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09/08/99

TIP PROJECT: W-5710AS

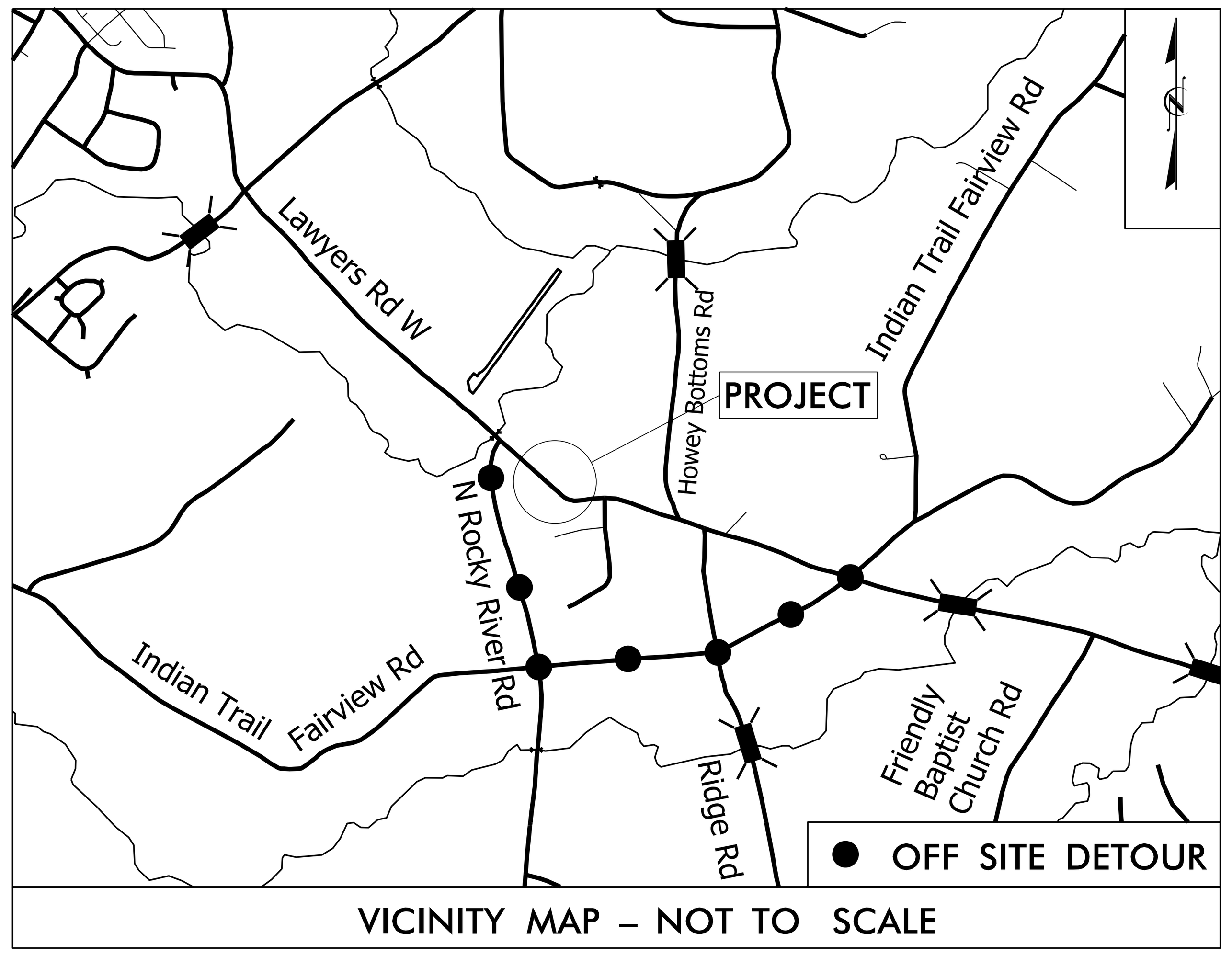
See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UNION COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5710AS	1	

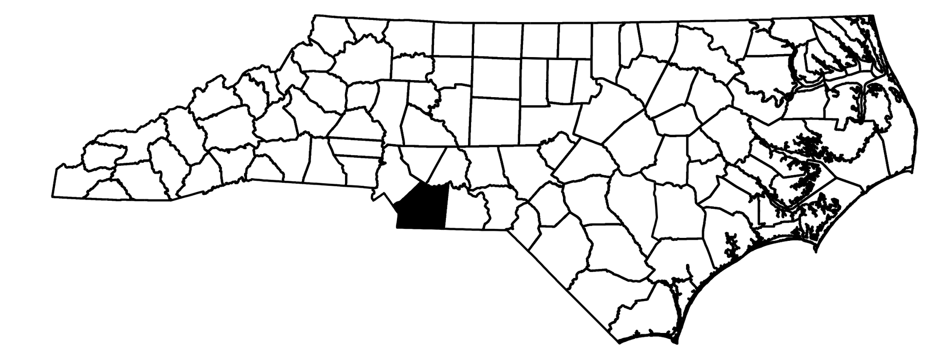
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
44856.1.47	1514009	PE
44856.2.47	1514009	R/W & UTIL
44856.3.47	1514009	CONST.

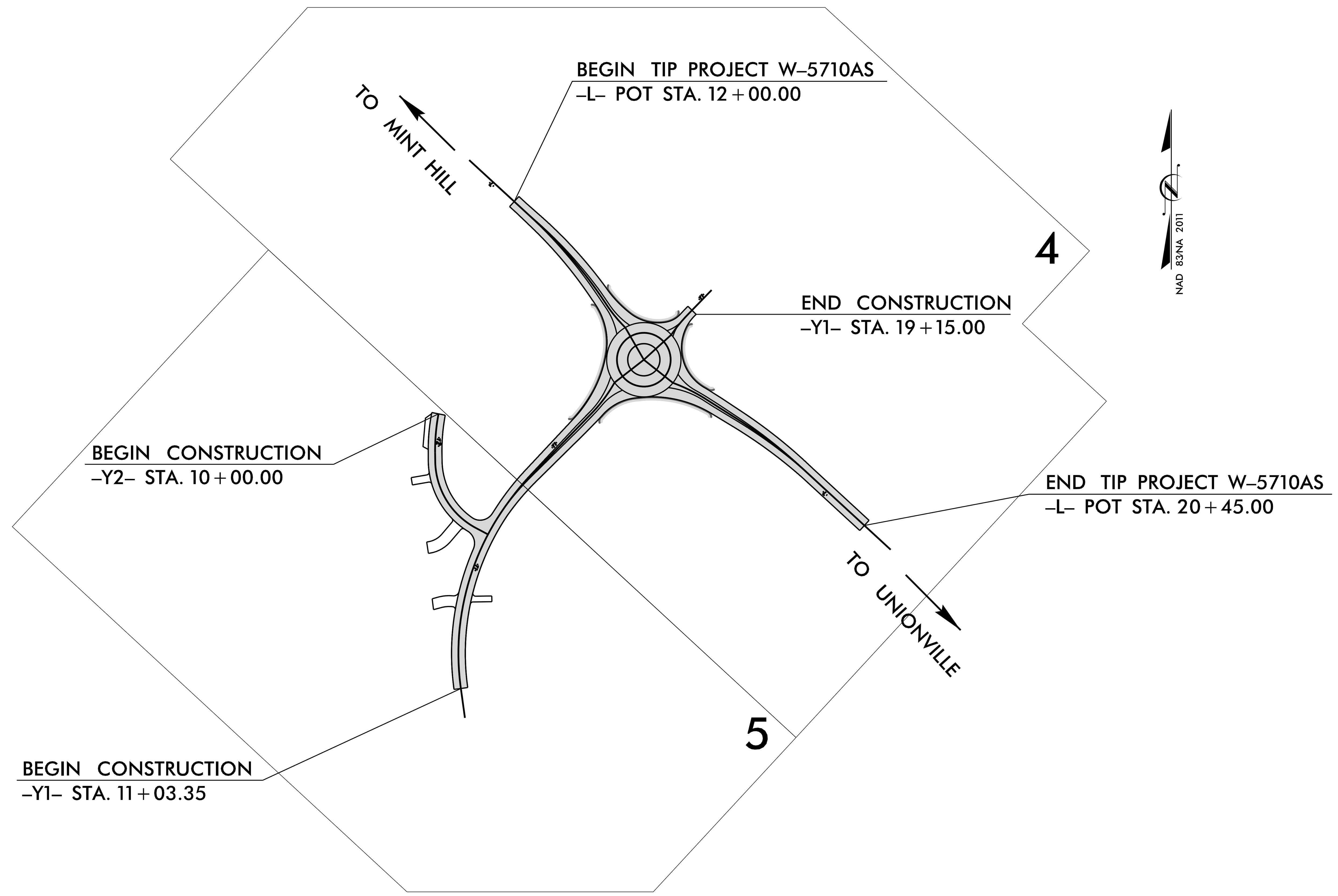


FINAL PLANS

LOCATION: SR 1004 (LAWYERS ROAD) AND SR 1514 (N. ROCKY RIVER ROAD) ROUNDABOUT NEAR INDIAN TRAIL

TYPE OF WORK: GRADING, DRAINAGE, AND PAVING





DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 0 50 100
PLANS

50 0 50 100
PROFILE (HORIZONTAL)

5 0 5 10
PROFILE (VERTICAL)

DESIGN DATA

ADT 2018 -L- = 15500
ADT 2018 -Y1- = 7700
K = %
D = %
T = % *
V = 15 MPH
* TTST = DUAL
FUNC CLASS =
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT = 0.16 MILES

NCDOT CONTACT:
DUSTIN L. SIMPSON
DM-STIP PROJECT MANAGER
716 W MAIN ST.
ALBEMARLE, NC 28001
704-983-4410
DLSIMPSON@NCDOT.GOV

Prepared in the Office of:

Dewberry 2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.881.9939 NC COA No. F-0929

FOR

DIVISION OF HIGHWAYS

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 29, 2021

LETTING DATE:
NOVEMBER 15, 2023

BRYCE REID, PE
PROJECT ENGINEER

CHRISTOPHER HAWKINS, EI
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by: Andrea Hayden 10/11/2023 P.E.
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 028933 ENGINEER ANDREA S. HAYDEN

ROADWAY DESIGN ENGINEER

DocuSigned by: B Reid 7EC2996CB48B45B 10/11/2023 P.E.
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 053435 ENGINEER BRYCE D. REID

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

CONTRACT:

11-OCT-2023 09:29
R:\Roadway\Proj\W-5710AS_rdy_tsh.dgn
$$$$USERNAME$$$$

ROADWAY DESIGN ENGINEER

DocuSigned by:
7EC2996C848845B

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TIP: W-5710AS

INDEX OF SHEETS

EFF. 01-16-2018
REV.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch – N. C. Department of Transportation – Raleigh, N. C., Dated January, 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
DIVISION 5 – SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction – High Side of Superelevated Curve – Method I
DIVISION 8 – INCIDENTALS	
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
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
840.45	Precast Drainage Structure
846.01	Concrete Curb, Gutter and Curb & Gutter
848.02	Driveway Turnout – Radius Type
848.04	Street Turnout
852.01	Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets

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.

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 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".

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE UNION COUNTY AND DUKE POWER

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	1B

Note: Not to Scale

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP) — EIP
- Computed Property Corner
- Existing Concrete Monument (ECM) — 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
- Well
- 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:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line — R/W
- Existing Control of Access Line — C/A
- Proposed Control of Access Line — C/A
- Proposed ROW and CA Line — RW/CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage/Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE

ROADS AND RELATED FEATURES:

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

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

* SUE – Subsurface Utility Engineering
LOS – Level of Service – A,B,C or D (Accuracy)

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 — HH
- H-Frame Pole
- U/G Power Line Test Hole (SUE – LOS A)*
- U/G Power Line (SUE – LOS B)* — P
- U/G Power Line (SUE – LOS C)* — P
- U/G Power Line (SUE – LOS D)* — 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 Test Hole (SUE – LOS A)*
- U/G Telephone Cable (SUE – LOS B)* — T
- U/G Telephone Cable (SUE – LOS C)* — T
- U/G Telephone Cable (SUE – LOS D)* — T
- U/G Telephone Conduit (SUE – LOS B)* — TC
- U/G Telephone Conduit (SUE – LOS C)* — TC
- U/G Telephone Conduit (SUE – LOS D)* — TC
- U/G Fiber Optics Cable (SUE – LOS B)* — T FO
- U/G Fiber Optics Cable (SUE – LOS C)* — T FO
- U/G Fiber Optics Cable (SUE – LOS D)* — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line Test Hole (SUE – LOS A)*
- U/G Water Line (SUE – LOS B)* — W
- U/G Water Line (SUE – LOS C)* — W
- U/G Water Line (SUE – LOS D)* — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Test Hole (SUE – LOS A)*
- U/G TV Cable (SUE – LOS B)* — TV
- U/G TV Cable (SUE – LOS C)* — TV
- U/G TV Cable (SUE – LOS D)* — TV
- U/G Fiber Optic Cable (SUE – LOS B)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS C)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS D)* — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE – LOS A)*
- U/G Gas Line (SUE – LOS B)* — G
- U/G Gas Line (SUE – LOS C)* — G
- U/G Gas Line (SUE – LOS D)* — 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 Force Main Line Test Hole (SUE – LOS A)*
- SS Force Main Line (SUE – LOS B)* — FSS
- SS Force Main Line (SUE – LOS C)* — FSS
- SS Force Main Line (SUE – LOS D)* — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line (SUE – LOS B)* — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

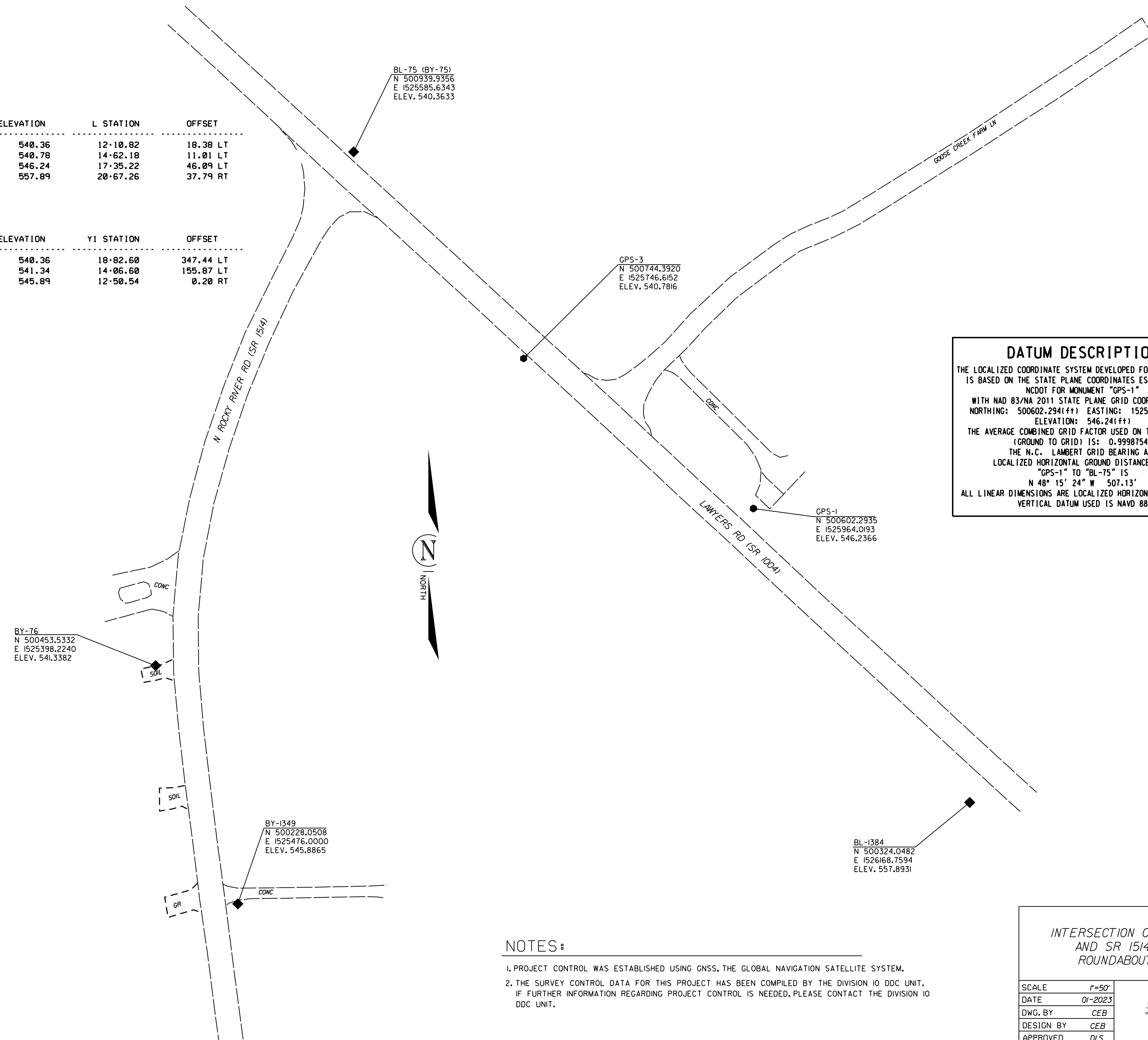
PROJECT NO.	SHEET NO.
44856.3.47	IC
F.A. PROJECT NO.	1514009

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
75		500939.9356	1525585.6343	540.36	12+10.82	18.38 LT
3		500744.3920	1525746.6152	540.78	14+62.18	11.01 LT
1		500602.2935	1525964.0193	546.24	17+35.22	46.09 LT
1384		500324.0482	1526168.7594	557.89	20+67.26	37.79 RT

BY

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
75		500939.9356	1525585.6343	540.36	18+82.60	347.44 LT
76		500453.5332	1525398.2240	541.34	14+06.60	155.87 LT
1349		500228.0508	1525476.0000	545.89	12+50.54	0.20 RT



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS-1"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 500602.294(ft) EASTING: 1525964.019(ft)
ELEVATION: 546.24(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987542
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-1" TO "BL-75" IS
N 48° 15' 24" W 507.13'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED BY THE DIVISION 10 DDC UNIT. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION 10 DDC UNIT.

INTERSECTION OF SR 1004 (LAWYERS RD) AND SR 1514 (N ROCKY RIVER RD) ROUNDABOUT NEAR INDIAN TRAIL

		REVISIONS
SCALE	1"=50'	
DATE	01-2023	
DWG. BY	CEB	
DESIGN BY	CEB	
APPROVED	DLS	

PROJECT NO.	SHEET NO.
44856.3.47	10
F.A. PROJECT NO.	1514009

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	19·08.00	30.00	500437.6862	1526056.9046
L	17·16.00	36.00	500543.2845	1525903.8051
L	14·00.00	52.00	500757.7451	1525660.2817
L	12·64.00	65.68	500842.6531	1525567.1304
L	14·50.00	60.00	500713.1685	1525681.4735
L	13·00.00	51.00	500829.6572	1525601.0552

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	16·50.00	37.00	500528.9839	1525719.0419
Y1	15·09.00	30.00	500432.8523	1525615.6557
Y1	15·91.00	-30.00	500533.4591	1525629.8792
Y1	17·00.00	-61.00	500627.9751	1525675.6094
Y1	14·25.00	-30.00	500405.0687	1525516.4693
Y1	11·32.00	30.02	500112.3250	1525498.7300
Y1	19·30.00	25.00	500736.6808	1525904.5535
Y1	19·30.00	-25.00	500771.5643	1525868.7325
Y1	15·08.00	-30.00	500473.9750	1525571.9522
Y1	16·15.00	-50.00	500564.6066	1525632.2950
Y1	18·69.00	37.16	500686.8321	1525875.8702
Y1	18·76.26	-35.61	500736.4880	1525822.1868
Y1	14·05.00	30.00	500356.1748	1525556.5631
Y1	13·00.00	30.00	500267.0398	1525516.5739
Y1	12·60.00	30.00	500230.9908	1525507.0305
Y1	11·87.00	30.00	500163.5785	1525498.0916
Y1	17·46.00	82.00	500562.7510	1525804.4897

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	11·79.00	-30.00	500411.7986	1525483.2168
Y2	10·92.00	-30.01	500472.9977	1525457.2024

L

TYPE	STATION	NORTH	EAST
POT	10·00.00	501069.1275	1525418.0257
PC	12·53.11	500897.7821	1525604.3170
PT	14·29.55	500764.3964	1525719.2169
PC	14·46.57	500750.3060	1525728.7536
PT	14·94.82	500713.1985	1525759.4731
POT	15·59.82	500656.9048	1525791.9694
PC	16·24.82	500616.3995	1525842.8056
PT	16·89.55	500587.8531	1525900.7647
PC	17·55.78	500552.3635	1525956.6810
PT	19·07.85	500459.8501	1526077.1230
POT	21·07.51	500324.5662	1526223.9659

Y1

TYPE	STATION	NORTH	EAST
POT	10·00.00	499979.2617	1525486.0517
PC	11·03.35	500081.6288	1525471.8176
PT	15·08.44	500453.3799	1525593.7706
PC	16·62.00	500563.3949	1525700.9066
PT	17·28.93	500616.9909	1525740.6675
POT	17·93.93	500656.9048	1525791.9694
PC	18·58.93	500700.5742	1525840.1147
PT	19·03.86	500735.3936	1525868.4042
POT	19·64.43	500778.7916	1525910.6665

Y2

TYPE	STATION	NORTH	EAST
PC	10·00.00	500562.2006	1525432.7979
PT	10·67.98	500494.6170	1525426.6923
PC	10·82.85	500479.7467	1525426.8710
PT	12·27.54	500362.0610	1525498.6901
POT	12·50.87	500351.1473	1525519.3023

ROW MARKER PERMANENT EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	16·06.63	34.85	500499.4172	1525687.2439
Y1	16·03.30	44.51	500490.2897	1525691.8401
Y1	15·80.61	36.68	500479.4955	1525670.4046
Y1	15·81.67	33.61	500482.3996	1525668.9421

I, Barry D. Davis, a Professional Land Surveyor in the sate of North Carolina hereby certify to the best of my knowledge and belief that the following work item, R/W and Easement Staking, was performed under my responsible charge meeting NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures as of 2017. Those standards can be found at https://connect.ncdot.gov/resources/Location/Pages/.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from survey control established under my supervision; that the depicted property data shown herein were surveyed under my supervision; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (see deeds for final determination)

Witness my signature, registration number and seal this 15th day of Feb 2023

Barry D. Davis, DocuSigned by: Barry Davis 0E2AAE4F48174DC... PLS# L-4384
Professional Land S

NORTH CAROLINA PROFESSIONAL SEAL L-4384 LAND SURVEYOR BARRY D. DAVIS

NOTES:

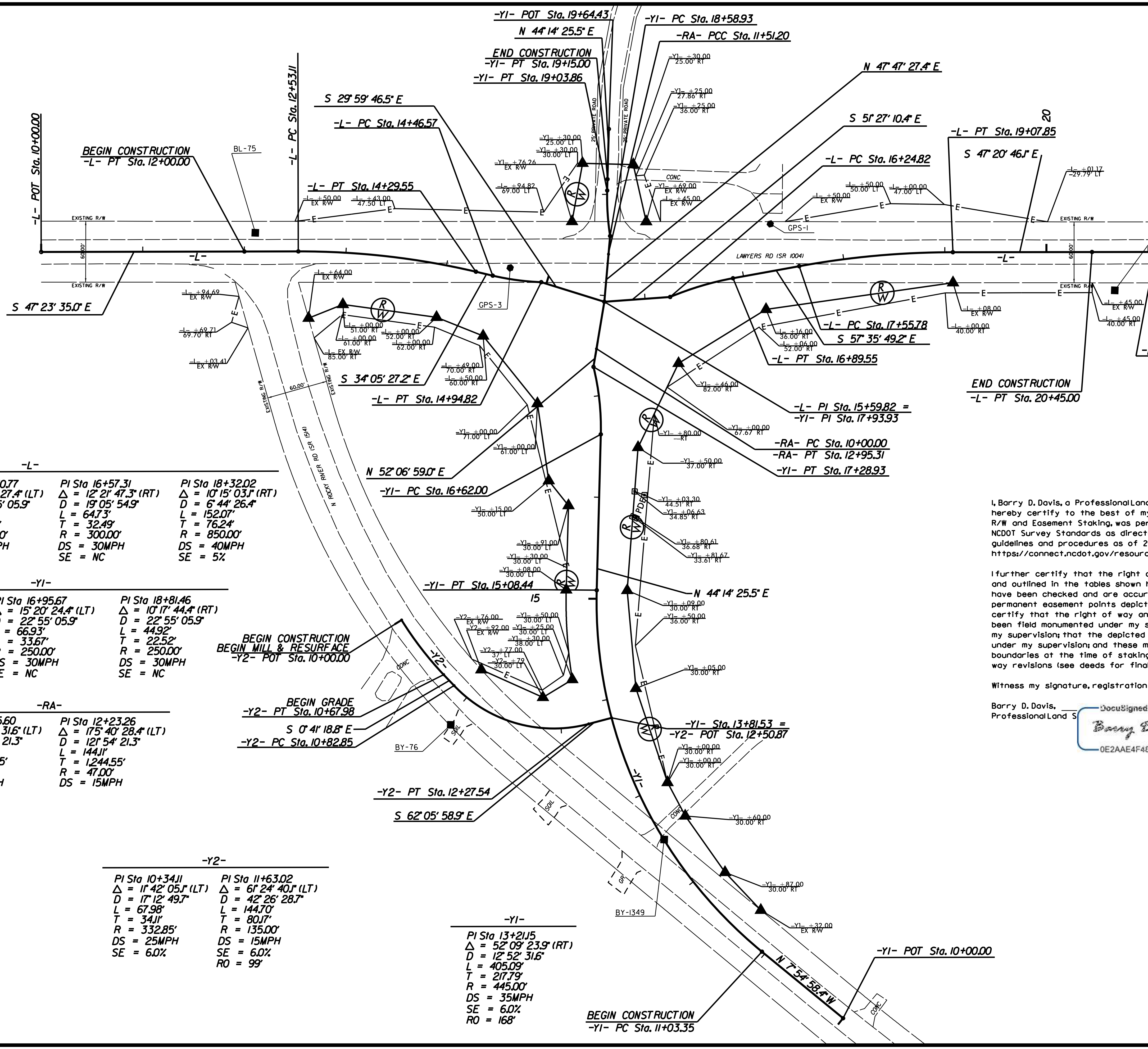
1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED BY THE DIVISION 10 DDC UNIT. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION 10 DDC UNIT.

INTERSECTION OF SR 1004 (LAWYERS RD) AND SR 1514 (N ROCKY RIVER RD) ROUNDABOUT NEAR INDIAN TRAIL

SCALE	1"=50'
DATE	1-2023
DWG. BY	CEB
DESIGN BY	CEB
APPROVED	DLS

REVISIONS

PROJECT NO.	SHEET NO.
44856.3.47	IE
F.A. PROJECT NO.	1514009



NORTH

-L-

PI Sta 13+41.73	PI Sta 14+70.77	PI Sta 16+57.31	PI Sta 18+32.02
Δ = 13° 18' 07.7" (RT)	Δ = 11° 03' 27.4" (LT)	Δ = 12° 21' 47.3" (RT)	Δ = 10° 15' 03.1" (RT)
D = 7° 32' 20.1"	D = 22° 55' 05.9"	D = 19° 05' 54.9"	D = 6° 44' 26.4"
L = 176.45'	L = 48.25'	L = 64.73'	L = 152.07'
T = 88.62'	T = 24.20'	T = 32.49'	T = 76.24'
R = 760.00'	R = 250.00'	R = 300.00'	R = 850.00'
DS = 30MPH	DS = 30MPH	DS = 30MPH	DS = 40MPH
SE = 4%	SE = NC	SE = NC	SE = 5%

-Y1-

PI Sta 13+21.15	PI Sta 16+95.67	PI Sta 18+81.46
Δ = 52° 09' 23.9" (RT)	Δ = 15° 20' 24.4" (LT)	Δ = 10° 17' 44.4" (RT)
D = 12° 52' 31.6"	D = 22° 55' 05.9"	D = 22° 55' 05.9"
L = 405.09'	L = 66.93'	L = 44.92'
T = 217.79'	T = 33.67'	T = 22.52'
R = 445.00'	R = 250.00'	R = 250.00'
DS = 35MPH	DS = 30MPH	DS = 30MPH
SE = 6.0%	SE = NC	SE = NC
RO = 168'		

-RA-

PI Sta 10+75.60	PI Sta 12+23.26
Δ = 184° 19' 31.6" (LT)	Δ = 175° 40' 28.4" (LT)
D = 121° 54' 21.3"	D = 121° 54' 21.3"
L = 151.20'	L = 144.11'
T = 1,244.55'	T = 1,244.55'
R = 47.00'	R = 47.00'
DS = 15MPH	DS = 15MPH

-Y2-

PI Sta 10+34.11	PI Sta 11+63.02
Δ = 11° 42' 05.1" (LT)	Δ = 61° 24' 40.1" (LT)
D = 17° 12' 49.7"	D = 42° 26' 28.7"
L = 67.98'	L = 144.70'
T = 34.11'	T = 80.17'
R = 332.85'	R = 135.00'
DS = 25MPH	DS = 15MPH
SE = 6.0%	SE = 6.0%
	RO = 99'

-Y1-

PI Sta 13+21.15
Δ = 52° 09' 23.9" (RT)
D = 12° 52' 31.6"
L = 405.09'
T = 217.79'
R = 445.00'
DS = 35MPH
SE = 6.0%
RO = 168'

I, Barry D. Davis, a Professional Land Surveyor in the sate of North Carolina hereby certify to the best of my knowledge and belief that the following work item, R/W and Easement Staking, was performed under my responsible charge meeting NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures as of 2017. Those standards can be found at https://connect.ncdot.gov/resources/Location/Pages/.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from survey control established under my supervision; that the depicted property data shown herein were surveyed under my supervision; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (see deeds for final determination)

Witness my signature, registration number and seal this 15th day of Feb 2023

Barry D. Davis, DocuSigned by: Barry Davis 0E2AAE4F48174DC... PLS# L-4384
Professional Land S

NORTH CAROLINA PROFESSIONAL SEAL L-4384 LAND SURVEYOR BARRY D. DAVIS

INTERSECTION OF SR 1004 (LAWYERS RD) AND SR 1514 (N ROCKY RIVER RD) ROUNDABOUT NEAR INDIAN TRAIL

		REVISIONS
SCALE	1"=50'	
DATE	2-2023	
DWG. BY	CEB	
DESIGN BY	CEB	
APPROVED	DLS	

5/14/99

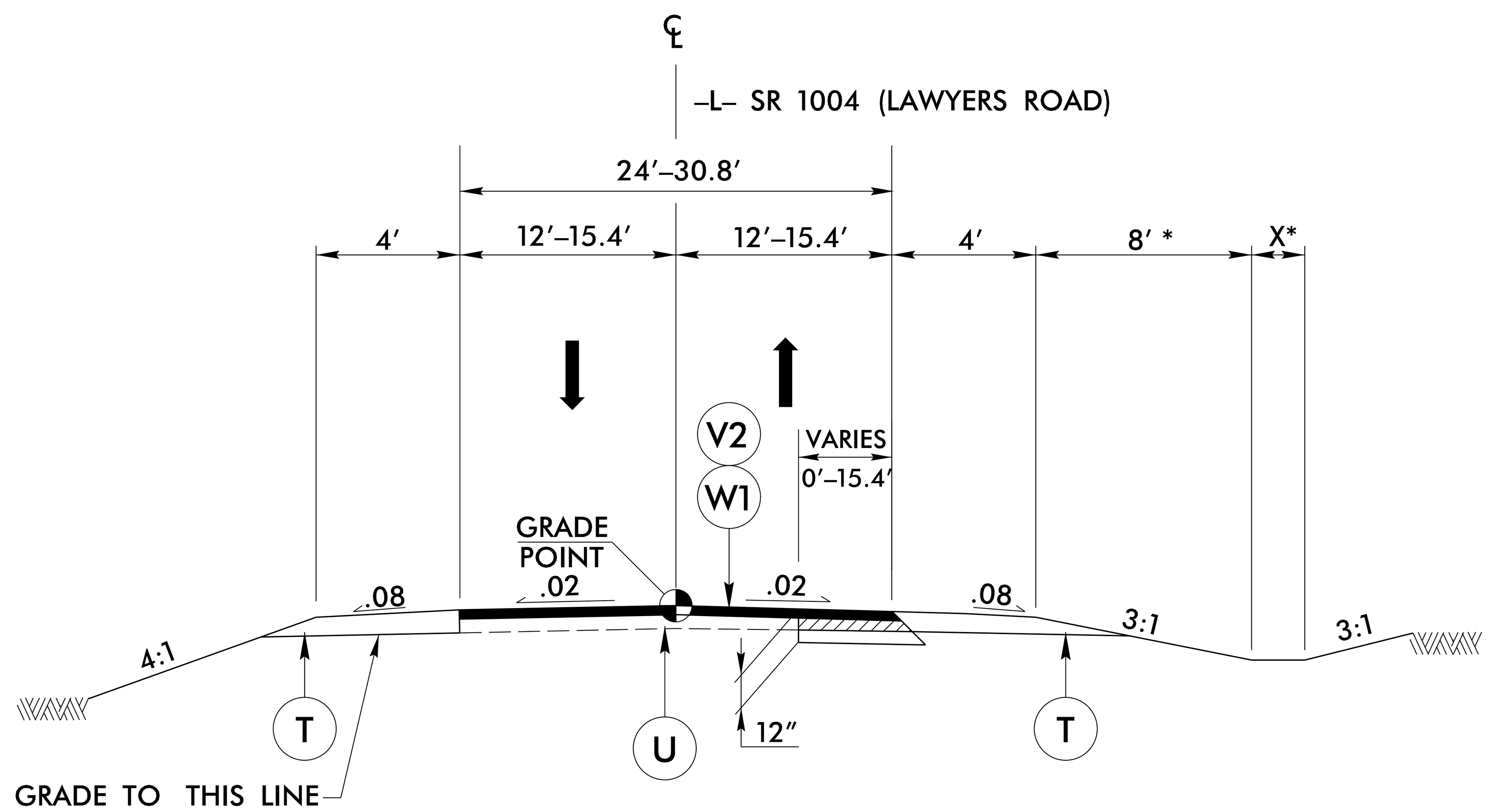
PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	2A-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

SEAL 053435

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Dewberry
2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.881.9939 NC COA No. F-0929

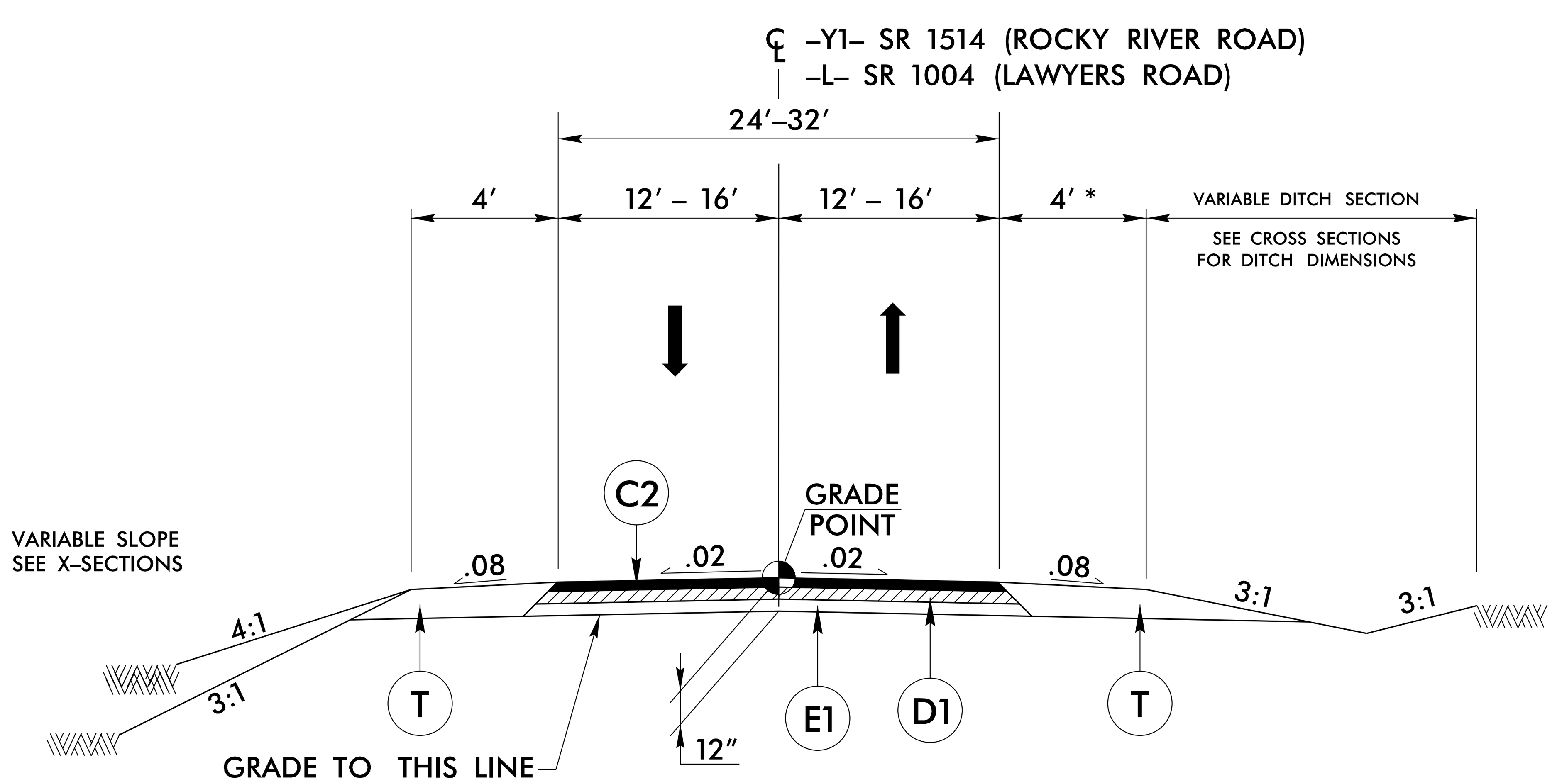
NC DEPARTMENT OF TRANSPORTATION
PAVEMENT MANAGEMENT UNIT
1593 MAIL SERVICE CENTER
RALEIGH, NC 27699-1593



TYPICAL SECTION NO. 1

-L- STA 12+00.00 TO 13+87.00

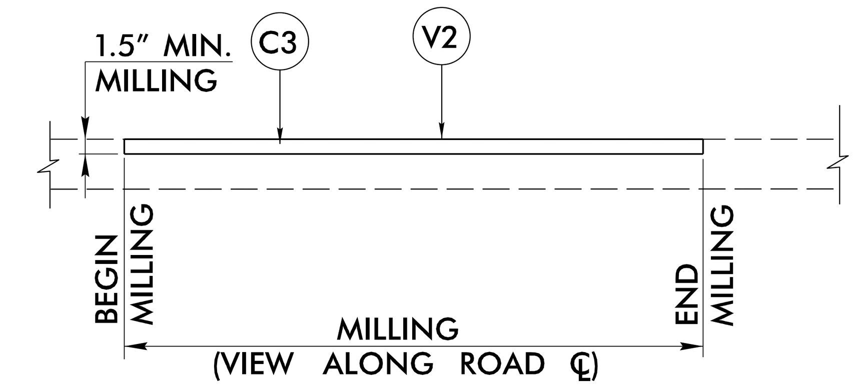
* SEE CROSS SECTIONS FOR BASE DITCH DIMENSIONS



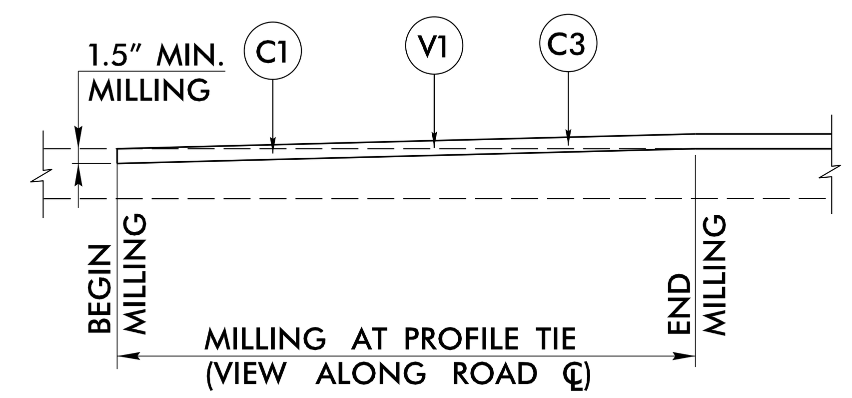
TYPICAL SECTION NO. 2

-L- STA 13+87.00 TO 14+19.46
-L- STA 17+10.72 TO 20+45.00
-Y1- STA 11+03.35 TO 16+25.81

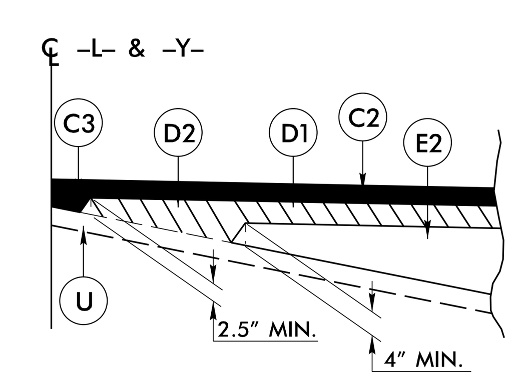
* 2' TURF SHOULDER FROM -Y1- STA 12+00.00 TO 15+00.00



MILLING DETAIL - V2



MILLING DETAIL - V1
PROFILE TIE TO EXISTING GRADE



WEDGING DETAIL - W1

FINAL PAVEMENT SCHEDULE

A1	12" CONCRETE TRUCK MOUNTABLE APRON CLASS AA
A2	12" CONCRETE TRUCK MOUNTABLE APRON W/BLACK TINT, CLASS AA
C1	PROPOSED APPROXIMATE 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD.
C2	PROPOSED APPROXIMATE 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5BC, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YARD PER 1" IN DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROPOSED APPROXIMATE 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
D2	PROP. VAR. DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROPOSED APPROXIMATE 5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YARD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.
R1	PROPOSED 8"x18" CONCRETE CURB
R2	PROPOSED 1'-6" CONCRETE CURB & GUTTER, CLASS AA CONCRETE
R3	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING (SEE DETAIL)
V2	MILLING (SEE DETAIL)
W1	VARIABLE DEPTH ASPHALT (SEE WEDGING DETAIL ON THIS SHEET)

NOTES:
FINAL PAVEMENT DESIGN FURNISHED BY NCDOT DIVISION 10
1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
2. SEE PLANS FOR LOCATION OF ALL PAVEMENT TAPERS.
3. ALL DRIVEWAY RADII IS 10' UNLESS SHOWN OTHERWISE ON PLANS.
4. THE WELDED WIRE MESH FOR THE ROUNDABOUT TRUCK APRONS SHALL BE (4x4 W3.5xW3.5) OR (6x6 W5xW5).
5. THE ROUNDABOUT TRUCK APRONS SHALL HAVE 15' RADIAL JOINT SPACING.

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	2A-2

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

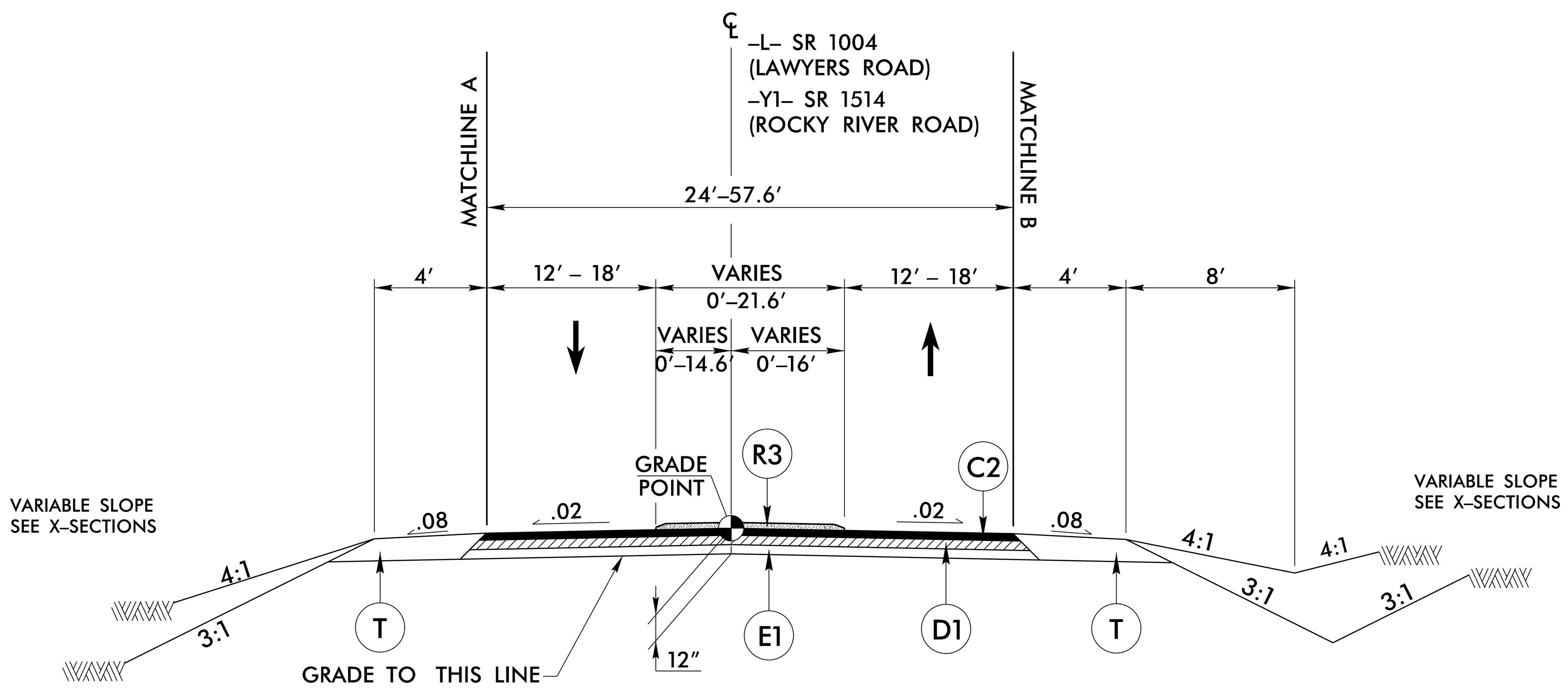
NORTH CAROLINA PROFESSIONAL SEAL 053435 ENGINEER BRUCE D. REID

DocuSigned by:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

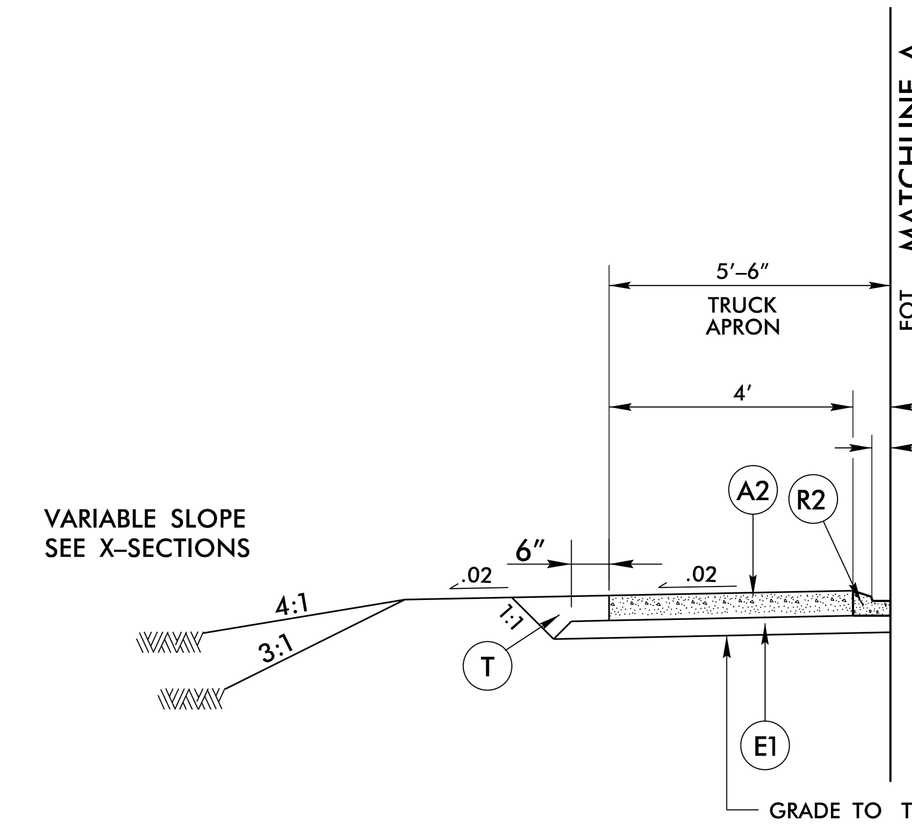
Dewberry
2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.881.9939 NC COA No. F-0929

NC DEPARTMENT OF TRANSPORTATION
PAVEMENT MANAGEMENT UNIT
1593 MAIL SERVICE CENTER
RALEIGH, NC 27699-1593



TYPICAL SECTION NO. 3

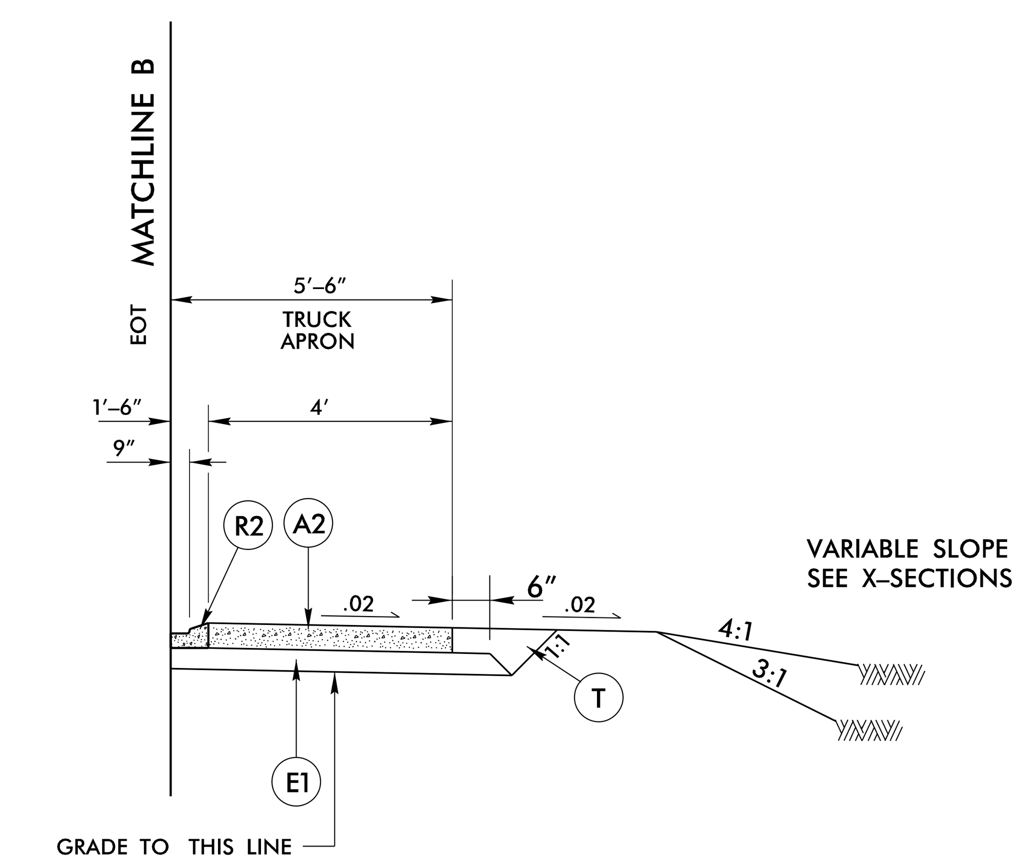
-L- STA 14+15.84 TO 14+94.82
-L- STA 16+24.82 TO 17+15.03
-Y1- STA 16+25.81 TO 17+28.93
-Y1- STA 18+58.93 TO 19+15.00



EXTERIOR TRUCK APRON DETAIL

(SEE MATCHLINE A)

-L- STA 14+15.84 TO 14+94.82
-L- STA 16+24.82 TO 16+93.16
-Y1- STA 16+25.81 TO 17+28.93



EXTERIOR TRUCK APRON DETAIL

(SEE MATCHLINE B)

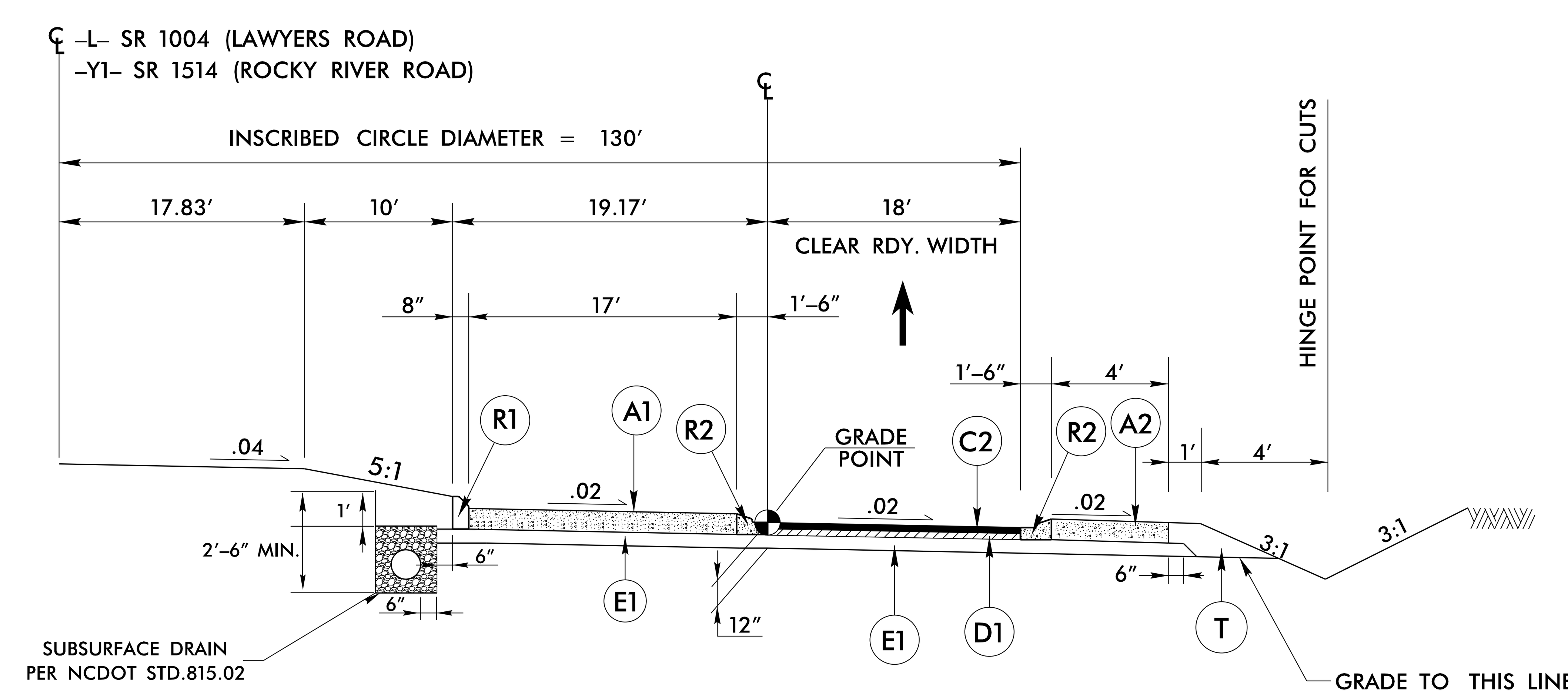
-L- STA 14+27.36 TO 14+94.82
-L- STA 16+24.82 TO 17+15.03
-Y1- STA 16+58.40 TO 17+28.93

PAVEMENT SCHEDULE (FINAL)	
A1	12" CONCRETE TRUCK MOUNTABLE APRON, CLASS AA
A2	12" CONCRETE TRUCK MOUNTABLE APRON W/BLACK TINT, CLASS AA
C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR. DEPTH S9.5C
D1	4" I19.0C
D2	VAR. DEPTH I19.0C
E1	5" B25.0C
E2	VAR. DEPTH B25.0C
R1	8"x18" CONC. CURB
R2	1'-6" C&G, CLASS AA
R3	5" MONO. CONC. ISLAND
T	EARTH MATERIAL
U	EXIST PAVEMENT
V1	MILLING (SEE DETAIL)
V2	MILLING (SEE DETAIL)
W1	VAR. DEPTH ASPHALT (WEDGING DETAIL)

NOTES:

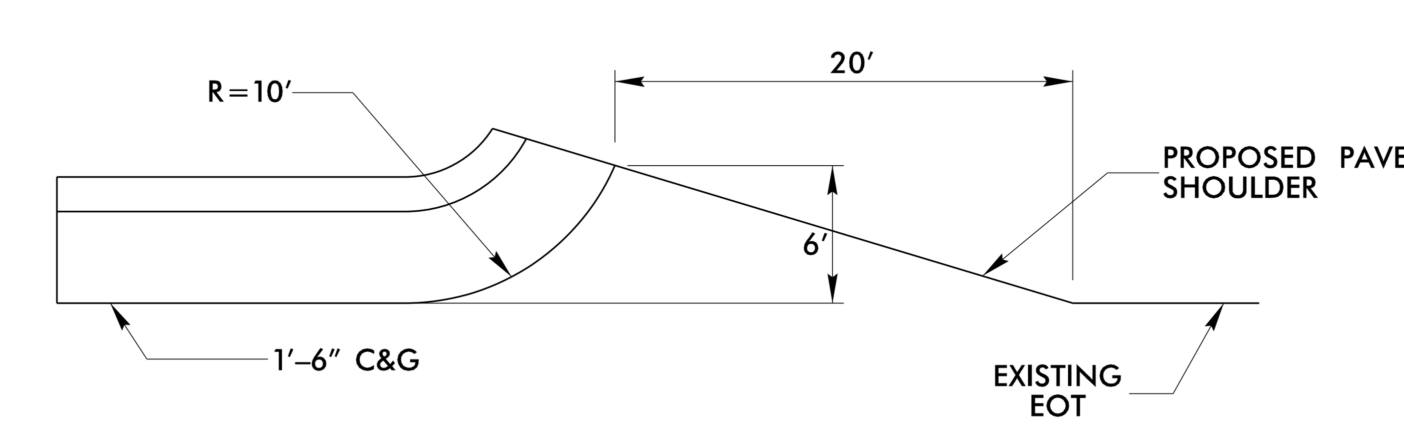
FINAL PAVEMENT DESIGN FURNISHED BY NCDOT DIVISION 10

1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
2. SEE PLANS FOR LOCATION OF ALL PAVEMENT TAPERS.
3. ALL DRIVEWAY RADII IS 10' UNLESS SHOWN OTHERWISE ON PLANS.
4. THE WELDED WIRE MESH FOR THE ROUNDABOUT TRUCK APRONS SHALL BE (4x4 W3.5xW3.5) OR (6x6 W5xW5).
5. THE ROUNDABOUT TRUCK APRONS SHALL HAVE 15' RADIAL JOINT SPACING.



TYPICAL SECTION NO. 4
ROUNDABOUT -RA-

-RA- STA 10+00 TO 12+95.31



CURB RETURN DETAIL

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	2A-3

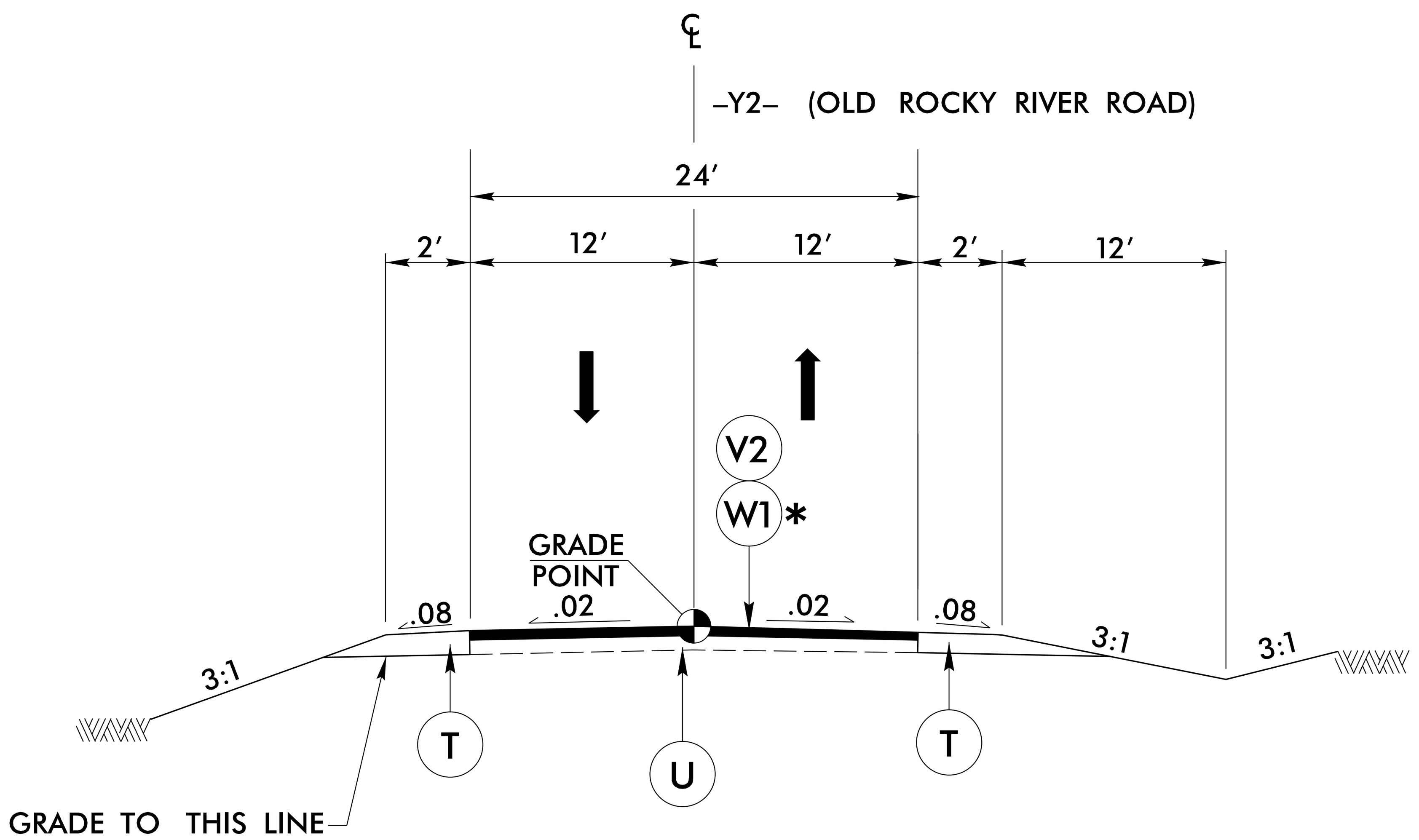
R/W SHEET NO.

ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 053435 ENGINEER BRYCE D. REID DocuSigned by:	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

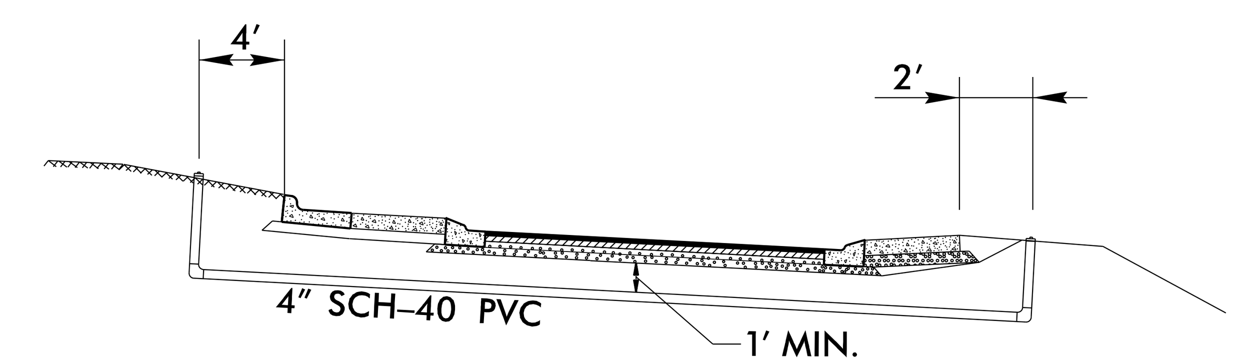
Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

NC DEPARTMENT OF TRANSPORTATION
PAVEMENT MANAGEMENT UNIT
1593 MAIL SERVICE CENTER
RALEIGH, NC 27699-1593



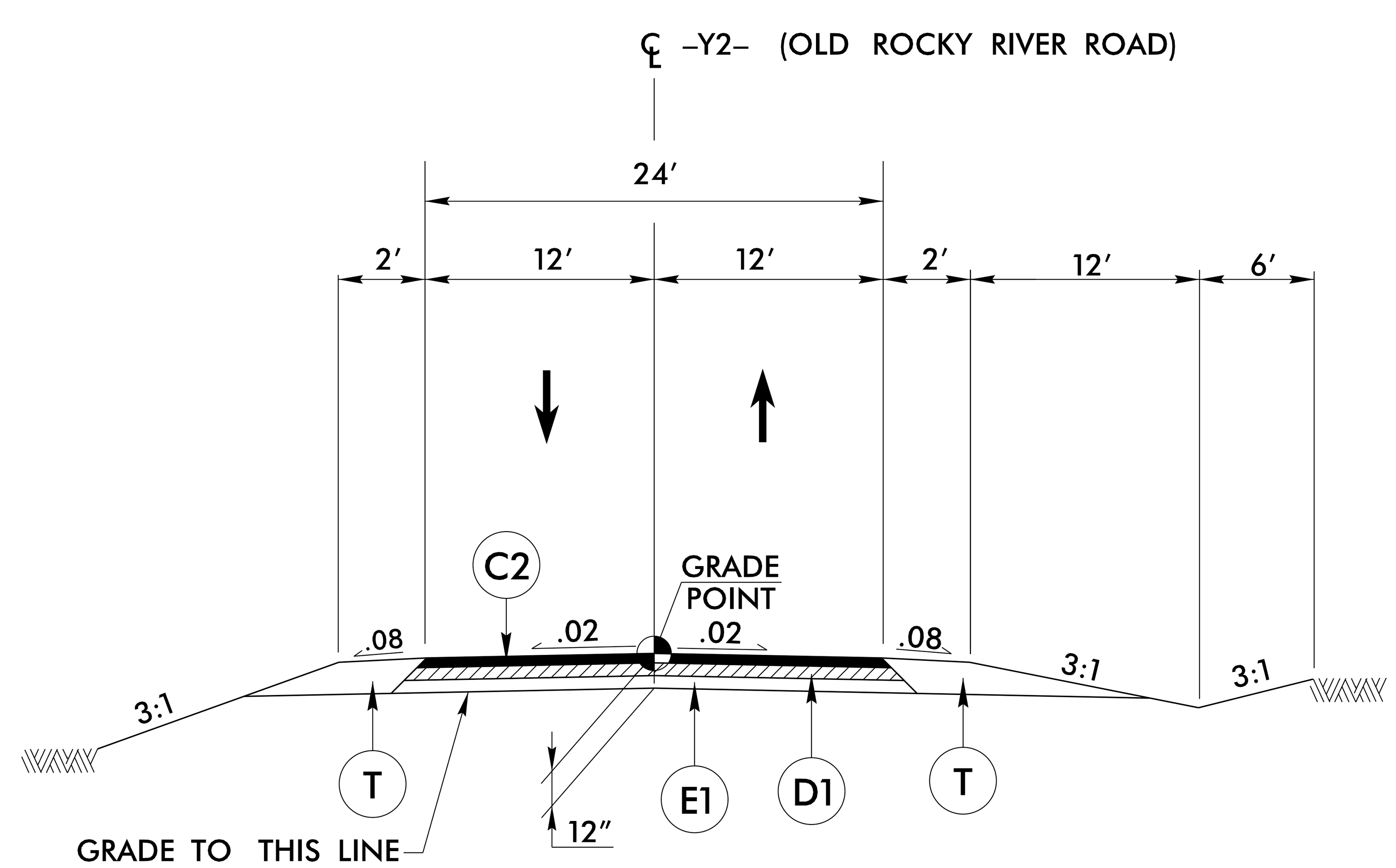
TYPICAL SECTION NO. 5

-Y2- STA 10+00.00 TO 10+82.85
✱ WEDGING FROM -Y2- STA 10+67.98 TO STA 10+82.85



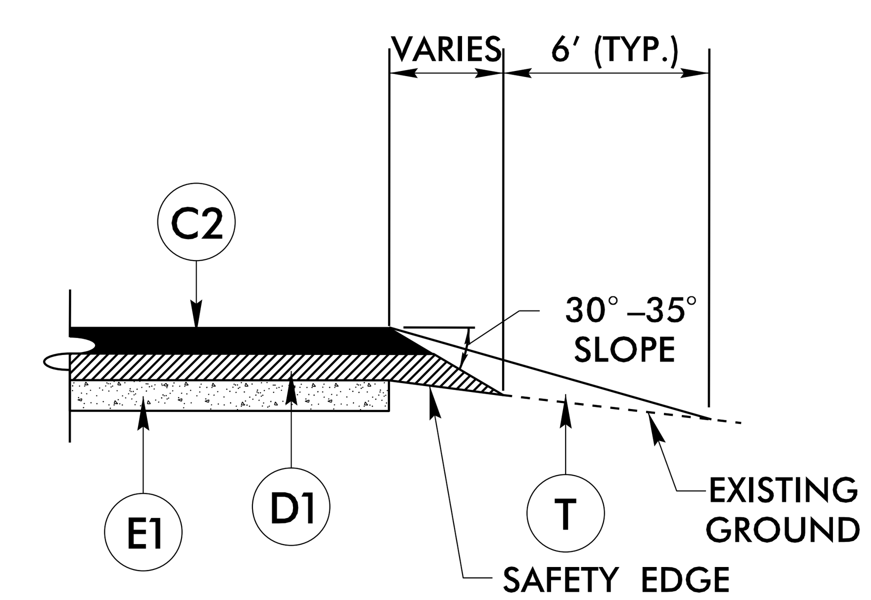
PVC PIPE DETAIL

-RA- STA 11+84.38



TYPICAL SECTION NO. 6

-Y2- STA 10+82.85 TO 12+38.87



SAFETY EDGE DETAIL

USE IN CONJUNCTION WITH TYPICAL SECTIONS 1, 2, 3, 5, AND 6

PAVEMENT SCHEDULE (FINAL)

A1	12" CONCRETE TRUCK MOUNTABLE APRON, CLASS AA
A2	12" CONCRETE TRUCK MOUNTABLE APRON W/BLACK TINT, CLASS AA
C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR. DEPTH S9.5C
D1	4" I19.0C
D2	VAR. DEPTH I19.0C
E1	5" B25.0C
E2	VAR. DEPTH B25.0C
R1	8"x18" CONC. CURB
R2	1'-6" C&G, CLASS AA
R3	5" MONO. CONC. ISLAND
T	EARTH MATERIAL
U	EXIST PAVEMENT
V1	MILLING (SEE DETAIL)
V2	MILLING (SEE DETAIL)
W1	VAR. DEPTH ASPHALT (WEDGING DETAIL)

NOTES:

FINAL PAVEMENT DESIGN FURNISHED BY NCDOT DIVISION 10

1. ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
2. SEE PLANS FOR LOCATION OF ALL PAVEMENT TAPERS.
3. ALL DRIVEWAY RADII IS 10' UNLESS SHOWN OTHERWISE ON PLANS.
4. THE WELDED WIRE MESH FOR THE ROUNDABOUT TRUCK APRONS SHALL BE (4x4 W3.5xW3.5) OR (6x6 W5xW5).
5. THE ROUNDABOUT TRUCK APRONS SHALL HAVE 15' RADIAL JOINT SPACING.

PAVEMENT REMOVAL DETAIL SHEET

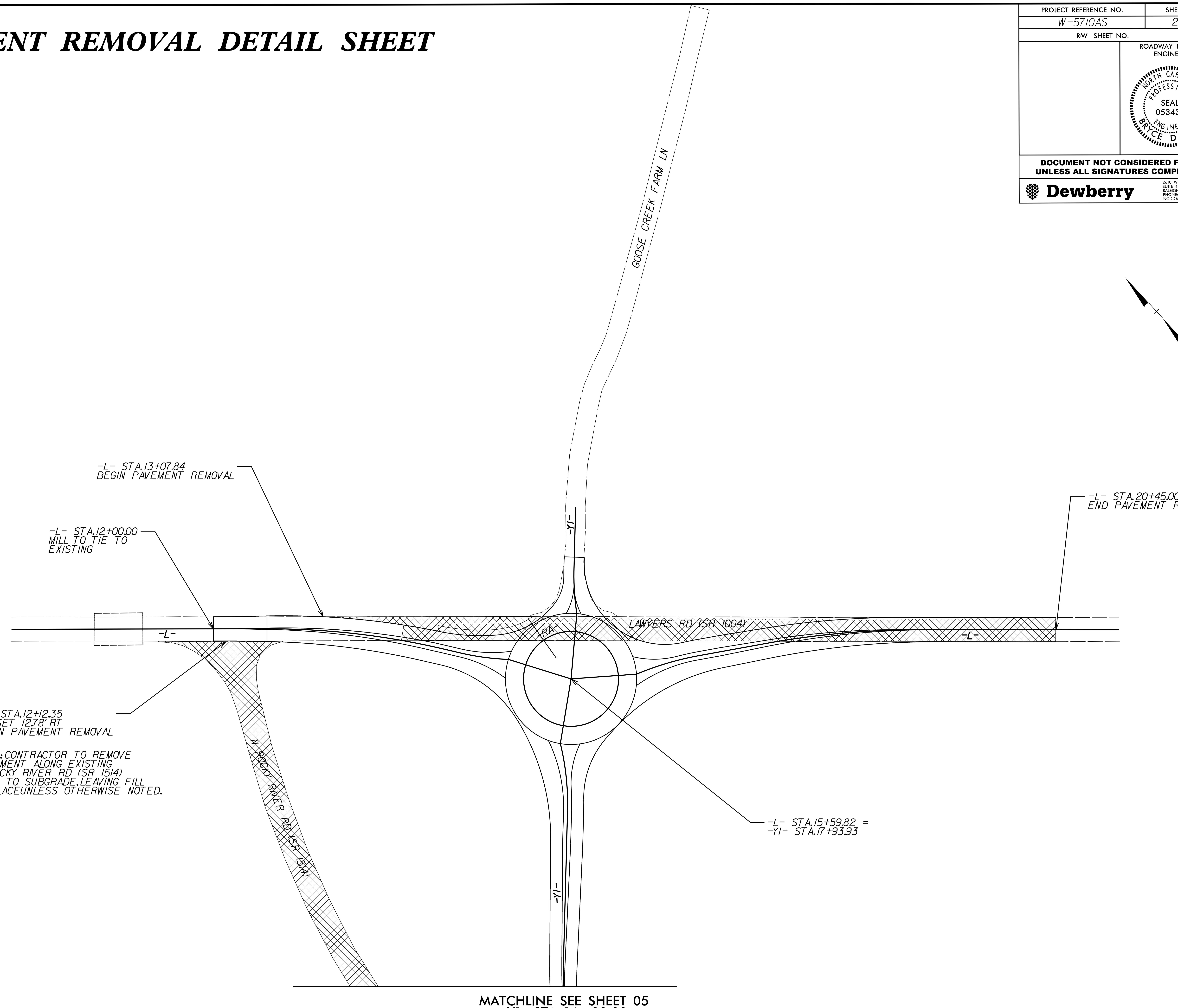
PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	2B-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 053435 ENGINEER BRYCE D. REID

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929



NOTE: CONTRACTOR TO REMOVE PAVEMENT ALONG EXISTING N ROCKY RIVER RD (SR 1514) DOWN TO SUBGRADE, LEAVING FILL IN PLACE UNLESS OTHERWISE NOTED.

MATCHLINE SEE SHEET 05
-Y1- STA. 14+88.00

PAVEMENT REMOVAL

5/14/99

02-MAR-2023 16:29
R:\Roadway\Proj\W-5710AS_rdy-pvrm-psh06.dgn
$$$$USERNAME$$$$

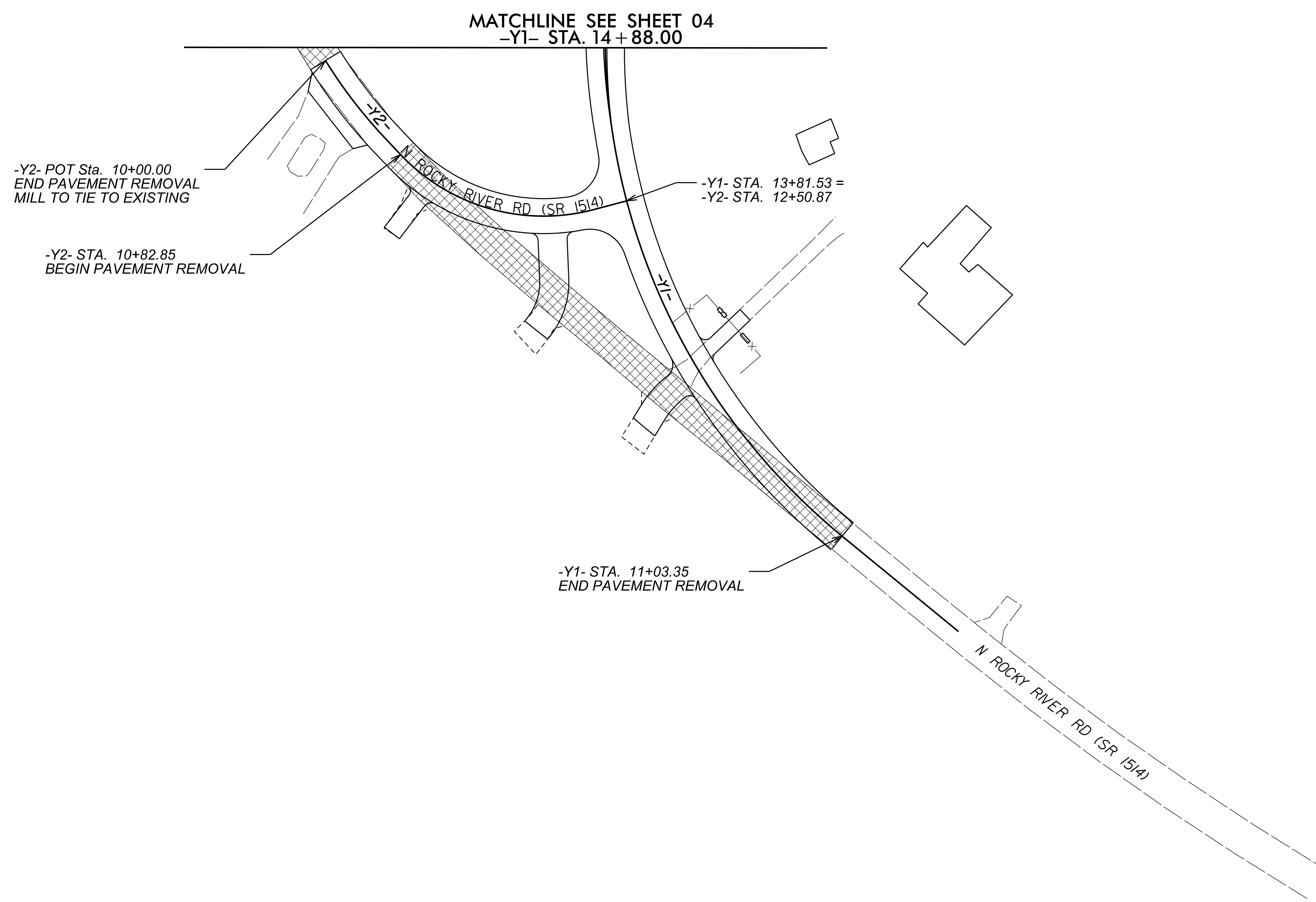
PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	2B-2
R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 053435 ENGINEER BRYCE D. REID

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

PAVEMENT REMOVAL DETAIL SHEET



PAVEMENT REMOVAL

5/14/99

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ROUNDABOUT DETAIL SHEET

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	2B-3
R/W SHEET NO.	

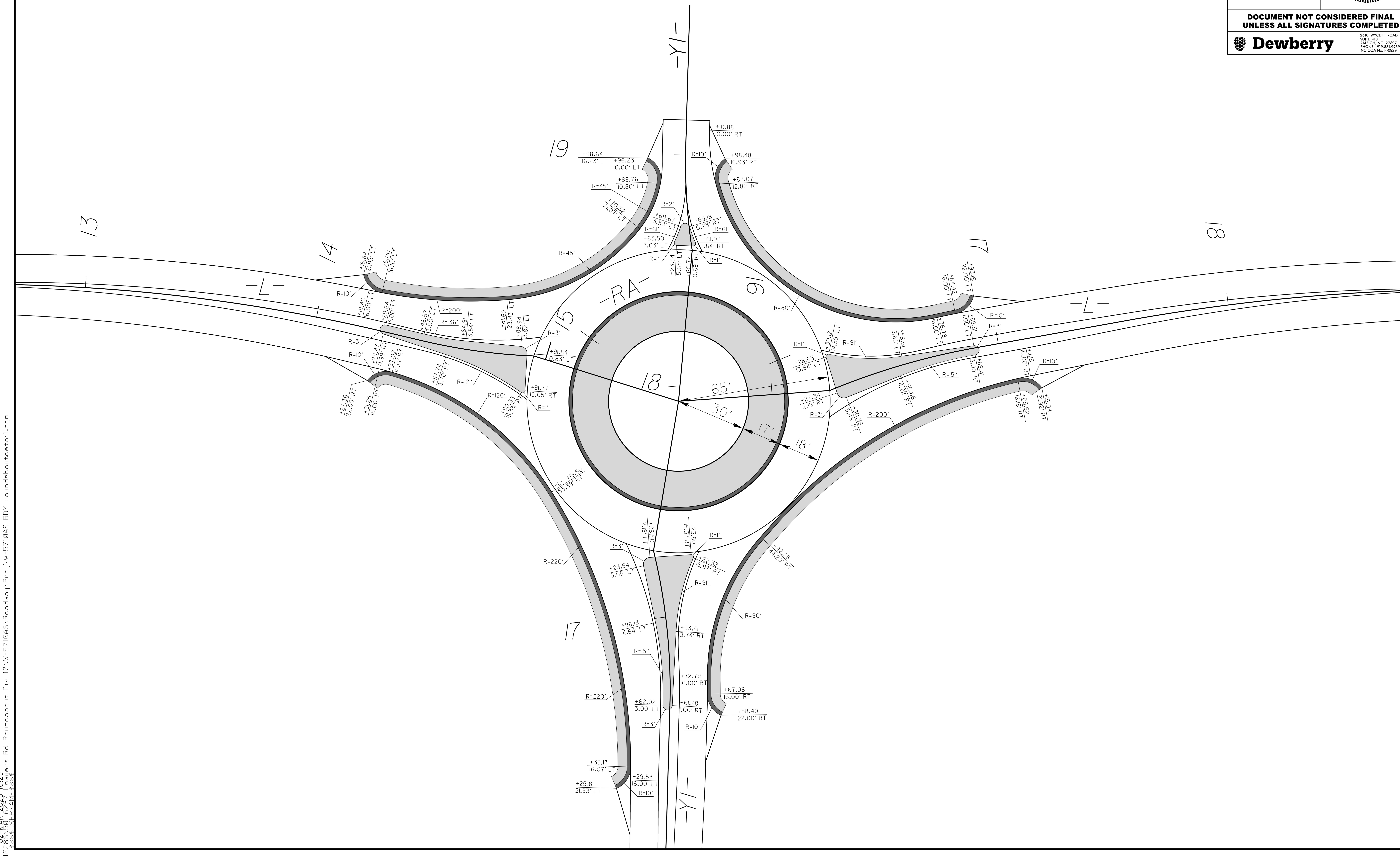
ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 053435 ENGINEER BRYCE D. REID

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Dewberry

2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.881.9939 NC COA No. F-0929



5/14/99

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Lowyers Rd Roundabout_Div 10\W-5710AS\Roadway\Proj\W-5710AS_RDY_roundaboutdetail.dgn

PROJECT NO.	SHEET NO.
W-5710AS	2C-1
F.A. PROJECT NO. 1514009	

ROADWAY DESIGN ENGINEER

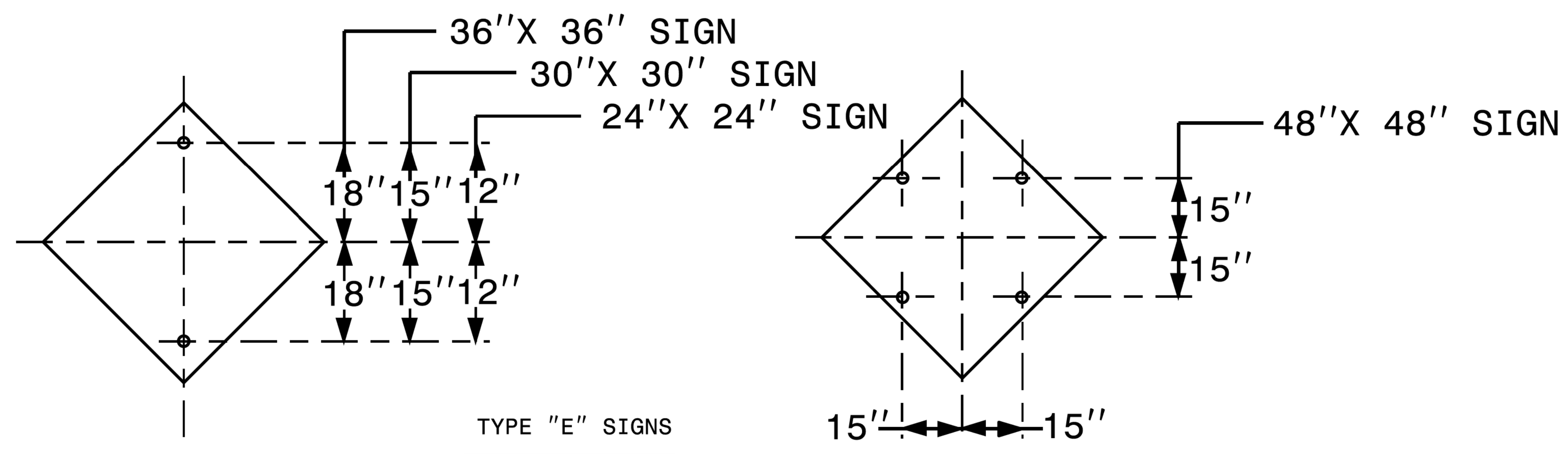
NORTH CAROLINA PROFESSIONAL SEAL

DocuSigned by:

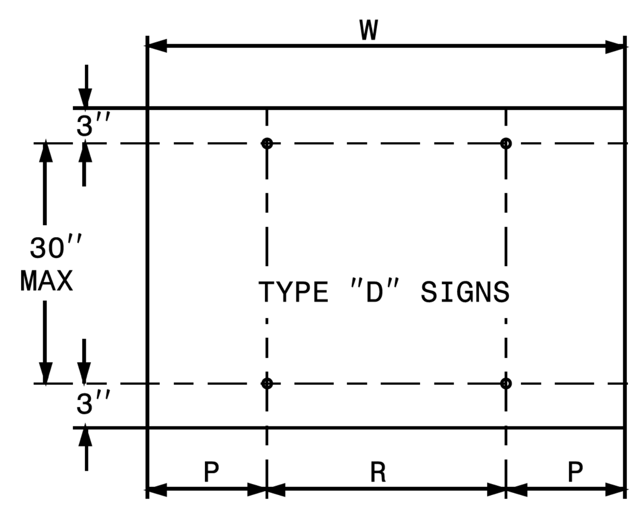
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

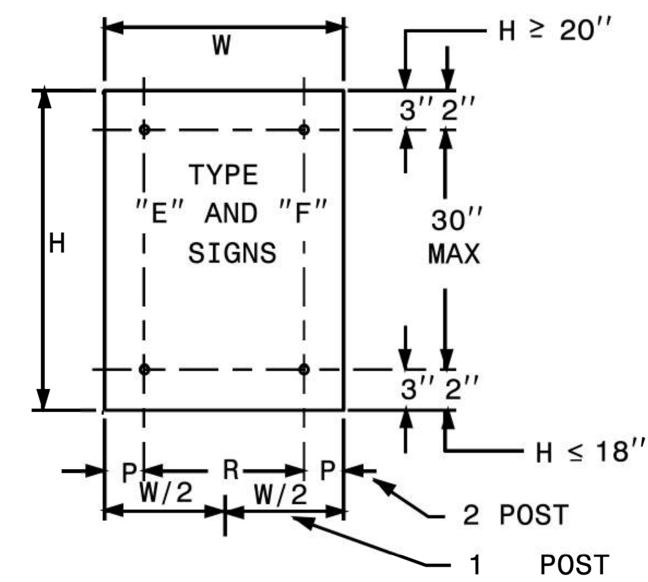
1-12

ENGLISH STANDARD DRAWING FOR MOUNTING OF TYPE 'D','E' AND 'F' SIGNS ON 'U' CHANNEL POSTS



TYPE "E" SIGNS



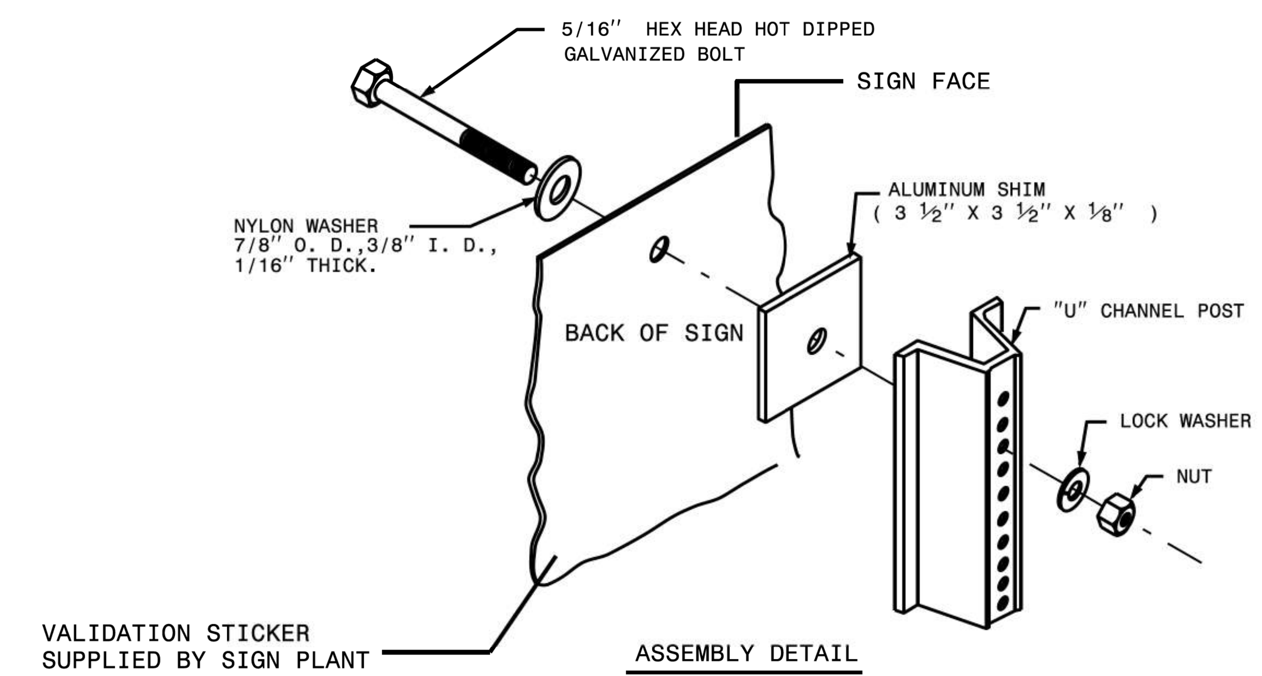


	NO. SUPPORTS		
	2	3 *	4
P	.207W	.145W	.107W
R	.586W	.355W	.262W

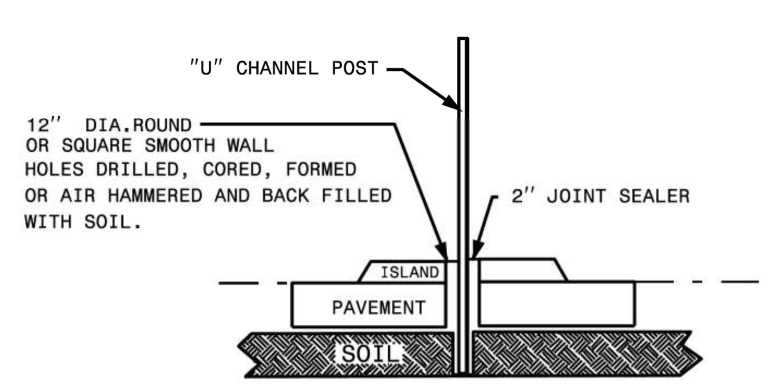
UNITS ON ATTACHED SHEET

*MINIMUM 4 FT. BETWEEN CHANNEL POSTS

HOLE PUNCHING DETAIL



ASSEMBLY DETAIL



DETAIL FOR INSTALLATION OF CHANNEL POST IN CONCRETE

SHEET 2 OF 2

904.50

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

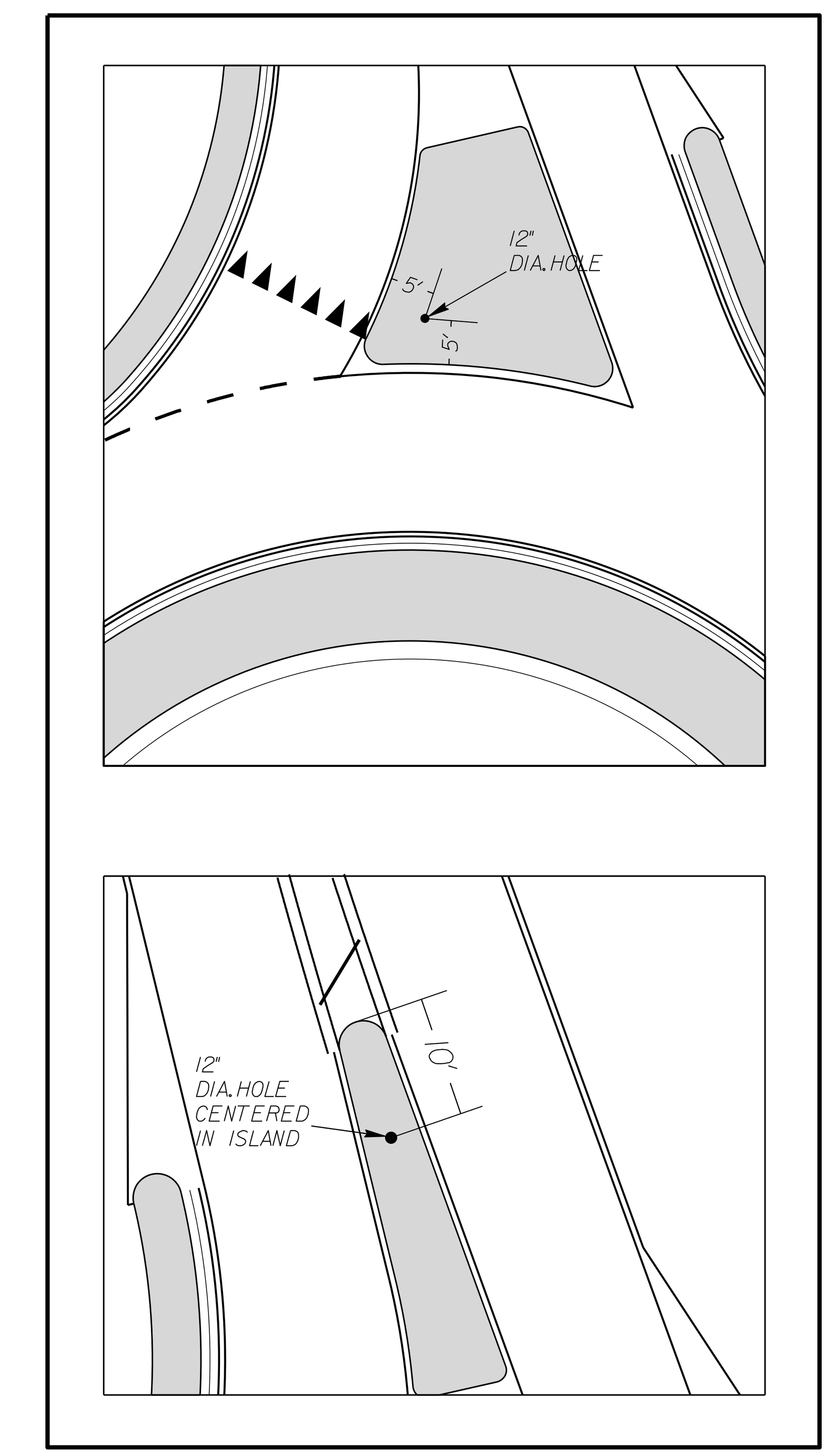
1-12

ENGLISH STANDARD DRAWING FOR MOUNTING OF TYPE 'D','E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SHEET 2 OF 2

904.50

12″ DIA.HOLE LOCATION FOR SIGN U-CHANNEL POST IN SPLITTER ISLANDS



SCALE	N/A
DATE	
DWG. BY	
DESIGN BY	
APPROVED	

REVISIONS

COMPUTED BY:	BDR	DATE:	12/5/2022
CHECKED BY:	BSL	DATE:	12/5/2022

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +20%	BORROW	WASTE
-L- STA. 12+00.00	-L- STA. 14+94.82	900	557		343
-L- STA. 16+24.82	-L- STA. 20+45.00	2,465			2,465
-Y1- STA. 11+03.35	-Y1- STA. 17+28.93	878	629		249
-Y1- STA. 18+58.93	-Y1- STA. 19+15.00	109			109
-Y2- STA. 10+00.00	-L- STA. 12+50.87	60	325	265	
-RA- STA. 10+00.00	-L- STA. 12+95.31	1,074	7,892	6,818	
SUBTOTALS:		5,486	9,403	7,083	3,166
USE SUITABLE WASTE TO REPLACE BORROW				-3,166	
PROJECT TOTALS		5,486	9,403	3,917	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				196	
GRAND TOTALS:		5,486	9,403	4,113	
SAY:		5,500	9,500	4,200	

Note: Approximately quantities only. Unclassified Excavation, Borrow Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for grading.

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	SY
-L-	13+07.84	20+45.00	CL	1,725.25
-L-	12+12.35	-Y2- 10+00.00	CL	1,155.26
-Y2-	10+82.85	-Y1- 11+03.35	CL	1,039.42
			TOTAL:	3,919.93
			SAY:	4,000

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

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS									IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GREU TL-3	M-350	TYPE B-77	TYPE III MODIFIED	CAT-1	BIC	AT-1	EA	G	NG				
-L-	STA. 11+35.00	STA. 12+05.00	RT	70				STA. 11+30.27	1'	7'		50		1			1											143.05		
SUB TOTAL				70													1											143.05		
GREU 350, TL-3 (50 LF PER UNIT)				50																										
PROJECT TOTAL				20													1											143.05		
SAY				25													1											150		
ADDITIONAL GUARDRAIL POST				5																										

PF3BANYL

COMPUTED BY:	RS	DATE:	06/23/22
CHECKED BY:	AH	DATE:	3/3/23

PROJECT NO.	SHEET NO.
W-5710 AS	3D-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

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

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %
L 16+08	70	LT	0401		541.0			
			0401	0402		538.8	538.4	
Y1 16+05	0	CL	0403	0404		536.4	535.0	
Y1 12+65	19	RT	0405					
Y1 12+57	8	LT						
Y2 12+15	0	CL	0406	0407		540.9	540.4	
Y2 11+46	8	RT						
Y1 13+05	29	LT						
L 12+33	62	RT						

LINE & STATION	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC
L 16+08													
Y1 16+05													
Y1 12+65													
Y1 12+57													
Y2 12+15													
Y2 11+46													
Y1 13+05													
L 12+33													
SHEET TOTALS													
PROJECT TOTALS													

LINE & STATION	C. S. PIPE 12 (.064)	15 (.064)	18 (.064)	24 (.064)	30 (.079)	36 (.079)	42 (.109)	48 (.109)	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48
L 16+08																
Y1 16+05																
Y1 12+65																
Y1 12+57																
Y2 12+15																
Y2 11+46																
Y1 13+05																
L 12+33																
SHEET TOTALS																
PROJECT TOTALS																

LINE & STATION	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	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
L 16+08															1			
			88															
Y1 16+05					152													
Y1 12+65									20									
Y1 12+57																		
Y2 12+15			48															
Y2 11+46																		
Y1 13+05																		
L 12+33																		
SHEET TOTALS			136		152				20						1			
PROJECT TOTALS			136		152				20						1			

NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)

LINE & STATION	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. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.2	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.2	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.2
L 16+08													1			1	
Y1 16+05																	
Y1 12+65																	
Y1 12+57																	
Y2 12+15																	
Y2 11+46																	
Y1 13+05																	
L 12+33																	
SHEET TOTALS													1			1	
PROJECT TOTALS													1			1	

LINE & STATION	J.B. STD. 840.31 OR STD. 840.32	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	CONVERT EXISTING C.B. TO J.B.	CONVERT EXISTING C.B. TO D.I.	CONVERT EXISTING D.I. TO J.B.	CONVERT EXISTING J.B. TO D.I.	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 16+08														
Y1 16+05														
Y1 12+65														
Y1 12+57													25	
Y2 12+15														
Y2 11+46													20	
Y1 13+05													20	
L 12+33													62	
SHEET TOTALS													127	
PROJECT TOTALS													127	

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

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

RIGHT OF WAY DATA SHEET

Parcel No.	Property Owner Names	Total Area	Area Taken	Area Remaining	Construction Easement	Perm. Drainage Easement	ROW	Perm. Utiltiy Easement	Perm. Drainage Utilitiy Easement
1	VIKTORIA DERUN AND PAVEL DERUN	3.923	0.0174	3.9056	0.0174				
2	ADLI AL-SHAREE AND SHEREEN NOUR DEARN AMERA	1.388	0.0985	1.2895	0.0593		0.0392		
3	RICKY OLIVER AND KIMBERLY ROCHELLE OLIVER	1.268	0.0525	1.2155	0.0121		0.0404		
4	DOUG MARSH AND TERI MARSH	1.752	0.0364	1.7156	0.0364				
5	MARK ALAN POWNELL AND HEATHER ANNE POWNELL	2.248	0.0272	2.2208	0.0272				
6	CARMEN F. CUTHBERTSON HEIRS	18.34	0.0052	18.3348	0.0052				
7	JANET FORBIS MULLIS, ET AL.	4.781	1.6386	3.1424	0.2665	0.0037	1.3684		
8	BENJAMIN EUGENE GEER AND WIFE, DIANNE KIMBRELL GEER				0.0162				
9	LUCIA HERNANDEZ	2.4312	0.161	2.2702	0.006		0.155		

NOTE: ALL AREAS SHOWN ARE MEASURED IN ACRES.

PARCEL INDEX SHEET

Parcel No.	Sheet No.	Prop. Owner Name
1	4	VIKTORIA DERUN AND PAVEL DERUN
2	4	ADLI AL-SHAREE AND SHEREEN NOUR DEARN AMERA
3	4	RICKY OLIVER AND KIMBERLY ROCHELLE OLIVER
4	4	DOUG MARSH AND TERI MARSH
5	4	MARK ALAN POWNELL AND HEATHER ANNE POWNELL
6	4, 5	CARMEN F. CUTHBERTSON HEIRS
7	4, 5	JANET FORBIS MULLIS, ET AL.
8	4	BENJAMIN EUGENE GEER AND WIFE, DIANNE KIMBRELL GEER
9	5	LUCIA HERNANDEZ

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	4
R/W SHEET NO.	1E
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.881.9939 NC COA No. F-0929

-L-

PI Sta 13+41.73	PI Sta 14+70.77	PI Sta 16+57.31	PI Sta 18+32.02
△ = 13° 18' 07.7" (RT)	△ = 11° 03' 27.4" (LT)	△ = 12° 21' 47.3" (RT)	△ = 10° 15' 03.1" (RT)
D = 7° 32' 20.1"	D = 22° 55' 05.9"	D = 19° 05' 54.9"	D = 6° 44' 26.4"
L = 176.45'	L = 48.25'	L = 64.73'	L = 152.07'
T = 88.62'	T = 24.20'	T = 32.49'	T = 76.24'
R = 760.00'	R = 250.00'	R = 300.00'	R = 850.00'
DS = 30MPH	DS = 30MPH	DS = 30MPH	DS = 40MPH
SE = 4%	SE = NC	SE = NC	SE = 5%

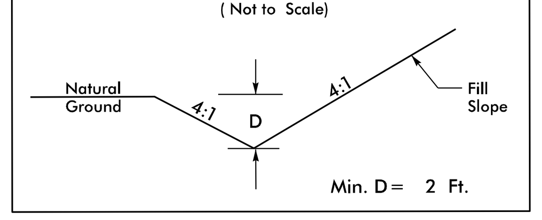
-Y1-

PI Sta 13+21.15	PI Sta 16+95.67	PI Sta 18+81.46
△ = 52° 09' 23.9" (RT)	△ = 15° 20' 24.4" (LT)	△ = 10° 17' 44.4" (RT)
D = 12° 52' 31.6"	D = 22° 55' 05.9"	D = 22° 55' 05.9"
L = 405.09'	L = 66.93'	L = 44.92'
T = 217.79'	T = 33.67'	T = 22.52'
R = 445.00'	R = 250.00'	R = 250.00'
DS = 35MPH	DS = 30MPH	DS = 30MPH
SE = 6.0%	SE = NC	SE = NC
RO = 168'		

-RA-

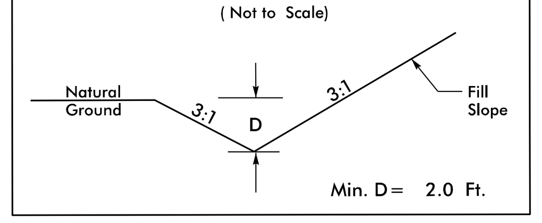
PI Sta 10+75.60	PI Sta 12+23.26
△ = 184° 19' 31.6" (LT)	△ = 175° 40' 28.4" (LT)
D = 121° 54' 21.3"	D = 121° 54' 21.3"
L = 151.20'	L = 144.11'
T = 1,244.55'	T = 1,244.55'
R = 47.00'	R = 47.00'
DS = 15MPH	DS = 15MPH

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



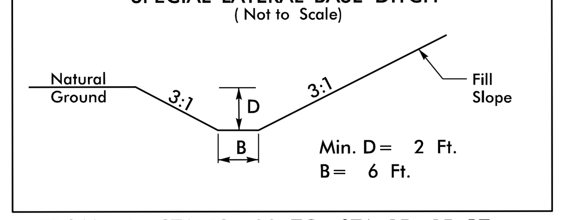
FROM -L- STA. 16+08 TO STA. 17+00 LT
FROM -Y1- STA. 18+62 TO STA. 19+00 RT

DETAIL B
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

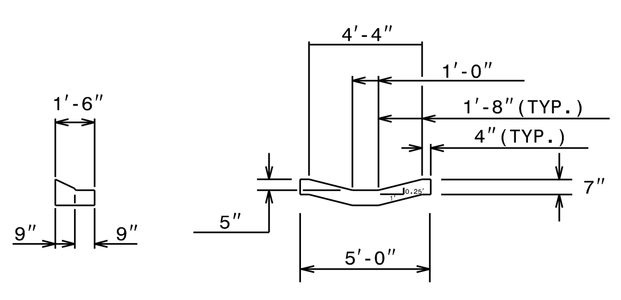


FROM -L- STA. 16+15 TO STA. 17+50 RT
FROM -L- STA. 20+00 TO STA. 20+45 RT
FROM -Y1- STA. 15+00 TO STA. 15+95 RT
FROM -Y1- STA. 15+95 TO STA. 17+50 RT

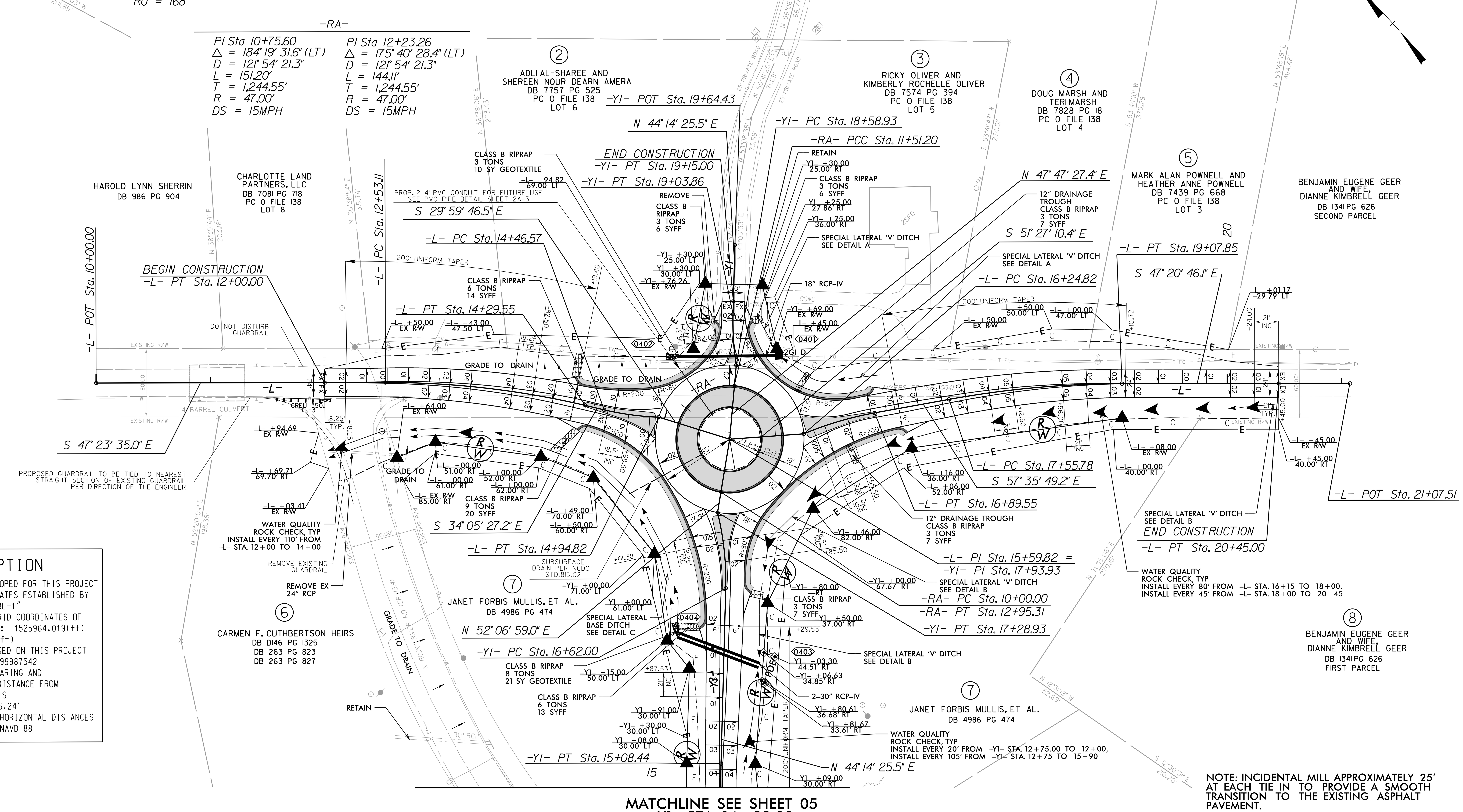
DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 12+00 TO STA. 15+15 RT
FROM -Y1- STA. 16+15 TO STA. 17+28 LT



12" DRAINAGE TROUGH IN TRUCK MOUNTABLE APRON AS DIRECTED BY ENGINEER



MATCHLINE SEE SHEET 05
-Y1- STA. 14+88.00

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-1"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 500602.294(ft) EASTING: 1525964.019(ft)
ELEVATION: 546.24(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987542
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-1" TO "BL-2" IS
N 48° 15' 24" W 546.24'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: INCIDENTAL MILL APPROXIMATELY 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

SEE SHEETS 6 & 7 FOR PROFILE VIEW
SEE SHEET 2A-2 FOR APRON DETAILS
AND SHEET 2B-3 FOR ROUNDABOUT DETAIL

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	5
R/W SHEET NO.	1E
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL — DocuSigned by: B Reid — 3/3/2024 — 7C12996CB48B45B...

NORTH CAROLINA PROFESSIONAL — DocuSigned by: Andrea Hayden — C4A93D325CF4490...

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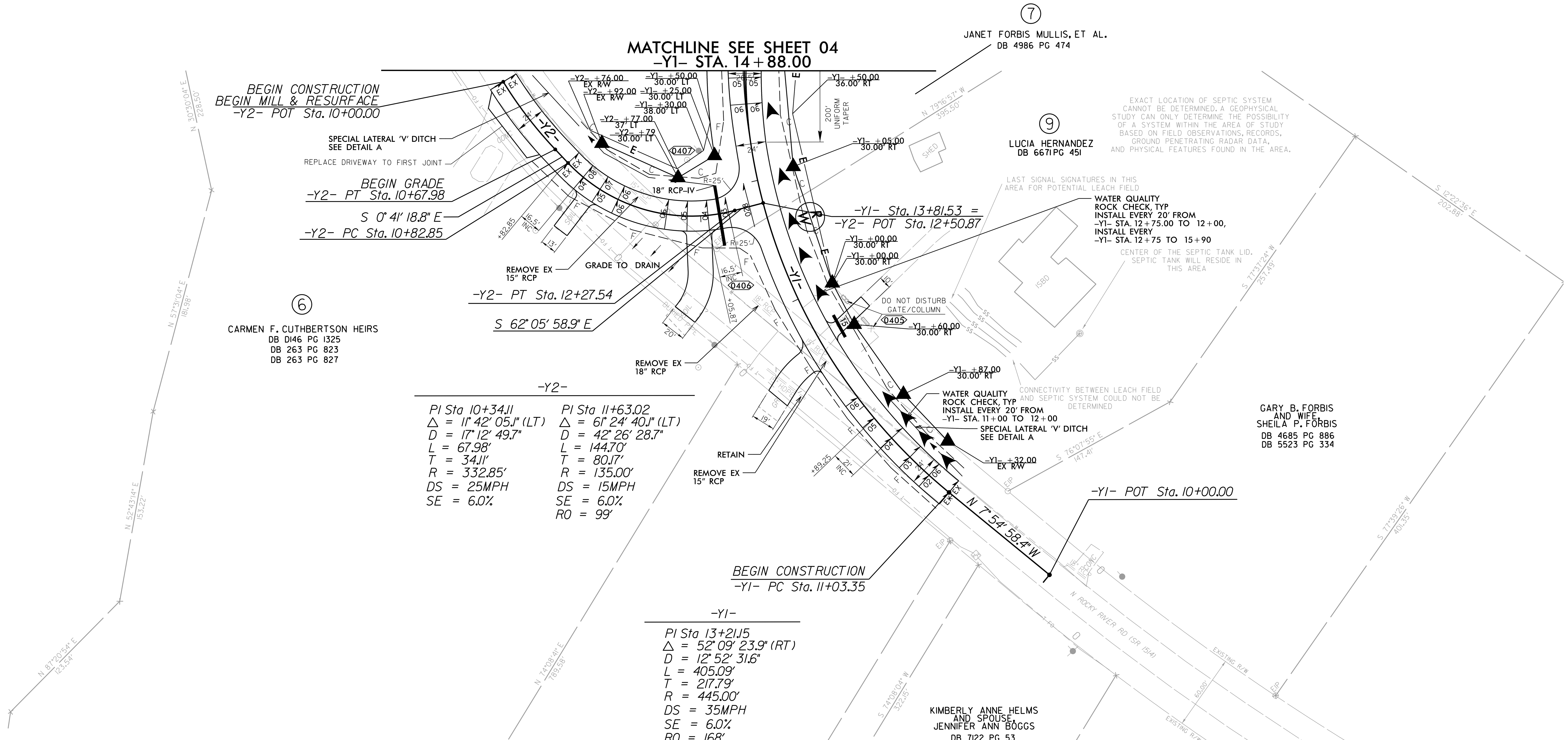

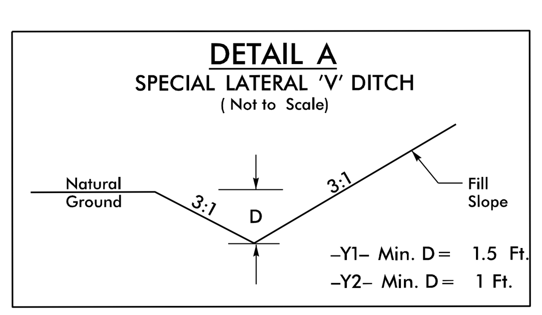

FROM -Y1- STA. 11+00 TO STA. 12+00 RT
FROM -Y2- STA. 10+00 TO STA. 12+15 LT

NOTE: INCIDENTAL MILL APPROXIMATELY 25' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

SEE SHEETS 6 & 7 FOR PROFILE VIEW

03-MAR-2023 04:46
R:\Roadway\Proj\W-5710AS_rdy_psh05.dgn
$$$$USERNAME$$$$

Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	6

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028833

DocuSigned by: Andrea Hayden

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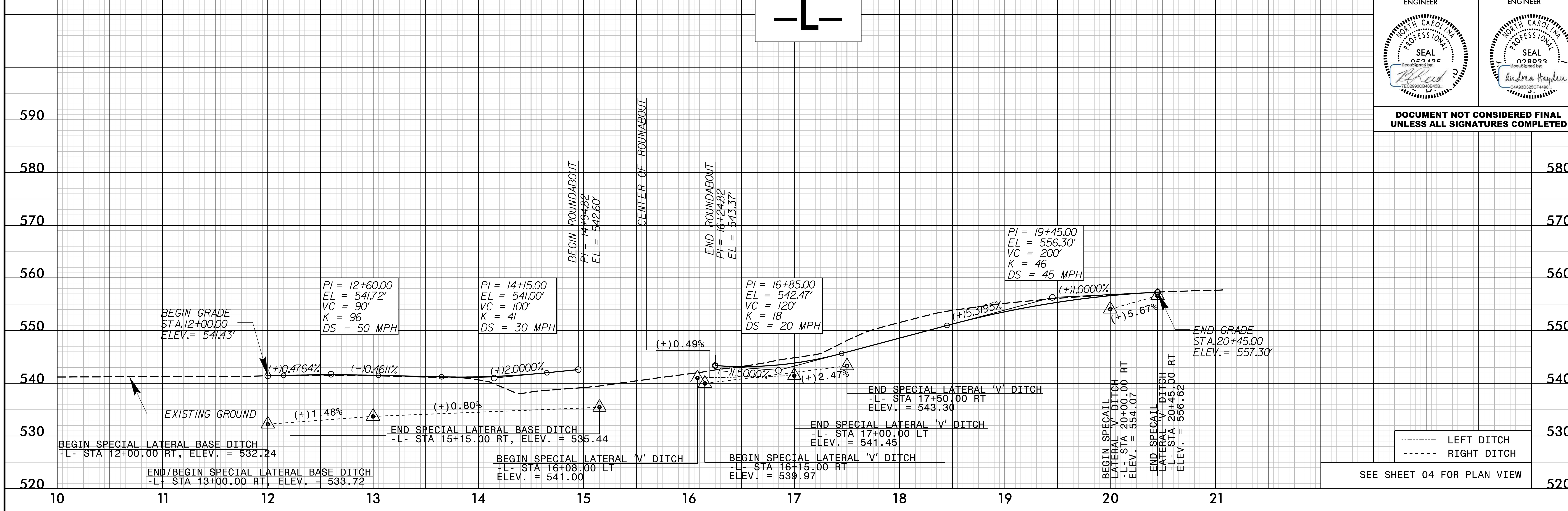
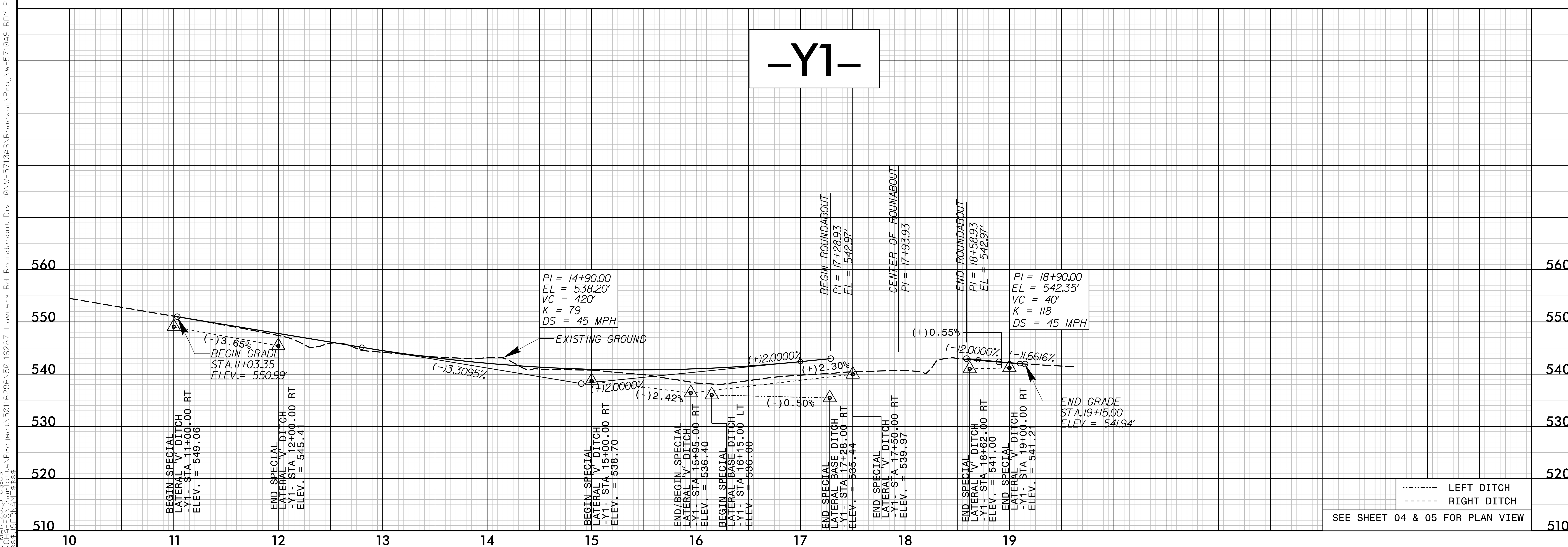




03-MAR-2023 09:09
\\CHA-FS\Charlotte\Project\50116286\50116287 Lawyers Rd Roundabout.Div 10\W-5710AS\Roadway\Proj\W-5710AS_RDY_PFL_PSH.dgn
$$$$USERNAME$$$$

5/28/99

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	7

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL — DocuSigned by: [signature] Reid

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL — DocuSigned by: Andrea Hayden 3/3/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

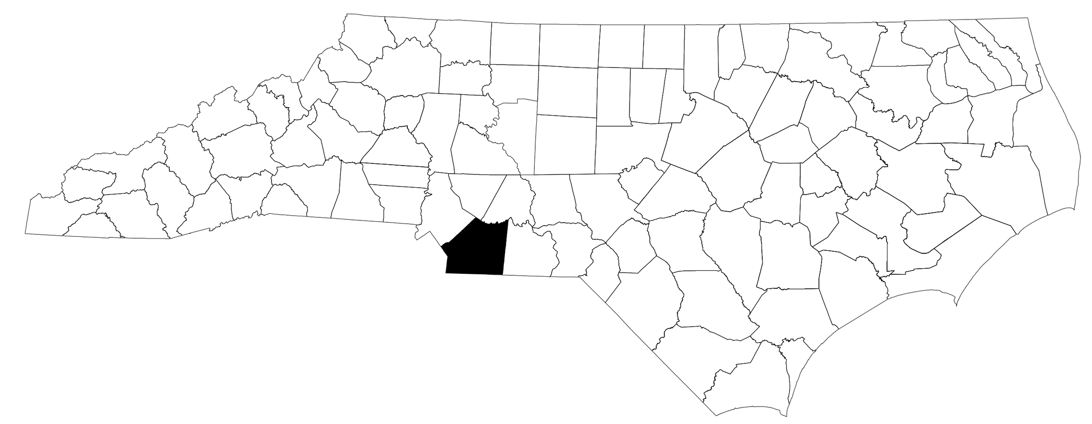
–RA–

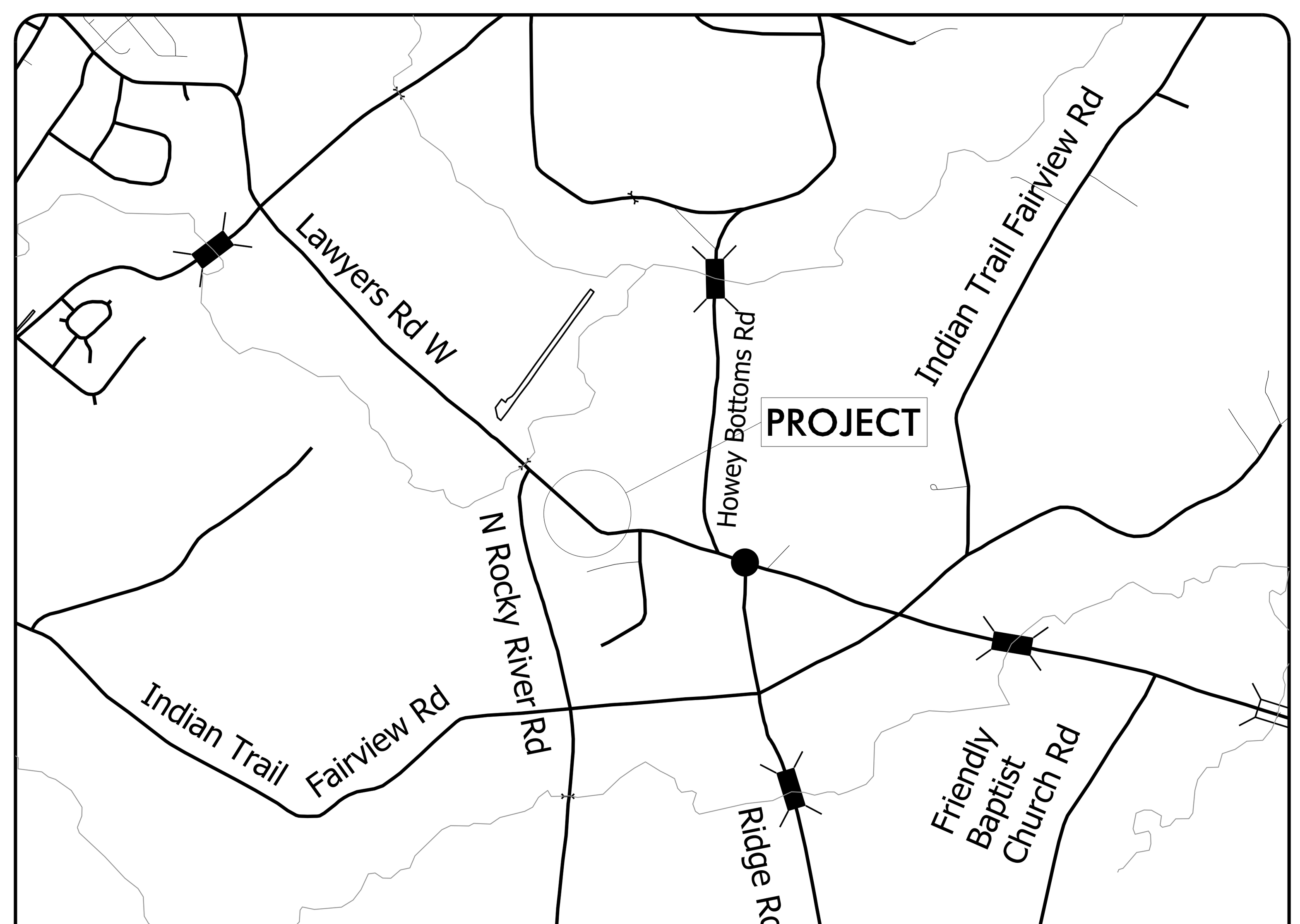
–Y2–

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

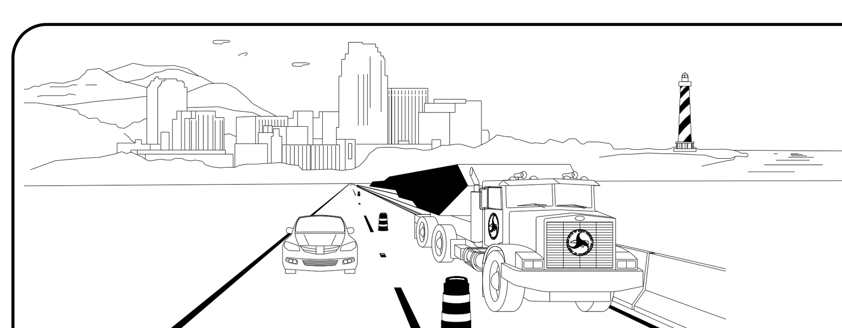
TRANSPORTATION MANAGEMENT PLAN

UNION COUNTY





VICINITY MAP



PLANS PREPARED BY:

TODD BROOKS, PE
PROJECT ENGINEER

ABRAHAM WILES
PROJECT DESIGN ENGINEER

NCDOT CONTACTS:

ZACHARY CLARK, PE
PROJECT ENGINEER

SHEENA GREEN
PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

SHEET NO.
TMP-1

INDEX OF SHEETS

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PLAN PREPARED FOR N.C.D.O.T. BY:

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: DocuSigned by: J. Todd Brooks

DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

TIP PROJECT: W-5710AS

02-MAR-2023 14:20
R:\50116286\50116287 Lawyers Rd Roundabout_Div 10\W-5710AS\Traffic\TrafficControl\TCP\Plans\200_001_W5710AS_TC_TCP 01.dgn
jwiles AT R90K8AV4

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - 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
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGERS
1180.01	SKINNY-DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

LEGEND

GENERAL

DIRECTION OF TRAFFIC FLOW
DIRECTION OF PEDESTRIAN TRAFFIC FLOW
EXIST. PVMT.
NORTH ARROW
PROPOSED PVMT.
WORK AREA
DENOTES USE OF TEMPORARY SIDE SLOPES
PAVEMENT REMOVAL

PAVEMENT MARKINGS

EXISTING AND TEMPORARY LINES

TEMPORARY PAVEMENT MARKING

P1	WHITE EDGELINE	PAINT (4")
P5	2' - 6' SP WHITE MINISKIP	PAINT (4")
P10	YELLOW EDGELINE	PAINT (4")
P13	YELLOW DOUBLE CENTER LINE	PAINT (4")
P40	WHITE GORE LINE	PAINT (8")
P44	3' - 3' SP WHITE SKIP	PAINT (8")
P61	WHITE STOPBAR	PAINT (24")
P103	YIELD LINE TRIANGLE	PAINT (24")

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)
CONE
DRUM WITH SEQUENTIAL FLASHING WARNING LIGHTS
DRUM SKINNY DRUM TUBULAR MARKER
TEMPORARY CRASH CUSHION
FLASHING ARROW BOARD
FLAGGER
LAW ENFORCEMENT
TRUCK MOUNTED ATTENUATOR (TMA)
CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

PORTABLE SIGN
STATIONARY SIGN
STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

CRYSTAL/CRYSTAL
CRYSTAL/RED
YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: DocuSigned by: B136C648C9684EA...
DATE: 3/3/2023
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-2

MANAGEMENT STRATEGIES

THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT A ROUNDABOUT AT THE INTERSECTION OF SR 1004 (LAWYERS ROAD) AND SR 1514 (N. ROCKY RIVER ROAD).

DURING PHASE I, STEPS 1 THROUGH 2B, CONSTRUCTION WILL BEGIN ON A MAJORITY OF THE PROJECT AWAY FROM TRAFFIC USING FLAGGERS WHEN NEEDED. THE EXCEPTION TO THIS WILL BE THE PORTION OF THE PROJECT CONSTRUCTED IN PHASE I, STEP 2A. THOSE POSTIONS OF THE PROJECT WILL BE CONSTRUCTED UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE SO THAT GOOSE CREEK FARM TRAFFIC CAN BE SAFELY MAINTAINED IN A LATER PHASE. TRAFFIC ON SR 1004 AND SR 1514 WILL BE MAINTAINED IN THEIR EXISTING PATTERNS.

DURING PHASE I, STEP 3, LAWYERS ROAD WILL BE CLOSED TO THROUGH TRAFFIC. THAT TRAFFIC WILL BE DETOURED VIA SR 1514 (N. ROCKYRIVER RD.) AND SR 1520 (INDIAN TRAIL FAIRVIEW ROAD). GOOSE CREEK FARM TRAFFIC WILL BE SIMULATNAEOUSLY DETOURED TO THE SECTIONS OF THE PROJECT CONSTRUCTED DURING PHASE I, STEP 2A. SEE ALSO SHEET TMP-6.

DURING PHASE I, STEP 4, WORK CONTINUES ON THE WESTERN LEG OF -L- FROM STA. 12+00 +/- TO THE ROUNDADBOUT USING FLAGGERS WHILE GOOSE CREEK FARM LANE TRAFFIC TRAVERSES THE WORK AREA. THE EASTERN PORTION OF -L- FROM THE ROUNDABOUT TO THE EASTERN PROJECT LIMITS IS CONSTRUCTED UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. THE PORTIONS OF -Y1- AND -L- BEGUN IN PHASE I, STEP 2 ARE COMPLETED UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

DURING PHASE II, STEP 1, TRAFFIC CONTINUES TO BE DETOURED AS PER PHASE I, STEP 3. GOOSE CREEK FARM LANE TRAFFIC CONTINUES TO ACCESS THAT ROAD USING THE PATTERN IMPLEMENTED DURING PHASE I, STEP 3. WHILE TRAFFIC CONTINUES TO BE DETOURED, CONSTRUCT THE INTERIOR OF THE ROUNDABOUT; THE SECTION OF THE ROUNDABOUT OVER EXISTING SR 1004 AND THE REMAINING WORK TO BE DONE ON THE WESTERN LEG OF -L-. THIS INCLUDES THE PROPOSED CURB AND GUTTER IN THE NW QUADRANT OF -L- AND -Y1-.

DURING PHASE II, STEP 2, TEMPORARY MARKINGS ARE PLACED ON NEWLY CONSTRUCTED -L-, -Y1- AND -RA- IN THE FINAL PATTERN. FINAL SIGNING IS ALSO INSTALLED. TRAFFIC IS THEN SHIFTED TO THOSE NEWLY CONSTRUCTED ROADS. THE TIE BETWEEN -Y1- AND EXISTING SR 1514 AT THE SOUTH END OF THE PROJECT IS ALSO COMPLETED DURING THIS TIME USING FLAGGERS AND ALTERNATE LANE CLOSURES.

DURING PHASE II, STEPS 3 AND 4, REMAINING WORK IS COMPLETED ON -L-, -Y1- AND -Y2- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

DURING PHASE II, STEP 5, TEMPORARY PAVEMENT MARKINGS ARE PLACED ON -Y2- IN THE FINAL PATTERN. -Y2- IS OPENED TO TRAFFIC.

DURING PHASE III, STEP 1, EXISTING N. ROCKY RIVER ROAD IS REMOVED AS PER THE ROADWAY PLANS.

DURING PHASE III, STEP 2, THE FINAL LAYER OF SURFACE COURSE, ISLANDS AND MARKINGS ARE PLACED.

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.
THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
SR 1004 (LAWYERS ROAD) SR 1514 (N. ROCKY RIVER ROAD)	MONDAY THROUGH FRIDAY 6:00 AM TO 9:00 AM & 4:00 PM TO 6:00 PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

SR 1004 (LAWYERS ROAD)
SR 1514 (N. ROCKY RIVER ROAD)

HOLIDAY AND HOLIDAY WEEKEND

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 AM DECEMBER 31ST TO 6:00 PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 PM THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 AM THURSDAY AND 6:00 PM MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY TO 6:00 PM TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 AM THE DAY BEFORE INDEPENDENCE DAY AND 6:00 PM THE DAY AFTER INDEPENDENCE DAY.
6. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 PM THE TUESDAY AFTER INDEPENDENCE DAY.
7. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY AND 6:00 PM TUESDAY.
8. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 AM TUESDAY TO 6:00 PM MONDAY.
9. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

(CONTINUED ON TMP-2A)

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TRANSPORTATION
OPERATIONS
PLAN

(CONTINUED FROM TMP-2)

LANE AND SHOULDER CLOSED REQUIREMENTS

C) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC MANAGEMENT PLANS, ROADWAYS STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

G) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

H) BACKFILL AT 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

- BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
- BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH
- BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

TRAFFIC PATTERN ALTERATIONS

I) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

J) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

K) THE CONTRACTOR SHALL INSTALL SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO ROADWAY STANDARD DRAWINGS AND TMP.

L) THE CONTRACTOR SHALL COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION. THE CONTRACTOR SHALL COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERNS.

N) INSTALL BLACK ON ORANGE 'DIP' SIGNS (W8-2) AND/OR BUMP SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

O) WHEN LANE CLOSURES ARE NOT IN EFFECT, SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES), AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

P) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

Q) THE CONTRACTOR SHALL INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE. SEE SIGNING AND DELINEATION PLAN.

R) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKERS	MARKINGS
SR 1004 (LAWYERS ROAD)	NONE	PAINT
SR 1514 (N. ROCKY RIVER ROAD)	NONE	PAINT
-Y2-	NONE	PAINT

S) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6)MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

T) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

U) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATIONS.

MISCELLANEOUS

V) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER.

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TRANSPORTATION OPERATIONS PLAN

PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-3

PHASING

PHASE I

STEP 1: USING RSD NO. 1101.01, SHEET 3 OF 3, INSTALL WORK ZONE ADVANCE WARNING SIGNS ON SR 1514 (N. ROCKY RIVER ROAD) AND SR 1004 (LAWYERS ROAD).

INSTALL AND COVER DETOUR SIGNING IN PREPARATION FOR THE CLOSURE OF SR 1004 (LAWYERS ROAD) AT SR 1514 (N. ROCKY RIVER ROAD) AS SHOWN ON SHEET TMP-12.

PHASE I, STEPS 2A AND 2B MAY BE SIMULTANEOUSLY PERFORMED. STEP 2A, HOWEVER, MUST BE COMPLETE BEFORE PROGRESSING TO PHASE I, STEP 3.

STEP 2A: CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS SHOWN ON TMP-4. USE RSD NO. 1101.02, SHEET 1 OF 14 WHEN CONSTRUCTION ACTIVITY ENCROACHES UPON AN EXISTING TRAVEL LANE (DURING NON-PEAK HOURS ONLY):

- PROPOSED -L- UP TO THE EDGE AND ELEVATION OF EXISTING SR 1004 FROM -L- STA. 12+67 +/- TO -L- STA. 13+75 +/-. MAINTAIN 2′ OFFSET FROM PROPOSED CENTER LINE AS SHOWN ON SHEETS TMP-4 & TMP-5.
- PROPOSED -L- FROM STA. 13+75 +/- TO THE ROUNDABOUT SOUTH OF THE PROPOSED CENTER LINE. AS SHOWN ON SHEETS TMP-4 AND TMP-5, THIS CONSTRUCTION SHALL MAINTAIN A 2′ OFFSET FROM THAT CENTER LINE. UNDER THE DIRECTION OF THE ENGINEER, CONSTRUCT TEMPORARY SIDE SLOPES WHILE MAINTAINING POSITIVE TEMPORARY DRAINAGE DURING CONSTRUCTION AS SHOWN ON SHEETS TMP-4 AND TMP-5.
- PROPOSED -RA- PAVEMENT SOUTH OF EXISTING SR 1004 AS SHOWN ON SHEET TMP-4. THIS INCLUDES COMPLETION OF THE PROPOSED CURB & GUTTER IN THE SOUTHEAST AND SOUTHWEST QUADRANTS OF -L- AND -Y1- AS HIGHLIGHTED ON TMP-6. ADJACENT WORK MAY CONTINUE AS SHOWN ON SHEET TMP-6. DO NOT CONSTRUCT ANY INTERIOR PORTIONS OF THE ROUNDABOUT AT THIS TIME.
- CONSTRUCT -Y1- FROM STA. 18+56 +/- TO STA. 19+15 +/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS SHOWN ON SHEET TMP-4. ONLY CONSTRUCT THE PROPOSED EAST SIDE CURB AND GUTTER AT THIS TIME AS SHOWN ON SHEET TMP-4.

STEP 2B: BEGIN CONSTRUCTION OF THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AWAY FROM TRAFFIC AS SHOWN ON TMP-4. USE RSD NO. 1101.02, SHEET 1 OF 14 WHEN CONSTRUCTION ACTIVITY ENCROACHES UPON AN EXISTING TRAVEL LANE (DURING NON-PEAK HOURS ONLY):

- PROPOSED -L- FROM THE ROUNDABOUT TO STA. 17+00 +/- SOUTH OF THE PROPOSED CENTER LINE. UNDER THE DIRECTION OF THE ENGINEER, CONSTRUCT TEMPORARY SIDE SLOPES TO MITIGATE RISK OF DROP-OFFS WITHIN CLEAR ZONE. SEE SHEETS TMP-4 AND TMP-5.
- -Y1- FROM STA. 11+03 +/- TO THE ROUNDABOUT. UNDER THE DIRECTION OF THE ENGINEER, CONSTRUCT THE PORTION OF PROPOSED -Y1- IN THE VICINITY OF EXISTING SR 1514 UP TO THE EDGE AND ELEVATION OF EXISTING N. ROCKY RIVER ROAD. SEE SHEETS TMP-4 AND TMP-5.
- -Y2- FROM STA. 10+75 +/- TO STA. 12+50 +/-. MAINTAIN A 4′ OFFSET BETWEEN THIS CONSTRUCTION AND EXISTING SR 1514 EDGE OF PAVEMENT. UNDER THE DIRECTION OF THE ENGINEER, MAINTAIN POSITIVE TEMPORARY DRAINAGE DURING CONSTRUCTION. SEE SHEETS TMP-4 AND TMP-5.

PHASE I - CONT.

STEP 3: CLOSE SR 1004 (LAWYERS ROAD) AT SR 1514 (N. ROCKY RIVER ROAD) AND AT THE EASTERN PROJECT LIMIT AS PER RSD NO. 1101.03, SHEETS 1 AND 2 OF 9. SEE SHEET TMP-6. UNCOVER THE DETOUR SIGNING PLACED IN PHASE I, STEP 1 AND DETOUR LAWYERS ROAD TRAFFIC AS PER SHEET TMP-12.

SIMULTANEOUS WITH THE ABOVE ROAD CLOSURE, DETOUR GOOSE CREEK FARM LANE TRAFFIC AS SHOWN ON SHEETS TMP-6 AND TMP-7 USING A PORTION OF THE SR 1004 EXISTING PAVEMENT AND THE RECENTLY CONSTRUCTED SECTIONS OF THE PROJECT BUILT DURING PHASE I, STEP 2A.

STEP 4: USING RSD NO. 1101.02, SHEET 1 OF 14 WHEN NECESSARY ON SR 1514, CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

- THE PROPOSED EASTERN LEG OF -L- FROM THE PROPOSED ROUNDABOUT TO STA. 20+45 +/- SEE TMP-6.
- ALTERNATELY CONSTRUCT PORTIONS OF -L-FROM STA. 12+00 +/- TO STA. 15+02 +/- AS SHOWN ON SHEETS TMP-6 AND TMP-7.

COMPLETE THE FOLLOWING BEGUN IN PHASE I, STEP 2 UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE:

-Y1- FROM THE EDGE OF EXISTING SR 1514 AT -Y1- STA. 11+03 +/- TO THE PROPOSED ROUNDABOUT.
-Y2- FROM STA. 10+75 +/- TO -Y2- STA. 12+50 +/- WHILE MAINTAINING THE 4′ OFFSET FROM EXISTING SR 1514.

PHASE II

STEP 1: UPON COMPLETION OF THE PHASE I CONSTRUCTION OF PROPOSED -L-, -Y1-, -Y2- AND -RA- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, SHIFT GOOSE CREEK FARM ROAD TRAFFIC TO THE PATTERN SHOWN ON TMP-8. WHILE CONTINUING TO CLOSE -L-, Y1- AND -Y2-, CONSTRUCT THE FOLLOWING USING THE ROUNDABOUT DETAIL ON SHEETS TMP-14 AND TMP-15 AS NEEDED:

- THE INTERIOR OF THE ROUNDABOUT. SEE SHEET TMP-8.
- -Y1- FROM STA. 18+32 +/- TO STA. 18+56 +/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. SEE SHEET TMP-8.
- THE CURB & GUTTER IN THE NORTHWEST QUADRANT OF -L- AND -Y1-. SEE SHEET TMP-8.
- THE PORTION OF -L- AS SHOWN ON SHEET TMP-8 FROM STA. 12+00 +/- TO STA. 14+26 +/-.

STEP 2: INSTALL TEMPORARY PAINT PAVEMENT MARKINGS AND SIGNS AS SHOWN ON SHEET TMP-9. FOLLOWING INSTALLATION OF THOSE TEMPORARY MARKINGS AND SIGNS, REMOVE THE ROAD CLOSURE DEVICES AND DETOUR SIGNING INSTALLED DURING PHASE I. REOPEN SR 1004 (LAWYERS ROAD) TO TRAFFIC AS SHOWN ON SHEET TMP-9.

SIMULTANEOUS WITH THE REOPENING OF SR 1004, SHIFT SR 1514 TRAFFIC TO THE NEW -Y1- ALIGNMENT. USING FLAGGERS AND ALTERNATE LANE CLOSURES AS PER RSD 1101.02, SHEET 1 OF 14, COMPLETE THE TIE-IN BETWEEN PROPOSED -Y1- AND EXISTING SR 1514 UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AND PLACE TEMPORARY PAINT PAVEMENT MARKINGS AS SHOWN ON TMP-9.

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PHASING

PHASING

UNDER THE DIRECTION OF THE ENGINEER, PHASE II, STEPS 3 AND 4 MAY BE SIMULTANEOUSLY PERFORMED.

STEP 3: REFER TO DRIVES 'A' AND 'B' ON SHEET TMP-9. CONSTRUCT THOSE DRIVES SIMULTANEOUSLY WITH THE PORTION OF -Y1- DETAILED IN THIS STEP. DURING CONSTRUCTION OF THE DRIVE 'A' CONNECTION TO THE NEWLY BUILT PORTION OF -Y2-, DETOUR DRIVE 'A' TRAFFIC TO DRIVE 'B's CONNECTION TO -Y1-. USE A PORTION OF EXISTING SR 1514 AS SHOWN ON SHEET TMP-9. ONCE DRIVE 'A' AND ITS CONNECTION TO -Y2- ARE COMPLETE, SHIFT DRIVE 'A' TRAFFIC TO ITS PERMANENT CONNECTION AS SHOWN ON SHEET TMP-10.

STEP 4: COMPLETE -Y2- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. SEE SHEET TMP-10 AND CUT-SECTION 'L-L'.

DURING THIS TIE-IN WORK, THE PROPERTY OWNER IN THE VICINTIY OF -Y2- STA. 10+00 +/- (DRIVE 'A') WILL CONTINUE TO ACCESS LAWYERS ROAD VIA THE PORTION OF EXISTING SR 1514 THAT RUNS BETWEEN THAT PROPERTY AND LAWYERS ROAD. SEE SHEET TMP-10. PLACE TWO BARRICADES WITH SIGN R11-4 AT THE INTERSECTION OF EXISTING LAWYERS ROAD AND N. ROCKY RIVER ROAD DURING THIS STEP.

STEP 5: PLACE TEMPORARY PAINT PAVEMENT MARKINGS ON -Y2- AND SHIFT -Y2- TRAFFIC TO ITS FINAL PATTERN AND CLOSE EXISTING N. ROCKY RIVER ROAD AT -Y2- STA. 10+00 +/- AS SHOWN ON SHEET TMP-11. REMOVE THE BARRICADES PLACED AT THE INTERSECTION OF LAWYERS ROAD AND N. ROCKY RIVER ROAD DURING PHASE II, STEP 4 AND CLOSE N. ROCKY RIVER ROAD AT LAWYERS ROAD AS SHOWN ON SHEET TMP-11.

PHASE III

STEP 1: REMOVE EXISTING N. ROCKY RIVER ROAD AS SHOWN ON SHEET TMP-11 AND THE ROADWAY PLANS.

STEP 2: REFER TO SHEETS TMP-14 AND TMP-15. USING THOSE ROUNDABOUT DETAILS, PLACE FINAL LAYER OF SURFACE COURSE, RAISED ISLANDS AND FINAL MARKINGS ON -L-, -Y1-, -Y2- AND -RA-. REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES AND SIGNING FROM THE PROJECT LIMITS.

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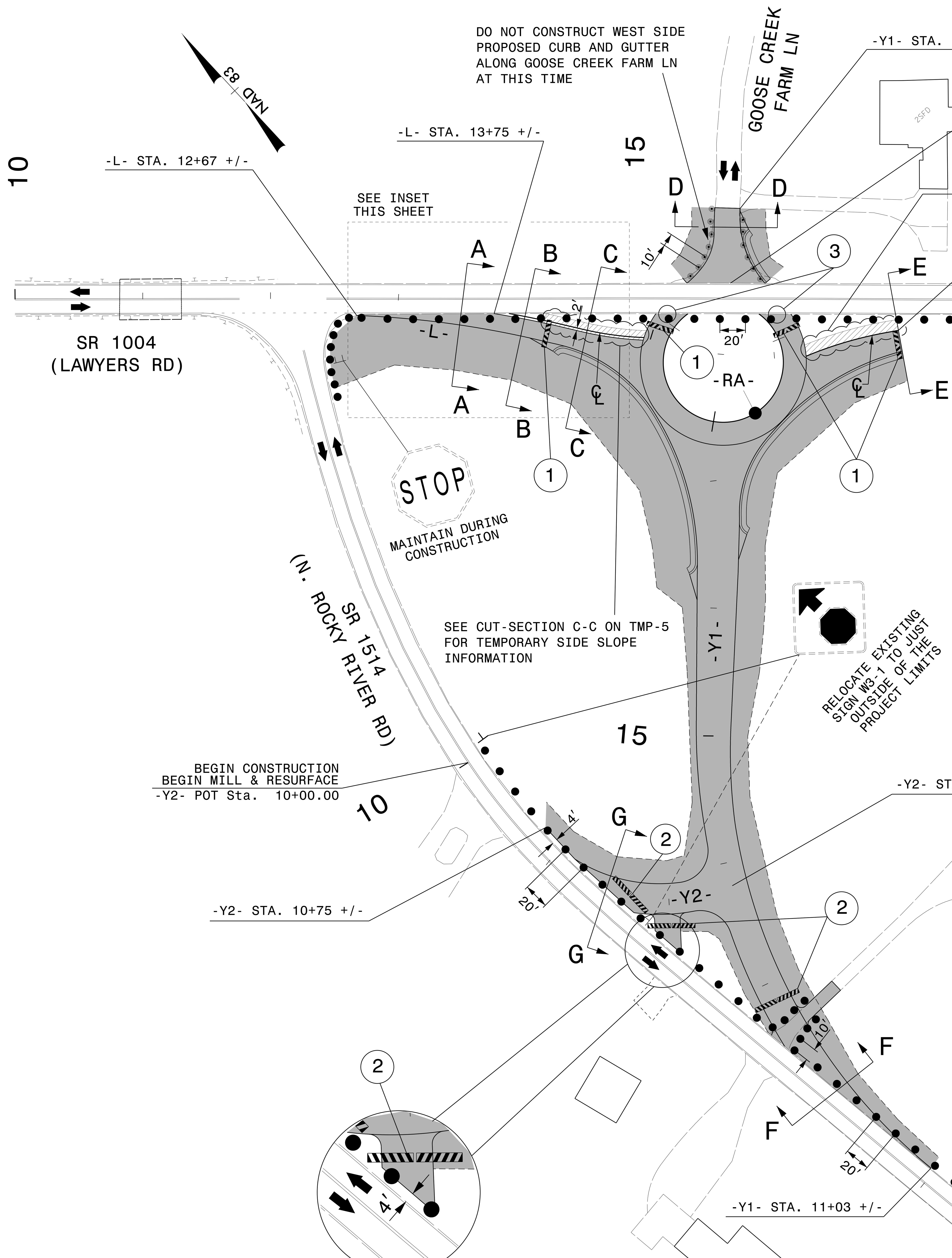
PHASING

PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-4

SEE SHEET TMP-5 FOR CUT-SECTIONS



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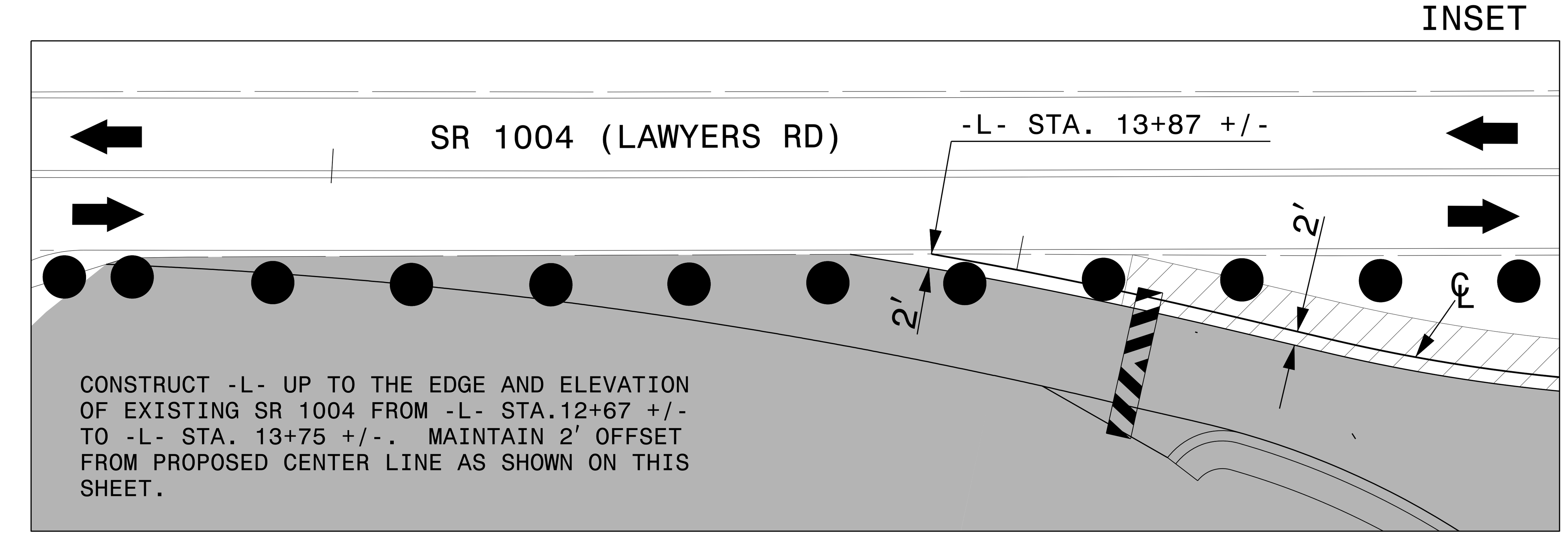

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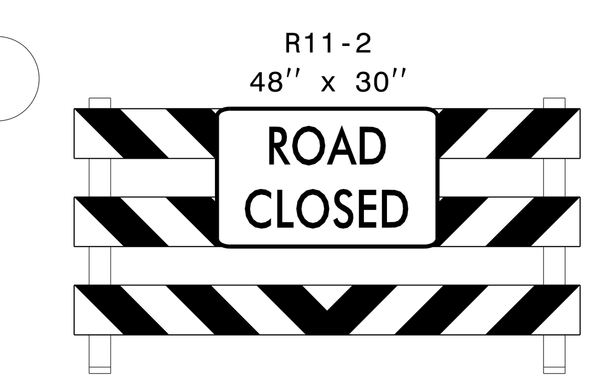
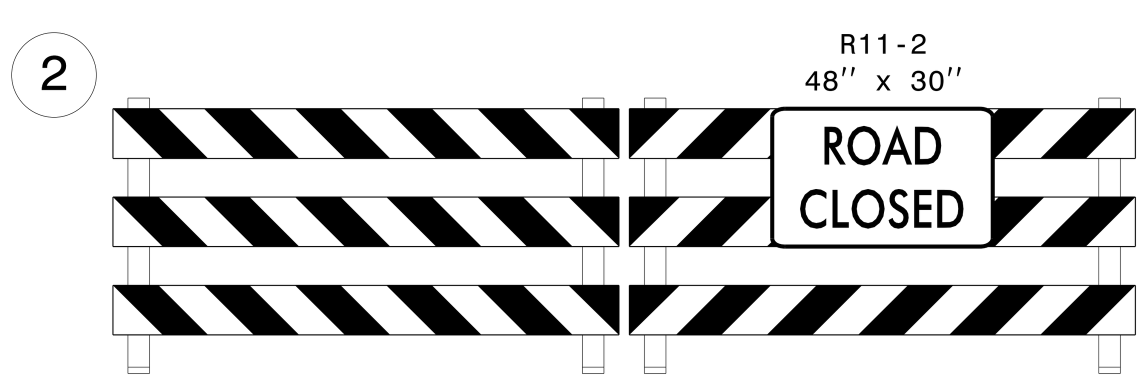


TYPE III BARRICADE

2



TYPE III BARRICADE(S)

3

FEATHER PAVEMENT TO ALLOW FOR A SMOOTH TRANSITION BETWEEN THE EXISTING AND PROPOSED DURING UPCOMING TRAFFIC SHIFT

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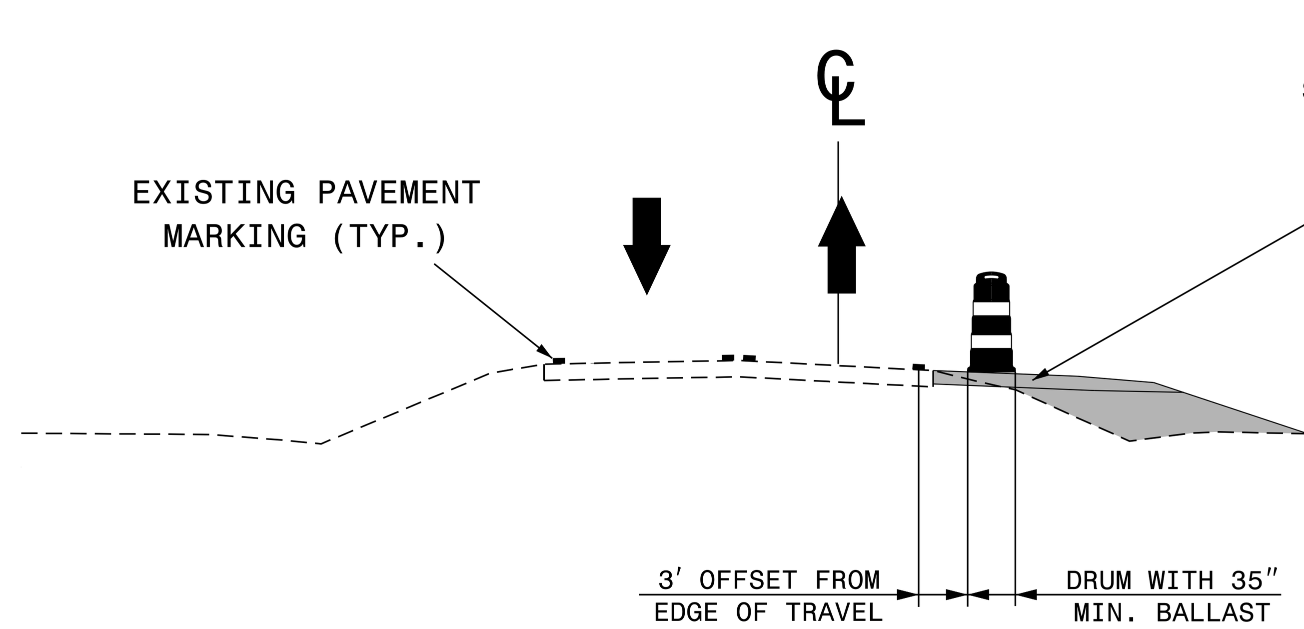
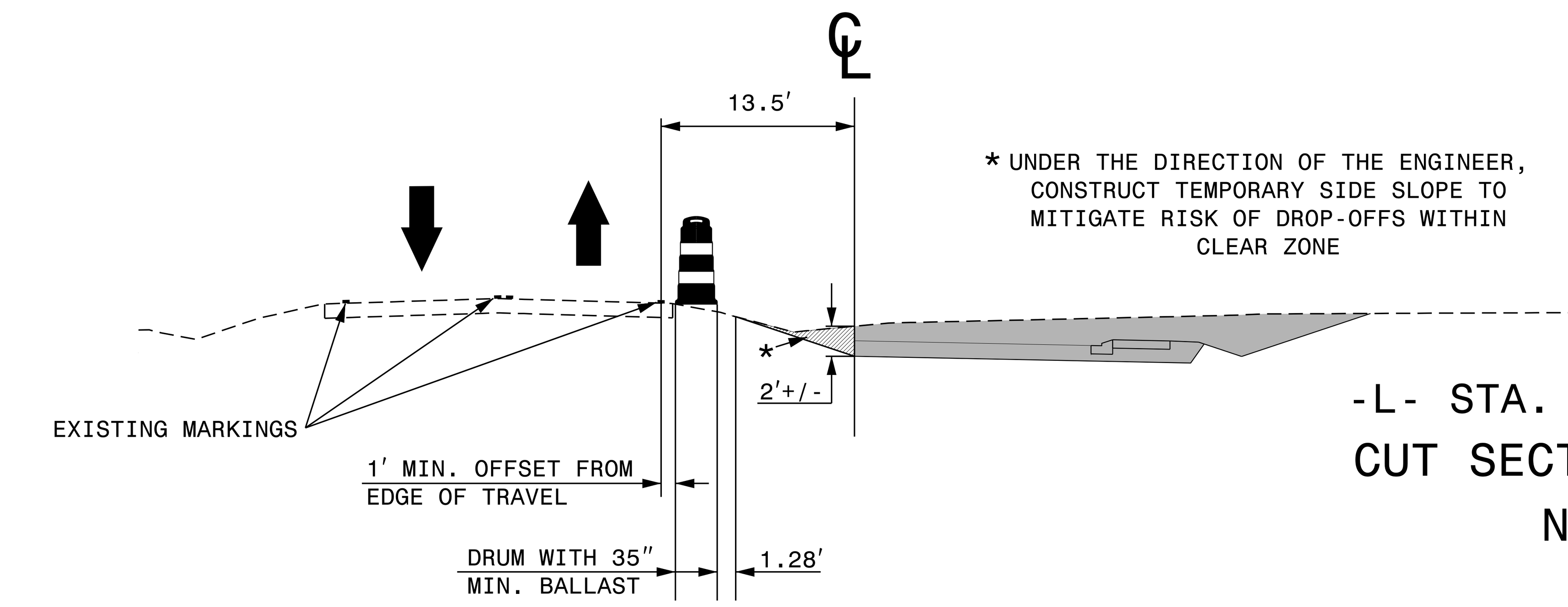
PHASE I, STEP 2 DETAIL

02-MAR-2023 13:53
R:\50II6286\50II6287 Lawyers Rd Roundabout_Div 10\W-5710AS\Traffic\TrafficControl\TCP\Plans\200_006_W5710AS_TC_TCP_04.dgn
jwiles AT R90K8AV4

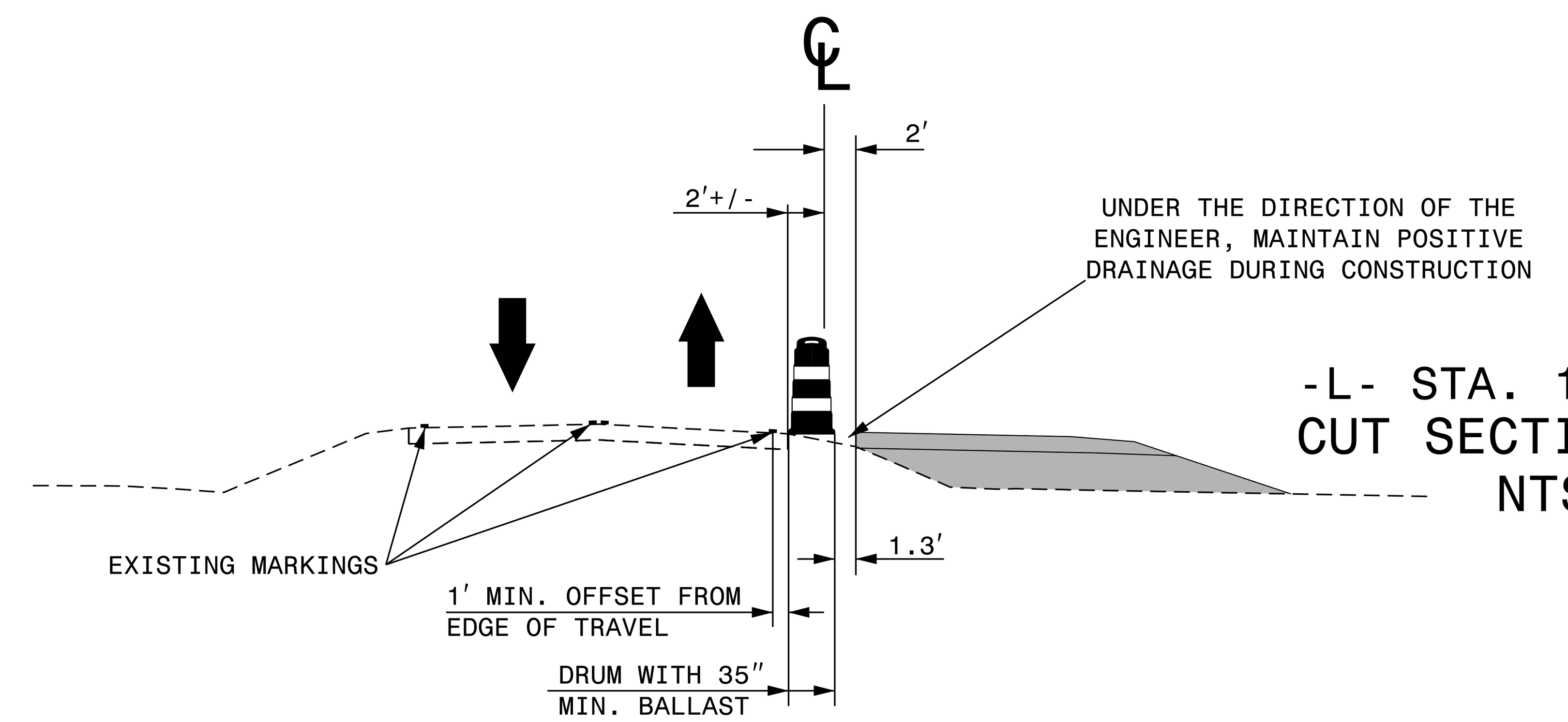
PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-5



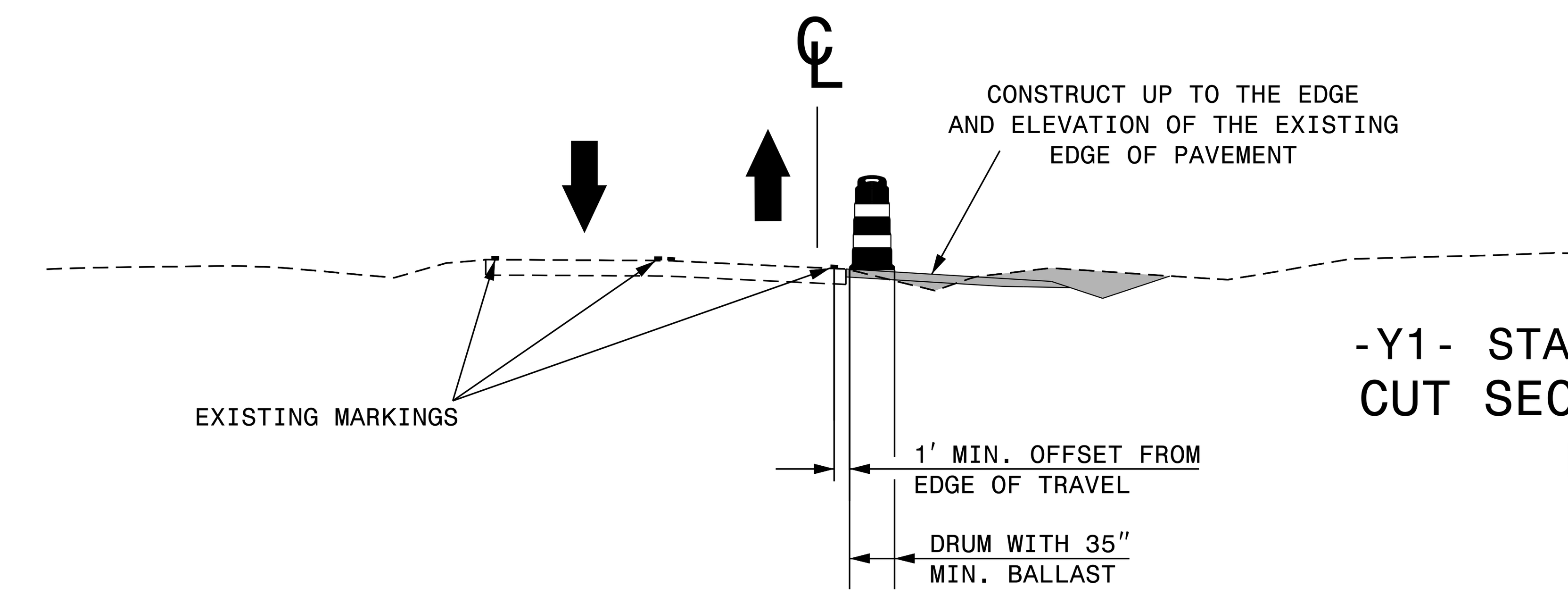
-L- STA. 13+50 +/-
CUT SECTION 'A-A'
NTS



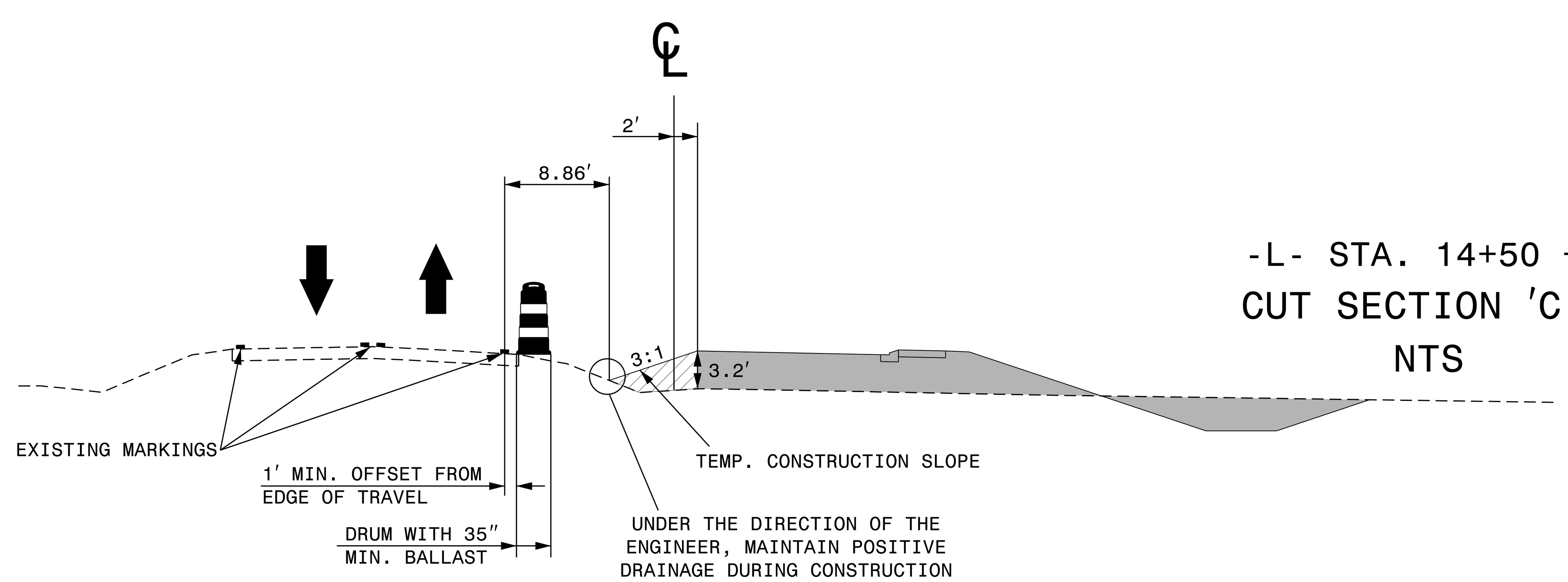
-L- STA. 17+00 +/-
CUT SECTION 'E-E'
NTS



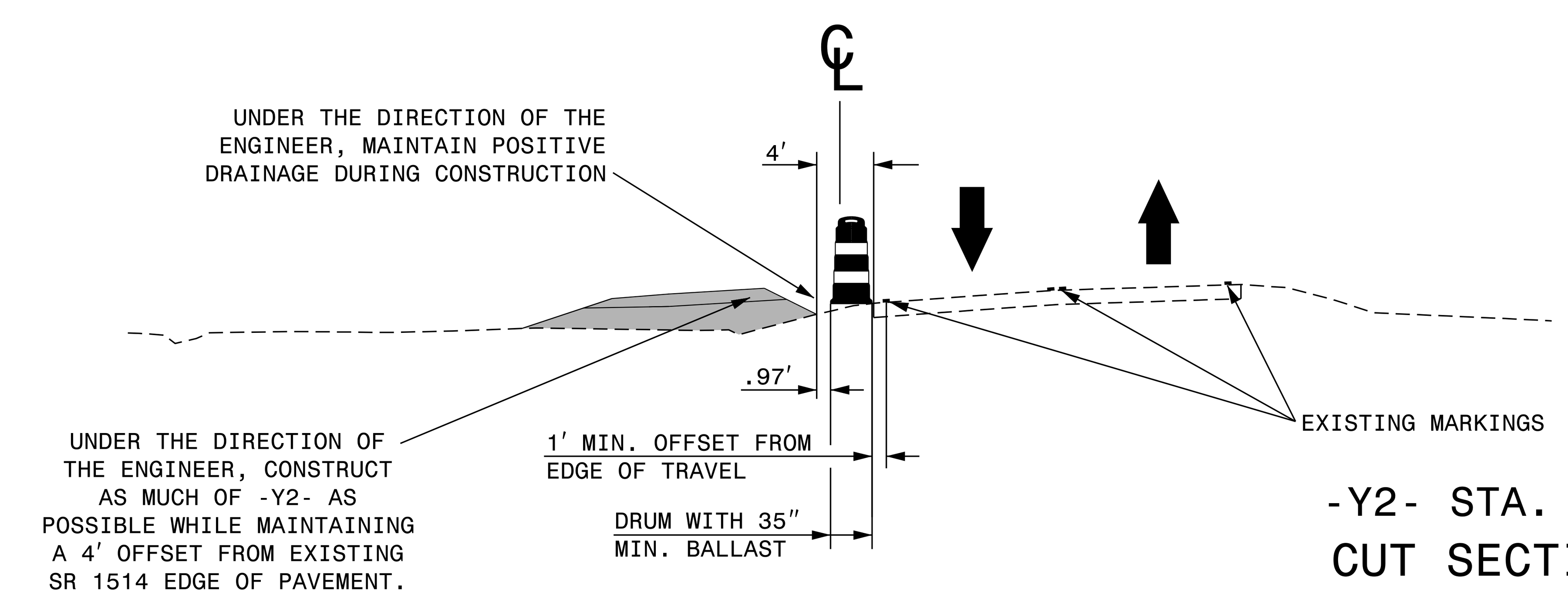
-L- STA. 14+00 +/-
CUT SECTION 'B-B'
NTS



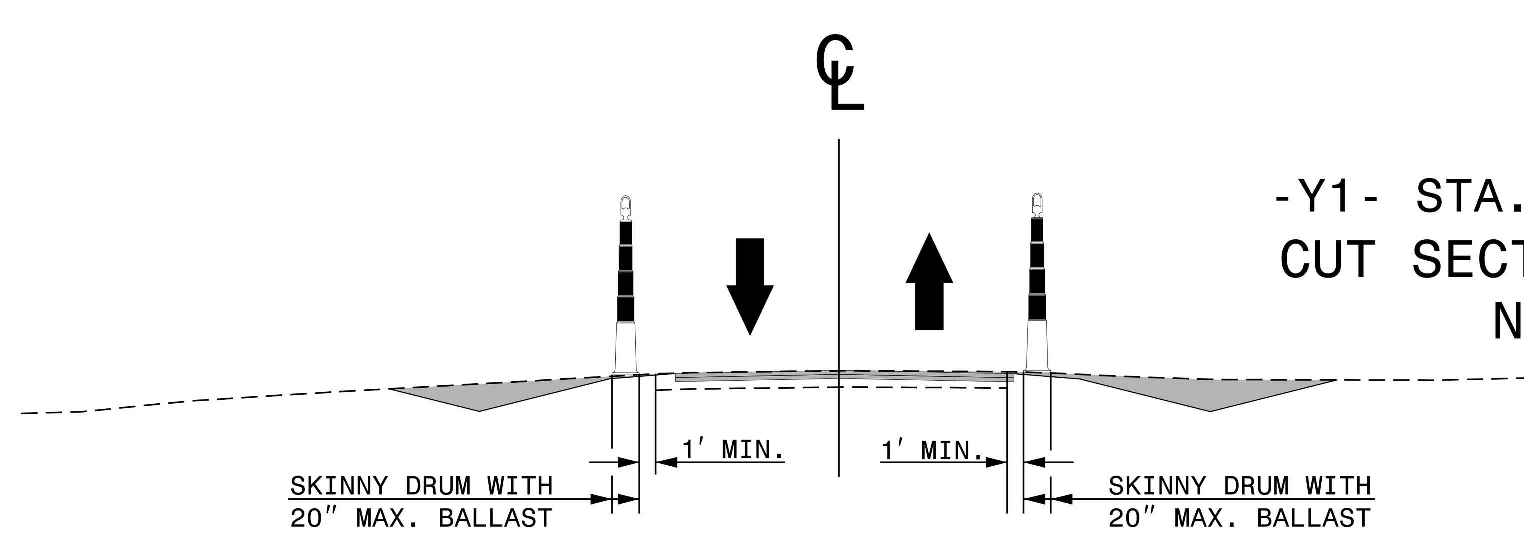
-Y1- STA. 12+00 +/-
CUT SECTION 'F-F'
NTS



-L- STA. 14+50 +/-
CUT SECTION 'C-C'
NTS



-Y2- STA. 11+50 +/-
CUT SECTION 'G-G'
NTS



-Y1- STA. 19+00 +/-
CUT SECTION 'D-D'
NTS

SEE SHEET TMP-4 FOR ASSOCIATED PLAN VIEW

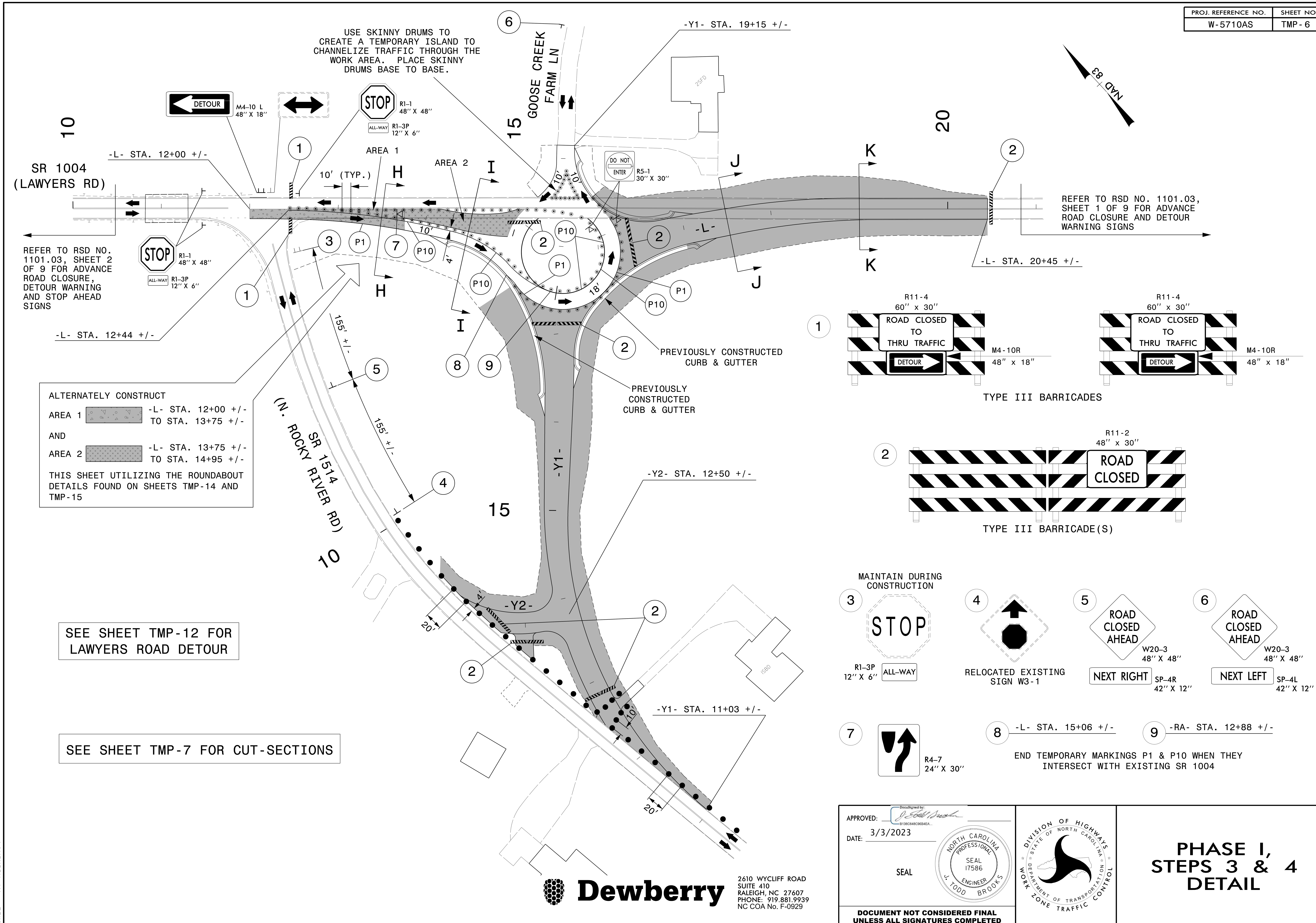
Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: J. Todd Brooks
DATE: 3/3/2023
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

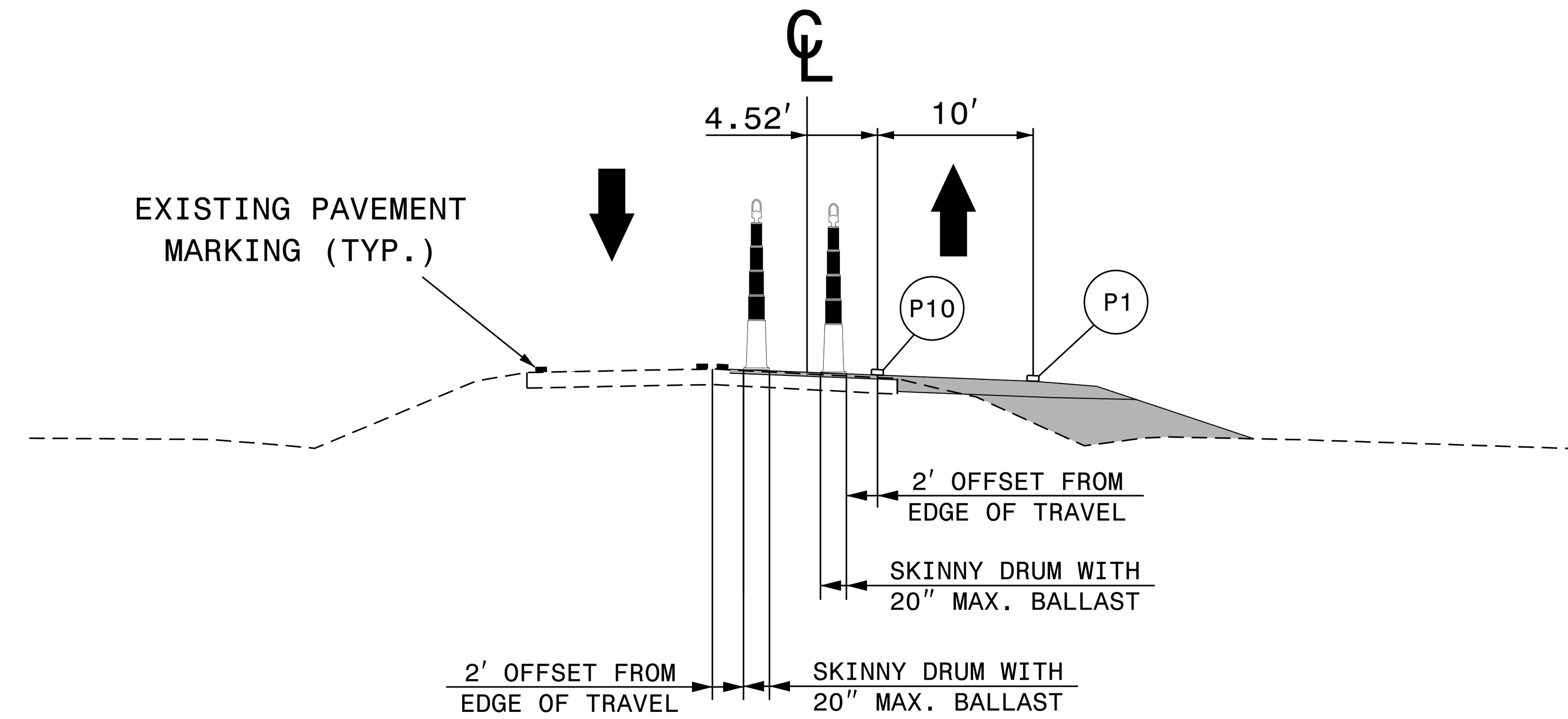
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

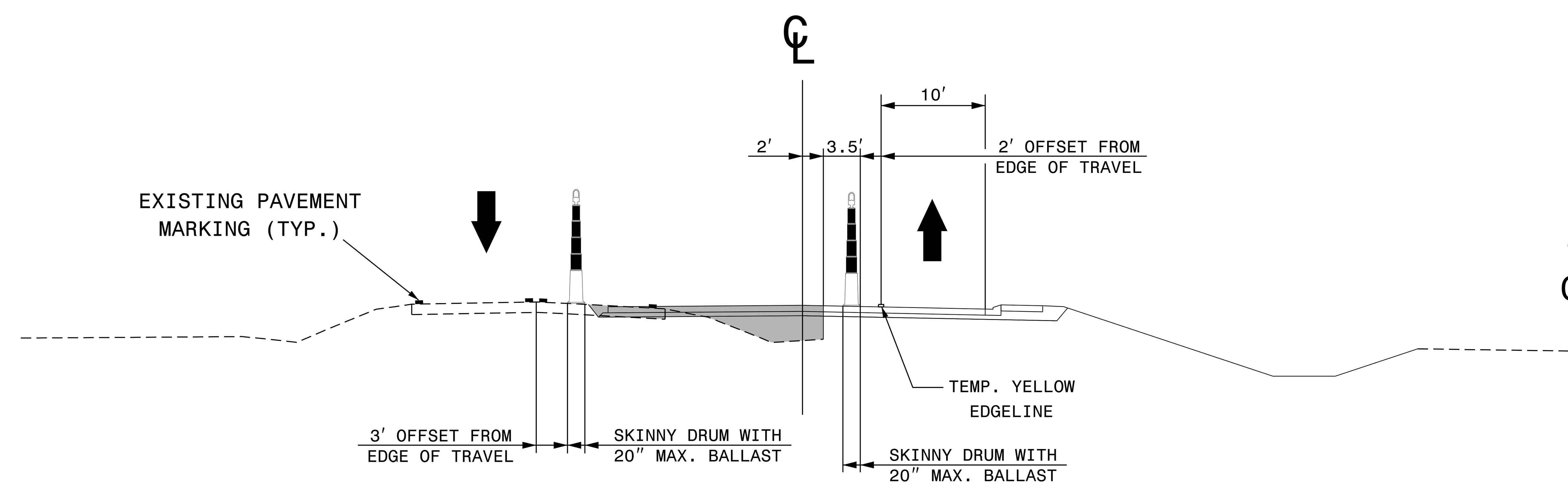
PHASE I, STEP 2 CUT–SECTIONS


PROJ. REFERENCE NO. W-5710AS
SHEET NO. TMP-6
USE SKINNY DRUMS TO CREATE A TEMPORARY ISLAND TO CHANNELIZE TRAFFIC THROUGH THE WORK AREA. PLACE SKINNY DRUMS BASE TO BASE.
GOOSE CREEK FARM LN
-Y1- STA. 19+15 +/-
NAD 83
DETOUR
M4-10 L 48'' X 18''
STOP
R1-1 48'' X 48''
ALL-WAY
R1-3P 12'' X 6''
DO NOT ENTER
R5-1 30'' X 30''
SR 1004 (LAWYERS RD)
-L- STA. 12+00 +/-
AREA 1
AREA 2
10' (TYP.)
REFER TO RSD NO. 1101.03, SHEET 1 OF 9 FOR ADVANCE ROAD CLOSURE AND DETOUR WARNING SIGNS
REFER TO RSD NO. 1101.03, SHEET 2 OF 9 FOR ADVANCE ROAD CLOSURE, DETOUR WARNING AND STOP AHEAD SIGNS
-L- STA. 12+44 +/-
-L- STA. 20+45 +/-
PREVIOUSLY CONSTRUCTED CURB & GUTTER
PREVIOUSLY CONSTRUCTED CURB & GUTTER
ALTERNATELY CONSTRUCT
AREA 1 -L- STA. 12+00 +/- TO STA. 13+75 +/-
AND
AREA 2 -L- STA. 13+75 +/- TO STA. 14+95 +/-
THIS SHEET UTILIZING THE ROUNDABOUT DETAILS FOUND ON SHEETS TMP-14 AND TMP-15
SR 1514 (N. ROCKY RIVER RD)
155' +/-
155' +/-
-Y1-
-Y2-
-Y2- STA. 12+50 +/-
-Y1- STA. 11+03 +/-
SEE SHEET TMP-12 FOR LAWYERS ROAD DETOUR
SEE SHEET TMP-7 FOR CUT-SECTIONS
R11-4 60'' x 30''
ROAD CLOSED TO THRU TRAFFIC
DETOUR
M4-10R 48'' x 18''
TYPE III BARRICADES
R11-2 48'' x 30''
ROAD CLOSED
TYPE III BARRICADE(S)
MAINTAIN DURING CONSTRUCTION
STOP
R1-3P 12'' X 6'' ALL-WAY
RELOCATED EXISTING SIGN W3-1
ROAD CLOSED AHEAD
W20-3 48'' X 48''
NEXT RIGHT
SP-4R 42'' X 12''
ROAD CLOSED AHEAD
W20-3 48'' X 48''
NEXT LEFT
SP-4L 42'' X 12''
R4-7 24'' X 30''
-L- STA. 15+06 +/-
-RA- STA. 12+88 +/-
END TEMPORARY MARKINGS P1 & P10 WHEN THEY INTERSECT WITH EXISTING SR 1004
Dewberry
2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.881.9939 NC COA No. F-0929
APPROVED:
DATE: 3/3/2023
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL
PHASE I, STEPS 3 & 4 DETAIL

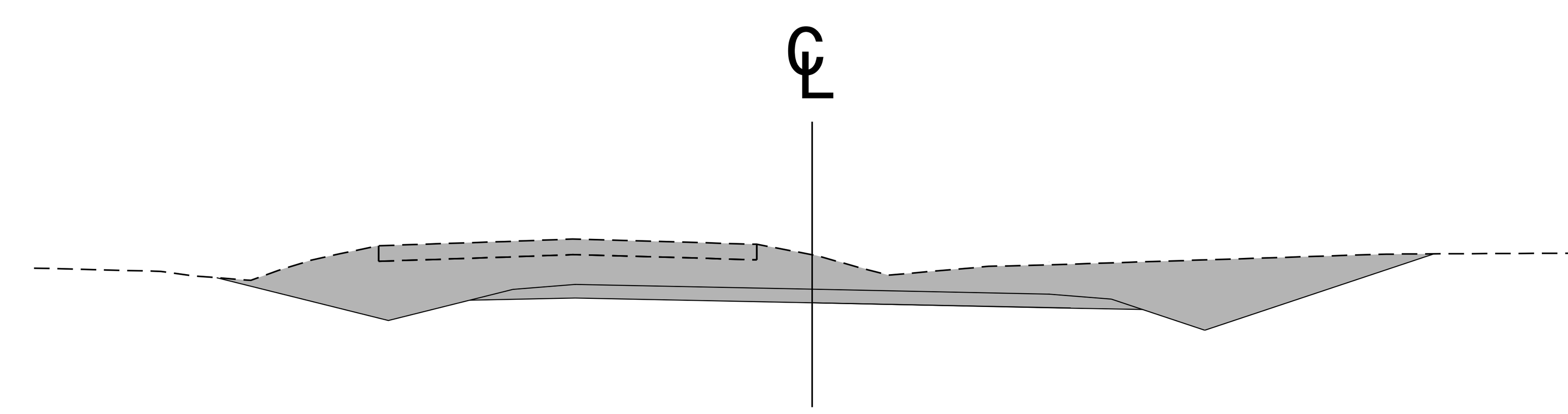
PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-7



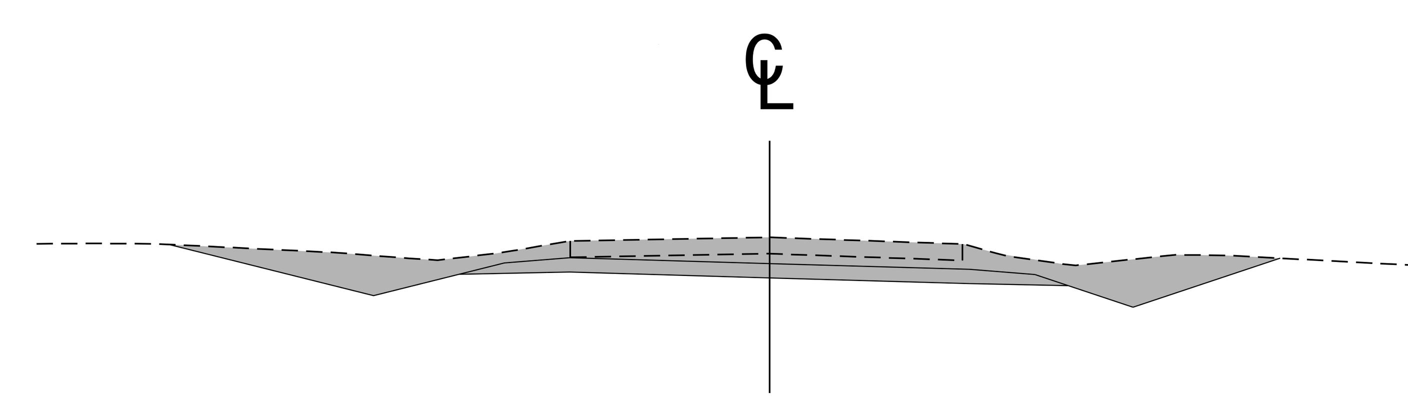
-L- STA. 13+50 +/-
CUT SECTION 'H-H'
NTS



-L- STA. 14+50 +/-
CUT SECTION 'I-I'
NTS



-L- STA. 17+50 +/-
CUT SECTION 'J-J'
NTS



-L- STA. 19+00 +/-
CUT SECTION 'K-K'
NTS

SEE SHEET TMP-6 FOR ASSOCIATED PLAN VIEW

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED:
DATE: 3/3/2023
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS
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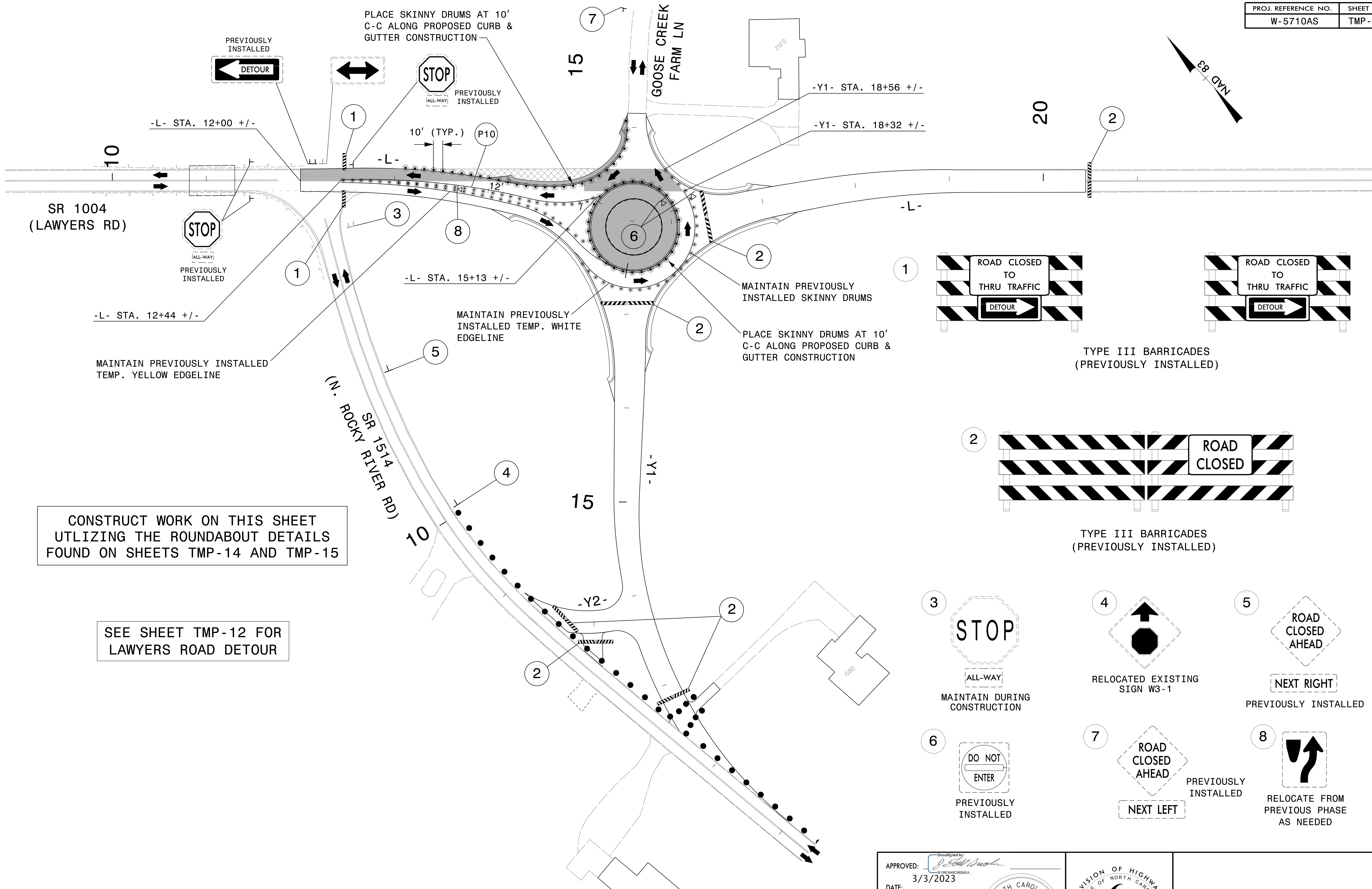
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

PHASE I, STEPS 3 & 4 CUT–SECTIONS

PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-8



Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED:
DATE: 3/3/2023
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17586 J. TODD BROOKS

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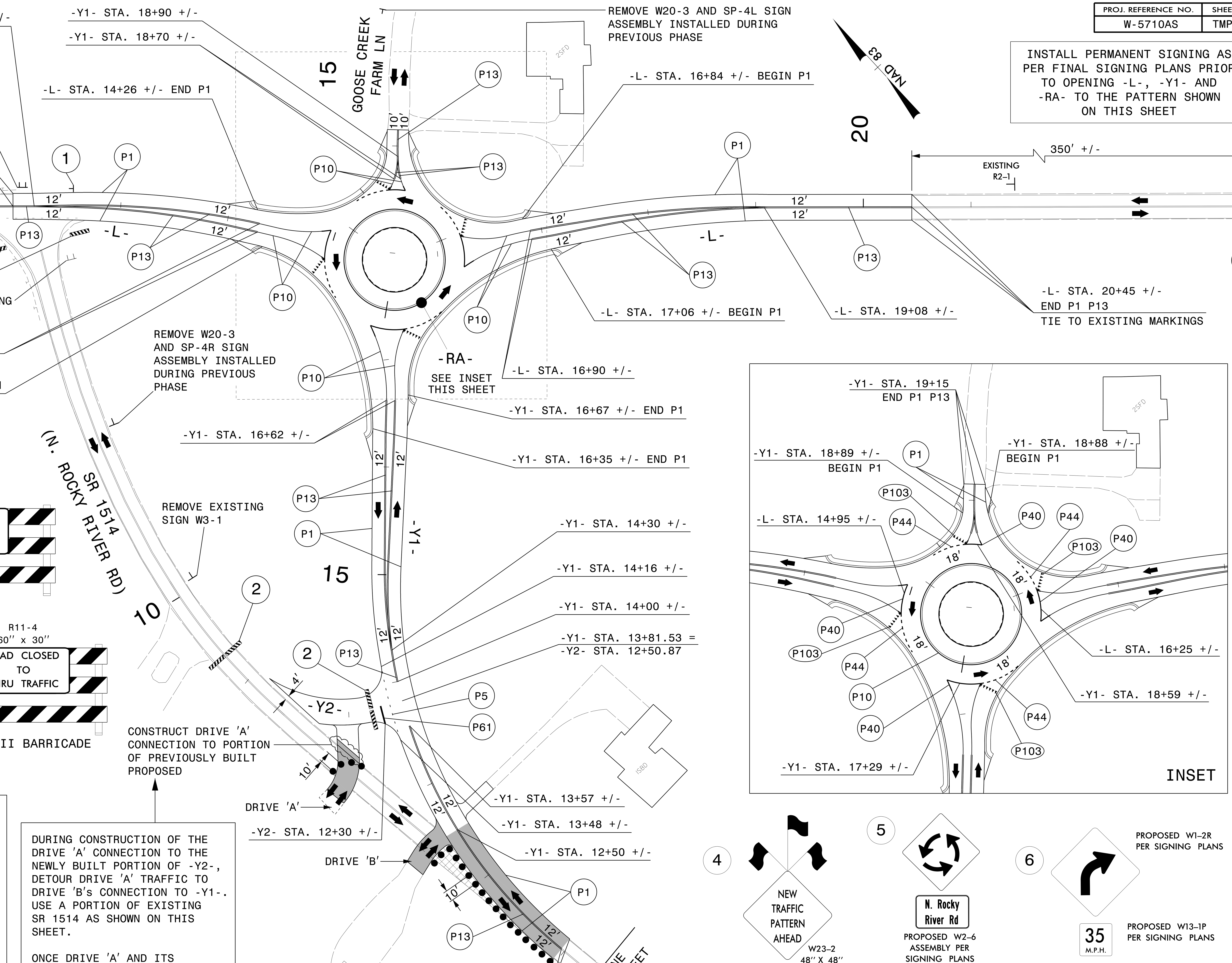
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

PHASE II, STEP 1 DETAIL

PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-9

INSTALL PERMANENT SIGNING AS PER FINAL SIGNING PLANS PRIOR TO OPENING -L-, -Y1- AND -RA- TO THE PATTERN SHOWN ON THIS SHEET



1 PREVIOUSLY INSTALLED R1-1 SIGN WITH R1-3P

2 R11-2 48" x 30" ROAD CLOSED

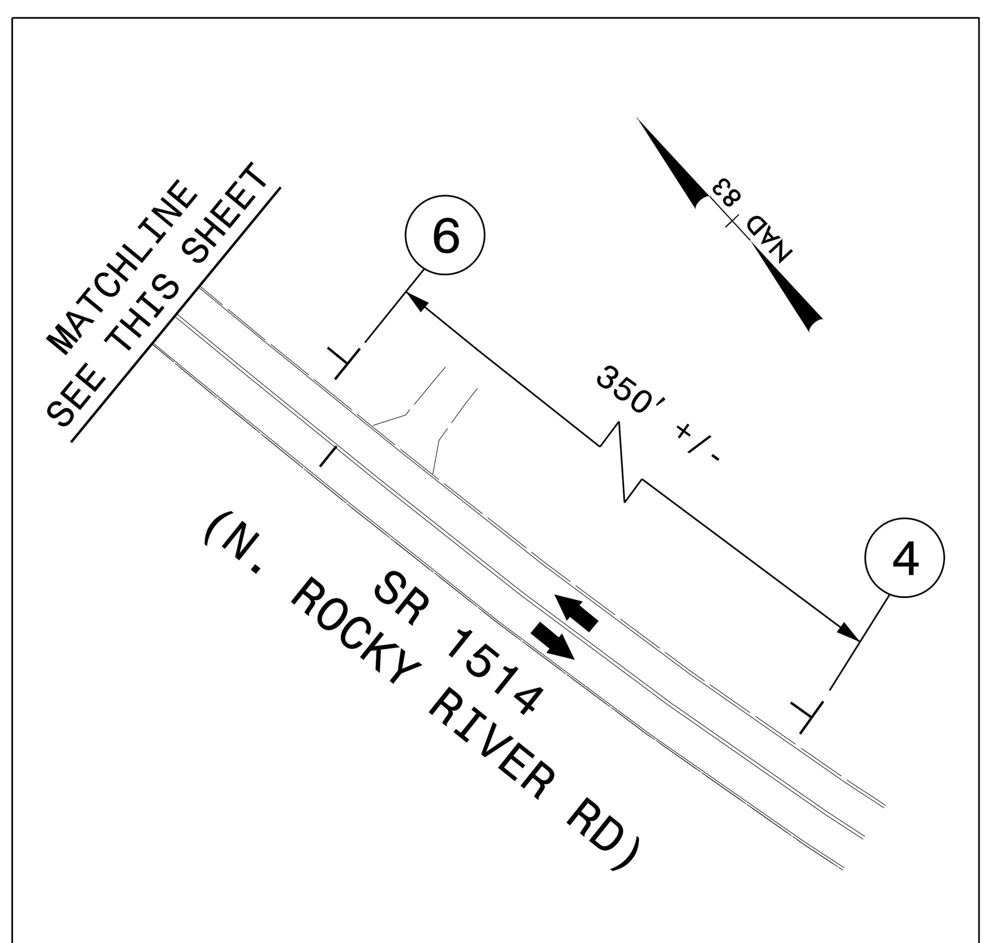
TYPE III BARRICADE(S)

3 R11-4 60" x 30" ROAD CLOSED TO THRU TRAFFIC

TYPE III BARRICADE

R11-4 60" x 30" ROAD CLOSED TO THRU TRAFFIC

TYPE III BARRICADE



DURING CONSTRUCTION OF THE DRIVE 'A' CONNECTION TO THE NEWLY BUILT PORTION OF -Y2-, DETOUR DRIVE 'A' TRAFFIC TO DRIVE 'B's CONNECTION TO -Y1-. USE A PORTION OF EXISTING SR 1514 AS SHOWN ON THIS SHEET.

ONCE DRIVE 'A' AND ITS CONNECTION TO -Y2- ARE COMPLETE, SHIFT DRIVE 'A' TRAFFIC TO ITS PERMANENT CONNECTION AS SHOWN ON SHEET TMP-9.

4 NEW TRAFFIC PATTERN AHEAD W23-2 48" X 48"

5 N. Rocky River Rd PROPOSED W2-6 ASSEMBLY PER SIGNING PLANS

6 PROPOSED W1-2R PER SIGNING PLANS

35 M.P.H. PROPOSED W13-1P PER SIGNING PLANS

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: DocuSigned by: B136C648C96B4EA...

DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

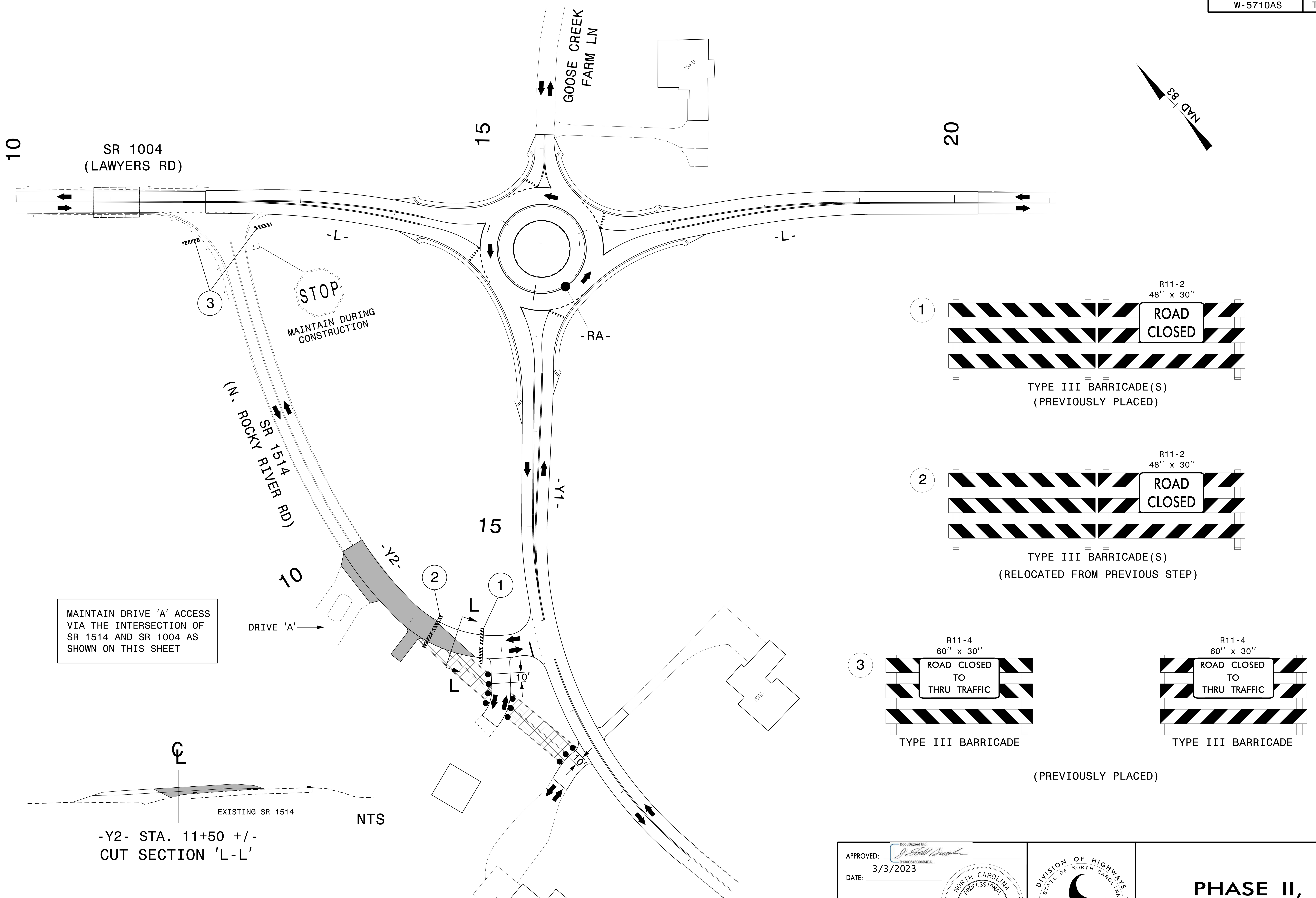
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

PHASE II, STEPS 2 THRU 3 DETAIL

02-MAR-2023 13:54
R:\5016286\5016287 Lawyers Rd Roundabout_Div 10\W-5710AS\Traffic\TrafficControl\TCP\Plans\200_010_W5710AS_TC_TCP 09.dgn
jwiles AT R90K8AV4

PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-10



Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED:

DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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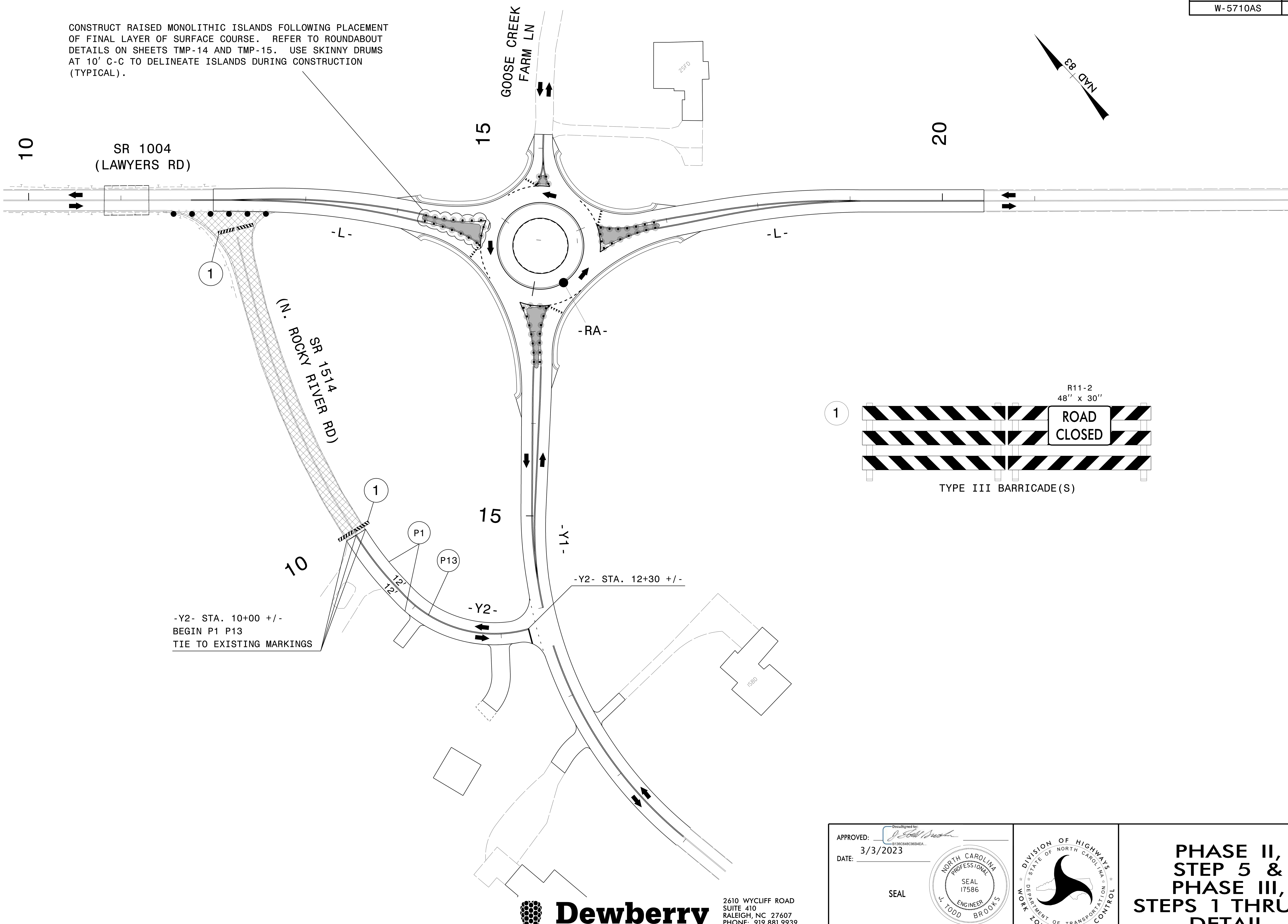
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

PHASE II, STEP 4 DETAIL

PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-11



Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED:
DATE: 3/3/2023
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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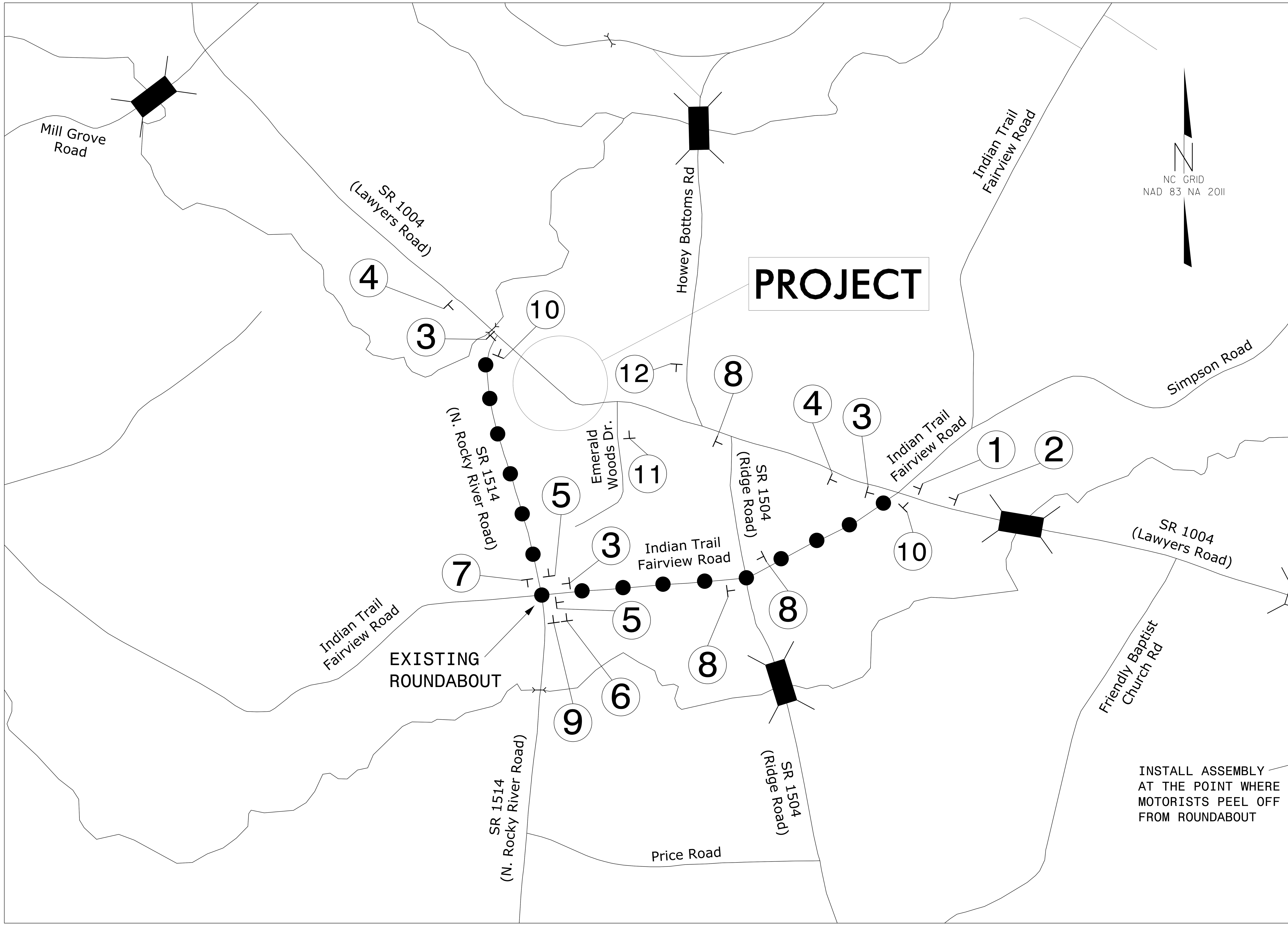
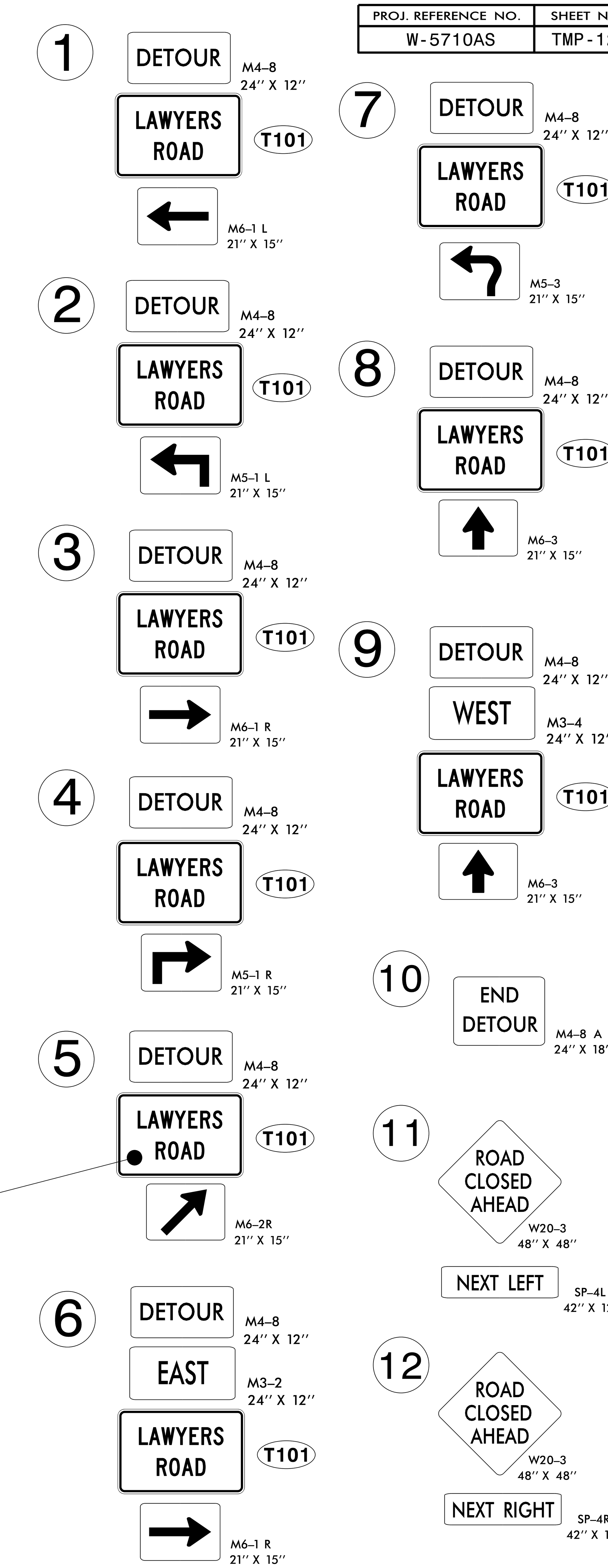
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

PHASE II, STEP 5 & PHASE III, STEPS 1 THRU 2 DETAIL

PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-12





LEGEND

DETOUR ROUTE TO BE USED DURING CLOSURE OF SR 1004 (LAWYERS RD.) ● ● ●

Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: DocuSigned by: J. Todd Brooks

DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17586 J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

SR 1004 (LAWYERS ROAD) DETOUR DETAIL

02-MAR-2023 13:54
R:\50116286\50116287 Lawyers Rd Roundabout.Div 10\W-5710AS\Traffic\TrafficControl\TCP\Plans\200_013_W5710AS_TC_TCP 12.dgn
iwiles AT R90K8AV4

SIGN NUMBER: T101
TYPE: D
QUANTITY: 10

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

SIGN WIDTH: 3'-0"
HEIGHT: 2'-0"
TOTAL AREA: 6.0 Sq.Ft.

BORDER TYPE: RECESSED
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"

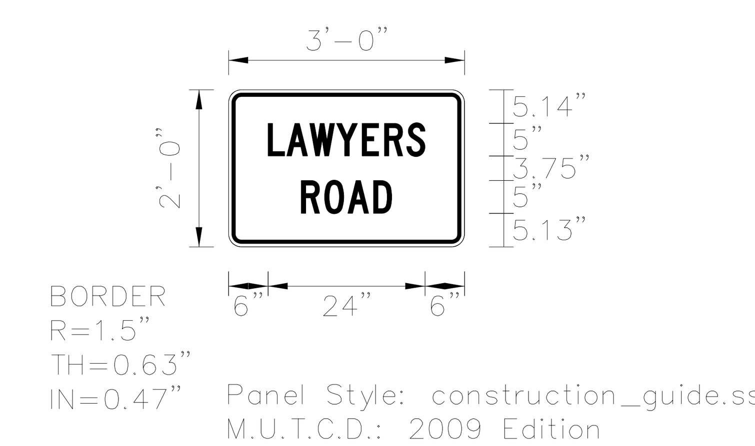
NO. Z BARS:
LENGTH:

MAT'L: 0.080" (2.0 mm) ALUMINUM

USE NOTES:

1. Legend and border shall be non-reflective opaque black ink.
2. Background shall be Grade C reflective sheeting.

DESIGN BY: AB
PROJECT ID: W5710AS
CHECKED BY: JTB
LOCATION: UNION COUNTY
Dec 14, 2022
DIV: 10



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

									Series/Size Text Length
	L	A	W	Y	E	R	S		C 2000
6.0	2.9	4.4	4.5	2.6	3.4	3.4	2.8	6.0	24.0
	R	O	A	D					C 2000
11.1	3.6	3.6	3.9	2.8	11.1				24.0

FILENAME: Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: J. Todd Brooks
DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

SIGN DESIGN

02-MAR-2023 13:55
R:\50116286\50116287 Lawyers Rd Roundabout_Div 10\W-5710AS\Traffic\TrafficControl\TCP\Plans\200_014_W5710AS_TC_TCP 13.dgn
jwiles AT R90K8AV4

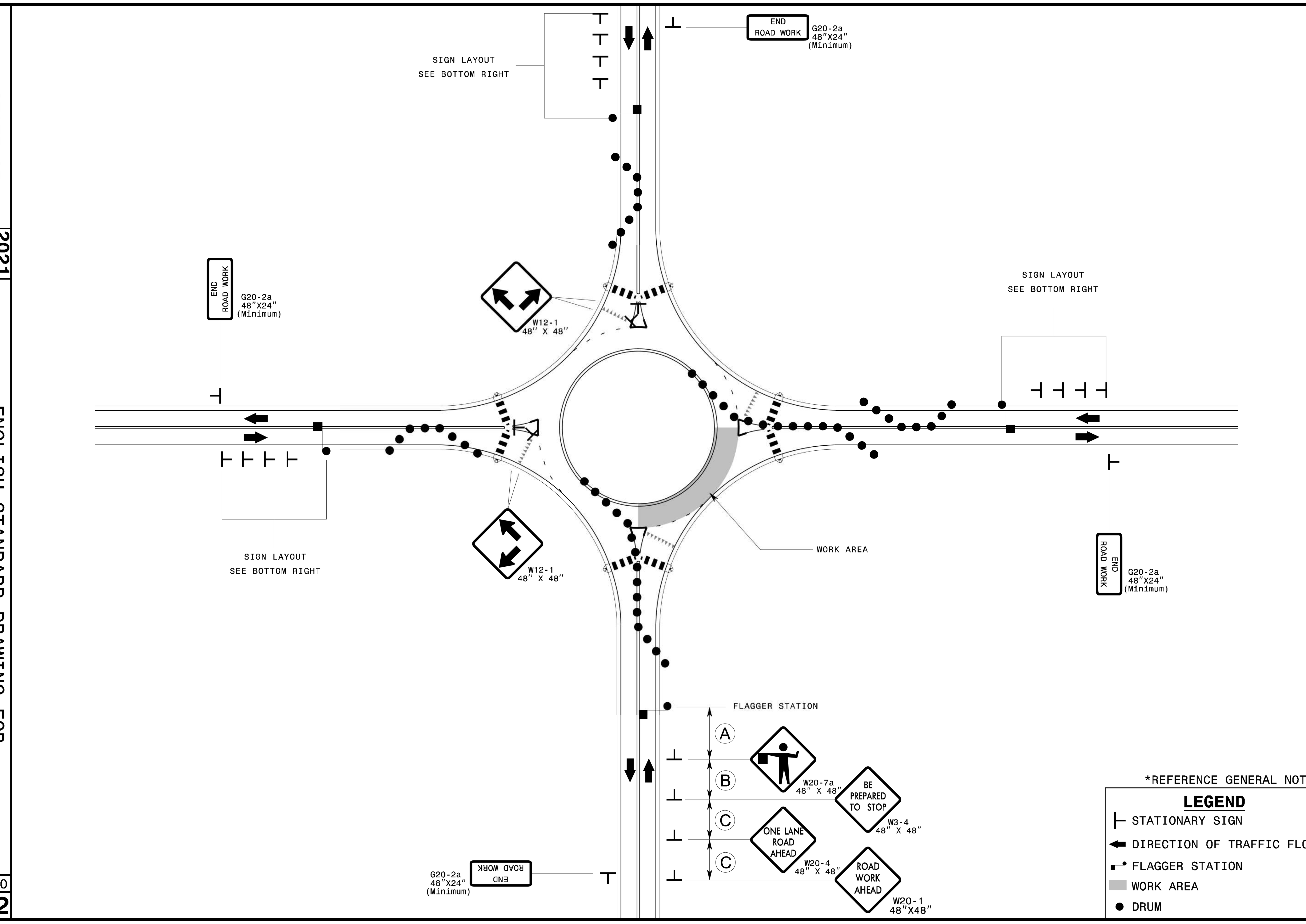
PROJ. REFERENCE NO.	SHEET NO.
W-5710AS	TMP-14

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

2021

ENGLISH STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
SINGLE-LANE ROUNDABOUT

SHEET 15 OF 20
1101.02



*REFERENCE GENERAL NOTES

LEGEND
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- FLAGGER STATION
- WORK AREA
- DRUM

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

2021

ENGLISH STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
SINGLE-LANE ROUNDABOUT

SHEET 15 OF 20
1101.02

Dewberry
2610 WYCLIFF ROAD
SUITE 410
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PHONE: 919.881.9939
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APPROVED: J. Todd Brooks
DATE: 3/3/2023
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17586 J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TEMPORARY LANE CLOSURES SINGLE-LANE ROUNDABOUT

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

2021

ENGLISH STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
SINGLE-LANE ROUNDABOUT

SHEET 16 OF 20
1101.02

GENERAL NOTES

1. EACH ROUNDABOUT IS UNIQUE AND THE TRAFFIC CONTROL MUST BE DEVELOPED TO MEET THE SPECIFIC CONDITIONS OF THE LOCATION AND THE WORK OPERATION. A DETOUR COULD POSSIBLY BETTER SERVE TRAFFIC MOVEMENT AND MUST BE CONSIDERED AS AN ALTERNATIVE TO A FLAGGING OPERATION.
2. FLAGGERS SHALL CONTROL TRAFFIC FLOW ON ALL APPROACHES OF THE ONE LANE ROUNDABOUT.
3. A LEAD FLAGGER SHALL BE DESIGNATED AND RADIO COMMUNICATION SHALL BE USED BY THE FLAGGGERS.
4. ONLY ONE QUADRANT OF TRAFFIC SHALL BE RELEASED AT A TIME.
5. AT NIGHT, FLAGGER STATIONS SHALL BE ILLUMINATED. STREET LIGHTS AND VEHICLE HEADLIGHTS SHALL NOT BE USED TO ILLUMINATE THE FLAGGER STATION.
6. REFER TO RSD 1101.11, SHEET 1 & 4, FOR "L" DISTANCE AND SIGN SPACING.
7. EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER (REFER TO RSD 1101.11, SHEET 2 OF 4).
8. PERIODIC ADJUSTMENTS TO THE CHANNELIZING DEVICES MAY BE ALLOWED IN AN ACTIVE WORK ZONE TO ACCOMMODATE THE TURNING MOVEMENTS OF TRACTOR TRAILER VEHICLES AND OTHER LARGE VEHICLES.
9. FLAGGING OPERATIONS MAY NOT BE NECESSARY WHEN WORKING ON THE SHOULDERS OR IN THE ISLAND OF THE ROUNDABOUT. IF A DRIVING LANE(S) WIDTH OF AT LEAST 10 FEET (OR MORE DEPENDING ON THE DESIGN OF THE VEHICLE) CAN BE MAINTAINED WHILE SHOULDER WORK ON AN APPROACH IS BEING CONDUCTED, THE DRIVING LANE(S) MAY REMAIN OPEN TO TRAFFIC. ROAD WORK AHEAD, SHOULDER WORK AHEAD AND/OR SHOULDER CLOSED SIGNS SHOULD BE USED WHERE APPLICABLE, ALONG THE LANE OR SHOULDER TAPERS AND WORK AREA DELINEATION.
10. DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.
11. COVER EXISTING SIGNS THAT CONFLICT WITH WORK ZONE TRAFFIC PATTERN DURING ACTIVE WORK HOURS. UNCOVER SIGNS WHENEVER WORK IS NOT TAKING PLACE.
12. PROVIDE PEDESTRIAN ACCOMMODATIONS WHEN CLOSING OFF CROSSWALKS.
13. INSTALL SINGLE LANE ROUNDABOUT CLOSURE SO THAT VEHICLES AVOID TRAVERSING CONCRETE/MEDIANS ALONG ROUNDABOUT.

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

2021

ENGLISH STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
SINGLE-LANE ROUNDABOUT

SHEET 16 OF 20
1101.02

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

APPROVED: DocuSigned by: J. Todd Brooks 0138C648C96B4EA...

DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TEMPORARY
LANE CLOSURES
SINGLE-LANE
ROUNDABOUT

T.I.P.: W-5710AS

CONTRACT:

TIP NO.	SHEET NO.
W-5710AS	PMP-1

APPROVED: DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
UNION COUNTY

LOCATION: SR 1004 (LAWYERS ROAD) AND SR 1514 (N. ROCKY RIVER ROAD) ROUNDABOUT NEAR INDIAN TRAIL

INDEX

PAVEMENT MARKING SCHEDULE

PAVEMENT MARKING LINES

T1	WHITE EDGELINE	THERMOPLASTIC (4", 90 mils)
T5	2' - 6' SP WHITE MINISKIP	THERMOPLASTIC (4", 90 mils)
T10	YELLOW EDGELINE	THERMOPLASTIC (4", 90 mils)
T13	YELLOW DOUBLE CENTER LINE	THERMOPLASTIC (4", 90 mils)
T40	WHITE GORE LINE	THERMOPLASTIC (8", 90 mils)
T45	3' - 3' SP WHITE SKIP	THERMOPLASTIC (8", 90 mils)
T61	WHITE STOPBAR	THERMOPLASTIC (24", 90 mils)
T103	YIELD LINE TRIANGLE	THERMOPLASTIC (24", 90 mils)

PAVEMENT MARKERS

MA	YELLOW AND YELLOW	PERMANENT RAISED

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR 1004 (LAWYERS RD)	THERMOPLASTIC	PERMANENT RAISED
SR 1514 (N. ROCKY RIVER RD.)	THERMOPLASTIC	PERMANENT RAISED
-Y2-	THERMOPLASTIC	PERMANENT RAISED

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED

IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

PLAN SUBMITTED TO: N.C.D.O.T. SIGNING AND DELINEATION UNIT

KELVIN L. JORDAN — SIGNING & DELINEATION REGIONAL ENGINEER

SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PLAN PREPARED BY: DEWBERRY ENGINEERS INC.

J. TODD BROOKS, PE — PROJECT ENGINEER

ABRAHAM WILES — PROJECT DESIGN ENGINEER

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919-881-9939
NC COA No. F-0929

TIP NO.	SHEET NO.
W-5710AS	PMP-2

DocuSigned by:
APPROVED: Matthew V. Springer
DATE: 8/13/2019 BC00F6E8B584403...

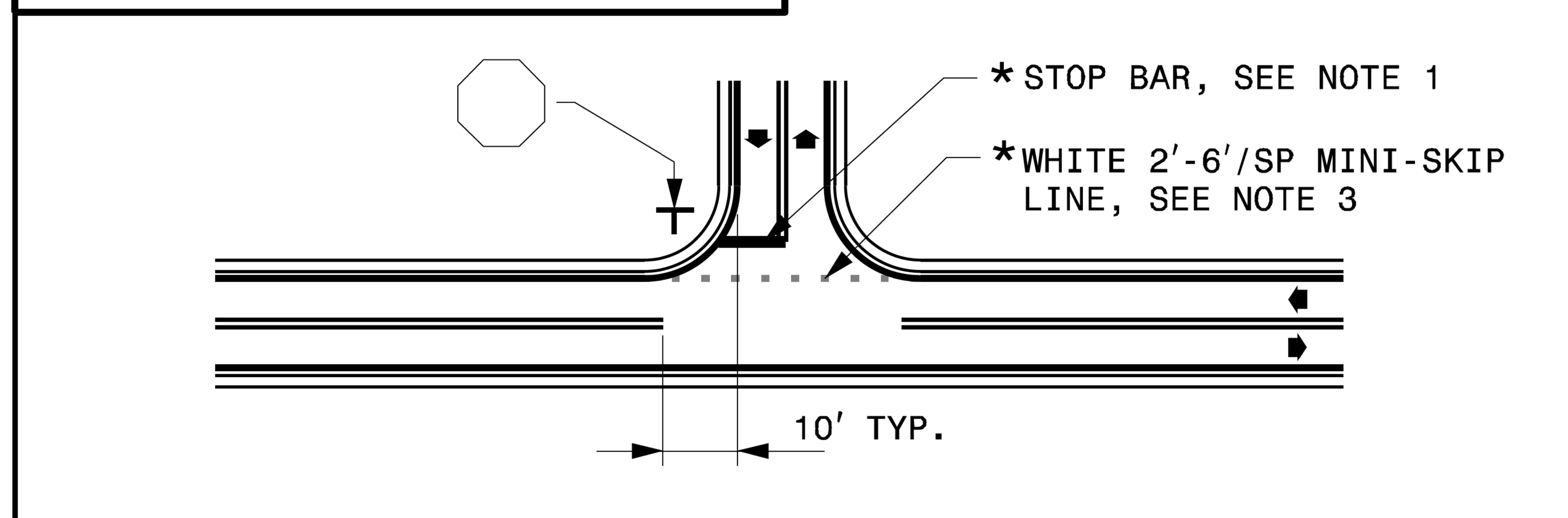
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 042546 ENGINEER MATTHEW V. SPRINGER

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

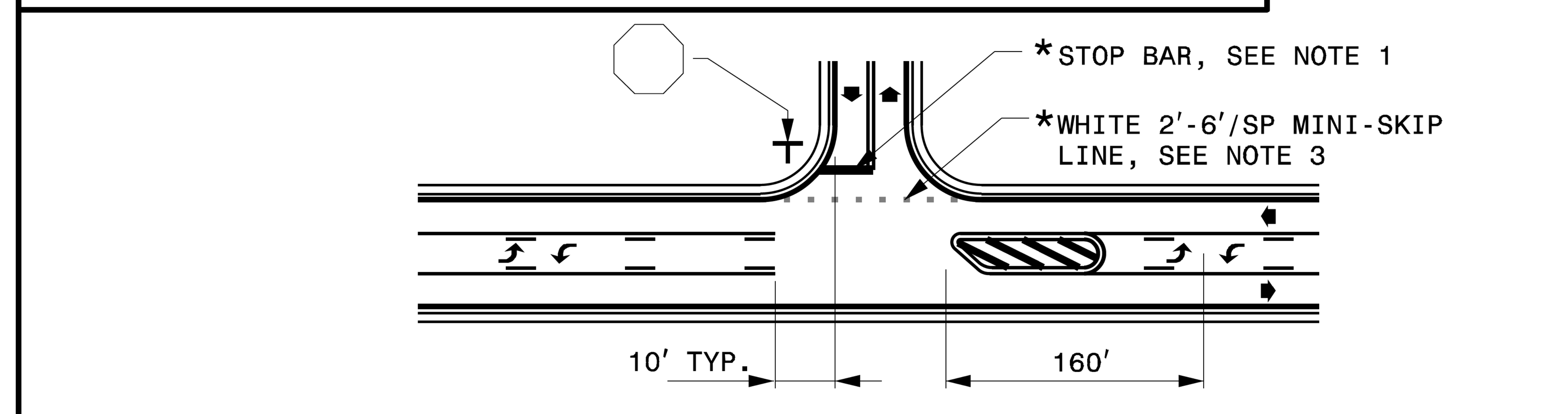
8-19

ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
INTERSECTIONS

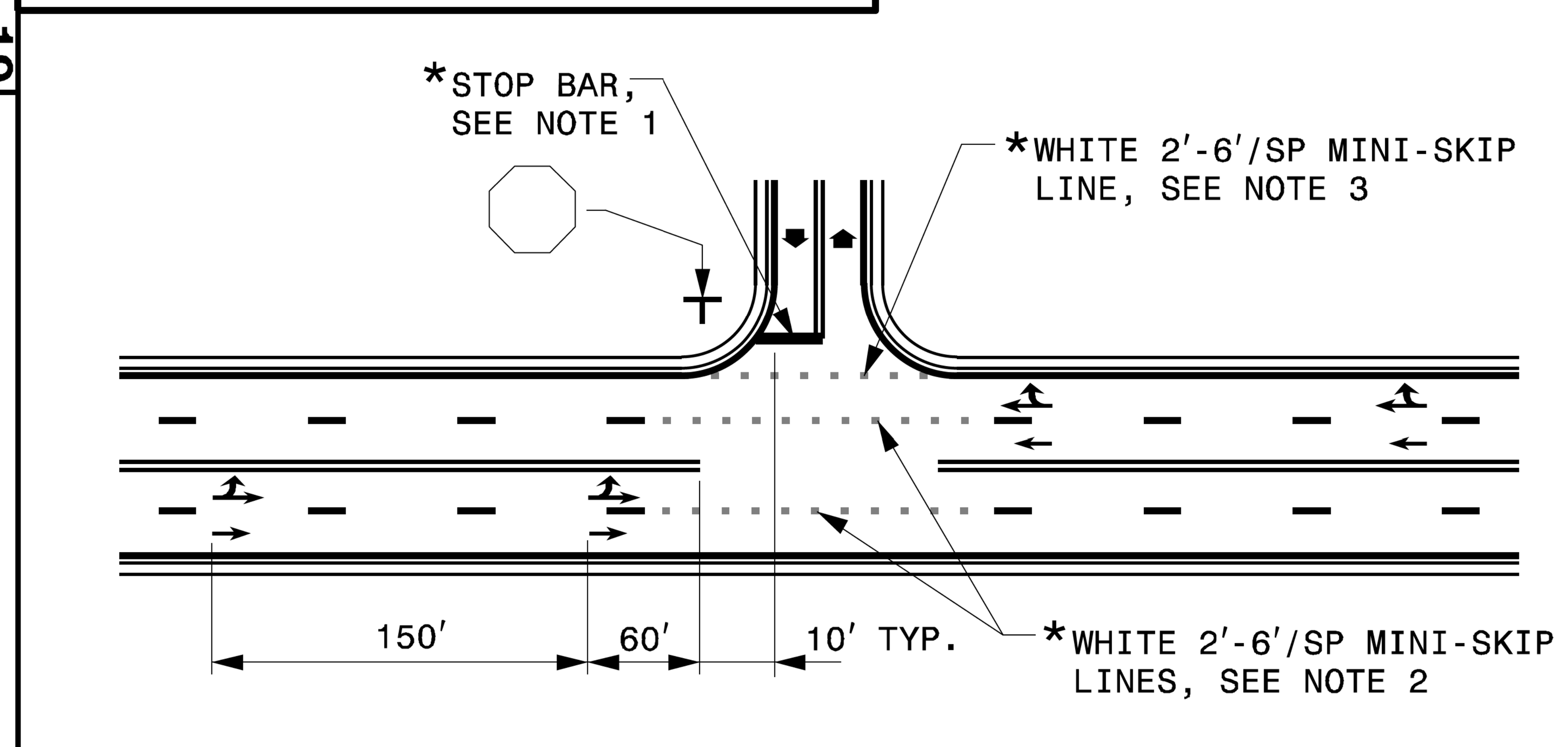
TWO-LANE, TWO-WAY ROADWAY



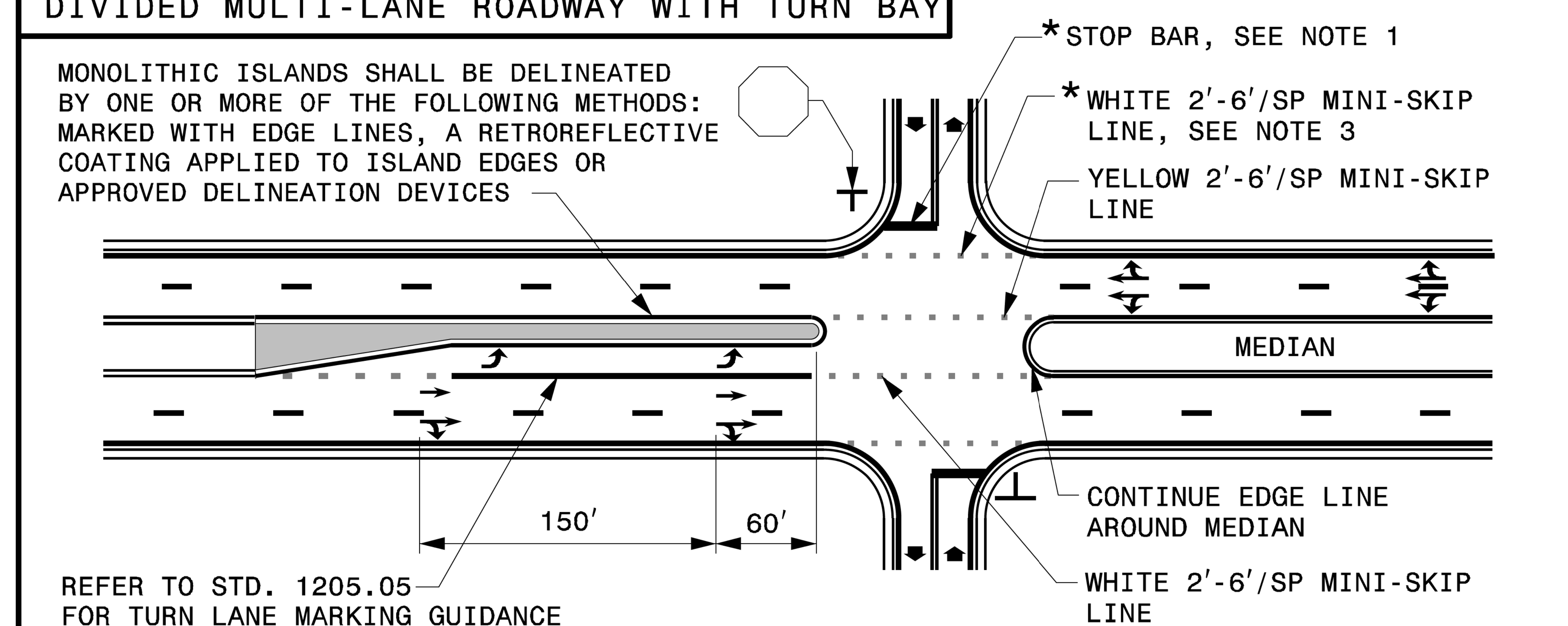
TWO-LANE, TWO-WAY ROADWAY WITH TWO-WAY LEFT TURN LANE



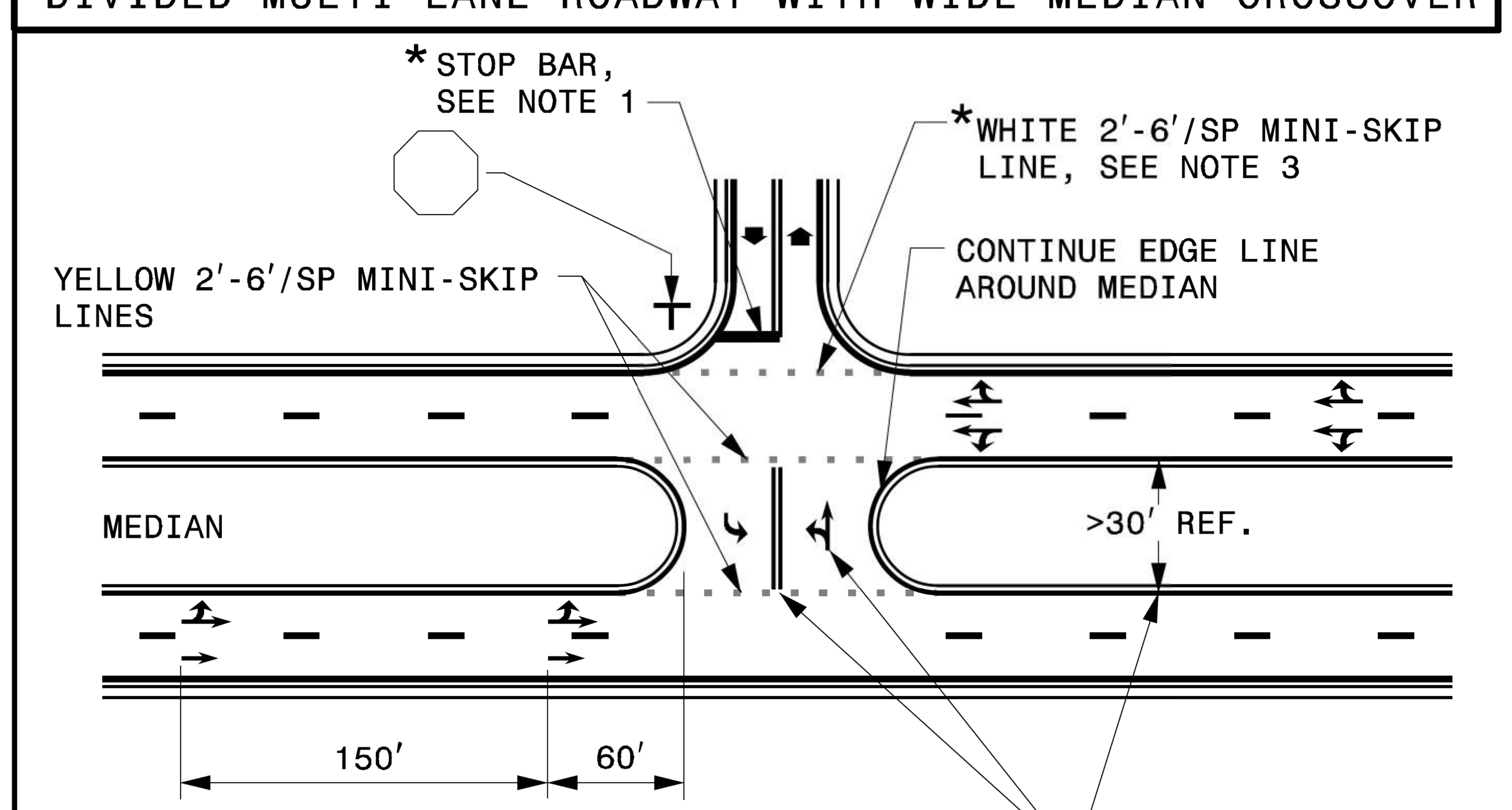
UNDIVIDED MULTI-LANE ROADWAY



DIVIDED MULTI-LANE ROADWAY WITH TURN BAY



DIVIDED MULTI-LANE ROADWAY WITH WIDE MEDIAN CROSSOVER



USE DOUBLE YELLOW CENTER LINE AND ARROW SYMBOLS IN MEDIAN CROSSOVER WHEN WIDTH OF MEDIAN EXCEEDS 30 FT, OTHERWISE THEY ARE NOT REQUIRED.

GENERAL NOTES:

1- PLACEMENT OF STOP BARS AT NON-SIGNALIZED INTERSECTIONS IS OPTIONAL AND USED WHERE IT IS IMPORTANT TO INDICATE THE POINT WHICH VEHICLES ARE REQUIRED TO STOP. PLACE STOP BARS NO LESS THAN 4 FEET AND NO MORE THAN 30 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY. USE 10 FEET AS THE TYPICAL SETBACK DISTANCE OR AS DIRECTED BY THE ENGINEER.

2- MINI-SKIP LANE LINE EXTENSIONS SHOULD BE USED AT INTERSECTIONS THAT HAVE REDUCED VISIBILITY CONDITIONS SUCH AS OFFSET, SKEWED, OR CURVED ROADWAYS.

3- MINI-SKIP EDGE LINE EXTENSIONS MAY BE PLACED THROUGH INTERSECTIONS AND MAJOR DRIVEWAYS.

4- REFER TO ROADWAY STANDARD DRAWINGS 1205.01, 1205.02, 1205.05, 1205.08 AND 1205.09 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

LEGEND

STOP SIGN	STATIONARY SIGN
DIRECTION OF TRAFFIC FLOW	PAVEMENT MARKING SYMBOLS
* OPTIONAL	

SHEET 2 OF 2

1205D04

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

8-19

ENGLISH DETAIL DRAWING FOR
PAVEMENT MARKINGS
INTERSECTIONS

SHEET 2 OF 2

1205D04

REVISED PAVEMENT MARKING ROADWAY STANDARD DRAWING

8-13-19

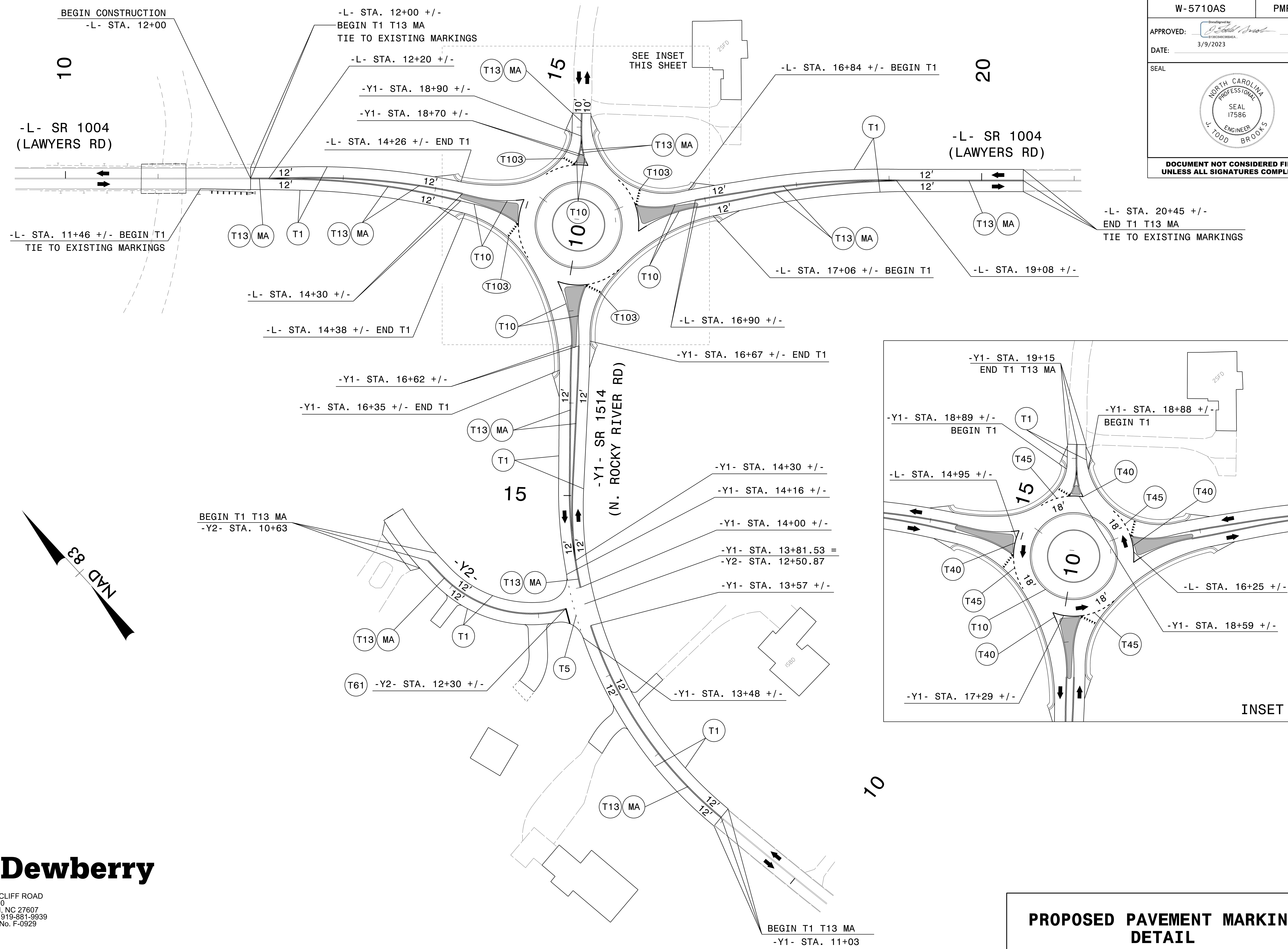
08/13/19
S:\S&DU\Standards Group\Standards and Drawings\Drawings\2018 Standard Dwgs\Division 12 Final\12050402_08-13-19.dgn
User:dstokes

TIP NO.	SHEET NO.
W-5710AS	PMP-3

APPROVED:
DATE: 3/9/2023

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17586 J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



Dewberry

2610 WYCLIFF ROAD
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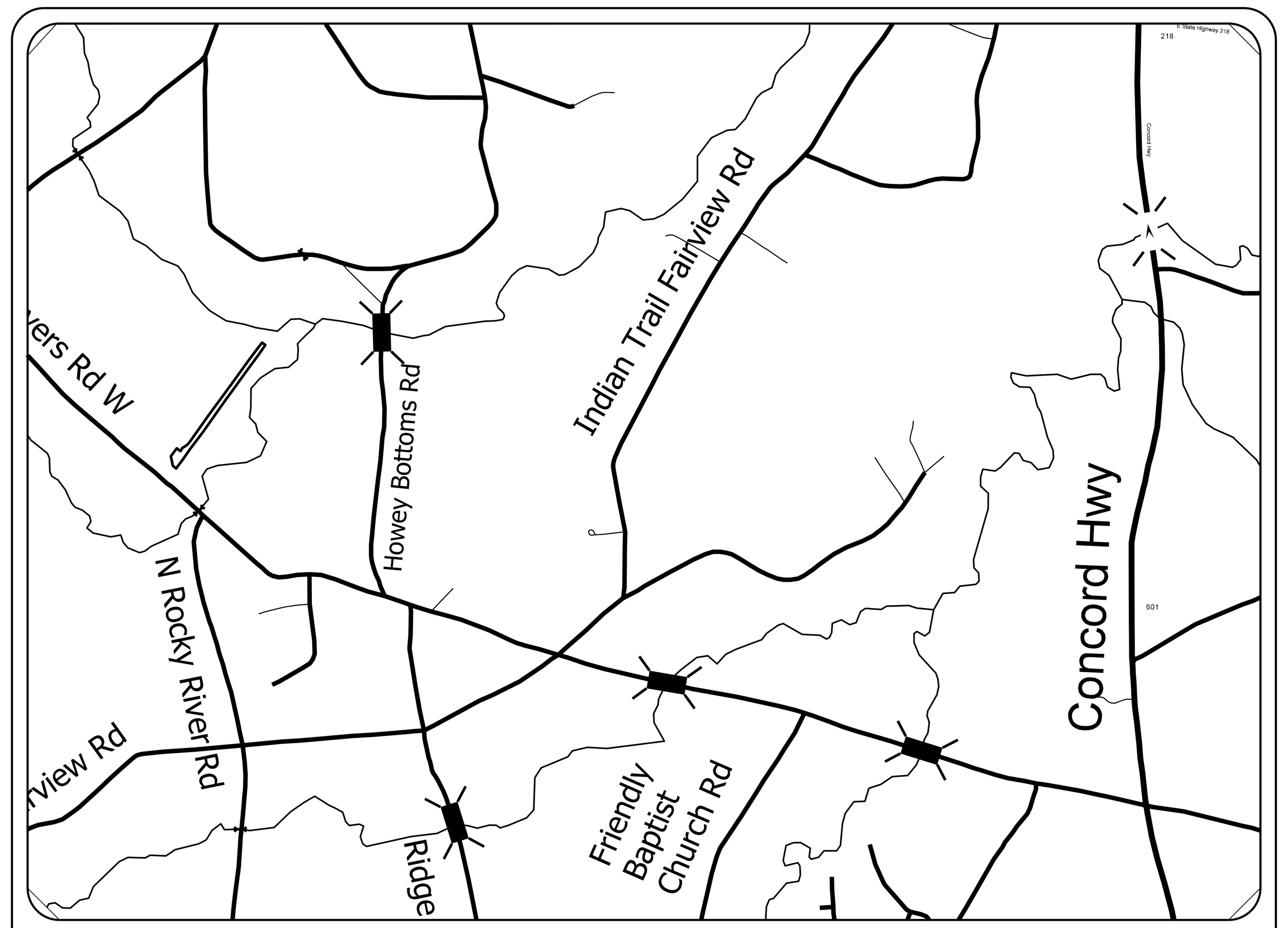
PHONE: 919-881-9939
NC COA No. F-0929

PROPOSED PAVEMENT MARKING DETAIL

TIP PROJECT: W-5710AS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5710AS	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
44856.1.47	1514009	PE
44856.2.47	1514009	R/W & UTIL
44856.3.47	1514009	CONST.



VICINITY MAP

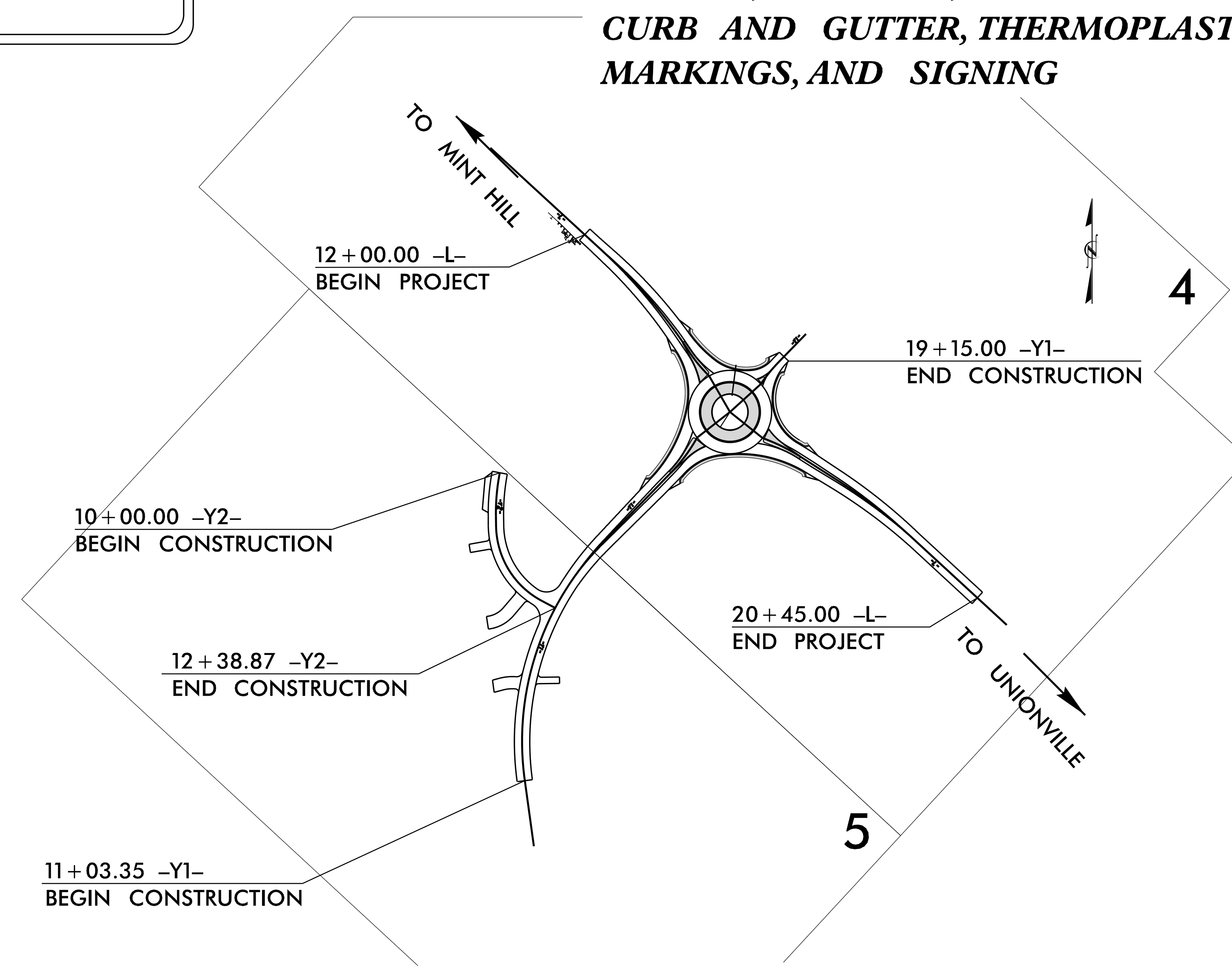
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

LOCATION: ***SR 1004 (LAWYERS ROAD) AND***
SR 1514 (ROCKY RIVER ROAD) ROUNDABOUT

TYPE OF WORK: ***GRADING, MILLING, PAVING, MONOLITHIC CONCRETE ISLANDS, DRAINAGE, PAVEMENT REMOVAL, CONCRETE CURB AND GUTTER, THERMOPLASTIC PAVEMENT MARKINGS, AND SIGNING***



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	EW / CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Refer To E. C. Special Provisions for Special Considerations.

GRAPHIC SCALE

50 25 0 50 100

PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

Prepared In the Office of:

DEWBERRY
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607

Designed by:

JACOB HILTON ***3631***

NAME *LEVEL III CERTIFICATION NO.*

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2018 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail
1605.01	Temporary Silt Fence
1606.01	Special Sediment Control Fence
1607.01	Gravel Construction Entrance
1622.01	Temporary Berms and Slope Drains
1630.01	Riser Basin
1630.02	Silt Basin Type B
1630.03	Temporary Silt Ditch
1630.04	Stilling Basin
1630.05	Temporary Diversion
1630.06	Special Stilling Basin
1631.01	Matting Installation
1632.01	Rock Inlet Sediment Trap Type A
1632.02	Rock Inlet Sediment Trap Type B
1632.03	Rock Inlet Sediment Trap Type C
1633.01	Temporary Rock Silt Check Type A
1633.02	Temporary Rock Silt Check Type B
1634.01	Temporary Rock Sediment Dam Type A
1634.02	Temporary Rock Sediment Dam Type B
1635.01	Rock Pipe Inlet Sediment Trap Type A
1635.02	Rock Pipe Inlet Sediment Trap Type B
1640.01	Coir Fiber Baffle
1645.01	Temporary Stream Crossing

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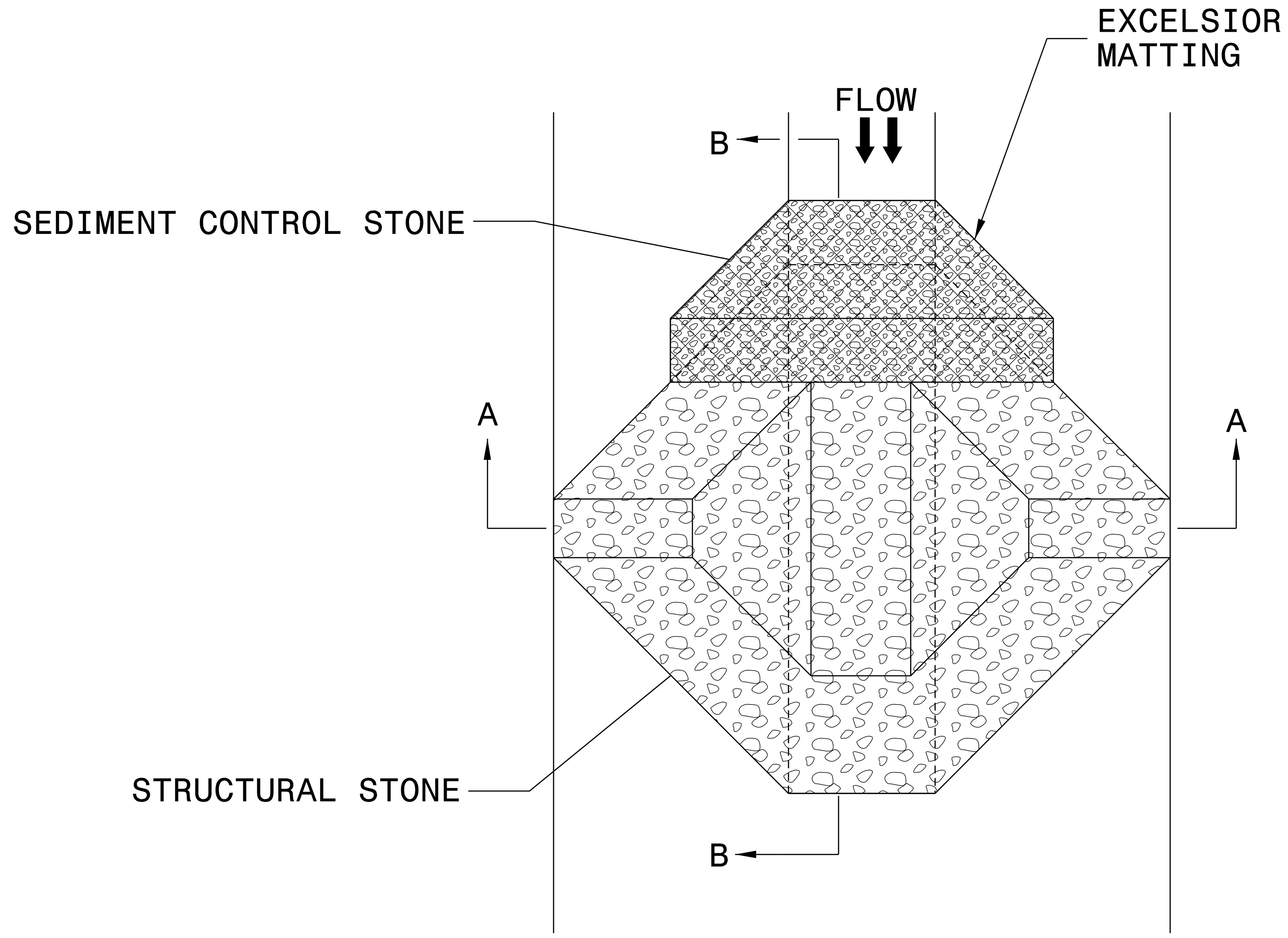
NC COA No. F-0929

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN

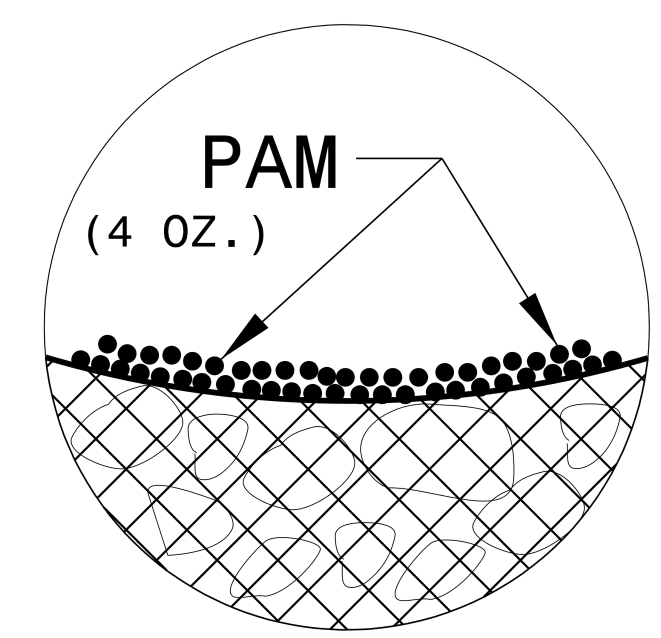
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

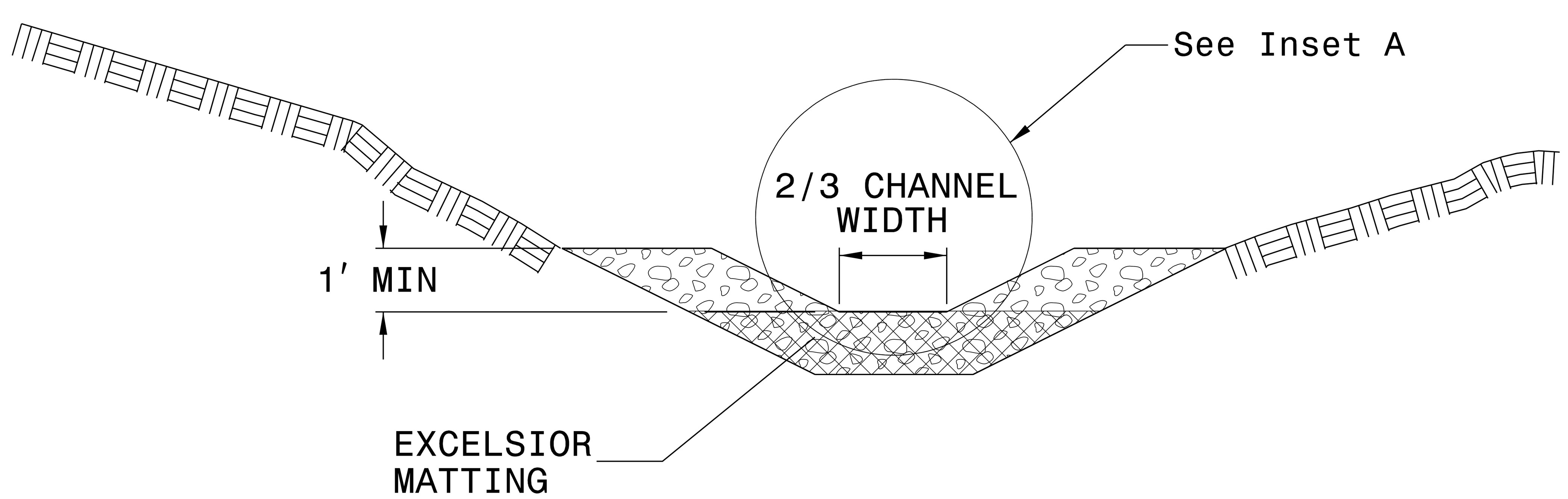
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

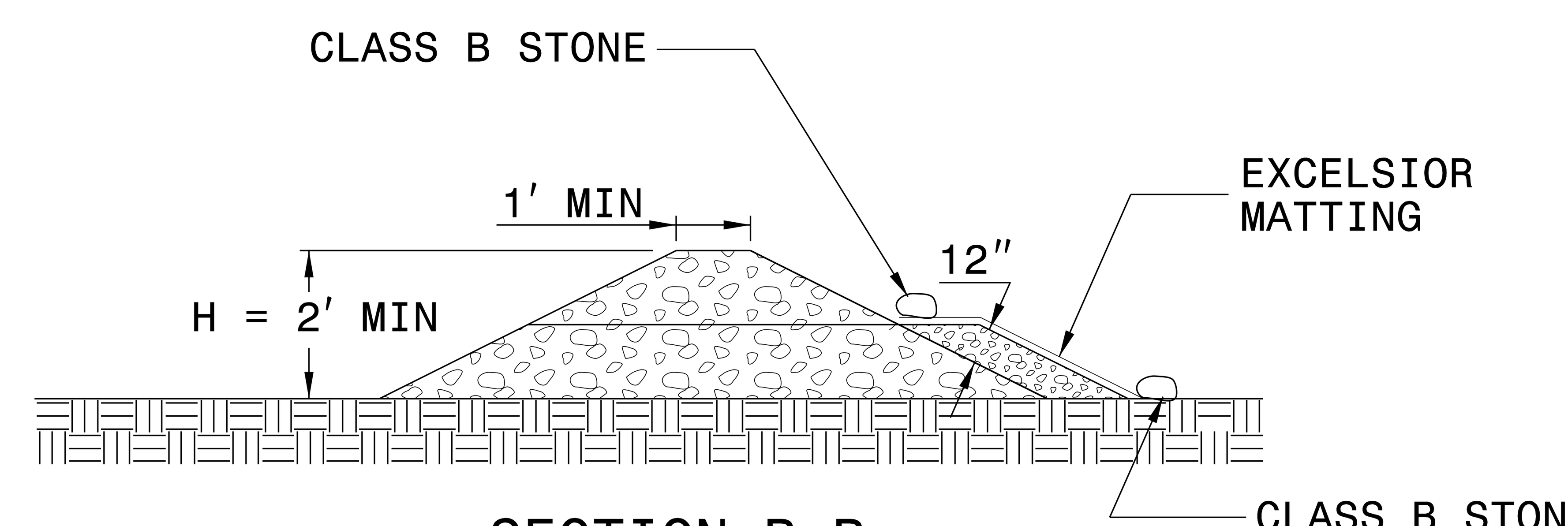
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



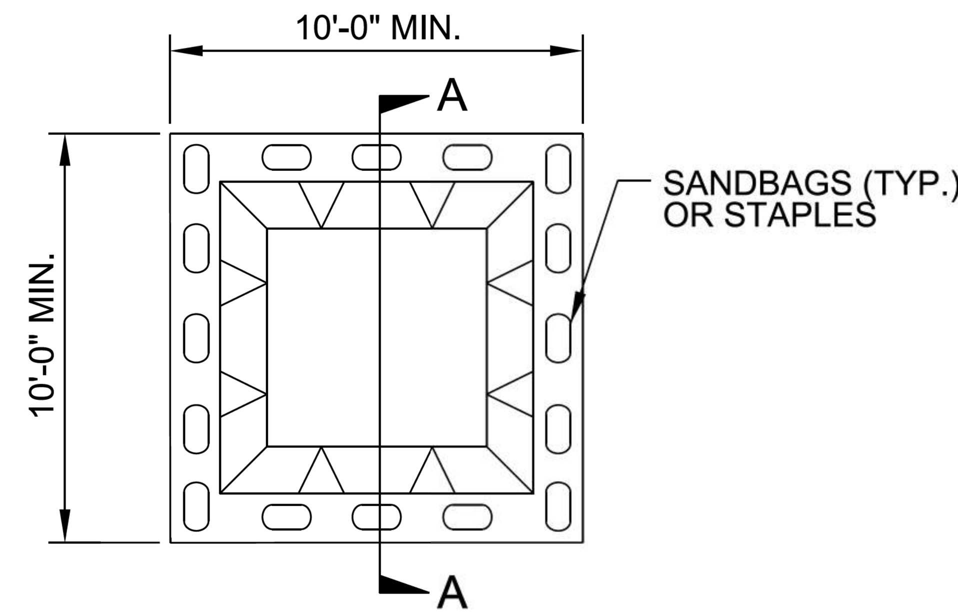
SECTION B-B

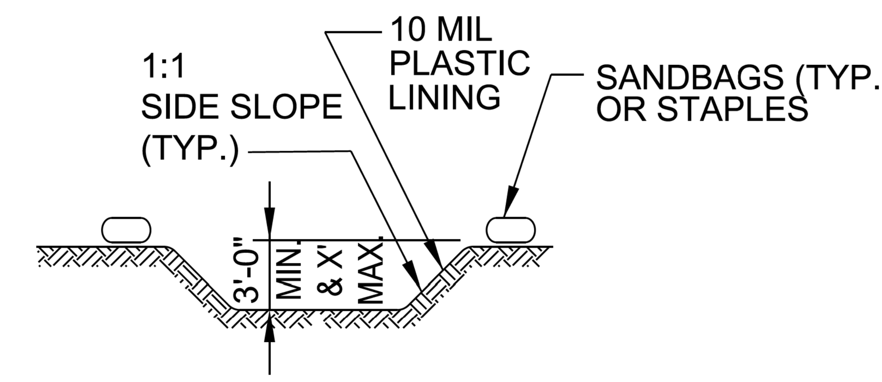
NOT TO SCALE

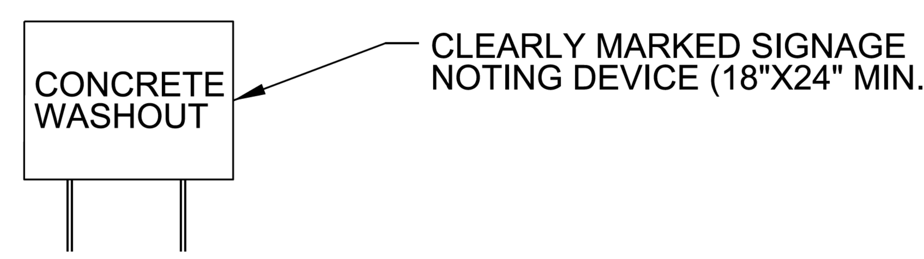
PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	EC-2A
R/W SHEET NO.	

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER







SECTION A-A

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

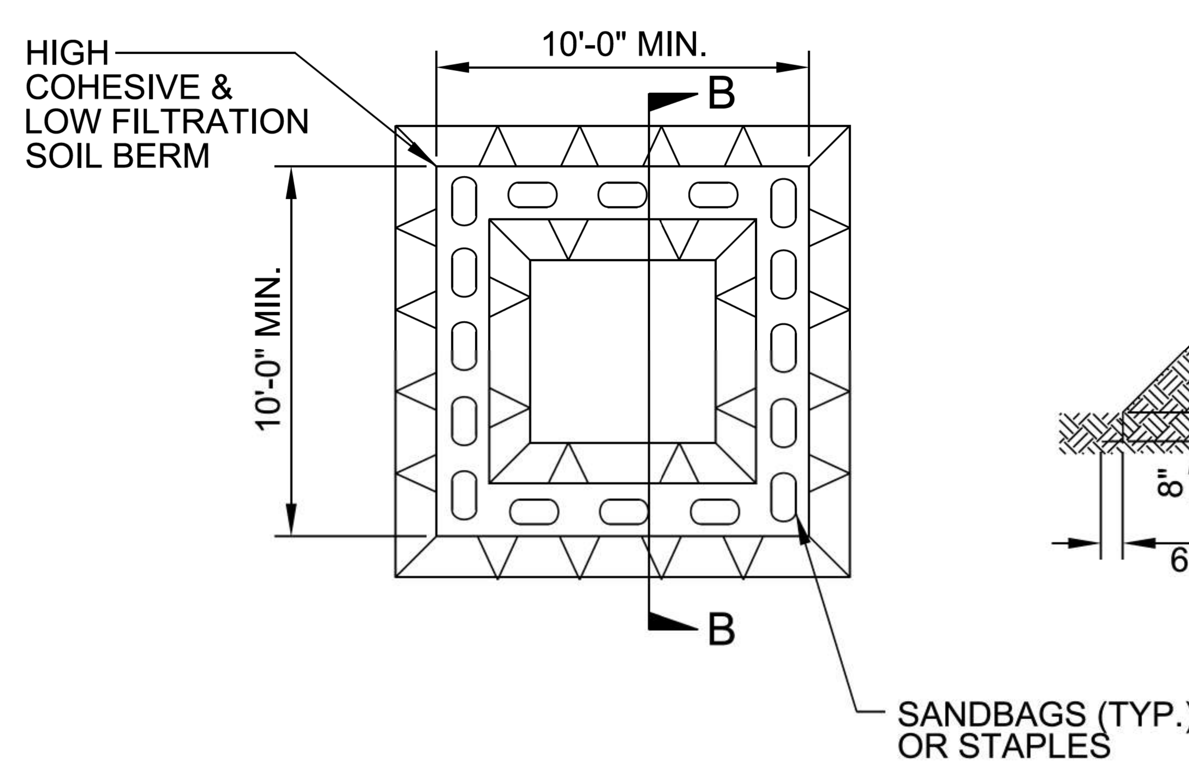
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.

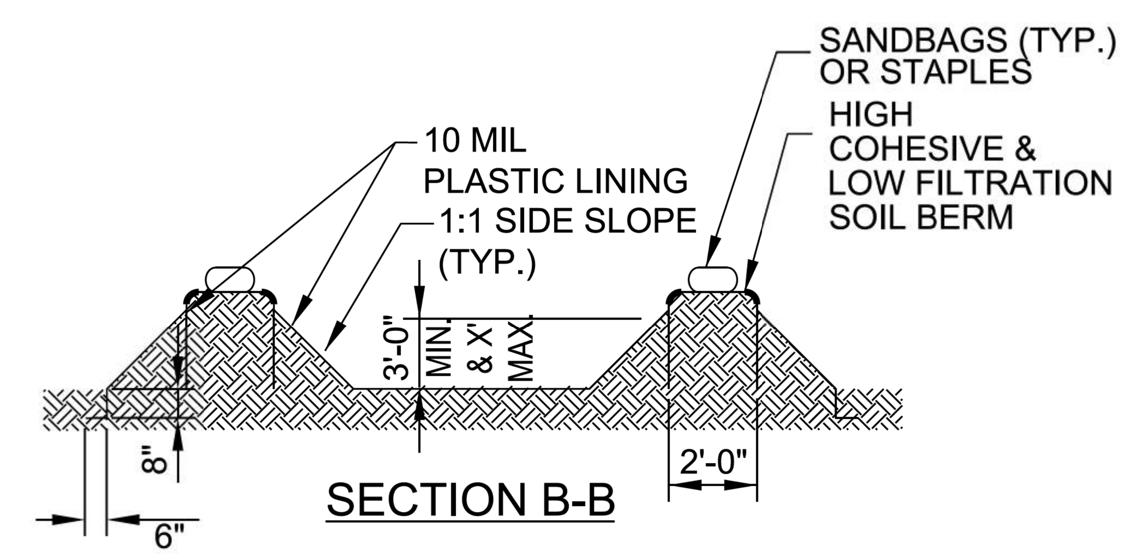
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN

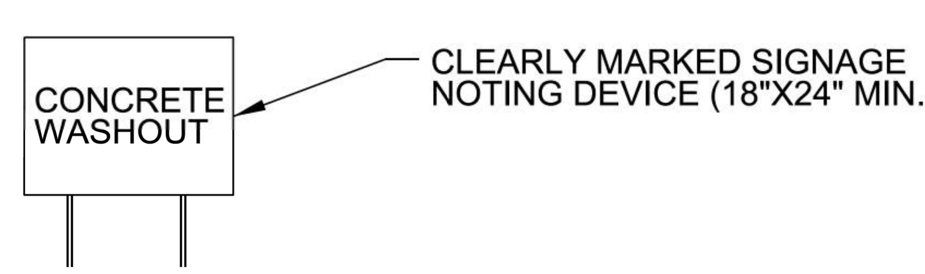
BELOW GRADE WASHOUT STRUCTURE

NOT TO SCALE





SECTION B-B



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	EC-3
R/W SHEET NO.	

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	L	12+00	15+15	RT	650
4	L	16+15	20+45	RT	600
4	L	16+08	20+00	LT	715
4	Y1	16+15	17+28	LT	235
4	Y1	15+95	17+50	RT	220
4	Y1	15+00	15+95	RT	135
4&5	Y1	11+00	15+00	RT	560
5	Y2	10+00	12+15	LT	150
				SUBTOTAL	3265
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					300
				TOTAL	3565
				SAY	3600

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	EC-4/CONST.4
R/W SHEET NO.	1E

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CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE SAFETY FENCE ALONG THE TEMPORARY EASEMENTS TO DEFINE THE LIMITS OF THE WORK AREA WITHIN THE BUFFER ZONES.

-L-

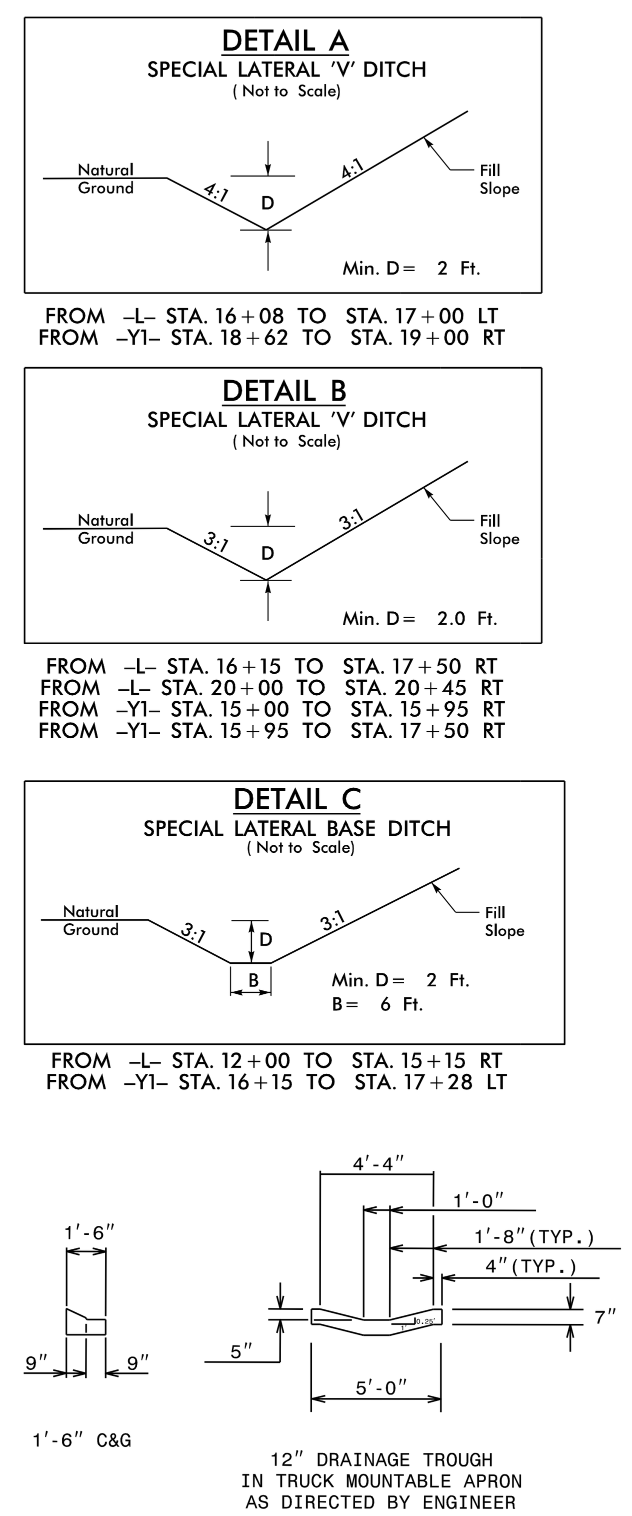
PI Sta 13+41.73	PI Sta 14+70.77	PI Sta 16+57.31	PI Sta 18+32.02
Δ = 13° 18' 07.7" (RT)	Δ = 11° 03' 27.4" (LT)	Δ = 12° 21' 47.3" (RT)	Δ = 10° 15' 03.1" (RT)
D = 7° 32' 20.1"	D = 22° 55' 05.9"	D = 19° 05' 54.9"	D = 6° 44' 26.4"
L = 176.45'	L = 48.25'	L = 64.73'	L = 152.07'
T = 88.62'	T = 24.20'	T = 32.49'	T = 76.24'
R = 760.00'	R = 250.00'	R = 300.00'	R = 850.00'
DS = 30MPH	DS = 30MPH	DS = 30MPH	DS = 40MPH
SE = 4%	SE = NC	SE = NC	SE = 5%

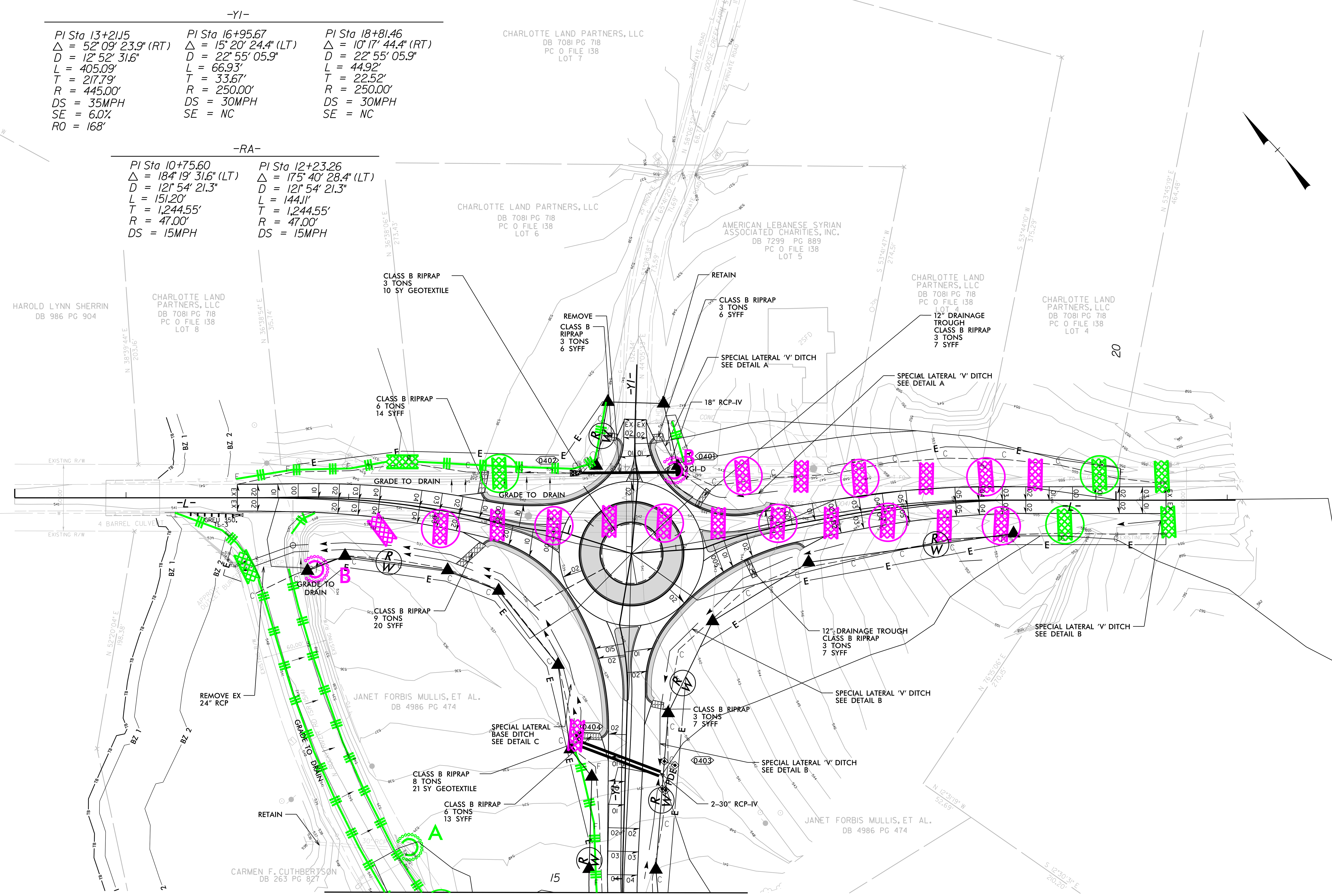
-Y1-

PI Sta 13+21.15	PI Sta 16+95.67	PI Sta 18+81.46
Δ = 52° 09' 23.9" (RT)	Δ = 15° 20' 24.4" (LT)	Δ = 10° 17' 44.4" (RT)
D = 12° 52' 31.6"	D = 22° 55' 05.9"	D = 22° 55' 05.9"
L = 405.09'	L = 66.93'	L = 44.92'
T = 217.79'	T = 33.67'	T = 22.52'
R = 445.00'	R = 250.00'	R = 250.00'
DS = 35MPH	DS = 30MPH	DS = 30MPH
SE = 6.0%	SE = NC	SE = NC
RO = 168'		

-RA-

PI Sta 10+75.60	PI Sta 12+23.26
Δ = 184° 19' 31.6" (LT)	Δ = 175° 40' 28.4" (LT)
D = 121° 54' 21.3"	D = 121° 54' 21.3"
L = 151.20'	L = 144.11'
T = 1,244.55'	T = 1,244.55'
R = 47.00'	R = 47.00'
DS = 15MPH	DS = 15MPH





MATCHLINE SEE SHEET 05
-Y1- STA. 14+88.00

5/14/99
12-MAR-2023 11:15

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	EC-5/CONST.5
R/W SHEET NO.	IE

Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

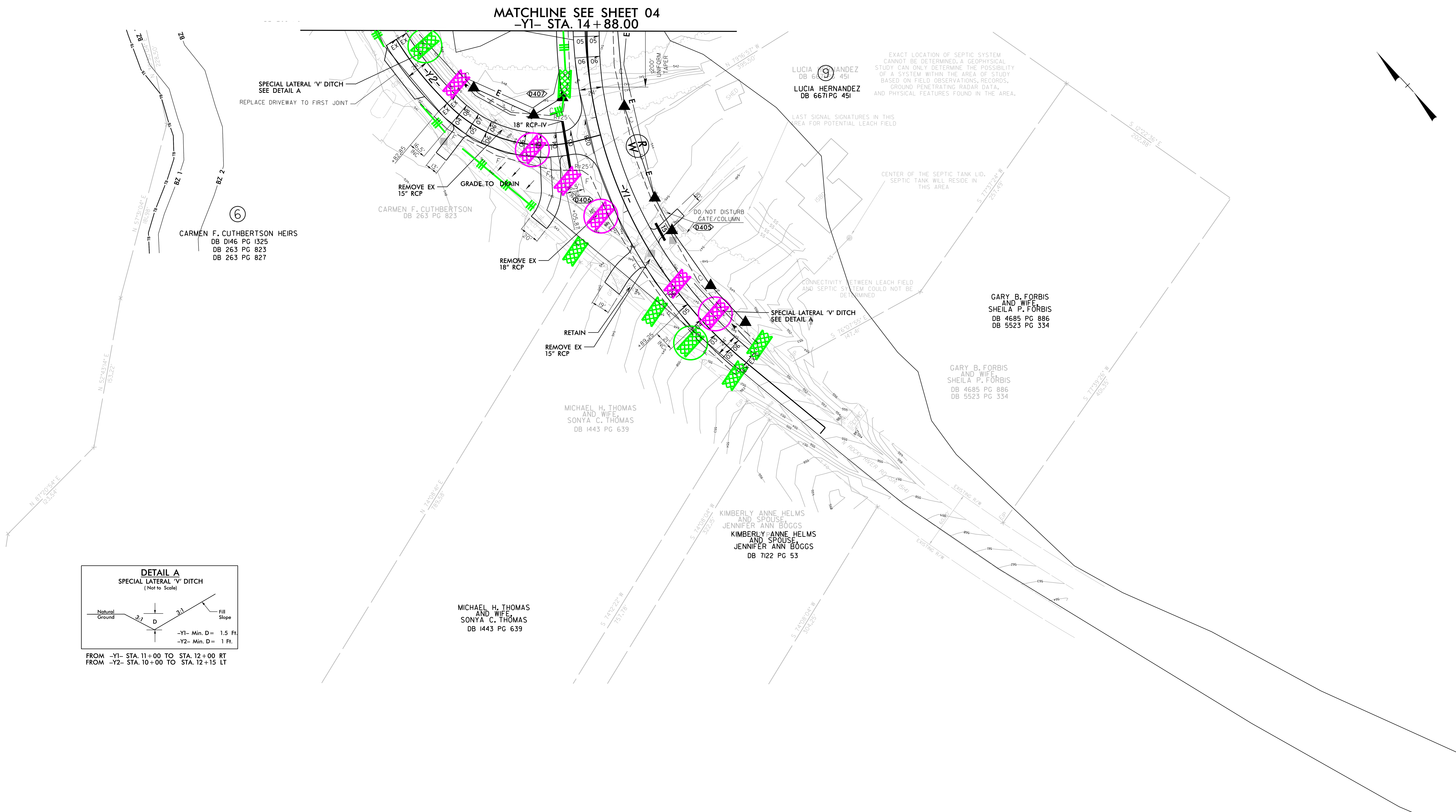
5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE SAFETY FENCE ALONG THE TEMPORARY EASEMENTS TO DEFINE THE LIMITS OF THE WORK AREA WITHIN THE BUFFER ZONES.



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PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	EC-6/CONST.4
R/W SHEET NO.	IE

Dewberry
2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.881.9939 NC COA No. F-0929

SEE PLAN SHEETS 2B-1 AND 2B-2 FOR PAVEMENT REMOVAL. PERMANENTLY SEED AREA WITH NATIVE SEED MIX AFTER PAVEMENT REMOVAL.

-L-

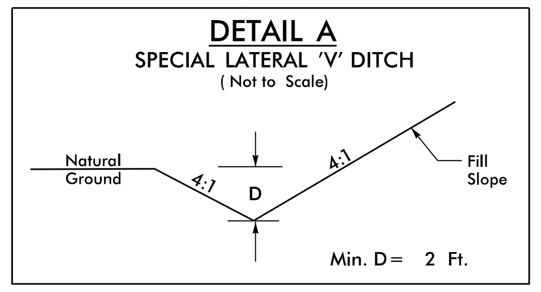
PI Sta 13+41.73	PI Sta 14+70.77	PI Sta 16+57.31	PI Sta 18+32.02
△ = 13° 18' 07.7" (RT)	△ = 11° 03' 27.4" (LT)	△ = 12° 21' 47.3" (RT)	△ = 10° 15' 03.1" (RT)
D = 7° 32' 20.1"	D = 22° 55' 05.9"	D = 19° 05' 54.9"	D = 6° 44' 26.4"
L = 176.45'	L = 48.25'	L = 64.73'	L = 152.07'
T = 88.62'	T = 24.20'	T = 32.49'	T = 76.24'
R = 760.00'	R = 250.00'	R = 300.00'	R = 850.00'
DS = 30MPH	DS = 30MPH	DS = 30MPH	DS = 40MPH
SE = 4%	SE = NC	SE = NC	SE = 5%

-Y1-

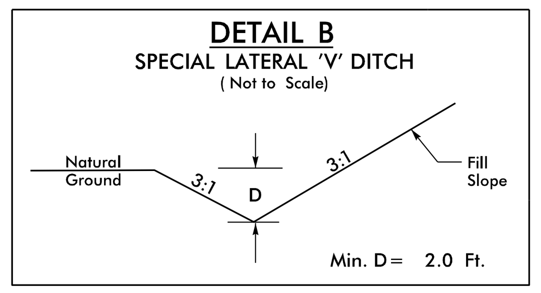
PI Sta 13+21.15	PI Sta 16+95.67	PI Sta 18+81.46
△ = 52° 09' 23.9" (RT)	△ = 15° 20' 24.4" (LT)	△ = 10° 17' 44.4" (RT)
D = 12° 52' 31.6"	D = 22° 55' 05.9"	D = 22° 55' 05.9"
L = 405.09'	L = 66.93'	L = 44.92'
T = 217.79'	T = 33.67'	T = 22.52'
R = 445.00'	R = 250.00'	R = 250.00'
DS = 35MPH	DS = 30MPH	DS = 30MPH
SE = 6.0%	SE = NC	SE = NC
RO = 168'		

-RA-

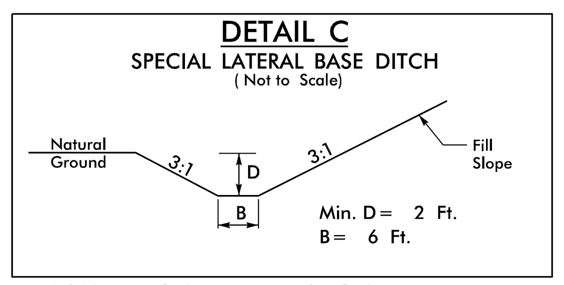
PI Sta 10+75.60	PI Sta 12+23.26
△ = 184° 19' 31.6" (LT)	△ = 175° 40' 28.4" (LT)
D = 121° 54' 21.3"	D = 121° 54' 21.3"
L = 151.20'	L = 144.11'
T = 1,244.55'	T = 1,244.55'
R = 47.00'	R = 47.00'
DS = 15MPH	DS = 15MPH



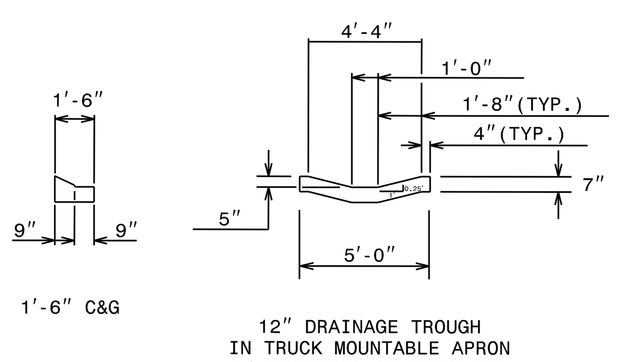
FROM -L- STA. 16+08 TO STA. 17+00 LT
FROM -Y1- STA. 18+62 TO STA. 19+00 RT

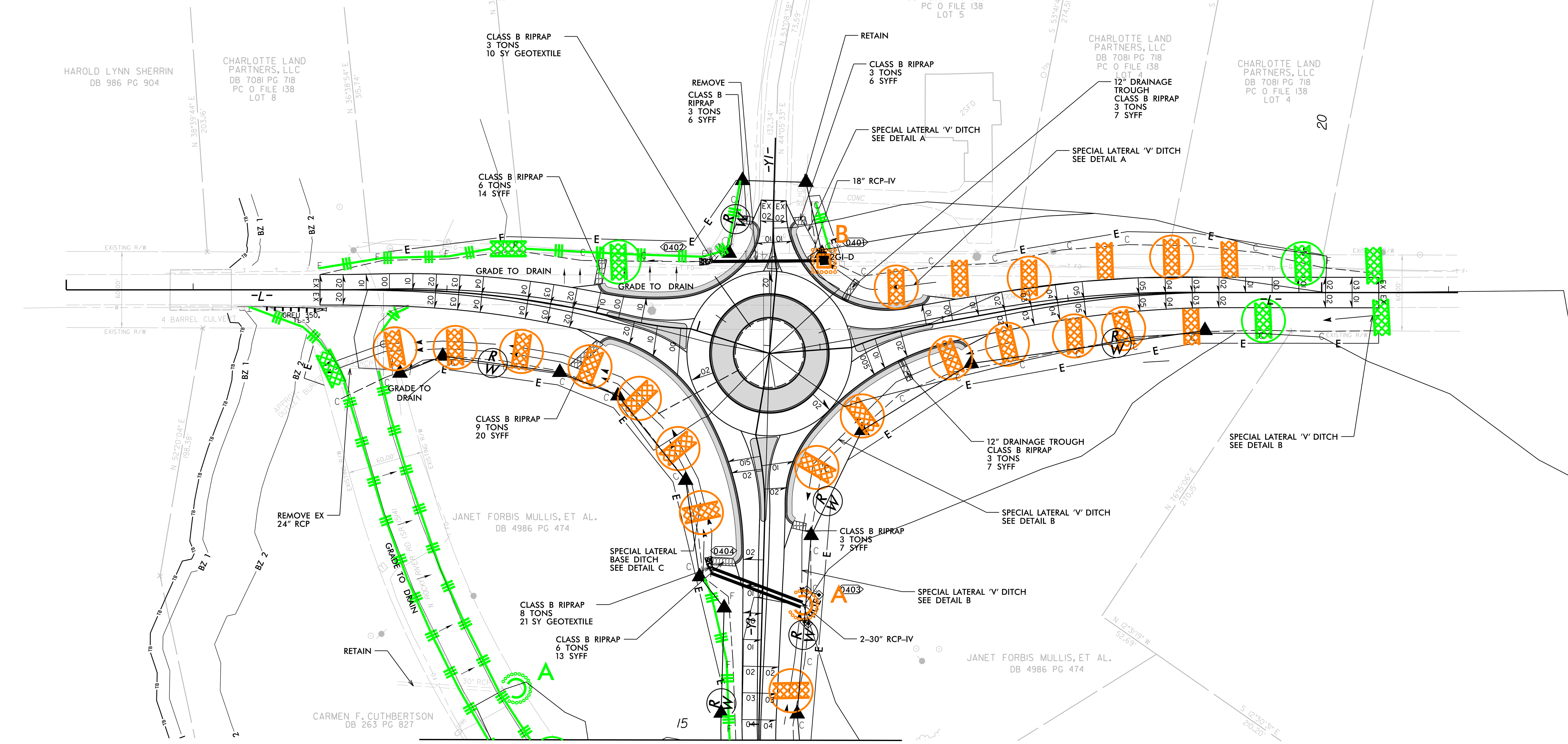


FROM -L- STA. 16+15 TO STA. 17+50 RT
FROM -L- STA. 20+00 TO STA. 20+45 RT
FROM -Y1- STA. 15+00 TO STA. 15+95 RT
FROM -Y1- STA. 15+95 TO STA. 17+50 RT



FROM -L- STA. 12+00 TO STA. 15+15 RT
FROM -Y1- STA. 16+15 TO STA. 17+28 LT





MATCHLINE SEE SHEET 05
-Y1- STA. 14+88.00

12-MAR-2023 11:15
s\Erosion Control\Plan Sheets\W-5710AS_ec_6_psh_4_Final.dgn
$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	EC-7/CONST.5
R/W SHEET NO.	1E

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

SEE PLAN SHEETS 2B-1 AND 2B-2 FOR PAVEMENT REMOVAL. PERMANENTLY SEED AREA WITH NATIVE SEED MIX AFTER PAVEMENT REMOVAL.

FROM -Y1- STA. 11+00 TO STA. 12+00 RT
FROM -Y2- STA. 10+00 TO STA. 12+15 LT

5/14/99

12-MAR-2023 11:15
s\Erosion Control\Plan Sheets\W-5710AS_ec_7_psh_5_Final.dgn
$$$$USERNAME$$$$

T.I.P.: W-5710AS

CONTRACT:

TIP NO.	SHEET NO.
W-5710AS	SIGN-1

APPROVED: DocuSigned by: [signature]

DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
UNION COUNTY

LOCATION: SR 1004 (LAWYERS ROAD) AND SR 1514 (N. ROCKY RIVER ROAD) ROUNDABOUT NEAR INDIAN TRAIL

GENERAL NOTES

. SIGNS FURNISHED BY STATE

. CONFIRM IN WRITING AT LEAST 4 MONTHS IN ADVANCE, THE ACTUAL DATE THE DEPARTMENT FURNISHED SIGNS WILL BE REQUIRED.

. IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.

. WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER

. ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.

. THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	403	L.F.
4102000000	904	SIGN ERECTION, TYPE E	33	EA.
4116100000	904	SIGN ERECTION, RELOCATE SIGN TYPE E	1	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	8	EA.
4915000000-E	1264	7' U-CHANNEL POSTS	3	EA.
4955000000-N	1264	OBJECT MARKERS (END OF ROAD)	3	EA.

INDEX

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
910.40	SIGNING FOR ROUNDABOUTS

PLAN SUBMITTED TO: N.C.D.O.T. SIGNING AND DELINEATION UNIT

KELVIN L. JORDAN — SIGNING & DELINEATION REGIONAL ENGINEER

SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PLAN PREPARED BY: DEWBERRY ENGINEERS INC.

J. TODD BROOKS, PE — PROJECT ENGINEER

ABRAHAM WILES — PROJECT DESIGN ENGINEER

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919-881-9939
NC COA No. F-0929

TIP NO.	SHEET NO.
W-5710AS	SIGN-2

DocuSigned by: Matthew V. Springer

APPROVED: 6/23/2021

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 042546 ENGINEER MATTHEW V. SPRINGER

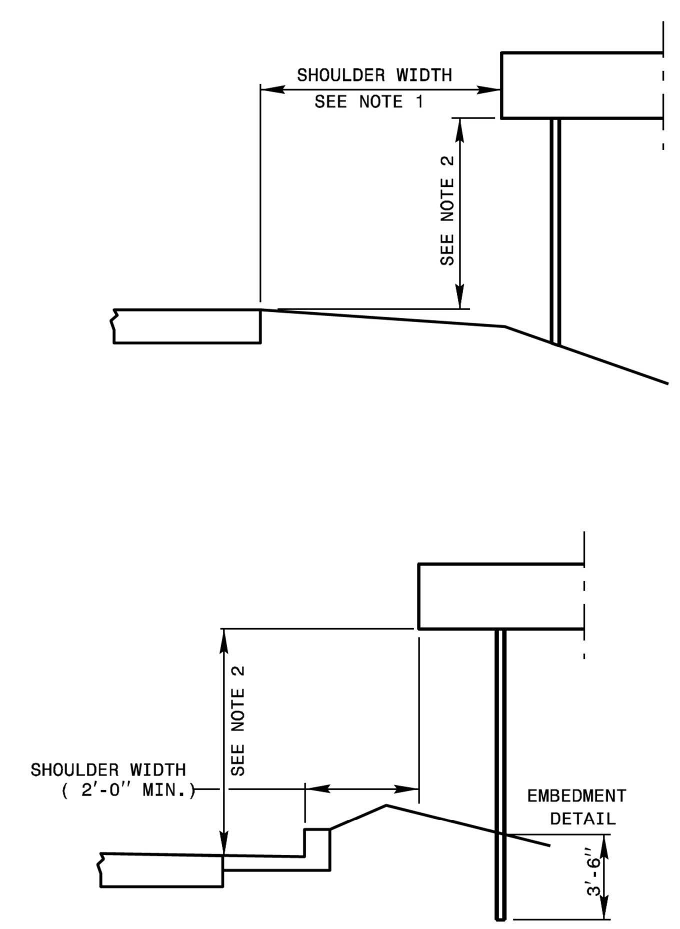
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

6-21

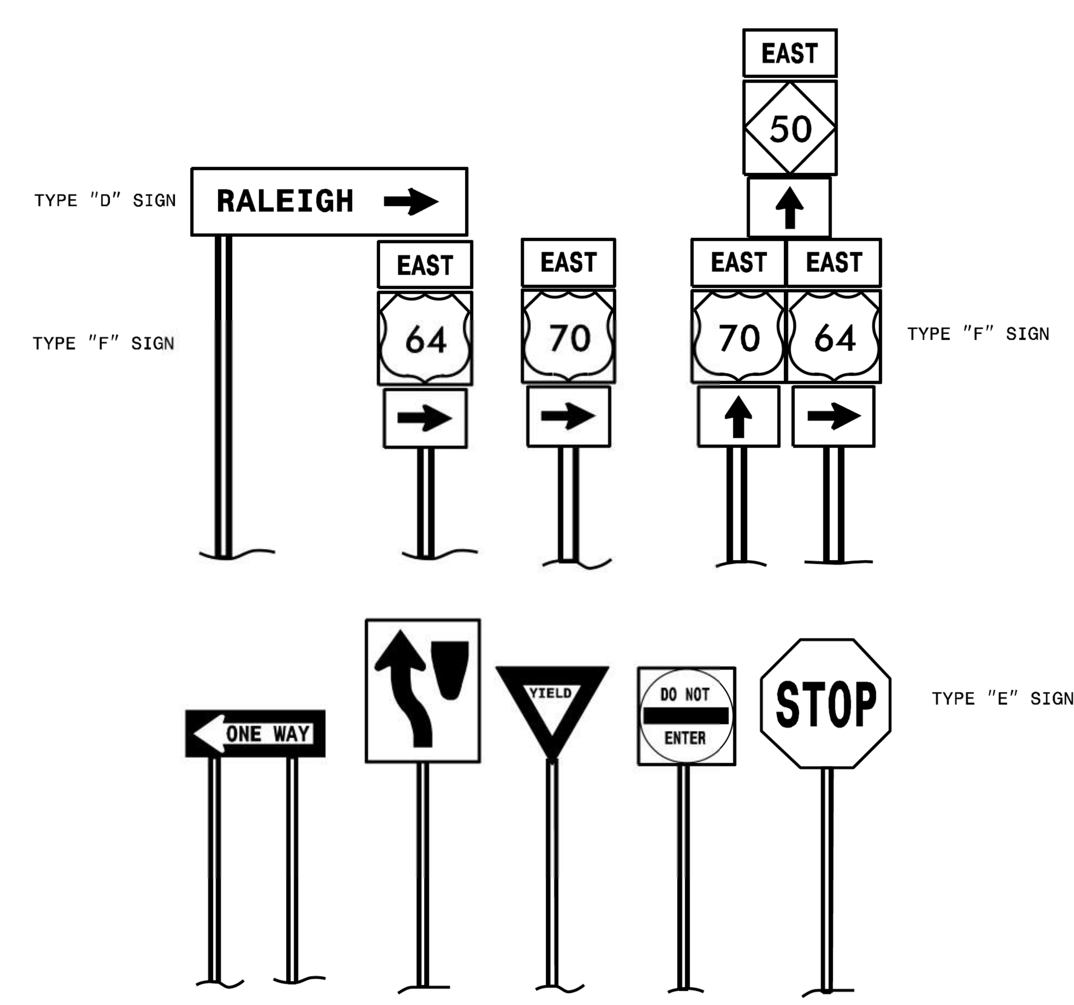
ENGLISH DETAIL DRAWING FOR
MOUNTING OF TYPE 'D','E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SHEET 1 OF 2

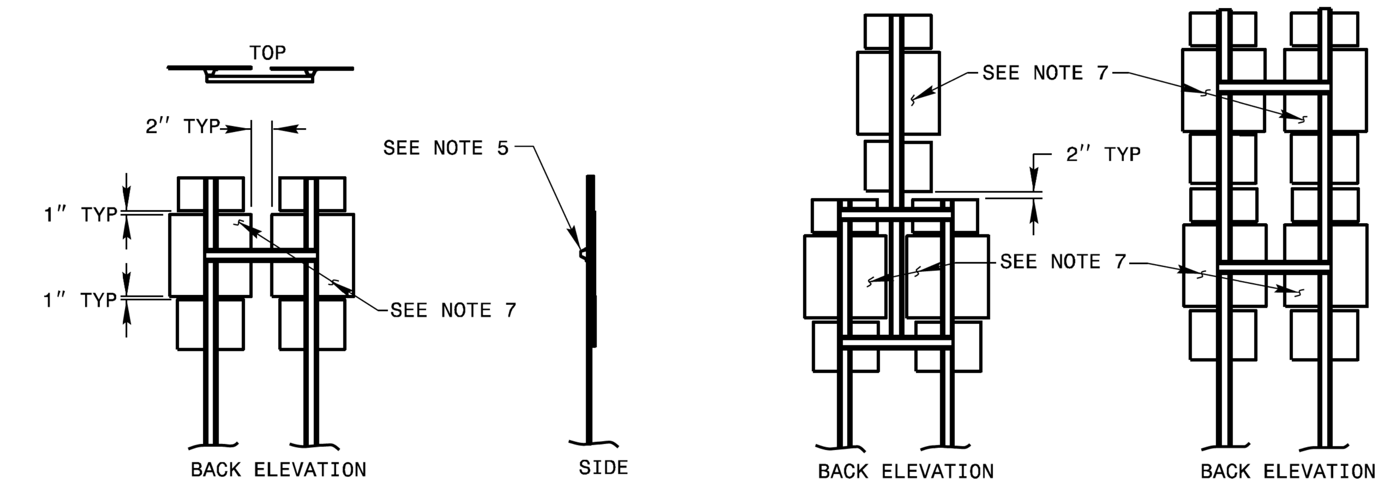
904D50



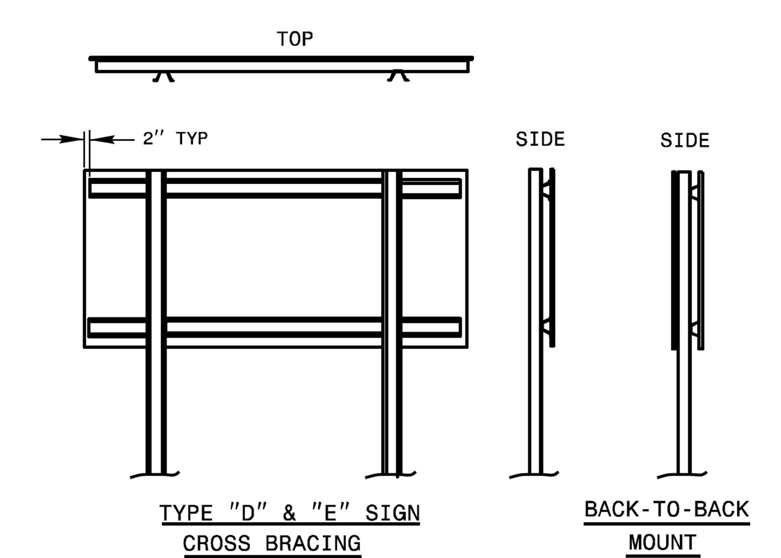
HORIZONTAL AND VERTICAL CLEARANCES



TYPICAL SIGN SHAPES AND COMBINATIONS



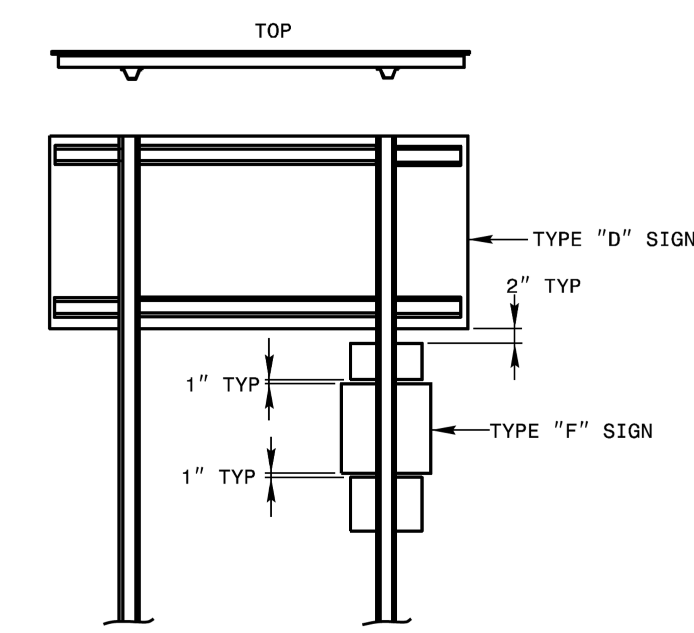
FRAMING AND CROSS-BRACING DETAILS
TYPE "F" SIGNS



TYPE "D" & "E" SIGN CROSS BRACING

BACK-TO-BACK MOUNT

FRAMING AND CROSS BRACE DETAILS
FOR COMBINATION TYPE "D" & "E" SIGNS
WIDE SIDE OF CROSS BRACE GOES TO BACK OF SIGN



FRAMING AND CROSS BRACE DETAILS
FOR COMBINATION TYPE "D" & "F" SIGNS
WIDE SIDE OF FLANGE TO BACK OF "F" SIGN

NOTES:

1. ERECT TYPE "D", "E", AND "F" SIGNS ON FREEWAYS WITH THE NEAR EDGE OF THE SIGN 20 FT. FROM THE TRAVEL LANE. ERECT ALL OTHER "D", "E", AND "F" SIGNS WITH THE NEAR EDGE OF THE SIGN AT THE EDGE OF THE SHOULDER BREAK (6 FT. MINIMUM CLEARANCE, 12 FT. DESIRABLE, FROM THE EDGE OF TRAVEL LANE), OR AS DIMENSIONED ON PLAN SHEETS.
2. ERECT TYPE "D", "E", AND "F" SIGNS WITH THE BOTTOM OF SIGN ASSEMBLY AT LEAST 7 FT. ABOVE THE EDGE OF THE TRAVEL LANE ON ROADS WITH 2 OR MORE LANES IN THE SAME DIRECTION AND AT LEAST 5 FT. ON OTHER ROUTES. THE VERTICAL CLEARANCE IS 7 FT. WHERE REQUIRED FOR PEDESTRIAN TRAFFIC AND/OR PARKED VEHICLES.
3. THE VERTICAL DIMENSION BETWEEN MOUNTING HOLE CENTERS ON ALL TYPES "D", "E", AND "F" SIGNS IS 30" MAXIMUM. THE VERTICAL AND HORIZONTAL DIMENSIONS BETWEEN MOUNTING HOLES IS TO THE WHOLE INCH. EACH SIGN PANEL HAS A MINIMUM OF 2 BOLTS PER SUPPORT.
4. ATTACH SIGN W/ 5/16" HEX HEAD BOLT, NYLON WASHER, SHIM, FLAT WASHER, LOCK WASHER, HEX NUT NO BUCKLING OF THE SIGN WILL BE PERMITTED. SEE ASSEMBLY DETAIL SHEET# 2 OF 904.50.
5. FURNISH AND INSTALL CROSS-BRACING AS SHOWN IN DETAIL. PAINT ENDS OF CROSS BRACES W/ APPROVED. ZINC PAINT
6. INSTALL POST AND CROSS-BRACING WITH THE WIDE SIDE OF THE FLANGE TOWARD THE BACK OF SIGN(S) FOR COMBINATION TYPE "D" AND "F" SIGNS.
7. THE SHIELD HEIGHTS IN THESE ASSEMBLIES CAN NOT BE LARGER THAN 24".
8. IF SIGN ASSEMBLIES REQUIRE MORE THAN TWO U-CHANNEL SUPPORTS, THE SUPPORTS SHALL BE PLACED A MINIMUM OF 4 FT. BETWEEN POSTS. NO MORE THAN TWO POSTS SHALL FALL WITHIN 7 FT. PATH, OR THE SIGN ASSEMBLY MUST BE PLACED BEHIND BARRIER PROTECTION.

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

6-21

ENGLISH DETAIL DRAWING FOR
MOUNTING OF TYPE 'D','E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SHEET 1 OF 2

904D50

**REVISED SIGNING
ROADWAY STANDARD DRAWING**

TIP NO.	SHEET NO.
W-5710AS	SIGN-3

APPROVED: J. Todd Brooks

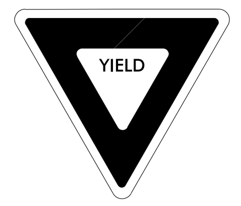
DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

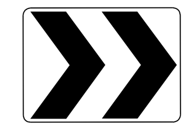
(401) QUANTITY REQ'D 8



36 X 36 X 36
R1-2

ONE "U" POST PER SIGN

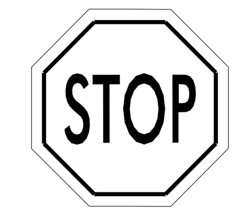
(402) QUANTITY REQ'D 4



30 X 24
R6-4

ONE "U" POST PER SIGN

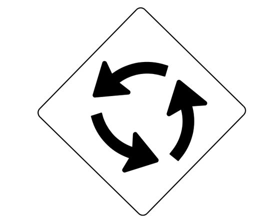
(403) QUANTITY REQ'D 1



30 X 30
R1-1

ONE "U" POST PER SIGN

(404) QUANTITY REQ'D 3



30 X 30
W2-6

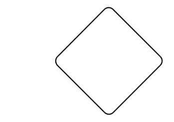
ONE "U" POST PER SIGN

(405) QUANTITY REQ'D 1

30 X 30
W14-2

ONE "U" POST PER SIGN

(406) QUANTITY REQ'D 3



18 X 18
OM4-1

ONE 7' "U" POST PER SIGN

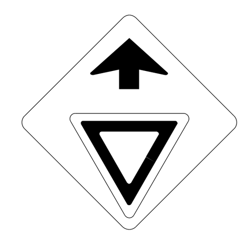
SEE RSD NOS. 1264.01 & 1264.02, TYPE 4 OBJECT MARKERS (END OF ROAD)

(407) QUANTITY REQ'D 2

24 X 30
R2-1

ONE "U" POST PER SIGN

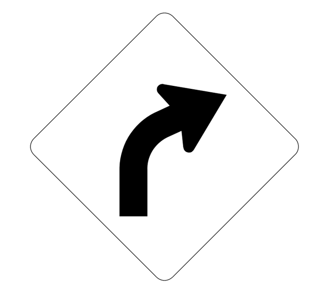
(408) QUANTITY REQ'D 3



30 X 30
W3-2

ONE "U" POST PER SIGN

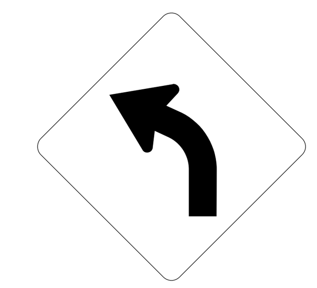
(409) QUANTITY REQ'D 1



30 X 30
W1-2R

ONE "U" POST PER SIGN

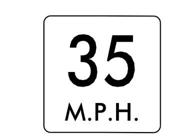
(410) QUANTITY REQ'D 1



30 X 30
W1-2L

ONE "U" POST PER SIGN

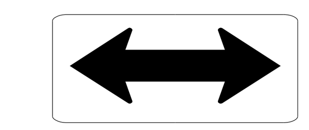
(411) QUANTITY REQ'D 2



18 X 18
W13-1P

MOUNTED UNDER SIGNS 409 & 410
IN ONE INSTALLATION EACH

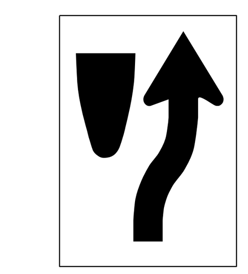
(412) QUANTITY REQ'D 1



48 X 24
W1-7

TWO "U" POSTS PER SIGN

(413) QUANTITY REQ'D 3



24 X 30
R4-7

ONE "U" POST PER SIGN

(414) QUANTITY REQ'D 1

24 X 8
W16-8P

SEE SHEET SIGN-6

MOUNTED UNDER SIGN 404
IN ONE INSTALLATION EACH

(415) QUANTITY REQ'D 2

24 X 15
W16-8aP

SEE SHEET SIGN-6

MOUNTED UNDER SIGN 404
IN TWO INSTALLATIONS EACH

Dewberry
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919-881-9939
NC COA No. F-0929

TYPE "E" SIGNS

TIP NO.	SHEET NO.
W-5710AS	SIGN-4

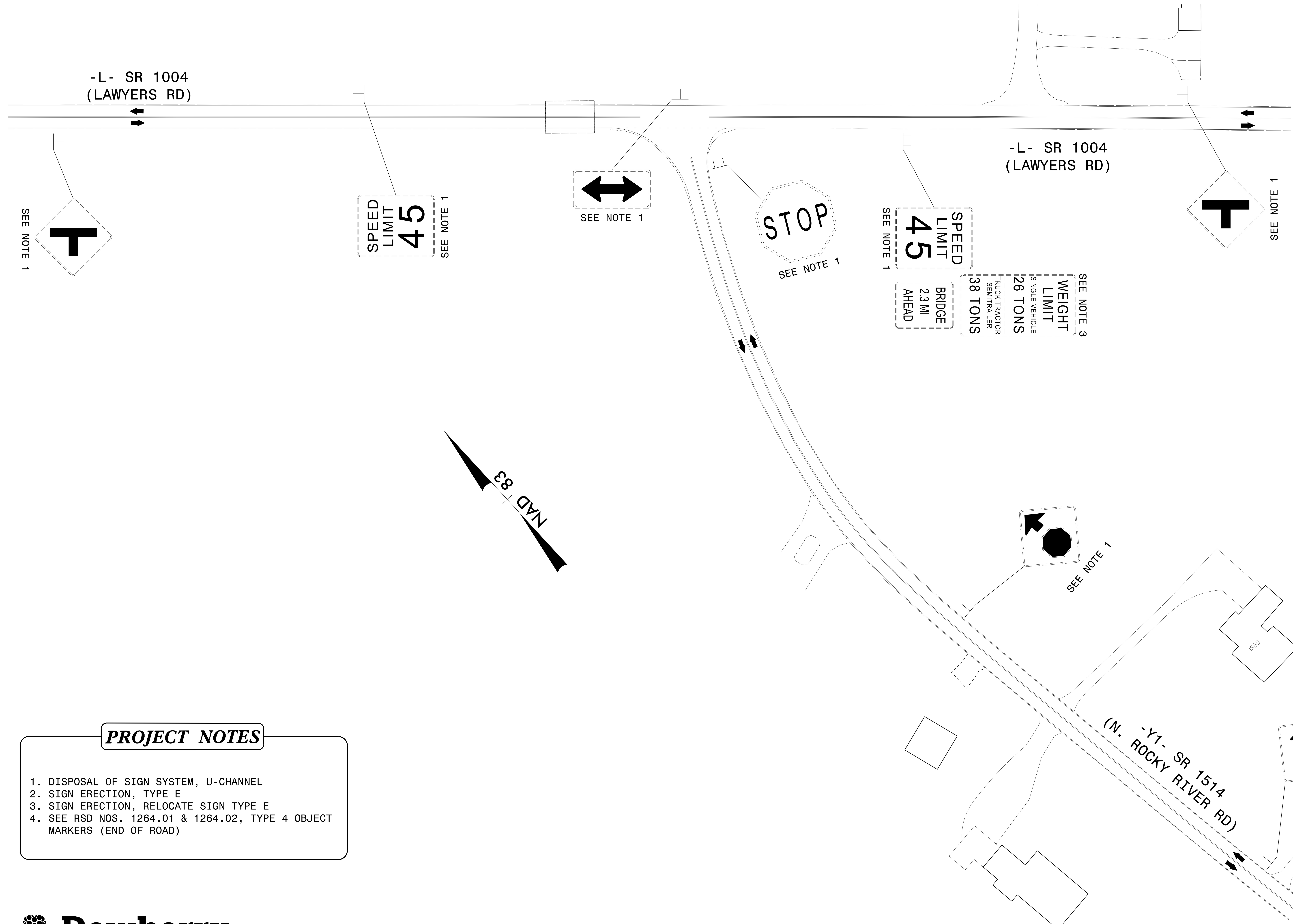
APPROVED: J. Todd Brooks

DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2. SIGN ERECTION, TYPE E
3. SIGN ERECTION, RELOCATE SIGN TYPE E
4. SEE RSD NOS. 1264.01 & 1264.02, TYPE 4 OBJECT MARKERS (END OF ROAD)

Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919-881-9939
NC COA No. F-0929

EXISTING SIGNING DETAIL

TIP NO.	SHEET NO.
W-5710AS	SIGN-5

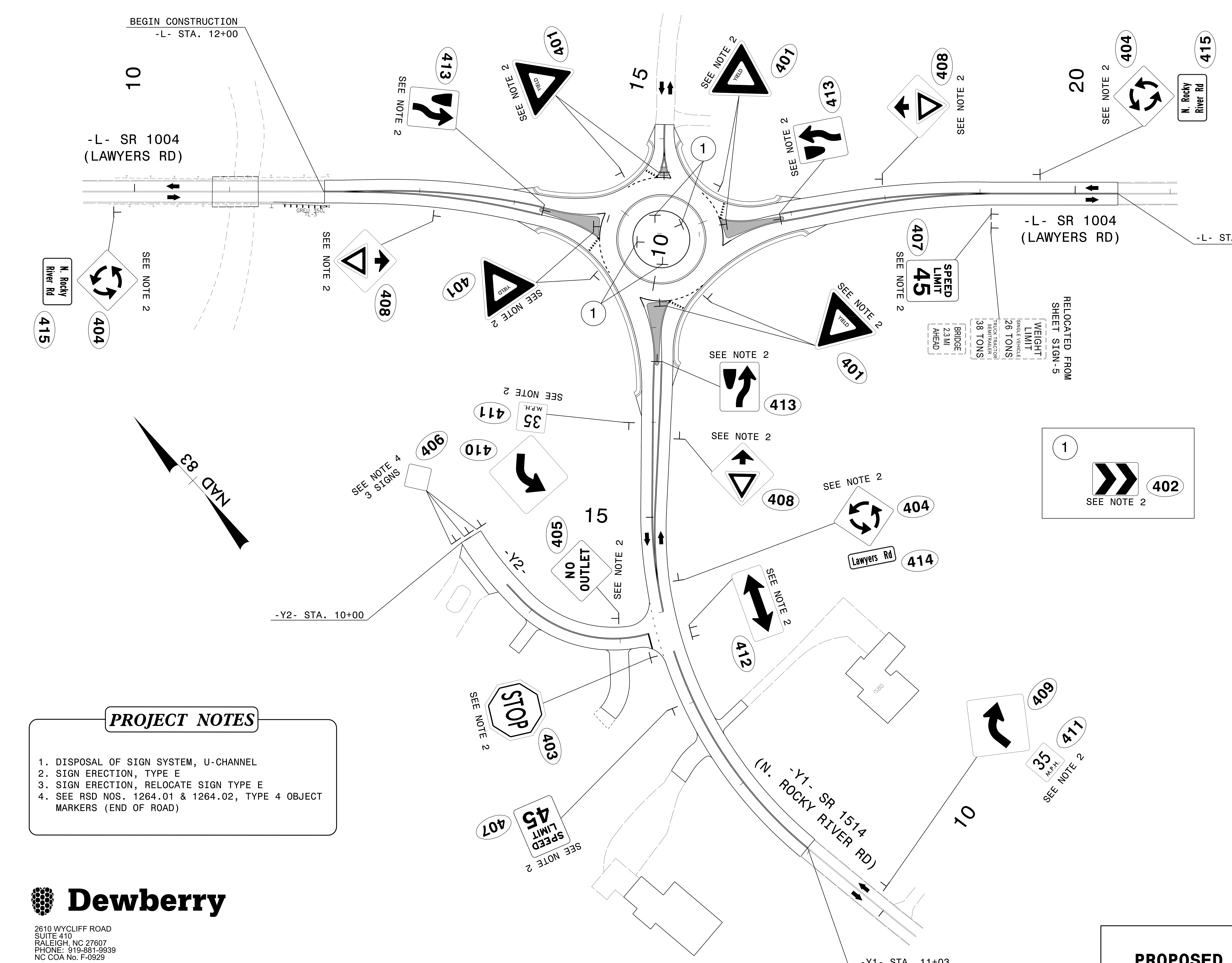
APPROVED: J. Todd Brooks

DATE: 3/3/2023

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2. SIGN ERECTION, TYPE E
3. SIGN ERECTION, RELOCATE SIGN TYPE E
4. SEE RSD NOS. 1264.01 & 1264.02, TYPE 4 OBJECT MARKERS (END OF ROAD)

Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919-881-9939
NC COA No. F-0929

PROPOSED SIGNING DETAIL

TIP NO.	SHEET NO.
W-5710AS	SIGN-6

APPROVED: J. Todd Brooks
DATE: 3/3/2023

SEAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIGN NUMBER: W16-8P (SIGN 414 THIS SET) BACKG COLOR: Yellow
TYPE: E COPY COLOR: Black
QUANTITY: 1

SIGN WIDTH: 2'-0"
HEIGHT: 0'-8"
TOTAL AREA: 1.33 Sq.Ft.

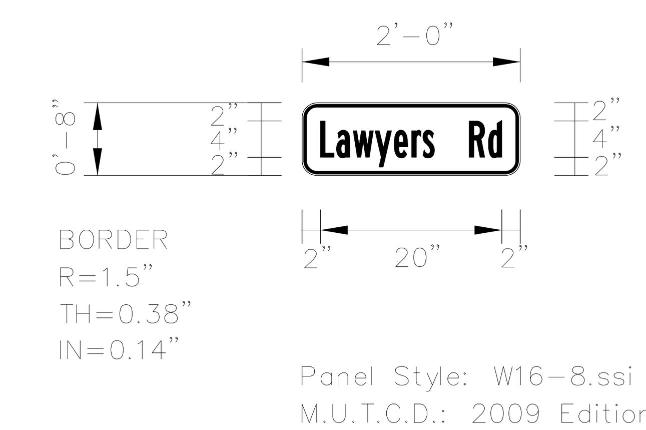
BORDER TYPE: RECESSED
RECESS: 0.14"
WIDTH: 0.38"
RADII: 1.5"

NO. Z BARS:
LENGTH:

SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: AB CHECKED BY: JTB Feb 24, 2023
PROJECT ID: W5710AS LOCATION: UNION COUNTY DIV: 10



USE NOTES:

1. Legend and border shall be non-reflective opaque black ink.
2. Background shall be Grade C reflective sheeting.

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

	L	a	w	y	e	r	s	R	d		Series/Size Text Length
2	1.8	1.8	2.4	2.1	2	1.2	5.1	2.1	1.5	2	B 2000 20.0

FILENAME: Sign Designs NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: W16-8aP (SIGN 415 THIS SET) BACKG COLOR: Yellow
TYPE: E COPY COLOR: Black
QUANTITY: 2

SIGN WIDTH: 2'-0"
HEIGHT: 1'-3"
TOTAL AREA: 2.5 Sq.Ft.

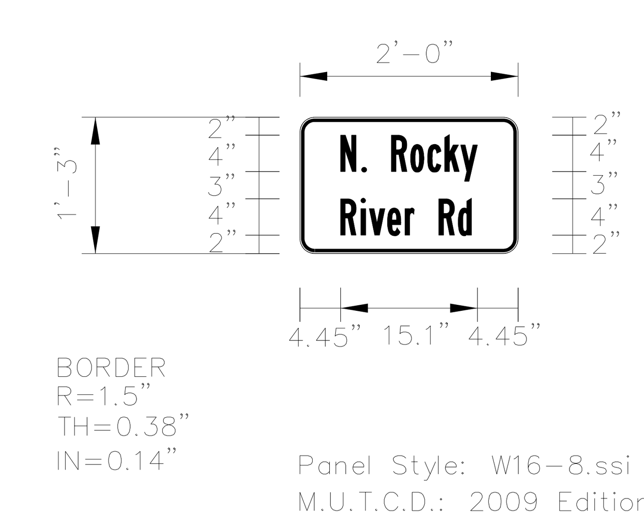
BORDER TYPE: RECESSED
RECESS: 0.14"
WIDTH: 0.38"
RADII: 1.5"

NO. Z BARS:
LENGTH:

SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: AB CHECKED BY: JTB Feb 24, 2023
PROJECT ID: W5710AS LOCATION: UNION COUNTY DIV: 10



USE NOTES:

1. Legend and border shall be non-reflective opaque black ink.
2. Background shall be Grade C reflective sheeting.

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

	N	.	R	o	c	k	y		Series/Size Text Length
4.5	2.3	3.2	2.2	1.8	1.9	1.8	1.9	4.5	B 2000 15.1
	R	i	v	e	r	R	d		
4.5	2.2	.9	2.0	1.9	3.8	2.1	1.5	4.5	B 2000 14.4

FILENAME: Sign Designs NORTH CAROLINA D.O.T. SIGN DETAIL

PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2. SIGN ERECTION, TYPE E
3. SIGN ERECTION, RELOCATE SIGN TYPE E
4. SEE RSD NOS. 1264.01 & 1264.02, TYPE 4 OBJECT MARKERS (END OF ROAD)

Dewberry

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919-881-9939
NC COA No. F-0929

SIGN DESIGNS

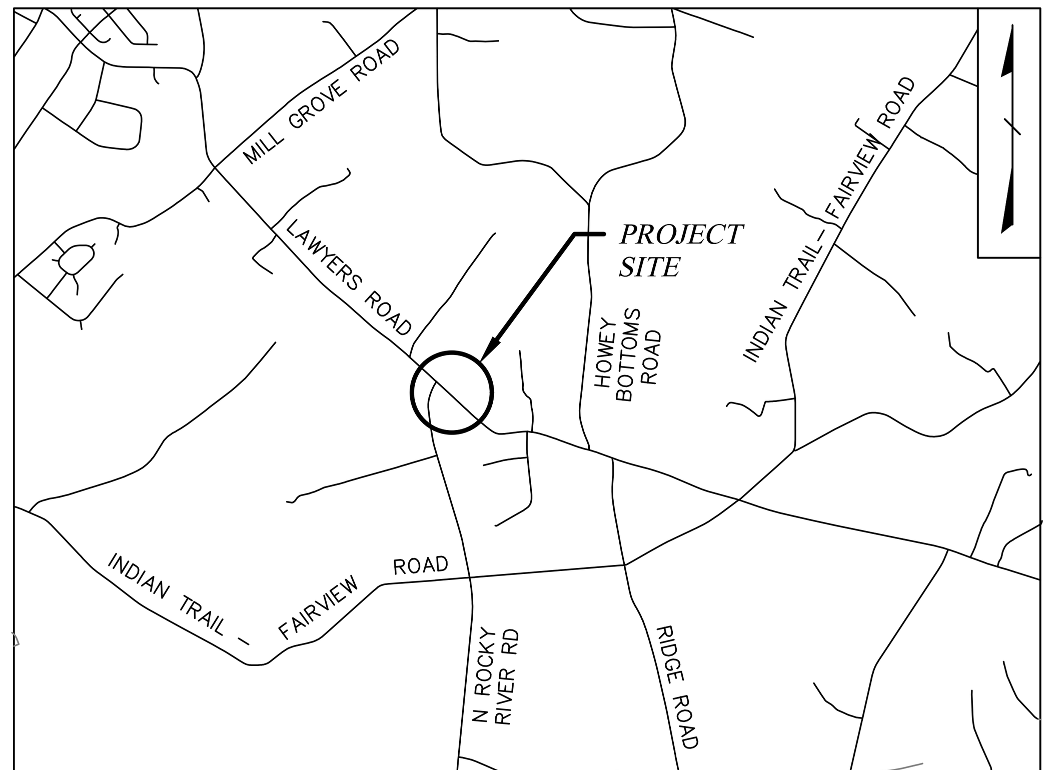
TIP PROJECT: W-5710AS

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
W-5710AS	UC-1

UTILITY CONSTRUCTION PLANS
UNION COUNTY

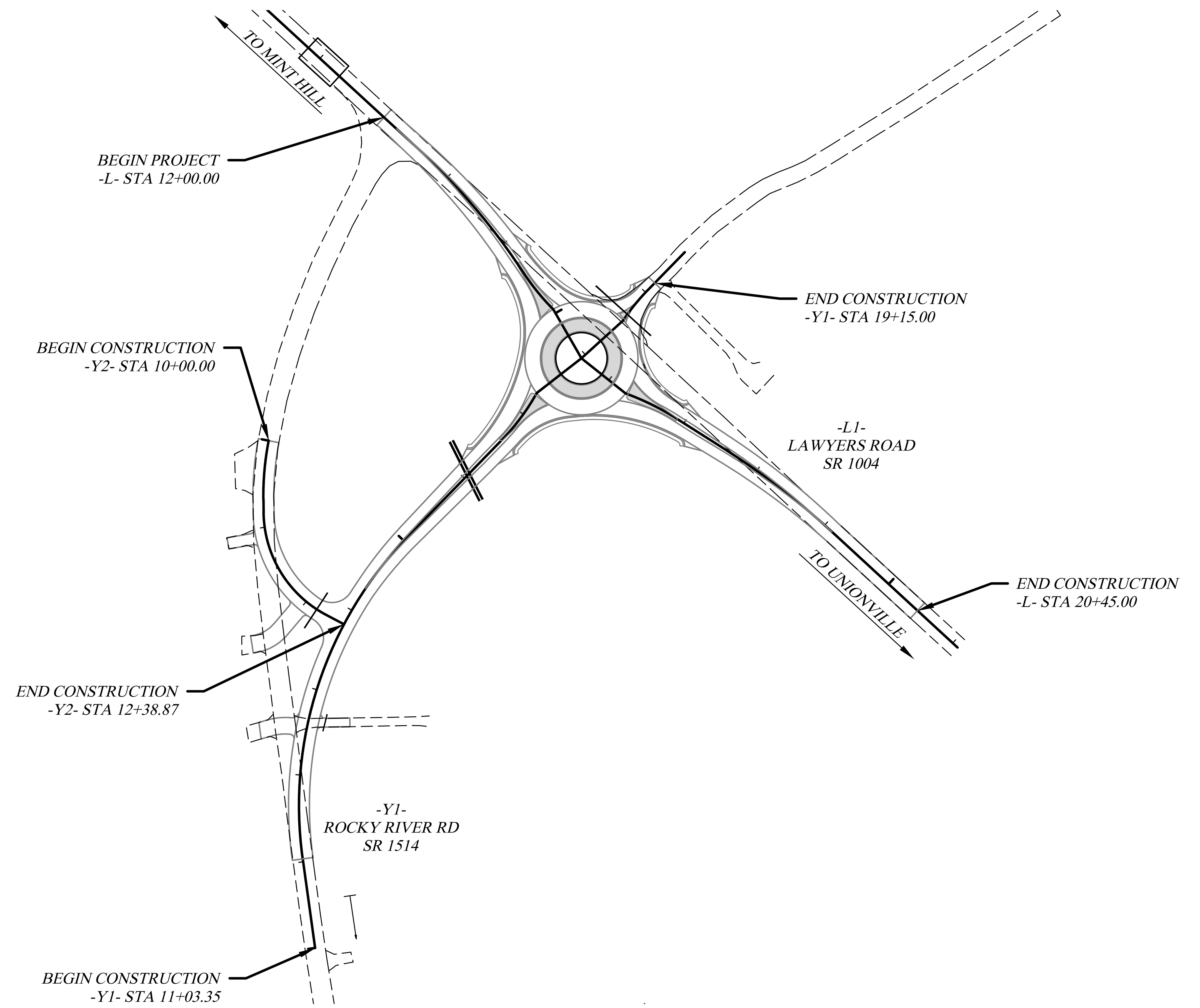


VICINITY MAP

NOT TO SCALE

LOCATION: SR 1004 (LAWYERS ROAD) AND
SR 1514 (ROCKY RIVER ROAD) ROUNDABOUT

TYPE OF WORK: WATER LINE RELOCATION



DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) WATER - UNION COUNTY

PREPARED IN THE OFFICE OF:

UNION COUNTY WATER
500 NORTH MAIN STREET, SUITE 600
MONROE, NORTH CAROLINA 28112
PHONE: (704) 296-4210
FAX: (704) 296-4232

Michael S. Caldwell, PE	UTILITIES PROJECT MANAGER
Thuy Le	UTILITIES PROJECT ENGINEER
L. Neal Gaston	CIP CONSTRUCTION MANAGER

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 019697

DocuSigned by:
Michael Caldwell
9BF2D9E517854CC...
3/10/2023

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITY CONSTRUCTION

GENERAL NOTES

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2018 AND UNION COUNTY PUBLIC WORKS SANITARY SEWER AND WATER SPECIFICATIONS.

2. THE EXISTING UTILITIES BELONG TO UNION COUNTY PUBLIC WORKS.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS ON THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7. "SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT-SPECIFIC NOTES

1. UTILITY CONTRACTOR IS TO CONTACT UNION COUNTY PROJECT MANAGER, MICHAEL CALDWELL, AT 704-968-4150 AT LEAST 72 HOURS PRIOR TO BEGINNING WORK ON UNION COUNTY FACILITIES. UNION COUNTY MAY INSPECT WORK AT ANY TIME.

2. EXISTING WATER VALVES ARE TO BE OPERATED BY UNION COUNTY OPERATIONS STAFF.

3. LAY PIPE STRAIGHT IN ALIGNMENT AND GRADIENT OR FOLLOW TRUE CURVES AS NEARLY AS POSSIBLE. DO NOT DEFLECT ANY JOINT MORE THAN HALF THE MAXIMUM DEFLECTION RECOMMENDED BY THE MANUFACTURER.

4. PROVIDE THRUST BLOCKS AS NEEDED ON THE EXISTING WATER LINES WHERE TIE-INS ARE MADE.

5. ALL EXCAVATION FOR WATER LINE INSTALLATION IS UNCLASSIFIED.

6. NO INTERRUPTION OF EXISTING WATER SERVICE SHALL BE MADE DURING CONSTRUCTION UNTIL AUTHORIZED BY UNION COUNTY.

7. UNION COUNTY COLLECTS SAMPLES FOR BACTERIOLOGICAL TESTING. SAMPLES WILL BE COLLECTED ONLY ON WEDNESDAYS. THERE WILL BE NO COST TO THE UTILITY CONTRACTOR FOR BACTERIOLOGICAL TESTING. UNION COUNTY WILL NOT ACCEPT TEST RESULTS FROM OUTSIDE TESTING LABS.

8. CONTRACTOR SHALL COORDINATE SHUTDOWN OF WATER LINES FOR TIE-INS A MINIMUM OF 96 HOURS IN ADVANCE OF PLANNED TIE-IN OPERATIONS. COORDINATE WITH UNION COUNTY FIELD REPRESENTATIVE.

9. UTILITY CONTRACTOR SHALL BE PRESENT AND ASSIST WITH FINAL INSPECTIONS OF THE NEW WATER LINE.

DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	UC-3

DESIGNED BY:	MSC
DRAWN BY:	MSC
CHECKED BY:	TL
APPROVED BY:	MSC
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

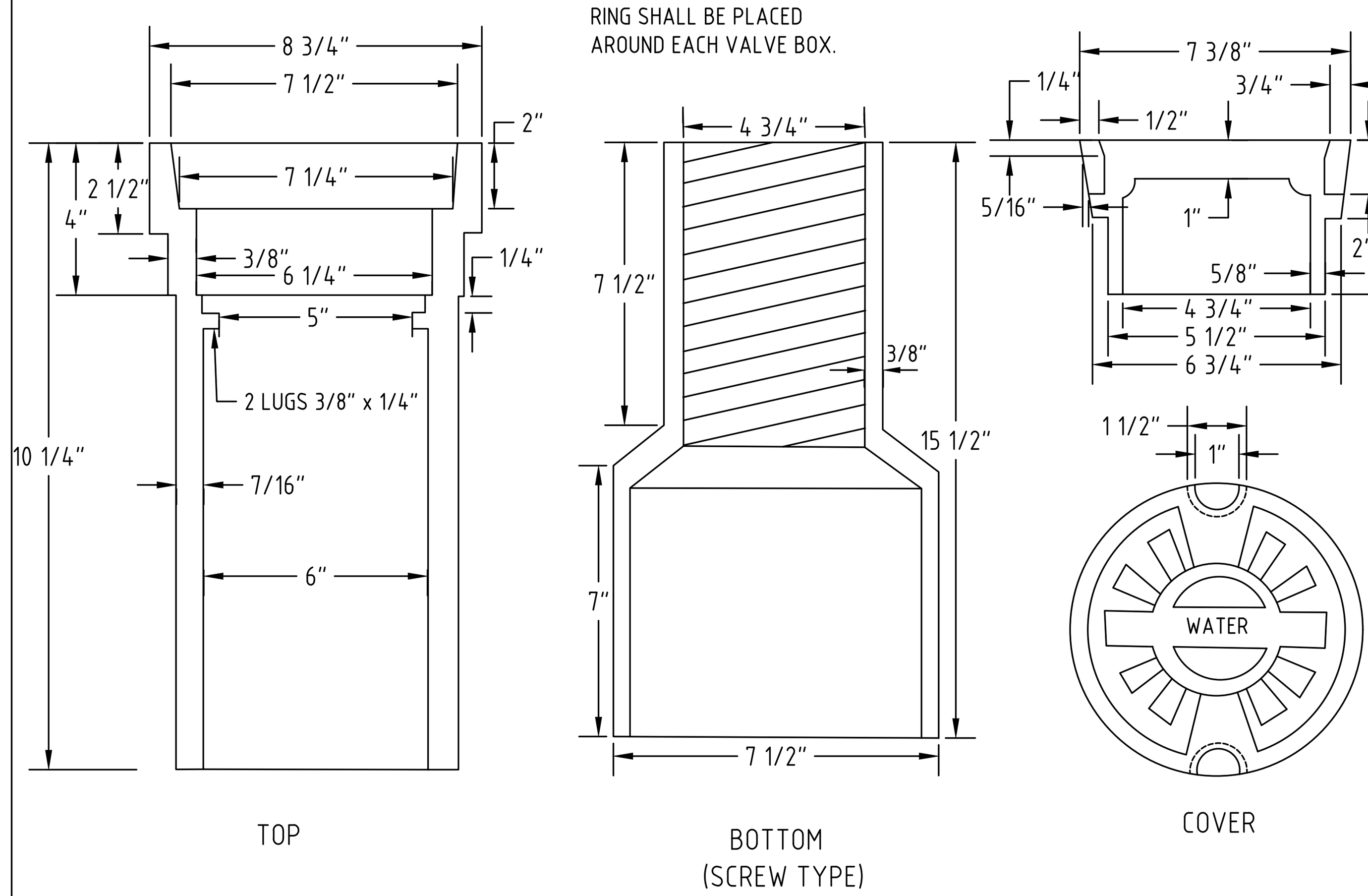
NORTH CAROLINA PROFESSIONAL SEAL 019697

DocuSigned by: Michael Caldwell
9BF2D9E517854CC...

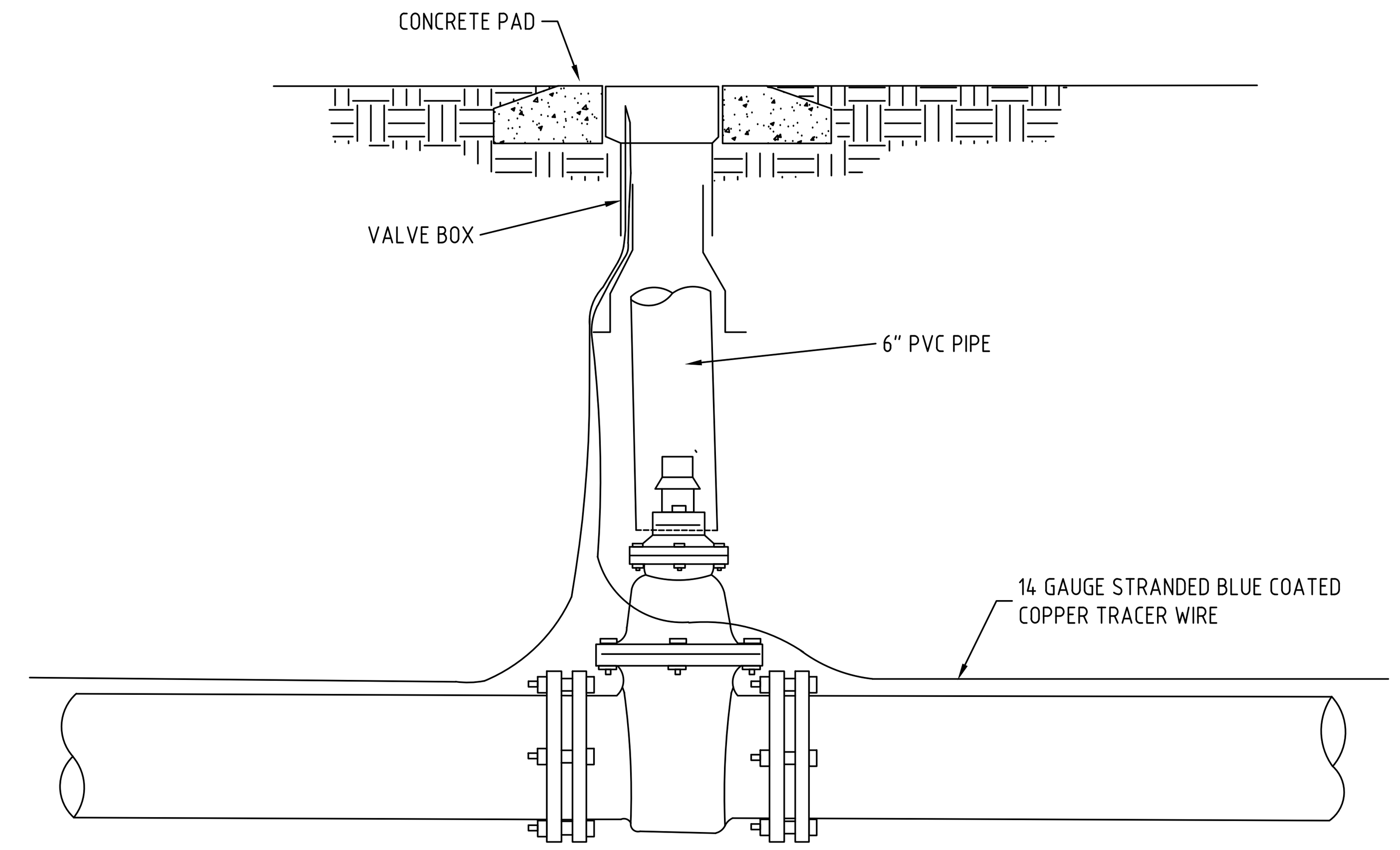
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

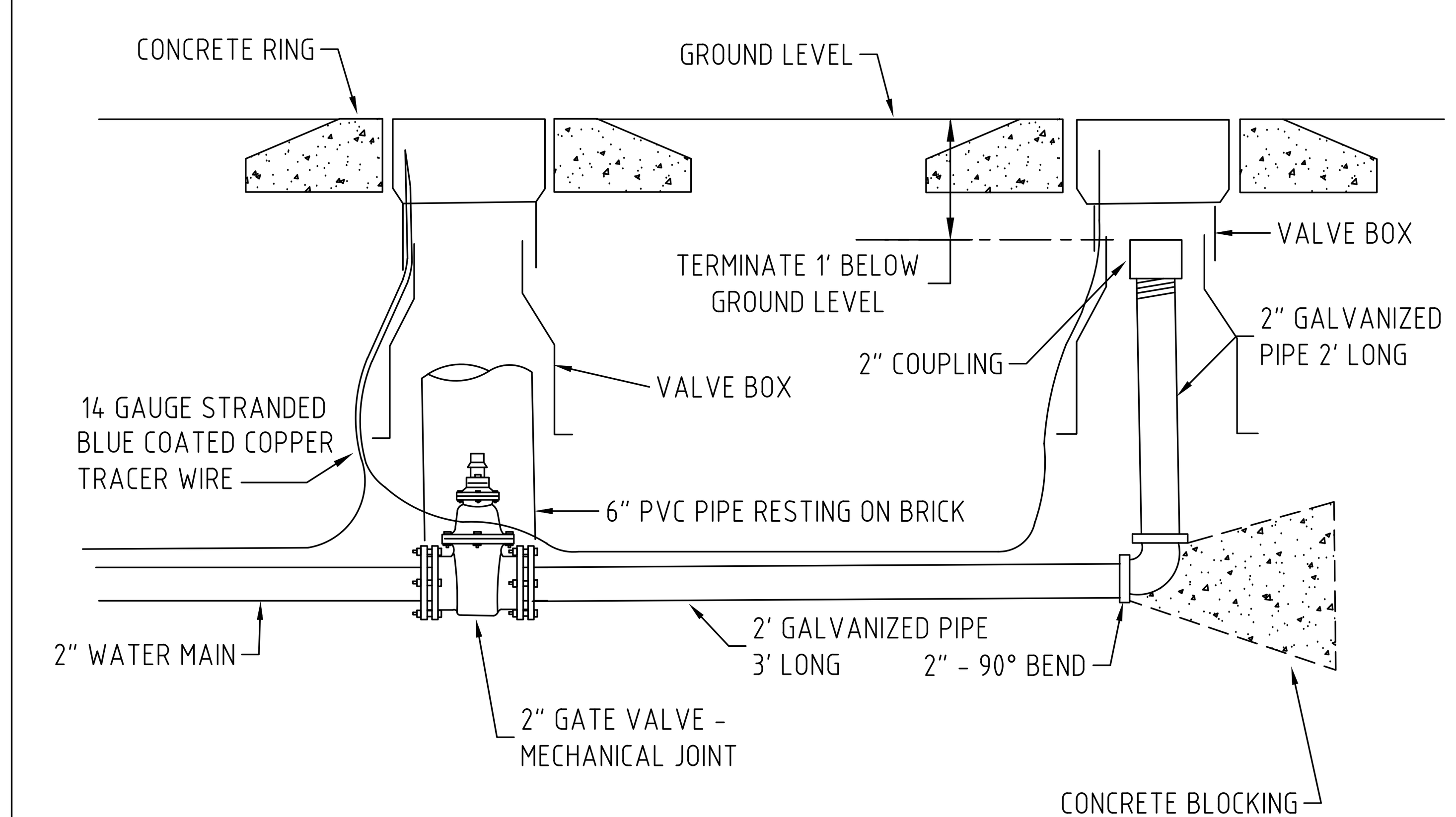
NOTE:
A 27" DIAMETER PRE-CAST RING SHALL BE PLACED AROUND EACH VALVE BOX.



UNION COUNTY PUBLIC WORKS DEPARTMENT
UNION COUNTY, N.C.
STANDARD DETAIL
VALVE BOX
SCALE: N.T.S. DATE: 11-17-06
1



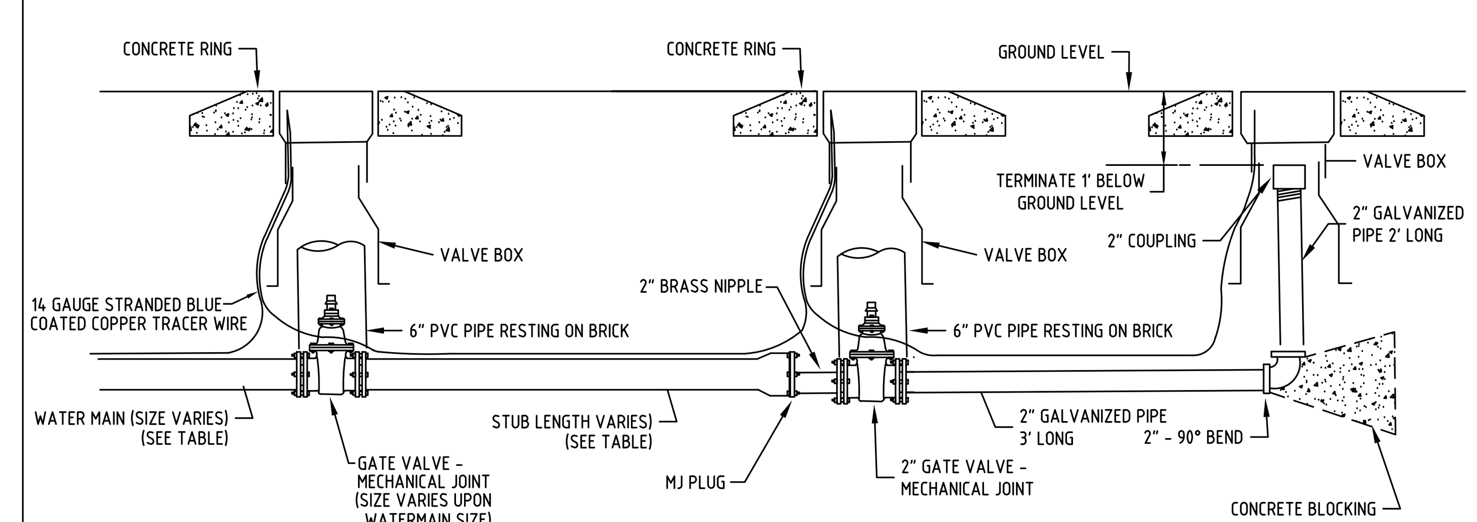
UNION COUNTY PUBLIC WORKS DEPARTMENT
UNION COUNTY, N.C.
STANDARD DETAIL
VALVE BOX INSTALLATION
SCALE: N.T.S. DATE: 10-4-11
1A



UNION COUNTY PUBLIC WORKS DEPARTMENT
UNION COUNTY, N.C.
STANDARD DETAIL
2" BLOW-OFF
SCALE: N.T.S. DATE: 10-4-11
2

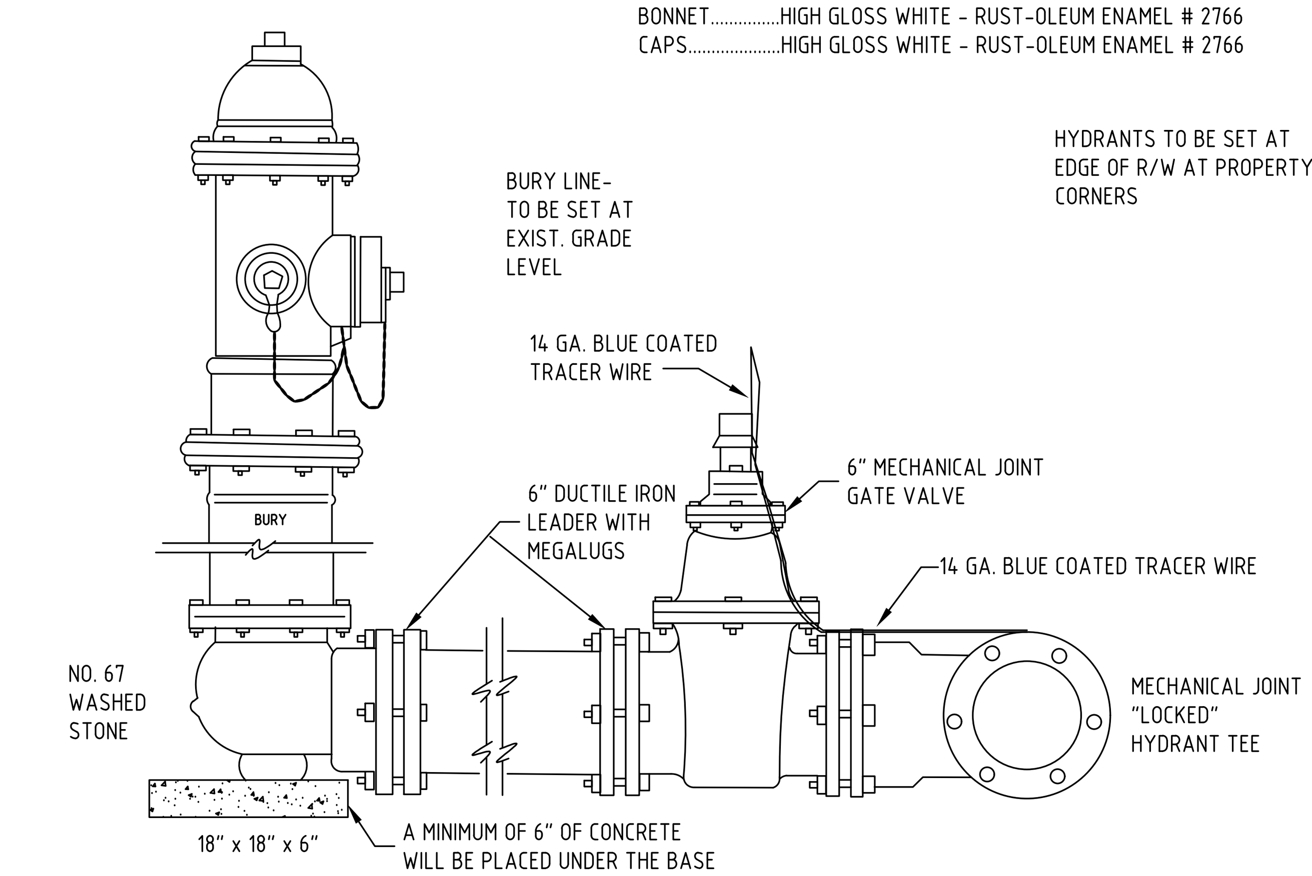
TABLE

SIZE OF PIPE	LENGTH OF PIPE
6"	20'
8"	20'
12" AND LARGER	BY ENGINEER

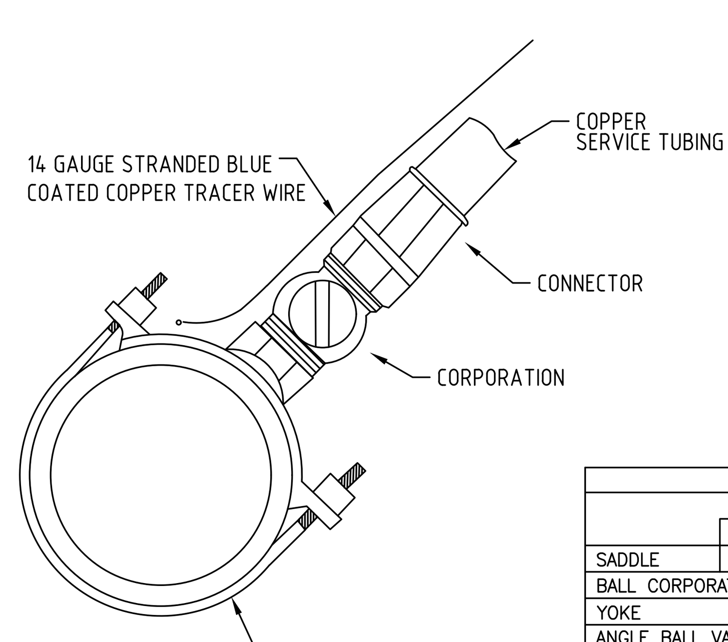


UNION COUNTY PUBLIC WORKS DEPARTMENT
UNION COUNTY, N.C.
STANDARD DETAIL
MAINLINE FUTURE EXTENSION WITH BLOW-OFF
SCALE: N.T.S. DATE: 10-4-11
2A

PAINT COLORS
BODY.................FIRE HYDRANT RED - RUST-OLEUM ENAMEL 7400 SYSTEM
BONNET.............HIGH GLOSS WHITE - RUST-OLEUM ENAMEL # 2766
CAPS..................HIGH GLOSS WHITE - RUST-OLEUM ENAMEL # 2766



UNION COUNTY PUBLIC WORKS DEPARTMENT
UNION COUNTY, N.C.
STANDARD DETAIL
FIRE HYDRANT INSTALLATION
DATE: 9-2-05
3



APPROVED SERVICE HARDWARE			
		MUELLER	FORD
	2"PVC	H-13420	S70
SADDLE	UP TO 8"	SEE NOTE	FC 101
BALL CORPORATION		B-25008	FB1000G
YOKE		H-5020	Y 502
ANGLE BALL VALVE		B-24273	BA94-323WG
CHECK VALVE		H-14247-A	HHS91-323
CONNECTORS	COPPER	STYLE 110	GRIP JOINT
EXPANSION CONNECTION			EC 23

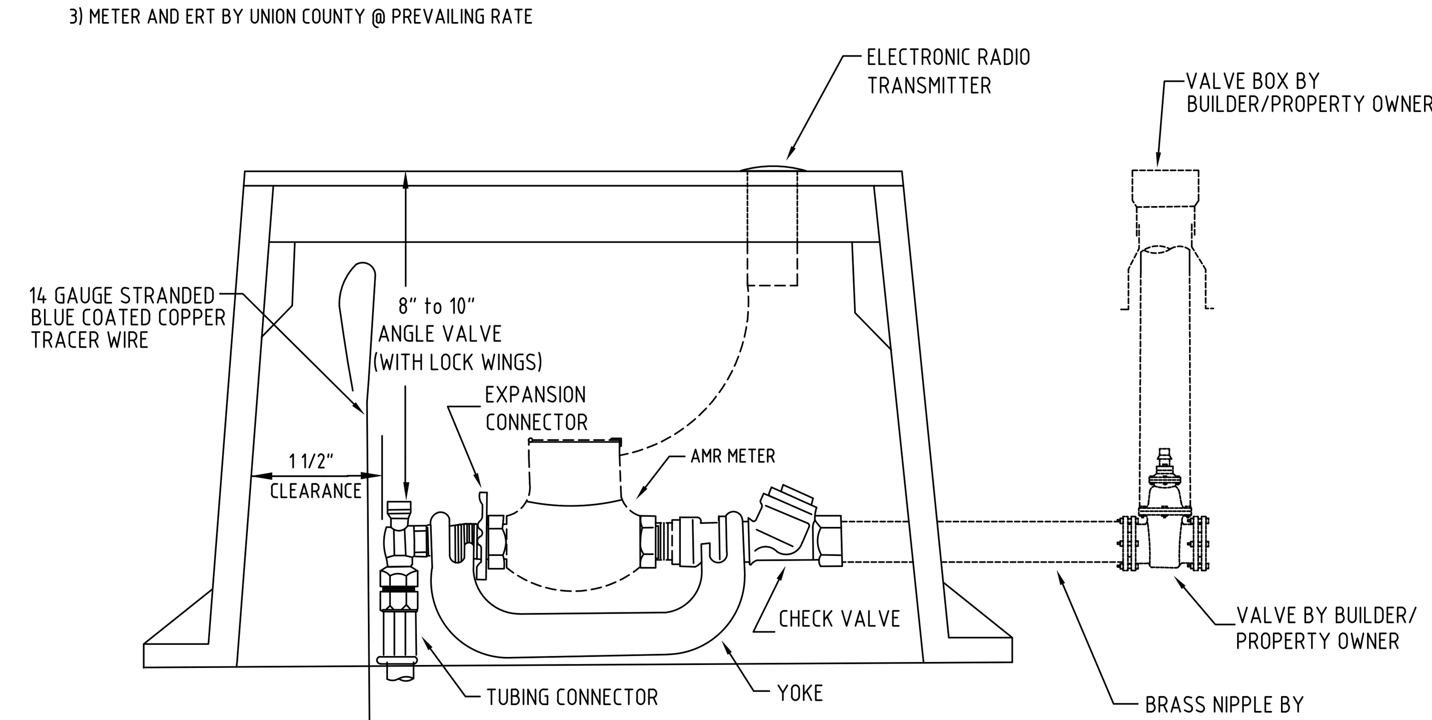
NOTE:
ROMAC 101N SHALL REPLACE MUELLER FOR PIPE DIAMETER UP TO 8"

SMITH BLAIR 317, FORD FC 202 OR ROMAC 202N SHALL REPLACE MUELLER FOR PIPE DIA. 12" AND UP

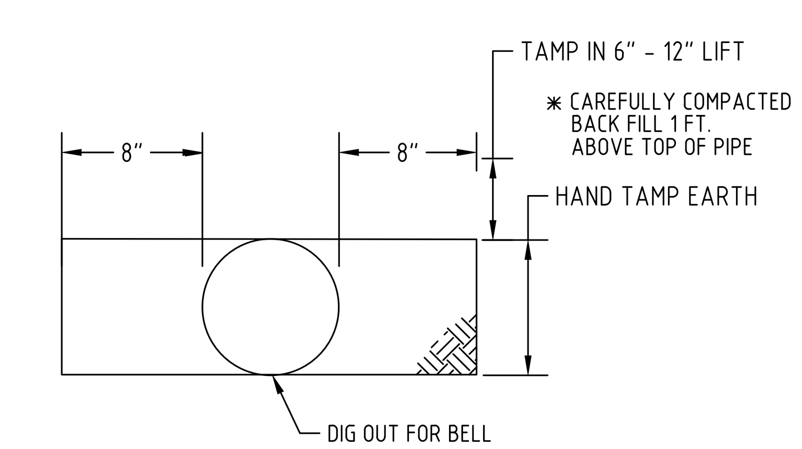
UNION COUNTY PUBLIC WORKS DEPARTMENT
UNION COUNTY, N.C.
STANDARD DETAIL
SERVICE CONNECTION
SCALE: N.T.S. DATE: 10-4-11
5

GENERAL NOTES:

1) METER BOX LID TO HAVE AMR LOCATOR (ALLIANCE 1200 OR EQUAL FOR 50W ERT, STANDARD LID FOR 60W ERT)
2) BUILDER/PROPERTY OWNER TO INSTALL NIPPLE, VALVE AND VALVE BOX BEFORE METER WILL BE SET.
3) METER AND ERT BY UNION COUNTY @ PREVAILING RATE



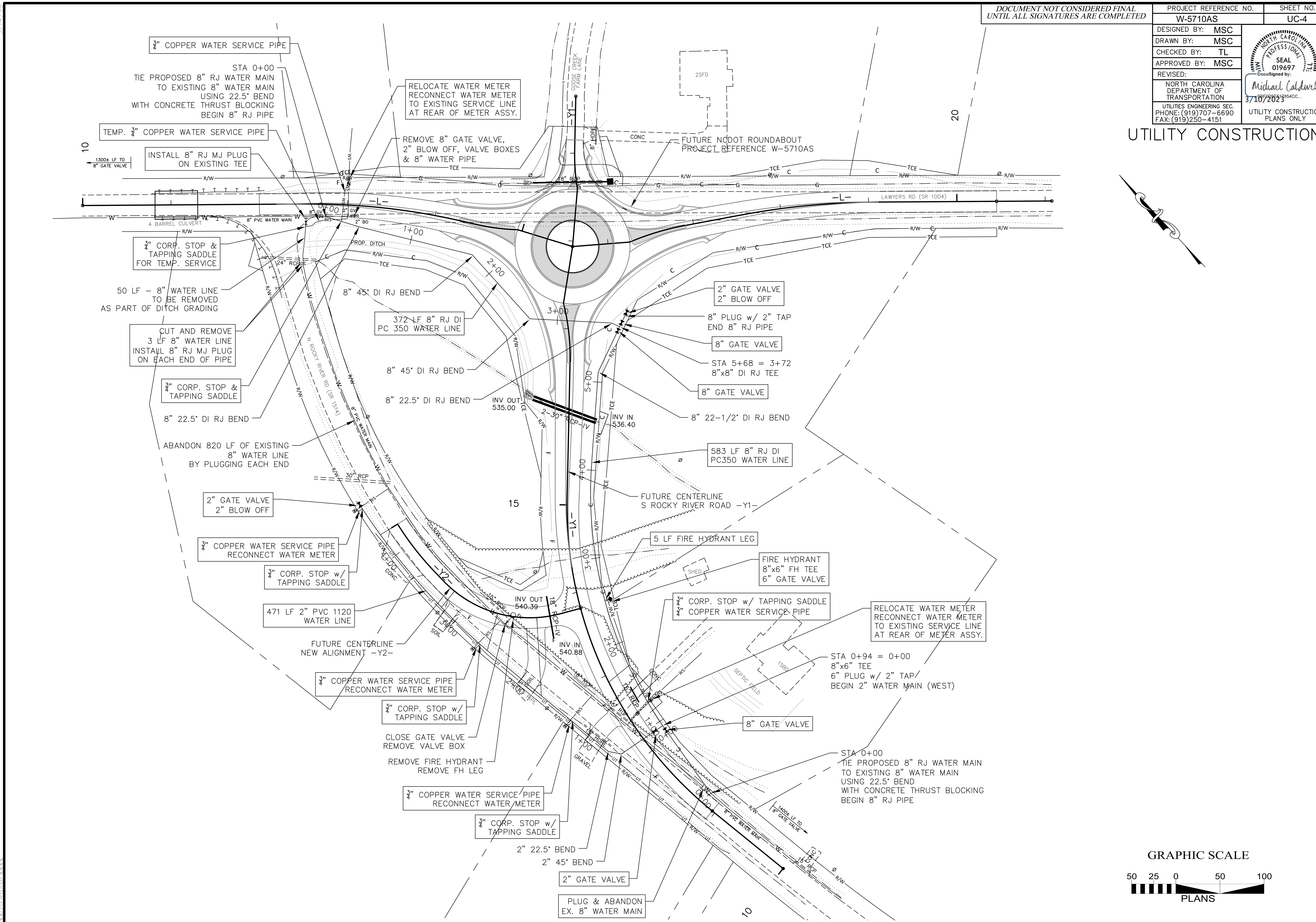
UNION COUNTY PUBLIC WORKS DEPARTMENT
UNION COUNTY, N.C.
STANDARD DETAIL
METER INSTALLATION FOR AMR METERS
SCALE: N.T.S. DATE: 1-2-14
6



NOTES:
MINIMUM COVER IS 36"
2" PVC SDR 21 (200 PSI)
6"-8" PVC SDR 18
12" OR LARGER DIP

* NO STONES LARGER THAN 1 INCH MEASURED IN THE LONGEST DIRECTION SHALL BE USED BETWEEN THE TRENCH BOTTOM AND 1 FOOT ABOVE THE WATER MAIN

UNION COUNTY PUBLIC WORKS DEPARTMENT
UNION COUNTY, N.C.
STANDARD DETAIL
WATER TRENCH
SCALE: N.T.S. DATE: 1-14-10
8B


DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED
PROJECT REFERENCE NO. W-5710AS
SHEET NO. UC-4
DESIGNED BY: MSC
DRAWN BY: MSC
CHECKED BY: TL
APPROVED BY: MSC
REVISED:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151
NORTH CAROLINA PROFESSIONAL SEAL 019697
DocuSigned by: Michael Caldwell
3/10/2023
UTILITY CONSTRUCTION PLANS ONLY
UTILITY CONSTRUCTION
¾" COPPER WATER SERVICE PIPE
STA 0+00
TIE PROPOSED 8" RJ WATER MAIN TO EXISTING 8" WATER MAIN USING 22.5° BEND WITH CONCRETE THRUST BLOCKING BEGIN 8" RJ PIPE
RELOCATE WATER METER RECONNECT WATER METER TO EXISTING SERVICE LINE AT REAR OF METER ASSY.
TEMP. ¾" COPPER WATER SERVICE PIPE
REMOVE 8" GATE VALVE, 2" BLOW OFF, VALVE BOXES & 8" WATER PIPE
INSTALL 8" RJ MJ PLUG ON EXISTING TEE
1300± LF TO 8" GATE VALVE
FUTURE NCDOT ROUNDABOUT PROJECT REFERENCE W-5710AS
GOOSE CREEK FARM LANE
2SFD
LAWYERS RD (SR 1004)
4 BARREL CULVERT
8" PVC WATER MAIN
¾" CORP. STOP & TAPPING SADDLE FOR TEMP. SERVICE
50 LF – 8" WATER LINE TO BE REMOVED AS PART OF DITCH GRADING
8" 45° DI RJ BEND
372 LF 8" RJ DI PC 350 WATER LINE
CUT AND REMOVE 3 LF 8" WATER LINE INSTALL 8" RJ MJ PLUG ON EACH END OF PIPE
8" 45° DI RJ BEND
¾" CORP. STOP & TAPPING SADDLE
8" 22.5° DI RJ BEND
8" 22.5° DI RJ BEND
INV OUT 535.00
2-30" RCP-IV
INV IN 536.40
N ROCKY RIVER RD (SR 1514)
2" GATE VALVE 2" BLOW OFF
8" PLUG w/ 2" TAP END 8" RJ PIPE
8" GATE VALVE
STA 5+68 = 3+72 8"x8" DI RJ TEE
8" GATE VALVE
8" 22-1/2° DI RJ BEND
ABANDON 820 LF OF EXISTING 8" WATER LINE BY PLUGGING EACH END
583 LF 8" RJ DI PC350 WATER LINE
FUTURE CENTERLINE S ROCKY RIVER ROAD -Y1-
2" GATE VALVE 2" BLOW OFF
¾" COPPER WATER SERVICE PIPE RECONNECT WATER METER
¾" CORP. STOP w/ TAPPING SADDLE
5 LF FIRE HYDRANT LEG
FIRE HYDRANT 8"x6" FH TEE 6" GATE VALVE
SHED
INV OUT 540.39
18" RCP-IV
INV IN 540.88
¾" CORP. STOP w/ TAPPING SADDLE ¾" COPPER WATER SERVICE PIPE
471 LF 2" PVC 1120 WATER LINE
RELOCATE WATER METER RECONNECT WATER METER TO EXISTING SERVICE LINE AT REAR OF METER ASSY.
FUTURE CENTERLINE NEW ALIGNMENT -Y2-
STA 0+94 = 0+00 8"x6" TEE 6" PLUG w/ 2" TAP BEGIN 2" WATER MAIN (WEST)
1SBG
SEPTIC FIELD
¾" COPPER WATER SERVICE PIPE RECONNECT WATER METER
¾" CORP. STOP w/ TAPPING SADDLE
8" GATE VALVE
CLOSE GATE VALVE REMOVE VALVE BOX
REMOVE FIRE HYDRANT REMOVE FH LEG
STA 0+00
TIE PROPOSED 8" RJ WATER MAIN TO EXISTING 8" WATER MAIN USING 22.5° BEND WITH CONCRETE THRUST BLOCKING BEGIN 8" RJ PIPE
¾" COPPER WATER SERVICE PIPE RECONNECT WATER METER
¾" CORP. STOP w/ TAPPING SADDLE
1400± LF TO 8" GATE VALVE
2" 22.5° BEND
2" 45° BEND
2" GATE VALVE
PLUG & ABANDON EX. 8" WATER MAIN
GRAPHIC SCALE
50 25 0 50 100
PLANS

DocuSign Envelope ID: D5F4A558-A3BA-4379-93C1-796881A21039

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	UC-5
DESIGNED BY: MSC	
DRAWN BY: MSC	
CHECKED BY: TL	
APPROVED BY: MSC	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 019697

DocuSigned by: Michael Caldwell
9BF2D9E517854CC...

UTILITY CONSTRUCTION PLANS ONLY

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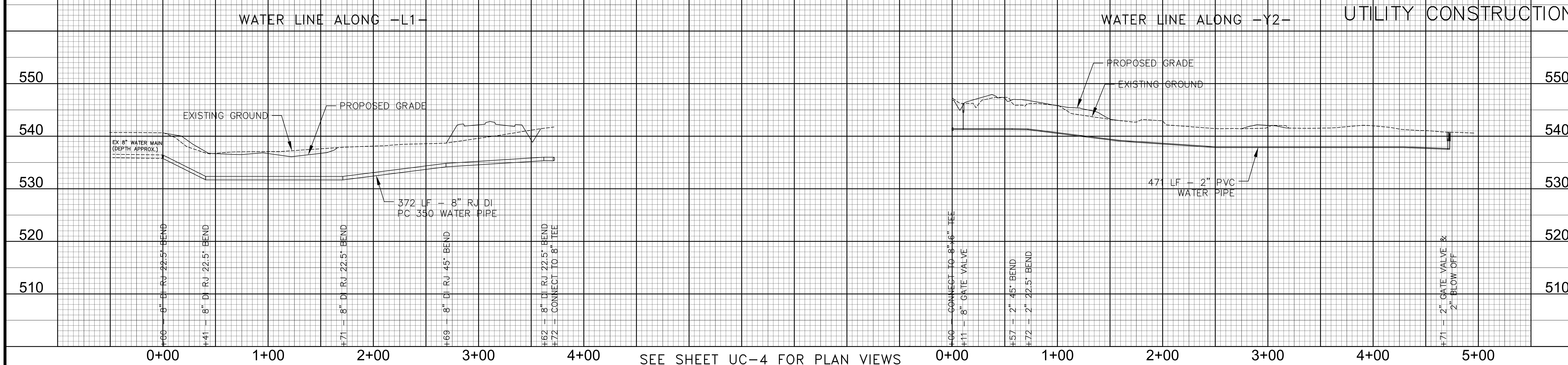
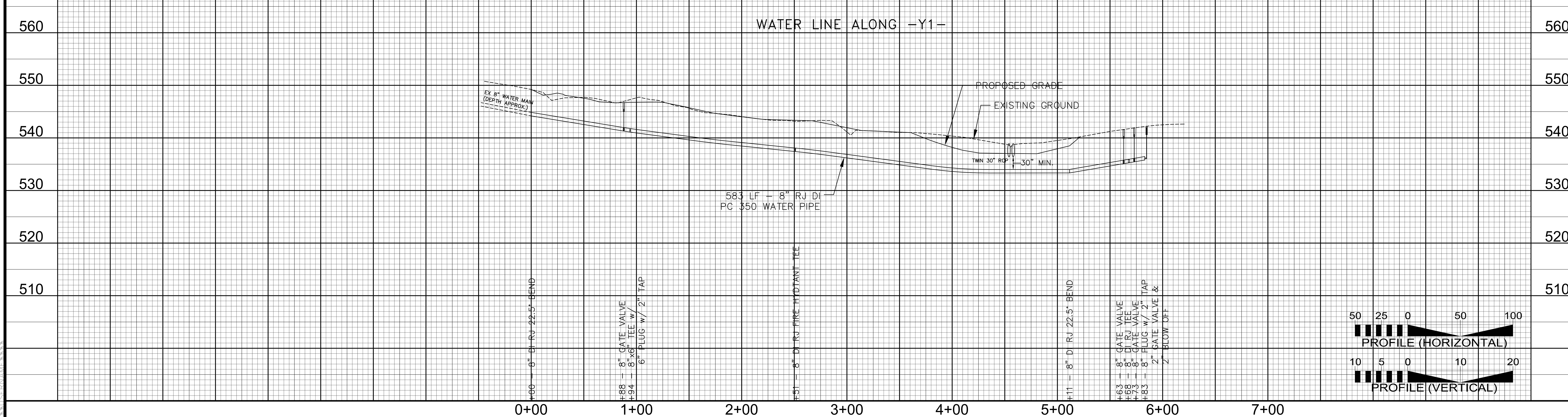
UTILITY CONSTRUCTION



SEE SHEET UC-4 FOR PLAN VIEWS



W–5710AS
LAWYERS ROAD ROUNDABOUT

CROSS–SECTIONS

INDEX OF SHEETS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

Note: Approximate quantities only. Unclassified excavation, borrow excavation, shoulder borrow, fine grading, clearing and grubbing, breaking of existing pavement, and removal of existing pavement will be paid for at the contract lump sum price for grading.

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
12+00.00	0	0
12+50.00	208	4
13+00.00	232	32
13+50.00	61	71
14+00.00	105	88
14+50.00	149	125
14+94.82	145	144

Station Y2	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+00.00	0	0
10+50.00	0	0
11+00.00	19	6
11+50.00	21	40
12+00.00	8	97
12+50.87	12	128

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
16+24.82	0	0
16+50.00	162	0
17+00.00	388	0
17+50.00	447	0
18+00.00	425	0
18+50.00	383	0
19+00.00	295	0
19+50.00	193	0
20+00.00	126	0
20+45.00	46	0

Station Y1	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+03.35	0	0
11+50.00	21	2
12+00.00	45	3
12+50.00	65	2
13+00.00	79	5
13+50.00	84	5
14+00.00	130	1
14+50.00	116	3
15+00.00	73	3
15+50.00	65	5
16+00.00	41	74
16+50.00	42	150
17+00.00	69	169
17+28.93	48	102

Station Y1	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
18+58.93	0	0
19+00.00	92	0
19+15.00	17	0

6/23/16

09-MAR-2023 10:54
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	W-5710AS	X-2

6/23/16

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6/23/16

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6/23/16

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...\Roadway\XSC\W5710AS_XSC_PSH.dgn
$$$$USERNAME$$$$

TIP PROJECT: W-5710AS

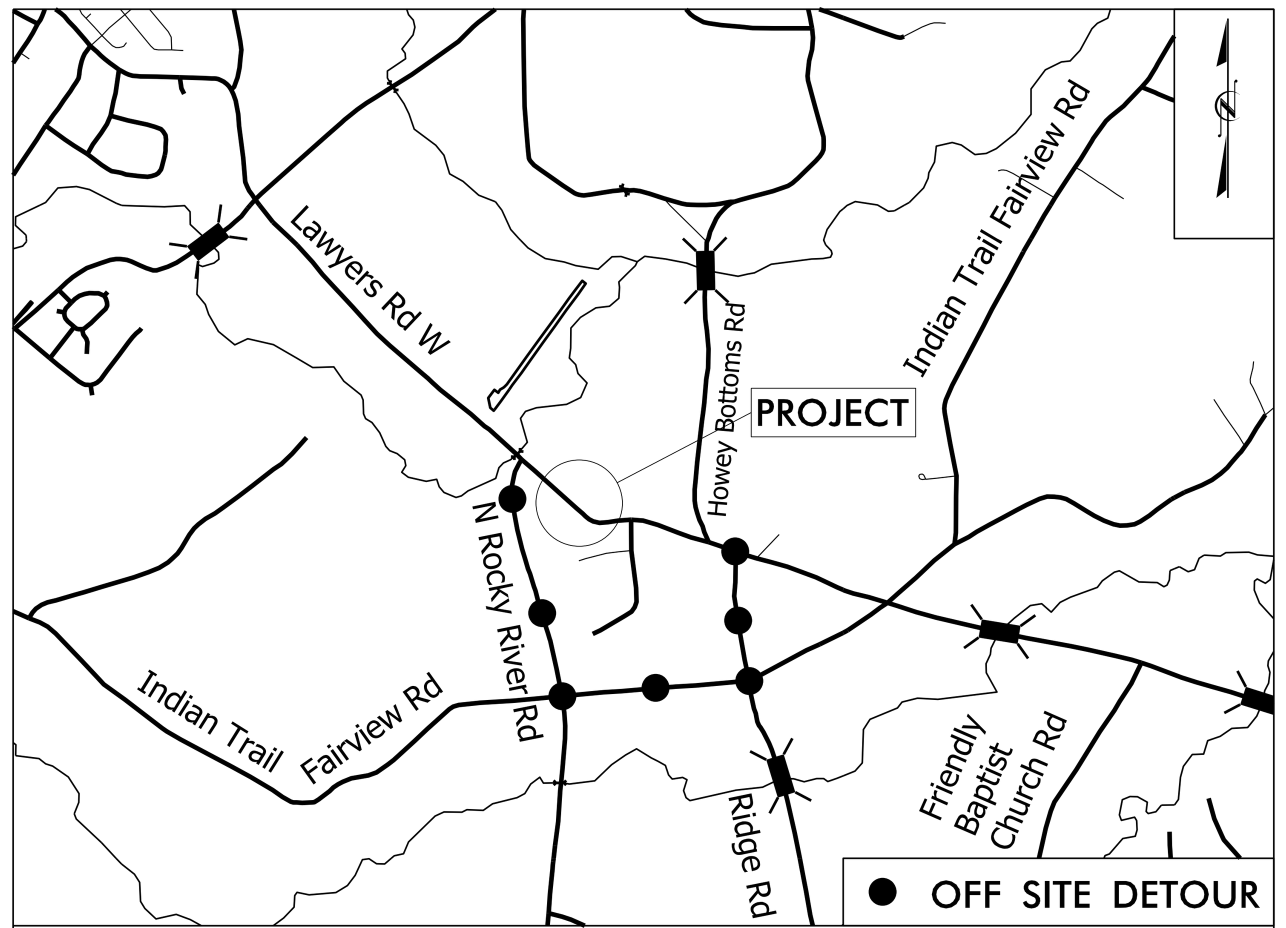
CONTRACT:

See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
W-5710AS	UO-1

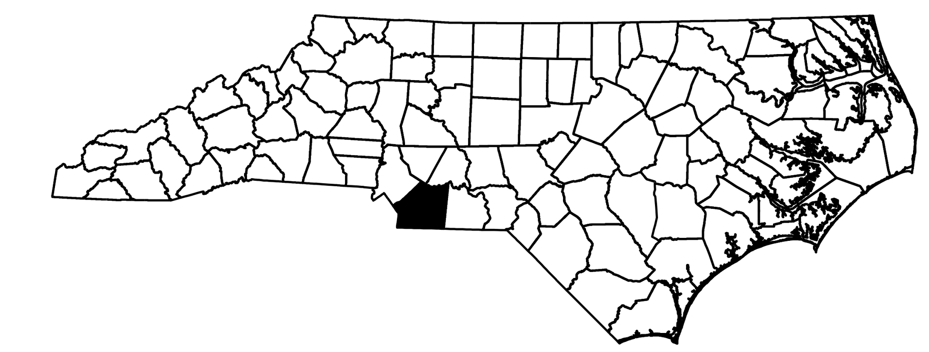
NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

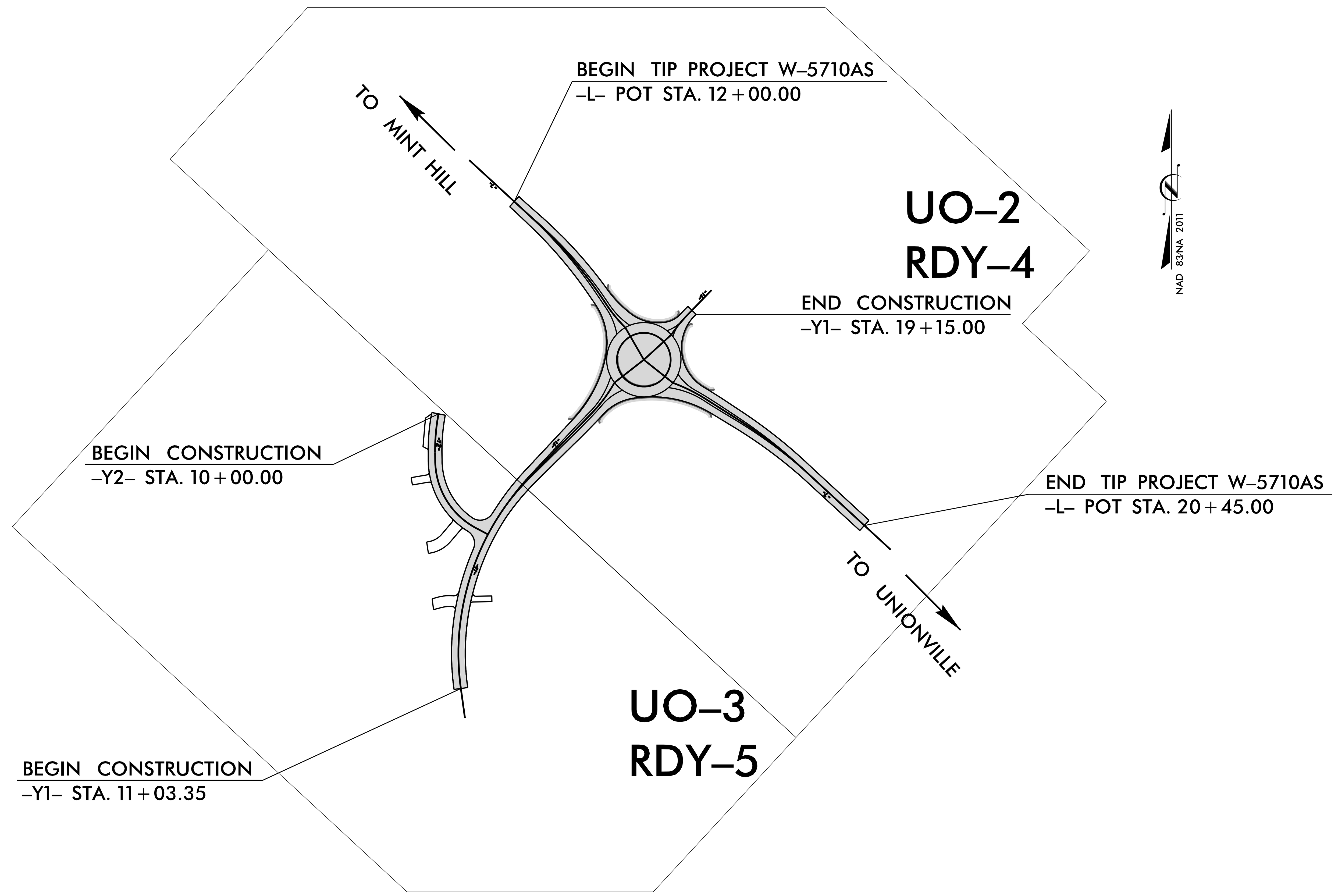


VICINITY MAP – NOT TO SCALE

UTILITIES BY OTHERS PLANS
UNION COUNTY

LOCATION: SR 1004 (LAWYERS ROAD) AND
SR 1514 (N. ROCKY RIVER ROAD) ROUNDABOUT
NEAR INDIAN TRAIL
TYPE OF WORK: UTILITY RELOCATION





GRAPHIC SCALES

50 0 50 100
PLANS

50 0 50 100
PROFILE (HORIZONTAL)

5 0 5 10
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.:	*DESCRIPTION:*
UO-1	*TITLE SHEET*
UO-2 THRU UO-3	*UBO PLAN SHEETS*

UTILITY OWNERS ON PROJECT

(A) TELEPHONE – AT&T
(B) GAS – PNG

PREPARED IN THE OFFICE OF

UNION COUNTY WATER
500 NORTH MAIN STREET, SUITE 600
MONROE, NORTH CAROLINA 28112
PHONE: (704) 296-4210
FAX:(704) 296-4210

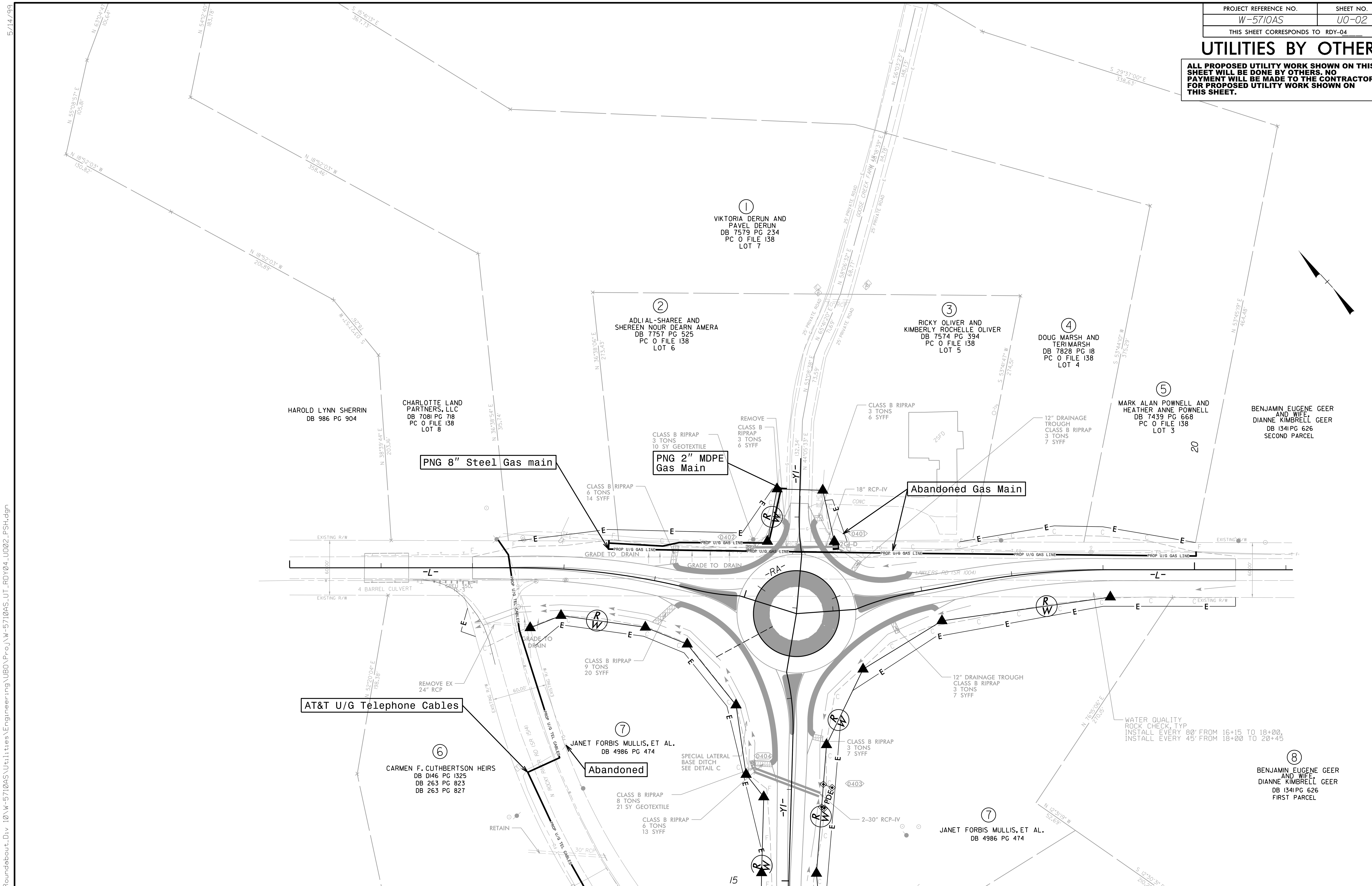
MICHAEL S. CALDWELL, PE	*UTILITIES PROJECT MANAGER*
THUY LE	*UTILITIES PROJECT ENGINEER*
L. NEAL GASTON	*CIP CONSTRUCTION MANAGER*

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	UO-02
THIS SHEET CORRESPONDS TO RDY-04	

UTILITIES BY OTHERS

ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.



MATCHLINE SEE SHEET UO-03
-Y1- STA. 14+88.00

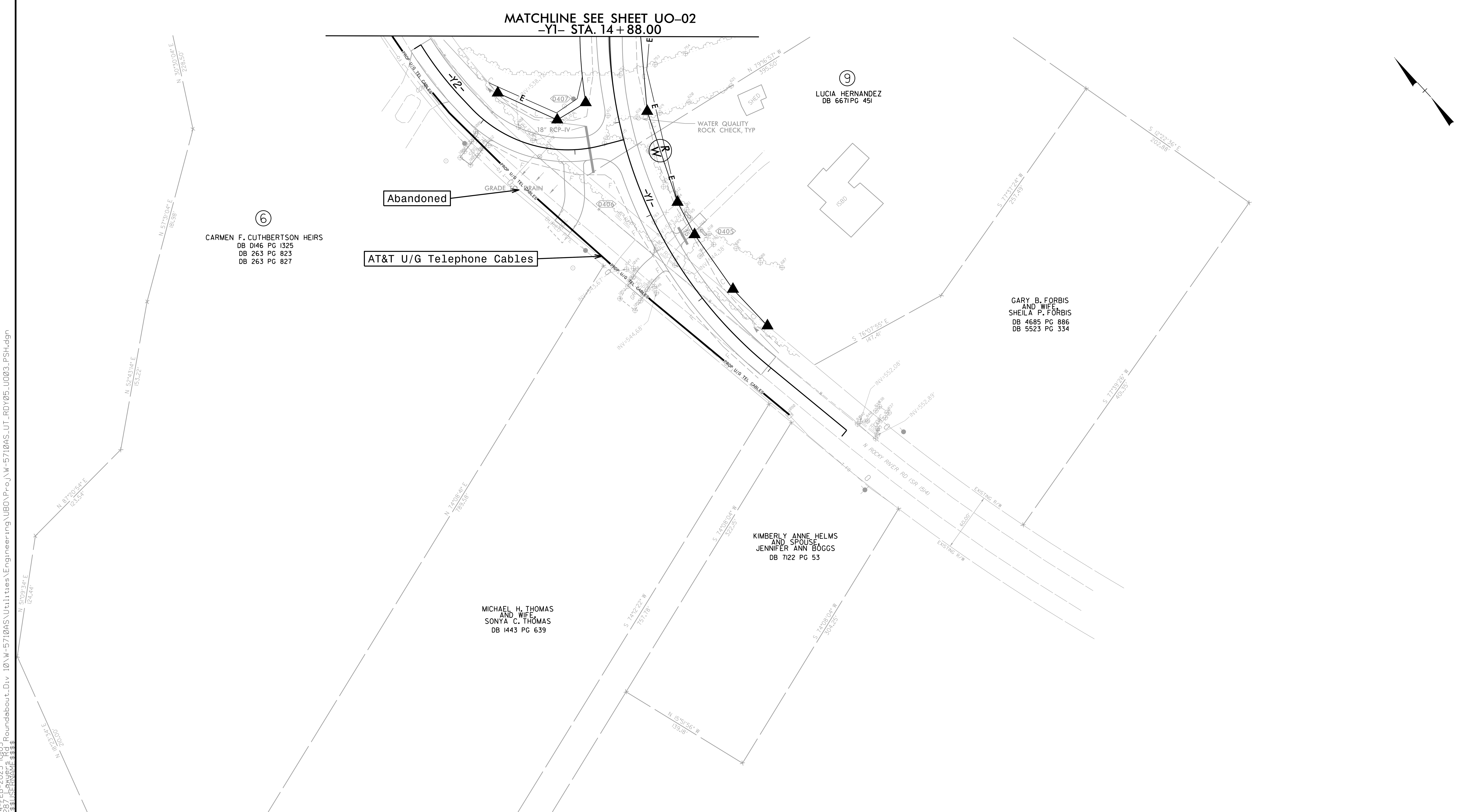
14-FEB-2023 10:03
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
W-5710AS	UO-03

THIS SHEET CORRESPONDS TO RDY-05

UTILITIES BY OTHERS

ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.



5/14/99

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