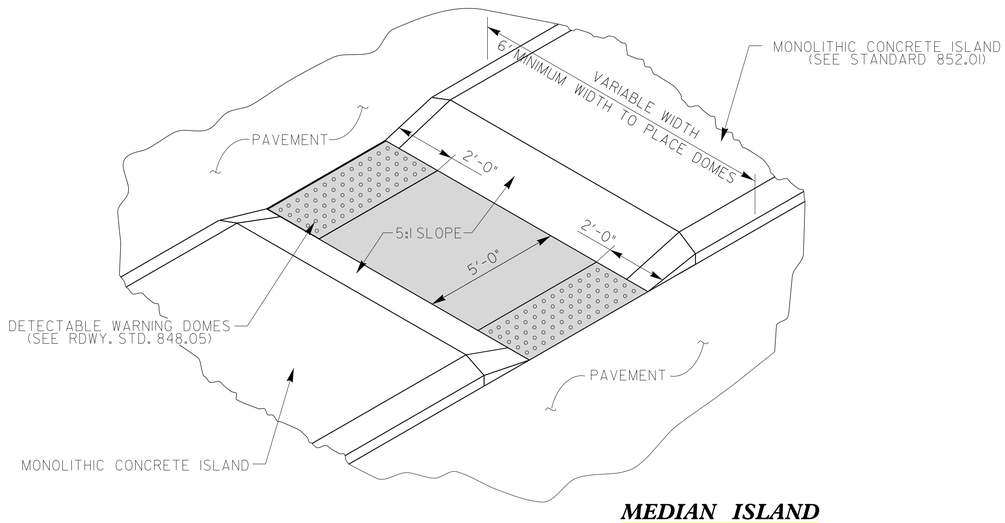
PROJECT REFERENCE NO.	SHEET NO.
U-2714	2C-3



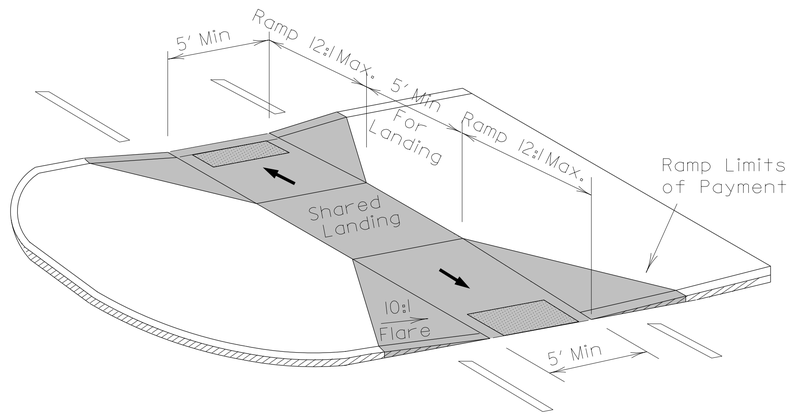
PAY LIMITS FOR 2 OR 3 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF TRUNCATED DOMES)

TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

TRIANGULAR ISLAND WITH CUT THROUGH



MEDIAN ISLAND WITH CUT THROUGH



MEDIAN ISLAND CURB RAMPS

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Julian S. Howerton
1/30/2020

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

CURB RAMPS

Median or Turn Lane Islands

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC. stds/2012CurbRamp/CurbRampDetails.dgn

$$$$USERNAME$$$$ $$$$SYSTIME$$$$ $$$$SCALE$$$$ $$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U–2714	2D–1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E HARRIS

1/30/2020

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 37526 ENGINEER MATT D YELVERTON

1/30/2020

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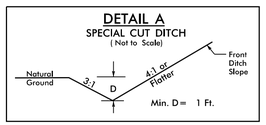
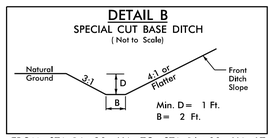
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



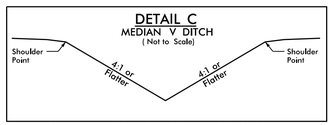
FROM STA. 13+25 –Y4– TO STA. 17+50 –Y4– RT
FROM STA. 11+00 –Y8– TO STA. 12+30 –Y8– LT
FROM STA. 79+60 –L– TO STA. 81+60 –L– LT

DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)



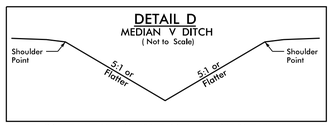
FROM STA. 14+20 –Y4– TO STA. 16+00 –Y4– LT
FROM STA. 12+30 –Y8– TO STA. 14+10 –Y8– LT

DETAIL C
MEDIAN V DITCH
(Not to Scale)



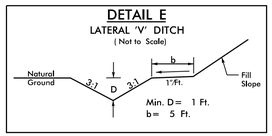
FROM STA. 12+80 –Y4– TO STA. 15+50 –Y4– M

DETAIL D
MEDIAN V DITCH
(Not to Scale)



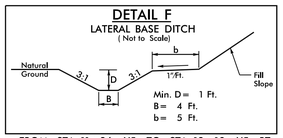
FROM STA. 12+50 –Y4– TO STA. 12+80 –Y4– M

DETAIL E
LATERAL 'V' DITCH
(Not to Scale)



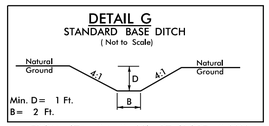
FROM STA. 46+00 –L– TO STA. 47+00 –L– LT

DETAIL F
LATERAL BASE DITCH
(Not to Scale)



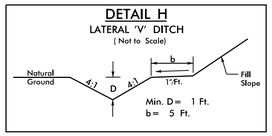
FROM STA. 11+26 –Y5– TO STA. 12+19 –Y5– RT
FROM STA. 75+80 –L– TO STA. 78+60 –L– LT
FROM STA. 84+00 –L– TO STA. 87+42 –L– LT

DETAIL G
STANDARD BASE DITCH
(Not to Scale)



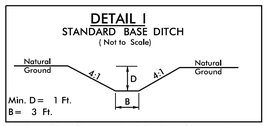
FROM STA. 10+50 –Y6– RT, SLOPE=0.32%

DETAIL H
LATERAL 'V' DITCH
(Not to Scale)



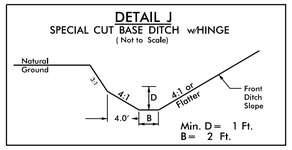
FROM STA. 10+75 –Y9– TO STA. 11+00 –Y9– RT

DETAIL I
STANDARD BASE DITCH
(Not to Scale)



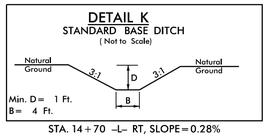
FROM STA. 62+74 –L– TO STA. 62+75 –L– RT

DETAIL J
SPECIAL CUT BASE DITCH wHINGE
(Not to Scale)



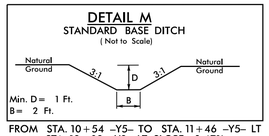
FROM STA. 11+78 –Y7– TO STA. 14+00 –Y7– RT

DETAIL K
STANDARD BASE DITCH
(Not to Scale)



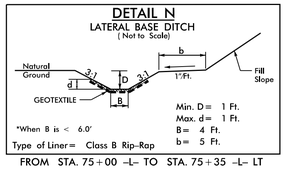
STA. 14+70 –L– RT, SLOPE=0.28%

DETAIL M
STANDARD BASE DITCH
(Not to Scale)



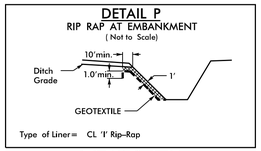
FROM STA. 10+54 –Y5– TO STA. 11+46 –Y5– LT
STA. 12+09 –Y3– LT, SLOPE=0.47%

DETAIL N
LATERAL BASE DITCH
(Not to Scale)



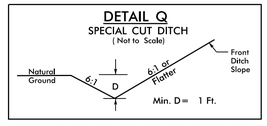
FROM STA. 75+00 –L– TO STA. 75+35 –L– LT

DETAIL P
RIP RAP AT EMBANKMENT
(Not to Scale)



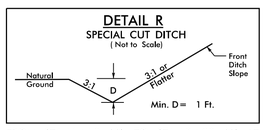
STA. 75+56 –L– LT

DETAIL Q
SPECIAL CUT DITCH
(Not to Scale)



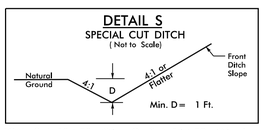
FROM STA. 10+50 –Y7– TO STA. 13+00 –Y7– LT

DETAIL R
SPECIAL CUT DITCH
(Not to Scale)



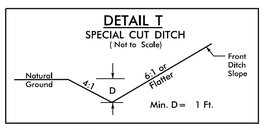
FROM STA. 11+50 –Y6– TO STA. 12+00 –Y6– LT

DETAIL S
SPECIAL CUT DITCH
(Not to Scale)



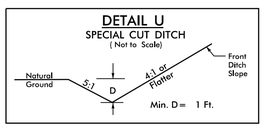
FROM STA. 10+50 –Y6– TO STA. 16+50 –Y6– RT
FROM STA. 12+00 –Y6– TO STA. 16+50 –Y6– LT
FROM STA. 13+00 –Y7– TO STA. 13+80 –Y7– LT
FROM STA. 13+80 –Y7– TO STA. 14+00 –Y7– LT
FROM STA. 10+59 –Y9– TO STA. 11+60 –Y9– LT

DETAIL T
SPECIAL CUT DITCH
(Not to Scale)



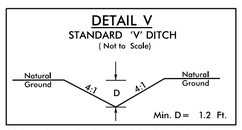
FROM STA. 10+50 –Y7– TO STA. 11+78 –Y7– RT

DETAIL U
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 13+00 –Y8– TO STA. 13+50 –Y8– RT

DETAIL V
STANDARD 'V' DITCH
(Not to Scale)



FROM STA. 45+59 –L– TO STA. 46+00 –L–

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshdfl.tbl
USER: SPEREIRA DATE: 12/9/2019 TIME: 11:25:55 AM
FILE: North_Carolina_Dept_of_Transportation\NCDOT_Western_Div_On-Call_M_\NCDOT-U2714_US117_c_\6.0_CAD_BIM\6.2_Work_In_Progress\U-2714_NCDOT_File_Structure\Hydraulics\CADD\U2714_HYD_DETAILS.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-2714	2G-1

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 020175 ENGINEER ELIZABETH C. HOWEY

Elizabeth C Howey 1/30/2020
SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

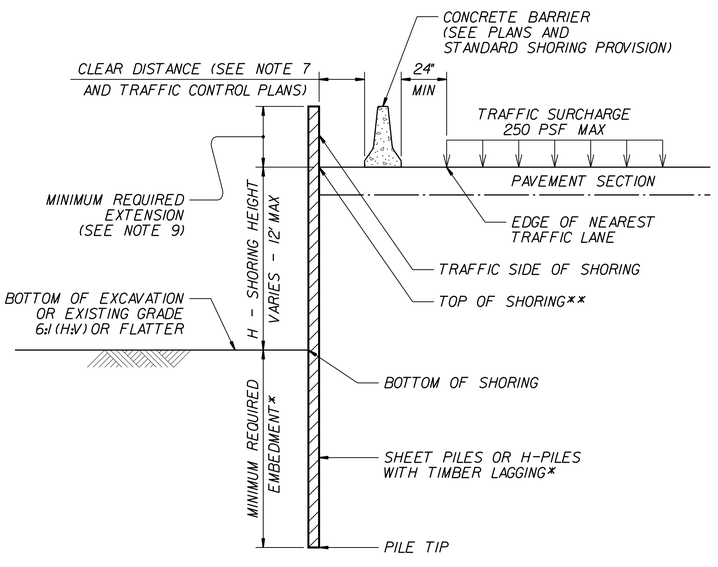
GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H-PILES WITH TIMBER LAGGING			SHEET PILES		H-PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS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

MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

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

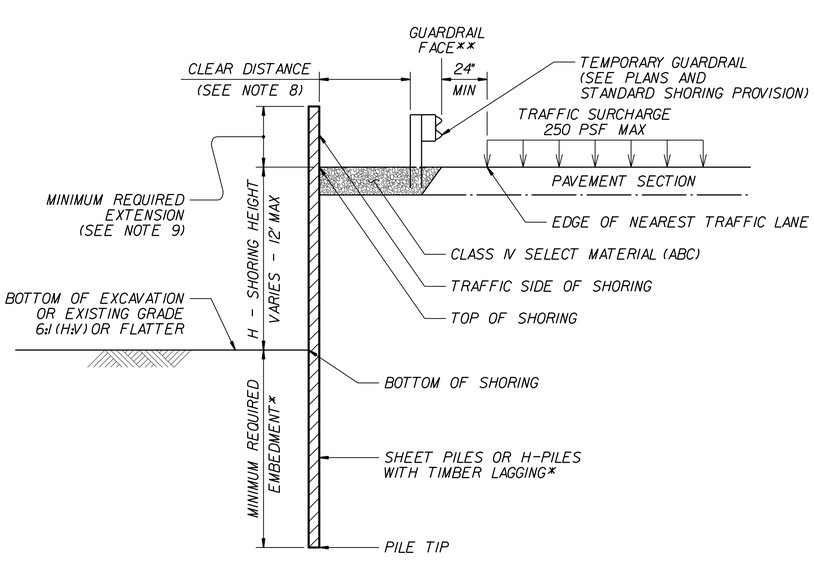
NOTES:

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



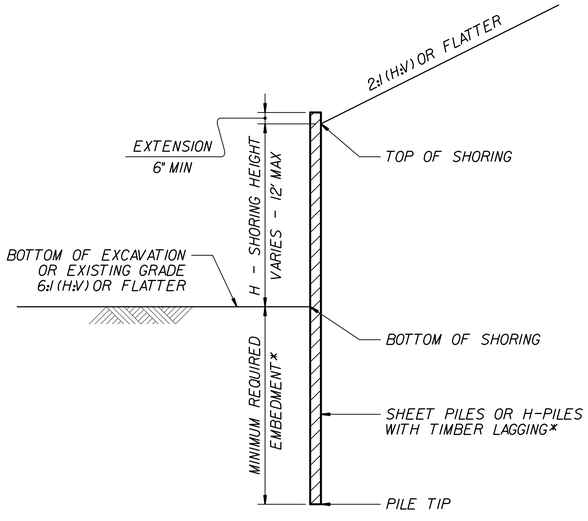
CONCRETE BARRIER

**TOP OF SHORING = EDGE OF PAVEMENT



TEMPORARY GUARDRAIL

**GUARDRAIL FACE = EDGE OF PAVEMENT



STANDARD TEMPORARY SHORING

(SLOPE CASE)
*SEE TABLE ABOVE.

STANDARD TEMPORARY SHORING

(SURCHARGE CASE)
*SEE TABLE ABOVE.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

STANDARD DETAIL NO. 1801.01

STANDARD TEMPORARY SHORING

DATE: 11-19-13

COMPUTED BY: SMP DATE: 12/06/19
CHECKED BY: CEH DATE: 12/26/19

PROJECT NO.	SHEET NO.
U-2714	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L- Sta. 10+00.00 LT	-L- Sta. 23+50.00 LT	94	689	595	0
-Y2- Sta. 11+15.00 RT	-Y2- Sta. 12+50.00 RT	36	46	10	0
SUBTOTAL		130	735	605	0
-L- Sta. 10+00.00 RT	-L- Sta. 13+00.00 RT	48	73	25	0
-Y1- Sta. 11+00.00 RT	-Y1- Sta. 11+50.00 RT	5	15	10	0
SUBTOTAL		53	88	35	0
-L- Sta. 13+00.00 RT	-L- Sta. 42+00.00 RT	164	12,814	12,650	0
-Y1- Sta. 11+00.00 LT	-Y1- Sta. 11+50.00 LT	3	19	16	0
-Y3- Sta. 10+50.00	-Y3- Sta. 13+50.00	147	1,216	1,069	0
-Y6- Sta. 11+00.00 RT	-Y6- Sta. 16+50.00 RT	639	183	0	456
SUBTOTAL		953	14,232	13,735	456
-L- Sta. 23+50.00 LT	-L- Sta. 42+00.00 LT	107	996	889	0
-Y2- Sta. 11+15.00 LT	-Y2- Sta. 12+50.00 LT	9	55	46	0
-Y4- Sta. 12+50.00 RT	-Y4- Sta. 20+50.00 RT	822	419	0	403
SUBTOTAL		938	1,470	935	403
-L- Sta. 42+00.00 LT	-L- Sta. 47+50.00 LT	39	228	189	0
-Y4- Sta. 12+50.00 LT	-Y4- Sta. 20+50.00 LT	206	2,549	2,343	0
-Y5- Sta. 11+00.00	-Y5- Sta. 16+50.00	62	2,679	2,617	0
SUBTOTAL		307	5,456	5,149	0
-Y4- Sta. 12+50.00 MED	-Y4- Sta. 15+00.00 MED	21	241	220	0
SUBTOTAL		21	241	220	0
-L- Sta. 47+50.00 LT	-L- Sta. 58+00.00 LT	4	4,613	4,609	0
-Y7- Sta. 10+50.00 RT	-Y7- Sta. 14+00.00 RT	687	103	0	584
SUBTOTAL		691	4,716	4,609	584
-L- Sta. 42+00.00 RT	-L- Sta. 68+50.00 RT	333	1,969	1,636	0
-Y6- Sta. 11+00.00 LT	-Y6- Sta. 16+50.00 LT	200	103	0	97
-Y8- Sta. 10+50.00 RT	-Y8- Sta. 14+10.00 RT	108	154	46	0
SUBTOTAL		641	2,226	1,682	97

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L- Sta. 58+00.00 LT	-L- Sta. 79+00.00 LT	214	7,666	7,452	0
-Y7- Sta. 10+50.00 LT	-Y7- Sta. 14+00.00 LT	220	89	0	131
-DR1- Sta. 10+50.00	-DR1- Sta. 11+00.00	26	3	0	23
-Y9- Sta. 10+50.00 LT	-Y9- Sta. 11+50.00 LT	52	59	7	0
SUBTOTAL		512	7,817	7,459	154
-L- Sta. 68+50.00 RT	-L- Sta. 91+00.00 RT	96	3,704	3,608	0
-Y8- Sta. 10+50.00 LT	-Y8- Sta. 14+10.00 LT	182	48	0	134
SUBTOTAL		278	3,752	3,608	134
-L- Sta. 79+00.00 LT	-L- Sta. 91+00.00 RT	154	2,115	1,961	0
-Y9- Sta. 10+50.00 RT	-Y9- Sta. 11+50.00 RT	5	21	16	0
SUBTOTAL		159	2,136	1,977	0
-L- Sta. 14+00.00 MED	-L- Sta. 22+00.00 MED	213	144	0	69
-L- Sta. 32+00.00 MED	-L- Sta. 36+50.00 MED	99	10	0	89
-L- Sta. 45+50.00 MED	-L- Sta. 50+00.00 MED	33	215	182	0
-L- Sta. 72+50.00 MED	-L- Sta. 86+50.00 MED	135	604	469	0
SUBTOTAL		480	973	651	158
TOTAL		5,163	43,842	40,665	1,986
MATERIAL FOR SHOULDER CONSTRUCTION			350	350	
WASTE IN LIEU OF BORROW				-1,986	-1,986
LOSS DUE TO CLEARING & GRUBBING		-500		500	
PROJECT TOTALS:		4,663	44,192	39,529	0
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				1,976	
GRAND TOTALS:		4,663	44,192	41,505	0
SAY:		**5,000**		**42,000**	

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

COMPUTED BY: SMP DATE: 12/06/19
CHECKED BY: CEH DATE: 12/26/19

PROJECT NO.	SHEET NO.
U-2714	3B-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASPHALT PAVEMENT REMOVAL & BREAKUP SUMMARY

IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	PAVEMENT BREAKUP	ASPHALT REMOVAL
-L-	14+00	22+00	LT		4,358
-L-	24+50	31+30	LT		1,126
-L-	31+60	36+60	LT		2,580
-L-	36+60	38+72	LT		390
-L-	39+07	41+42	LT		283
-L-	45+61	51+37	CL		1,002
-L-	48+94	57+83	RT		727
-L-	50+39	54+48	CL		488
-L-	59+25	61+87	RT		179
-L-	61+58	65+29	CL		203
-L-	70+75	80+65	RT		648
-L-	72+14	86+58	CL		3,002
-Y3-	10+00	12+50	CL		675
-Y3-	10+33	11+50	CL	291	
-Y4-	14+50	17+30	LT		1,039
-Y4-	15+00	16+49	LT	310	
-Y4-	16+27	18+15	LT		432
-Y4-	16+27	17+00	LT	115	
-Y4-	17+99	18+86	LT		149
-Y5-	10+51	13+00	CL		907
-Y5-	10+82	12+03	LT		302
-Y5-	10+31	17+22	RT		1,642
-Y5-	16+32	17+12	LT		580
-Y8-	10+52	12+02	RT		291
			TOTAL:	716	21,002
			SAY:	**720**	**21,010**

EST. 1,000 SY CONCRETE PAVEMENT REMOVAL CONTINGENCY

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL BERM WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO BACK OF BERM.
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

GUARDRAIL SUMMARY

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL BERM WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GREU TL-3	M-350	XIII	CAT-1	VI MOD	BIC	G	NG				
-L-	74+73.25	78+30	LT	356.25			77+30	75+00	2	10	50		1				1			1						395		PLACE GUARDRAIL AT FACE OF CURB
-L-	74+00	76+06.25	RT	206.25			75+00	76+00	2	10	50		1				1			1						230		PLACE GUARDRAIL AT FACE OF CURB
			PROJECT TOTAL:	562.5																								
	LESS ANCHOR DEDUCTIONS																											
	GRAU 350	2	@ 50.00' =	-100																								
	CAT-1	2	@ 6.25' =	-12.5																								
			GRAND TOTAL:	450																						625		
			SAY TOTAL:	**475 LF**													**2**			**2**						**630 LF**		
		ADDITIONAL GUARDRAIL POSTS:		**5**																								

RAL-MJ05ZDKQ

COMPUTED BY:	WDY / CGM	DATE:	3/30/2018
CHECKED BY:	MKD / DWL	DATE:	3/30/2018

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-2714	3D-1

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 / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R. C. PIPE CLASS III 12	15	18	24	30	36	42	R. C. PIPE CLASS IV 12	15	18	24	30	36	42
L 13+75	45	RT	0410		118.2																												
			0410	0412		114.5	112.9															64											
Y1 11+45	27	LT	0411		116.3																												
			0411	0412		113.0	112.9																						20				
Y1 11+24	27	LT	0412		116.6																												
Y1 11+30	24	RT	0413		116.3																												
			0413	0414		113.0	112.4																						4				
Y1 11+23	24	RT	0414		116.3																												
L 15+63	37	RT	0415		118.6																												
			0415	0428		116.1	113.8																						96				
L 19+77	37	RT	0417		120.9																												
			0417	0421		117.6	116.9																						244				
L 19+72	43	LT	0418		120.7																												
			0418	0434		117.4	117.2																						88				
L 17+63	37	LT	0419		120.0																												
			0419	0423		116.7	116.3																						60				
L 16+99	55	LT	0420		118.9																												
			0420	0423		116.4	116.3															20											
L 17+33	38	RT	0421		120.3																												
			0421	0415		116.9	116.1																						168				
L 17+00	37	LT	0423		119.5																												
			0423	0433		116.3	115.4																						116				
L 14+53	37	LT	0424		118.1																												
			0424	0428		112.5	112.3																									72	
L 14+50	55	LT	0425		117.7																												
			0425	0424		112.8	112.7																		16								
L 14+64	37	RT	0428		118.1																												
			0428	0429		112.3	112.2																		32								
L 14+25	236	LT	0430		113.3																												
L 13+32	36	LT	0431		117.7																												
			0431	0424		114.5	112.5																						120				
L 15+82	37	LT	0433		118.7																												
			0433	0424		115.4	112.5																						128				
L 18+81	39	LT	0434		120.5																												
			0434	0419		117.2	116.7																						116				
L 11+24	33	RT	0403																														
L 22+85	55	RT	0501		120.5																												
			0501	0503		118.0	117.5															20											
L 22+50	37	RT	0502		120.8																												
			0502	0503		117.6	117.5																						32				
L 22+85	37	RT	0503		120.8																												
			0503	0505		117.5	117.2																						84				
L 22+50	49	LT	0504		120.5																												
			0504	0505		117.3	117.2																						32				
L 22+85	49	LT	0505		120.5																												
			0505	0541		117.2	116.5																						20				
L 25+31	37	LT	0506		121.0																												
			0506	0518		115.8	115.7																						64				
L 25+31	7	RT	0507		123.0																												
			0507	0508		119.3	119.2																						36				
							SHEET TOTALS															104			48				1428			72	

FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A: 5' THRU 10' LIN. FT.	B: 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G	
0410					1			1			1	
0410	0412											
0411					1			1	1			
0411	0412											
0412					1			1			1	
0413					1			1	1			
0413	0414											
0414					1			1		1		
0415					1			1			1	
0415	0428											
0417					1			1			1	
0417	0421											
0418					1			1		1		
0418	0434											
0419					1			1		1		
0419	0423											
0420					1							
0420	0423											
0421					1			1			1	
0421	0415											
0423					1			1		1		
0423	0433											
0424					1	0.6		1		1		
0424	0428											
0425					1							
0425	0424											
0428					1	0.8		1			1	
0428	0429											
0430												
0431					1			1		1		
0431	0424											
0433					1			1		1		
0433	0424											
0434					1			1		1		
0434	0419											
0403												
0501					1							
0501	0503											
0502					1			1		1		
0502	0503											
0503					1			1	1			
0503	0505											
0504					1			1			1	
0504	0505											
0505					1			1	1			
0505	0541											
0506					1	0.1		1	1			
0506	0518											
0507					1							
0507	0508											
SHEET TOTALS					25	1.5		21	5	9	7	

FROM	TO	CONCRETE TRANSITIONAL SECTION: D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	##" SPRING BOX PIPE	SPRING BOX STD. 840.41		M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	ADJUST C.B.	ADJUST D.I.	ADJUST MH	30" DRAINAGE ELBOW	BERM DITCH OUTLET STD. 850.11 (SY OF CONC.)	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
0410																																					
0410	0412																																				
0411																																					
0411	0412																																				
0412																																					
0413																																					
0413	0414																																				
0414																																					
0415																																					
0415	0428																																				
0417																																				144	
0417	0421																																				
0418																																					
0418	0434																																				
0419																																					
0419	0423																																				
0420						1	1																														
0420	0423																																			46	
0421																																					
0421	0415																																				
0423																																					
0423	0433																																				
0424																																					
0424	0428																																			72	
0425						1	1																														
0425	0424																																				
0428																																					
0428	0429																																				
0430																																					EX. OPEN END
0431																																					
0431	0424																																				
0433																																					
0433	0424																																			254	
0434																																					
0434	0419																																				
0403																														1							Adjust M.H.
0501						1	1																														
0501	0503																																				
0502																																					
0502	0503																																				
0503																																					
0503	0505																																				
0504																																					
0504	0505																																			146	
0505																																					
0505	0541																																				
0506																																					
0506	0518																																				
0507		1				1	1																														
0507	0508																																				
SHEET TOTALS		1				4	4																							1						662	

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

COMPUTED BY:	WDY / CGM	DATE:	3/30/2018
CHECKED BY:	MKD / DWL	DATE:	3/30/2018

PROJECT NO.	SHEET NO.
U-2714	3D-2

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 / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R. C. PIPE CLASS III 12	15	18	24	30	36	42	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	##" SPRING BOX PIPE	SPRING BOX STD. 840.41		M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	ADJUST C.B.	ADJUST D.I.	ADJUST MH	30" DRAINAGE ELBOW	BERM DITCH OUTLET STD. 850.11 (SY OF CONC.)	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
L 24+95	8 RT	0508		122.8																																1								1				1	1																														
		0508	0509		119.2	117.4																						44																																																					
L 24+53	10 LT	0509		122.1																																1	0.3																							1									1										
L 30+93	7 RT	0510		124.9																																1								1				1	1																														
		0510	0511		121.5	120.5																						44																																																		41	
L 30+93	37 LT	0511		123.7																																1			1		1																																								
		0511	0550		120.5	120.0																						28																																																					
L 29+82	44 LT	0513		122.6																																1			1	1																																									
		0513	0552		119.3	117.9																						64																																																			147	
L 29+19	61 LT	0514		121.5																																1			1	1																																									
		0514	0552		117.9	117.9															20																																																													
L 27+25	3 RT	0515		123.6																																1								1				1	1																														
		0515	0507		119.9	119.3																						192																																																					
L 27+26	37 LT	0516		121.7																																1	0.5		1		1																																								
		0516	0553		116.2	116.0																						100																																																				248	
L 27+26	61 LT	0517		118.8																																1			1	1																																									
		0517	0516		116.5	116.5														20																																																													
L 24+65	LT	0518		121.4																																1	0.1																						1											1										
		0518	0519		115.2	115.2																							12																																																			10	
L 24+51	51 LT	0519		120.4																																1	0.2																							1									1										
		0519	0520		115.2	115.1																							24																																																		24	
Y2 12+30	17 LT	0520		119.7																																1			1		1																																								
		0520	0521		115.1	113.8																							72																																																	71	
Y2 11+56	17 LT	0521		117.5																																1			1		1																																								
		0521	0522		113.8	113.6																							52																																																	49	
L 32+67	37 LT	0526		123.7																																1			1			1																																							
		0526	0529		120.4	120.0																						100																																																					
L 32+67	37 RT	0527		123.7																																1			1		1																																								
		0527	0554		120.4	120.2																						144																																																					
L 34+13	37 RT	0528		123.3																																1			1		1																																								
		0528	0531		120.0	119.9																						48																																																					
L 33+69	37 LT	0529		123.4																																1			1			1																																							
		0529	0530		120.0	119.9																						92																																																					
L 34+63	37 LT	0530		123.2																																1			1	1																																									
		0530	0664		119.9	119.0																						112																																																						
L 34+63	37 RT	0531		123.2																																1			1	1																																									
		0531	0606		119.9	117.8																						112																																																						
L 27+88	4 LT	0540		123.5																																1								1				1	1																														
		0540	0515		120.1	119.9																						60																																																						
L 23+07	51 LT	0541		121.2																																1																						1											1										
Y3 12+09	35 LT	0543		116.4																																																																													OPEN END
		0543	0544		116.4	115.5																16																																																											
Y3 12+09	19 LT	0544		119.9																																1																						1											1										
		0544	0545		115.5	115.2																80																																																					8				
Y3 12+90	21 LT	0545		118.5																																1												1	1																														
		0545	0546		115.2	114.8																68																																																												
Y3 13+60	16 LT	0546		117.8																																1												1	1																														
		0546	0547		114.8	114.7																							36																																																			
L 30+65	42 LT	0550		123.3																																1			1		1																																								
		0550	0551		120.0	119.4																						52																																																						
SHEET TOTALS																				20	20	164						1192	196							25	1.1		14	5	7	2		4				6	6									3		2									5						8			590	

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

RAL-MJ05ZDKQ

COMPUTED BY: WDY / CGM DATE: 3/30/2018

CHECKED BY: MKD / DWL DATE: 3/30/2018

PROJECT NO.	SHEET NO.
U-2714	3D-3

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 / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC
L 30+15	56	LT	0551		122.6														
			0551	0513		119.4	119.3												
L 29+18	37	LT	0552		122.5														
			0552	0516		117.9	116.2												
L 26+22	37	LT	0553		121.3														
			0553	0506		116.0	115.8												
L 36+79	92	LT	0600		125.7														
L 36+78	55	LT	0601		123.0														
			0601	0602		120.5	119.3												
L 36+63	51	LT	0602		123.2														
			0602	0603		119.3	119.2												
L 36+63	37	LT	0603		123.4														
			0603	0664		119.2	119.0												
L 36+63	37	RT	0604		123.4														
			0604	0605		120.0	119.8												
L 36+06	37	RT	0605		123.3														
			0605	0606		119.8	117.8												
L 35+75	36	RT	0606		123.3														
Y6 14+77	34	LT	0610																
Y6 14+24	34	LT	0611																
Y6 14+00	33	LT	0612		124.1														
			0612	0613		122.0	121.7												
Y6 16+04	27	RT	0614																
Y6 14+21	40	RT	0615																
Y6 11+50	44	LT	0616		121.3														
			0616	0617		121.3	119.2												
Y6 11+28	54	LT	0617		122.9														
			0617	0618		118.7	118.5												
L 43+55	37	RT	0618		122.9														
			0618	0620		118.5	118.3												
L 43+80	37	LT	0619		123.0														
			0619	0620		120.5	119.3												
L 43+42	37	LT	0620		122.9														
			0620	0624		118.3	118.1												
L 40+88	59	LT	0621		122.5														
			0621	0667		120.3	118.8												
L 40+88	37	RT	0622		123.7														
			0622	0665		121.2	120.4												
L 40+88	37	LT	0623		123.7														
			0623	0621		120.4	120.3												
L 42+44	48	LT	0624		122.9														
			0624	0657		118.1	118.0												
L 47+67	7	LT	0627		130.0														
			0627	0629		126.8	124.6												
L 46+22	37	RT	0628		126.4														
			0628	0672		123.3	123.3												
L 46+39	7	LT	0629		127.8														
			0629	0672		124.6	123.3												
Y5 16+50	24	RT	0631		128.7														
			0631	0632		125.7	125.3												
SHEET TOTALS																			

FROM	TO	R. C. PIPE CLASS III 12	15	18	24	30	36	42	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G
0551																			1			1			1
0551	0513										32														
0552																			1			1		1	
0552	0516										184														
0553																			1	0.3		1		1	
0553	0506										88														
0600																									
0601																			1						
0601	0602			16																					
0602																			1						
0602	0603			16																					
0603																			1			1		1	
0603	0664										84														
0604																			1			1			1
0604	0605										56														
0605																			1			1			1
0605	0606										28														
0606																			1	0.3					
0610			32																						
0611			28																						
0612																			1						
0612	0613										76														
0614			44																						
0615			24																						
0616																									
0616	0617				24																				
0617																			1			1		1	
0617	0618					40																			
0618																			1			1	1		
0618	0620												72												
0619																			1			1		1	
0619	0620										36														
0620																			1			1	1		
0620	0624					100																			
0621																			1						
0621	0667			40																					
0622																			1			1		1	
0622	0665										108														
0623																			1			1			1
0623	0621			24																					
0624																			1			1			1
0624	0657					40																			
0627																			1			1		1	
0627	0629										128														
0628																			1			1			1
0628	0672										44														
0629																			1			1		1	
0629	0672										16														
0631																			1			1			1
0631	0632		32																						
SHEET TOTALS			160	96	24	180					880		72						22	0.6		17	2	8	7

FROM	TO	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	##" SPRING BOX PIPE	SPRING BOX STD. 840.41	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	ADJUST C.B.	ADJUST D.I.	ADJUST MH	30" DRAINAGE ELBOW	BERM DITCH OUTLET STD. 850.11 (SY OF CONC.)	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
0551																																				
0551	0513																																			
0552																																				
0552	0516																																		180	
0553																																				
0553	0506																																			
0600																																				EX.OTCB
0601						1	1																													
0601	0602																																			
0602																1										1										
0602	0603																																			
0603																																				
0603	0664																																			
0604																																				
0604	0605																																			
0605																																				
0605	0606																																			
0606																		1								1										
0610																																				
0611																																				
0612										1	1																									
0612	0613																																		70	
0614																																				
0615																																				
0616																																				OPEN END
0616	0617																																		61	
0617																																				
0617	0618																																			
0618																																				
0618	0620																																			
0619																																				
0619	0620																																			
0620																																				
0620	0624																																			
0621						1	1																													
0621	0667																																			
0622																																				
0622	0665																																			
0623																																				
0623	0621																																			
0624																																		3.100	212	
0624	0657																																			
0627			1																																	
0627	0629																																			
0628																																				
0628	0672																																			
0629			1																																	
0629	0672																																			
0631																																				
0631	0632																																			
SHEET TOTALS			2			2	2			1	1					1		1								2								3.100	523	

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

COMPUTED BY:	WDY / CGM	DATE:	3/30/2018
CHECKED BY:	MKD / DWL	DATE:	3/30/2018

PROJECT NO.	SHEET NO.
U-2714	3D-4

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 / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %
Y4 18+42	123 LT	0633			117.3		
		0633	0634		117.3	117.0	
Y5 11+63	47 LT	0635					
Y4RT 17+58	15 RT	0636		120.6			
		0636	0637		117.4	117.2	
Y4LT 17+08	15 RT	0638		124.1			
		0638	0668		120.7	120.5	
L 44+00	37 RT	0639		123.1			
		0639	0618		119.8	119.5	
Y6 12+48	38 RT	0640					
Y6 11+58	37 RT	0641					
Y6 10+86	40 RT	0642					
Y5 11+68	45 LT	0643					
Y5 16+21	49 LT	0644					
Y4 20+10	49 RT	0650		122.1			
		0650	0651		118.7	118.3	
Y4 18+96	45 RT	0651		121.6			
		0651	0652		118.3	118.3	
Y4 18+96	29 RT	0652		122.2			
		0652	0636		118.3	117.4	
Y4 17+90	48 LT	0654		121.3			
		0654	0656		118.8	118.5	
Y4 19+40	34 LT	0655		123.7			
		0655	0663		117.8	117.7	
Y4 18+11	33 LT	0656		123.2			
		0656	0653		117.5	117.4	
Y4 20+50	35 LT	0657		123.5			
		0657	0655		118.0	117.8	
L 37+45	37 LT	0658		123.6			
		0658	0603		120.3	119.2	
L 38+30	37 LT	0659		123.8			
		0659	0658		120.5	120.3	
L 37+45	37 RT	0660		123.6			
		0660	0604		120.3	120.0	
L 38+30	37 RT	0661		123.8			
		0661	0660		120.5	120.3	
Y4 18+81	47 LT	0662		121.0			
		0662	0663		118.5	118.4	
Y4 18+81	29 LT	0663		123.5			
		0663	0656		117.7	117.5	
L 35+77	35 LT	0664		123.5			
		0664	0673		119.5	119.5	
L 41+93	57 RT	0665		122.9			
		0665	0666		120.4	120.3	
L 41+26	76 LT	0667		122.7			
		0667	0650		118.8	118.7	
Y4 16+81	46 LT	0668		125.0			
		0668	1101		120.5	119.8	
L 45+09	37 LT	0669		124.7			
		0669	0619		122.5	120.7	
		SHEET TOTALS					

FROM	TO	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R. C. PIPE CLASS III 12	15	18	24	30	36	42	R. C. PIPE CLASS IV 12	15	18	24	30	36	42
0633																										
0633	0634																	160								
0635																										
0636																										
0636	0637														32											
0638																										
0638	0668																					40				
0639																										
0639	0618																					44				
0640															24											
0641															48											
0642															28											
0643																60										
0644														32												
0650																										
0650	0651														112											
0651																										
0651	0652														16											
0652																										
0652	0636																					112				
0654																										
0654	0656																					28				
0655																										
0655	0663																60									
0656																										
0656	0653																40									
0657																										
0657	0655																108									
0658																										
0658	0603																					80				
0659																										
0659	0658																					84				
0660																										
0660	0604																					80				
0661																										
0661	0660																					84				
0662																										
0662	0663														20											
0663																										
0663	0656																							72		
0664																										
0664	0673																					32				
0665																										
0665	0666														20											
0667																										
0667	0650														52											
0668																										
0668	1101																					128				
0669																										
0669	0619																				128					
SHEET TOTALS														32	352	60	208	160			128	712		72		

FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G	
0633		3.400										
0633	0634											
0635					1							
0636					1			1			1	
0636	0637											
0638					1							
0638	0668											
0639					1			1			1	
0639	0618											
0640												
0641												
0642												
0643												
0644												
0650					1							
0650	0651											
0651					1							
0651	0652											
0652					1			1			1	
0652	0636											
0654					1			1	1			
0654	0656											
0655					1	1.0		1	1			
0655	0663											
0656					1	0.7		1		1		
0656	0653											
0657					1	0.4		1			1	
0657	0655											
0658					1			1		1		
0658	0603											
0659					1			1		1		
0659	0658											
0660					1			1			1	
0660	0604											
0661					1			1			1	
0661	0660											
0662					1							
0662	0663											
0663					1	0.9		1		1		
0663	0656											
0664					1							
0664	0673											
0665					1			1		1		
0665	0666											
0667					1							
0667	0650											
0668					1							
0668	1101											
0669					1			1		1		
0669	0619											
SHEET TOTALS		3.400			22	3.0		14	2	6	6	

FROM	TO	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35
0633																			
0633	0634																		
0635																		1	
0636																			
0636	0637																		
0638		1				1	1												
0638	0668																		
0639																			
0639	0618																		
0640																			
0641																			
0642																			
0643																			
0644																			
0650						1	1												
0650	0651																		
0651						1	1												
0651	0652																		
0652																			
0652	0636																		
0654																			
0654	0656																		
0655																			
0655	0663																		
0656																			
0656	0653																		
0657																			
0657	0655																		
0658																			
0658	0603																		
0659																			
0659	0658																		
0660																			
0660	0604																		
0661																			
0661	0660																		
0662						1	1												
0662	0663																		
0663																			
0663	0656																		
0664																		1	
0664	0673																		
0665																			
0665	0666																		
0667																1			
0667	0650																		
0668																1			
0668	1101																		
0669																			
0669	0619																		
SHEET TOTALS		1				4	4									2		2	

FROM	TO	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	##" SPRING BOX PIPE	SPRING BOX STD. 840.41		M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	ADJUST C.B.	ADJUST D.I.	ADJUST MH	30" DRAINAGE ELBOW	BERM DITCH OUTLET STD. 850.11 (SY OF CONC.)	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
0633																			
0633	0634																	190	
0635																			SLAB LID
0636																			
0636	0637																		
0638																			
0638	0668																		
0639																			
0639	0618																		
0640																		36	
0641																		109	
0642																		86	
0643																			
0644																			
0650																			
0650	0651																		
0651																			
0651	0652																		
0652																			
0652	0636																	28	
0654																			
0654	0656																		
0655																			
0655	0663																		
0656																			
0656	0653																		
0657																			
0657	0655																		
0658																			
0658	0603																		
0659																			
0659	0658																	167	
0660																			
0660	0604																		
0661																			
0661	0660																		
0662																			
0662	0663																		
0663																			
0663	0656																		
0664									1										
0664	0673																	204	
0665																			
0665	0666																		
0667									1										
0667	0650																		
0668									1										
0668	1101																		
0669																			
0669	0619																		
SHEET TOTALS									3									820	

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

RAL-MJ05ZDKQ

COMPUTED BY:	WDY / CGM	DATE:	3/30/2018
CHECKED BY:	MKD / DWL	DATE:	3/30/2018

PROJECT NO.	SHEET NO.
U-2714	3D-5

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 / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R. C. PIPE CLASS III 12	15	18	24	30	36	42	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	##" SPRING BOX PIPE	SPRING BOX STD. 840.41		M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	ADJUST C.B.	ADJUST D.I.	ADJUST MH	30" DRAINAGE ELBOW	BERM DITCH OUTLET STD. 850.11 (SY OF CONC.)	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
L 47+04	69 RT	0670		127.0																																1												1	1																														
		0670	0671		124.5	123.5																						32																																																			
L 47+01	36 RT	0671		127.9																																1																								1									1											
		0671	0628		123.5	123.3																						76																																																			
L 46+22	7 LT	0672		127.4																																1			1		1				1																																			
		0672	0630		123.3	123.1																						68																																																			
L 35+68	5 LT	0673		124.8																																1	0.4							1				1	1																														
		0673	0606		119.5	117.8																						44																																																			
Y5 11+14	72 LT	0674																						24																																																						33	
Y6 12+61	33 LT	0675																		44																																																											
L 52+72	7 LT	0701		135.2																																1			1			1			1																																			
		0701	0702		132.0	131.8																						40																																																			
L 53+00	37 LT	0702		135.1																																1			1			1																																							
		0702	0725		131.8	129.5																						116																																																			
L 56+50	37 LT	0703		130.0																																1			1			1																																							
		0703	0704		126.8	126.1																						52																																																			
L 57+03	40 LT	0704		129.3																																1			1			1																																							
		0704	0707		126.1	124.4																						44																																																			
Y7 13+80	20 LT	0705		127.2																																1			1		1																																								
		0705	0718		123.9	123.8																						40																																																			
Y7 14+16	30 RT	0707		128.7																																1	0.3		1			1																																							
		0707	0718		123.4	122.8																								64																																																	
Y7 14+00	48 RT	0708		123.5																																																																													OPEN END
		0708	0707		123.5	123.4																		24																																																								135	
L 56+70	37 RT	0709		129.8																																1			1		1																																								
		0709	0710		126.8	125.9																					80																																																				
L 57+50	37 RT	0710		128.9																																1			1		1																																								
		0710	0711		125.9	122.8																					116																																																				
L 58+57	81 RT	0711		126.5																																1			1	1																																									
		0711	0712		122.8	122.5																28																																																											125	
L 58+76	99 RT	0712		124.5																																1												1	1																														
Y7 13+80	44 LT	0714		124.5																																																																													OPEN END
		0714	0705		124.2	123.9																	24																																																											
L 49+55	37 RT	0715		132.0																																1			1			1																																							
		0715	0716		128.7	128.6																						44																																																	30	
L 49+55	7 LT	0716		133.1																																1			1		1				1																																			
		0716	0627		128.6	126.8																						188																																																			
L 61+20	37 LT	0717		125.7																																1			1			1																																							
		0717	0805		120.9	120.6																									84																																																	
Y7 14+16	35 LT	0718		128.1																																1	0.3		1		1																																								
		0718	0719		122.8	122.6																								60																																																	
L 58+60	37 LT	0719		127.6																																1	0.5		1			1																																							
		0719	0726		122.1	121.7																									116																																																	
Y7 11+22	30 RT	0720																			36																																																											41	
Y7 11+44	29 LT	0721																		28																																																								3			45	
Y7 12+14	32 LT	0722																			28																																																											82	
L 54+18	37 LT	0725		132.7																																1			1			1																																							
		0725	0703		129.5	126.8																						232																																																			
L 59+76	37 LT	0726		126.5																																1			1			1																																							
		0726	0717		121.7	120.9																									144																																																352	
SHEET TOTALS																				100	88		24	24			196	976		124	344					21	1.5		17	1	6	10		1	3			3	3											1									1						3			843	

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

RAL-MJ05ZDKQ

COMPUTED BY: WDY / CGM DATE: 3/30/2018

CHECKED BY: MKD / DWL DATE: 3/30/2018

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-2714	3D-6

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 / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R. C. PIPE CLASS III 12	15	18	24	30	36	42	R. C. PIPE CLASS IV 12	15	18	24	30	36	42
Y7 13+08	30 LT	0727																			48											
L 62+07	37 RT	0801		125.4																												
		0801	0802		123.2	123.1														40												
L 62+47	37 RT	0802		125.4																												
		0802	0803		123.1	123.1														28												
L 62+75	37 RT	0803		125.4																												
		0803	0804		123.1	123.0														28												
L 62+06	37 LT	0805		125.4																												
		0805	0806		120.6	120.5																									40	
L 62+47	38 LT	0806		125.4																												
		0806	0847		120.5	120.3																									60	
L 66+97	62 LT	0807		122.7																												
		0807	0808		120.2	119.1															24											
L 66+96	37 LT	0808		125.3																												
		0808	0812		119.1	118.7																									108	
L 66+96	58 RT	0809		123.9																												
		0809	0810		121.4	121.3															20											
L 66+96	37 RT	0810		125.5																												
		0810	0811		121.3	121.2																						56				
L 67+54	37 RT	0811		125.1																												
		0811	0840		121.2	120.9																						88				
L 68+04	37 LT	0812		125.0																												
		0812	0857		118.7	118.5																									56	
L 69+10	63 LT	0813		124.3																												
		0813	0853		118.4	118.2																									44	
L 69+09	54 RT	0814		124.7																												
		0814	0858		120.7	120.5																						44				
L 70+95	5 RT	0815		126.6																												
		0815	0829		123.2	123.1																						56				
L 71+26	62 RT	0816		123.7																												
		0816	0837		121.4	120.7														28												
L 70+69	37 RT	0817		125.3																												
		0817	0818		120.2	119.9																						88				
L 71+57	37 RT	0818		126.1																												
		0818	0819		119.4	118.6																							192			
L 73+54	37 RT	0819		125.9																												
		0819	0822		118.6	118.3																							124			
L 74+45	7 LT	0820		126.6																												
		0820	0821		122.2	118.6																						36				
L 74+80	7 LT	0821		126.4																												
		0821	0856		118.1	117.9																							28			
L 74+80	37 RT	0822		125.1																												
		0822	0821		118.3	118.1																							44			
L 64+73	58 LT	0826		123.3																												
		0826	0827		121.8	119.8															24											
L 64+73	37 LT	0827		125.8																												
		0827	0852		119.8	119.3																									144	
L 71+51	5 RT	0829		127.0																												
		0829	0854		123.1	120.5																						40				
Y8 11+82	57 RT	0830		123.7																												
SHEET TOTALS																				124	116							408	388		452	

STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	##" SPRING BOX PIPE	SPRING BOX STD. 840.41		M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	ADJUST C.B.	ADJUST D.I.	ADJUST MH	30" DRAINAGE ELBOW	BERM DITCH OUTLET STD. 850.11 (SY OF CONC.)	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
0727																																																
0801					1			1		1																																						
0801	0802																																															
0802					1			1	1																																							
0802	0803																																															
0803					1			1			1																																					
0803	0804																																														132	
0805					1			1			1																																					
0805	0806																																														37	
0806					1			1	1																																							
0806	0847																																														28	
0807					1												1	1																														
0807	0808																																															
0808					1	1.2		1			1																																					
0808	0812																																															
0809					1												1	1																														
0809	0810																																															
0810					1			1		1																																						
0810	0811																																															
0811					1			1		1																																						
0811	0840																																															
0812					1	1.2		1			1																																					
0812	0857																																															
0813					1	1.0		1	1																																							
0813	0853																																															
0814					1			1	1																																							
0814	0858																																															
0815					1								1				1	1																														
0815	0829																																															
0816					1												1	1																														
0816	0837																																															
0817					1	0.1		1			1																																					
0817	0818																																														57	
0818					1	1.6		1			1																																					
0818	0819																																														51	
0819					1	2.3		1		1																																						
0819	0822																																															
0820					1			1			1			1																																		
0820	0821																																															
0821					1	3.2		1			1			1																																		
0821	0856																																															
0822					1	1.8		1		1																																						
0822	0821																																															
0826																																																OPEN END
0826	0827																																															
0827					1	1.0		1			1																																					
0827	0852																																														78	
0829					1								1				1	1																														
0829	0854																																															
0830					1			1	1																																							
SHEET TOTALS					24	13.4		19	5	5	9		2	2			5	5																												383	

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

RAL-MJ05ZDKQ

COMPUTED BY:	WDY / CGM	DATE:	3/30/2018
CHECKED BY:	MKD / DWL	DATE:	3/30/2018

PROJECT NO.	SHEET NO.
U-2714	3D-7

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 / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %
			0830	0831		121.6	121.6	
Y8 11+82	31	RT	0831		123.7			
			0831	0832		121.6	121.5	
Y8 11+80	15	RT	0832		123.7			
			0832	0833		121.5	121.4	
Y8 11+97	29	LT	0834					
Y8 13+25	27	LT	0835					
Y8 13+75	26	LT	0836					
L 71+57	63	RT	0837		122.9			
			0837	0818		120.4	119.9	
L 72+85	67	RT	0838		122.5			
			0838	0839		120.2	119.5	
L 73+46	69	RT	0839		121.8			
			0839	0819		119.3	119.1	
L 68+37	61	RT	0840		124.7			
			0840	0814		120.9	120.7	
L 62+06	55	LT	0845		124.8			
			0845	0805		122.6	122.1	
L 63+08	61	LT	0846		123.7			
			0846	0847		121.4	121.3	
L 63+08	37	LT	0847		125.5			
			0847	0827		120.3	119.8	
L 70+68	59	RT	0850		124.0			
			0850	0817		121.5	120.2	
L 66+15	61	LT	0851		123.7			
			0851	0852		121.2	119.3	
L 66+16	37	LT	0852		125.7			
			0852	0808		119.3	119.1	
L 69+47	39	LT	0853		124.6			
			0853	0854		118.2	117.6	
L 71+50	37	LT	0854		128.0			
			0854	0855		117.6	116.9	
L 73+25	37	LT	0855		128.5			
			0855	0856		116.9	116.4	
L 74+87	37	LT	0856		126.3			
			0856	0823		116.4	116.2	
L 68+52	63	LT	0857		124.9			
			0857	0813		118.5	118.4	
L 69+52	37	RT	0858		124.9			
			0858	0817		120.5	120.2	
L 77+94	37	RT	0901		124.8			
			0901	0902		121.5	121.2	
L 77+54	37	RT	0902		124.5			
			0902	0904		121.2	120.9	
L 77+20	37	LT	0903		124.4			
			0903	0904		121.2	120.9	
L 77+54	37	LT	0904		124.5			
			0904	0905		120.9	120.5	
L 79+90	7	RT	0906		126.3			
			0906	0907		123.0	122.8	

FROM	TO	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R. C. PIPE CLASS III 12	15	18	24	30	36	42	R. C. PIPE CLASS IV 12	15	18	24	30	36	42
0830	0831																			24						
0831																										
0831	0832																			16						
0832																										
0832	0833																			68						
0834														60												
0835														36												
0836														36												
0837																										
0837	0818														28											
0838																										
0838	0839													56												
0839																										
0839	0819														32											
0840																										
0840	0814																					72				
0845																										
0845	0805													20												
0846																										
0846	0847													24												
0847																										
0847	0827																								164	
0850																										
0850	0817														24											
0851																										
0851	0852														24											
0852																										
0852	0808																								80	
0853																										
0853	0854																									204
0854																										
0854	0855																									180
0855																										
0855	0856																									164
0856																										
0856	0823																		56							
0857																										
0857	0813																								56	
0858																										
0858	0817																					116				
0901																										
0901	0902																					40				
0902																										
0902	0904																					72				
0903																										
0903	0904																					32				
0904																										
0904	0905														36											
0906																										
0906	0907																					48				
SHEET TOTALS														232	144				56	108		380			300	548

FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05
0830	0831												
0831					1			1	1				
0831	0832												
0832					1			1	1				
0832	0833												
0834													
0835													
0836													
0837					1								
0837	0818												
0838					1								
0838	0839												
0839					1								
0839	0819												
0840					1			1		1			
0840	0814												
0845					1								
0845	0805												
0846					1								
0846	0847												
0847					1	0.2		1		1			
0847	0827												
0850					1								
0850	0817												
0851					1								
0851	0852												
0852					1	1.4		1			1		
0852	0808												
0853					1	1.4		1		1			
0853	0854												
0854					1	5.0	0.5	1		1			
0854	0855												
0855					1	5.0	1.4	1			1		
0855	0856												
0856					1	4.9		1			1		
0856	0823												
0857					1	1.4		1	1				
0857	0813												
0858					1			1			1		
0858	0817												
0901					1			1			1		
0901	0902												
0902					1			1	1				
0902	0904												
0903					1			1			1		
0903	0904												
0904					1			1	1				
0904	0905												
0906					1			1			1		1
0906	0907												
SHEET TOTALS					23	19.3	1.9	16	5	4	7		1

FROM	TO	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	##" SPRING BOX PIPE	SPRING BOX STD. 840.41	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	ADJUST C.B.	ADJUST D.I.	ADJUST MH	30" DRAINAGE ELBOW	BERM DITCH OUTLET STD. 850.11 (SY OF CONC.)	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
0830	0831																																43	
0831																																		
0831	0832																																	
0832																																		
0832	0833																																32	
0834																																		
0835																																	33	
0836																																	37	
0837				1	1																													
0837	0818																																	
0838				1	1																													
0838	0839																																	
0839				1	1																													
0839	0819																																	
0840																																		
0840	0814																																	
0845				1	1																													
0845	0805																																	
0846				1	1																													
0846	0847																																	
0847																																		
0847	0827																																96	
0850				1	1																													
0850	0817																																	
0851				1	1																													
0851	0852																																	
0852																																		
0852	0808																																33	
0853																																		
0853	0854																																40	
0854																																		
0854	0855																																	
0855																																		
0855	0856																																	
0856																																		
0856	0823																																	
0857																																		
0857	0813																																	
0858																																		
0858	0817																																	
0901																																		
0901	0902																																	
0902																																		
0902	0904																																	
0903																																		
0903	0904																																	
0904																																		
0904	0905																																	
0906																																		
0906	0907																																	
SHEET TOTALS				7	7																												314	

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

RAL-MJ05ZDKQ

COMPUTED BY:	WDY / CGM	DATE:	3/30/2018
CHECKED BY:	MKD / DWL	DATE:	3/30/2018

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-2714	3D-8

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 / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R. C. PIPE CLASS III 12	15	18	24	30	36	42	R. C. PIPE CLASS IV 12	15	18	24	30	36	42
L 79+40	7 RT	0907		126.1																												
		0907	0908		122.8	121.6																						60				
L 82+50	7 RT	0909		127.2																												
		0909	0910		123.9	122.6																						44				
L 82+50	37 LT	0910		125.9																												
		0910	0911		122.6	121.8																						240				
L 80+05	37 LT	0911		125.1																												
		0911	0913		121.8	121.6																						72				
Y9 10+74	51 RT	0912		121.7																												
		0912	0913		121.7	121.6																24										
Y9 10+62	31 RT	0913		125.1																												
		0913	0914		121.1	120.9																							56			
Y9 10+53	24 LT	0914		124.8																												
		0914	0915		120.9	120.8																	28									
L 82+97	58 LT	0916		125.2																												
L 84+20	7 RT	0918		127.7																												
		0918	0920		124.5	124.0																						148				
L 84+20	37 LT	0919		126.4																												
		0919	0921		123.2	122.7																						148				
L 85+70	7 RT	0920		128.3																												
		0920	0923		124.0	123.5																						172				
L 85+70	37 LT	0921		126.9																												
		0921	0924		122.7	122.2																						168				
L 87+42	5 LT	0923		128.7																												
		0923	0924		123.5	122.2																						32				
L 87+42	37 LT	0924		127.5																												
		0924	0925		122.2	121.8																36										
L 80+40	7 RT	0926		126.5																												
		0926	0906		123.2	123.0																						48				
L 75+80	78 LT	0927																														
		0927	0928		120.0	116.0						24																				
L 91+33	5 LT	1001		128.8																												
		1001	1002		125.4	125.3																						32				
L 91+00	5 LT	1002		128.9																												
		1002	1003		125.3	125.2																						32				
L 91+00	37 LT	1003		127.7																												
		1003	1004		125.2	125.0																28										
Y10 11+91	13 RT	1005		126.9																												
		1005	1006		124.7	124.6															24											
Y4LT 15+69	15 RT	1101		123.7																												
		1101	1102		119.8	116.8																						72				
Y4 12+72	60 RT	1103		117.6																												
Y4 13+02	63 RT	1107																		48												
Y4 14+71	63 RT	1108																		52												
Y4 12+45	63 RT	1109																		20												
Y4 12+57	69 LT	1110																			24											
Y4 12+80	1 LT	1104		118.8																												
L 33+54	37 RT	0554		123.4																												
		0554	0528		120.2	120.0																						56				
SHEET TOTALS												24								24	208	52						1324	56			
PROJECT TOTALS												24								692	1128	300	412	232	56	108	324	7300	640	268	1168	548

LINE & STATION	FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16
L 79+40	0907					1			1			1			1				
	0907	0908																	
L 82+50	0909					1			1			1			1				
	0909	0910																	
L 82+50	0910					1			1		1								
	0910	0911																	
L 80+05	0911					1			1		1								
	0911	0913																	
Y9 10+74	0912																		
	0912	0913																	
Y9 10+62	0913					1			1	1									
	0913	0914																	
Y9 10+53	0914					1			1	1									
	0914	0915																	
L 82+97	0916					1												1	1
L 84+20	0918					1			1			1			1				
	0918	0920																	
L 84+20	0919					1			1		1								
	0919	0921																	
L 85+70	0920					1			1			1			1				
	0920	0923																	
L 85+70	0921					1			1		1								
	0921	0924																	
L 87+42	0923					1	0.2							1				1	1
	0923	0924																	
L 87+42	0924					1	0.3		1		1								
	0924	0925																	
L 80+40	0926					1			1			1			1				
	0926	0906																	
L 75+80	0927																		
	0927	0928																	
L 91+33	1001					1								1				1	1
	1001	1002																	
L 91+00	1002					1								1				1	1
	1002	1003																	
L 91+00	1003					1			1			1							
	1003	1004																	
Y10 11+91	1005					1			1			1							
	1005	1006																	
Y4LT 15+69	1101					1								1				1	1
	1101	1102																	
Y4 12+72	1103																		
Y4 13+02	1107																		
Y4 14+71	1108																		
Y4 12+45	1109																		
Y4 12+57	1110																		
Y4 12+80	1104																		
L 33+54	0554					1			1		1								
	0554	0528																	
SHEET TOTALS						20	0.5		15	2	6	7		4	5			5	5
PROJECT TOTALS			3.400			182	43.4		133	27	51	55		13	13			36	36

LINE & STATION	FROM	TO	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	##" SPRING BOX PIPE	SPRING BOX STD. 840.41		M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	ADJUST C.B.	ADJUST D.I.	ADJUST MH	30" DRAINAGE ELBOW	BERM DITCH OUTLET STD. 850.11 (SY OF CONC.)	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
L 79+40	0907																															
	0907	0908																														
L 82+50	0909																															
	0909	0910																														
L 82+50	0910																															
	0910	0911																														
L 80+05	0911																															
	0911	0913																														
Y9 10+74	0912																															OPEN END
	0912	0913																														
Y9 10+62	0913																															
	0913	0914																													80	
Y9 10+53	0914																															
	0914	0915																														
L 82+97	0916																															
L 84+20	0918																															
	0918	0920																														
L 84+20	0919																															
	0919	0921																														
L 85+70	0920																															
	0920	0923																														
L 85+70	0921																															
	0921	0924																														
L 87+42	0923																															
	0923	0924																														
L 87+42	0924																															
	0924	0925																														
L 80+40	0926																															
	0926	0906																														
L 75+80	0927																											31					BDO
	0927	0928																									2					42	
L 91+33	1001																															
	1001	1002																														
L 91+00	1002																															
	1002	1003																														
L 91+00	1003																															
	1003	1004																														
Y10 11+91	1005																															
	1005	1006																														
Y4LT 15+69	1101																															
	1101	1102																													23	
Y4 12+72	1103																															OPEN END
Y4 13+02	1107																														34	
Y4 14+71	1108																														34	
Y4 12+45	1109																														20	
Y4 12+57	1110																														24	
Y4 12+80	1104																								1								
L 33+54	0554																															
	0554	0528																														
SHEET TOTALS																								1		2	31				257	
PROJECT TOTALS					1	1					6		6									11		1	1	2	31	11		3.100	4392	

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

COMPUTED BY: GEOTECH DATE: 6/30/16
CHECKED BY: CEH DATE: 12/3/19

(4-21-15)

PROJECT NO.	SHEET NO.
U-2714	3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU	12"	500	1000	1500		
			TOTAL CY/TONS/SY:		500	1000	1500*	0	0

ASU = Aggregate Subgrade, AST = Aggregate Stabilization

***Total square yards of Geotextile for Soil Stabilization is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.**

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				UD	4000
				TOTAL LF:	4000

***UD = Underdrain**

***BD = Blind Drain**

***SD = Subsurface Drain**

PROJ. REFERENCE NO.	SHEET NO.
U-2714	3P-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME	DEED BOOK/PAGE No.
1	4	MKS INVESTMENTS, LLC	DB 2665 - PG 307 PC H PG 134
2	4	NEW SPIRIT CHURCH MINISTRIES	DB 2082 - PG 385 PC H PG 134
3	4	GENERAL INDUSTRIES, INC.	DB 1312 - PG 509, DB 850 - PG 702, DB 808 PG 171, DB 808 - PG 169
4	4	SAMAR N. ELAWAR	DB 2560 - PG 14
5	4	KORNEGAY PROPERTIES & INVESTMENTS, LLC	DB 3072 - PG 652, BM 1 - PG 119
6	4, 5	JEWEL NELSON	DB 4E - PG 310, DB 809 - PG 437, DB 880 - PG 238, DB 885 - PG 886, DB 893 - PG 874, DB 906 - PG 214, DB 1524 PG 436, DB 882 - PG 704
7	4	PAULA B. SMITH	DB 1100 - PG 446, BM 1 - PG 119
8	4	AMIN HADWAN	DB 3220, PG 303
8A	4	ADMIN HADWAN	DB 3220, PG 303
9	4	KORNEGAY PROPERTIES & INVESTMENTS, LLC	DB 3045 - PG 895
10	4	JAMES ROYSTER CAPPS	DB 2065 - PG 204, BM 3 - PG 15
11	4	JAMES ROYSTER CAPPS	DB 2065 - PG 204, BM 3 - PG 15
12	4	WIFE CLAUDIA KORNEGAY	DB 2763 - PG 511, CAB B - SLD 351
13	4	STEVEN B. ALLEN AND WIFE ANGELA A. ALLEN AND RODERICK DAVIS	DB 1832 - PG 599, DB 1818 - PG 441, BM 15 - PG 4
14	4	RODERICK DAVIS AND STEVEN B. ALLEN	DB 1819 - PG 582, BM 15 - PG 4
15	4	EDITH SMITH	DB 3212 - PG 277
16	4	MICHAEL KING	DB 3212 - PG 273
17	4	JEROME M. BROOKS	DB 2922 - PG 779, BM 15 - PG 4, DB 1384 - PG 786, BM 1 - PG 185, DB 1681 - PG 485
18	4	MICHEL H. THEVENIN	DB 3216 - PG 660
19	4, 5	JEROME M. BROOKS	DB 2922 - PG 779, BM 15 - PG 4, DB 1384 - PG 786, BM 1 - PG 185, DB 1681 - PG 485
20	5	AJIT N. PATEL AND WIFE INDIRA A. PATEL	DB 1287 - PG 57
21	5	HELLIONS HOLDINGS LLC	DB 3272 - PG 729
22	5	PAUL VINSON, III	DB 1090 - PG 666
23	5	WGT PROPERTIES - 2, LLC	DB 3116 - PG 513
24	5	JOHN J. BROOKS & EUGENIA R. BROOKS	DB 1275 - PG 301
25	5	C.G.P. INVESTMENTS, LLC	DB 3103 - PG 649
26	5	STRATUS PROPERTIES, LLC	DB 2261 - PG 500, BM 3 - PG 45
27	5	PAUL VINSON	DB 1990 - PG 516
28	5	IBRAHIM M. ODEH AND WIFE RUBY DENISE ODEH	DB 2622 - PG 176
29	5	MACK BUNCH, ET UX	DB 865 - PG 619, DB 1778 - PG 790
29A	5	MACK BUNCH, ET UX	DB 865 - PG 619, DB 1778 - PG 790
30	5	MARVIN S. GARNER AND WIFE MARIE A. GARNER	DB 1087 - PG 603
31	5	LESLIE DELEON SASSER, SR. AND WIFE BETTY ROSE SASSER	DB 2584 - PG 111, 114, 117, 120
32	6	SHERWIN HERRING FARMS, LLC	DB 2963 - PG 728, CAB K - SLD 37-E
33	6	SAROJ C. PATEL AND HIMANSU PATEL	DB 2638 - PG 642, CAB K - SLD 37-E
34	6	LYNDA M. UZZELL	DB 1707 - PG 413, CAB K - SLD 37-E
35	5, 6, 11	NBA DISCIPLES HOUSING OF GOLDSBORO, NC, INC	DB 1919 - PG 36, MB 6 - PG 143
36	5, 6, 11	NBA DISCIPLES HOUSING OF GOLDSBORO, NC, INC	DB 1919 - PG 36, MB 6 - PG 143
37	11	TRUSTEES OF GREENLEAF CHRISTIAN CHURCH	DB 1613 - PG 760
38	6, 11	Y & W REALTY COMPANY	DB 3162 - PG 725, CAB O - SLD 27B, CAB O - SLD 27C
39	6	EUGENE A. TAYLOR AND WIFE LILLIE W. TAYLOR	DB 2126 - PG 576
40	6	JAMES A. MOORING	DB 3165 - PG 653
41	6	BRT & ASSOCIATES, LLC	DB 2532 - PG 838, BM 6 - PG 143
42	6	LESLIE DELEON SASSER, SR.	DB 6E - PG 351, DB - 290 - PG 68, PC J - PG 392
43	6	TIMOTHY PEARSALL	DB 1084 - PG 352, PC J - PG 392
44	6	TRUSTEES OF GREENLEAF CHRISTIAN CHURCH	DB 824 - PG 470, DB 1182 - PG 263, DB 2177 - PG 739
45	6	CITY OF GOLDSBORO	DB 624 - PG 493
46	6	NEESE COUNTRY SAUSAGE, INC	DB 972 - PG 259
47	6	SOUTHERN DISTRICT CONVOCATION OF THE UNITED HOLY CHURCH OF AMERICA, INC	DB 1671 - PG 130
48	6	ISSAM A. AL-AWAR AND WIFE ROLA I. AL-AWAR	DB 1573 - PG 456, BM 5 - PG 130, PC I - PG 207
49	6	BON-RIC, LLP	DB 2887 - PG 565, BM 5 - PG 130
50	6	WEE ARE THE WORLD CHILD CARE, INC	DB 2467 - PG 273
51	6	RUBY S. GRIFFIN	DB 95E - PG 74, DB 795 - PG 216, DB 947 - PG 708, PB 6 - PG 5
52	6	DENNIS GRIFFIN & RUBY S. GRIFFIN	DB 2070 - PG 843, PB 6 - PG 5
53	6	ANNIE GREEN BYNUM, ET UX	DB 852 - PG 610, PB 6 - PG 5
54	6, 7	DENNIS L. GRIFFIN	DB 2886 - PG 780, DB 2980 - PG 712, BM 5 - PG 130
55	7	CARL BENJAMIN HILL, ET AL	DB 3E - PG 645, DB 1282 - PG 294, PC M - PG 35A
56	7	FARMERS WAREHOUSE OF GOLDSBORO, INC	DB 2253 - PG 280, PC M - PG 35A
57	7	HILLS BEEF AND PORK CENTER, INC	DB 2213 - PG 473, PC M - PG 35A
58	7	SIMON B. HILL HEIRS	DB 596 - PG 116, PC M - PG 35A

PROJ. REFERENCE NO.	SHEET NO.
U-2714	3P-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME	DEED BOOK/PAGE No.
59	7	JAMES E. DOVE, JR AND WIFE BERNADETTE C. DOVE	DB 1727 - PG 322, BM 6 - PG 143
60	7	AUCTION NC REALTY, INC	DB 2965 - PG 731, BM 6 - PG 143
61	7	WAYNE OIL COMPANY, INC	DB 2178 - PG 12, BM 6 - PG 143
61A	7	JOHN C. STRICKLAND	DB 1152 - PG 668, CAB D - SLD 252
62	7	HULL ENTERPRISE, LLC	DB 2644 - PG 549, BM 6 - PG 143
63	7	WAYNE COUNTY FARM BUREAU, INC	DB 807 - PG 514, BM 6 - PG 143
64	7	NATVARLAL N. PARMAR AND WIFE LALITABEN N. PARMAR	DB 1925 - PG 644, CAB D - SLD 43, PC K - PG 63H
65	7	LACY L. PEARSON AND WIFE ANN M. PEARSON	DB 937 - PG 122, PC K - PG 63H
66	7	PEARSON PUMP SALES & SERVICE, INC	DB 1675 - PG 594
67	8	WILLIAM S. HAJJAR	DB 1161 - PG 701, BM 6 - PG 143
68	8	WILLIAM E. SEYMOUR AND WIFE BRIGITTA E. STOTTS SEYMOUR	DB 2270 - PG 602, BM 6 - PG 143
69	8	GRIFFIN STEEL & SUPPLY, LLC	DB 2243 - PG 867, BM 5 - PG 170
70	8, 9	T.A. LOVING COMPANY	DB 315 - PG 31, DB 376 - PG 404, PG 406, DB 896 - PG 249, BM 5 - PG 170
71	8	EUTICE RAY MAYO AND WIFE JANICE S. MAYO	DB 1086 - PG 232, PC K - PG 14G, DB 1533 - PG 75, DB 3150 - PG 15, CAB D - SLD 21
72	8	ANN G. HUMPHRIES	ESTATE FILE 007E - 368
73	8	EAGLES PROPERTIES HOLDINGS, LLC	DB 3250 - PG 31
74	8	ALLEN DALE CANNON AND WIFE ALICE ROSE CANNON	DB 2984 - PG 219, BM 5 - PG 130
75	8	GLADYS MARIE VELASQUEZ	DB 1905 - PG 122, BM 5 - PG 130
76	8	EAGLES PROPERTIES HOLDINGS, LLC	DB 3102 - PG 687, BM 5 - PG 130
77	8	EUTICE RAY MAYO AND WIFE JANICE S. MAYO	DB 1086 - PG 232, PC K - PG 14G
78	8	JAMES EDWARD GRANTHAM, JR. AND WIFE KIM ANN GRANTHAM	DB 2202 - PG 560
79	8	ALAN D. JOHNSON, ET AL	DB 2835 - PG 12, CAB A - SLD 58-AB
80	8	JAMES EDWARD GRANTHAM, JR. AND WIFE KIM ANN GRANTHAM	DB 2601 - PG 41, BM 5 - PG 130
81	8	SHIRLEY ANN HEAD	DB 3108 - PG 714
82	8, 9	JOHN M. MERRITT	DB 3E - PG 667, DB 376 - PG 452, DB 1043 - PG 865
83	9	ANDREW FARMS OF WAYNE COUNTY, INC.	DB 2E - PG 506, DB 1037 - PG 181, DB 1193 - PG 737

PROJECT REFERENCE NO.	SHEET NO.
U-2714	4
R/W SHEET NO.	RW-4

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 CIVIL ENGINEER JASEY E HARRIS

1/30/2020

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 47526 ENGINEER MATT O. YELVERTON

1/30/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

NAD 83 / NA 2011

MATCHLINE –L– STA. 22+00, SEE SHEET 5

–L– STA. 10+00.00
BEGIN PROJECT U-2714
BEGIN CONSTRUCTION

–Y1– STA. 11+50.00
END CONSTRUCTION

–L– POT Sta. 10+00.00

–L– PC Sta. 13+65.36

–L– PRC Sta. 16+08.21

–L– PT Sta. 20+82.85

–Y1– POT Sta. 10+00.00 =
–L– POT Sta. 12+91.47

–Y1– POT Sta. 12+98.38

1 MKS INVESTMENTS, LLC

2 NEW SPIRIT CHURCH MINISTRIES

3 GENERAL INDUSTRIES, INC.

4 SAMAR N. ELAWAR

5 KORNEGAY PROPERTIES & INVESTMENTS, LLC

6 JEWEL NELSON

6 JEWEL NELSON

7 PAULA B. SMITH

8 AMIN HADWAN

9 KORNEGAY PROPERTIES & INVESTMENTS, LLC

10 RETAIN CB

11 JAMES ROYSTER CAPPS

12 JIMMY KORNEGAY AND WIFE CLAUDIA KORNEGAY

13 RETAIN CB

14 RODERICK DAVIS AND STEVEN B. ALLEN

15 RODERICK DAVIS

16 RODERICK DAVIS

17 THE MISSION OF LOVE, INC

18 MICHEL H. THEVENIN

19

DO NOT DISTURB TWO UST'S AND CANOPY WITHIN TCE

RETAIN DI

RETAIN 340' TAPER

RETAIN CB

REMOVE 36" RCP

REMOVE 15" RCP

REMOVE CB

REMOVE

724' STORAGE

4' MONO. ISLAND

300' TAPER

100' TAPER

STANDARD BASE DITCH SEE DETAIL 'K' DDE=14 CY SLOPE=0.28%

CLASS 'I' RIP RAP EST. 15 TONS 30 SY GEO-TEXTILE

N 29°59'17.2" E

N 27°12'14.0" E

S 79°57'58.0" E

2018 ADT / 2038 ADT (ADT IN 100's)	NEIL ST	
	8/9	
143/253	5/4	2/5 159/283
US 117		US 117
	14/25	33/54
	48/79	
	US 13/70 BYP	

–L–		
PI Sta 8+52.55	PI Sta 14+86.81	PI Sta 18+45.73
Δ = 11° 27' 18.3" (RT)	Δ = 2° 55' 01.3" (RT)	Δ = 5° 42' 04.5" (LT)
D = 3° 52' 16.8"	D = 1° 12' 04.2"	D = 1° 12' 04.2"
L = 295.90'	L = 242.85'	L = 474.64'
T = 148.44'	T = 121.45'	T = 237.52'
R = 1,480.00'	R = 4,770.00'	R = 4,770.00'
	SE = NC	SE = NC

★ PROPOSED SIGNAL

SEE SHEET 12 FOR –L– PROFILE
SEE SHEET 16 FOR –Y1– PROFILE
SEE SHEET 3P-1 FOR PROPERTY OWNERS
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETAILS
DRIVEWAY RADII 10' UNLESS OTHERWISE NOTED

REVISIONS

PLOT DRIVER: NCDOT_pdf_color-eng_50.plt PENTABLE: NCDOT_pshpfl.tbl
USER: SPEREIRA DATE: 12/10/2019 TIME: 9:54:41 AM
FILE: North_Carolina_Dept_of_Transportation\NCDOT_Western_Div_On-Call_M_\NCDOT-U2714_US117_c_\NCDOT-U2714_US117_c_\6.0_CAD_BIM\6.2_Work_In_Progress\U-2714_NCDOT_File_Structure\Roadway\Proj\U2714_RDY_PSH-04.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-2714	5
R/W SHEET NO.	RW-5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 040286 ENGINEER CASEY E HARRIS

1/30/2020

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 37526 ENGINEER MATT O. YELVERTON

1/30/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

NAD 83 /NA 2011

TBM #2
N - 603827
E - 2302677
ELEV 117.40'
BL STA 32+80.00 294' LT
BM NAIL IN WOOD POWERPOLE

-Y2- POT Sta. 10+00.00

-Y2- STA. 11+15.00
BEGIN CONSTRUCTION

-L- PT Sta. 30+31.76

-Y3- POT Sta. 10+00.00 =
-L- POT Sta. 30+38.13

-Y2- POT Sta. 13+05.63 =
-L- POT Sta. 24+38.52

-L- PC Sta. 24+81.60

-Y3- STA. 14+25.00
END CONSTRUCTION

MATCHLINE -L- STA. 22+00, SEE SHEET 4

MATCHLINE -L- STA. 35+00, SEE SHEET 6

ADMIN HADWAN (8A)

AMIN HADWAN (8)

JOHN F. WHITFIELD AND WIFE, CLARA G. WHITFIELD (25)

HELLIONS HOLDINGS LLC (21)

AJIT N. PATEL AND WIFE INDIRA A. PATEL (20)

PAUL VINSON, III (22)

WGT PROPERTIES - 2, LLC (23)

ANNETTE HILL AND H.J. HILL

DRIVEWAY BY OTHERS

JEROME M. BROOKS (24)

JOHN J. BROOKS & EUGENIA R. BROOKS (19)

C.C.P. INVESTMENTS, LLC (25)

STRATUS PROPERTIES, LLC (26)

PAUL VINSON (27)

FILL WITH FLOWABLE FILL

IBRAHIM M. ODEH AND WIFE RUBY DENISE ODEH (28)

MACK BUNCH, ET UX (29)

MACK BUNCH, JR. AND WIFE ANNE DELORES BUNCH (29A)

MARIE A. GARNER (30)

LESLIE DELEON SASSER, SR. AND WIFE BETTY ROSE SASSER (31)

VY VAN TRAN

WILLIAM RICHARD MUMFORD

JOYCE BEST

N 27°12'14.0" E

S 66°38'25.0" E

N 85°48'12.4" E

R=200'-70'-320'
OFFSET=1'-8'

STANDARD BASE DITCH
SEE DETAIL 'M'
DDE=6 CY
SLOPE=0.47%

CLASS 'B' RIP RAP
EST. 5 TONS
14 SY GEO-TEXTILE

DITCH CLEAN OUT

PROBABLE UST's

KNOWN UST's

2018 ADT
2038 ADT
(ADT IN 100's)

SR 1305
HOOKS RIVER RD

		33/43		
169/265	30/31		4/13	144/246

US 117 — US 117

FORECASTED VOLUMES SHOWN ARE NOT ADJUSTED FOR TRAFFIC RE-ROUTING

2018 ADT
2038 ADT
(ADT IN 100's)

145/246		154/254
US 117		US 117
9/13		19/20
	27/33	

SR 1555
11th ST

-L-
PI Sta 27+63.84
Δ = 31° 31' 17.9" (LT)
D = 5° 43' 46.5"
L = 550.16'
T = 282.23'
R = 1,000.00'
SE = 0.04
RO = 148'

★ PROPOSED SIGNAL

SEE SHEET 12 FOR -L- PROFILE
SEE SHEET 16 FOR -Y2- PROFILE
SEE SHEET 16 FOR -Y3- PROFILE
SEE SHEETS 2B-1 & 2B-2 FOR INTERSECTION DETAILS
SEE SHEET 3P-1 FOR PROPERTY OWNERS
SEE SHEET 2D-1 FOR DRAINAGE DITCH DETTAILS
DRIVEWAY RADII 10' UNLESS OTHERWISE NOTED

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
USER: CHARRIS DATE: 1/3/2020 TIME: 5:01:31 PM
FILE: North_Carolina_Dept_of_Transportation\NCDOT_Western_Div_On-Call_M_\NCDOT-U2714_US117_c_\NCDOT-U2714_US117_c_U2714_RDY_PSH-05.dgn