

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601AB	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50138.1.FR29	HSIP-0096(19)	PE	
50138.2.29	HSIP-0096(19)	RW & UTIL.	
50138.3.29	HSIP-0096(19)	CONST.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

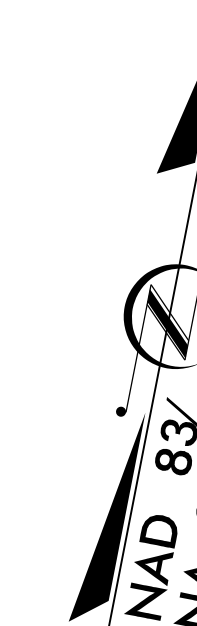
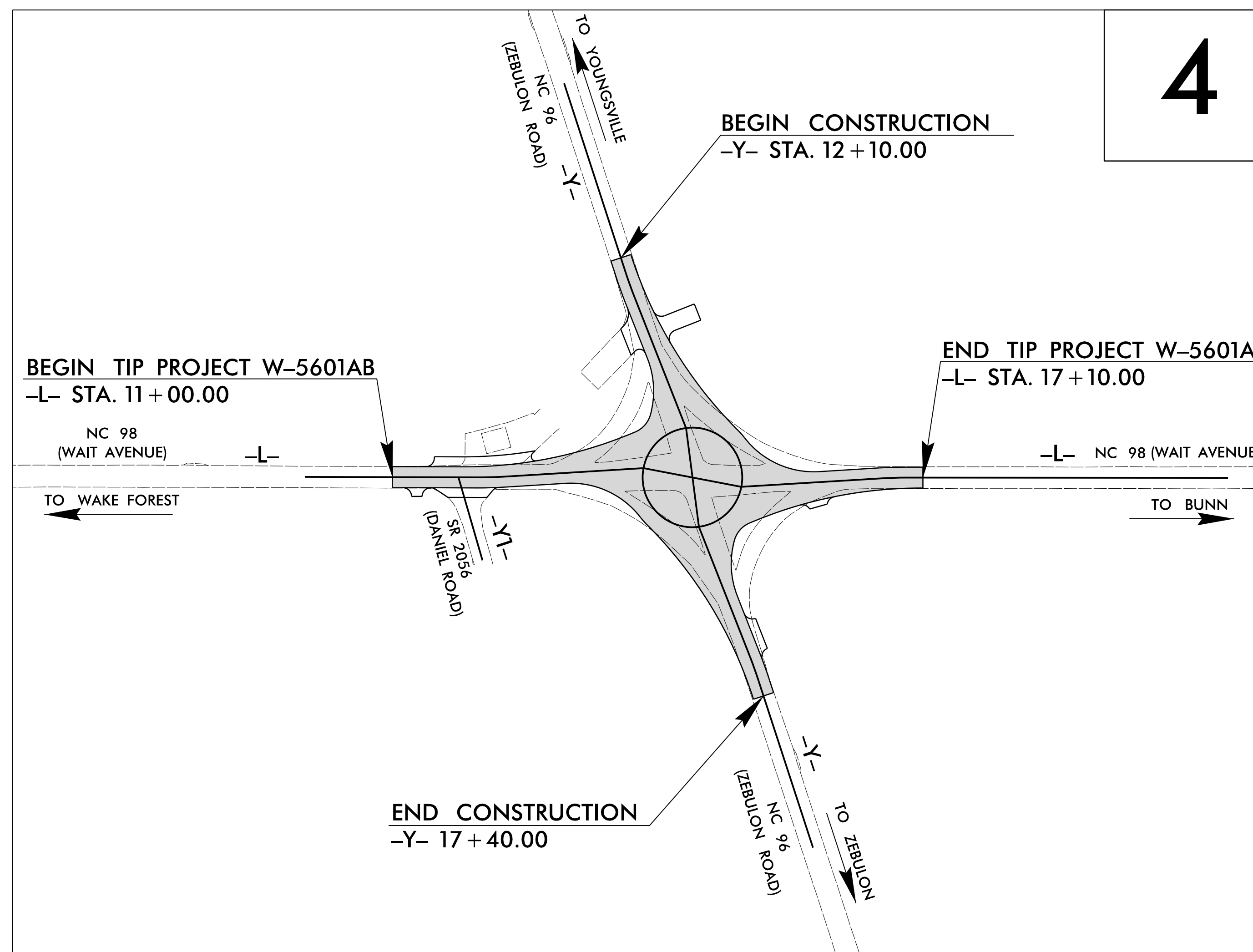
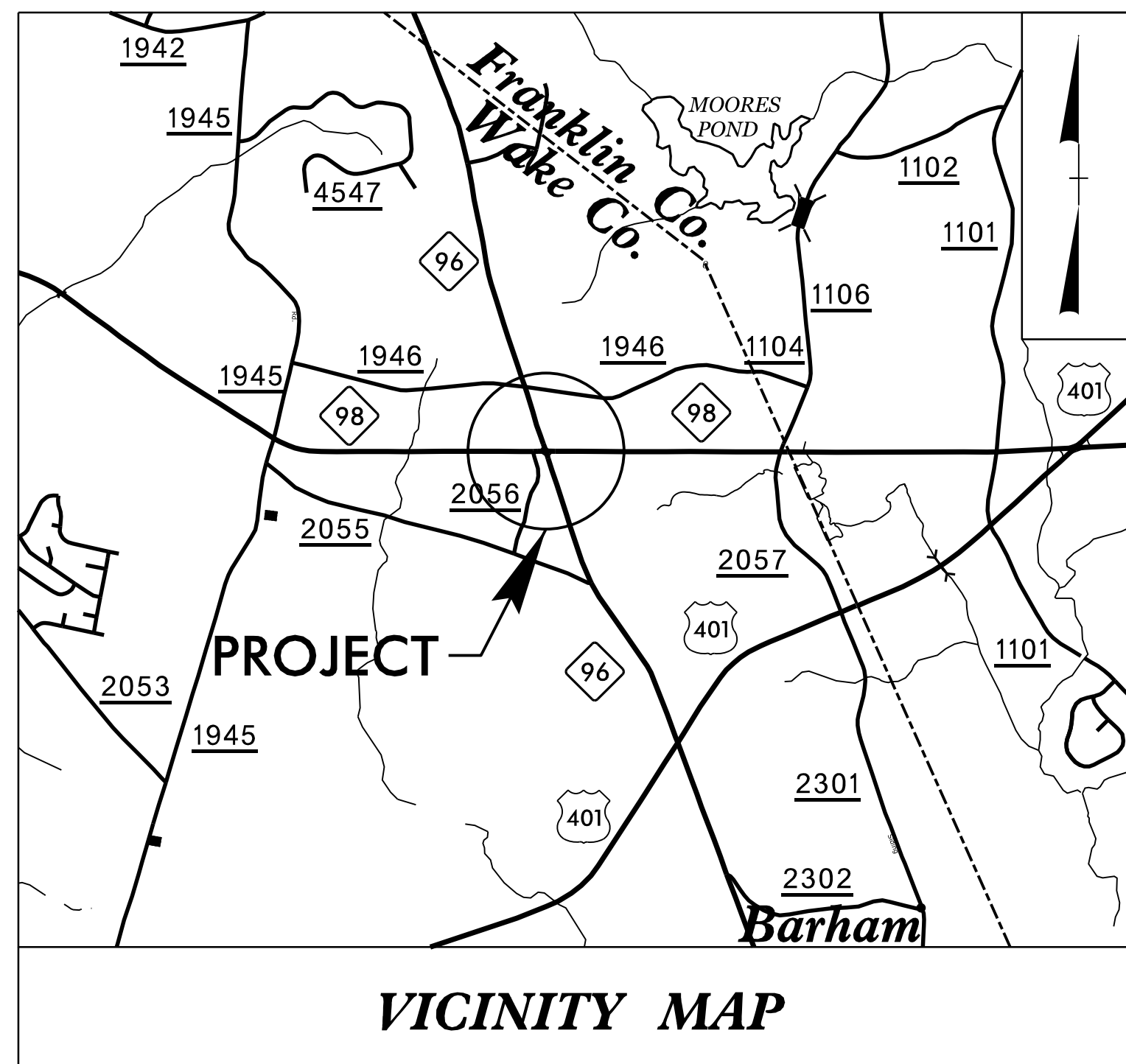
**LOCATION: INTERSECTION OF NC 98 (WAIT AVE.) AND
NC 96 (ZEBULON RD.)**

TYPE OF WORK: GRADING, PAVING, AND DRAINAGE

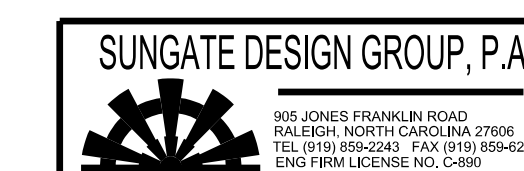
TIP PROJECT: W-5601AB

CONTRACT: DE00175

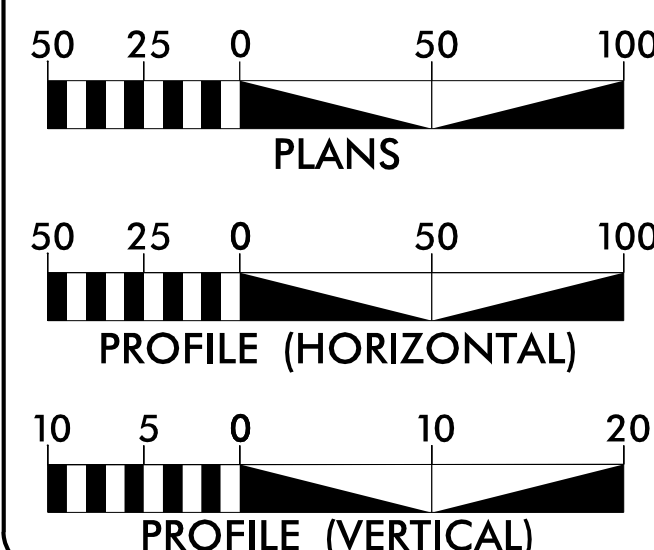
See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheet 1C For Survey Control Sheet



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



GRAPHIC SCALES



DESIGN DATA

V = 60 MPH
(NC 96 & 98)

V = 25 MPH
(ROUNDBOUT)

FUNC CLASS =
MINOR ARTERIAL

REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT W-5601AB = 0.116 MILES

Prepared in the Office of:

KCI Associates of N.C., P.A.
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
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2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 6, 2016

LETTING DATE:

NCDOT CONTACT: **BEN UPSHAW, PE**
DIVISION DESIGN ENGINEER - DIVISION 5

Plans Prepared For:

DIVISION OF HIGHWAYS
1000 Birch Ridge Dr.
Raleigh NC, 27610

DEWAYNE L. SYKES, P.E.
PROJECT ENGINEER

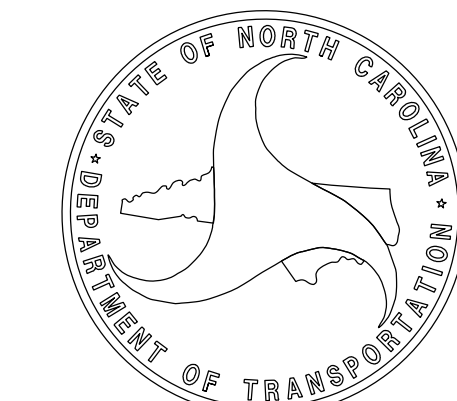
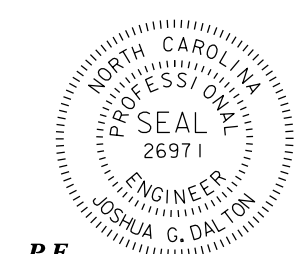
BRYAN E. HOUGH, P.E.
PROJECT DESIGN ENGINEER

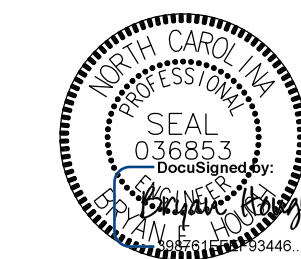
HYDRAULICS ENGINEER

DocuSigned by:
Justin G Dalton
SIGNATURE: [Signature]
P.E. 2/15/2017

ROADWAY DESIGN ENGINEER

DocuSigned by:
Bryan Hough
SIGNATURE: [Signature]
P.E. 2/15/2017





3/13/2017

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C	SURVEY CONTROL SHEET
2A-1 to 2A-2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS, INCIDENTAL MILLING DETAIL, AND MOUNTABLE ISLAND DETAIL
2B-1	PAVEMENT SLOPE TRANSITION DETAIL
2B-2	INTERSECTION DETAIL
3	SUMMARY OF QUANTITIES
3B-1	SUMMARY OF DRAINAGE QUANTITIES EARTHWORK SUMMARY, SUMMARY OF RIP RAP, SUMMARY OF PAVEMENT REMOVAL
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-5	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
LE-1	LIGHTING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-11	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTIONS SUMMARY
X-1 THRU X-6	CROSS-SECTIONS

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

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

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

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

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

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

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
 Duke Energy (Power)
 Century Link (Communications)
 Time Warner (Communications)
 ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
852.01	Concrete Islands
852.02	Concrete Mountable Median - for Use with Rigid or Flexible Pavement
852.06	Method for Placement of Drop Inlets in Concrete Islands
876.02	Guide for Rip Rap at Pipe Outlets

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

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

04/06/15

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	①23
Existing Fence Line	-x-x-x-
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	☠ ☠
Potential Contamination Area: Soil	☠ ☠
Known Contamination Area: Water	☠ ☠
Potential Contamination Area: Water	☠ ☠
Contaminated Site: Known or Potential	☠ ☠

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	☀
Single Shrub	☀
Hedge	-----
Woods Line	-----

Orchard	☀ ☀ ☀ ☀
Vineyard	□ Vineyard

EXISTING STRUCTURES:

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

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	○ P
Power Line Tower	□
Power Transformer	▣
U/G Power Cable Hand Hole	○
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	--- P ---
U/G Power Line LOS C (S.U.E.*)	--- P ---
U/G Power Line LOS D (S.U.E.*)	--- P ---

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	--- G ---
U/G Gas Line LOS C (S.U.E.*)	--- G ---
U/G Gas Line LOS D (S.U.E.*)	--- G ---
Above Ground Gas Line	A/G Gas

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	--- SS ---
Above Ground Sanitary Sewer	A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS C (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS D (S.U.E.*)	--- FSS ---

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line LOS B (S.U.E.*)	--- TUL ---
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	UST
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

02/03/2017

SURVEY CONTROL SHEET W-5601-AB

PROJECT REFERENCE NO.	SHEET NO.
W-5601AB	1C
Location and Surveys	

TYPE	STATION	NORTH	EAST
POT	10+00.00	806321.5828	2166977.4488
PC	12+28.93	806121.4897	2167088.6730
PT	12+59.43	806095.2973	2167104.2965
POT	14+18.70	805961.0643	2167190.0214
POT	15+32.70	805852.9001	2167226.0278
PC	16+92.54	805718.0783	2167311.8929
PT	17+22.43	805692.4100	2167327.1821
POT	19+22.58	805517.4628	2167424.4287

TYPE	STATION	NORTH	EAST
POT	10+00.00	805855.8156	2166944.9503
POT	10+99.03	805767.7468	2166990.2265

TYPE	STATION	NORTH	EAST
POT	10+00.00	805822.7091	2166772.5069
PC	11+96.75	805859.8044	2166965.7266
PT	12+28.54	805866.7870	2166996.7380
POT	13+87.81	805906.6946	2167150.9281
POT	15+01.81	805907.1195	2167264.9273
PC	16+60.91	805946.9725	2167418.9577
PT	16+91.60	805953.7428	2167448.8828
POT	20+59.42	806023.8630	2167809.9596

W5601AB-2
 N = 805,611.366
 E = 2,165,764.407

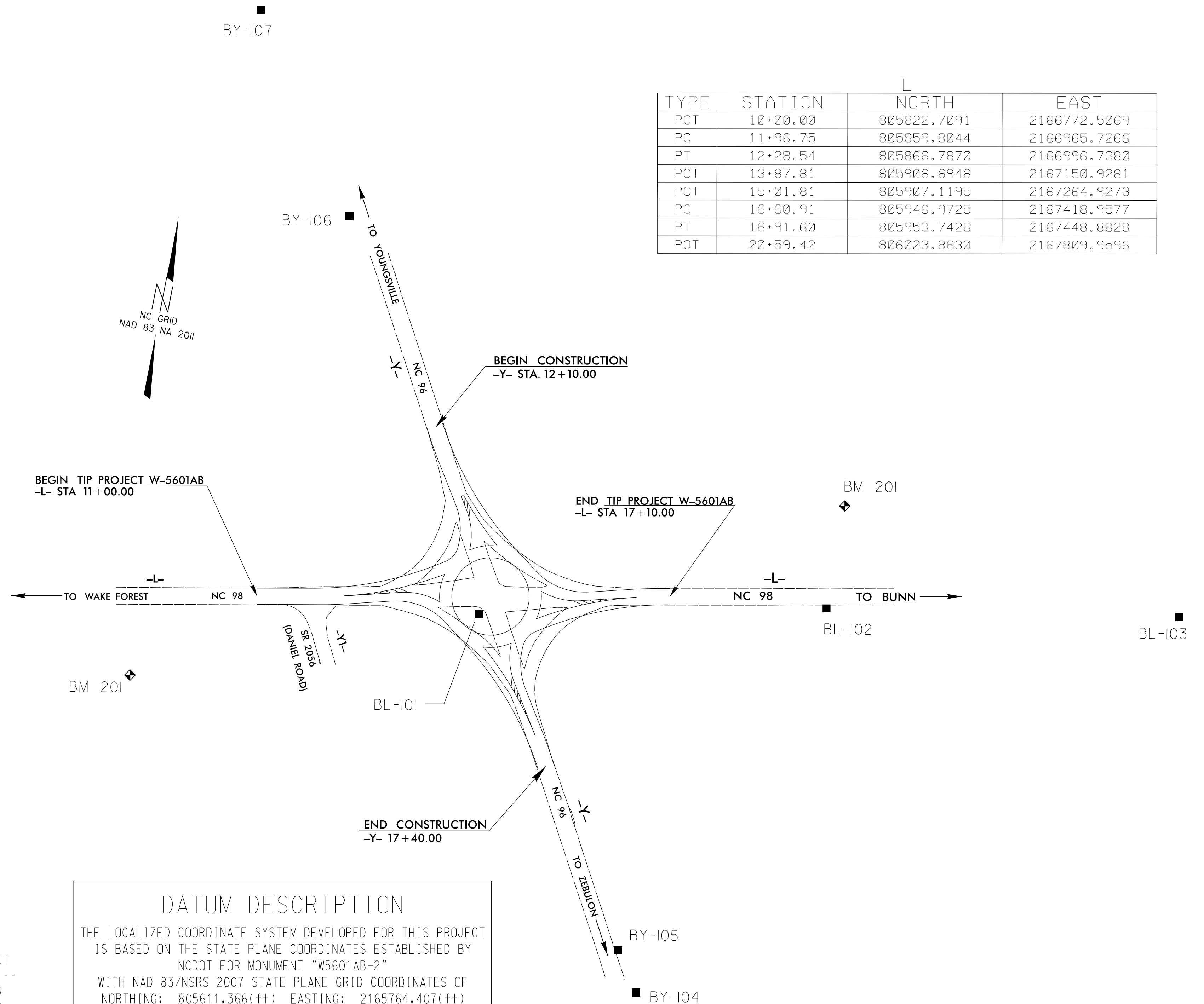
W5601AB-1
 N = 805,492.970
 E = 2,164,969.213

.....
 200 ELEVATION - 417.77
 N 806138 E 2167694
 L STATION 19+68.00 134 LEFT
 60D NAIL IN 20" POPLAR

.....
 201 ELEVATION - 419.02
 N 805692 E 2166709
 L STATION 10+00.00
 60D NAIL IN 12" GUM

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	W5601AB-1	805492.9700	2164969.2130	415.15	OUTSIDE PROJECT LIMITS	
2	W5601AB-2	805611.3660	2165764.4070	433.62	OUTSIDE PROJECT LIMITS	
100	BL-100	805715.3905	2166311.4375	426.95	OUTSIDE PROJECT LIMITS	
101	BL-101	805878.5094	2167196.5005	432.17	14+33.28	28.35 RT
102	BL-102	805984.3569	2167696.7599	419.92	19+40.77	17.20 RT
103	BL-103	806070.9712	2168208.8786	415.90	OUTSIDE PROJECT LIMITS	

BY POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
104	BY-104	804963.5744	2167709.3269	426.14	OUTSIDE PROJECT LIMITS	
105	BY-105	805432.1869	2167491.8966	428.94	OUTSIDE PROJECT LIMITS	
101	BL-101	805878.5094	2167196.5005	432.17	14+99.08	19.93 RT
106	BY-106	806416.6322	2166897.2053	431.13	OUTSIDE PROJECT LIMITS	
107	BY-107	806906.1208	2166624.9084	432.60	OUTSIDE PROJECT LIMITS	



DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W5601AB-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 805611.366(ft) EASTING: 2165764.407(ft) ELEVATION: 433.62(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999340725
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W5601AB-2" TO -L- STATION IS N 78°14'44.8" E 1,130.00'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

GEOID G12NC
 NOTE: DRAWING NOT TO SCALE

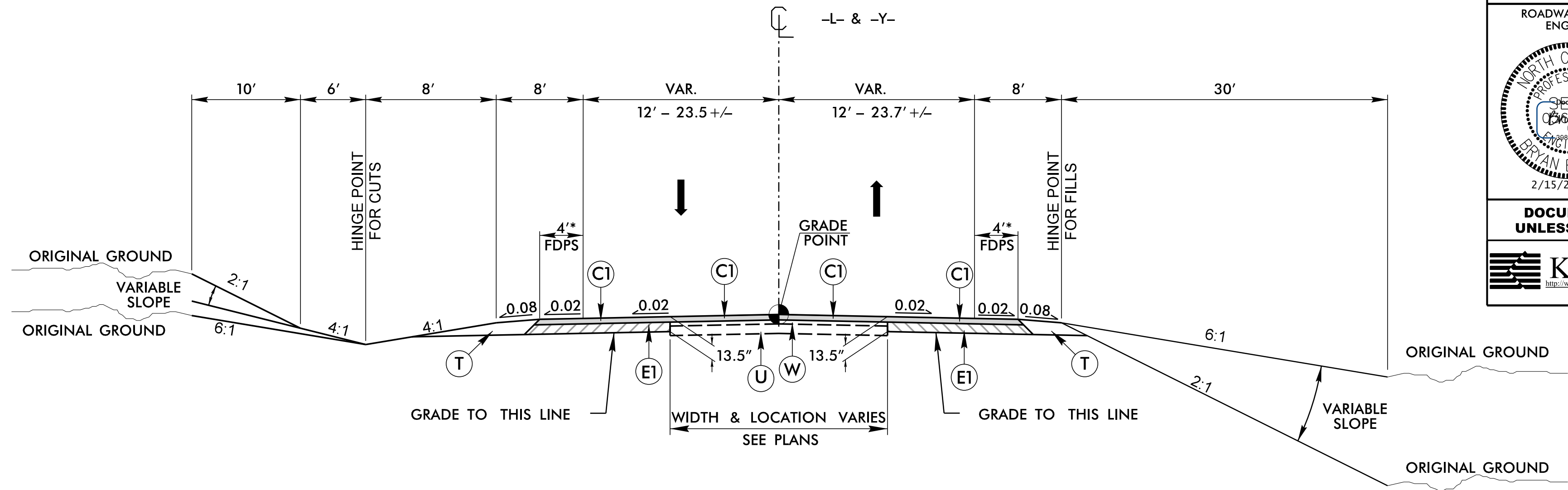
NOTES:
 ○ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL AND VERTICAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GNSS (GLOBAL NAVIGATION SATELLITE SYSTEM).
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

15-FEB-2017 09:10:02
 W:\Projects\2017\W-5601AB\Roadway\Proj\W-5601AB-1s-1C.dgn
 15-FEB-2017 09:10:02 NCDOT W-5601AB\Roadway\Proj\W-5601AB-1s-1C.dgn
 15-FEB-2017 09:10:02 NCDOT W-5601AB\Roadway\Proj\W-5601AB-1s-1C.dgn

6/2/2017

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0X, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 10.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 598.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E2	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E3	PROP. VAR. ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
R1	1'-6" CONCRETE CURB AND GUTTER
R2	8"x18" CONCRETE CURB
R3	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R4	8" CONCRETE TRUCK APRON
R5	CONCRETE MOUNTABLE ISLAND (KEYED IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	INCIDENTAL MILLING
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: PAVEMENT SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

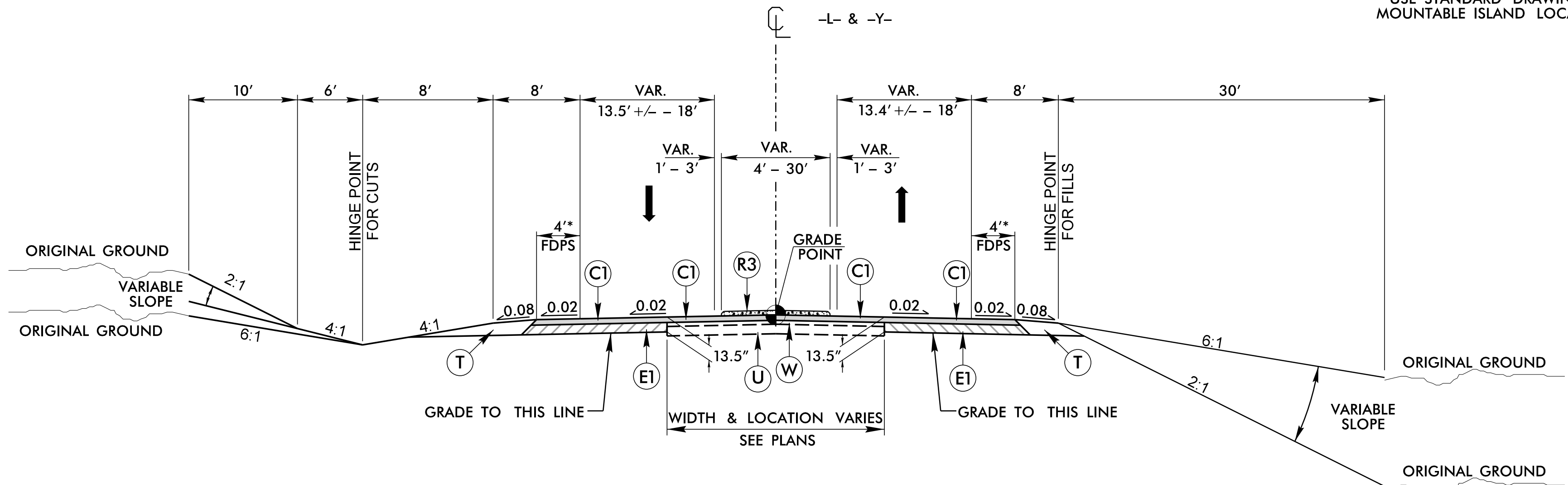


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

- L- STA. 11+00.00 TO STA. 13+15.00
- L- STA. 15+74.00 TO STA. 17+10.00
- Y- STA. 12+10.00 TO STA. 13+46.00
- Y- STA. 16+05.00 TO STA. 17+40.00

* USE STANDARD DRAWING 852.02 AT CONCRETE MOUNTABLE ISLAND LOCATIONS (SEE PLANS)

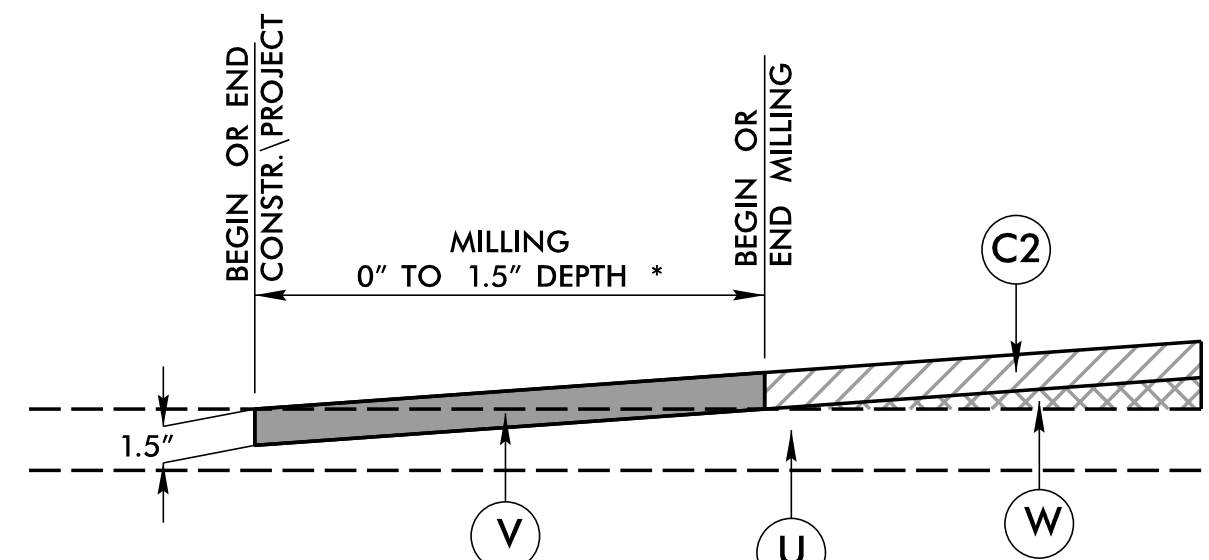


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

- L- STA. 13+15.00 TO STA. 13+69.38
- L- STA. 15+20.25 TO STA. 15+74.00
- Y- STA. 13+46.00 TO STA. 14+00.27
- Y- STA. 15+51.11 TO STA. 16+05.00

* USE STANDARD DRAWING 852.02 AT CONCRETE MOUNTABLE ISLAND LOCATIONS (SEE PLANS)

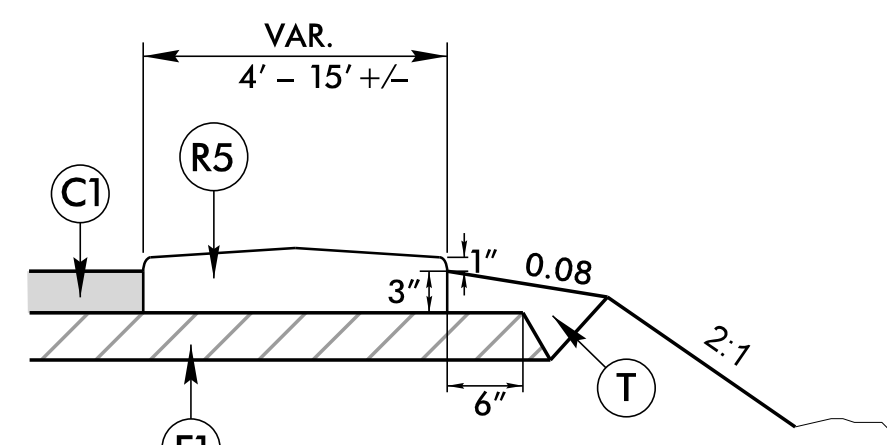


NOTE: MIRROR FOR END PROJECT CONSTRUCTION * MILL DEPTH AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER

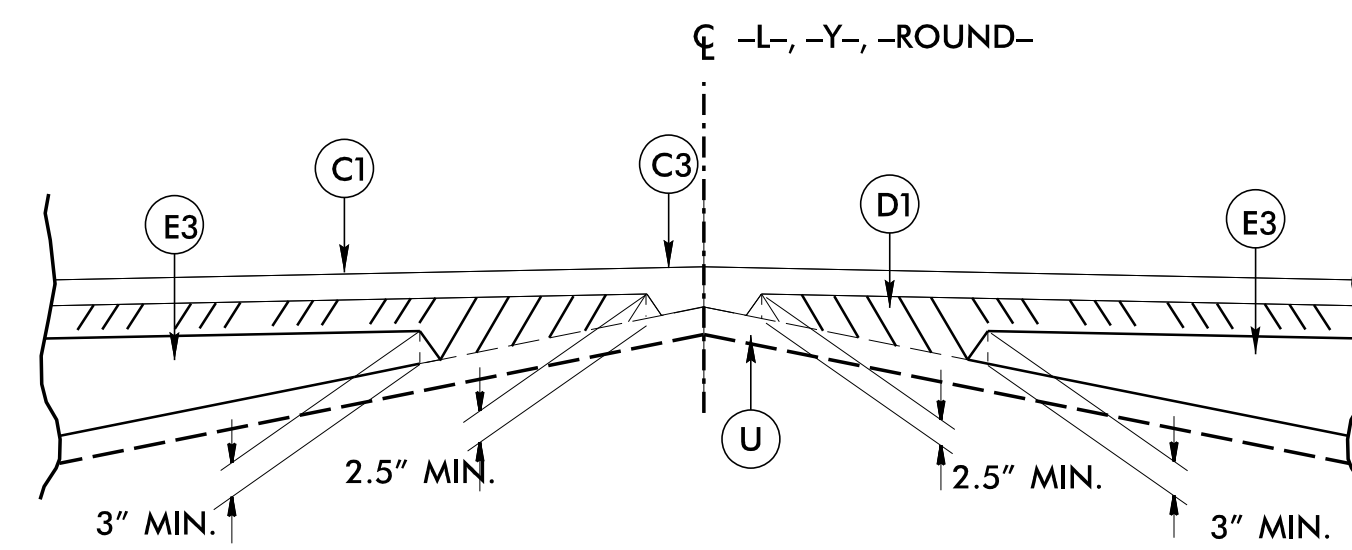
INCIDENTAL MILLING DETAIL

USE FROM -L- STA. 11+00.00 TO STA. 11+37.50 & -L- STA. 16+72.50 TO STA. 17+10.00

USE FROM -Y- STA. 12+10.00 TO STA. 12+47.50 & -Y- STA. 17+02.50 TO STA. 17+40.00



MOUNTABLE ISLAND DETAIL

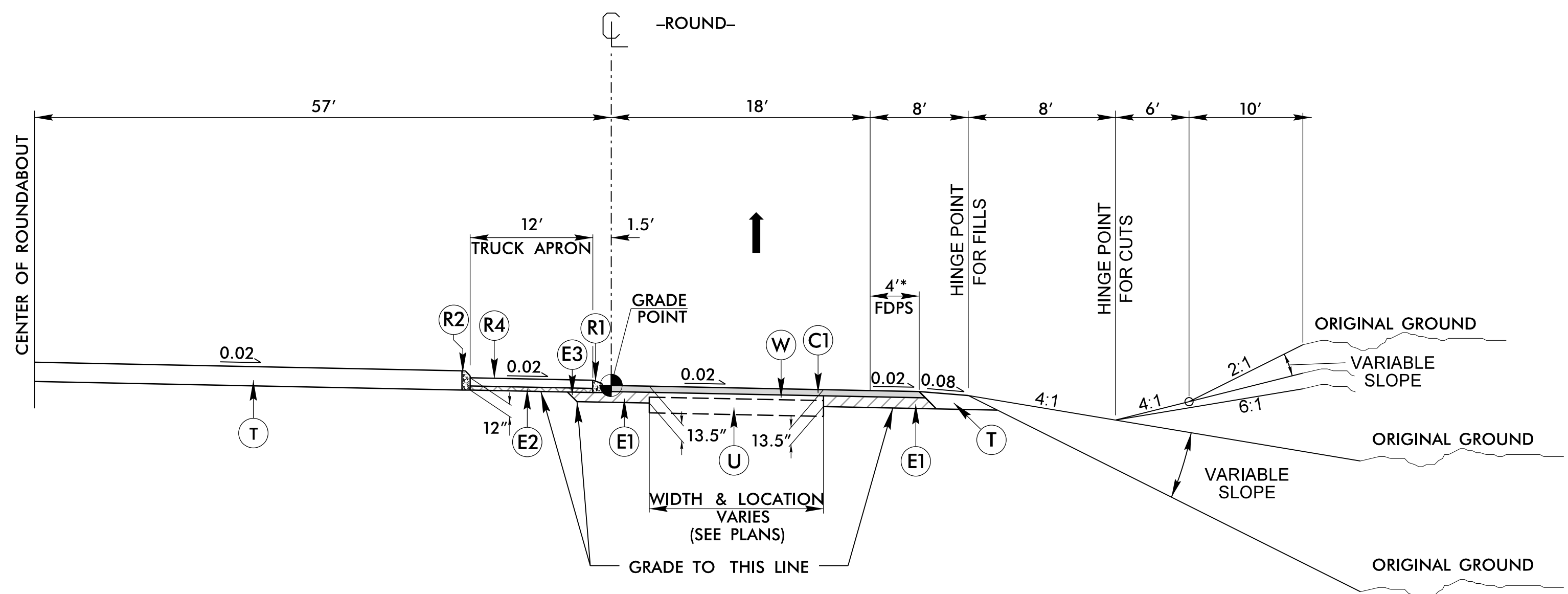


WEDGING DETAIL

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6/2/2017

PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	1 1/2" S9.5B
C3	VAR. S9.5B
D1	VAR. I19.0B
E1	10.5" B25.0B
E2	4" B25.0B
E3	VAR. B25.0B
R1	1'-6" C & G
R2	8"x18" CONC. CURB
R3	5" MONO. ISLAND
R4	8" CONC. TRUCK APRON
R5	CONC. MOUNT. ISLAND
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	INCIDENTAL MILLING
W	WEDGING



TYPICAL SECTION NO. 3
 ROUNDABOUT

USE TYPICAL SECTION NO. 3

-ROUND- STA. 10+00.00 TO STA. 13+58.13

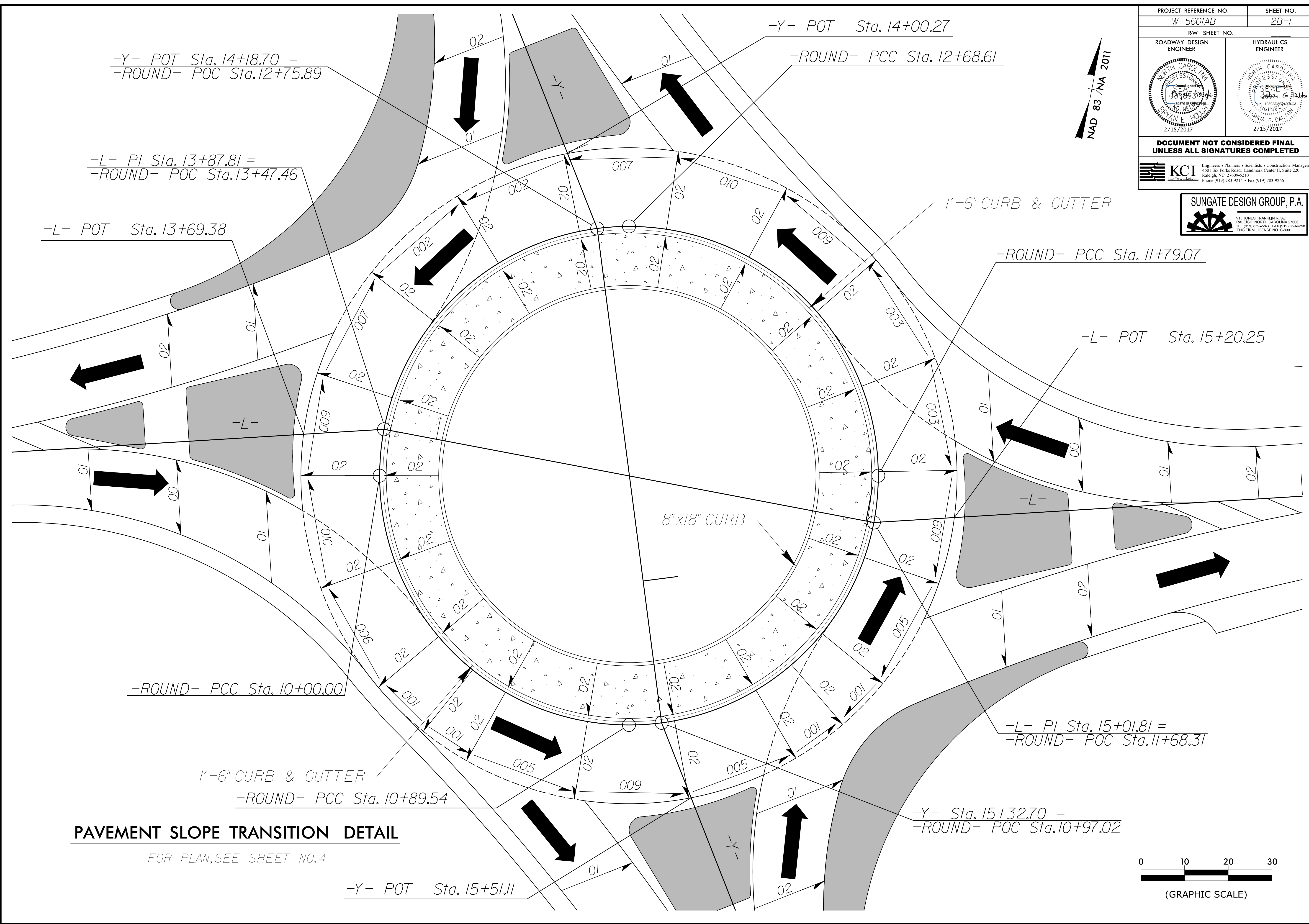
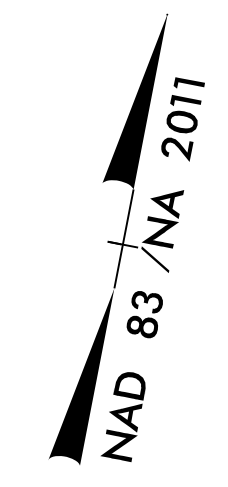
* USE STANDARD DRAWING 852.02 AT CONCRETE MOUNTABLE ISLAND LOCATIONS (SEE PLANS)

PROJECT REFERENCE NO. <i>W-5601AB</i>	SHEET NO. <i>2A-2</i>
ROADWAY DESIGN ENGINEER <i>[Signature]</i>	PAVEMENT DESIGN ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

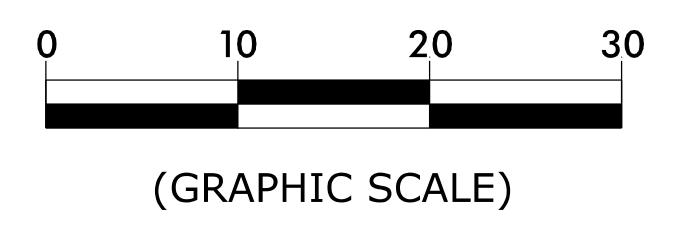
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 USER:NAME

8/17/99

PROJECT REFERENCE NO. W-5601AB		SHEET NO. 2B-1
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>		
<p>SUNGATE DESIGN GROUP, P.A.</p> <p>115 JONES FRANKLIN ROAD RALEIGH, NORTH CAROLINA 27608 TEL: (919) 859-2248 FAX: (919) 859-6298 ENG FIRM LICENSE NO. C-490</p>		



PAVEMENT SLOPE TRANSITION DETAIL
FOR PLAN, SEE SHEET NO. 4

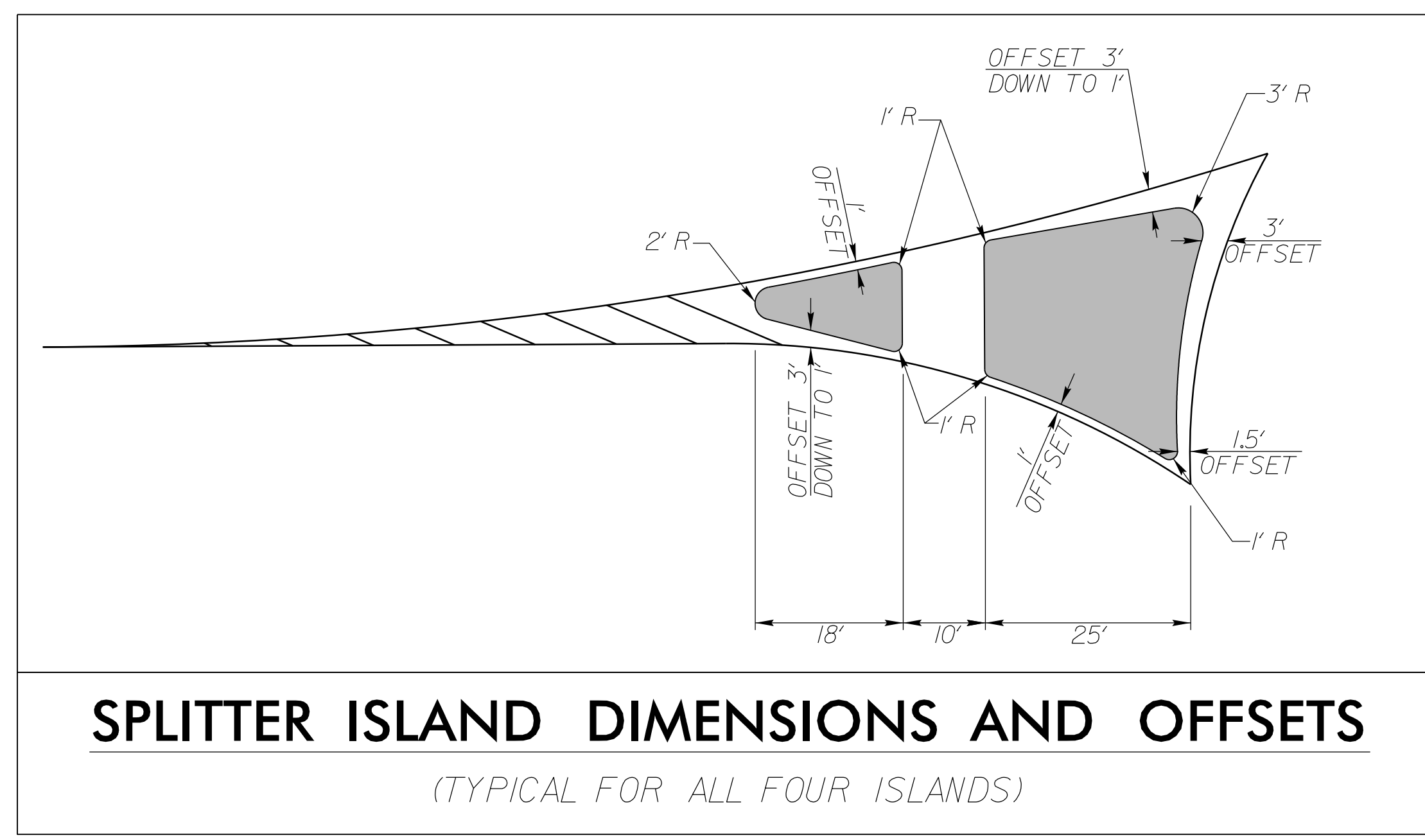
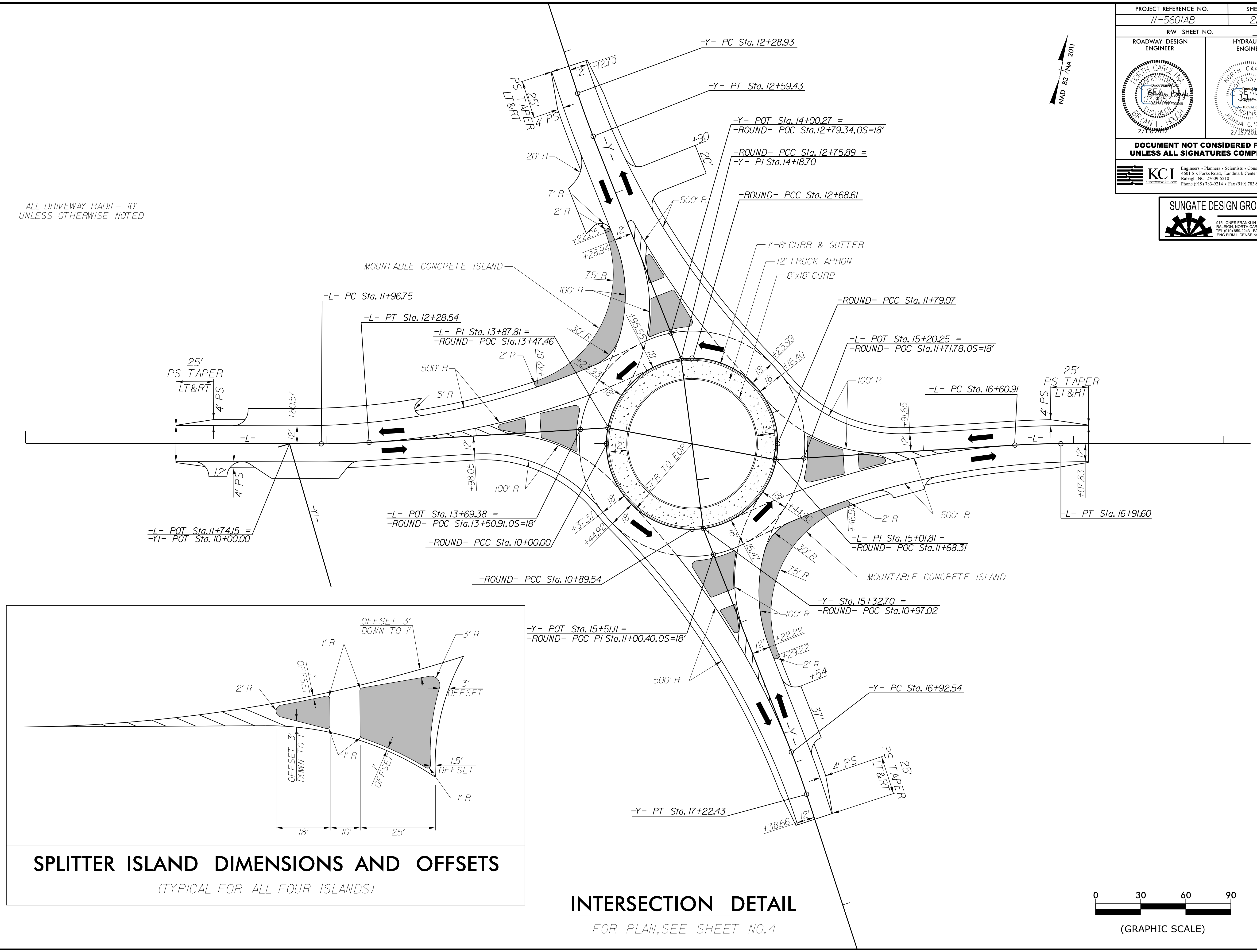


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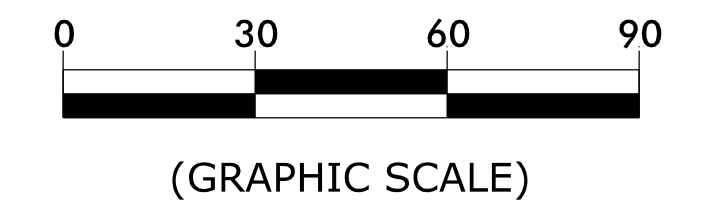
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PROJECT REFERENCE NO. W-5601AB	SHEET NO. 2B-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
KCI <small>Engineers • Planners • Scientists • Construction Managers 4601 Six Forks Road, Landmark Center II, Suite 220 Raleigh, NC 27609-5210 Phone (919) 783-9214 • Fax (919) 783-9266</small>	
SUNGATE DESIGN GROUP, P.A. <small>915 JONES FRANKLIN ROAD RALEIGH, NORTH CAROLINA 27606 TEL: (919) 859-2243 FAX: (919) 869-0259 ENG FIRM LICENSE NO. C-880</small>	


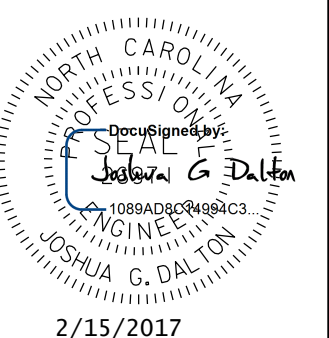

ALL DRIVEWAY RADII = 10'
UNLESS OTHERWISE NOTED



INTERSECTION DETAIL
FOR PLAN, SEE SHEET NO. 4



31-JAN-2017 14:21
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PROJECT REFERENCE NO. W-5601AB		SHEET NO. 4	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		ROADWAY DESIGN ENGINEER	
 2/15/2017		 2/15/2017	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
 KCI Engineers • Planners • Scientists • Construction Managers 4601 Six Forks Road, Landmark Center II, Suite 220 Raleigh, NC 27609-5210 Phone (919) 783-9214 • Fax (919) 783-9266			

SUNGATE DESIGN GROUP, P.A.

915 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27604
 TEL (919) 859-2243 FAX (919) 869-0258
 ENG FIRM LICENSE NO. C-880

-L-

PI Sta 12+12.65 Δ = 3° 38' 35.6" (LT) D = 11' 27' 33.0" L = 31.79' T = 15.90' R = 500.00' SE = SEE PLANS RO = SEE PLANS	PI Sta 16+76.26 Δ = 3° 30' 59.0" (RT) D = 11' 27' 33.0" L = 30.69' T = 15.35' R = 500.00' SE = SEE PLANS RO = SEE PLANS
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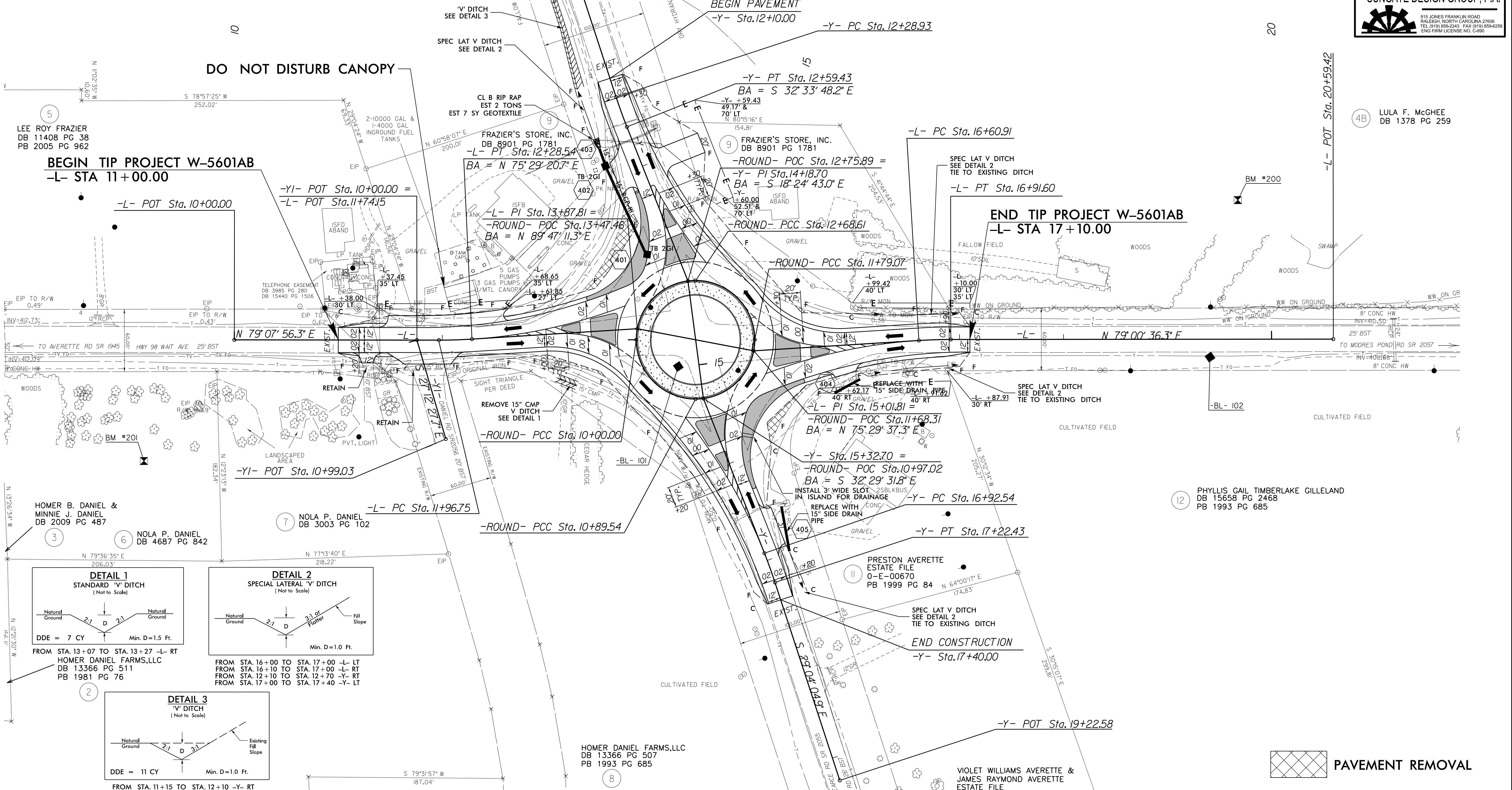
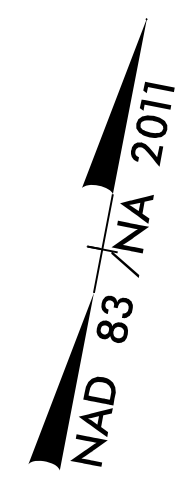
-Y-

PI Sta 12+44.18 Δ = 3° 29' 43.3" (LT) D = 11' 27' 33.0" L = 30.50' T = 15.26' R = 500.00' SE = SEE PLANS RO = SEE PLANS	PI Sta 17+07.49 Δ = 3° 25' 26.9" (RT) D = 11' 27' 33.0" L = 29.88' T = 14.95' R = 500.00' SE = SEE PLANS RO = SEE PLANS
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LULA F. MCGHEE
DB 1378 PG 259

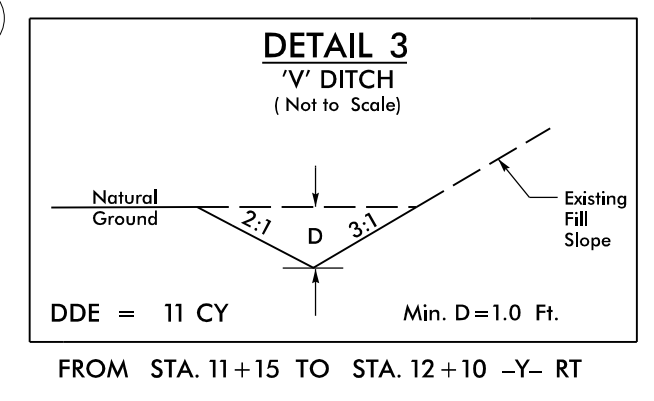
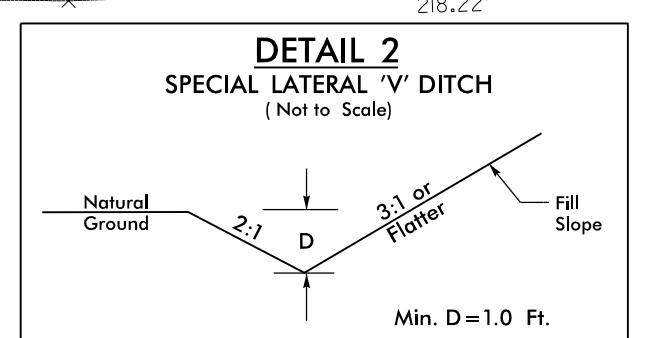
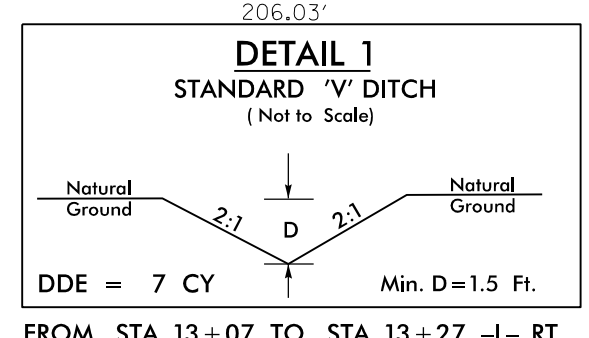
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PI Sta 10+57.00 Δ = 90° 00' 00.0" (LT) D = 100' 31' 08.1" L = 89.54' T = 57.00' R = 57.00' SE = 02	PI Sta 11+46.54 Δ = 90° 00' 00.0" (LT) D = 100' 31' 08.1" L = 89.54' T = 57.00' R = 57.00' SE = 02	PI Sta 12+36.07 Δ = 90° 00' 00.0" (LT) D = 100' 31' 08.1" L = 89.54' T = 57.00' R = 57.00' SE = 02	PI Sta 13+25.61 Δ = 90° 00' 00.0" (LT) D = 100' 31' 08.1" L = 89.54' T = 57.00' R = 57.00' SE = 02
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BEGIN TIP PROJECT W-5601AB
-L- STA 11+00.00

END TIP PROJECT W-5601AB
-L- STA 17+10.00



 **PAVEMENT REMOVAL**

FOR -L-, -Y-, -ROUND- PROFILES, SEE SHEET 5
 FOR PAVEMENT SLOPE TRANSITION, SEE SHEET 2B-1
 FOR INTERSECTION DETAIL, SEE SHEET 2B-2

REVISIONS

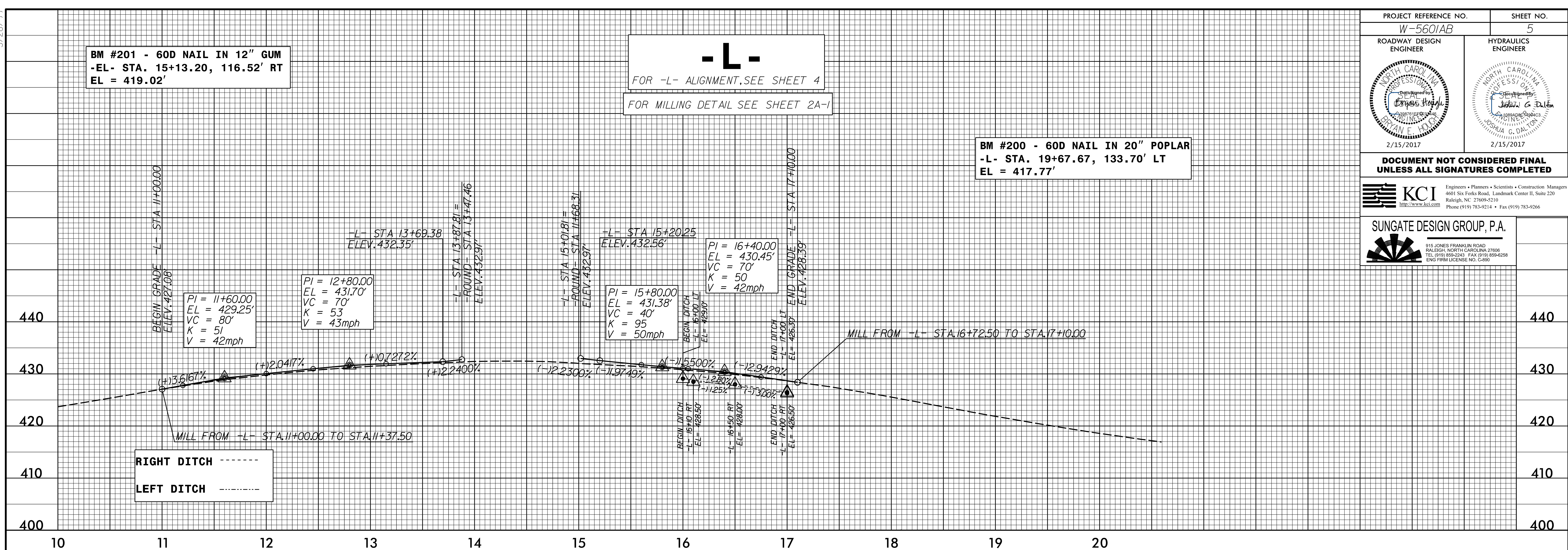
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5/28/19

BM #201 - 60D NAIL IN 12" GUM
-EL- STA. 15+13.20, 116.52' RT
EL = 419.02'

-L-
FOR -L- ALIGNMENT, SEE SHEET 4
FOR MILLING DETAIL SEE SHEET 2A-1

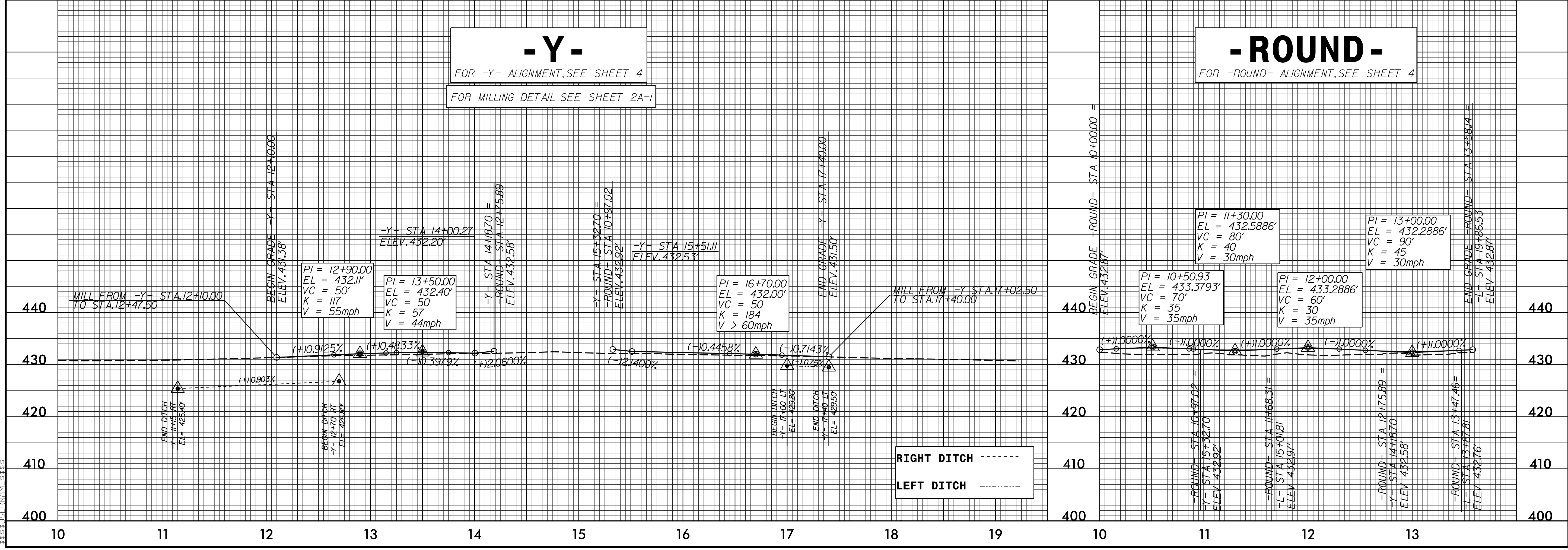
BM #200 - 60D NAIL IN 20" POPLAR
-L- STA. 19+67.67, 133.70' LT
EL = 417.77'



PROJECT REFERENCE NO. W-5601AB		SHEET NO. 5	
ROADWAY DESIGN ENGINEER 		HYDRAULICS ENGINEER 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
KCI <small>Engineers • Planners • Scientists • Construction Managers 4601 Six Forks Road, Landmark Center II, Suite 220 Raleigh, NC 27609-5210 Phone (919) 783-9214 • Fax (919) 783-9266</small>			
SUNGATE DESIGN GROUP, P.A. <small>915 JONES FRANKLIN ROAD RALEIGH, NORTH CAROLINA 27606 TEL (919) 869-2345 FAX (919) 869-4258 ENG FIRM LICENSE NO. C-890</small>			

-Y-
FOR -Y- ALIGNMENT, SEE SHEET 4
FOR MILLING DETAIL SEE SHEET 2A-1

-ROUND-
FOR -ROUND- ALIGNMENT, SEE SHEET 4

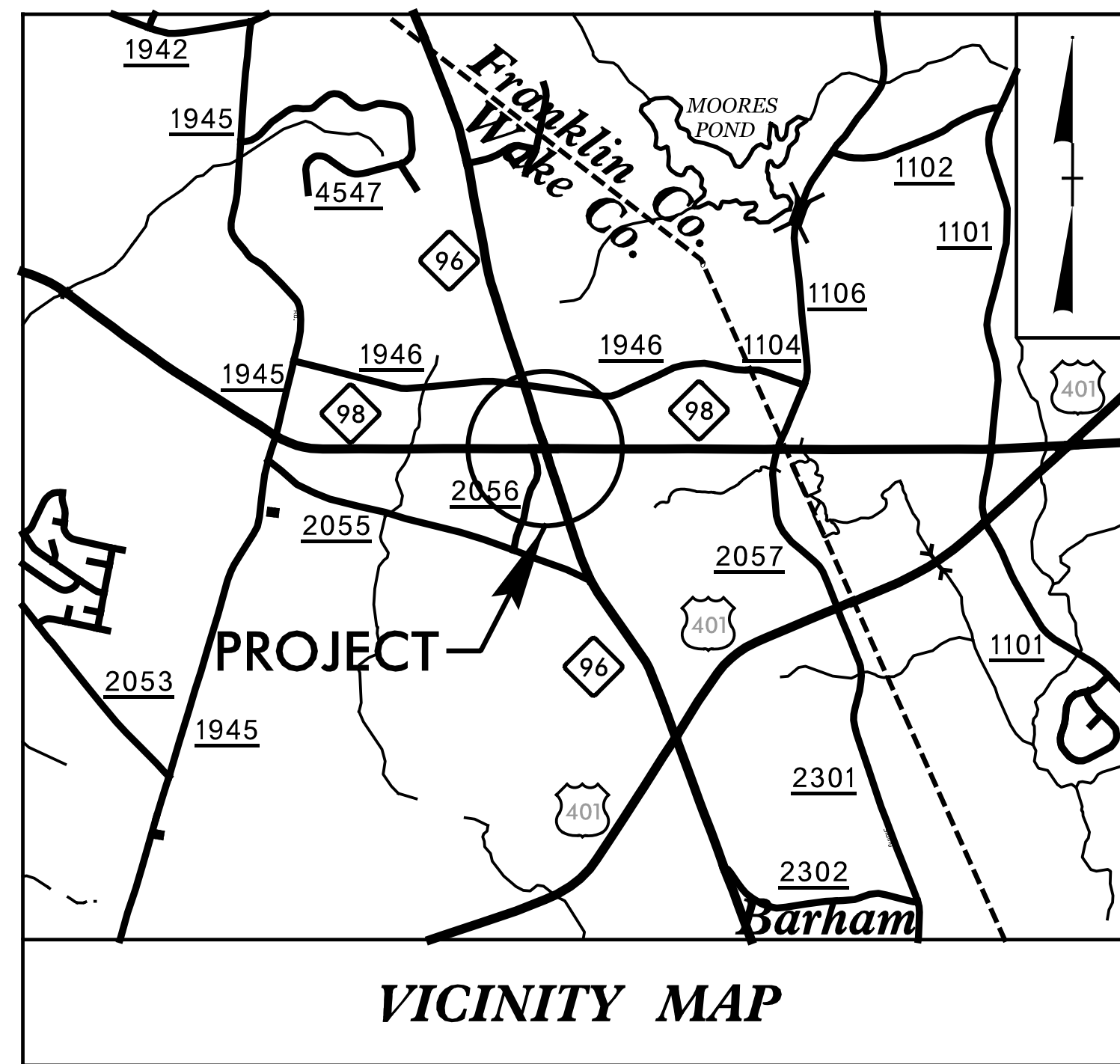
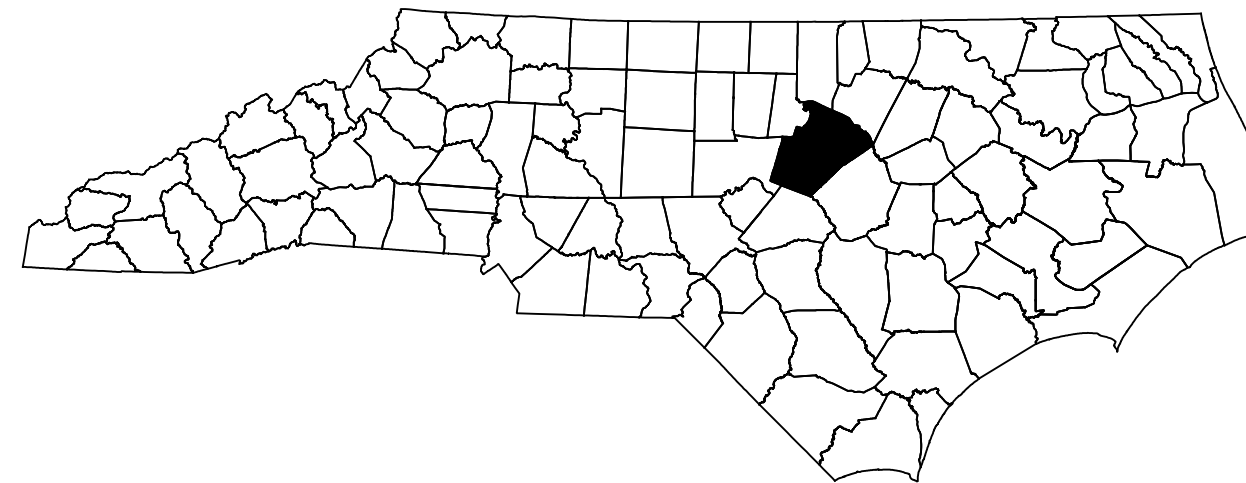


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 12/13/2017 10:21:43 AM
 5/28/19 10:21:43 AM

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

WAKE COUNTY



LOCATION: INTERSECTION OF NC 98 (WAIT AVE.) AND NC 96 (ZEBULON RD.)

TYPE OF WORK: GRADING, PAVING, AND DRAINAGE

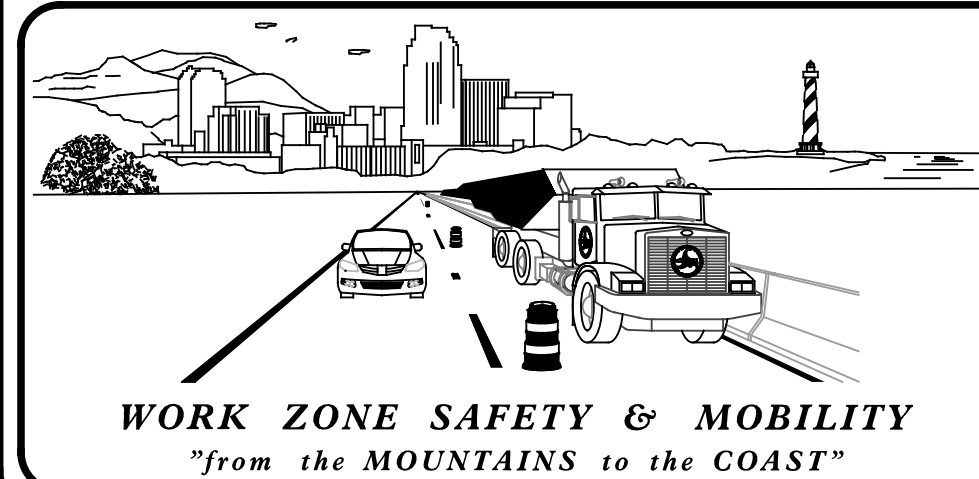
INDEX OF SHEETS

<u>SHEET NO.</u>	<u>TITLE</u>
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND TEMPORARY PAVEMENT MARKING SCHEDULE
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES)
TMP-2	PHASING
TMP-3	PHASE I DETAIL
TMP-4	PHASE II TRAFFIC CONTROL DEVICES DETAIL
TMP-5	PHASE II TEMPORARY PAVEMENT MARKING DETAIL

SHEET NO.
TMP-1

TIP PROJECT: W-5601AB

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
D. W. BISSETTE, P.E. TRAFFIC CONTROL PROJECT ENGINEER
TRAFFIC CONTROL PROJECT DESIGN ENGINEER
TRAFFIC CONTROL DESIGN ENGINEER



APPROVED: Steven D Miller
DATE: 2/15/2017
SEAL

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGING DEVICES
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)

- WORK AREA
- REMOVAL
- USER DEFINED (IF NEEDED)
- USER DEFINED (IF NEEDED)

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- 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

TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
PA	PAINT (4") WHITE EDGELINE
PB	YELLOW EDGELINE
P10	PAINT (12") 3 FT. - 3 FT./SP WHITE MINISKIP
PS	WHITE GORELINE
QM	PAINT MARKING SYMBOLS YIELD LINE TRIANGLE

12/19/2016 G:\Traffic\2015\TR15.023.00 W-5601AB Roundabout\Traffic Control\W-5601AB TMP-1A.dgn jml/bs

SEPI
ENGINEERING & CONSTRUCTION

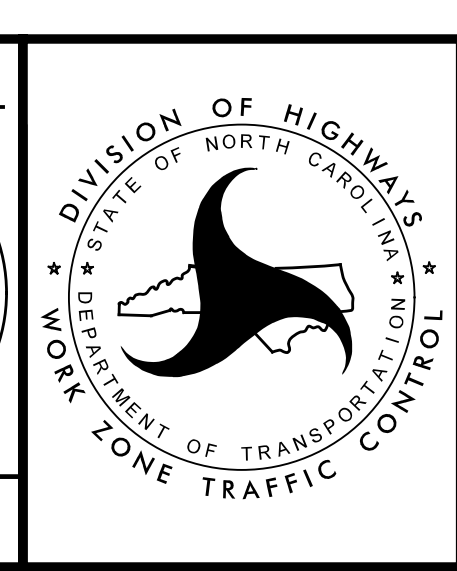
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-9977
Fax: 919-789-9591
License: C-2197

DocuSigned by:
Steven D Miller
158144202258444

APPROVED: _____
DATE: 2/15/2017

SEAL

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



**ROADWAY STANDARD
DRAWINGS, LEGEND,
AND PAVEMENT
MARKING SCHEDULE**

MANAGEMENT STRATEGIES

- TRAFFIC WILL BE MAINTAINED ON SITE
- LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES WILL BE MAINTAINED BETWEEN CLOSURE POINTS AT ALL TIMES DURING CONSTRUCTION
- PROVIDE ONE MONTH NOTICE TO THE ENGINEER, WAKE COUNTY EMERGENCY SERVICES, AND WAKE COUNTY SCHOOL OFFICIALS PRIOR TO ALTERING THE TRAFFIC PATTERN.

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
NC 96 (ZEBULON RD.)	MONDAY-FRIDAY 6:00 A.M.-9:00 A.M.
NC 98 (WAIT AVE.)	MONDAY-FRIDAY 4:00 P.M.-7:00 P.M.

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

ROAD NAME
NC 96 (ZEBULON RD.)
NC 98 (WAIT AVE.)

HOLIDAY

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 A.M. DECEMBER 31ST TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M.-7:00 P.M. THURSDAY AND MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

GENERAL NOTES

LANE AND SHOULDER CLOSURE 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.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 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 CONTROL PLANS, ROADWAY 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 A 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.

- I) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 350 FEET IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

- J) NOTIFY THE ENGINEER ONE MONTH PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

GENERAL NOTES

SIGNING

- K) INSTALL ADVANCE WORK ZONE WARNING SIGNS NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- L) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- M) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 350 FEET IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

- N) 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.

PAVEMENT MARKINGS AND MARKERS

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


ROAD NAME	MARKING	MARKER
NC 96	PAINT	TEMPORARY
NC 98	PAINT	TEMPORARY

- P) 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.
- Q) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- R) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- S) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS.

MISCELLANEOUS

- T) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- U) 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. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 350 FEET AND 700 FEET RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

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SEPI
ENGINEERING & CONSTRUCTION

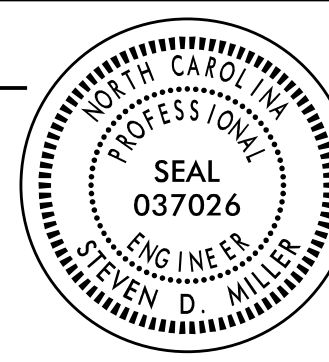
1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-9977
Fax: 919-789-9591
License: C-2197

DocuSigned by:
Steven D Miller
18924420202222

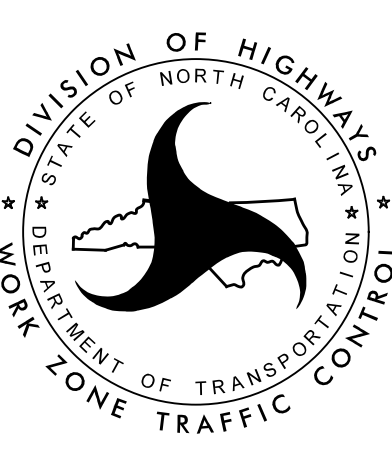
APPROVED: _____

DATE: 2/15/2017

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

TRANSPORTATION OPERATIONS PLAN

PHASING

PHASE I

STEP 1: USING ROADWAY STANDARD DRAWING (RSD) 1101.01 SHEET 3 OF 3 INSTALL ADVANCE WARNING SIGNS ON NC 96 (ZEBULON RD.) AND NC 98 (WAIT AVE.).

STEP 2: USING RSD 1101.02 SHEET 1 OF 15, BEGIN CONSTRUCTION INCLUDING TRIANGULAR ISLANDS AS SHOWN ON TMP-3.

STEP 3: USING RSD 1101.02 SHEET 1 OF 15, PERFORM THE FOLLOWING IN A CONTINUOUS MANNER:

- USE WEDGING TO CONSTRUCT A TIE IN FROM THE EXISTING PATTERN TO THE PROPOSED TEMPORARY ROUNDABOUT PATTERN. USE FLAGGERS TO DIRECT RIGHT TURNING VEHICLES THROUGH THE MAIN INTERSECTION.
- PLACE TRAFFIC CONTROL DEVICES AS SHOWN ON TMP-4, INSTALL TEMPORARY PAVEMENT MARKINGS AS SHOWN ON TMP-5, AND REMOVE ANY CONFLICTING SIGNS.
- SHIFT TRAFFIC TO THE TEMPORARY PATTERN BY THE END OF THE WORK DAY.

PHASE II

STEP 1: WITH TRAFFIC IN THE TEMPORARY PATTERN, USE RSD 1101.02 SHEET 1 OF 15 TO COMPLETE CONSTRUCTION UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

STEP 2: USING RSD 1101.02 SHEET 1 OF 15, PLACE THE FINAL LAYER OF SURFACE COURSE AND INSTALL THE FINAL PAVEMENT MARKINGS ACCORDING TO THE PAVEMENT MARKING PLANS. SHIFT TRAFFIC TO THE FINAL PATTERN.

STEP 3: REMOVE ALL WORKZONE TRAFFIC CONTROL DEVICES.

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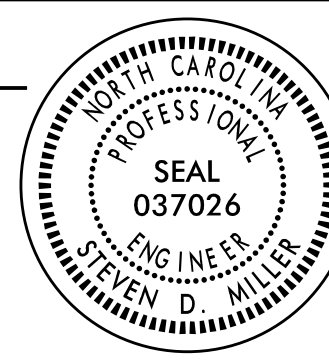
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License: C-2197

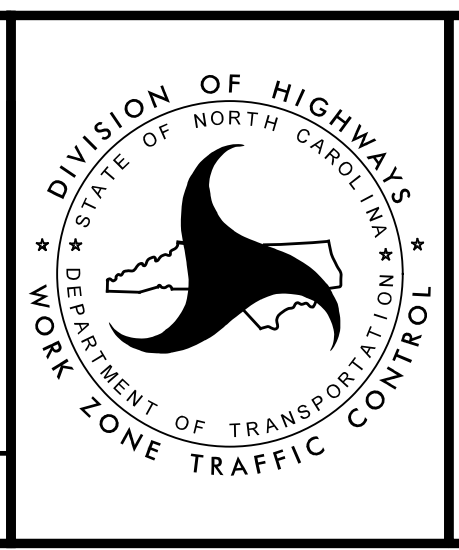
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Steven D Miller
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DATE: 2/15/2017

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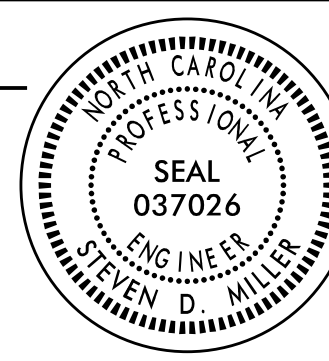


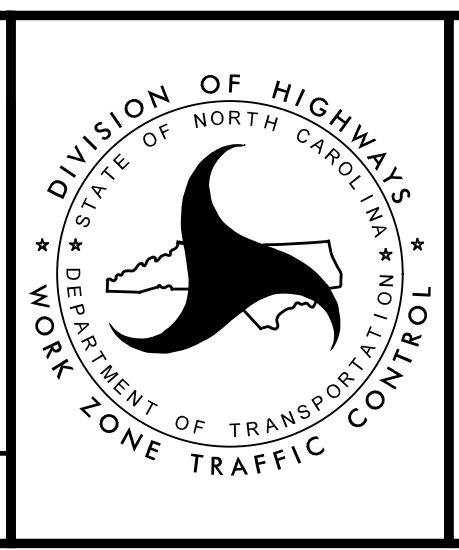
PHASING



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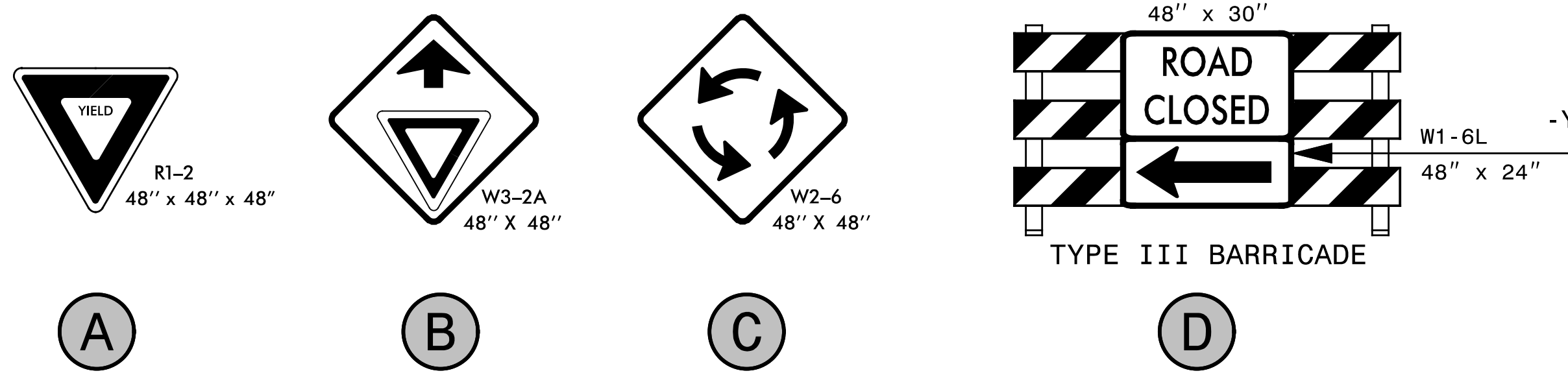
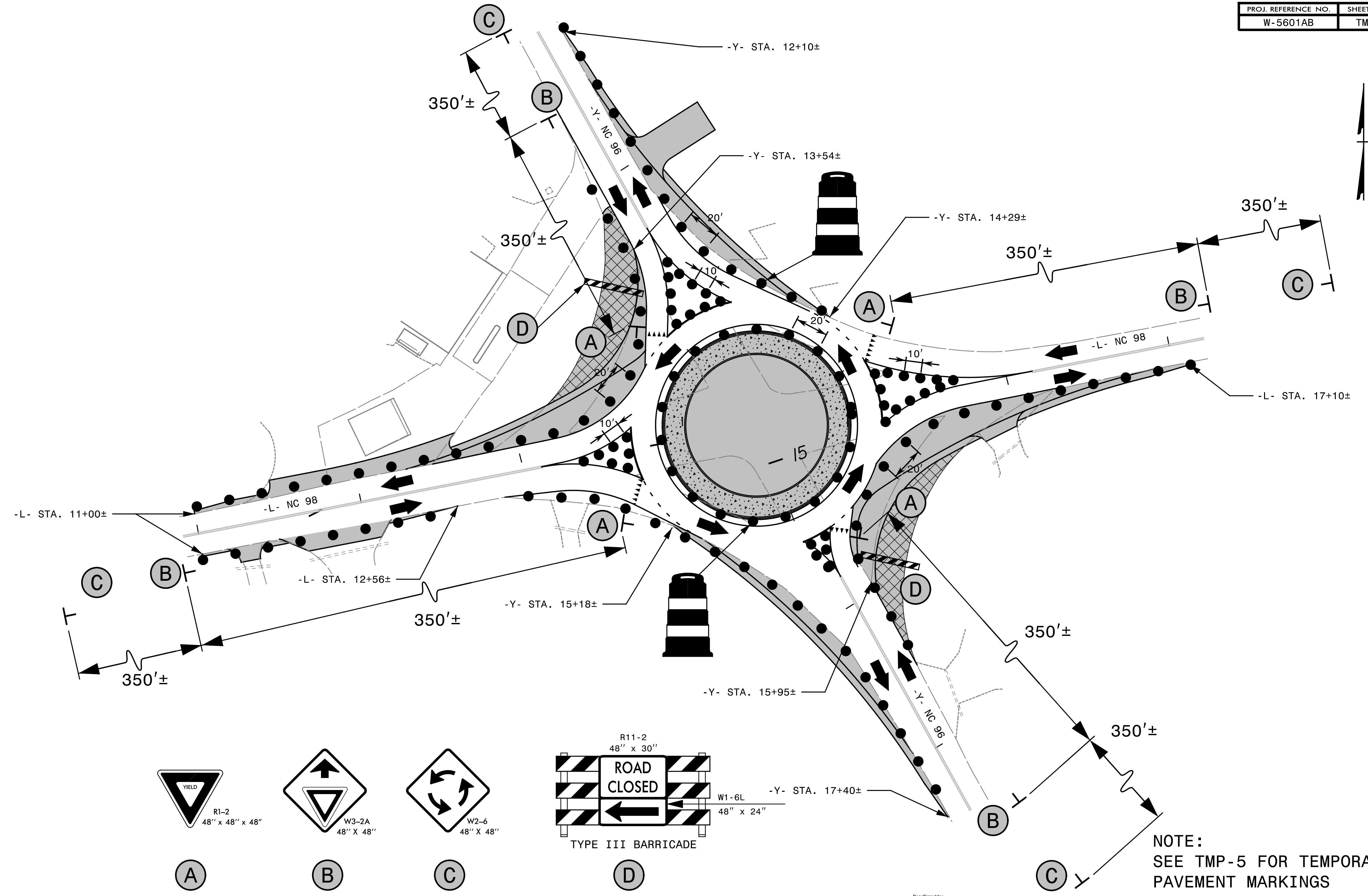
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 CONSTRUCTION
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 License: C-2197

APPROVED: Steven D Miller
 DATE: 2/15/2017
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PHASE I

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NOTE:
SEE TMP-5 FOR TEMPORARY
PAVEMENT MARKINGS

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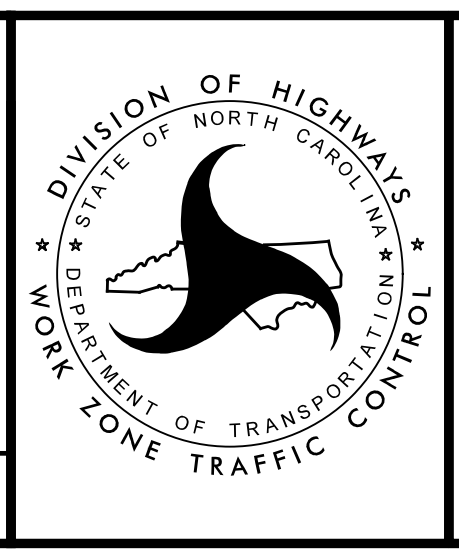
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CONSTRUCTION

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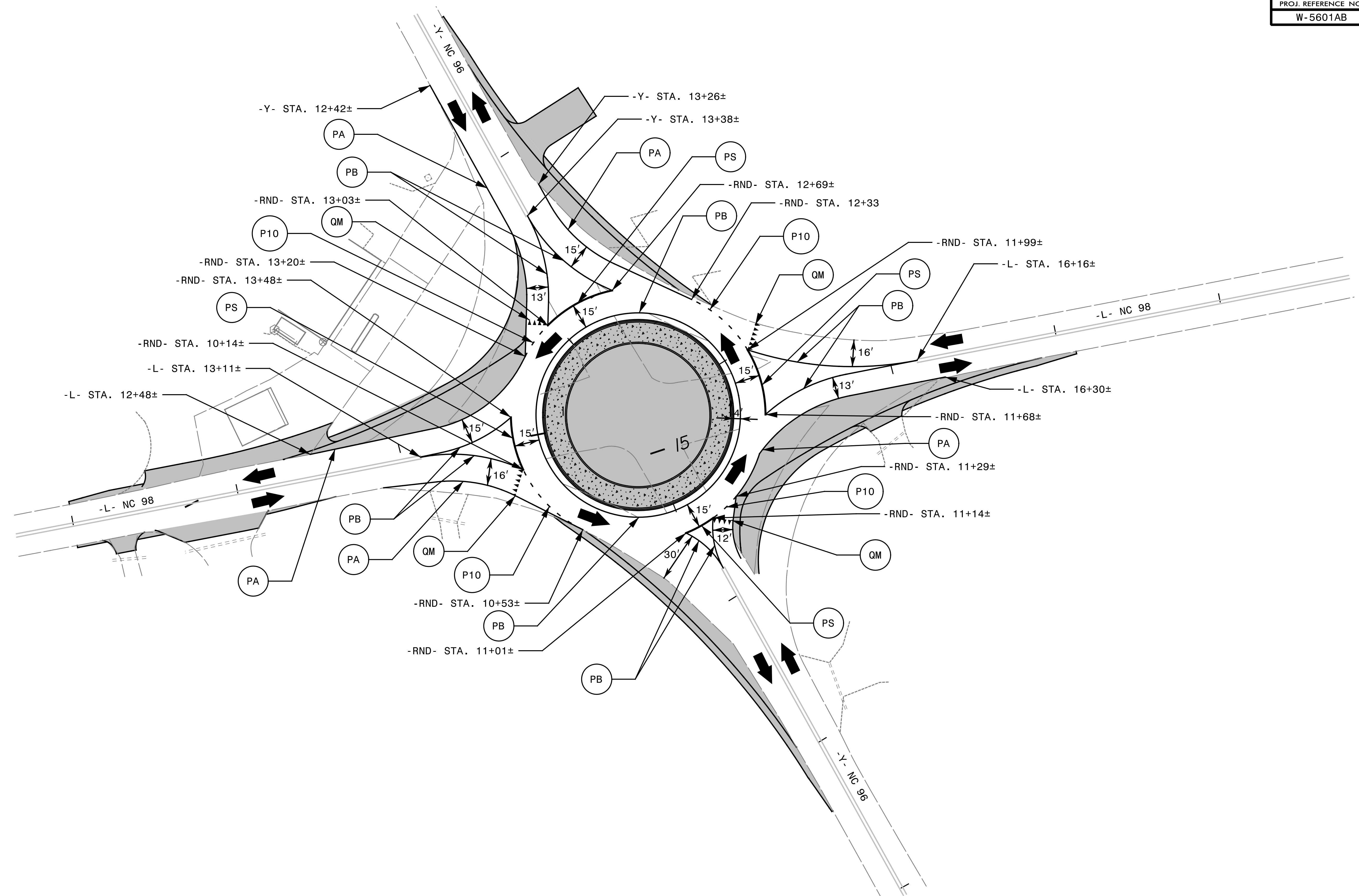
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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

**PHASE II
TRAFFIC CONTROL
DEVICES**



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 ENGINEERING &
 CONSTRUCTION

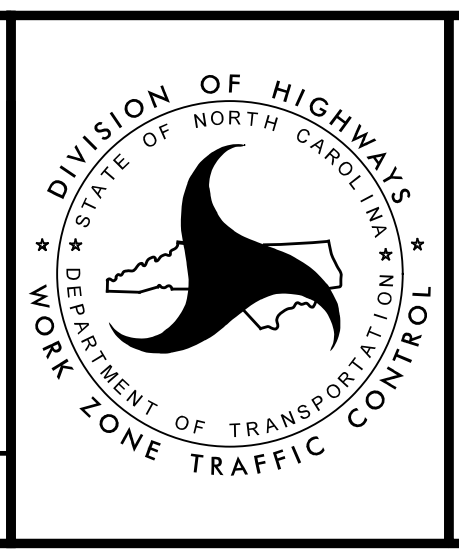
1025 Wade Avenue
 Raleigh, NC 27605
 Tel: 919-789-9977
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APPROVED: Steven D Miller
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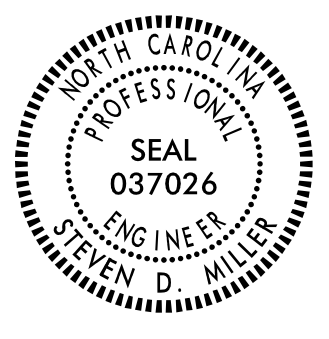
DATE: 2/15/2017

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**PHASE II
 TEMPORARY
 PAVEMENT
 MARKINGS**

TIP NO.	SHEET NO.
W-5601AB	PMP - 1
DocuSigned by: Steven D Miller 188844282828444	
APPROVED:	
DATE:	2/15/2017
SEAL	
	
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**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
WAKE COUNTY**

T.I.P.: W-5601AB

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2	PAVEMENT MARKING DETAIL SHEET

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
HWY 98 WAIT AVE -L-	THERMOPLASTIC	SNOWPLOWABLE
HWY 96 ZEBULON RD -Y-	THERMOPLASTIC	SNOWPLOWABLE

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

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

D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED 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.

F) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF COLD APPLIED PLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS ON ASPHALT OR CONCRETE ROADWAYS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE COLD APPLIED PAY ITEM.

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	
T10	3 FT. - 3 FT./SP WHITE MINISKIP	<u>THERMOPLASTIC(12", 120 MILS)</u>
TI	YELLOW DOUBLE CENTER	<u>THERMOPLASTIC(4", 120 MILS)</u>
TA	WHITE EDGELINE	<u>THERMOPLASTIC(4", 90 MILS)</u>
TB	YELLOW EDGELINE	<u>THERMOPLASTIC(4", 90 MILS)</u>
TN	WHITE GORELINE	<u>THERMOPLASTIC(8", 90 MILS)</u>
UN	24" YIELD LINE TRIANGLE	<u>THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)</u>
ME	YELLOW & YELLOW	<u>SNOWPLOWABLE MARKERS</u>
MF	CRYSTAL & RED	

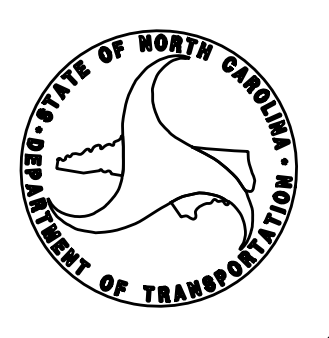
ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 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 MULTILANE ROADWAYS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE

PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

RENEE B. ROACH, PE, CPM SIGNING & DELINEATION REGIONAL ENGINEER



PLAN PREPARED BY: SEPI Engineering & Construction

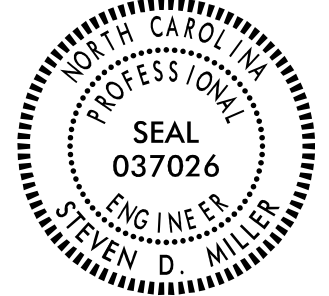
STEVE MILLER, PE SIGNING & DELINEATION ENGINEER

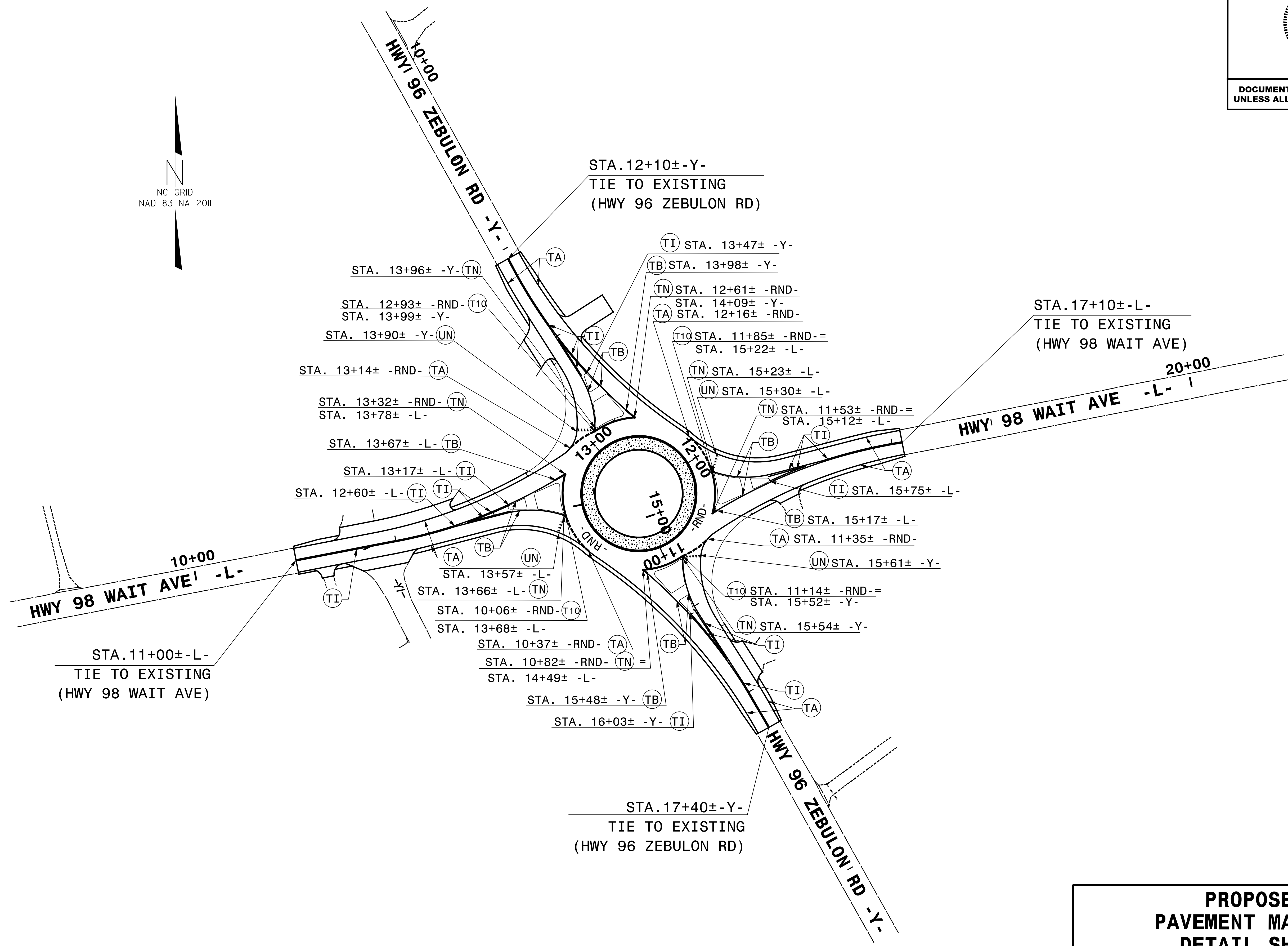
____ SIGNING & DELINEATION PROJECT DESIGN ENGINEER

SEPI

ENGINEERING & CONSTRUCTION

1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-9977
Fax: 919-789-9591
License: C-2197

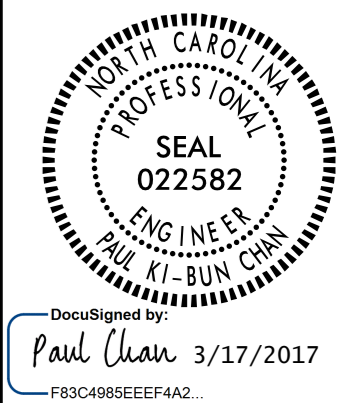
TIP NO. W-5601AB	SHEET NO. PMP-2
APPROVED: Steven D Miller	
DATE: 2/15/2017	
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**PROPOSED
PAVEMENT MARKING
DETAIL SHEET**

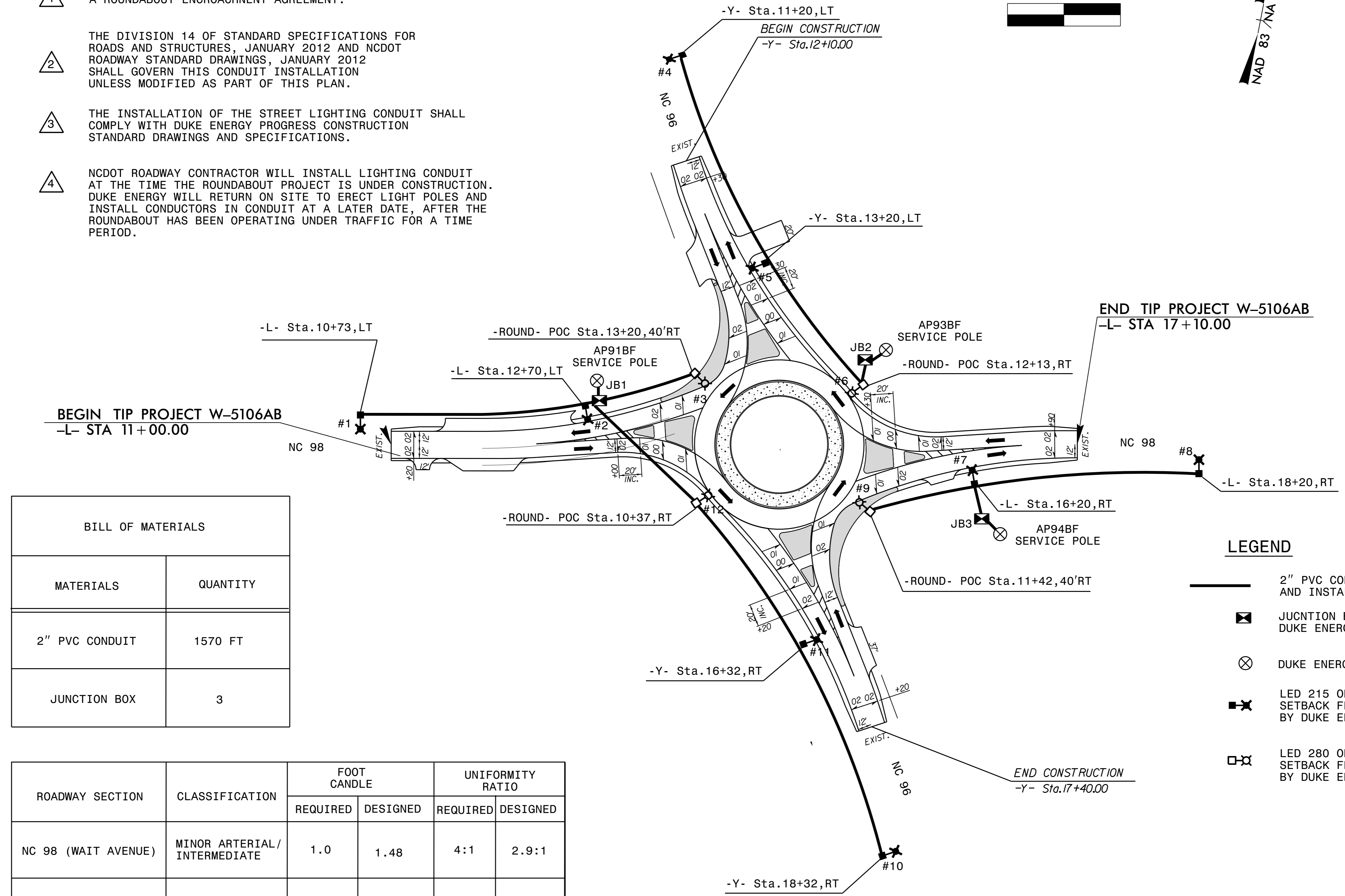
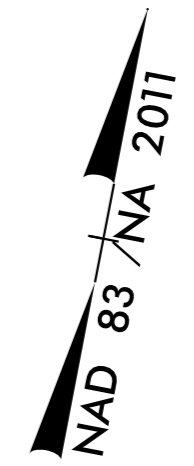
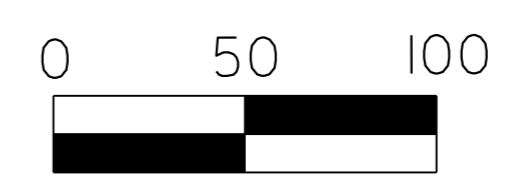
USE FOR LIGHTING CONSTRUCTION ONLY



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NOTES

- 1 DUKE ENERGY PROGRESS PROVIDED THIS DESIGN AS A ROUNDABOUT ENCROACHMENT AGREEMENT.
- 2 THE DIVISION 14 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, JANUARY 2012 AND NCDOT ROADWAY STANDARD DRAWINGS, JANUARY 2012 SHALL GOVERN THIS CONDUIT INSTALLATION UNLESS MODIFIED AS PART OF THIS PLAN.
- 3 THE INSTALLATION OF THE STREET LIGHTING CONDUIT SHALL COMPLY WITH DUKE ENERGY PROGRESS CONSTRUCTION STANDARD DRAWINGS AND SPECIFICATIONS.
- 4 NCDOT ROADWAY CONTRACTOR WILL INSTALL LIGHTING CONDUIT AT THE TIME THE ROUNDABOUT PROJECT IS UNDER CONSTRUCTION. DUKE ENERGY WILL RETURN ON SITE TO ERECT LIGHT POLES AND INSTALL CONDUCTORS IN CONDUIT AT A LATER DATE, AFTER THE ROUNDABOUT HAS BEEN OPERATING UNDER TRAFFIC FOR A TIME PERIOD.



BILL OF MATERIALS	
MATERIALS	QUANTITY
2" PVC CONDUIT	1570 FT
JUNCTION BOX	3

LEGEND

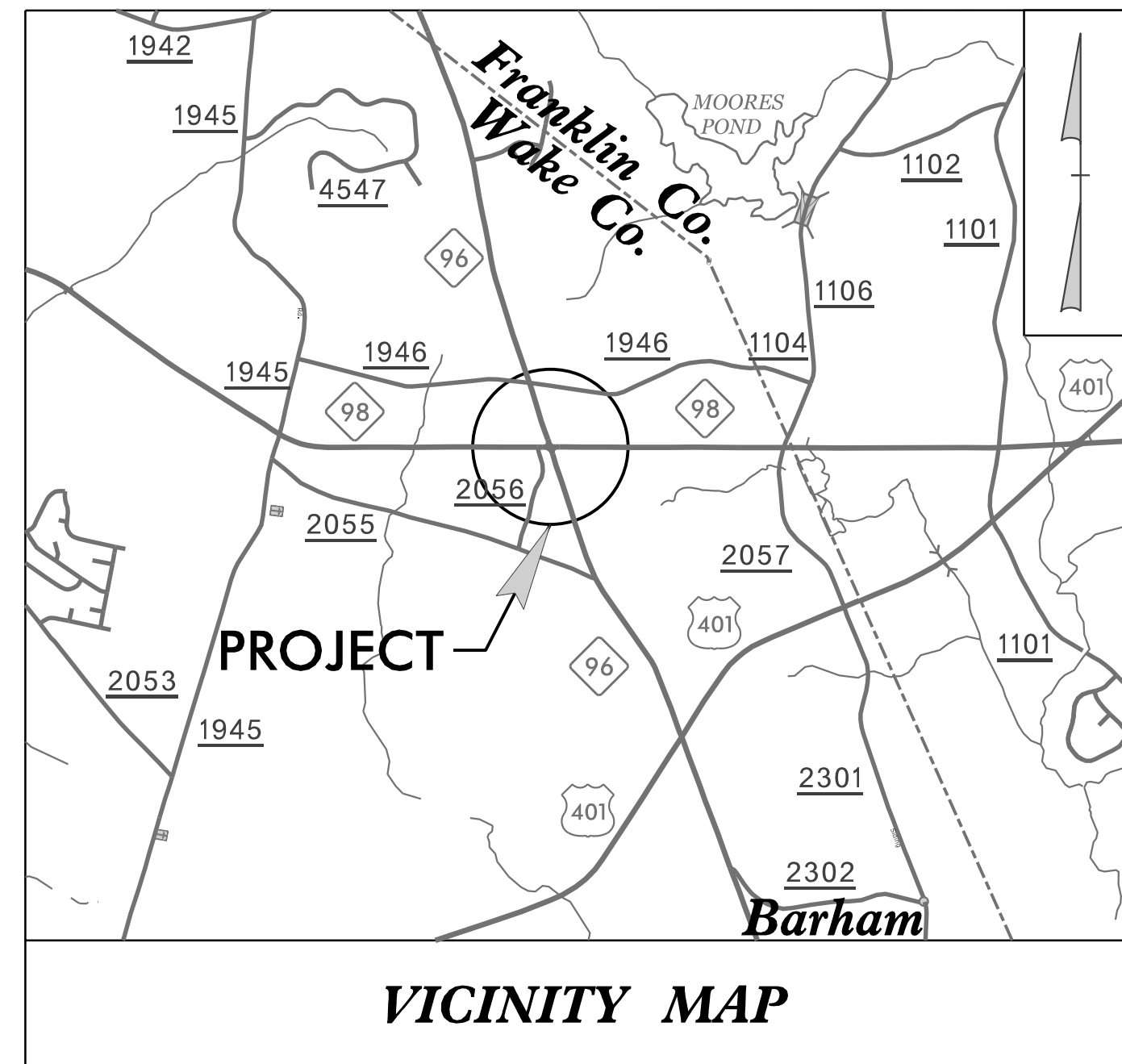
- 2" PVC CONDUIT PROVIDED BY DUKE ENERGY AND INSTALLED BY ROADWAY CONTRACTOR
- JUNCTION BOX (FLUSH-MOUNT PEDESTAL) PROVIDED BY DUKE ENERGY AND INSTALLED BY ROADWAY CONTRACTOR
- DUKE ENERGY EXISTING SERVICE POLE
- LED 215 ON 35' MH WOOD POLE WITH 6' ARM, AT 16' SETBACK FROM EOT, TO BE PROVIDED AND INSTALLED BY DUKE ENERGY (TOTAL 8 POLES)
- LED 280 ON 35' MH WOOD POLE WITH 6' ARM, AT 16' SETBACK FROM EOT, TO BE PROVIDED AND INSTALLED BY DUKE ENERGY (TOTAL 4 POLES)

ROADWAY SECTION	CLASSIFICATION	FOOT CANDLE		UNIFORMITY RATIO	
		REQUIRED	DESIGNED	REQUIRED	DESIGNED
NC 98 (WAIT AVENUE)	MINOR ARTERIAL/ INTERMEDIATE	1.0	1.48	4:1	2.9:1
NC 96 (ZEBULON ROAD)	MINOR ARTERIAL/ INTERMEDIATE	1.0	1.5	4:1	3:1
RODUNDAABOUT		2.0	2.51	3:1	2.51:1

2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION STREET LIGHTING CONDUIT SYSTEM NC 96 AT NC 98 ROUNDABOUT WAKE COUNTY			
Drawn By: SKS	Approved By: PKC	Dwg No.:	WOOD POLE

I7-MAR-2017 16:10
 R:\Lighting\electrical\TIP\Lighting\Plans\W-5601AB_Rdy_dsn_LE_Conduit - Wood Pole.dgn
 \$\$\$USERNAME\$\$\$

TIP PROJECT: W-5601AB



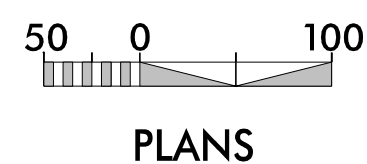
WAKE COUNTY

LOCATION: INTERSECTION OF NC 98 (WAIT AVE.) AND NC 96 (ZEBULON RD.)
TYPE OF WORK: GRADING, PAVING, AND DRAINAGE

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
 Refer To E. C. Special Provisions for Special Considerations.

1. THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
2. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

GRAPHIC SCALE



PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared in the Office of:
SUNGATE DESIGN GROUP, P.A.
 915 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27606
 TEL (919) 859-2243
 ENG FIRM LICENSE NO. C-890

Designed by:
JOSHUA G. DALTON, PE, CPESC #3552
 NAME LEVEL III CERTIFICATION NO.



Prepared in the Office of:

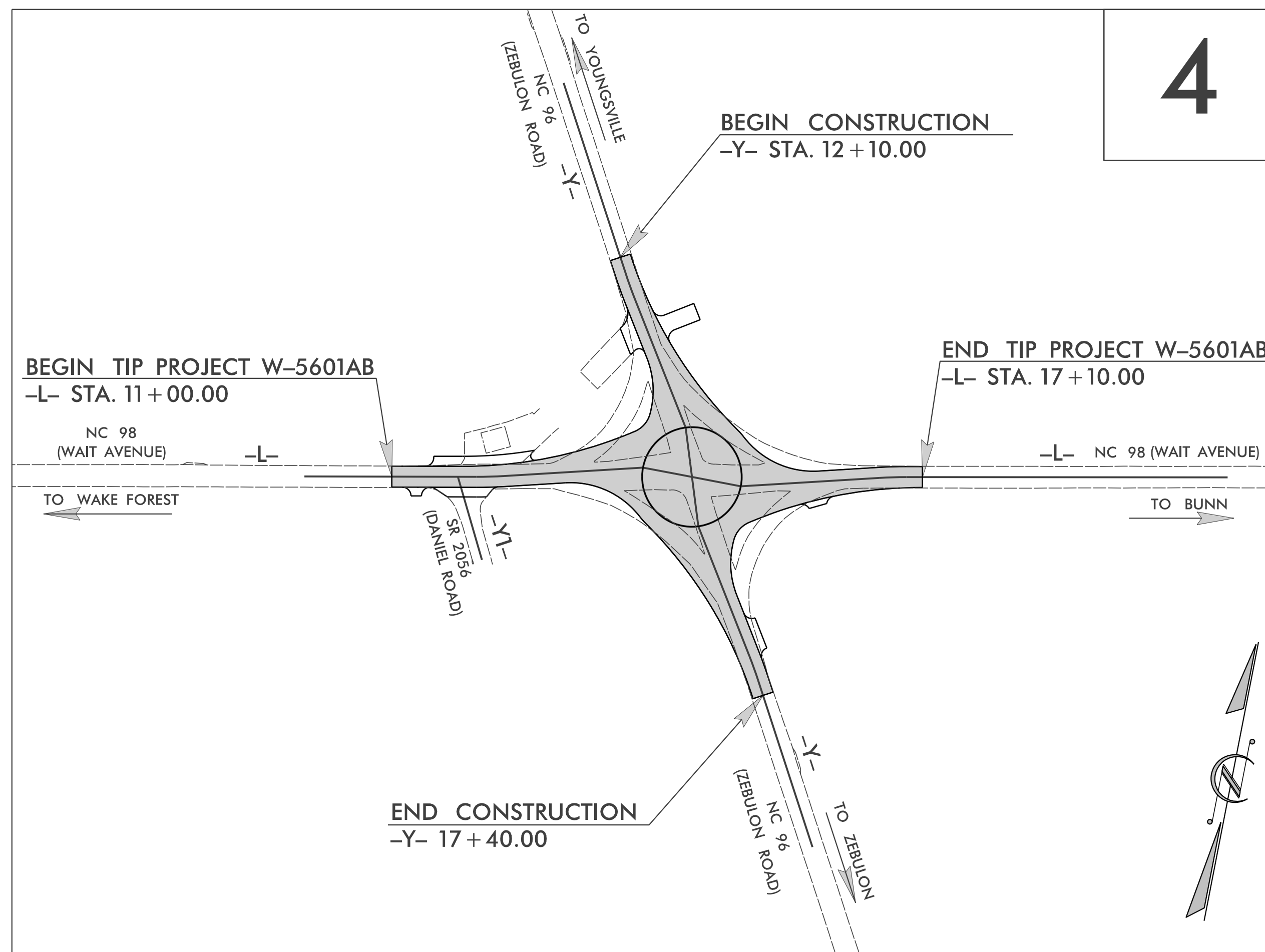
Reviewed in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
 1 South Wilmington St.
 Raleigh, NC 27611
2012 STANDARD SPECIFICATIONS

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 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601AB	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50138.1.FR29	HSIP-0096(19)	PE	

EROSION AND SEDIMENT CONTROL MEASURES

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

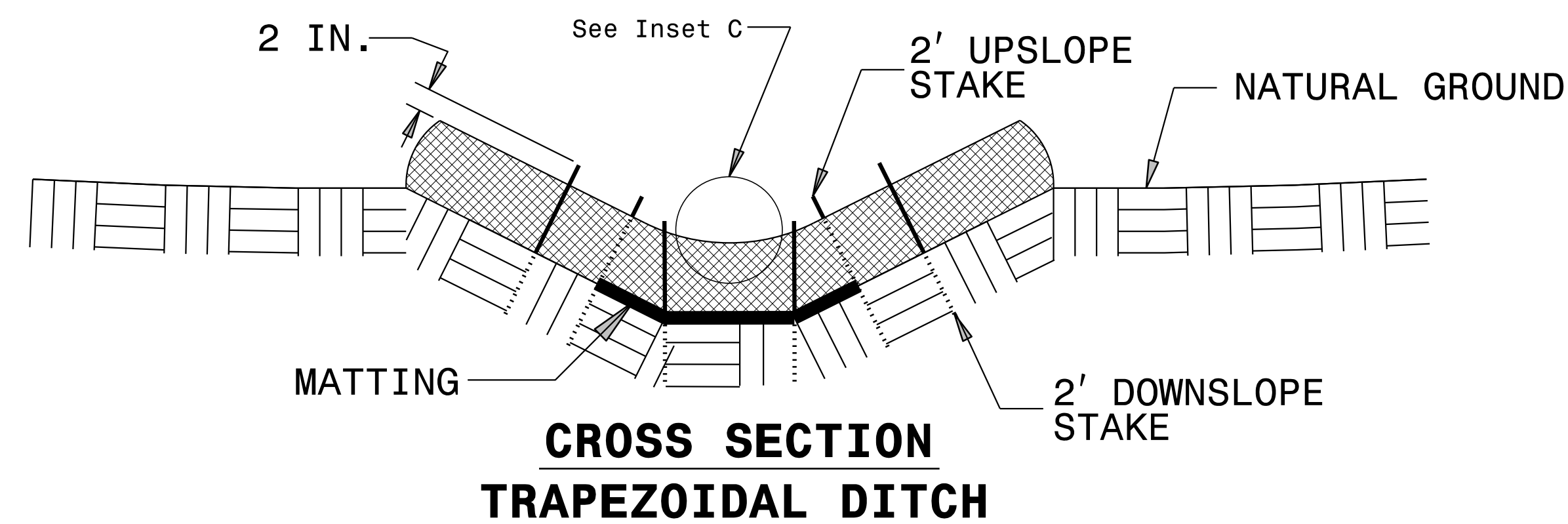
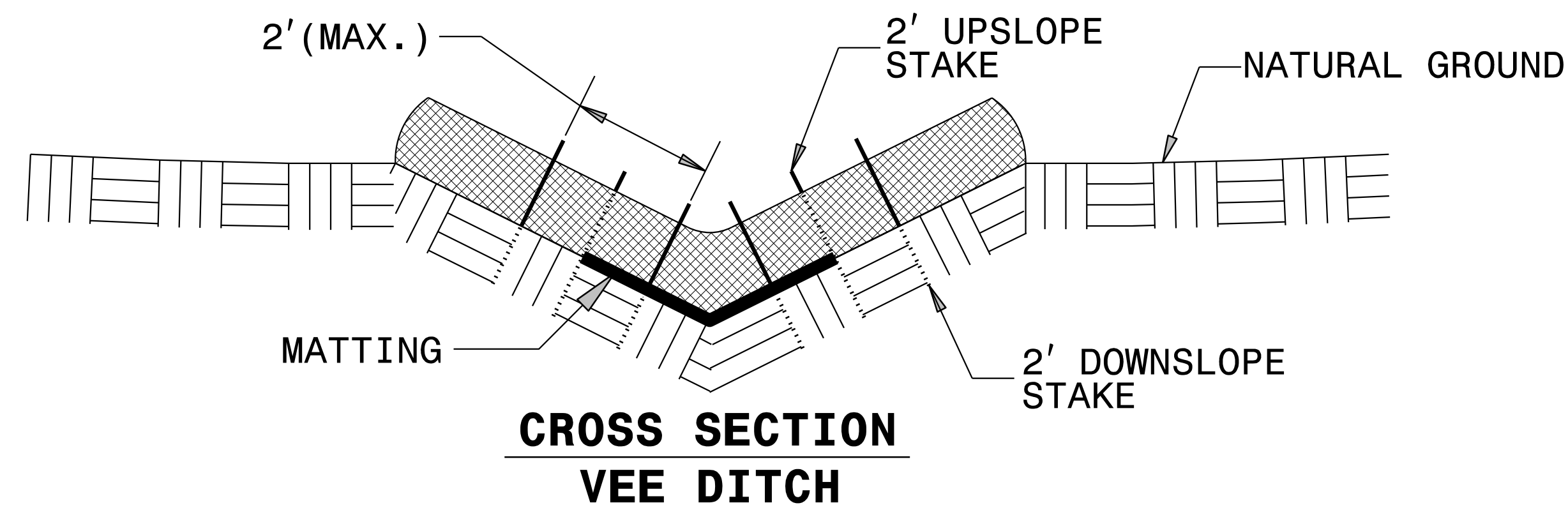
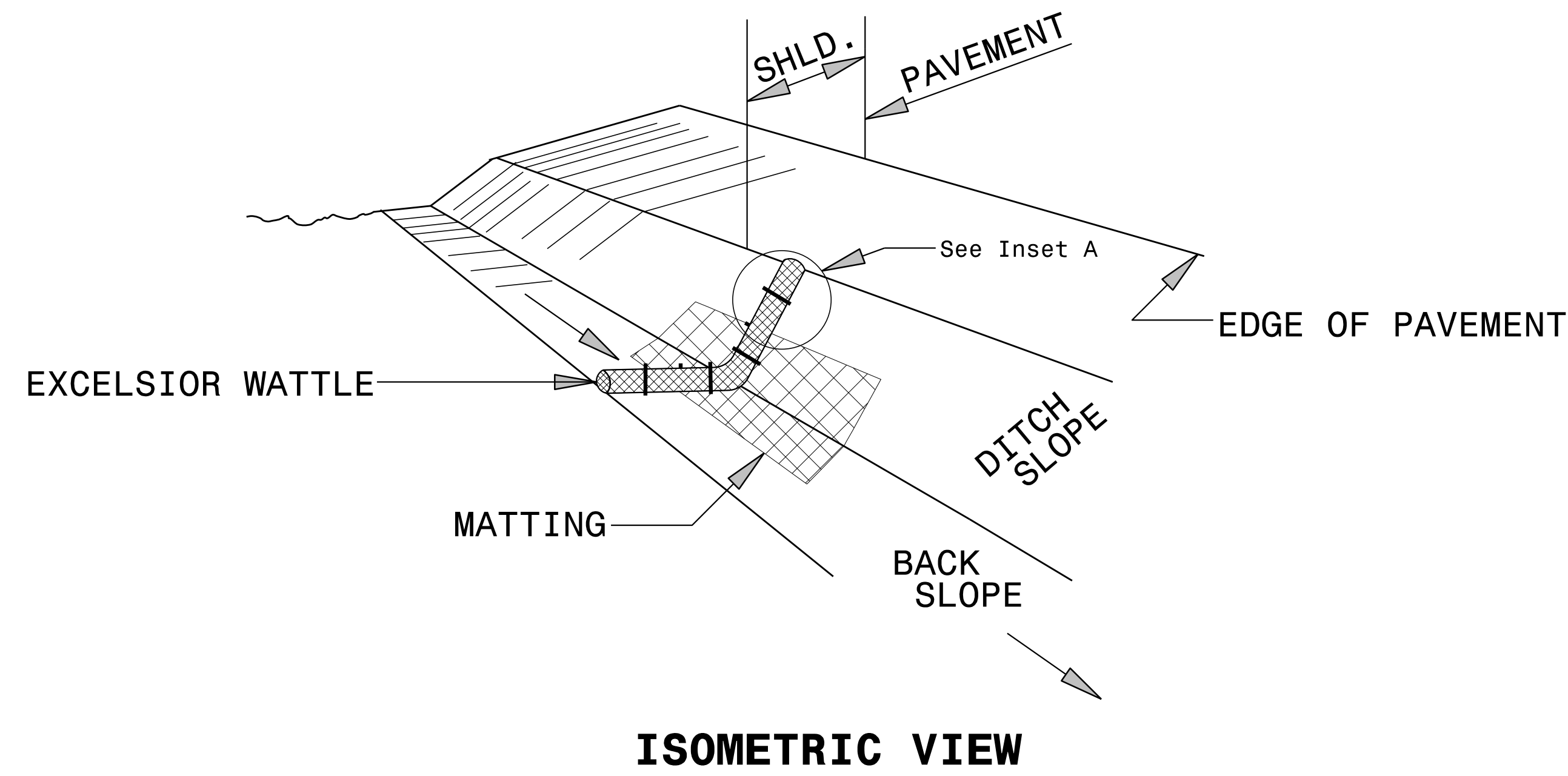
THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT
 High Quality Water Zone(s) Exist From BEGIN to END
 Refer To E. C. Special Provisions for Special Considerations.

PROJECT REFERENCE NO. W-5601AB	SHEET NO. EC-02
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

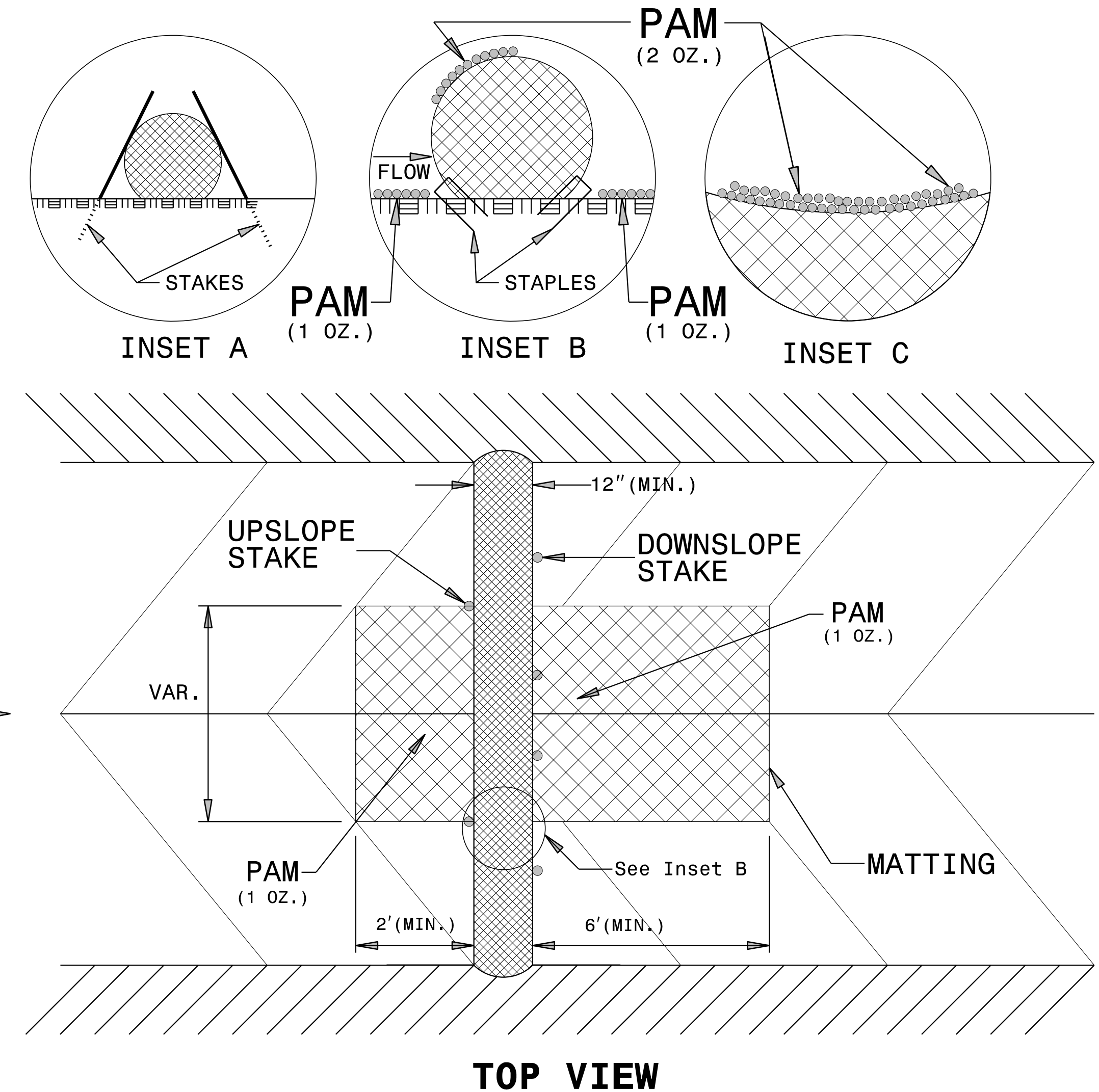
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

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 WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>W-5601AB</i>	SHEET NO. <i>EC-03A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

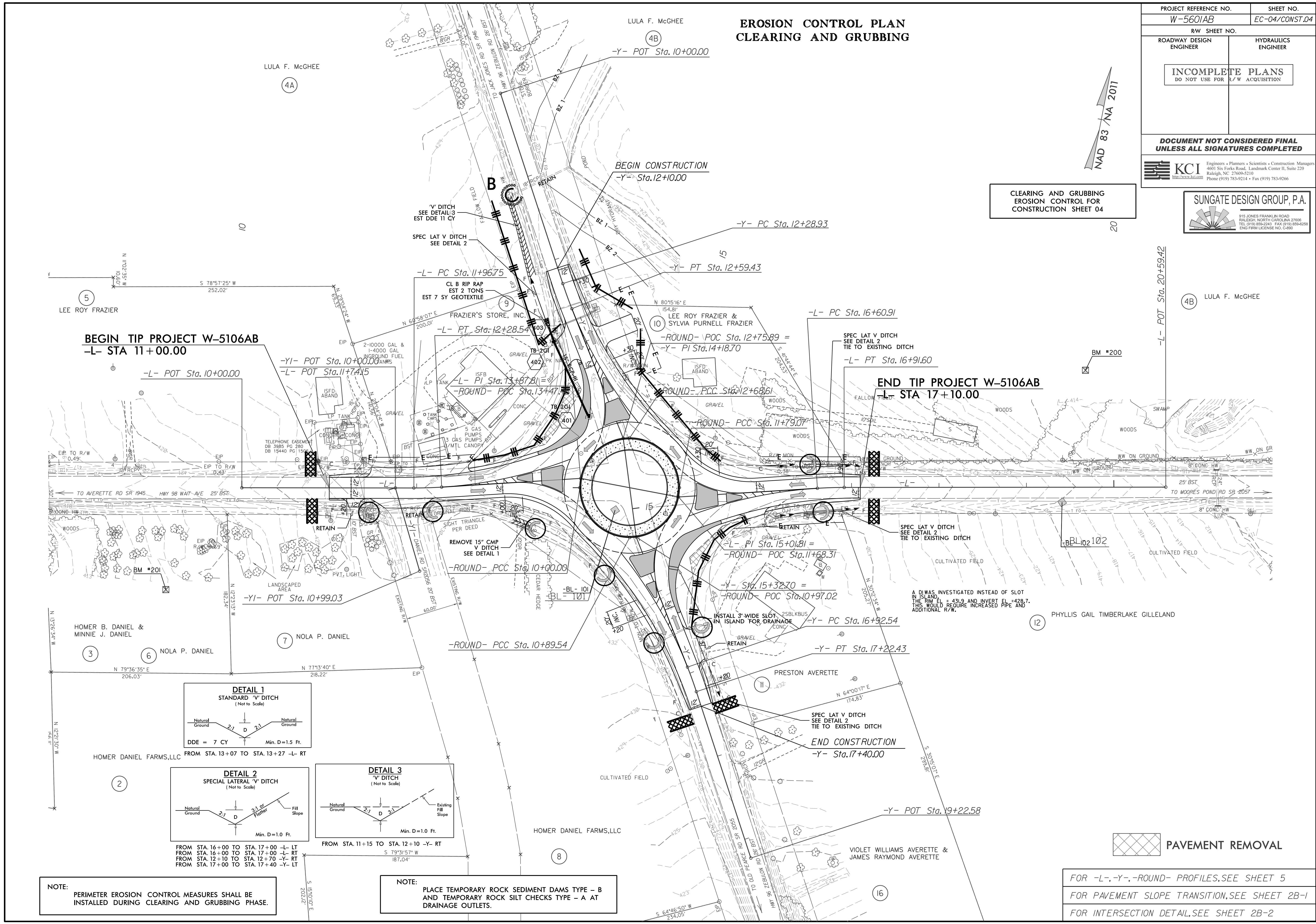
SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
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.

**EROSION CONTROL PLAN
CLEARING AND GRUBBING**

PROJECT REFERENCE NO. W-5601AB	SHEET NO. EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

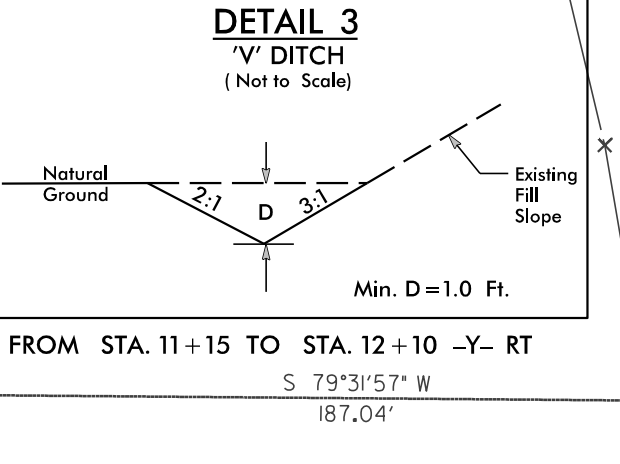
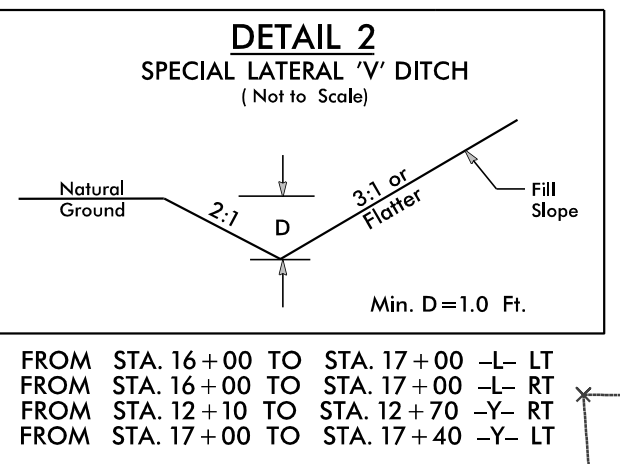
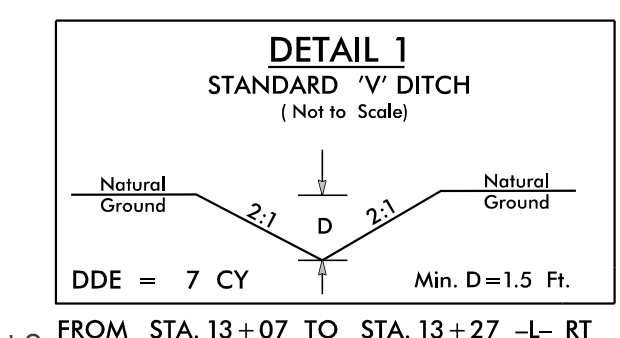
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04



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


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

FOR -L-, -Y-, -ROUND- PROFILES, SEE SHEET 5
FOR PAVEMENT SLOPE TRANSITION, SEE SHEET 2B-1
FOR INTERSECTION DETAIL, SEE SHEET 2B-2

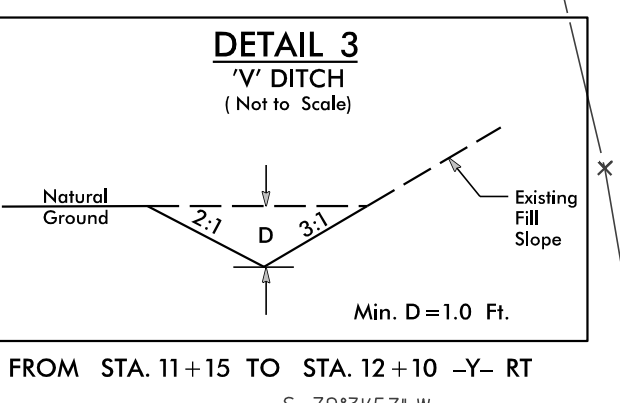
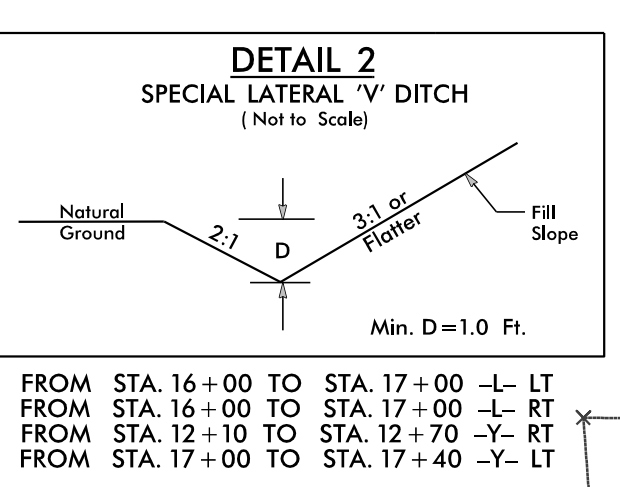
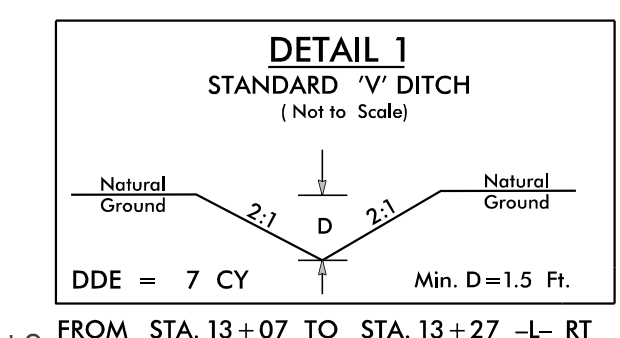
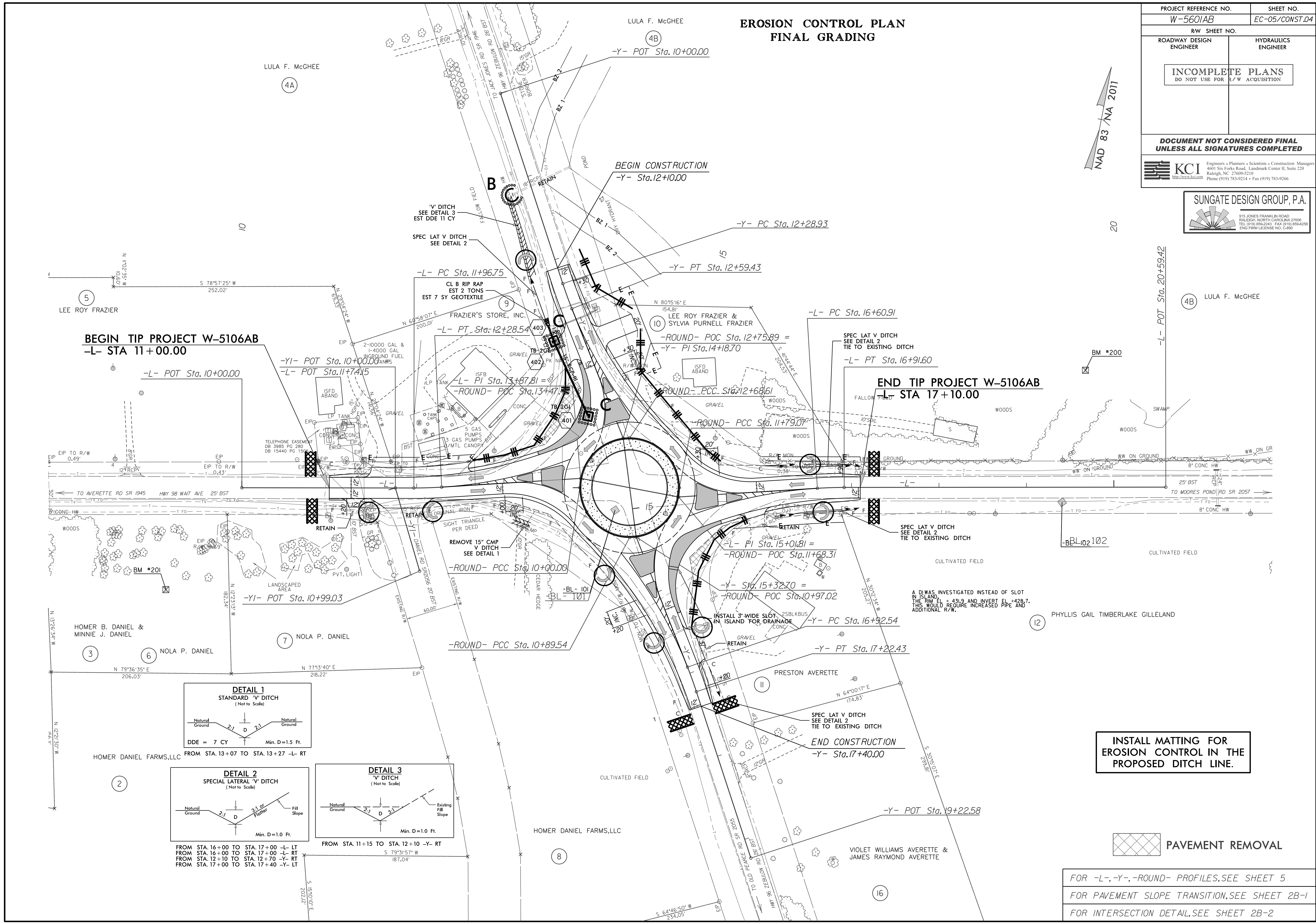


PAVEMENT REMOVAL

**EROSION CONTROL PLAN
FINAL GRADING**

PROJECT REFERENCE NO. W-5601AB	SHEET NO. EC-05/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 KCI Engineers • Planners • Scientists • Construction Managers 4601 Six Forks Road, Landmark Center II, Suite 220 Raleigh, NC 27609-5210 Phone (919) 783-9214 • Fax (919) 783-9266	

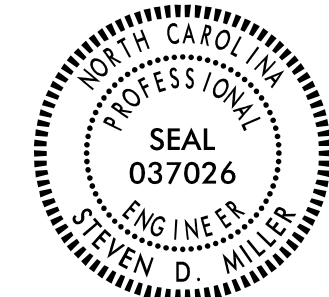
SUNGATE DESIGN GROUP, P.A.
 915 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27608
 TEL (919) 859-2243 FAX (919) 869-0258
 ENG FIRM LICENSE NO. C-880



**INSTALL MATTING FOR
EROSION CONTROL IN THE
PROPOSED DITCH LINE.**

 **PAVEMENT REMOVAL**

FOR -L-, -Y-, -ROUND- PROFILES, SEE SHEET 5
 FOR PAVEMENT SLOPE TRANSITION, SEE SHEET 2B-1
 FOR INTERSECTION DETAIL, SEE SHEET 2B-2

TIP NO.	SHEET NO.
W-5601AB	SIGN-1
APPROVED: <u>Steven D Miller</u>	
DATE: 2/15/2017	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLAN
WAKE COUNTY**

**LOCATION: INTERSECTION OF NC 98 (WAIT AVE.) AND
NC 96 (ZEBULON RD.)**

T.I.P.: W-5601AB

CONTRACT:

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 2012 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

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	E AND F SIGNS
SIGN-3	SIGN DESIGNS
SIGN-4	PROPOSED SIGN DETAIL SHEET
SIGN-5	EXISTING & PROPOSED SIGN DETAIL SHEET
SIGN-6	EXISTING & PROPOSED SIGN DETAIL SHEET
SIGN-7	EXISTING & PROPOSED SIGN DETAIL SHEET
SIGN-8	EXISTING SIGN DETAIL SHEET
SIGN-9	EXISTING SIGN DETAIL SHEET
SIGN-10	EXISTING SIGN DETAIL SHEET
SIGN-11	EXISTING SIGN DETAIL SHEET

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	642	L.F.
4096000000	904	SIGN ERECTION, TYPE D	4	EA.
4102000000	904	SIGN ERECTION, TYPE E	36	EA.
4108000000	904	SIGN ERECTION, TYPE F	8	EA.
4116100000	904	SIGN ERECTION, RELOCATE SIGN TYPE D	1	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	31	EA.
4192000000	907	DISPOSAL OF SIGN SUPPORT, U-CHANNEL	1	EA.

GENERAL NOTES

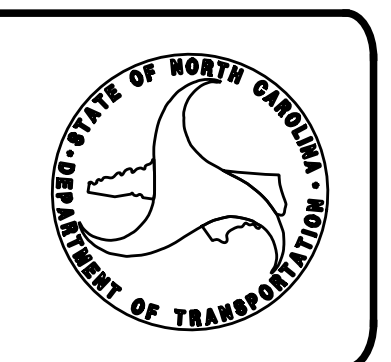
- . SIGNS FURNISHED BY STATE
- . ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- . IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- . WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- . THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

PROJECT NOTES

- 1.) DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2.) DISPOSAL OF SIGN SUPPORT, U-CHANNEL
- 3.) SIGN ERECTION, RELOCATE SIGN TYPE D

PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

RENEE B. ROACH, PE, CPM SIGNING & DELINEATION REGIONAL ENGINEER



PLAN PREPARED BY: SEPI Engineering & Construction

STEVE MILLER, PE SIGNING & DELINEATION ENGINEER

_____ SIGNING & DELINEATION PROJECT DESIGN ENGINEER

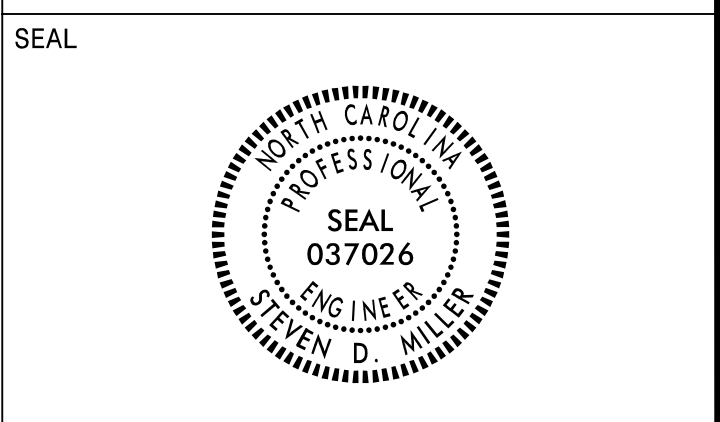
SEPI

ENGINEERING & CONSTRUCTION

1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-9977
Fax: 919-789-9591
License: C-2197

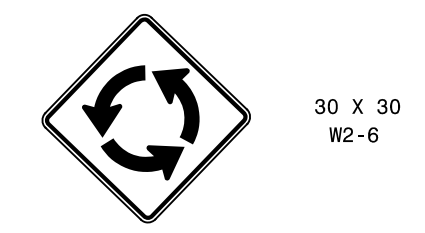
APPROVED: Steven D Miller

DATE: 2/15/2017



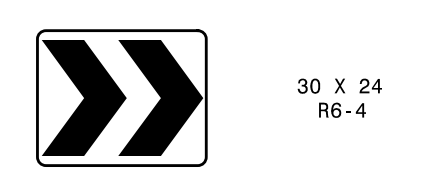
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

401 QUANTITY REQ'D 4



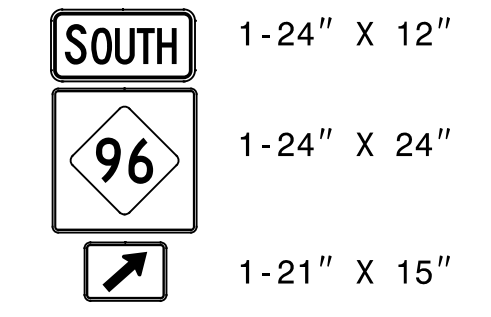
ONE "U" POST PER SIGN

406 QUANTITY REQ'D 4



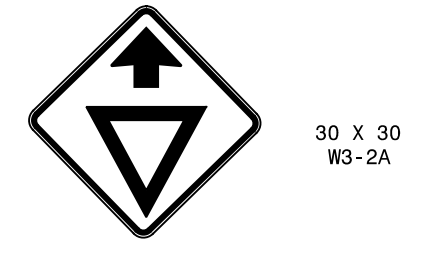
ONE "U" POST PER SIGN

501 QUANTITY REQ'D 1



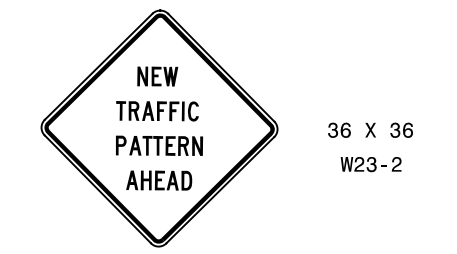
ONE "U" POST PER SIGN

402 QUANTITY REQ'D 4



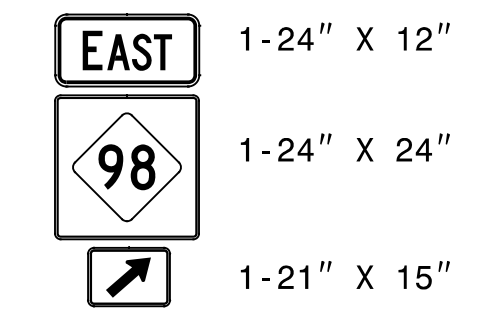
ONE "U" POST PER SIGN

407 QUANTITY REQ'D 4



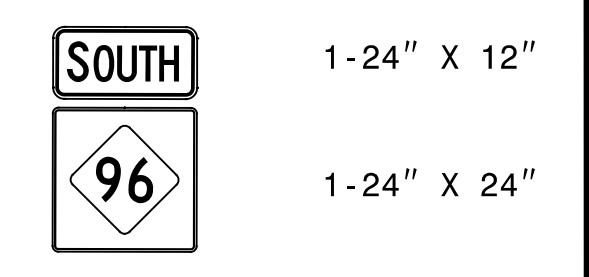
ONE "U" POST PER SIGN

502 QUANTITY REQ'D 1



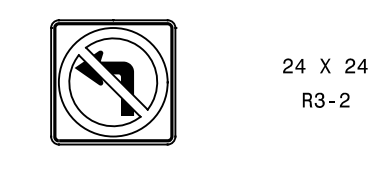
ONE "U" POST PER SIGN

505 QUANTITY REQ'D 1



ONE "U" POST PER SIGN

404 QUANTITY REQ'D 4



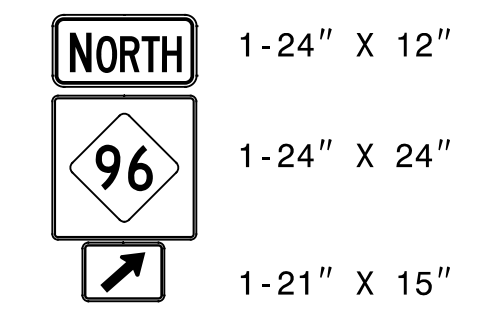
MOUNT BELOW SIGN 405
IN 4 INSTALLATIONS

408 QUANTITY REQ'D 4



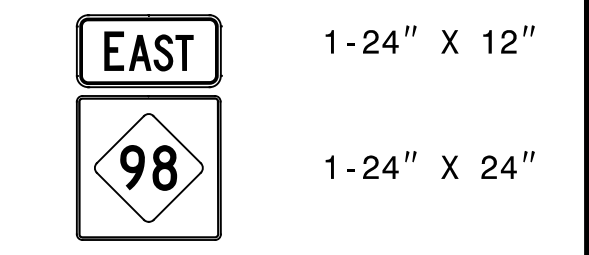
MOUNT BELOW SIGN 401
IN 4 INSTALLATIONS

503 QUANTITY REQ'D 1



ONE "U" POST PER SIGN

506 QUANTITY REQ'D 1



ONE "U" POST PER SIGN

405 QUANTITY REQ'D 8



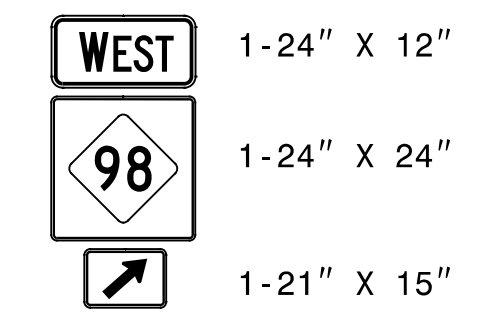
ONE "U" POST PER SIGN

409 QUANTITY REQ'D 4



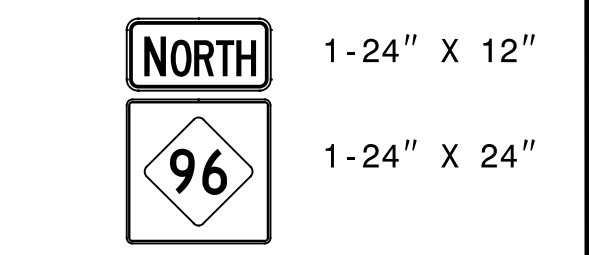
MOUNT BELOW SIGN 408
IN 4 INSTALLATIONS

504 QUANTITY REQ'D 1



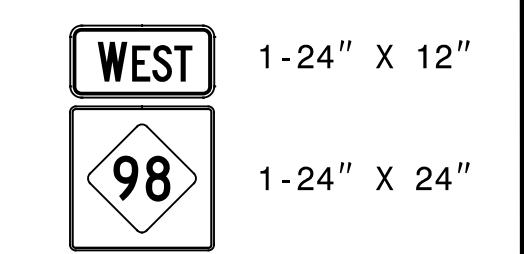
ONE "U" POST PER SIGN

507 QUANTITY REQ'D 1



ONE "U" POST PER SIGN

508 QUANTITY REQ'D 1



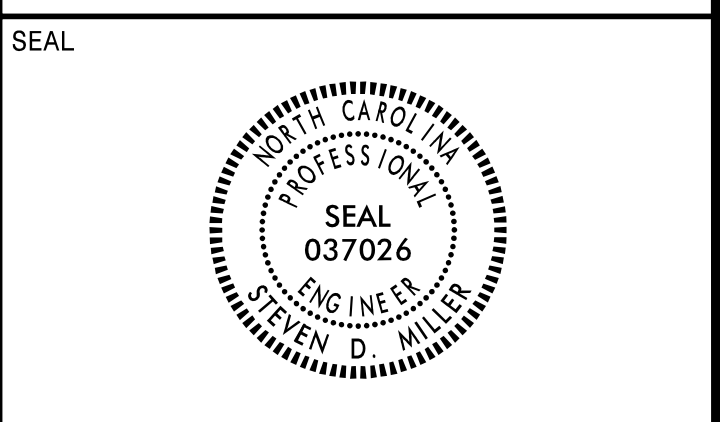
ONE "U" POST PER SIGN

TYPE "E" & "F" SIGNS

I:\30\2017\X:\2015\TR15.023.00 W-5601AB Roundabout\Signing Plans\PEF_Engseed 8-21-14.dgn
2/15/2017 11:52:15 AM smiller

APPROVED: Steven D Miller

DATE: 2/15/2017



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

SIGN NUMBER: 301 TYPE: D QUANTITY: 1 SIGN WIDTH: 6'-0" HEIGHT: 2'-6" TOTAL AREA: 15.0 Sq.Ft. BORDER TYPE: FLUSH RECESS: 0" WIDTH: 0.75" RADIUS: 3" NO. Z BARS: LENGTH:	BACKG COLOR: Green COPY COLOR: White SYMBOL X Y WID HT AR_FISHHOOK 7.8 16.9 10.1 10.9 AR_Type D 55.4 4.8 6 9 MAT'L: 0.125" (3.2 mm) ALUMINUM	DESIGN BY: R DRAYTON PROJECT ID: W-5601AB S MILLER Apr 11, 2016 DIV: 5
---	---	--

USE NOTES: 1 & 2
1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

BORDER R=3" TH=0.75"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

Series/Size	Text Length
D 2000	28.4
D 2000	41.8

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

SIGN NUMBER: 303 TYPE: D QUANTITY: 1 SIGN WIDTH: 6'-0" HEIGHT: 2'-6" TOTAL AREA: 15.0 Sq.Ft. BORDER TYPE: FLUSH RECESS: 0" WIDTH: 0.75" RADIUS: 3" NO. Z BARS: LENGTH:	BACKG COLOR: Green COPY COLOR: White SYMBOL X Y WID HT AR_FISHHOOK 7.1 16.9 10.1 10.9 AR_Type D 55.8 4.7 6 9 MAT'L: 0.125" (3.2 mm) ALUMINUM	DESIGN BY: R DRAYTON PROJECT ID: W-5601AB CHECKED BY: S MILLER Apr 11, 2016 DIV: 5
---	---	--

USE NOTES: 1 & 2
1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

BORDER R=3" TH=0.75"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

Series/Size	Text Length
D 2000	41.8
D 2000	28.4

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

SIGN NUMBER: 302 TYPE: D QUANTITY: 1 SIGN WIDTH: 6'-0" HEIGHT: 2'-6" TOTAL AREA: 15.0 Sq.Ft. BORDER TYPE: FLUSH RECESS: 0" WIDTH: 0.75" RADIUS: 3" NO. Z BARS: LENGTH:	BACKG COLOR: Green COPY COLOR: White SYMBOL X Y WID HT AR_FISHHOOK 5.3 16.9 10.1 10.9 AR_Type D 57.7 4.7 6 9 MAT'L: 0.125" (3.2 mm) ALUMINUM	DESIGN BY: R DRAYTON PROJECT ID: W-5601AB CHECKED BY: S MILLER Apr 11, 2016 DIV: 5
---	---	--

USE NOTES: 1 & 2
1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

BORDER R=3" TH=0.75"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

Series/Size	Text Length
D 2000	45.4
D 2000	17.9

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

SIGN NUMBER: 304 TYPE: D QUANTITY: 1 SIGN WIDTH: 6'-0" HEIGHT: 2'-6" TOTAL AREA: 15.0 Sq.Ft. BORDER TYPE: FLUSH RECESS: 0" WIDTH: 0.75" RADIUS: 3" NO. Z BARS: LENGTH:	BACKG COLOR: Green COPY COLOR: White SYMBOL X Y WID HT AR_FISHHOOK 5.8 16.9 10.1 10.9 AR_Type D 57.2 4.8 6 9 MAT'L: 0.125" (3.2 mm) ALUMINUM	DESIGN BY: R DRAYTON PROJECT ID: W-5601AB CHECKED BY: S MILLER Apr 11, 2016 DIV: 5
---	---	--

USE NOTES: 1 & 2
1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

BORDER R=3" TH=0.75"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

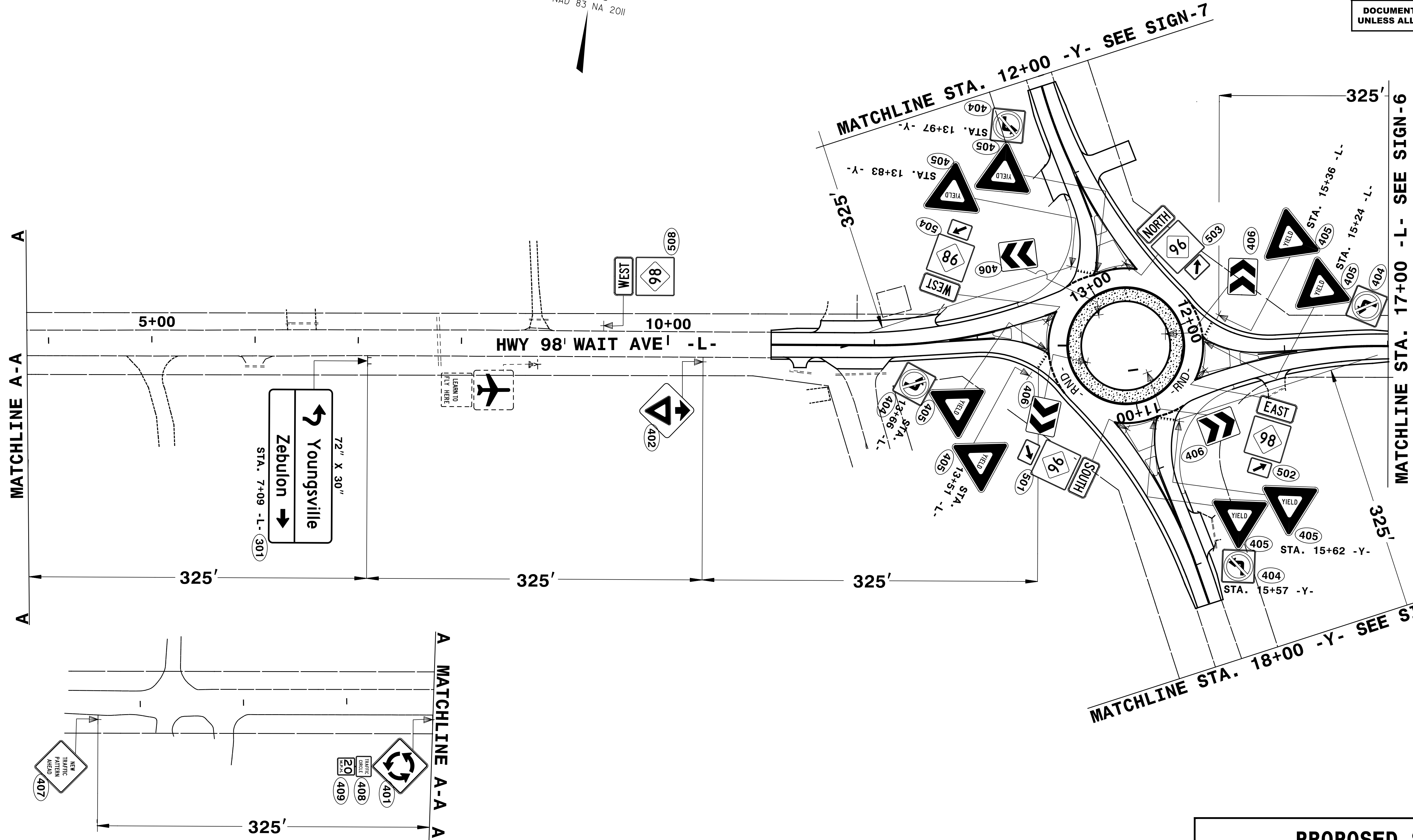
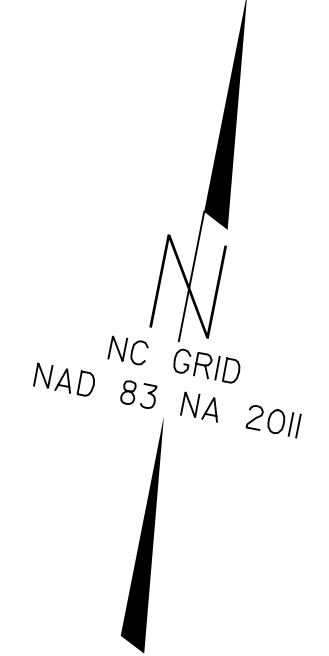
Series/Size	Text Length
D 2000	17.9
D 2000	45.4

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

K:\30\2017\X:\2015\TR15.023.00 W-5601AB Roundabout\Signing Plans\PEF Engseed 8-21-14.dgn
smiller

SIGN DESIGNS

TIP NO. W-5601AB	SHEET NO. SIGN-4
APPROVED: Steven D Miller	
DATE: 2/15/2017	
SEAL	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

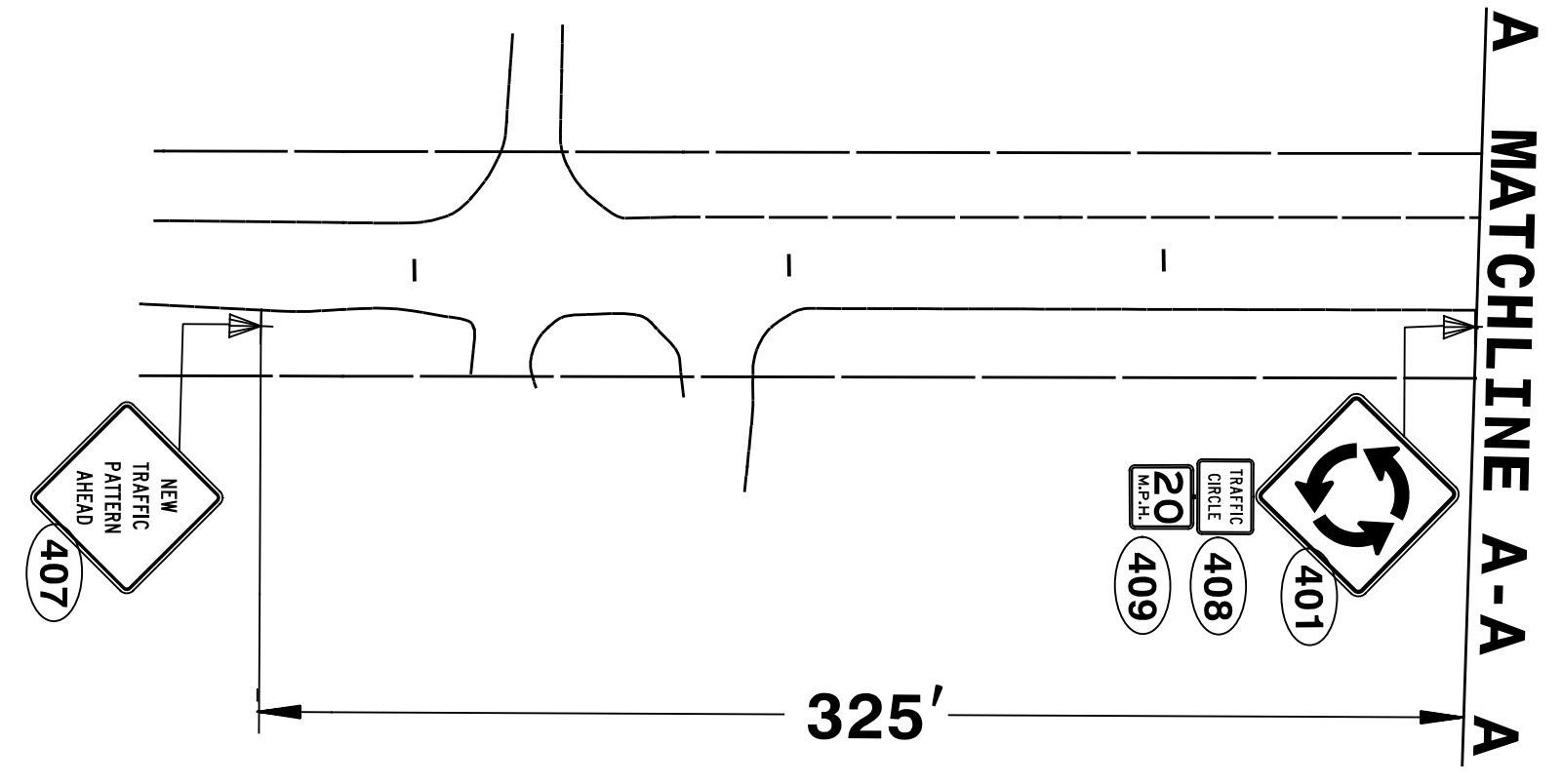


MATCHLINE A-A

MATCHLINE STA. 17+00 -L- SEE SIGN-6

MATCHLINE STA. 12+00 -Y- SEE SIGN-7

MATCHLINE STA. 18+00 -Y- SEE SIGN-5

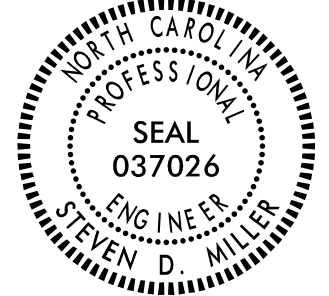


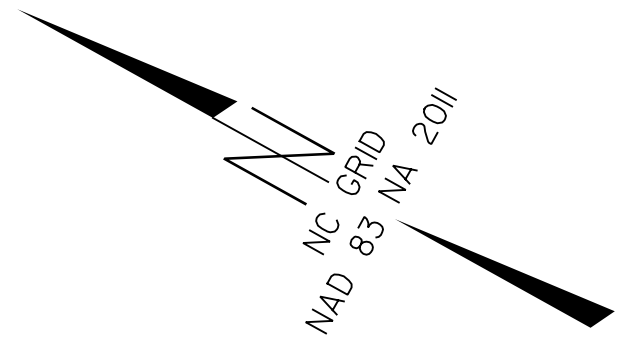
72" X 30"
Youngsville
Zebulon

A MATCHLINE A-A

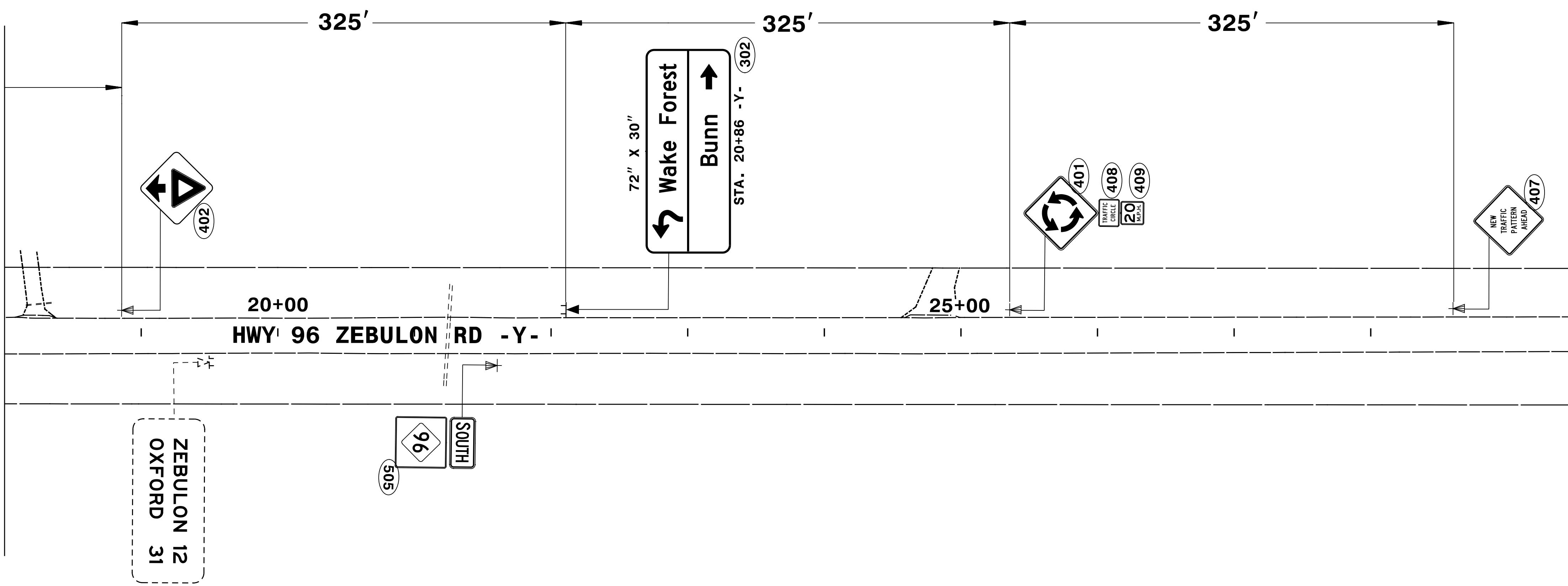
**PROPOSED SIGN
DETAIL SHEET**

I:\30\2017\X-2015\TR15\023\00 W-5601AB Roundabout Signing Plans\SIGN-4.dgn
2/15/2017 11:58 AM S.D.Miller

TIP NO. W-5601AB	SHEET NO. SIGN-5
APPROVED: Steven D Miller	
DATE: 2/15/2017	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

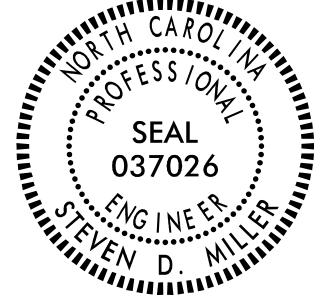


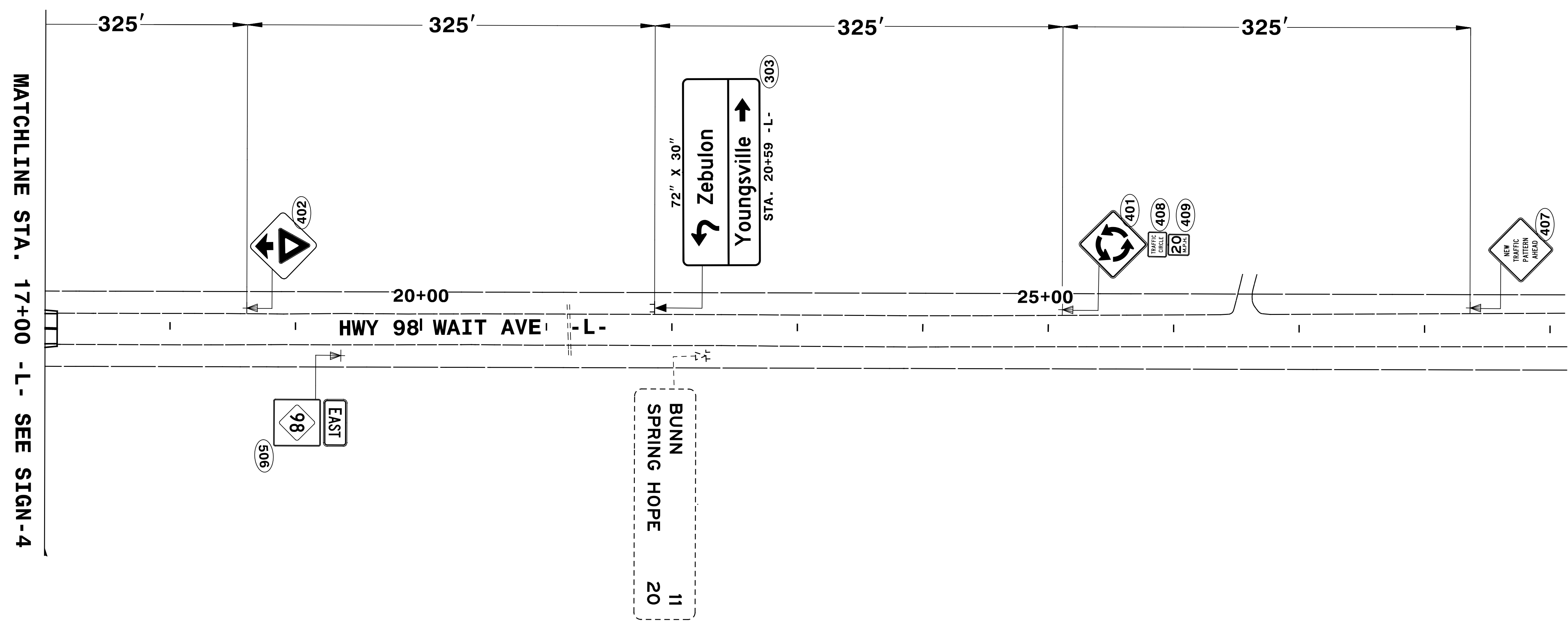
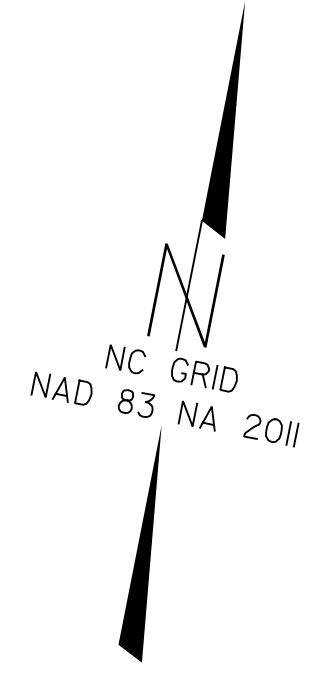
MATCHLINE STA. 18+00 -Y- SEE SIGN-4



**EXISTING & PROPOSED
SIGN DETAIL SHEET**

I:\30\2017\X:\2015\TR15\023\00 W-5601AB Roundabout\Signing Plans\SIGN-5.dgn
smiller

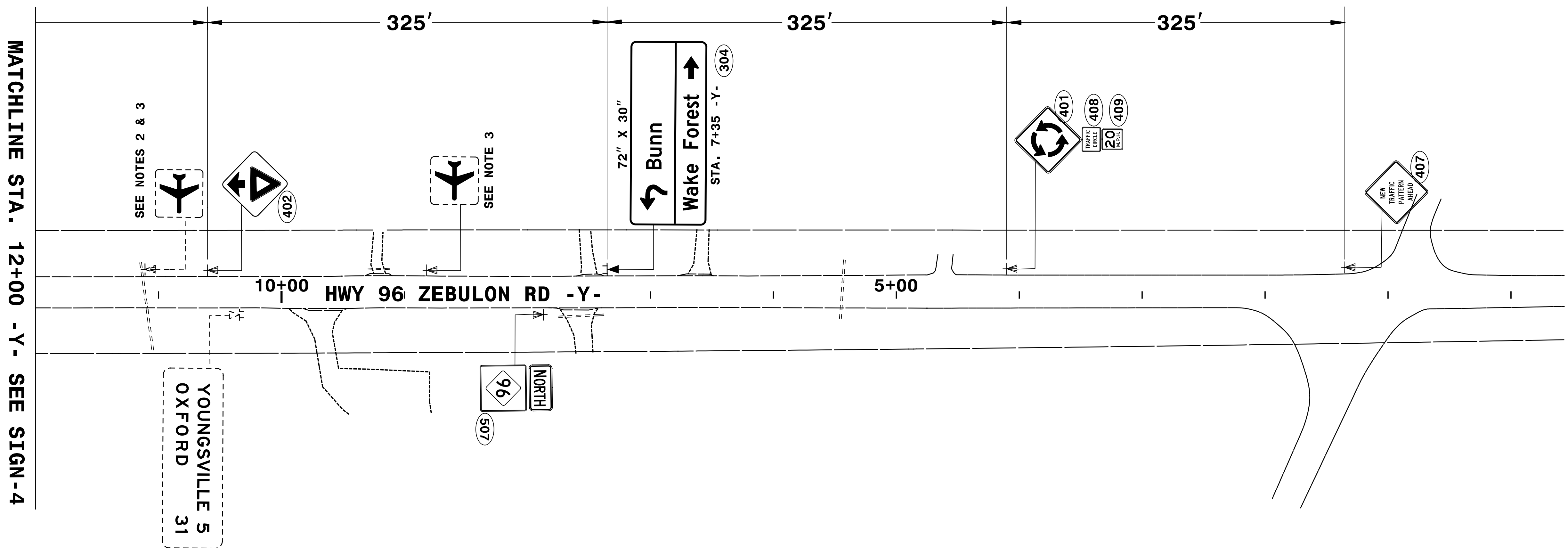
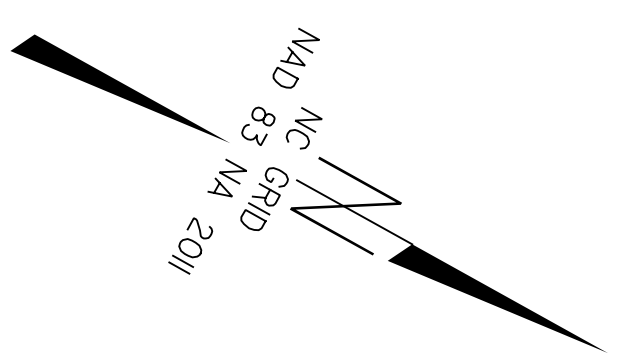
TIP NO. W-5601AB	SHEET NO. SIGN-6
APPROVED: Steven D Miller <small>15834429322844A</small>	
DATE: 2/15/2017	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



**EXISTING & PROPOSED
SIGN DETAIL SHEET**

I/30/2017
 X:\2015\TR15.023.00 W-5601AB Roundabout\Signing Plans\SIGN-6.dgn
 smiller

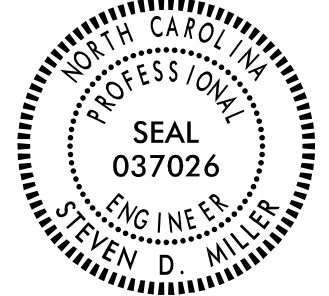
TIP NO. W-5601AB	SHEET NO. SIGN-7
APPROVED: Steven D Miller	
DATE: 2/15/2017	
SEAL	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

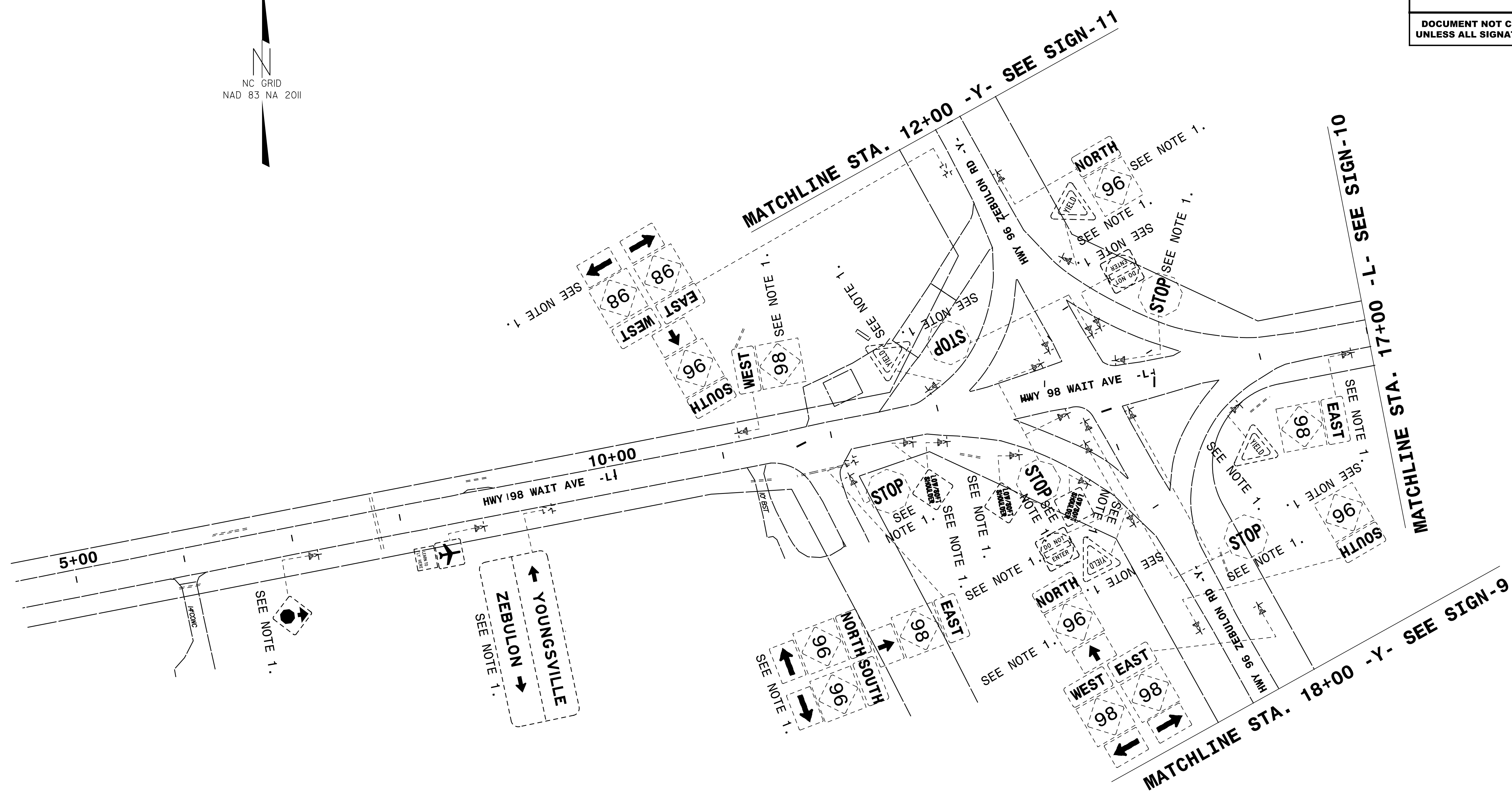


- NOTES:**
- 2 DISPOSAL OF SIGN SUPPORT, U CHANNEL
 - 3 SIGN ERECTION, RELOCATE SIGN TYPE D

**EXISTING & PROPOSED
SIGN DETAIL SHEET**

I:\30\2017
 X:\2015\TR15\023\00 W-5601AB Roundabout\Signing Plans\SIGN-7.dgn
 smiller

TIP NO. W-5601AB	SHEET NO. SIGN-8
APPROVED: Steven D Miller	
DATE: 2/15/2017	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

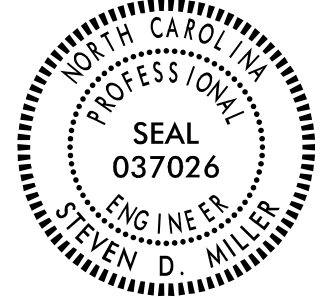


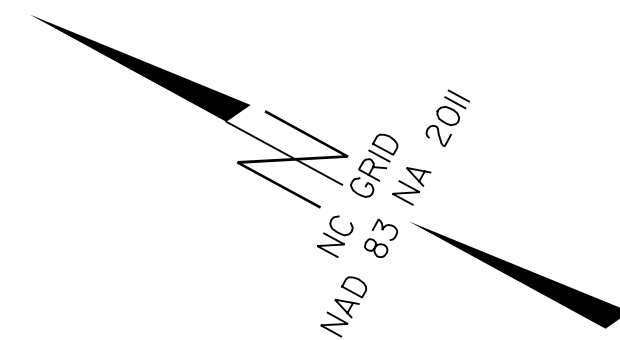
NOTES:

- 1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL

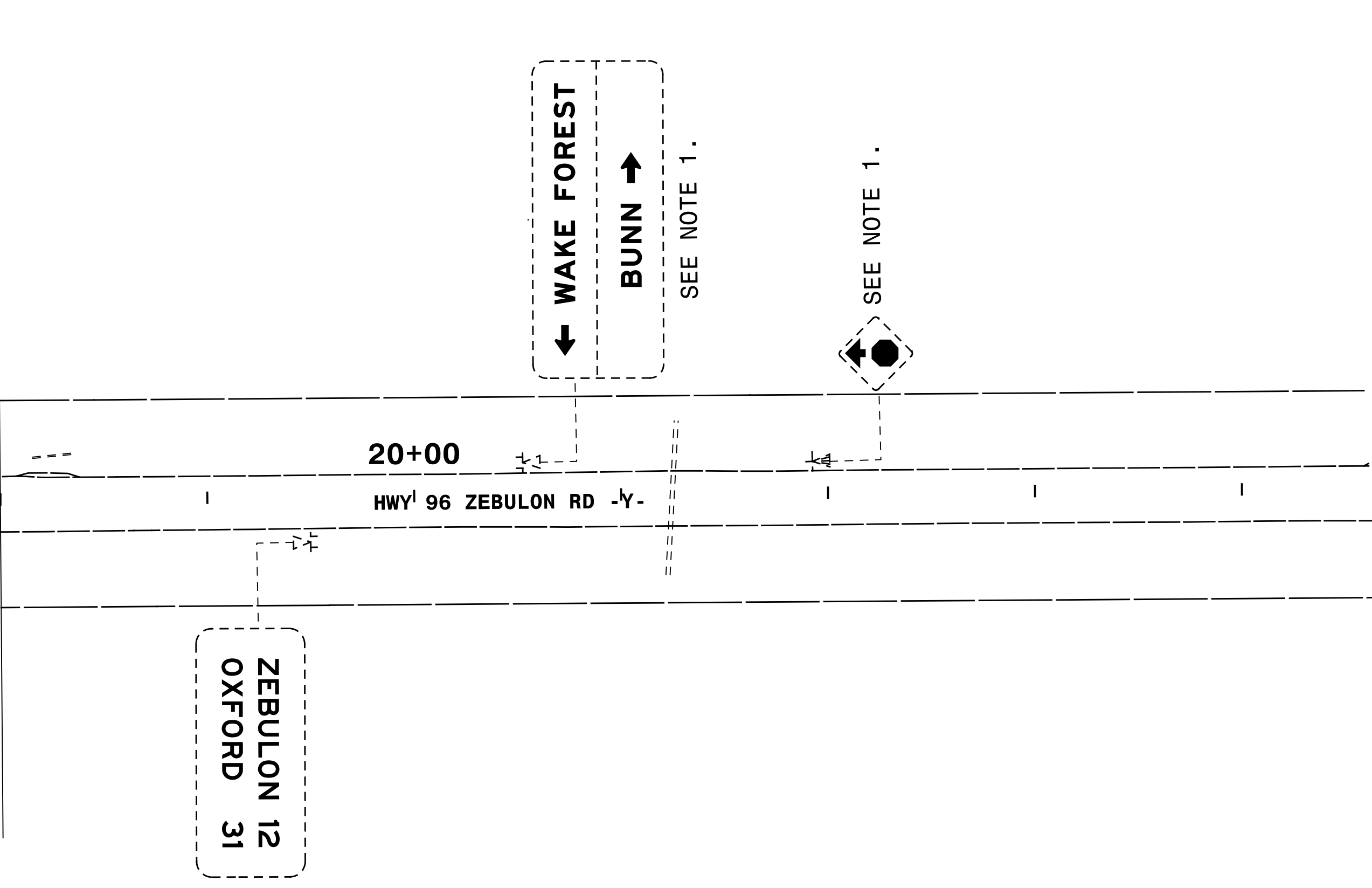
**EXISTING
SIGN DETAIL SHEET**

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 smiller

TIP NO. W-5601AB	SHEET NO. SIGN-9
APPROVED: Steven D Miller <small>1583A42922844A</small>	
DATE: 2/15/2017	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE STA. 18+00 -Y- SEE SIGN-8

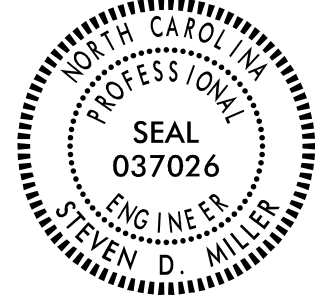


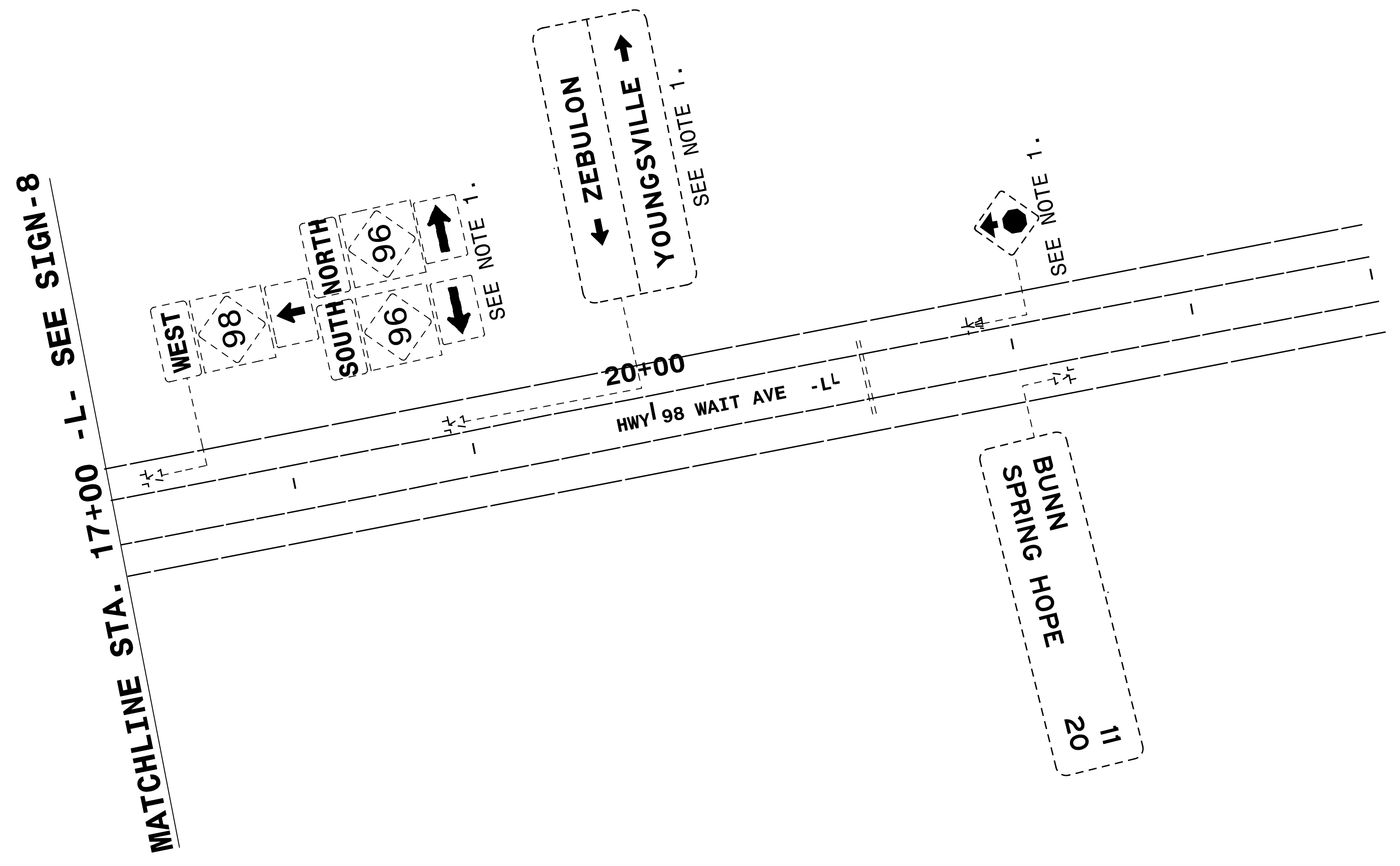
NOTES:

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL

**EXISTING
SIGN DETAIL SHEET**

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TIP NO. W-5601AB	SHEET NO. SIGN-10
APPROVED: Steven D Miller <small>1583A42922844A</small>	
DATE: 2/15/2017	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

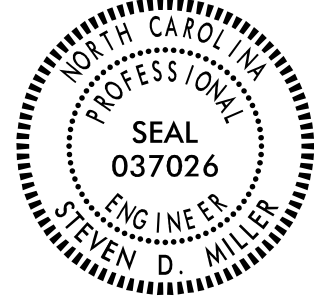


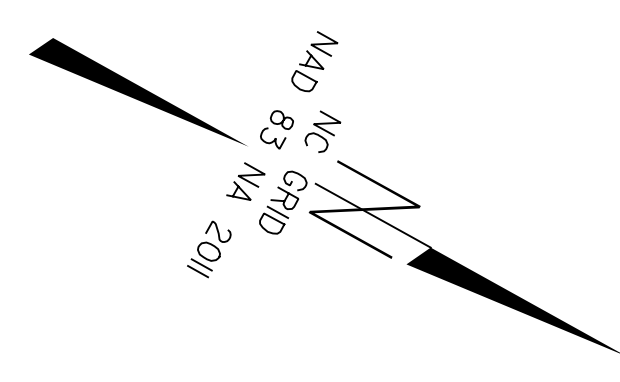
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- 1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL

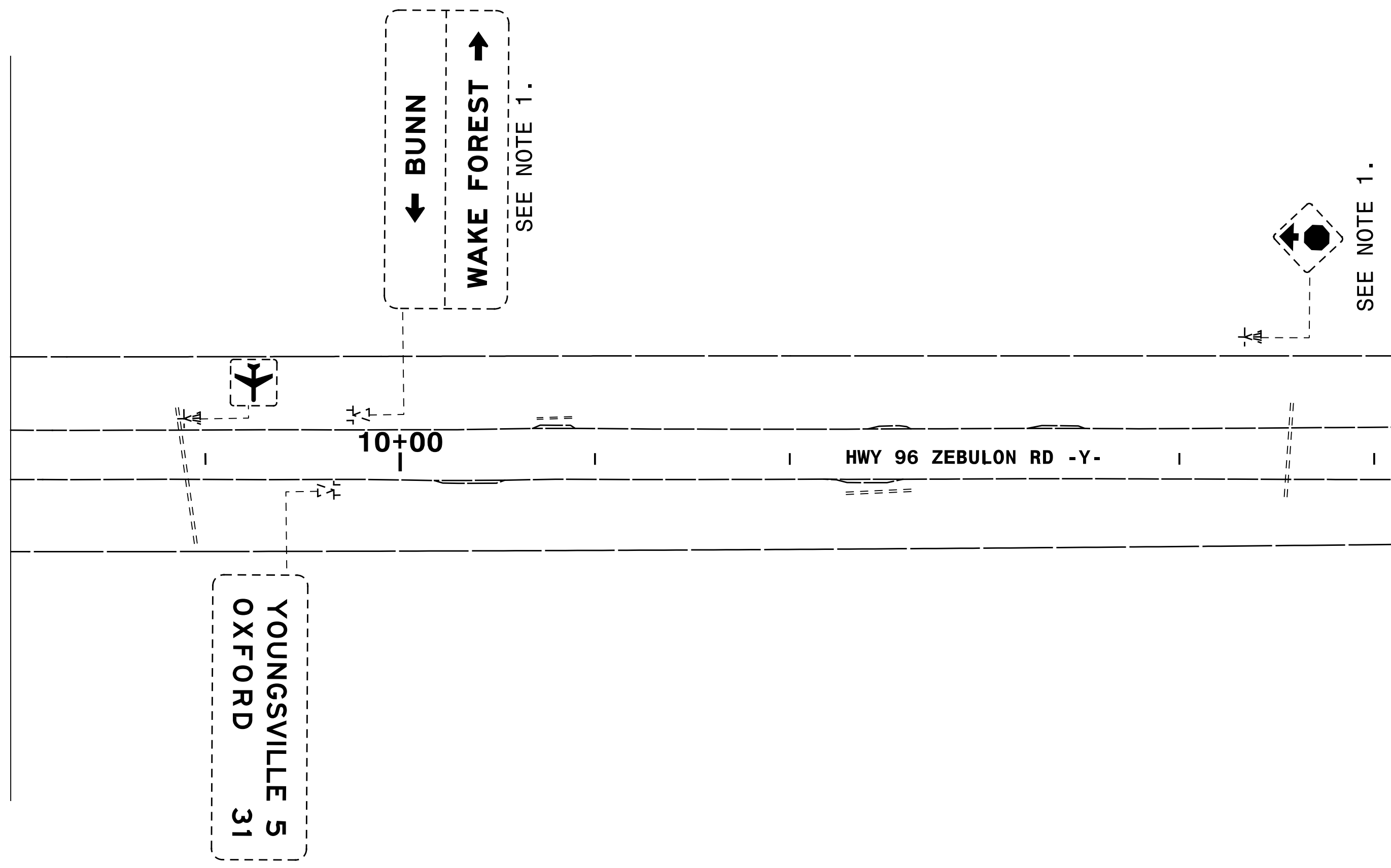
**EXISTING
SIGN DETAIL SHEET**

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 smiller

TIP NO. W-5601AB	SHEET NO. SIGN-11
APPROVED: <u>Steven D Miller</u> <small>15834428322844X</small>	
DATE: <u>2/15/2017</u>	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE STA. 12+00 -Y- SEE SIGN-8



NOTES:

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL

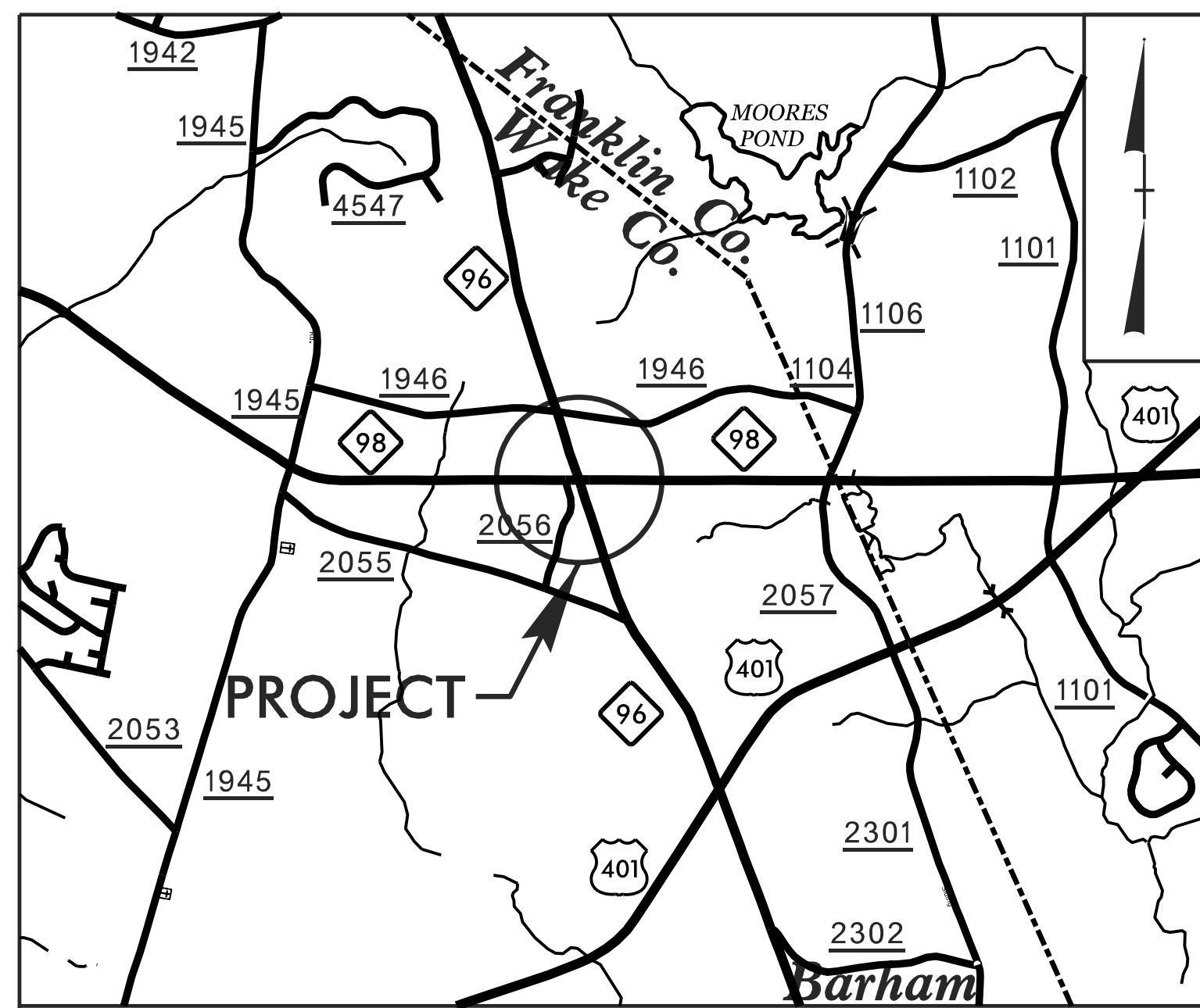
**EXISTING
SIGN DETAIL SHEET**

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smiller

09/08/99

TIP PROJECT: W-5601AB

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



VICINITY MAP

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

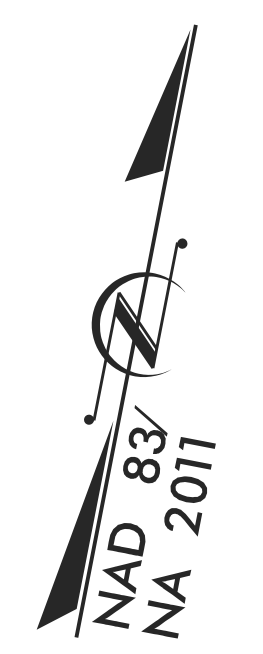
UTILITIES BY OTHERS PLANS WAKE COUNTY

**LOCATION: INTERSECTION OF NC 98 (WAIT AVE.) AND
NC 96 (ZEBULON RD.)**

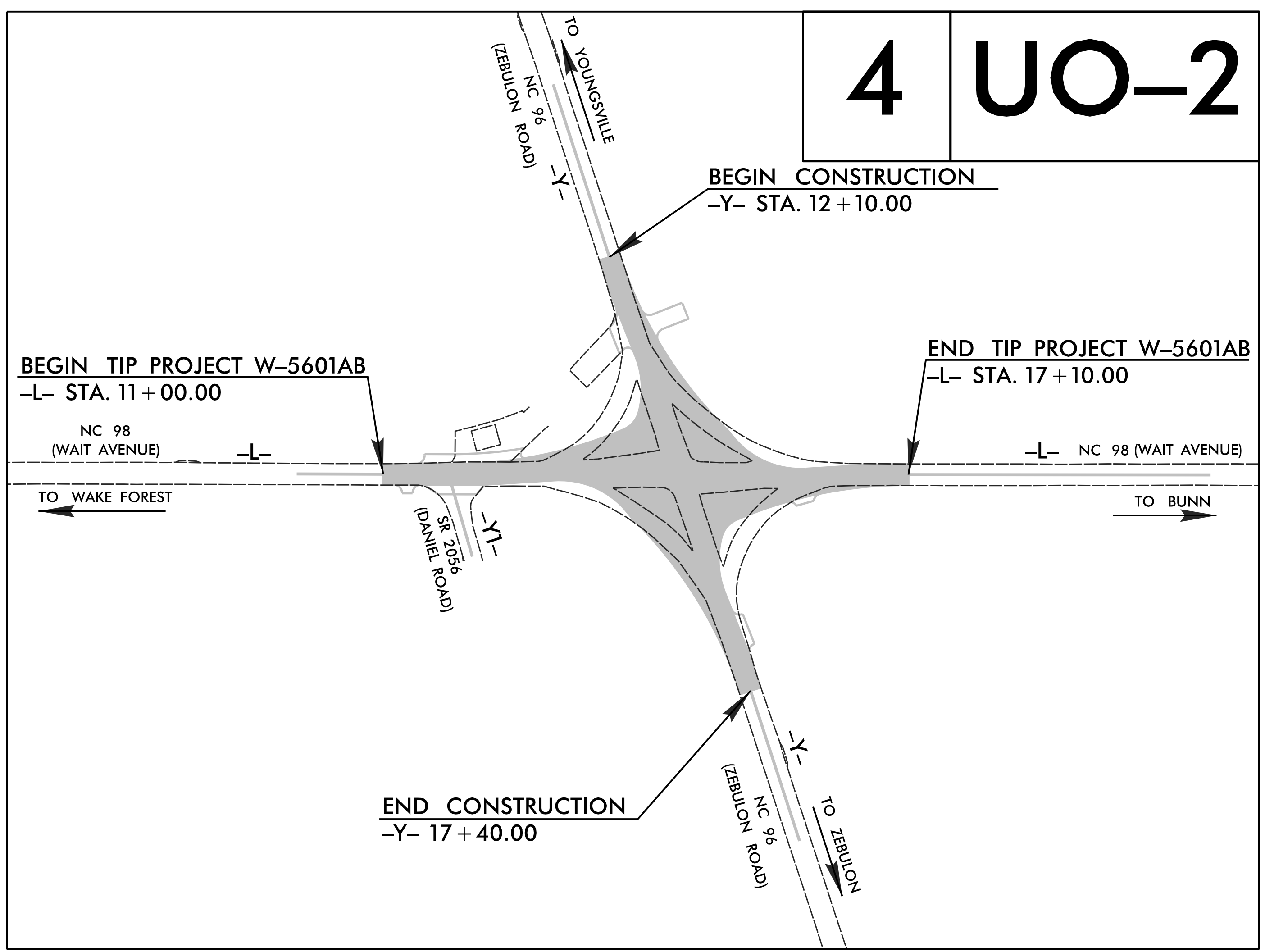
**TYPE OF WORK: OVERHEAD POWER REMOVELS AND
UNDERGROUND COMMUNICATIONS ADJUSTMENTS**

T.I.P. NO.	SHEET NO.
W-5601AB	UO-1

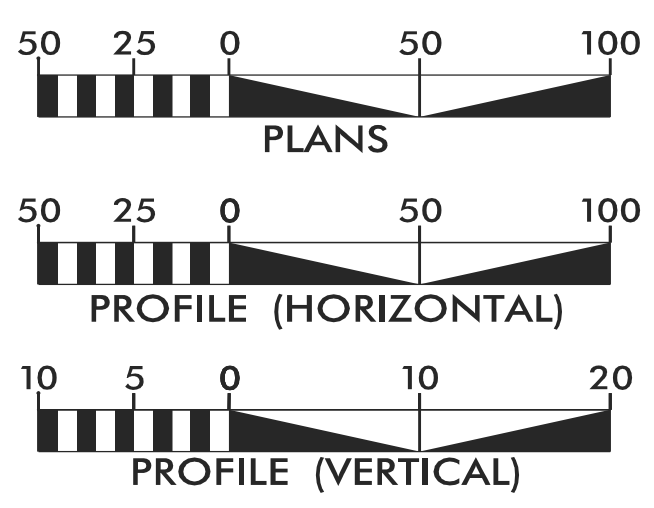
NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET IS DONE BY OTHERS.
NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



4 UO-2



GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

- (A) DUKE ENERGY - POWER (DISTRIBUTION)
- (B) TIME WARNER - COMMUNICATIONS
- (C) CENTURYLINK - COMMUNICATIONS

PREPARED IN THE OFFICE OF:



JOHN FAISON UTILITY PROJECT MANAGER
JOHN FAISON PROJECT UTILITY COORDINATOR
JOSH BARBOUR PROJECT UTILITY DESIGNER

Prepared In the Office of:

KCI Associates of N.C., P.A.
 4601 Six Forks Road
 Landmark Center II, Suite 220
 Raleigh, NC 27609
 Phone (919) 783-9214
 Fax (919) 783-9266

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 6, 2016	DEWAYNE L. SYKES, P.E. PROJECT ENGINEER
LETTING DATE:	BRYAN E. HOUGH, P.E. PROJECT DESIGN ENGINEER

NC DOT CONTACT: BEN UPSHAW, PE
DIVISION DESIGN ENGINEER - DIVISION 5

12:44:58 PM
290_001_W-5601AB-U1_tsh_UO01_Psh.dgn
Joshua Barbour - Division: P007 - Utility Services Emp

UTILITIES BY OTHERS

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

NAD 83 NA 2011

CENTURYLINK TO LOWER/ADJUST BURIED LINES AS NEEDED DUE TO PROPOSED DRAINAGE STRUCTURE 402 AND PROPOSED 15" RCP.

DUKE ENERGY TO REMOVE OVERHEAD SERVICE TO SIGNAL POLE ONCE NOTIFIED BY NCDOT.

TIME WARNER TO ADJUST PEDESTAL AS NEEDED DUE TO PROPOSED FILL.

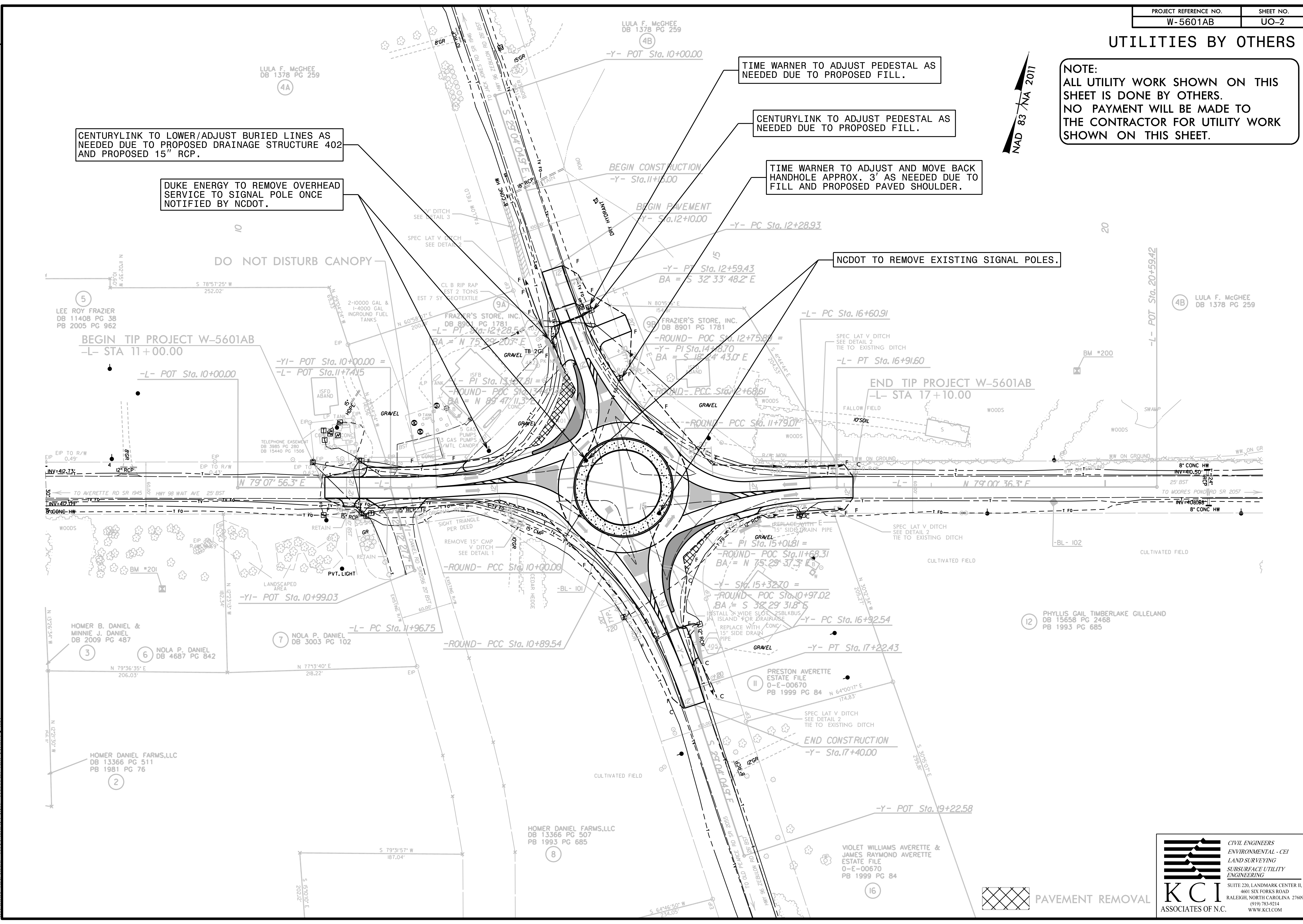
CENTURYLINK TO ADJUST PEDESTAL AS NEEDED DUE TO PROPOSED FILL.

TIME WARNER TO ADJUST AND MOVE BACK HANDHOLE APPROX. 3' AS NEEDED DUE TO FILL AND PROPOSED PAVED SHOULDER.

NCDOT TO REMOVE EXISTING SIGNAL POLES.

8/17/99
 10:43:49 AM
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 Joshua B. Four-Division: 2007/11/11/11 Services, Inc.

REVISIONS



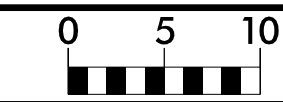
PAVEMENT REMOVAL

KCI
 ASSOCIATES OF N.C.

CIVIL ENGINEERS
 ENVIRONMENTAL - CEI
 LAND SURVEYING
 SURFACE UTILITY
 ENGINEERING

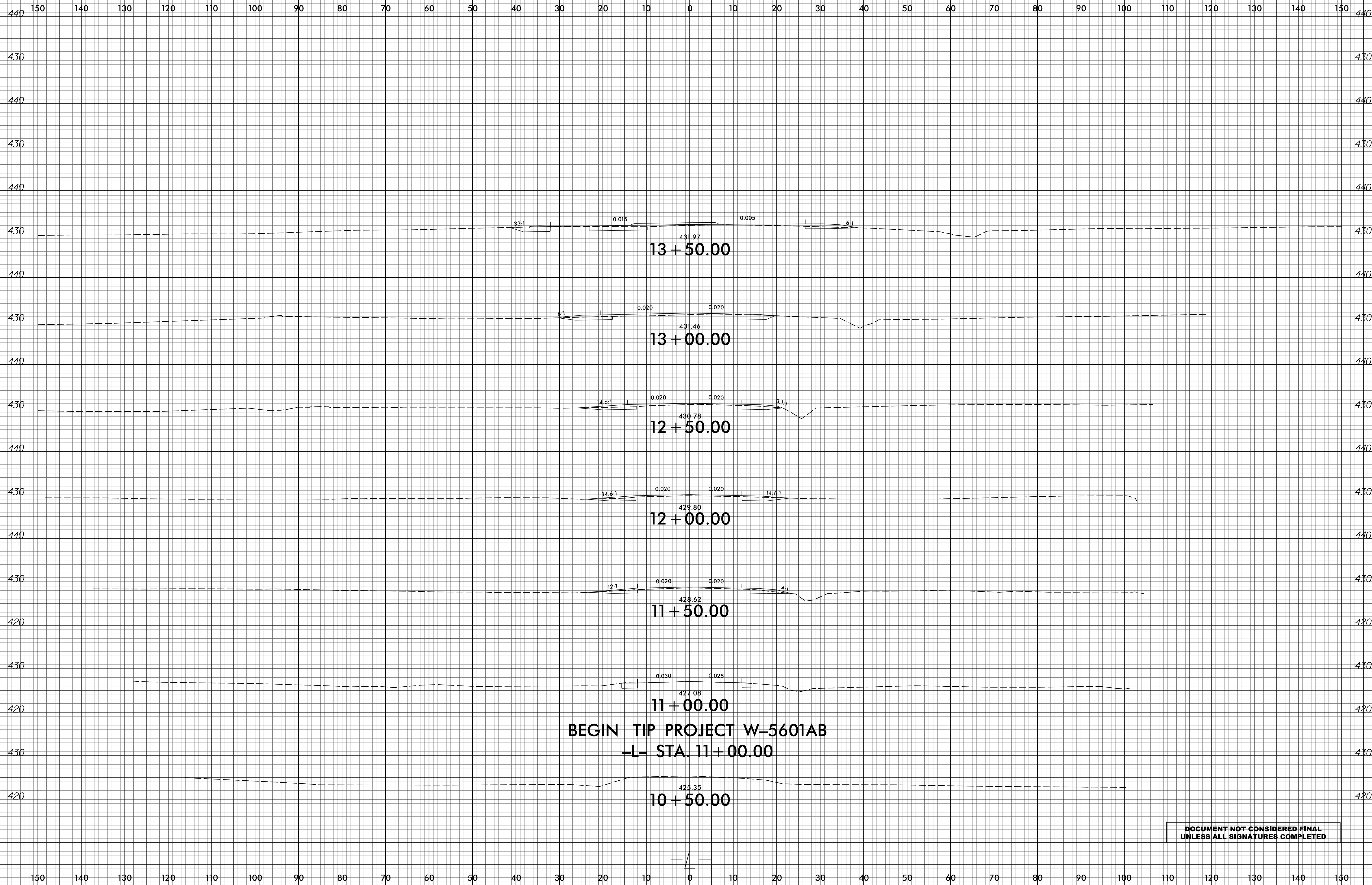
SUITE 220, LANDMARK CENTER II,
 4601 SIX FORKS ROAD
 RALEIGH, NORTH CAROLINA 27609
 (919) 783-9214
 WWW.KCI.COM

8/23/99



PROJ. REFERENCE NO.
W-5601AB

SHEET NO.
X-1



BEGIN TIP PROJECT W-5601AB
-L- STA. 11+00.00

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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Division:

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END TIP PROJECT W-5601AB
-L- STA. 17+10.00

17+50.00

17+10.00

17+00.00

16+50.00

16+00.00

15+50.00

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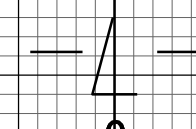
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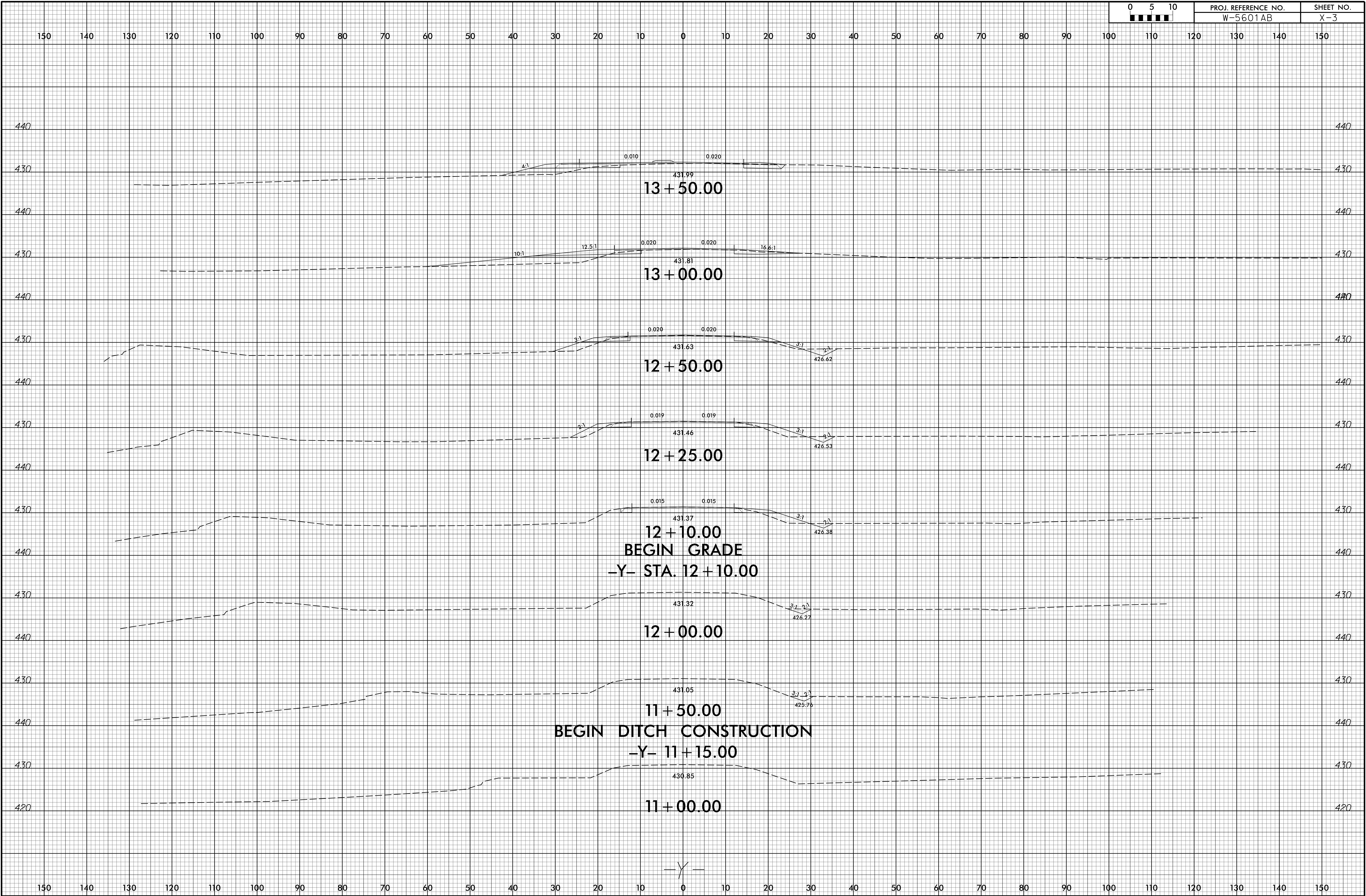
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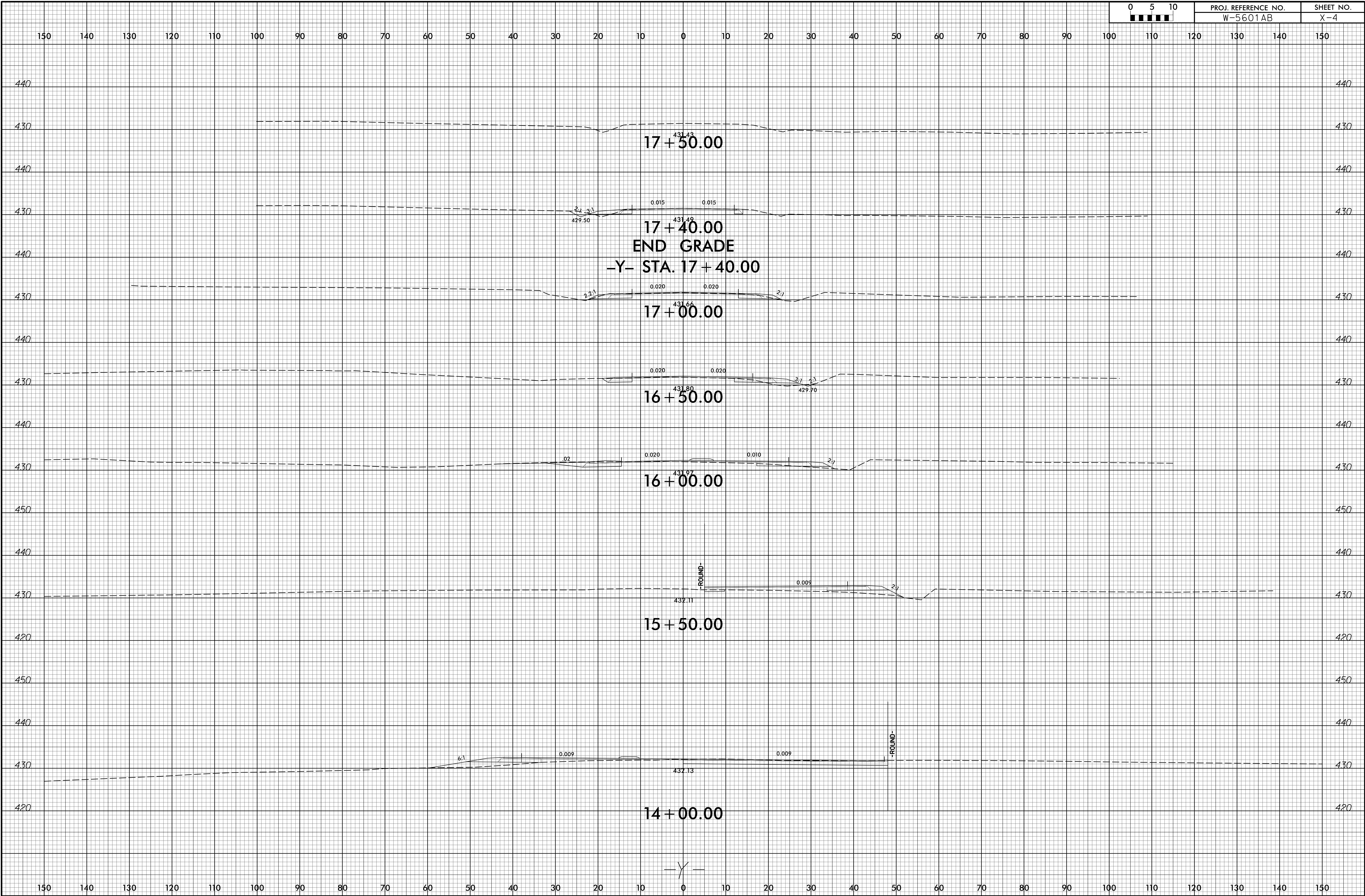
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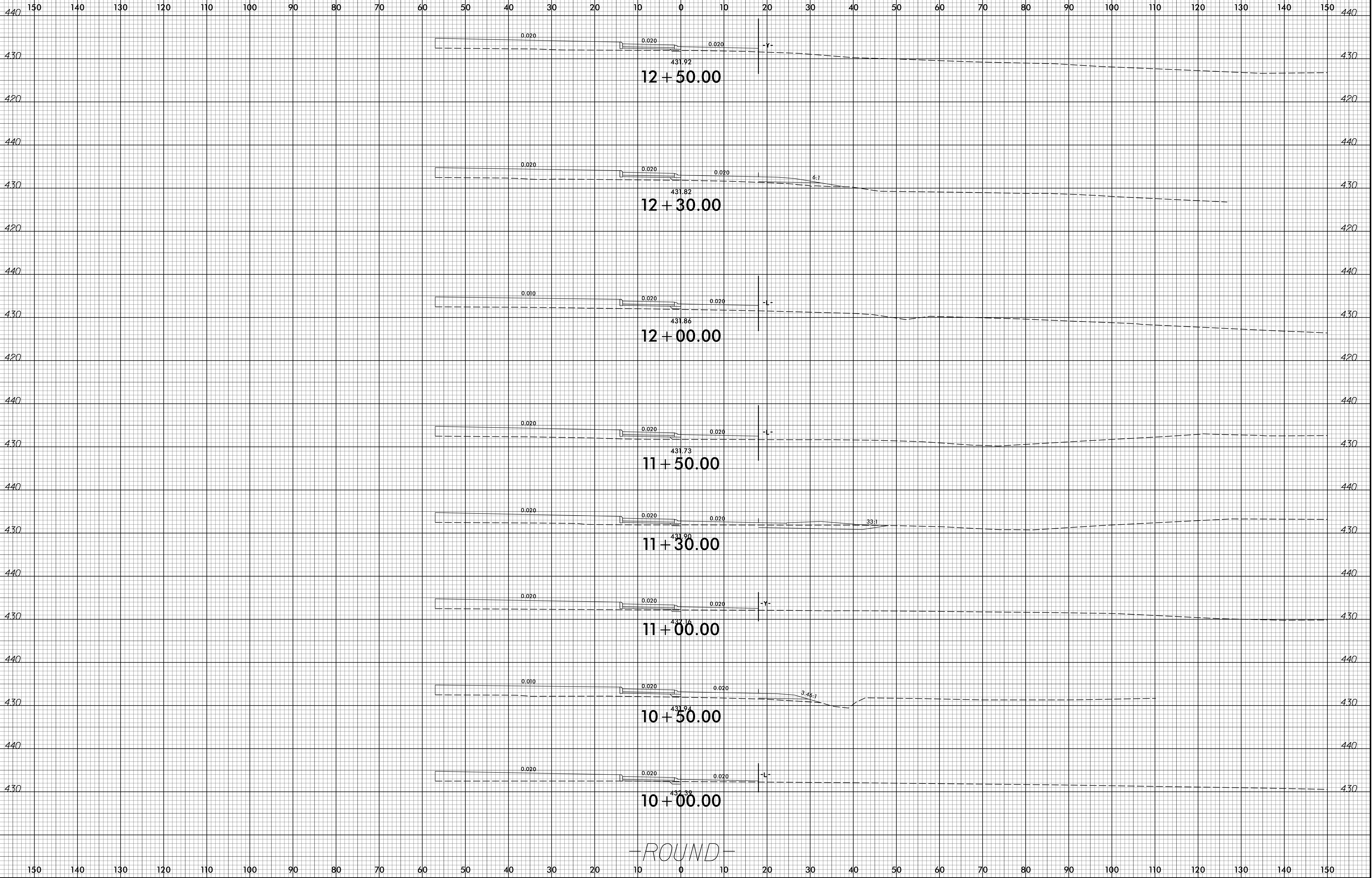
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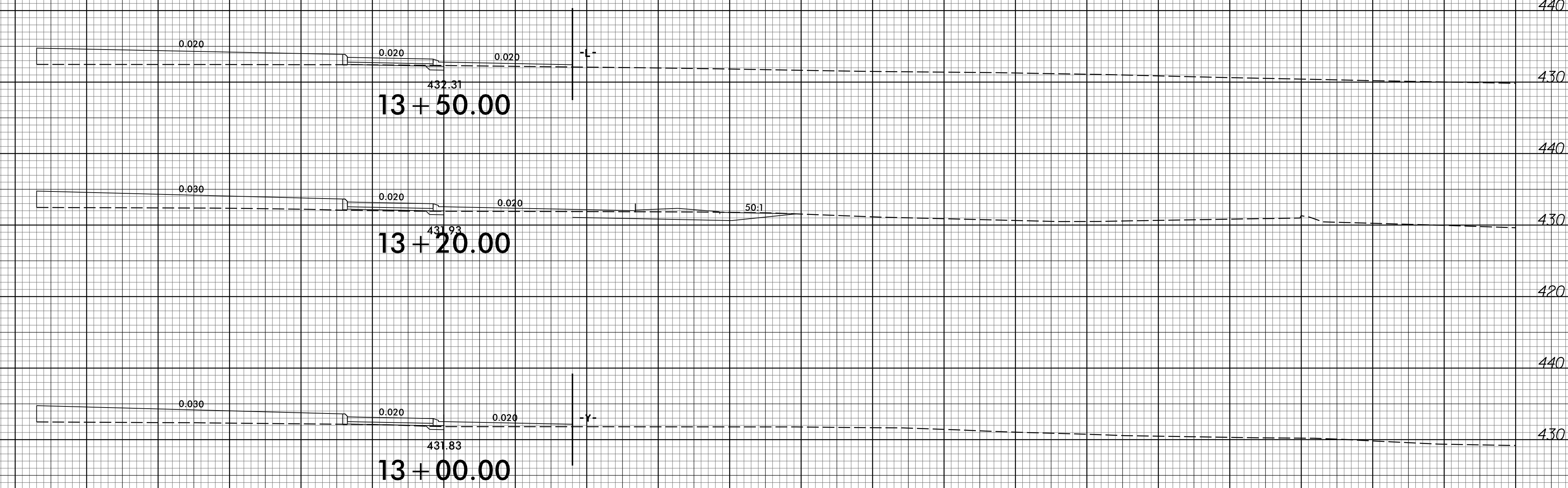
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