

09/28/19

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5602	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50139.1.FR1	HSIP-0172(13)	PE	
50139.2.1	HSIP-0172(13)	RW, UTL.	
50139.3.1	HSIP-0172(13)	CONST.	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

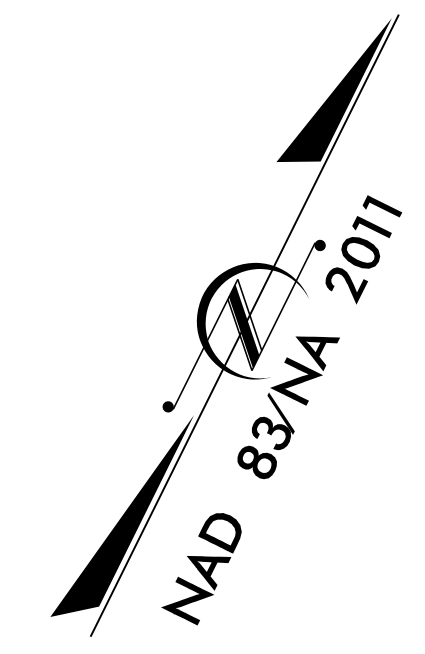
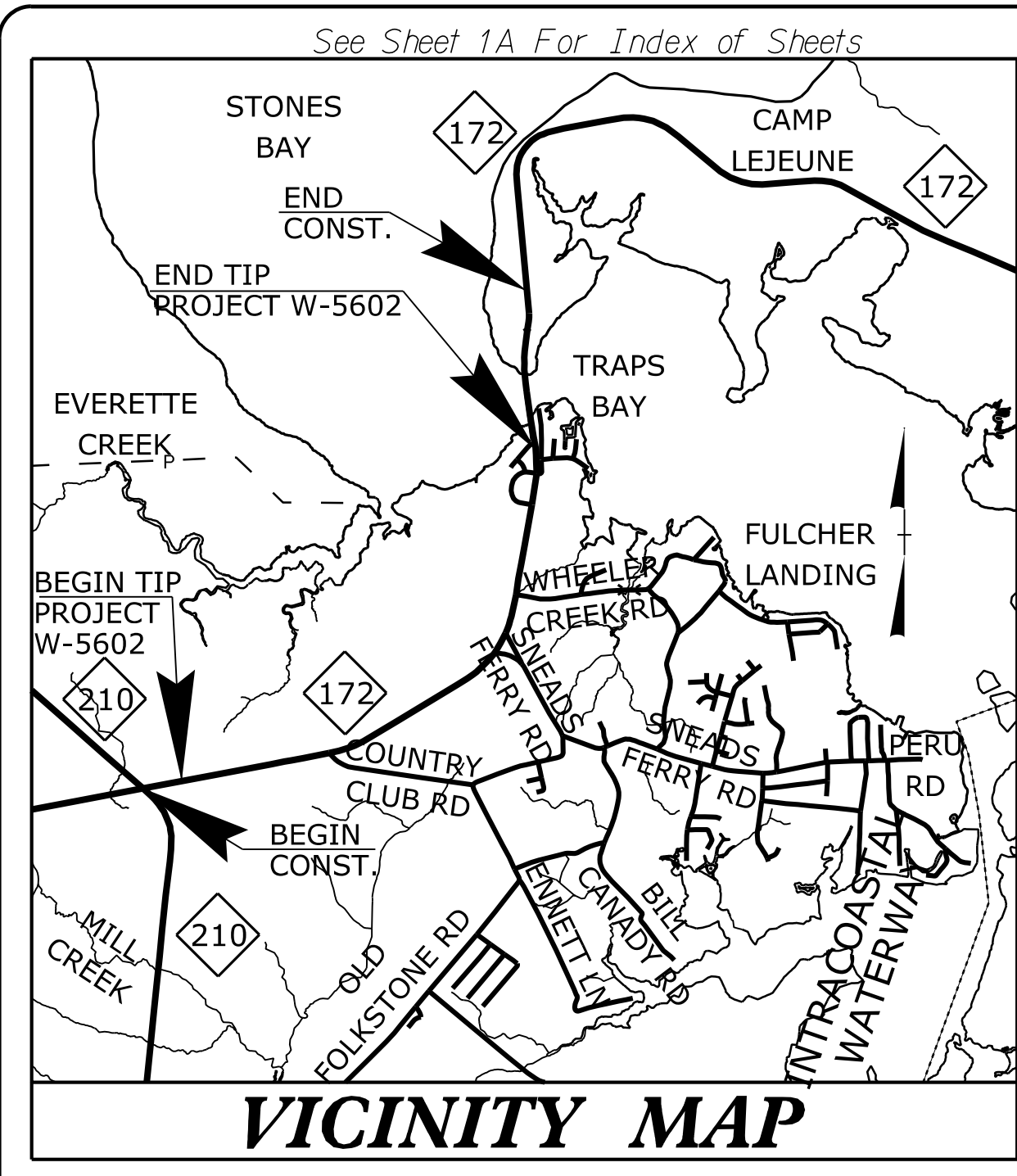
# ONSLOW COUNTY

**LOCATION: NC 172 (SNEADS FERRY RD) FROM NC 210  
TO BRIDGE #17**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING**

**END CONSTRUCTION TIP PROJECT W-5602  
END OF GUARDRAIL PAST BRIDGE  
NC 172 (SNEADS FERRY ROAD)**

**END TIP PROJECT W-5602  
-L- POT STA. 160 + 00.00**

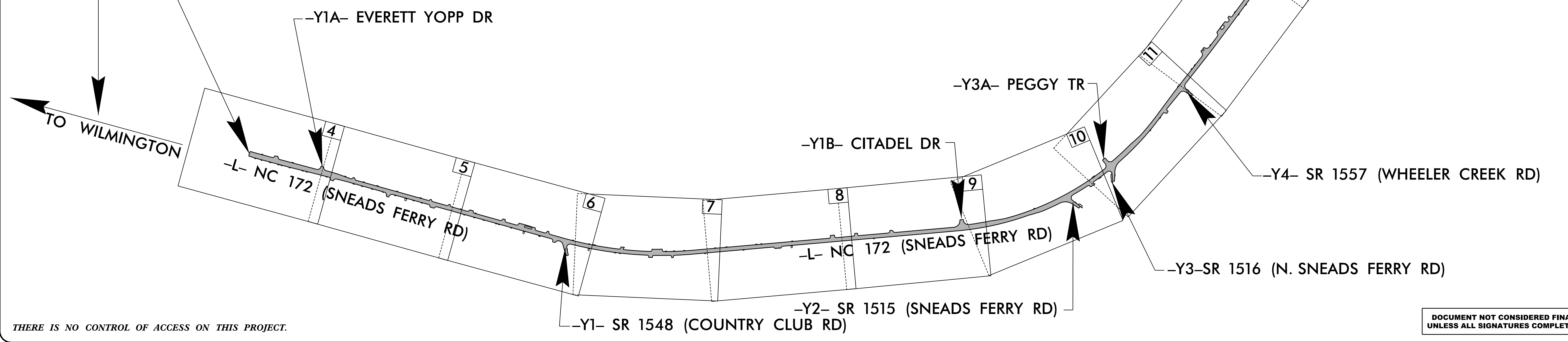


**TIP PROJECT: W-5602**

**CONTRACT: C204264**

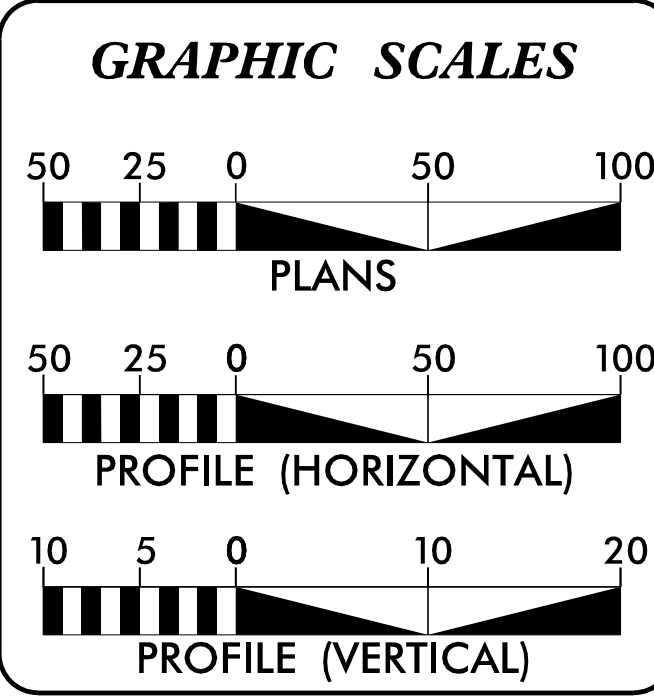
**BEGIN CONSTRUCTION TIP PROJECT W-5602  
INTERSECTION OF NC 172 (SNEADS FERRY ROAD)  
AND NC 210**

**BEGIN TIP PROJECT W-5602  
-L- POT STA. 17 + 25.00**



THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



**DESIGN DATA**

ADT 2016 = 20,000

K = 10 %  
D = 70 %  
T = 5 % \*  
V = 45 MPH

\* TTST = 3% DUAL 2%  
FUNC CLASS =  
MINOR ARTERIAL  
REGIONAL TIER

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT W-5602 = 2.704 MILES

TOTAL LENGTH OF TIP PROJECT W-5602 = 2.704 MILES

Prepared For:  
**HIGHWAY DIVISION 3**  
5501 Barbados Blvd.  
Castle Hayne, NC 28429

2018 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
APRIL 5, 2018

**LETTING DATE:**  
DECEMBER 18, 2018

Prepared in the Office of:  
**CALYX**  
ENGINEERS + CONSULTANTS

**STEPHEN C. BROWDE, PE**  
CALYX E & C  
PROJECT MANAGER

**JOHNNY BANKS**  
CALYX E & C  
PROJECT DESIGN ENGINEER

**MICHAEL BASS**  
NGDOT CONTACT

**HYDRAULICS ENGINEER**

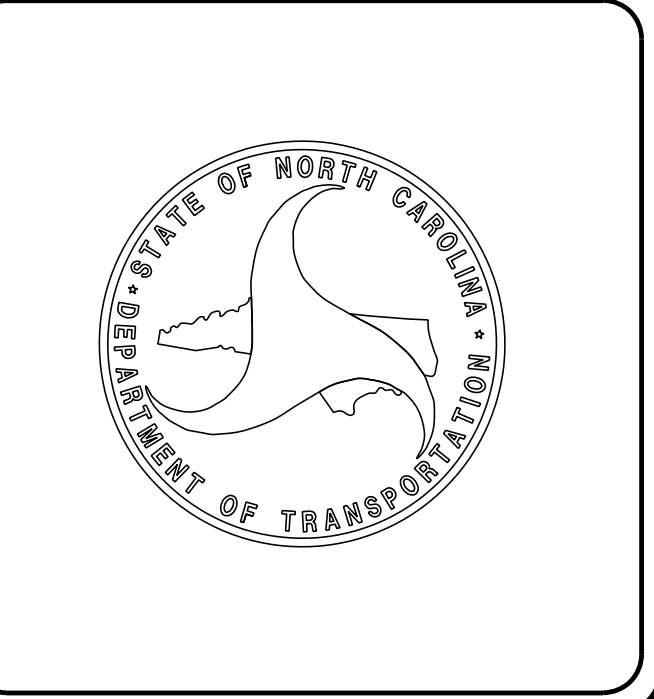
11/5/2018

DocuSigned by:  
David Becker  
SIGNATURE:

**ROADWAY DESIGN ENGINEER**

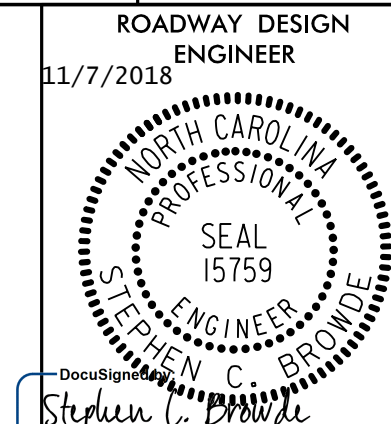
11/5/2018

DocuSigned by:  
Stephen C. Browde  
SIGNATURE:



9/26/2018  
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dlv





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UNLESS ALL SIGNATURES COMPLETED**

EFF. 01-16-2018  
REV.

# INDEX of SHEETS, GENERAL NOTES, and LIST of STANDARDS

## W-5602 INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, & LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1C-1 THRU 1C-2	SURVEY CONTROL SHEETS
1D-1	PROPOSED ALIGNMENT CONTROL SHEET
1E-1	RIGHT OF WAY CONTROL SHEET
2A-1	PAVEMENT SCHEDULE & TYPICAL SECTIONS
2C-1	GUARDRAIL DETAIL
2C-2	MODIFIED METHOD III OF CLEARING DETAIL
2C-3	TRANSITION FROM 2'-6" CURB AND GUTTER TO VALLEY GUTTER DETAIL
3B-1	SUMMARY OF EARTHWORK AND ROADWAY SUMMARIES
3D-1 THRU 3D-8	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARY TABLES
3P-1	PARCEL INDEX SHEET
4 THRU 14	PLAN SHEETS
15 THRU 22	PROFILE SHEETS
TMP-1 THRU TMP-30	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-13	PAVEMENT MARKING & SIGNING PLANS
EC-01 THRU EC-25	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
UC-1 THRU UC-26	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-12	UTILITIES BY OTHERS PLANS
X-0A THRU X-0B	CROSS-SECTION SUMMARY
X-0	CROSS-SECTION INDEX
X-1 THRU X-71	CROSS-SECTIONS

GENERAL NOTES: 2018 SPECIFICATIONS EFFECTIVE: 01-16-2018

**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 MODIFIED METHOD III.

**SUPERELEVATION:**

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

**SHOULDER CONSTRUCTION:**

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

**SIDE ROADS:**

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

**SUBSURFACE DRAINS:**

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

**DRIVEWAYS:**

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

**STREET TURNOUT:**

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

**GUARDRAIL:**

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

**TEMPORARY SHORING:**

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

**UTILITIES:**

UTILITY OWNERS ON THIS PROJECT ARE JONES ONSLOW ELECTRIC MEMBERSHIP CORPORATION, PIEDMONT NATURAL GAS, CHARTERSPECTRUM, CENTURY LINK, ONSLOW WATER & SEWER AUTHORITY, PLURIS HOLDINGS, LLC

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

**RIGHT-OF-WAY MARKERS:**

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

**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
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
310.10	Driveway Pipe Construction
DIVISION 5	SUBGRADE, BASES AND SHOULDERS
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6	ASPHALT BASES AND PAVEMENTS
654.01	Pavement Repairs
DIVISION 8	INCIDENTALS
815.02	Subsurface Drain
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
862.02	Guardrail Installation (Special Detail for Sheet 6 of 8)
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
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.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
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

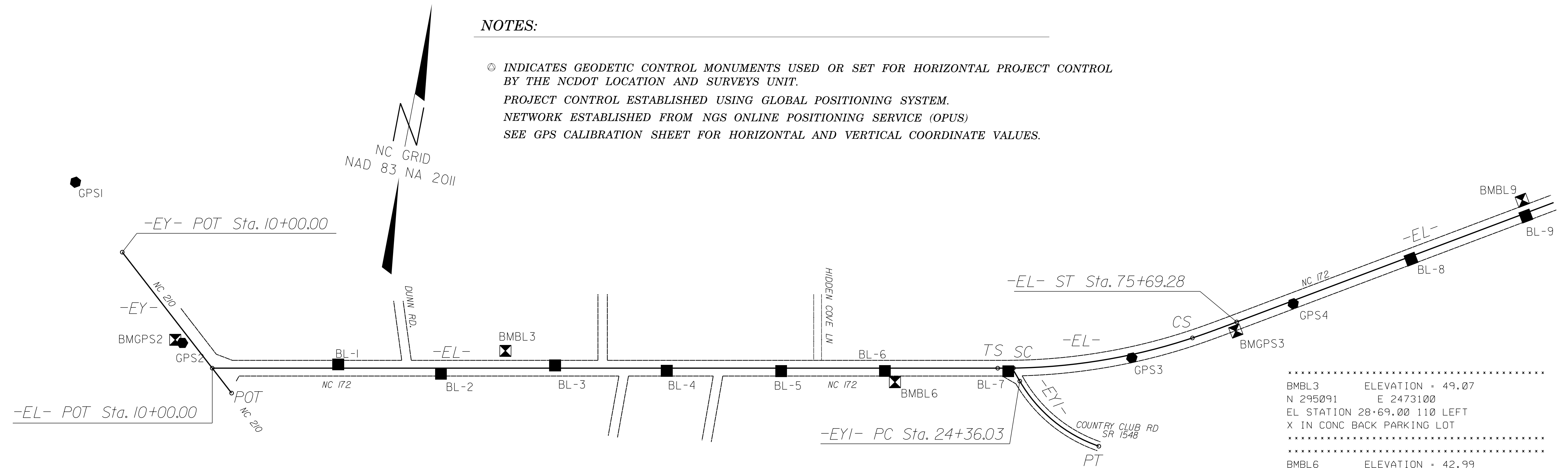
### MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line LOS B (S.U.E.*)	----- 7U/L
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.

# SURVEY CONTROL SHEET W-5602

### NOTES:

- ⊗ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
- NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)
- SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS2"

WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF  
 NORTHING: 294756.417(ft) EASTING: 2471067.119(ft)  
 ELEVATION: 43.28(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999382538

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS2" TO -EL- STATION 10+00.00 IS  
 S 60°33'44.29"E 249.55'

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

BL POINT	DESC.	NORTH	EAST	ELEVATION	EL STATION	OFFSET
GPS2	GPS CAP & REBAR	294756.4170	2471067.1190	43.28	OUTSIDE PROJECT LIMITS	
BL1	TRV CAP & REBAR	294806.0390	2472068.2900	47.74	18+02.22	22.90 LT
BL2	TRV CAP & REBAR	294872.4140	2472722.8060	47.67	24+57.62	34.09 RT
BL3	TRV CAP & REBAR	295059.2720	2473428.0500	47.90	31+85.35	17.81 LT
BL4	TRV CAP & REBAR	295157.3930	2474133.3770	47.00	38+96.60	17.48 RT
BL5	TRV CAP & REBAR	295292.0810	2474849.5730	41.59	46+25.35	18.87 RT
BL6	TRV CAP & REBAR	295417.8390	2475500.4730	39.50	52+88.28	16.85 RT
BL7	TRV CAP & REBAR	295561.7460	2476273.0170	37.31	60+73.99	19.77 RT
GPS3	GPS CAP & REBAR	295792.6950	2477031.4190	36.11	68+63.93	21.35 RT
GPS4	GPS CAP & REBAR	296324.1250	2477977.5040	36.95	79+47.23	19.48 RT
BL8	TRV CAP & REBAR	296743.4380	2478661.9120	37.46	87+49.87	17.78 RT
BL9	TRV CAP & REBAR	297149.9600	2479329.8940	38.51	95+31.83	18.44 RT
BL10	TRV CAP & REBAR	297523.0710	2479953.1900	40.08	102+57.89	24.68 RT
BL11	TRV CAP & REBAR	297996.0000	2480522.8770	40.16	109+94.39	21.77 RT
BL12	TRV CAP & REBAR	298816.7750	2481082.8430	38.63	119+82.83	36.17 RT
BL13	TRV CAP & REBAR	299496.4350	2481271.7740	37.28	126+83.08	20.39 RT
BL14	TRV CAP & REBAR	300287.2930	2481412.6750	35.06	134+86.39	19.23 RT
BL15	TRV CAP & REBAR	300977.5580	2481534.4730	34.04	141+87.32	17.06 RT
BL16	TRV CAP & REBAR	301614.1420	2481648.8300	26.09	148+34.09	17.06 RT
BL17	TRV CAP & REBAR	302287.5320	2481769.4300	16.93	155+18.19	16.70 RT
GPS7	GPS CAP & REBAR	303229.0050	2481984.8930	10.95	164+71.09	92.90 RT
GPS8	GPS CAP & REBAR	304351.3820	2482035.7910	7.29	175+63.26	251.03 RT

OTHER POINTS OF INTREST POINT	DESC.	NORTH	EAST	ELEVATION	EL STATION	OFFSET
GPS1	GPS CAP & REBAR	295635.8630	2470206.5000	44.52	OUTSIDE PROJECT LIMITS	
GPS5	GPS CAP & REBAR	298530.1400	2481226.5430	40.26	OUTSIDE PROJECT LIMITS	
GPS6	GPS CAP & REBAR	297786.0530	2481586.5040	33.63	OUTSIDE PROJECT LIMITS	

.....

BMBL3 ELEVATION = 49.07  
 N 295091 E 2473100  
 EL STATION 28+69.00 110 LEFT  
 X IN CONC BACK PARKING LOT

.....

BMBL6 ELEVATION = 42.99  
 N 295359 E 2475577  
 EL STATION 53+52.00 89 RIGHT  
 R/R SPIKE 18" PINE

.....

BMBL9 ELEVATION = 40.84  
 N 297245 E 2479289  
 EL STATION 95+46.00 84 LEFT  
 SQUARE CUT CONC CURB

.....

BMBL12 ELEVATION = 39.26  
 N 298887 E 2481194  
 EL STATION 120+88.00 112 RIGHT  
 R/R SPIKE 20" PINE

.....

BMBL15 ELEVATION = 37.84  
 N 300875 E 2481613  
 EL STATION 141+00.00 113 RIGHT  
 R/R SPIKE 13" OAK

.....

BMGPS2 ELEVATION = 43.76  
 N 294767 E 2471019  
 EL STATION 10+00.00  
 N 63°20'36.46" W DIST 297.38  
 R/R SPIKE 18" OAK

.....

BMGPS3 ELEVATION = 37.92  
 N 296085 E 2477651  
 EL STATION 75+44.00 54 RIGHT  
 R/R SPIKE 10" PINE

.....

BMGPS7 ELEVATION = 9.25  
 N 303986 E 2482062  
 EL STATION 171+98.00 228 RIGHT  
 R/R SPIKE 20" PINE

.....

NOTE: DRAWING NOT TO SCALE

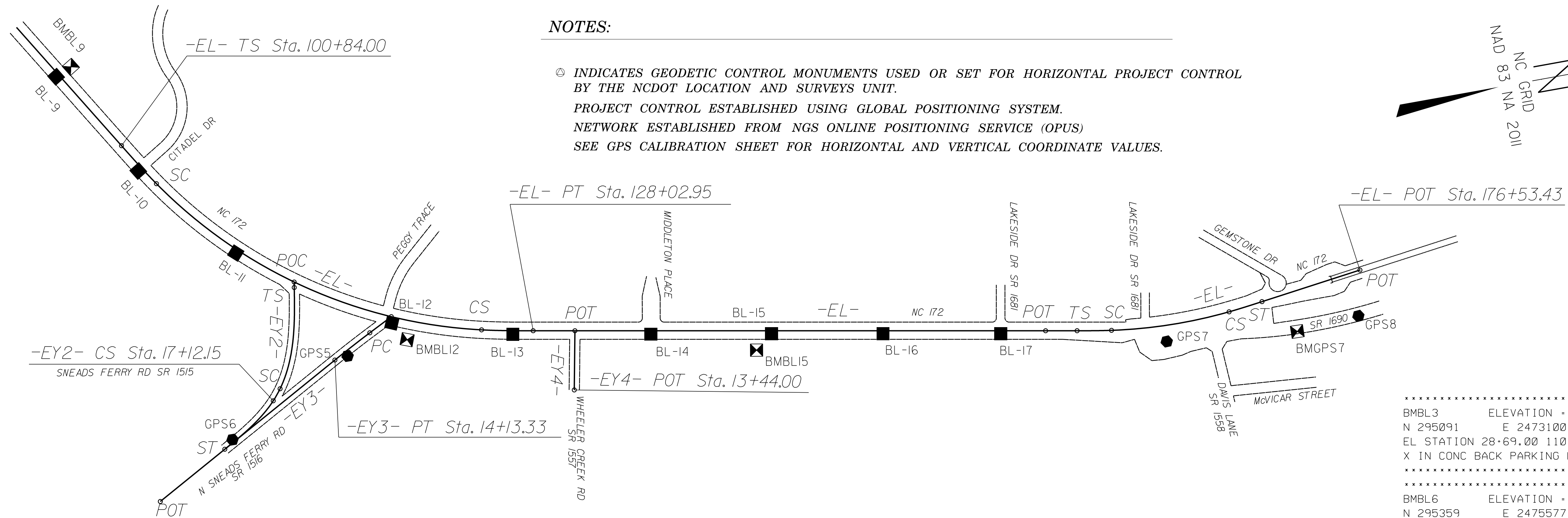
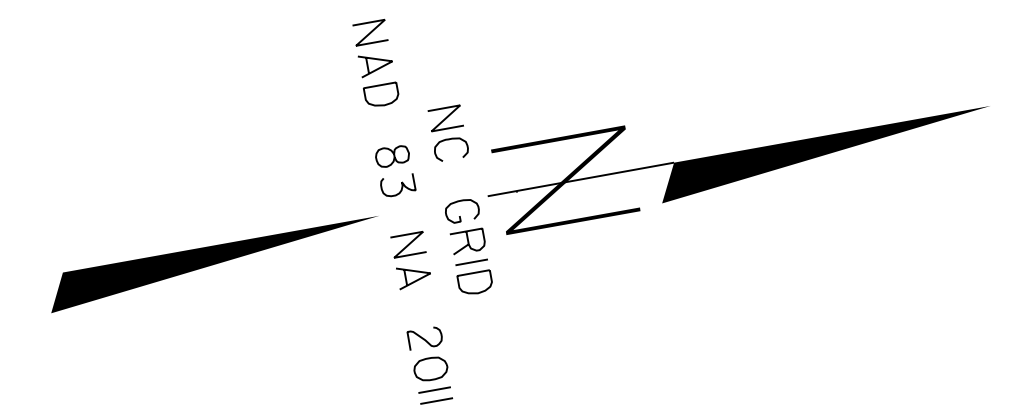
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# SURVEY CONTROL SHEET W-5602

## NOTES:

⊙ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.  
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.  
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)  
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS2"  
 WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF  
 NORTHING: 294756.417(ft) EASTING: 2471067.119(ft)  
 ELEVATION: 43.28(ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999382538  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS2" TO -EL- STATION 10+00.00 IS  
 S 60°33'44.29"E 249.55'  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

BL POINT	DESC.	NORTH	EAST	ELEVATION	EL STATION	OFFSET
GPS2	GPS CAP & REBAR	294756.4170	2471067.1190	43.28	OUTSIDE PROJECT LIMITS	
BL1	TRV CAP & REBAR	294806.0390	2472068.2900	47.74	18+02.22	22.90 LT
BL2	TRV CAP & REBAR	294872.4140	2472722.8060	47.67	24+57.62	34.09 RT
BL3	TRV CAP & REBAR	295059.2720	2473428.0500	47.90	31+85.35	17.81 LT
BL4	TRV CAP & REBAR	295157.3930	2474133.3770	47.00	38+96.60	17.48 RT
BL5	TRV CAP & REBAR	295292.0810	2474849.5730	41.59	46+25.35	18.87 RT
BL6	TRV CAP & REBAR	295417.8390	2475500.4730	39.50	52+88.28	16.85 RT
BL7	TRV CAP & REBAR	295561.7460	2476273.0170	37.31	60+73.99	19.77 RT
GPS3	GPS CAP & REBAR	295792.6950	2477031.4190	36.11	68+63.93	21.35 RT
GPS4	GPS CAP & REBAR	296324.1250	2477977.5040	36.95	79+47.23	19.48 RT
BL8	TRV CAP & REBAR	296743.4380	2478661.9120	37.46	87+49.87	17.78 RT
BL9	TRV CAP & REBAR	297149.9600	2479329.8940	38.51	95+31.83	18.44 RT
BL10	TRV CAP & REBAR	297523.0710	2479953.1900	40.08	102+57.89	24.68 RT
BL11	TRV CAP & REBAR	297996.0000	2480522.8770	40.16	109+94.39	21.77 RT
BL12	TRV CAP & REBAR	298816.7750	2481082.8430	38.63	119+82.83	36.17 RT
BL13	TRV CAP & REBAR	299496.4350	2481271.7740	37.28	126+83.08	20.39 RT
BL14	TRV CAP & REBAR	300287.2930	2481412.6750	35.06	134+86.39	19.23 RT
BL15	TRV CAP & REBAR	300977.5580	2481534.4730	34.04	141+87.32	17.06 RT
BL16	TRV CAP & REBAR	301614.1420	2481648.8300	26.09	148+34.09	17.06 RT
BL17	TRV CAP & REBAR	302287.5320	2481769.4300	16.93	155+18.19	16.70 RT
GPS7	GPS CAP & REBAR	303229.0050	2481984.8930	10.95	164+71.09	92.90 RT
GPS8	GPS CAP & REBAR	304351.3820	2482035.7910	7.29	175+63.26	251.03 RT

OTHER POINTS OF INTREST POINT	DESC.	NORTH	EAST	ELEVATION	EL STATION	OFFSET
GPS1	GPS CAP & REBAR	295635.8630	2470206.5000	44.52	OUTSIDE PROJECT LIMITS	
GPS5	GPS CAP & REBAR	298530.1400	2481226.5430	40.26	OUTSIDE PROJECT LIMITS	
GPS6	GPS CAP & REBAR	297786.0530	2481586.5040	33.63	OUTSIDE PROJECT LIMITS	

.....  
 BMBL3 ELEVATION = 49.07  
 N 295091 E 2473100  
 EL STATION 28+69.00 110 LEFT  
 X IN CONC BACK PARKING LOT  
 .....  
 BMBL6 ELEVATION = 42.99  
 N 295359 E 2475577  
 EL STATION 53+52.00 89 RIGHT  
 R/R SPIKE 18" PINE  
 .....  
 BMBL9 ELEVATION = 40.84  
 N 297245 E 2479289  
 EL STATION 95+46.00 84 LEFT  
 SQUARE CUT CONC CURB  
 .....  
 BMBL12 ELEVATION = 39.26  
 N 298887 E 2481194  
 EL STATION 120+88.00 112 RIGHT  
 R/R SPIKE 20" PINE  
 .....  
 BMBL15 ELEVATION = 37.84  
 N 300875 E 2481613  
 EL STATION 141+00.00 113 RIGHT  
 R/R SPIKE 13" OAK  
 .....  
 BMGPS2 ELEVATION = 43.76  
 N 294767 E 2471019  
 EL STATION 10+00.00  
 N 63°20'36.46" W DIST 297.38  
 R/R SPIKE 18" OAK  
 .....  
 BMGPS3 ELEVATION = 37.92  
 N 296085 E 2477651  
 EL STATION 75+44.00 54 RIGHT  
 R/R SPIKE 10" PINE  
 .....  
 BMGPS7 ELEVATION = 9.25  
 N 303986 E 2482062  
 EL STATION 171+98.00 228 RIGHT  
 R/R SPIKE 20" PINE  
 .....

NOTE: DRAWING NOT TO SCALE

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# PROPOSED ALIGNMENT CONTROL SHEET

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	294820.4709	2472266.8625
PC	17+75.23	294965.2058	2473028.4608
PT	19+47.51	294998.3423	2473197.5267
PC	24+28.23	295093.5111	2473668.7343
PT	26+00.52	295126.6477	2473837.8002
PC	50+93.08	295592.0069	2476286.5310
PT	64+62.32	296081.8904	2477557.2233
PC	92+04.47	297510.8026	2479897.6481
PT	116+54.73	299473.1916	2481240.7887
PC	118+65.64	299680.7763	2481278.0803
PT	121+55.24	299965.0347	2481333.4062
PC	124+01.34	300205.8967	2481383.9160
PT	126+90.81	300490.0163	2481439.2170
PC	150+26.57	302788.9724	2481852.2464
PT	159+31.53	303690.0560	2481871.8344
POT	166+55.12	304407.1296	2481774.9530

Y3			
TYPE	STATION	NORTH	EAST
POT	9+00.00	298591.3800	2481161.6519
POT	11+61.69	298825.1379	2481044.0183

Y3A			
TYPE	STATION	NORTH	EAST
POT	10+00.00	298830.3501	2480930.2976
POT	11+06.00	298786.3991	2481026.7587

Y4			
TYPE	STATION	NORTH	EAST
POT	10+00.00	299791.2653	2481653.5139
POT	13+48.40	299856.6679	2481311.3060

Y4A			
TYPE	STATION	NORTH	EAST
POT	10+00.00	302346.3889	2481440.5372
POT	13+26.96	302288.6266	2481762.3545

Y5			
TYPE	STATION	NORTH	EAST
POT	10+00.00	303482.0388	2482020.0940
PC	12+89.40	303193.0170	2482034.8841
PT	14+25.53	303109.1852	2481948.6161
POT	14+82.49	303113.7238	2481891.8419

Y5A			
TYPE	STATION	NORTH	EAST
POT	10+00.00	303155.5269	2481683.1016
POT	12+12.29	303118.5993	2481892.1546

Y1			
TYPE	STATION	NORTH	EAST
PC	10+00.00	295200.0643	2476929.8609
PT	16+66.84	295513.6848	2476357.3320
POT	17+71.06	295592.5077	2476289.1613

Y1A			
TYPE	STATION	NORTH	EAST
POT	10+00.00	295203.3271	2473710.1116
POT	10+99.58	295105.5981	2473729.2209

Y1B			
TYPE	STATION	NORTH	EAST
POT	10+00.00	297626.8718	2479882.5194
POT	11+06.55	297536.3737	2479938.7556

Y2			
TYPE	STATION	NORTH	EAST
PC	10+00.00	298108.4299	2481346.8602
PCC	12+18.96	298209.7666	2481153.5768
PCC	14+12.17	298261.7513	2480967.6531
PT	15+54.77	298287.5279	2480827.4123
POT	16+36.72	298300.6501	2480746.5127

**NOTES:**

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

6/2/99

10/17/2018  
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# RIGHT OF WAY CONTROL SHEET

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	25+19.19	-65.00	295175.03682	2473745.45804
L	25+90.00	-42.50	295166.43108	2473819.50279
L	108+60.00	-46.15	298740.01752	2480953.98891
L	109+11.87	-65.00	298794.06623	2480958.76152
L	109+73.25	-65.00	298848.77113	2480983.40968
L	110+45.00	-45.67	298906.04950	2481028.63652

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	55+25.00	-47.05	295741.48938	2476691.40025
L	55+40.00	-74.00	295771.62063	2476697.43362
L	56+50.00	-80.00	295811.20407	2476797.84742
L	56+90.00	-65.00	295810.13207	2476839.83981
L	56+90.00	-48.76	295794.84735	2476845.33076
L	64+25.00	-65.00	296118.40514	2477491.94741
L	64+25.00	-56.26	296110.89838	2477496.42993
L	64+62.32	-65.00	296137.36788	2477523.35235
L	65+70.00	-65.00	296193.47674	2477615.25343
L	65+70.00	-75.00	296202.01175	2477610.04251
L	67+00.00	-75.00	296269.75374	2477720.99755
L	67+50.00	-56.00	296279.59184	2477773.57332
L	90+50.00	44.00	297392.75395	2479788.73340
L	92+04.47	50.00	297468.12606	2479923.70015
L	92+84.85	-75.00	297616.53538	2479924.81795
L	93+60.00	-75.00	297657.19188	2479985.69708
L	93+60.00	-55.91	297641.45609	2479996.50323
L	94+50.00	54.00	297603.91340	2480133.47801
L	96+50.00	54.00	297729.96303	2480293.47353
L	97+15.00	47.28	297778.30139	2480339.10461
L	97+40.00	47.49	297795.06326	2480358.20093
L	98+00.00	57.00	297829.38584	2480409.61283
L	99+50.00	57.00	297936.86814	2480518.40398
L	99+75.00	49.29	297960.61541	2480530.38653
L	100+20.00	49.61	297993.91024	2480561.78979
L	100+65.00	67.00	298016.36036	2480605.44229
L	101+50.00	66.00	298082.87719	2480661.44339
L	102+40.00	62.00	298156.85463	2480716.25322
L	102+80.00	-48.73	298256.33054	2480653.23275
L	102+80.00	-58.00	298261.95610	2480645.86020
L	103+35.00	73.00	298227.63674	2480783.78124
L	103+35.00	-58.00	298305.11388	2480678.14842
L	103+35.00	-48.41	298299.44421	2480685.87848
L	110+00.11	-58.00	298870.12069	2481000.26723
L	112+00.00	-58.00	299052.79053	2481070.91170
L	113+65.00	-73.00	299211.06457	2481105.20745
L	116+00.00	-62.00	299431.52802	2481169.79804
L	116+54.73	-65.00	299484.68457	2481176.81285
L	118+65.64	-65.00	299692.26920	2481214.10439
L	121+00.00	-46.75	299920.27977	2481276.40579
L	122+00.00	74.00	299993.65116	2481415.01678
L	122+00.00	50.54	299998.46660	2481392.05386
L	122+20.00	49.96	300018.15968	2481395.59191
L	122+20.00	74.00	300013.22540	2481419.12159

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	14+52.00	-29.94	298240.14732	2480922.90552

**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.

REVISIONS

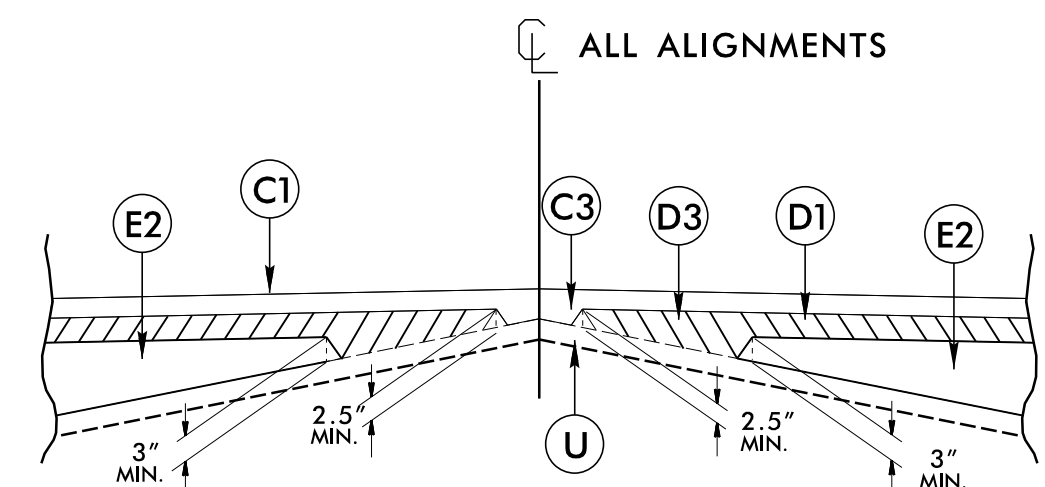
6/2/99

10/17/2018  
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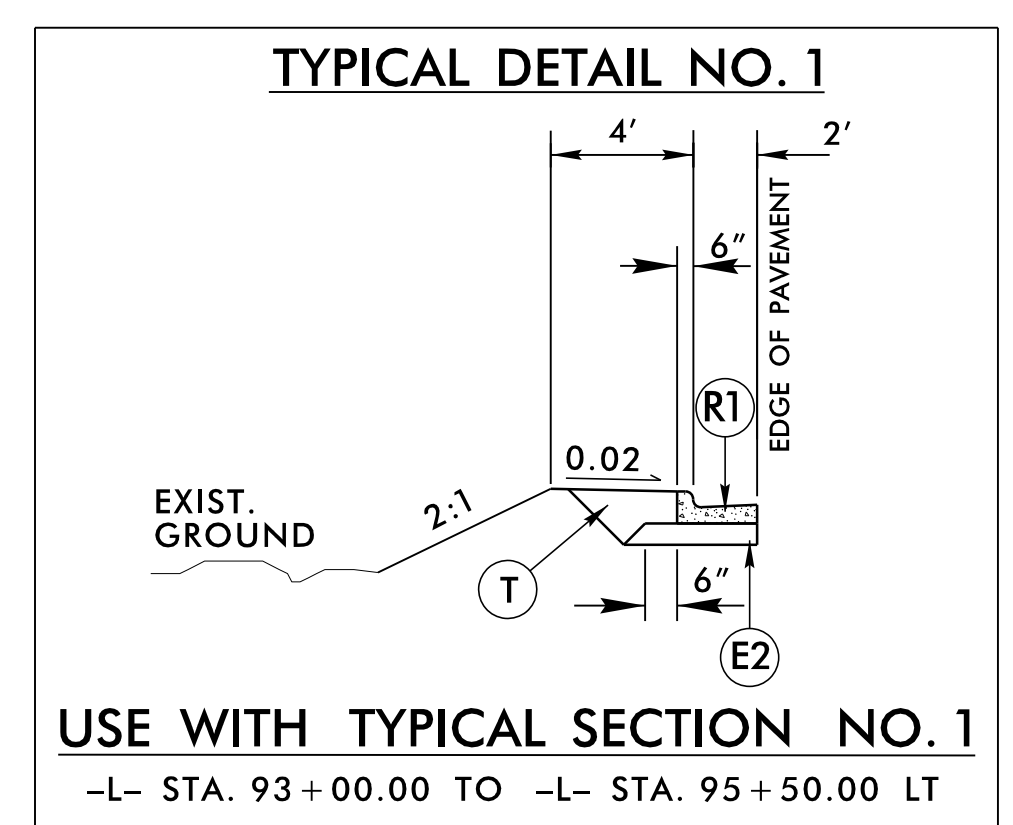
6/2/2018

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN - 08/28/2018)	
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. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. PER 1.5" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 4.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 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 1/2" IN DEPTH.
R1	2'-6" CONCRETE CURB AND GUTTER.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	4" MILLING
V2	VARIABLE DEPTH 0" TO 1.5" MILLING
V3	VARIABLE DEPTH 0" TO 2.5" MILLING
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

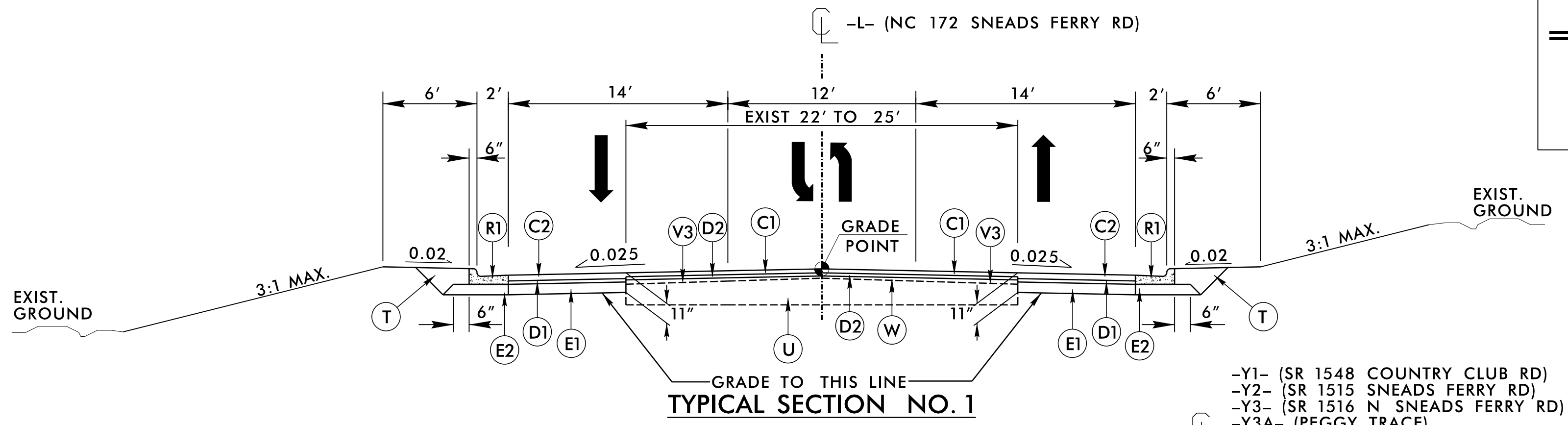
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



Detail Showing Method of Wedging



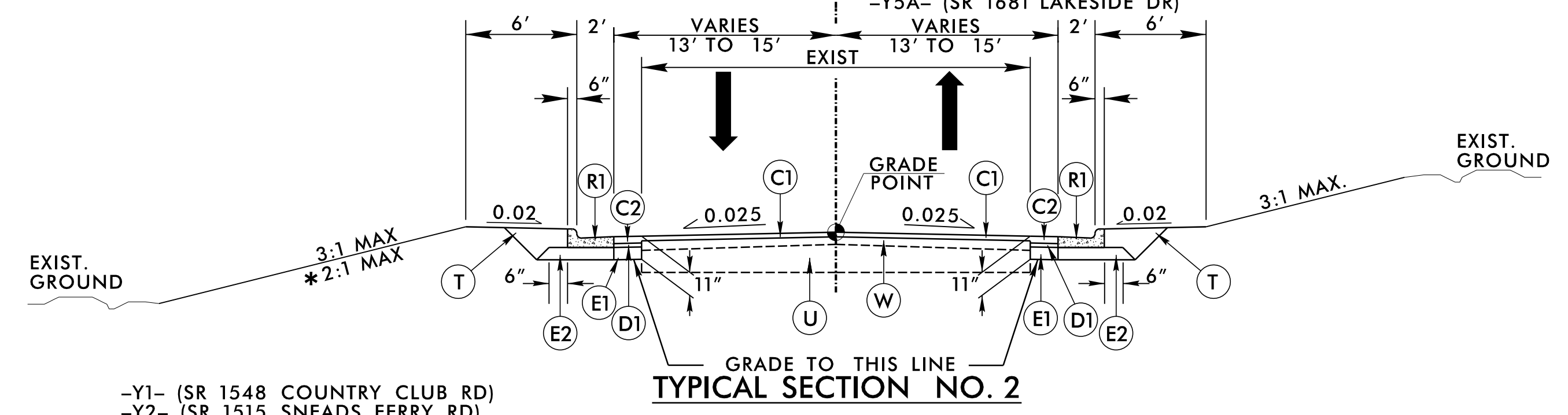
USE WITH TYPICAL SECTION NO. 1  
-L- STA. 93+00.00 TO -L- STA. 95+50.00 LT



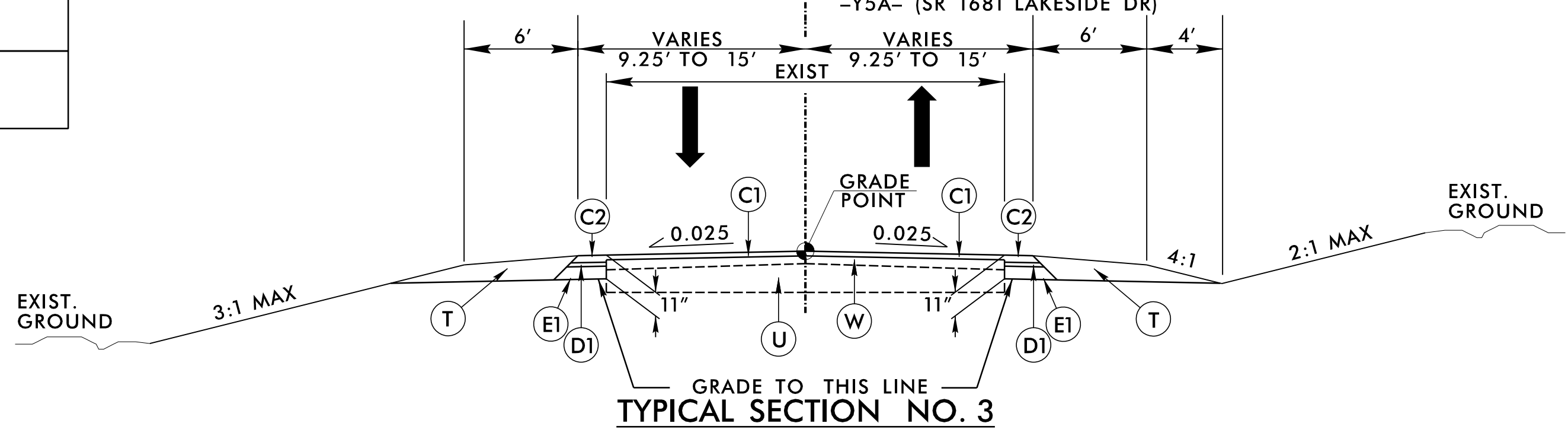
**USE TYPICAL SECTION NO. 2**

- Y1- STA. 16+79.77 TO -Y1- STA. 17+47.97
- Y2- STA. 15+21.27 TO -Y2- STA. 16+14.43
- \*-Y3- STA. 10+54.30 TO -Y3- STA. 11+35.76
- Y3A- STA. 10+25.00 TO -Y3A- STA. 10+86.00
- \*-Y4- STA. 12+75.00 TO -Y4- STA. 13+28.40
- Y4A- STA. 12+65.00 TO -Y4A- STA. 13+06.96
- Y5- STA. 13+98.00 TO -Y5- STA. 14+64.49
- Y5A- STA. 11+50.00 TO -Y5A- STA. 11+92.16

NOTES:  
MILL AS NEEDED.  
SEE PLANS FOR TAPERS.



- Y1- (SR 1548 COUNTRY CLUB RD)
- Y2- (SR 1515 SNEADS FERRY RD)
- Y3- (SR 1516 N SNEADS FERRY RD)
- Y3A- (PEGGY TRACE)
- Y4- (SR 1557 WHEELER CREEK RD)
- Y4A- (SR 1681 LAKESIDE DR)
- Y5- (SR 1678 OLD FERRY RD)
- Y5A- (SR 1681 LAKESIDE DR)

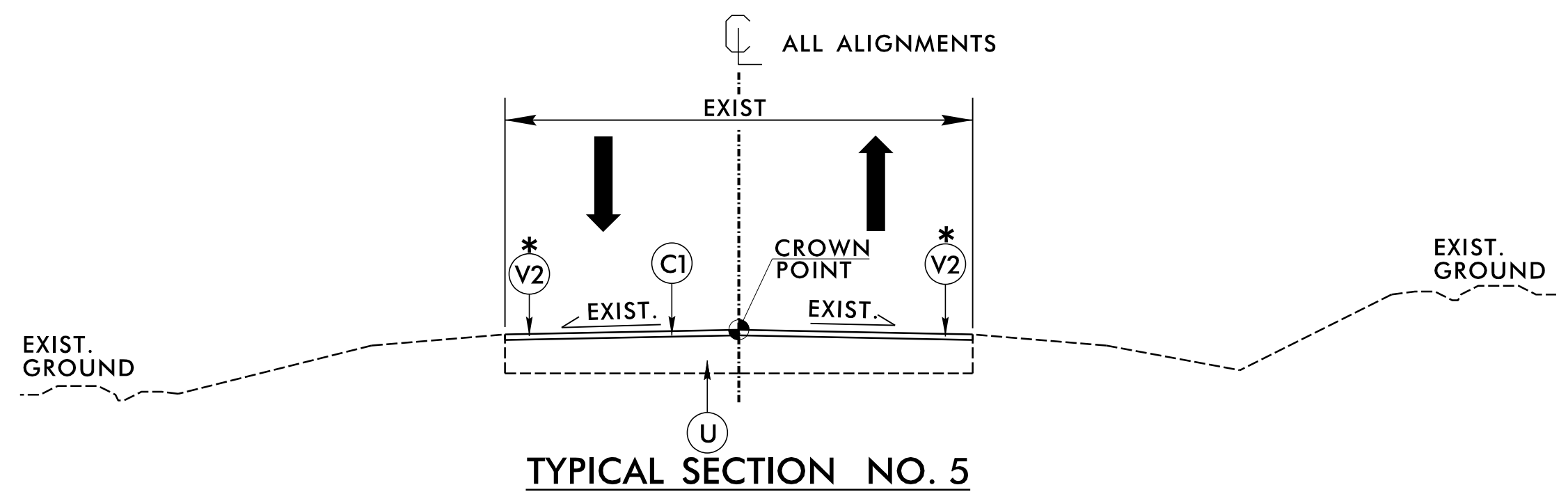
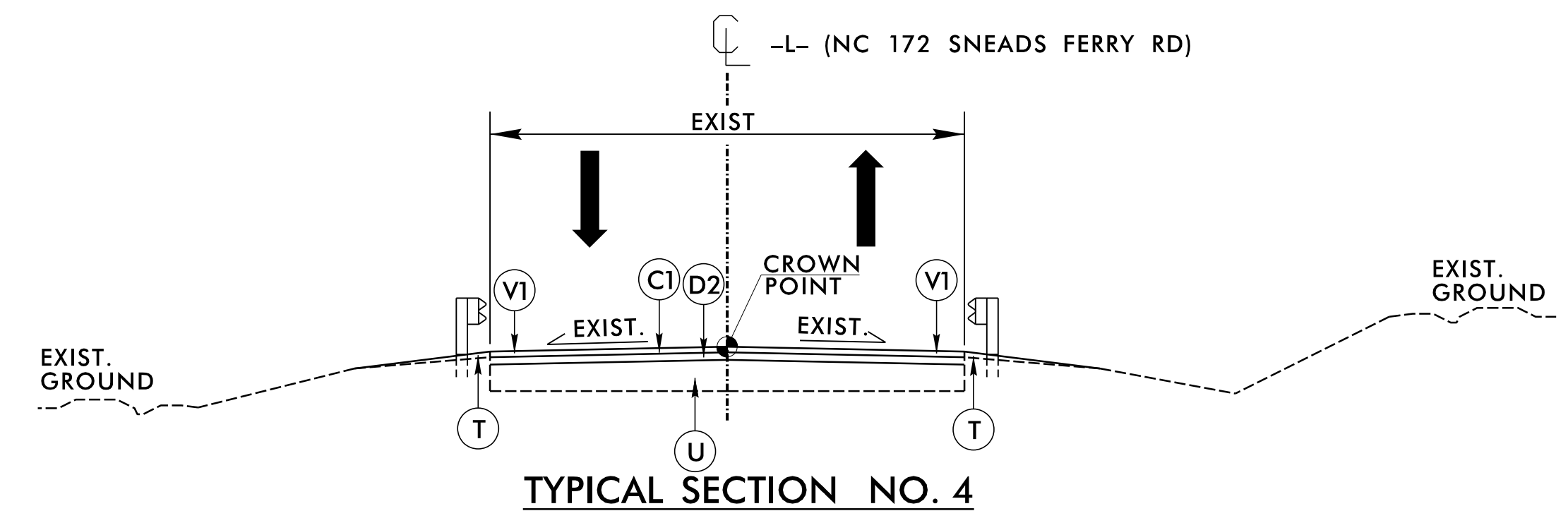


**USE TYPICAL SECTION NO. 4**

-L- STA. 160+00.00 TO BEGIN EXISTING BRIDGE NO. 17

END EXISTING BRIDGE NO. 17 TO END OF EXISTING GUARDRAIL

NOTES:  
REMOVE AND RESET EXISTING GUARDRAIL



TYPICAL SECTION NO. 5

**USE TYPICAL SECTION NO. 5**

- \*-L- STA. 16+75.00 TO -L- STA. 17+25.00
- \*-L- STA. 160+00.00 TO -L- STA. 160+50.00
- Y1A- STA. 10+10.00 TO -Y1A- STA. 10+35.00
- Y1- STA. 15+80.00 TO -Y1- STA. 16+05.00
- Y1B- STA. 10+15.00 TO -Y1B- STA. 10+40.00
- Y2- STA. 14+27.00 TO -Y2- STA. 14+52.00
- Y3- STA. 9+61.00 TO -Y3- STA. 9+86.00
- Y3A- STA. 10+00.00 TO -Y3A- STA. 10+25.00
- Y4- STA. 12+00.00 TO -Y4- STA. 11+75.00
- Y4A- STA. 11+55.00 TO -Y4A- STA. 11+30.00
- Y5- STA. 13+25.00 TO -Y5- STA. 13+50.00
- Y5A- STA. 10+45.00 TO -Y5A- STA. 10+70.00

NOTES:  
MILL AND OVERLAY AS NEEDED TO ACHIEVE PROPER TIE IN WITH EXISTING PAVEMENT OR CURB AND GUTTER.  
\*MILL UP TO 4" IN DEPTH ON -L-.



PROJECT REFERENCE NO. W-5602	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER 11/5/2018	PAVEMENT DESIGN ENGINEER 11/6/2018
SEAL 15759 STEPHEN C. BRODIE	SEAL 022896 CLARK S. MORRISON
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

**USE TYPICAL SECTION NO. 1**

-L- STA. 17+25.00 TO -L- STA. 160+00.00

NOTES:  
MILL AS NEEDED.  
SEE PLANS FOR TURN LANES AND TAPERS.  
BEGIN CONSTRUCTION AT NC 210 /NC 172 INTERSECTION FOR PAINT STRIPING ONLY.

**USE TYPICAL SECTION NO. 3**

- Y1- STA. 16+05.00 TO -Y1- STA. 16+79.77
- Y2- STA. 14+52.00 TO -Y2- STA. 15+21.27
- Y3- STA. 9+86.00 TO -Y3- STA. 10+54.30
- Y4- STA. 12+00.00 TO -Y4- STA. 12+75.00
- Y4A- STA. 11+55.00 TO -Y4A- STA. 12+65.00
- Y5- STA. 13+50.00 TO -Y5- STA. 13+98.00
- Y5A- STA. 10+70.00 TO -Y5A- STA. 11+50.00

NOTES:  
MILL AS NEEDED.  
SEE PLANS FOR TAPERS.

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

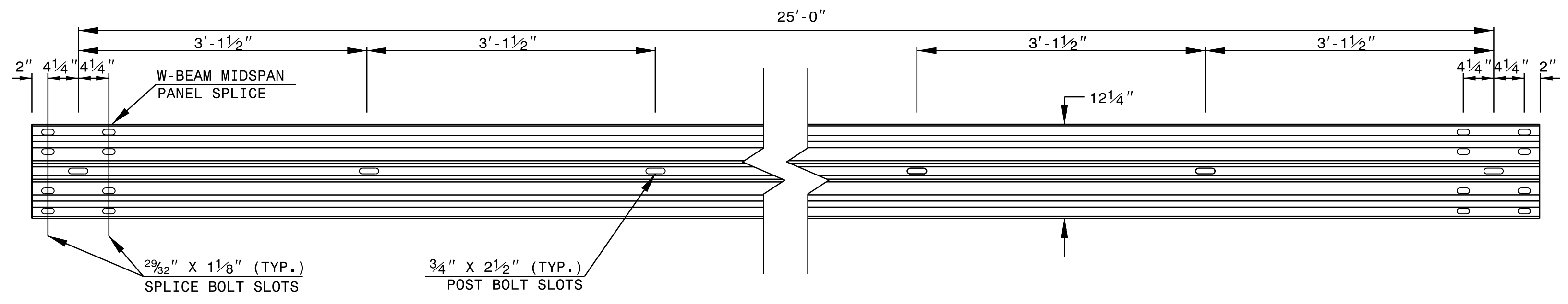
ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 6 OF 8  
**862D02**

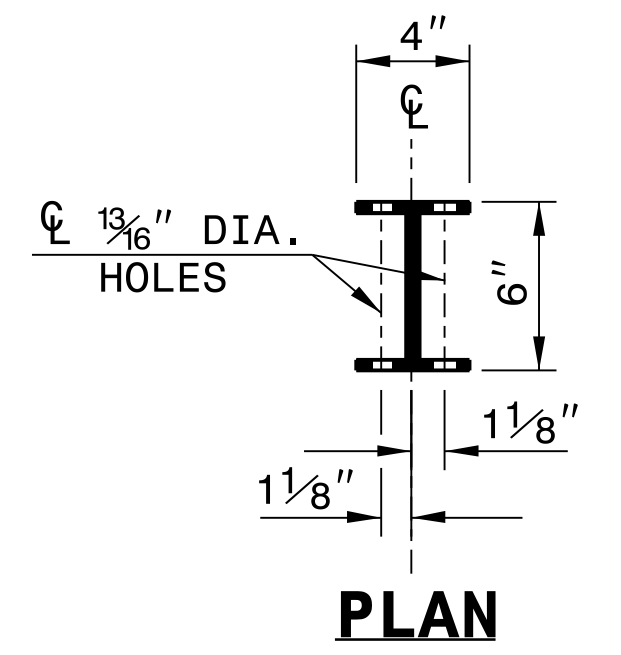
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

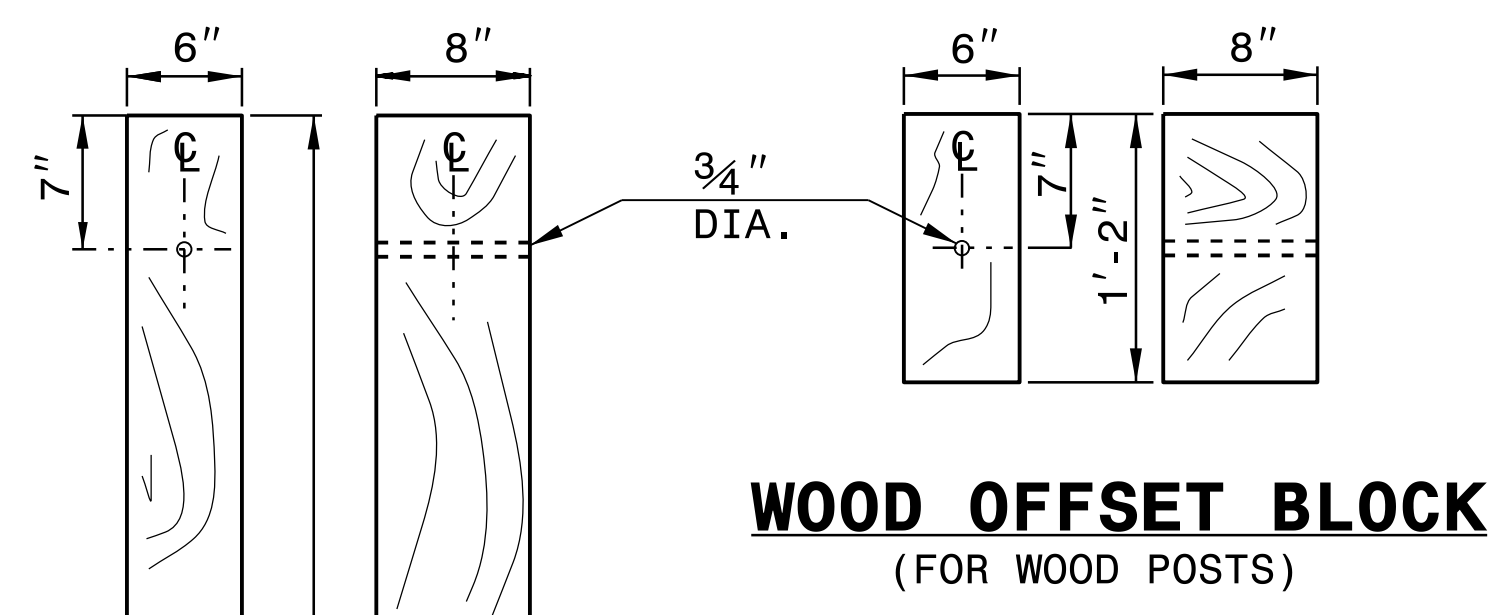
SHEET 6 OF 8  
**862D02**



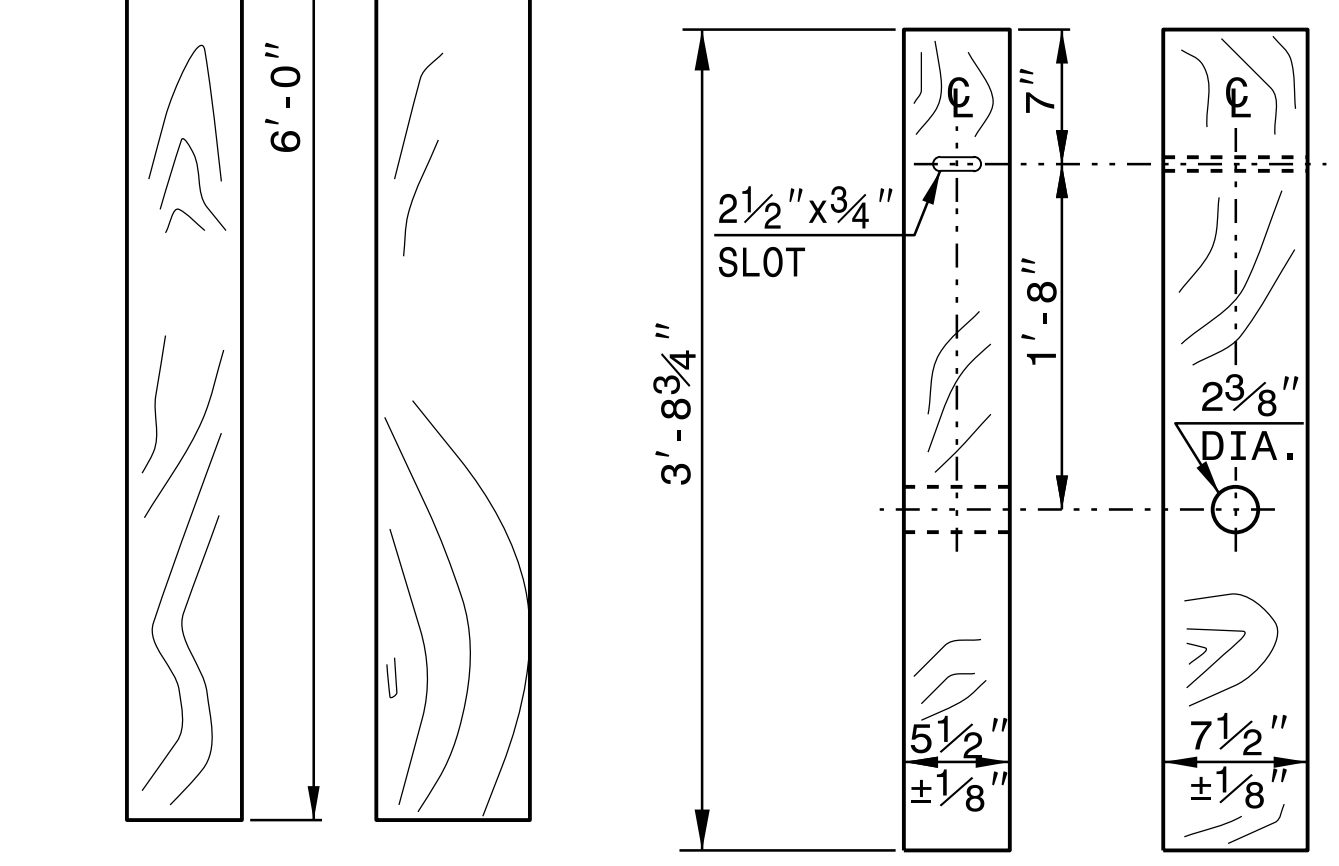
**STANDARD W-BEAM GUARDRAIL**



**PLAN**

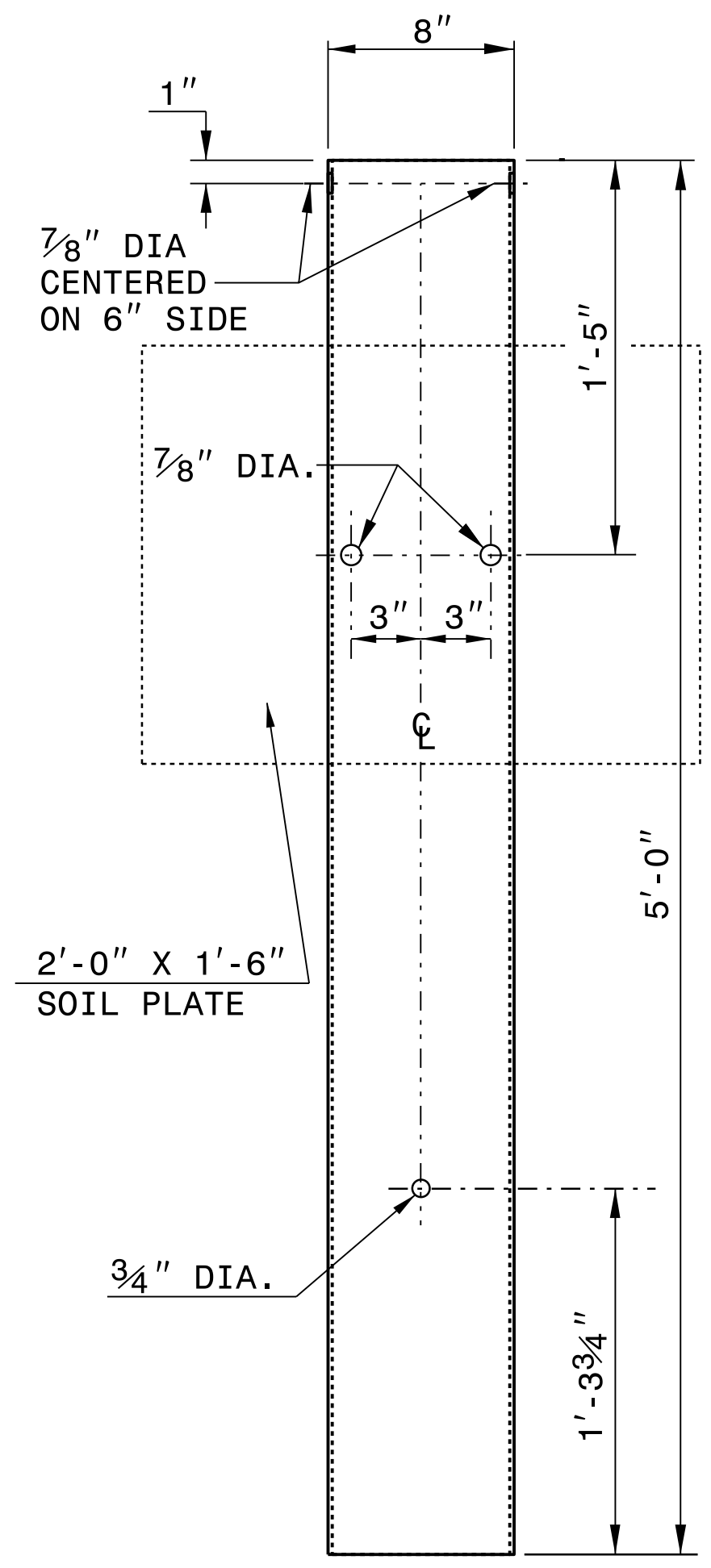


**WOOD OFFSET BLOCK  
(FOR WOOD POSTS)**

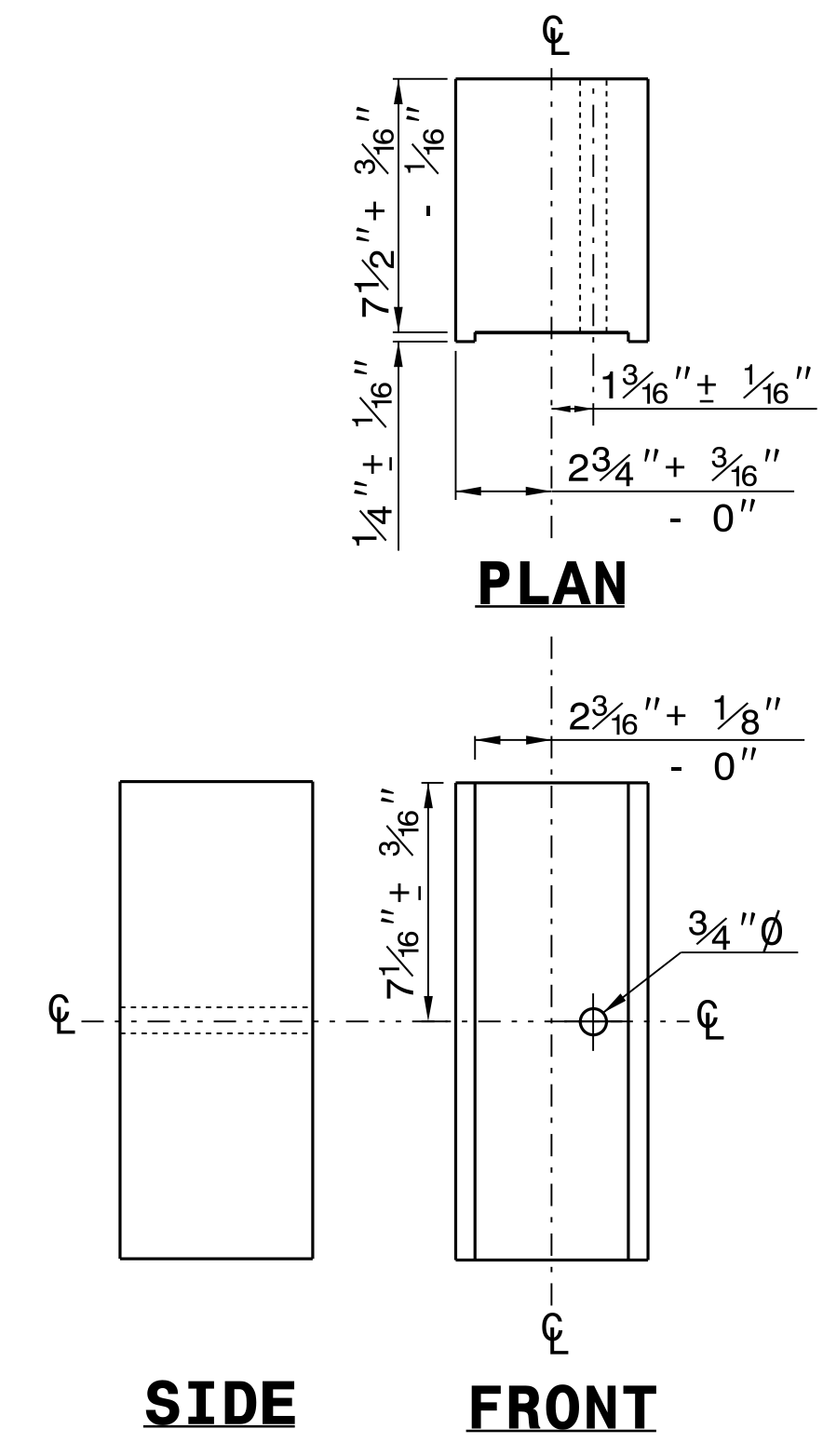


**STANDARD  
LINE POST**

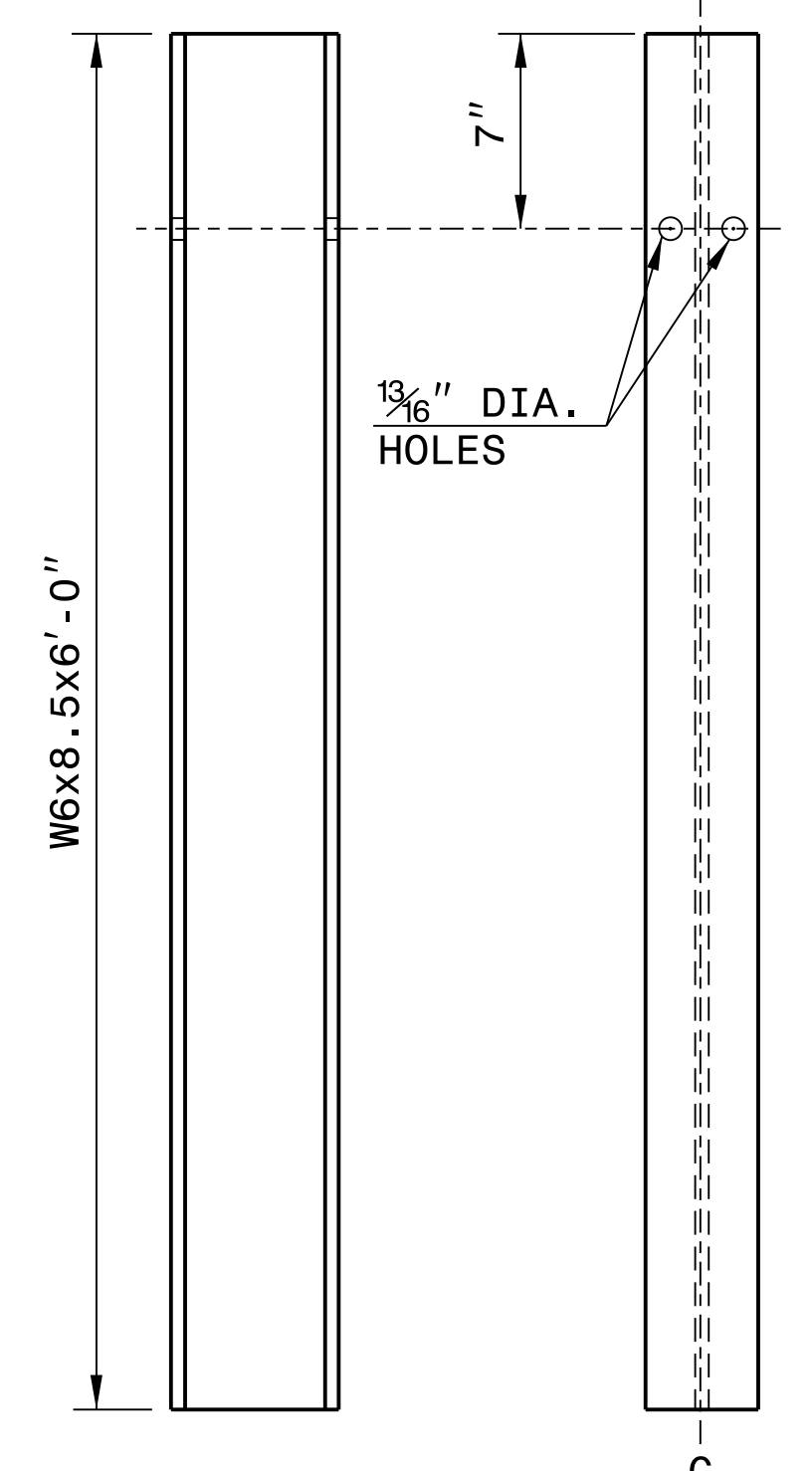
**SHORT WOOD  
BREAKAWAY POST**



**STEEL TUBE  
TS 6"x8"x0.1875"**

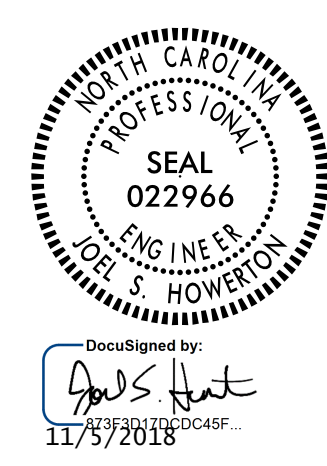


**ROUTED  
OFFSET BLOCK**



**"W6" STEEL POST**

**SYSTEM PARTS**



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

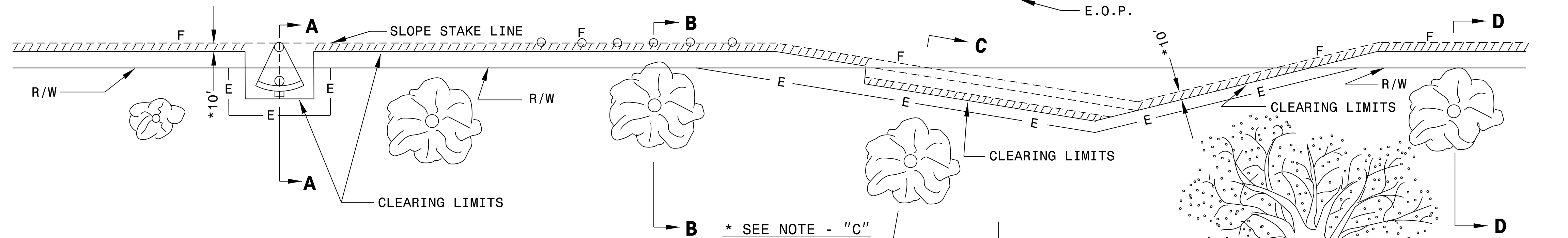
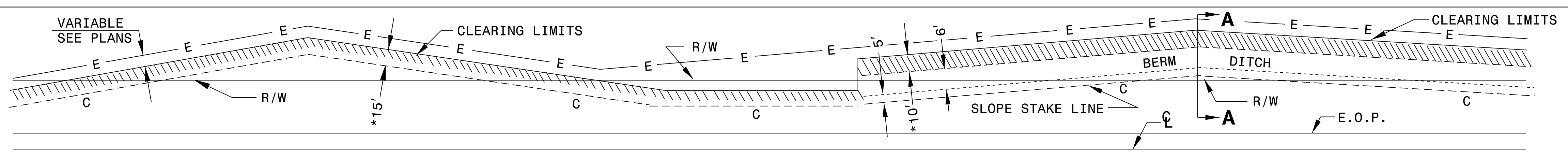
**SEE TITLE BLOCK**

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

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

ENGLISH DETAIL DRAWING FOR  
**METHOD OF CLEARING**  
MODIFIED METHOD - III

SHEET 1 OF 1  
**200D03**



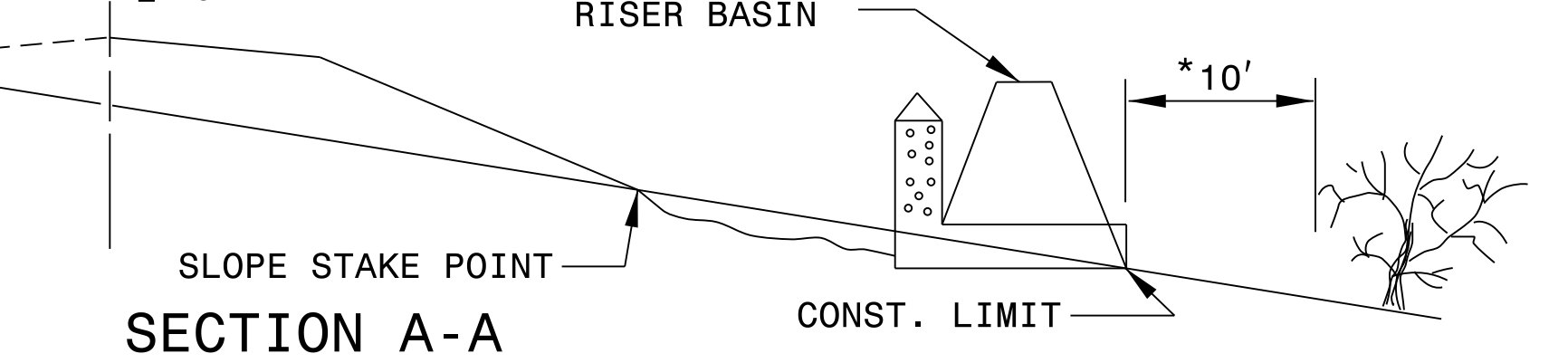
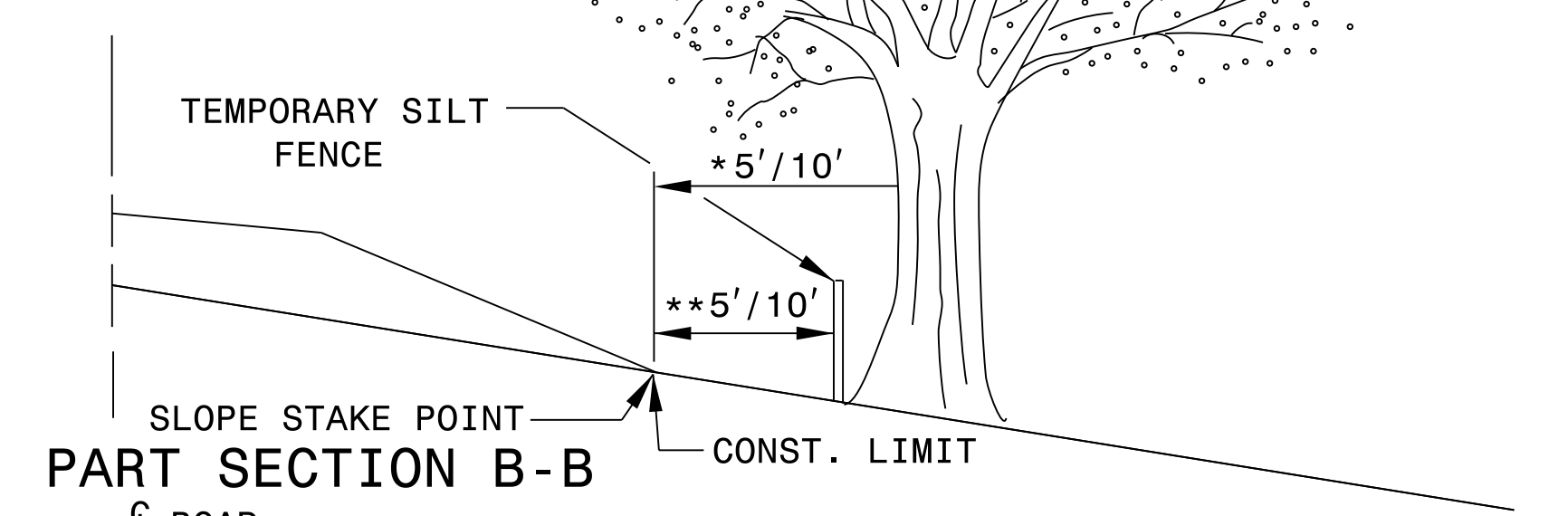
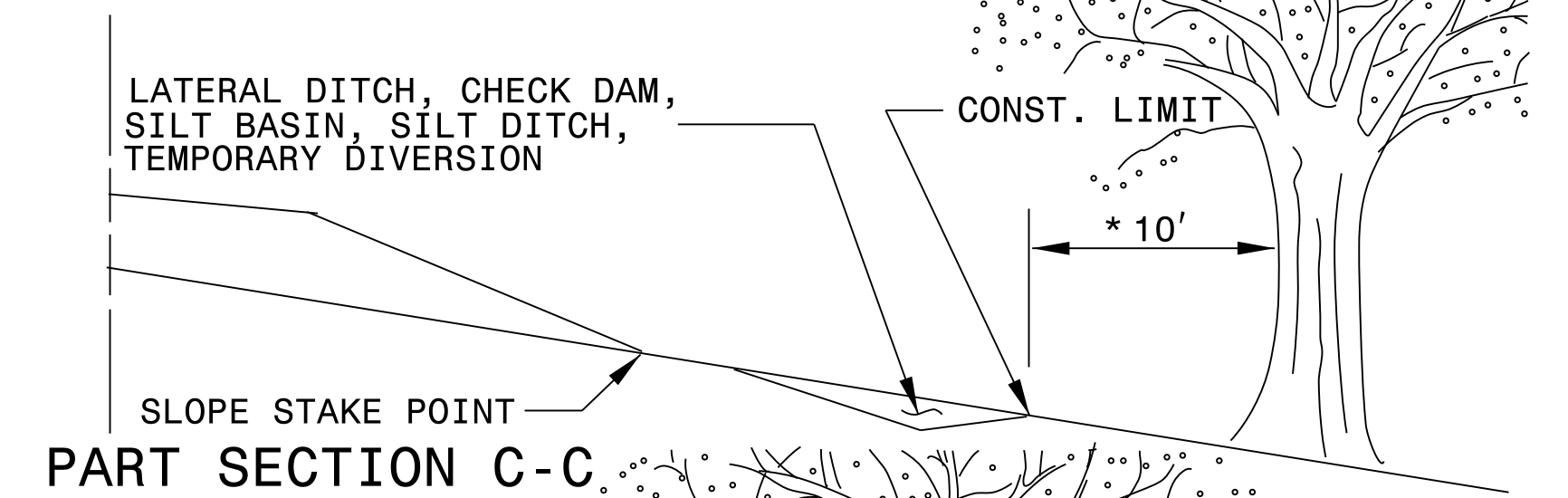
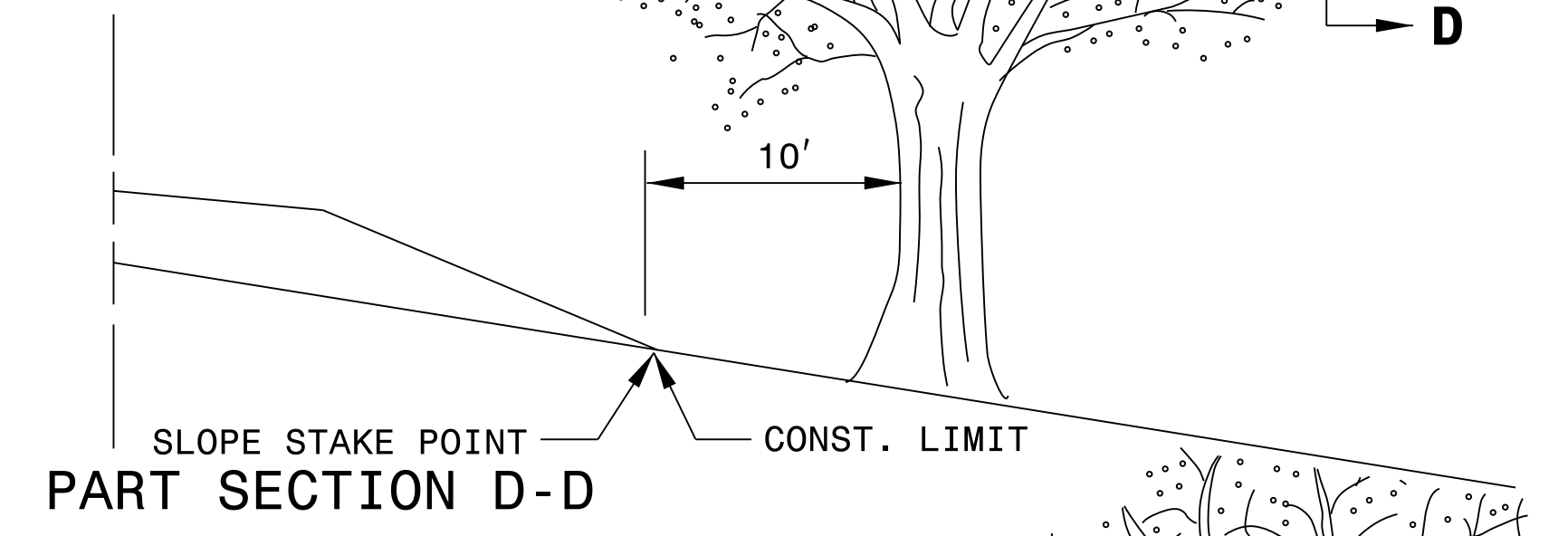
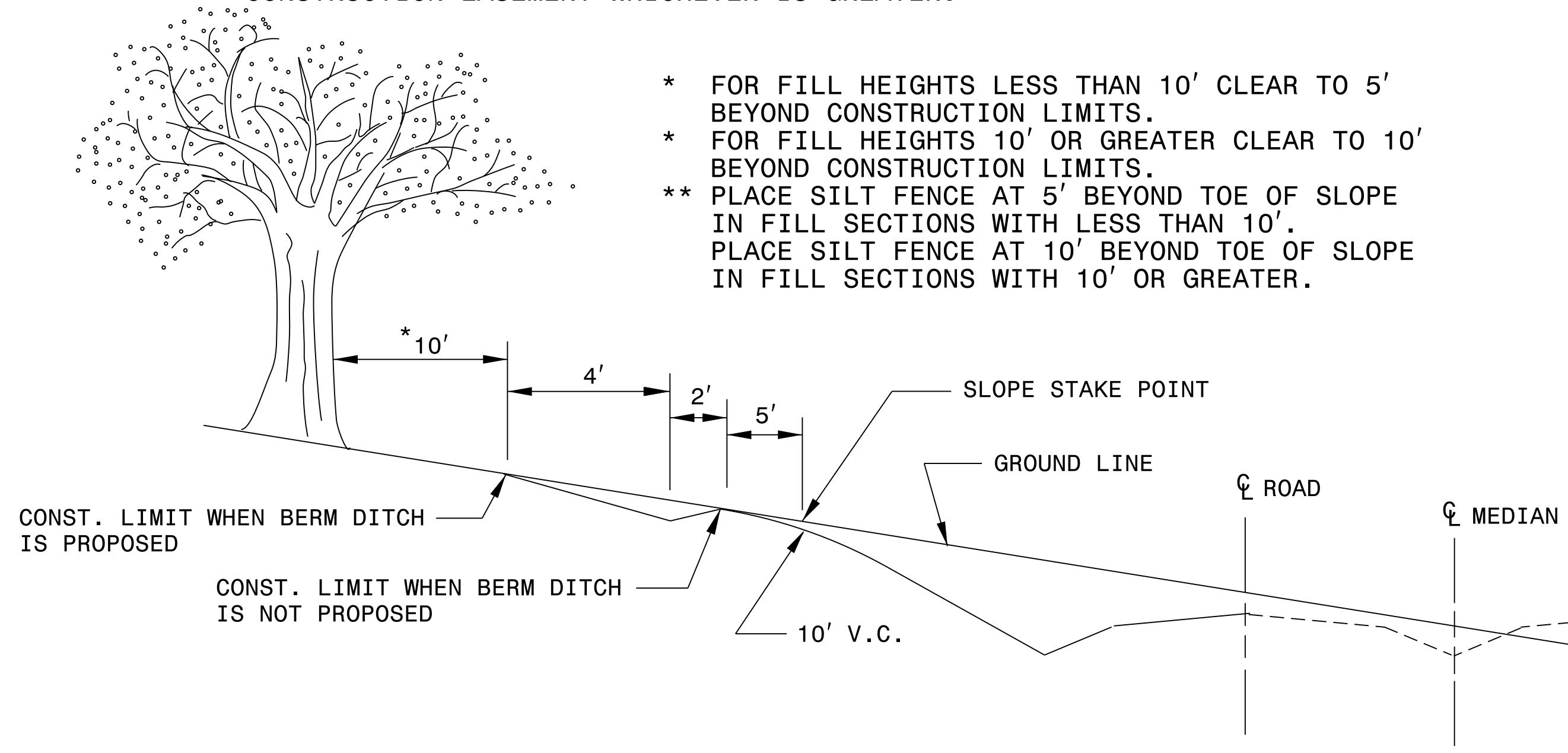
**GENERAL NOTES:**

1. REMOVE TREES OUTSIDE THE CLEARING LIMIT WHEN, IN THE OPINION OF THE ENGINEER, THE UTILITY OF A TREE WILL BE DESTROYED BY THE CONSTRUCTION OR THE CLEARING OPERATION.
2. CLEAR IN ACCORDANCE WITH THIS STANDARD EXCEPT WHERE ADDITIONAL CLEARING IS REQUIRED FOR SAFETY AS SHOWN ON THE PLANS.

**METHOD III CLEARING LIMITS**

- (A) CUTS -- CLEAR TO CONSTRUCTION LIMITS.
- (B) FILLS - CLEAR TO 5'/10' \* BEYOND CONSTRUCTION LIMITS, UNLESS SPECIFIED OTHERWISE BY WETLAND PERMIT.
- (C) CUTS AND FILLS - WHEN THE CLEARING LIMITS (A AND B) EXCEED THE PROPOSED R/W OR PROPOSED CONSTRUCTION EASEMENTS, THEN CLEAR ONLY TO THE R/W OR CONSTRUCTION EASEMENT WHICHEVER IS GREATER.

- \* FOR FILL HEIGHTS LESS THAN 10' CLEAR TO 5' BEYOND CONSTRUCTION LIMITS.
- \* FOR FILL HEIGHTS 10' OR GREATER CLEAR TO 10' BEYOND CONSTRUCTION LIMITS.
- \*\* PLACE SILT FENCE AT 5' BEYOND TOE OF SLOPE IN FILL SECTIONS WITH LESS THAN 10'. PLACE SILT FENCE AT 10' BEYOND TOE OF SLOPE IN FILL SECTIONS WITH 10' OR GREATER.

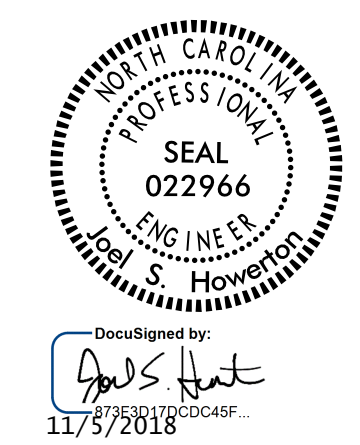


STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**METHOD OF CLEARING**  
MODIFIED METHOD - III

SHEET 1 OF 1  
**200D03**

05-DEC-2017 10:31  
S:\Contracts\Special\Details\kkempf\english\0200d301.modified.method III Cond.dgn  
Jhower-ton AT CSO-292595



11/8/2018  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

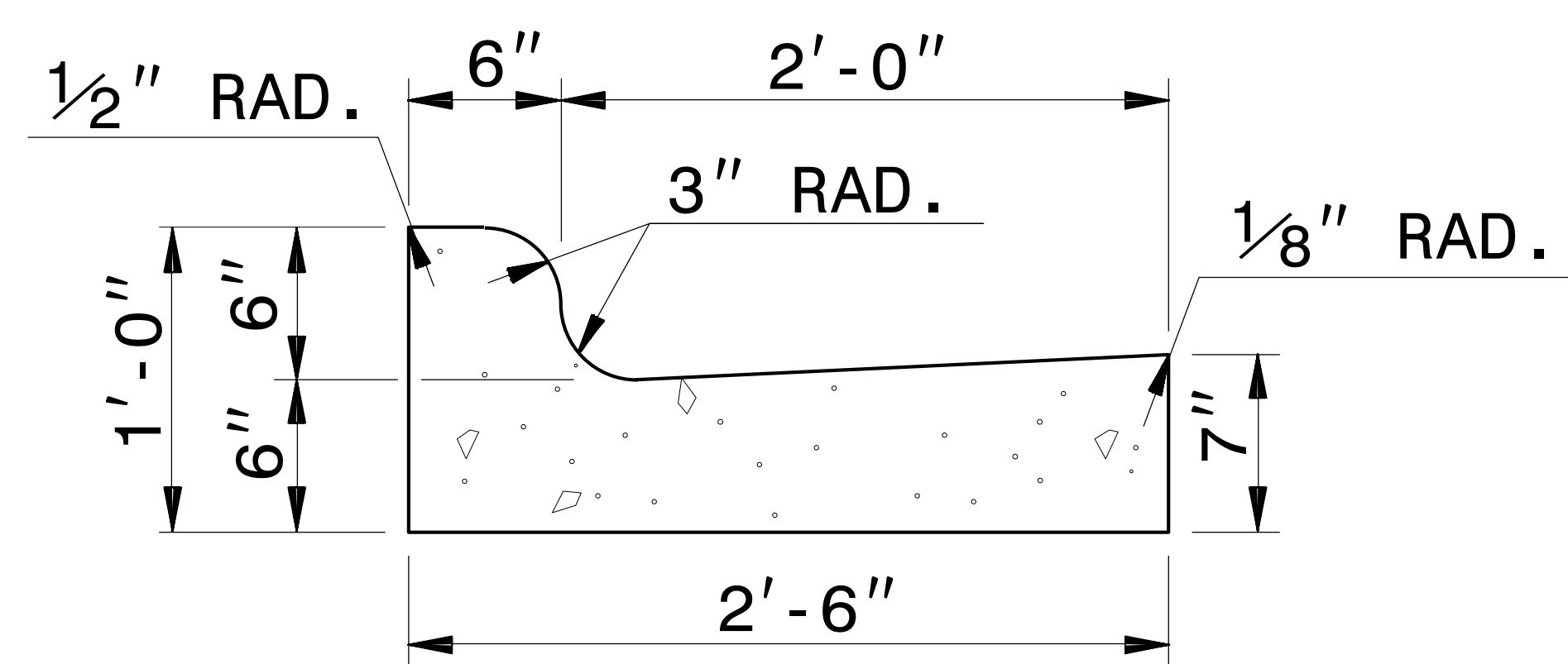
**CONTRACT STANDARDS AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**SEE TITLE BLOCK**

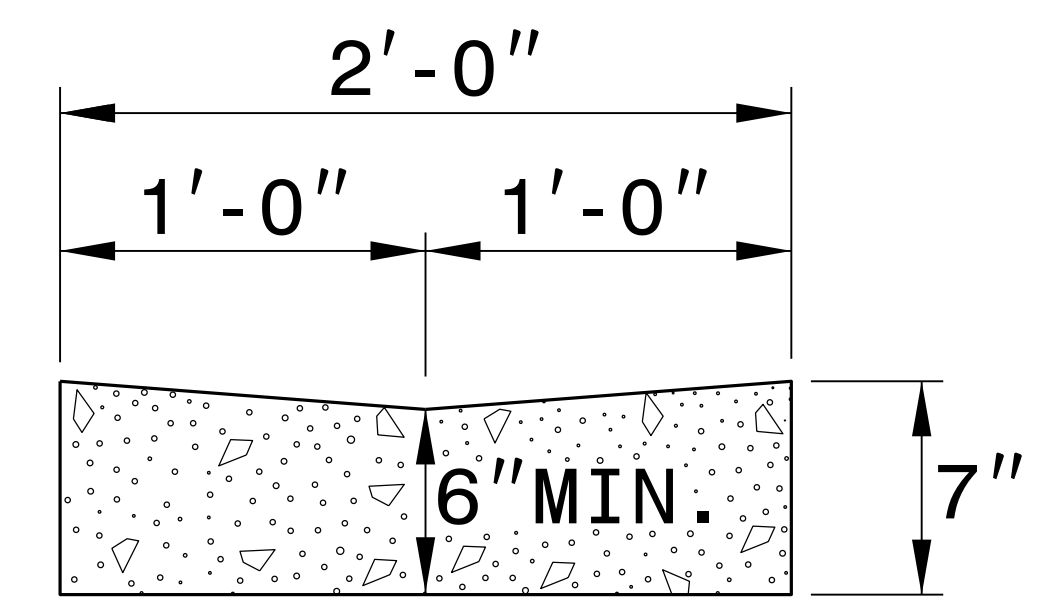
ORIGINAL BY:	T.S.S.	DATE:	FEB. 2000
MODIFIED BY:	K.A.K.	DATE:	AUG. 2016
CHECKED BY:		DATE:	
FILE SPEC.:	kkempf/english/0200d301.dgn		



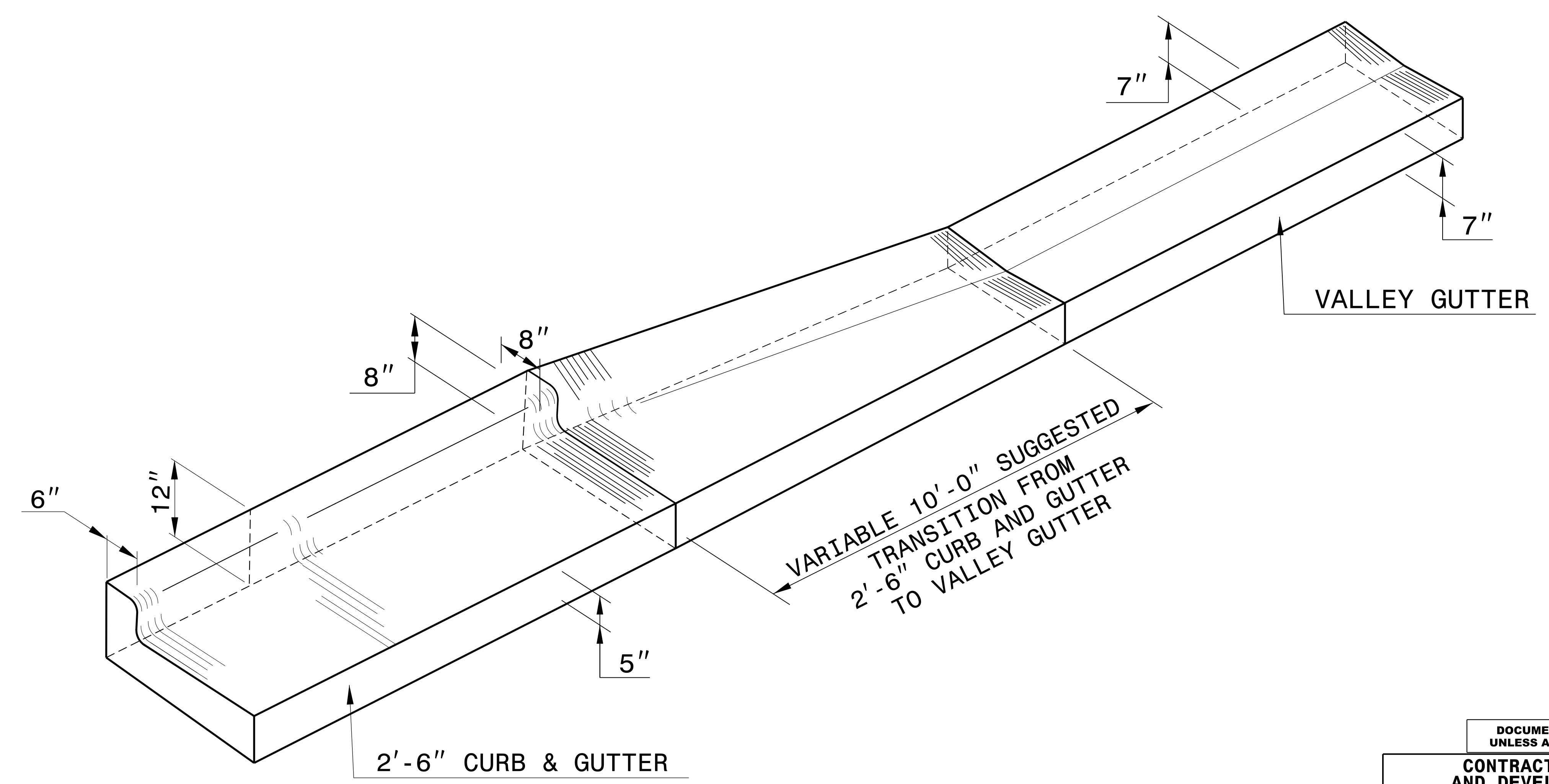
\*NOTE: SEE STD. DWG. 846.01 FOR GENERAL NOTES



**2'-6" CURB AND GUTTER**

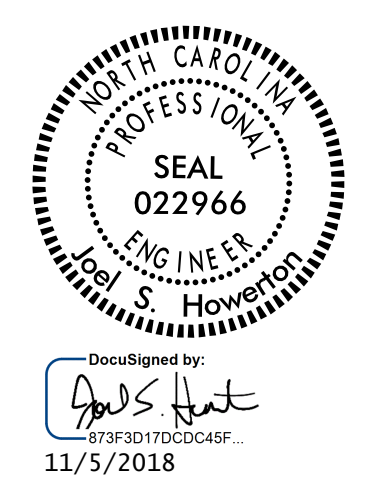


**VALLEY GUTTER**



**ISOMETRIC VIEW OF TRANSITION**

07-SEP-2017 08:20 S:\Contracts\Contractors\Special Details\vericard\usr\details\stand\c&g transition sections.dgn JHowerton AT USD-292595



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

**TRANSITION FROM 2'-6" CURB AND GUTTER TO VALLEY GUTTER**

ORIGINAL BY: T.S. SPELL DATE: FEB. 4, 2009  
 MODIFIED BY: DATE:  
 CHECKED BY: DATE:  
 FILE SPEC.: w:\usr\details\stand\cgtransit.dgn





EMARTIN-7

COMPUTED BY: JRH DATE: 8/30/2018
CHECKED BY: DPB DATE: 9/4/2018

PROJECT NO. W-5602 SHEET NO. 3D-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

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

Table with columns for Line & Station, Offset, Structure Number, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, and Abbreviations. Includes a SHEET TOTALS row at the bottom.



EMARTIN 7

COMPUTED BY: JRH DATE: 8/30/2018  
CHECKED BY: DPB DATE: 9/4/2018

PROJECT NO. W-5602 SHEET NO. 3D-3

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

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

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

Table with columns for Line & Station, Offset, Structure Number, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, and Remarks. Includes a 'SHEET TOTALS' row at the bottom.

ABBREVIATIONS table listing codes like C.A.A., C.B., C.S., etc. and their corresponding material names.

REMARKS















COMPUTED BY: RBH DATE: 07/25/2018  
 CHECKED BY: AEV DATE: 07/25/2018

PROJECT NO.  
W-5602

SHEET NO.  
3G-1

## STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

### SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
			CONTINGENCY	SD	2000
				<b>TOTAL LF:</b>	2000

\*UD = Underdrain  
 \*BD = Blind Drain  
 \*SD = Subsurface Drain

### SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
			CONTINGENCY	AST			1000		
			CONTINGENCY	ASU	100				
			CONTINGENCY	ASU		190			
			CONTINGENCY	AST					750
			<b>TOTAL CY/TONS/SY:</b>		100	190	1000*	0	750

ASU = Aggregate Subgrade, AST = Aggregate Stabilization

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

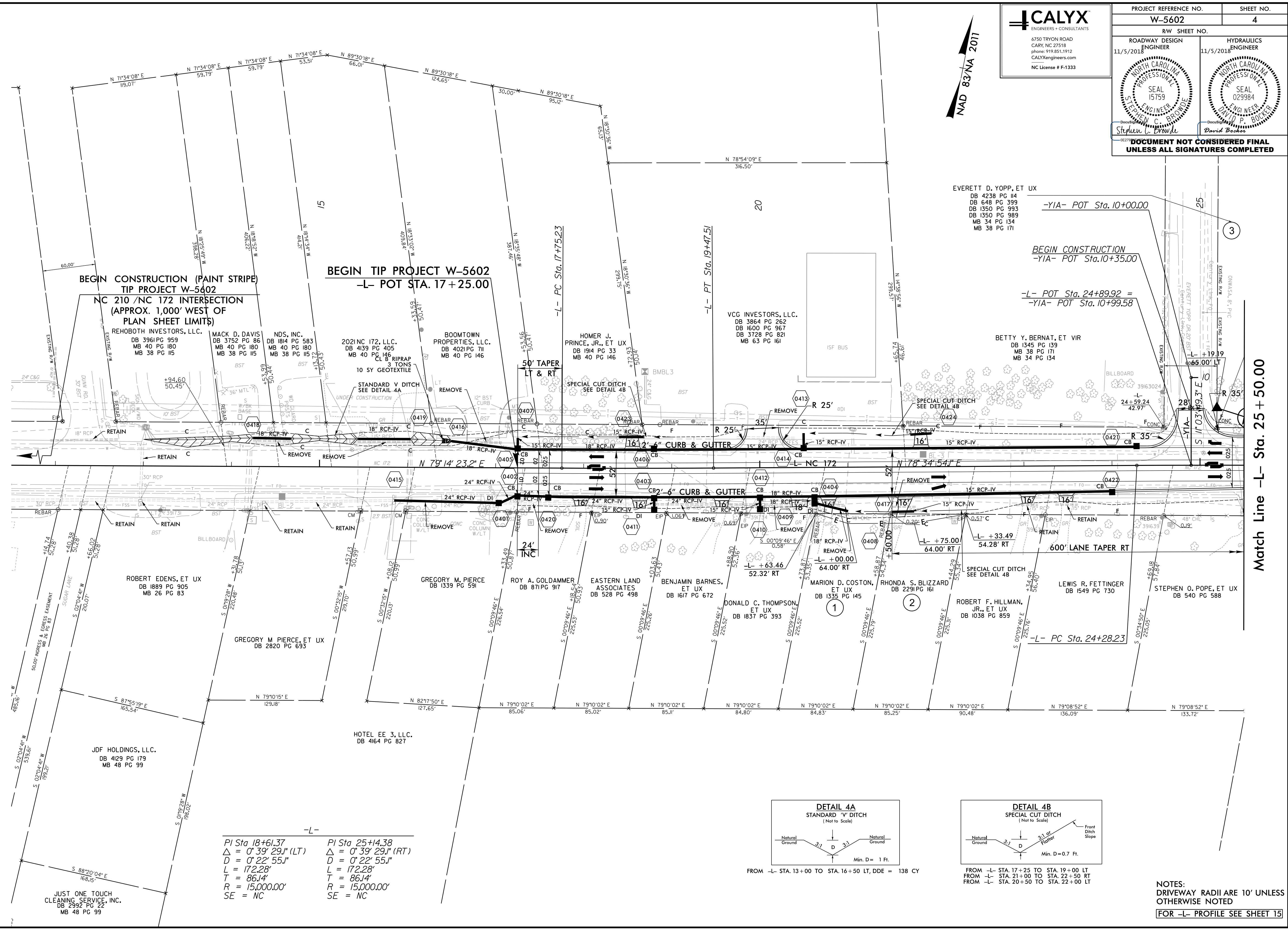




8.17.17.99

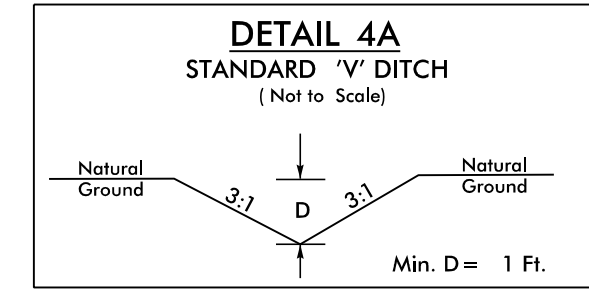
**CALYX**  
ENGINEERS + CONSULTANTS  
6750 TRYON ROAD  
CARY, NC 27518  
PHONE: 919.851.1912  
CALYXENGINEERS.COM  
NC LICENSE # F-1333

PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>4</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 11/5/2018	HYDRAULICS ENGINEER 11/5/2018
<p><b>DOCUMENT NOT CONSIDERED FINAL</b> <b>UNLESS ALL SIGNATURES COMPLETED</b></p>	

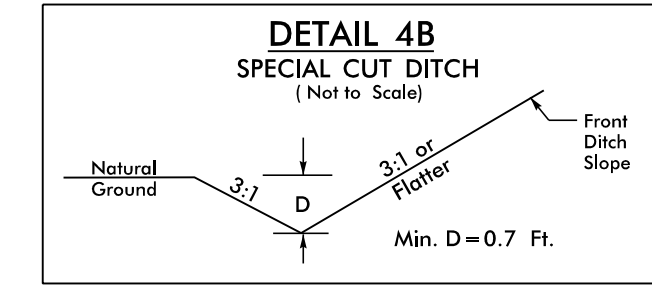


Match Line -L- Sta. 25 + 50.00

<b>-L-</b>	<b>-L-</b>
PI Sta 18+61.37	PI Sta 25+14.38
$\Delta = 0' 39' 29.1''$ (LT)	$\Delta = 0' 39' 29.1''$ (RT)
$D = 0' 22' 55.1''$	$D = 0' 22' 55.1''$
$L = 172.28'$	$L = 172.28'$
$T = 86.14'$	$T = 86.14'$
$R = 15,000.00'$	$R = 15,000.00'$
SE = NC	SE = NC



FROM -L- STA. 13+00 TO STA. 16+50 LT, DDE = 138 CY



FROM -L- STA. 17+25 TO STA. 19+00 LT  
FROM -L- STA. 21+00 TO STA. 22+50 RT  
FROM -L- STA. 20+50 TO STA. 22+00 LT

NOTES:  
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHEET 15

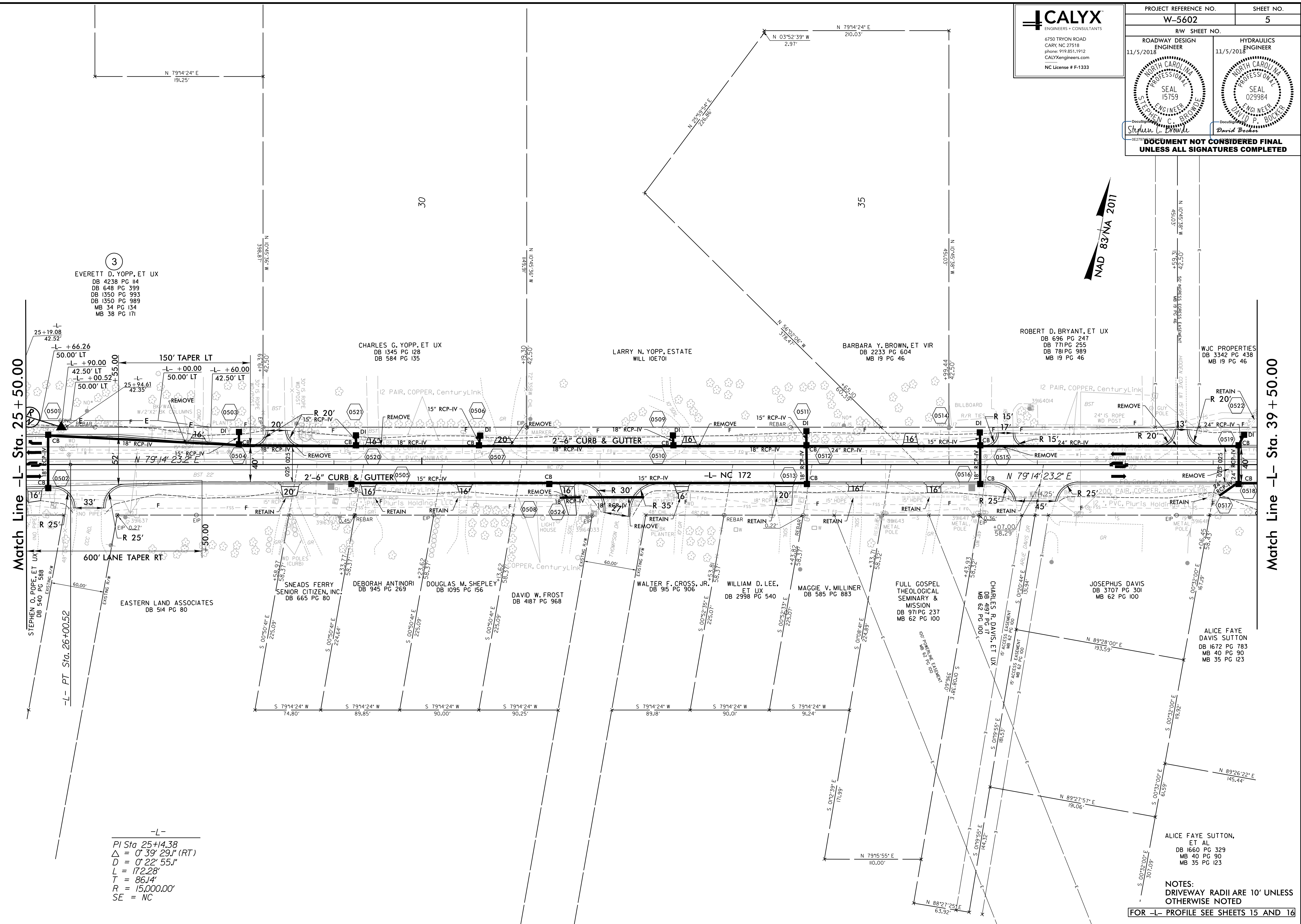
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8/17/19



PROJECT REFERENCE NO. <b>W-5602</b>		SHEET NO. <b>5</b>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER 11/5/2018	HYDRAULICS ENGINEER 11/5/2018	
<p><b>DOCUMENT NOT CONSIDERED FINAL</b> <b>UNLESS ALL SIGNATURES COMPLETED</b></p>		



Match Line -L- Sta. 25+50.00

Match Line -L- Sta. 39+50.00

3  
EVERETT D. YOPP, ET UX  
DB 4238 PG 114  
DB 648 PG 339  
DB 1350 PG 993  
DB 1350 PG 989  
MB 34 PG 134  
MB 38 PG 171

CHARLES G. YOPP, ET UX  
DB 1345 PG 128  
DB 584 PG 135

LARRY N. YOPP, ESTATE  
WILL 10E701

BARBARA Y. BROWN, ET VIR  
DB 2233 PG 604  
MB 19 PG 46

ROBERT D. BRYANT, ET UX  
DB 696 PG 247  
DB 771 PG 255  
DB 781 PG 989  
MB 19 PG 46

WJC PROPERTIES  
DB 3342 PG 438  
MB 19 PG 46

EASTERN LAND ASSOCIATES  
DB 514 PG 80

SNEADS FERRY SENIOR CITIZEN, INC.  
DB 665 PG 80

DEBORAH ANTINORI  
DB 945 PG 269

DOUGLAS M. SHEPLEY  
DB 1095 PG 156

DAVID W. FROST  
DB 4187 PG 968

WALTER F. CROSS, JR.  
DB 915 PG 906

WILLIAM D. LEE, ET UX  
DB 2998 PG 540

MAGGIE V. MILLINER  
DB 585 PG 883

FULL GOSPEL THEOLOGICAL SEMINARY & MISSION  
DB 971 PG 237  
MB 62 PG 100

CHARLES R. DAVIS, ET UX  
DB 4167 PG 171  
MB 62 PG 100

JOSEPHUS DAVIS  
DB 3707 PG 301  
MB 62 PG 100

ALICE FAYE DAVIS SUTTON  
DB 1672 PG 783  
MB 40 PG 90  
MB 35 PG 123

ALICE FAYE SUTTON, ET AL  
DB 1660 PG 329  
MB 40 PG 90  
MB 35 PG 123

-L-  
PI Sta 25+14.38  
Δ = 0° 39' 29.1" (RT)  
D = 0° 22' 55.1"  
L = 172.28'  
T = 86.14'  
R = 15,000.00'  
SE = NC

NOTES:  
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHEETS 15 AND 16

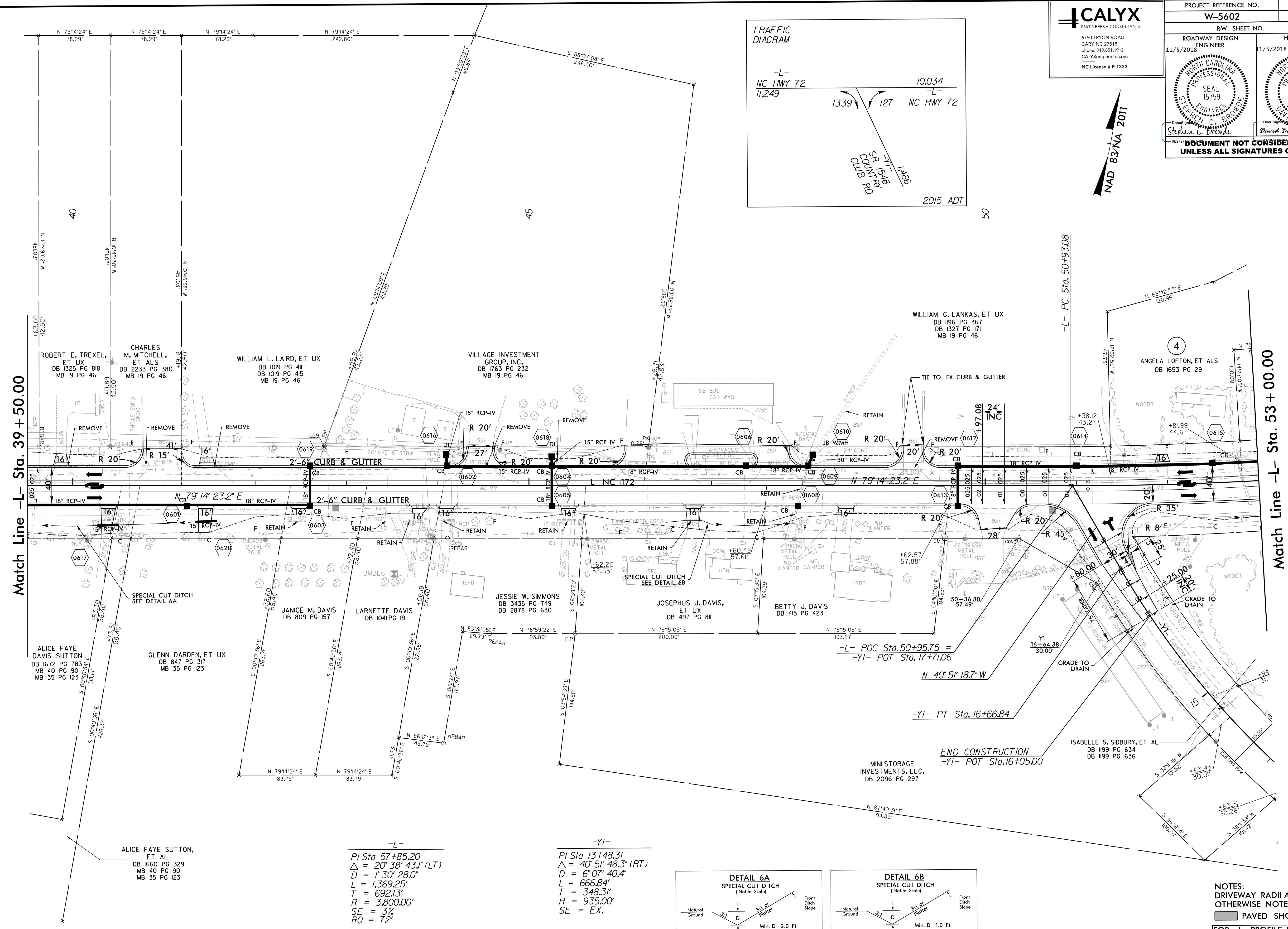
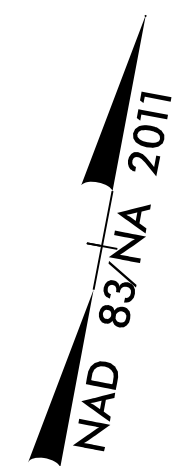
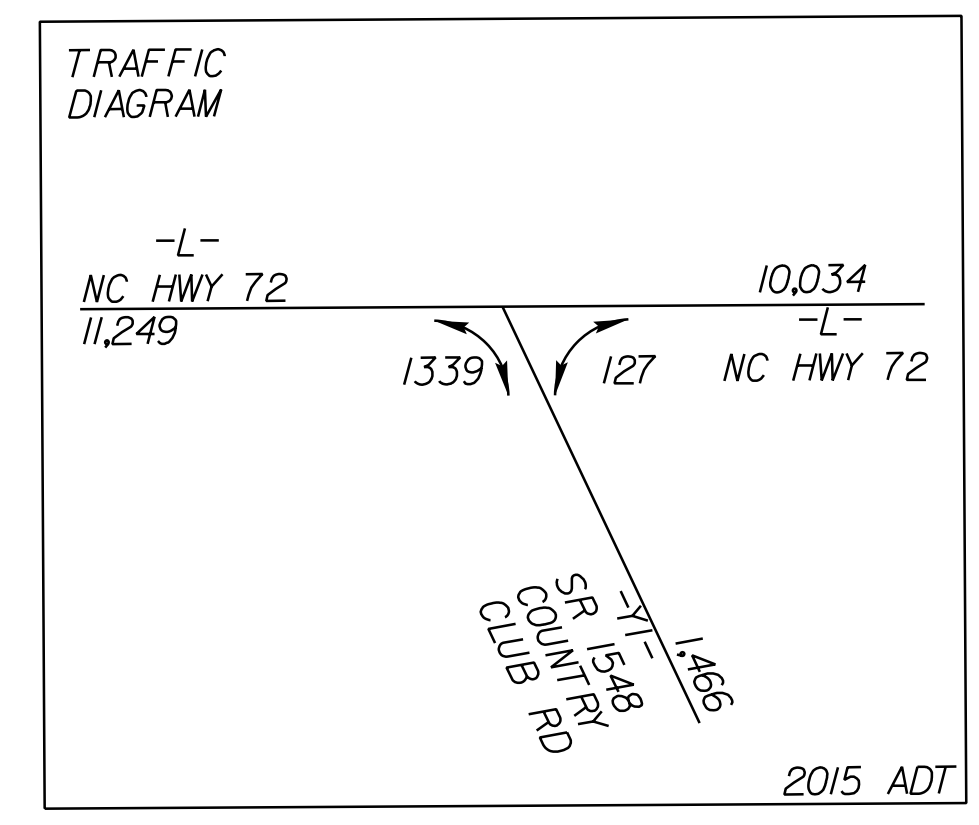
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8/17/99

**CALYX**  
ENGINEERS + CONSULTANTS  
6750 TRYON ROAD  
CARY, NC 27518  
phone: 919.851.1912  
CALYXEngineers.com  
NC License # F-1333

PROJECT REFERENCE NO. <b>W-5602</b>		SHEET NO. <b>6</b>	
RW SHEET NO. 11/5/2018		HYDRAULICS ENGINEER 11/5/2018	
ROADWAY DESIGN ENGINEER 11/5/2018		SEAL 029984 DAVID P. BOCKER	
SEAL 15759 STEPHEN C. BROWNE		SEAL 029984 DAVID P. BOCKER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			



Match Line -L- Sta. 39 + 50.00

Match Line -L- Sta. 53 + 00.00

ROBERT E. TREXEL, ET UX  
DB 1325 PG 818  
MB 19 PG 46

CHARLES M. MITCHELL, ET ALS  
DB 2233 PG 380  
MB 19 PG 46

WILLIAM L. LAIRD, ET UX  
DB 1019 PG 411  
DB 1019 PG 415  
MB 19 PG 46

VILLAGE INVESTMENT GROUP, INC.  
DB 1763 PG 232  
MB 19 PG 46

WILLIAM G. LANKAS, ET UX  
DB 1196 PG 367  
DB 1327 PG 171  
MB 19 PG 46

ANGELA LOFTON, ET ALS  
DB 1653 PG 29

ALICE FAYE DAVIS SUTTON, ET AL  
DB 1672 PG 783  
MB 40 PG 90  
MB 35 PG 123

GLENN DARDEN, ET UX  
DB 847 PG 317  
MB 35 PG 123

JANICE M. DAVIS  
DB 809 PG 157

LARNETTE DAVIS  
DB 1041 PG 19

JESSIE W. SIMMONS  
DB 3435 PG 749  
DB 2878 PG 630

JOSEPHUS J. DAVIS, ET UX  
DB 497 PG 811

BETTY J. DAVIS  
DB 415 PG 423

-L- POC Sta. 50+95.75 =  
-YI- POT Sta. 17+71.06

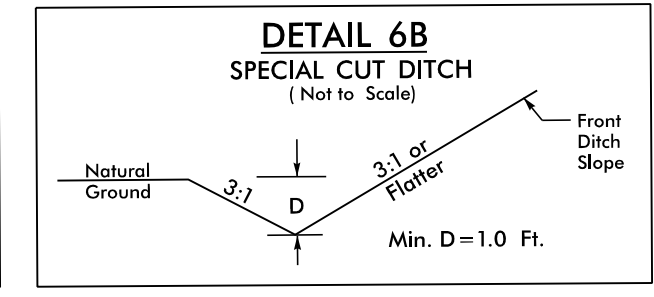
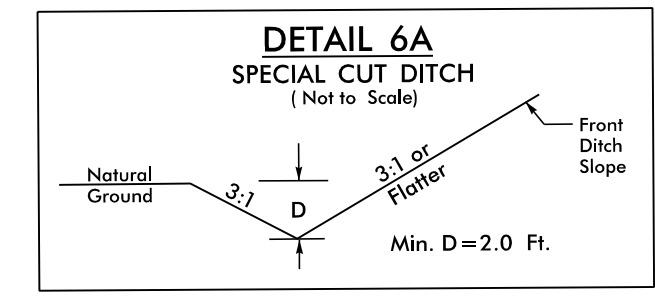
-YI- PT Sta. 16+66.84

END CONSTRUCTION  
-YI- POT Sta. 16+05.00

ALICE FAYE SUTTON, ET AL  
DB 1660 PG 329  
MB 40 PG 90  
MB 35 PG 123

-L-  
PI Sta 57+85.20  
 $\Delta = 20^\circ 38' 43.1''$  (LT)  
D = 1' 30" 28.0"  
L = 1,369.25'  
T = 692.13'  
R = 3,800.00'  
SE = 3/4"  
RO = 72'

-YI-  
PI Sta 13+48.31  
 $\Delta = 40^\circ 51' 48.3''$  (RT)  
D = 6' 07" 40.4"  
L = 666.84'  
T = 348.31'  
R = 935.00'  
SE = EX.



NOTES:  
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
PAVED SHOULDER  
FOR -L- PROFILE SEE SHEET 16  
FOR -YI- PROFILE SEE SHEET 20

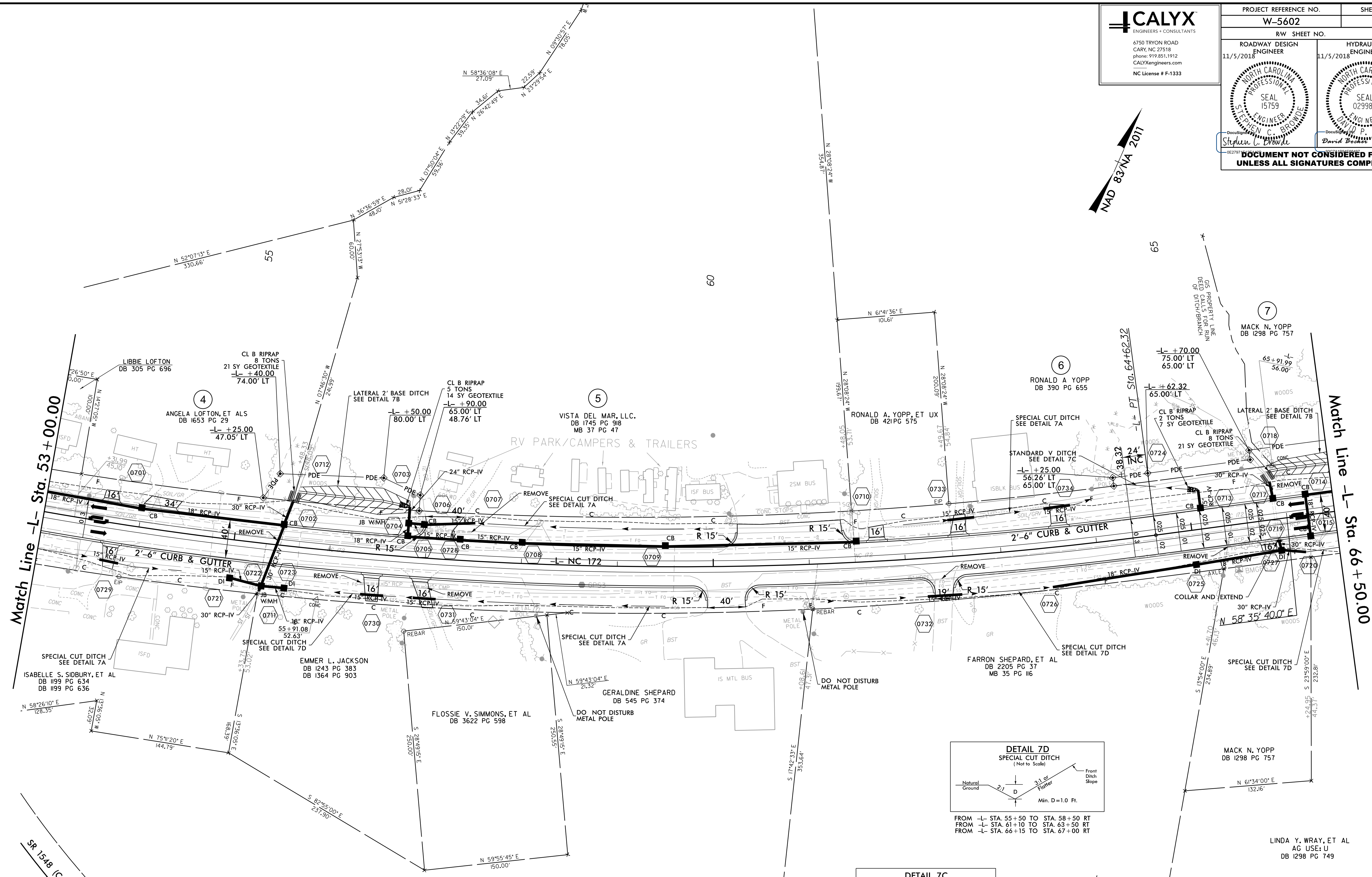
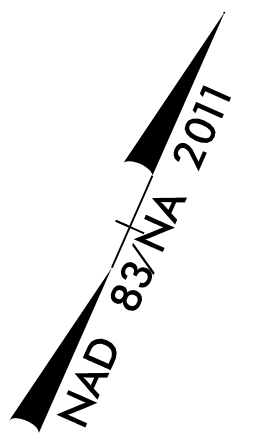
10/26/2018  
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8/17/19

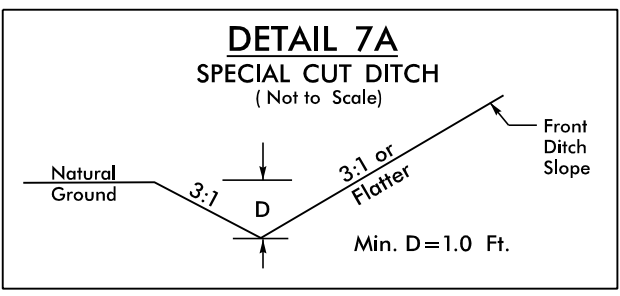
**CALYX**  
ENGINEERS + CONSULTANTS  
6750 TRYON ROAD  
CARY, NC 27518  
phone: 919.851.1912  
CALYXengineers.com  
NC License # F-1333

PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>7</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 11/5/2018	HYDRAULICS ENGINEER 11/5/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



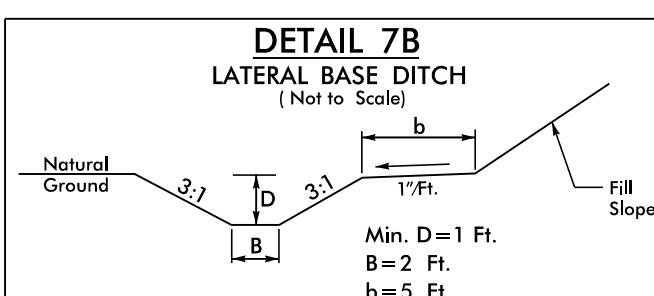
Match Line -L- Sta. 53+00.00

Match Line -L- Sta. 66+50.00

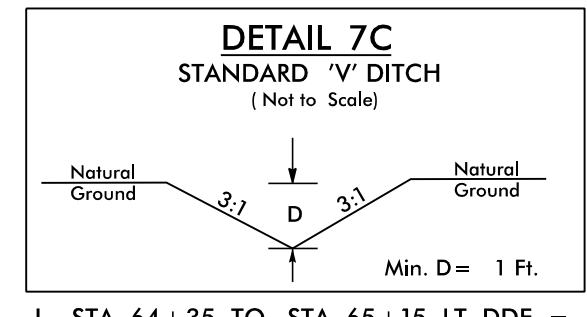


FROM -L- STA. 52+50 TO STA. 54+50 RT  
FROM -L- STA. 58+50 TO STA. 59+50 RT  
FROM -L- STA. 57+50 TO STA. 60+00 LT  
FROM -L- STA. 62+00 TO STA. 64+00 LT  
FROM -L- STA. 61+10 TO STA. 65+88 RT

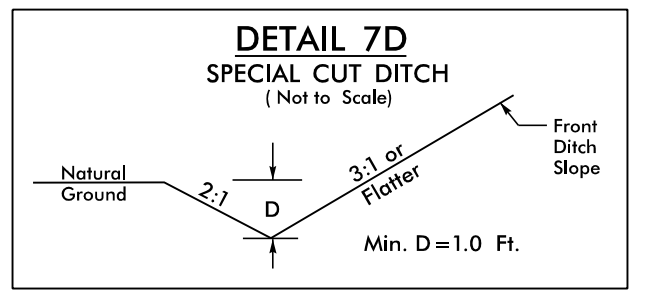
-YI-  
PI Sta 13+48.31  
 $\Delta = 40' 51'' 48.3''$  (RT)  
D = 6' 07" 40.4"  
L = 666.84'  
T = 348.31'  
R = 935.00'  
SE = EX.



FROM -L- STA. 55+60 TO STA. 56+80 LT, DDE = 266 CY  
FROM -L- STA. 65+88 TO STA. 67+30 LT, DDE = 273 CY



FROM -L- STA. 64+35 TO STA. 65+15 LT, DDE = 7 CY



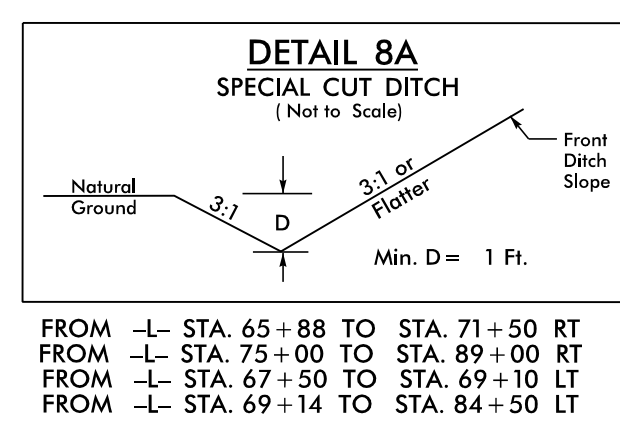
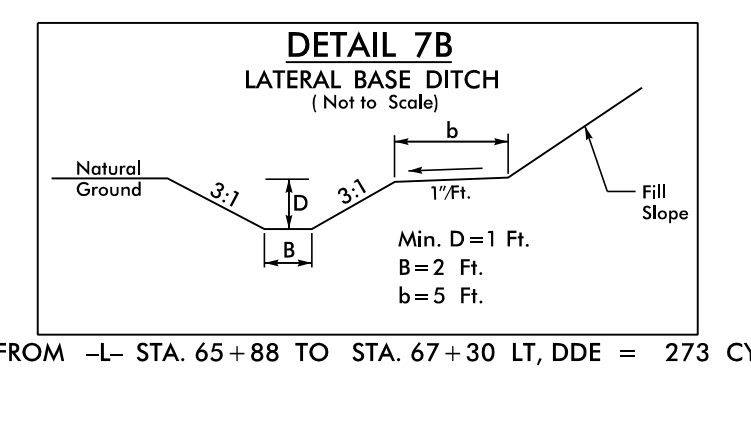
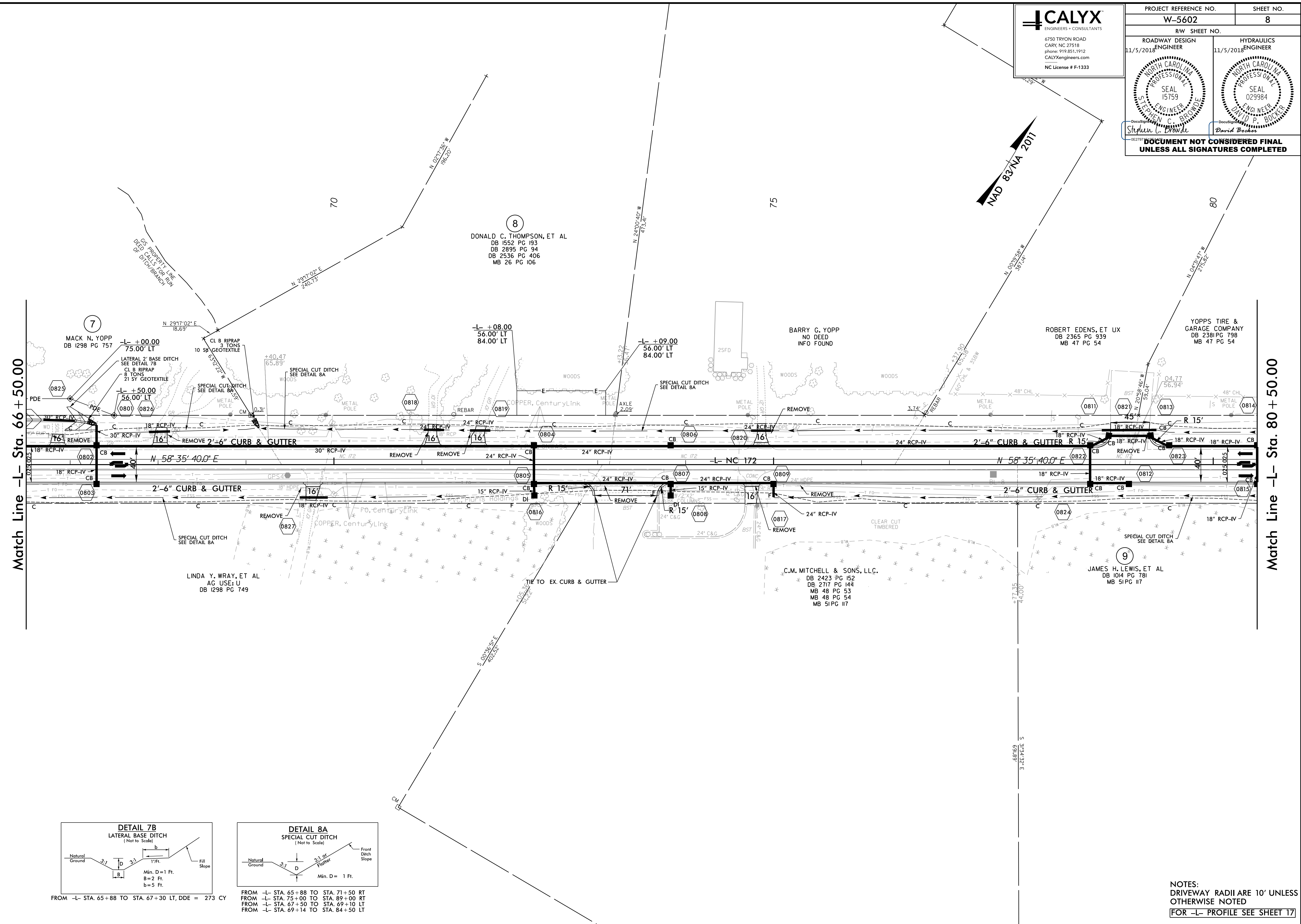
FROM -L- STA. 55+50 TO STA. 58+50 RT  
FROM -L- STA. 61+10 TO STA. 63+50 RT  
FROM -L- STA. 66+15 TO STA. 67+00 RT

-L-  
PI Sta 57+85.20  
 $\Delta = 20' 38'' 43.1''$  (LT)  
D = 1' 30" 28.0"  
L = 1,369.25'  
T = 692.13'  
R = 3,800.00'  
SE = 3%  
RO = 72'

NOTES:  
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHEETS 16 AND 17

I:\26\_2018\Projects\W5602\_Rdy\_psh\_07.dgn





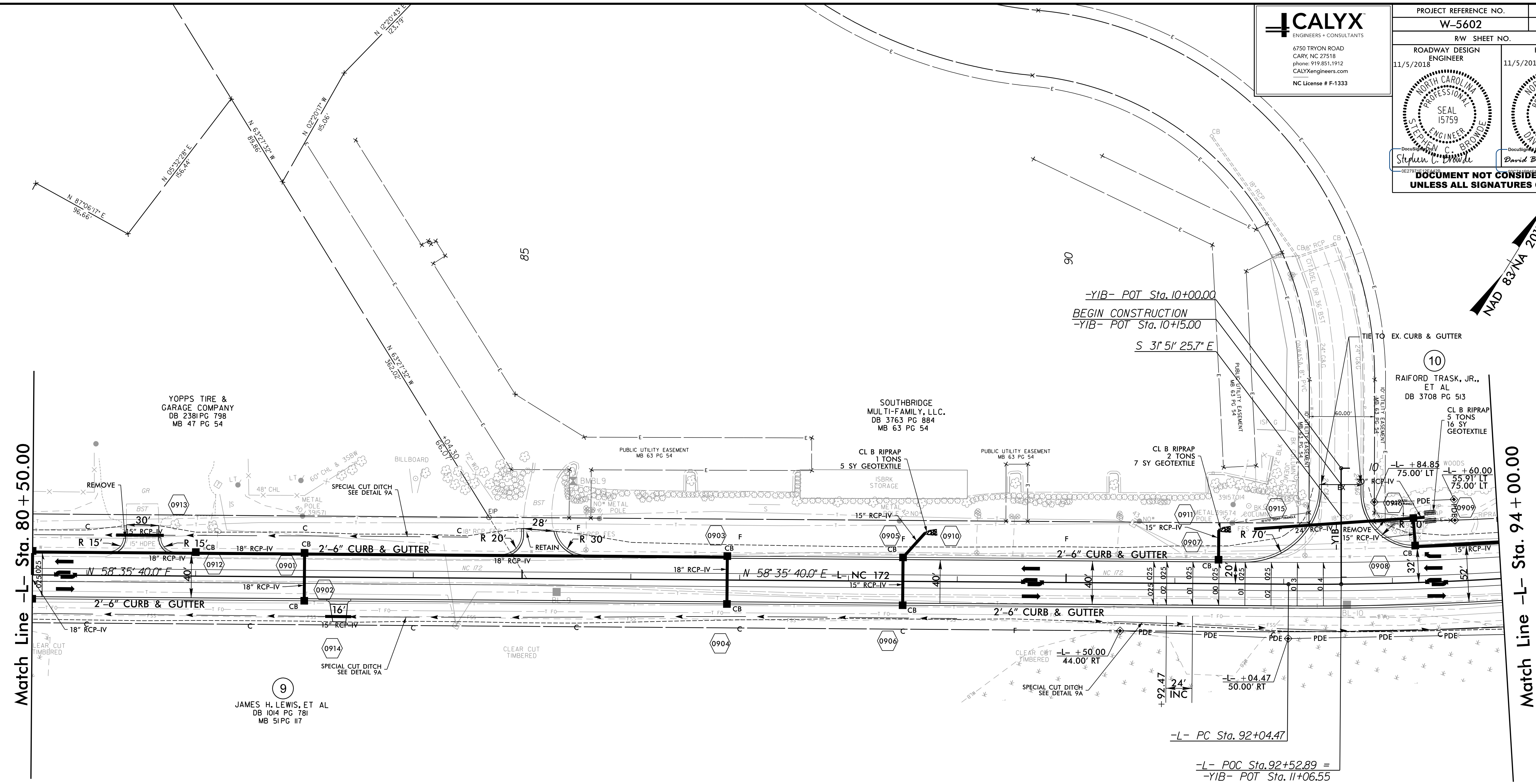
NOTES:  
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHEET 17



8.17.17.99

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ENGINEERS + CONSULTANTS  
6750 TRYON ROAD  
CARY, NC 27518  
phone: 919.851.1912  
CALYXengineers.com  
NC License # F-1333

PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>9</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 11/5/2018	HYDRAULICS ENGINEER 11/5/2018
<p><b>DOCUMENT NOT CONSIDERED FINAL</b> <b>UNLESS ALL SIGNATURES COMPLETED</b></p>	



Match Line -L- Sta. 80+50.00

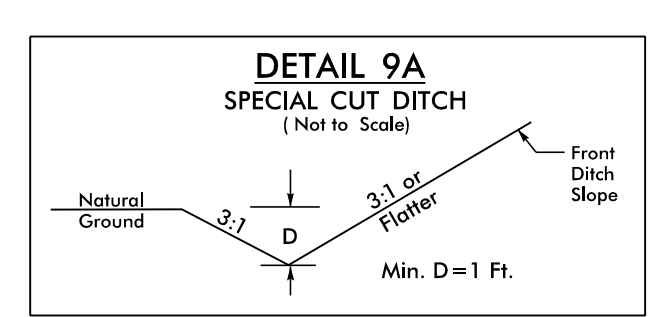
Match Line -L- Sta. 94+00.00

YOPPS TIRE & GARAGE COMPANY  
DB 2381 PG 798  
MB 47 PG 54

SOUTHBRIDGE MULTI-FAMILY, LLC.  
DB 3763 PG 884  
MB 63 PG 54

9  
JAMES H. LEWIS, ET AL  
DB 1014 PG 781  
MB 51 PG 117

9  
JAMES H. LEWIS, ET AL  
DB 1014 PG 781  
MB 51 PG 117



-L-  
PI Sta 105+08.09  
 $\Delta = 48' 24' 36.7''$  (LT)  
 $D = 1' 58' 32.6''$   
 $L = 2,450.26'$   
 $T = 1,303.62'$   
 $R = 2,900.00'$   
 $SE = 4\%$   
 $RO = 96'$

NOTES:  
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHEETS 17

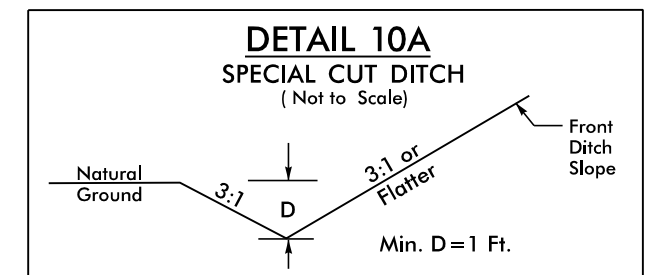
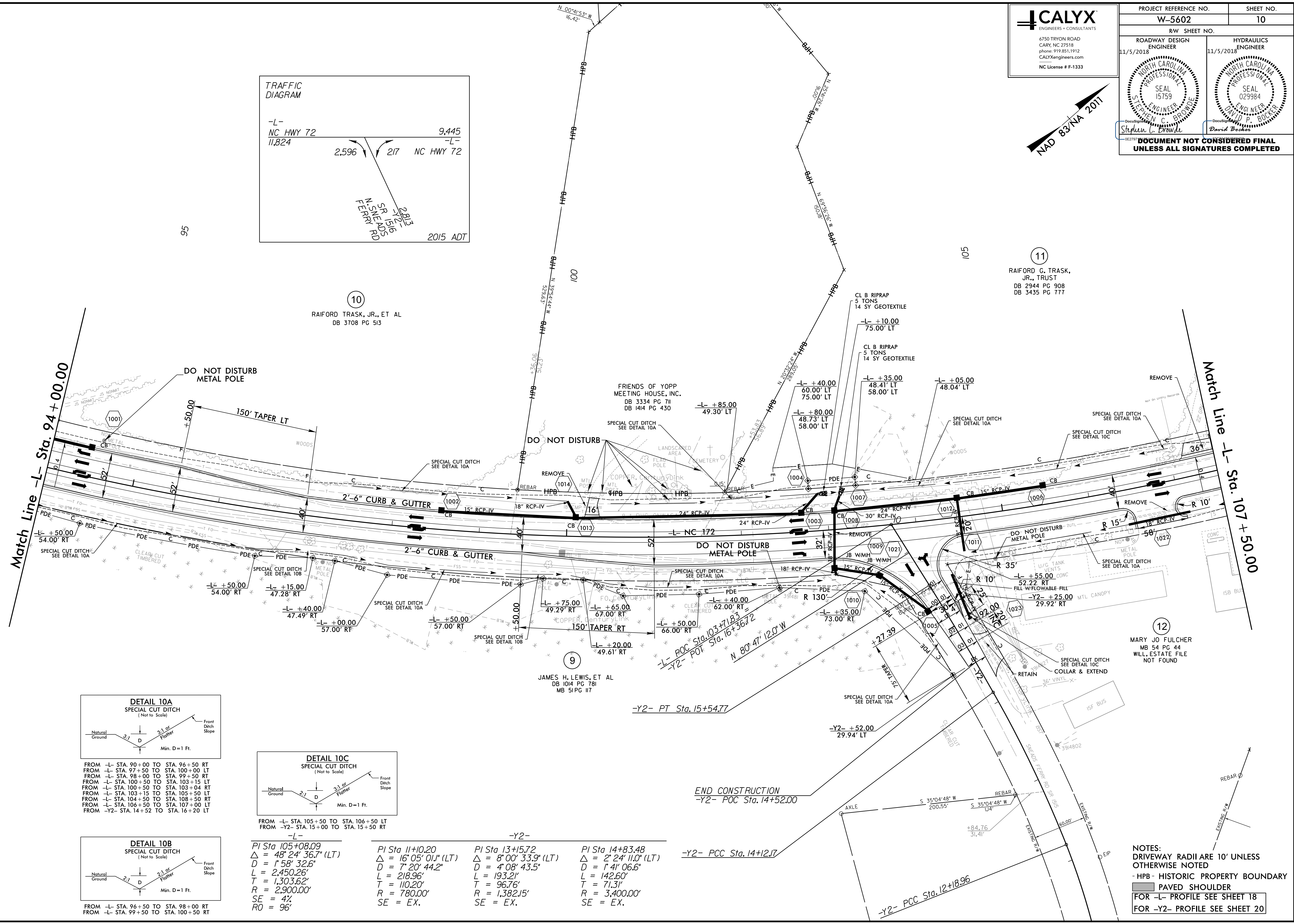
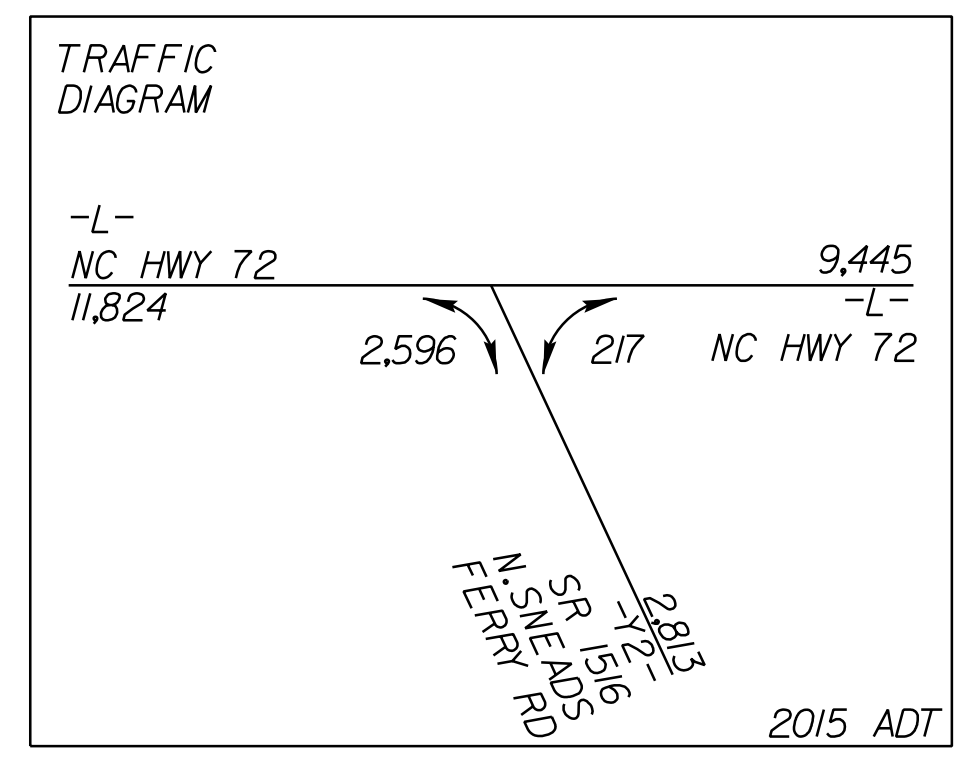
10/25/2018  
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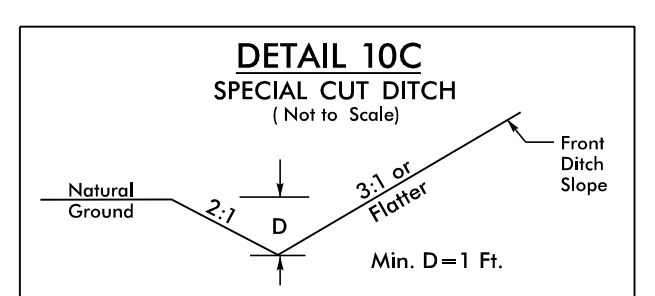
8/17/99



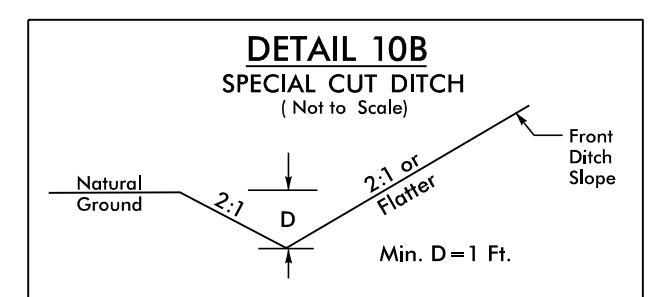
PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>10</b>
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER 11/5/2018	HYDRAULICS ENGINEER 11/5/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



FROM -L- STA. 90+00 TO STA. 96+50 RT  
 FROM -L- STA. 97+50 TO STA. 100+00 LT  
 FROM -L- STA. 98+00 TO STA. 99+50 RT  
 FROM -L- STA. 100+50 TO STA. 103+15 LT  
 FROM -L- STA. 100+50 TO STA. 103+04 RT  
 FROM -L- STA. 103+15 TO STA. 105+50 LT  
 FROM -L- STA. 104+50 TO STA. 108+50 RT  
 FROM -L- STA. 106+50 TO STA. 107+00 LT  
 FROM -Y2- STA. 14+52 TO STA. 16+20 LT



FROM -L- STA. 105+50 TO STA. 106+50 LT  
 FROM -Y2- STA. 15+00 TO STA. 15+50 RT



FROM -L- STA. 96+50 TO STA. 98+00 RT  
 FROM -L- STA. 99+50 TO STA. 100+50 RT

-L- PI Sta 105+08.09 $\Delta = 48' 24' 36.7''$ (LT) $D = 1' 58' 32.6''$ $L = 2,450.26'$ $T = 1,303.62'$ $R = 2,900.00'$ $SE = 4\%$ $RO = 96'$	-Y2- PI Sta 11+02.0 $\Delta = 16' 05' 01.1''$ (LT) $D = 7' 20' 44.2''$ $L = 218.96'$ $T = 110.20'$ $R = 780.00'$ $SE = EX.$	-Y2- PI Sta 13+15.72 $\Delta = 8' 00' 33.9''$ (LT) $D = 4' 08' 43.5''$ $L = 193.21'$ $T = 96.76'$ $R = 1,382.15'$ $SE = EX.$	-Y2- PI Sta 14+83.48 $\Delta = 2' 24' 11.0''$ (LT) $D = 1' 41' 06.6''$ $L = 142.60'$ $T = 71.31'$ $R = 3,400.00'$ $SE = EX.$
---	--	---	---

NOTES:  
 DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
 -HPB- HISTORIC PROPERTY BOUNDARY  
 PAVED SHOULDER  
 FOR -L- PROFILE SEE SHEET 18  
 FOR -Y2- PROFILE SEE SHEET 20

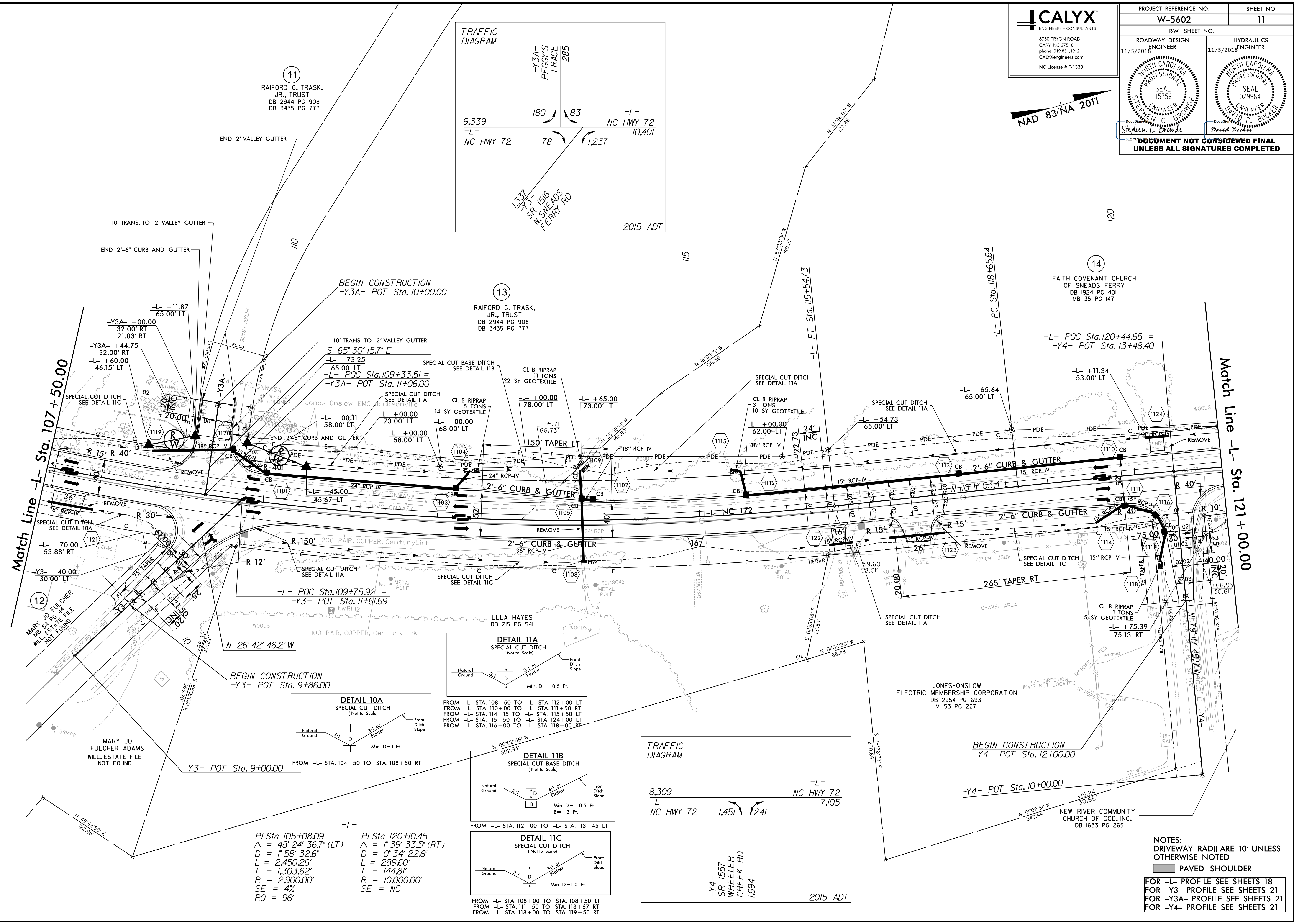
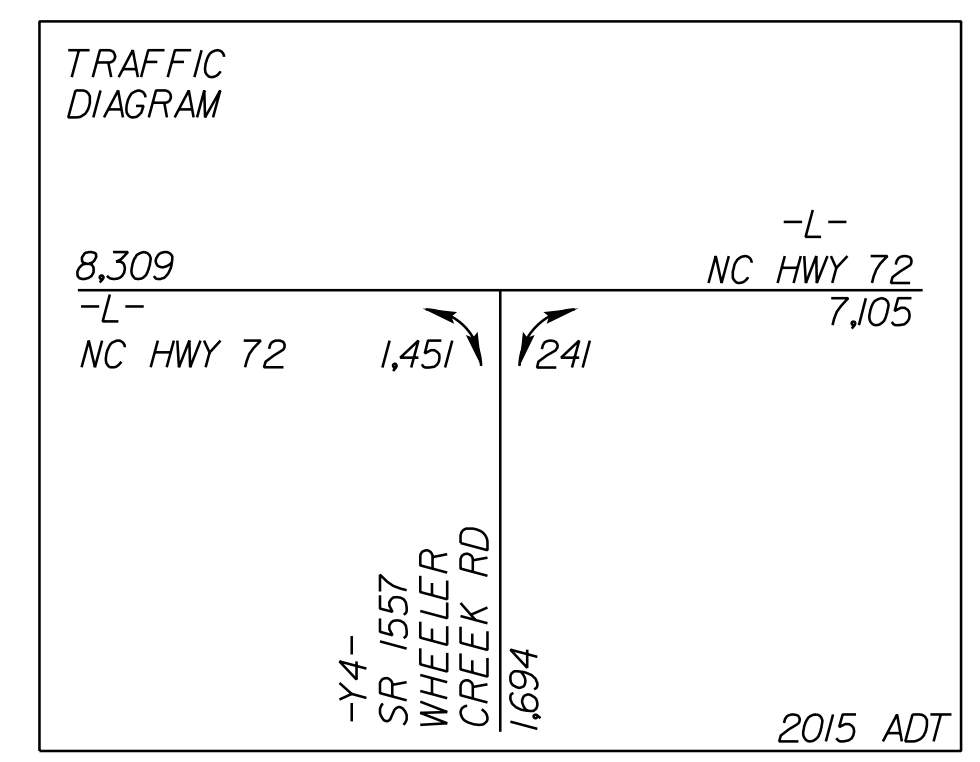
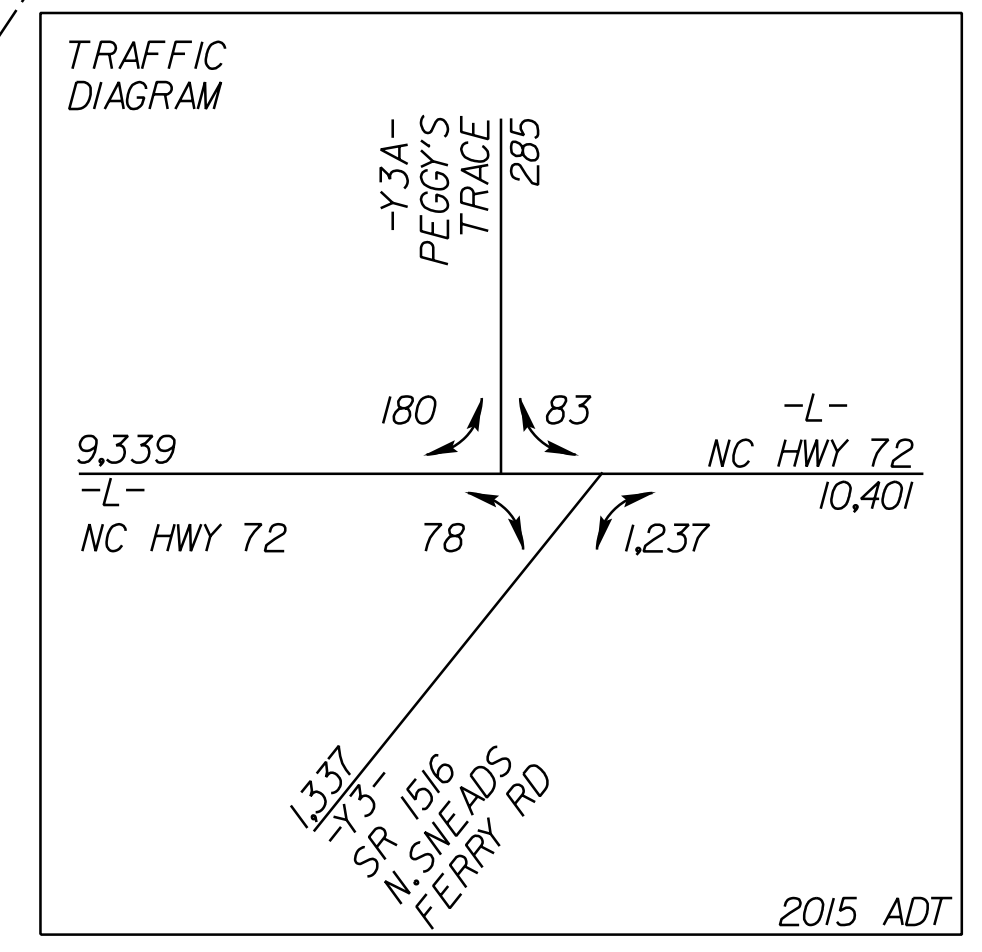
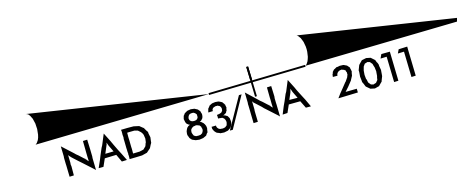
10/25/2018 R:\Projects\Proj\W5602\_Rdy\_psh\_10.dgn



8.17.17.99  
10/25/2018  
RA Roadway\Proj\W5602\_Rdy\_psh\_11.dgn  
enr1110



PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>11</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 11/5/2018	HYDRAULICS ENGINEER 11/5/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



11  
RAIFORD G. TRASK,  
JR., TRUST  
DB 2944 PG 908  
DB 3435 PG 777

13  
RAIFORD G. TRASK,  
JR., TRUST  
DB 2944 PG 908  
DB 3435 PG 777

14  
FAITH COVENANT CHURCH  
OF SNEADS FERRY  
DB 1924 PG 401  
MB 35 PG 147

12  
MARY JO FULCHER  
WILL, ESTATE FILE  
NOT FOUND

MARY JO  
FULCHER ADAMS  
WILL, ESTATE FILE  
NOT FOUND

JONES-ONSLOW  
ELECTRIC MEMBERSHIP CORPORATION  
DB 2954 PG 693  
M 53 PG 227

NEW RIVER COMMUNITY  
CHURCH OF GOD, INC.  
DB 1633 PG 265

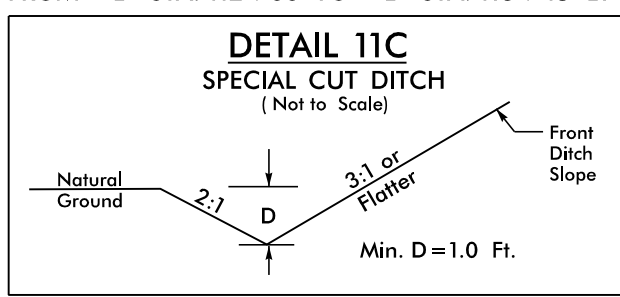
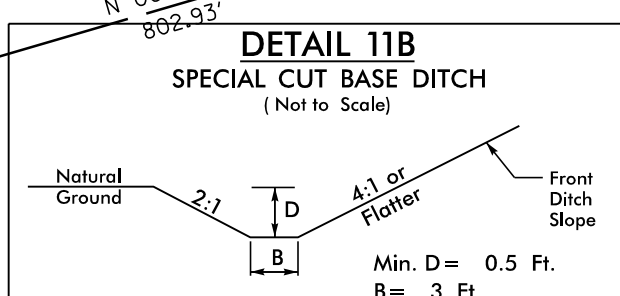
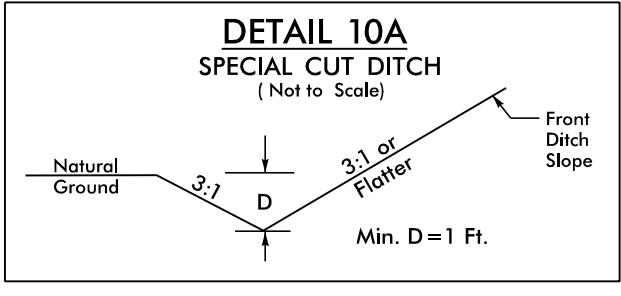
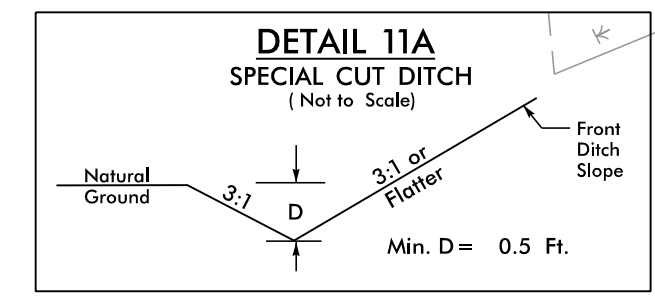
BEGIN CONSTRUCTION  
-Y3- POT Sta. 9+86.00

BEGIN CONSTRUCTION  
-Y4- POT Sta. 12+00.00

BEGIN CONSTRUCTION  
-Y4- POT Sta. 10+00.00

PI Sta 105+08.09  
Δ = 48° 24' 36.7" (LT)  
D = 1' 58" 32.6"  
L = 2,450.26'  
T = 1,303.62'  
R = 2,900.00'  
SE = 4%  
RO = 96'

PI Sta 120+10.45  
Δ = 1° 39' 33.5" (RT)  
D = 0' 34" 22.6"  
L = 289.60'  
T = 144.81'  
R = 10,000.00'  
SE = NC



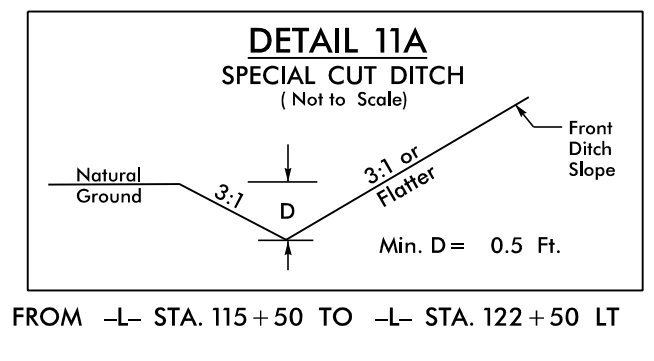
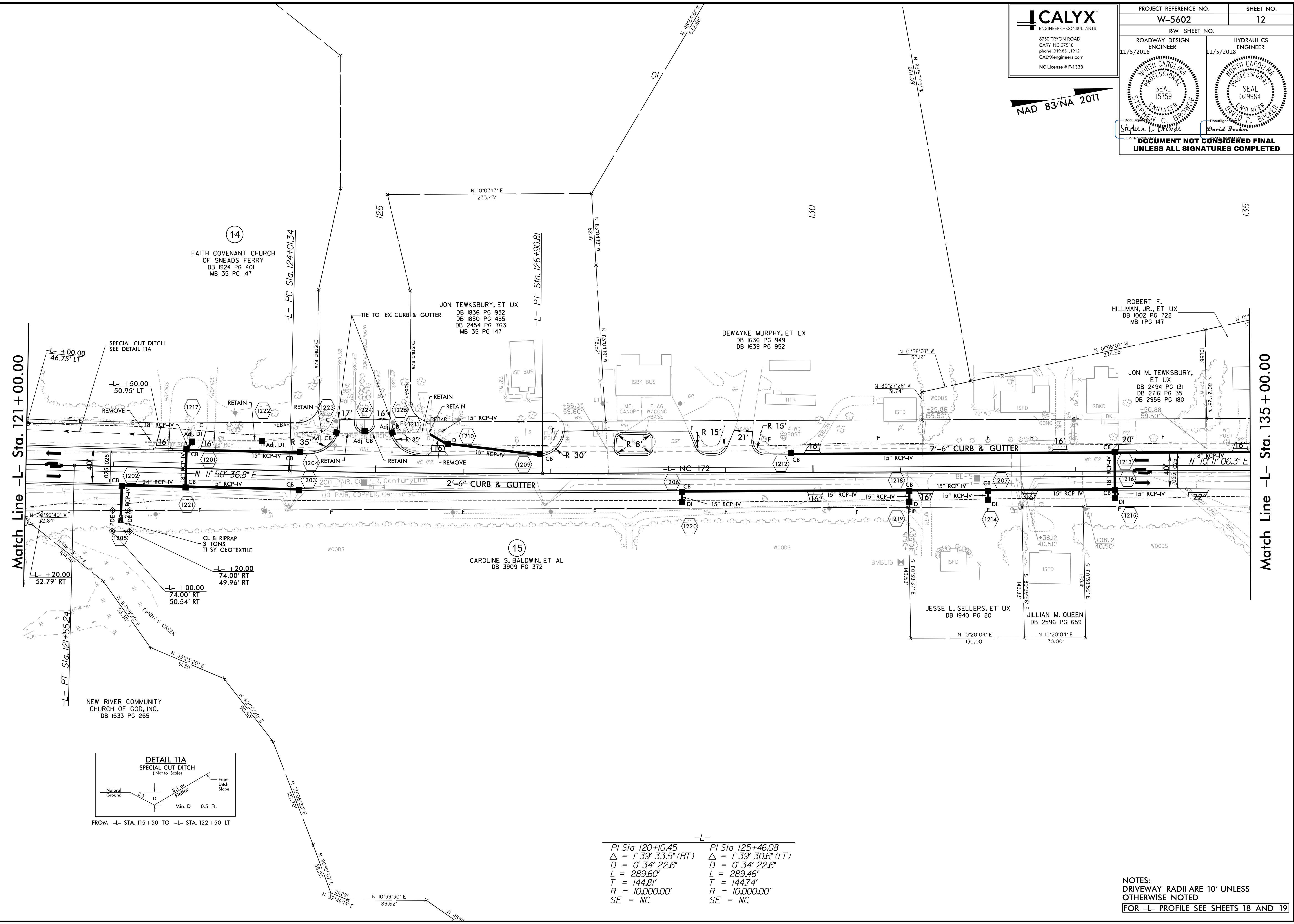
NOTES:  
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
PAVED SHOULDER  
FOR -L- PROFILE SEE SHEETS 18  
FOR -Y3- PROFILE SEE SHEETS 21  
FOR -Y4- PROFILE SEE SHEETS 21



8.17.17.99

**CALYX**  
ENGINEERS + CONSULTANTS  
6750 TRYON ROAD  
CARY, NC 27518  
phone: 919.851.1912  
CALYXengineers.com  
NC License # F-1333

PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>12</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 11/5/2018	HYDRAULICS ENGINEER 11/5/2018
<p><b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b></p>	

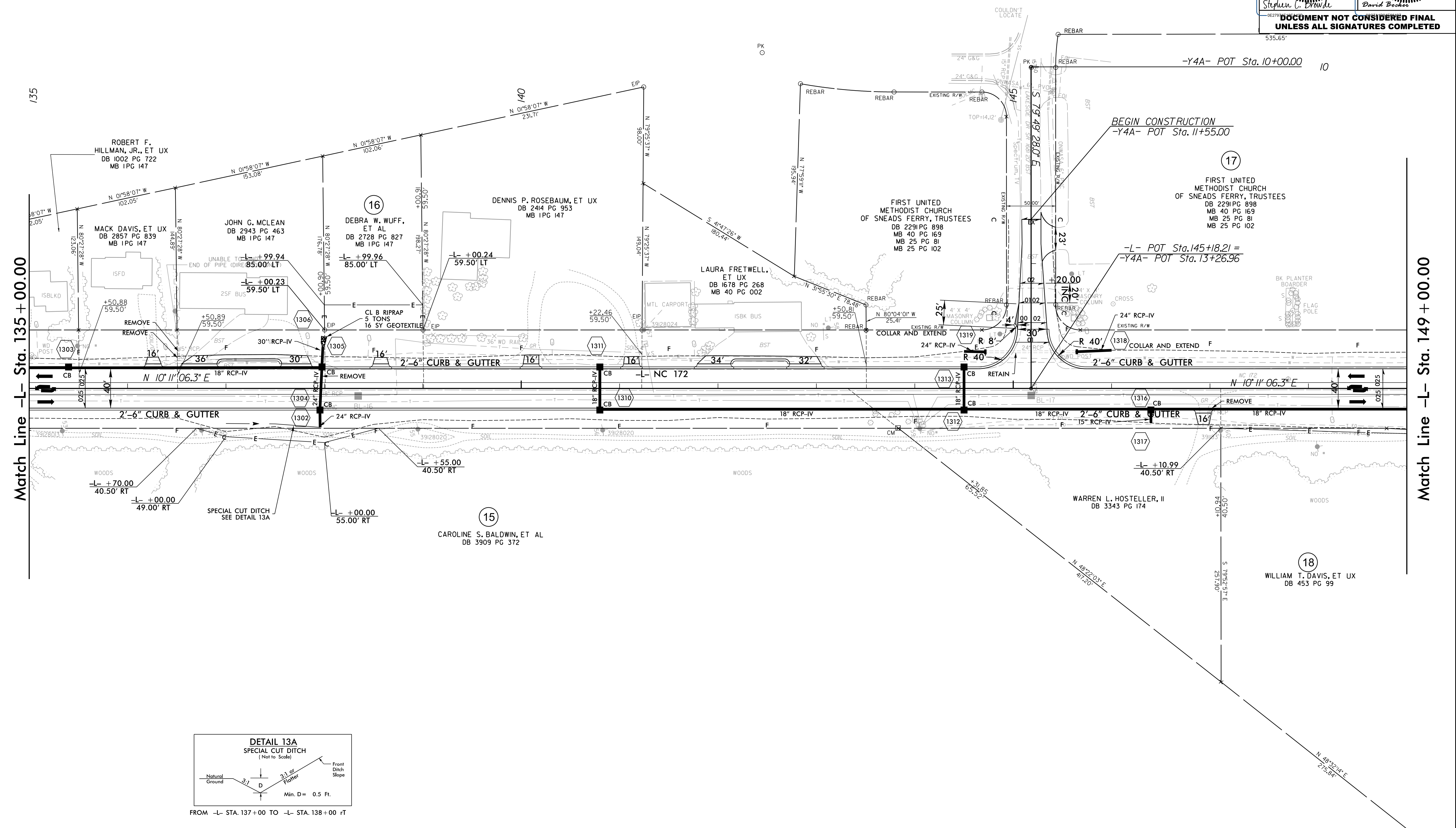
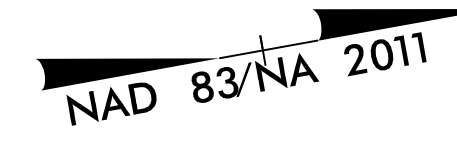


-L-	
PI Sta 120+10.45	PI Sta 125+46.08
$\Delta = 1^{\circ} 39' 33.5''$ (RT)	$\Delta = 1^{\circ} 39' 30.6''$ (LT)
$D = 0^{\circ} 34' 22.6''$	$D = 0^{\circ} 34' 22.6''$
$L = 289.60'$	$L = 289.46'$
$T = 144.81'$	$T = 144.74'$
$R = 10,000.00'$	$R = 10,000.00'$
$SE = NC$	$SE = NC$

NOTES:  
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHEETS 18 AND 19

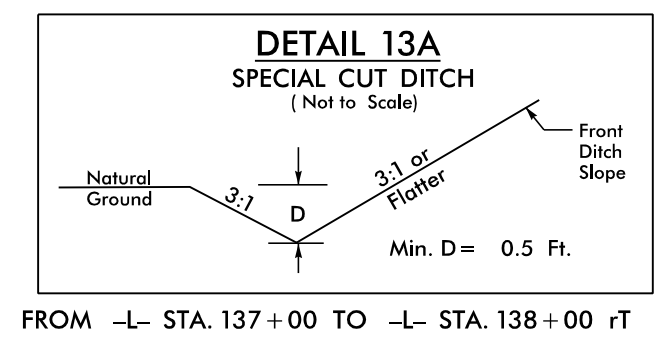
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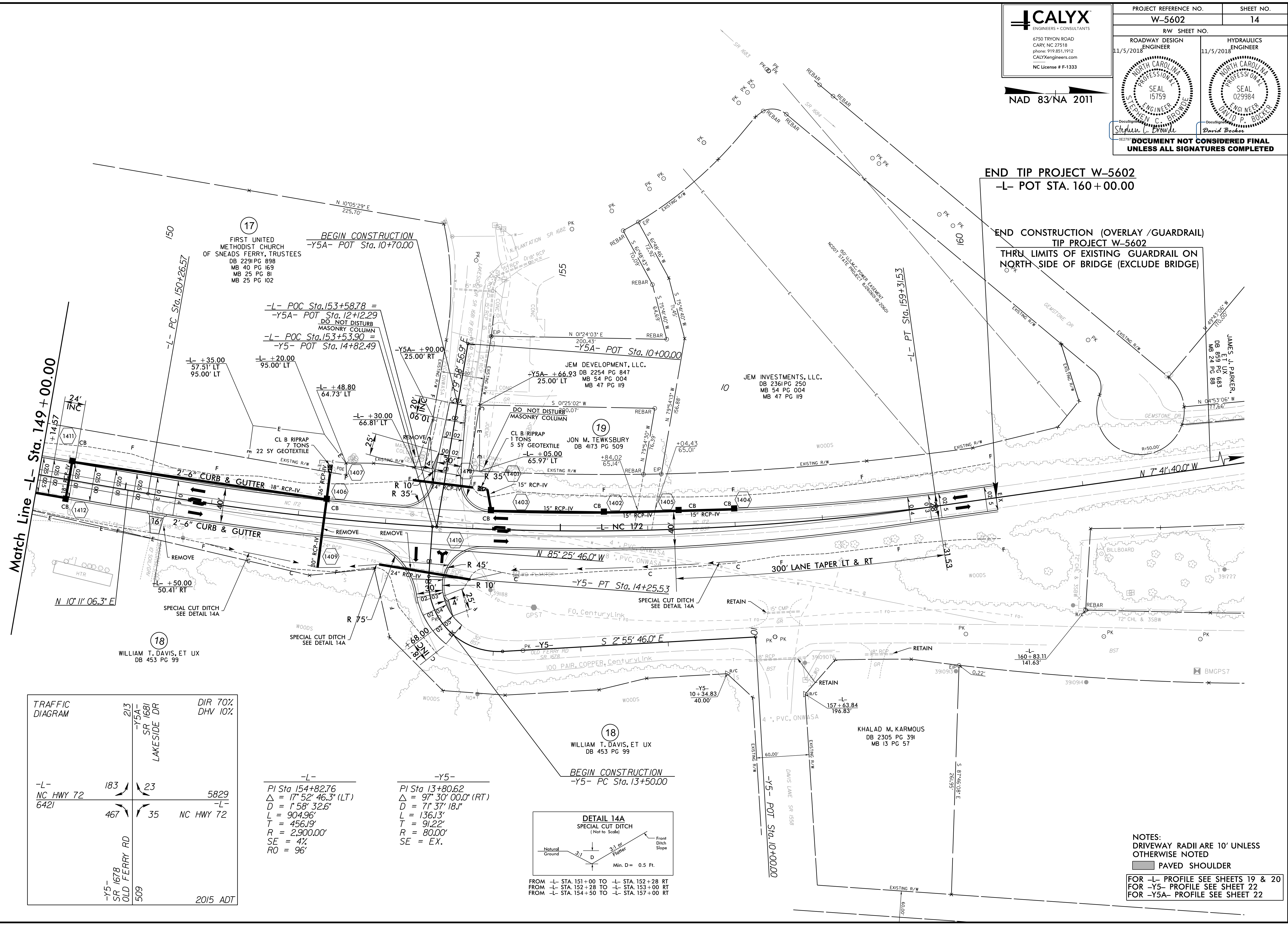
Match Line -L- Sta. 135 + 00.00

Match Line -L- Sta. 149 + 00.00



NOTES:  
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
FOR -L- PROFILE SEE SHEET 19  
FOR -Y4A- PROFILE SEE SHEET 21





**END TIP PROJECT W-5602**  
-L- POT STA. 160+00.00

**END CONSTRUCTION (OVERLAY / GUARDRAIL)**  
**TIP PROJECT W-5602**  
THRU LIMITS OF EXISTING GUARDRAIL ON  
NORTH SIDE OF BRIDGE (EXCLUDE BRIDGE)

**Match Line -L- Sta. 149+00.00**

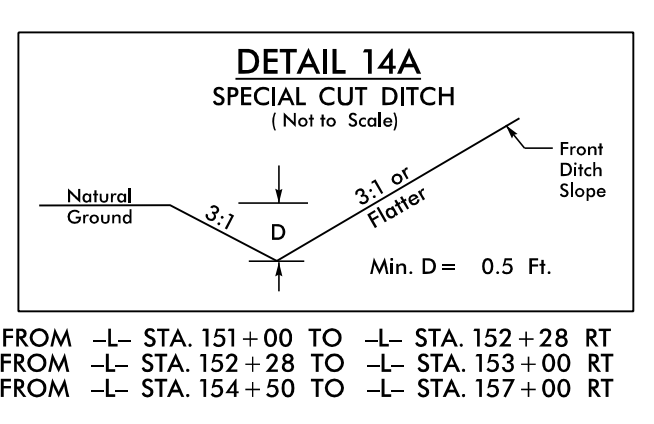
TRAFFIC DIAGRAM		DIR 70% DHV 10%	
-L-	183	23	5829
6421	467	35	NC HWY 72

213  
-Y5A-  
SR 1681  
LAKESIDE DR

509  
-Y5-  
SR 1678  
OLD FERRY RD

2015 ADT

-L-	-Y5-
PI Sta 154+82.76	PI Sta 13+80.62
$\Delta = 17^{\circ} 52' 46.3''$ (LT)	$\Delta = 97^{\circ} 30' 00.0''$ (RT)
$D = 1^{\circ} 58' 32.6''$	$D = 71^{\circ} 37' 18.1''$
$L = 904.96'$	$L = 136.13'$
$T = 456.19'$	$T = 91.22'$
$R = 2,900.00'$	$R = 80.00'$
$SE = 4\%$	$SE = EX.$
$RO = 96'$	



**NOTES:**  
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED  
PAVED SHOULDER

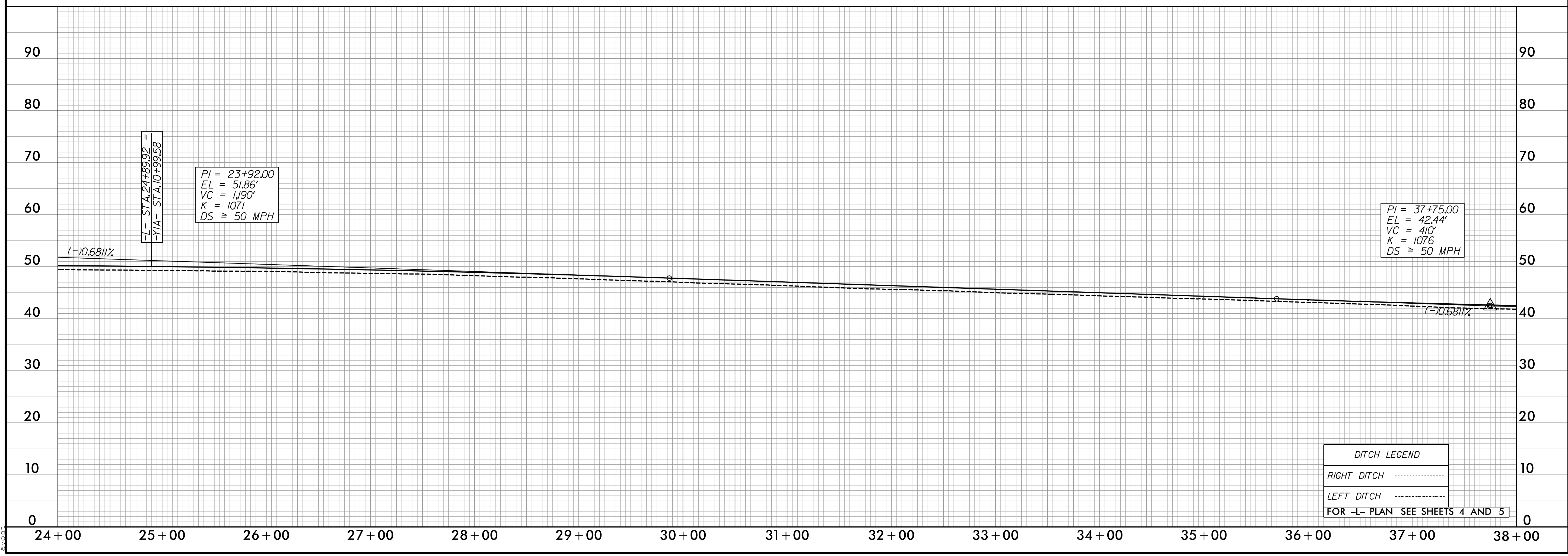
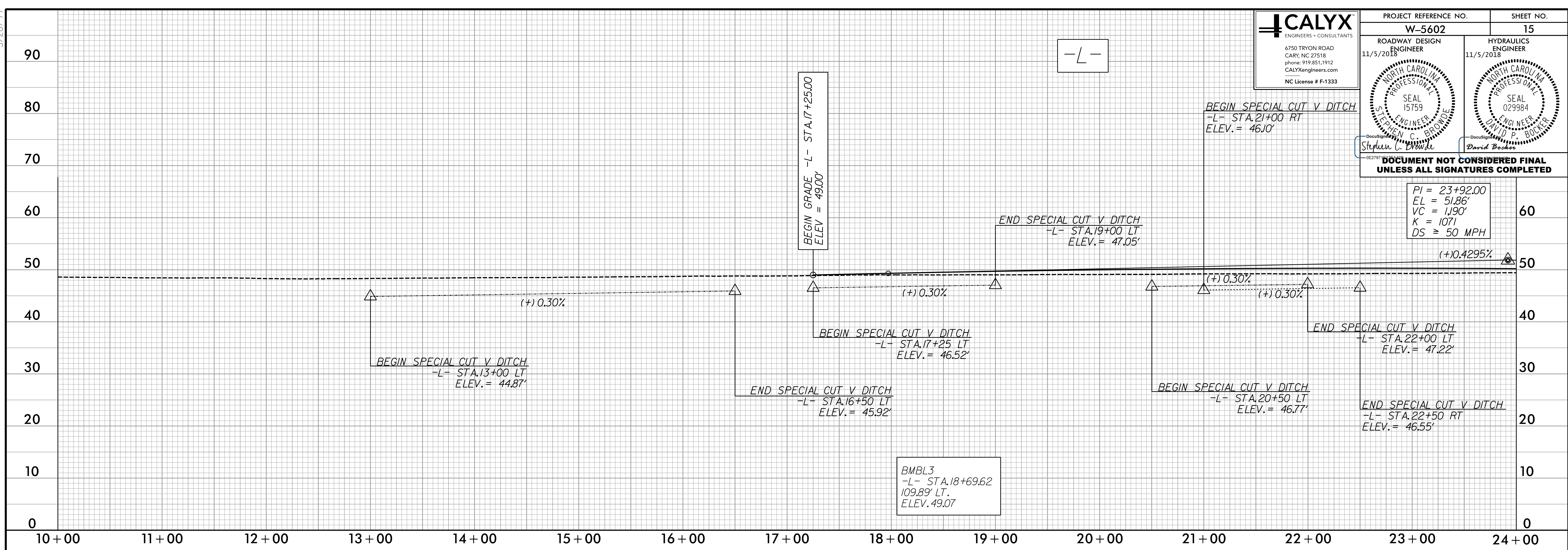
FOR -L- PROFILE SEE SHEETS 19 & 20  
FOR -Y5- PROFILE SEE SHEET 22  
FOR -Y5A- PROFILE SEE SHEET 22



5/28/2018



PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>15</b>
ROADWAY DESIGN ENGINEER 11/5/2018	HYDRAULICS ENGINEER 11/5/2018
<p><b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b></p>	



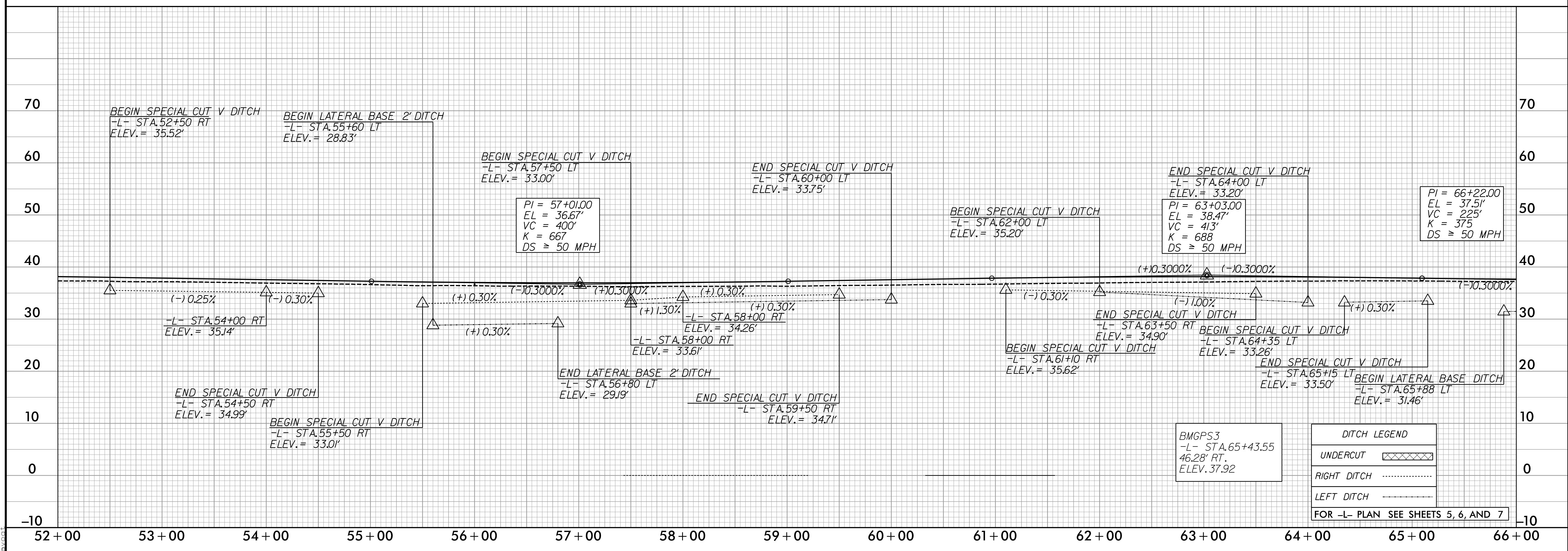
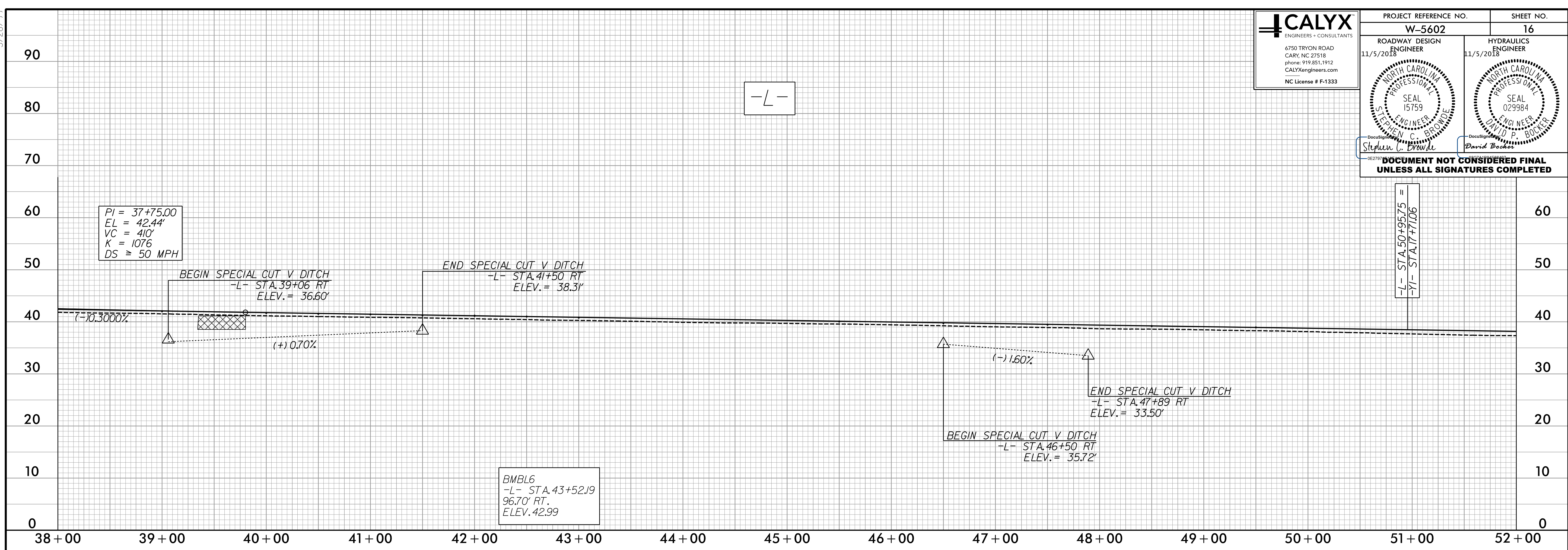
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5/28/99



PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>16</b>
ROADWAY DESIGN 11/5/2018 ENGINEER STEPHEN C. BROWDE SEAL 15759 NORTH CAROLINA PROFESSIONAL ENGINEER	HYDRAULICS 11/5/2018 ENGINEER DAVID P. BOCKER SEAL 029984 NORTH CAROLINA PROFESSIONAL ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



DITCH LEGEND	
UNDERCUT	
RIGHT DITCH	
LEFT DITCH	
FOR -L- PLAN SEE SHEETS 5, 6, AND 7	

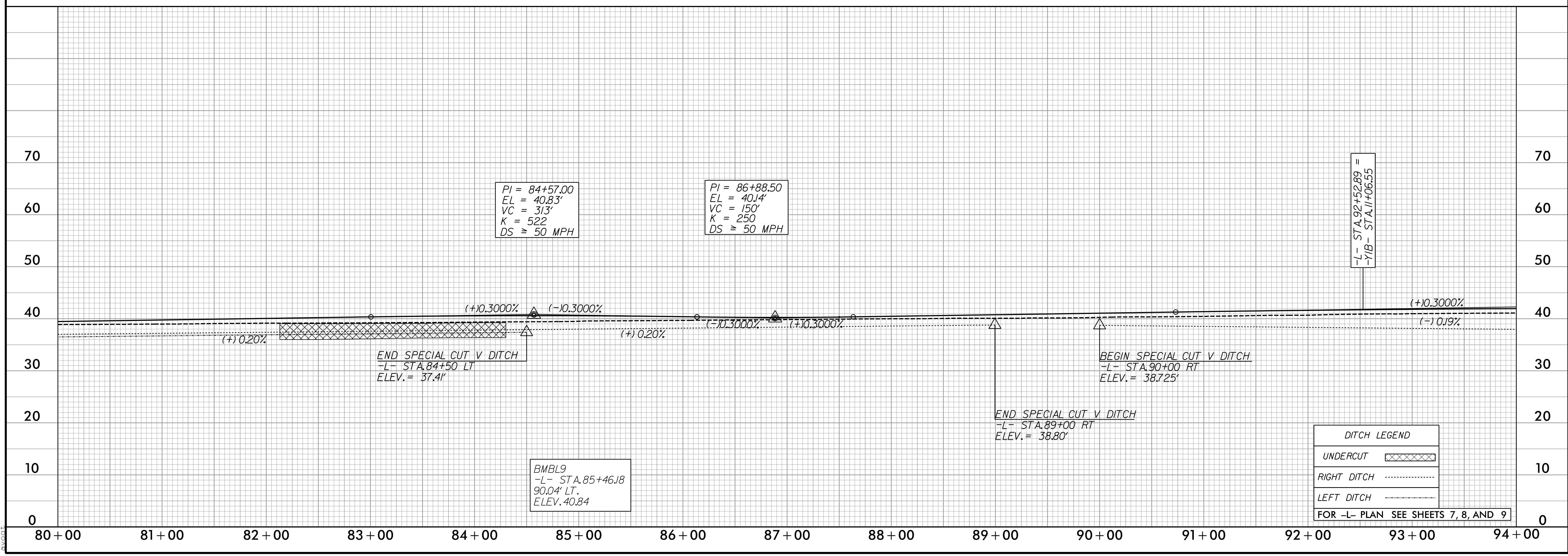
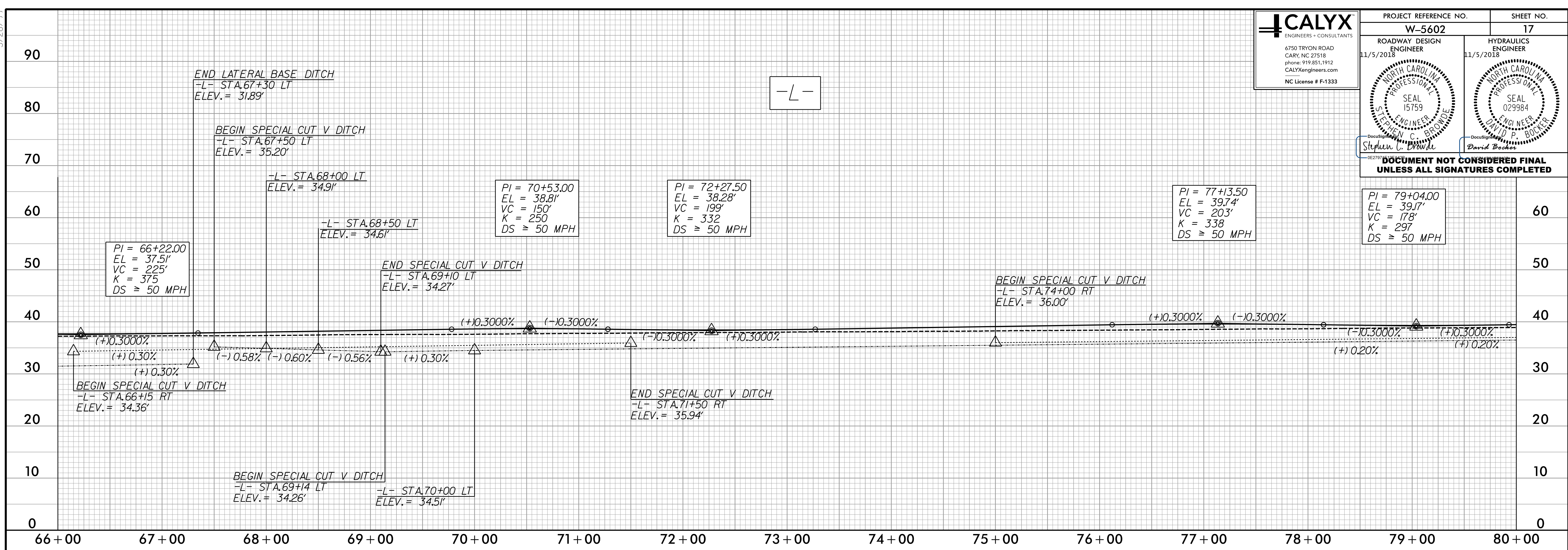
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5/28/2018



PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>17</b>
ROADWAY DESIGN ENGINEER 11/5/2018 <i>Stephen C. Browde</i>	HYDRAULICS ENGINEER 11/5/2018 <i>David Becker</i>

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



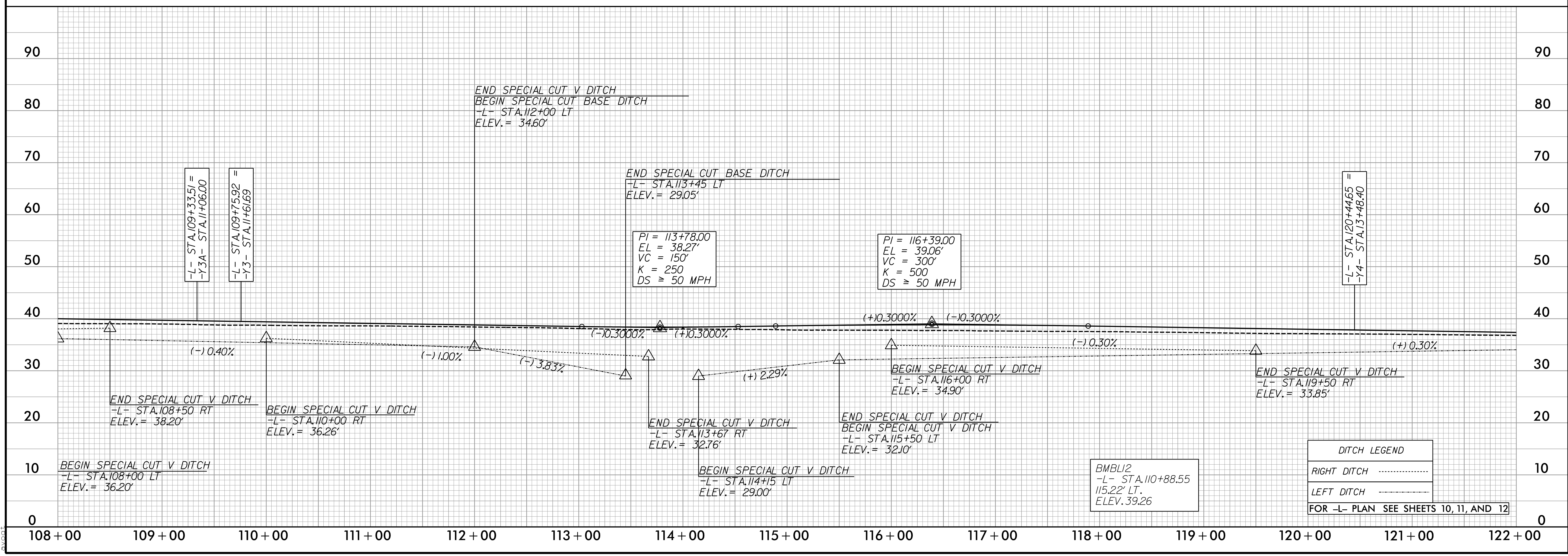
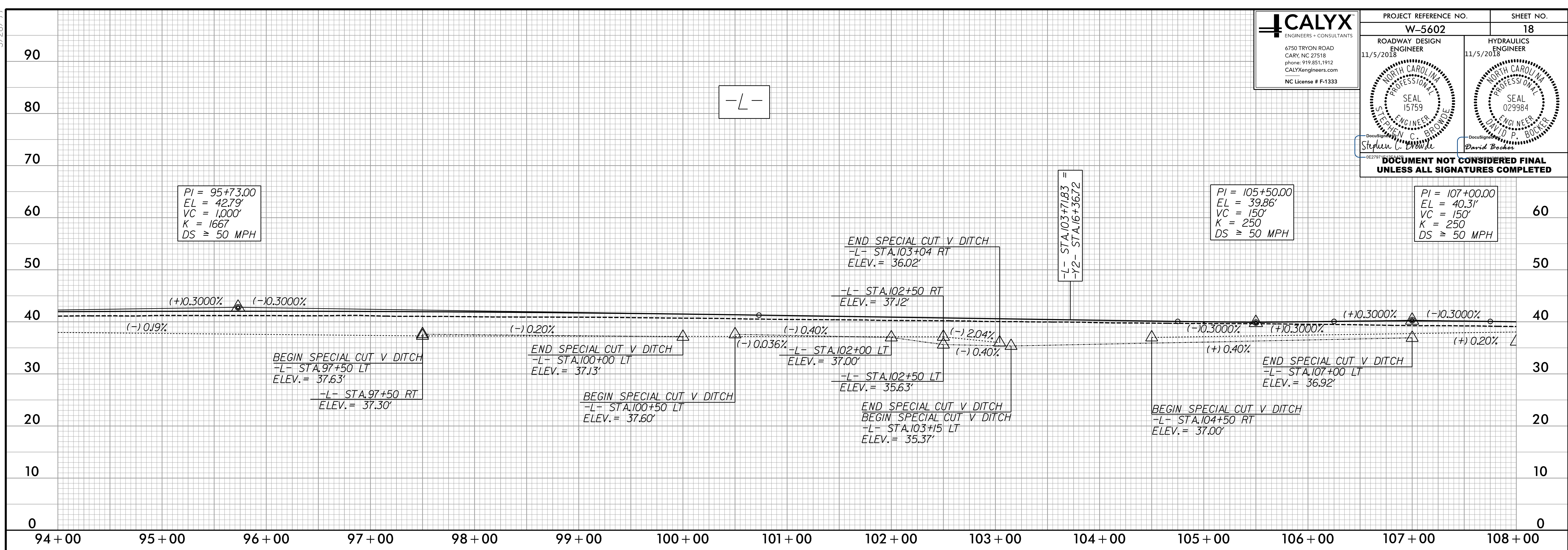
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5/28/2018



PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>18</b>
ROADWAY DESIGN ENGINEER 11/5/2018 STEPHEN C. BROWNE SEAL 15759 NORTH CAROLINA PROFESSIONAL ENGINEER	HYDRAULICS ENGINEER 11/5/2018 DAVID P. BOCKER SEAL 029984 NORTH CAROLINA PROFESSIONAL ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



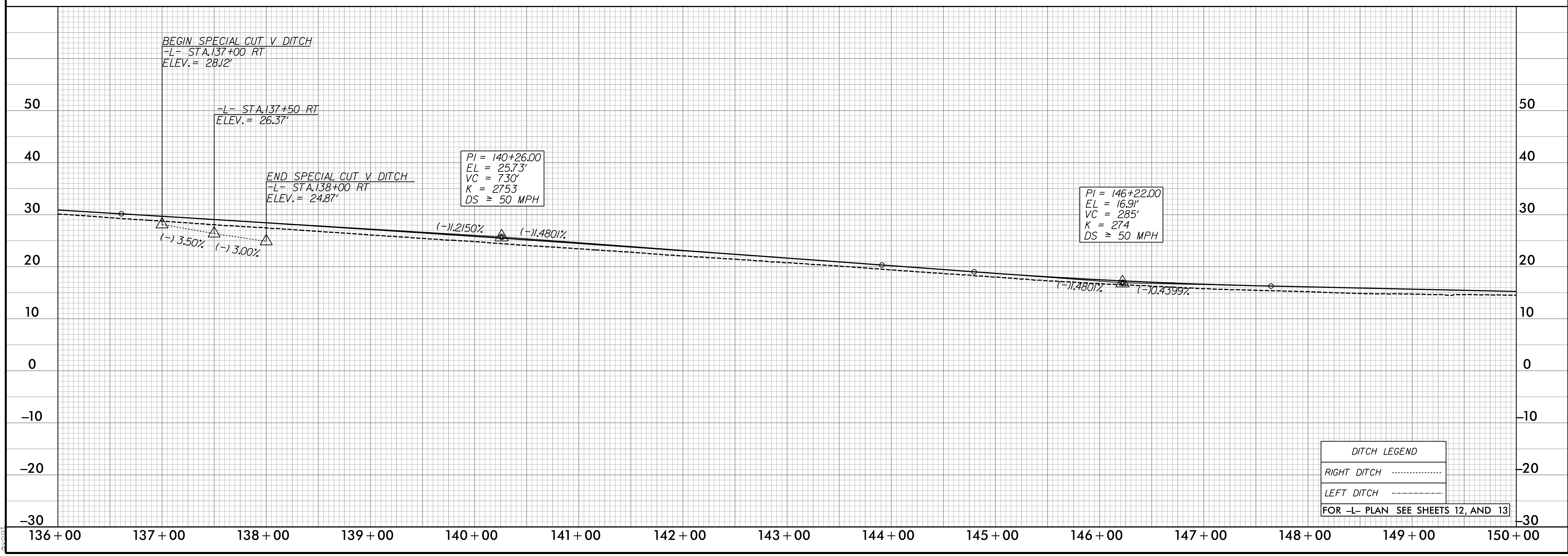
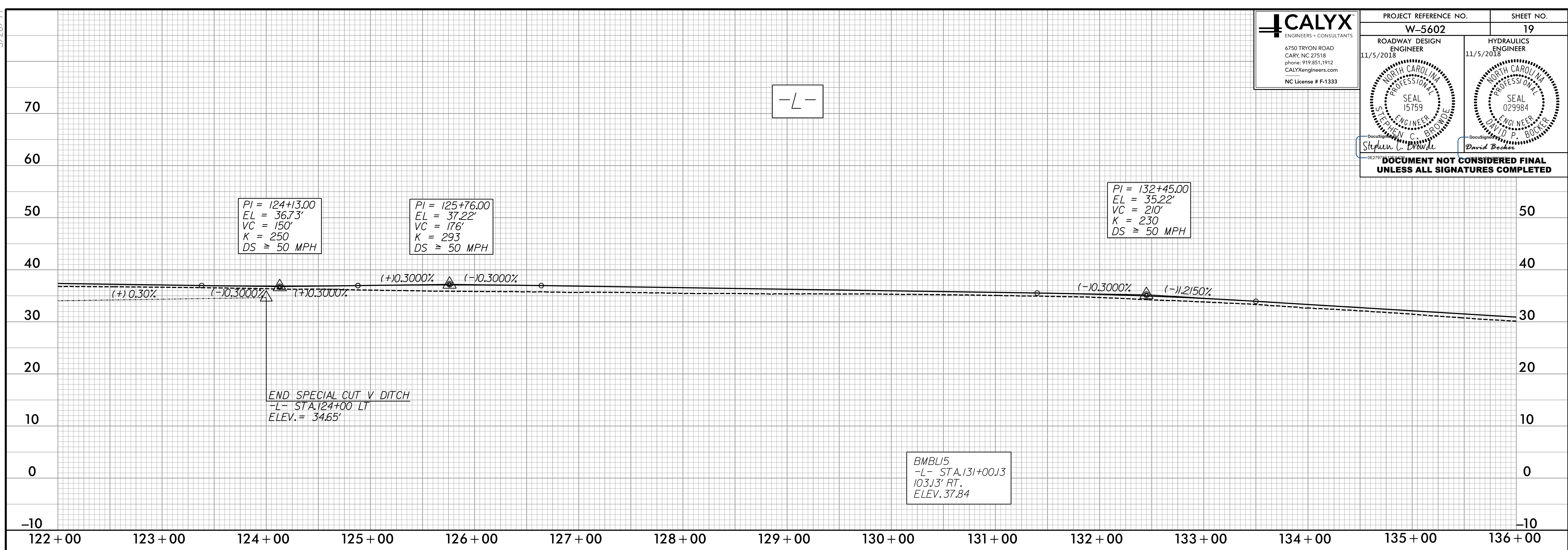
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5/28/19



PROJECT REFERENCE NO. <b>W-5602</b>		SHEET NO. <b>19</b>
ROADWAY DESIGN ENGINEER 11/5/2018	HYDRAULICS ENGINEER 11/5/2018	
<p>DocuSign  </p> <p><b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b></p>		



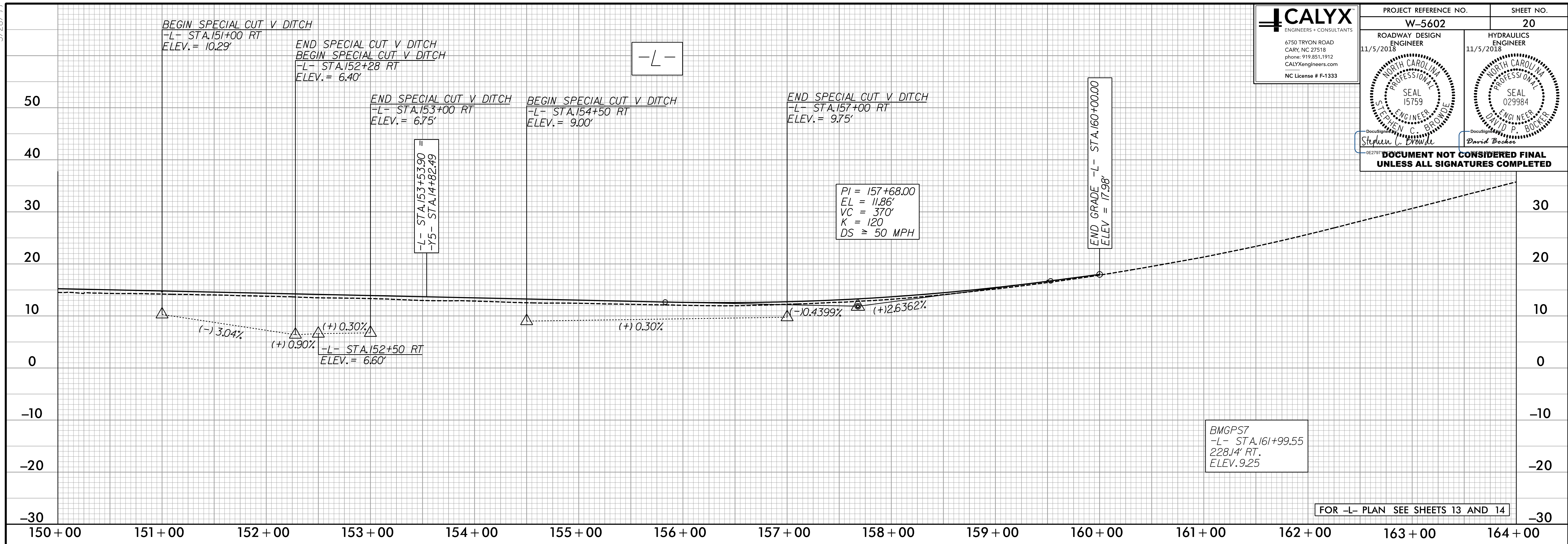
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5/28/2018

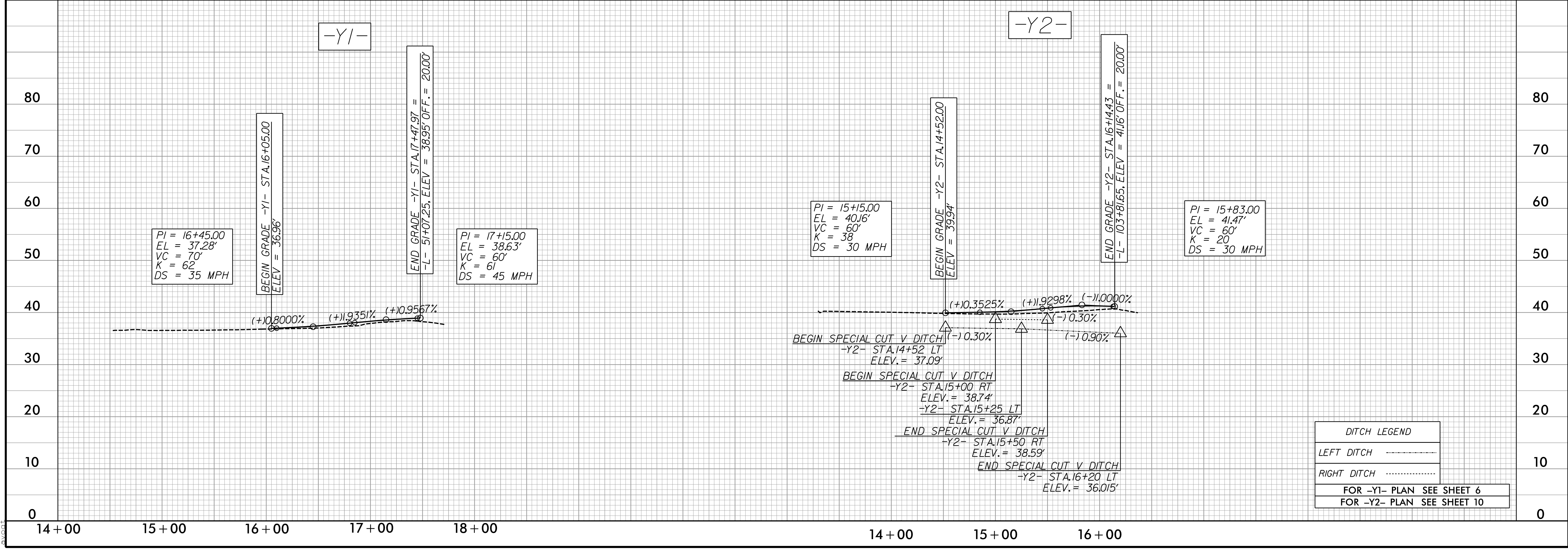


PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>20</b>
ROADWAY DESIGN ENGINEER 11/5/2018 STEPHEN C. BROWDE SEAL 15759	HYDRAULICS ENGINEER 11/5/2018 DAVID P. BOCKER SEAL 029984

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



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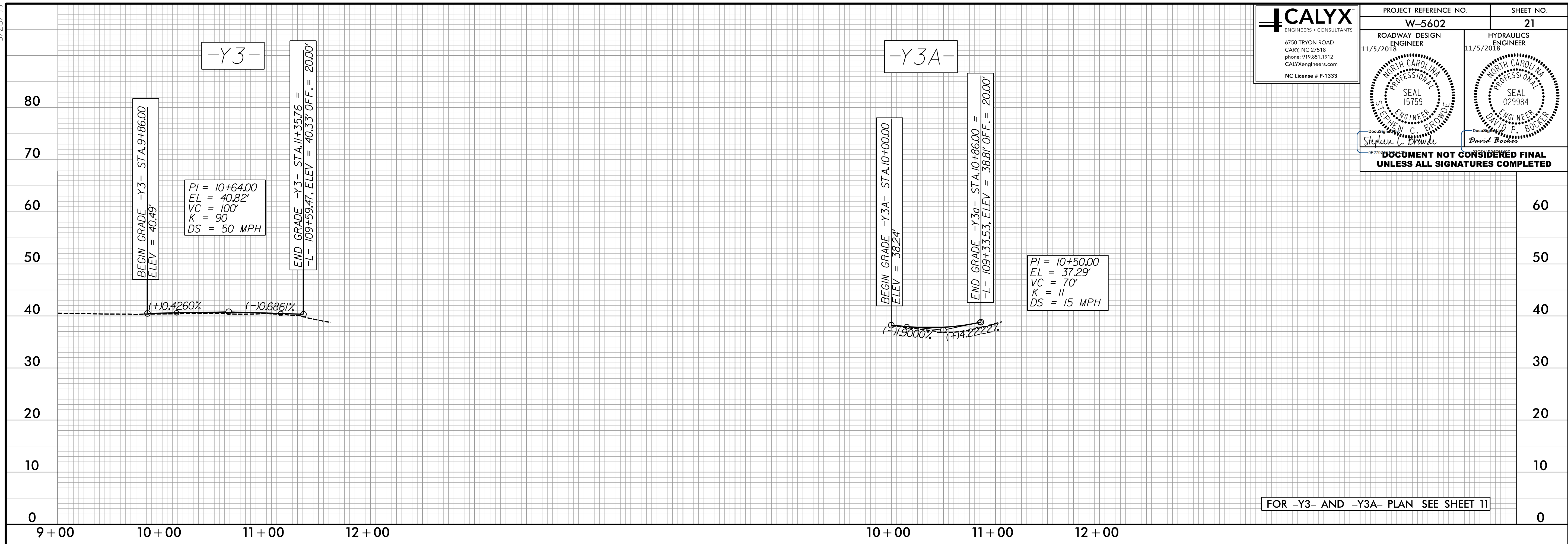




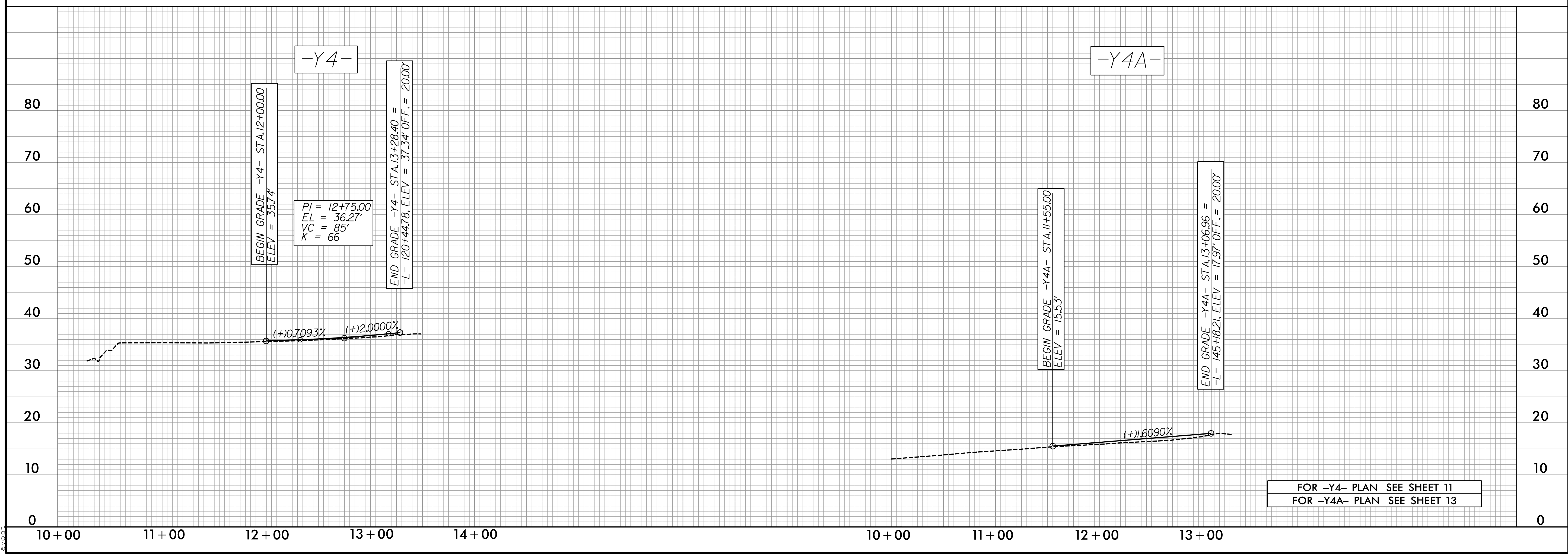
5/28/19



PROJECT REFERENCE NO. <b>W-5602</b>	SHEET NO. <b>21</b>
ROADWAY DESIGN ENGINEER 11/5/2018	HYDRAULICS ENGINEER 11/5/2018
Drawn by: <i>Stephen C. Browde</i>	Checked by: <i>David P. Boucher</i>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



FOR -Y3- AND -Y3A- PLAN SEE SHEET 11



FOR -Y4- PLAN SEE SHEET 11  
FOR -Y4A- PLAN SEE SHEET 13

8/26/2018 R:\Projects\W5602\Proj\w5602\_rdy\_pfl\_psh\_21.dgn



