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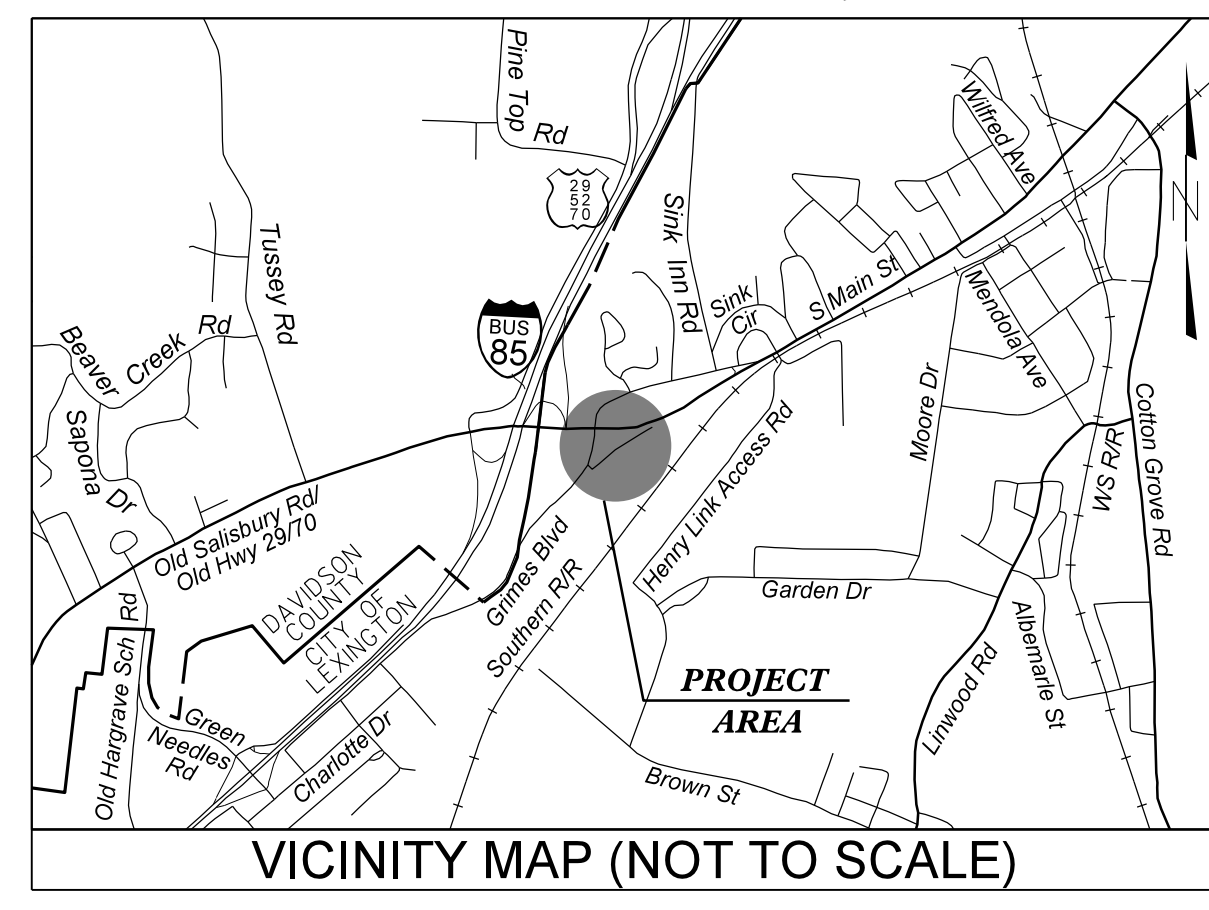
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09/08/19

TIP PROJECT: W-5709D

CONTRACT: DI00201

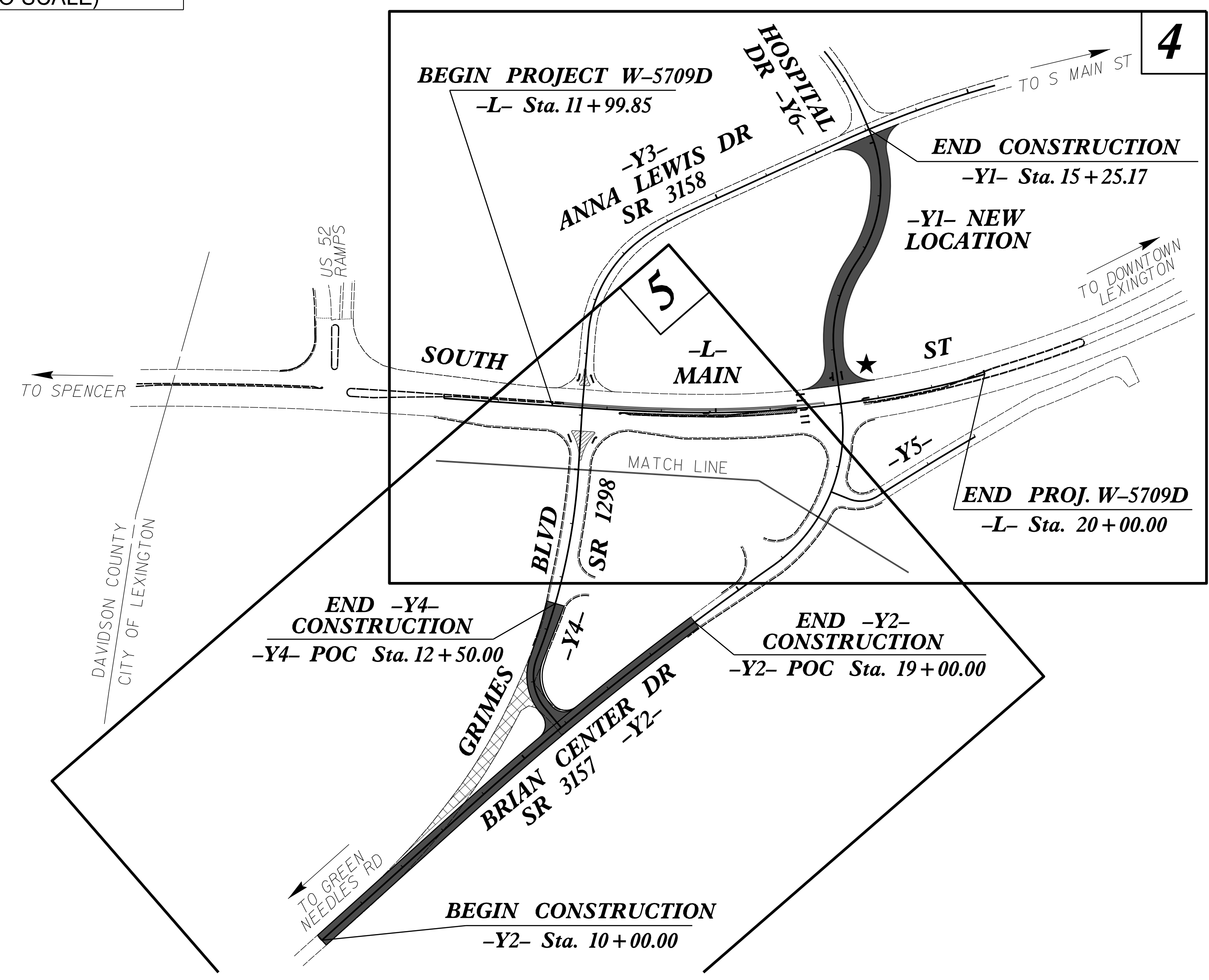
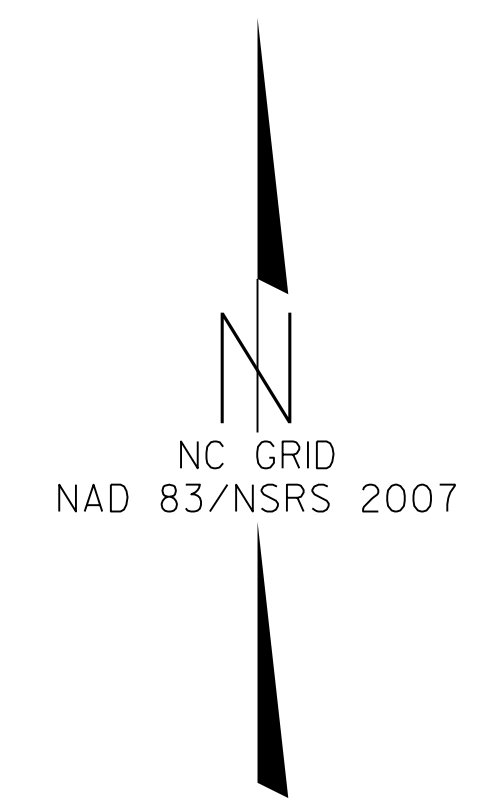
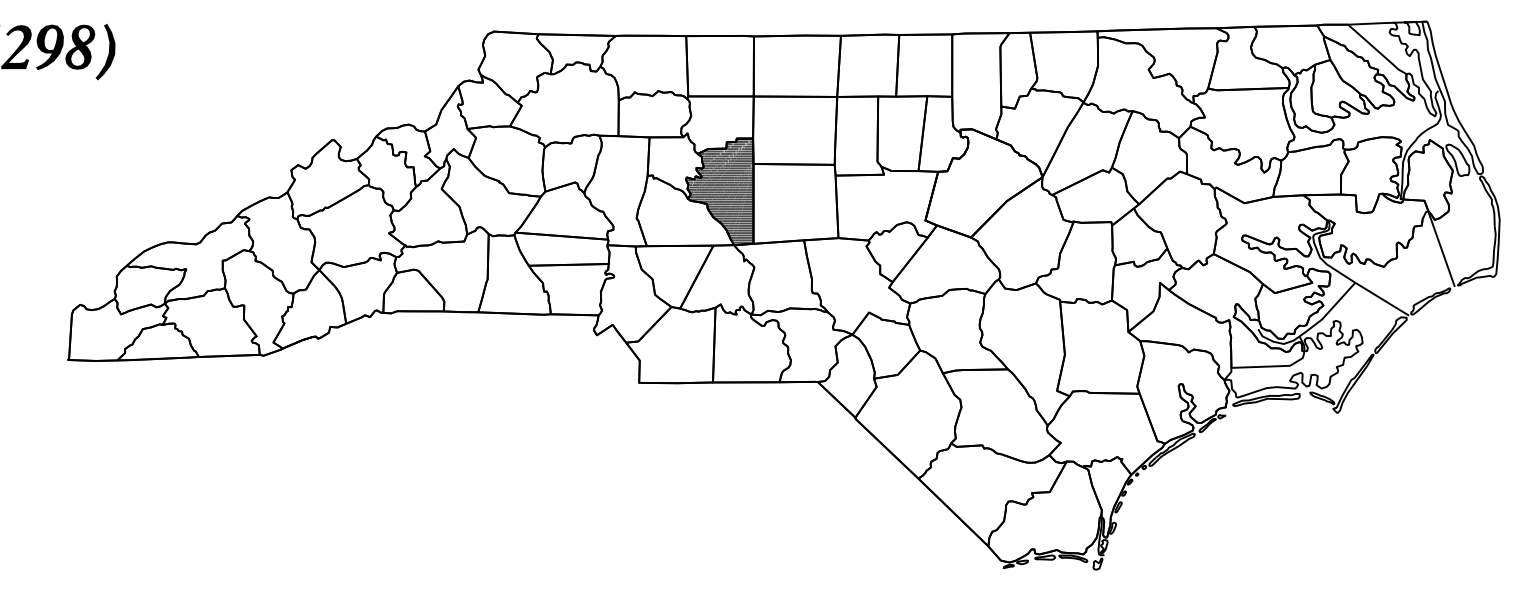
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



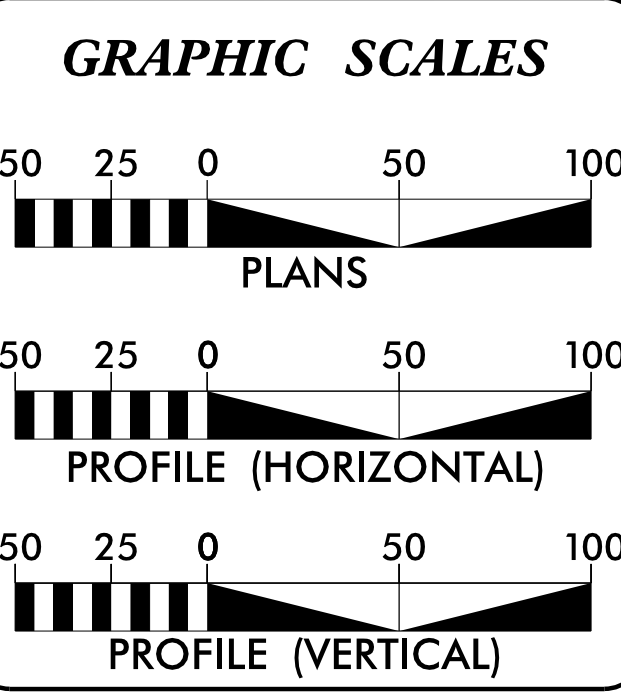
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS DAVIDSON COUNTY

**LOCATION: S. MAIN STREET (SR 3346) AT ANNA LEWIS DR (SR 3158)
AND BRIAN CENTER DR (SR 3157) AT GRIMES BLVD (SR 1298)**
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNALS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5709D	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44855.1.4	HSIP-3346(003)	PE	
44855.2.4		RWUTILS	
44855.3.4		CONST	



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

-L-

ADT 2012=14,000 VPD
ADT 2035=15,400 VPD

DESIGN SPEED=50 MPH
POSTED SPEED=45 MPH

FUNC CLASS=
PRINCIPAL ARTERIAL

PROJECT LENGTH

TOTAL LENGTH ROADWAY TIP PROJECT W-5709D: 0.152 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
NINTH DIVISION DESIGN/CONSTRUCT
375 SILAS CREEK PARKWAY WINSTON-SALEM, N.C. 27127
2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 11, 2017
LETTING DATE: MAY 23, 2018

W. A. BLANTON, PE, PLS
PROJECT ENGINEER

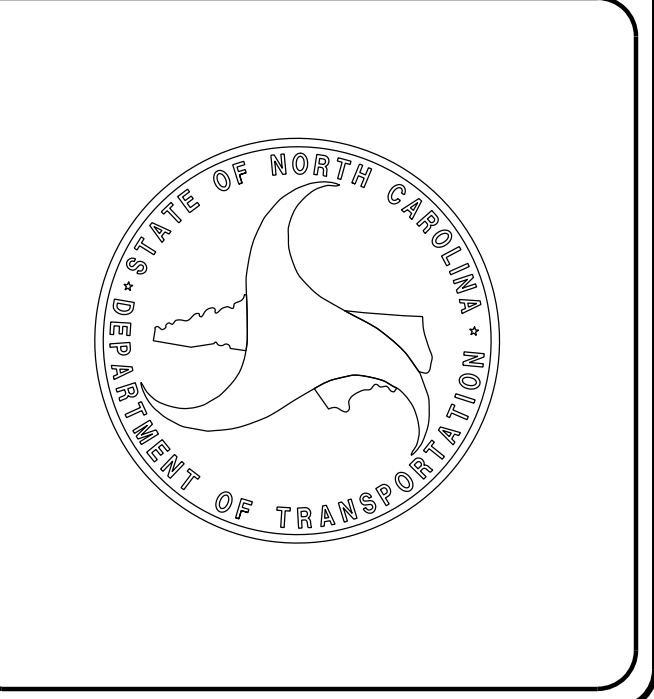
SCOTT A. JONES, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

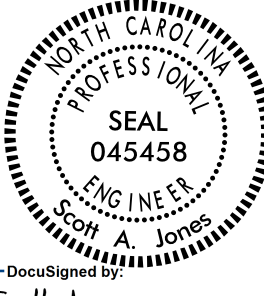
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Scott Jones 4/25/2018
SCOTT A. JONES, PE
SIGNATURE:

ROADWAY DESIGN ENGINEER

DocuSigned by:
Scott Jones 4/25/2018
SCOTT A. JONES, PE
SIGNATURE:



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Jlkredton AT DW9-294550

PROJECT REFERENCE NO. <i>W-5709D</i>	SHEET NO. <i>1-A</i>
ROADWAY DESIGN ENGINEER	
	
DocuSigned by <i>Scott Jones</i> 4/25/2018	
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SHEET NUMBER	SHEET TITLE
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
2A-1, 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1	ROADWAY SUMMARIES, DRAINAGE SUMMARIES
4.5	PLAN SHEET
6	PROFILE SHEET
TMP-1 THRU TMP-8	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-3	PAVEMENT MARKING PLANS
EC-1 THRU EC-7	EROSION CONTROL PLANS
SIG-1 THRU SIG-5, SCP-1	SIGNAL PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
RW-1 THRU RW-5	CONTROL SHEETS, ROW AND EASEMENT PLAN SHEETS
X-1 THRU X-11	CROSS-SECTIONS

GENERAL NOTES: 2018 SPECIFICATIONS

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.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

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 AT&T, Duke Energy, Time Warner, City of Lexington

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 CONTRACT.

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, 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
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.02	Parallel Pipe End Section - Precast Concrete Section for 15" to 24" Pipe
310.03	Cross Pipe End Section - Precast Concrete Section for 18" to 30" Pipe
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
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
848.02	Driveway Turnout - Radius Type
852.01	Concrete Islands
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

12/2/2016

BOUNDARIES AND PROPERTY:

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

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

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	○
Single Shrub	○

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

Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
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	⊕
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	○
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	⊕
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	○
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:

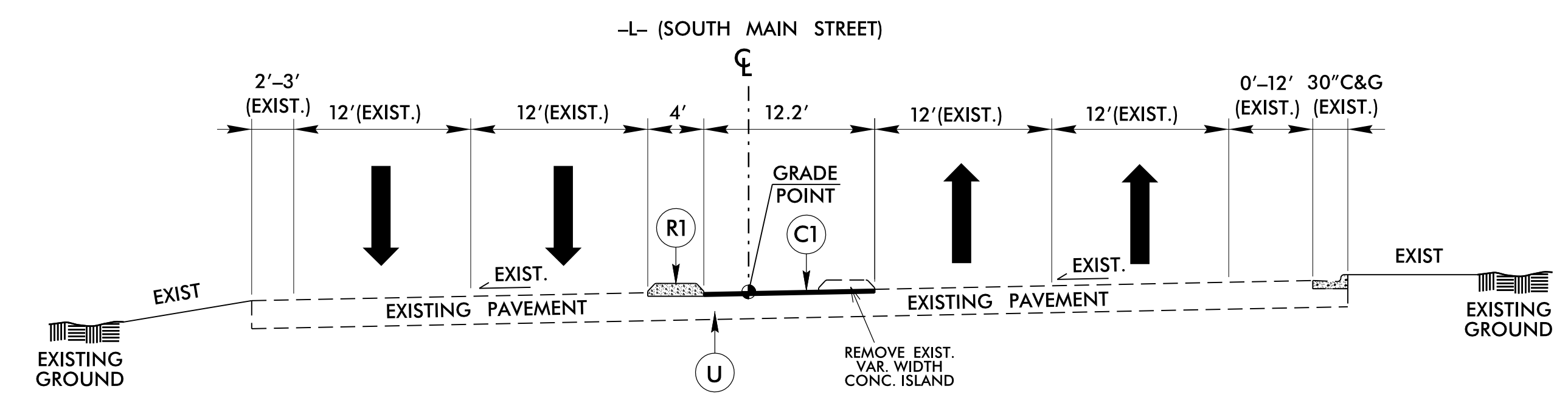
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

MISCELLANEOUS:

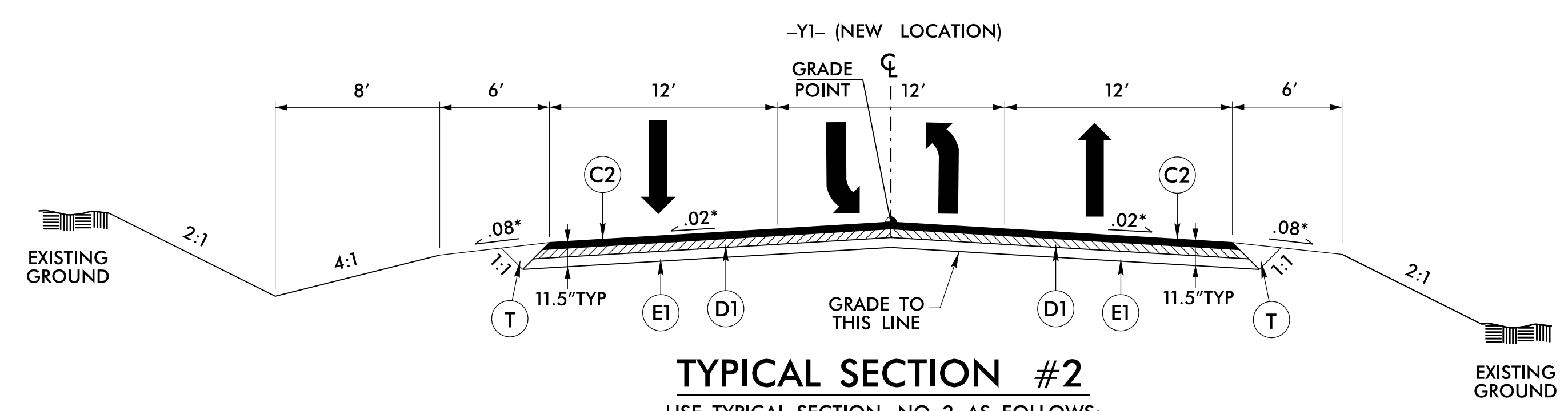
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	----- ZUTL
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	○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

6/2/99
 C:\APR-2018\4450\comment\TIP-Projects_M\W-5709D-Annol_ewts\Roadway\W-5709D-ddc-2A-1_tup.dgn
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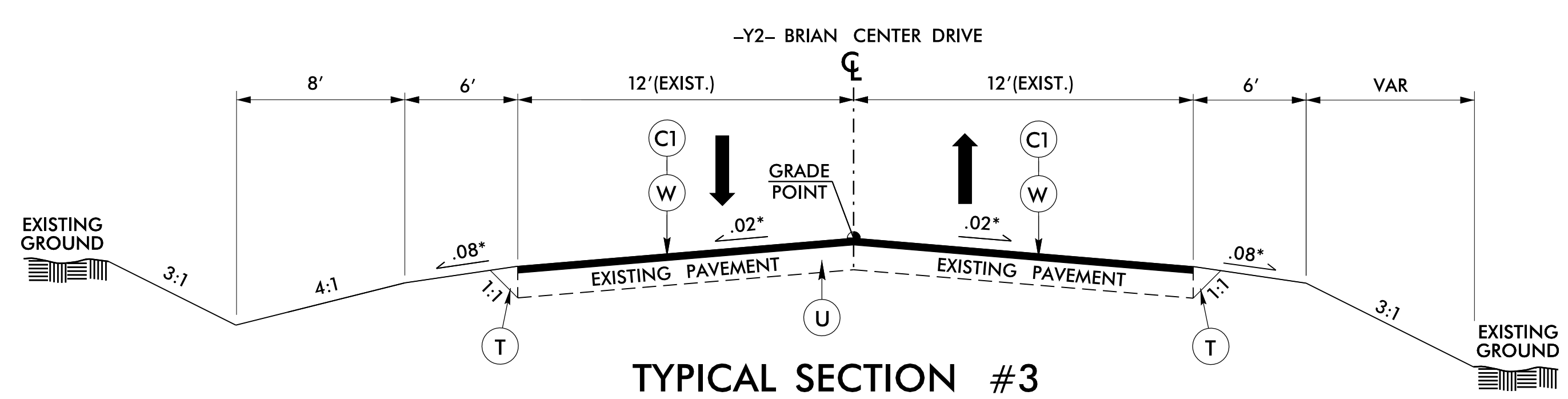
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ROADWAY DESIGN ENGINEER SEAL 045458 SCOTT A. JONES	PAVEMENT DESIGN ENGINEER SEAL 045458 SCOTT A. JONES
DocuSigned by: Scott Jones 4/25/2018	DocuSigned by: Scott Jones 4/25/2018
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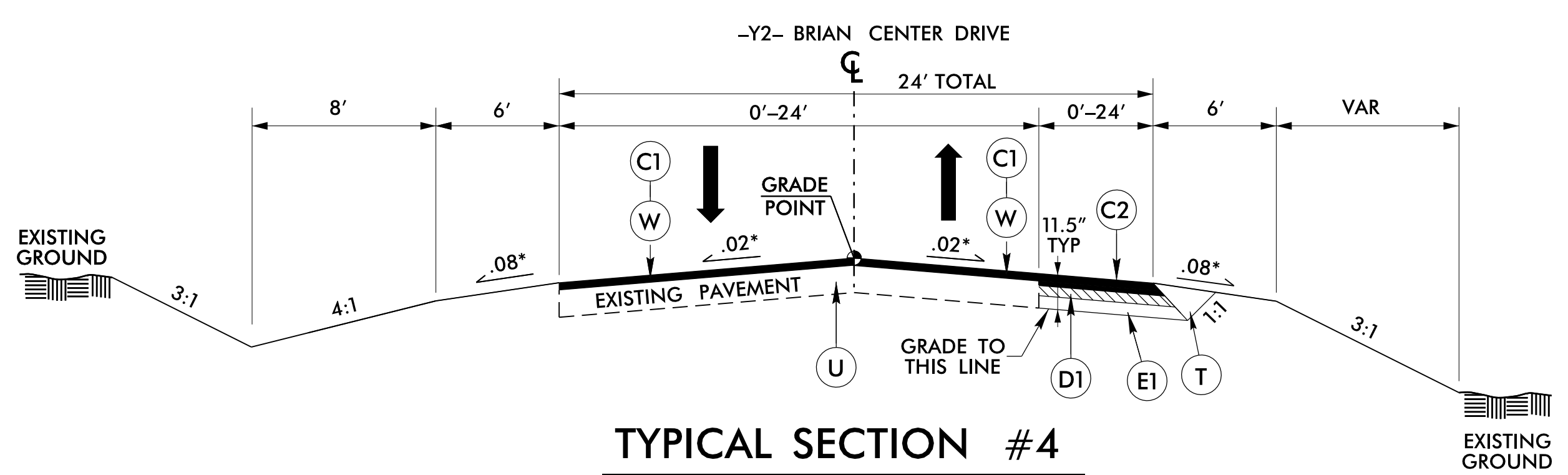
TYPICAL SECTION #1
 USE TYPICAL SECTION NO. 1 AS FOLLOWS:
 FROM -L- STA. 12+18 +/- TO -L- STA. 16+47
 *ACTUAL DIMENSIONS VARY SEE PLAN SHEETS FOR DETAILS
 NOTE: MILL 1.5" PRIOR TO APPLYING C1 LAYER.



TYPICAL SECTION #2
 USE TYPICAL SECTION NO. 2 AS FOLLOWS:
 FROM -Y1- STA. 10+34 TO -Y1- STA. 15+15
 *ACTUAL SLOPES AND DIMENSIONS VARY
 SEE XSC SHEETS FOR DETAILS



TYPICAL SECTION #3
 USE TYPICAL SECTION NO. 3 AS FOLLOWS:
 FROM -Y2- STA. 10+00 TO -Y2- STA. 11+62 +/-
 FROM -Y2- STA. 15+80 TO -Y2- STA. 19+00
 *ACTUAL SLOPES AND DIMENSIONS VARY
 SEE XSC SHEETS FOR DETAILS



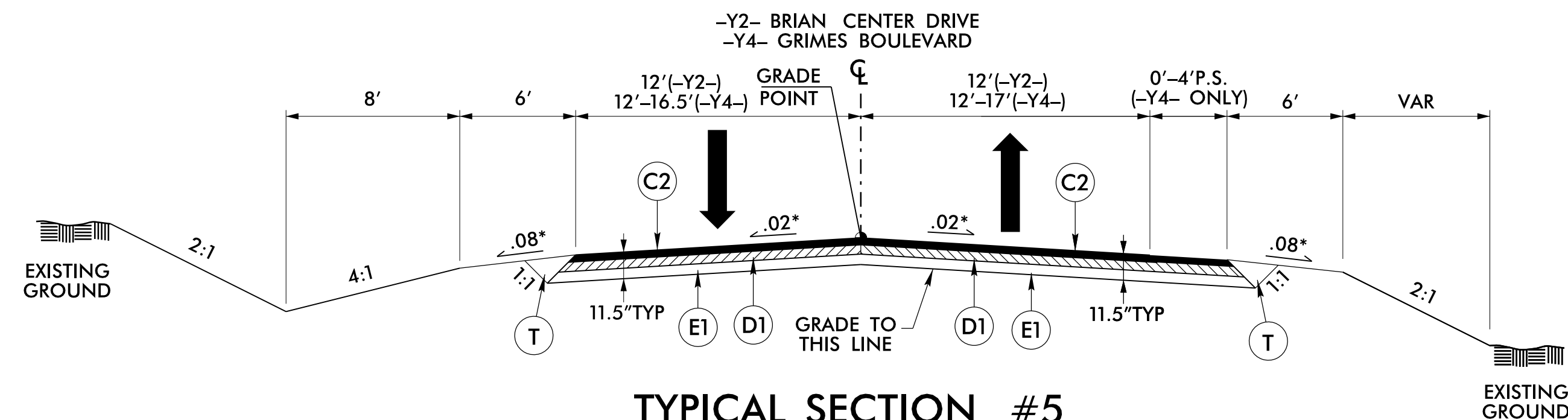
TYPICAL SECTION #4
 USE TYPICAL SECTION NO. 4 AS FOLLOWS:
 FROM -Y2- STA. 11+62 +/- TO -Y2- STA. 13+60 +/-
 *ACTUAL SLOPES AND DIMENSIONS VARY
 SEE XSC SHEETS FOR DETAILS

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I9.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED-IN).
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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

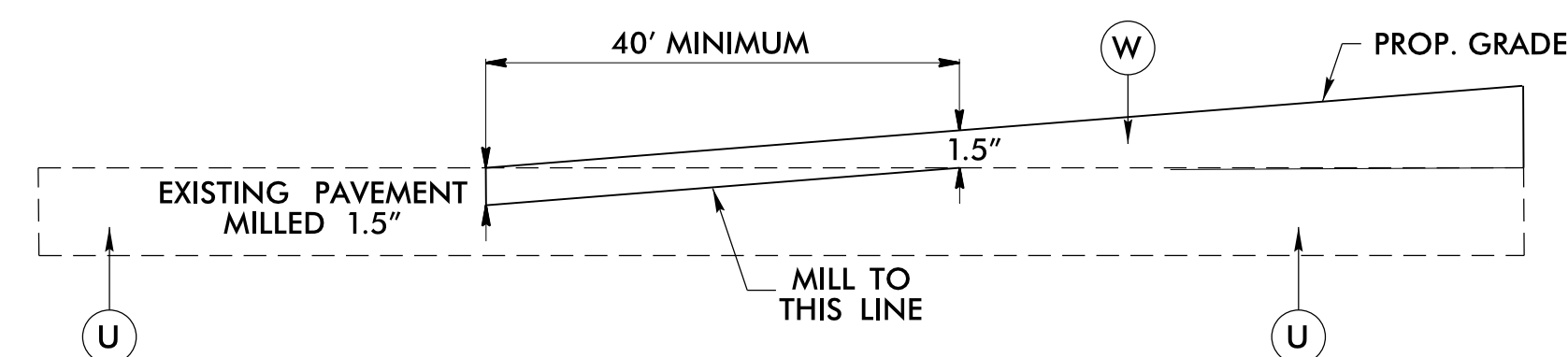
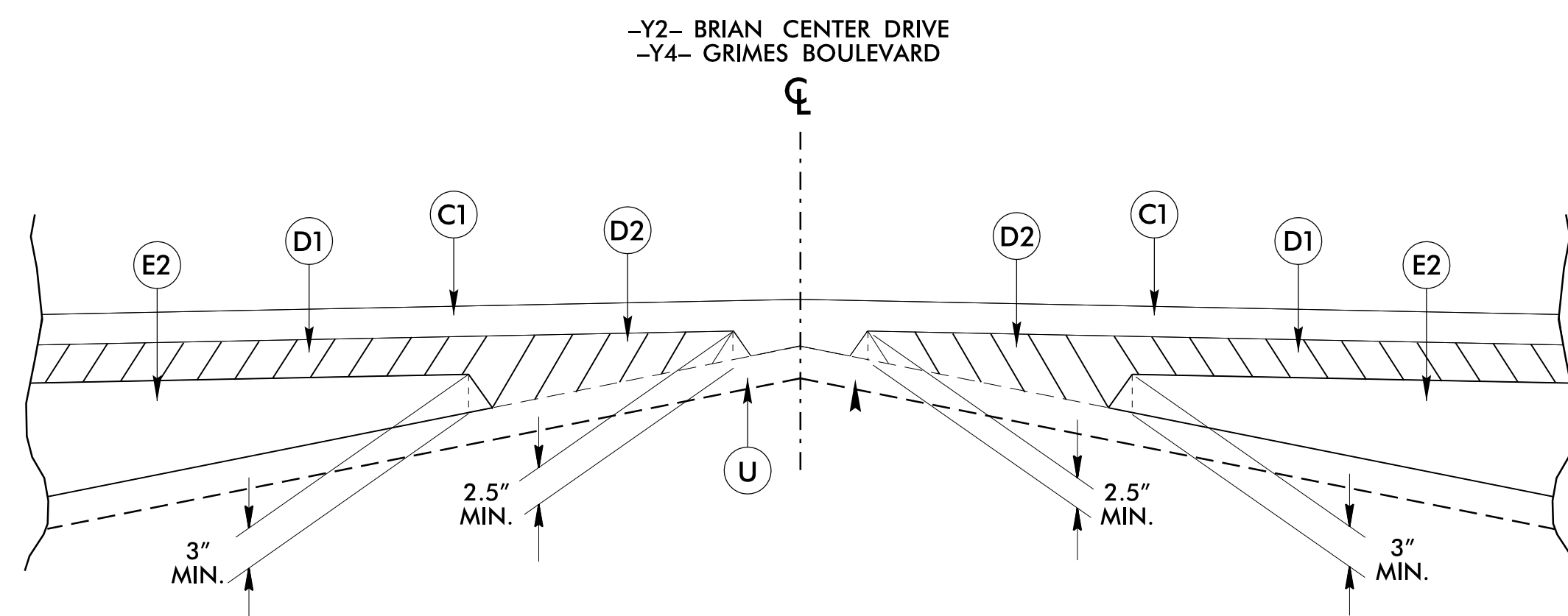
6/2/19

PROJECT REFERENCE NO. W-5709D	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER SEAL 045458 Scott A. Jones	PAVEMENT DESIGN ENGINEER SEAL 045458 Scott A. Jones
DocuSigned by Scott Jones 4/25/2018	DocuSigned by Scott Jones 4/25/2018



TYPICAL SECTION #5

USE TYPICAL SECTION NO. 5 AS FOLLOWS:
FROM -Y2- STA. 13+60 TO -Y2- STA. 15+80
FROM -Y4- STA. 10+12 TO -Y4- STA. 12+50
(OBLITERATE/REMOVE EXISTING PAVEMENT
AND C&G ON THIS SECTION OF -Y4-)
*ACTUAL SLOPES AND DIMENSIONS VARY
SEE XSC SHEETS FOR DETAILS



**Detail for Incidental Milling
of Existing Pavement**

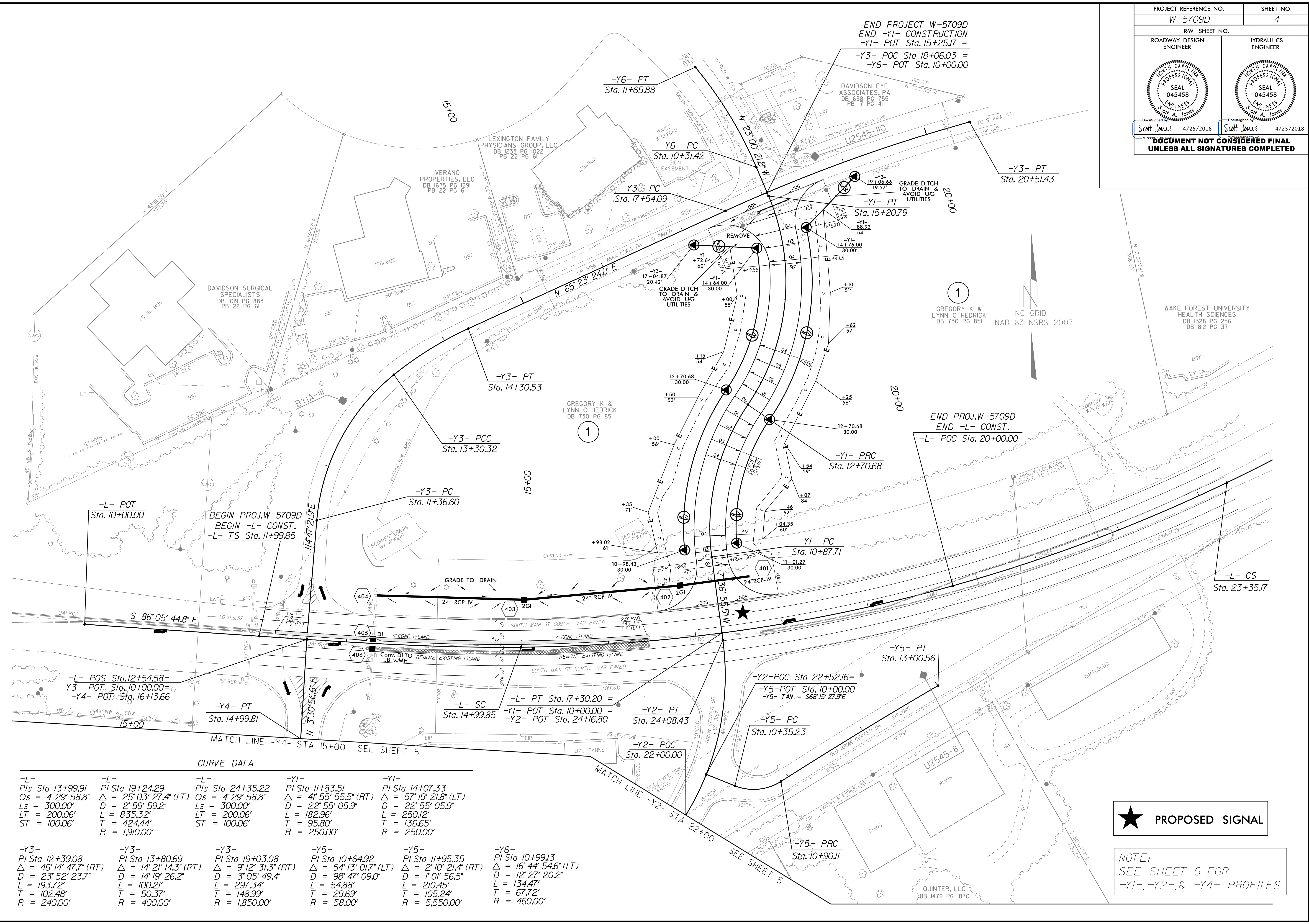
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
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R1	5" MONOLITHIC CONCRETE ISLAND (KEYED-IN).
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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

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PROJECT REFERENCE NO. W-5709D		SHEET NO. 4	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



CURVE DATA



-L- PI Sta 13+99.91 Δ = 4° 29' 58.8" Ls = 300.00' LT = 200.06' ST = 100.06'	-L- PI Sta 19+24.29 Δ = 25° 03' 27.4" (LT) D = 2° 59' 59.2" L = 835.32' T = 424.44' R = 1,910.00'	-L- PI Sta 24+35.22 Δ = 4° 29' 58.8" Ls = 300.00' LT = 200.06' ST = 100.06'	-Y1- PI Sta 11+83.51 Δ = 41° 55' 55.5" (RT) D = 22° 55' 05.9" L = 182.96' T = 95.80' R = 250.00'	-Y1- PI Sta 14+07.33 Δ = 57° 19' 21.8" (LT) D = 22° 55' 05.9" L = 250.12' T = 136.65' R = 250.00'	-Y6- PI Sta 10+99.13 Δ = 16° 44' 54.6" (LT) D = 12° 27' 20.2" L = 134.47' T = 67.72' R = 460.00'
-Y3- PI Sta 12+39.08 Δ = 46° 14' 47.7" (RT) D = 23° 52' 23.7" L = 193.72' T = 102.48' R = 240.00'	-Y3- PI Sta 13+80.69 Δ = 14° 21' 14.3" (RT) D = 14° 19' 26.2" L = 100.21' T = 50.37' R = 400.00'	-Y3- PI Sta 19+03.08 Δ = 9° 12' 31.3" (RT) D = 3° 05' 49.4" L = 297.34' T = 148.99' R = 1,850.00'	-Y5- PI Sta 10+64.92 Δ = 54° 13' 01.7" (LT) D = 98° 47' 09.0" L = 54.88' T = 29.69' R = 58.00'	-Y5- PI Sta 11+95.35 Δ = 2° 10' 21.4" (RT) D = 1° 01' 56.5" L = 210.45' T = 105.24' R = 5,550.00'	

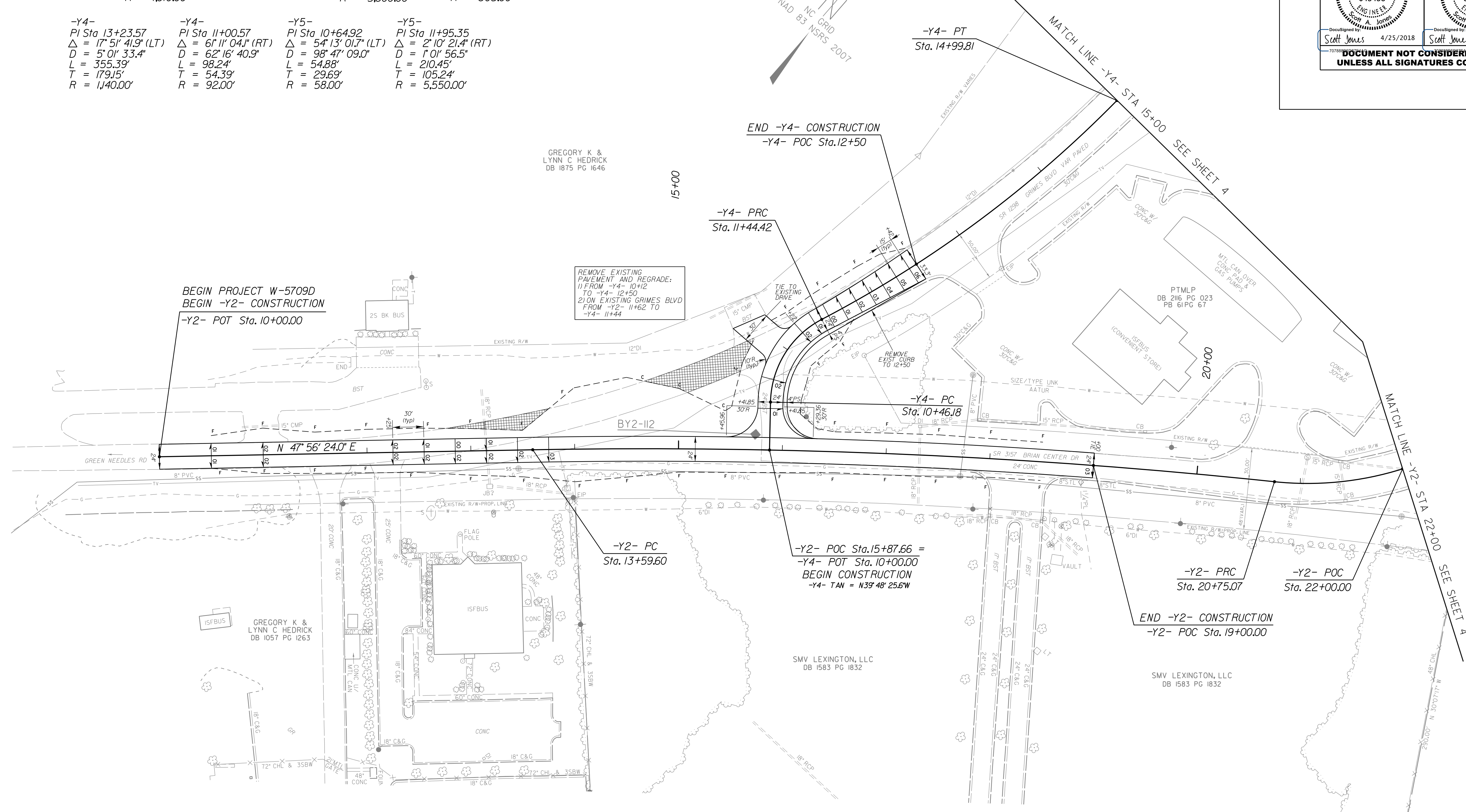
★ PROPOSED SIGNAL

NOTE:
SEE SHEET 6 FOR
-Y1-, -Y2-, & -Y4- PROFILES

REVISIONS
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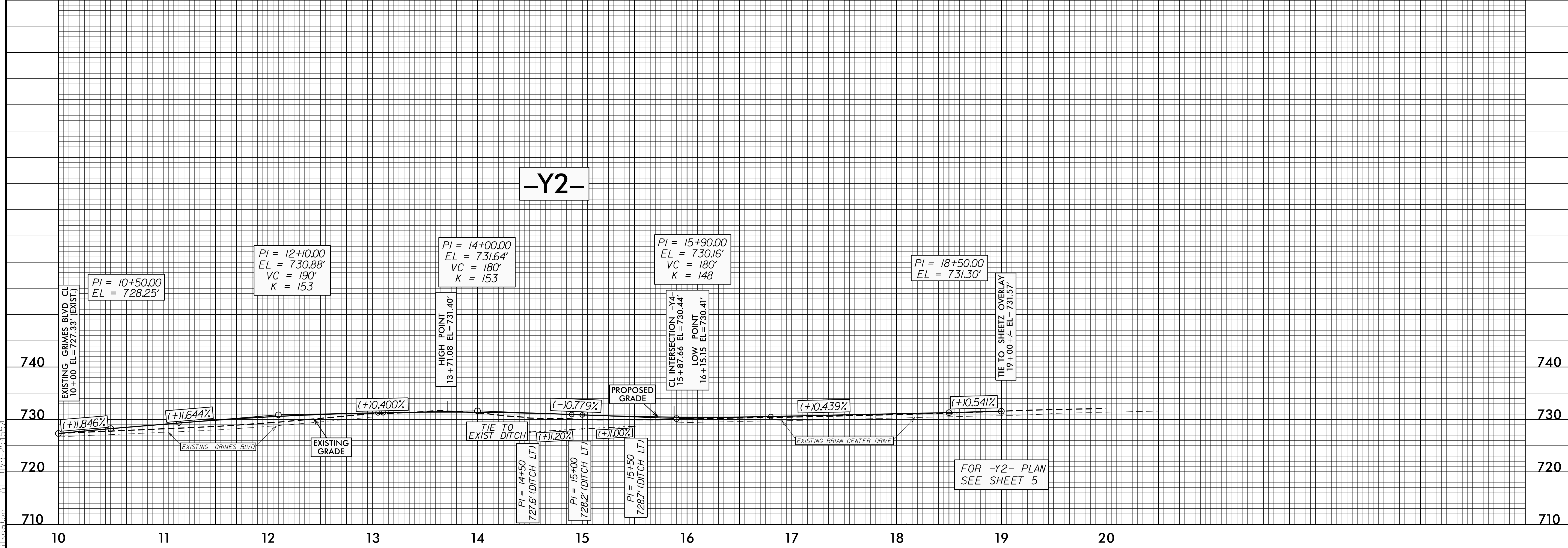
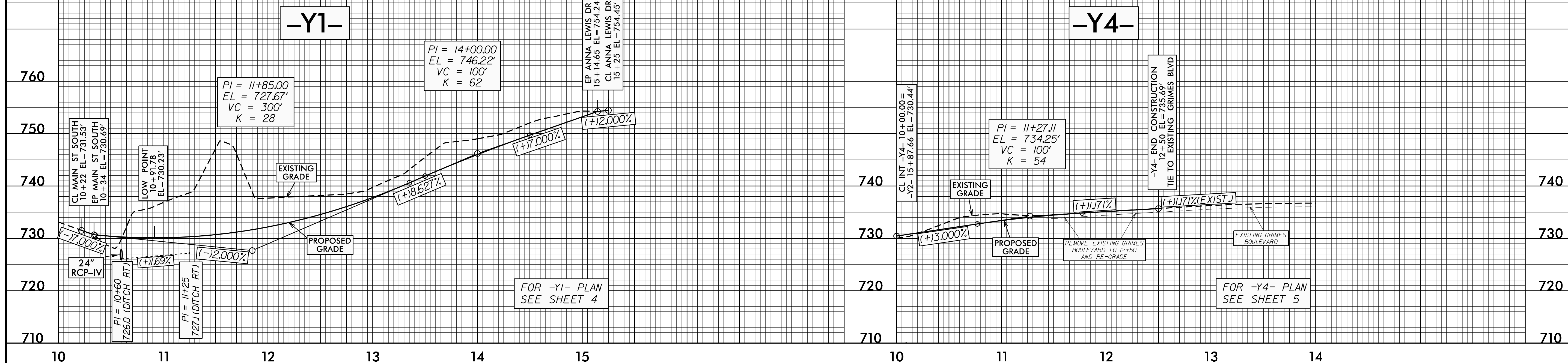
CURVE DATA				
-L-	-L-	-L-	-Y2-	-Y2-
PIs Sta 13+99.91	PI Sta 19+24.29	PIs Sta 24+35.22	PI Sta 17+17.79	PI Sta 22+60.60
$\Delta s = 4' 29' 58.8"$	$\Delta = 25' 03' 27.4"$ (LT)	$\Delta s = 4' 29' 58.8"$	$\Delta = 7' 04' 04.4"$ (RT)	$\Delta = 62' 37' 23.9"$ (LT)
$Ls = 300.00'$	$D = 2' 59' 59.2"$	$Ls = 300.00'$	$D = 0' 59' 16.3"$	$D = 18' 47' 07.8"$
$LT = 200.06'$	$L = 835.32'$	$LT = 200.06'$	$L = 715.48'$	$L = 333.36'$
$ST = 100.06'$	$T = 424.44'$	$ST = 100.06'$	$T = 358.19'$	$T = 185.53'$
	$R = 1,910.00'$		$R = 5,800.00'$	$R = 305.00'$
-Y4-	-Y4-	-Y5-	-Y5-	
PI Sta 13+23.57	PI Sta 11+00.57	PI Sta 10+64.92	PI Sta 11+95.35	
$\Delta = 17' 51' 41.9"$ (LT)	$\Delta = 6' 11' 04.1"$ (RT)	$\Delta = 54' 13' 01.7"$ (LT)	$\Delta = 2' 10' 21.4"$ (RT)	
$D = 5' 01' 33.4"$	$D = 62' 16' 40.9"$	$D = 98' 47' 09.0"$	$D = 1' 01' 56.5"$	
$L = 355.39'$	$L = 98.24'$	$L = 54.88'$	$L = 210.45'$	
$T = 179.15'$	$T = 54.39'$	$T = 29.69'$	$T = 105.24'$	
$R = 1,140.00'$	$R = 92.00'$	$R = 58.00'$	$R = 5,550.00'$	

PROJECT REFERENCE NO. W-5709D	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 Scott A. Jones 4/25/2018	 Scott A. Jones 4/25/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



5/28/99

PROJECT REFERENCE NO. W-5709D	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



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TIP PROJECT: W-5709D
CONTRACT: XXXXXX

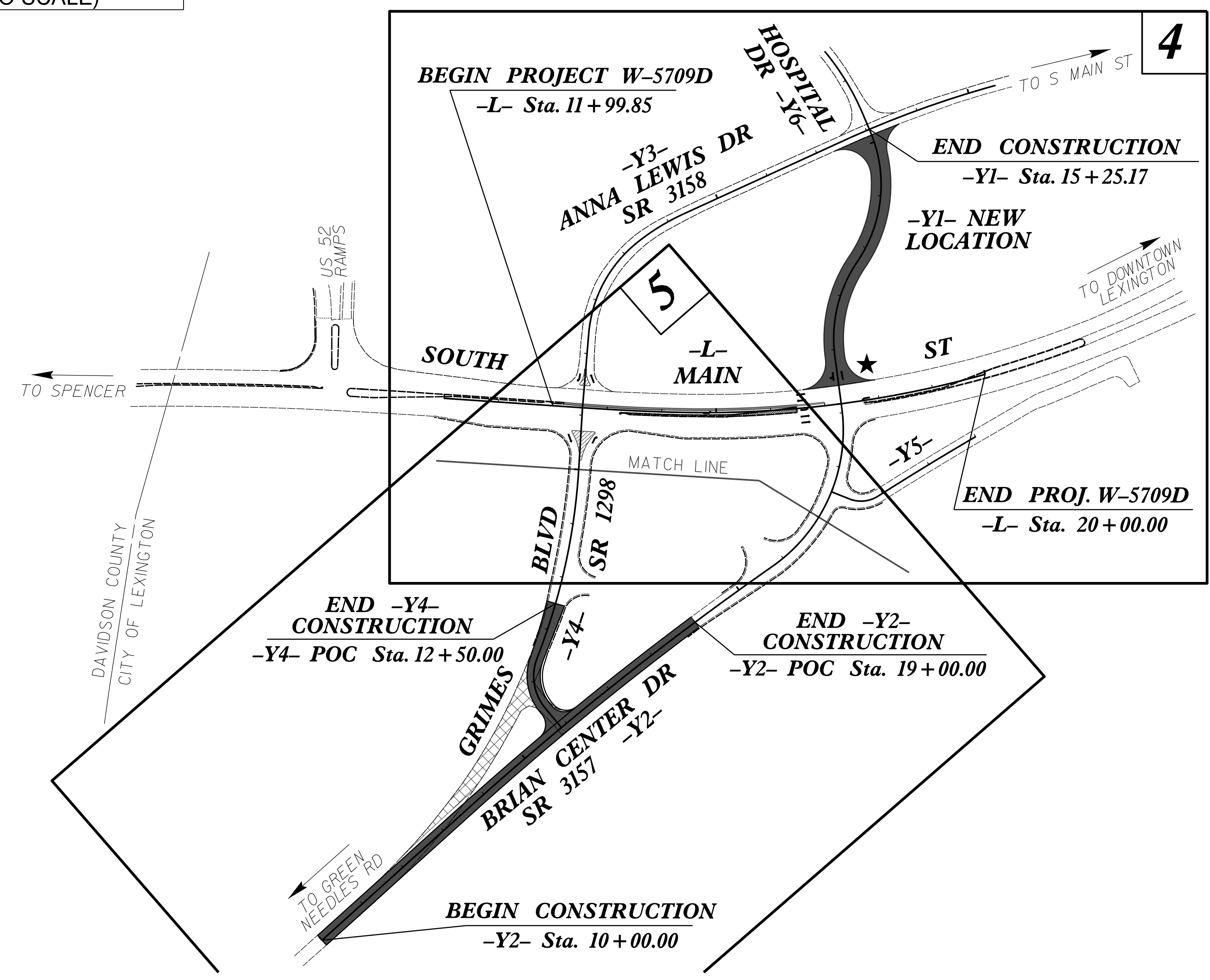
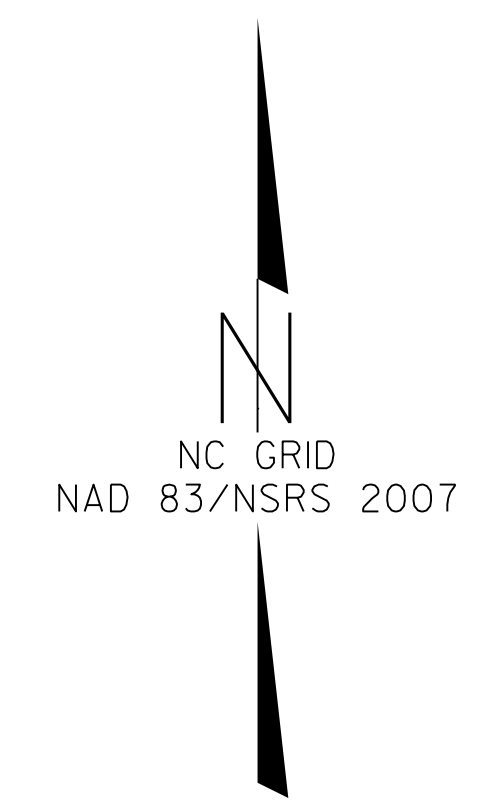
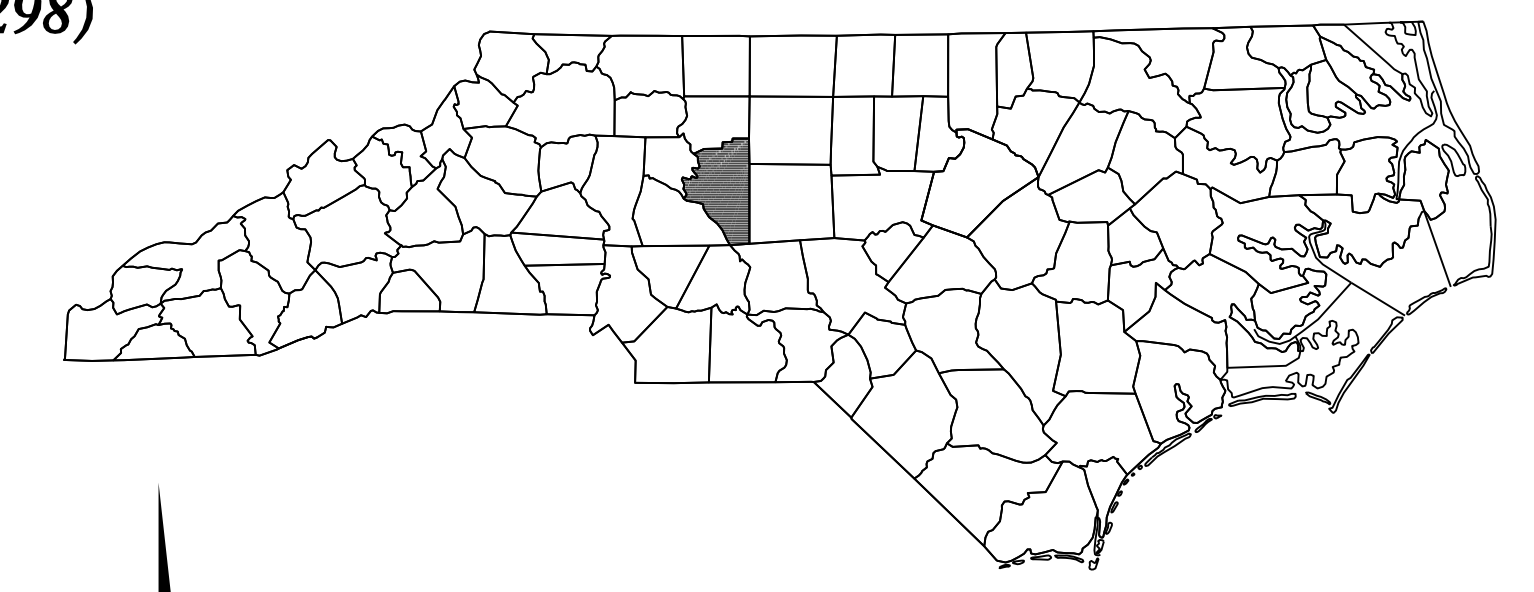
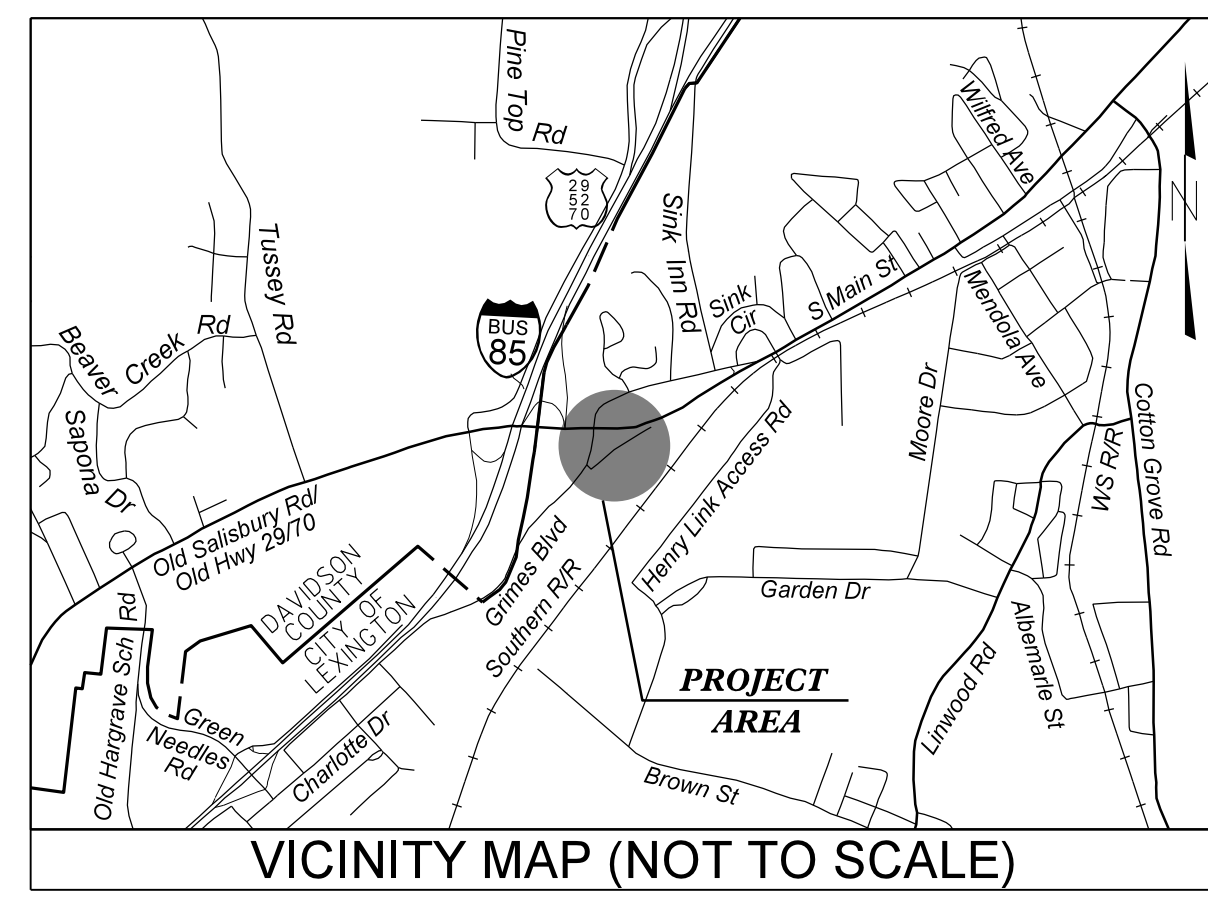
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS
 DAVIDSON COUNTY**

**LOCATION: S. MAIN STREET (SR 3346) AT ANNA LEWIS DR (SR 3158)
 AND BRIAN CENTER DR (SR 3157) AT GRIMES BLVD (SR 1298)**
TYPE OF WORK: COMMUNICATION, CATV & SANITARY SEWER

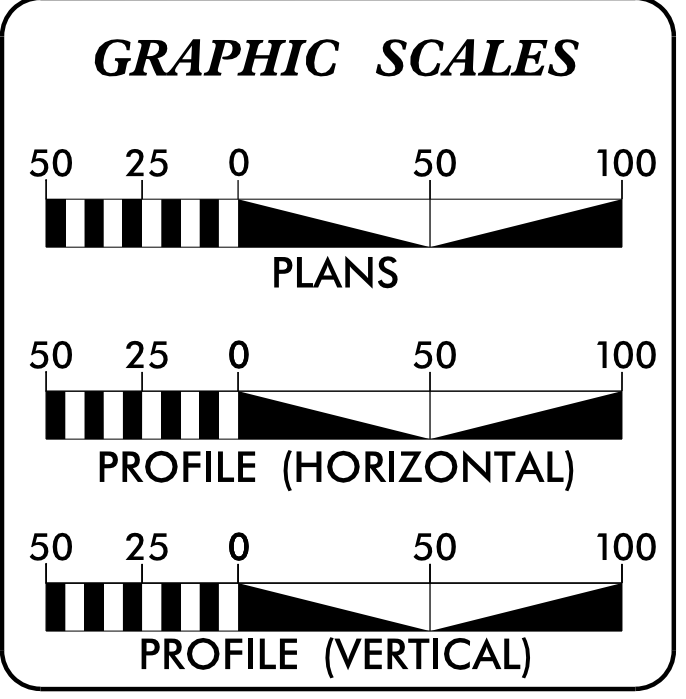
T.I.P. NO.	SHEET NO.
W-5709D	UO-1

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.



★ PROPOSED SIGNAL

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



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

UTILITY OWNERS WITH CONFLICTS
(A) COMMUNICATION - CHARTER
(B) COMMUNICATION - WINDSTREAM
(C) CITY OF LEXINGTON - SANITARY SEWER

**DIVISION OF HIGHWAYS
 DIVISION 9**

375 Silas Creek Parkway
 Winston Salem, 27127

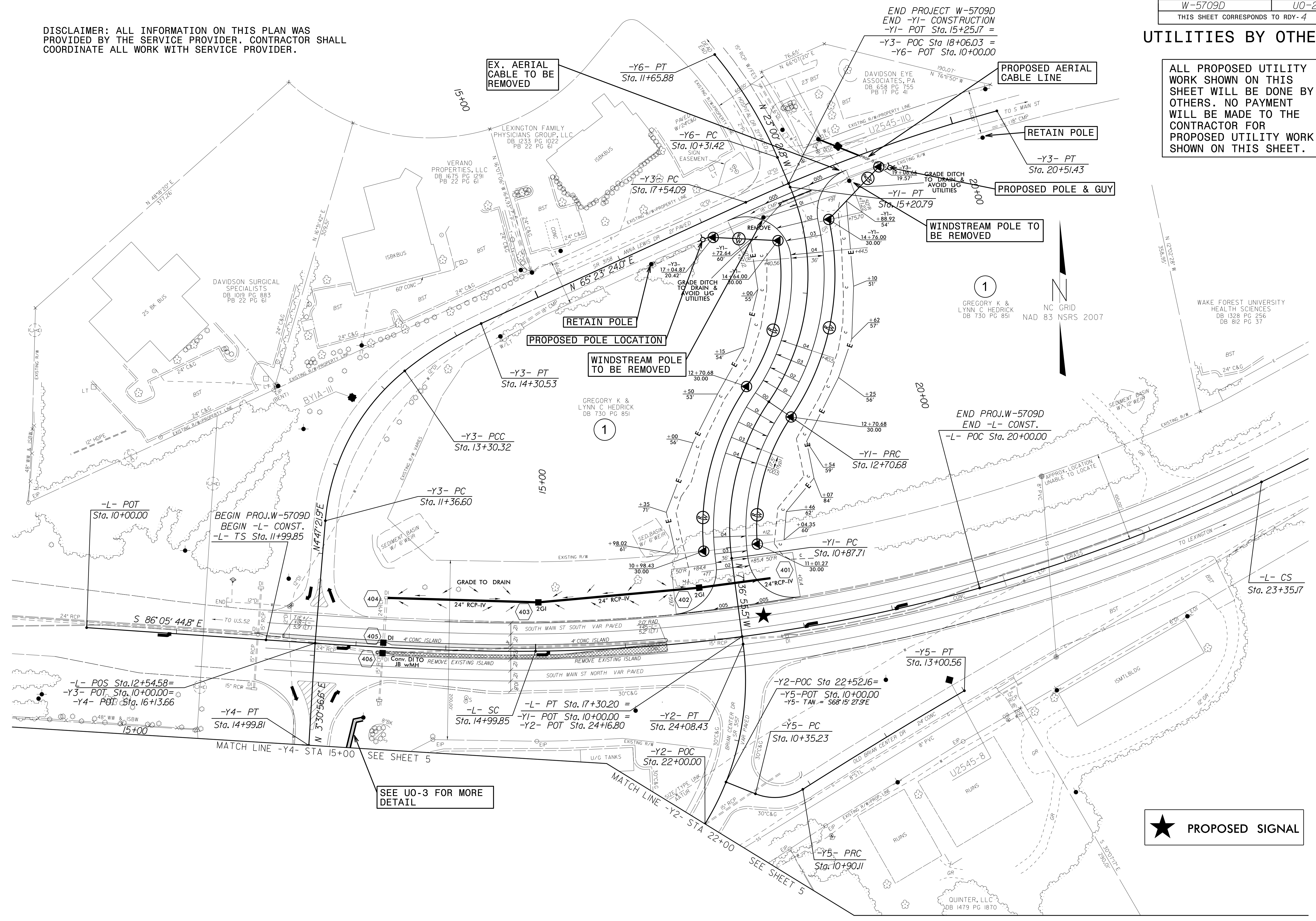
R. David Trantham Division Utility Engineer

Lynn Basinger Division Utility Coordinator

DISCLAIMER: ALL INFORMATION ON THIS PLAN WAS PROVIDED BY THE SERVICE PROVIDER. CONTRACTOR SHALL COORDINATE ALL WORK WITH SERVICE PROVIDER.

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.



1
GREGORY K & LYNN C HEDRICK
DB 730 PG 851
NC GRID
NAD 83 NSRS 2007

★ PROPOSED SIGNAL

MATCH LINE -Y4- STA 15+00 SEE SHEET 5

SEE U0-3 FOR MORE DETAIL

MATCH LINE -Y2- STA 22+00 SEE SHEET 5

END PROJ.W-5709D
END -L- CONST.
-L- POC Sta. 20+00.00

END PROJECT W-5709D
END -Y1- CONSTRUCTION
-Y1- POT Sta. 15+25.17 =
-Y3- POC Sta. 18+06.03 =
-Y6- POT Sta. 10+00.00

BEGIN PROJ.W-5709D
BEGIN -L- CONST.
-L- TS Sta. 11+99.85

-L- POT
Sta. 10+00.00

-L- POS Sta. 12+54.58 =
-Y3- POT Sta. 10+00.00 =
-Y4- POT Sta. 16+13.66

-Y4- PT
Sta. 14+99.81

-L- SC Sta. 14+99.85
-Y1- POT Sta. 10+00.00 =
-Y2- POT Sta. 24+16.80

-Y2- PT
Sta. 24+08.43

-Y2- POC Sta. 22+52.16 =
-Y5- POT Sta. 10+00.00
-Y5- TAN = S68°15'27.9"E

-Y5- PC
Sta. 10+35.23

-Y5- PT
Sta. 13+00.56

-L- CS
Sta. 23+35.77

-Y5- PRC
Sta. 10+90.11

-Y1- PC
Sta. 10+87.71

-Y1- PRC
Sta. 12+70.68

-Y3- PT
Sta. 14+30.53

-Y3- PCC
Sta. 13+30.32

-Y3- PC
Sta. 11+36.60

-Y6- PT
Sta. 11+65.88

-Y6- PC
Sta. 10+31.42

-Y3- PC
Sta. 17+54.09

-Y1- PT
Sta. 15+20.79

-Y3- PT
Sta. 20+51.43

PROPOSED POLE & GUY

WINDSTREAM POLE TO BE REMOVED

WINDSTREAM POLE TO BE REMOVED

PROPOSED POLE LOCATION

RETAIN POLE

EX. AERIAL CABLE TO BE REMOVED

PROPOSED AERIAL CABLE LINE

RETAIN POLE

5/14/99
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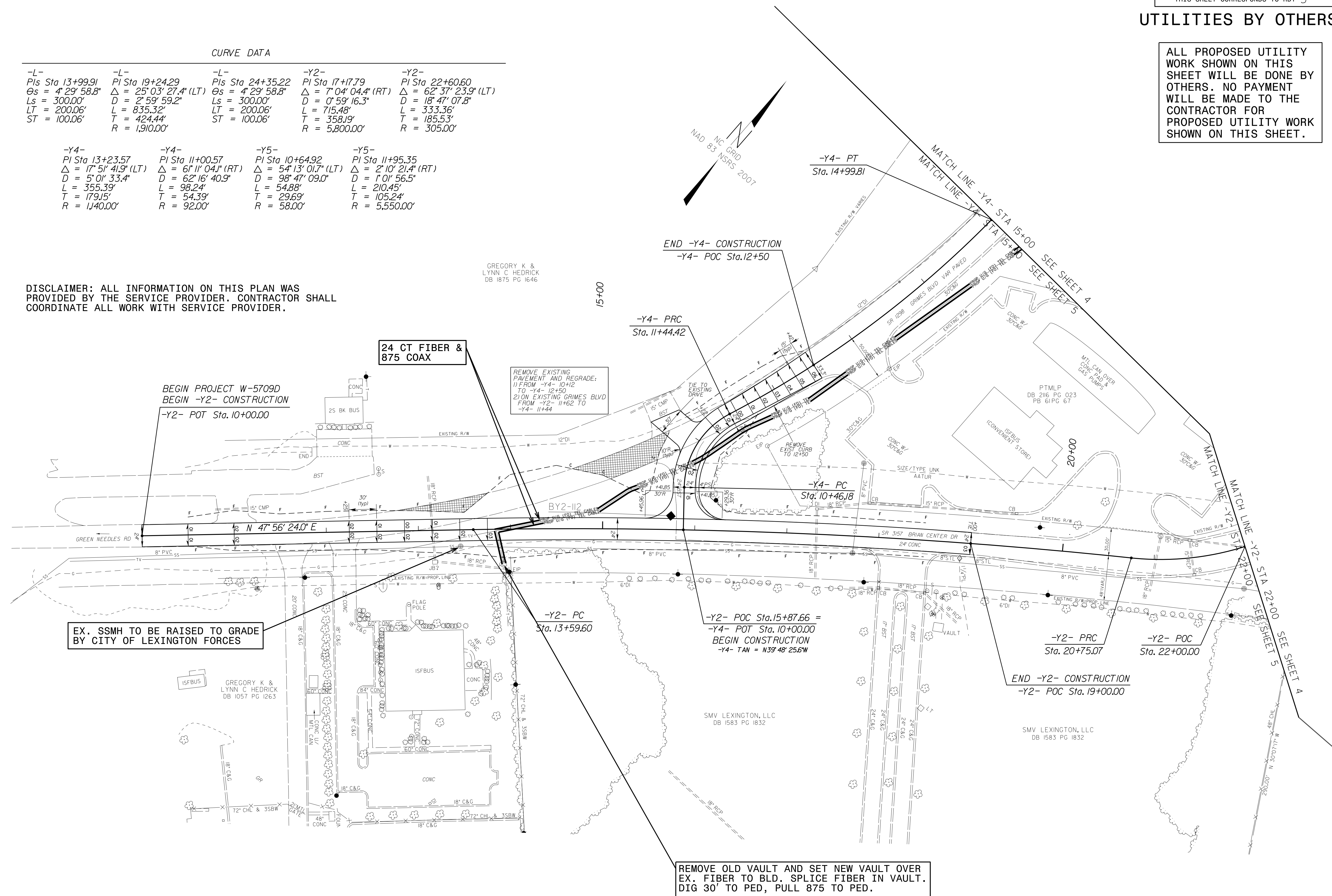
UTILITIES BY OTHERS

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.

CURVE DATA

-L- PIs Sta 13+99.91 θs = 4° 29' 58.8" Ls = 300.00' LT = 200.06' ST = 100.06'	-L- PI Sta 19+24.29 Δ = 25° 03' 27.4" (LT) D = 2° 59' 59.2" L = 835.32' T = 424.44' R = 1,910.00'	-L- PIs Sta 24+35.22 θs = 4° 29' 58.8" Ls = 300.00' LT = 200.06' ST = 100.06'	-Y2- PI Sta 17+17.79 Δ = 7° 04' 04.4" (RT) D = 0° 59' 16.3" L = 715.48' T = 358.19' R = 5,800.00'	-Y2- PI Sta 22+60.60 Δ = 62° 37' 23.9" (LT) D = 18° 47' 07.8" L = 333.36' T = 185.53' R = 305.00'
-Y4- PI Sta 13+23.57 Δ = 17° 51' 41.9" (LT) D = 5° 01' 33.4" L = 355.39' T = 179.15' R = 1,140.00'	-Y4- PI Sta 11+00.57 Δ = 6° 11' 04.1" (RT) D = 62° 16' 40.9" L = 98.24' T = 54.39' R = 92.00'	-Y5- PI Sta 10+64.92 Δ = 54° 13' 01.7" (LT) D = 98° 47' 09.0" L = 54.88' T = 29.69' R = 58.00'	-Y5- PI Sta 11+95.35 Δ = 2° 10' 21.4" (RT) D = 1° 01' 56.5" L = 210.45' T = 105.24' R = 5,550.00'	

DISCLAIMER: ALL INFORMATION ON THIS PLAN WAS PROVIDED BY THE SERVICE PROVIDER. CONTRACTOR SHALL COORDINATE ALL WORK WITH SERVICE PROVIDER.



09/08/99

TIP PROJECT: W-5709D

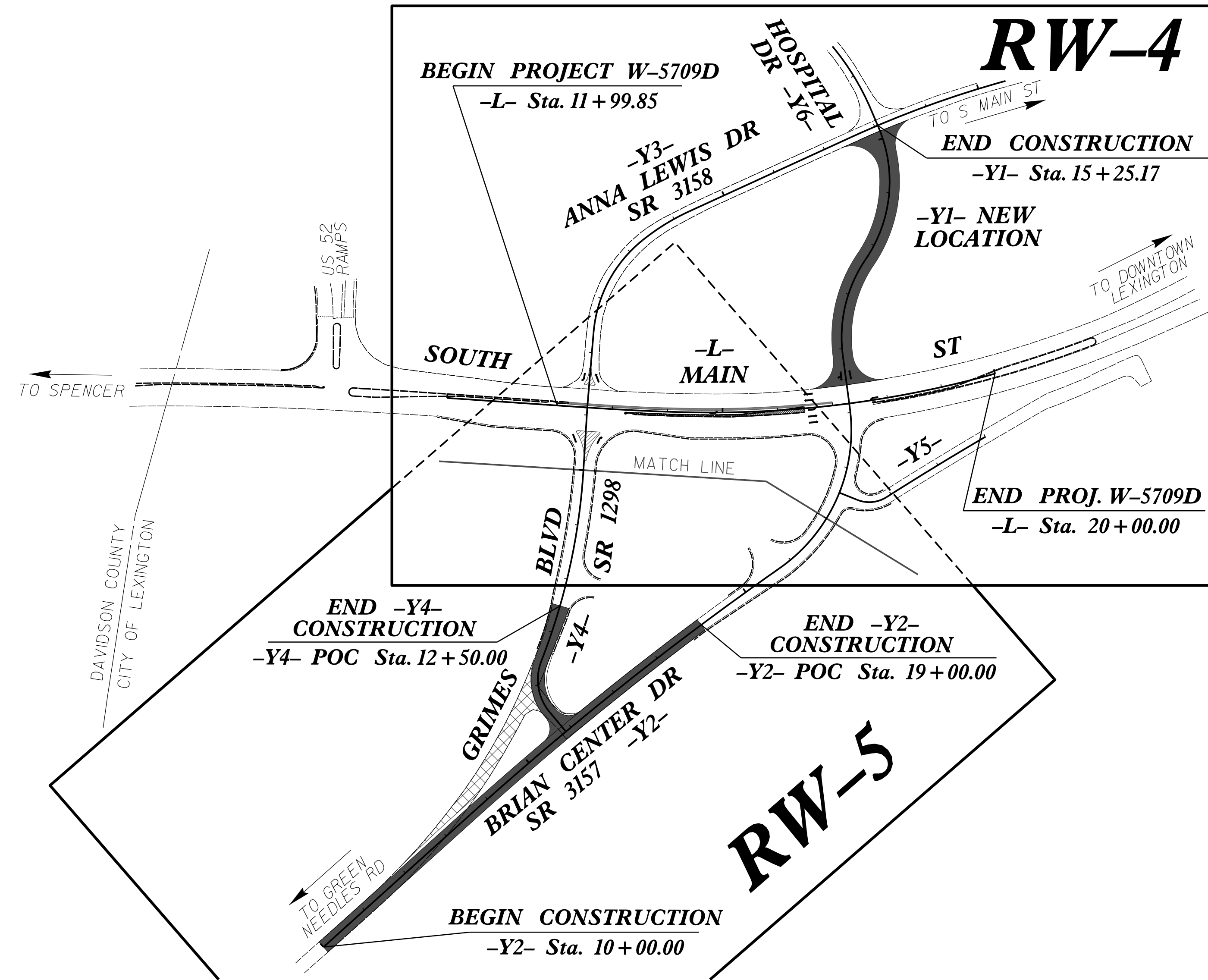
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5709D	RW-1	5

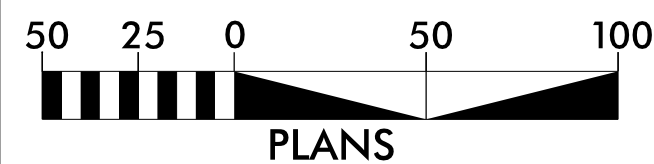
SURVEY CONTROL, EXISTING CENTERLINES,
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

DAVIDSON COUNTY

**LOCATION: S. MAIN STREET (SR 3346) AT ANNA LEWIS DR (SR 3158)
AND BRIAN CENTER DR (SR 3157) AT GRIMES BLVD (SR 1298)**
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNALS



GRAPHIC SCALE



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U2545-4" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 745,863.047 (ft) EASTING: 1,623,145.827 (ft) ELEVATION: 730.84(ft). THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988707. THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U2545-4" TO -L- STATION 11+99.85 IS N 65° 25' 29" W, 6,265.20' (ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES. VERTICAL DATUM USED IS NAVD 88.

Prepared In the Office of:

DIVISION OF HIGHWAYS
NINTH DIVISION DESIGN/CONSTRUCT
375 SILAS CREEK PARKWAY WINSTON-SALEM, N.C. 27127
2012 STANDARD SPECIFICATIONS

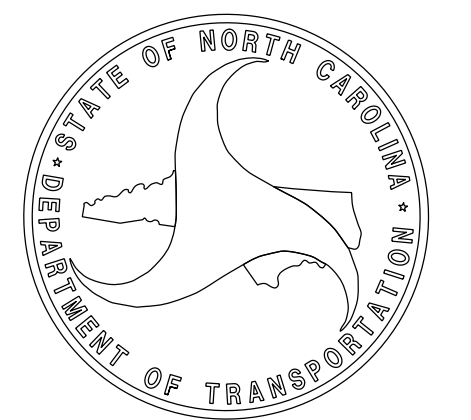
RIGHT OF WAY DATE:
NOVEMBER 11, 2017

LETTING DATE:
MAY 23, 2018

PROFESSIONAL LAND SURVEYOR



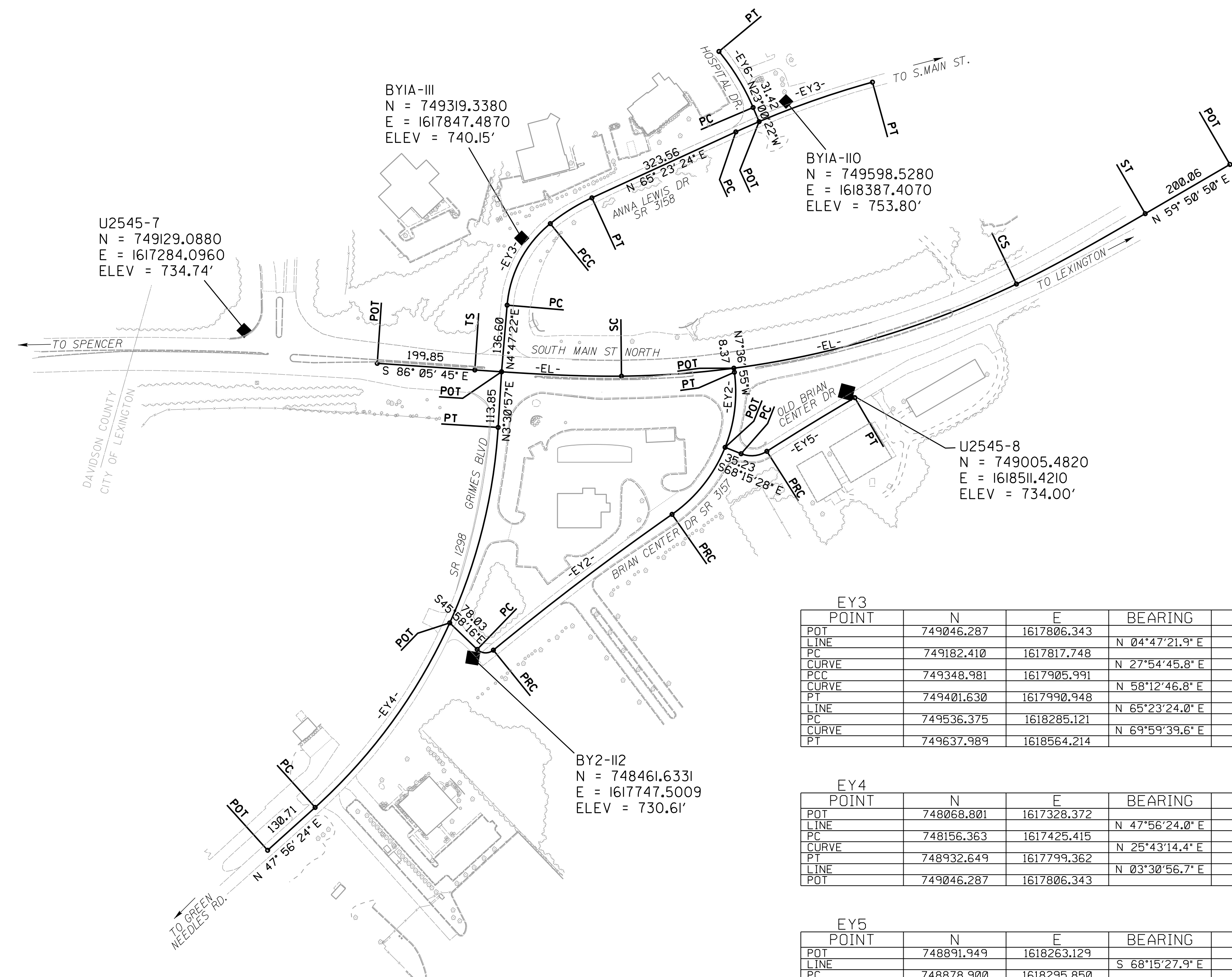
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Jeremy Keaton
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SIGNATURE:



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JLKeaton AT DIV9-294550

SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



EY2	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
	POT	748533.356	1617700.473							
	LINE			S 45°58'15.5" E	78.03					
	PC	748479.127	1617756.573							
	CURVE			S 87°27'34.3" E	33.12	82°58'38.0"(LT)	229°10'59.2"	36.21	22.11	25.00
	PCC	748477.659	1617789.664							
	CURVE			N 52°46'11.4" E	458.51	04°31'50.1"(RT)	00°59'16.3"	458.63	229.43	5800.00
	PT	748755.065	1618154.733							
	CURVE			N 23°41'46.5" E	317.01	62°37'23.9"(LT)	18°47'07.8"	333.36	185.53	305.00
	PT	749045.350	1618282.137							
	LINE			N 07°36'55.5" W	8.37					
	POT	749053.645	1618281.028							

EY3	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
	POT	749046.287	1617806.343							
	LINE			N 04°47'21.9" E	136.60					
	PC	749182.410	1617817.748							
	CURVE			N 27°54'45.8" E	188.50	46°14'47.7"(RT)	23°52'23.7"	193.72	102.48	240.00
	PCC	749348.981	1617905.991							
	CURVE			N 58°12'46.8" E	99.95	14°21'14.3"(RT)	14°19'26.2"	100.21	50.37	400.00
	PT	749401.630	1617990.948							
	LINE			N 65°23'24.0" E	323.56					
	PC	749536.375	1618285.121							
	CURVE			N 69°59'39.6" E	297.02	09°12'31.3"(RT)	03°05'49.4"	297.34	148.99	1850.00
	PT	749637.989	1618564.214							

EY4	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
	POT	748068.801	1617328.372							
	LINE			N 47°56'24.0" E	130.71					
	PC	748156.363	1617425.415							
	CURVE			N 25°43'14.4" E	861.66	44°24'35.7"(LT)	05°01'33.4"	883.61	465.34	1140.00
	PT	748932.649	1617799.362							
	LINE			N 03°30'56.7" E	113.85					
	POT	749046.287	1617806.343							

EY5	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
	POT	748891.949	1618263.129							
	LINE			S 68°15'27.9" E	35.23					
	PC	748878.900	1618295.850							
	CURVE			N 84°38'01.3" E	52.86	54°13'01.7"(LT)	98°47'09.0"	54.88	29.69	58.00
	PCC	748883.843	1618348.477							
	CURVE			N 58°36'41.1" E	210.44	02°10'21.4"(RT)	01°01'56.5"	210.45	105.24	5550.00
	PT	748993.448	1618528.1183							

EY6	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
	POT	749557.337	1618332.635							
	LINE			N 23°00'21.8" W	31.42					
	PC	749586.254	1618320.357							
	CURVE			N 31°22'49.1" W	133.99	16°44'54.6"(LT)	12°27'20.2"	134.47	67.72	460.00
	PT	749700.644	1618250.588							

NOTES:

- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION 9 DDC UNIT.
- DRAWING NOT TO PROJECT SCALE

EL	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R	DELTA S	Ls	LT	ST
	POT	749063.574	1617552.347											
	LINE			S 86°05'44.8" E	199.85									
	TS	749049.966	1617751.734											
	SPIRAL			S 87°35'44.1" E	299.92						04°29'58.8"(LT)	300.00	200.06	100.06
	SC	749037.384	1618051.387											
	CURVE			N 76°52'32.7" E	828.67	25°03'27.4"(LT)	02°59'59.2"	835.32	424.44	1910.00				
	CS	749225.545	1618858.416											
	SPIRAL			N 61°20'49.5" E	299.92						04°29'58.8"(LT)	300.00	200.06	100.06
	ST	749369.357	1619121.606											
	LINE			N 59°50'50.2" E	200.06									
	POT	749469.851	1619294.600											

REVISIONS

6/2/99
27 APR 2018 10:02
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Division 9 DDC

PROJECT SURVEYOR



I, Jeremy L. Keaton, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work (Items) (Base map, Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

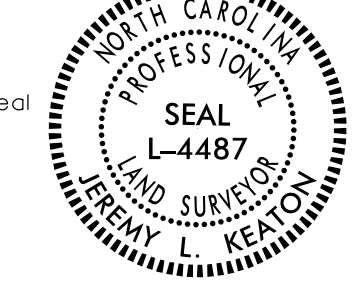
I further certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

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 existing survey control provided by others; that the depicted property data shown herein were surveyed by others; 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 original signature, registration number and seal this 27th day of April, 2018.

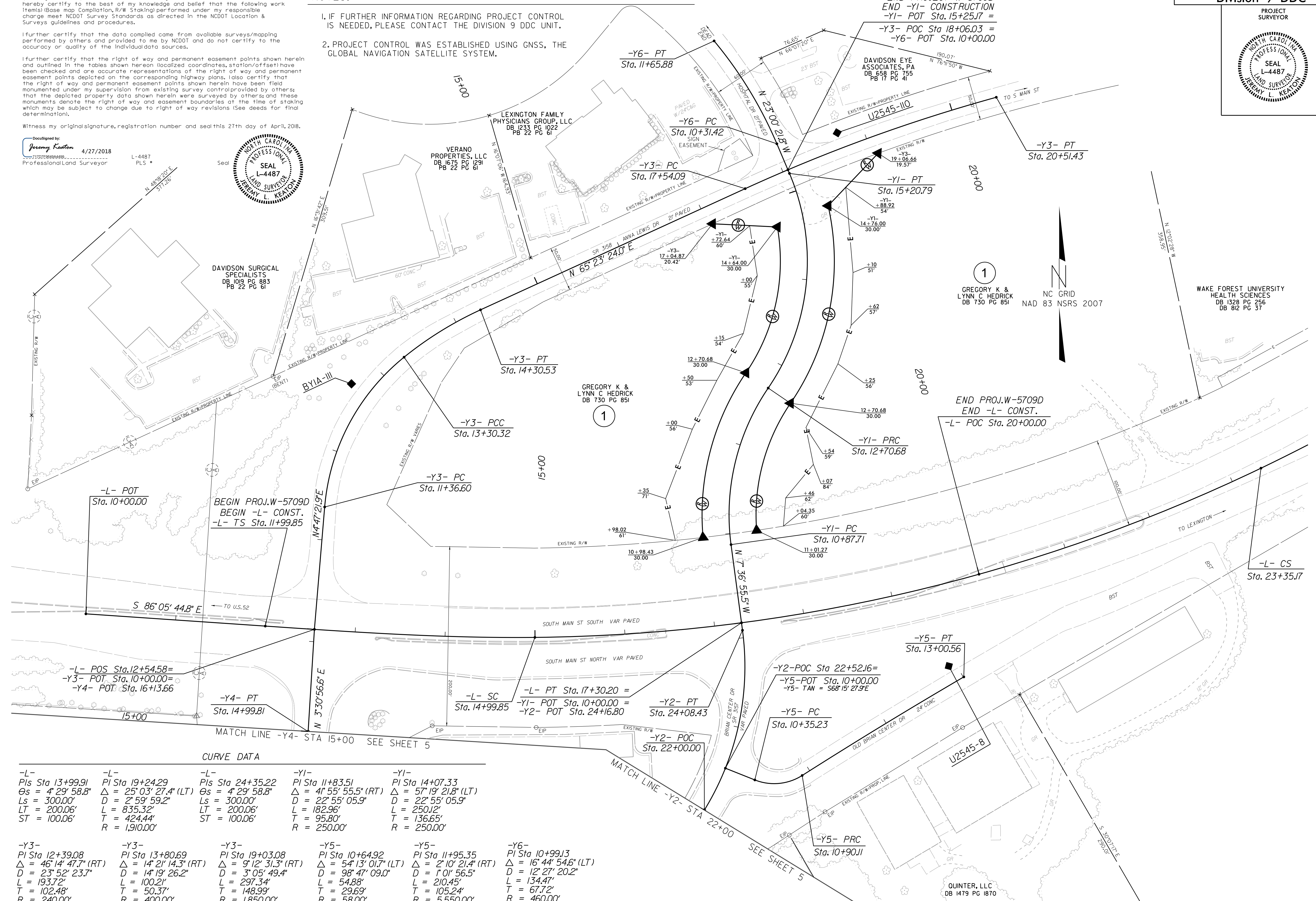
DocuSigned by:
Jeremy Keaton
4/27/2018
Professional Land Surveyor

L-4487
PLS #



- NOTES:**
- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION 9 DDC UNIT.
 - PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

END PROJECT W-5709D
END -Y1- CONSTRUCTION
-Y1- POT Sta. 15+25.17 =
-Y3- POC Sta. 18+06.03 =
-Y6- POT Sta. 10+00.00 =

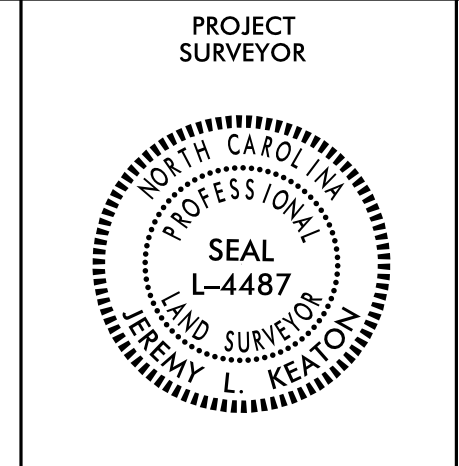


CURVE DATA

-L- PI Sta 12+39.91 Δ = 4° 29' 58.8" Ls = 300.00' LT = 200.06' T = 102.48' R = 240.00'	-L- PI Sta 19+24.29 Δ = 25° 03' 27.4" (LT) D = 2° 59' 59.2" L = 835.32' T = 424.44' R = 1,910.00'	-L- PI Sta 24+35.22 Δ = 4° 29' 58.8" Ls = 300.00' LT = 200.06' T = 100.06' R = 1,910.00'	-Y1- PI Sta 11+83.51 Δ = 41° 55' 55.5" (RT) D = 22° 55' 05.9" L = 182.96' T = 95.80' R = 250.00'	-Y1- PI Sta 14+07.33 Δ = 57° 19' 21.8" (LT) D = 22° 55' 05.9" L = 250.12' T = 136.65' R = 250.00'	-Y3- PI Sta 12+39.08 Δ = 46° 14' 47.7" (RT) D = 23° 52' 23.7" L = 193.72' T = 102.48' R = 240.00'	-Y3- PI Sta 13+80.69 Δ = 14° 21' 14.3" (RT) D = 14° 19' 26.2" L = 100.21' T = 50.37' R = 400.00'	-Y3- PI Sta 19+03.08 Δ = 9° 12' 31.3" (RT) D = 3° 05' 49.4" L = 100.21' T = 148.99' R = 1,850.00'	-Y5- PI Sta 10+64.92 Δ = 54° 13' 01.7" (LT) D = 98° 47' 09.0" L = 54.88' T = 29.69' R = 58.00'	-Y5- PI Sta 11+95.35 Δ = 2° 10' 21.4" (RT) D = 1° 01' 56.5" L = 210.45' T = 105.24' R = 5,550.00'	-Y6- PI Sta 10+99.13 Δ = 16° 44' 54.6" (LT) D = 12° 27' 20.2" L = 134.47' T = 67.72' R = 460.00'
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REVISIONS

6/2/199
27-APR-2018 10:02
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11/11/2018 10:44:09
L-4487
Professional Land Surveyor



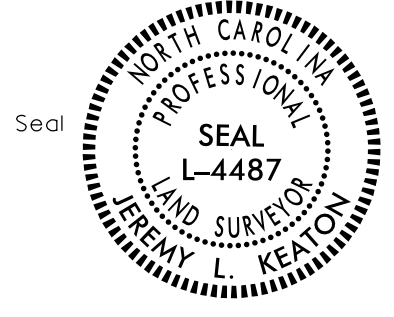
I, Jeremy L. Keaton, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work (Items) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

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. Also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; 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).

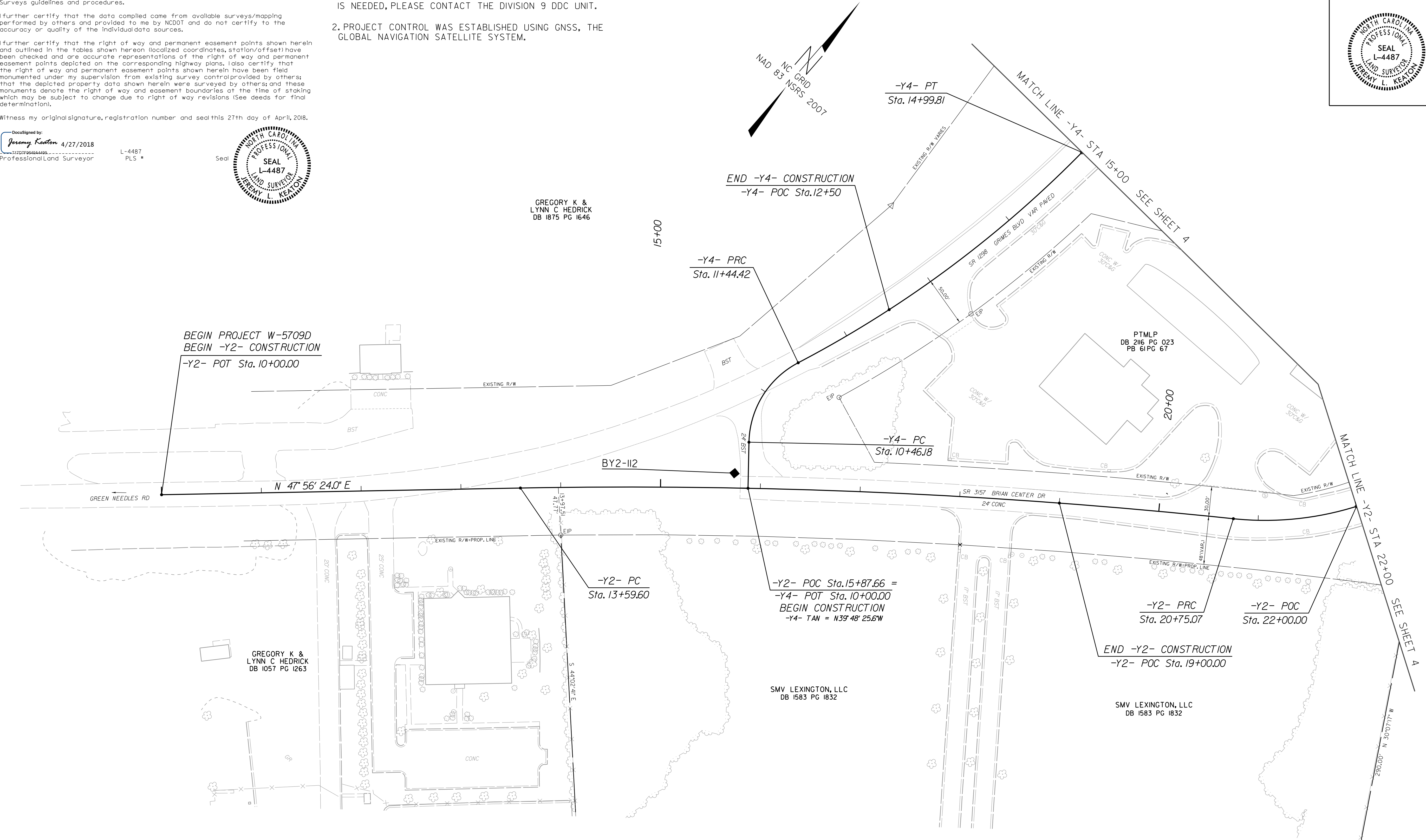
Witness my original signature, registration number and seal this 27th day of April, 2018.

DocuSigned by:
Jeremy Keaton 4/27/2018
 L-4487
 Professional Land Surveyor



NOTES:

- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION 9 DDC UNIT.
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.



CURVE DATA

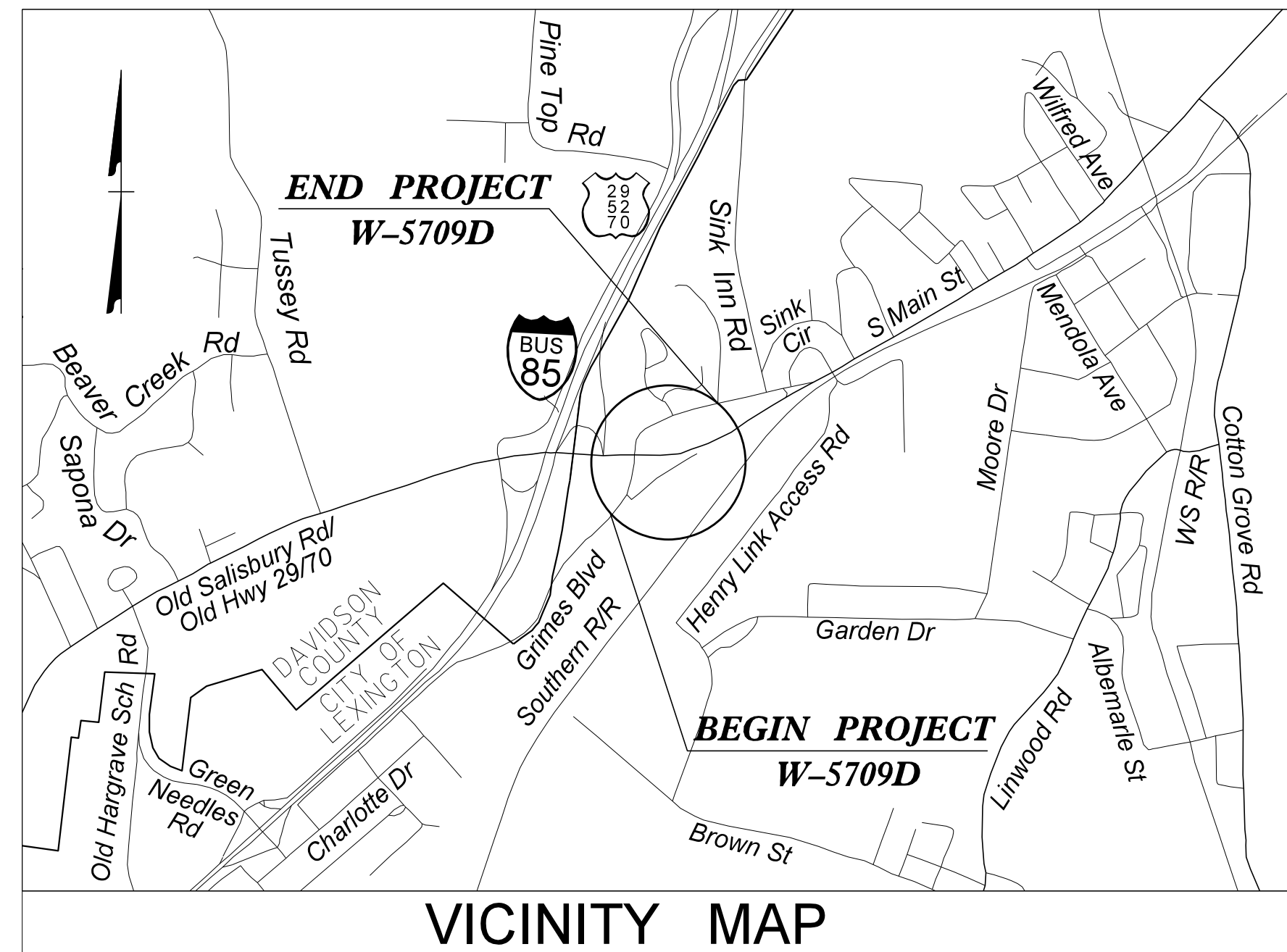
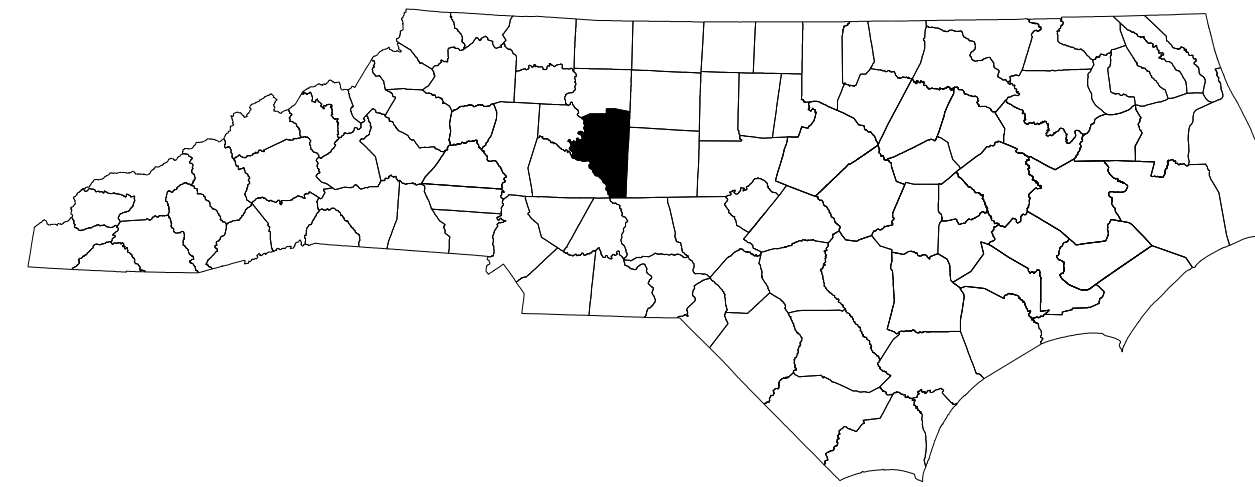
-L- PI Sta 13+99.91 Os = 4' 29" 58.8" Ls = 300.00' LT = 200.06' ST = 100.06'	-L- PI Sta 19+24.29 Δ = 25° 03' 27.4" (LT) D = 2' 59" 59.2" L = 835.32' R = 1,910.00'	-L- PI Sta 24+35.22 Os = 4' 29" 58.8" Ls = 300.00' LT = 200.06' ST = 100.06'	-Y2- PI Sta 17+17.79 Δ = 7° 04' 04.4" (RT) D = 0' 59" 16.3" L = 715.48' T = 358.19' R = 5,800.00'	-Y2- PI Sta 22+60.60 Δ = 62° 37' 23.9" (LT) D = 5' 01' 33.4" L = 333.36' T = 185.53' R = 305.00'	-Y4- PI Sta 13+23.57 Δ = 17° 51' 41.9" (LT) D = 5' 01' 33.4" L = 355.39' T = 179.15' R = 1,140.00'	-Y4- PI Sta 11+00.57 Δ = 61° 11' 04.1" (RT) D = 62' 16' 40.9" L = 98.24' T = 54.39' R = 92.00'	-Y5- PI Sta 10+64.92 Δ = 54° 13' 01.7" (LT) D = 98' 47" 09.0" L = 54.88' T = 29.69' R = 58.00'	-Y5- PI Sta 11+95.35 Δ = 2° 10' 21.4" (RT) D = 1' 01' 56.5" L = 210.45' T = 105.24' R = 5,550.00'
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 Annotation: AT DIV 9-2941510

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

DAVIDSON COUNTY



**LOCATION: S. MAIN STREET (SR 3346) AT ANNA LEWIS DR (SR 3158)
AND BRIAN CENTER DR (SR 3157) AT GRIMES BLVD (SR 1298)**

TYPE OF WORK: GRADING, PAVING, DRAINAGE, PAVEMENT MARKINGS, SIGNING

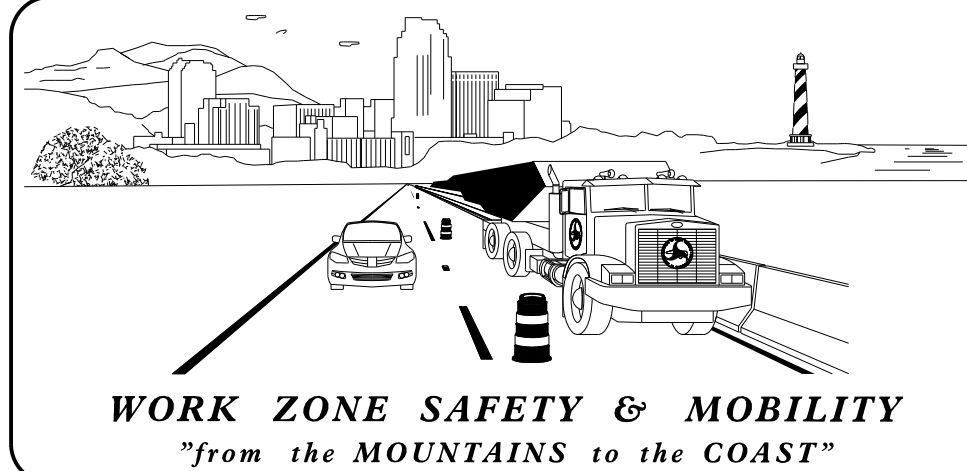
INDEX OF SHEETS	
SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-2	TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES, AND MANAGEMENT STRATEGIES)
TMP-2A	SPECIAL SIGN DESIGN
TMP-3	PHASING
TMP-4	TEMPORARY TRAFFIC CONTROL DETAIL 1
TMP-5	TEMPORARY TRAFFIC CONTROL DETAIL 2
TMP-6	TEMPORARY TRAFFIC CONTROL DETAIL 3
TMP-7	TEMPORARY TRAFFIC CONTROL DETAIL 4
TMP-8	TEMPORARY TRAFFIC CONTROL DETAIL 5

SHEET NO.
TMP-1

W-5709D

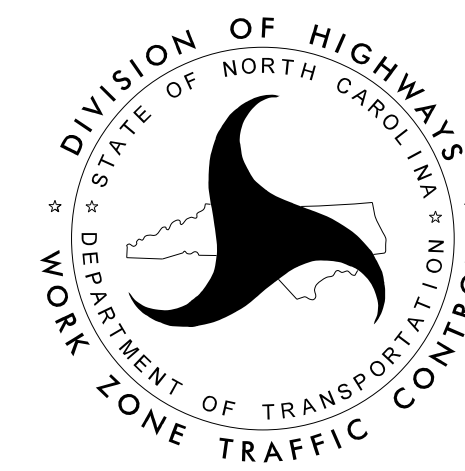
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N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

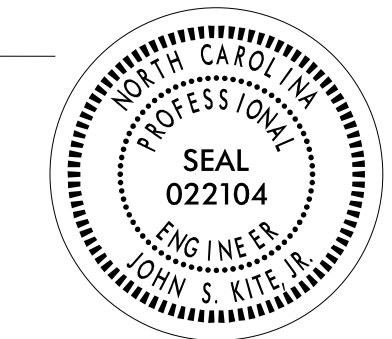
JOSEPH HUMMER, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
STEVE KITE, P.E. TRAFFIC CONTROL PROJECT ENGINEER
MICHAEL STEELMAN TRAFFIC CONTROL PROJECT DESIGN ENGINEER
ALLA LYUDMIRSKAYA TRAFFIC CONTROL DESIGN ENGINEER



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

APPROVED: *Steve Kite*
DATE: 4/4/2018

SEAL



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR 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 WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD 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	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1165.01	TRUCK MOUNTED ATTENUATOR
1180.01	SKINNY - DRUMS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS

LEGEND

GENERAL

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



SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TEMPORARY PAVEMENT MARKING

- PAVEMENT MARKINGS - PAINT (4")
- P8 2FT.-6FT./SP WHITE MINI-SKIP
 - PA WHITE EDGELINE
 - PB YELLOW EDGELINE
 - PE WHITE SOLID LANE LINE
 - PI YELLOW DOUBLE CENTER
 - PF 10 FT. YELLOW SKIP
 - PH YELLOW SINGLE CENTER

PAVEMENT MARKINGS - PAINT (8")

- PP YELLOW DIAGONAL

PAVEMENT MARKINGS - PAINT (24")

- P2 WHITE STOPBAR

PAVEMENT MARKING SYMBOLS - PAINT

- QA LEFT TURN ARROW
- QB RIGHT TURN ARROW
- QC STRAIGHT ARROW
- QE COMBO. STRAIGHT/RIGHT

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

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APPROVED: DATE: 4/4/2018			<p style="text-align: center;">ROADWAY STANDARD DRAWINGS & LEGEND</p>
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			

MANAGEMENT STRATEGIES

THE PROPOSED ROADWAY AND TIE-IN CONSTRUCTIONS, TRAFFIC SHIFTS, AND PLACEMENT OF THE FINAL SURFACE COURSE AND PAVEMENT MARKINGS AND PAVEMENT MARKERS WILL BE PERFORMED USING LANE AND/OR SHOULDER CLOSURES AND FLAGGER OPERATIONS, AS NECESSARY.

CONSTRUCTION OF PROPOSED -Y4- (GRIMES BLVD.) WILL BE COMPLETED, AWAY FROM TRAFFIC. DURING CONSTRUCTION TRAFFIC WILL BE DETOURED OFF-SITE VIA BRIAN CENTER DR. (-Y2-)

ACCESS TO ALL BUSINESSES AND DRIVEWAYS, MUST BE PROVIDED AT ALL TIMES WITHIN THE PROJECT LIMITS.

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
SOUTH MAIN STREET (-L-)	MONDAY THROUGH FRIDAY FROM 6:00AM TO 9:00AM AND FROM 4:00PM TO 6:00PM

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

ROAD NAME
SOUTH MAIN STREET (-L-)

HOLIDAY

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

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00PM THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00AM FRIDAY AND 6:00PM TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00AM TUESDAY TO 6:00PM MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- FOR THE LEXINGTON BBQ FESTIVAL, BETWEEN TWENTY-FOUR (24) HOURS BEFORE THE START OF THE FESTIVAL AND TWELVE (12) HOURS AFTER THE END OF THE FESTIVAL.

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 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- K) 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.
- L) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

- M) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 350 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

- P) 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.
- Q) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- R) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING
-L- (SOUTH MAIN ST.)	PAINT
-Y1-	PAINT
-Y2- (BRIAN CENTER DR.)	PAINT
-Y3- (ANNA LEWIS DR.)	PAINT
-Y4- (GRIMES BLVD.)	PAINT

- T) 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.
- U) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- V) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- W) TRACE THE EXISTING AND PROPOSED MONOLITHIC ISLAND LOCATIONS WITH THE PROPER COLOR PAVEMENT MARKING PRIOR TO REMOVAL AND INSTALLATION. PLACE DRUMS TO DELINEATE ANY EXISTING AND PROPOSED MONOLITHIC ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION.

MISCELLANEOUS

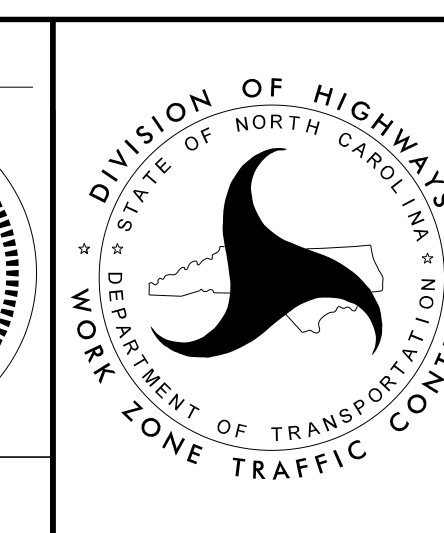
- X) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- Y) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 350 FT. AND 700 FT. RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

DocuSigned by:
APPROVED: *Steve Kite*
E27CE30E1DFC442

DATE: 4/4/2018

SEAL
022104
ENGINEER
JOHN S. KITE, II

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



**TRANSPORTATION
OPERATIONS
PLAN**

PHASING

STEP 1:

USING RSD 1101.01, SHEETS 1 AND 3 OF 3, INSTALL WORK ZONE ADVANCE WARNING SIGNS ALONG SOUTH MAIN ST., SR 1298 (GRIMES BLVD.), SR 3157 (BRIAN CENTER DR.) AND SR 3158 (ANNA LEWIS DR.).

STEP 2:

- AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF PROPOSED -Y1- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STA.10+40+/- TO STA.15+00+/- (SEE SHEET TMP-4).
- AWAY FROM TRAFFIC, AND USING RSD 1101.02, SHEETS 1 AND 3 OF 14, BEGIN INSTALLATION OF FINAL TRAFFIC SIGNAL AT INTERSECTION OF -L- AND -Y1-/-Y2-. COVER SIGNAL HEADS.
- AWAY FROM TRAFFIC, AND USING RSD 1101.02, SHEET 1 OF 14, AS NEEDED, CONSTRUCT PROPOSED -Y2- FROM STA.13+60+/- TO STA.15+80+/-, AND TEMPORARY TIE IN WITH EXISTING GRIMES BLVD. AS SHOWN ON SHEET TMP-5.
- USING RSD 1101.02, SHEET 1 OF 14, CONSTRUCT WEDGING ON -Y2- FROM STA.15+80+/- TO STA.19+00+/- (SEE ROADWAY PLANS AND SHEET TMP-5). PLACE TEMPORARY PAVEMENT MARKINGS.
- USING RSD 1101.02, SHEETS 1 AND 3 OF 14, INSTALL AND COVER ROAD CLOSURE AND DETOUR SIGNS FOR GRIMES BLVD. CLOSURE.

STEP 3:

- USING DAILY LANE CLOSURES, RSD 1101.02, SHEET 3 OF 14, BEGIN THE FOLLOWING ON SOUTH MAIN ST. (-L-) BETWEEN -Y3-/-Y4- AND -Y1-/-Y2- INTERSECTIONS (SEE ROADWAY PLANS AND SHEET TMP-6):
 - * REMOVE EXISTING MEDIAN CONCRETE ISLAND, AND REPAIR SURFACE COURSE
 - * CONSTRUCT PROPOSED MEDIAN CONCRETE ISLAND FROM -L- STA.13+50+/- TO -L- STA.16+45+/-.
 - * PLACE TEMPORARY PAVEMENT MARKINGS ON -L- FROM STA.13+50+/- TO STA.16+45+/-.
- USING RSD 1101.02, SHEETS 1 AND 3 OF 14, COMPLETE CONSTRUCTION OF PROPOSED -Y1-, TIE IN WITH EXISTING ANNA LEWIS DR. AND SOUTH MAIN ST., PLACE TEMPORARY PAVEMENT MARKINGS FROM -Y1- STA.10+00+/- TO -Y1- STA.15+00+/- (SEE SHEET TMP-6).
- UNCOVER ROAD CLOSURE AND DETOUR SIGNS, INSTALLED IN STEP 2. PLACE TYPE III BARRICADES AND CLOSE GRIMES BLVD. BETWEEN SOUTH MAIN ST. AND BRIAN CENTER DR. DETOUR TRAFFIC VIA THE EASTERN ACCESS OF BRIAN CENTER DR. TO SOUTH MAIN ST. ADJUST PAVEMENT MARKINGS AT JUNCTION OF -Y2- AND EXISTING GRIMES BLVD. TO WORK WITH TRAFFIC PATTERN SHOWN ON SHEET TMP-7 (SEE SHEETS TMP-6 AND TMP-7).

STEP 4:

- COMPLETE PROPOSED MEDIAN CONCRETE ISLAND ON SOUTH MAIN ST. (-L-) FROM STA.13+50+/- TO STA.16+80+/-, BEGUN IN STEP 3 (SEE TMP-6).
- USING RSD 1101.02, SHEET 1 OF 14, COMPLETE CONSTRUCTION UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -Y2- STA.10+00+/- TO -Y2- STA.13+60+/-, PLACE TEMPORARY PAVEMENT MARKINGS (SEE SHEET TMP-7 AND FINAL PAVEMENT MARKING PLAN).
- AWAY FROM TRAFFIC, AND USING RSD 1101.02, SHEET 1 OF 14, AS NEEDED, BEGIN THE FOLLOWING (SEE SHEET TMP-7, TMP-8 AND FINAL PAVEMENT MARKING PLAN):
 - * CONSTRUCT PROPOSED -Y4- (GRIMES BLVD.) UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STA.10+00+/- TO STA.12+50+/-.
 - * PLACE TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN ON -Y4-
 - * REMOVE EXISTING ROADWAY ON GRIMES BLVD. BETWEEN PROPOSED -Y4- (GRIMES BLVD.) AND -Y2- (BRIAN CENTER DR.).
- COMPLETE INSTALLATION OF FINAL TRAFFIC SIGNAL AT INTERSECTION OF -L- AND -Y1-/-Y2-. COVER SIGNAL HEADS.

STEP 5:

- PERFORM THE FOLLOWING (SEE SHEETS TMP-7, TMP-8 AND FINAL PAVEMENT MARKING PLAN):
 - * OPEN PROPOSED -Y1- TO TRAFFIC IN THE FINAL PATTERN.
 - * OPEN PROPOSED LEFT TURN LANE ON EB OF -L- (SOUTH MAIN ST.) TO -Y1-.
 - * ACTIVATE FINAL TRAFFIC SIGNAL AT INTERSECTION OF -L- AND -Y1-/-Y2-.
 - * USING RSD 1101.02, SHEETS 1 AND 3 OF 14, PLACE TEMPORARY PAVEMENT MARKINGS IN THE FINAL PATTERN ON -L-, -Y2-, AND -Y3-.
- USING DAILY LANE CLOSURES, RSD 1101.02, SHEET 3 OF 14, COMPLETE CONSTRUCTION OF PROPOSED MEDIAN CONCRETE ISLAND ON -L- FROM STA.12+18+/- TO STA.13+50+/-, AND PLACE TEMPORARY PAVEMENT MARKINGS (SEE SHEET TMP-8).
- COMPLETE CONSTRUCTION AND REMOVAL WORK ON GRIMES BLVD. (-Y4-), BEGUN IN STEP 4. PLACE TEMPORARY PAVEMENT MARKINGS ON -Y4- IN THE FINAL PATTERN (SEE TMP-7 AND FINAL PAVEMENT MARKING PLAN).

STEP 6:

- REMOVE TYPE III BARRICADES, ROAD CLOSURE AND DETOUR SIGNS FOR GRIMES BLVD. CLOSURE. OPEN PROPOSED -Y4- (GRIMES BLVD.) TO TRAFFIC IN THE FINAL PATTERN (SEE FINAL PAVEMENT MARKING PLAN).
- USING RSD 1101.02, SHEETS 1 AND 3 OF 14, PLACE FINAL SURFACE COURSE AND FINAL PAVEMENT MARKINGS ON ALL ROADS. (SEE ROADWAY PLANS AND FINAL PAVEMENT MARKING PLAN).

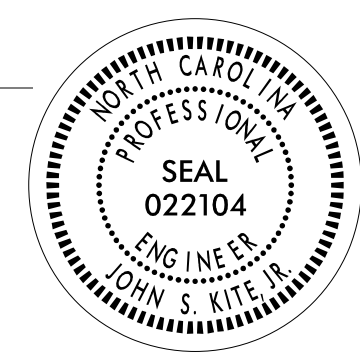
STEP 7:

REMOVE ALL REMAINING WORK ZONE TRAFFIC CONTROL DEVICES.

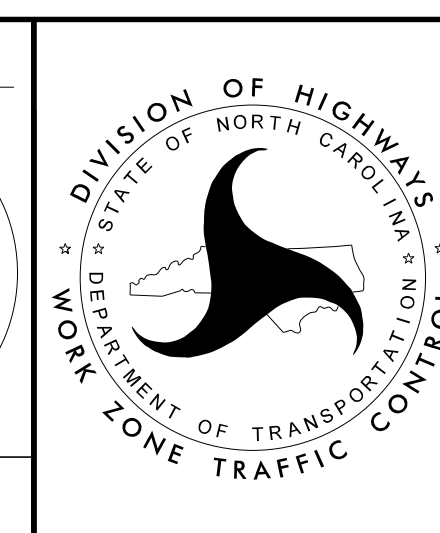
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DocuSigned by:
APPROVED: *Stew Kite*
E27CE30E10FC442

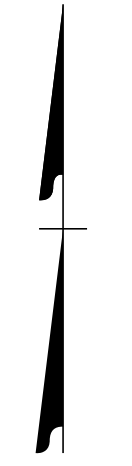
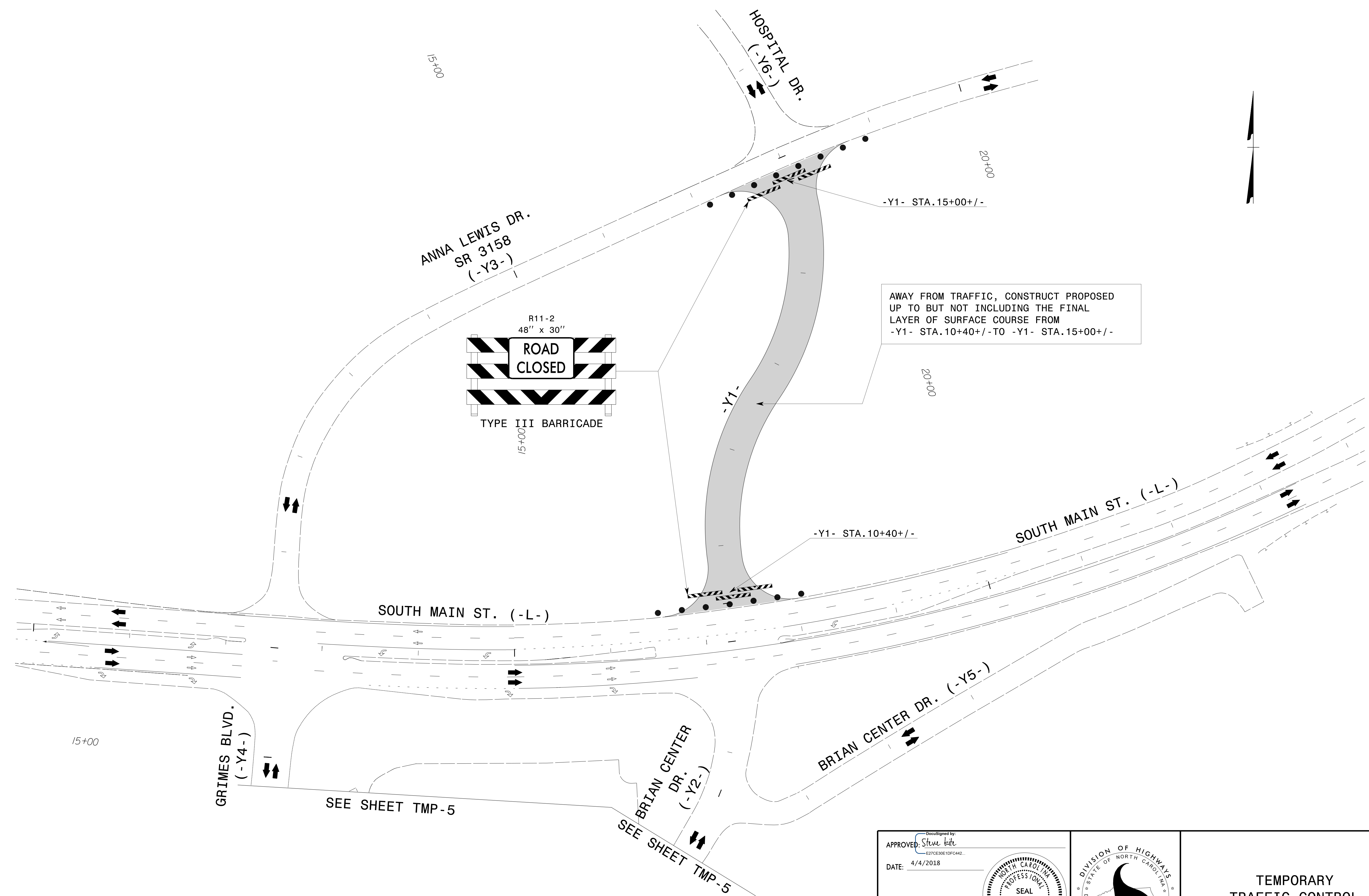
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**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



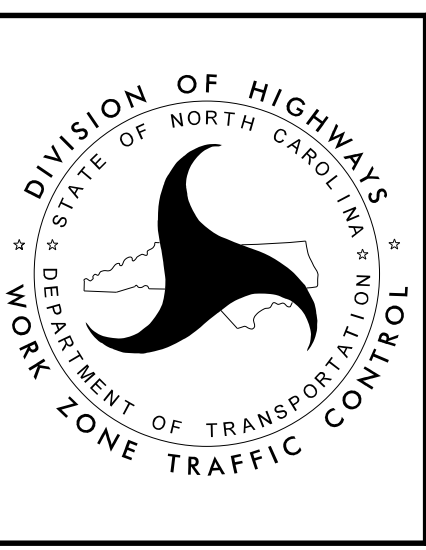
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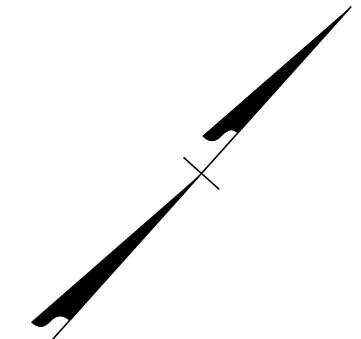
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 User:tmsteelman

APPROVED: *Steve Kite*
E27CE30E1DFC442
 DATE: 4/4/2018

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

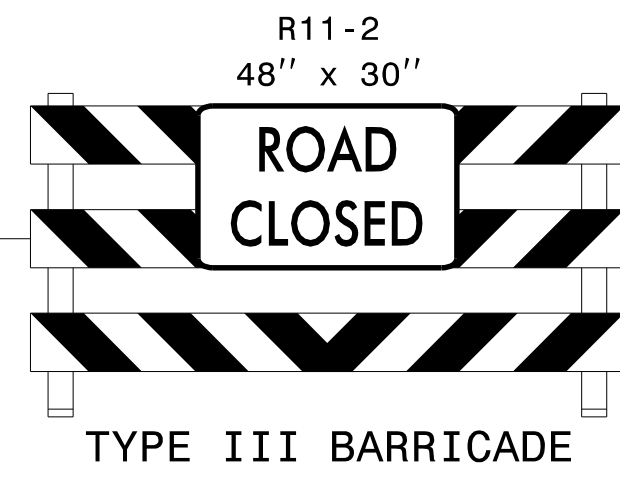
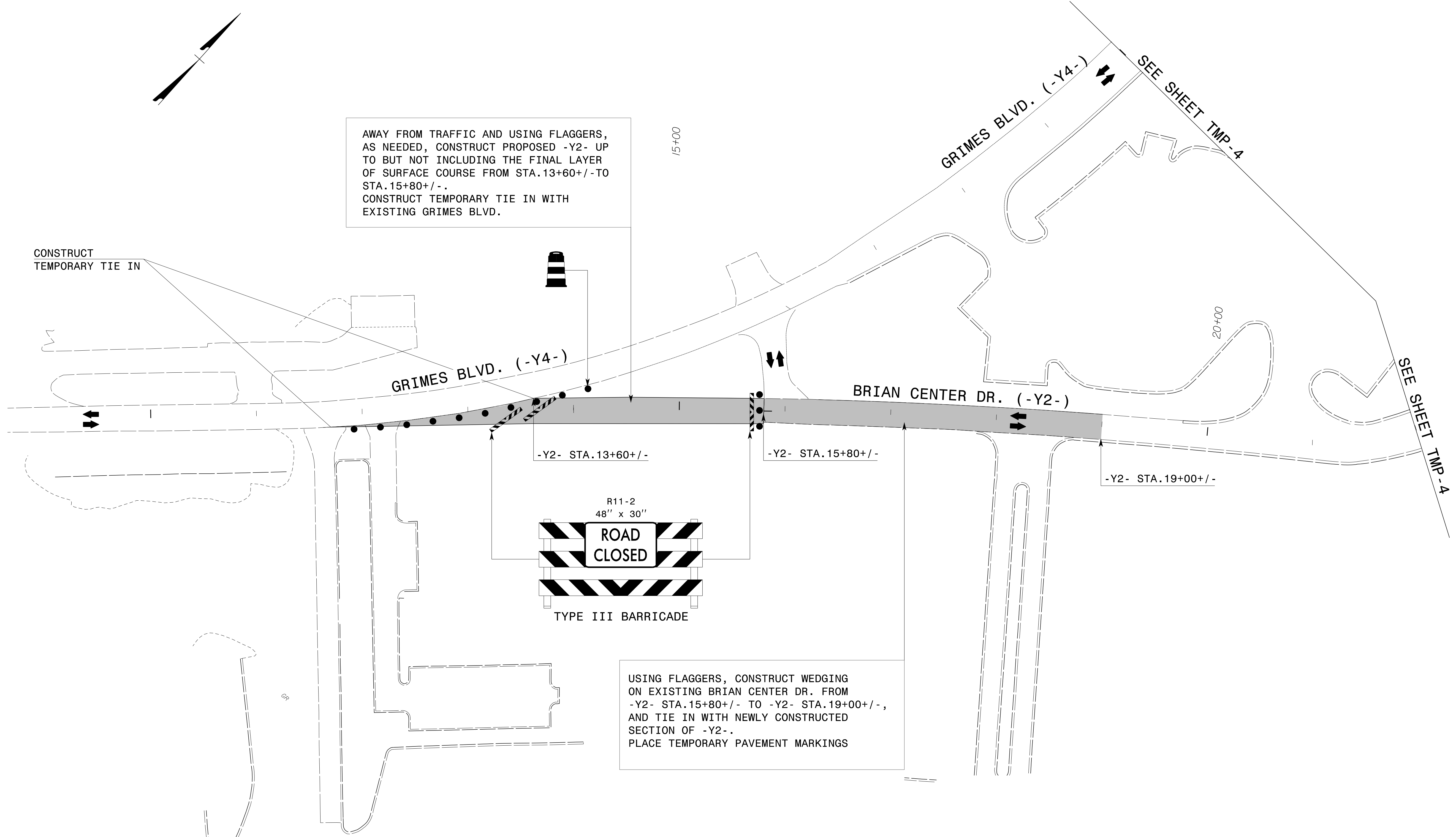


**TEMPORARY
 TRAFFIC CONTROL
 DETAIL 1**



AWAY FROM TRAFFIC AND USING FLAGGERS, AS NEEDED, CONSTRUCT PROPOSED -Y2- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STA.13+60+/- TO STA.15+80+/- . CONSTRUCT TEMPORARY TIE IN WITH EXISTING GRIMES BLVD.

CONSTRUCT TEMPORARY TIE IN

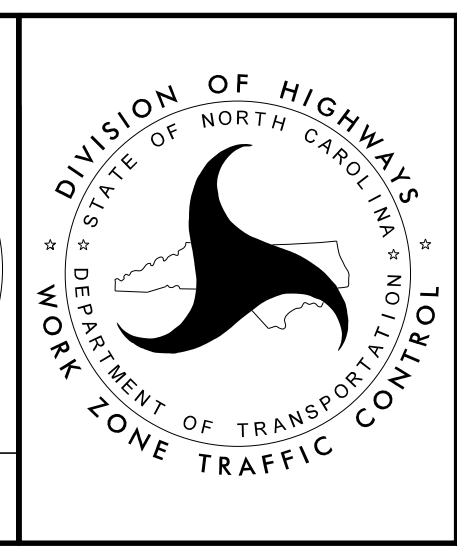


USING FLAGGERS, CONSTRUCT WEDGING ON EXISTING BRIAN CENTER DR. FROM -Y2- STA.15+80+/- TO -Y2- STA.19+00+/- , AND TIE IN WITH NEWLY CONSTRUCTED SECTION OF -Y2- . PLACE TEMPORARY PAVEMENT MARKINGS

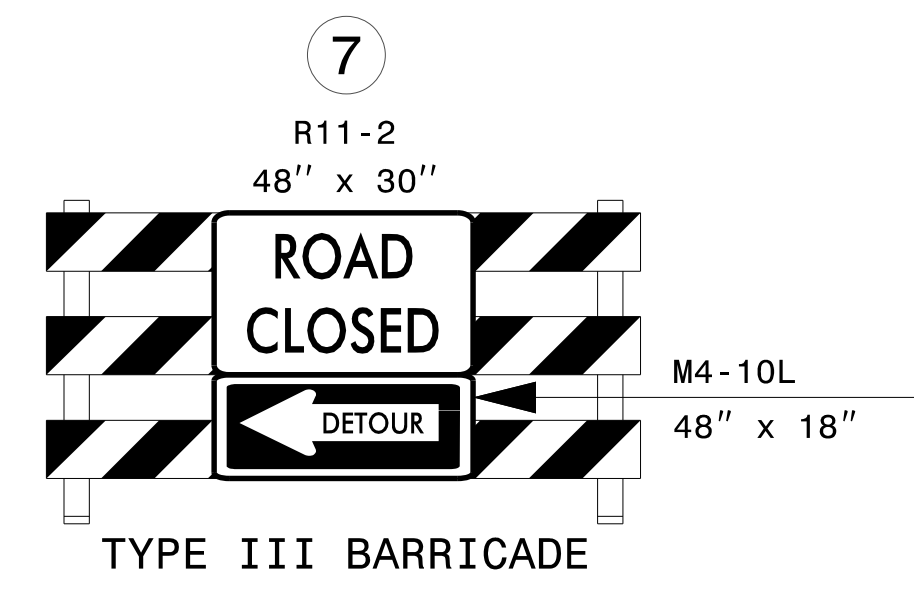
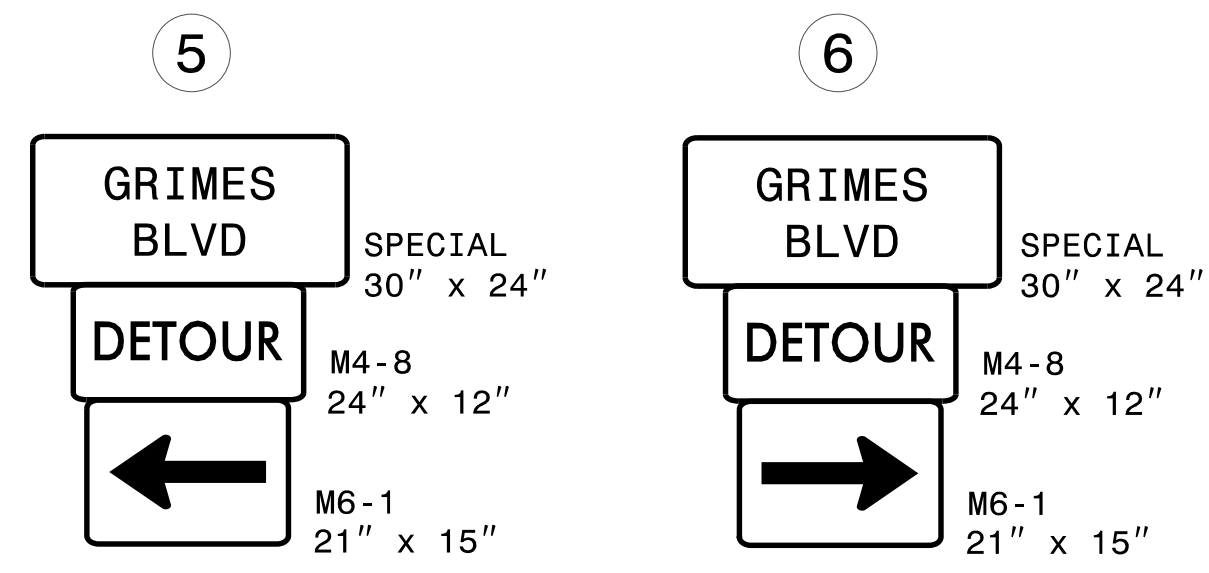
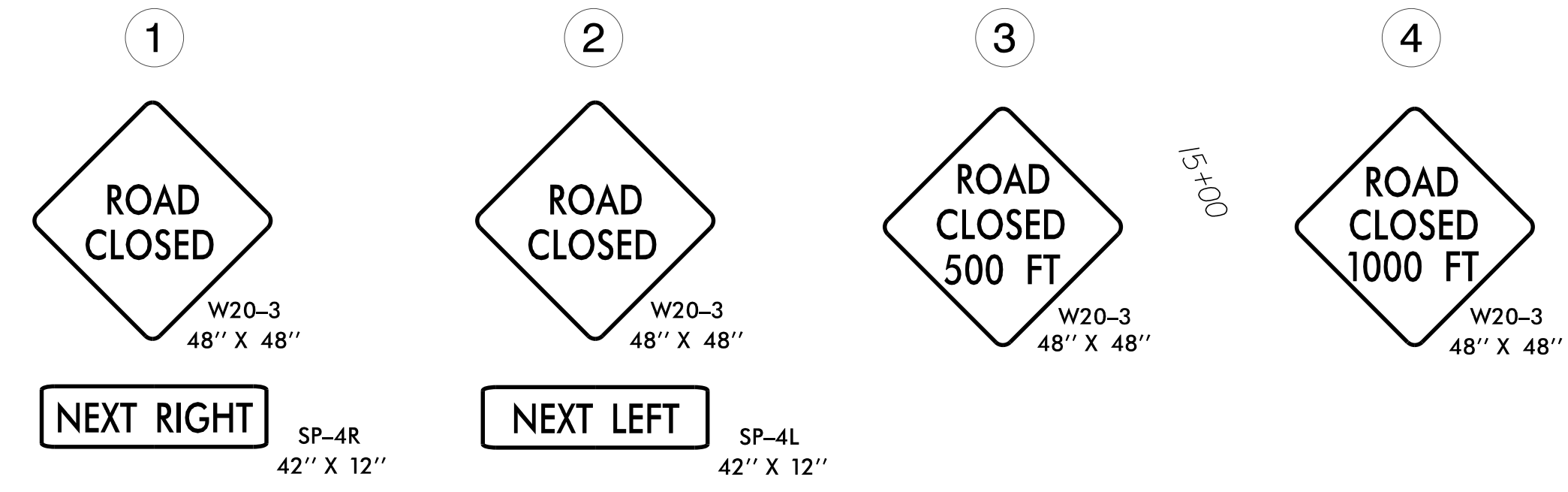
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APPROVED: *Steve Kite*
E27CE38E1DFC42
 DATE: 4/4/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



**TEMPORARY TRAFFIC CONTROL
DETAIL 2**



USING DAILY LANE CLOSURES, CLOSE THE FOLLOWING ON -L- BETWEEN -Y3- /-Y4- AND -Y1- /-Y2- INTERSECTIONS:
WB - LEFT TURN LANE/INSIDE THRU LANE
EB - INSIDE THRU LANE.
REMOVE EXISTING MEDIAN CONCRETE ISLAND AND REPAIR SURFACE COURSE.
CONSTRUCT PROPOSED MEDIAN CONCRETE ISLAND FROM -L- STA.13+50+/- TO -L- STA.16+45+/-

USING FLAGGERS AND LANE CLOSURES, CONSTRUCT TIE INS OF -Y1- WITH EXISTING ANNA LEWIS DR. AND SOUTH MAIN ST. PLACE TEMPORARY PAVEMENT MARKINGS ON -Y1- IN THE FINAL PATTERN

LOCATE CMS 1000 FT. IN ADVANCE OF CLOSED LANE OR AS DIRECTED BY THE ENGINEER

MESSAGE NO. 1	MESSAGE NO. 2
GRIMES CLOSED AHEAD	USE BRIAN CNTR DR
CHANGEABLE MESSAGE SIGN	

- NOTES:
- REFER TO RSD 1101.03, SHEET 2 OF 9, FOR SIGN DISTANCES AND GENERAL NOTES.
 - REFER TO SHEET TMP-2A FOR SPECIAL SIGN DESIGN.

MESSAGE NO. 1	MESSAGE NO. 2
GRIMES CLOSED AHEAD	USE BRIAN CNTR DR
CHANGEABLE MESSAGE SIGN	

LOCATE CMS 1000 FT. IN ADVANCE OF CLOSED LANE OR AS DIRECTED BY THE ENGINEER

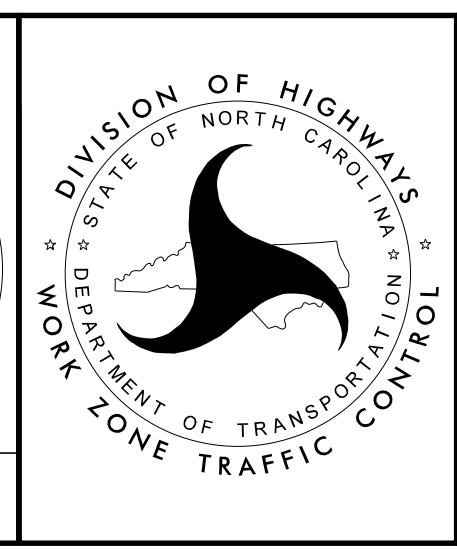
DETOUR TRAFFIC VIA THE EASTERN ACCESS OF BRIAN CENTER DR. TO SOUTH MAIN ST.

APPROVED: *Steve Kite*
DATE: 4/4/2018

DocuSigned by:
E27CE30E1DFC442

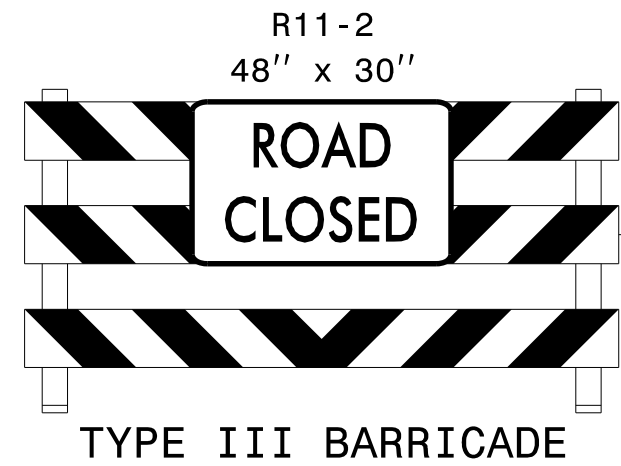
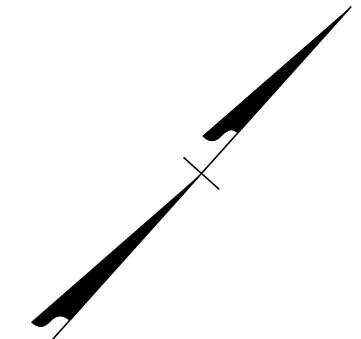
SEAL 022104
JOHN S. KITE, II
ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TEMPORARY TRAFFIC CONTROL DETAIL 3

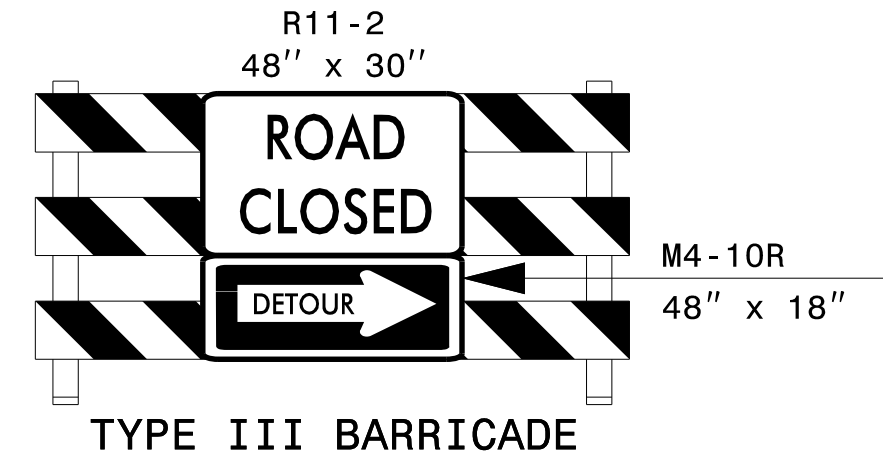
4/4/2018 S:\TMU\WZTC\DesignGroup2\special projects\DPDC Projects\W-5709D (01v.9)\TCP\Final TMP\W-5709D_TC_TMP-6 Remove Island on L.dgn User:msfeelman



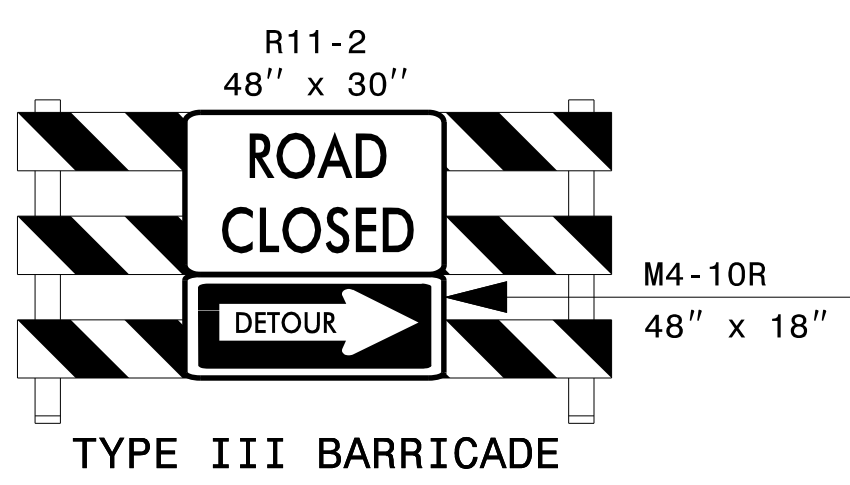
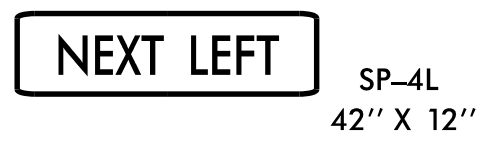
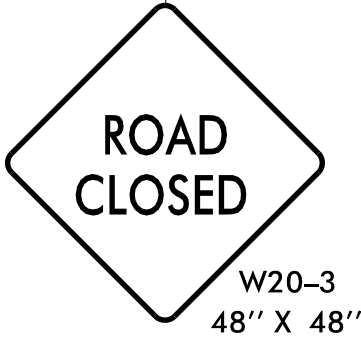
CLOSE GRIMES BLVD. BETWEEN SOUTH MAIN ST. AND BRIAN CENTER DR.
DETOUR TRAFFIC VIA THE EASTERN ACCESS OF BRIAN CENTER DR. TO SOUTH MAIN ST.

AWAY FROM TRAFFIC AND USING FLAGGERS, AS NEEDED, CONSTRUCT PROPOSED -Y4- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.
PLACE TEMPORARY PAVEMENT MARKINGS.

END -Y4- CONSTRUCTION
-Y4- STA.12+50+/-



BEGIN -Y2- CONSTRUCTION
-Y2- STA.10+00+/-



USING FLAGGERS, CONSTRUCT WEDGING ON PROPOSED -Y2-.
COMPLETE TIE IN, AND PLACE TEMPORARY PAVEMENT MARKINGS FROM -Y2- STA.10+00+/- TO -Y2- STA.13+60+/-.

END -Y2- CONSTRUCTION
-Y2- STA.19+00+/-

GRIMES BLVD. (-Y4-)

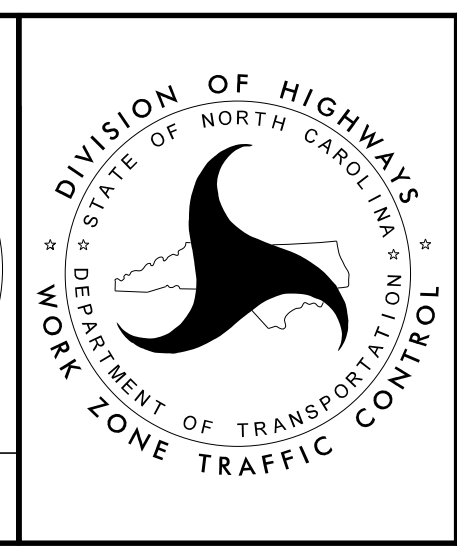
BRIAN CENTER DR. (-Y2-)

SEE SHEET TMP-6

SEE SHEET TMP-6

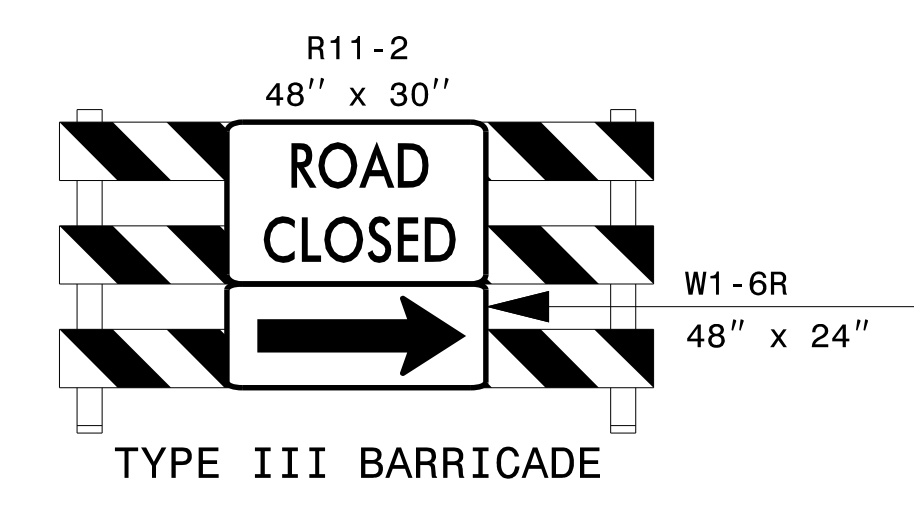
APPROVED: *Steve Kite*
DATE: 4/4/2018

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



**TEMPORARY
TRAFFIC CONTROL
DETAIL 4**

4/4/2018 S:\TMU\WZTC\DesignGroup2\special projects\DPOC Projects\W-5709D (01v.9)\TCP\Final TMP\W-5709D_TC_TMP-7_Construct Y4.dgn User:msfeelman



LOCATE CMS 1000 FT. IN ADVANCE OF CLOSED LANE OR AS DIRECTED BY THE ENGINEER

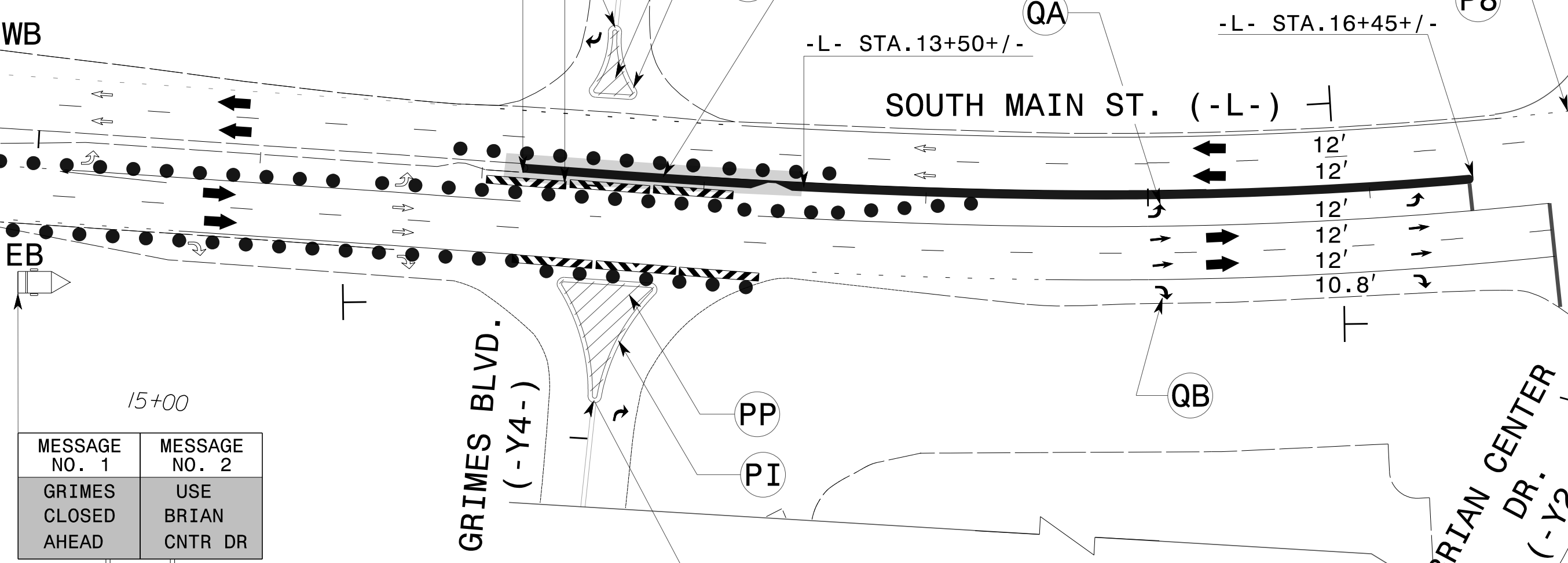
MESSAGE NO. 1	MESSAGE NO. 2
GRIMES CLOSED AHEAD	USE BRIAN CNTR DR

CHANGEABLE MESSAGE SIGN

USING DAILY LANE CLOSURES, CLOSE THE FOLLOWING ON -L- BETWEEN -Y3-/-Y4- AND -Y1-/-Y2- INTERSECTIONS:
 *WB - INSIDE THRU LANE.
 COMPLETE CONSTRUCTION OF PROPOSED MEDIAN CONCRETE ISLAND FROM -L- STA.12+18+/- TO -L- STA.13+50+/- .
 TIE IN WITH EXISTING MEDIAN CONCRETE ISLAND AT -L- STA.12+18+/-, AND PLACE TEMPORARY PAVEMENT MARKINGS.

PROPOSED PAINTED ISLAND ON -Y3-

-L- STA.12+18+/-
TIE IN WITH EXISTING MEDIAN CONCRETE ISLAND



MESSAGE NO. 1	MESSAGE NO. 2
GRIMES CLOSED AHEAD	USE BRIAN CNTR DR

CHANGEABLE MESSAGE SIGN

LOCATE CMS 1000 FT. IN ADVANCE OF CLOSED LANE OR AS DIRECTED BY THE ENGINEER

PROPOSED PAINTED ISLAND ON -Y4-

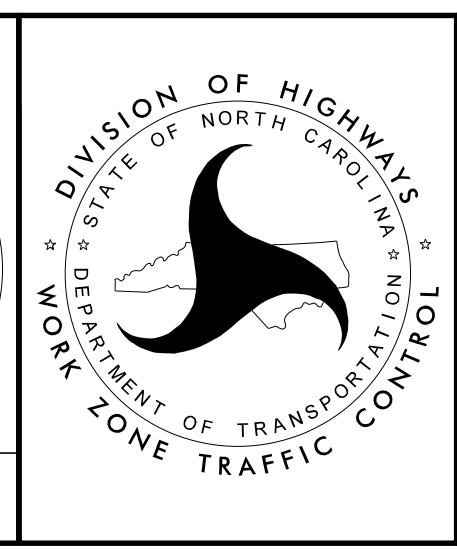
NOTE:
REFER TO SHEET TMP-6 FOR ROAD CLOSURE AND DETOUR SIGNS.

APPROVED: *Steve Kite*
 DATE: 4/4/2018

DocuSigned by:
 E27CE30E1DFC442

SEAL
 022104
 JOHN S. KITE, P.E.
 ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED




TEMPORARY TRAFFIC CONTROL
 DETAIL 5

4/4/2018
 S:\TMU\WZTC\DesignGroup2\special projects\DPOC Projects\W-5709D (01v.9)\TCP\Final TMP\W-5709D_TC_TMP-8_New Island on L.dgn
 User:tmsteelman

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
DAVIDSON COUNTY**

**LOCATION: S. MAIN STREET (SR 3346) AT ANNA LEWIS DR (SR 3158)
AND BRIAN CENTER DR (SR 3157) AT GRIMES BLVD (SR 1298)**

<small>TIP NO.</small> W-5709D	<small>SHEET NO.</small> PMP - 1
<small>APPROVED:</small> <i>Renee B. Roach</i> <small>DATE:</small> 3/22/2018	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

T.I.P.: W-5709D

**PAVEMENT
MARKING SCHEDULE**

SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS
T2	WHITE STOPBAR	THERMOPLASTIC(24", 120 MILS) THERMOPLASTIC(4", 120 MILS)
T8 TC TD TE TF TH TI	2 FT. - 6 FT./SP WHITE MINISKIP 10 FT. WHITE SKIP 3 FT. - 9 FT./SP WHITE MINISKIP WHITE SOLID LANE LINE 10 FT. YELLOW SKIP YELLOW SINGLE CENTER YELLOW DOUBLE CENTER	THERMOPLASTIC(4", 90 MILS)
TA TB	WHITE EDGELINE YELLOW EDGELINE	THERMOPLASTIC(8", 90 MILS)
TP	YELLOW DIAGONAL	THERMOPLASTICPAVEMENT MARKING SYMBOLS (90 MILS)
UA UB UC UE	LEFT TURN ARROW RIGHT TURN ARROW STRAIGHT ARROW COMBO. STRAIGHT/RIGHT	

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
ALL	THERMOPLASTIC	NONE
 - 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) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
 - F) 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.
 - G) SEE ROADWAY PLANS FOR ALTERNATE CURB RAMP DESIGNS WHEN INDICATED ON PAVEMENT MARKING DETAIL SHEETS.

INDEX

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2-3	PAVEMENT MARKING DETAIL

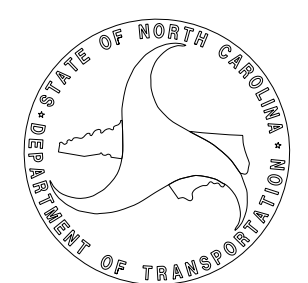
ROADWAY STANDARD DRAWING

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:

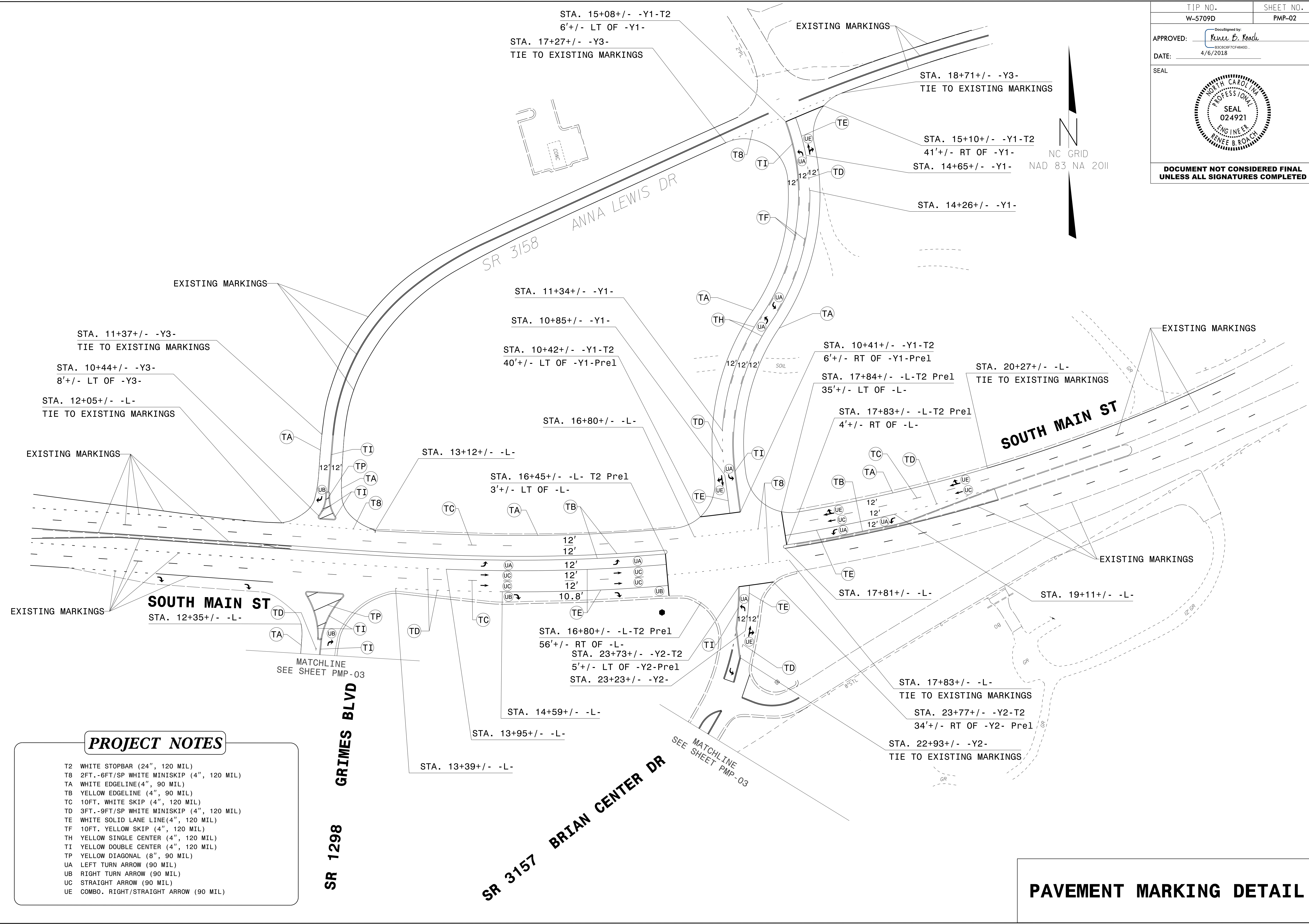
<u>STD. NO.</u>	<u>TITLE</u>
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS

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

K. L. JORDAN SIGNING & DELINEATION REGIONAL ENGINEER
J. G. MARTINEZ SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN



SYSTEMS
 DESIGN
 CONSULTANTS
 LLC
 1000
 W. HARRIS
 BLVD
 SUITE 100
 RALEIGH, NC 27601
 919.876.1000



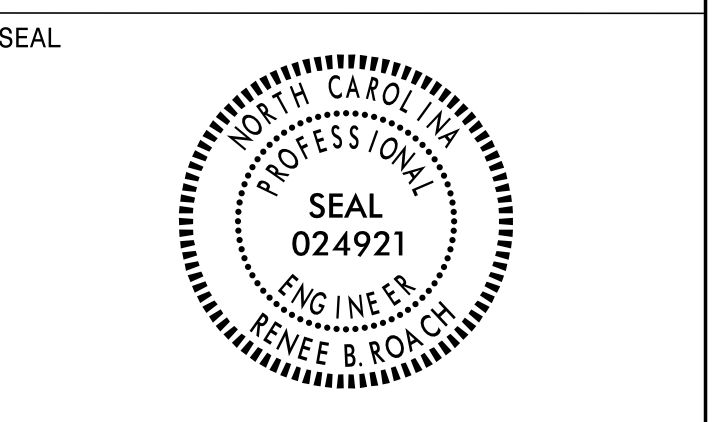
PROJECT NOTES

- T2 WHITE STOPBAR (24", 120 MIL)
- T8 2FT.-6FT/SP WHITE MINISKIP (4", 120 MIL)
- TA WHITE EDGELINE(4", 90 MIL)
- TB YELLOW EDGELINE (4", 90 MIL)
- TC 10FT. WHITE SKIP (4", 120 MIL)
- TD 3FT.-9FT/SP WHITE MINISKIP (4", 120 MIL)
- TE WHITE SOLID LANE LINE(4", 120 MIL)
- TF 10FT. YELLOW SKIP (4", 120 MIL)
- TH YELLOW SINGLE CENTER (4", 120 MIL)
- TI YELLOW DOUBLE CENTER (4", 120 MIL)
- TP YELLOW DIAGONAL (8", 90 MIL)
- UA LEFT TURN ARROW (90 MIL)
- UB RIGHT TURN ARROW (90 MIL)
- UC STRAIGHT ARROW (90 MIL)
- UE COMBO. RIGHT/STRAIGHT ARROW (90 MIL)

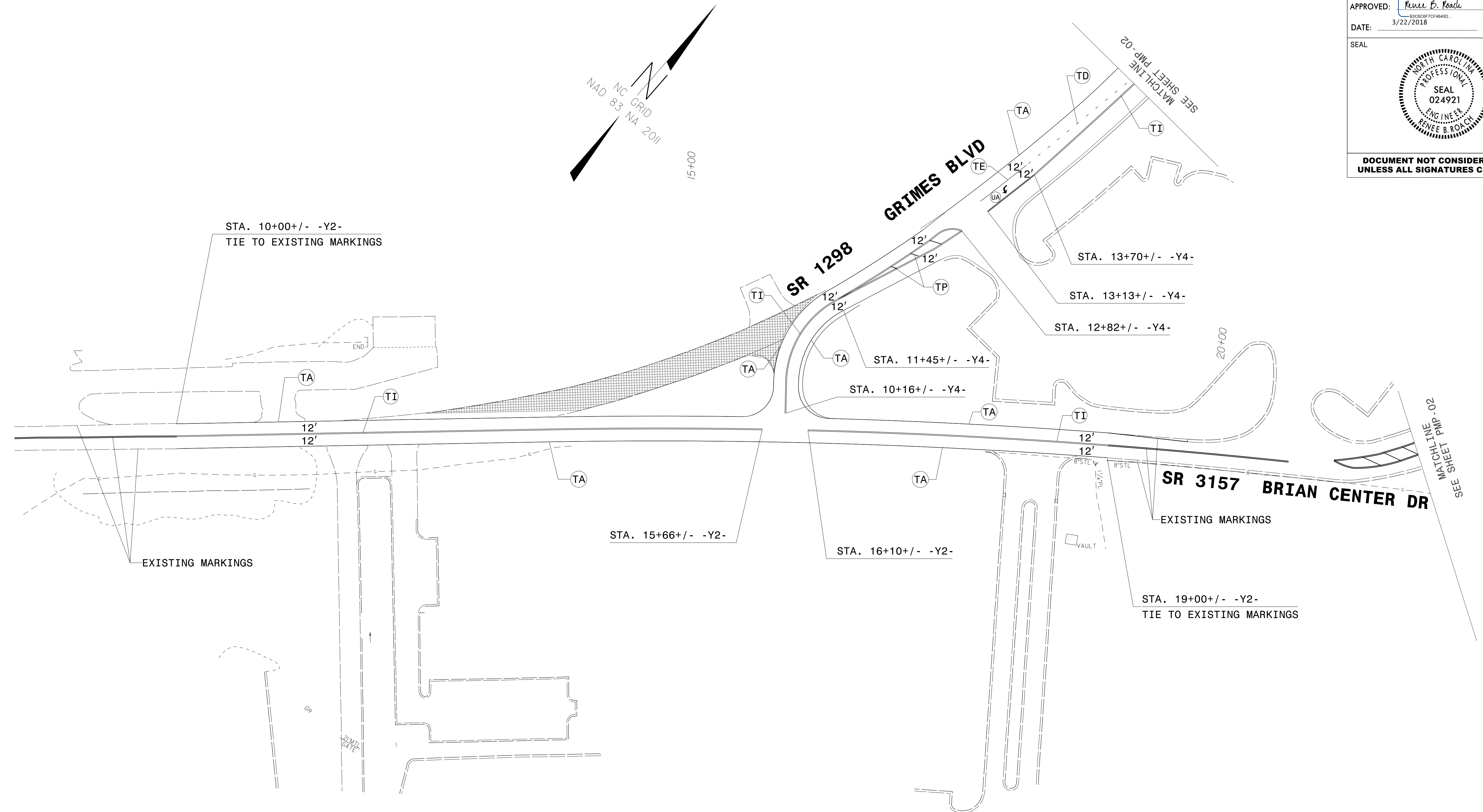
PAVEMENT MARKING DETAIL

SYSTEMS
 CONSULTANTS
 ENGINEERS

APPROVED: *Renee B. Roach*
830808707CF466D...
 DATE: 3/22/2018



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



PROJECT NOTES

- T2 WHITE STOPBAR (24", 120 MIL)
- T8 2FT.-6FT/SP WHITE MINISKIP (4", 120 MIL)
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- TD 3FT.-9FT/SP WHITE MINISKIP (4", 120 MIL)
- TE WHITE SOLID LANE LINE(4", 120 MIL)
- UA LEFT TURN ARROW (90 MIL)
- TI YELLOW DOUBLE CENTER (4", 120 MIL)
- UB RIGHT TURN ARROW (90 MIL)
- TP YELLOW DIAGONAL (8", 90 MIL)
- UC STRAIGHT ARROW (90 MIL)
- UE COMBO. RIGHT/STRAIGHT ARROW (90 MIL)

PAVEMENT MARKING DETAIL

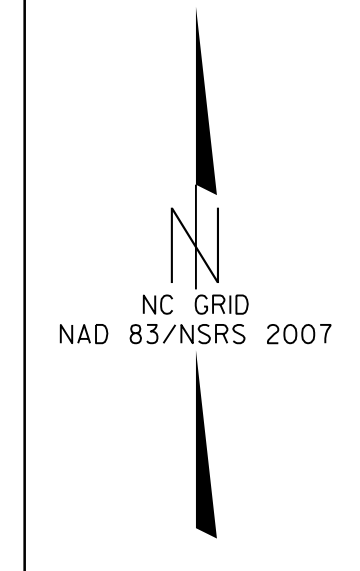
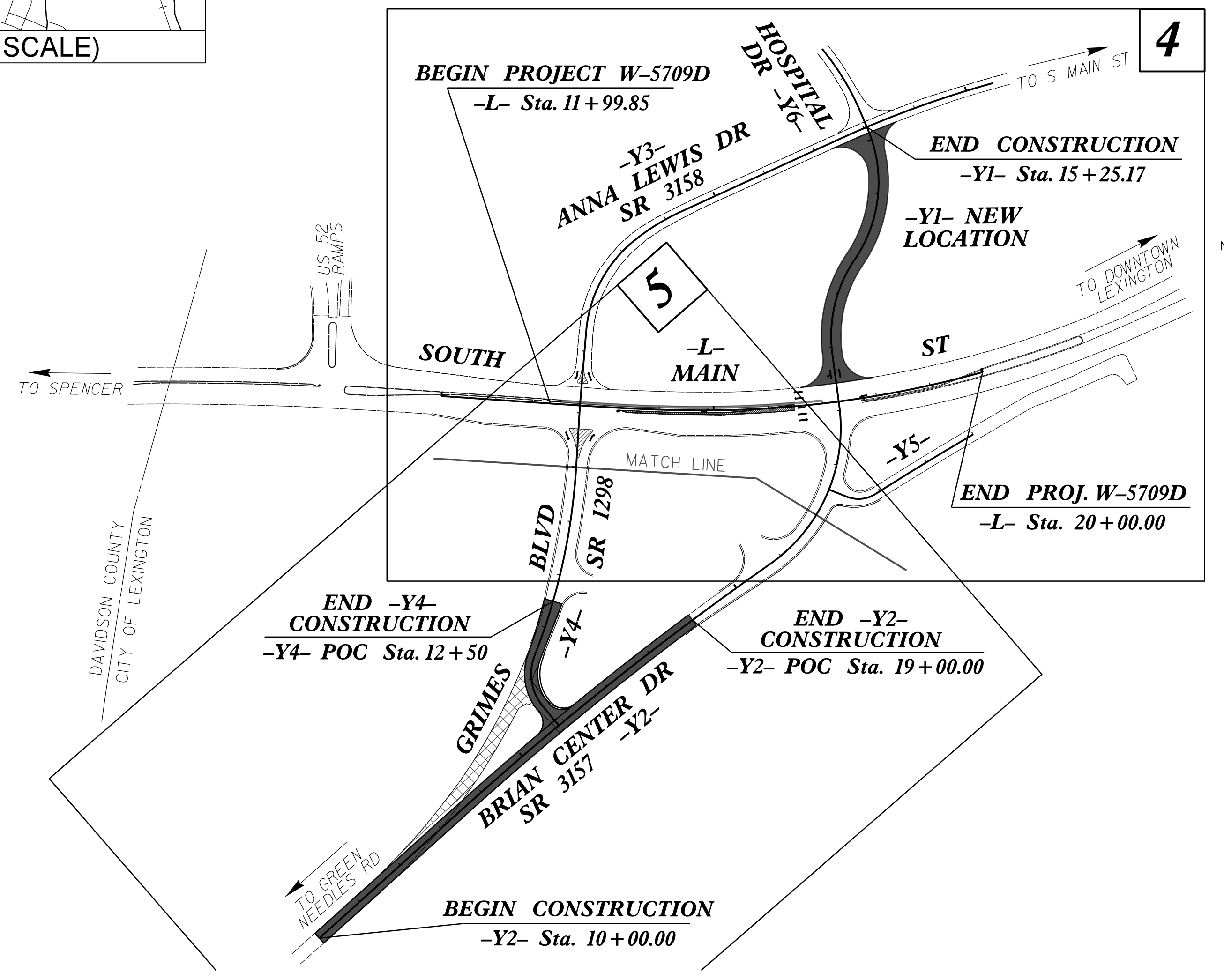
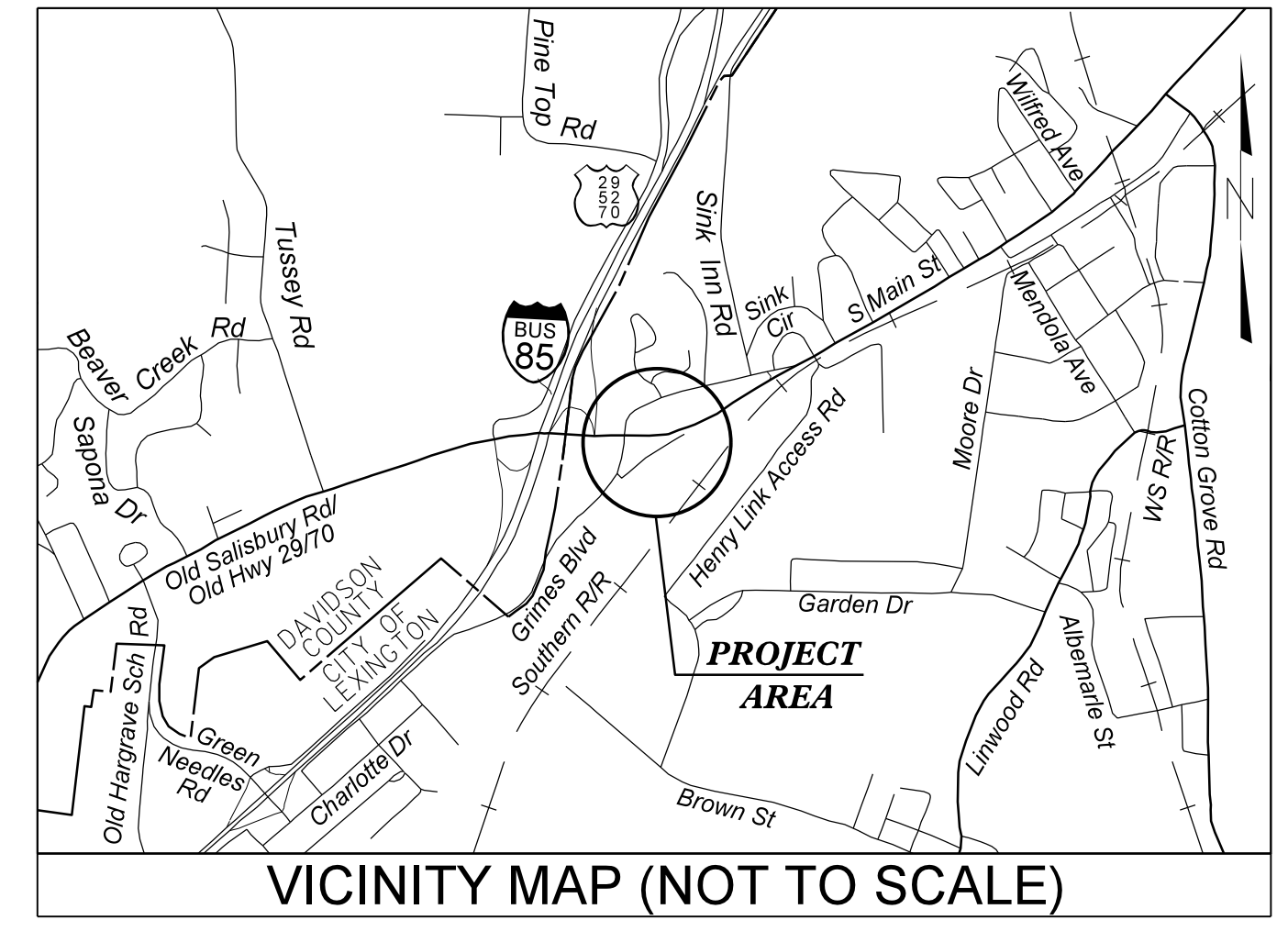
SYSTEMS DESIGN CONSULTANTS
 DURHAM, NC

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5709D	EC-1	9
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44855.1.4	HSIP-3346(003)	PE	
44855.2.4		RW/UTILS	
44855.3.4		CONST	

TIP PROJECT: W-5709D

See Sheet 1-A For Index of Sheets

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

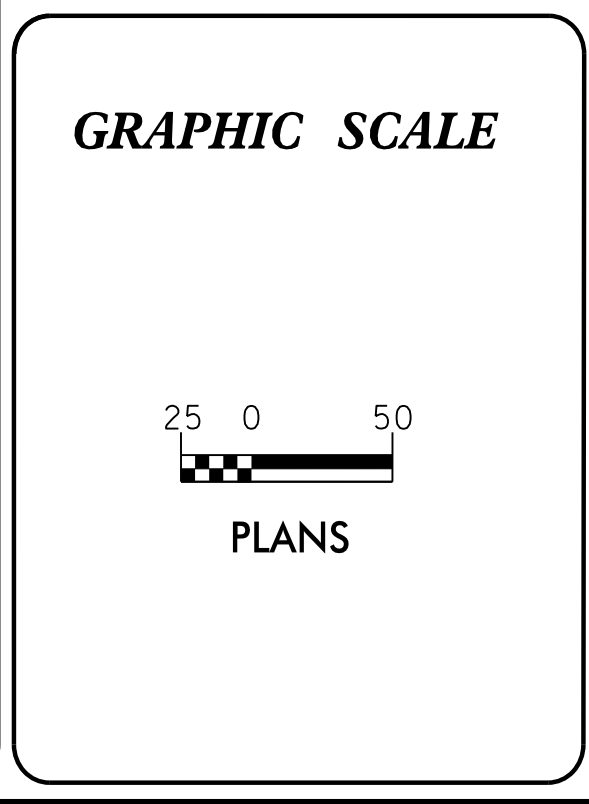


EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
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	⊗
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	⊗
1654.01	Temporary Rock Sediment Dam Type-A	⊗
1654.02	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
1632.05	Type C	C
	Skimmer Basin	□
	Tiered Skimmer Basin	□
	Infiltration Basin	□

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

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



ROADSIDE ENVIRONMENTAL UNIT
 DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

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

Prepared in the Office of:
DIVISION 9 DDC
 375 Silas Creek Parkway
 Winston-Salem, NC 27127

2018 STANDARD SPECIFICATIONS

Designed by:
Jeremy L. Keaton 3497
 NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

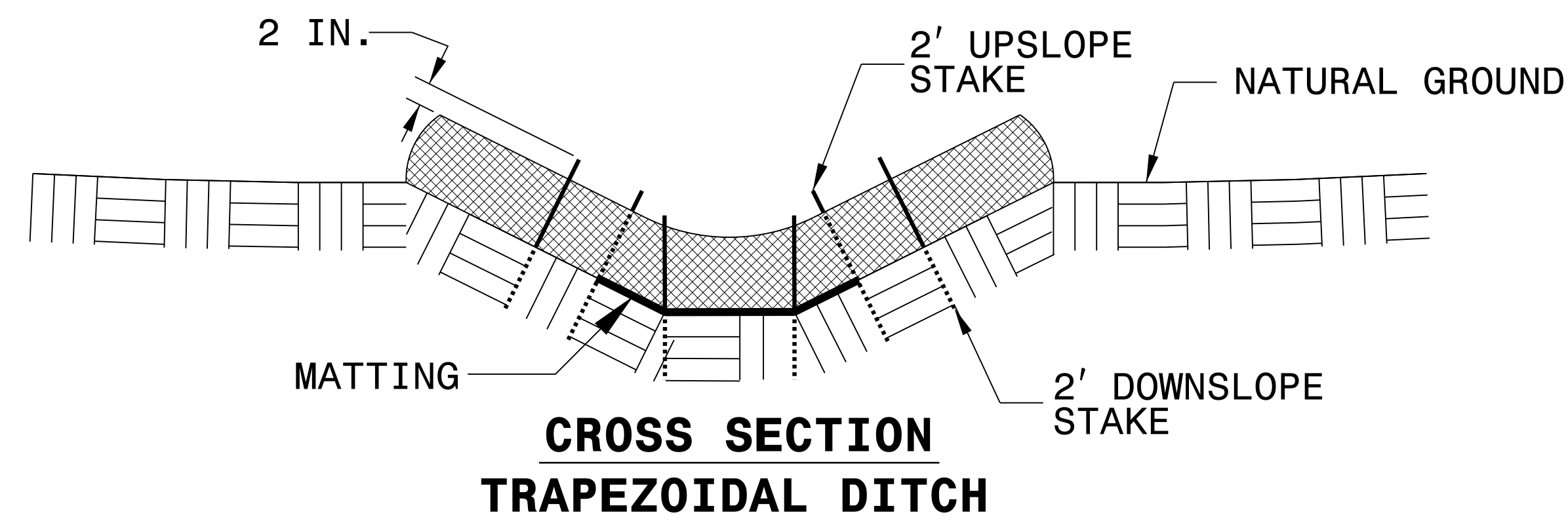
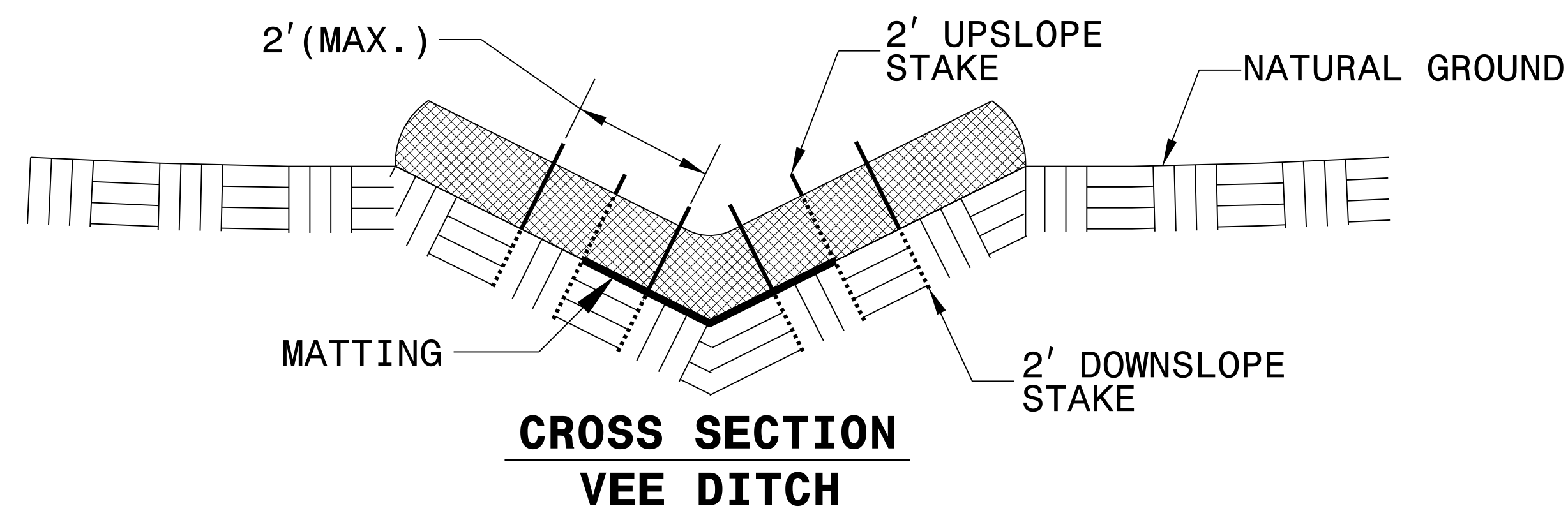
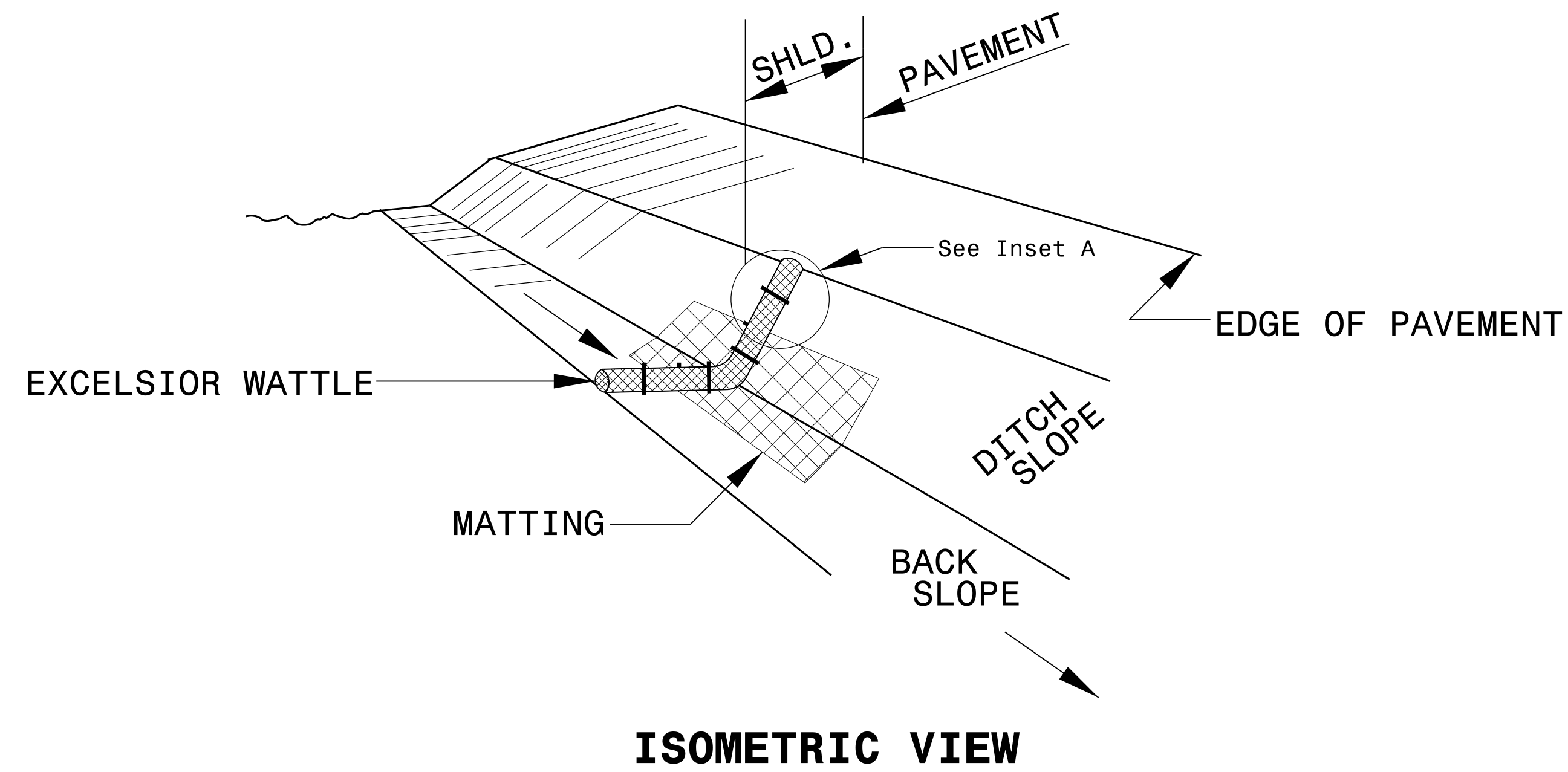
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	

20-APR-2018 14:00 S:\Project_Development\TIP_Projects_W\W-5709D-ErosionControl\W5709D_tsh_EC.dgn jikeaton

PROJECT REFERENCE NO. W-5709D	SHEET NO. EC-2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

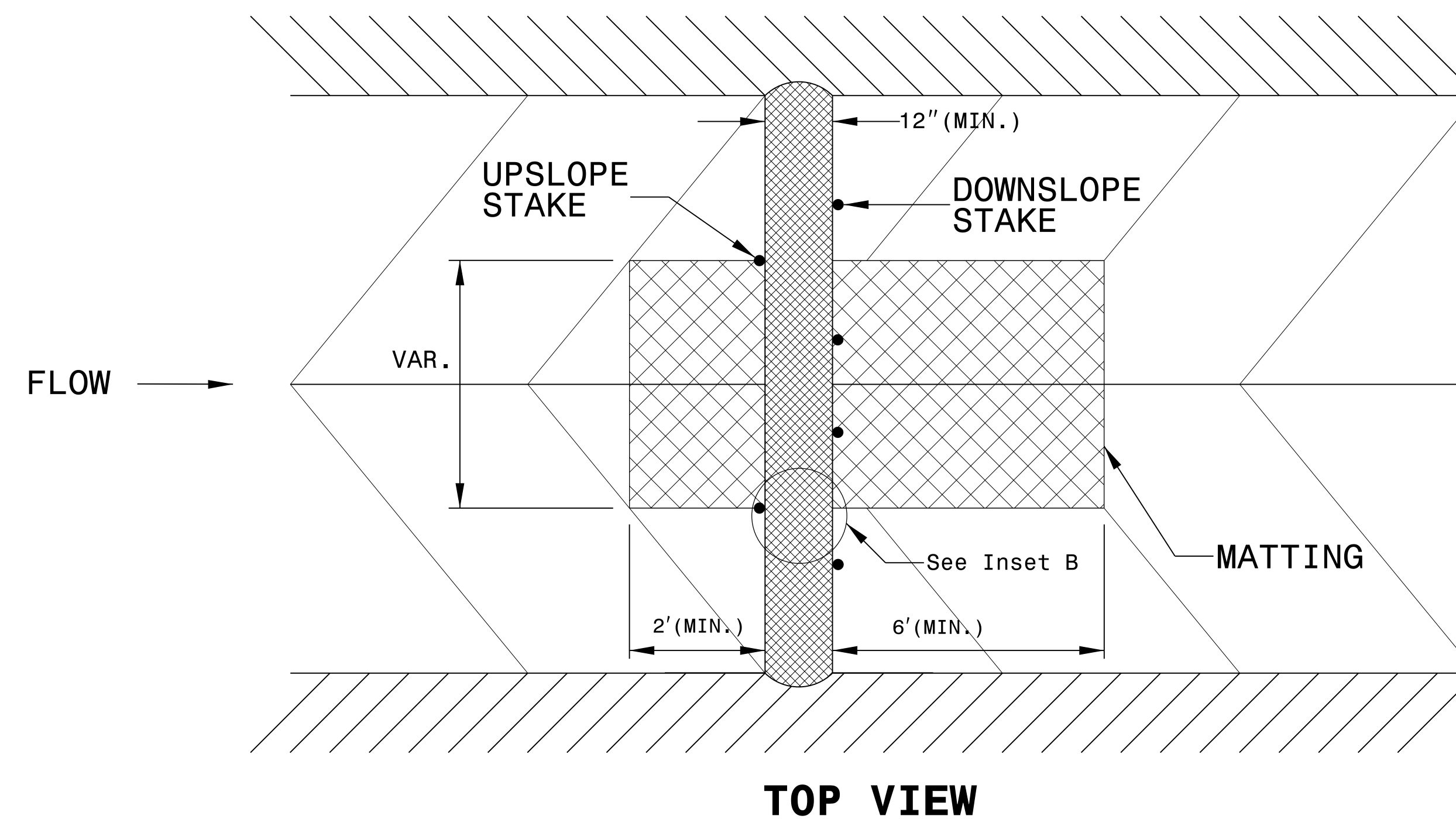
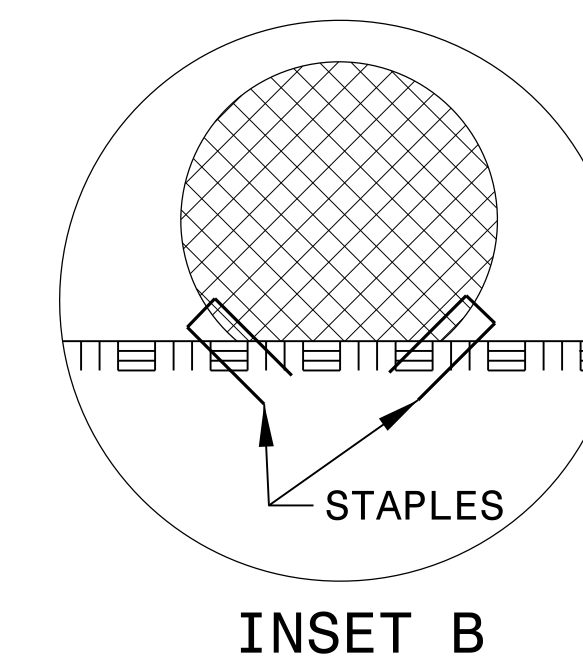
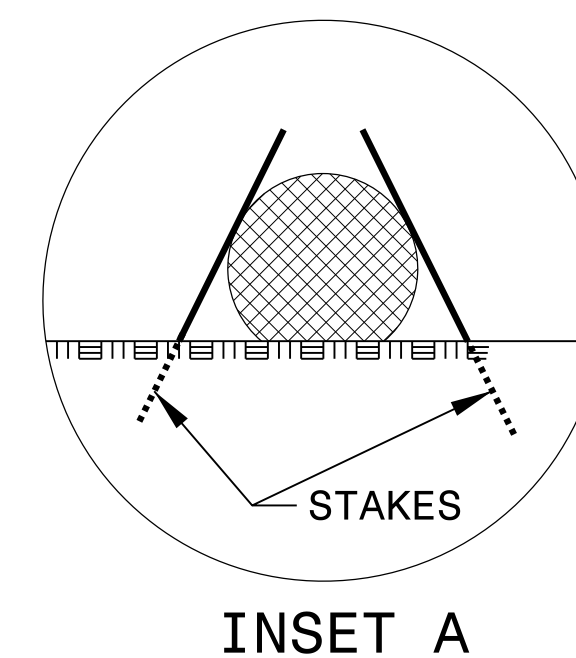
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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.

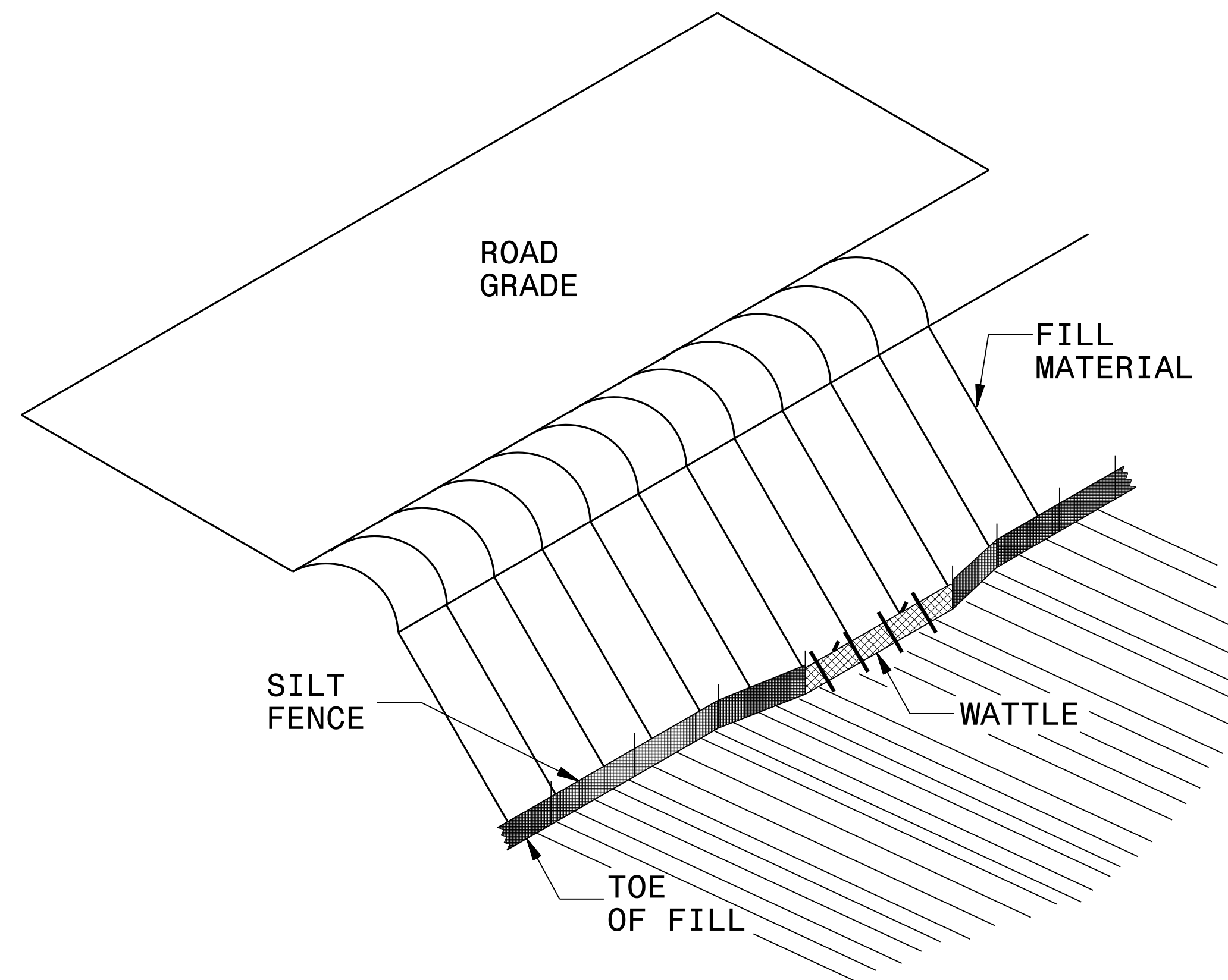
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

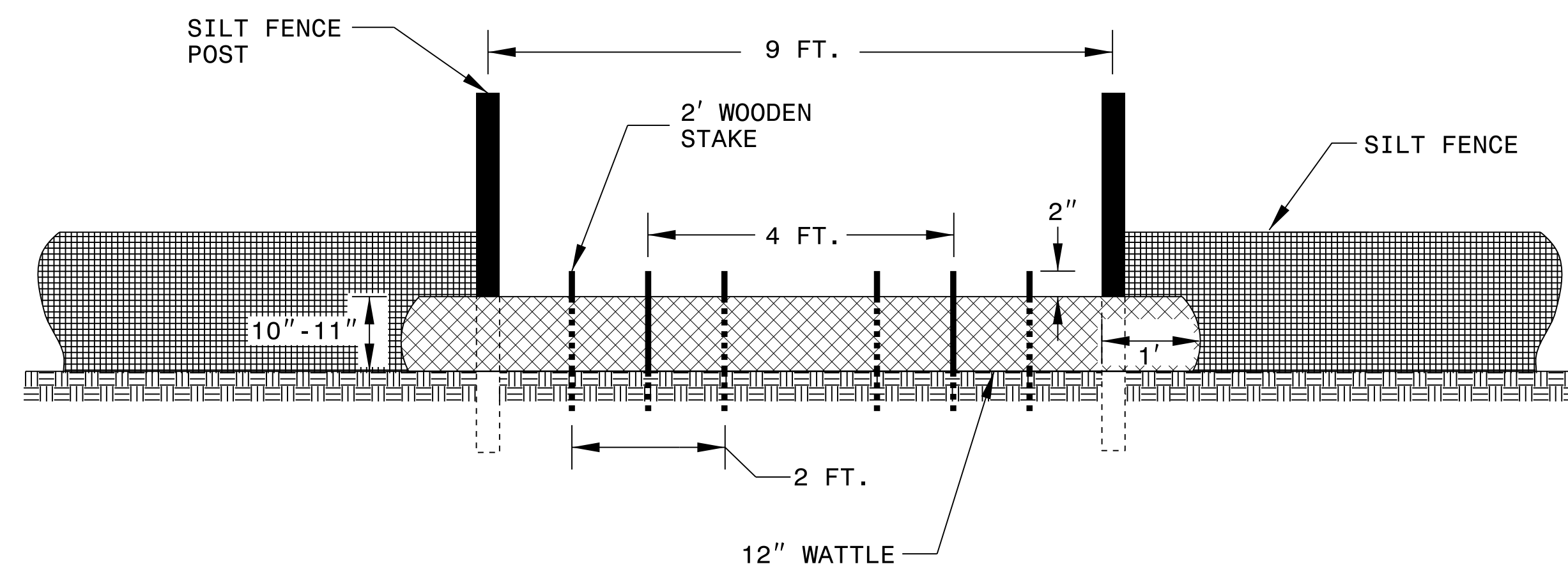


PROJECT REFERENCE NO. W-5709D	SHEET NO. EC-2A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT FENCE WATTLE BREAK DETAIL



ISOMETRIC VIEW

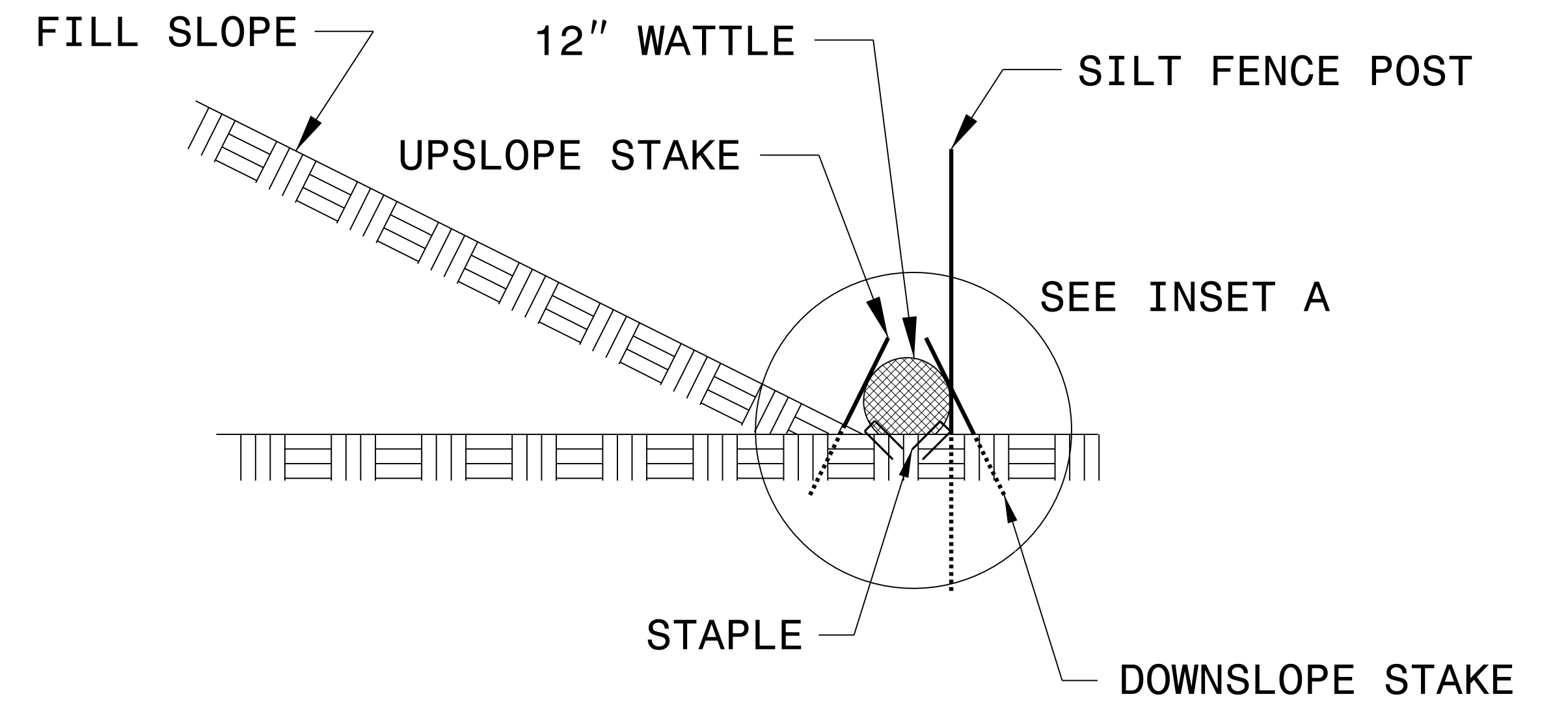
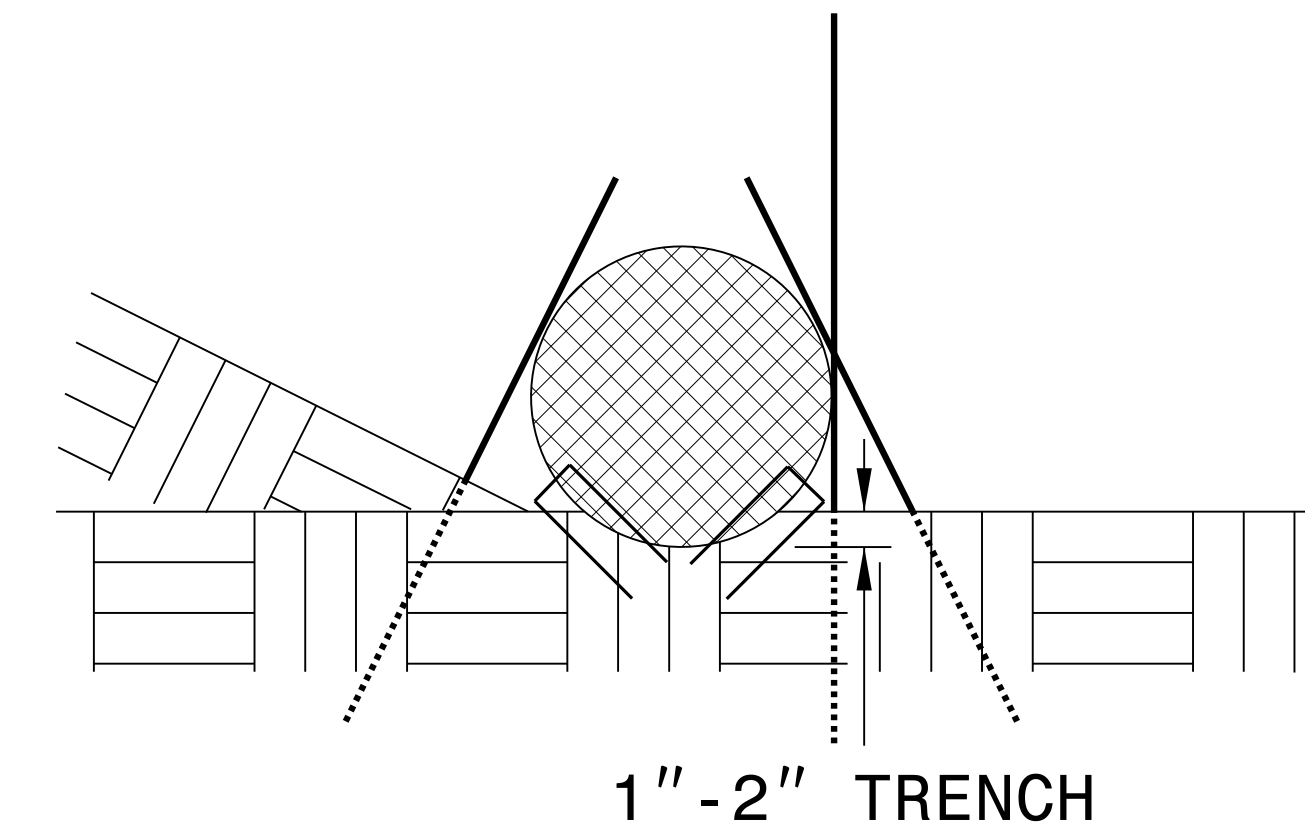


VIEW FROM SLOPE

NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- 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.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A



SIDE VIEW

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>W-5709D</i>	SHEET NO. <i>EC-3A</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.

PROJECT REFERENCE NO.	SHEET NO.
W-5709D	EC-4/CONST.4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

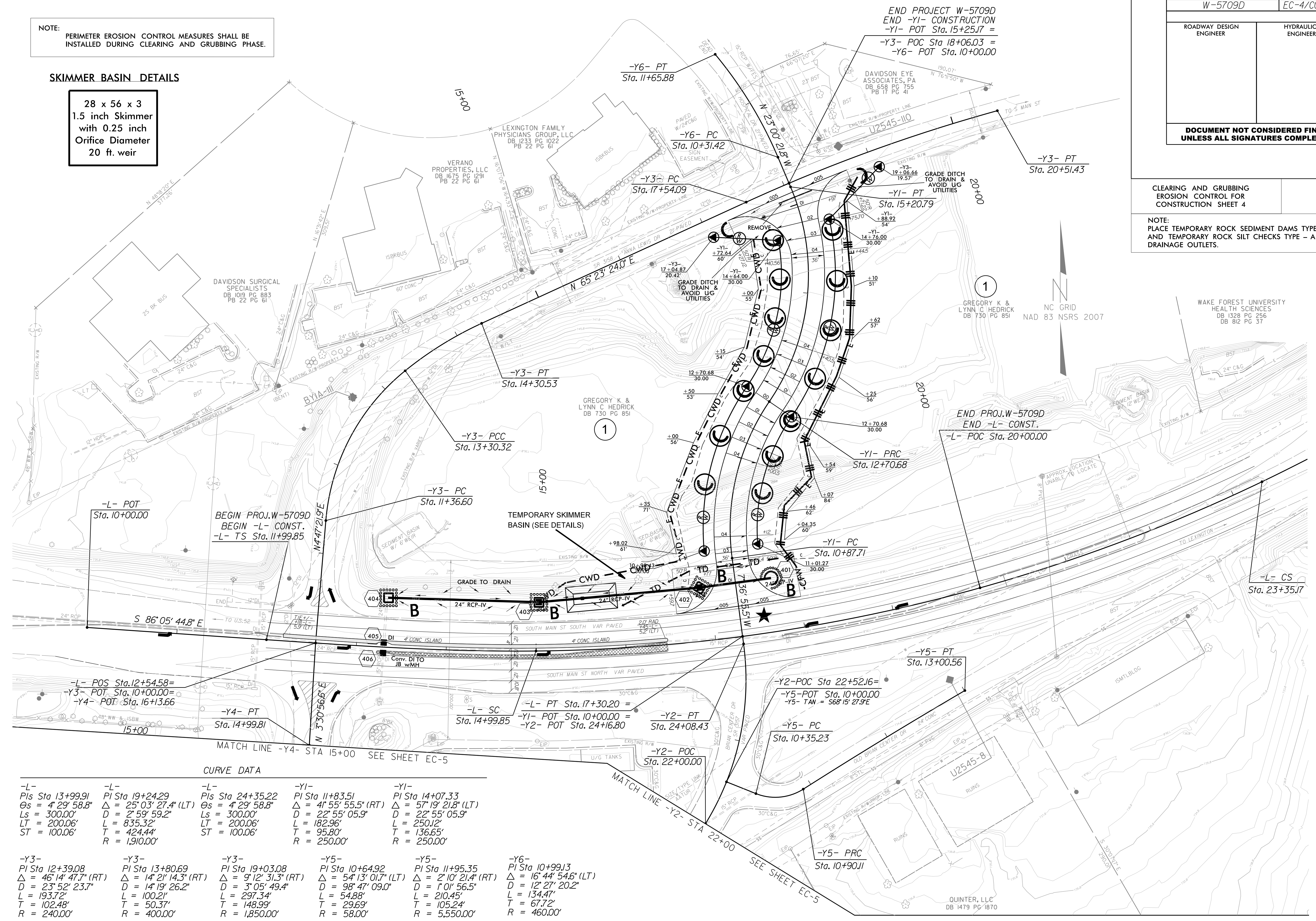
NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

SKIMMER BASIN DETAILS

28 x 56 x 3
1.5 inch Skimmer
with 0.25 inch
Orifice Diameter
20 ft. weir

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.



REVISIONS

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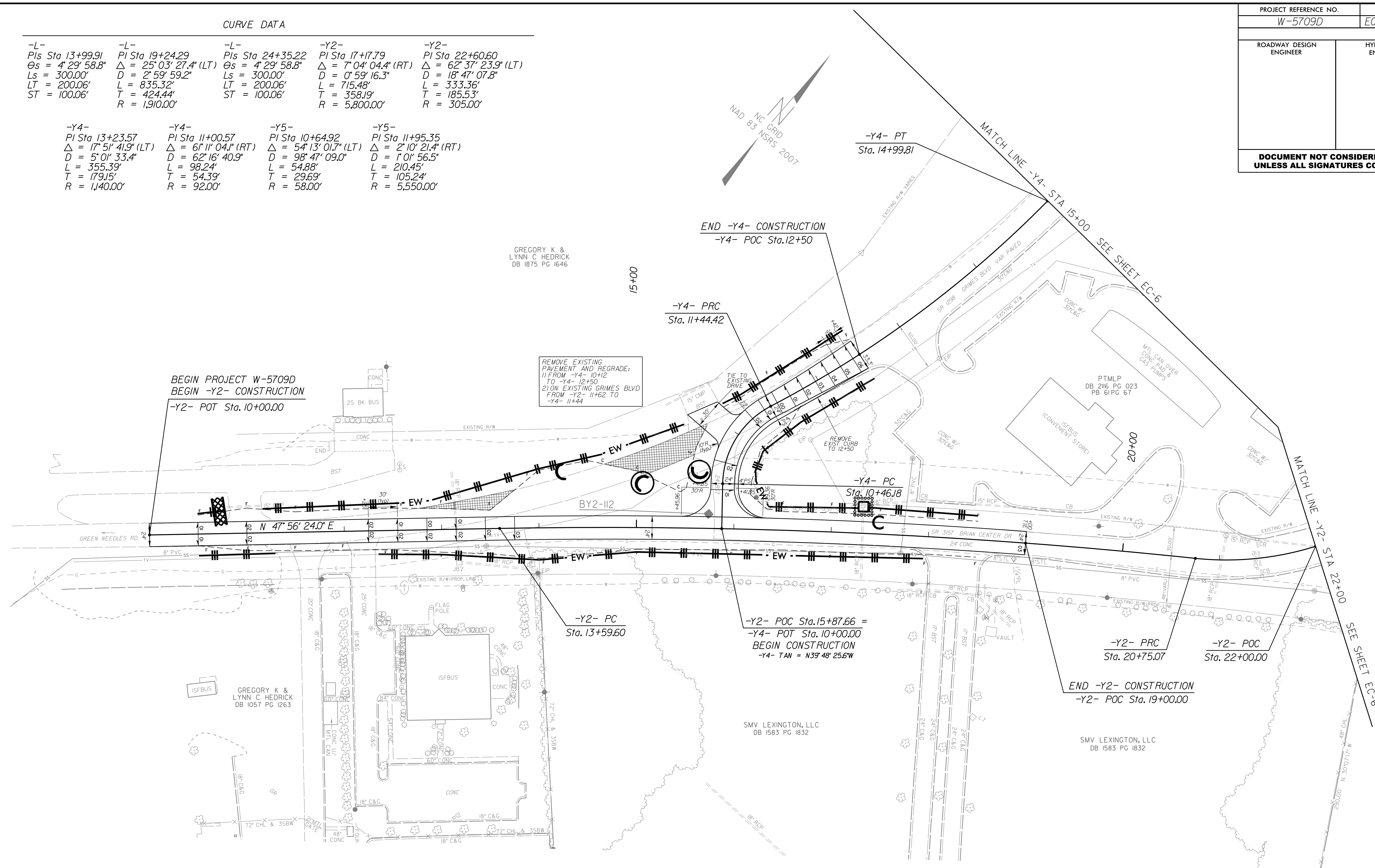
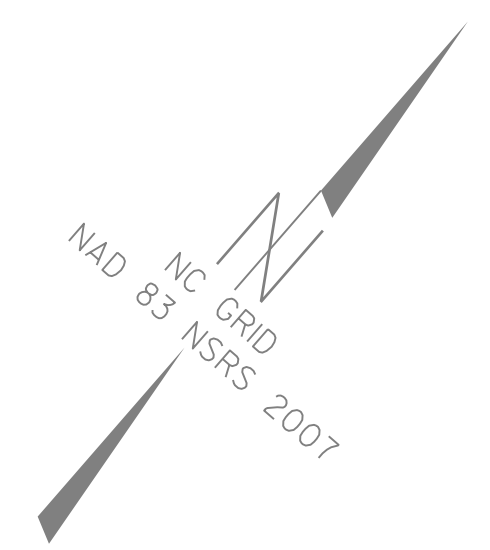
-L- PI Sta 13+99.91 Δ = 4° 29' 58.8" Ls = 300.00' LT = 200.06' ST = 100.06'	-L- PI Sta 19+24.29 Δ = 25° 03' 27.4" (LT) D = 2° 59' 59.2" L = 835.32" T = 424.44" R = 1,910.00'	-L- PI Sta 24+35.22 Δ = 4° 29' 58.8" Ls = 300.00' LT = 200.06' ST = 100.06'	-Y1- PI Sta 11+83.51 Δ = 41° 55' 55.5" (RT) D = 22° 55' 05.9" L = 182.96" T = 95.80" R = 250.00'	-Y1- PI Sta 14+07.33 Δ = 57° 19' 21.8" (LT) D = 22° 55' 05.9" L = 250.12" T = 136.65" R = 250.00'	-Y3- PI Sta 12+39.08 Δ = 46° 14' 47.7" (RT) D = 23° 52' 23.7" L = 193.72" T = 102.48" R = 240.00'	-Y3- PI Sta 13+80.69 Δ = 14° 21' 14.3" (RT) D = 14° 19' 26.2" L = 100.21" T = 50.37" R = 400.00'	-Y3- PI Sta 19+03.08 Δ = 9° 12' 31.3" (RT) D = 3° 05' 49.4" L = 297.34" T = 148.99" R = 1,850.00'	-Y5- PI Sta 10+64.92 Δ = 54° 13' 01.7" (LT) D = 98° 47' 09.0" L = 54.88" T = 29.69" R = 58.00'	-Y5- PI Sta 11+95.35 Δ = 2° 10' 21.4" (RT) D = 1° 01' 56.5" L = 210.45" T = 105.24" R = 5,550.00'	-Y6- PI Sta 10+99.13 Δ = 16° 44' 54.6" (LT) D = 12° 27' 20.2" L = 134.47" T = 67.72" R = 460.00'
--	---	--	--	---	---	--	---	--	---	--

PROJECT REFERENCE NO.	SHEET NO.
W-5709D	EC-7/CONST.5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

CURVE DATA

-L-	-L-	-L-	-Y2-	-Y2-
PIs Sta 13+99.91	PI Sta 19+24.29	PIs Sta 24+35.22	PI Sta 17+17.79	PI Sta 22+60.60
$\Delta s = 4' 29' 58.8"$	$\Delta = 25' 03' 27.4" (LT)$	$\Delta s = 4' 29' 58.8"$	$\Delta = 7' 04' 04.4" (RT)$	$\Delta = 62' 37' 23.9" (LT)$
$Ls = 300.00'$	$D = 2' 59' 59.2"$	$Ls = 300.00'$	$D = 0' 59' 16.3"$	$D = 18' 47' 07.8"$
$LT = 200.06'$	$L = 835.32'$	$LT = 200.06'$	$L = 715.48'$	$L = 333.36'$
$ST = 100.06'$	$T = 424.44'$	$ST = 100.06'$	$T = 358.19'$	$T = 185.53'$
	$R = 1,910.00'$		$R = 5,800.00'$	$R = 305.00'$

-Y4-	-Y4-	-Y5-	-Y5-
PI Sta 13+23.57	PI Sta 11+00.57	PI Sta 10+64.92	PI Sta 11+95.35
$\Delta = 17' 51' 41.9" (LT)$	$\Delta = 6' 11' 04.1" (RT)$	$\Delta = 54' 13' 01.7" (LT)$	$\Delta = 2' 10' 21.4" (RT)$
$D = 5' 01' 33.4"$	$D = 62' 16' 40.9"$	$D = 98' 47' 09.0"$	$D = 1' 01' 56.5"$
$L = 355.39'$	$L = 98.24'$	$L = 54.88'$	$L = 210.45'$
$T = 179.15'$	$T = 54.39'$	$T = 29.69'$	$T = 105.24'$
$R = 1,140.00'$	$R = 92.00'$	$R = 58.00'$	$R = 5,550.00'$



BEGIN PROJECT W-5709D
BEGIN -Y2- CONSTRUCTION
-Y2- POT Sta. 10+00.00

REMOVE EXISTING PAVEMENT AND REGRADE:
1) FROM -Y4- 10+12 TO -Y4- 12+50
2) ON EXISTING GRIMES BLVD FROM -Y2- 11+62 TO -Y4- 11+44

END -Y4- CONSTRUCTION
-Y4- POC Sta. 12+50

-Y4- PRC
Sta. 11+44.42

-Y4- PC
Sta. 10+46.18

-Y2- PC
Sta. 13+59.60

-Y2- POC Sta. 15+87.66 =
-Y4- POT Sta. 10+00.00
BEGIN CONSTRUCTION
-Y4- TAN = N39°48'25.6\"/>

-Y2- PRC
Sta. 20+75.07

-Y2- POC
Sta. 22+00.00

END -Y2- CONSTRUCTION
-Y2- POC Sta. 19+00.00

SMV LEXINGTON, LLC
DB 1583 PG 1832


SMV LEXINGTON, LLC
DB 1583 PG 1832

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**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLAN
DAVIDSON COUNTY**

**LOCATION: S. MAIN STREET (SR 3346) AT ANNA LEWIS DR (SR 3158)
AND BRIAN CENTER DR (SR 3157) AT GRIMES BLVD (SR 1298)**

PROJECT REFERENCE NO. W-5709B	SHEET NO. SIGN-01
APPROVED: <i>Renee B. Roach</i> 3/22/2018	
DATE: 3/22/2018	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

T.I.P.: W-5709D

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.
- . 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 GRADE C REFLECTIVE SHEETING.
- . SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	440	L.F.
4102000000	904	SIGN ERECTION, TYPE E	33	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	23	EA.

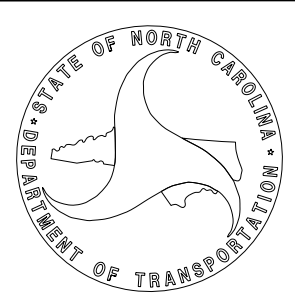
ROADWAY STANDARD DRAWING

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:

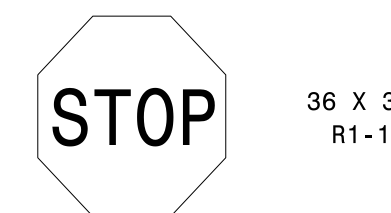
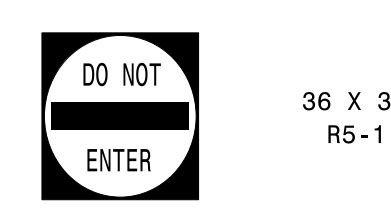
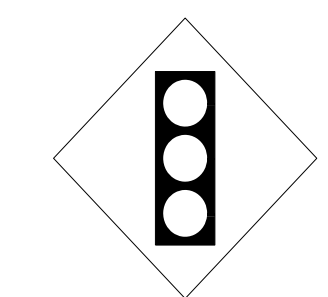
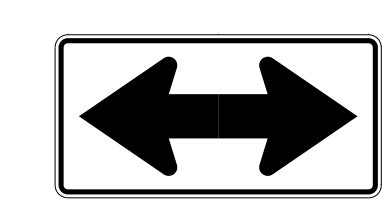

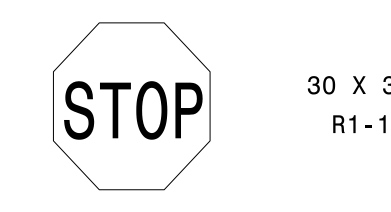
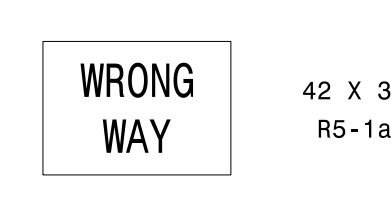
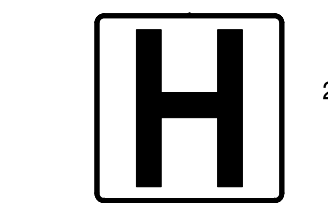
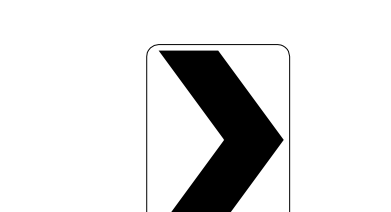

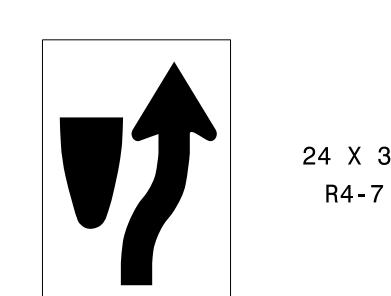
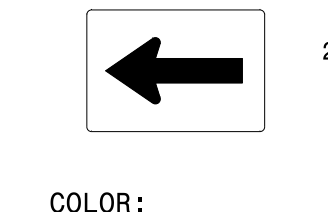
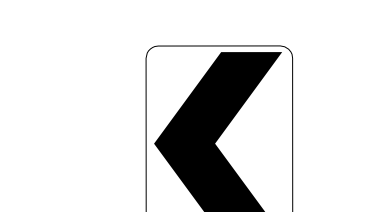

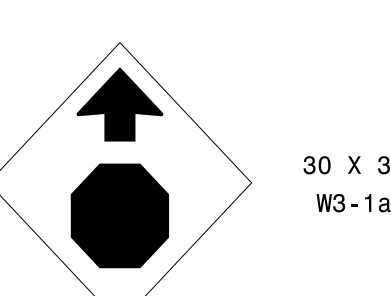
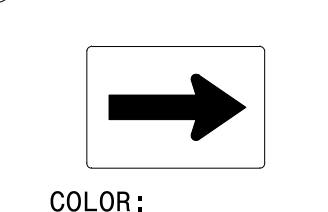
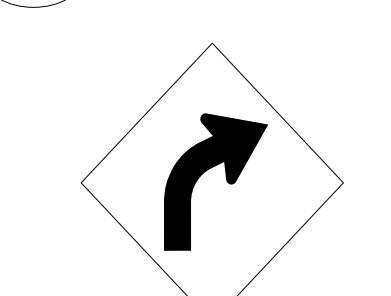
STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

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

K. L. JORDAN SIGNING & DELINEATION REGIONAL ENGINEER
J. G. MARTINEZ SIGNING & DELINEATION PROJECT DESIGN ENGINEER



E SIGNS

<p>401 QUANTITY REQ'D <u>2</u></p>  <p>ONE "U" POST PER SIGN</p>	<p>405 QUANTITY REQ'D <u>3</u></p>  <p>ONE "U" POST PER SIGN</p>	<p>409 QUANTITY REQ'D <u>2</u></p>  <p>ONE "U" POST PER SIGN</p>	<p>413 QUANTITY REQ'D <u>1</u></p>  <p>TWO "U" POSTS PER SIGN</p>	<p>417 QUANTITY REQ'D <u>1</u></p>  <p>ONE "U" POST PER SIGN</p>
<p>402 QUANTITY REQ'D <u>2</u></p>  <p>ONE "U" POST PER SIGN</p>	<p>406 QUANTITY REQ'D <u>4</u></p>  <p>ONE "U" POST PER SIGN</p>	<p>410 QUANTITY REQ'D <u>2</u></p>  <p>ONE "U" POST PER SIGN</p>	<p>414 QUANTITY REQ'D <u>3</u></p>  <p>ONE "U" POST PER SIGN</p>	
<p>403 QUANTITY REQ'D <u>2</u></p>  <p>TWO "U" POSTS PER SIGN</p>	<p>407 QUANTITY REQ'D <u>2</u></p>  <p>ONE "U" POST PER SIGN</p>	<p>411 QUANTITY REQ'D <u>1</u></p>  <p>COLOR: Legend - White Background - Blue</p> <p>MOUNT BELOW SIGN 410 IN <u>1</u> INSTALLATIONS</p>	<p>415 QUANTITY REQ'D <u>3</u></p>  <p>18 X 24 W1-8L</p>	
<p>404 QUANTITY REQ'D <u>2</u></p>  <p>MOUNT BELOW SIGN 401 IN <u>2</u> INSTALLATIONS</p>	<p>408 QUANTITY REQ'D <u>1</u></p>  <p>ONE "U" POST PER SIGN</p>	<p>412 QUANTITY REQ'D <u>1</u></p>  <p>COLOR: Legend - White Background - Blue</p> <p>MOUNT BELOW SIGN 410 IN <u>1</u> INSTALLATIONS</p>	<p>416 QUANTITY REQ'D <u>1</u></p>  <p>ONE "U" POST PER SIGN</p>	

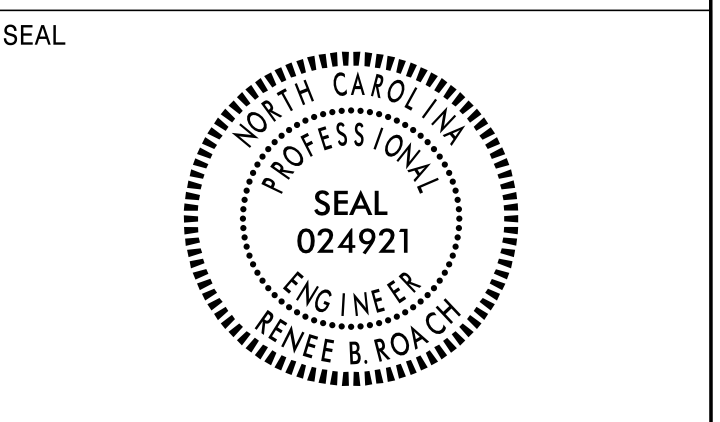
PROJECT NOTES

1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL

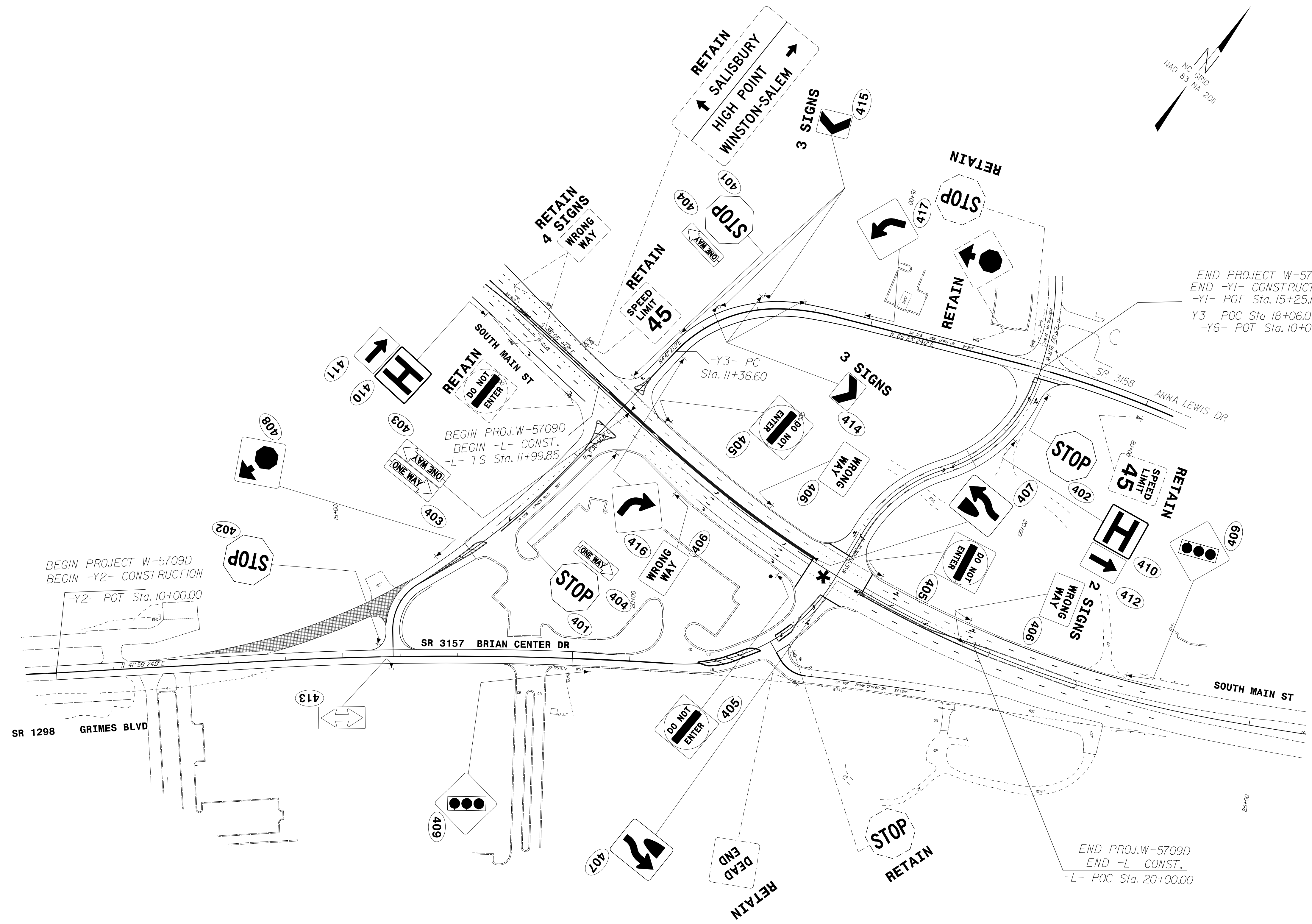
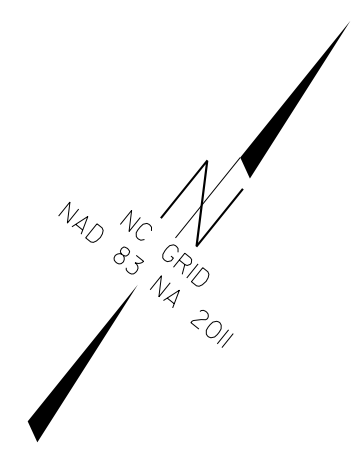
INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET/ E SIGNS
SIGN-2-3	SIGNING PLAN SHEETS

APPROVED: *Renee B. Roach*
RENEE B. ROACH
 ENGINEER
 930687CF48400
 DATE: 3/22/2018



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



* SIGNALIZED

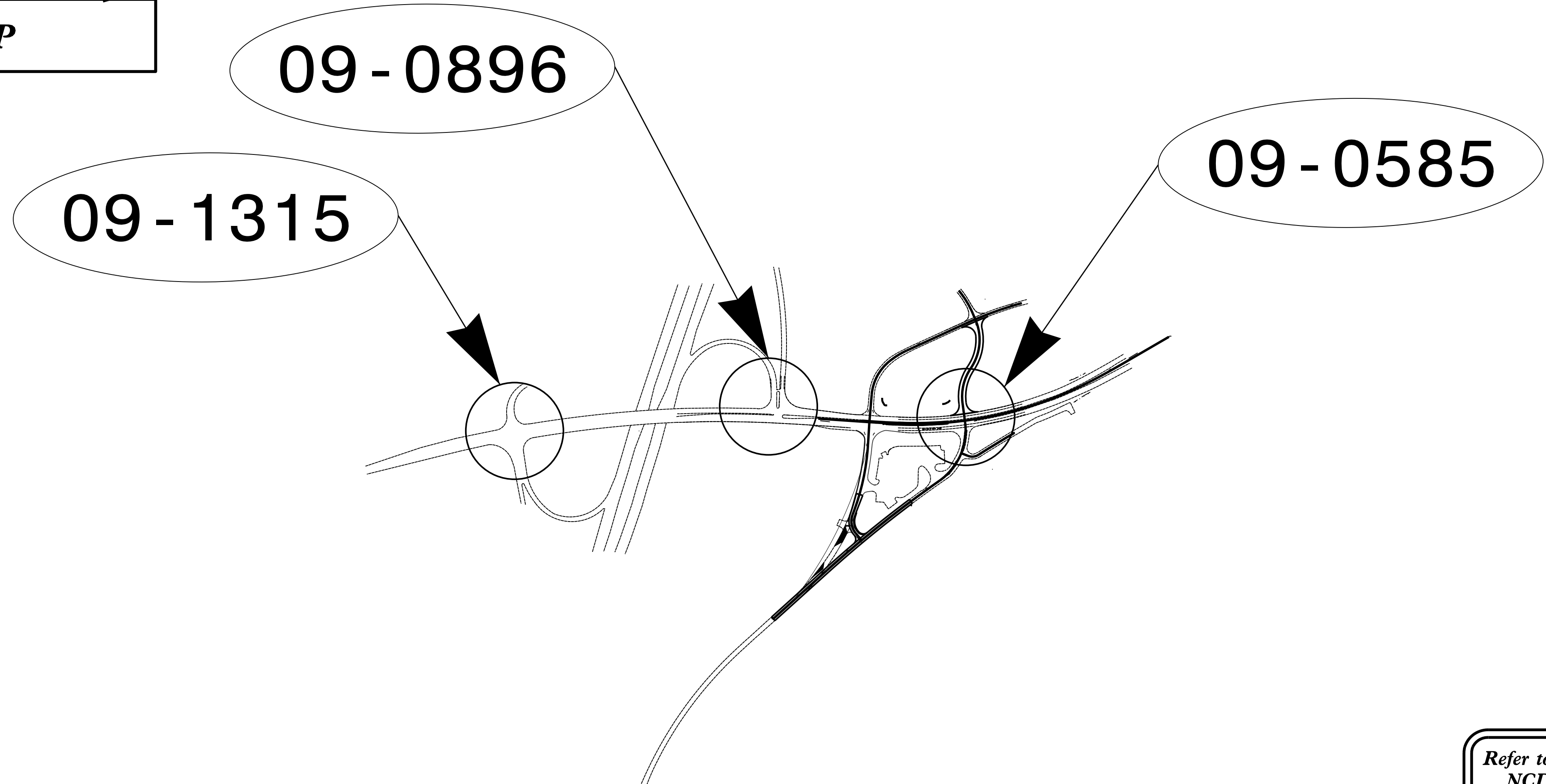
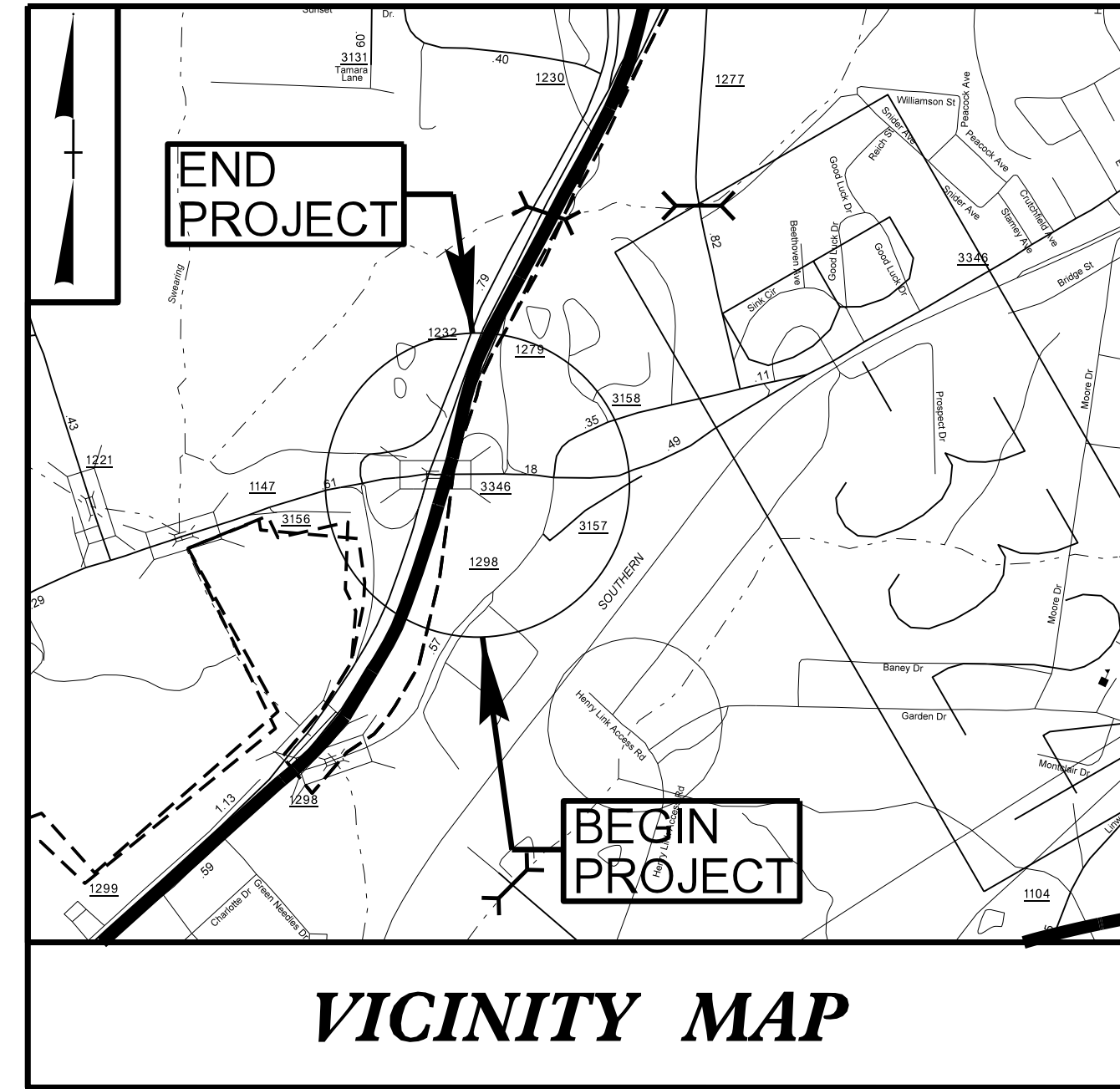
PROPOSED SIGNS

SYSTEMS
 DESIGN
 SERVICES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DAVIDSON COUNTY

**LOCATION: SR 3346 (S. MAIN STREET) AT SR 3157 (BRIAN CENTER DR)
AND HOSPITAL DRIVE**
TYPE OF WORK: TRAFFIC SIGNALS AND SIGNAL COMMUNICATIONS



TIP PROJECT: W-5709D

WBS#: 44855.1.4

I:\44855\2018\1614\SIGNALS\Signal Design Section\Central Region\Div 9\W-5709D\W5709D_sigs_tsh.dgn

Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.

<i>Index of Plans</i>		
<i>Sheet #</i>	<i>Reference #</i>	<i>Location/Description</i>
<i>Sig. 1</i>	-----	<i>Title Sheet</i>
<i>Sig. 2.0-2.2</i>	<i>09-1315</i>	<i>SR 1147 (Old Salisbury Road) at I-85 Bus./US 29-52 SB-70 WB Ramp/SR 1332 (Odell Owen Road)</i>
<i>Sig. 3.0-3.2</i>	<i>09-0896</i>	<i>SR 3346 (S. Main Street) at I-85 Bus./US 29-52 NB US 70 EB Ramps</i>
<i>Sig. 4.0-4.2</i>	<i>09-0585</i>	<i>SR 3346 (S. Main Street) at SR 3157 (Brian Center Drive) and Hospital Drive</i>
<i>Sig. 5.0</i>	-----	<i>Standard Plate Sheet</i>
<i>SCP 1</i>	-----	<i>Wireless Radio Plans</i>

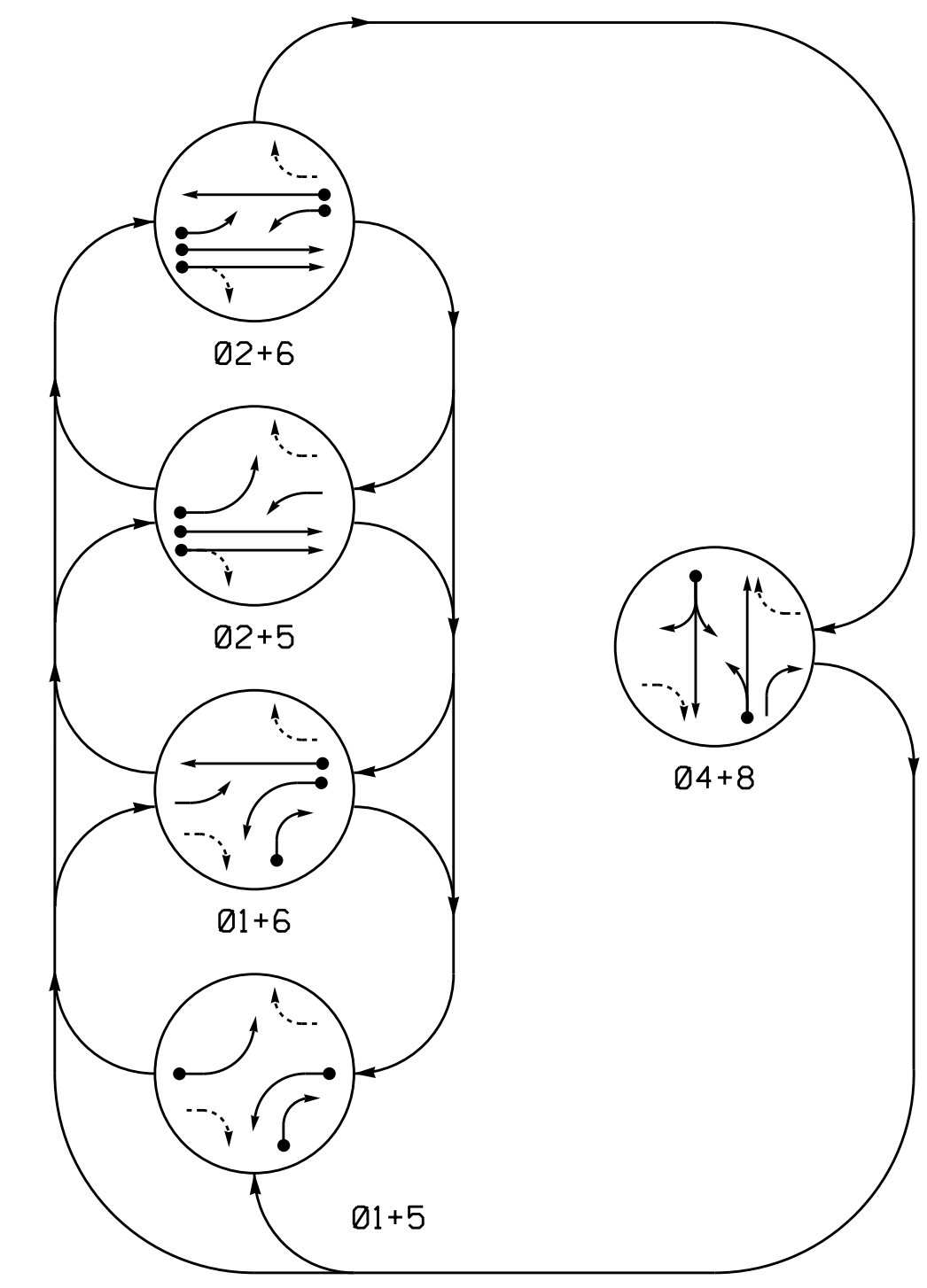
INTELLIGENT TRANSPORTATION AND SIGNALS UNIT

Robert J. Ziemia, PE - Central Region Signals Engineer
Keith M. Mims, PE - Signal Equipment Design Engineer
I. Neil Avery - Signal Communications Project Engineer

Prepared in the Office of:
DIVISION OF HIGHWAYS
TRANSPORTATION MOBILITY AND SAFETY
DIVISION

750 N. Greenfield Parkway, Garner, NC 27529

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

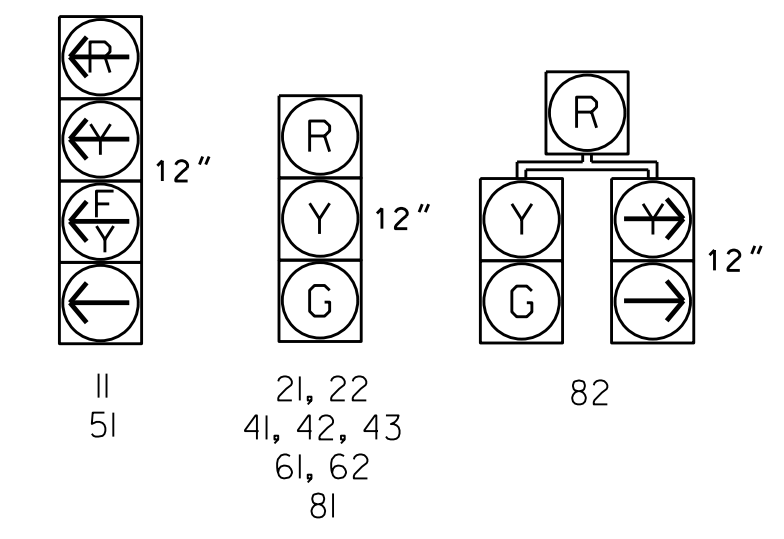
- ←●→ DETECTED MOVEMENT
- ←○→ UNDETECTED MOVEMENT (OVERLAP)
- ←- - -→ UNSIGNALIZED MOVEMENT
- ←- - -> PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE					
	01+5	01+6	02+5	02+6	04+8	04+8
II	-	-	-	-	-	-
21, 22	R	R	G	G	R	Y
41, 42, 43	R	R	R	R	G	R
51	-	-	-	-	-	-
61, 62	R	G	R	G	R	Y
81	R	R	R	R	G	R
82	R	R	R	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



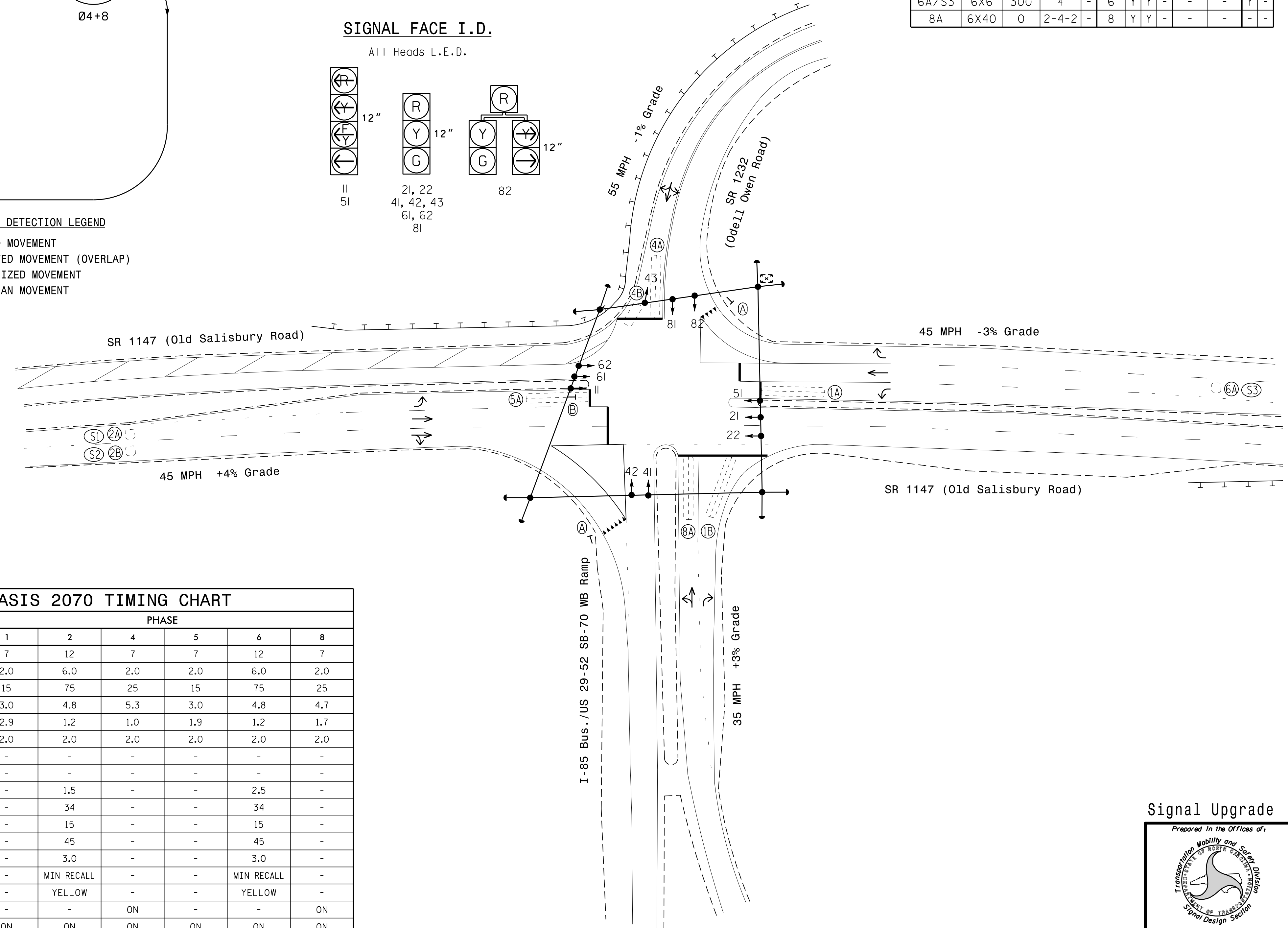
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	DETECTOR PROGRAMMING							
				PHASE	CALLING	EXTENSION	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD	
IA	6X40	0	2-4-2	-	1	Y	Y	-	15	-	-
IB	6X40	0	2-4-2	-	6	Y	Y	-	15	-	-
2A/S1	6X6	300	4	-	2	Y	Y	-	-	Y	-
2B/S2	6X6	300	4	-	2	Y	Y	-	-	Y	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	10	-	-
4B	6X15	+5	4	-	4	Y	Y	-	15	-	-
5A	6X40	0	2-4-2	-	5	Y	Y	-	15	-	-
6A/S3	6X6	300	4	-	6	Y	Y	-	-	Y	-
8A	6X40	0	2-4-2	-	8	Y	Y	-	-	-	-

5 Phase Fully Actuated (S. Main Street Lexington CLS)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Set all detector units to presence mode.
5. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
6. Pavement markings are existing.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
8. Closed loop system data: Controller Asset #: 1315.



OASIS 2070 TIMING CHART

FEATURE	PHASE					
	1	2	4	5	6	8
Min Green 1*	7	12	7	7	12	7
Extension 1*	2.0	6.0	2.0	2.0	6.0	2.0
Max Green 1*	15	75	25	15	75	25
Yellow Clearance	3.0	4.8	5.3	3.0	4.8	4.7
Red Clearance	2.9	1.2	1.0	1.9	1.2	1.7
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0
Walk 1*	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-
Seconds Per Actuation*	-	1.5	-	-	2.5	-
Max Variable Initial*	-	34	-	-	34	-
Time Before Reduction*	-	15	-	-	15	-
Time To Reduce*	-	45	-	-	45	-
Minimum Gap	-	3.0	-	-	3.0	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-
Dual Entry	-	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

- | PROPOSED | EXISTING |
|---|--|
| ○→ Traffic Signal Head | ●→ Traffic Signal Head |
| ○→ Modified Signal Head | N/A |
| □→ Pedestrian Signal Head With Push Button & Sign | □→ Sign |
| □→ Signal Pole with Guy | □→ Signal Pole with Guy |
| □→ Signal Pole with Sidewalk Guy | □→ Signal Pole with Sidewalk Guy |
| □→ Inductive Loop Detector | □→ Inductive Loop Detector |
| □→ Controller & Cabinet | □→ Controller & Cabinet |
| □→ Junction Box | □→ Junction Box |
| - - - 2-in Underground Conduit | - - - 2-in Underground Conduit |
| N/A Right of Way | - - - Right of Way |
| → Directional Arrow | → Directional Arrow |
| N/A Guardrail | - - - Guardrail |
| (A) "YIELD" Sign (R1-2) | (A) "YIELD" Sign (R1-2) |
| (B) "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) | (B) "U-TURN YIELD TO RIGHT TURN" Sign (R10-16) |

Signal Upgrade

Prepared In the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SR 1147 (Old Salisbury Road) at I-85 Bus./US 29-52 SB-70 WB Ramps and SR 1232 (Odell Owen Road)

Division 9 Davidson County Lexington

PLAN DATE: March 2018 REVIEWED BY: I.O. Umozurike

REVISIONS: _____ INIT. DATE

SCALE: 1"=40'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER ROBERT J. ZEMBA 026486

DATE: 3/21/2018

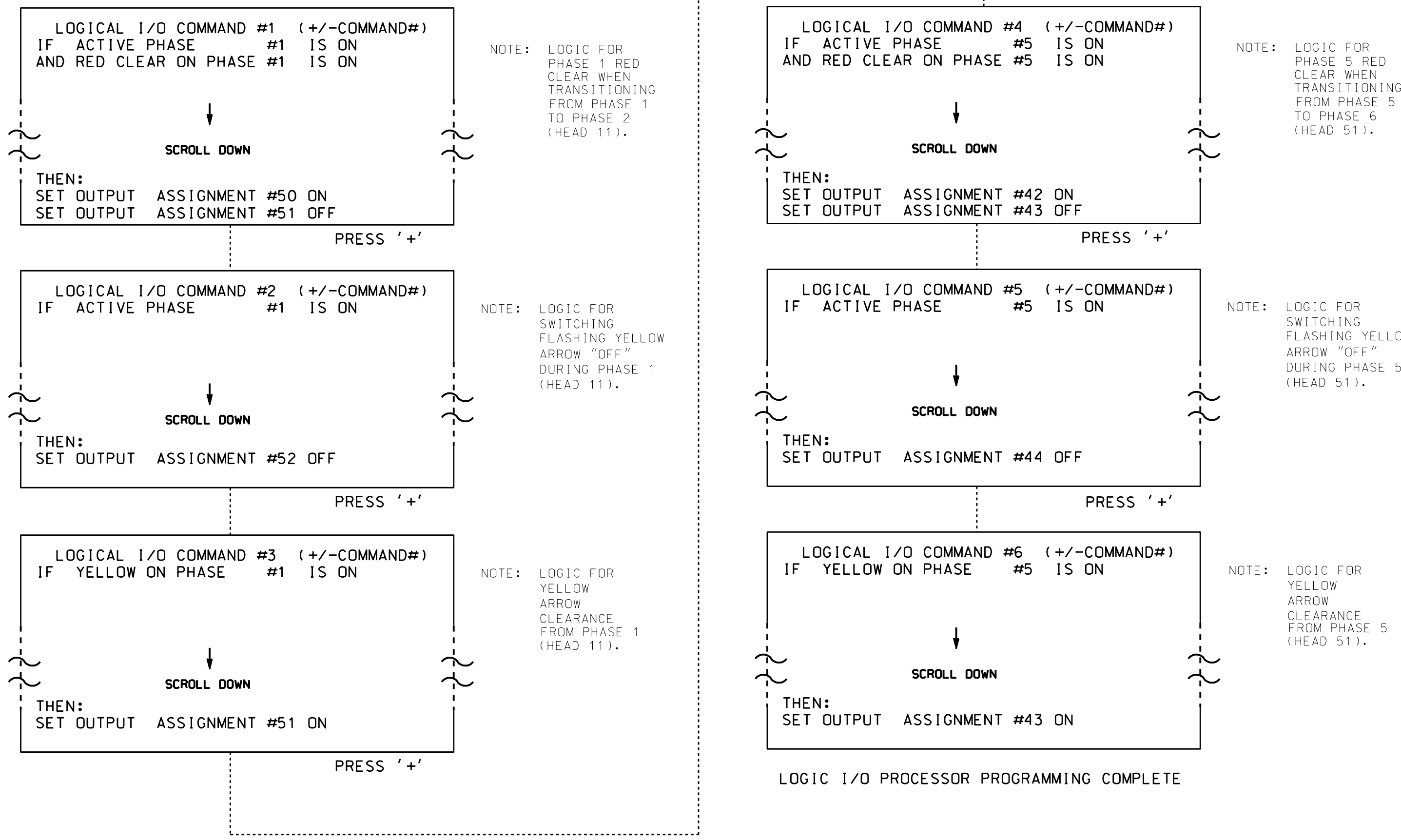
SIG. INVENTORY NO. 09-1315

02-1485-2018 11-18
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 PZT:erog

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, 3, 4, 5 AND 6.
2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE
OUTPUT 42 = Overlap C Red
OUTPUT 43 = Overlap C Yellow
OUTPUT 44 = Overlap C Green
OUTPUT 50 = Overlap A Red
OUTPUT 51 = Overlap A Yellow
OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```

PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: _ RED _ YELLOW _ GREEN
FLASH COLORS: _ RED _ YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
  
```

← NOTICE GREEN FLASH

PRESS '+' TWICE

```

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: _ RED _ YELLOW _ GREEN
FLASH COLORS: _ RED _ YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0.0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
  
```

← NOTICE GREEN FLASH

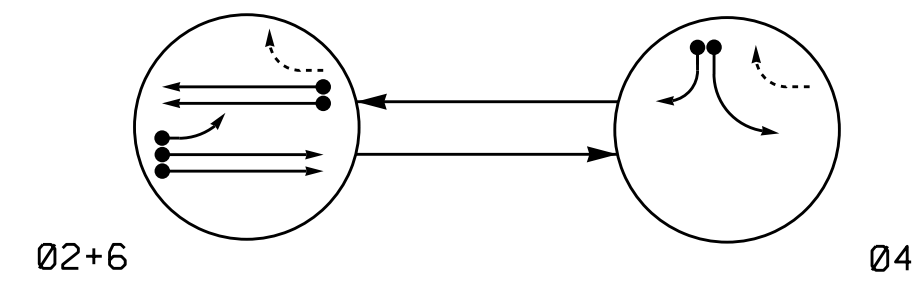
OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 09-1315
DESIGNED: March 2018
SEALED: 3-21-18
REVISED: N/A

14-095-2018 13:22 S:\IT\SS\14-095-2018\Sigs\Signal\work\hgr\output\sig_Mon\Peter.som\091315_sic.ele_xxx.dgn Tipererson

Electrical Detail - Sheet 2 of 2		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
REVISION SEAL	ELECTRICAL AND PROGRAMMING DETAILS FOR: SR 1147 (Old Salisbury Road) at I-85 Bus./US 29-52 SB-70 WB Ramps and SR 1232 (Odell Owen Road)	SEAL
	Prepared In the Offices of: 	Not a certified document as to the Original Document but only as to the Revisions - This document originally issued and sealed by Zachary M. Little, PE #030530, on 10-26-16. This document is only certified as to the revisions.
Documented by: <u>Keith M. Mims</u> 4/12/2018 SIGNATURE DATE	PLAN DATE: <u>October 2016</u> REVIEWED BY: PREPARED BY: <u>Z.M. Little</u> REVIEWED BY: REVISIONS: <u>Added system loops and added to system. (JP)</u>	Division 9 Davidson County Lexington DATE: <u>4/12/2018</u> DATE:
750 N. Greenfield Pkwy, Garner, NC 27529		SIC. INVENTORY NO. 09-1315

PHASING DIAGRAM



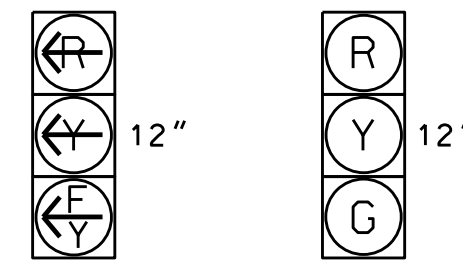
PHASING DIAGRAM DETECTION LEGEND

- ←●→ DETECTED MOVEMENT
- ←○→ UNDETECTED MOVEMENT (OVERLAP)
- ←- - -→ UNSIGNALIZED MOVEMENT
- ←- - -> PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE		
	02+6	04	FLASH
21	E	R	Y
22, 23	G	R	Y
41, 42	R	G	R
61, 62	G	R	Y

SIGNAL FACE I.D.

All Heads L.E.D.



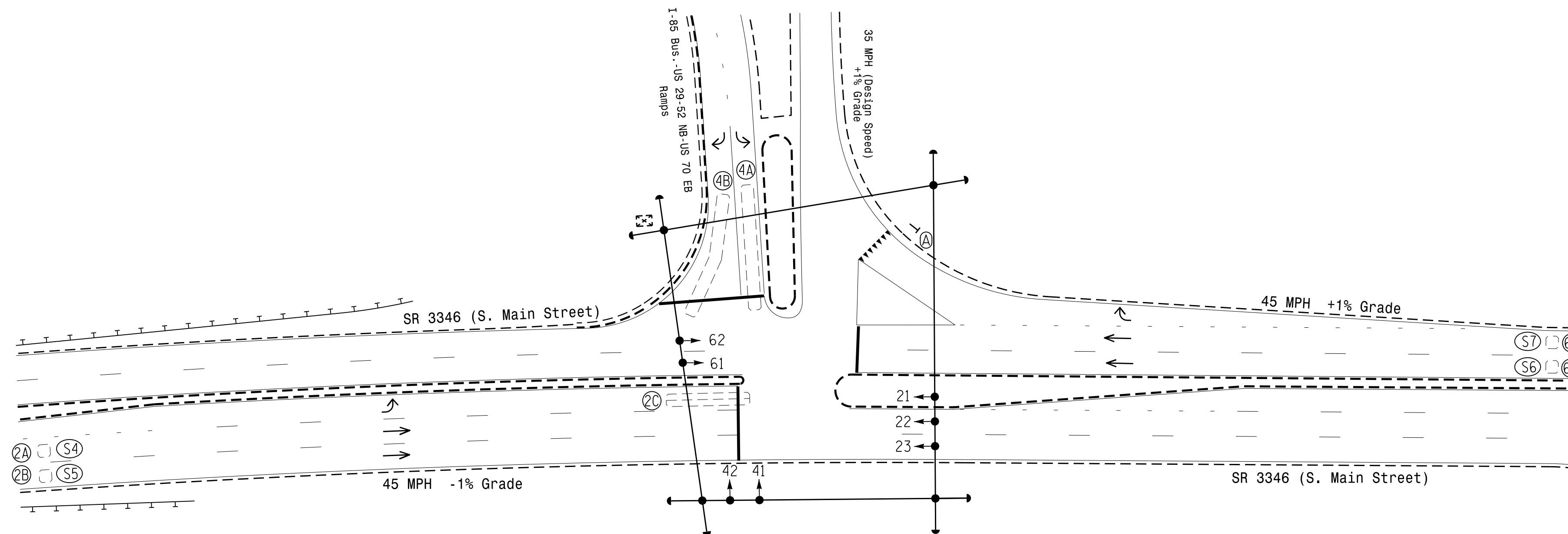
21 22, 23
41, 42
61, 62

OASIS 2070 LOOP & DETECTOR INSTALLATION CHART												
INDUCTIVE LOOPS				DETECTOR PROGRAMMING								
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A/S4	6X6	330	EXIST	-	2	Y	Y	-	-	-	Y	-
2B/S5	6X6	330	EXIST	-	2	Y	Y	-	-	-	Y	-
2C	6X40	+5	2-4-2	-	2	Y	Y	-	-	3	-	-
4A	6X60	+5	EXIST	-	4	Y	Y	-	-	-	-	-
4B	6X60	+5	EXIST	-	4	Y	Y	-	-	15	-	-
6A/S6	6X6	330	EXIST	-	6	Y	Y	-	-	-	Y	-
6B/S7	6X6	330	EXIST	-	6	Y	Y	-	-	-	Y	-

2 Phase Fully Actuated (S. Main Street Lexington CLS)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
5. Pavement markings are existing.
6. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
7. Closed loop system data: Controller Asset #: 0896.



OASIS 2070 TIMING CHART

FEATURE	PHASE		
	2	4	6
Min Green 1 *	12	7	12
Extension 1 *	6.0	2.0	6.0
Max Green 1 *	75	30	75
Yellow Clearance	4.6	3.0	4.6
Red Clearance	1.5	2.4	1.5
Red Revert	5.0	2.0	5.0
Walk 1 *	-	-	-
Don't Walk 1	-	-	-
Seconds Per Actuation *	1.5	-	1.5
Max Variable Initial *	37	-	37
Time Before Reduction *	15	-	15
Time To Reduce *	45	-	45
Minimum Gap	3.2	-	3.2
Recall Mode	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	YELLOW
Dual Entry	-	-	-
Simultaneous Gap	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

- | | | | |
|--|---|--|--|
| | PROPOSED Traffic Signal Head | | EXISTING Traffic Signal Head |
| | PROPOSED Modified Signal Head | | EXISTING N/A |
| | PROPOSED Pedestrian Signal Head With Push Button & Sign | | EXISTING N/A |
| | PROPOSED Signal Pole with Guy | | EXISTING Signal Pole with Sidewalk Guy |
| | PROPOSED Inductive Loop Detector | | EXISTING Inductive Loop Detector |
| | PROPOSED Controller & Cabinet | | EXISTING Junction Box |
| | PROPOSED 2-in Underground Conduit | | EXISTING 2-in Underground Conduit |
| | PROPOSED Right of Way | | EXISTING Right of Way |
| | PROPOSED Directional Arrow | | EXISTING Directional Arrow |
| | PROPOSED Guardrail | | EXISTING Guardrail |
| | PROPOSED "YIELD" Sign (R1-2) | | EXISTING "YIELD" Sign (R1-2) |

Signal Upgrade

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SR 3346 (S. Main Street) at I-85 Bus./US 29-52 NB-70 EB Ramps

Division 9 Davidson County Lexington

PLAN DATE: March 2018 REVIEWED BY:

PREPARED BY: I.O. Umzurike REVIEWED BY:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

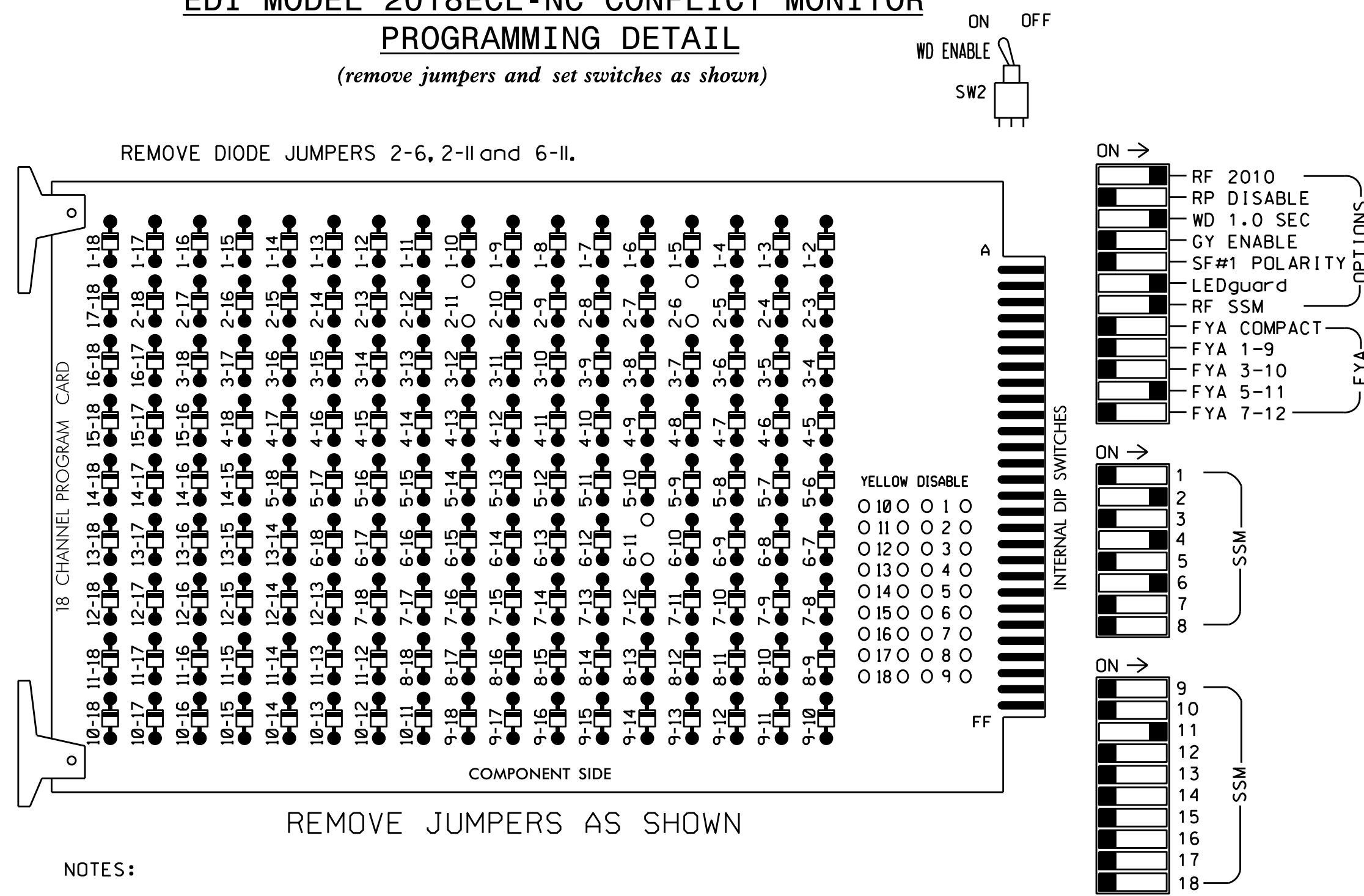
SEAL

3/21/2018

SIG. INVENTORY NO. 09-0896

EDI MODEL 2018ECL-NC CONFLICT MONITOR
PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

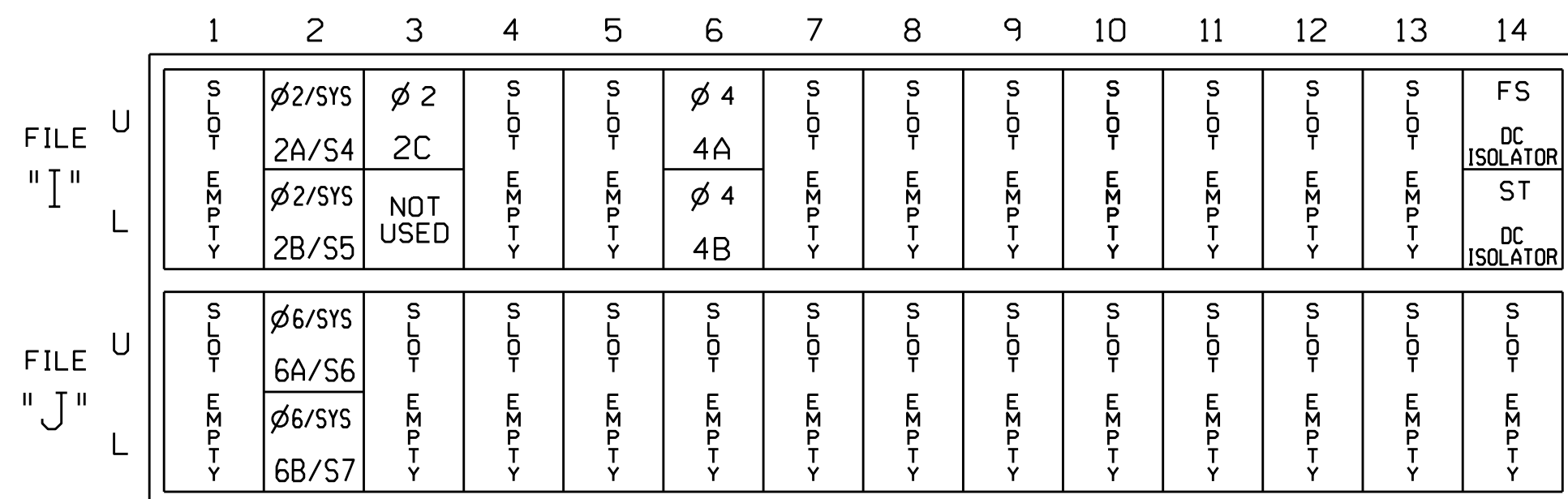


NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that Red Enable is active at all times during normal operation.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

INPUT FILE POSITION LAYOUT

(front view)



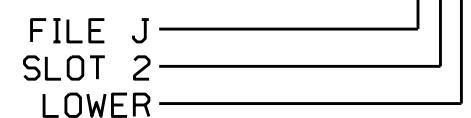
EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
2A/S4	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B/S5	TB2-7,8	I2L	43	5	12	2	Y	Y			
2C	TB2-9,10	I3U	63	25	32	2	Y	Y			3
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			15
6A/S6	TB3-5,6	J2U	40	2	6	6	Y	Y			
6B/S7	TB3-7,8	J2L	44	6	16	6	Y	Y			

INPUT FILE POSITION LEGEND: J2L



NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Enable Simultaneous Gap-Out for all Phases.
- Program phases 2 and 6 for Variable Initial and Gap Reduction.
- Program phases 2 and 6 for Startup In Green.
- Program phases 2 and 6 for Yellow Flash.
- The cabinet and controller are part of the S. Main Street Lexington Closed Loop System.

EQUIPMENT INFORMATION

CONTROLLER.....2070
CABINET.....332 W/ AUX
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S2,S5,S8,AUX S4
PHASES USED.....2,4,6
OVERLAP "A".....NOT USED
OVERLAP "B".....NOT USED
OVERLAP "C".....6
OVERLAP "D".....NOT USED

SIGNAL HEAD HOOK-UP CHART

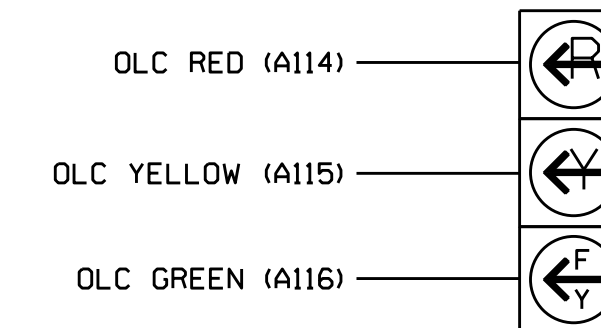
LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6	
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18	
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	QLA	OLB	SPARE	OLC	OLD	SPARE	
SIGNAL HEAD NO.	NU	22,23	NU	NU	41,42	NU	NU	61,62	NU	NU	NU	NU	NU	NU	NU	21	NU	NU	
RED		128			101			134											
YELLOW		129			102			135											
GREEN		130			103			136											
RED ARROW																		A114	
YELLOW ARROW																			A115
FLASHING YELLOW ARROW																			A116
GREEN ARROW																			

NU = Not Used

★ See pictorial of head wiring in detail this sheet.

FYA SIGNAL WIRING DETAIL

(wire signal head as shown)



21

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).
PRESS '+' TWICE

```

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:          12345678910111213141516
VEH OVL PARENTS:  X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED _ YELLOW _ GREEN
FLASH COLORS:  _ RED _ YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0
    
```

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0896
DESIGNED: March 2018
SEALED: 3-21-18
REVISED: N/A

Electrical Detail

Prepared In the Offices of:

 750 N. Greenfield Pkwy, Garner, NC 27529

SR 3346 (S. Main Street) at I-85 Bus./US 29-52 NB-70 EB Ramps
 Division 9 Davidson County Lexington

PLAN DATE: April 2018 REVIEWED BY:
 PREPARED BY: James Peterson REVIEWED BY:

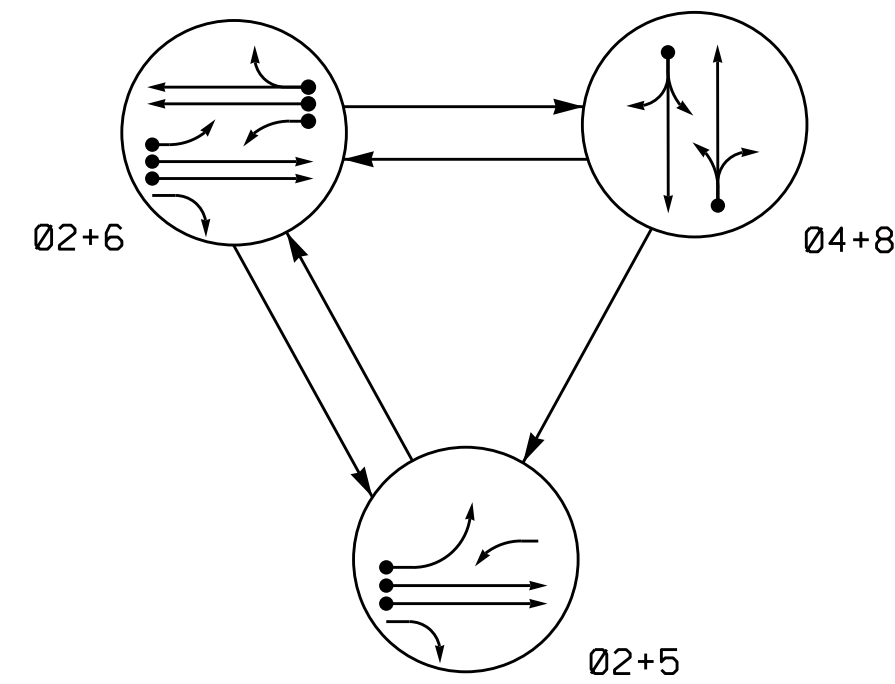
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

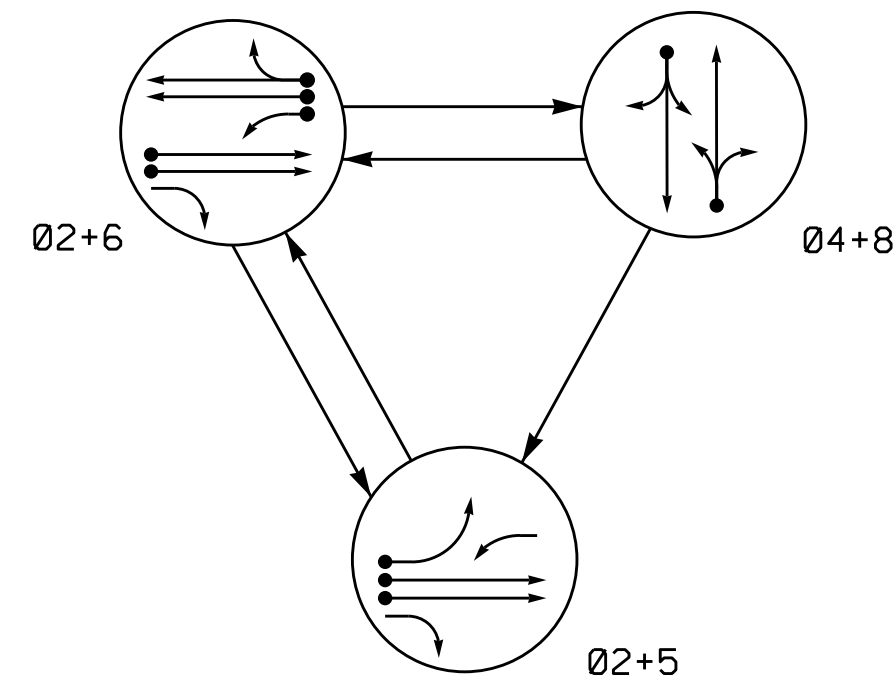
 KEITH M. MINIS
 ENGINEER
 4/12/2018
 DATE

SIG. INVENTORY NO. 09-0896

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE			
	02+5	02+6	04+8	FLASH
21, 22	G	G	R	Y
41, 42, 43	R	R	G	R
51	-	-	-	-
61	-	-	-	-
62, 63, 64	R	G	R	Y
81, 82, 83	R	R	G	R

ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE			
	02+5	02+6	04+8	FLASH
21, 22	G	G	R	Y
41, 42, 43	R	R	G	R
51	-	-	-	-
61	-	-	-	-
62, 63, 64	R	G	R	Y
81, 82, 83	R	R	G	R

OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING				SYSTEM LOOP	NEW CARD	
					PHASE	CALLING	EXTENSION	STRETCH TIME			DELAY TIME
2A/S8	6X6	300	5	Y	2	Y	Y	-	-	-	Y
2B/S9	6X6	300	5	Y	2	Y	Y	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	5	Y
4B	6X6	0	4	Y	4	Y	Y	-	-	15	Y
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	15*	Y
6A/S10	6X6	300	5	Y	6	Y	Y	-	-	-	Y
6B/S11	6X6	300	5	Y	6	Y	Y	-	-	-	Y
6C	6X40	0	2-4-2	Y	6	Y	Y	-	-	3	Y
8A	6X40	0	2-4-2	Y	8	Y	Y	-	-	10	Y

* Disable Delay During Alternate Phasing Operation.
Disable Phase Call For Loop During Alternate Phasing Operation.

3 Phase Fully Actuated (S. Main Street Lexington CLS)

NOTES

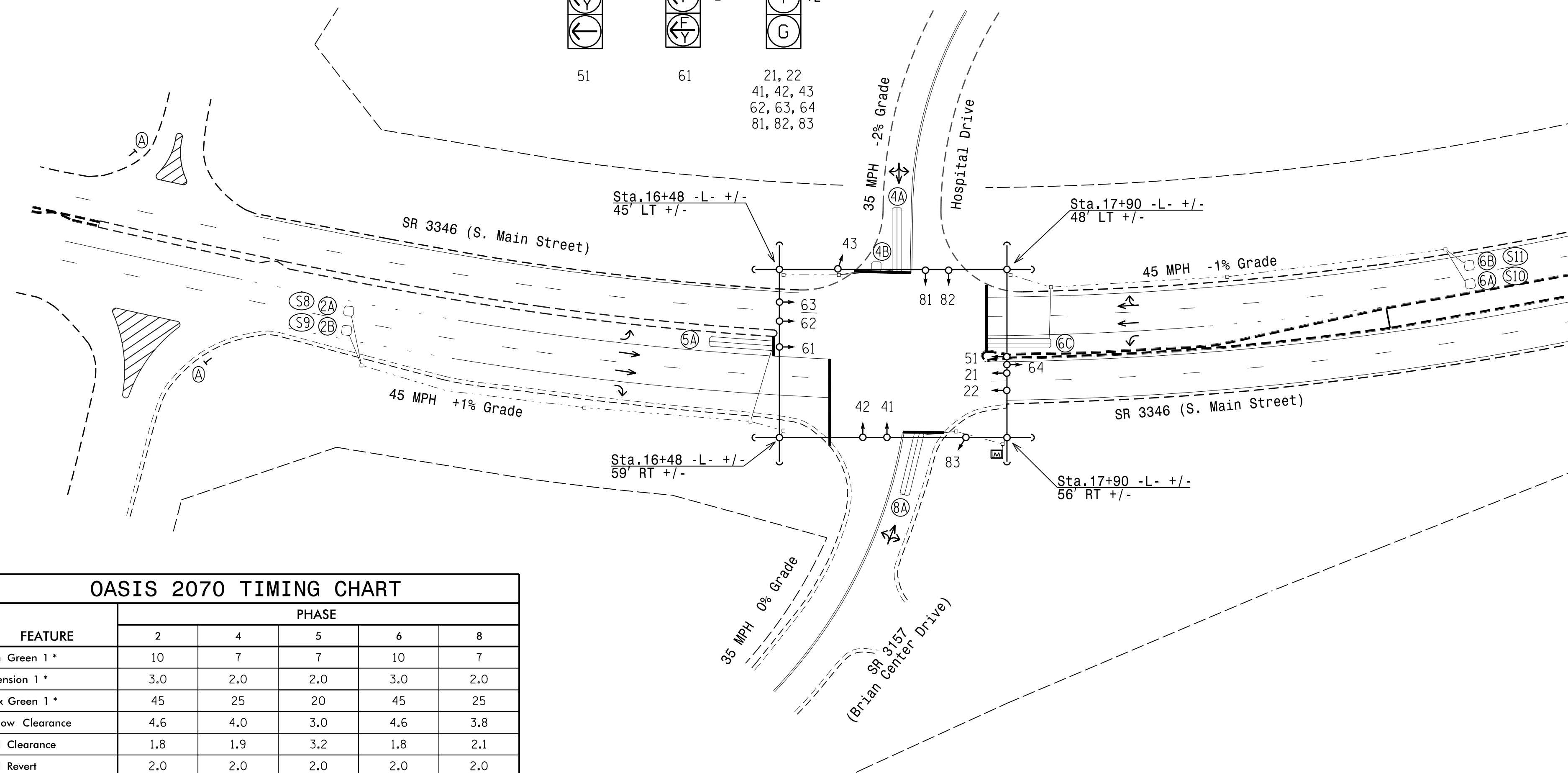
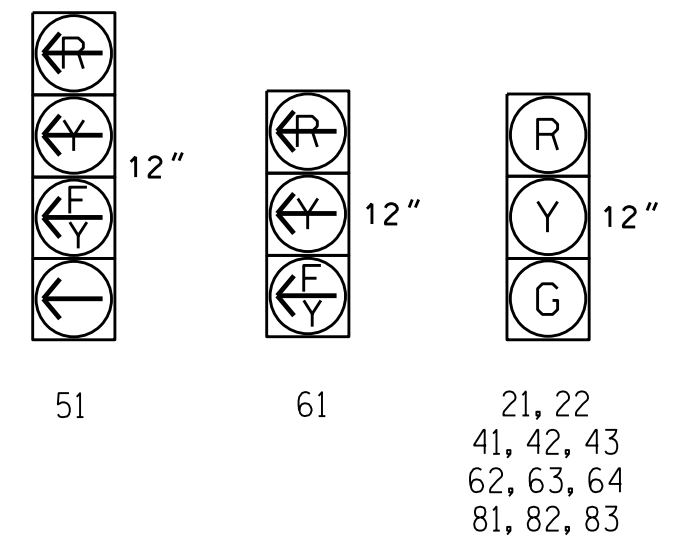
- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 5 may be lagged.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- The Division Traffic Engineer will determine the hours of use for each phasing plan.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data:
Master Asset #: 10916,
Controller Asset #: 0585.

PHASING DIAGRAM DETECTION LEGEND

- ←● DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- ←- UN SIGNALIZED MOVEMENT
- ←- PEDESTRIAN MOVEMENT

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070 TIMING CHART

FEATURE	PHASE				
	2	4	5	6	8
Min Green 1*	10	7	7	10	7
Extension 1*	3.0	2.0	2.0	3.0	2.0
Max Green 1*	45	25	20	45	25
Yellow Clearance	4.6	4.0	3.0	4.6	3.8
Red Clearance	1.8	1.9	3.2	1.8	2.1
Red Revert	2.0	2.0	2.0	2.0	2.0
Walk 1*	-	-	-	-	-
Don't Walk 1	-	-	-	-	-
Seconds Per Actuation*	1.5	-	-	1.5	-
Max Variable Initial*	34	-	-	34	-
Time Before Reduction*	15	-	-	15	-
Time To Reduce*	45	-	-	45	-
Minimum Gap	3.0	-	-	3.0	-
Recall Mode	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	YELLOW	-	-	YELLOW	-
Dual Entry	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED	EXISTING
○ → Traffic Signal Head	● → Traffic Signal Head
○ → Modified Signal Head	N/A
○ → Sign	○ → Sign
○ → Pedestrian Signal Head With Push Button & Sign	○ → Pedestrian Signal Head With Push Button & Sign
○ → Signal Pole with Guy	○ → Signal Pole with Guy
○ → Signal Pole with Sidewalk Guy	○ → Signal Pole with Sidewalk Guy
□ → Inductive Loop Detector	□ → Inductive Loop Detector
□ → Master Controller & Cabinet	□ → Master Controller & Cabinet
□ → Junction Box	□ → Junction Box
○ → 2-in Underground Conduit	○ → 2-in Underground Conduit
N/A → Right of Way	N/A → Right of Way
→ → Directional Arrow	→ → Directional Arrow
⊠ → "STOP" Sign (R1-1)	⊠ → "STOP" Sign (R1-1)

This plan supersedes the plan signed and sealed on 3/21/18.

New Installation

Prepared in the Offices of:
TRANSPORTATION MOBILITY AND SAFETY DIVISION
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
SIGNAL DESIGN SECTION

SR 3346 (S. Main Street) at SR 3157 (Brian Center Drive) and Hospital Drive
Division 9 Davidson County Lexington

PLAN DATE: April 2018 REVIEWED BY:
PREPARED BY: I. O. Umzurike REVIEWED BY:

750 N. Greenfield Pkwy, Garner, NC 27529

REVISIONS: INIT. DATE

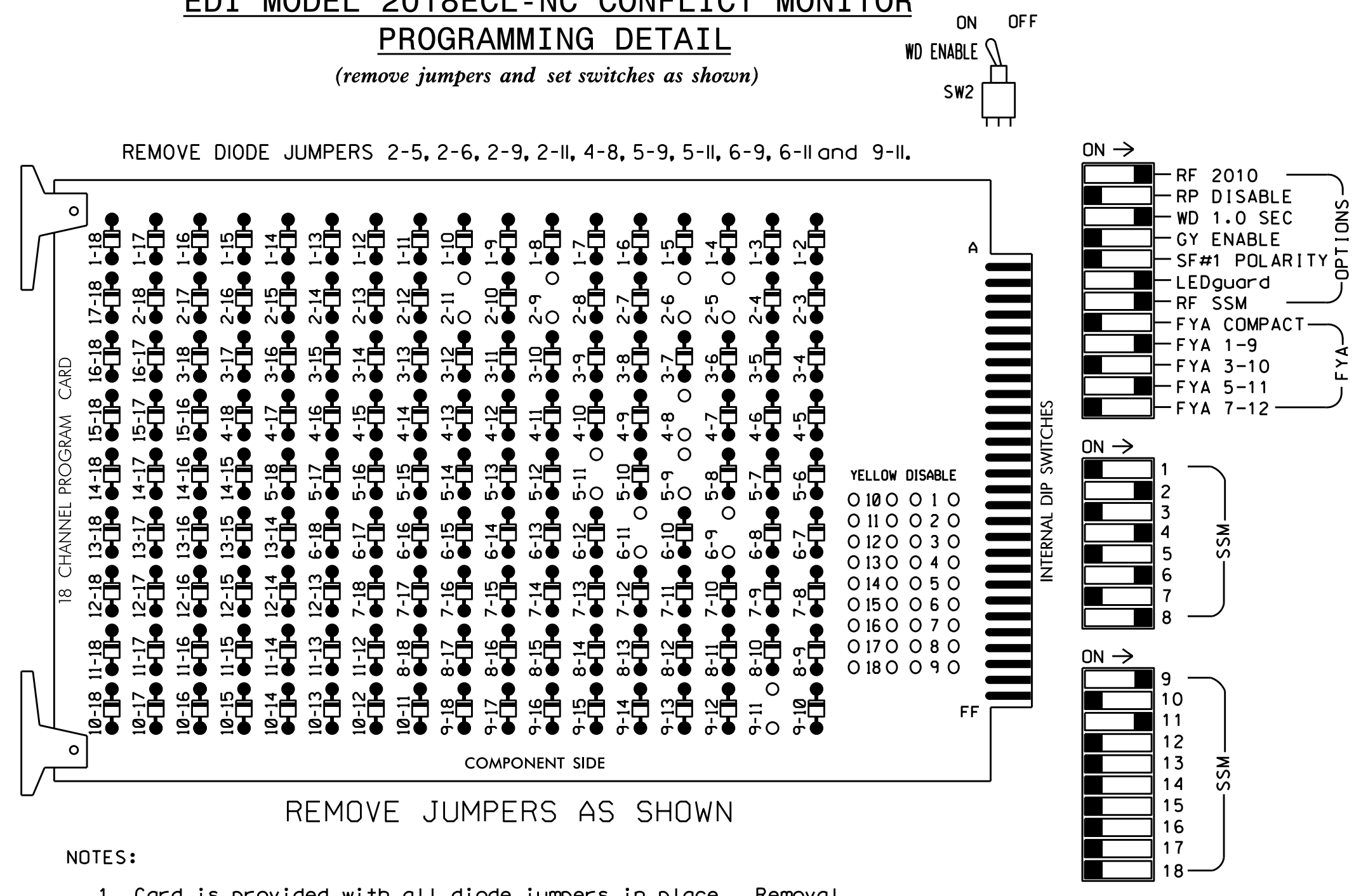
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 026486
ROBERT J. ZIEMBA
ENGINEER
4/25/2018
DATE
SIG. INVENTORY NO. 09-0585

25-APR-2018 1:42:53
 S:\IT\55\UM\T\S\S\Signal\Central_Reg\on401v_9\W-5709D\03-0585\090585.sig.dgn-20180425.dgn
 rz:lemba

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Program phases 4 and 8 for Dual Entry.
- Enable Simultaneous Gap-Out for all Phases.
- Program phases 2 and 6 for Variable Initial and Gap Reduction.
- Program phases 2 and 6 for Startup In Green.
- Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
- The cabinet and controller are part of the S. Main Street Lexington Closed Loop System.

EQUIPMENT INFORMATION

CONTROLLER.....2070
 CABINET.....332 W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S2,S5,S7,S8,S11,AUX S1,AUX S4
 PHASES USED.....2,4,5,6,8
 OVERLAP "A".....2
 OVERLAP "B".....NOT USED
 OVERLAP "C".....5+6
 OVERLAP "D".....NOT USED

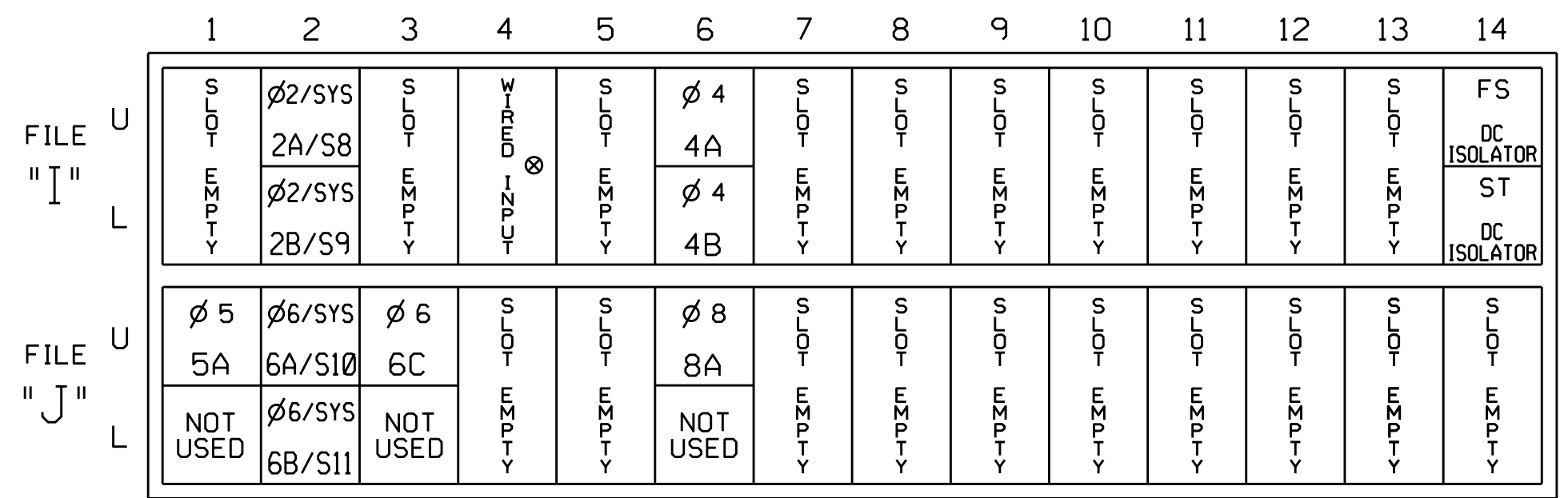
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42 43	NU	51	62 63,64	NU	NU	81,82 83	NU	61	NU	NU	51	NU	NU
RED		128			101			134			107							
YELLOW		129			102		*	135			108							
GREEN		130			103			136			109							
RED ARROW													A121				A114	
YELLOW ARROW													A122				A115	
FLASHING YELLOW ARROW													A123				A116	
GREEN ARROW								133										

NU = Not Used
 * Denotes install load resistor. See load resistor installation detail this sheet.
 ★ See pictorial of head wiring in detail this sheet.

INPUT FILE POSITION LAYOUT

(front view)



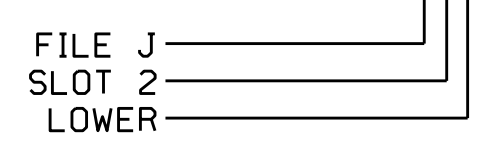
EX.: 1A, 2A, ETC. = LOOP NO.'S
 FS = FLASH SENSE
 ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
2A/S8	TB2-5,6	I2U	39	1	2	2/SYS	Y	Y			
2B/S9	TB2-7,8	I2L	43	5	12	2/SYS	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			5
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			15
5A ¹	TB3-1,2	J1U	55	17	5	5	Y	Y			15
	-	I4U	47	9 ★	22	2	Y	Y	Y		3
	-	J1U	55	17 ★	55	5	Y	Y			
6A/S10	TB3-5,6	J2U	40	2	6	6/SYS	Y	Y			
6B/S11	TB3-7,8	J2L	44	6	16	6/SYS	Y	Y			
6C	TB3-9,10	J3U	64	26	36	6	Y	Y	Y		3
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			10

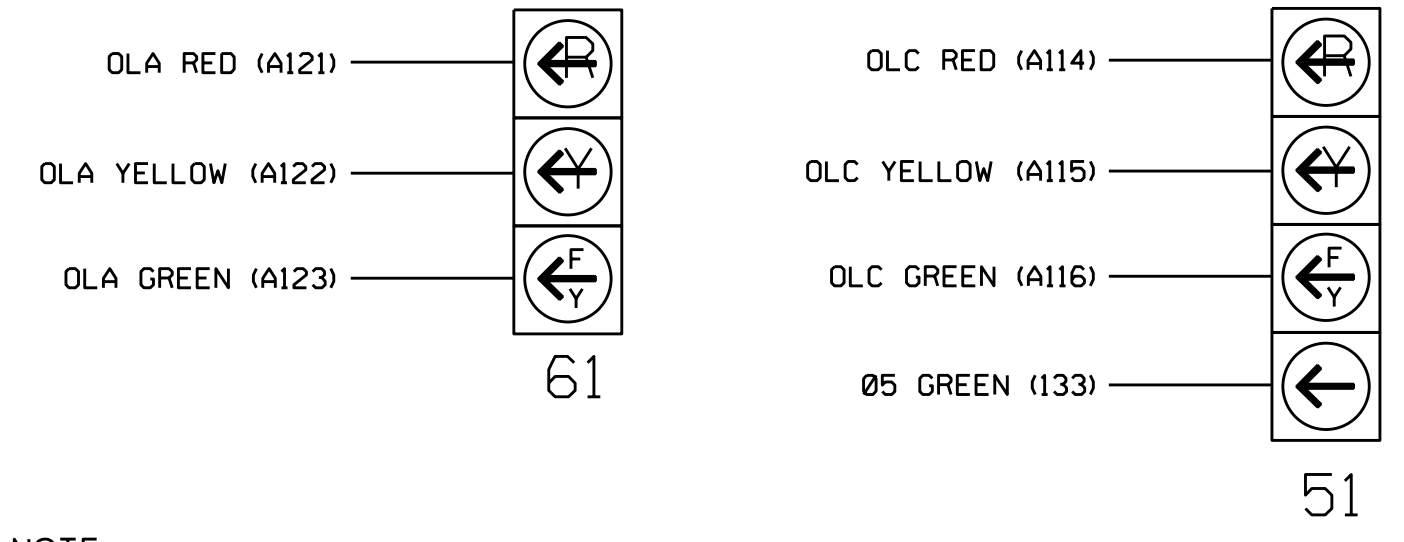
¹Add jumper from J1-W to I4-W, on rear of input file.
 ★ See Input Page Assignment programming details on sheet 3.

INPUT FILE POSITION LEGEND: J2L



FYA SIGNAL WIRING DETAIL

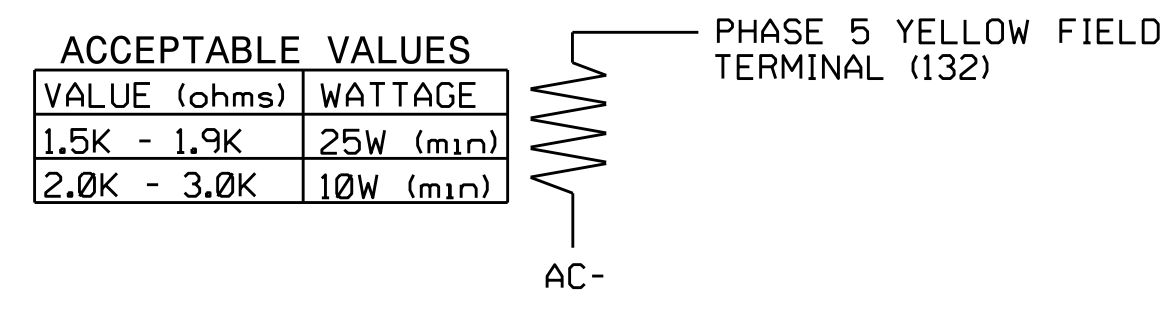
(wire signal heads as shown)



NOTE
 The sequence display for signal head 51 requires special logic programming. See sheet 2 for programming instructions.

LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown below)



Electrical Detail - Sheet 1 of 4

Electrical and Programming Details For: SR 3346 (S. Main Street) at SR 3157 (Brian Center Drive) and Hospital Drive

Division 9 Davidson County Lexington

PLAN DATE: April 2018 REVIEWED BY: Ryan W. Hough

PREPARED BY: James Peterson REVIEWED BY: Ryan W. Hough

750 N. Greenfield Pkwy, Garner, NC 27529

Seal: Ryan W. Hough, Professional Engineer, License No. 036833, State of North Carolina

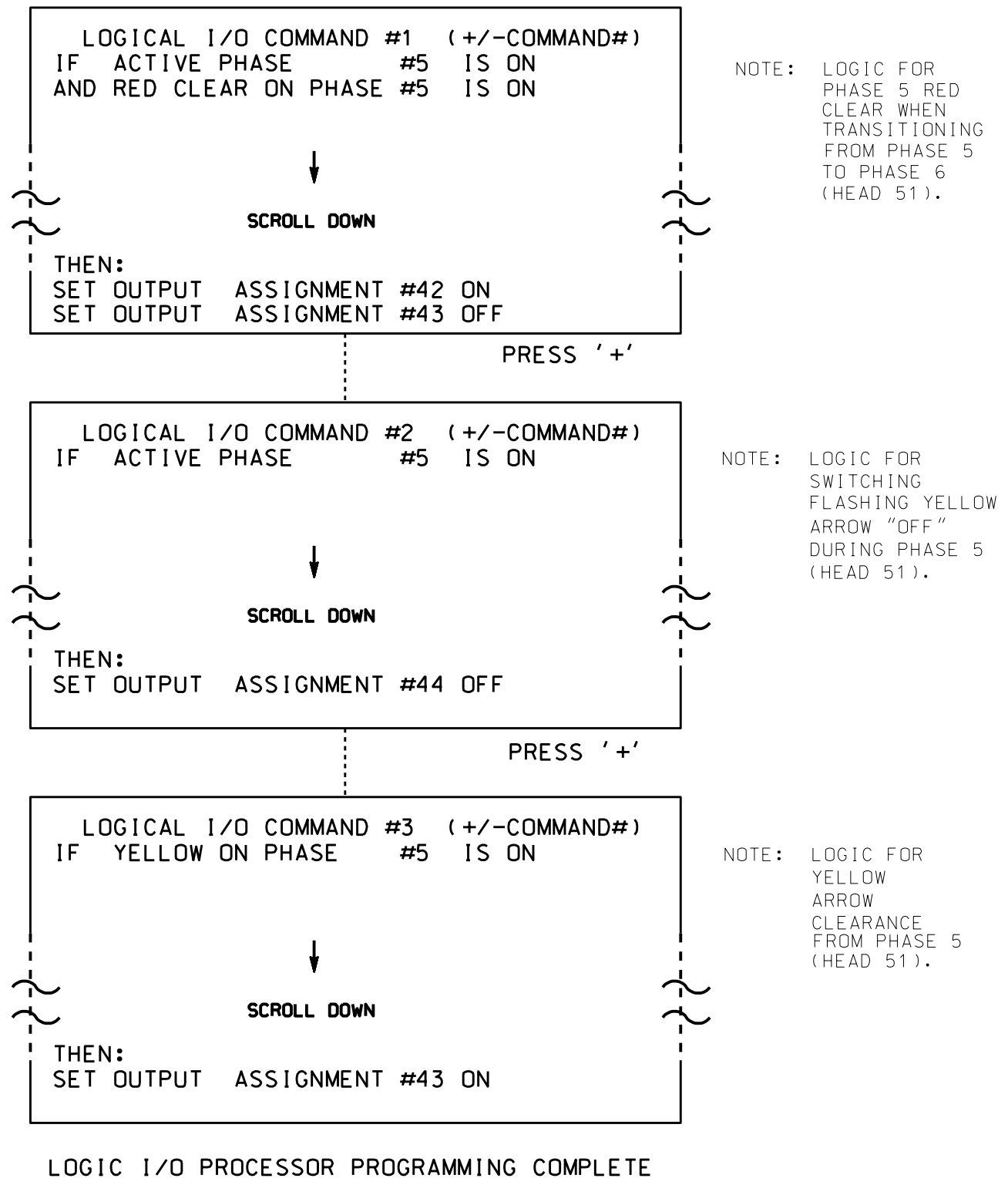
DocuSign: 4/30/2018

SIG. INVENTORY NO. 09-0585

**LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE**

(program controller as shown below)

- FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2 and 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



OUTPUT REFERENCE SCHEDULE	
OUTPUT 42	= Overlap C Red
OUTPUT 43	= Overlap C Yellow
OUTPUT 44	= Overlap C Green

**OVERLAP PROGRAMMING DETAIL
FOR DEFAULT PHASING**

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0

PRESS '+' TWICE

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0

OVERLAP PROGRAMMING COMPLETE

**OVERLAP PROGRAMMING DETAIL
FOR ALTERNATE PHASING**

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS). PRESS 'NEXT' TO ADVANCE TO PAGE 2.

PAGE 2: VEHICLE OVERLAP 'A' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0

PRESS '+' TWICE

PAGE 2: VEHICLE OVERLAP 'C' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW - GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC)...0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)...0

OVERLAP PROGRAMMING COMPLETE

NOTICE PAGE 2

NOTICE PAGE 2

← NOTICE GREEN FLASH

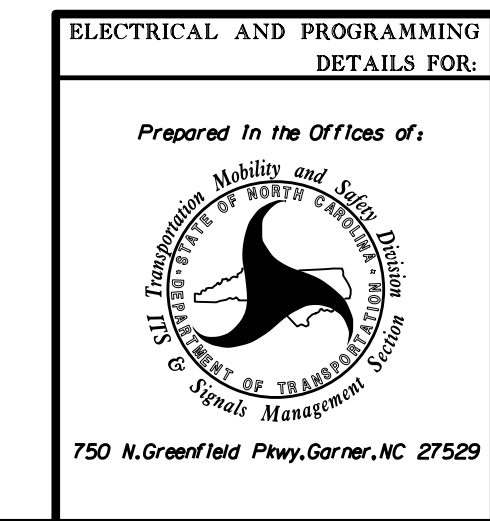
← NOTICE GREEN FLASH

← NOTICE GREEN FLASH

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0585
DESIGNED: April 2018
SEALED: 4-25-18
REVISED: N/A

This Electrical Detail supersedes the detail sealed on 4-12-18.

Electrical Detail - Sheet 2 of 4



ELECTRICAL AND PROGRAMMING DETAILS FOR:		SR 3346 (S. Main Street) at SR 3157 (Brian Center Drive) and Hospital Drive	
Division 9	Davidson County	Lexington	
PLAN DATE: April 2018	REVIEWED BY:		
PREPARED BY: James Peterson	REVIEWED BY:		
REVISIONS	INIT.	DATE	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL	DATE
RYAN W. HOUGH	4/30/2018
SIG. INVENTORY NO. 09-0585	

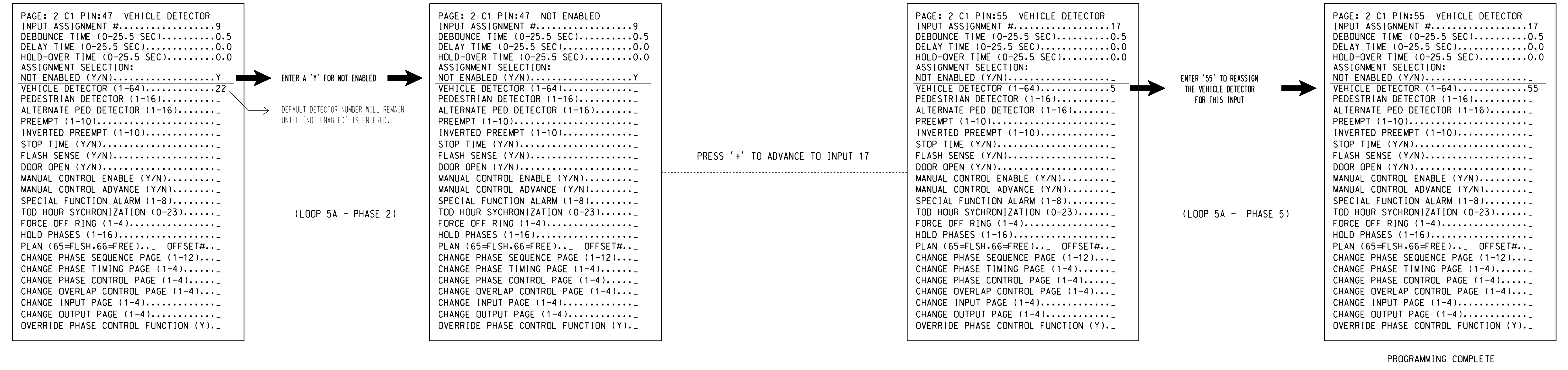
30-Apr-2018 08:56
S:\IT\SS\1\1\S\S\Signal\work\hough\sig_Man\Peter.som\090585_sig.ele_20180412.dgn
J.Peterson

INPUT PAGE 2 ASSIGNMENT PROGRAMMING DETAIL FOR ALTERNATE PHASING - LOOP 5A

(program controller as shown below)

- NOTES: 1. THIS PROGRAMMING APPLIES FOR INPUT PAGE 2 ONLY. INPUT PAGE 1 WILL USE STANDARD DEFAULT SETTINGS. THIS PROGRAMMING IS NECESSARY FOR PROPER DETECTOR OPERATION DURING ALTERNATE PHASING OPERATION.
2. THE FIRST TASK THIS PROGRAMMING ACCOMPLISHES IS THE DISABLING OF INPUT #9 (DETECTOR 22) SO THAT A VEHICLE CALL WILL NOT BE PLACED TO PHASE 2 DURING ALTERNATE PHASING OPERATION. THE SECOND TASK THIS PROGRAMMING ACCOMPLISHES IS THAT IT REASSIGNS DETECTOR 55 TO INPUT #17 SO THAT THE DELAY ON LOOP 5A CAN BE REDUCED FROM 15 SECONDS TO 0 SECONDS.

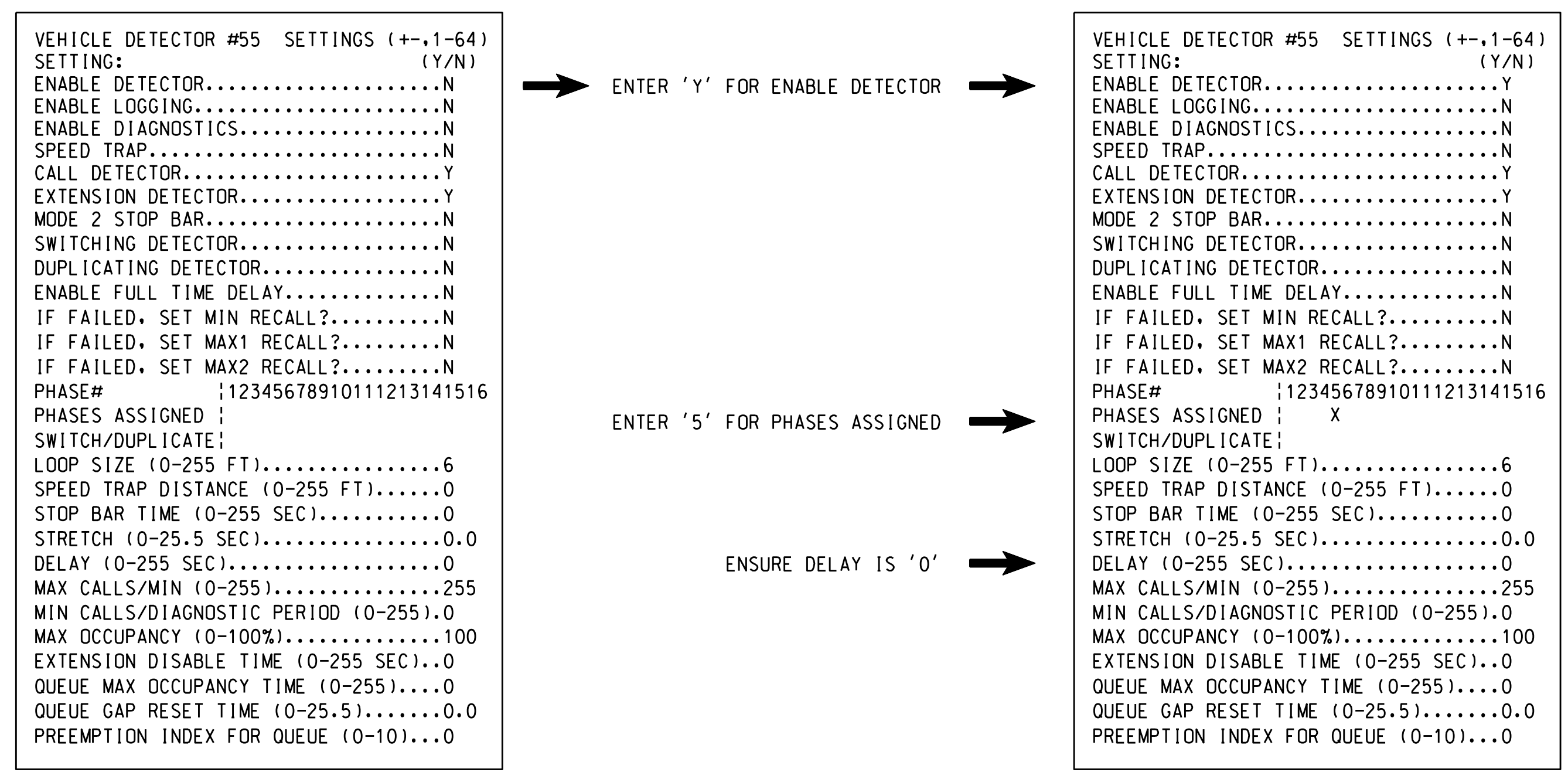
FROM MAIN MENU PRESS '5' (INPUTS), THEN PRESS 'NEXT' TO GET TO INPUT PAGE '2'. PRESS THE '+' KEY UNTIL INPUT 9 IS REACHED.



SPECIAL DETECTOR PROGRAMMING DETAIL - LOOP 5A (ALT.)

(program controller as shown below)

FROM MAIN MENU PRESS '7' (DETECTORS), THEN PRESS '1' FOR VEHICLE DETECTORS. PRESS THE '-' KEY TO GET TO VEHICLE DETECTOR #55.



NOTE: DETECTOR IS PROGRAMMED PER THE INPUT FILE CONNECTION AND PROGRAMMING CHART SHOWN ON SHEET 1.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0585
DESIGNED: April 2018
SEALED: 4-25-18
REVISED: N/A

This Electrical Detail supersedes the detail sealed on 4-12-18.

Electrical Detail - Sheet 3 of 4

	SR 3346 (S. Main Street) at SR 3157 (Brian Center Drive) and Hospital Drive		
	Division 9 PLAN DATE: April 2018 PREPARED BY: James Peterson	Davidson County REVIEWED BY: REVIEWED BY:	

750 N. Greenfield Pkwy, Garner, NC 27529

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIG. INVENTORY NO. 09-0585

30-Apr-2018 08:20
 C:\MTSAS\15\Sig\elw\work\loop5a\5g_Mon#eter.smc.ele_20180412.dgn
 J.peterson

ALTERNATE PHASING ACTIVATION DETAIL

TO RUN ALT. PHASING DURING COORDINATION - SELECT ALL PAGE CHANGES (AS SHOWN BELOW) WITHIN COORDINATION PLAN PROGRAMMING.

TO RUN ALT. PHASING DURING FREE RUN - PROGRAM PAGE CHANGES (SHOWN BELOW) IN SEPARATE TIME OF DAY EVENTS. IF PAGE 1 IS USED, NO EVENT PROGRAMMING IS NECESSARY FOR THAT PARTICULAR PAGE.

<u>PHASING</u>	<u>INPUTS PAGE</u>	<u>OVERLAPS PAGE</u>
ACTIVE PAGES REQUIRED TO RUN <u>DEFAULT PHASING</u>	1	1
ACTIVE PAGES REQUIRED TO RUN <u>ALTERNATE PHASING</u>	2	2

NOTE: PAGES NOT SHOWN (i.e. sequence, phase control, etc.) SHOULD REMAIN AS '1', OR AS DEFINED BY TIMING ENGINEER.

IMPORTANT: IF ALT. PHASING IS USED DURING FREE RUN AND COORDINATION, DO NOT OPERATE TIME OF DAY PAGE CHANGE EVENTS CONCURRENTLY WITH COORDINATION PLAN EVENTS IN THE EVENT SCHEDULER. (EX. FREE RUN PAGE CHANGE EVENT SHOULD END BEFORE COORDINATION PLAN EVENT STARTS AND VICE-VERSA).

ALTERNATE PHASING PAGE CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN THESE OVERLAP/INPUT PAGE CHANGES ACTIVATE TO CALL THE "ALTERNATE PHASING":


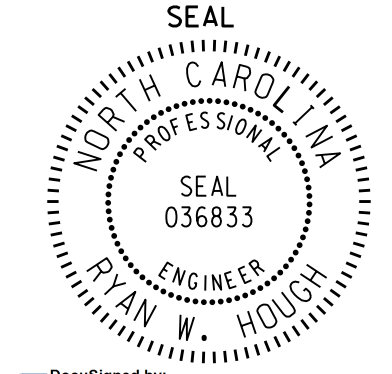
OVERLAPS PAGE 2: Modifies overlap parent phases for head 51 to run protected turns only.

INPUTS PAGE 2: Disables phase 2 call on loop 5A and reduces delay time for phase 5 call on loop 5A to 0 seconds.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 09-0585
 DESIGNED: April 2018
 SEALED: 4-25-18
 REVISED: N/A

This Electrical Detail supersedes the detail sealed on 4-12-18.

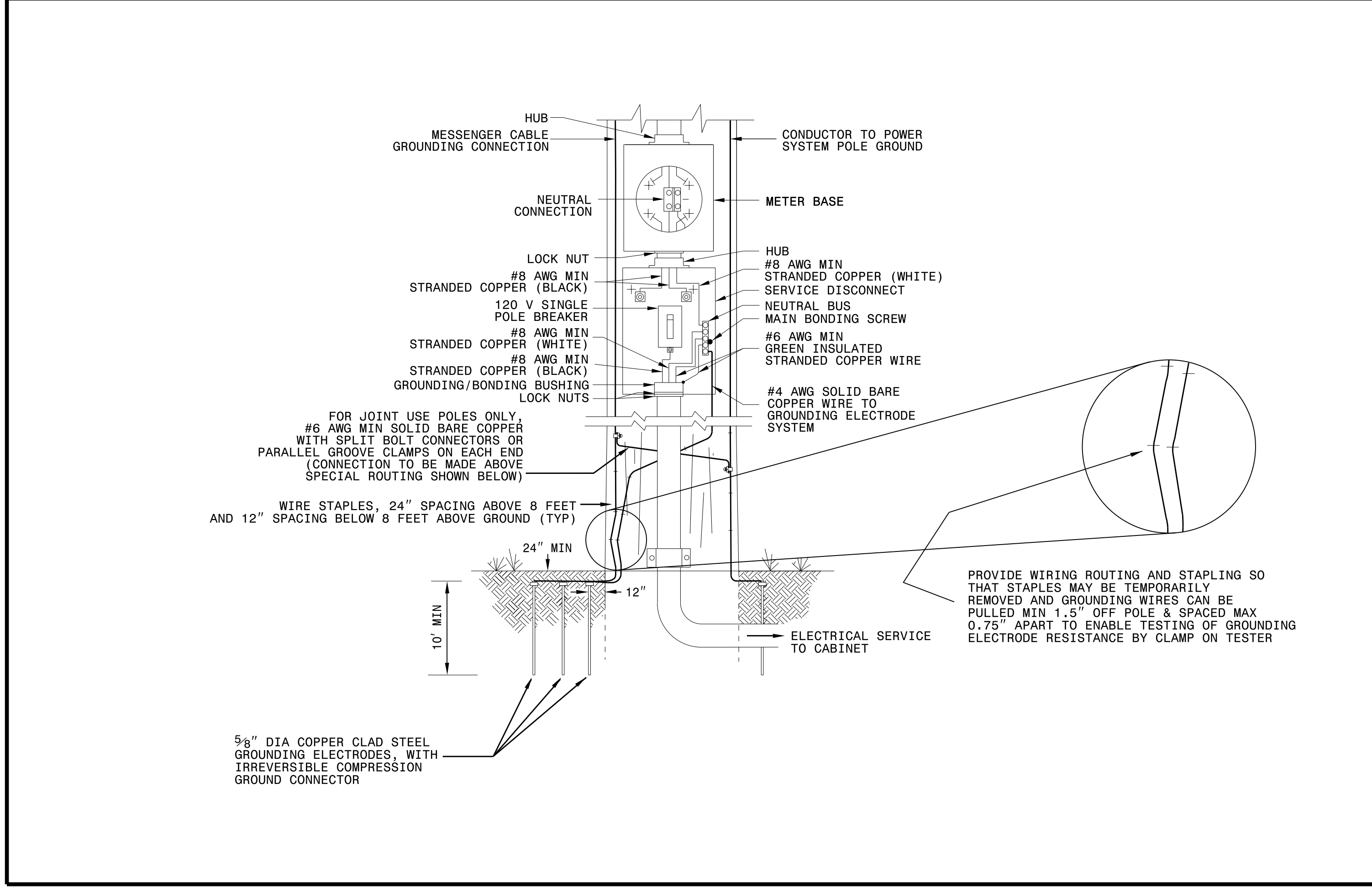
Electrical Detail - Sheet 4 of 4

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared In the Offices of:  750 N. Greenfield Pkwy, Garner, NC 27529	SR 3346 (S. Main Street) at SR 3157 (Brian Center Drive) and Hospital Drive Division 9 Davidson County Lexington PLAN DATE: April 2018 REVIEWED BY: PREPARED BY: James Peterson REVIEWED BY: REVISIONS INIT. DATE	DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED SEAL  SEAL 036833 ENGINEER RYAN W. HOUGH Documented by: <u>Ryan W. Hough</u> 4/30/2018 DATE SIG. INVENTORY NO. 09-0585
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1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
ELECTRICAL SERVICE GROUNDING
GROUNDING AND BONDING

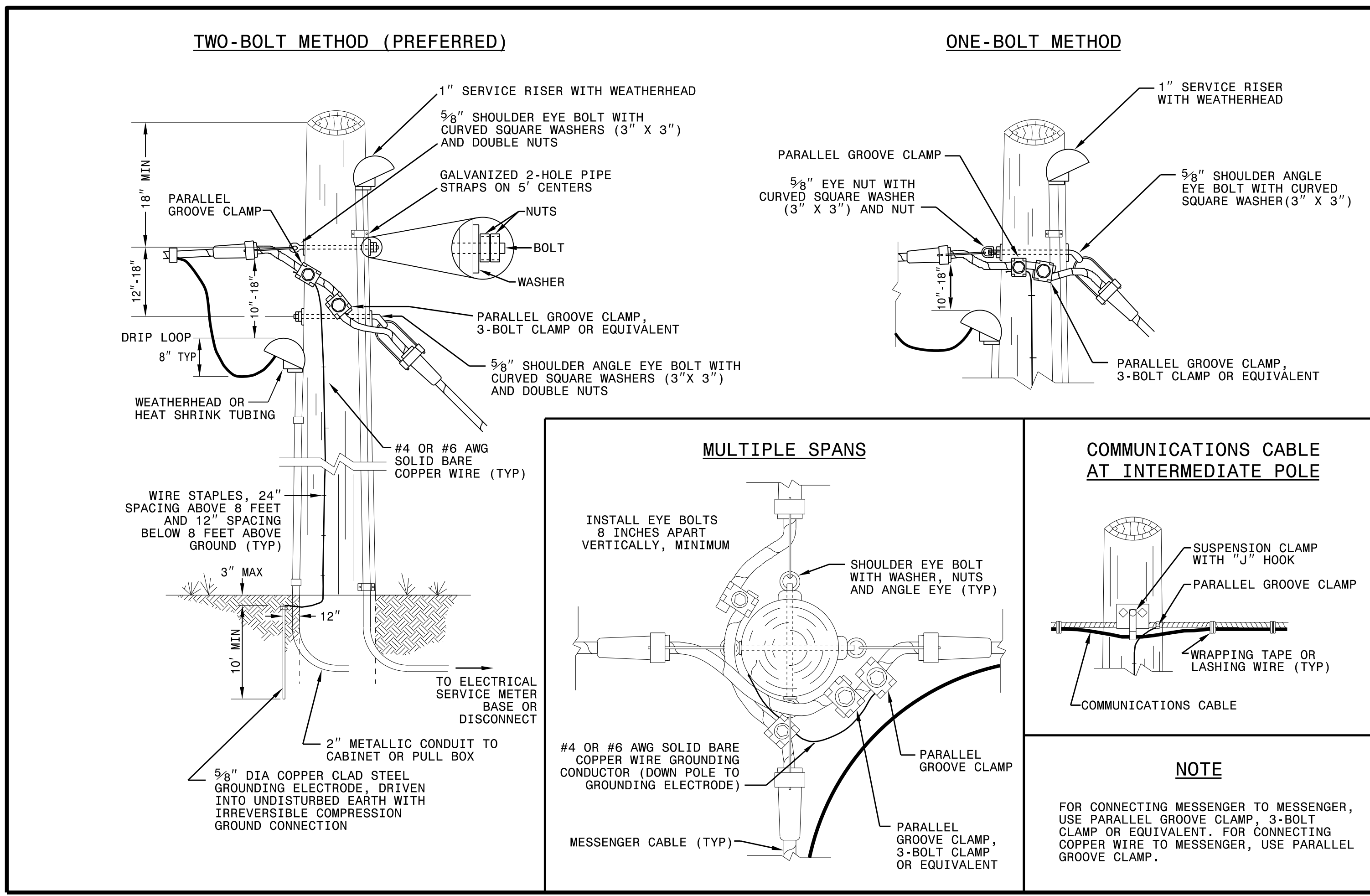
SHEET 1 OF 1
1700D01



1-18 STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
WOOD POLES
METHODS OF ATTACHMENT AND GROUNDING

SHEET 1 OF 1
1720D01



DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

See Plate for Title

Prepared in the Offices of:

SEAL

DocuSigned by:
Mohd Aslami




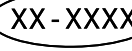


10/11/2017

750 N. Greenfield Parkway
Garner, NC 27529

DATE

11-001-2017_08.r56
11-2018_S1.d DrawingPlate_Sheets2018_Plate_Sheet.dgn
r:\rough

LEGEND

-  YAGI ANTENNA (SINGLE)
-  EXISTING CONTROLLER AND CABINET
-  EXISTING MASTER CONTROLLER AND CABINET
-  SIGNAL INVENTORY NUMBER
-  EXISTING WOOD POLE
-  SIGNAL POLE

INSTALL 8.5 DB GAIN YAGI ANTENNA
HORIZONTALLY POLARIZED

ATTACH 6" BELOW
SIGNAL CABLE WEATHERHEAD

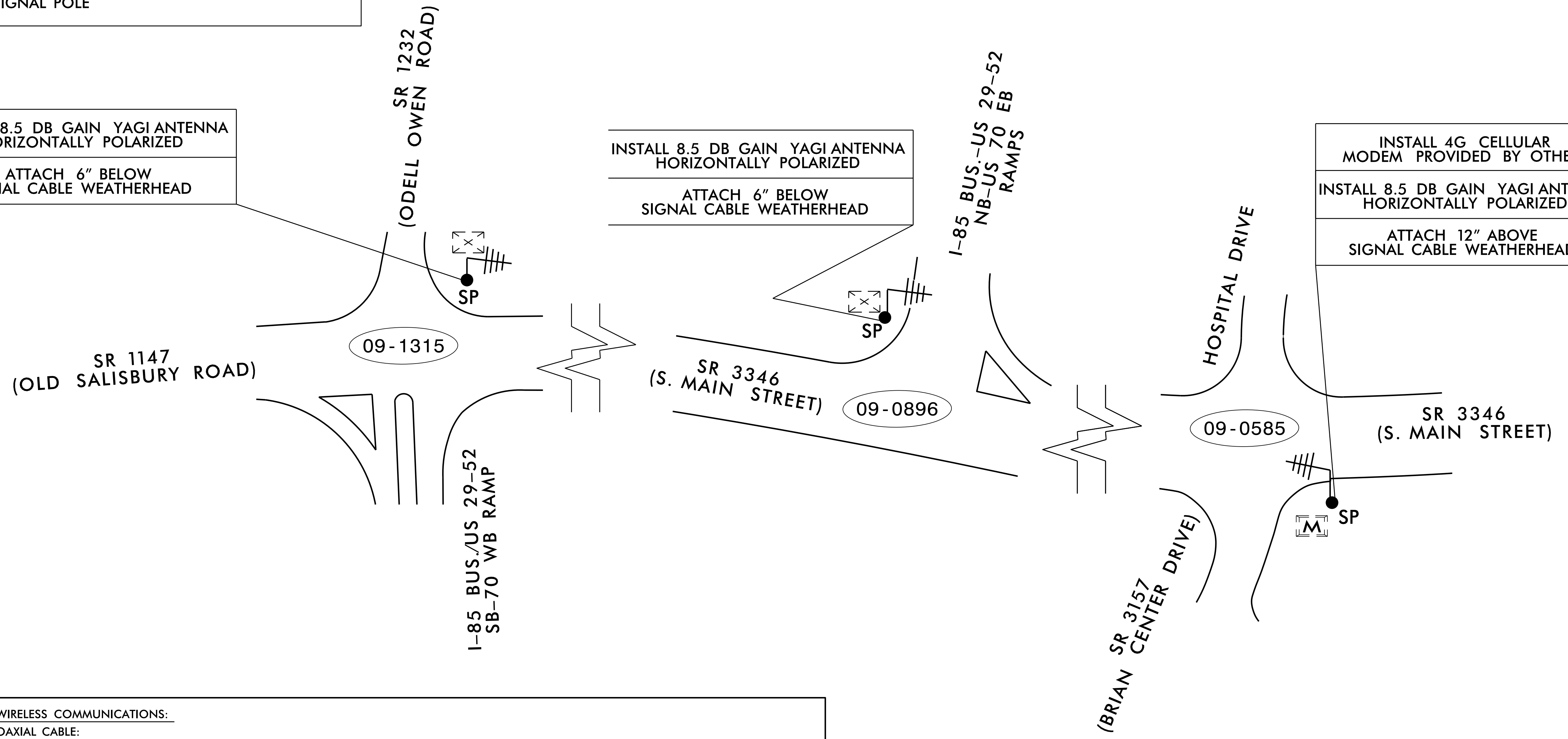
INSTALL 8.5 DB GAIN YAGI ANTENNA
HORIZONTALLY POLARIZED

ATTACH 6" BELOW
SIGNAL CABLE WEATHERHEAD

INSTALL 4G CELLULAR
MODEM PROVIDED BY OTHERS

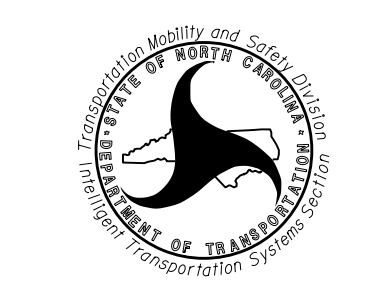
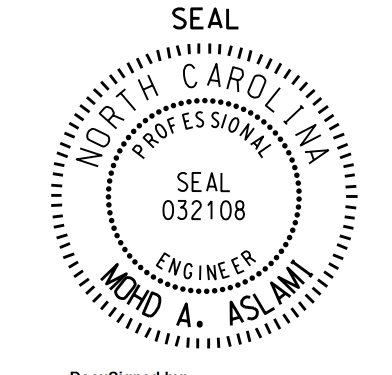

INSTALL 8.5 DB GAIN YAGI ANTENNA
HORIZONTALLY POLARIZED

ATTACH 12" ABOVE
SIGNAL CABLE WEATHERHEAD

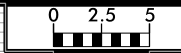


- NOTES FOR WIRELESS COMMUNICATIONS:**
- INSTALL COAXIAL CABLE:
 - ON WOOD POLES, REQUIRING A NEW RISER, INSTALL A 2" RISER WITH WEATHERHEAD TO ROUTE THE COAXIAL CABLE TO THE ANTENNA. ON POLES WITH EXISTING RISERS WITH WEATHER HEADS REUSE THE RISER ASSEMBLY.
 - ON METAL POLES, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE MAST ARM; FIELD DRILL 1/2" HOLE WITH GROMMET THROUGH BOTTOM OF MAST ARM FOR INSTALLATION OF THE COAXIAL CABLE TO THE ANTENNA.
 - ON METAL STRAIN POLES, RUN COAXIAL CABLE UP THROUGH THE POLE AND REPLACE THE WEATHERHEAD WITH HEAT SHRINK TUBING AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.
 - BETWEEN THE POINT OF EXITING THE METAL POLE OR MAST ARM AND THE ANTENNA, SECURE THE COAXIAL CABLE TO THE STRUCTURE USING 3/4" STAINLESS STEEL STRAPS EVERY 12".
 - IF EXISTING SPARE RISER IS AVAILABLE, REMOVE WEATHERHEAD AND INSTALL COAXIAL CABLES. RESEAL WITH HEAT SHRINK TUBING.
 - INSTALL WIRELESS ANTENNA ON POLE WITH RF WARNING SIGN AND AIM TOWARDS MASTER.
(NOTE: RF WARNING SIGN NOT REQUIRED WHEN ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)
 - MAINTAIN PROPER CLEARANCE FROM ALL UTILITIES PER THE NATIONAL ELECTRICAL SAFETY CODE.
 - INSTALL WIRELESS SERIAL RADIO MODEM WITH EXTERIOR DISCONNECT SWITCH LOCATED ON CABINET.
(NOTE: RF ANTENNA DISCONNECT SWITCH AND DECAL ARE NOT REQUIRED WHEN THE ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)
 - REFERENCE "WIRELESS RADIO ANTENNA TYPICAL DETAILS."

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

 Prepared in the Offices of: 750 N. Greenfield Pkwy., Garner, NC 27529	WIRELESS PLAN		 SEAL 032108 M. A. ASAMI
	DIVISION 9 DAVIDSON CO. LEXINGTON	PLAN DATE: MARCH 2018 REVISIONS: _____ INIT. DATE	
SCALE: 1" = 50' 	PREPARED BY: H. T. BERGGREN, ET	DESIGNED BY: Neil Ivery	DocuSigned by: Mehul Asami 4/2/2018

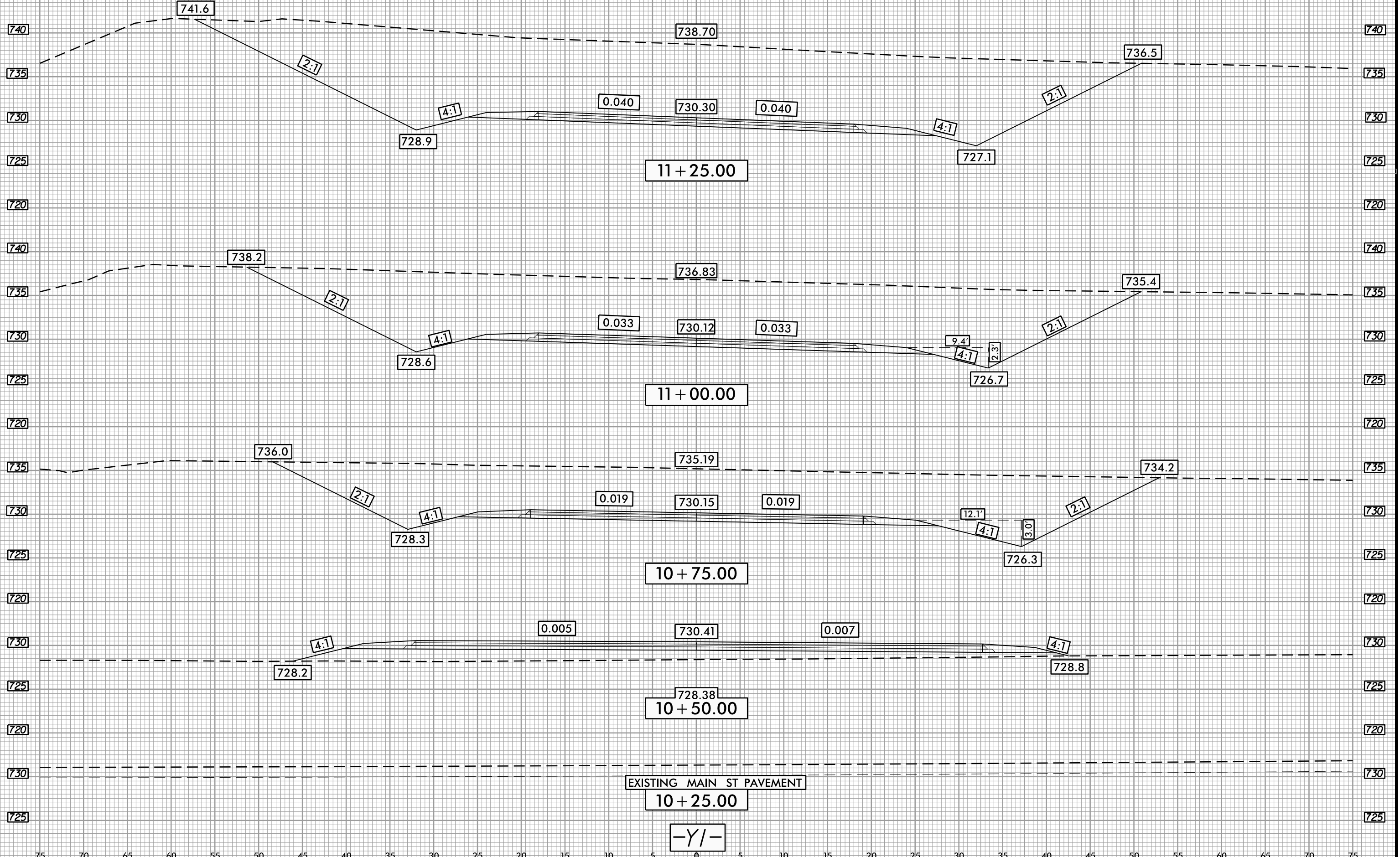
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W-5709D

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X-1

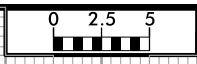
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Ikeason AT DIV 24550

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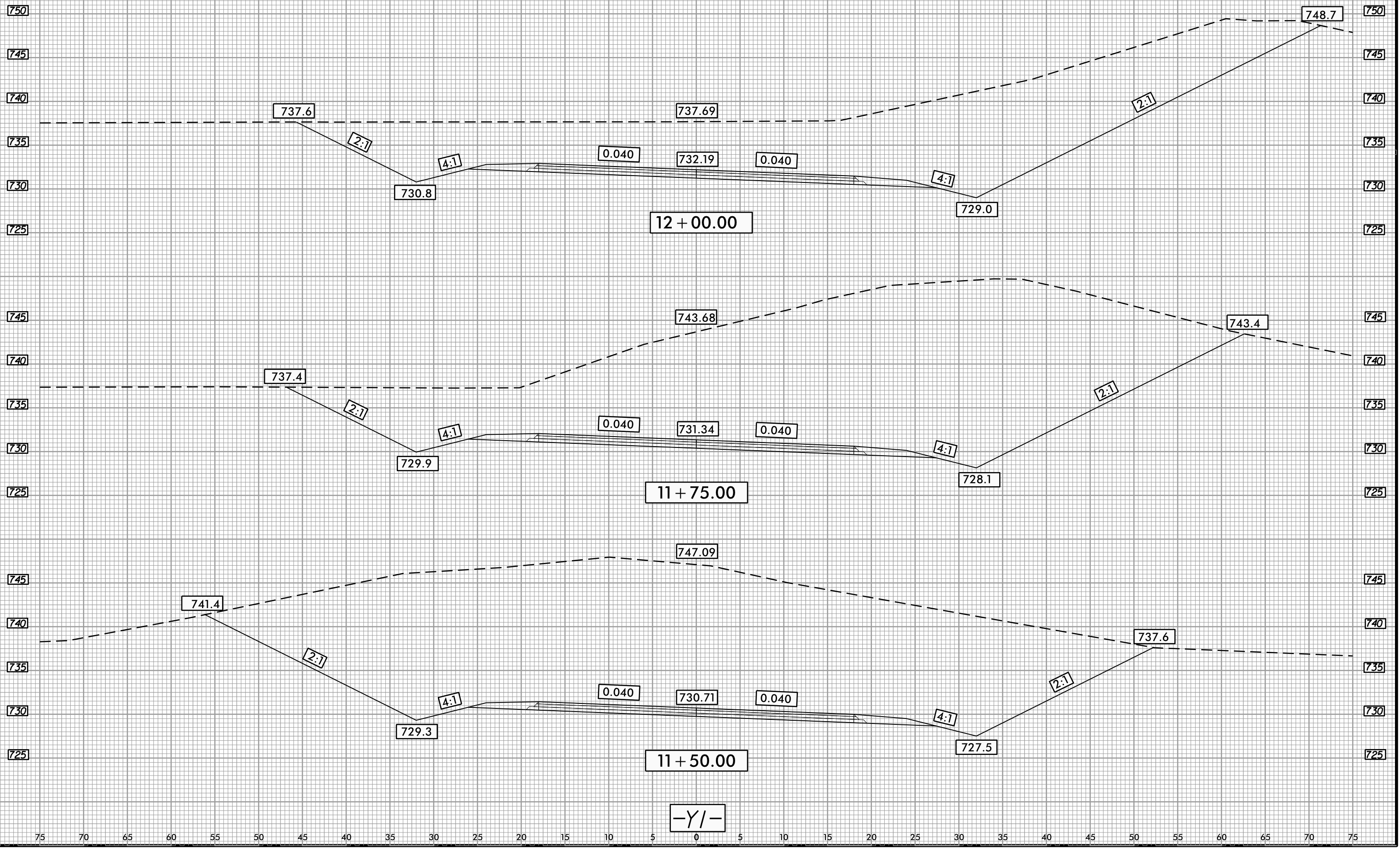
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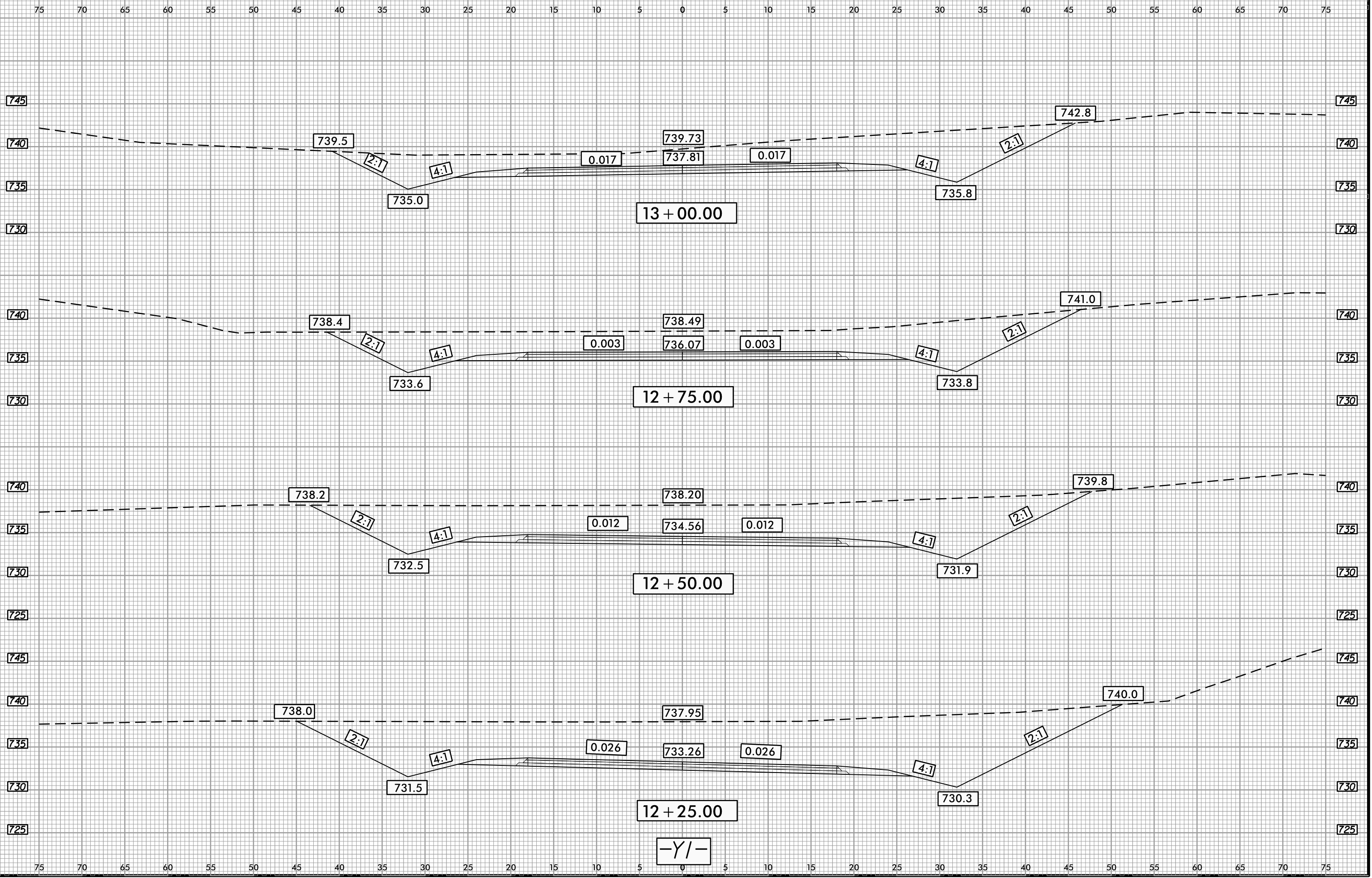
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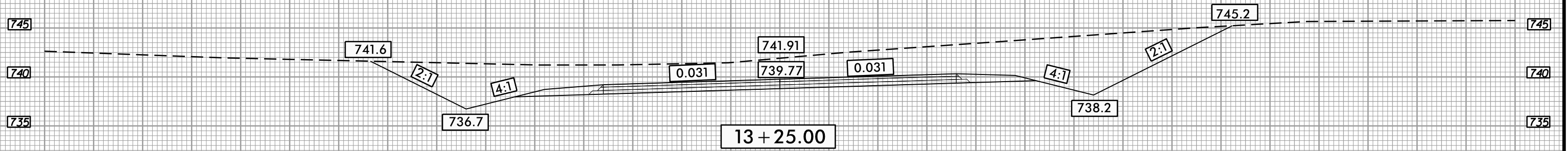
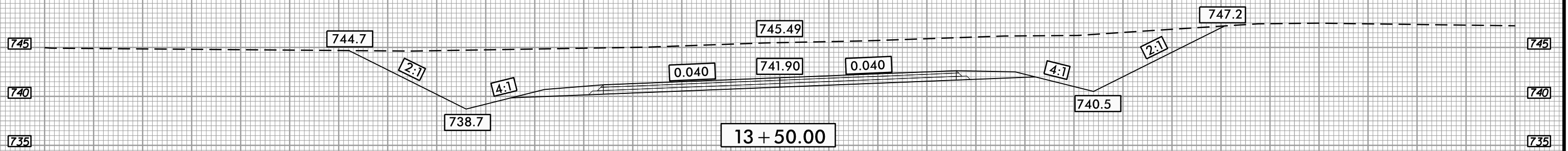
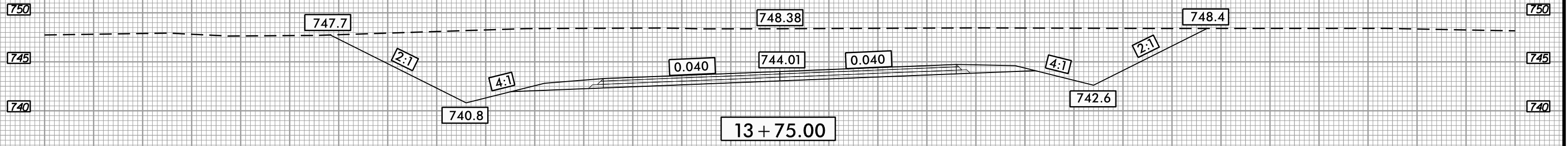
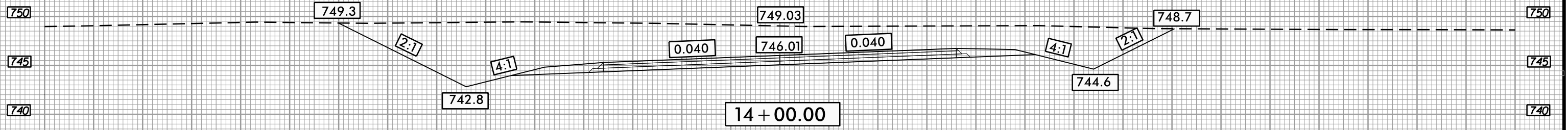
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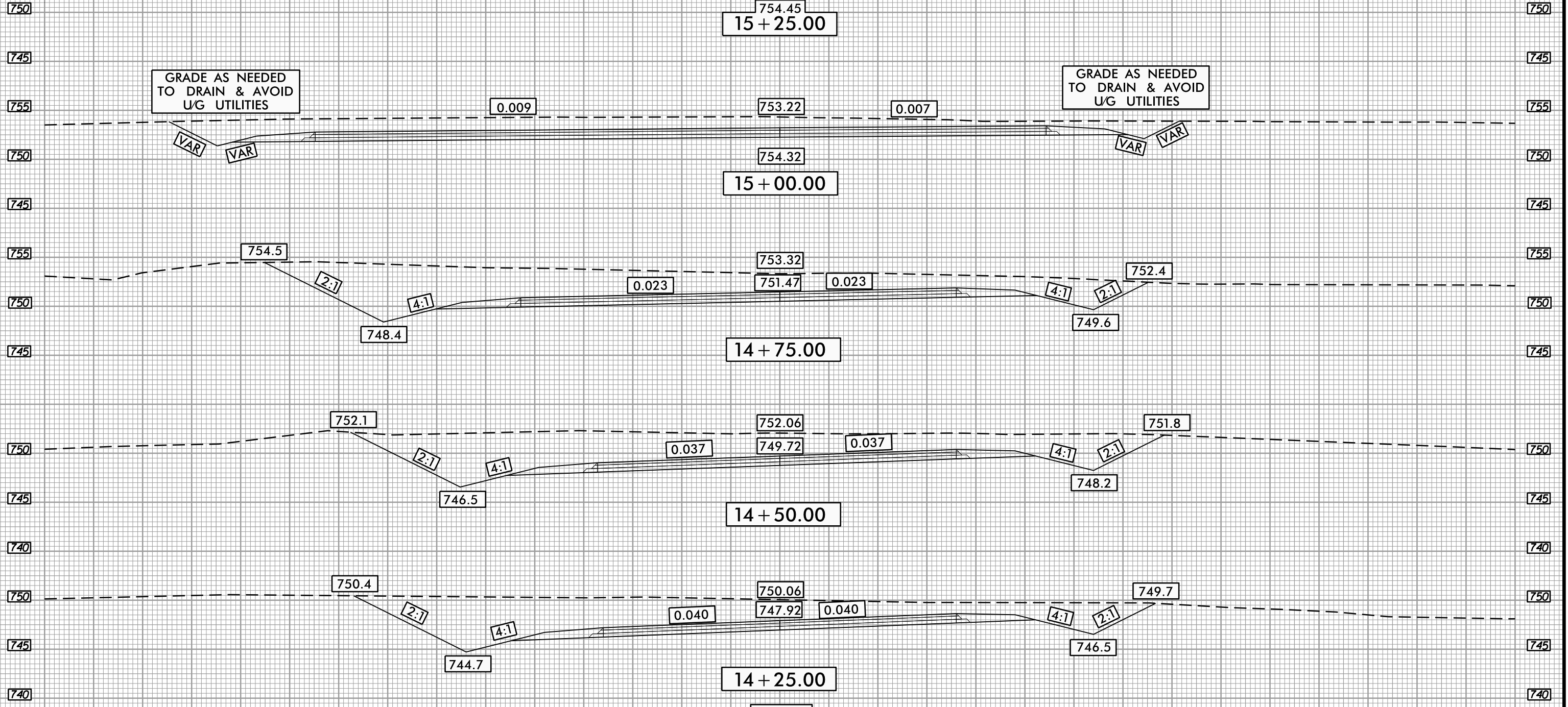
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EXISTING ANNA LEWIS DRIVE PAVEMENT

754.45
15 + 25.00

GRADE AS NEEDED
TO DRAIN & AVOID
UG UTILITIES

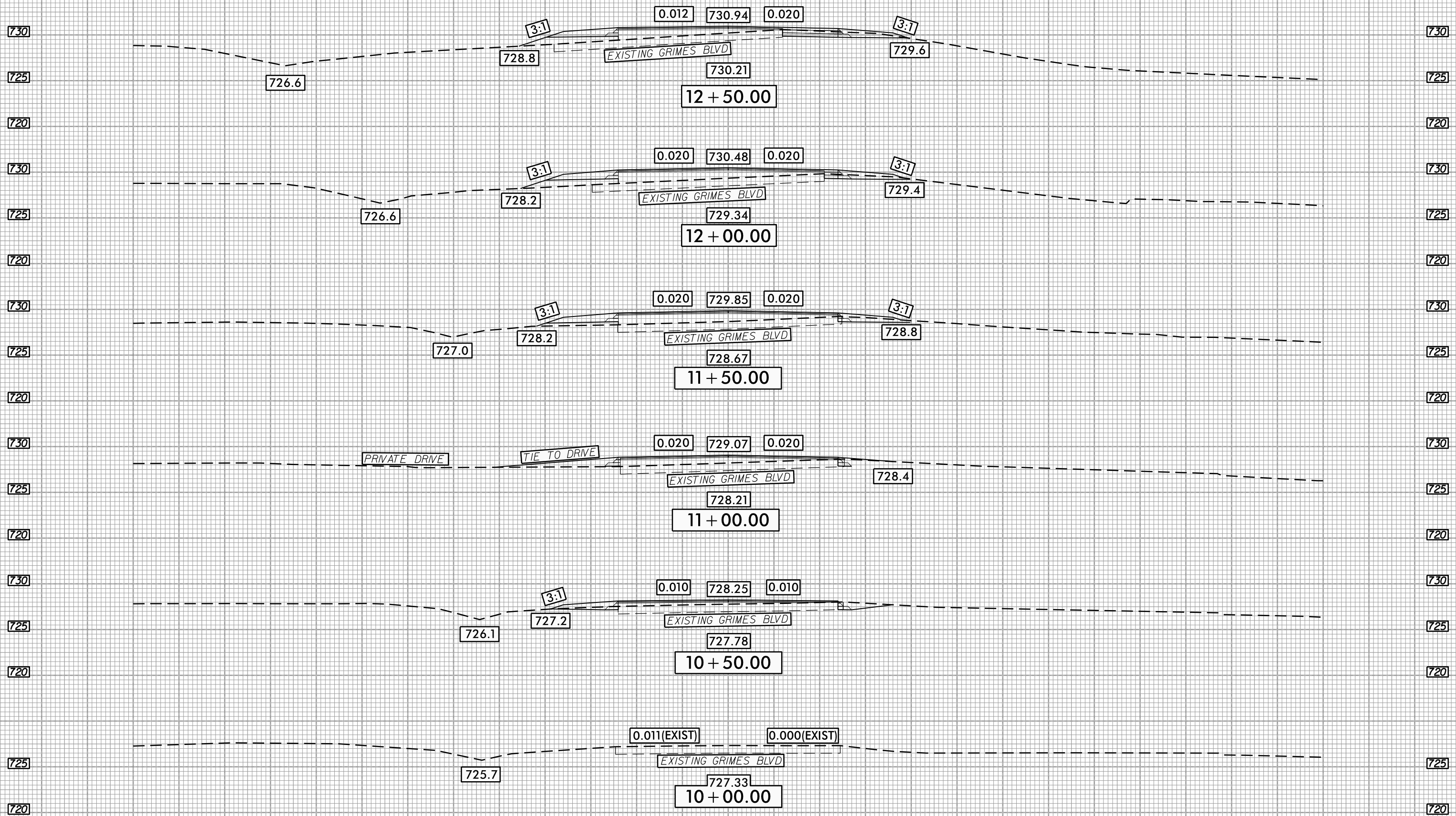
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UG UTILITIES



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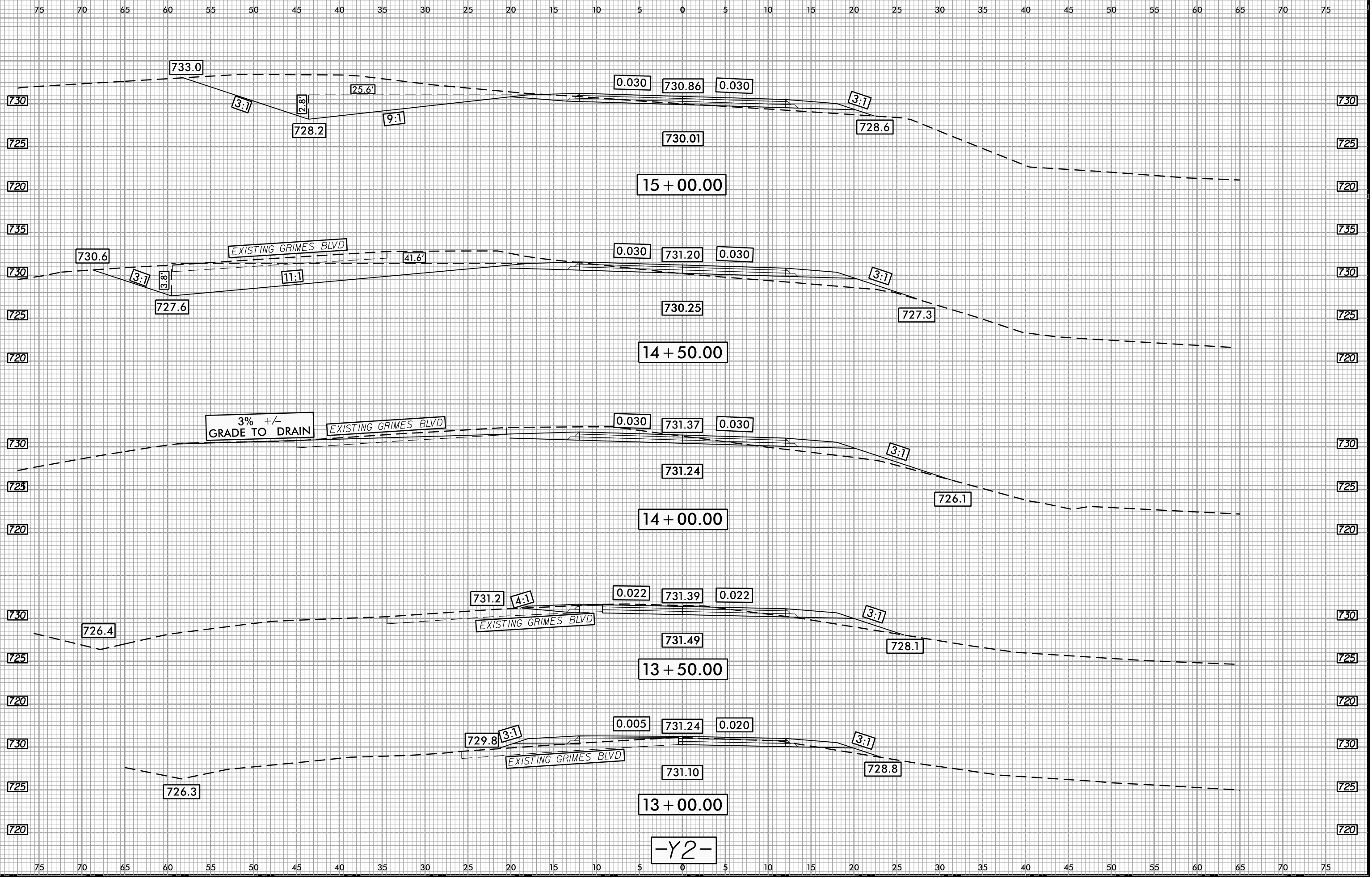
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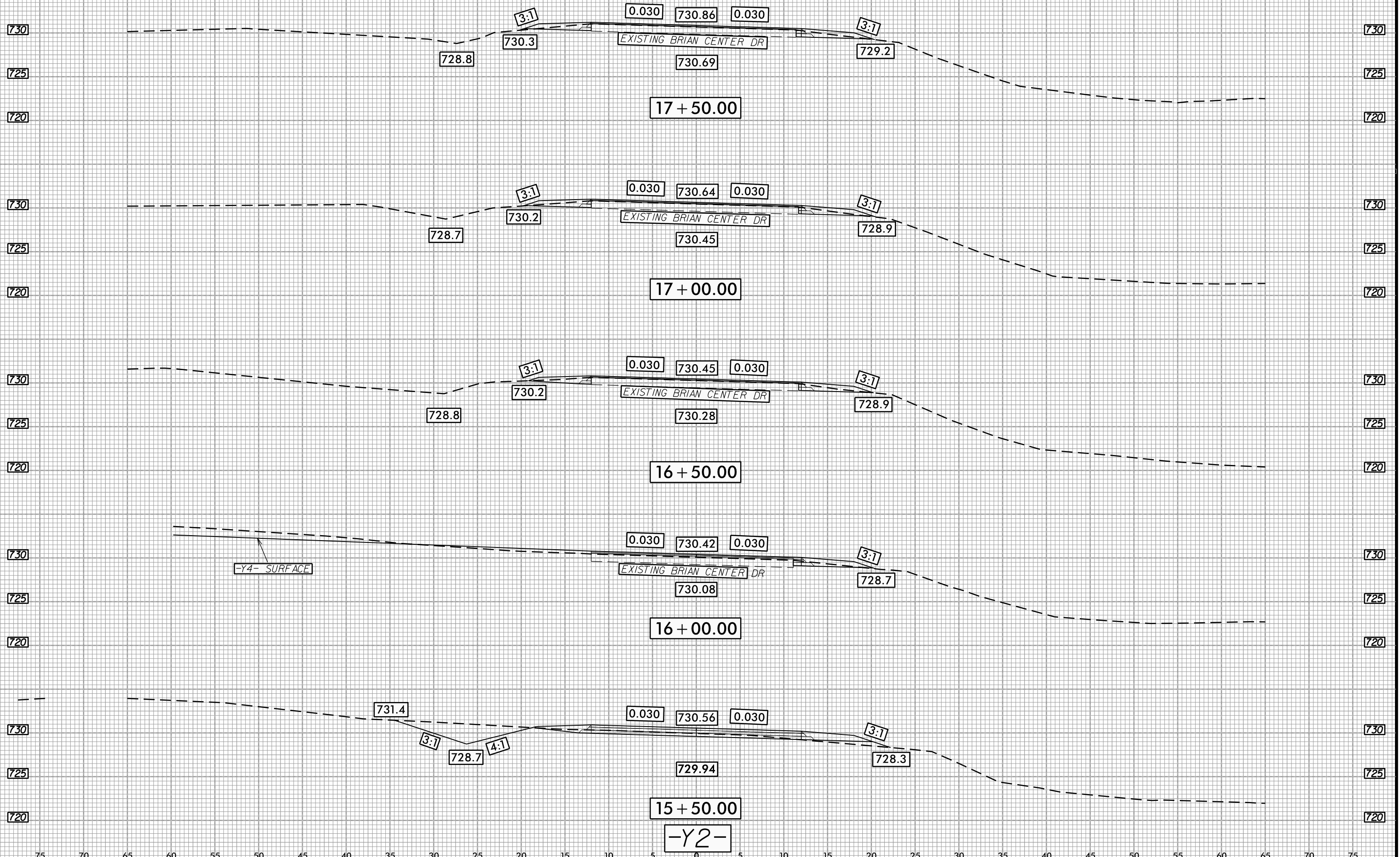
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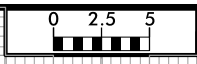
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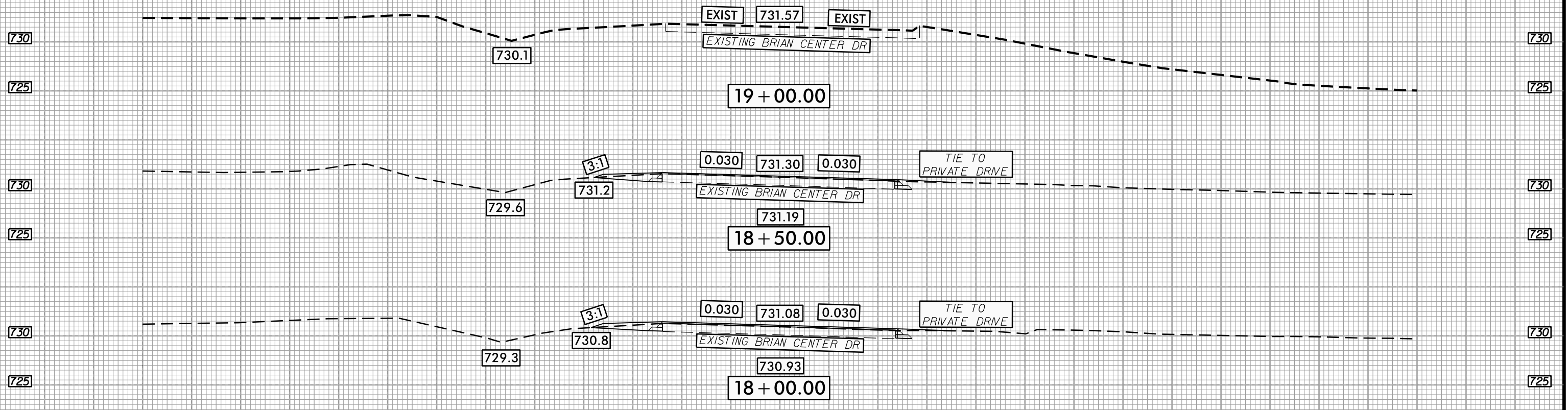
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Mike@on AT DIV@24550

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