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09/08/99

See Sheet 1-A For Index of Sheets

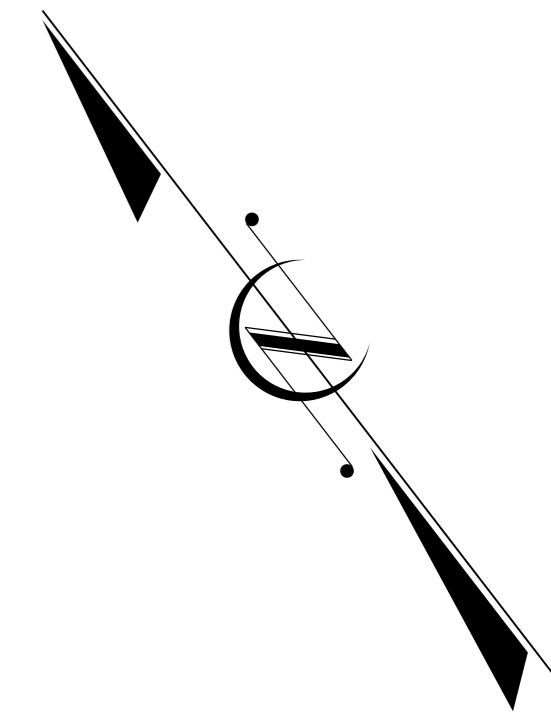
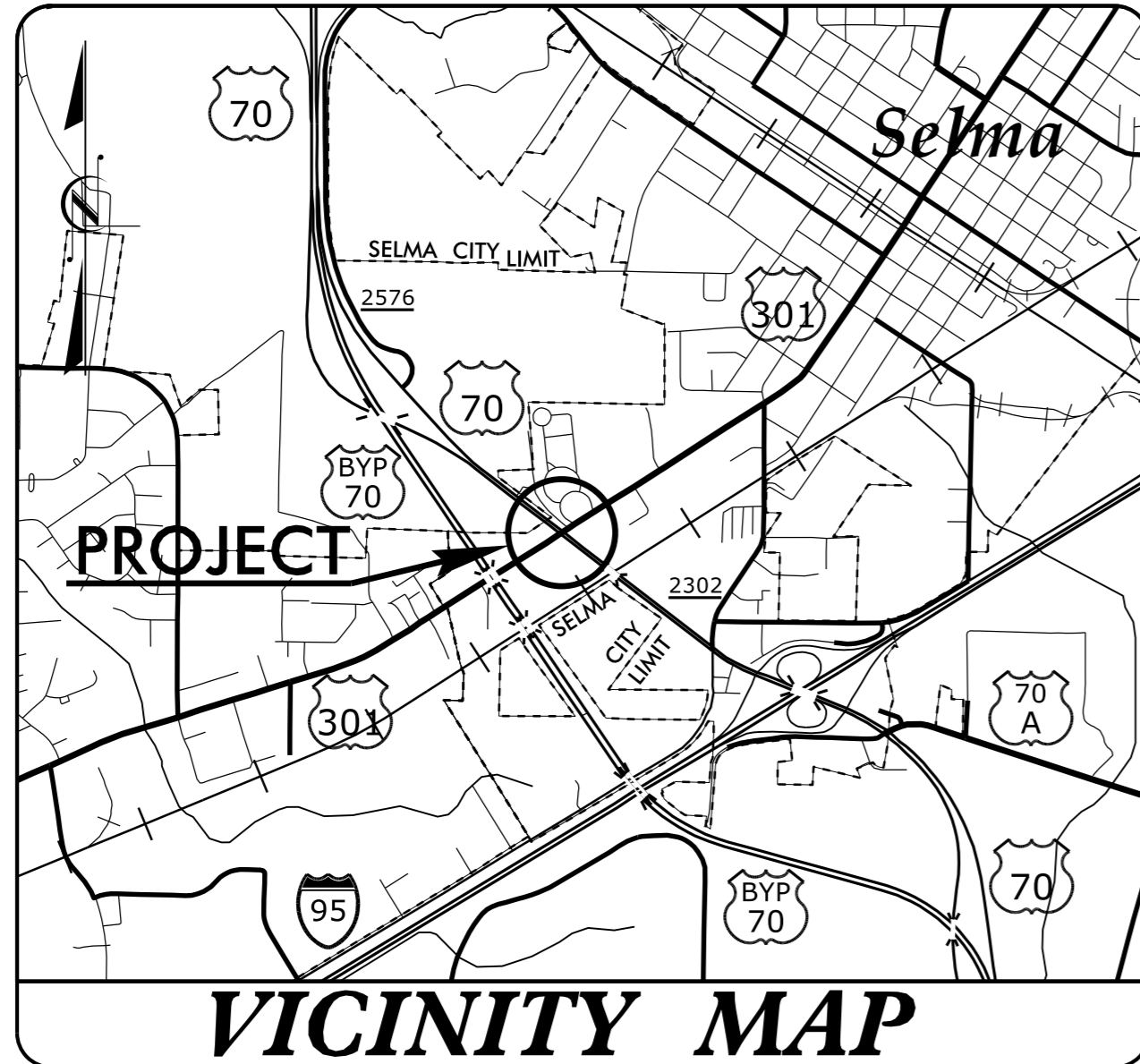
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

LOCATION: INTERSECTION OF US 70 AND US 301 IN SELMA

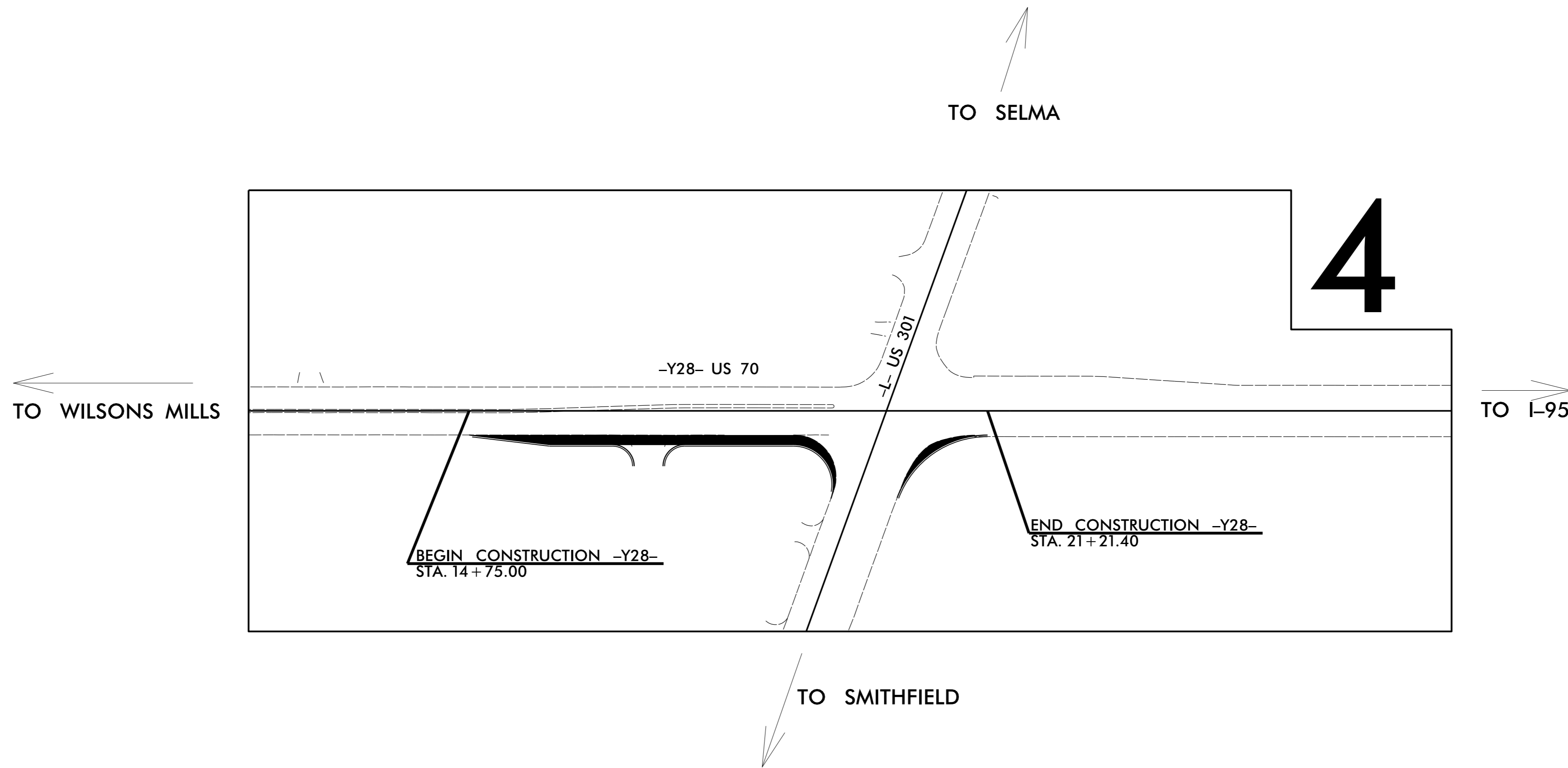
TYPE OF WORK: GRADING, PAVING, DRAINAGE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601DO	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50138.1.120	HSIP-0301(037)	PE	
50138.3.120	HSIP-0301(037)	CONST	



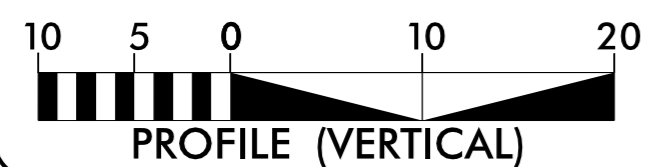
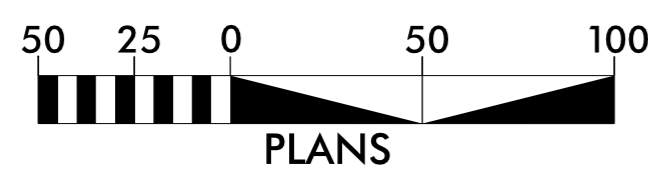
TIP PROJECT: W-5601DO

CONTRACT: DD00245



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT W-5601DO = 0.122 MILES

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

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NA

LETTING DATE:
APRIL 24, 2018

RONNIE KEETER, PE
PROJECT ENGINEER

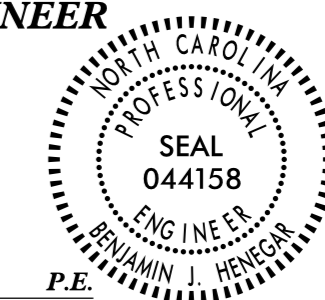
D.R. ETHRIDGE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

2/26/2018

DocuSigned by:
Benjamin J. Henegar

SIGNATURE:

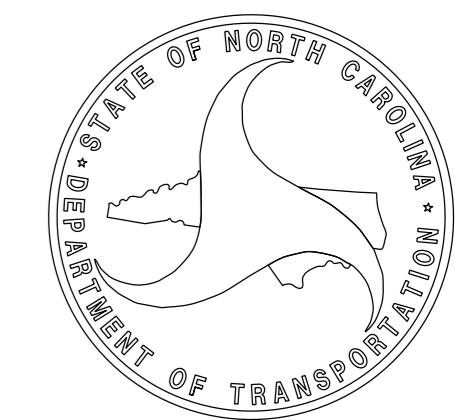
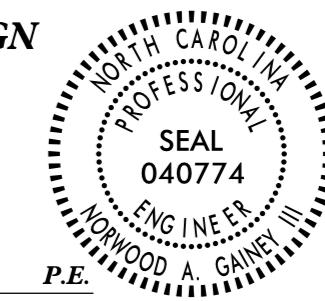


ROADWAY DESIGN ENGINEER

2/26/2018

DocuSigned by:
Norwood A. Gaine, III

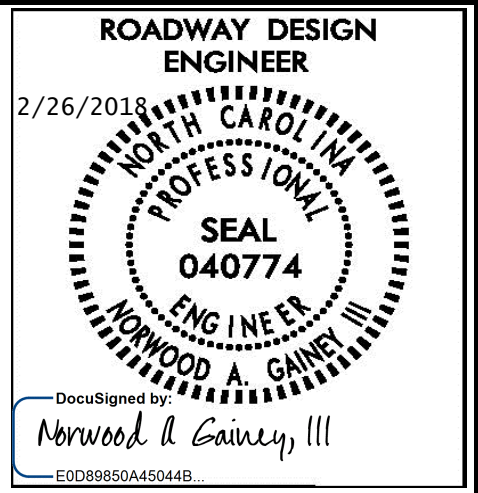
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\$\$\$\$\$USERNAME\$\$\$\$\$

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJ. REFERENCE NO. W-5601DO	SHEET NO. 1-A
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SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1 THRU 1C-2	SURVEY CONTROL SHEET
2A-1	PAVEMENT SCHEDULE, TYPICAL SECTIONS AND EARTHWORK SUMMARY
3D-1	DRAINAGE SUMMARIES
4	PLAN SHEET
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
SIG-1.0 THRU SIG-2.0	SIGNAL PLANS
X-1A	CROSS-SECTION SUMMARY
X-1 THRU X-6	CROSS-SECTIONS

2018 ROADWAY ENGLISH STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JANUARY, 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	METHOD OF CLEARING - METHOD III
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
DIVISION 3 - PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION
DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS	
700.01	CONCRETE PAVEMENT JOINTS - CONSTRUCTION AND CONTRACTION JOINTS
700.05	TYING PROPOSED PAVEMENT TO EXISTING
DIVISION 8 - INCIDENTALS	
840.00	CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
840.01	BRICK CATCH BASIN - 12" THRU 54" PIPE
840.02	CONCRETE CATCH BASIN - 12" THRU 54" PIPE
840.03	FRAME, GRATES AND HOOD - FOR USE ON STANDARD CATCH BASIN
840.14	CONCRETE DROP INLET - 12" THRU 30" PIPE
840.15	BRICK DROP INLET - 12" THRU 30" PIPE
840.16	DROP INLET FRAME AND GRATES - FOR USE WITH STD. DWG 840.14 AND 840.15
840.34	TRAFFIC BEARING JUNCTION BOX - FOR USE WITH PIPES 42" AND UNDER
840.45	PRECAST DRAINAGE STRUCTURE
840.46	TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE
840.66	DRAINAGE STRUCTURE STEPS
840.71	CONCRETE AND BRICK PIPE PLUG
840.72	PIPE COLLAR
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848.04	STREET TURNOUT
848.05	CURB RAMP - PROPOSED CURB & GUTTER
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS

GENERAL NOTES: 2018 SPECIFICATIONS

GRADE LINE:
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.

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.

STREET TURNOUT:
 STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

TEMPORARY SHORING:
 SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

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:
 PIEDMONT NATURAL GAS, JOHNSTON CO. PUBLIC WORKS, SPECTRUM, CENTURYLINK, DUKE ENERGY, AT&T, TOWN OF SMITHFIELD AND TOWN OF SELMA.

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

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

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

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	----->
Property Monument	□ EDM
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- WLB
Proposed Wetland Boundary	----- WLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Existing Historic Property Boundary	----- HPB
Known Contamination Area: Soil	☠
Potential Contamination Area: Soil	☠
Known Contamination Area: Water	☠
Potential Contamination Area: Water	☠
Contaminated Site: Known or Potential	☠ ?

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	☼
Vineyard	□ Vineyard

EXISTING STRUCTURES:

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

MINOR:

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

UTILITIES:

POWER: Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
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:

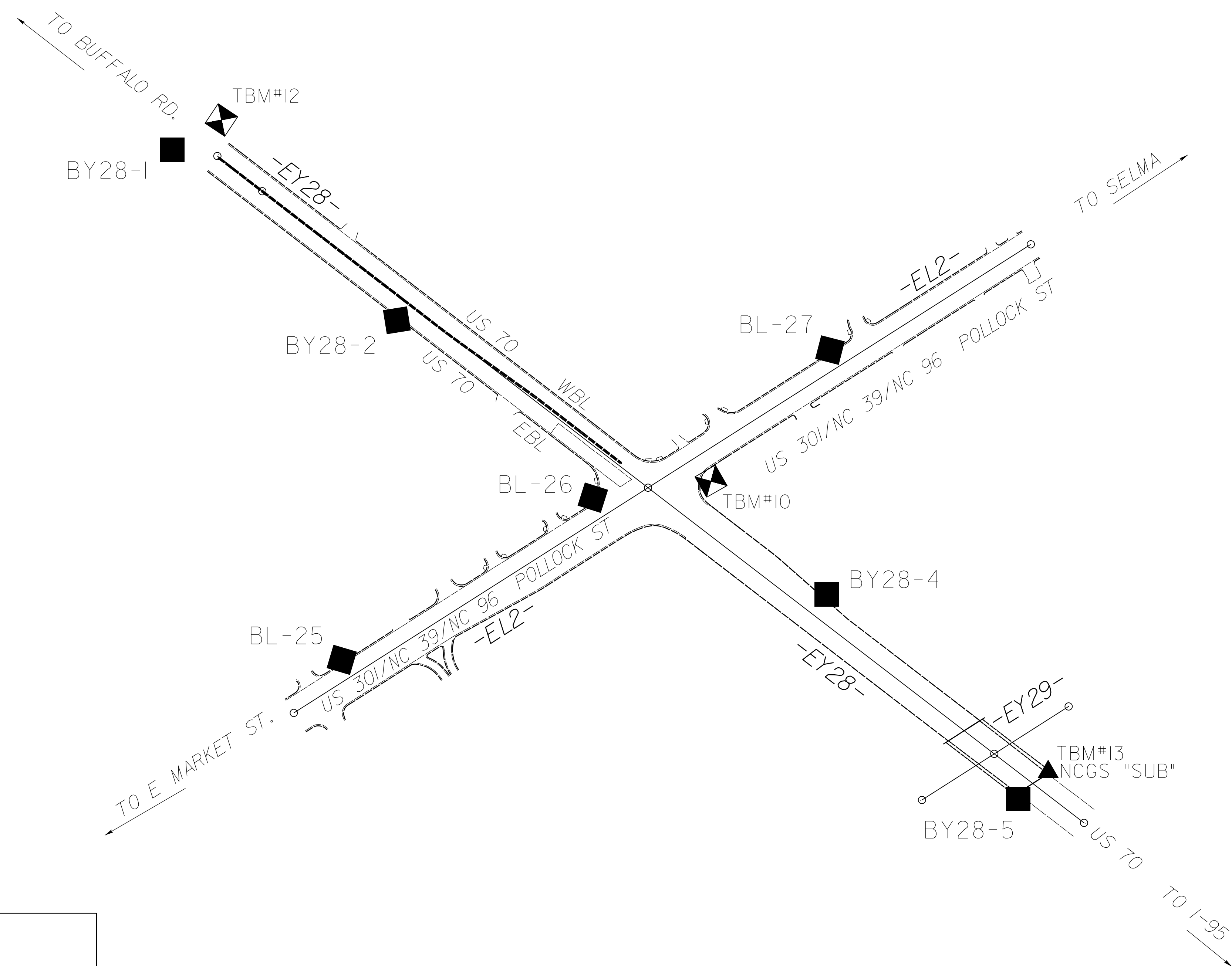
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	----- ?UTL
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊠ UST
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)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

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

PROJECT SURVEYOR

SURVEY CONTROL SHEET W-5601-DO

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "(U-5795-2)" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 645102.420(ft) EASTING: 2210302.842(ft)
 ELEVATION: 175.115(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999881005
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-2(U-5795-2)" TO -L- STATION IS

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. NOTE: DRAWING NOT TO SCALE
4. CONTROL FOR THIS PROJECT IS A PORTION OF THE CONTROL FOR TIP# U-5726.

6/7/2019

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6/2/99

PAVEMENT SCHEDULE

C1	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 I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
R1	2'-6" CONCRETE CURB AND GUTTER.
T1	EARTH MATERIAL
U1	EXISTING PAVEMENT

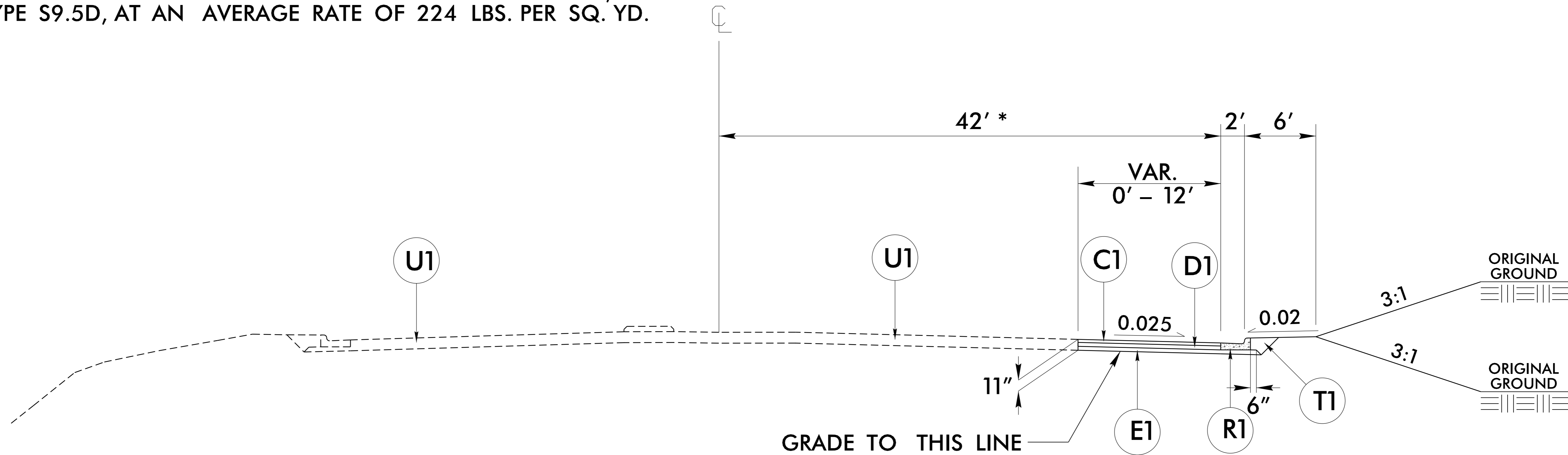
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

NOTE: MILL INTERSECTION 2" AND RESURFACE WITH PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-Y28- 14+75	-Y28- 21+00	278	285	146	139
TOTAL		278	285	146	139
PROJECT TOTAL		278	285	146	139
ESTIMATE TO REPLACE TOPSOIL ON BORROW PIT				7	
GRAND TOTAL		278	285	153	139
SAY		300		200	

PROJECT REFERENCE NO. W-5601D0	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER 2/26/2018 NORWOOD A. GAINEY, III SEAL 040774	PAVEMENT DESIGN ENGINEER 2/26/2018 NORWOOD A. GAINEY, III SEAL 040774
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

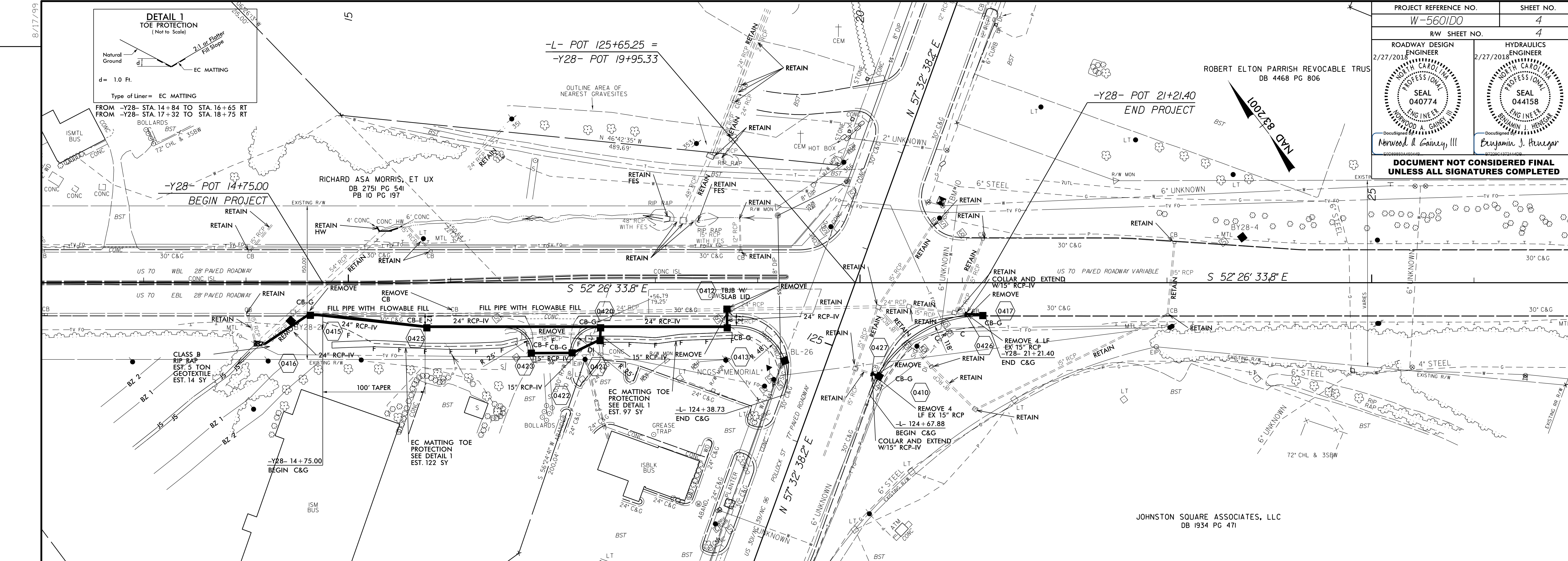
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* WIDTH VARIES AT INTERSECTION WITH -L- (US-301)

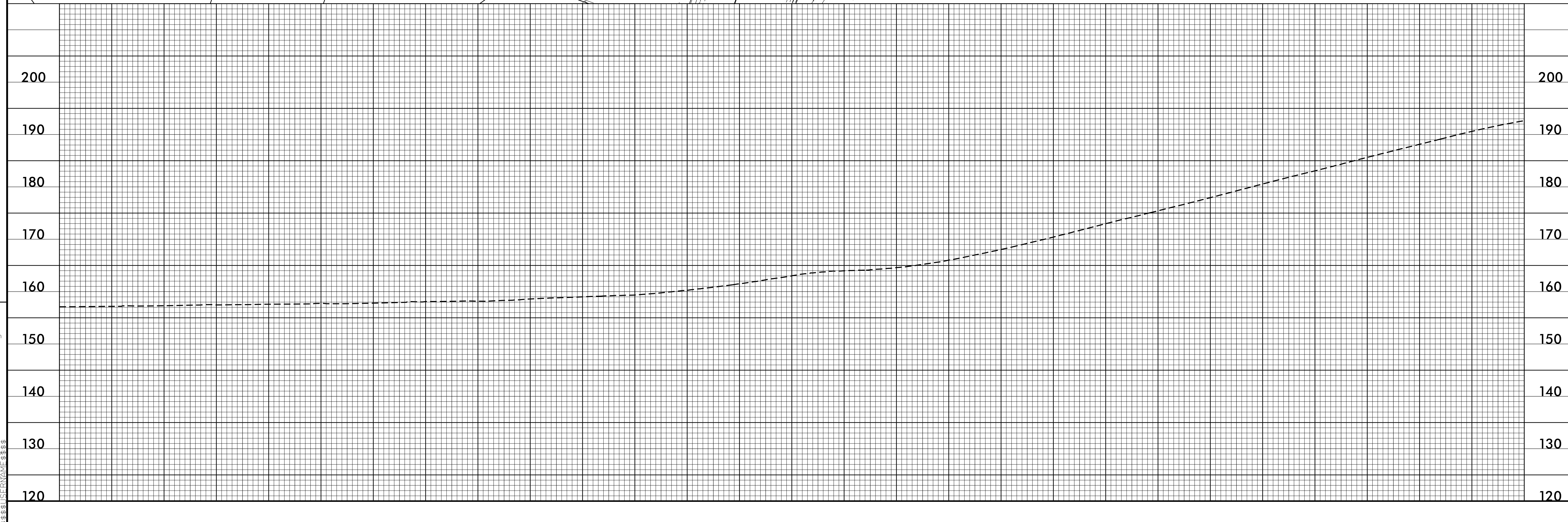
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PROJECT REFERENCE NO. W-5601DO	SHEET NO. 4
R/W SHEET NO. 4	
ROADWAY DESIGN ENGINEER 2/27/2018 Norwood H. Gainey, III	HYDRAULICS ENGINEER 2/27/2018 Benjamin J. Henegar
PROFESSIONAL SEAL 040774 NORTH CAROLINA ENGINEER	PROFESSIONAL SEAL 044158 NORTH CAROLINA ENGINEER

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

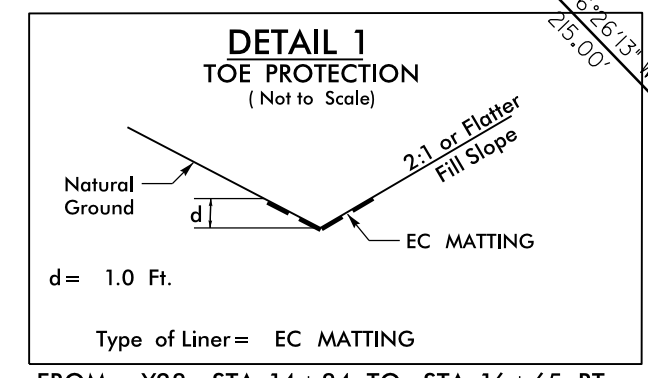


REVISIONS



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8/17/99



FROM -Y28- STA. 14+84 TO STA. 16+65 RT
FROM -Y28- STA. 17+32 TO STA. 18+75 RT

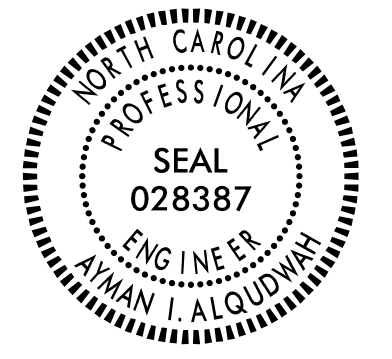
$$\begin{aligned} -L- POT 125+65.25 &= \\ -Y28- POT 19+95.33 & \end{aligned}$$

-Y28- POT 21+21.40
END PROJECT

JOHNSTON SQUARE ASSOCIATES, LLC
DB 1934 PG 471

RICHARD ASA MORRIS, ET UX
DB 2751 PG 541
PB 10 PG 197

ROBERT ELTON PARRISH REVOCABLE TRUS
DB 4468 PG 806

TIP NO.	SHEET NO.
W-5601DO	PMP-1
Documented by: APPROVED: <i>Ayman Alqudwah</i> <small>F23AC5CAF985472...</small>	
DATE: 2/2/2018	
SEAL	
	
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**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
JOHNSTON COUNTY**

LOCATION: US 301 AND US 70 IN SELMA. SAFETY IMPROVEMENTS

T.I.P.: W-5601DO

CONTRACT:

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
THERMOPLASTIC(24", 120 MILS)	
T2	WHITE STOPBAR
THERMOPLASTIC(4", 120 MILS)	
TC	10 FT. WHITE SKIP
TD	3 FT. - 9 FT./SP WHITE MINISKIP
TE	WHITE SOLID LANE LINE
T8	2 FT. - 6 FT./SP WHITE MINISKIP
THERMOPLASTIC(8", 120 MILS)	
T13	3 FT. - 9 FT./SP WHITE MINISKIP
TR	WHITE SOLID LANE LINE
THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)	
UB	RIGHT TURN ARROW
UC	STRAIGHT ARROW
THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	
UI	ALPHANUMERIC CHAR.
UR	ROUTE SHIELD

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.

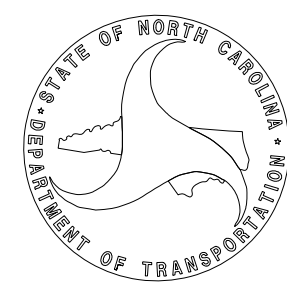
- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL	THERMOPLASTIC	RAISED
- 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.

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

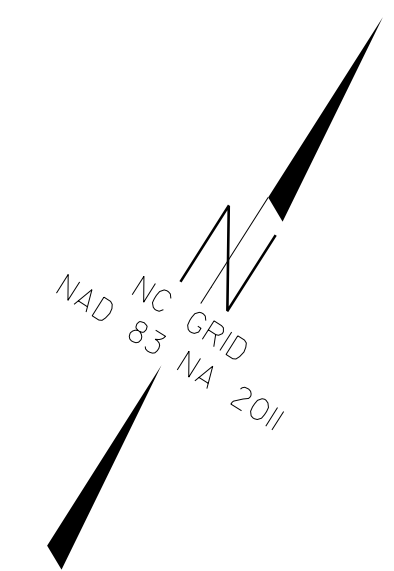
AYMAN ALQUDWAH, P.E. SIGNING & DELINEATION REGIONAL ENGINEER

ERIC WARD SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN



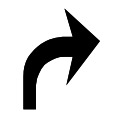
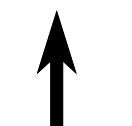
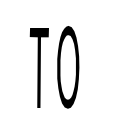

INDEX

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

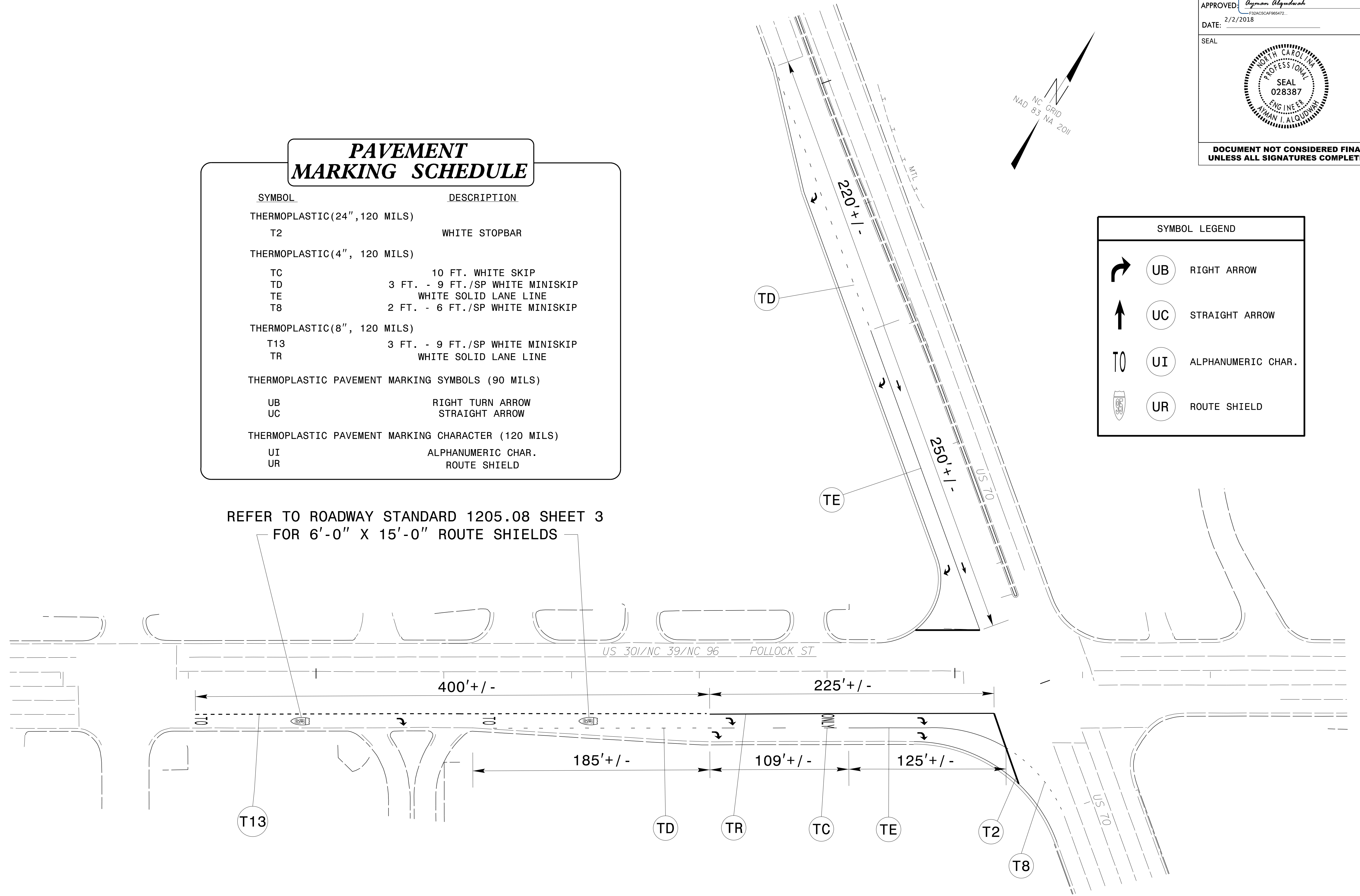


PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
THERMOPLASTIC (24", 120 MILS)	
T2	WHITE STOPBAR
THERMOPLASTIC (4", 120 MILS)	
TC	10 FT. WHITE SKIP
TD	3 FT. - 9 FT./SP WHITE MINISKIP
TE	WHITE SOLID LANE LINE
T8	2 FT. - 6 FT./SP WHITE MINISKIP
THERMOPLASTIC (8", 120 MILS)	
T13	3 FT. - 9 FT./SP WHITE MINISKIP
TR	WHITE SOLID LANE LINE
THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)	
UB	RIGHT TURN ARROW
UC	STRAIGHT ARROW
THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	
UI	ALPHANUMERIC CHAR.
UR	ROUTE SHIELD

SYMBOL LEGEND		
	UB	RIGHT ARROW
	UC	STRAIGHT ARROW
	UI	ALPHANUMERIC CHAR.
	UR	ROUTE SHIELD

REFER TO ROADWAY STANDARD 1205.08 SHEET 3
FOR 6'-0" X 15'-0" ROUTE SHIELDS



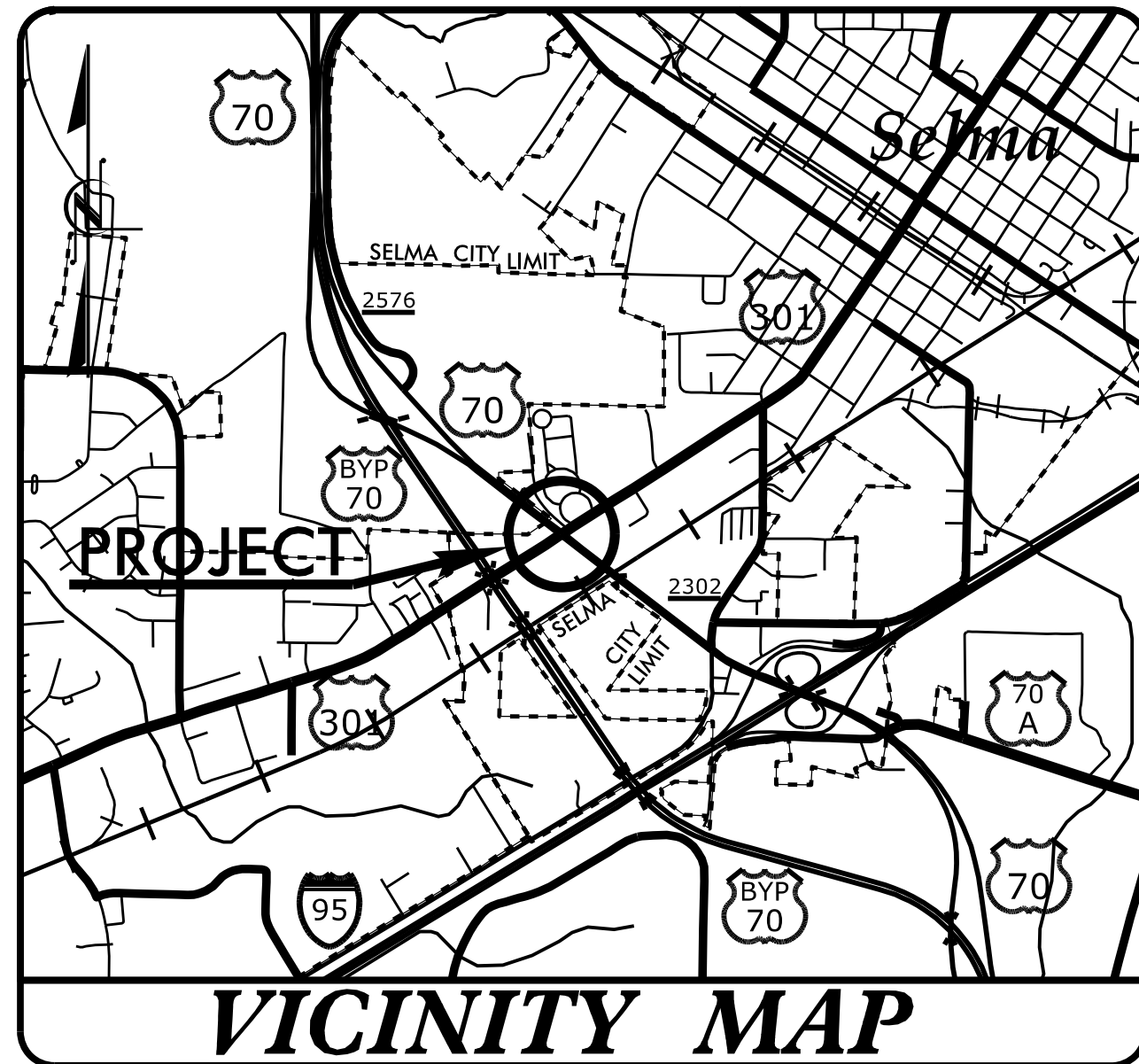
**PAVEMENT MARKING PLAN SHEET
US 301 AND US 70 IN SELMA**

2/2/2018
S:\S&DU\Regions\Eastern\Eric\W-560100\W-560100_PMP-2.dgn
User:ericward

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601DO	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50138.1.120	HSIP-0301(037)	PE	

TIP PROJECT: W-5601DO

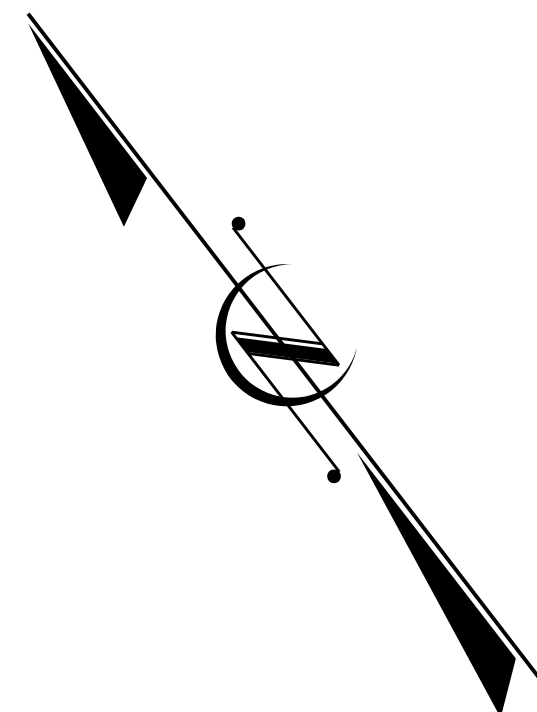
See Sheet 1-A For Index of Sheets



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

JOHNSTON COUNTY

INTERSECTION OF US 70 AND US 301 IN SELMA
GRADING, PAVING, DRAINAGE

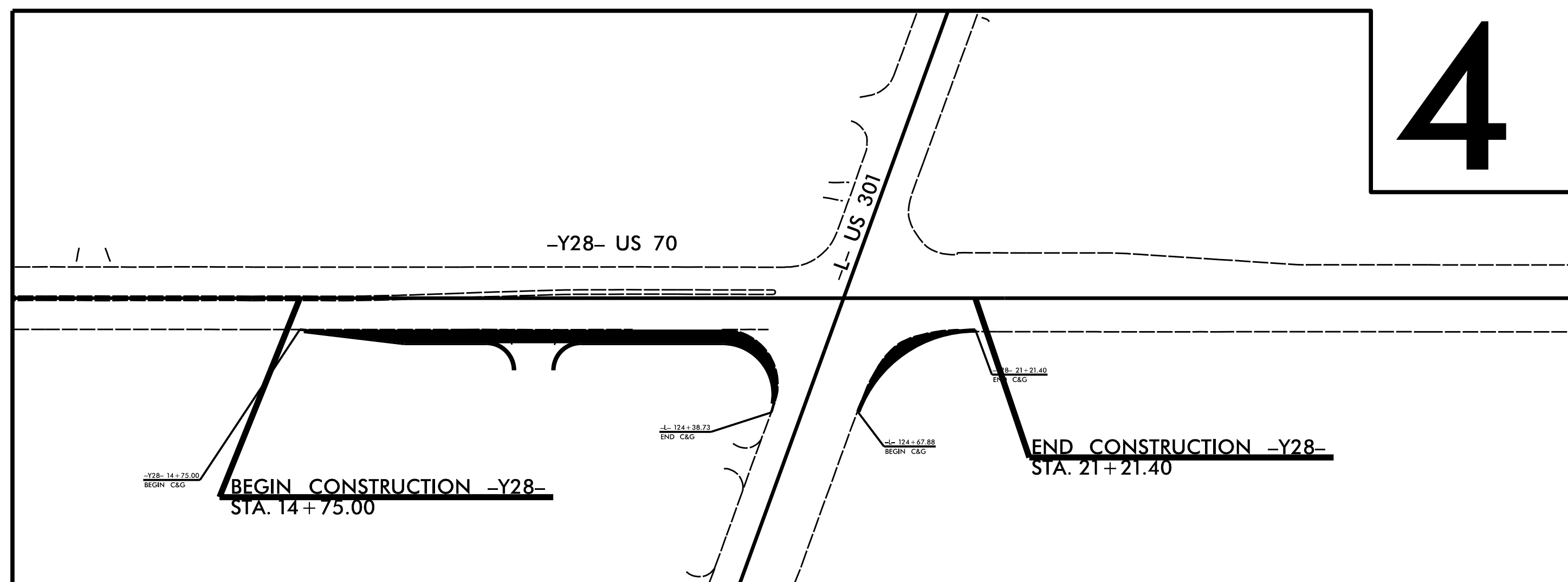


TO SELMA

TO WILSONS MILLS

TO I-95

TO SMITHFIELD



THIS PROJECT IS WITHIN THE TOWN OF SELMA MUNICIPAL BOUNDARIES

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

EROSION AND SEDIMENT CONTROL MEASURES

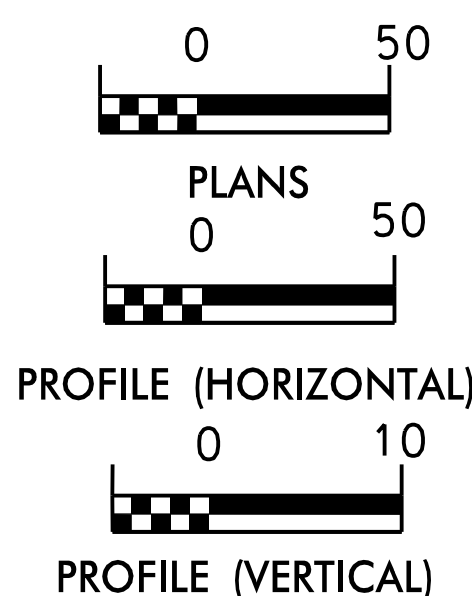
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	TD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	RS
	Temporary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

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

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

GRAPHIC SCALE



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2016 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared In the Office of:



TGS ENGINEERS
706 HILLSBOROUGH ST
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

Designed by:

BEN HENEGAR, PE 3564
NAME LEVEL III CERTIFICATION NO.

2018 STANDARD SPECIFICATIONS

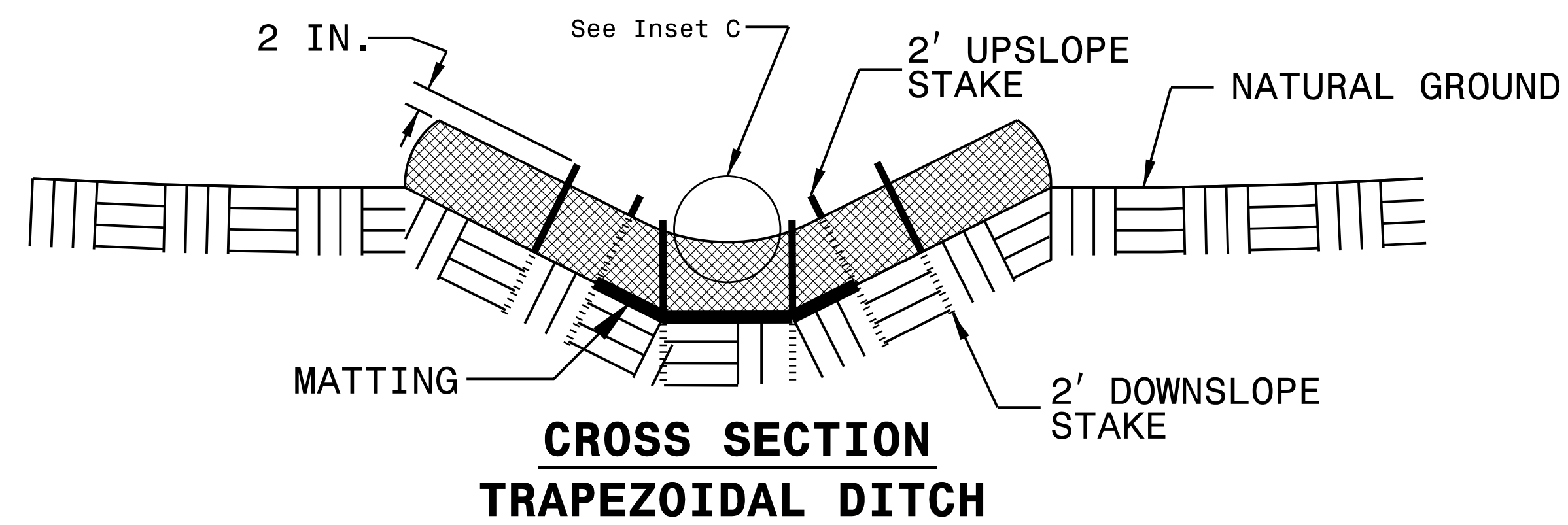
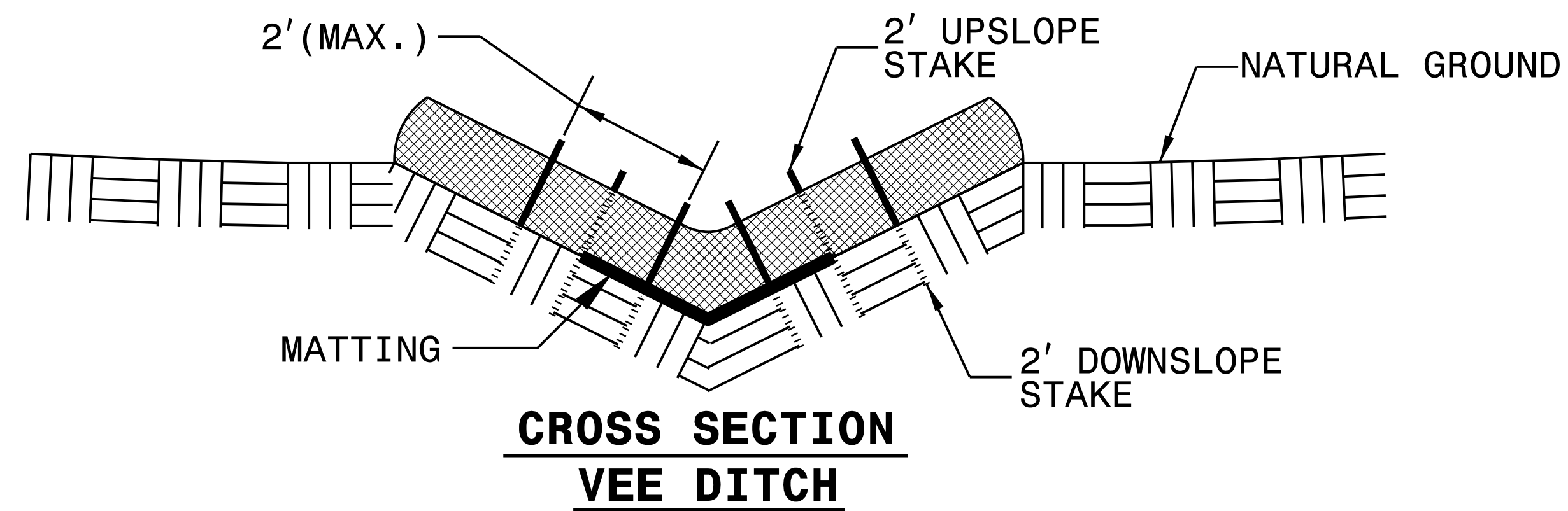
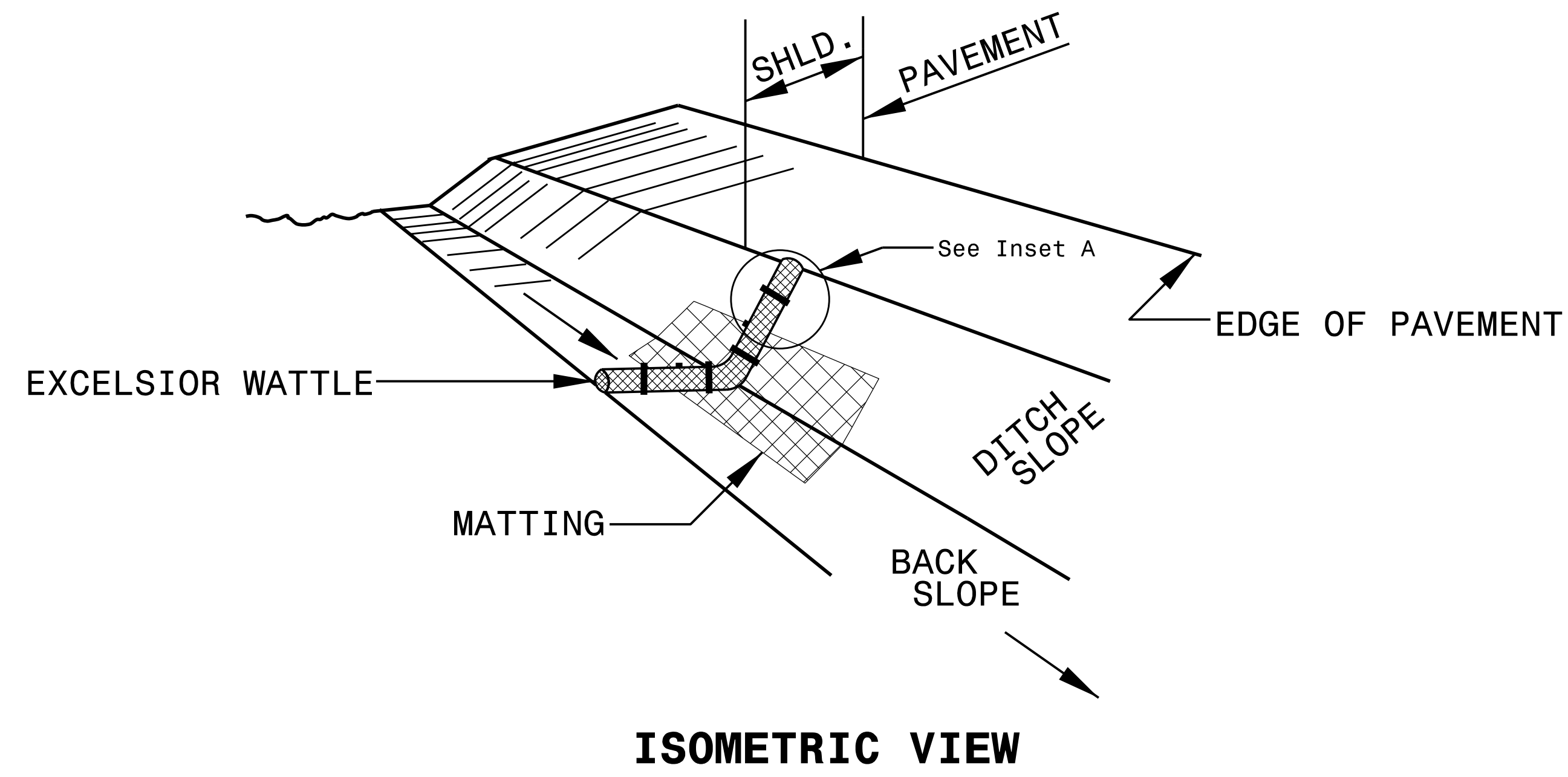
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 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	1633.03 Temporary Rock Silt Check Type C
1630.02 Silt Basin Type 1	1634.01 Temporary Rock Sediment Dam Type A
1630.03 Temporary Silt Ditch	1634.02 Temporary Rock Sediment Dam Type B
1630.04 Stilling Basin	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.05 Temporary Diversion	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.06 Special Stilling Basin	1640.01 Coir Fiber Jaffle
1631.01 Matting Installation	1645.01 Temporary Stream Crossing

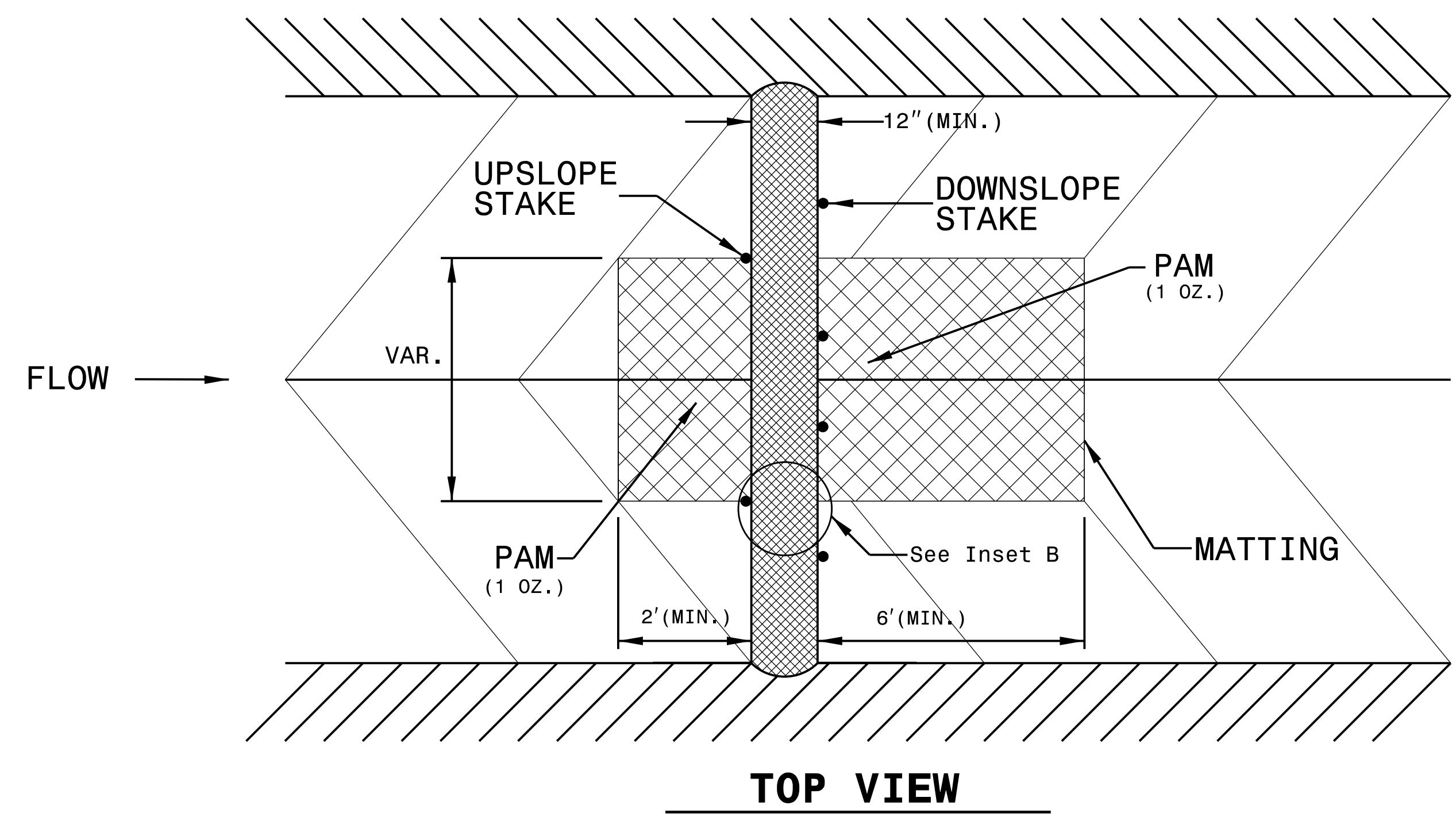
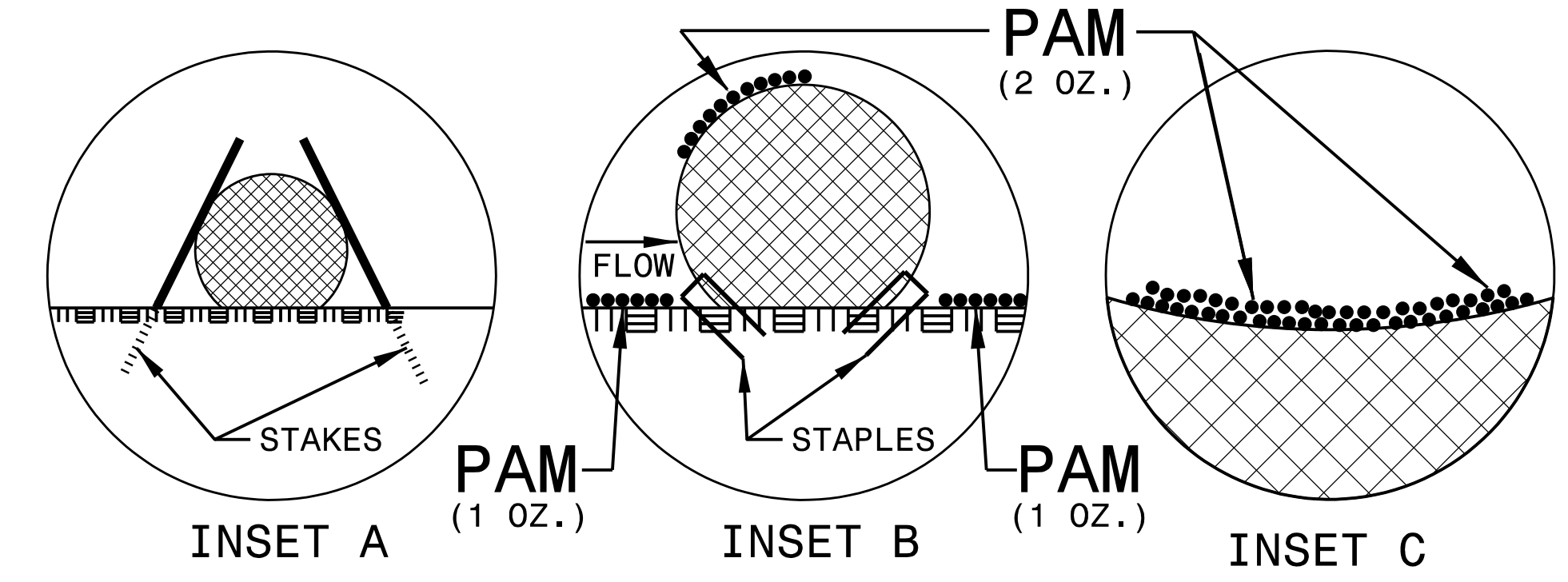
PROJECT REFERENCE NO. <i>W-5601D0</i>	SHEET NO. <i>EC-2A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



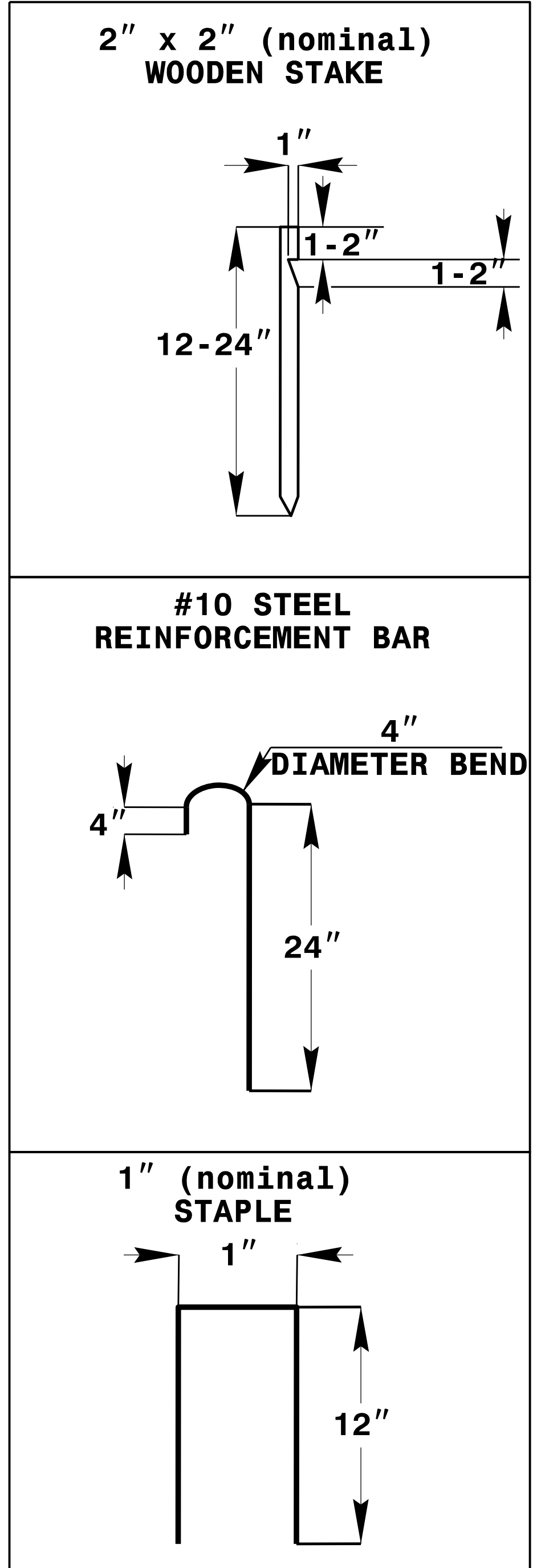
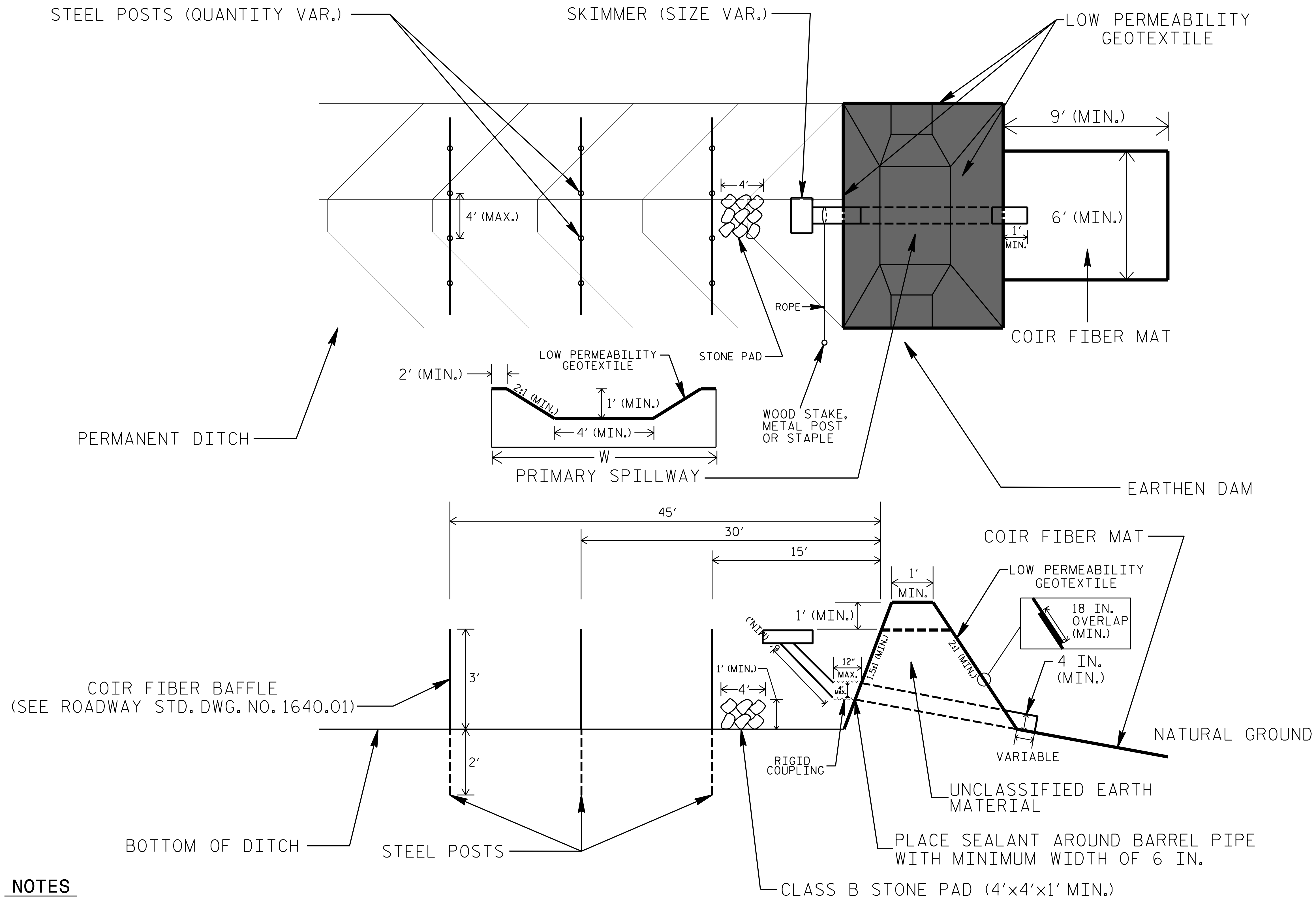
NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
- INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



EARTHEN DAM WITH SKIMMER DETAIL (EAST)

PROJECT REFERENCE NO. <i>W-5601D0</i>	SHEET NO. <i>EC-2B</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



- NOTES**
1. LIMIT EARTHEN DAM HEIGHT TO 5 FT.
 2. DETERMINE PRIMARY SPILLWAY LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
 3. LOW PERMEABILITY GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

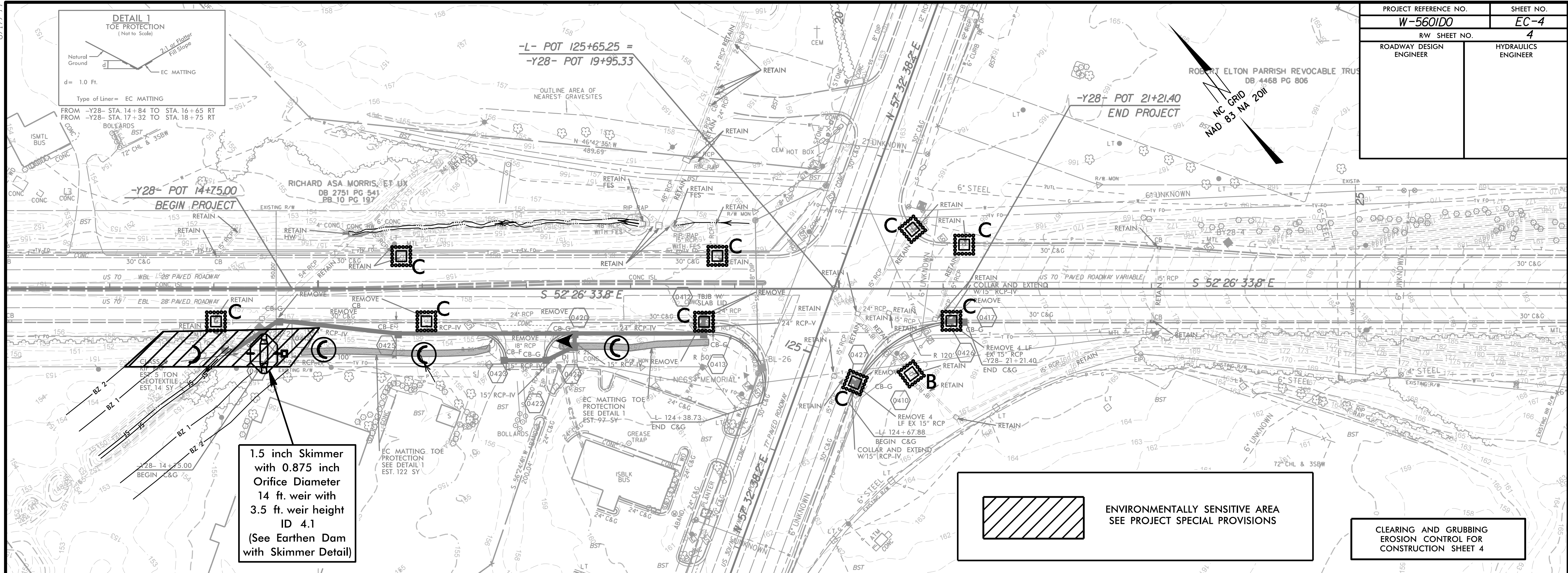
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
<i>W-5601D0</i>	<i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

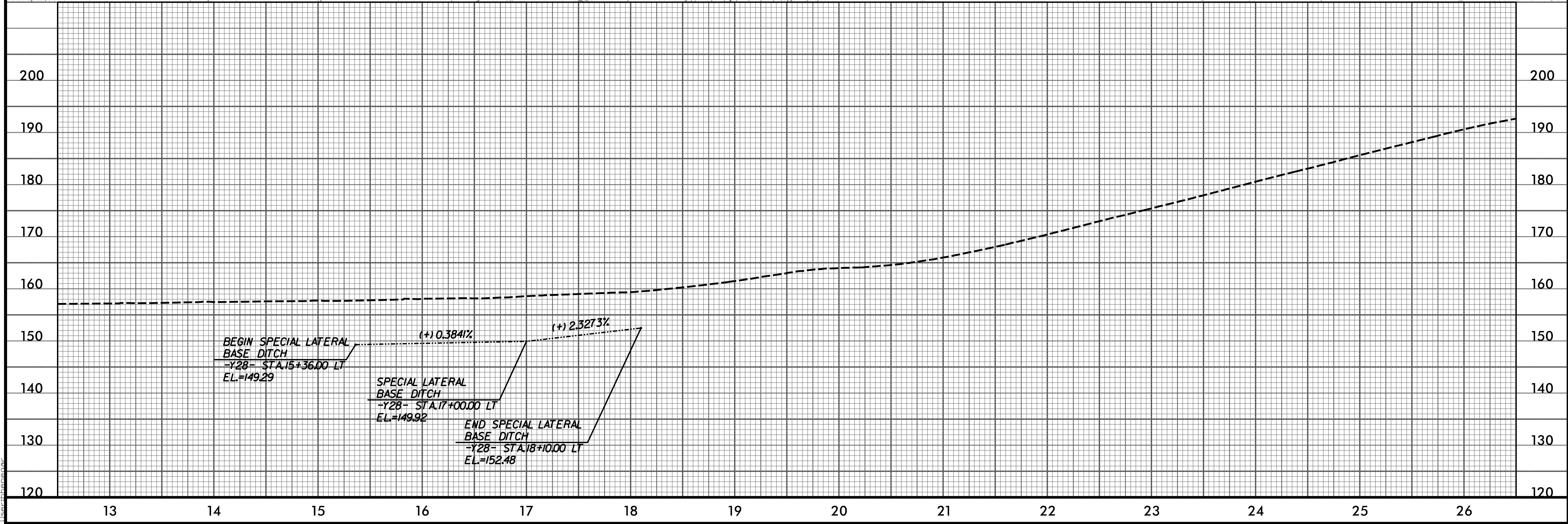
SOIL STABILIZATION TIMEFRAMES

<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. W-5601D0	SHEET NO. EC-4
R/W SHEET NO. 4	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

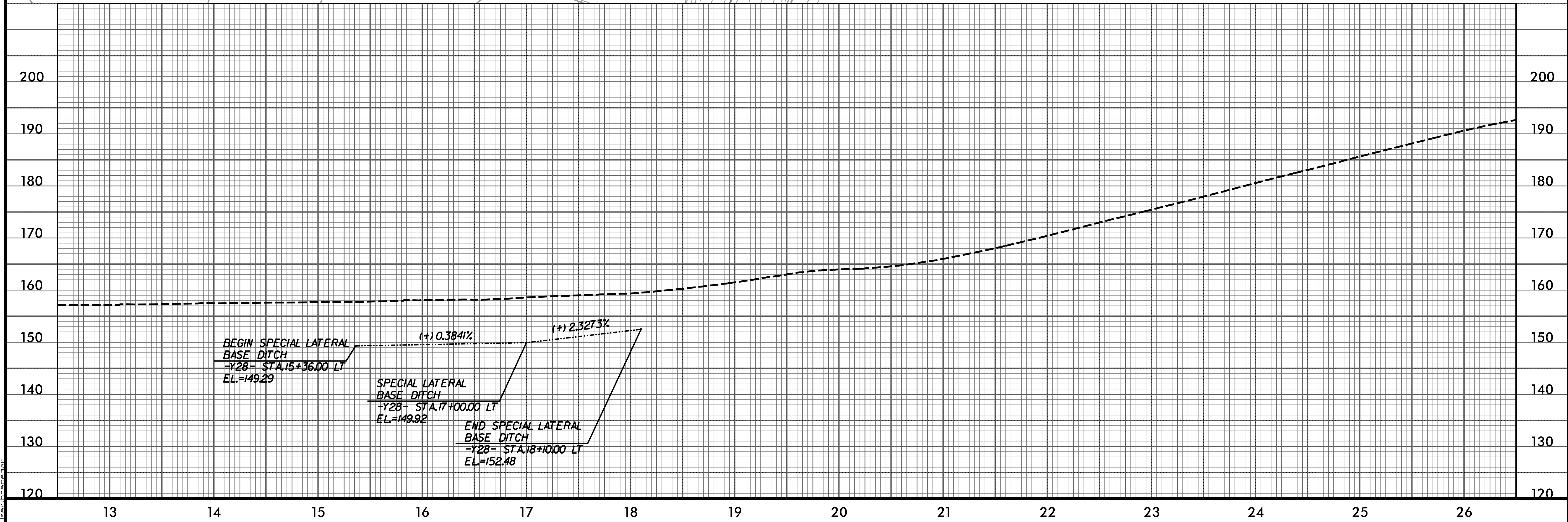
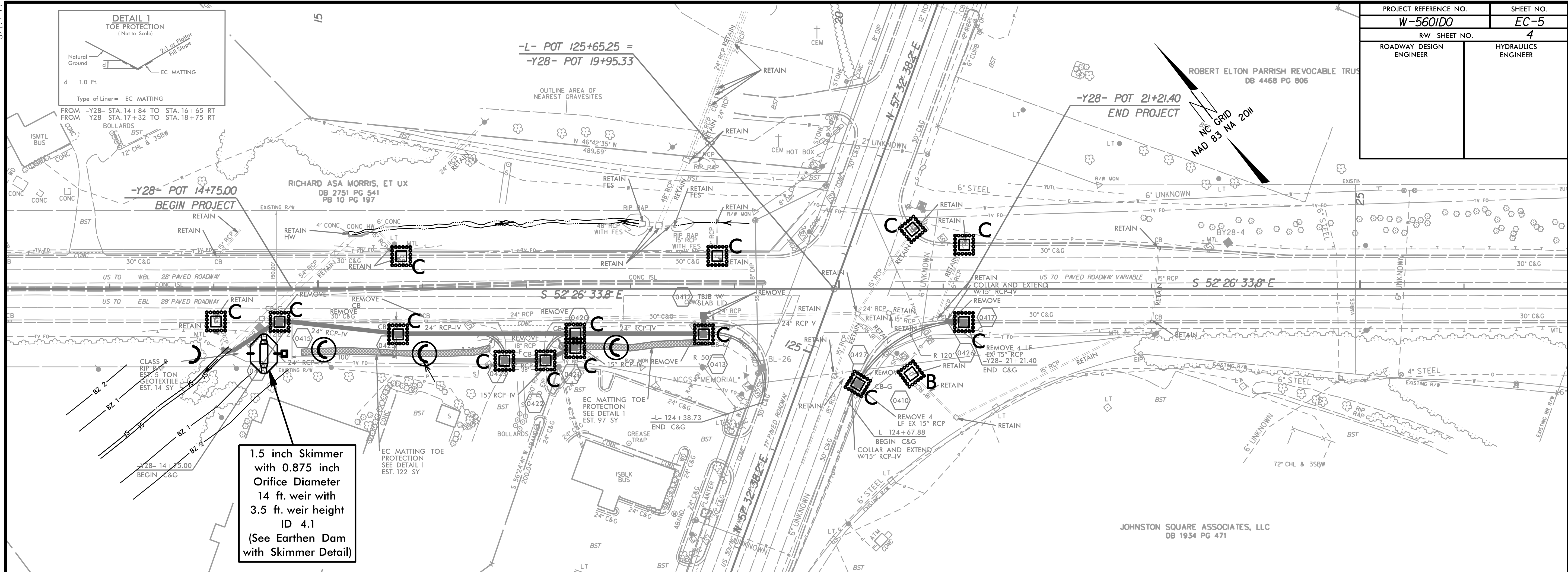


1.5 inch Skimmer with 0.875 inch Orifice Diameter
14 ft. weir with 3.5 ft. weir height
ID 4.1
(See Earthen Dam with Skimmer Detail)



8/17/99
 2/6/2008
 C:\Users\jgordon\Documents\Environmental\W5601D0_hyd_c&g_PSH_04.dgn

PROJECT REFERENCE NO. W-5601D0	SHEET NO. EC-5
R/W SHEET NO. 4	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99
 2/6/2008
 C:\Users\jgordon\Documents\Environmental\W5601D0_hyd_EC_PSH_04.dgn
 Johnston Square Associates, LLC
 DB 1934 PG 471

T.I.P.: W-5601DO

CONTRACT:

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLAN
JOHNSTON COUNTY**

LOCATION: US 301 AND US 70 IN SELMA. SAFETY IMPROVEMENTS

PROJECT REFERENCE NO. W-5601DO	SHEET NO. SIGN-1
APPROVED: Ayman Alqudwah F32ACSCAF985472	
DATE: 2/2/2018	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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
901.10	TYPE 'A' SIGNS
901.50	ARROWS AND SHIELDS
901.70	SIGN STRINGERS AND SUPPORT SPACING
901.80	SIGN MOUNTING DETAILS - FOR TYPE A AND TYPE B SIGNS
903.10	GROUND MOUNTED SIGN SUPPORTS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

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

SUMMARY OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4054000000	902 PLAIN CONCRETE SIGN FOUNDATION	1	C.Y.
4060000000	903 SUPPORTS, BREAKAWAY STEEL BEAM	231	LB.
4072000000	903 SUPPORTS, 3 LB STEEL U-CHANNEL	218	LB.
4102000000	904 SIGN ERECTION, TYPE E	1	EA.
4110000000	904 SIGN ERECTION, TYPE A (GROUND MOUNTED)	1	EA.
4116100000	904 SIGN ERECTION, RELOCATE SIGN TYPE E (GROUND MOUNTED)	4	EA.
4116100000	904 SIGN ERECTION, RELOCATE SIGN TYPE F (GROUND MOUNTED)	3	EA.
4192000000	907 DISPOSAL OF SUPPORT, U-CHANNEL	7	EA.

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

Ayman Alqudwah, P.E. SIGNING & DELINEATION REGIONAL ENGINEER

ERIC WARD SIGNING & DELINEATION PROJECT DESIGN ENGINEER

SIGN NUMBER: 101 TYPE: A QUANTITY: 1 SIGN WIDTH: 7'-6" HEIGHT: 5'-6" TOTAL AREA: 41.3 Sq.Ft.	BACKG COLOR: Green COPY COLOR: White	DESIGN BY: EEW PROJECT ID: W-5601DO	CHECKED BY: LOCATION:	Jan 23, 2018 DIV: 4																																																																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SYMBOL</th> <th>X</th> <th>Y</th> <th>WID</th> <th>HT</th> </tr> </thead> <tbody> <tr> <td>MT_1</td> <td style="text-align: center;">33</td> <td style="text-align: center;">21</td> <td style="text-align: center;">24</td> <td style="text-align: center;">24</td> </tr> </tbody> </table>		SYMBOL	X	Y	WID	HT	MT_1	33	21	24	24																																																									
SYMBOL	X	Y	WID	HT																																																																
MT_1	33	21	24	24																																																																
<p>BORDER TYPE: FLUSH RECESS: 0" WIDTH: 1.5" RADII: 9"</p> <p>NO. Z BARS: 2 LENGTH: 82.0</p> <p>MAT'L: 0.125" (3.2 mm) ALUMINUM</p>		<p>USE NOTES: 1,2</p> <p>1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.</p> <p>2. Background shall be Grade C reflective sheeting.</p>																																																																		
<p>LETTER POSITIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="10">Letter spacings are to start of next letter</th> <th>Series/Size</th> <th>Text Length</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">T</td> <td style="text-align: center;">O</td> <td colspan="8"></td> <td style="text-align: center;">E</td> <td style="text-align: center;">2000</td> <td style="text-align: center;">13.8</td> </tr> <tr> <td style="text-align: center;">38.1</td> <td style="text-align: center;">7.1</td> <td style="text-align: center;">6.7</td> <td style="text-align: center;">38.1</td> <td colspan="6"></td> <td style="text-align: center;">E</td> <td style="text-align: center;">2000</td> <td style="text-align: center;">72.2</td> </tr> <tr> <td style="text-align: center;">R</td> <td style="text-align: center;">I</td> <td style="text-align: center;">G</td> <td style="text-align: center;">H</td> <td style="text-align: center;">T</td> <td style="text-align: center;">L</td> <td style="text-align: center;">A</td> <td style="text-align: center;">N</td> <td style="text-align: center;">E</td> <td colspan="3"></td> </tr> <tr> <td style="text-align: center;">8.9</td> <td style="text-align: center;">8.1</td> <td style="text-align: center;">3.3</td> <td style="text-align: center;">8.3</td> <td style="text-align: center;">7.8</td> <td style="text-align: center;">6</td> <td style="text-align: center;">8</td> <td style="text-align: center;">6.6</td> <td style="text-align: center;">9.5</td> <td style="text-align: center;">8.6</td> <td style="text-align: center;">6</td> <td style="text-align: center;">8.9</td> <td colspan="2"></td> </tr> </tbody> </table>					Letter spacings are to start of next letter										Series/Size	Text Length	T	O									E	2000	13.8	38.1	7.1	6.7	38.1							E	2000	72.2	R	I	G	H	T	L	A	N	E				8.9	8.1	3.3	8.3	7.8	6	8	6.6	9.5	8.6	6	8.9		
Letter spacings are to start of next letter										Series/Size	Text Length																																																									
T	O									E	2000	13.8																																																								
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R	I	G	H	T	L	A	N	E																																																												
8.9	8.1	3.3	8.3	7.8	6	8	6.6	9.5	8.6	6	8.9																																																									
<p>FILENAME: Misc Guidsign 05_09_17</p> <p style="text-align: right;">NORTH CAROLINA D.O.T. SIGN DETAIL</p>																																																																				

"E" SIGN

(401) QUANTITY REQ'D 1

**RIGHT LANE
MUST
TURN RIGHT**

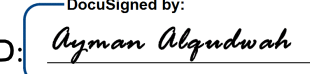

36 X 36
R3-7(R)

ONE "U" POST PER SIGN

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	SUPPORT INFORMATION
SIGN-3	SIGNING PLAN SHEET

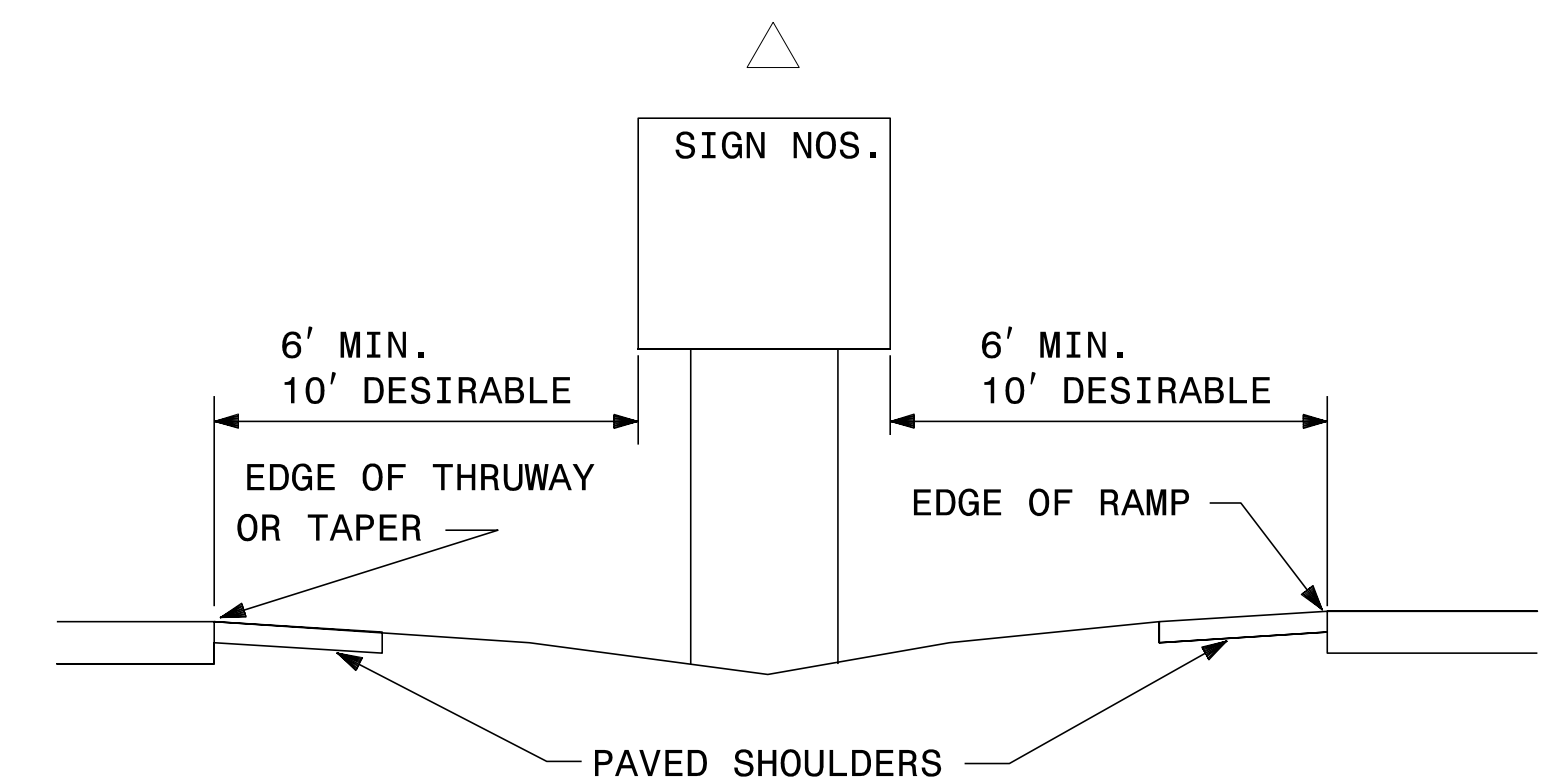
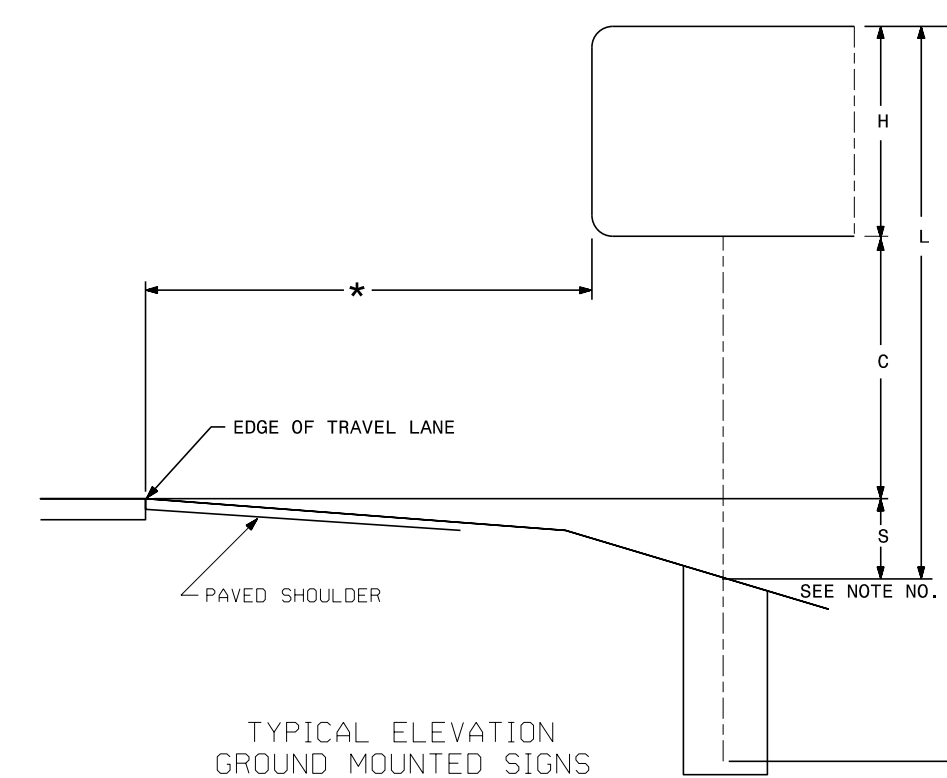
2/2/2018 S:\S&DU\Regions\Eastern\Ernc\W-5601DO\W-5601 SIGN-1.dgn

PROJECT REFERENCE NO. W-5601D0	SHEET NO. SIGN-2
APPROVED:  <small>DocuSigned by: Ayman Alqudwa F32AC5CAF985472...</small>	
DATE: 2/2/2018	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

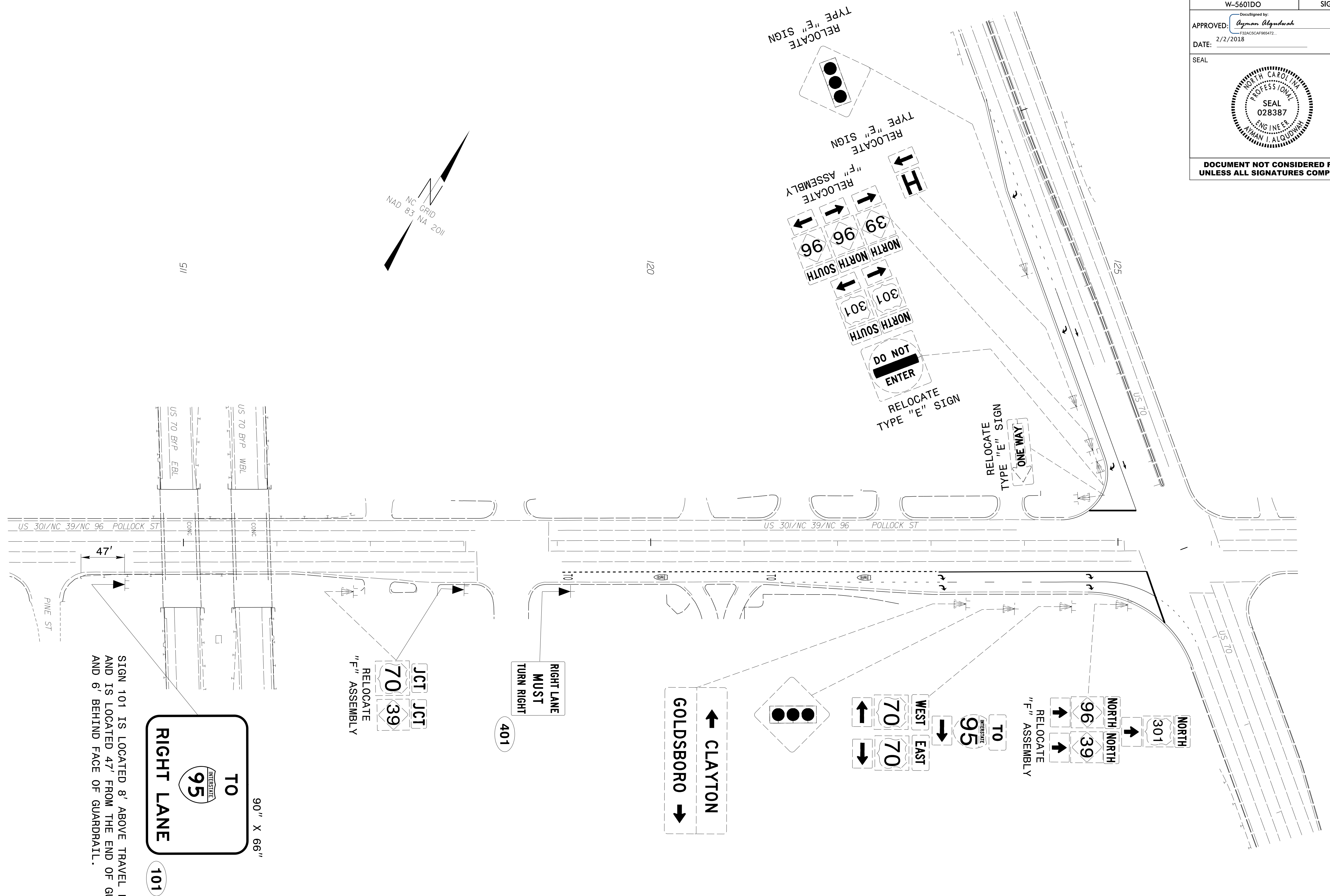
NUMBER	TYPE	SIGN SIZE (in.)			ROADWAY STATION	NUMBER OF SUPPORTS	BEAM SECTION	SUPPORT TYPE BA or S	OMNI COUPLER	ATTACHMENT METHOD	MOUNTING METHOD	HORIZONTAL CLEARANCE* (ft.)	SUPPORT SPACING	LENGTH (ft)			LEFT SUPPORT (ft)			CENTER SUPPORT (ft)			RIGHT SUPPORT (ft)			SUPPORT WEIGHTS		FOOTINGS				FIELD VERIFIED SEE NOTE 2 (mm/dd/yy)
		w	x	h										SNS HT "H"	MTG HT "C"	EMBED-MENT	S	L	LENGTH	S	L	LENGTH	S	L	LENGTH	B/A (lbs.)	SIMPLE (lbs.)	DIAMETER (ft.)	DEPTH (ft.)	REINFORCED (c.y.)	PLAIN (c.y.)	
101	A	90	x	66	47' from end of GR	2	S3x5.7	BA	N/A	N/A	N/A	8.00	4.40	5.50	8.00	3.0	0.50	14.00	17.00	0.00	0.00	0.00	0.60	14.10	17.10	230.37	0	1.0	3.5	0.00	0.20	
																	TOTAL	TOTAL					TOTAL	TOTAL								
																	230.37	0.00					0.00	0.20								
																	USE:	231.00	0.00					0.00	1.00							

NOTES

- DIMENSION "S" REPRESENTS AN INCREASE (+), OR A DECREASE (-) IN POLE LENGTH, RELATIVE TO THE ELEVATION OF THE EDGE OF TRAVEL LANE.
- FIELD VERIFICATIONS SHALL BE REQUIRED FOR ALL SUPPORTS, SEE (*) ARTICLE 903-3. FABRICATORS SHALL BE AISC CERTIFIED IN CATEGORY 1, SEE (*) ARTICLE 1072-1. (*) = N.C.D.O.T. STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES
- PLAN LOCATIONS FOR EXISTING UTILITIES ARE BASED ON THE BEST AVAILABLE INFORMATION AND, THEREFORE MAY NOT BE PRECISELY ACCURATE. THEREFORE, IT IS INCUMBENT UPON THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF UTILITIES BEFORE BEGINNING WORK IN A LOCATION.



**TYPE "A"
GROUND MOUNTED SIGNS**



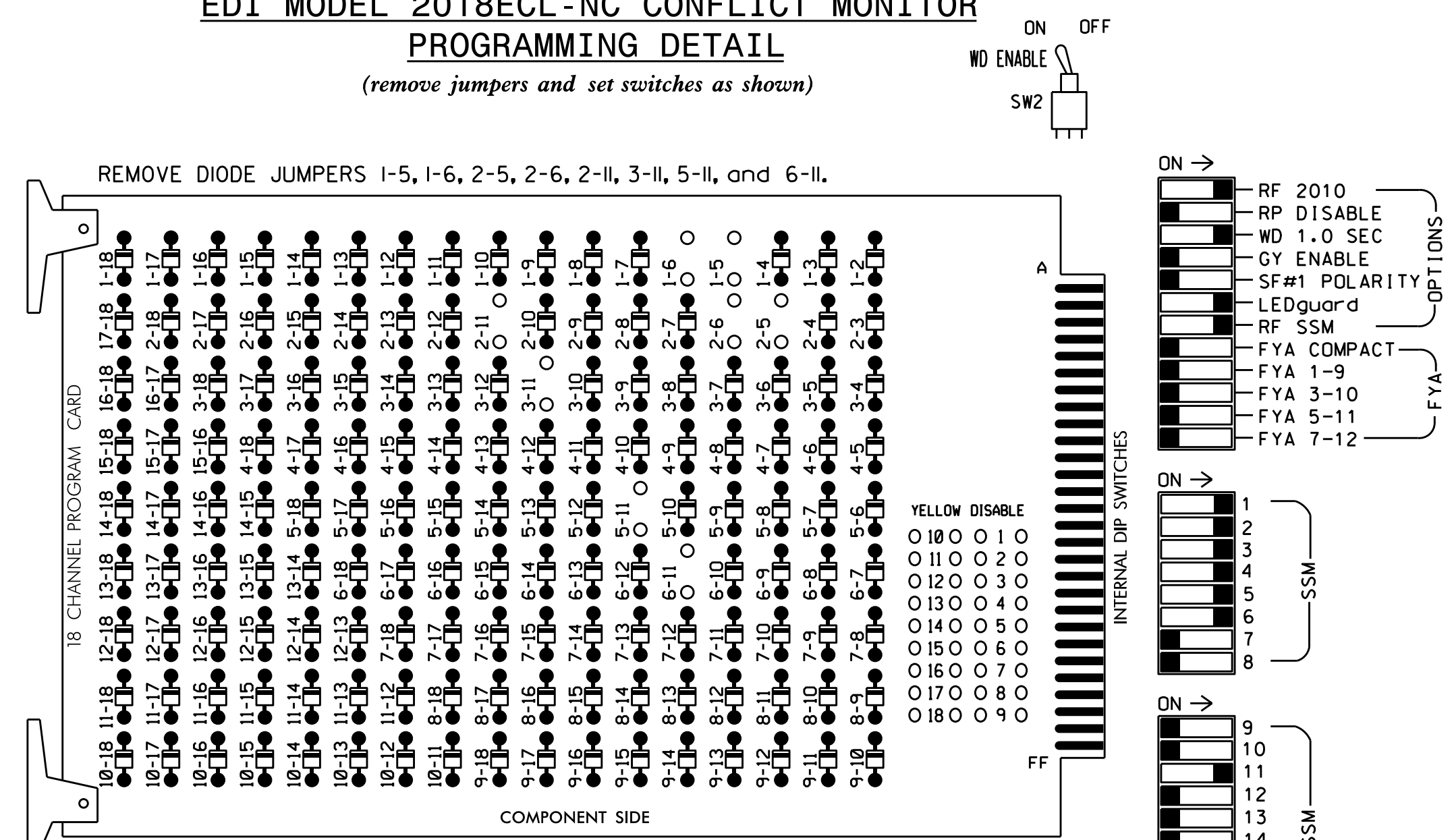
SIGN 101 IS LOCATED 8' ABOVE TRAVEL LANE AND IS LOCATED 47' FROM THE END OF GUARDRAIL AND 6' BEHIND FACE OF GUARDRAIL.

TO 95 WEST/EAST
RIGHT LANE
90" X 66"
101

**SIGNING PLAN SHEET
US 301 AND US 70 IN SELMA**

2/2/2018
S:\S&DU\Regions\Eastern\Eric W-5601DO\W-5601DO SIGN-3.dgn
User:ericward

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL
(remove jumpers and set switches as shown)



REMOVE JUMPERS 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.

■ = DENOTES POSITION OF SWITCH

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 US 301-NC 96 (Brightleaf Blvd.) 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.....S1,S2,S4,S5,S7,S8,S11*,AUX S4
 PHASES USED.....1,2,3,4,5,6
 OVERLAP A.....NOT USED
 OVERLAP B.....NOT USED
 OVERLAP C.....2+3
 OVERLAP D.....NOT USED

* Used for Advance Beacon control only.

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	ADVANCE BEACON	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11	33	21,22 25	31	32,33	41	42,43	51	61,62 63	71	34,35	81	91	101	111	121	131	141
RED		128		116	116	101	101		134									A114
YELLOW		129		117	117	102	102		135		*							
GREEN		130		118	118	103	103		136		*							
RED ARROW	125								131									
YELLOW ARROW	126	126						132	132									A115
GREEN ARROW	127	127		118	103		133	133										A116

NU = Not Used

NOTE: Special advance beacon will be wired to S11-R. See wiring and programming detail on sheet 2 of 2 of this electrical detail.

* Denotes install load resistor. See load resistor installation detail on sheet 2.

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: XX
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

INPUT FILE POSITION LAYOUT
(front view)

FILE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	∅ 1	∅ 2	∅ 3	∅ 4	∅ 4	∅ 4	∅ 4	SYS. DET. S23						FS
I	1A	2A	3A	4A	4C	4E								DC ISOLATOR
L	∅ 1	∅ 2	NOT USED	∅ 4	∅ 4	NOT USED								ST
	1B	2B		4B	4D									DC ISOLATOR
U	∅ 5	∅ 6	∅ 3	∅ 3	∅ 3	SYS. DET. S25								
I	5A	6A	3B	3D										
L	∅ 5	∅ 6	∅ 3	∅ 3		SYS. DET. S26								
	5B	6B	3C	3E										

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

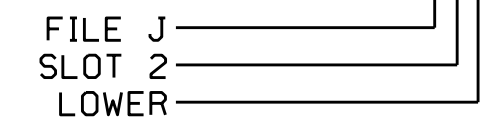
FS = FLASH SENSE
ST = STOP TIME

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
1A	TB2-5,6	I2U	39	1	2	1	Y	Y			
1B	TB2-7,8	I2L	43	5	12	1	Y	Y			15
2A	TB2-9,10	I3U	63	25	32	2	Y	Y			
2B	TB2-11,12	I3L	76	38	42	2	Y	Y			
3A	TB4-5,6	I5U	58	20	3	3		Y		2.1	
3B	TB5-9,10	J6U	42	4	8	3		Y		2.1	
3C	TB5-11,12	J6L	46	8	18	3	Y	Y		1.0	3
3D	TB7-1,2	J7U	66	28	38	3	Y	Y			
3E	TB7-3,4	J7L	79	41	48	3	Y	Y			
4A	TB4-9,10	I6U	41	3	4			Y		2.1	
4B	TB4-11,12	I6L	45	7	14	4		Y		2.1	
4C	TB6-1,2	I7U	65	27	34	4	Y	Y			
4D	TB6-3,4	I7L	78	40	44	4	Y	Y			
4E	TB6-5,6	I8U	49	11	24	4	Y	Y			
5A	TB3-5,6	J2U	40	2	6	5	Y	Y			
5B	TB3-7,8	J2L	44	6	16	5	Y	Y			15
6A	TB3-9,10	J3U	64	26	36	6	Y	Y			
6B	TB3-11,12	J3L	77	39	46	6	Y	Y			
*S23	TB6-9,10	I9U	60	22	11	SYS					
*S24	TB6-11,12	I9L	62	24	13	SYS					
*S25	TB7-9,10	J9U	59	21	15	SYS					
*S26	TB7-11,12	J9L	61	23	17	SYS					

* System detector only. Remove the vehicle phase assigned to this detector in the default programming.

INPUT FILE POSITION LEGEND: J2L



Electrical Detail - Sheet 1 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared In the Offices of: TRANSPORTATION MOBILITY AND SAFETY SOLUTIONS, INC. Signal Management Services 750 N. Greenfield Pkwy, Garner, NC 27529	US 301 / NC 39-96 (Pollock Street) at US 70		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED SEAL Keith M. Minis ENGINEER 8/1/2017
	Division 4 Johnston County Seima PLAN DATE: July 2017 REVIEWED BY: PREPARED BY: S. Armstrong REVIEWED BY: REVISIONS INIT. DATE	SIG. INVENTORY NO. 04-0213	

31-JUL-2017 14:30
 S:\Projects\2017\14-30\Sigs\Sig1\Sigs1.dgn
 S:\Projects\2017\14-30\Sigs\Sig1\Sigs1.dgn
 S:\Projects\2017\14-30\Sigs\Sig1\Sigs1.dgn

OUTPUT ASSIGNMENT PROGRAMMING DETAIL FOR PHASE 3 ADVANCE BEACON APPROACH

(program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS). PRESS '+' UNTIL OUTPUT #19 (PIN 21) IS REACHED.

```

PAGE:1 C1 PIN:21 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....19
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...1.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...50
MODE (0=SOLID,1=FLASH).....1
SELECT ASSIGNMENT:
NOT ENABLED.....-
VEHICLE PHASE.....Y
PEDESTRIAN PHASE.....-
VEHICLE OVERLAP.....-
PEDESTRIAN OVERLAP.....-
WATCHDOG.....-
DETECTOR RESET.....-
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....-
CONTROLLER FLASH.....-
RUN FREE.....-
RESERVED.....-
PREEMPT.....-
SOFT PREEMPT.....-
ANY PREEMPT.....-
COORDINATION PLAN.....-
OFFSET.....-
PHASE CHECK.....-
PHASE ON.....-
PHASE NEXT.....-
    
```

THE FIRST THREE PROGRAMMING ROWS DEFINE THE OUTPUT TO FLASH, ALONG WITH THE RATE AT WHICH IT WILL FLASH.

THE VEHICLE PHASE 'Y' WILL REMAIN UNTIL THE FUNCTION OF THIS OUTPUT IS CHANGED. DO NOT ENTER AN 'N'.

```

PAGE:1 C1 PIN:21 VEHICLE PHASE
SELECT BEACON INDEX (1-4).....1
    
```

WHEN A 'Y' IS ENTERED FOR 'ADVANCE BEACON' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

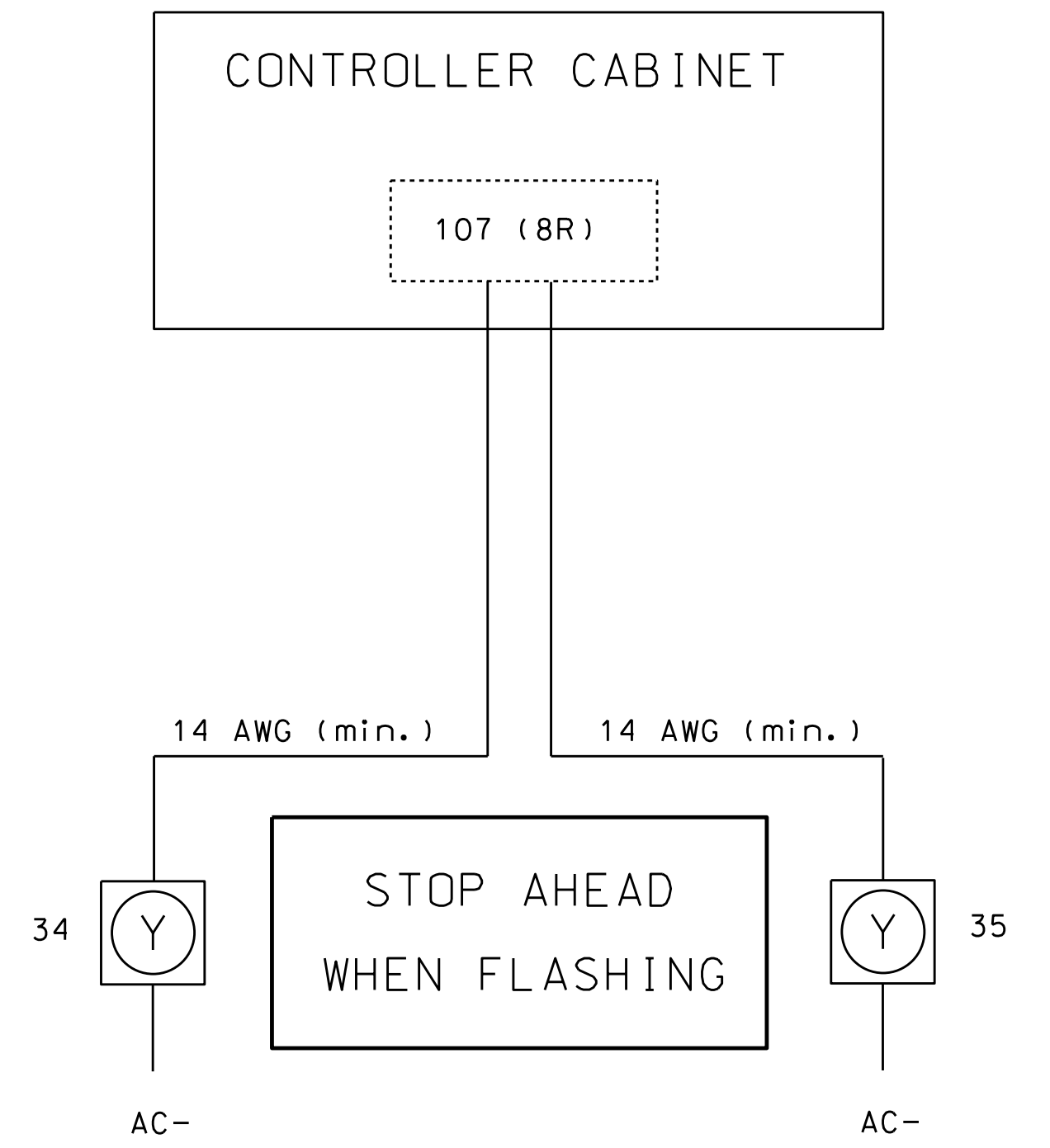
PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'ADVANCE BEACON' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:21 ADVANCE BEACON
OUTPUT ASSIGNMENT #.....19
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...1.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...50
MODE (0=SOLID,1=FLASH).....1
SELECT ASSIGNMENT:
NOT ENABLED.....-
VEHICLE PHASE.....-
PEDESTRIAN PHASE.....-
VEHICLE OVERLAP.....-
PEDESTRIAN OVERLAP.....-
WATCHDOG.....-
DETECTOR RESET.....-
ADVANCE BEACON.....Y
OUT OF PHASE FLASHER.....-
CONTROLLER FLASH.....-
RUN FREE.....-
RESERVED.....-
PREEMPT.....-
SOFT PREEMPT.....-
ANY PREEMPT.....-
COORDINATION PLAN.....-
OFFSET.....-
PHASE CHECK.....-
PHASE ON.....-
PHASE NEXT.....-
    
```

ADVANCE BEACON WIRING DETAIL (wire flashers as shown below)



IMPORTANT

1. INSERT LOADSWITCH FOR S11.
2. MAKE SURE LOAD RESISTORS ARE IN PLACE AS SHOWN IN LOAD RESISTOR INSTALLATION DETAIL ON THIS SHEET.
3. TO ACTIVATE BEACON OPERATION AS INDICATED ON THE SIGNAL PLAN, REASSIGN OUTPUT 19 AS SHOWN ON THIS SHEET.
4. INSERT RED FLASH PROGRAM BLOCK FOR LOADSWITCH S11.

ADVANCE BEACON PROGRAMMING DETAIL

(program controller as shown below)

1. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '2' (OUTPUT BEACON SETTINGS).

```

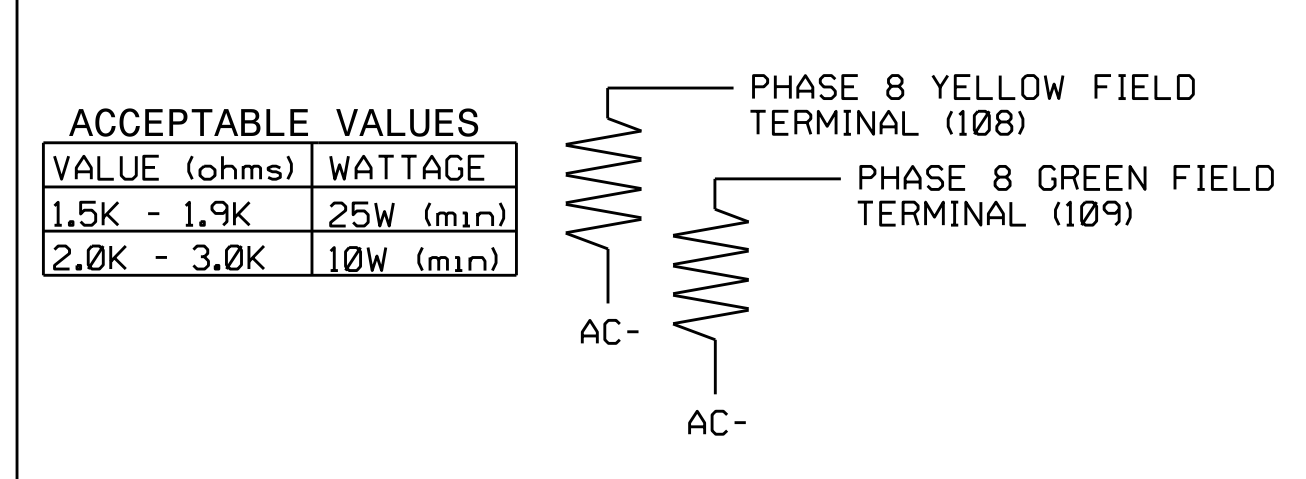
          OUTPUT BEACON SETTINGS
TRIGGER PHASES: |12345678910111213141516
BEACON #1 OFF  |      X
BEACON #2 OFF  |
BEACON #3 OFF  |
BEACON #4 OFF  |
                |-----|
                | BEACON | 1  2  3  4
OFF DELAY TIME (0-255): | 0  0  0  0
ON DELAY TIME (0-255): | 0  0  0  0
STOP-TIME HOLD (0-255):| 0  0  0  0
    
```

SCROLL DOWN TO VIEW ALL DATA
↓

ADVANCE BEACON PROGRAMMING COMPLETE

NOTE: AN OUTPUT HAS TO BE ASSIGNED AS AN ADVANCE BEACON IN ORDER FOR PROPER OPERATION TO OCCUR. SEE OUTPUT ASSIGNMENT DETAIL ON THIS SHEET.


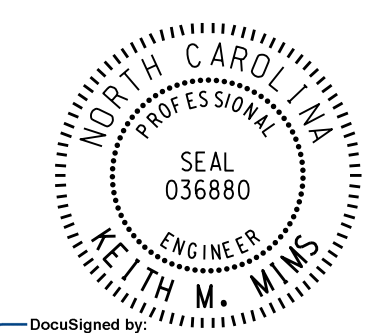
LOAD RESISTOR INSTALLATION DETAIL



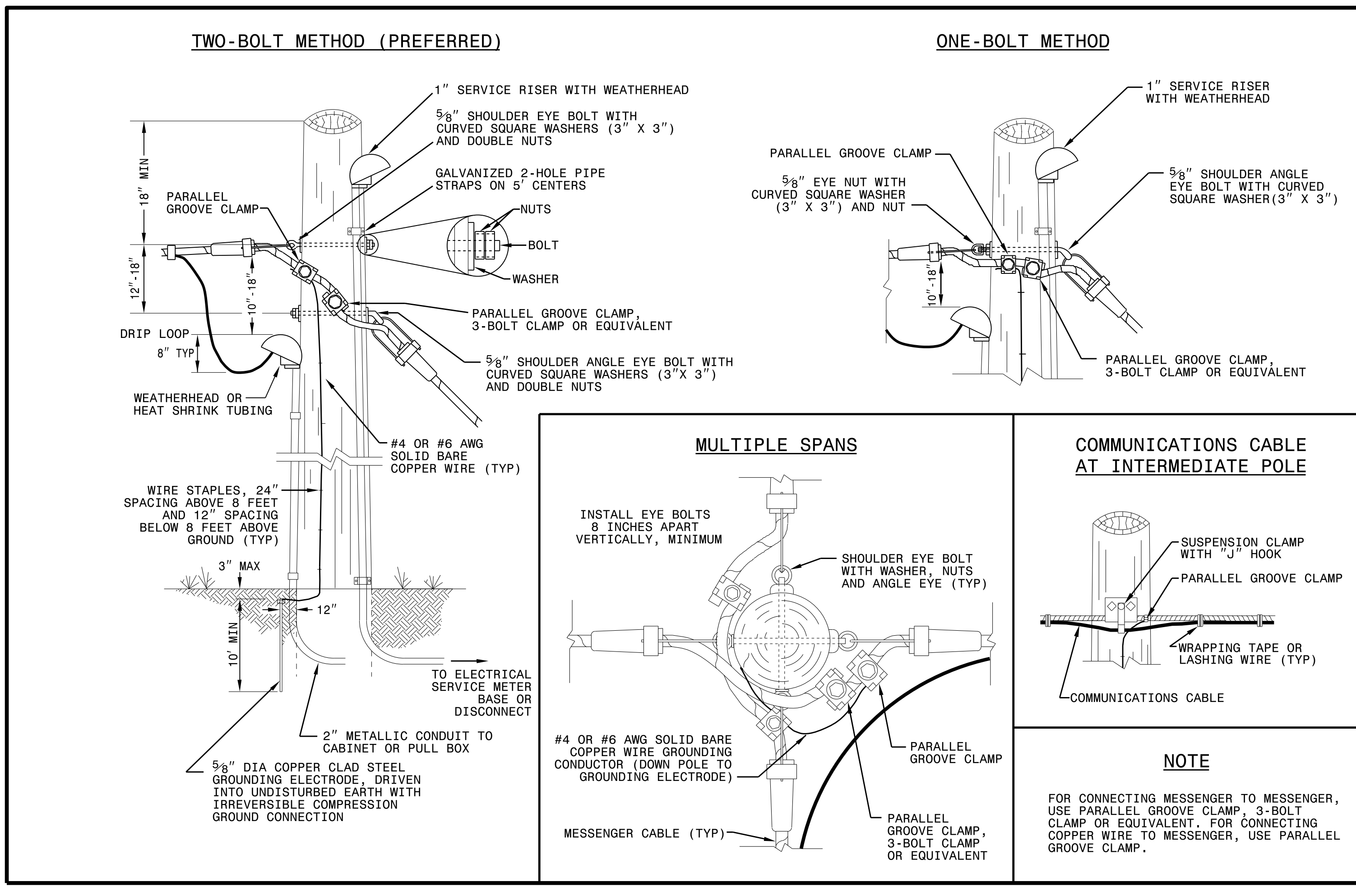
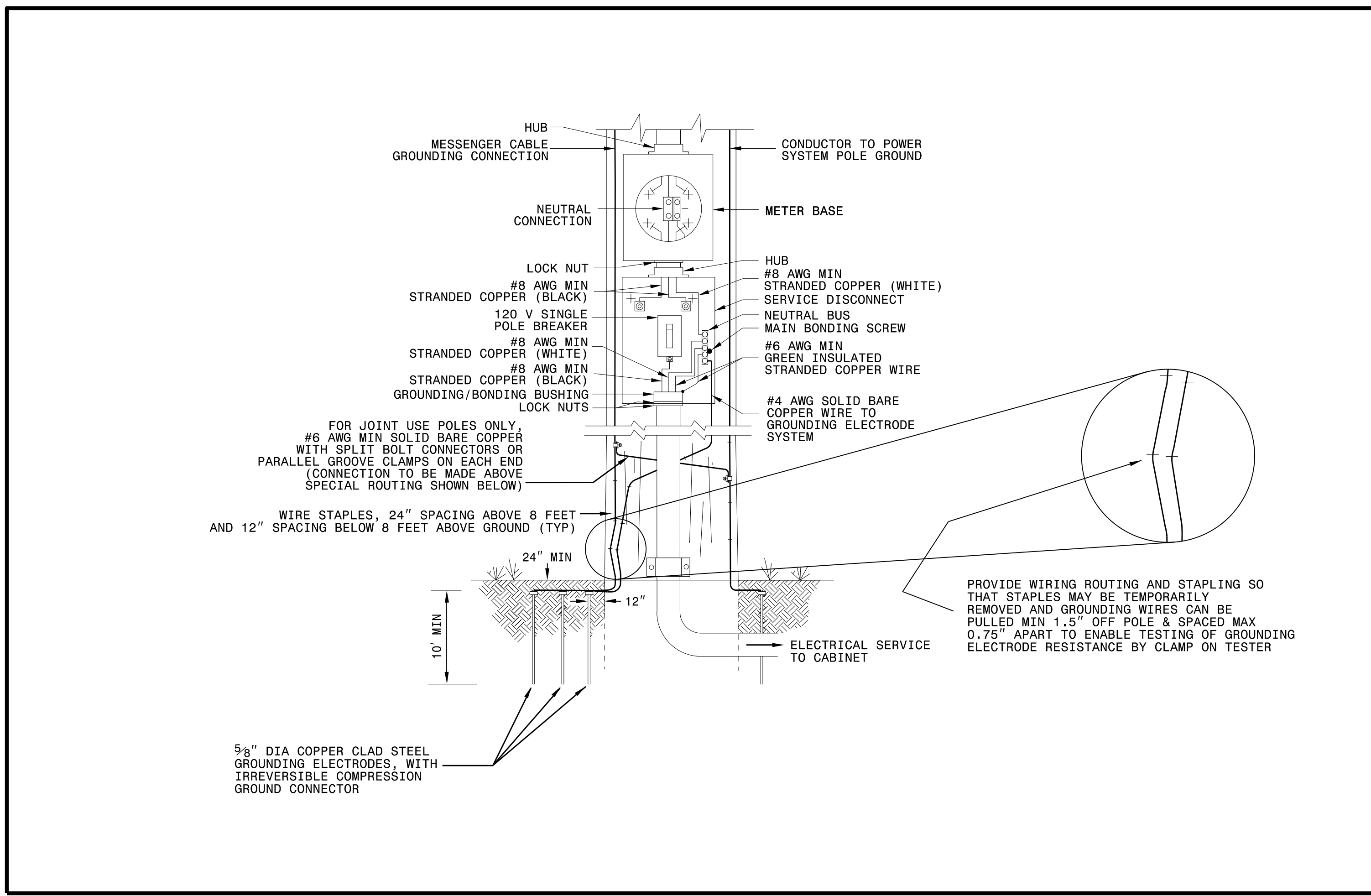
ACCEPTABLE VALUES	
VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 04-0213
DESIGNED: May 2017
SEALED: 7/17/2017
REVISED: N/A

Electrical Detail - Sheet 2 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared In the Offices of:  750 N. Greenfield Pkwy, Garner, NC 27529	US 301 / NC 39-96 (Pollock Street) at US 70 Division 4 Johnston County Seima PLAN DATE: July 2017 REVIEWED BY: PREPARED BY: S. Armstrong REVIEWED BY:	DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED SEAL  Keith M. Minns 8/1/2017 DATE SIG. INVENTORY NO. 04-0213
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31-JUL-2017 14:30
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 sarmstrong



DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

See Plate for Title

Prepared in the Offices of:

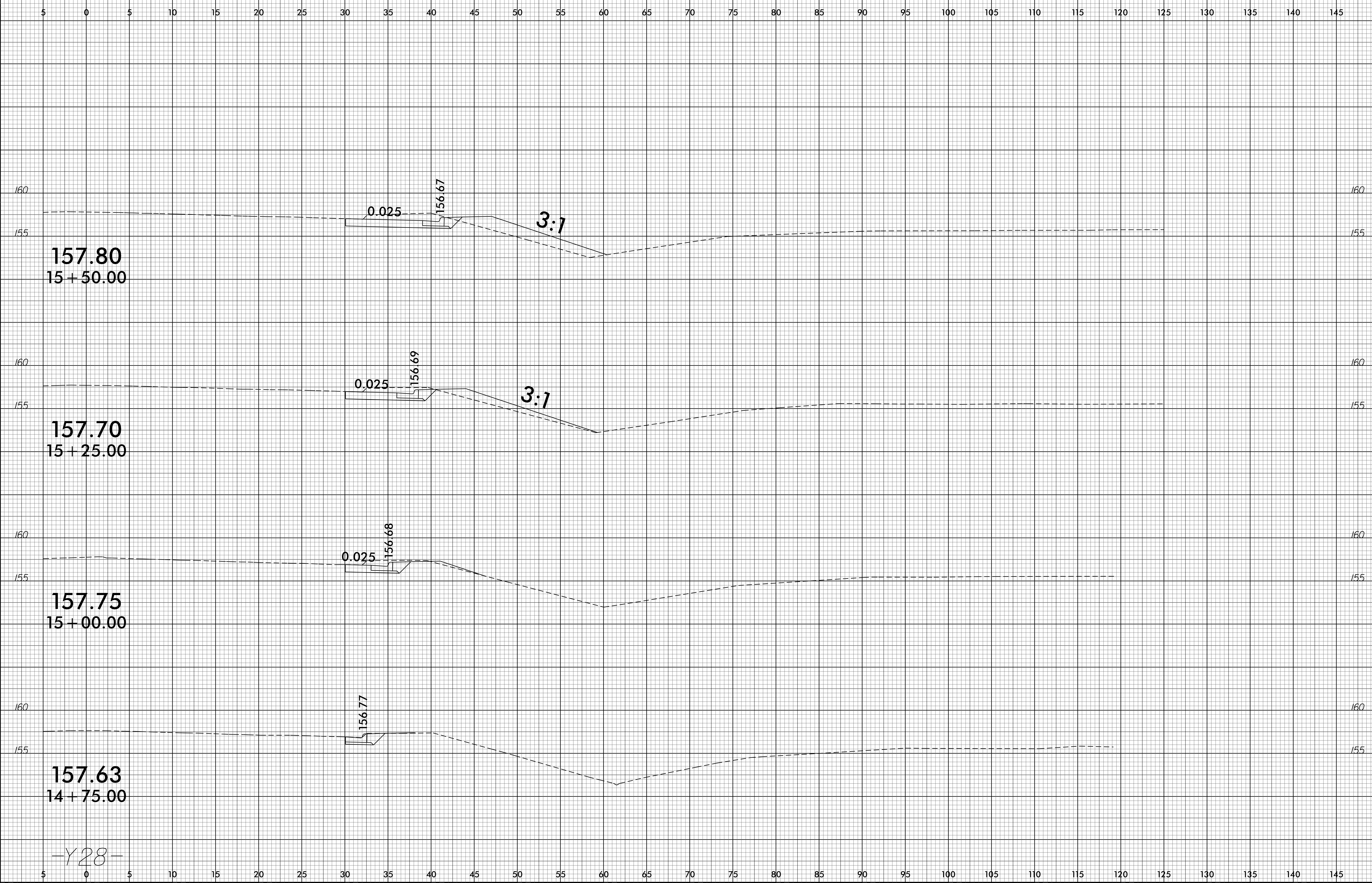
SEAL

DocuSigned by:
Mohd Aslami

750 N. Greenfield Parkway
Garner, NC 27529

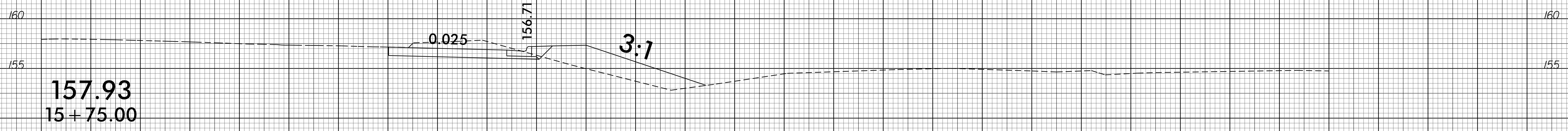
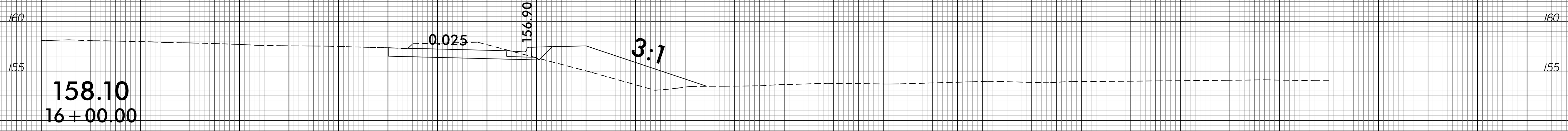
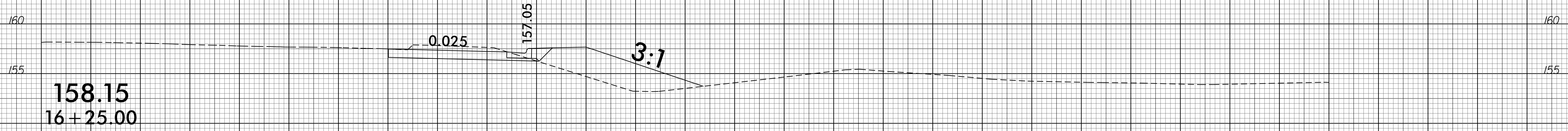
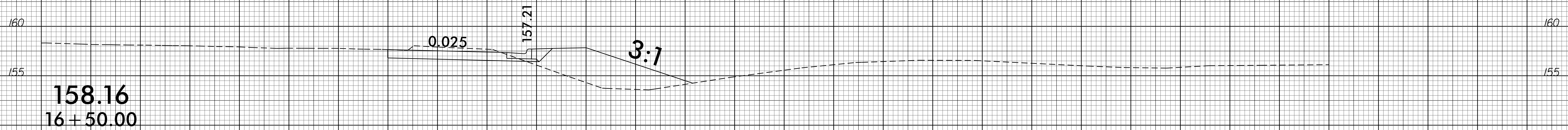
10/11/2017
DATE

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r:\rough



-Y28-

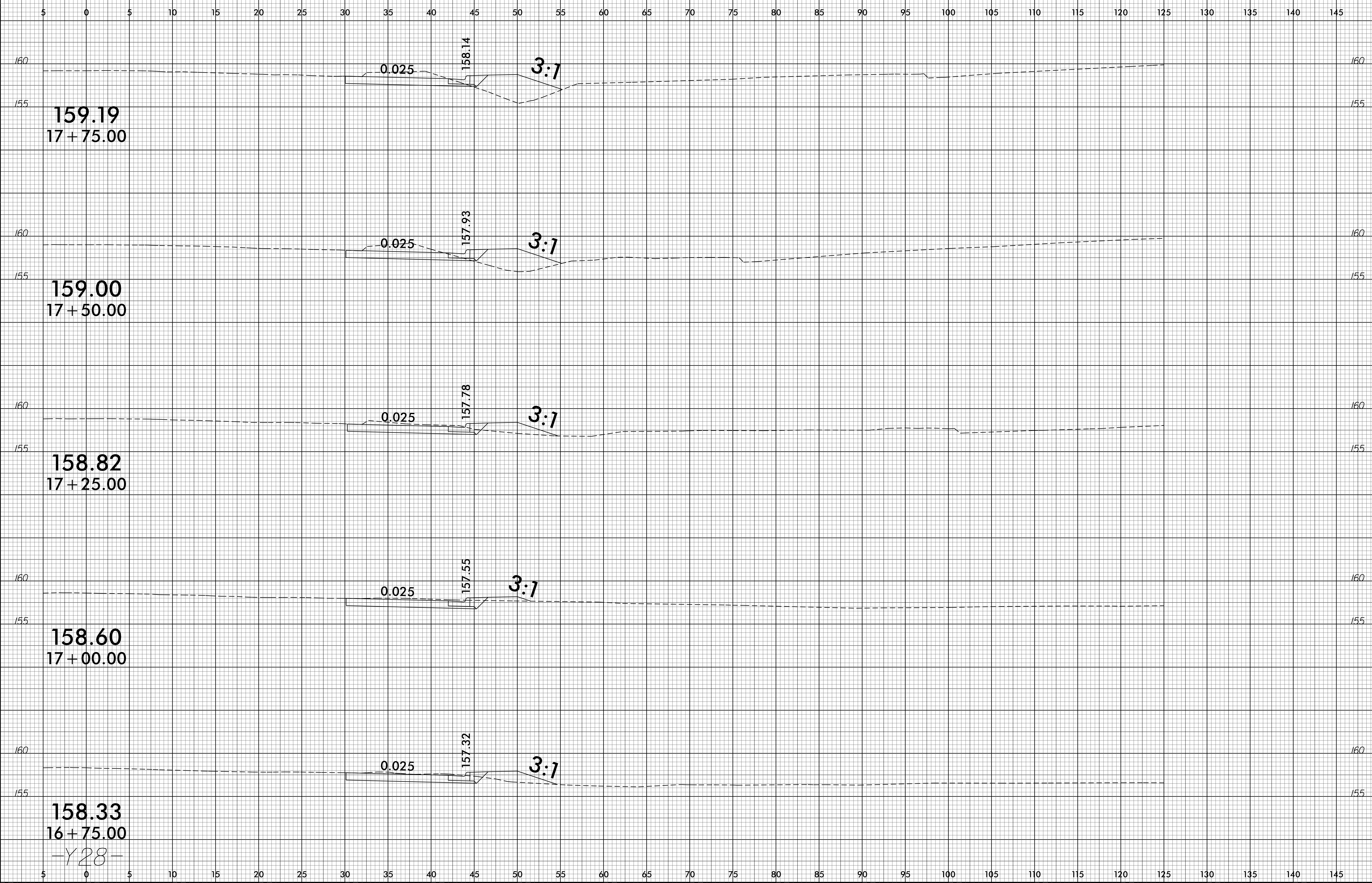
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-Y28-

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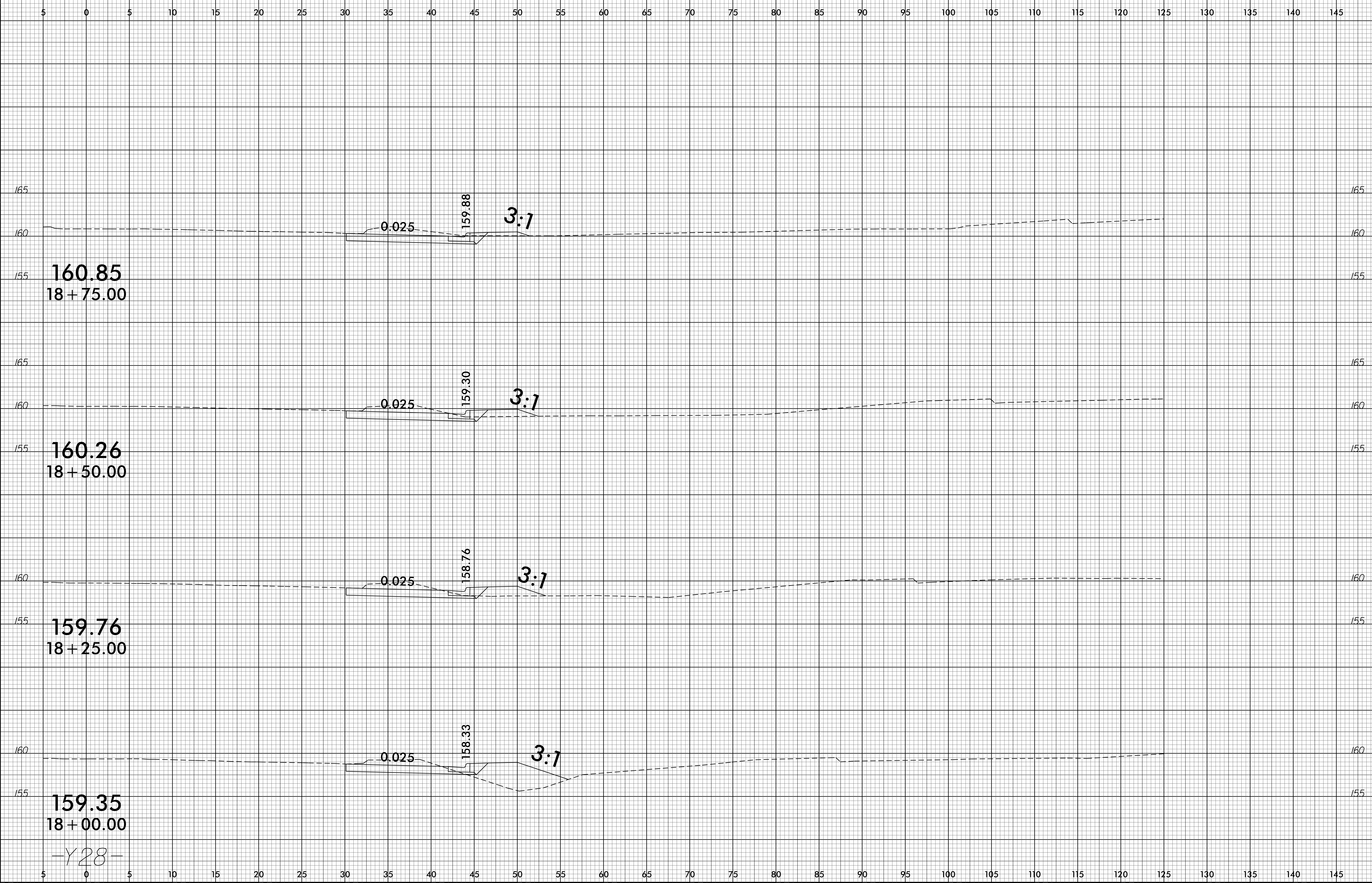
6/23/16



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-Y28-

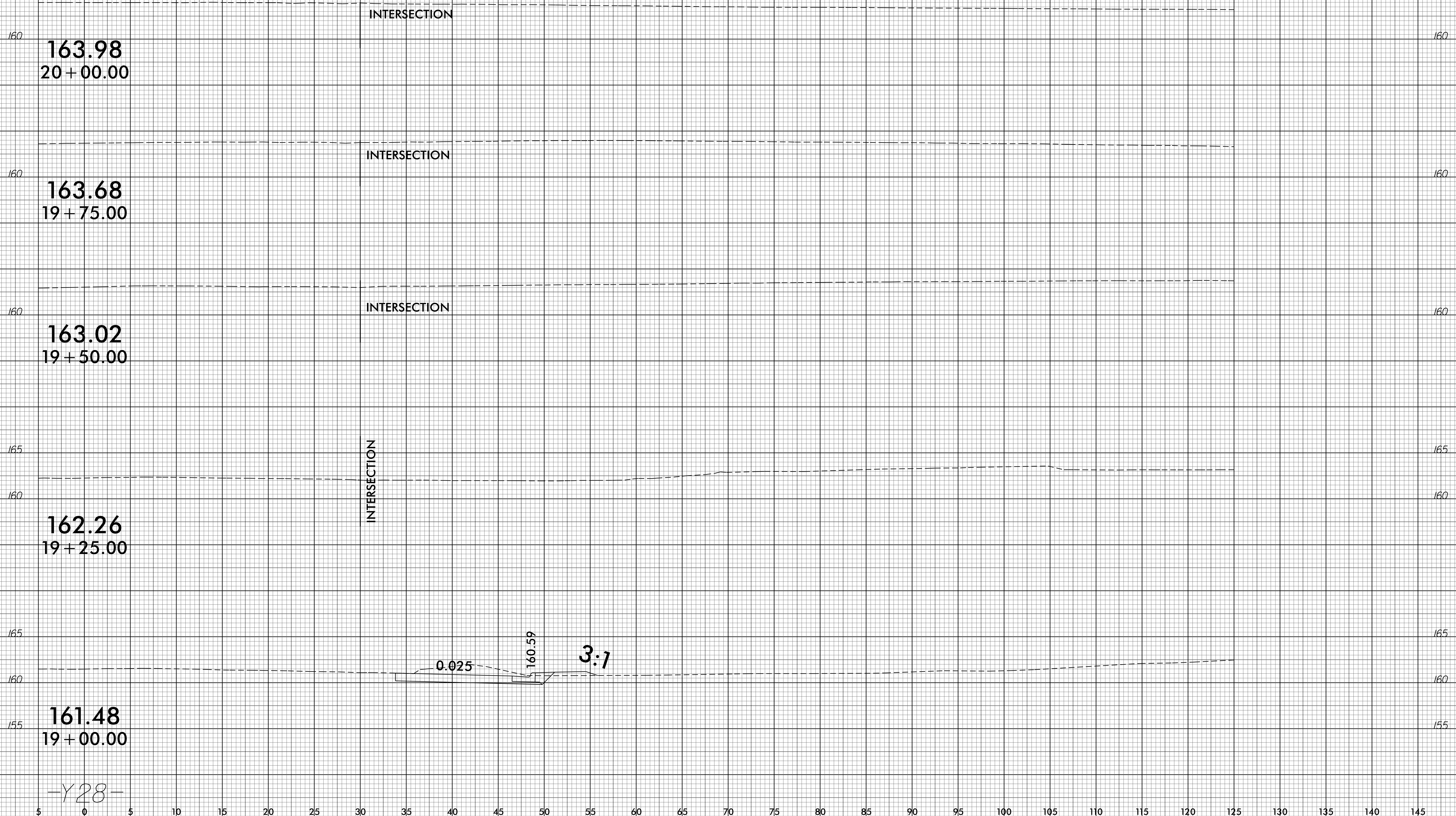
6/23/16



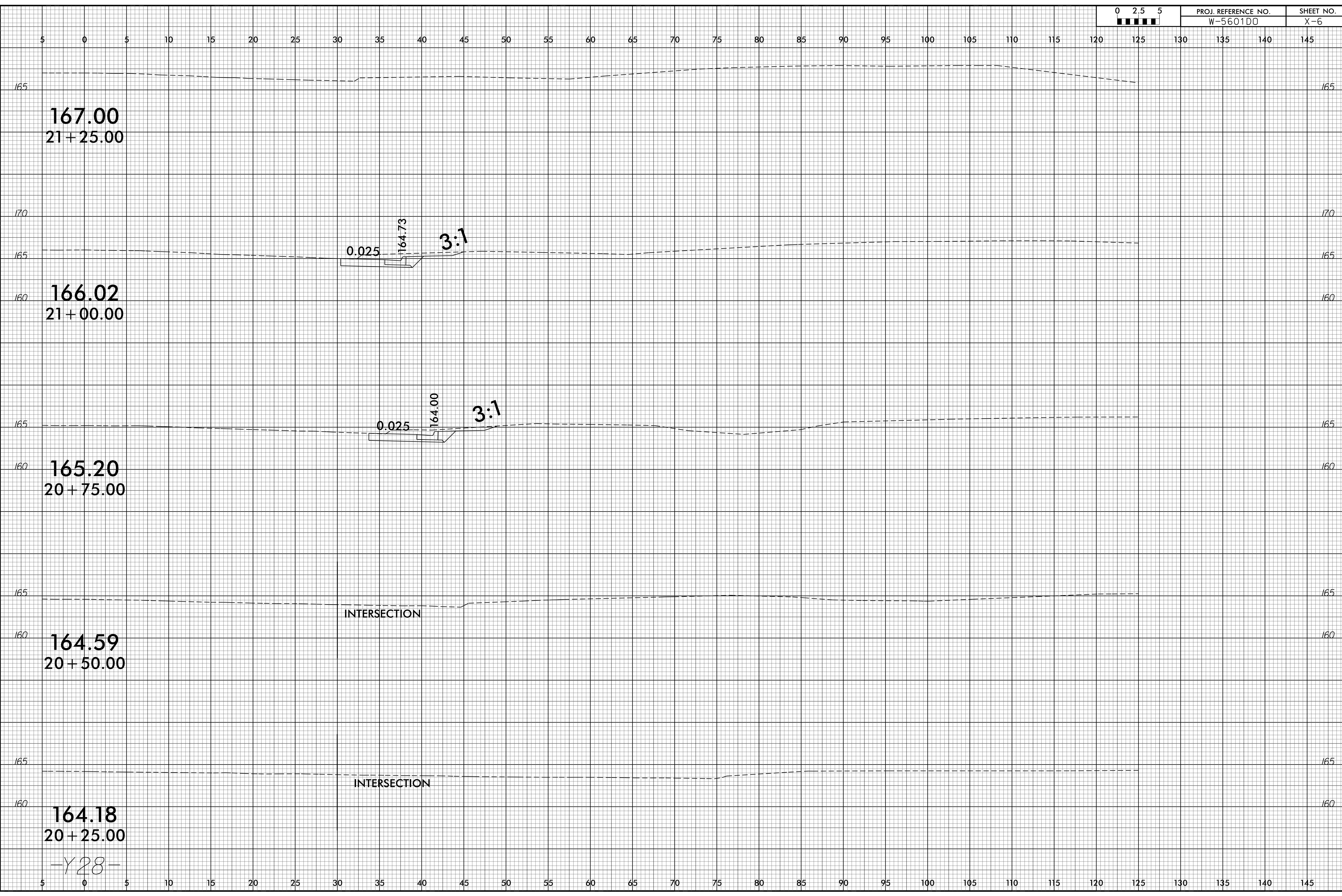
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-Y28-

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6/23/16



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-Y28-