

See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

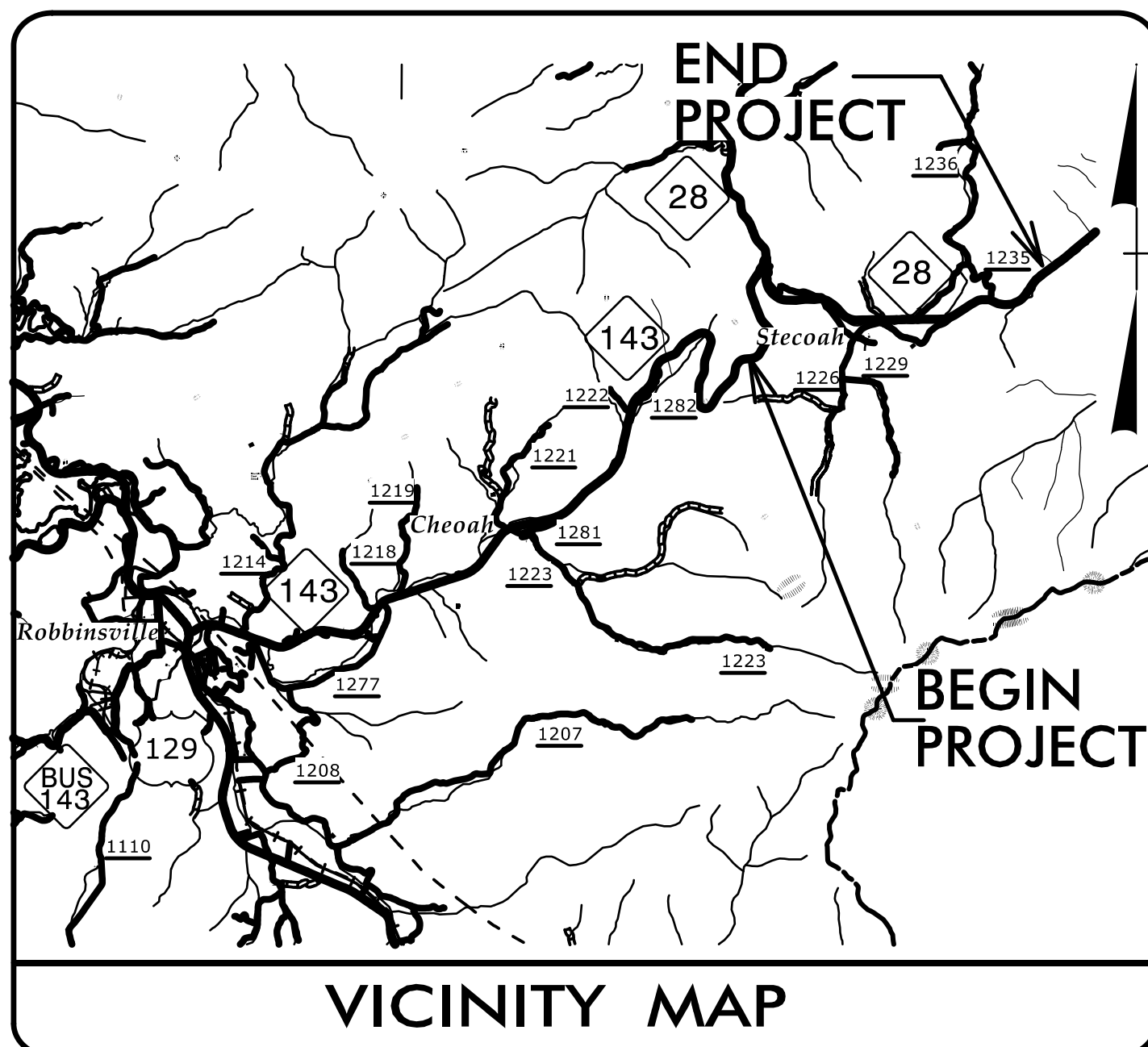
GRAHAM COUNTY

**LOCATION: UPGRADE NC 143 FROM 0.5 MILES NORTH OF APPALACHIAN TRAIL TO NC 28
UPGRADE NC 28 FROM 0.2 MILES WEST OF NC 143 TO 0.3 MILES EAST
OF SR 1235 (GUNTERS GAP RD)**

TYPE OF WORK: GRADING, PAVING, DRAINAGE, CULVERTS, & RETAINING WALLS

MERGER 4B PLANS FOR 6-16-2021 MEETING

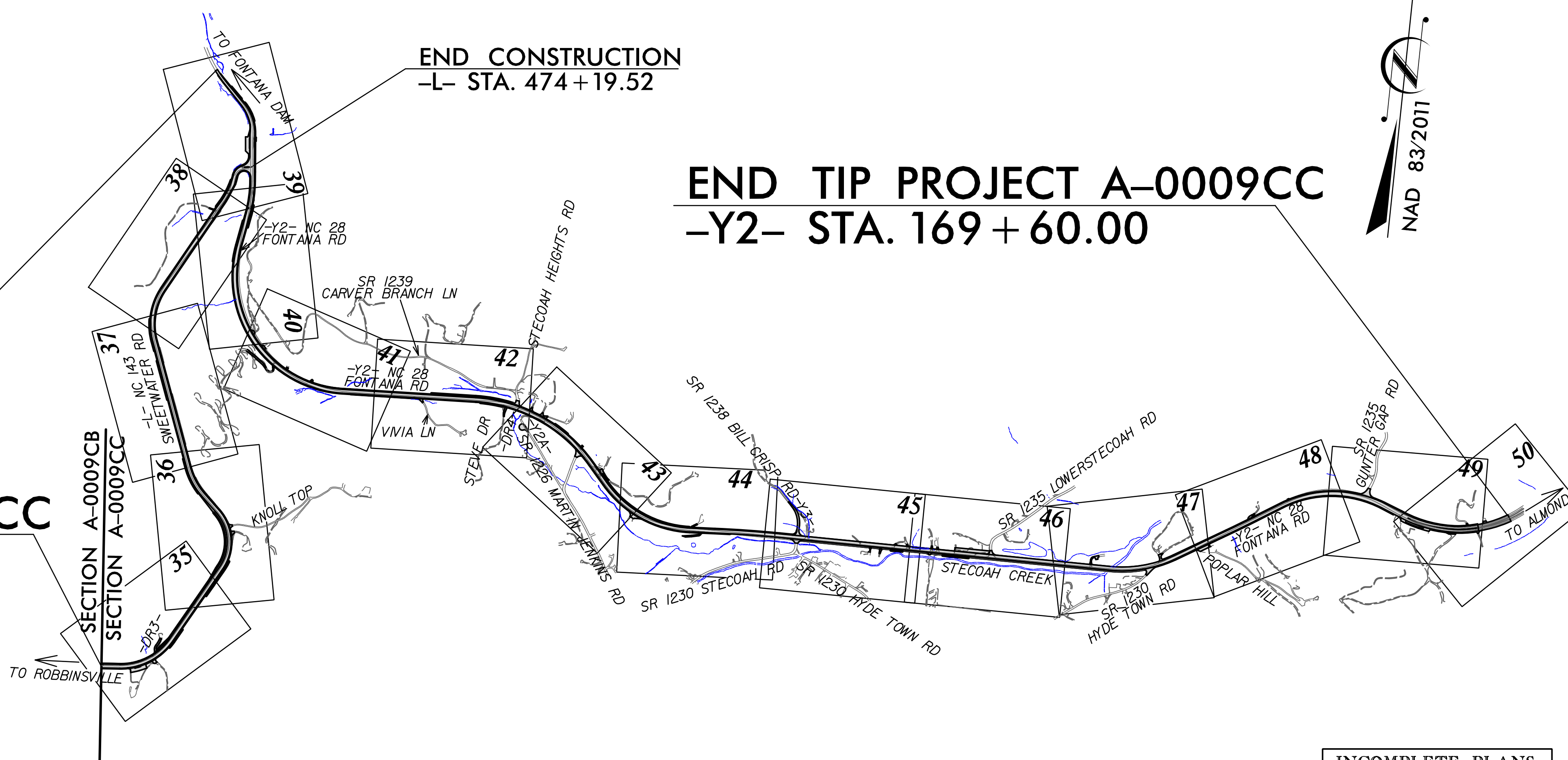
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-0009CC	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
32572.1.15	APD-0074(178)	PE	
32572.2.15	APD-0074(178)	ROW, UTIL.	
32572.3.15	APD-0074(178)	CONST.	



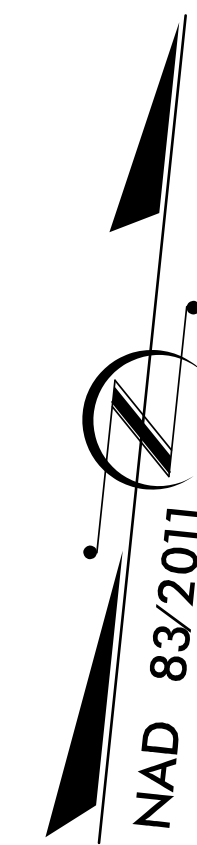
3R GUIDELINES WERE USED FROM
-L- 414+50 TO -L- STA 474+20
AND FROM -Y2- 12+60± TO 23+00±
TO MINIMIZE IMPACTS TO USFD PROPERTY
AND NATURAL RESOURCES.

BEGIN CONSTRUCTION
-Y2- STA. 12 + 60.00

BEGIN TIP PROJECT A-0009CC
-L- STA. 414 + 50.00



END TIP PROJECT A-0009CC
-Y2- STA. 169 + 60.00



DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVATURE AND HORIZONTAL SSD.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACT:

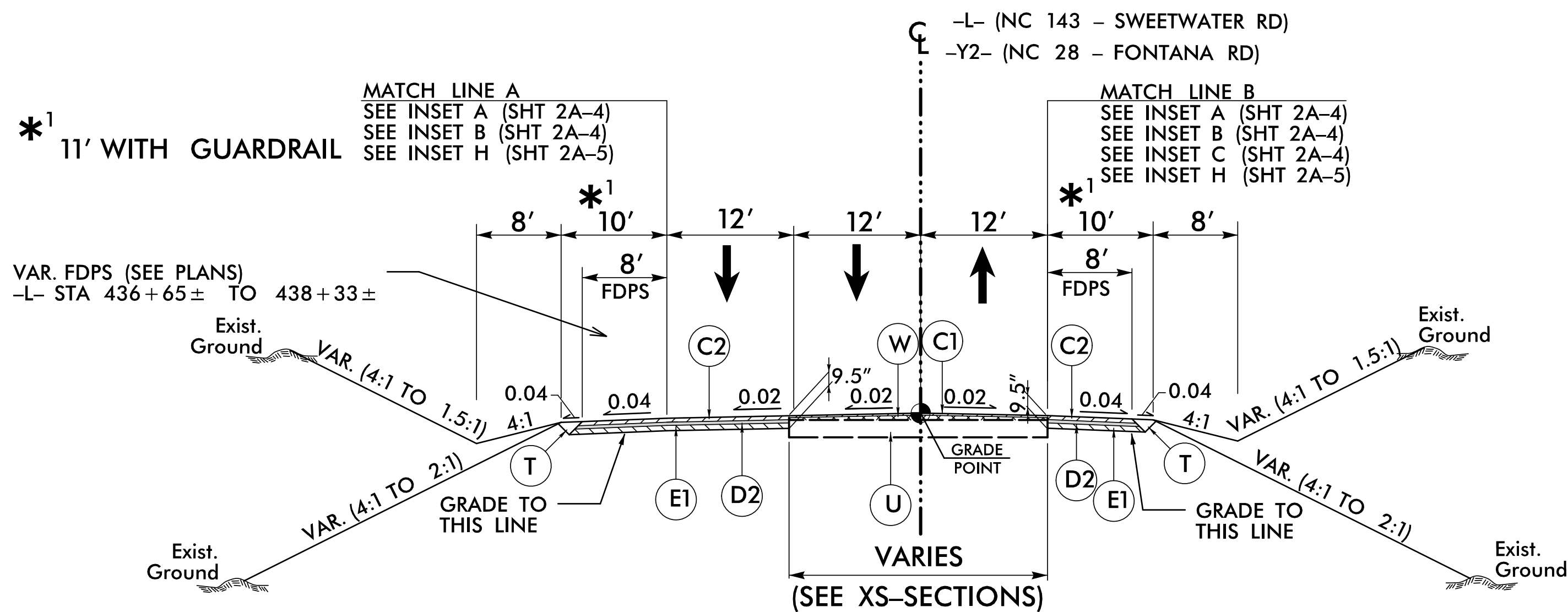
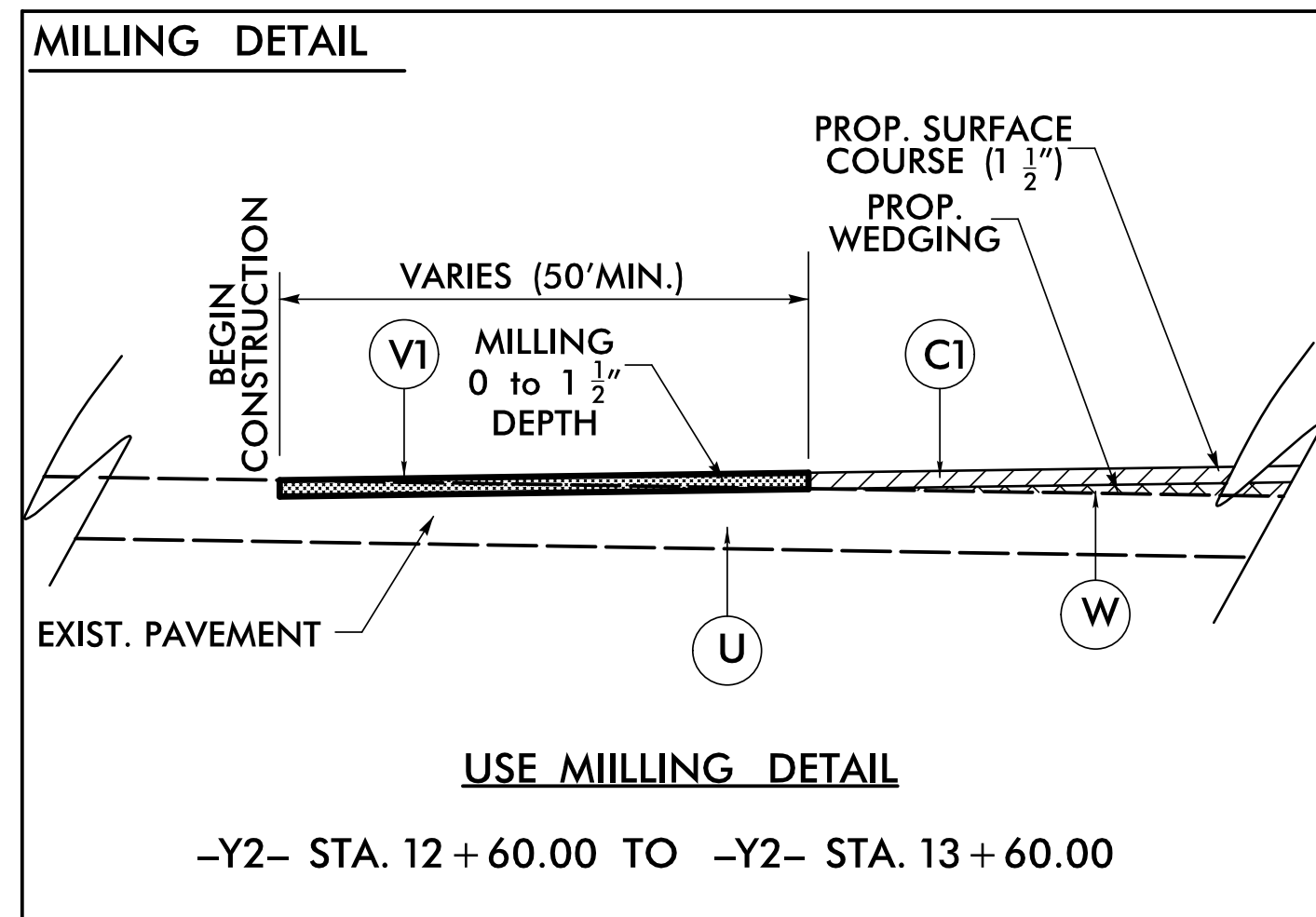
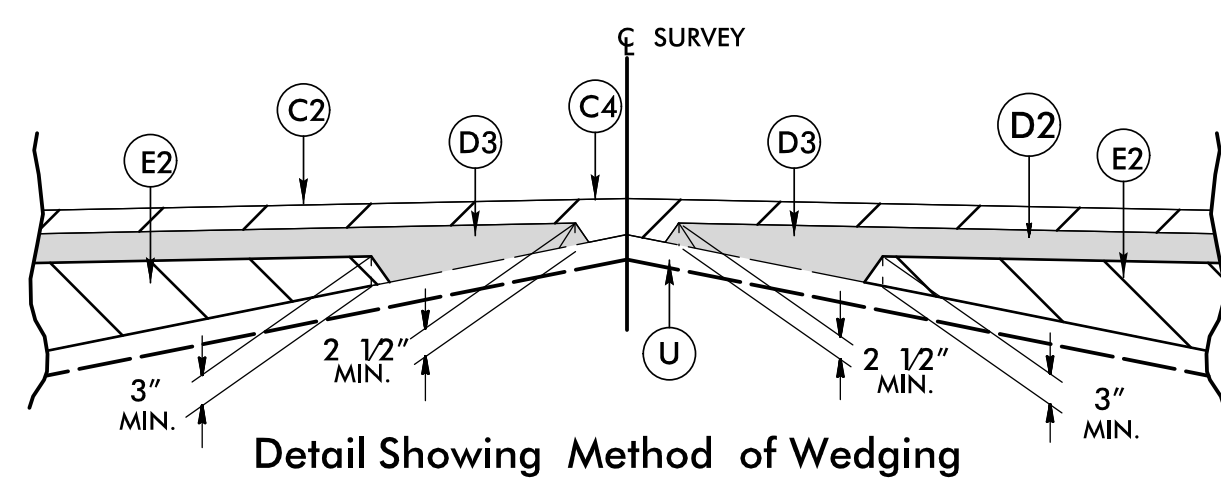
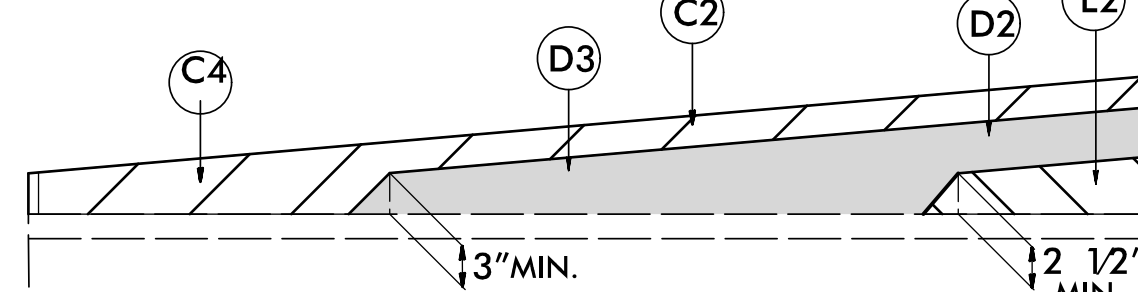
<p>GRAPHIC SCALES</p>	<p>-L- DESIGN DATA</p> <p>ADT 2022 = 6590 ADT 2045 = 8800 K = 11 % D = 57.5 % T = 7 % * V = 60 MPH * TTST = 2% DUAL = 5% FUNC CLASS = RURAL ARTERIAL REGIONAL TIER</p>	<p>-Y2- DESIGN DATA</p> <p>ADT 2022 = 3800 ADT 2045 = 5200 K = 11 % D = 67.5 % T = 7 % * V = 50 MPH * TTST = 2% DUAL = 5% FUNC CLASS = RURAL ARTERIAL REGIONAL TIER</p>	<p>PROJECT LENGTH</p> <p>LENGTH ROADWAY TIP PROJECT A-0009CC = 1.131 MILES -L- = 2.973 MILES TOTAL LENGTH TIP PROJECT A-0009CC = 4.104 MILES</p>	<p>NCDOT CONTACT: WANDA H. AUSTIN, PE</p>	<p>HYDRAULICS ENGINEER</p>	
				<p>PLANS PREPARED BY:</p> <p>TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275</p>	<p>PLANS PREPARED FOR:</p> <p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 14 252 Webster Rd Sylva, NC 28779</p>	
				<p>RIGHT OF WAY DATE: SEPTEMBER 2021</p>	<p>JIMMY L. TERRY, PE PROJECT ENGINEER</p>	<p>SIGNATURE: _____ P.E.</p>
				<p>LETTING DATE: OCTOBER 18, 2022</p>	<p>AUSTIN TURNER, PE PROJECT DESIGN ENGINEER</p>	

09/08/19
 6/1/2021
 X:\NCDOT\VA-0009\Hydraulics\MERGER\VA-0009 CC\CC 4B\Plan Sheets\VA-0009CC.Rdy_tsh.dgn
 User:zrtchard

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. APPROX. 2 1/2" 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" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" 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 5 1/2" OR GREATER THAN 3" IN DEPTH.
J1	PROP. 6" AGGREGATE BASE COURSE.
R1	2'-6" CONCRETE CURB AND GUTTER.
R2	EXPRESSWAY GUTTER
R3	8" X 12" CONCRETE CURB
R4	SHOULDER BERM GUTTER
R5	5" MONOLITHIC CONCRETE ISLAND (SURFACE-MOUNT)
S	CONCRETE SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	INCIDENTAL MILLING, SEE THIS SHEET FOR DETAIL
V2	1 1/2" MILLING
W	WEDGING EXISTING PAVEMENT, SEE THIS SHEET FOR DETAILS

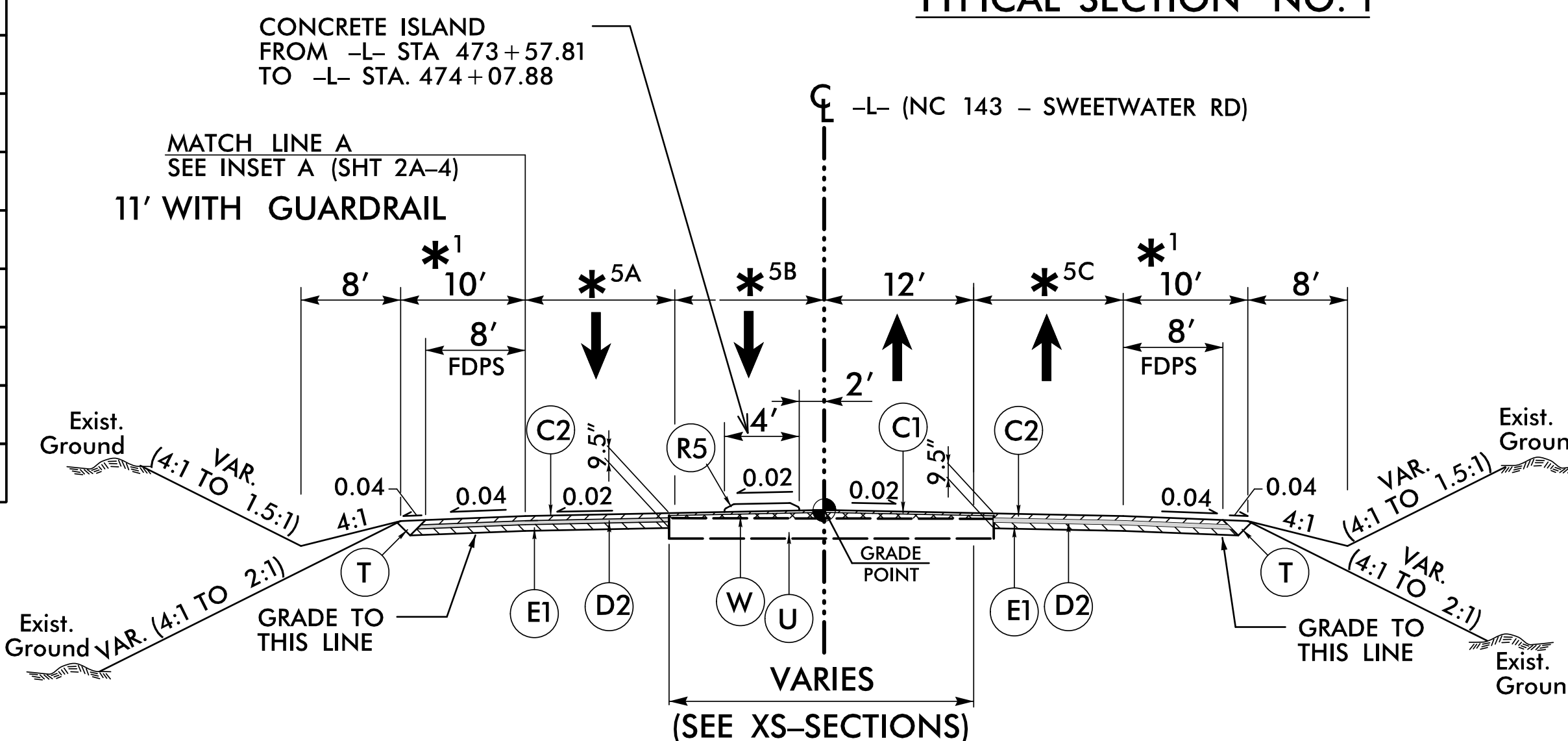
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-L- STA. 414 + 50.00 TO -L- STA. 468 + 65.00
-Y2- STA. 23 + 94.34 TO -Y2- STA. 78 + 67.46

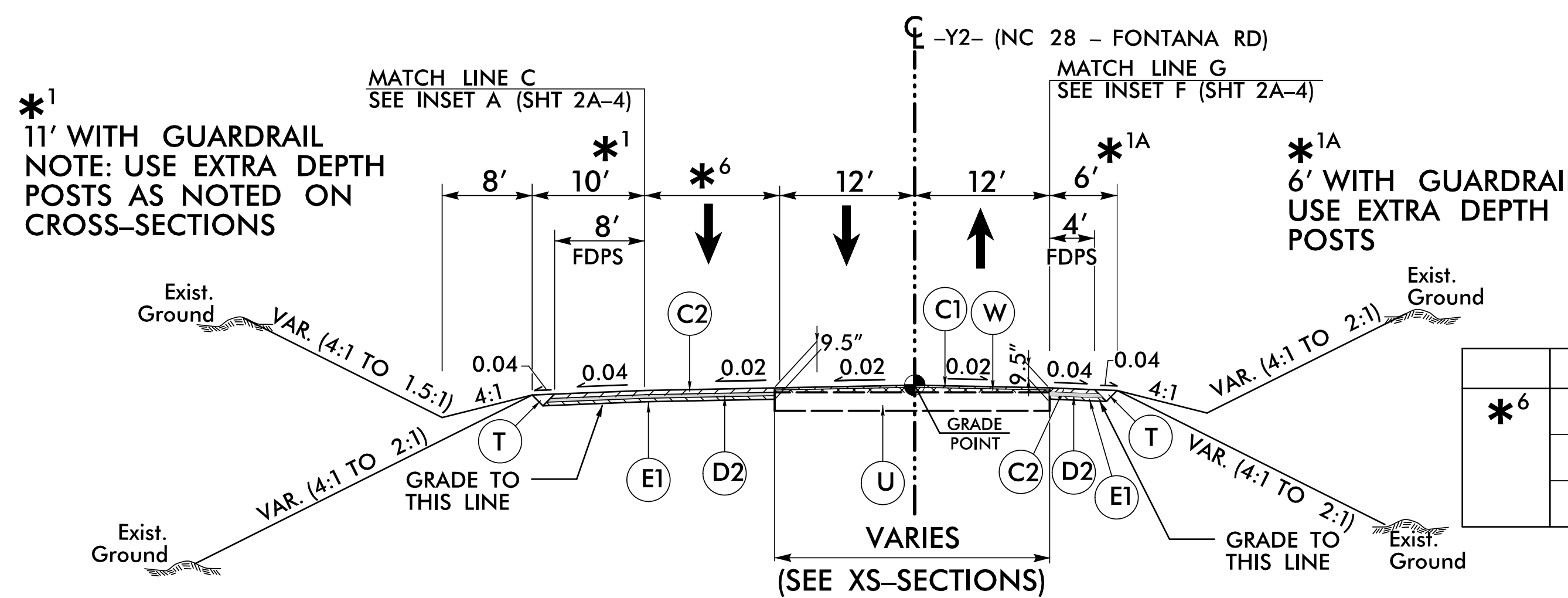


TYPICAL SECTION NO. 1A

USE TYPICAL SECTION NO. 1A

-L- STA. 468 + 65.00 TO -L- STA. 474 + 19.52

	WIDTH	STA TO STA
*5A	12' TO 0'	-L- STA. 468 + 65.00 TO -L- STA. 472 + 25.00, LT
	0'	-L- STA. 472 + 25.00 TO -L- STA. 474 + 19.52, LT
*5B	12'	-L- STA. 468 + 65.00 TO -L- STA. 472 + 25.00, LT
	12' TO 20'	-L- STA. 472 + 25.00 TO -L- STA. 473 + 61.88, LT
*5C	20'	-L- STA. 473 + 61.88 TO -L- STA. 474 + 19.52, LT
	0' TO 12'	-L- STA. 470 + 50.00 TO -L- STA. 471 + 50.00, RT
	12'	-L- STA. 471 + 50.00 TO -L- STA. 474 + 19.52, RT



USE TYPICAL SECTION NO. 2

-Y2- STA. 13 + 60.00 TO -Y2- STA. 23 + 00.94

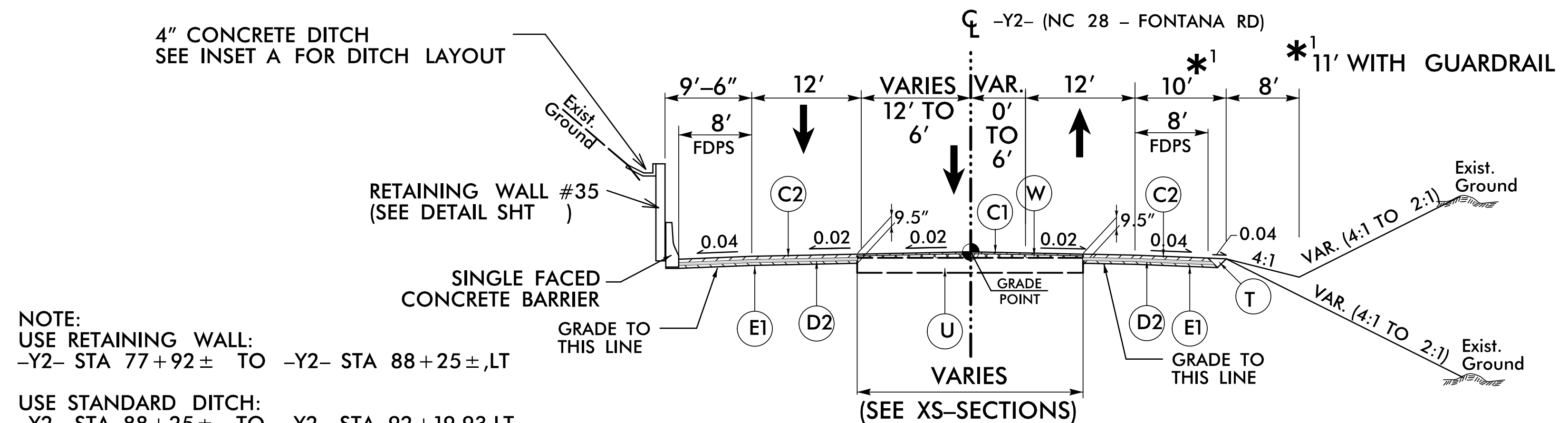
NOTE:
TRANSITION BETWEEN EXISTING AND TYP. SECT.
NO 2 AS FOLLOWS:
-Y2- STA. 12 + 60.00 TO -Y2- STA. 13 + 60.00

	WIDTH	STA TO STA
*6	0'	-Y2- STA. 13 + 60.00 TO -Y2- STA. 14 + 50.00, LT
	0' TO 12'	-Y2- STA. 14 + 50.00 TO -Y2- STA. 19 + 90.00, LT
	12'	-Y2- STA. 19 + 90.00 TO -Y2- STA. 23 + 94.34, LT

PROJECT REFERENCE NO. A-0009CC	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

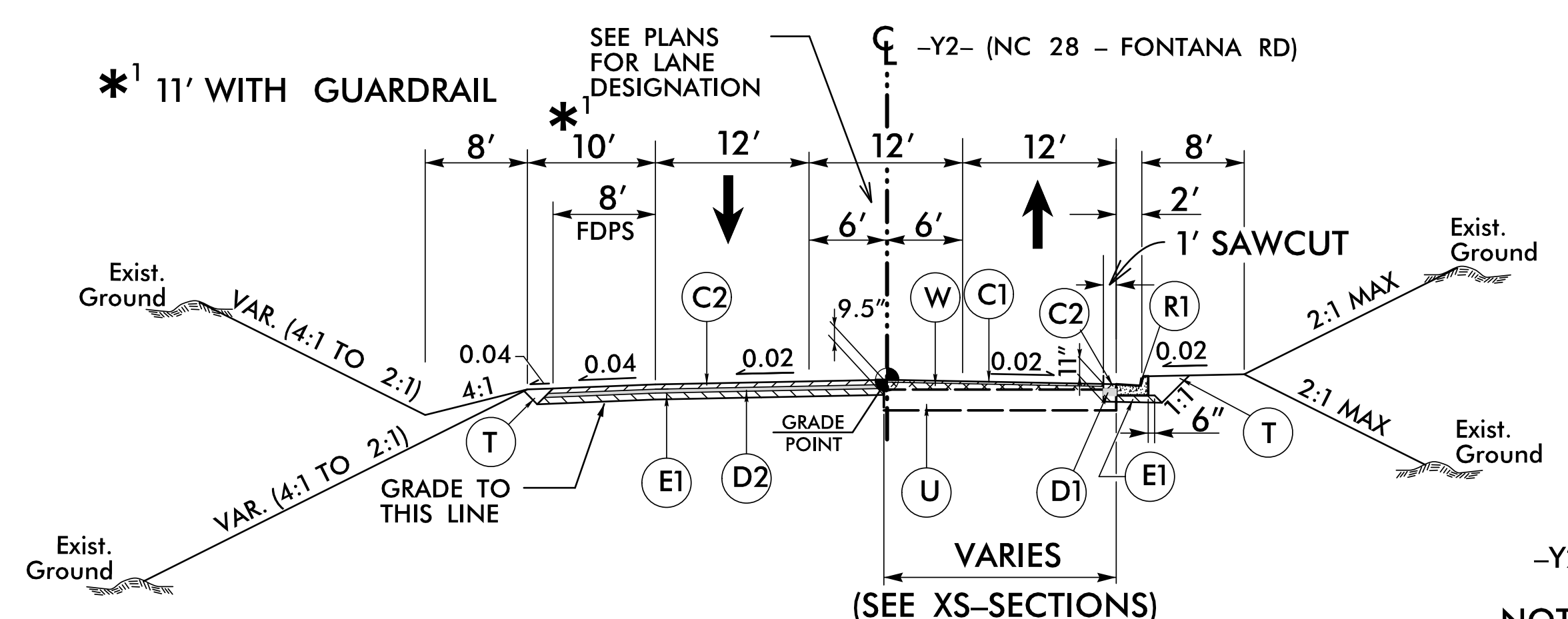
PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
D1	4" I19.0C
D2	2 1/2" I19.0C
E1	4" B25.0C
R1	2'-6" C&G
S	CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE. SEE SHEET 2A-1 FOR DETAILED PAVEMENT SCHEDULE.



TYPICAL SECTION NO. 3
USE TYPICAL SECTION NO. 3
-Y2- STA. 78+67.49 TO -Y2- STA. 92+19.93

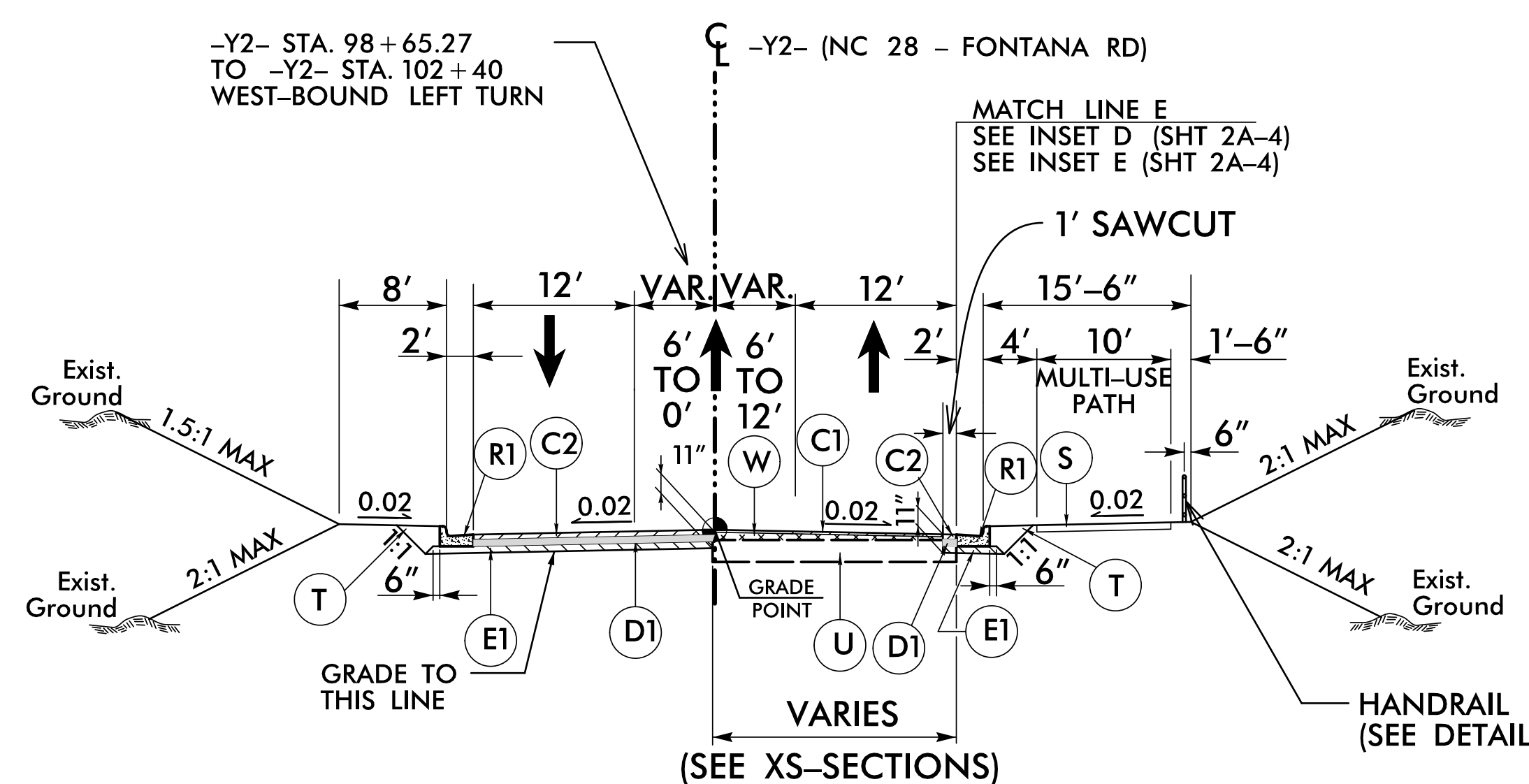
NOTE:
TRANSITION BETWEEN TYP. SECT. NO. 3
AND TYP. SECT. NO. 4 AS FOLLOWS:
-Y2- STA. 92+19.93 TO -Y2- STA. 92+50.00



NOTE:
USE 4' BERM :
-Y2- STA. 92+50 TO 93+00.00, RT
USE 6' BERM :
-Y2- STA 93+50.00, RT

USE TYPICAL SECTION NO. 4
-Y2- STA. 92+50.00 TO -Y2- STA. 98+65.27

NOTE: GUARDRAIL TO BE PLACED AT FACE OF CURB PER NCDOT STD DRAWING 862.01 AT LOCATIONS SHOWN ON PLANS.



USE TYPICAL SECTION NO. 5
-Y2- STA. 98+65.27 TO -Y2- STA. 135+21.96

NOTE:
USE SHOULDER SECTION AND STANDARD DITCH
(SEE TYPICAL SECTION NO. 1)


-Y2- STA. 132+02.72 TO -Y2- STA. 135+21.96, RT
-Y2- STA. 133+63.02 TO -Y2- STA. 135+21.96, LT

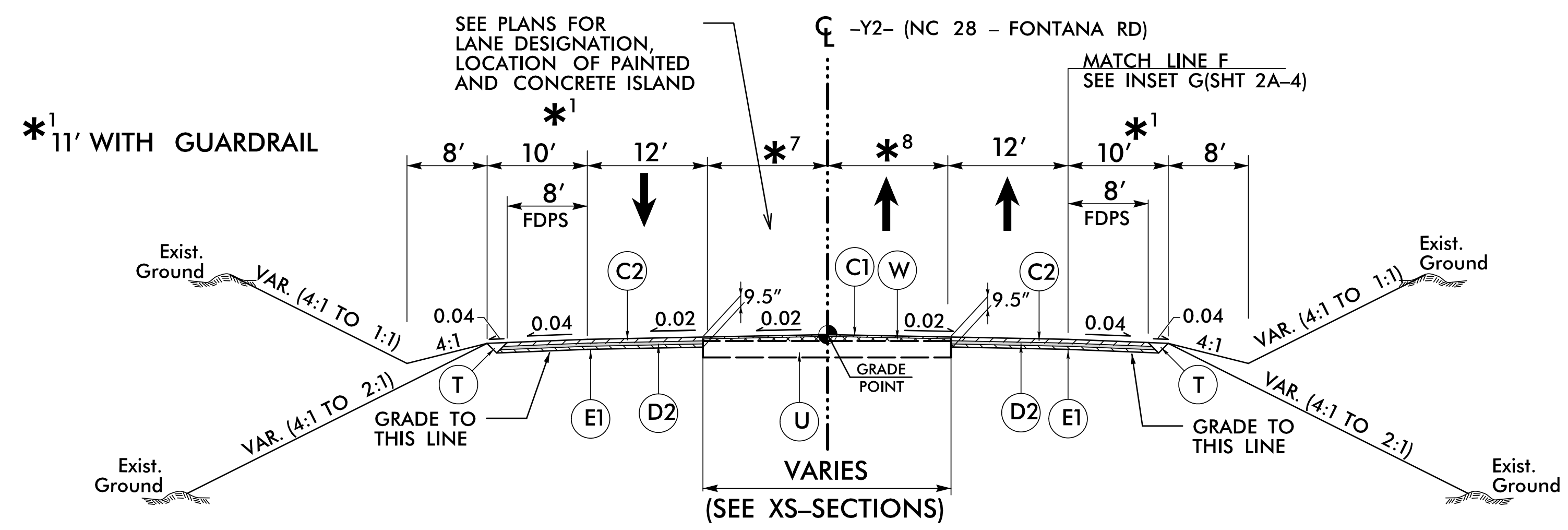
TYPICAL SECTION NO. 5

6/2/09

PAVEMENT SCHEDULE			
C1	1.5" S9.5B	J1	6" ABC
C2	3" S9.5B	T	EARTH MATERIAL
C3	2" S9.5B	U	EXISTING PAVEMENT
D2	2 1/2" I19.0C	V2	1 1/2" MILLING
E1	4" B25.0C	W	WEDGING

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE. SEE SHEET 2A-1 FOR DETAILED PAVEMENT SCHEDULE.

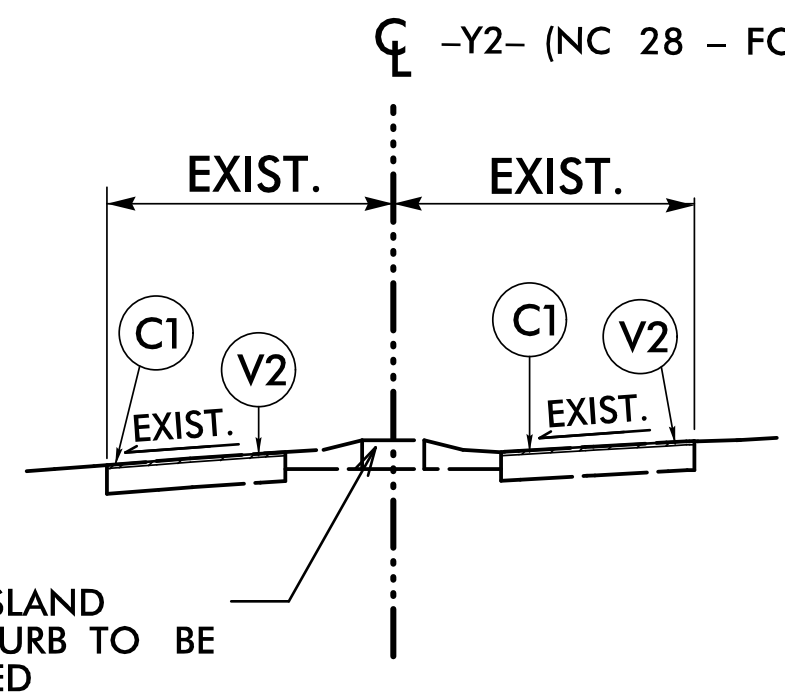
PROJECT REFERENCE NO. A-0009CC	SHEET NO. 2A-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



TYPICAL SECTION NO. 6

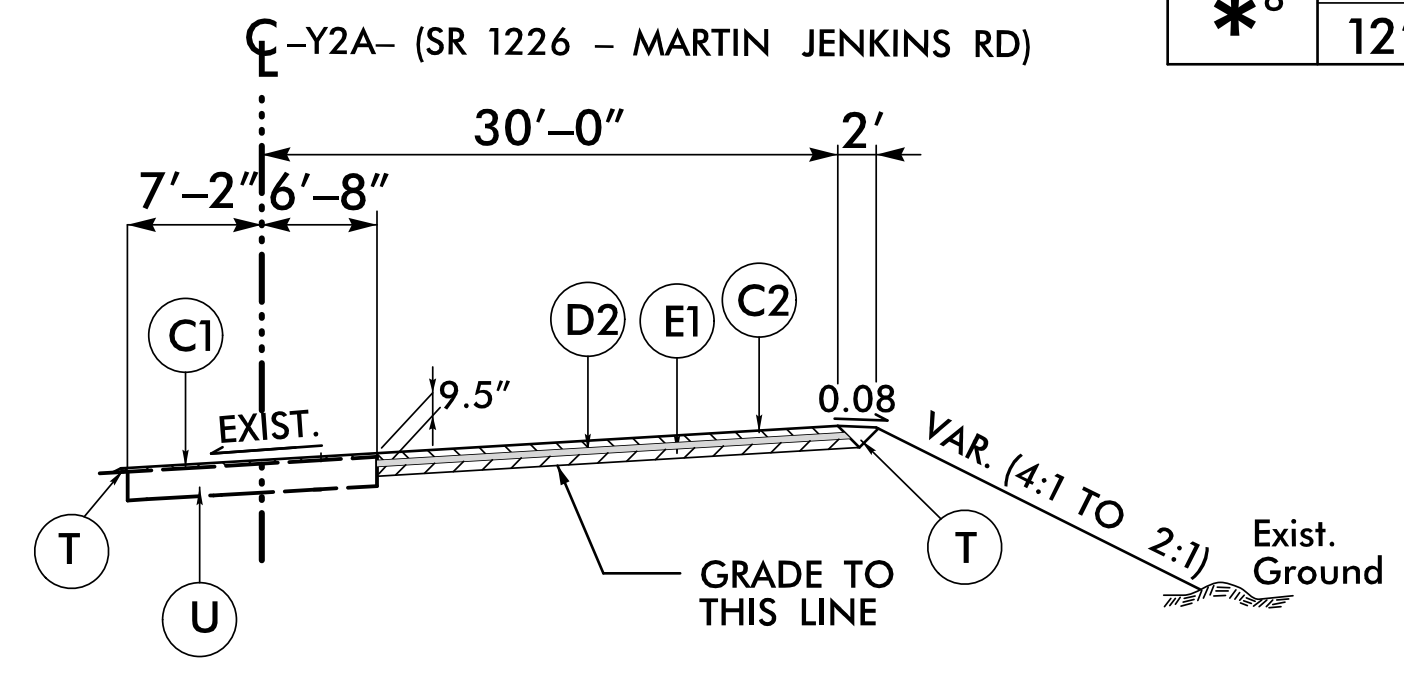
USE TYPICAL SECTION NO. 6
-Y2- STA. 135+21.96 TO -Y2- STA. 164+50.00

	WIDTH	STA TO STA
*7	0'	-Y2- STA. 135+21.96 TO -Y2- STA. 148+20.00
	0' TO 19'	-Y2- STA. 148+20.00 TO -Y2- STA. 158+65.00
	19' TO 16'	-Y2- STA. 158+65.00 TO -Y2- STA. 164+50.00
*8	12'	-Y2- STA. 135+21.96 TO -Y2- STA. 158+96.87
	12' TO 15'	-Y2- STA. 158+96.87 TO -Y2- STA. 164+50.00



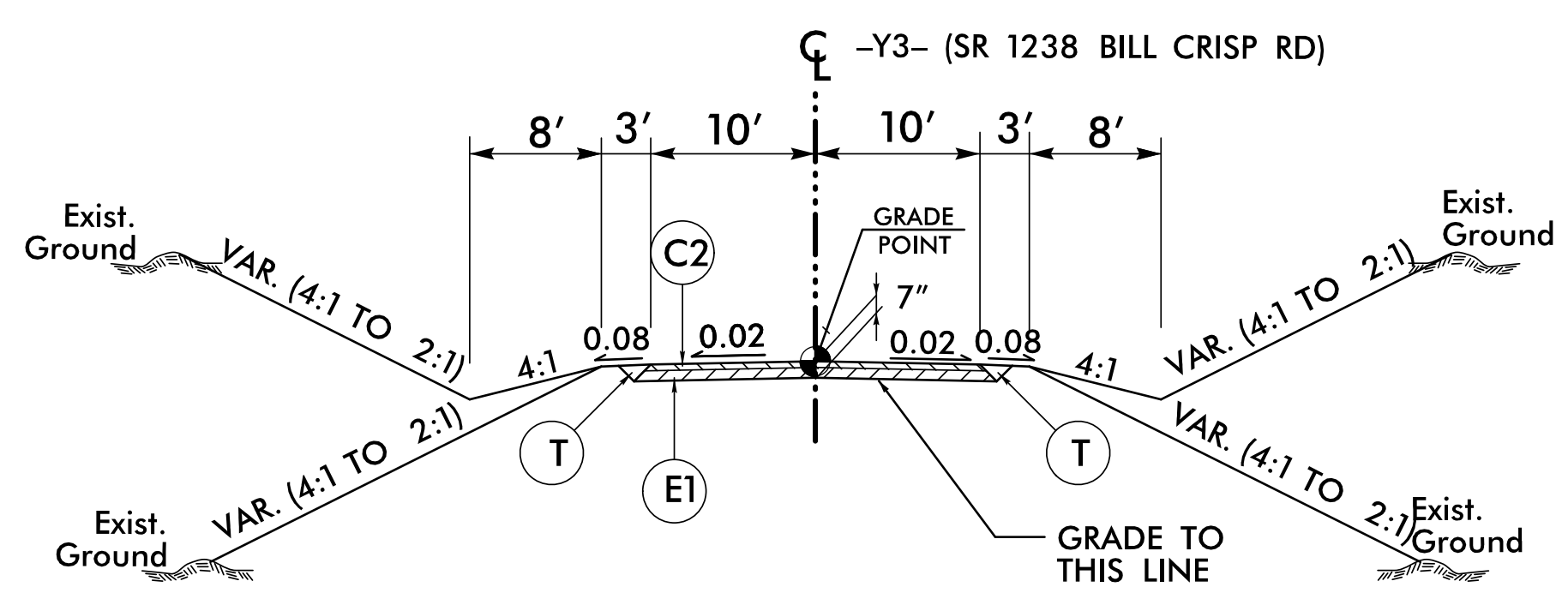
TYPICAL SECTION NO. 7

NOTE: TRANSITION BETWEEN TYP. SECT. NO. 6 AND TYP. SECT. NO. 7 AS FOLLOWS:
-Y2- STA. 164+50.00 TO -Y2- STA. 166+45.00
USE TYPICAL SECTION NO. 7
-Y2- STA. 166+45.00 TO -Y2- STA. 169+60.00



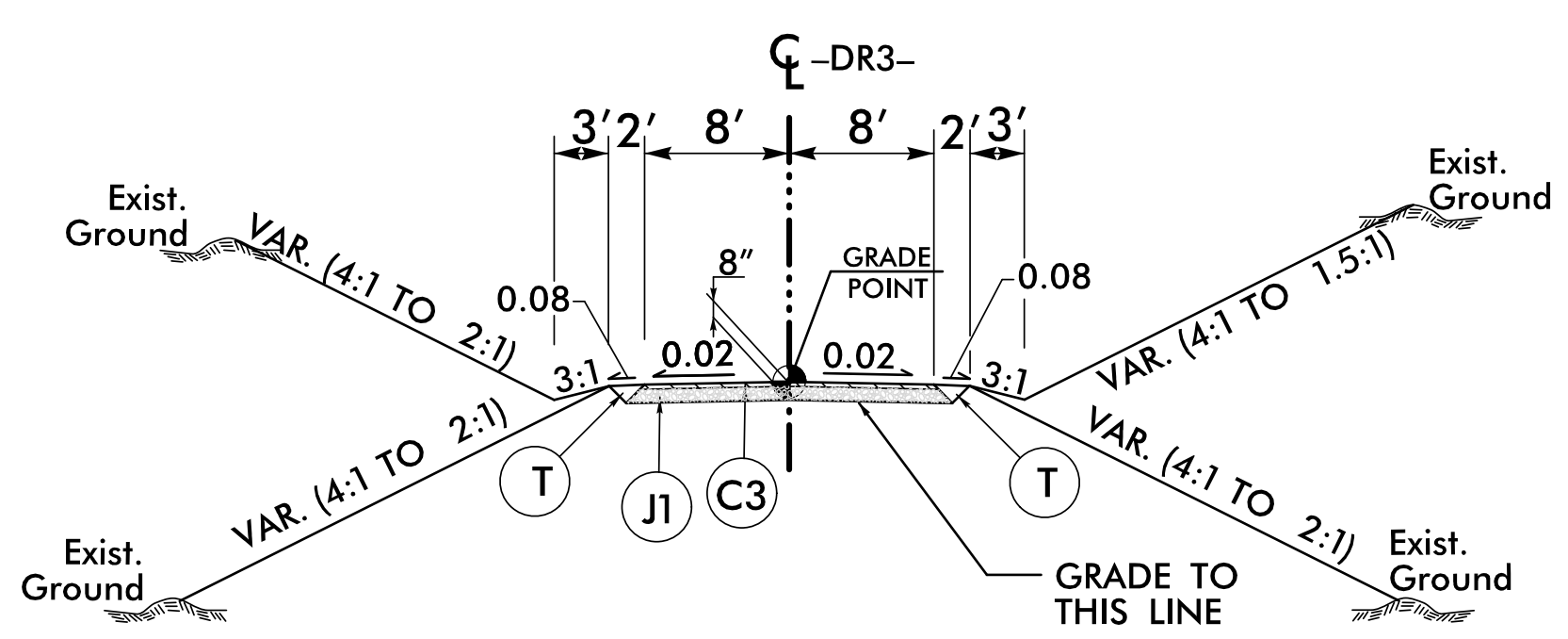
TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
-Y2A- STA. 10+31.94 TO -Y2A- STA. 11+25.00



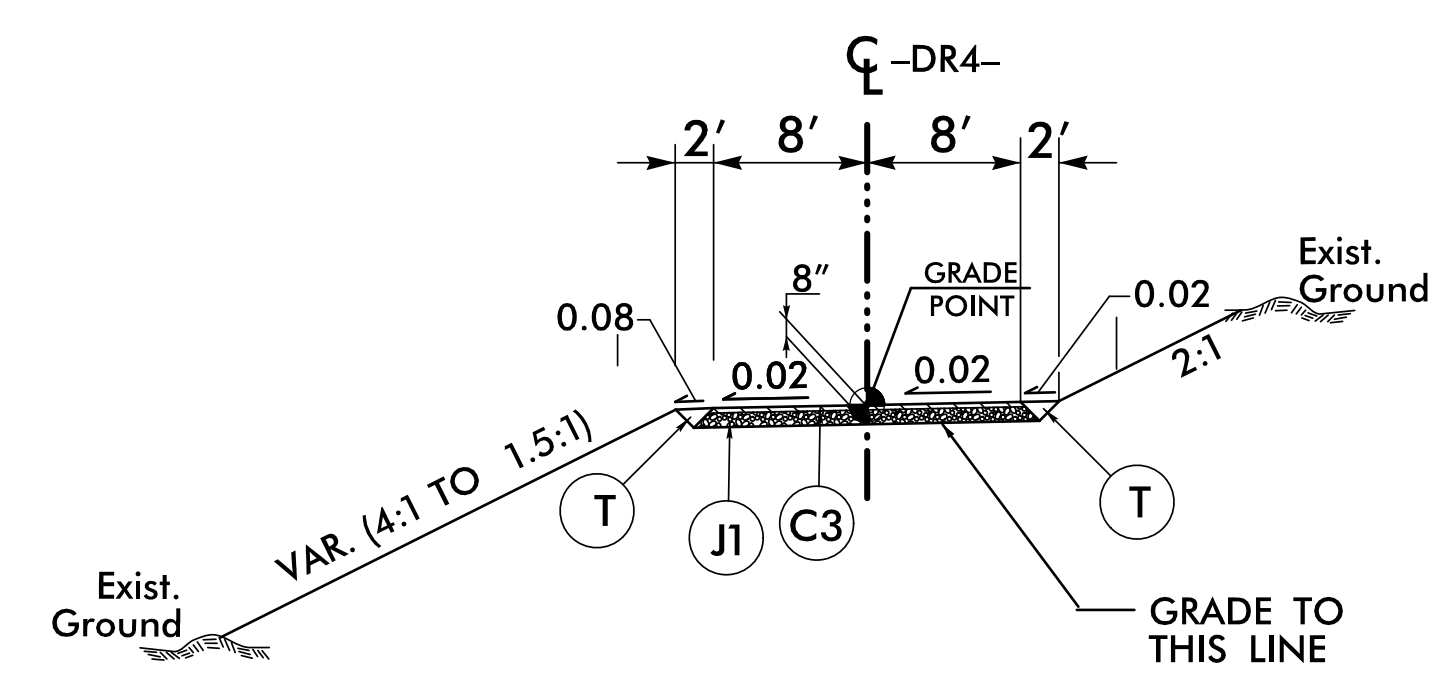
TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9
-Y3- STA. 10+50.00 TO -Y3- STA. 14+02.24



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO. 10
-DR3- STA. 10+20.00 TO -DR3- STA. 11+72.03




TYPICAL SECTION NO. 11

USE TYPICAL SECTION NO. 11
-DR4- STA. 10+12.13 TO -DR4- STA. 11+10.00

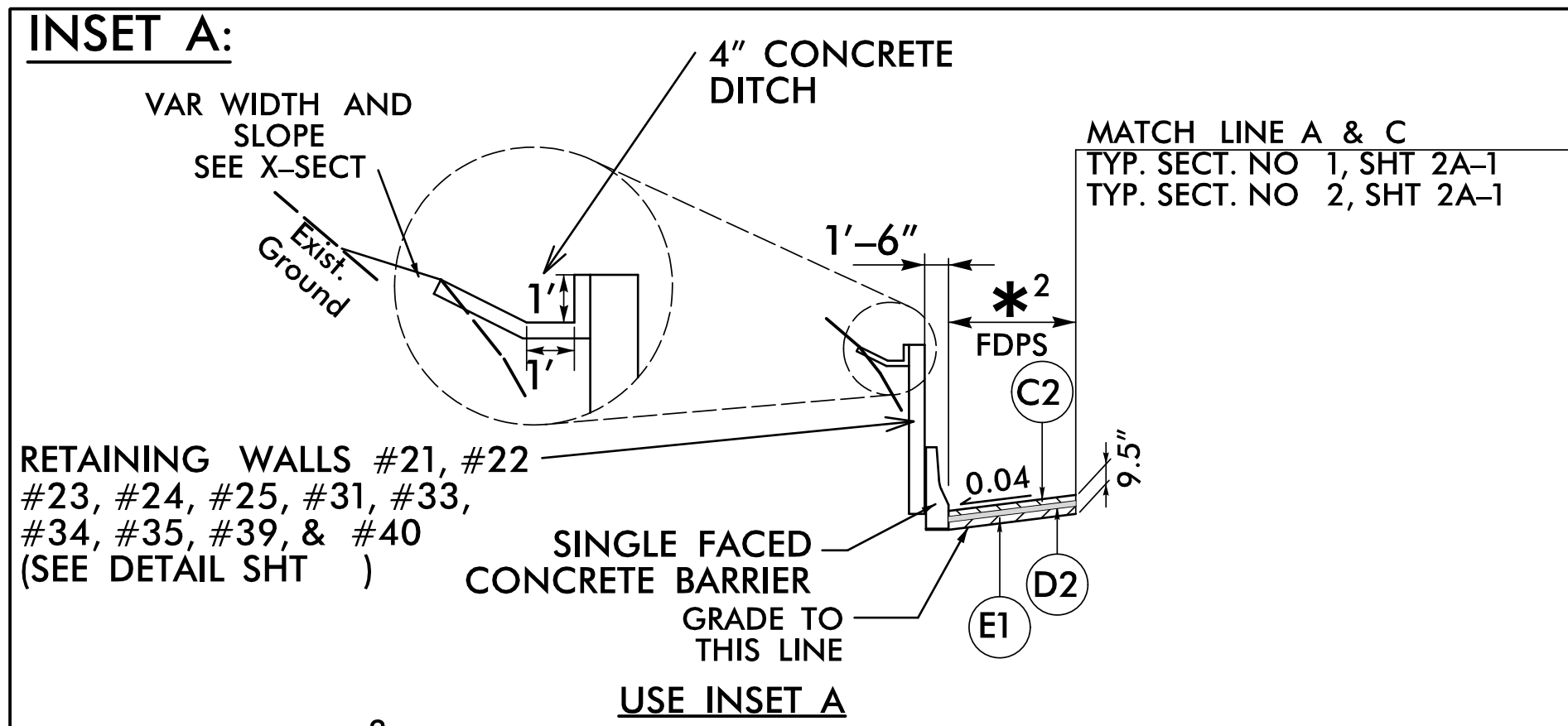
NOTE: ROCK EMBANKMENT
-DR4- STA 10+35 +/- TO -DR4- STA. 11+30 +/-, LT
SEE XS-SECT AND DETAIL SHT 2 -

S:\K001\TA-0009\Roadway\Proj\A-0009CC_Plan_Sheets\A-0009CC_Rdy_typ.dgn

PROJECT REFERENCE NO. A-0009CC	SHEET NO. 2A-4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

PAVEMENT SCHEDULE	
C2	3" S9.5B
C3	2" S9.5B
D2	2 1/2" I19.0C
E1	4" B25.0C
J1	6" ABC
R1	2'-6" C&G
R2	EXPRESSWAY GUTTER
R3	8" X 12" CONCRETE CURB
S	CONCRETE SIDEWALK
T	EARTH MATERIAL

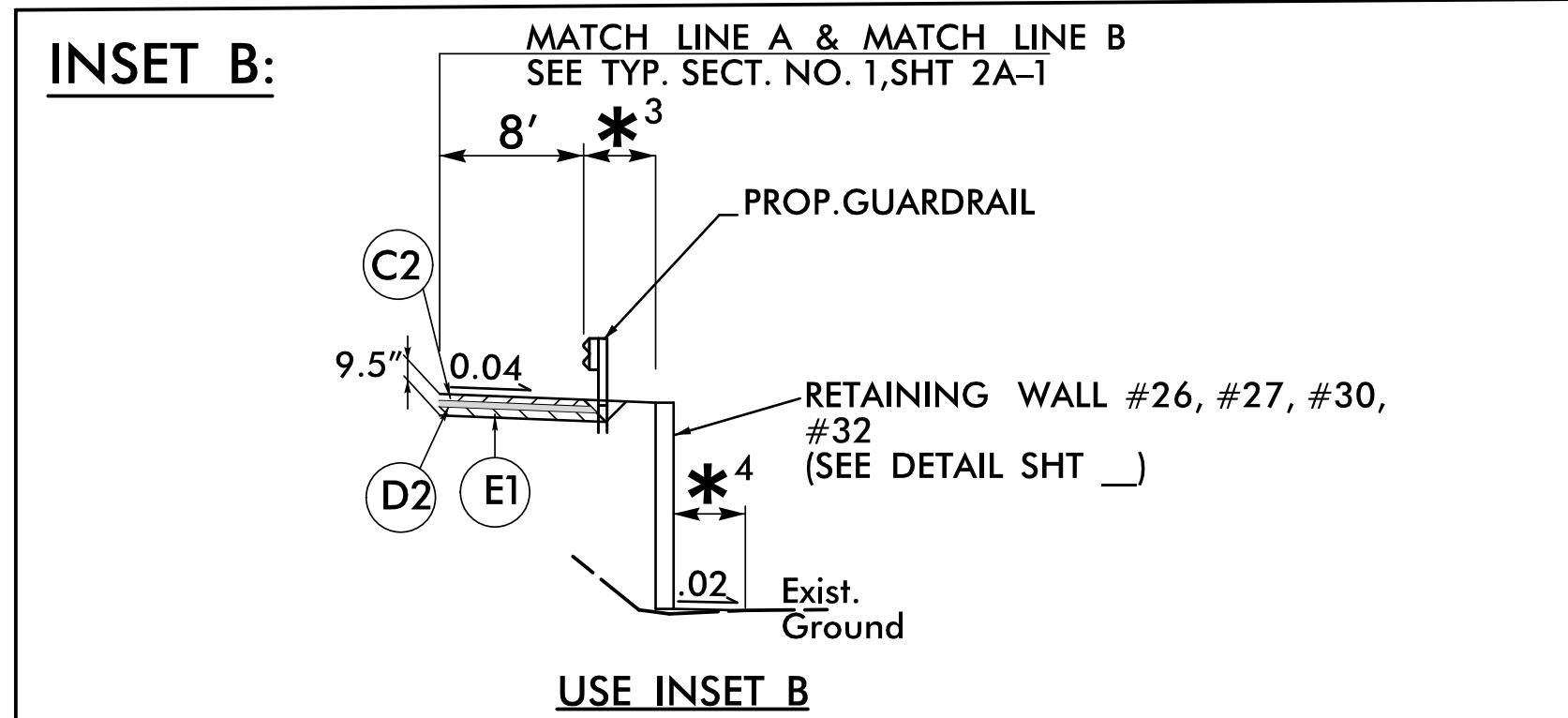
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE. SEE SHEET 2A-1 FOR DETAILED PAVEMENT SCHEDULE.



SEE TABLE FOR *² WIDTH:
 -L- STA. 420+39± TO -L- STA. 436+65±, LT

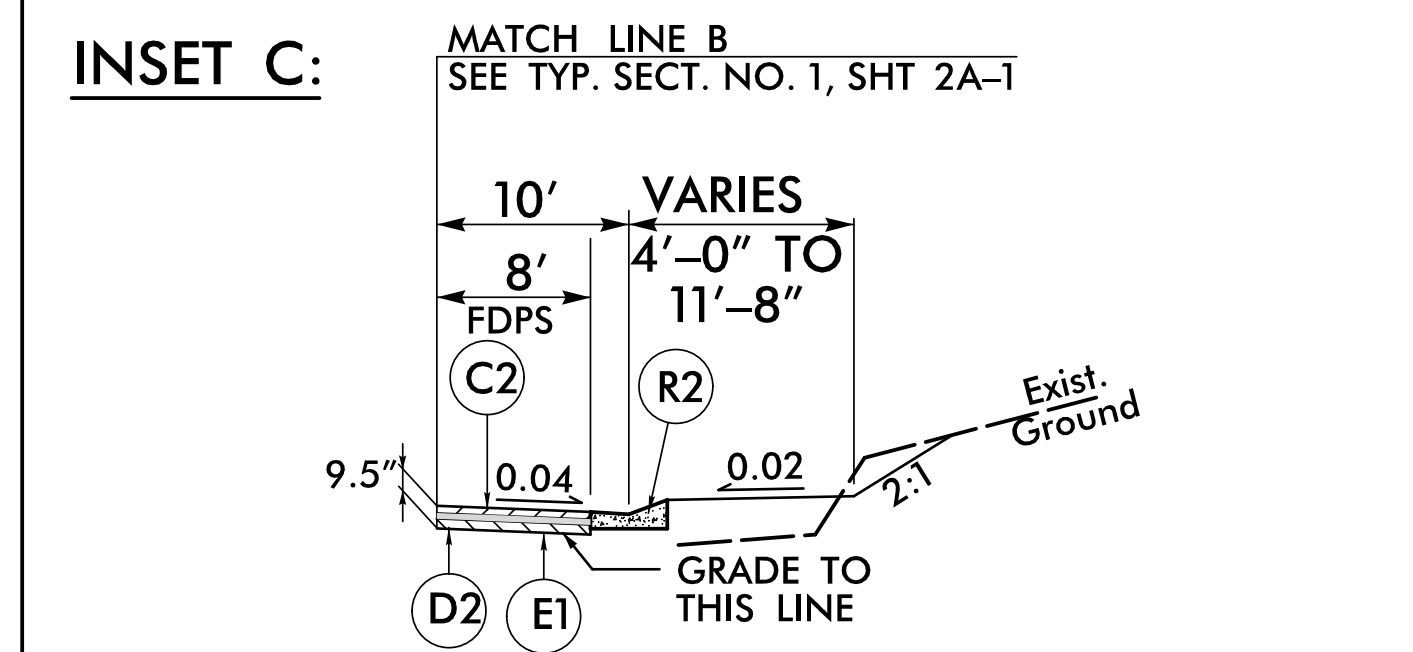
* ²	STATION TO STATION	SHOULDER WIDTH
	-L- STA 420+39± TO 422+13±	VARIES 18'-1" TO 8'-0"
	-L- STA 422+13± TO 428+94±	8'-0"
	-L- STA 428+94± TO 430+25±	VARIES 8'-0" TO 19'-6"
	-L- STA 430+25± TO 436+65±	19'-6"

*² = 8'-0":
 -L- STA. 439+00± TO -L- STA. 442+50±, LT
 -L- STA. 448+40± TO -L- STA. 452+25±, LT
 -L- STA. 453+25± TO -L- STA. 456+25±, LT
 -L- STA. 468+75± TO -L- STA. 471+75±, LT
 -Y2- STA. 14+75± TO -Y2- STA. 16+25±, LT
 -Y2- STA. 16+75± TO -Y2- STA. 18+60±, LT
 -Y2- STA. 28+25± TO -Y2- STA. 32+25±, RT
 -Y2- STA. 63+75± TO -Y2- STA. 66+02±, RT
 -Y2- STA. 71+25± TO -Y2- STA. 72+25±, LT
 -Y2- STA. 77+92± TO -Y2- STA. 88+25±, LT

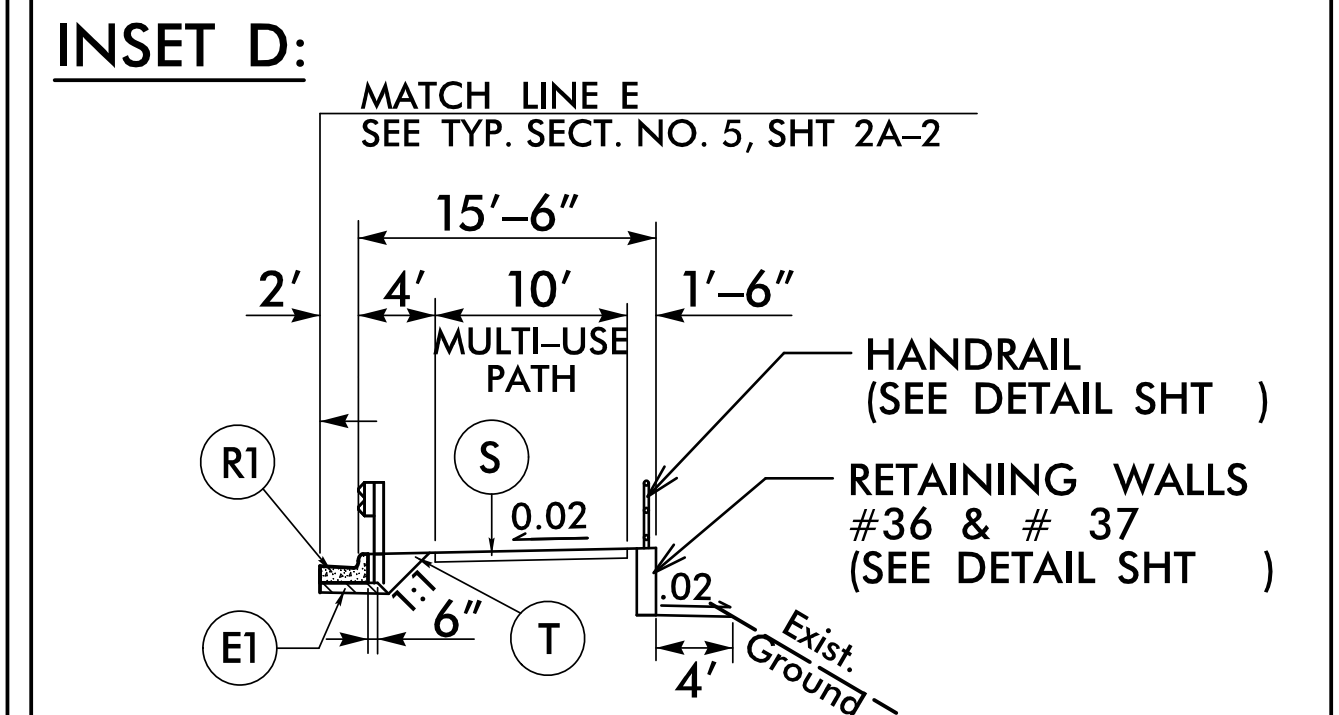


USE INSET B
 (*³=6', *⁴=4')
 -L- STA. 421+44± TO -L- STA. 423+54±, RT
 (*³=VARIES 7' TO 9'-10", *⁴=10')
 -L- STA. 427+50± TO -L- STA. 431+42±, RT
 (*³=5'-6", *⁴=10')
 -Y2- STA. 26+60± TO -Y2- STA. 28+75±, LT
 -Y2- STA. 61+57± TO -Y2- STA. 66+83±, LT

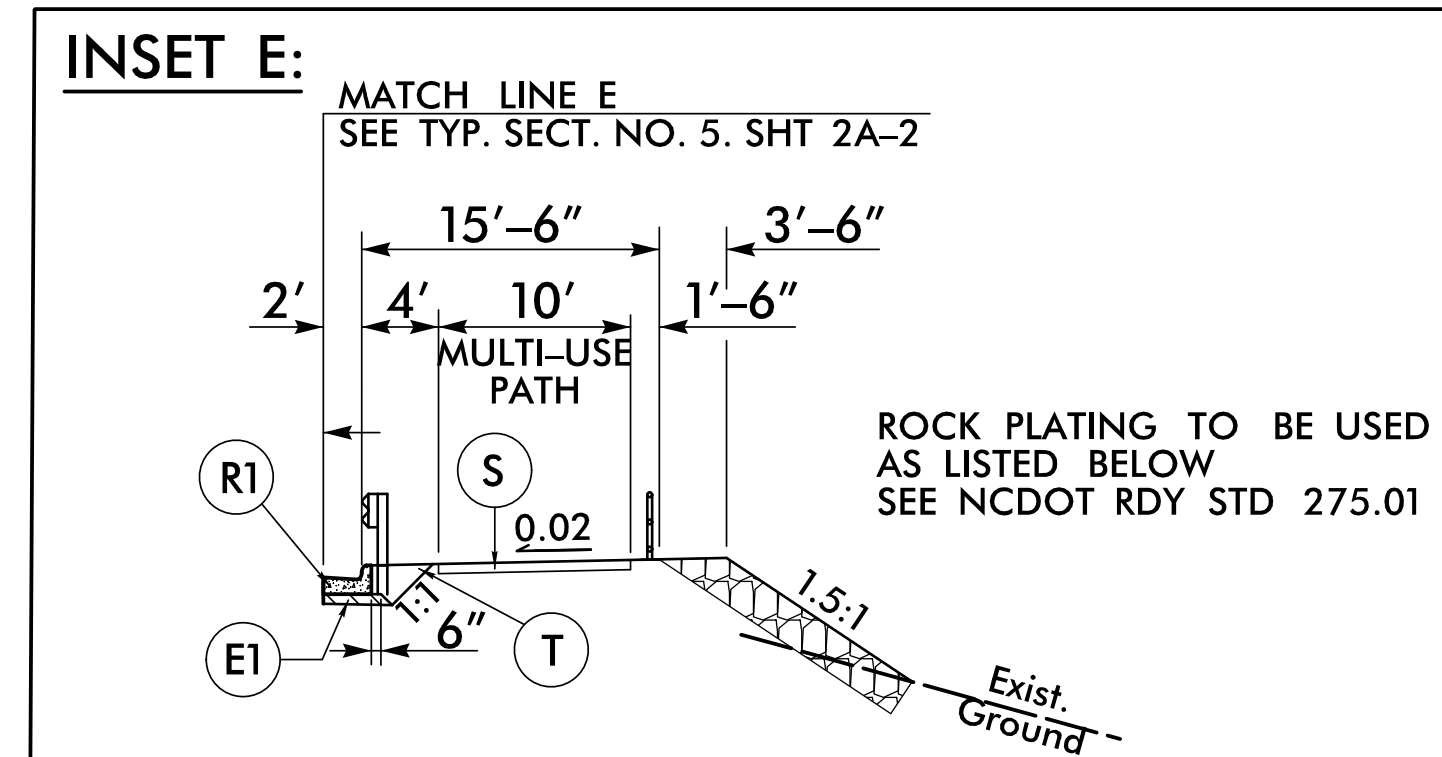
EXISTING RETAINING WALL TO REMAIN AND NEW WALL CONSTRUCTED IN FRONT WITH MIN. 1' SEPARATION.



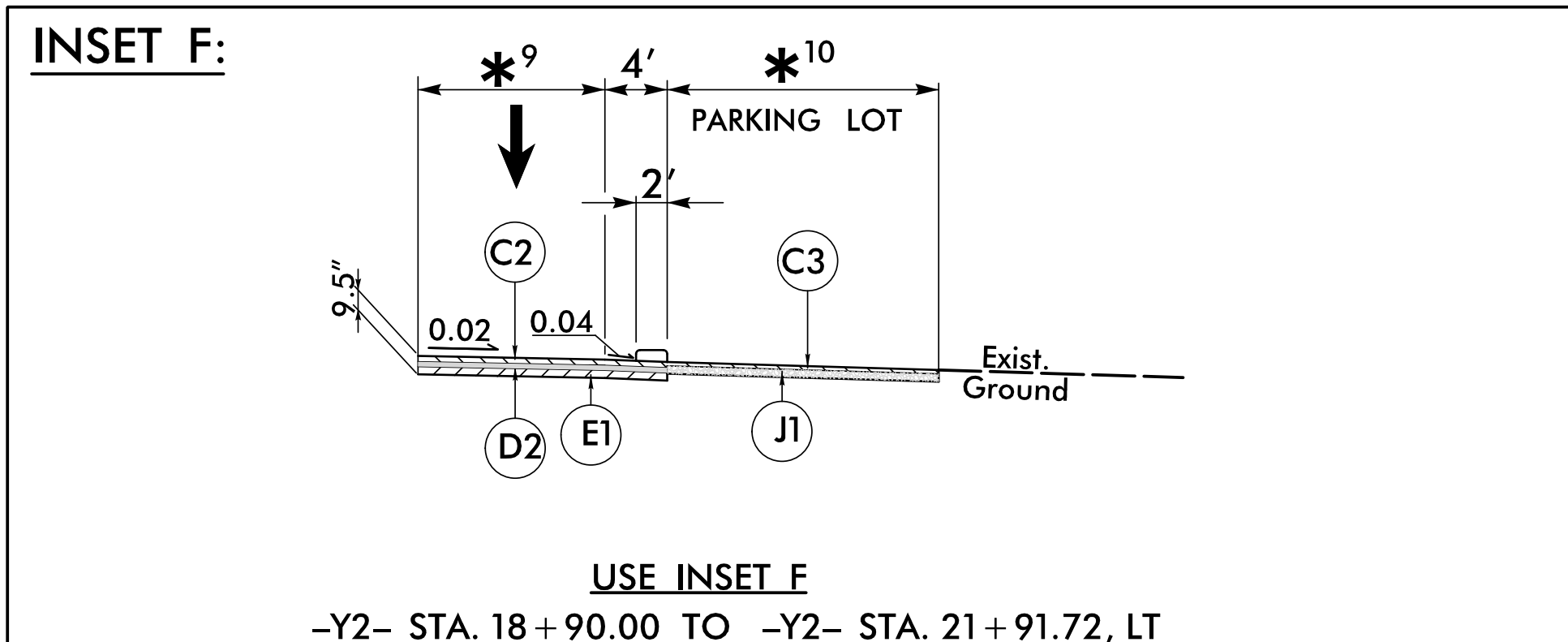
USE INSET C
 -Y2- STA. 51+25.00 TO -Y2- STA. 57+76±, RT



USE INSET D
 -Y2- STA. 107+75± TO -Y2- STA. 108+85±, RT
 -Y2- STA. 112+75± TO -Y2- STA. 115+25±, RT

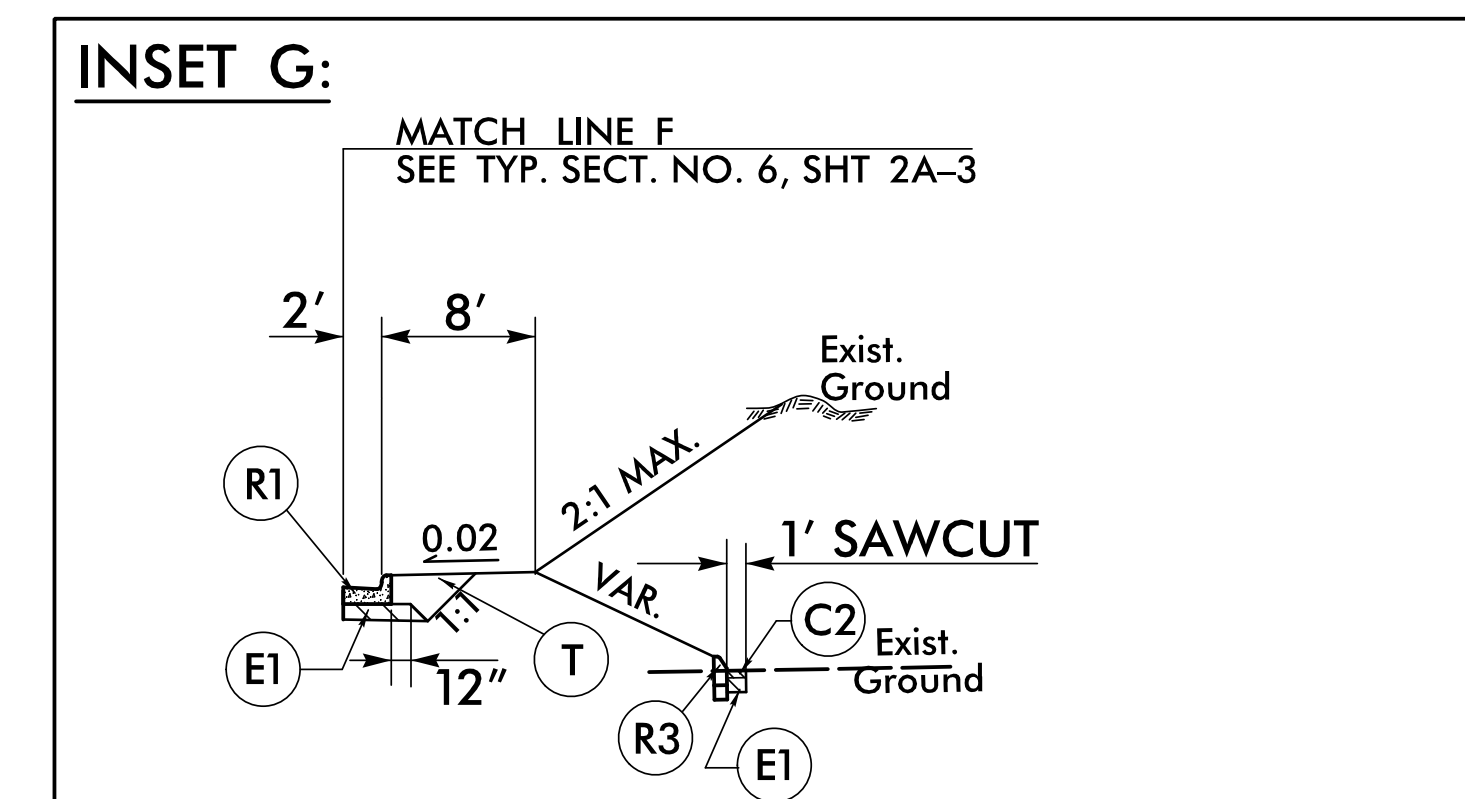


USE INSET E
 -Y2- STA. 108+85± TO -Y2- STA. 111+40±, RT
 -Y2- STA. 115+25± TO -Y2- STA. 116+75±, RT
 -Y2- STA. 117+75± TO -Y2- STA. 128+25±, RT



USE INSET F
 -Y2- STA. 18+90.00 TO -Y2- STA. 21+91.72, LT

	WIDTH	STA TO STA
* ⁹	0' TO 12'	-Y2- STA. 18+90.00 TO -Y2- STA. 19+90.00
	12'	-Y2- STA. 19+90.00 TO -Y2- STA. 21+91.72
* ¹⁰	0' TO 21.45'	-Y2- STA. 18+90.00 TO -Y2- STA. 20+07+/-
	40.35'	-Y2- STA. 20+07± TO -Y2- STA. 21+43±
	40.35' TO 0'	-Y2- STA. 21+43± TO -Y2- STA. 21+91.72

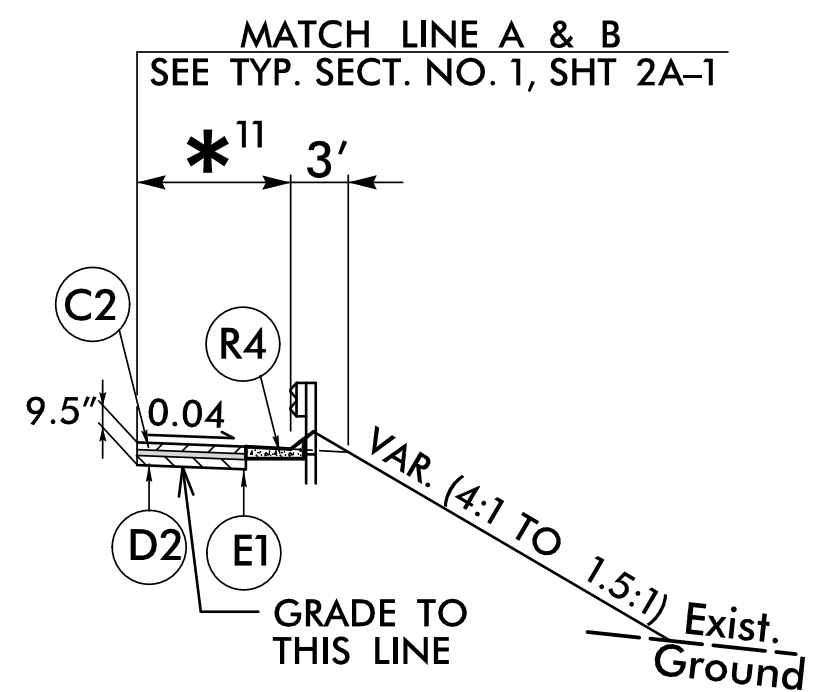


USE INSET G
 -Y2- STA. 158+32± TO -Y2- STA. 161+24±, RT

PAVEMENT SCHEDULE	
C2	3" S9.5B
D2	2 1/2" I19.0C
E1	4" B25.0C
R4	SHOULDER BERM GUTTER

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE. SEE SHEET 2A-1 FOR DETAILED PAVEMENT SCHEDULE.

INSET H:

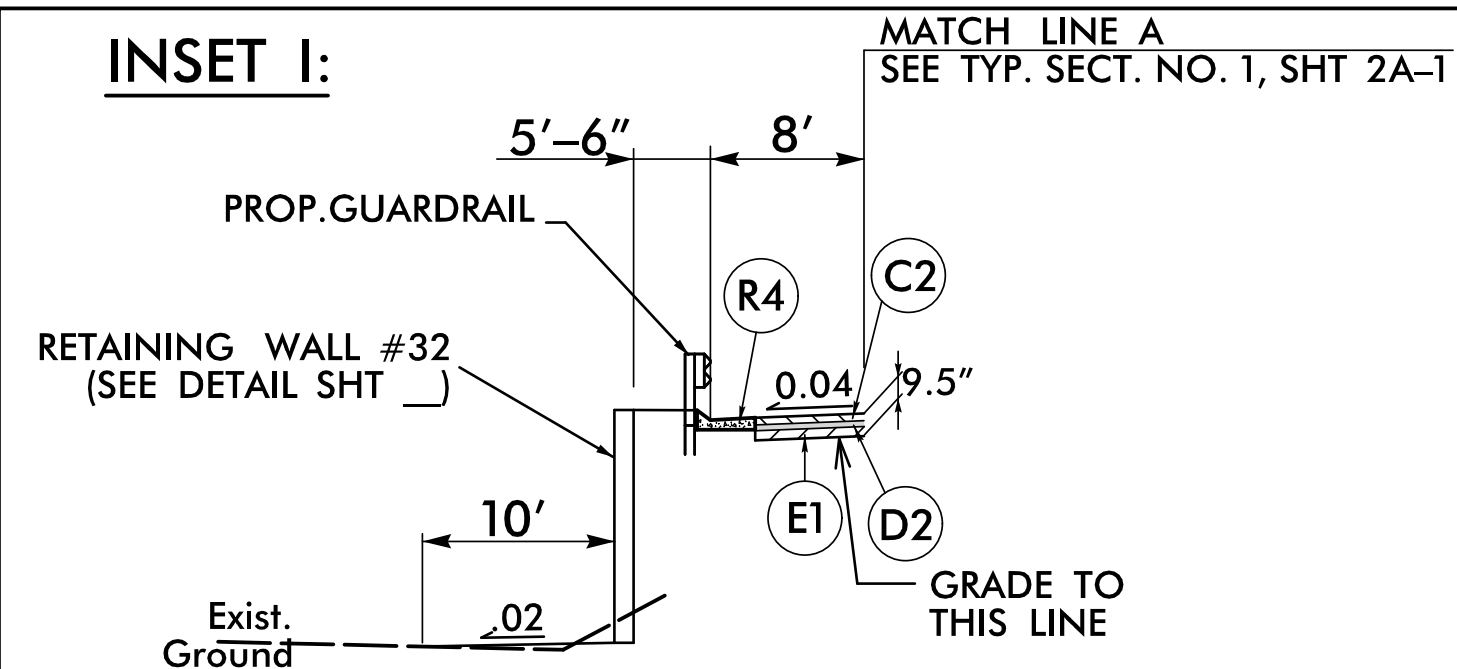


USE INSET H

*¹¹ = 10'-3"
 -L- STA. 438+50± TO -L- STA. 442+50±, RT
 -Y2- STA. 67+00± TO -Y2- STA. 70+50±, RT


*¹¹ = 8'
 -Y2- STA. 27+00± TO -Y2- STA. 28+25±, RT
 -Y2- STA. 47+50± TO -Y2- STA. 52+57±, LT
 -Y2- STA. 58+95± TO -Y2- STA. 59+00±, LT

INSET I:



USE INSET I

-Y2- STA. 59+00± TO -Y2- STA. 61+57±, LT

PROJECT REFERENCE NO. A-0009CC	SHEET NO. 2A-5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

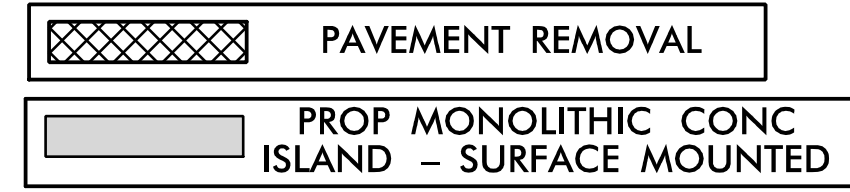
PROJECT REFERENCE NO.	SHEET NO.
A-0009CC	35
RW SHEET NO.	
ROADWAY DESIGN	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

-L- CURVE DATA
 PI Sta 419+44.60
 $\Delta = 56^{\circ} 20' 44.5"$ (LT)
 $D = 9^{\circ} 32' 57.5"$
 $L = 590.05'$
 $T = 321.35'$
 $R = 600.00'$
 $DS = 45$ MPH
 $SE = 0.08$

-DR3- CURVE DATA
 PI Sta 10+68.68
 $\Delta = 13^{\circ} 52' 12.2"$ (RT)
 $D = 22^{\circ} 55' 05.9"$
 $L = 60.52'$
 $T = 30.4'$
 $R = 250.00'$
 $SE = \text{SEE PLANS}$

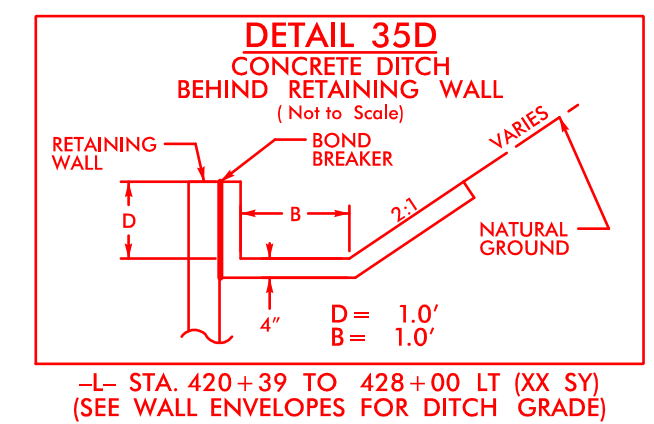
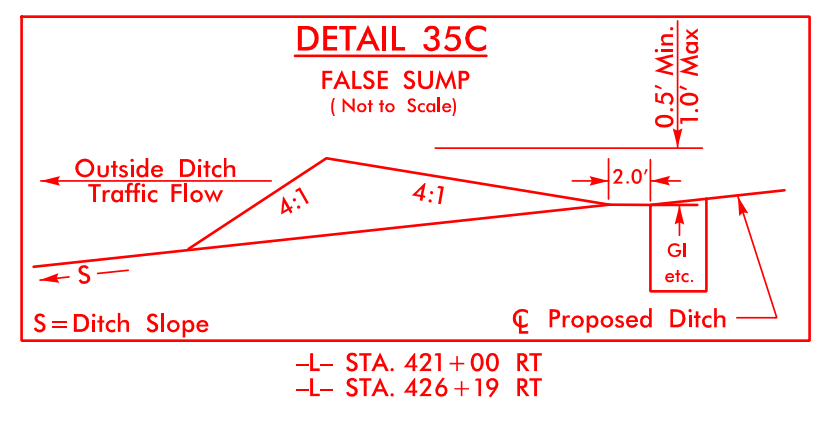
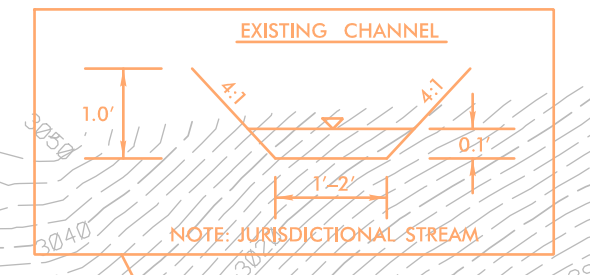
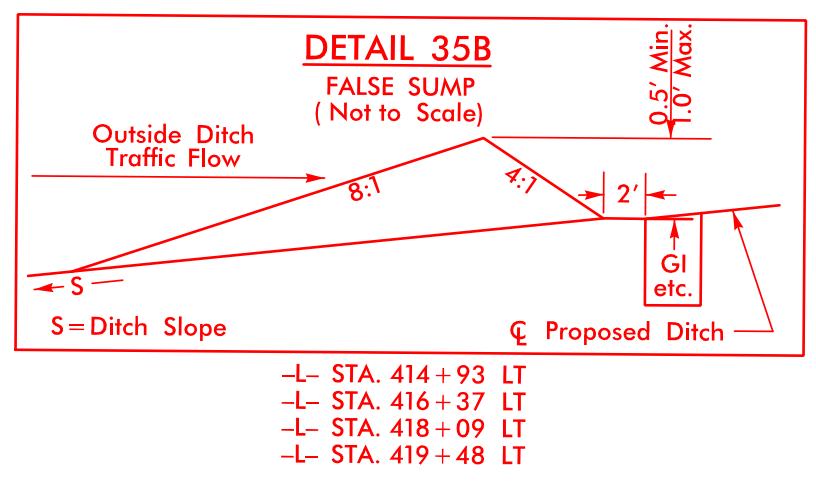
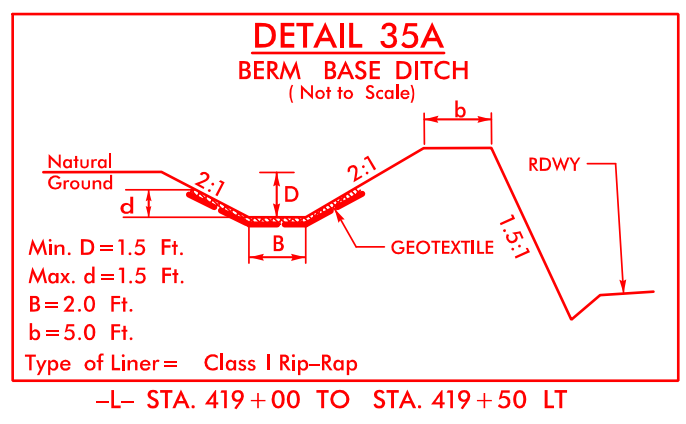
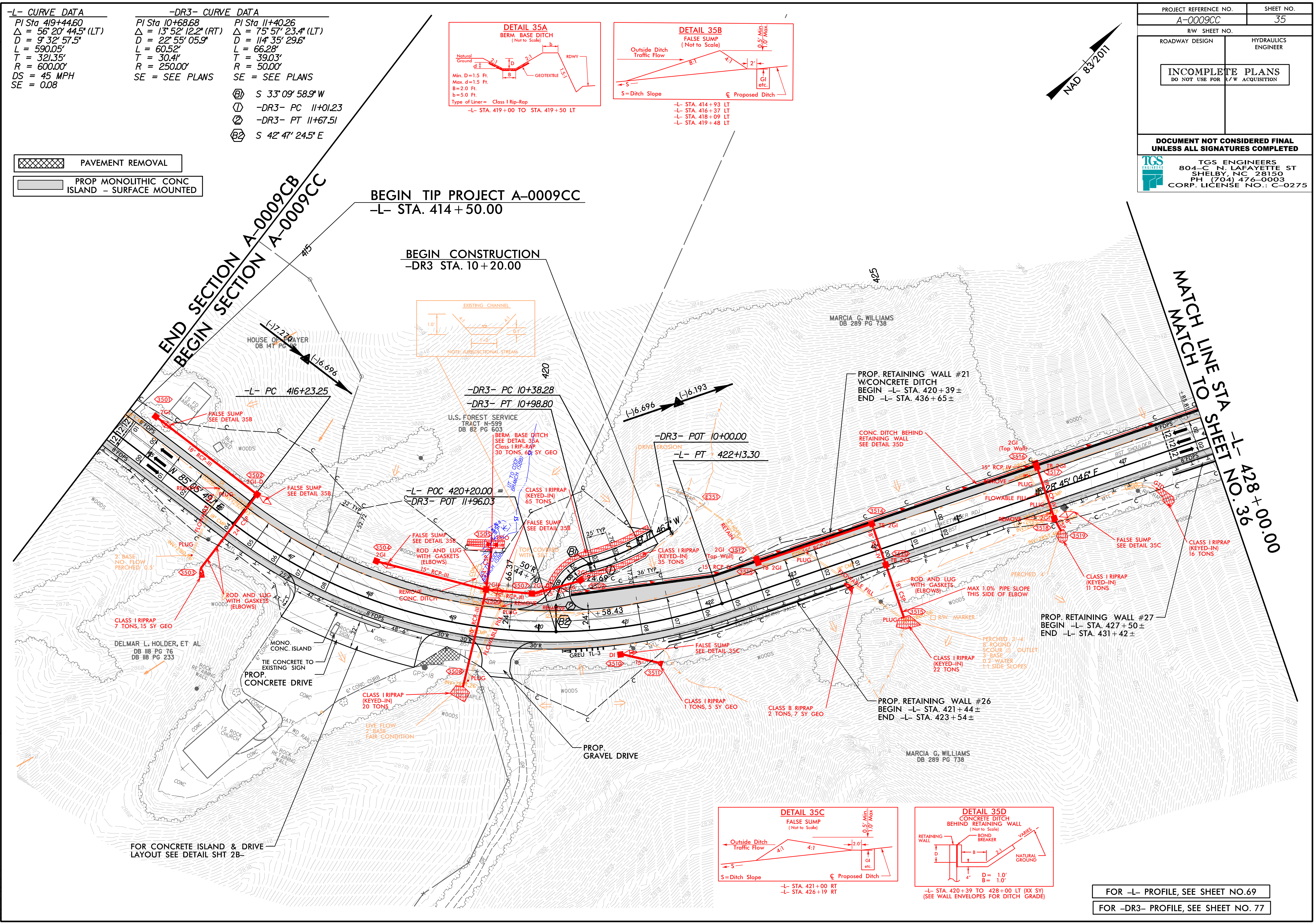
PI Sta 11+40.26
 $\Delta = 75^{\circ} 57' 23.4"$ (LT)
 $D = 114^{\circ} 35' 29.6"$
 $L = 66.28'$
 $T = 39.03'$
 $R = 50.00'$
 $SE = \text{SEE PLANS}$

- ⊕ S 33° 09' 58.9" W
- ⊖ -DR3- PC 11+01.23
- ⊖ -DR3- PT 11+67.51
- ⊕ S 42° 47' 24.5" E



BEGIN TIP PROJECT A-0009CC
 -L- STA. 414 + 50.00

BEGIN CONSTRUCTION
 -DR3 STA. 10 + 20.00




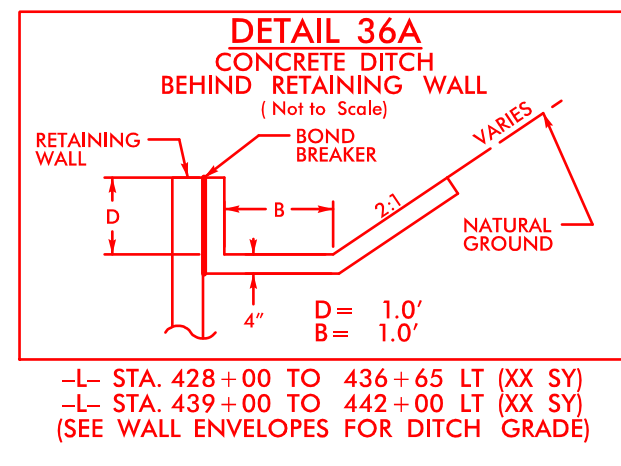
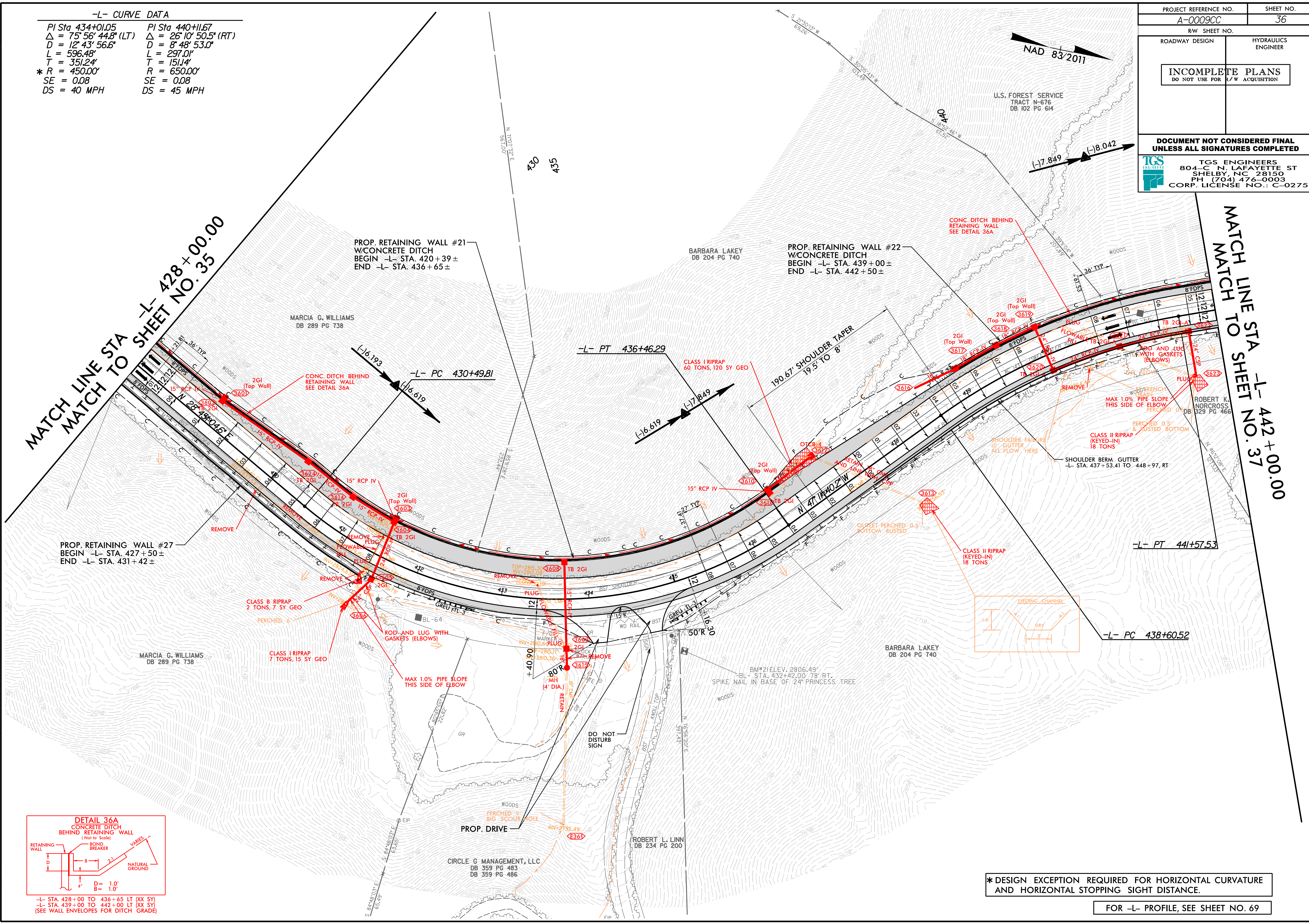
FOR -L- PROFILE, SEE SHEET NO.69
 FOR -DR3- PROFILE, SEE SHEET NO. 77

8/17/99
 6/1/2001
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-L- CURVE DATA

PI Sta 434+01.05	PI Sta 440+11.67
$\Delta = 75^\circ 56' 44.8"$ (LT)	$\Delta = 26^\circ 10' 50.5"$ (RT)
D = 12' 43" 56.6"	D = 8' 48" 53.0"
L = 596.48'	L = 297.01'
T = 351.24'	T = 151.14'
* R = 450.00'	R = 650.00'
SE = 0.08	SE = 0.08
DS = 40 MPH	DS = 45 MPH


PROJECT REFERENCE NO. A-0009CC	SHEET NO. 36
ROADWAY DESIGN	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



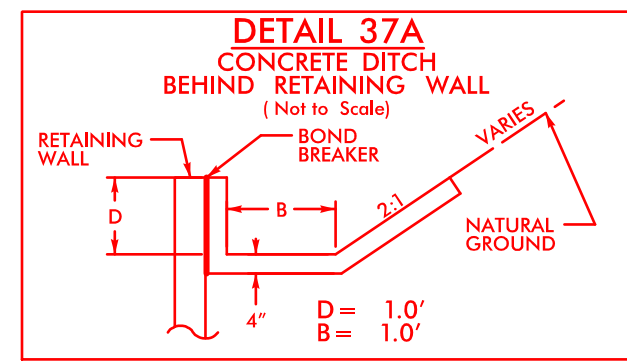
*** DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVATURE AND HORIZONTAL STOPPING SIGHT DISTANCE.**

FOR -L- PROFILE, SEE SHEET NO. 69

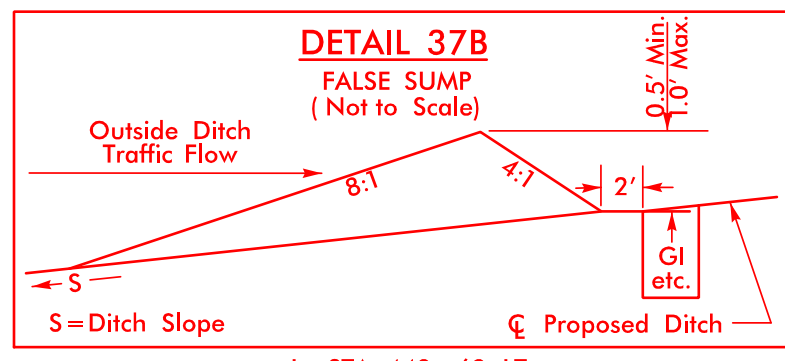
8/17/99
 6/1/2021
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PROJECT REFERENCE NO. A-0009CC	SHEET NO. 37
RW SHEET NO.	
ROADWAY DESIGN	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

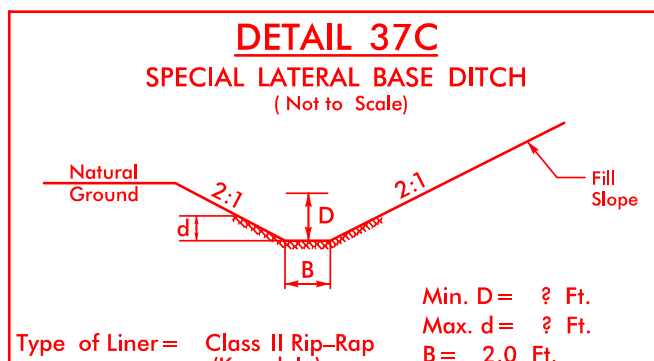
-L- CURVE DATA
 PI Sta 456+91.51
 $\Delta = 49^{\circ}15'00.2''$ (RT)
 $D = 9^{\circ}32'57.5''$
 $L = 515.75'$
 $T = 275.02'$
 $R = 600.00'$
 $SE = 0.08$
 $DS = 45$ MPH



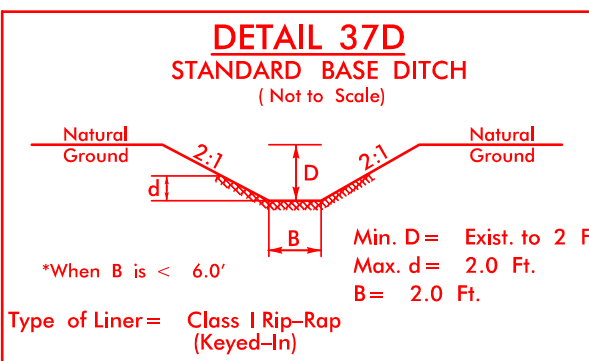
-L- STA. 442+00 TO 442+50 LT (XX SY)
 -L- STA. 448+40 TO 452+25 LT (XX SY)
 -L- STA. 453+25 TO 456+00 LT (XX SY)
 (SEE WALL ENVELOPES FOR DITCH GRADE)



-L- STA. 443+62 LT
 -L- STA. 444+63 LT
 -L- STA. 446+64 LT



Type of Liner = Class II Rip-Rap (Keyed-In)
 -L- STA. 452+50 TO 453+00 LT
 Min. D = 8 Ft.
 Max. d = 8 Ft.
 B = 2.0 Ft.

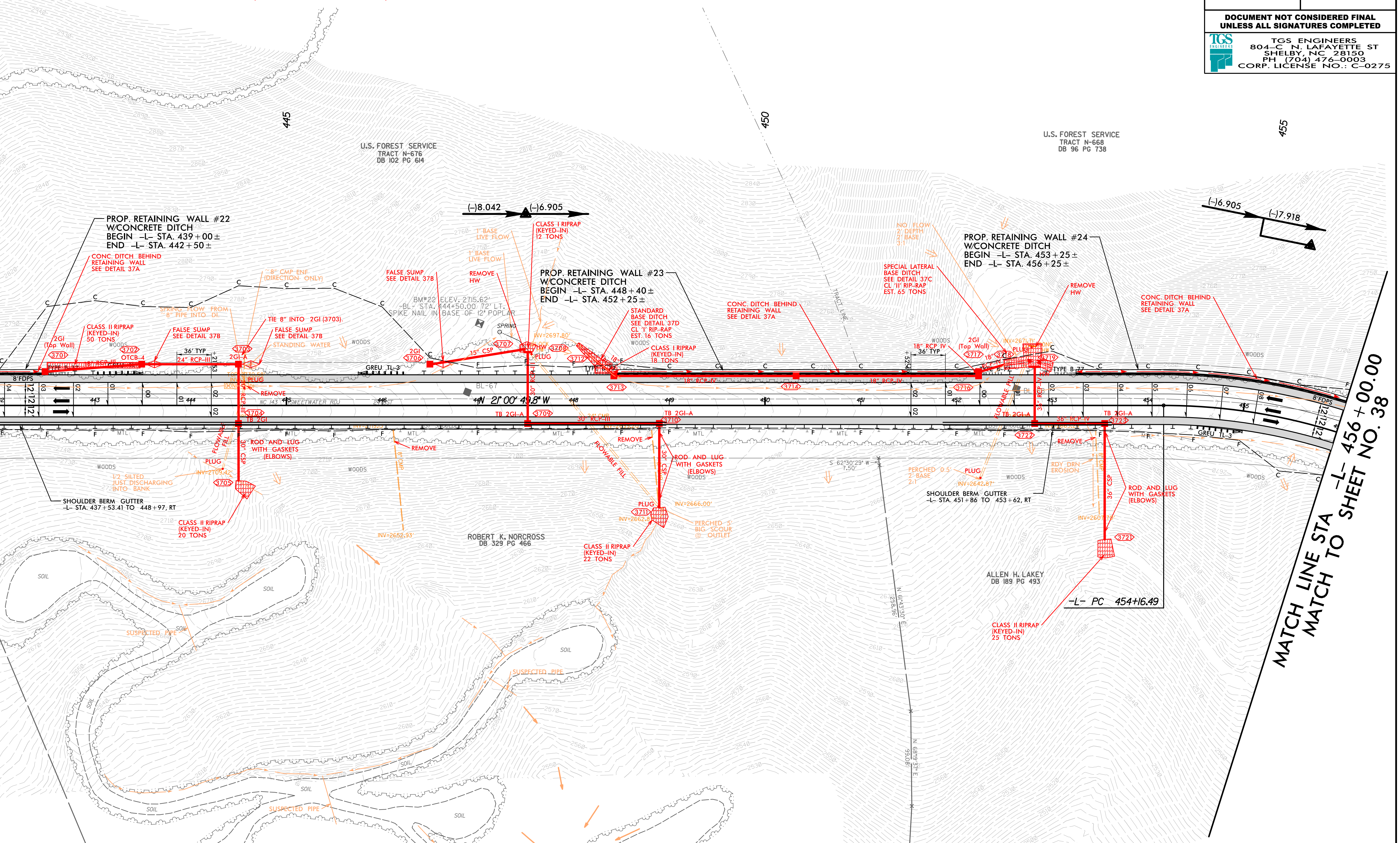


Type of Liner = Class I Rip-Rap (Keyed-In)
 -L- STA. 448+20 LT
 Min. D = Exist to 2 Ft.
 Max. d = 2.0 Ft.
 B = 2.0 Ft.



MATCH LINE STA -L- 442+00.00
MATCH TO SHEET NO. 36

MATCH LINE STA -L- 456+00.00
MATCH TO SHEET NO. 38



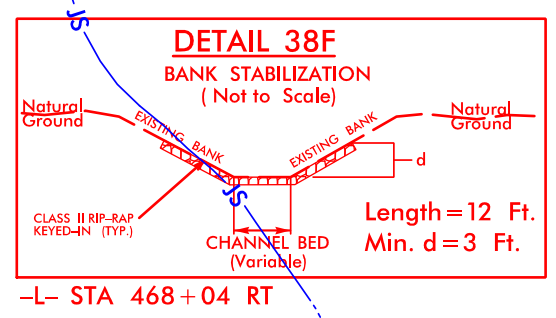
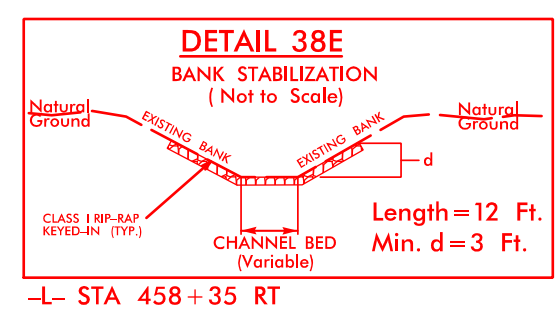
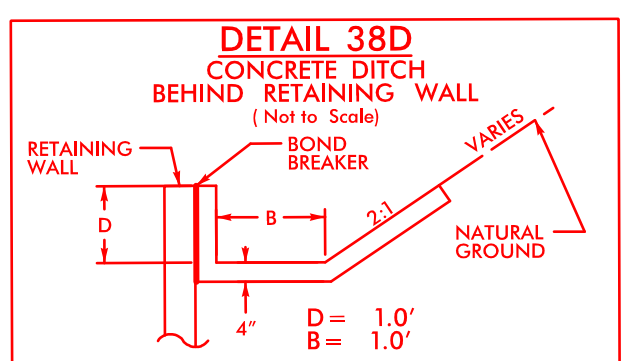
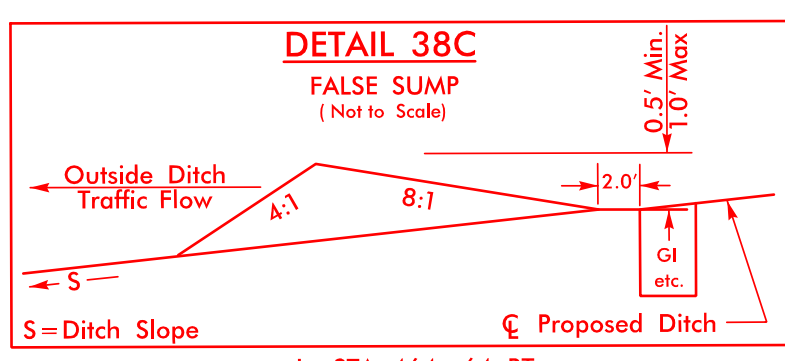
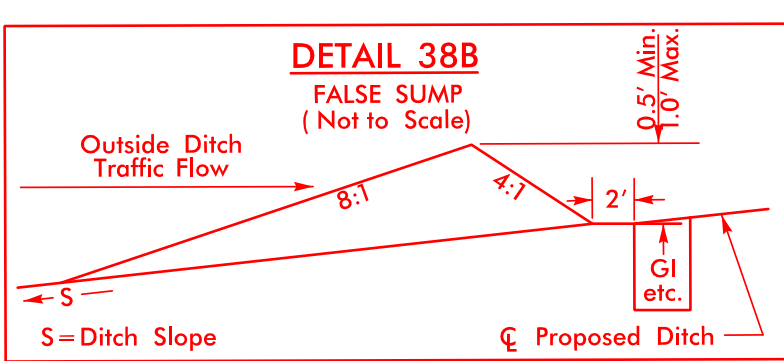
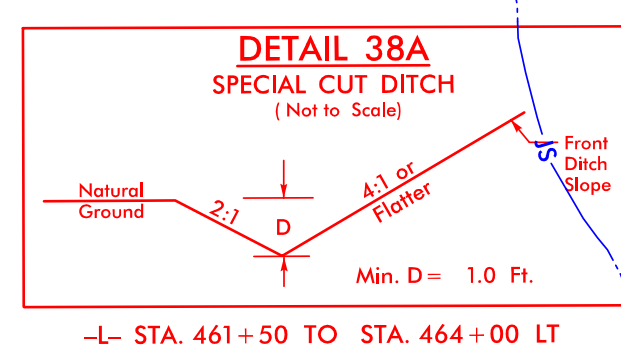
FOR -L- PROFILE, SEE SHEET NO. 70

8/17/99
 6/1/2021
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 User:rah

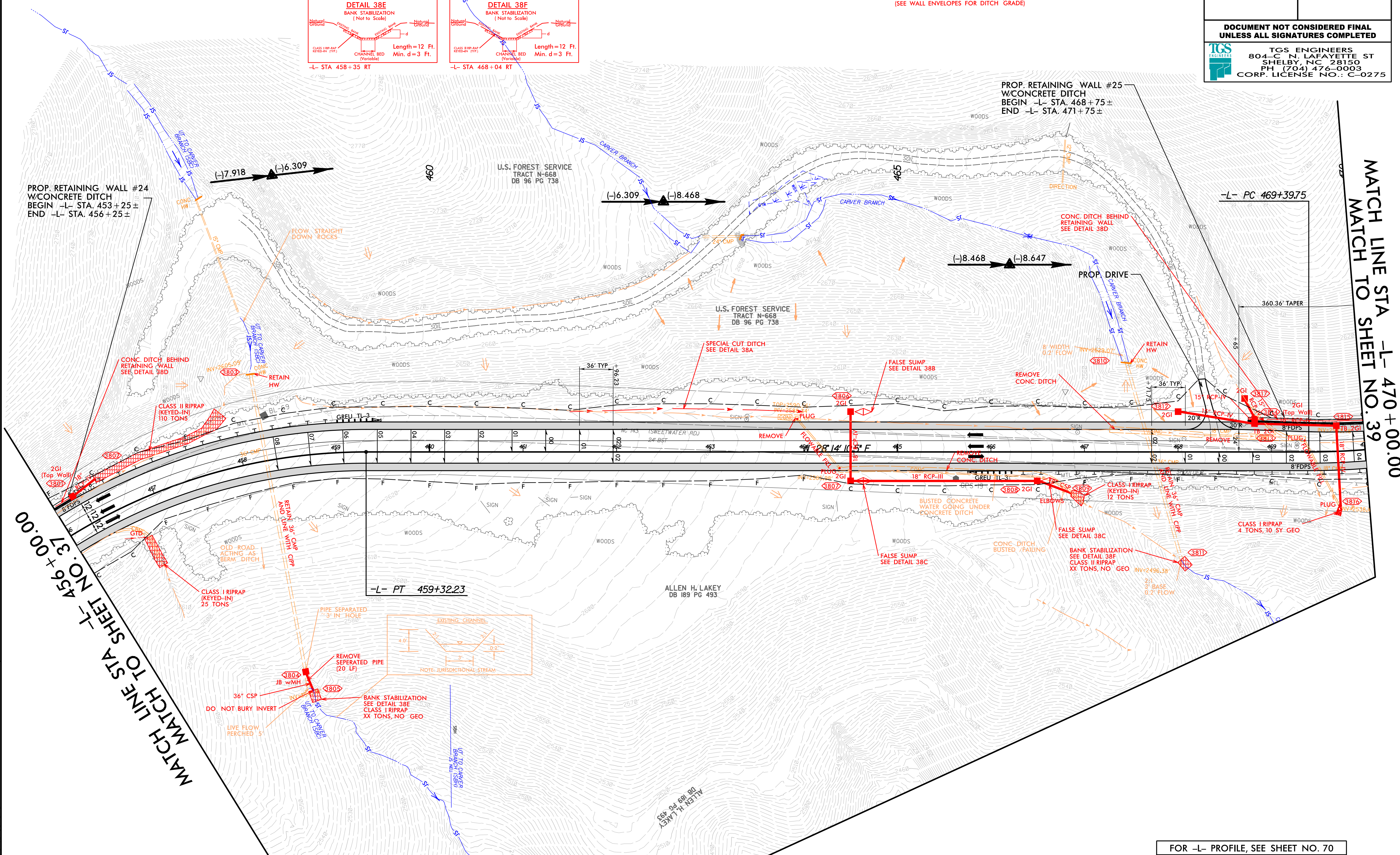
8/17/99

-L- CURVE DATA

PI Sta 456+91.51	PI Sta 470+84.26
$\Delta = 49' 15'' 00.2''$ (RT)	$\Delta = 21' 31'' 55.6''$ (LT)
$D = 9' 32'' 57.5''$	$D = 7' 32'' 20.1''$
$L = 515.75'$	$L = 285.61'$
$T = 275.02'$	$T = 144.51'$
$R = 600.00'$	$R = 760.00'$
$SE = 0.08$	$SE = 0.04$
$DS = 45$ MPH	$DS = 45$ MPH



PROJECT REFERENCE NO. A-0009CC	SHEET NO. 38
R/W SHEET NO.	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



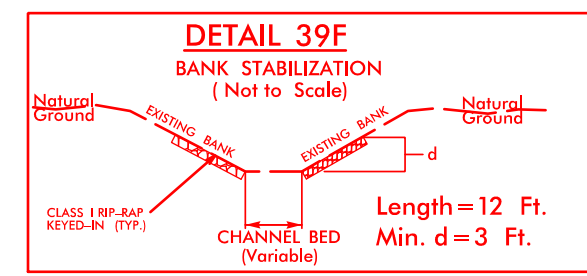
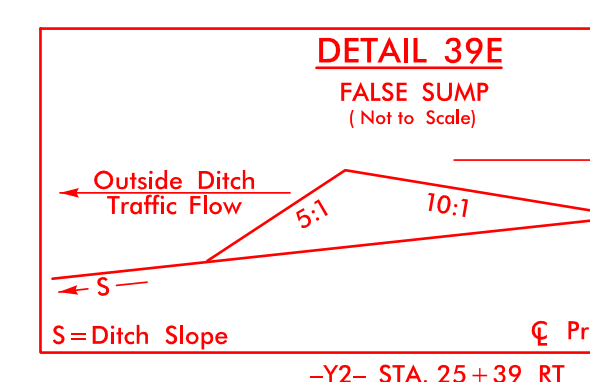
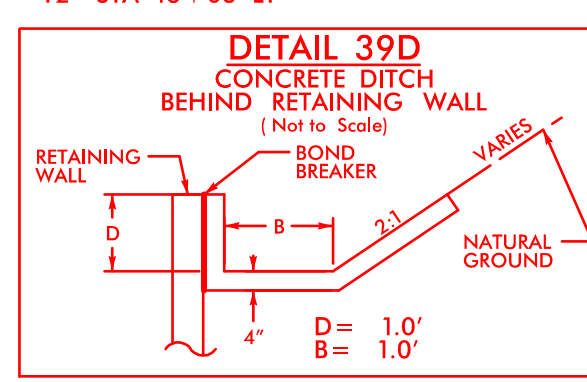
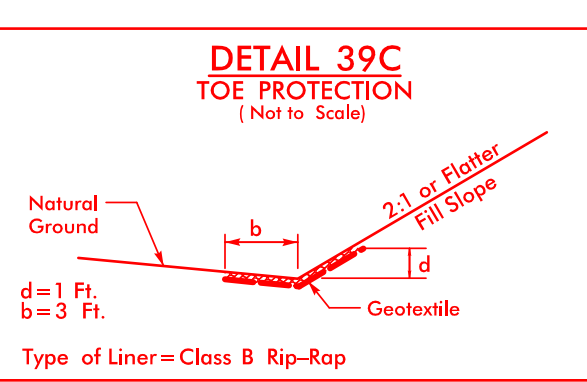
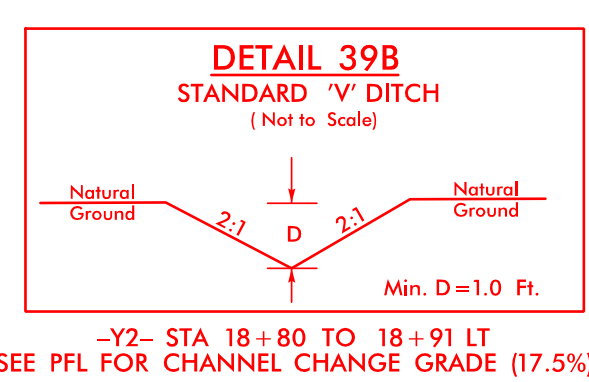
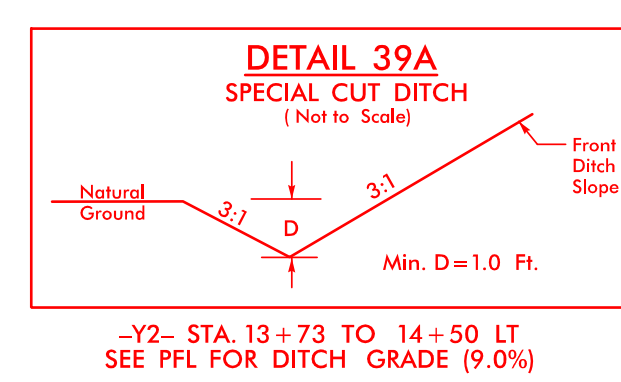
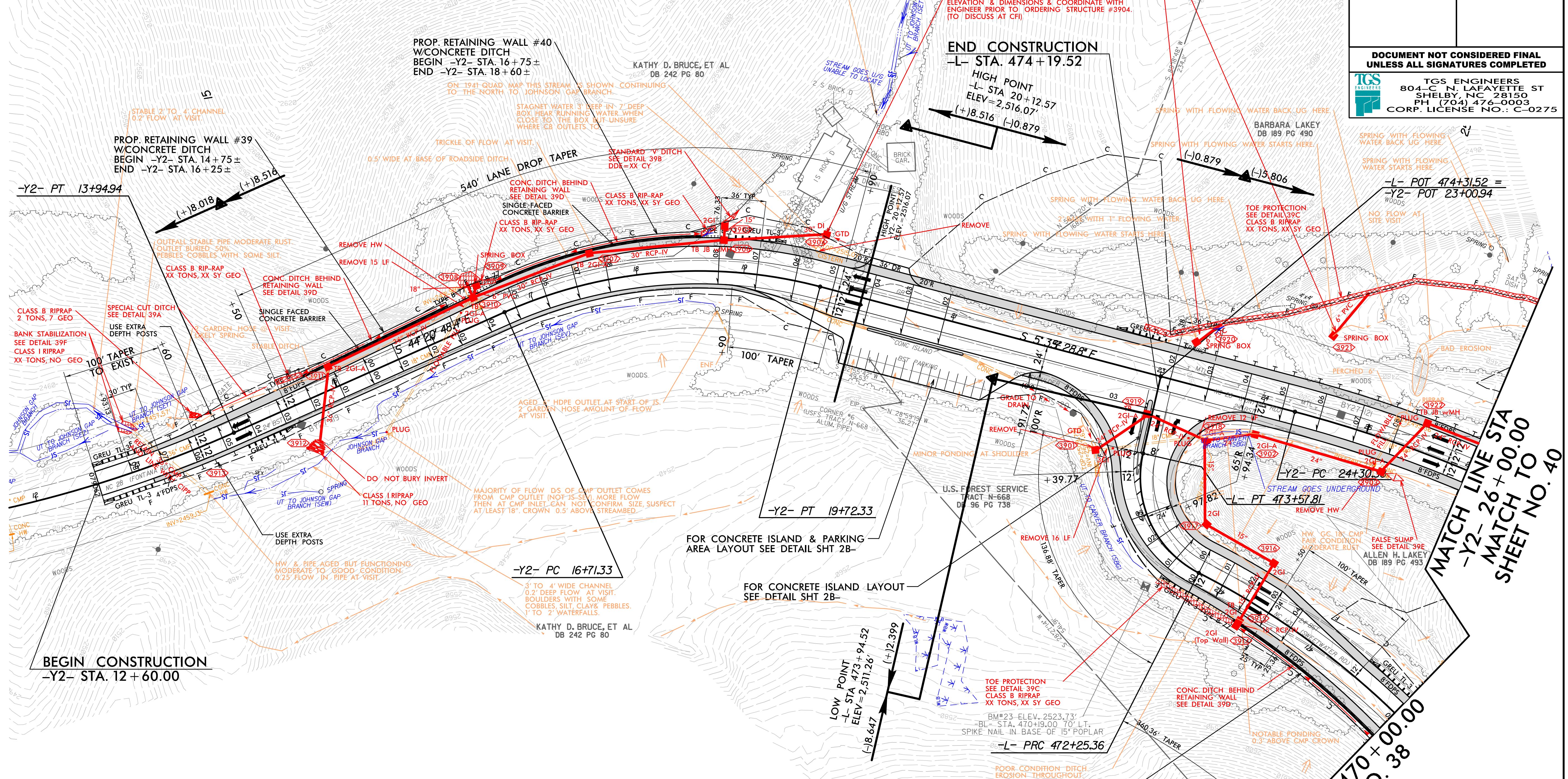
MATCH LINE STA 456+00.00
 MATCH LINE STA 470+00.00

MATCH LINE STA 470+00.00
 MATCH TO SHEET NO. 39

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FOR -L- PROFILE, SEE SHEET NO. 70

-Y2- CURVE DATA			-L- CURVE DATA		
PI Sta 11+99.45	PI Sta 18+27.84	PI Sta 25+91.41	PI Sta 470+84.26	PI Sta 473+03.33	
$\Delta = 19^{\circ} 44' 48.4" (LT)$	$\Delta = 38^{\circ} 45' 19.5" (RT)$	$\Delta = 15^{\circ} 17' 06.5" (RT)$	$\Delta = 2^{\circ} 31' 55.6" (LT)$	$\Delta = 75^{\circ} 53' 24.9" (RT)$	
D = 5' 00' 00.0"	D = 12' 52' 31.6"	D = 4' 46' 28.7"	D = 7' 32' 20.1"	D = 57' 17' 44.8"	
L = 394.94'	L = 301.00'	L = 320.13'	L = 285.61'	L = 132.45'	
T = 199.45'	T = 156.51'	T = 161.02'	T = 144.51'	T = 77.91'	
R = 1,145.92'	R = 445.00'	R = 1,200.00'	R = 760.00'	R = 100.00'	
SE = 0.08	SE = 0.08	SE = 0.08	SE = 0.04	SE = 0.03	
DS = 55 MPH	DS = 40 MPH	DS = 60 MPH	DS = 45 MPH	DS = 20 MPH	



PROP. RETAINING WALL #25
W/CONCRETE DITCH
BEGIN -L- STA. 468+75 ±
END -L- STA. 471+75 ±


AVERAGE DAILY TRAFFIC		
-Y2- NC 28		3,790
1,930		5,200
2,900	740	2,600
	1,000	3,300
-L- NC 45		3,330
		4,300
2022 ADT		
2045 ADT		

FOR -L- PROFILE, SEE SHEET NO. 71
FOR -Y2- PROFILE, SEE SHEET NO. 71

8/17/99
 REVISIONS
 6/1/2021
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 6/1/2021

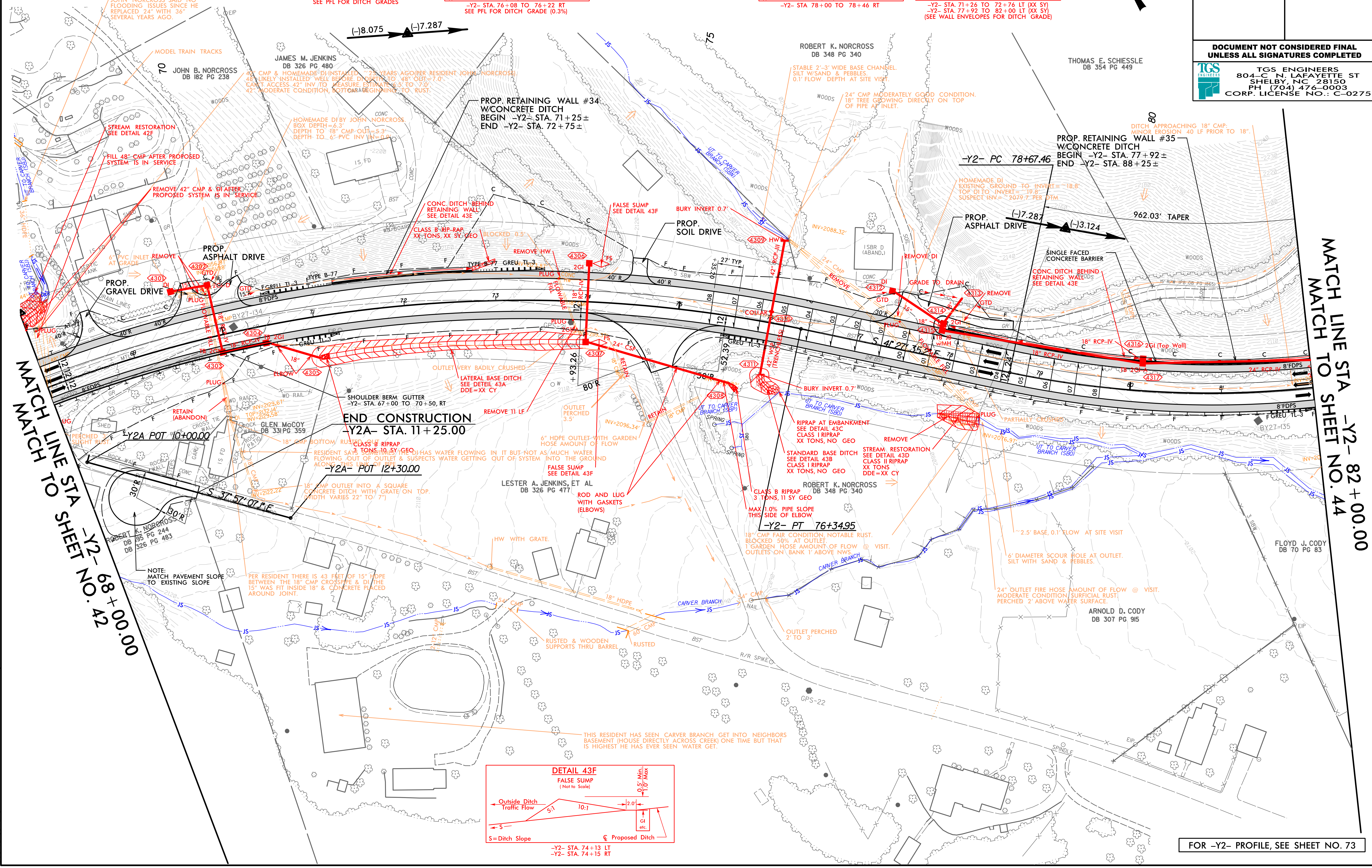
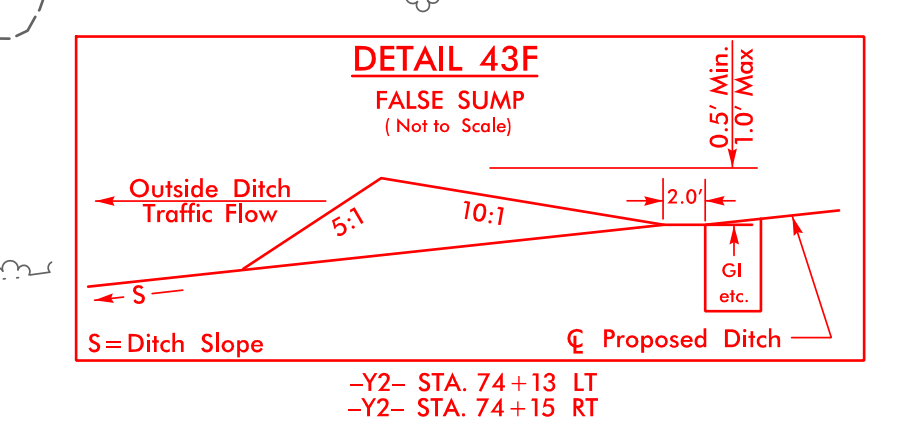
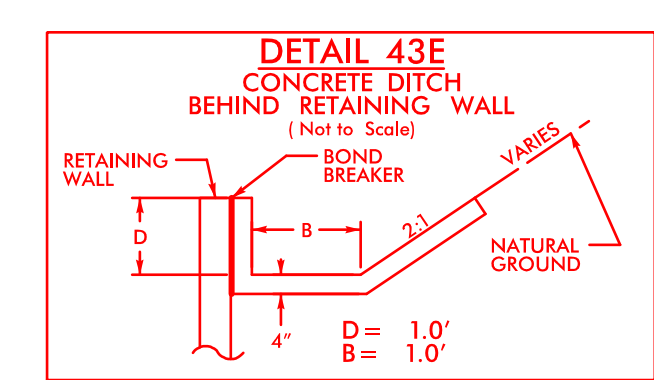
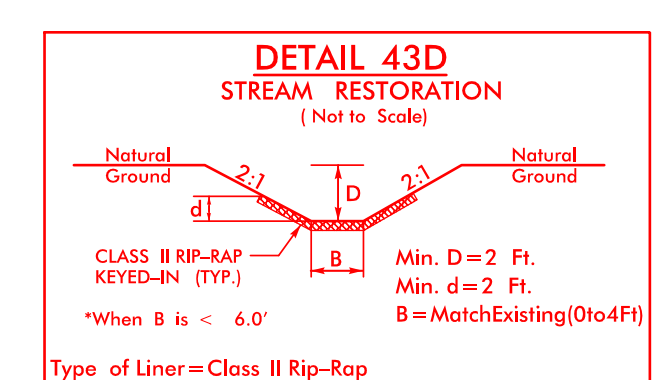
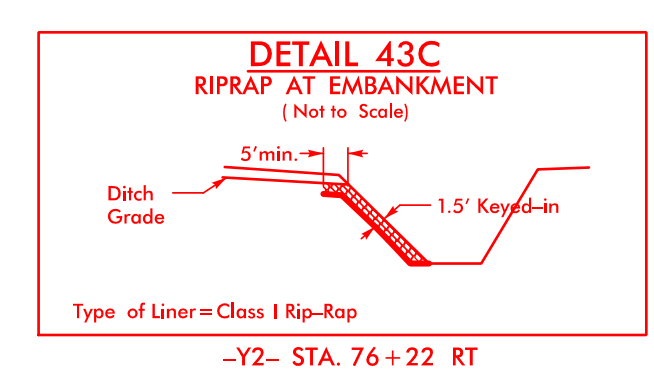
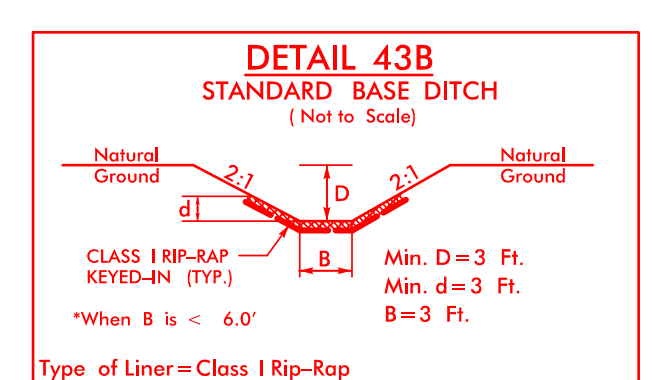
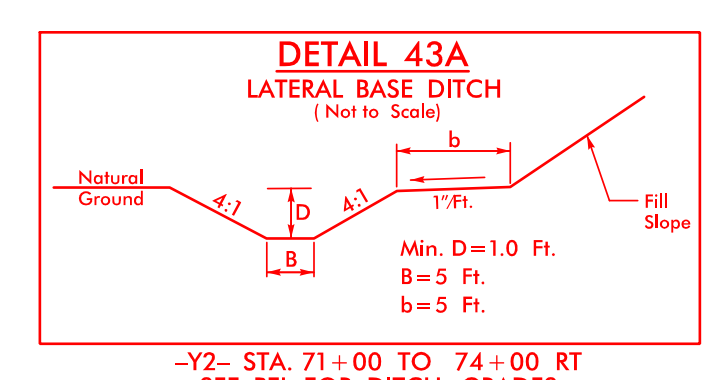
MATCH LINE STA
 -Y2- 26+00.00
 MATCH TO
 SHEET NO. 40

MATCH LINE STA
 -L- 470+00.00
 MATCH TO
 SHEET NO. 38

PROJECT REFERENCE NO.	SHEET NO.
A-0009CC	43
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

-Y2- CURVE DATA

PI Sta 70+28.18 $\Delta = 50^{\circ} 56' 38.0" (RT)$ $D = 3' 53' 51.6"$ $L = 1,307.03'$ $T = 700.27'$ $R = 1,470.00'$ $SE = 0.08$ $DS = 60 MPH$	PI Sta 83+84.46 $\Delta = 52^{\circ} 00' 01.9" (LT)$ $D = 5' 24' 18.9"$ $L = 962.04'$ $T = 517.00'$ $R = 1,060.00'$ $SE = 0.08$ $DS = 55 MPH$
--	--




FOR -Y2- PROFILE, SEE SHEET NO. 73

REVISIONS

MATCH LINE TO SHEET NO. 42
-Y2- 68+00.00

MATCH LINE TO SHEET NO. 44
-Y2- 82+00.00

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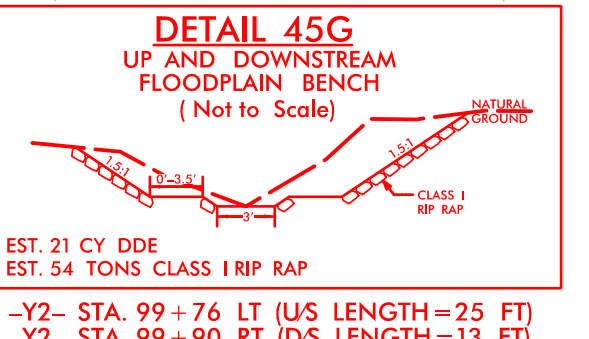
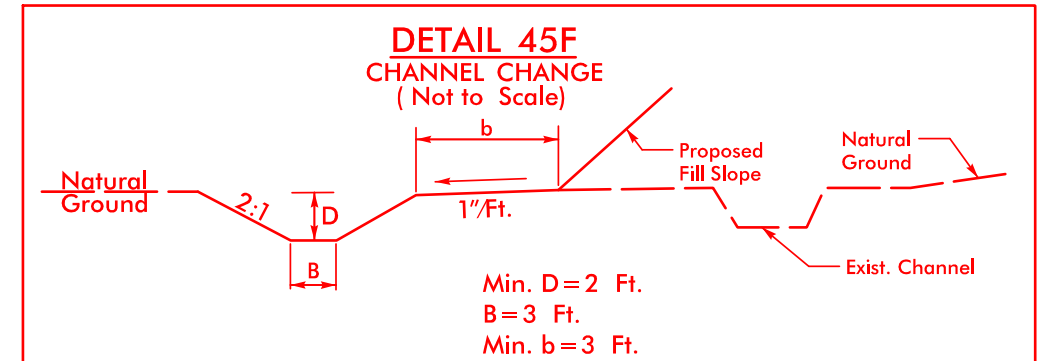
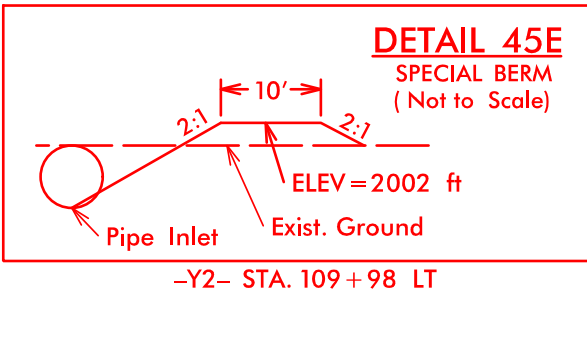
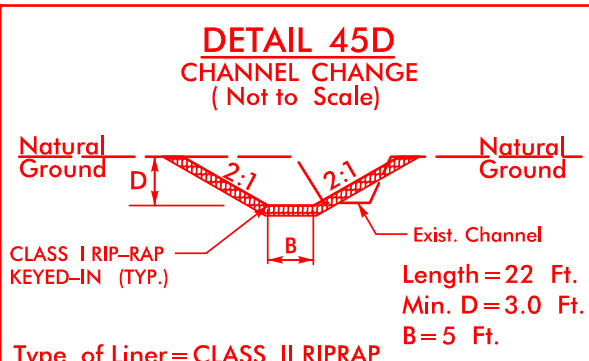
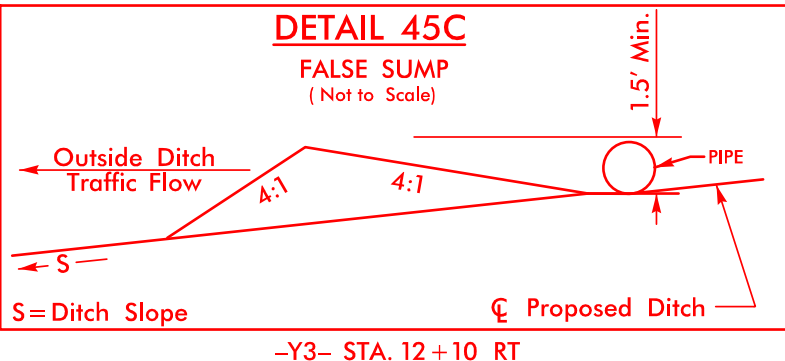
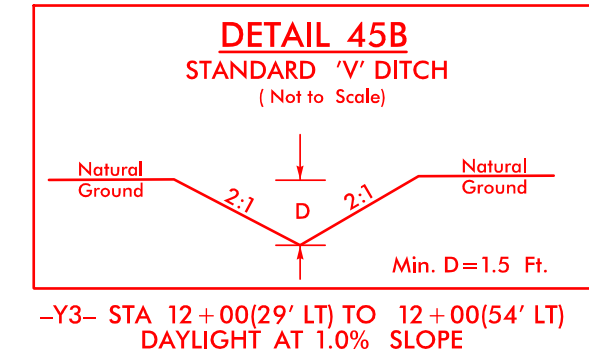
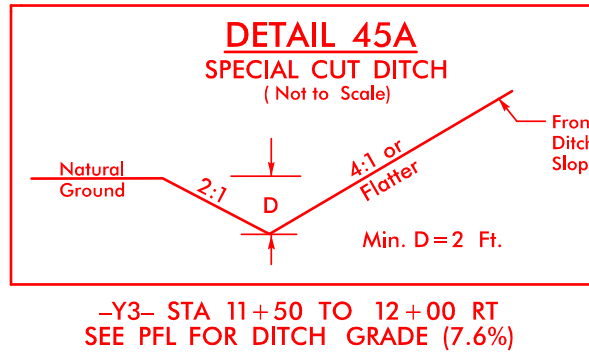
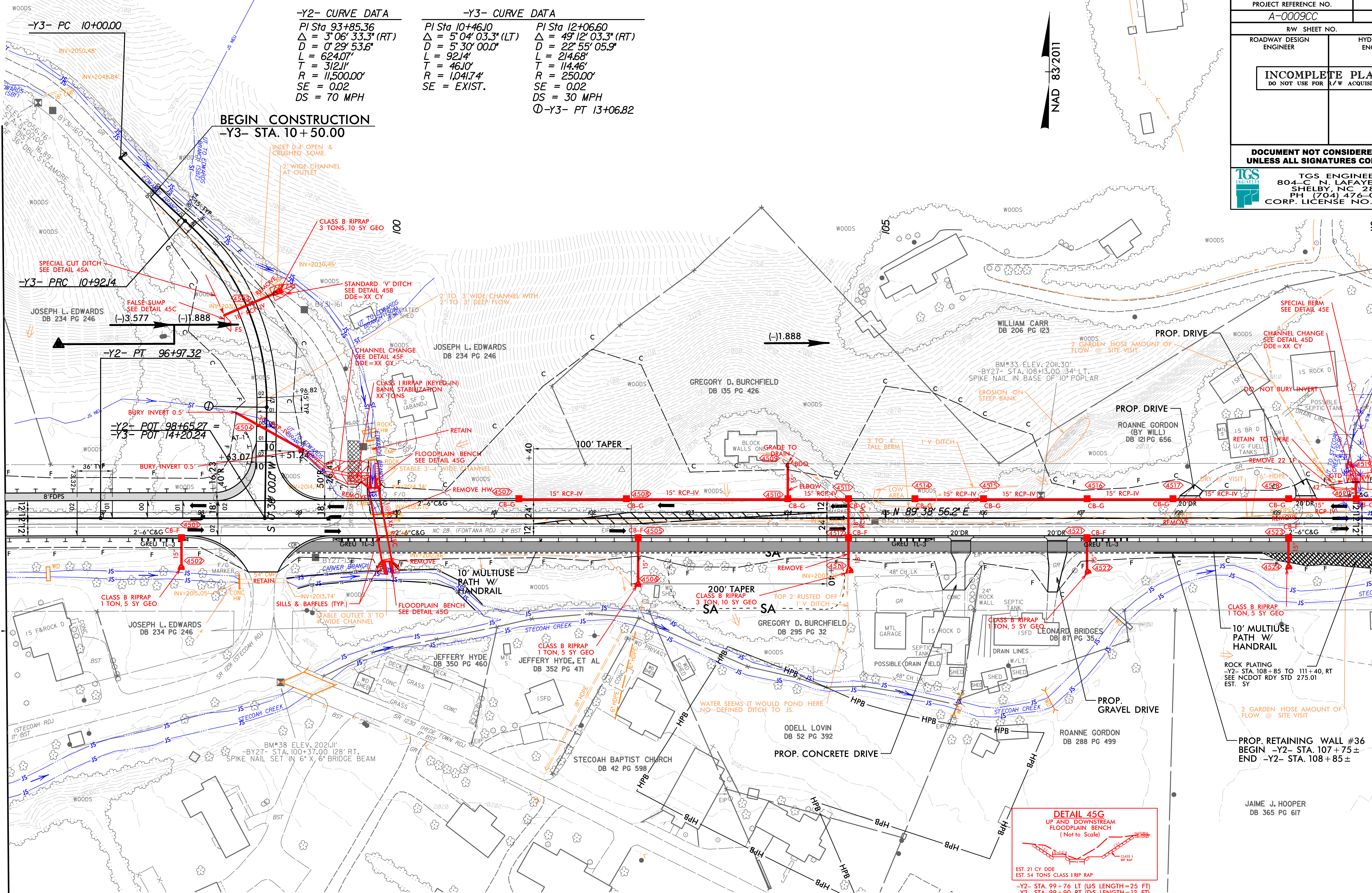
PROJECT REFERENCE NO.	SHEET NO.
A-0009CC	45
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH: (704) 476-0003 CORP. LICENSE NO.: C-0275	

NAD 83/2011

-Y2- CURVE DATA	-Y3- CURVE DATA	-Y3- CURVE DATA
PI Sta 93+85.36	PI Sta 10+46.10	PI Sta 12+06.60
$\Delta = 3^{\circ} 06' 33.3''$ (RT)	$\Delta = 5^{\circ} 04' 03.3''$ (LT)	$\Delta = 49^{\circ} 12' 03.3''$ (RT)
D = 0' 29' 53.6"	D = 5' 30' 00.0"	D = 22' 55' 05.9"
L = 624.07'	L = 92.14'	L = 214.68'
T = 312.11'	T = 46.10'	T = 114.46'
R = 11,500.00'	R = 1,041.74'	R = 250.00'
SE = 0.02	SE = EXIST.	SE = 0.02
DS = 70 MPH		DS = 30 MPH
		Q-Y3- PT 13+06.82

MATCH LINE STA -Y2- 96+00.00
MATCH TO SHEET NO. 44

MATCH LINE STA -Y2- 110+00.00
MATCH TO SHEET NO. 46




--- SA --- ELIGIBLE AND UNASSESSED SITES

FOR -Y2- PROFILE, SEE SHEET NO. 74

FOR -Y3- PROFILE, SEE SHEET NO. 77

REVISIONS

6/17/2021 X:\NCDDT\VA-0009\Hydraulics\MERGER\VA-0009\CC\CC 4B\Plan Sheets\VA-0009\CC 45.dgn

PROJECT REFERENCE NO. A-0009CC	SHEET NO. 46
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH: (704) 476-0003 CORP. LICENSE NO.: C-0275	

NAD 83/2011

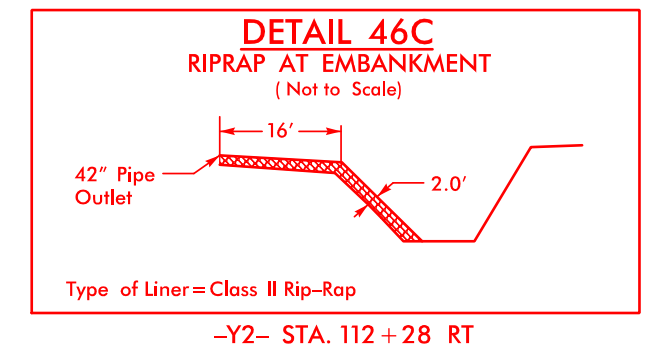
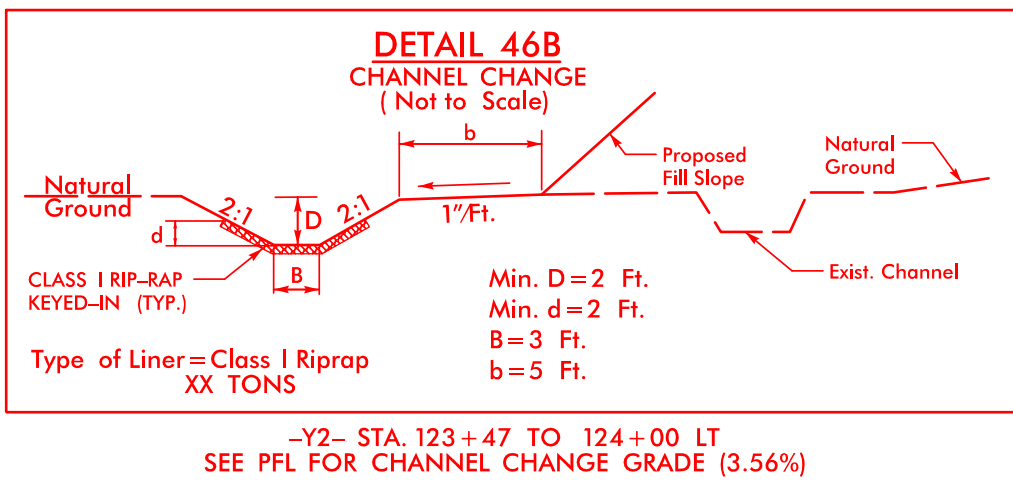
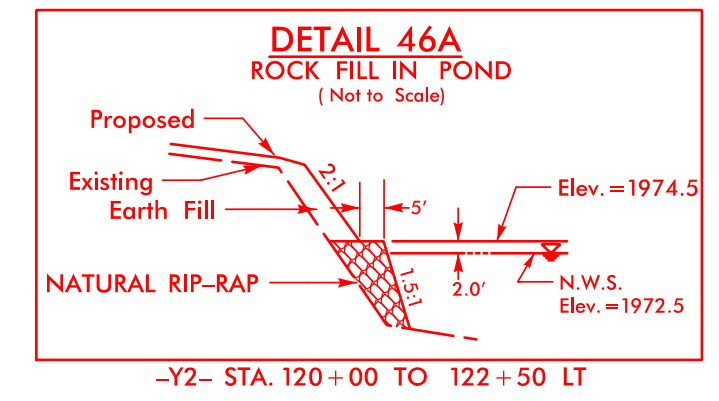
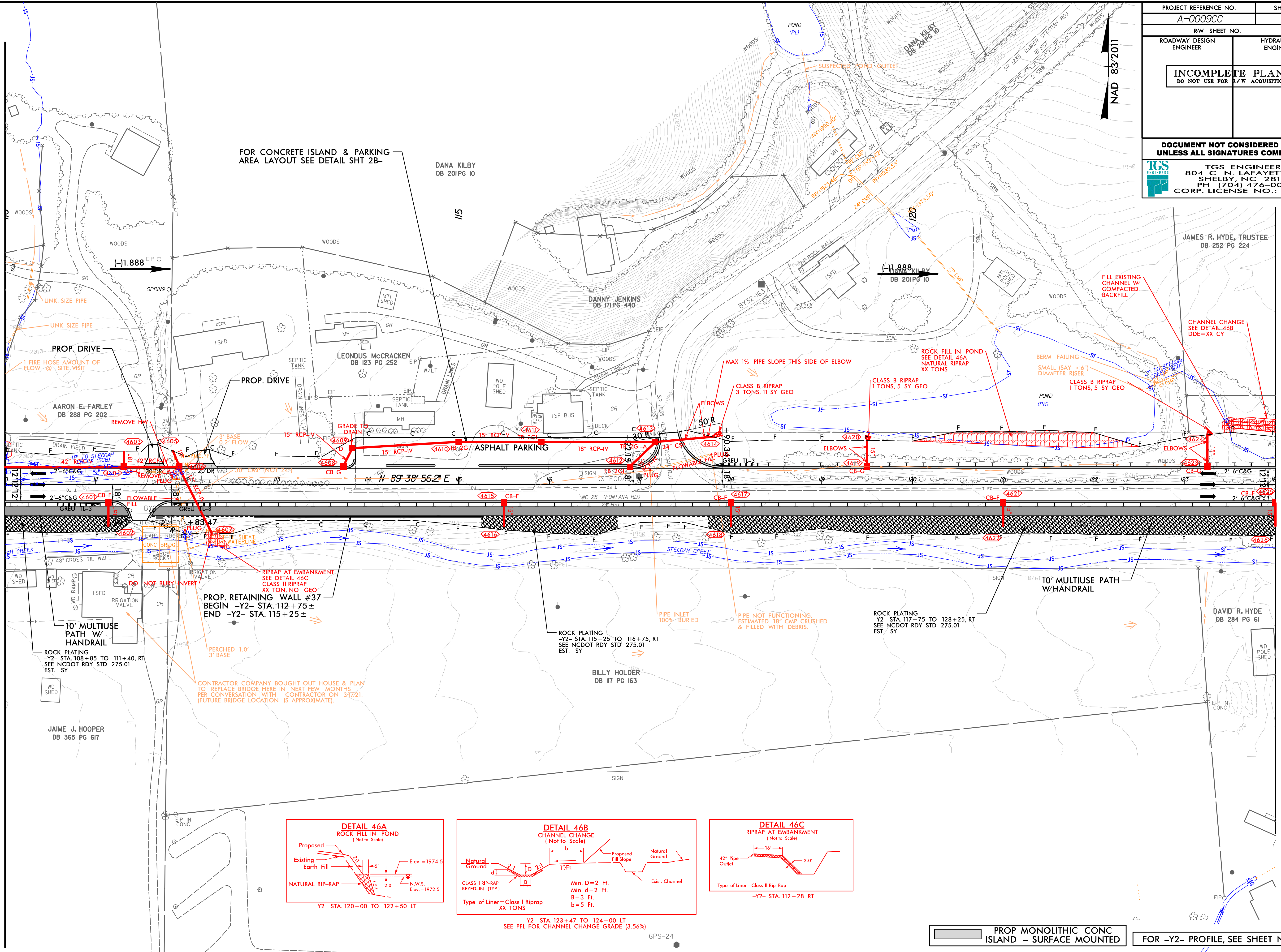
8/17/99

MATCH LINE STA -Y2- 110 + 00.00
MATCH TO SHEET NO. 45

MATCH LINE STA -Y2- 124 + 00.00
MATCH TO SHEET NO. 47

REVISIONS


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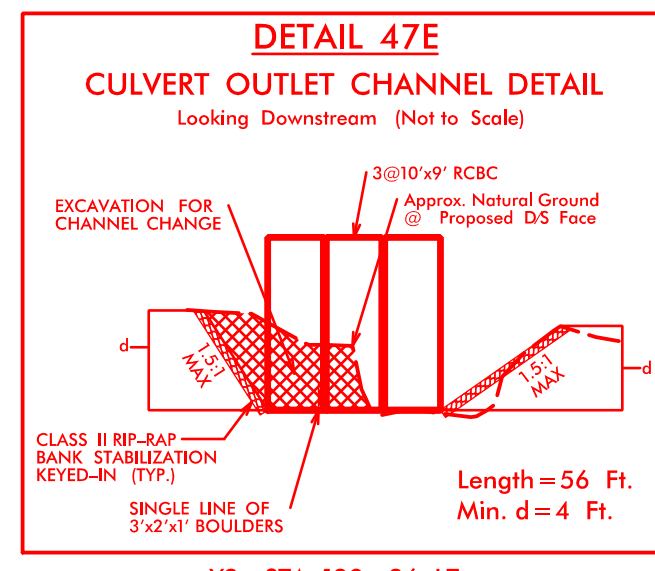
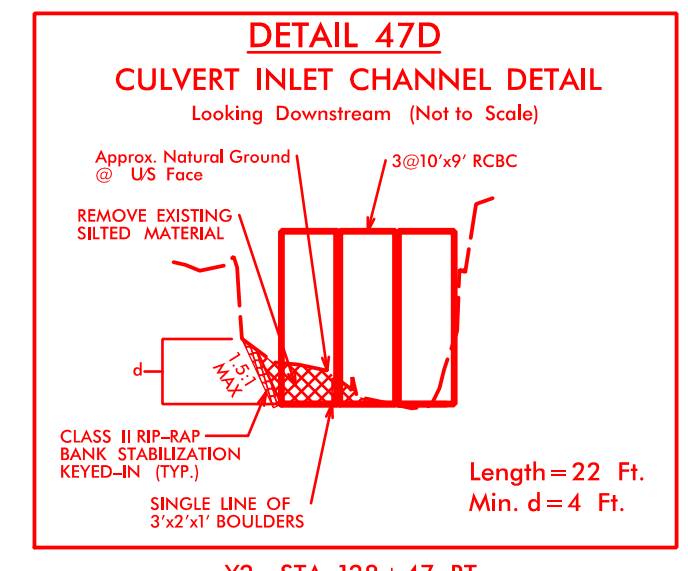
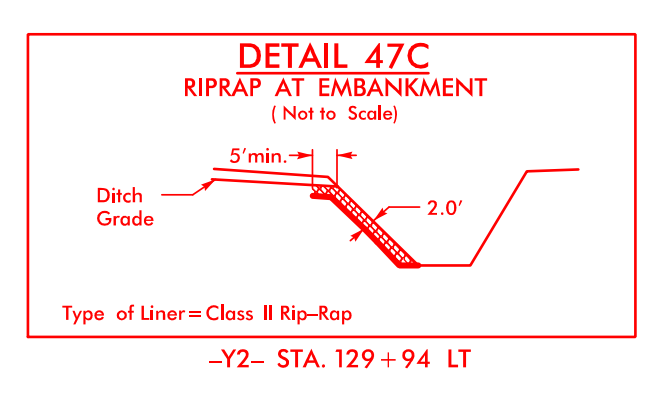
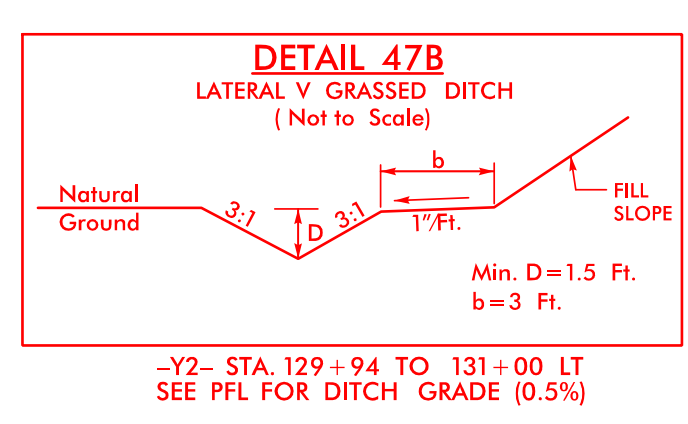
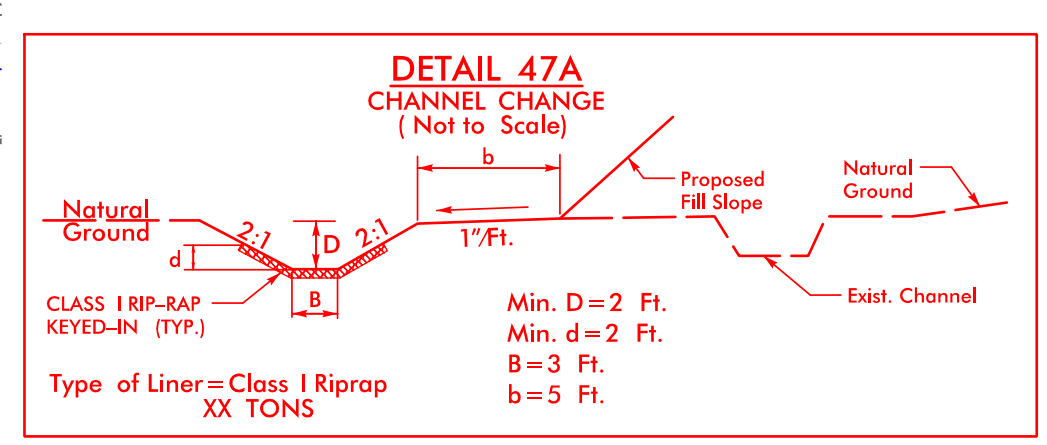
PROP MONOLITHIC CONC ISLAND - SURFACE MOUNTED

FOR -Y2- PROFILE, SEE SHEET NO. 46

GPS-24

PROJECT REFERENCE NO.	SHEET NO.
A-0009CC	47
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH: (704) 476-0003 CORP. LICENSE NO.: C-0275	

-Y2- CURVE DATA
 PI Sta 132+08.73
 $\Delta = 30^{\circ} 56' 09.8" (LT)$
 $D = 4' 48" 53.2"$
 $L = 642.52'$
 $T = 329.30'$
 $R = 1,90.00'$
 $SE = 0.04$
 $DS = 55 \text{ MPH}$



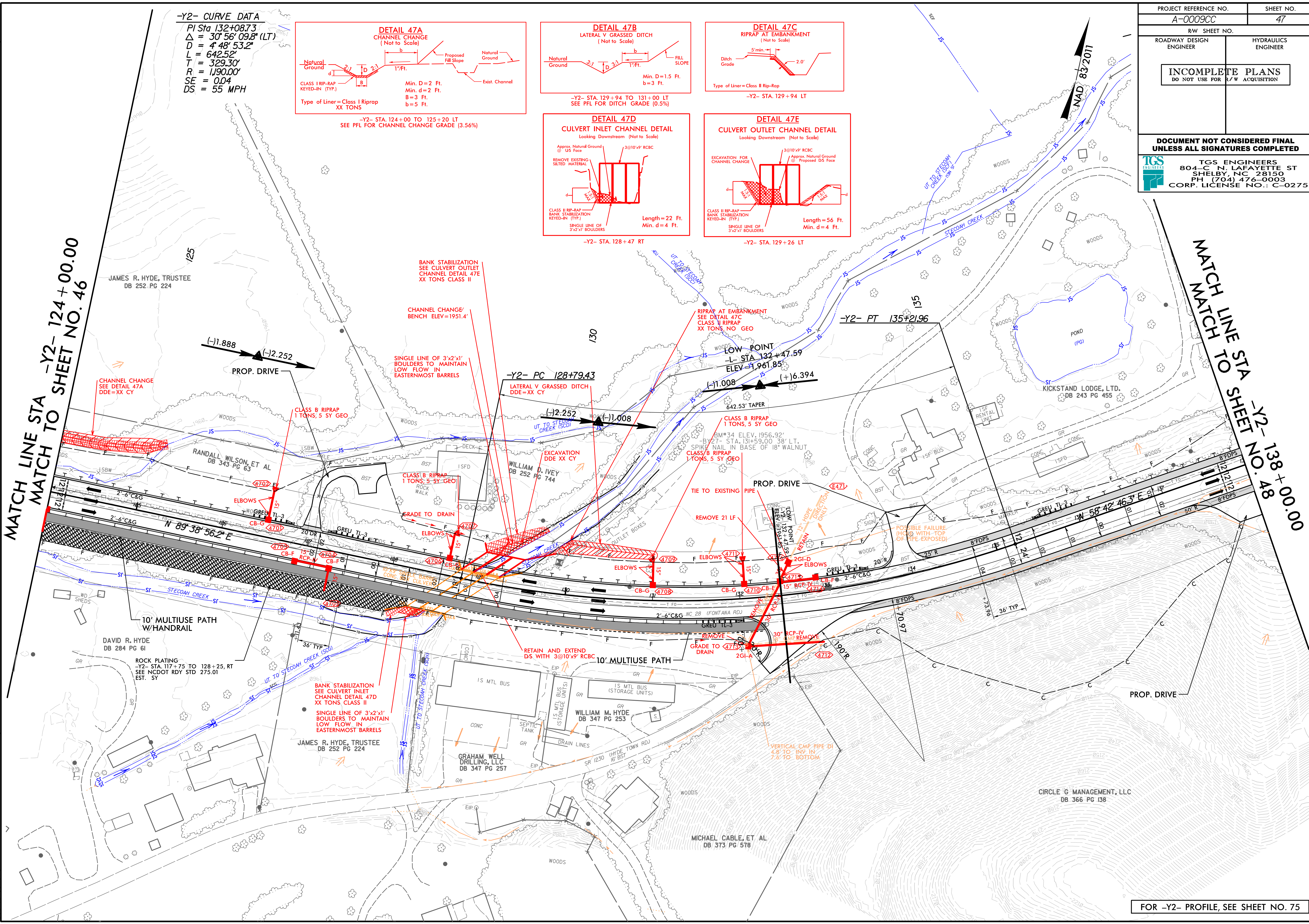
-Y2- STA. 124+00 TO 125+20 LT
 SEE PFL FOR CHANNEL CHANGE GRADE (3.56%)

-Y2- STA. 128+47 RT

-Y2- STA. 129+26 LT

MATCH LINE STA -Y2- 124+00.00
MATCH TO SHEET NO. 46

MATCH LINE TO STA -Y2- 138+00.00
MATCH TO SHEET NO. 48



8/17/99
 REVISIONS
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 6/1/2021

FOR -Y2- PROFILE, SEE SHEET NO. 75

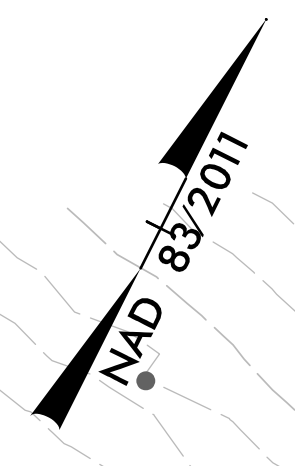
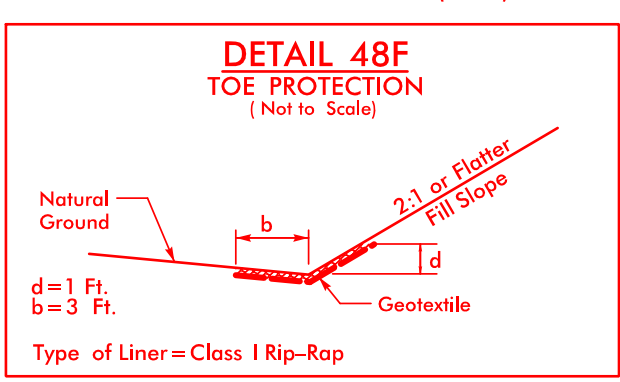
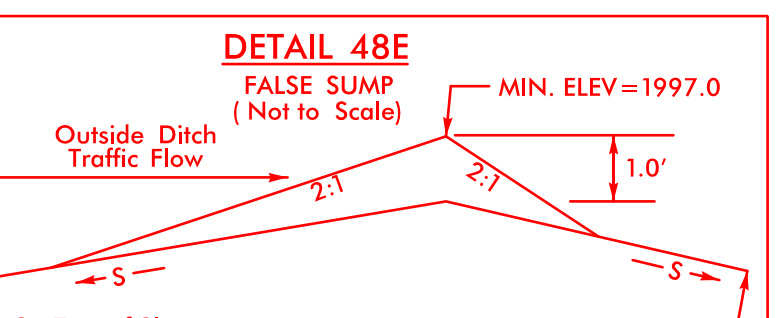
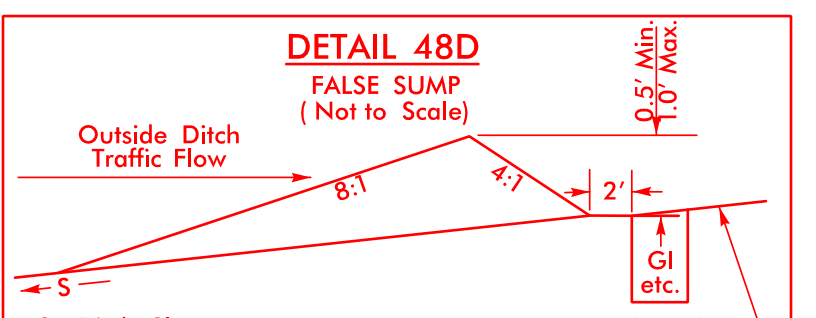
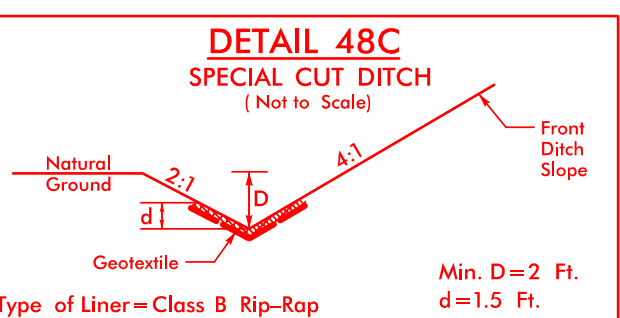
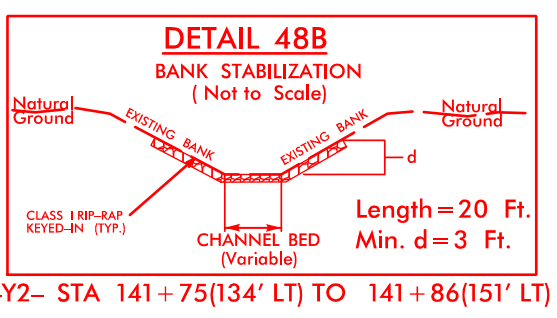
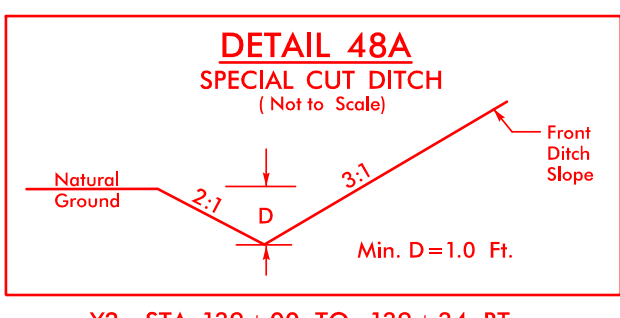
PROJECT REFERENCE NO.	SHEET NO.
A-0009CC	48
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

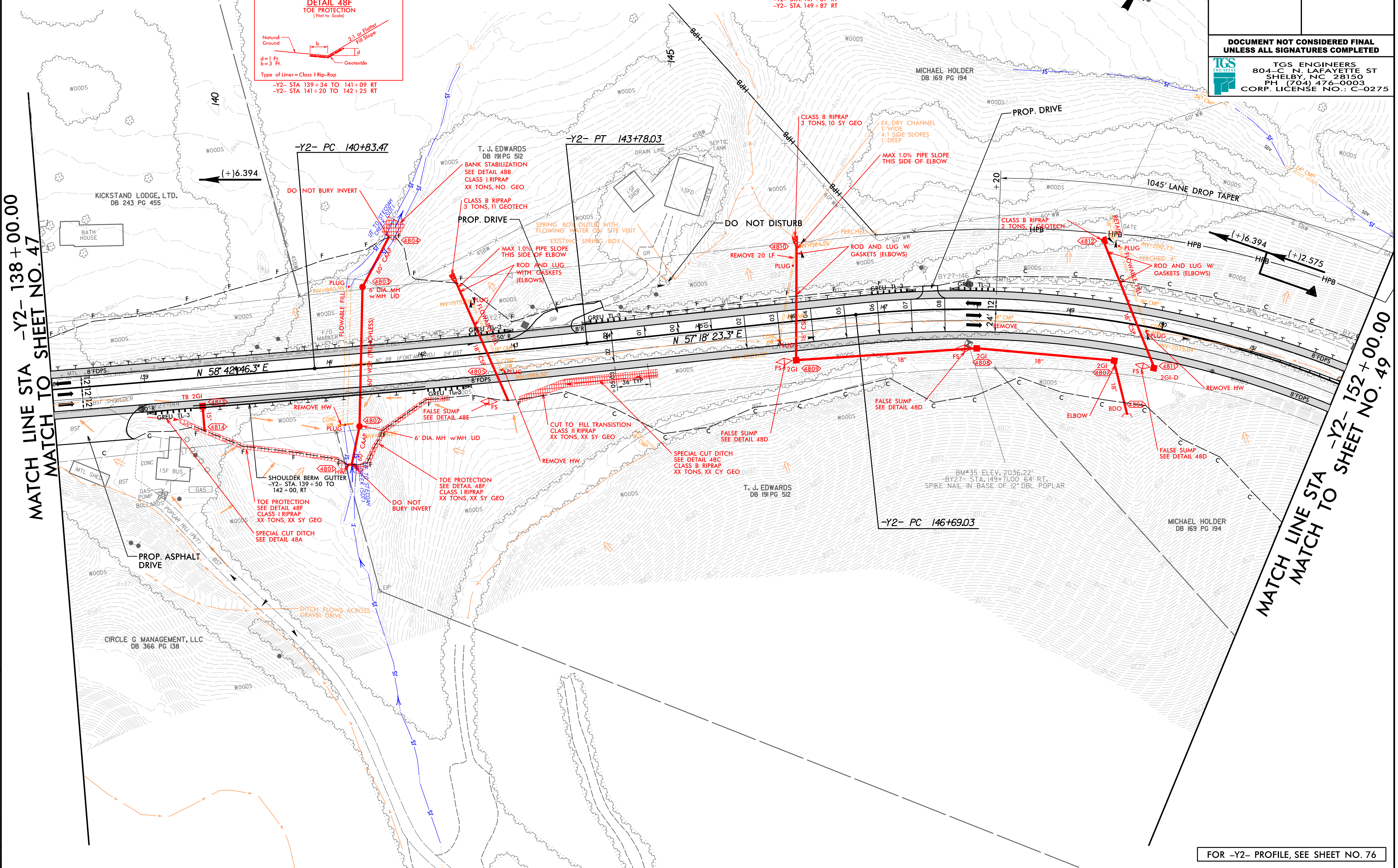
-Y2- CURVE DATA

PI Sta 142+30.76	PI Sta 152+17.13
$\Delta = 1^{\circ} 24' 23.1''$ (LT)	$\Delta = 5^{\circ} 21' 17.1''$ (RT)
D = 0' 28' 38.9"	D = 5' 21' 17.1"
L = 294.56'	L = 1,013.07'
T = 147.29'	T = 548.10'
R = 12,070.00'	R = 1,070.00'
SE = NC	SE = 0.08
DS = 60 MPH	DS = 55 MPH




MATCH LINE STA -Y2- 138+00.00
MATCH TO SHEET NO. 47

MATCH LINE STA -Y2- 152+00.00
MATCH TO SHEET NO. 49



FOR -Y2- PROFILE, SEE SHEET NO. 76

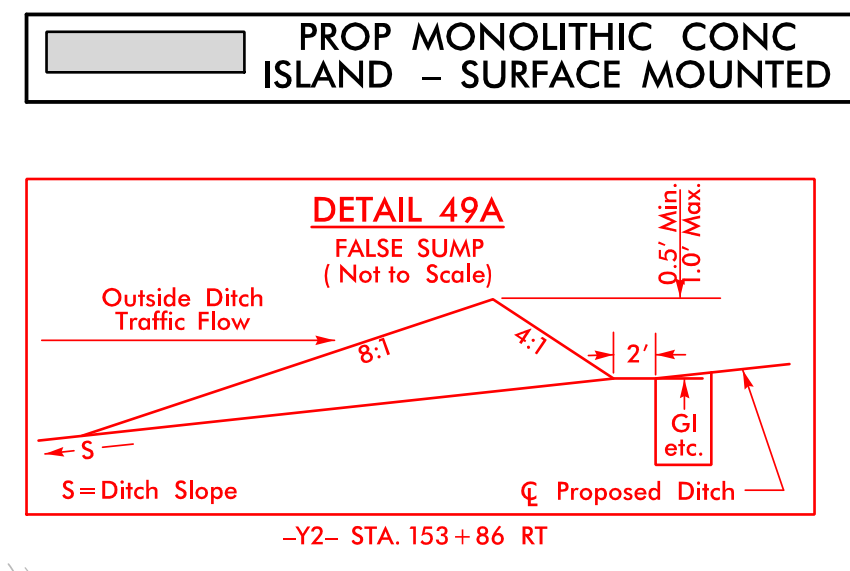
8/17/99
REVISIONS
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6/1/2021

PROJECT REFERENCE NO.	SHEET NO.
A-0009CC	49
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH: (704) 476-0003 CORP. LICENSE NO.: C-0275	

NAD 83/2011

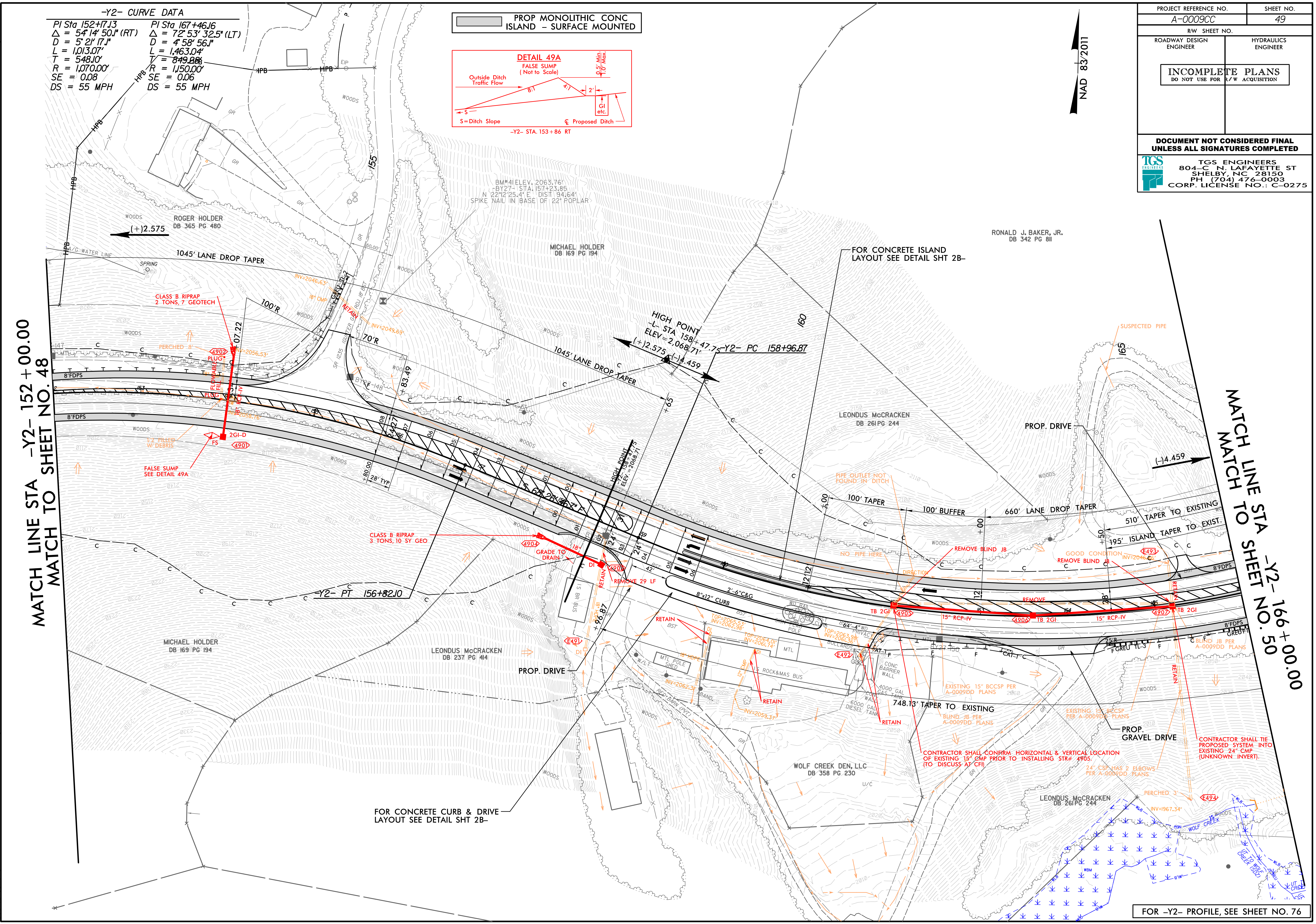
-Y2- CURVE DATA

PI Sta 152+17.13	PI Sta 167+46.16
$\Delta = 54^{\circ}14'50.1''$ (RT)	$\Delta = 72^{\circ}53'32.5''$ (LT)
$D = 5'21.17''$	$D = 4'58'56.1''$
$L = 1013.07'$	$L = 1,463.04'$
$T = 548.10'$	$T = 849.88'$
$R = 1,070.00'$	$R = 1,150.00'$
$SE = 0.08$	$SE = 0.06$
$DS = 55$ MPH	$DS = 55$ MPH



MATCH LINE STA -Y2- 152 + 00.00
MATCH TO SHEET NO. 48

MATCH LINE STA -Y2- 166 + 00.00
MATCH TO SHEET NO. 50



REVISIONS

8/17/99


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FOR -Y2- PROFILE, SEE SHEET NO. 76

8/17/99

-L- CURVE DATA
 PI Sta 167+46.16
 $\Delta = 72^\circ 53' 32.5" (LT)$
 $D = 4^\circ 58' 56"$
 $L = 1,463.04'$
 $T = 849.28'$
 $R = 1,150.00'$
 $SE = 0.06$
 $DS = 55 \text{ MPH}$

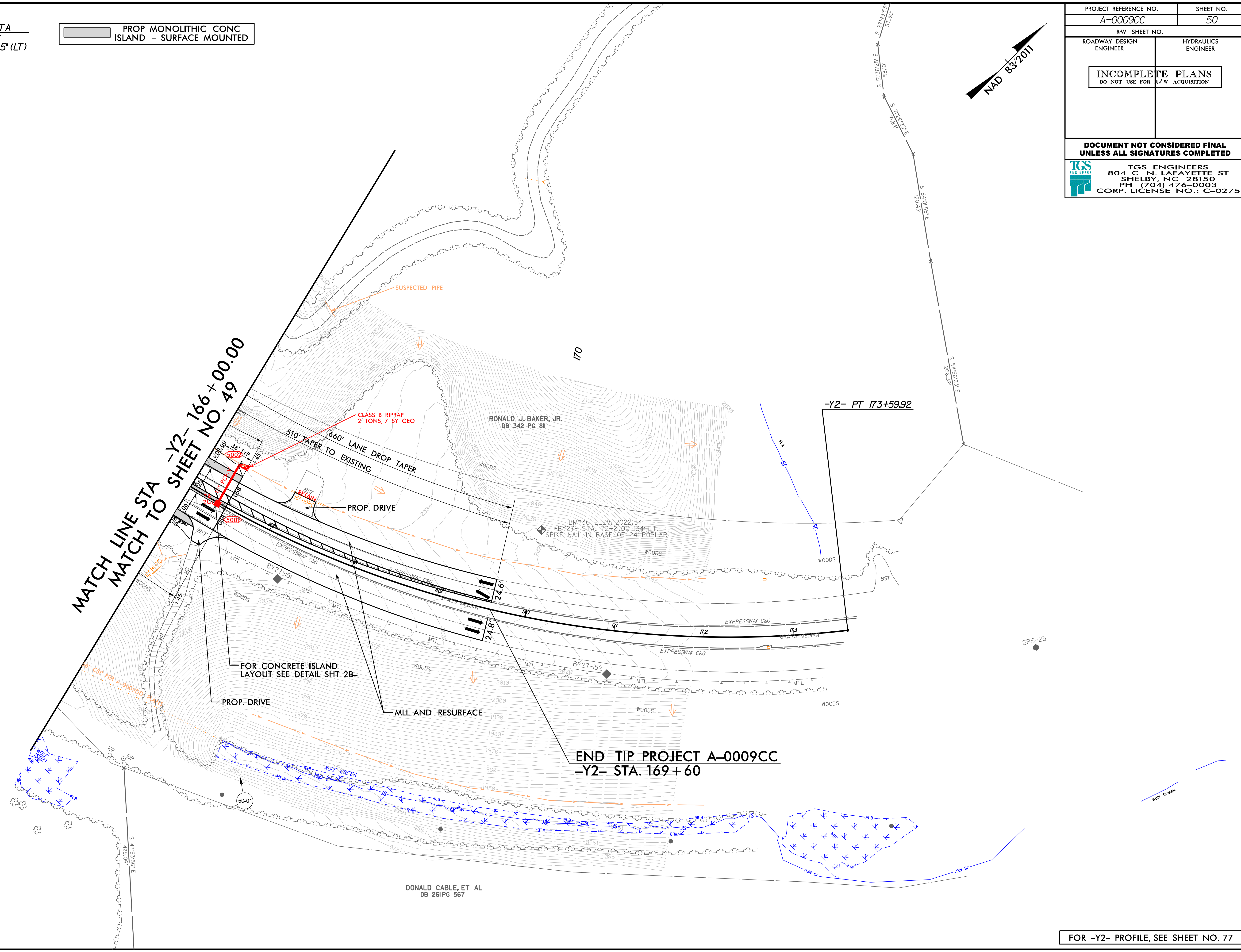
 PROP MONOLITHIC CONC ISLAND - SURFACE MOUNTED

PROJECT REFERENCE NO. A-0009CC	SHEET NO. 50
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



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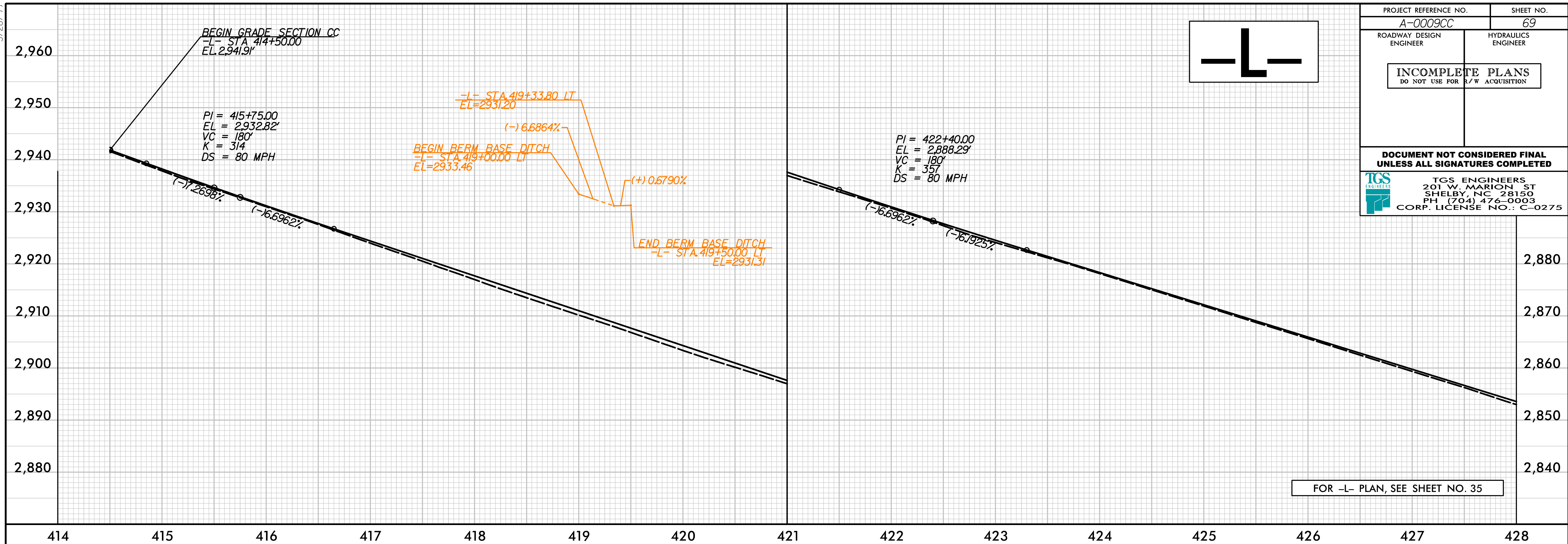
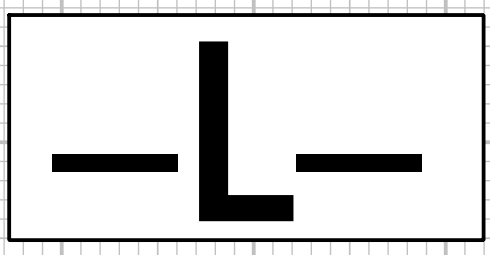


DONALD CABLE, ET AL
 DB 261 PG 567

FOR -Y2- PROFILE, SEE SHEET NO. 77


5/28/99

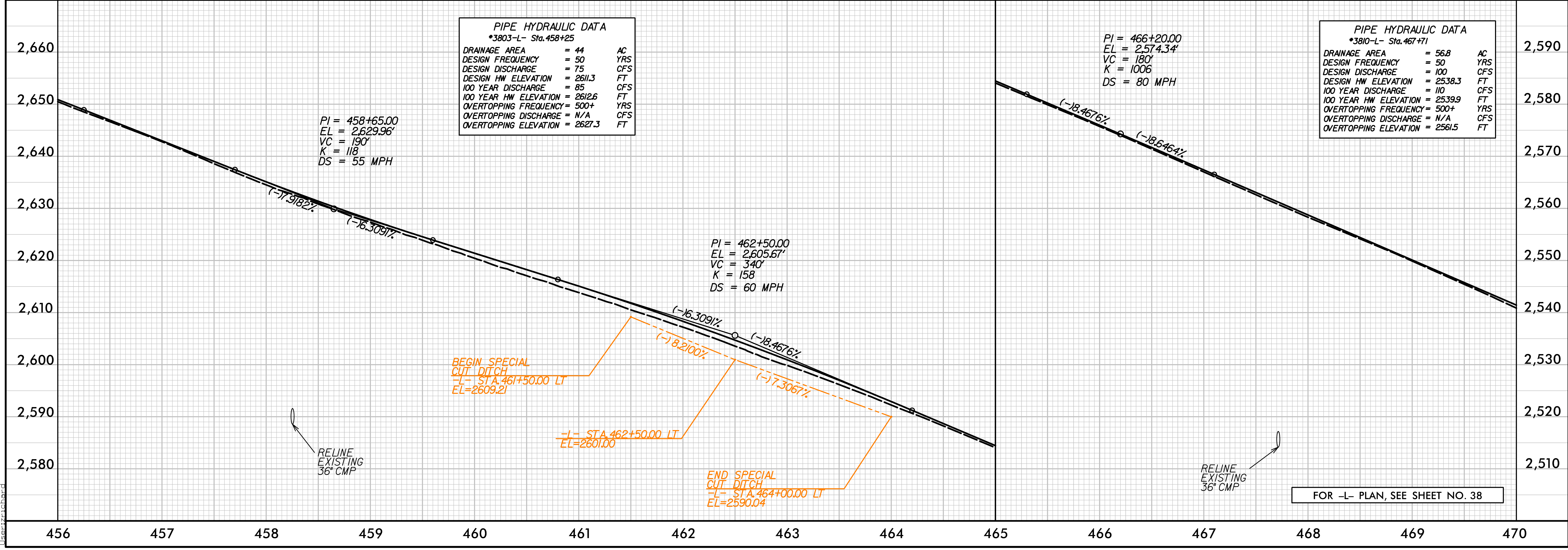
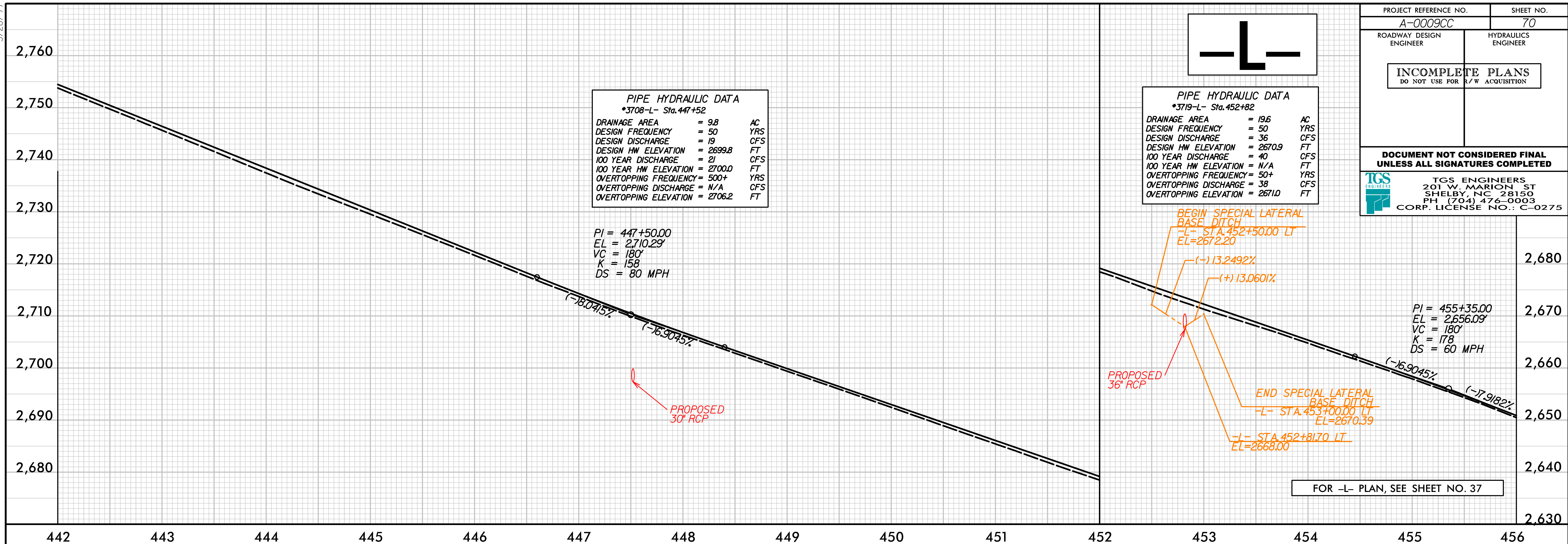
PROJECT REFERENCE NO. A-0009CC	SHEET NO. 69
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



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 User: jrbard

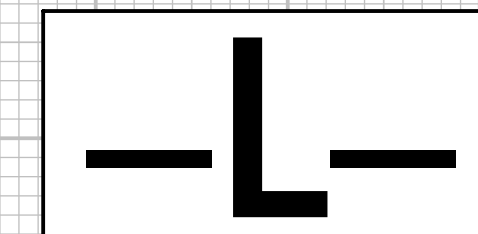
5/28/99

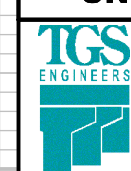
PROJECT REFERENCE NO. A-0009CC	SHEET NO. 70
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

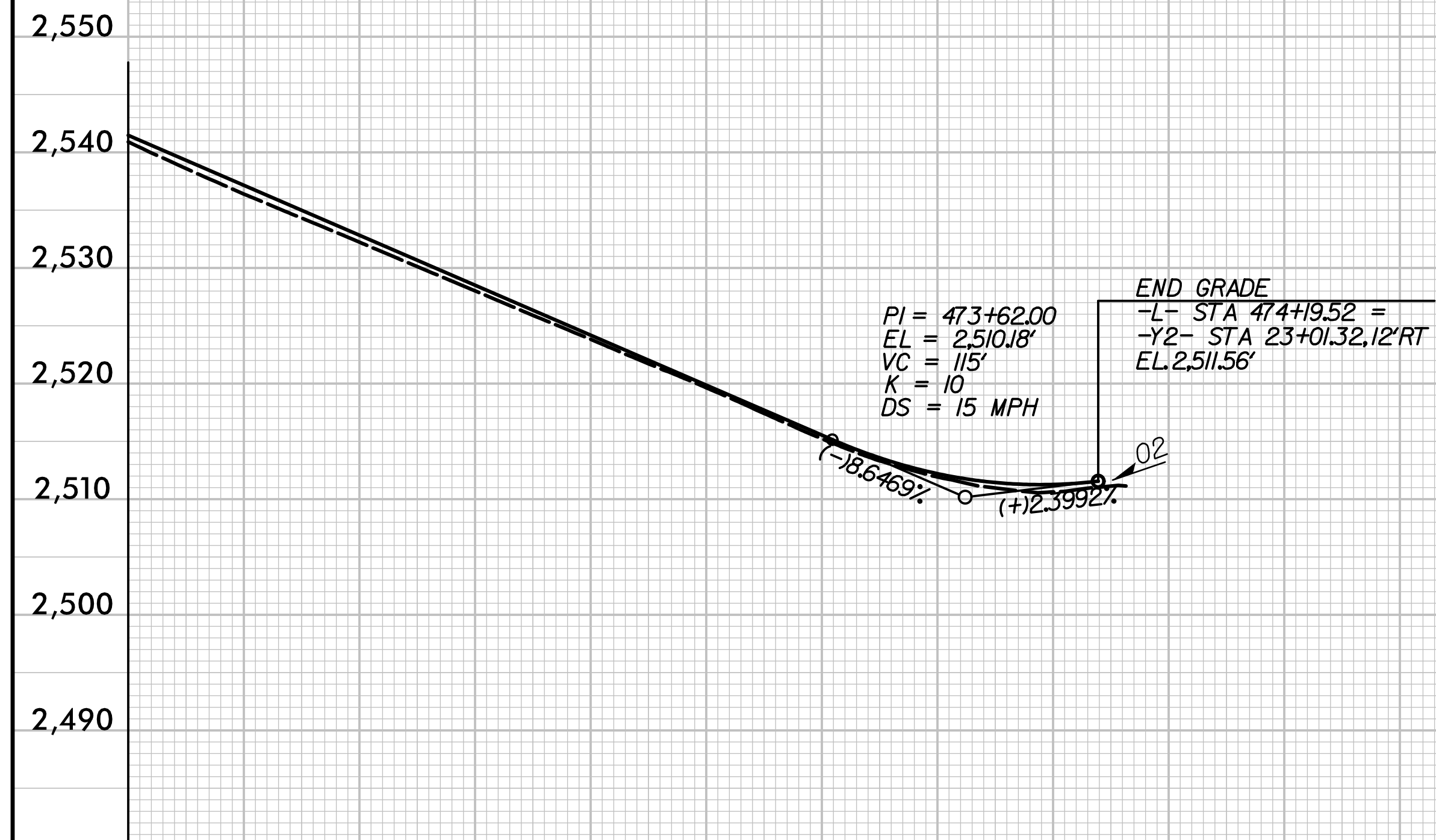


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PROJECT REFERENCE NO. A-0009CC	SHEET NO. 71
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

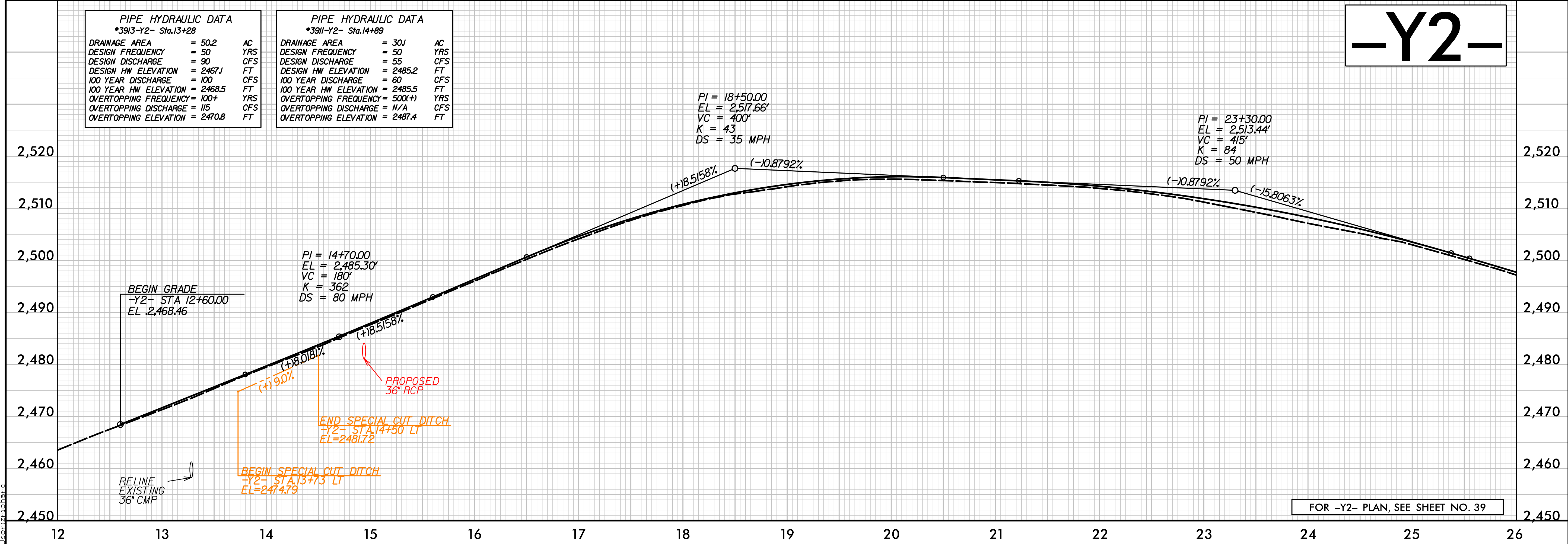


FOR -L- PLAN, SEE SHEET NO. 39

470 471 472 473 474

PIPE HYDRAULIC DATA *3913-Y2- Sta.13+28		PIPE HYDRAULIC DATA *3911-Y2- Sta.14+89	
DRAINAGE AREA = 50.2	AC	DRAINAGE AREA = 30J	AC
DESIGN FREQUENCY = 50	YRS	DESIGN FREQUENCY = 50	YRS
DESIGN DISCHARGE = 90	CFS	DESIGN DISCHARGE = 55	CFS
DESIGN HW ELEVATION = 2467J	FT	DESIGN HW ELEVATION = 2485.2	FT
100 YEAR DISCHARGE = 100	CFS	100 YEAR DISCHARGE = 60	CFS
100 YEAR HW ELEVATION = 2468.5	FT	100 YEAR HW ELEVATION = 2485.5	FT
OVERTOPPING FREQUENCY = 100+	YRS	OVERTOPPING FREQUENCY = 500(+)	YRS
OVERTOPPING DISCHARGE = 115	CFS	OVERTOPPING DISCHARGE = N/A	CFS
OVERTOPPING ELEVATION = 2470.8	FT	OVERTOPPING ELEVATION = 2487.4	FT

-Y2-




FOR -Y2- PLAN, SEE SHEET NO. 39

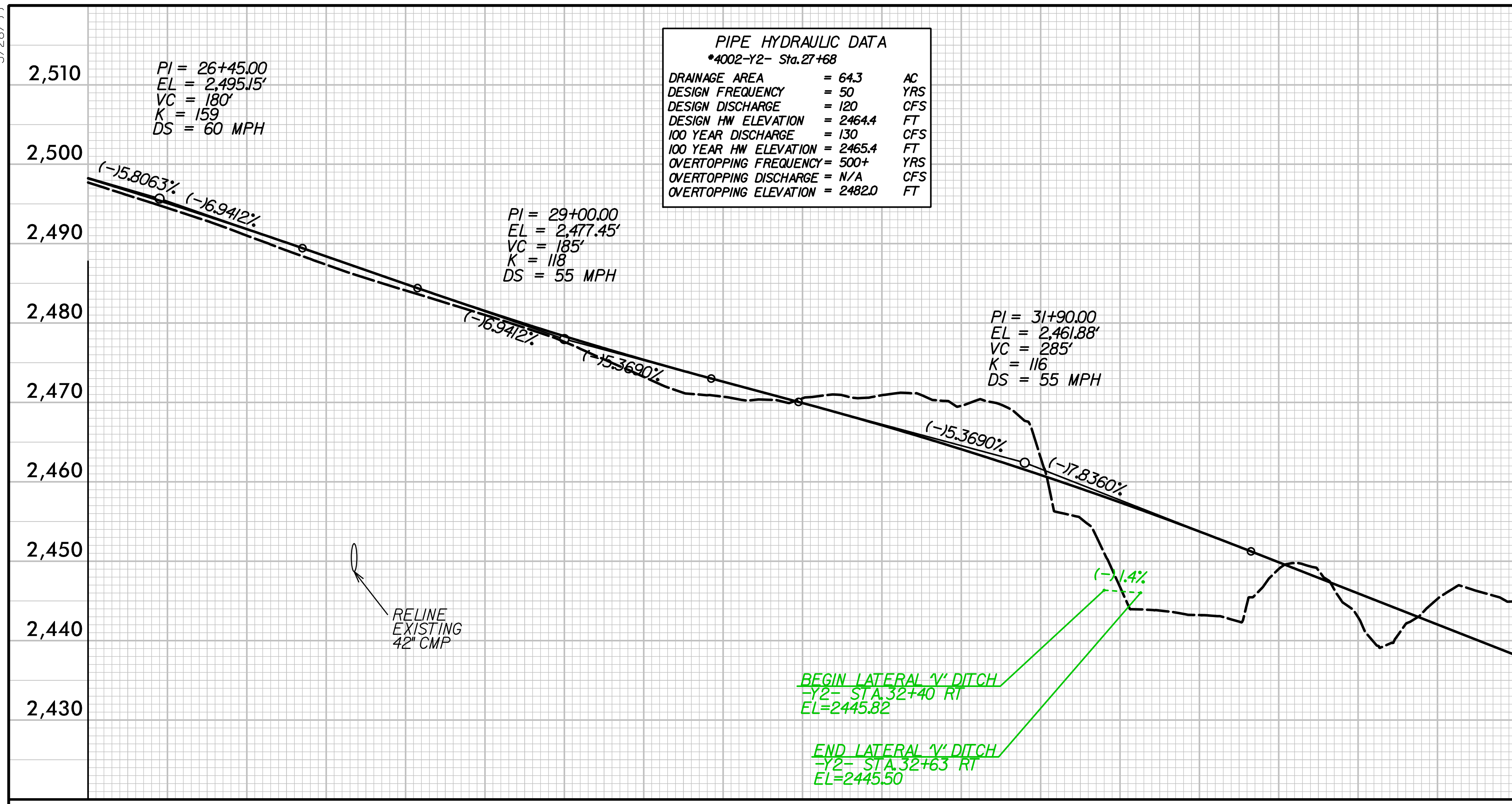
12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

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5/28/99

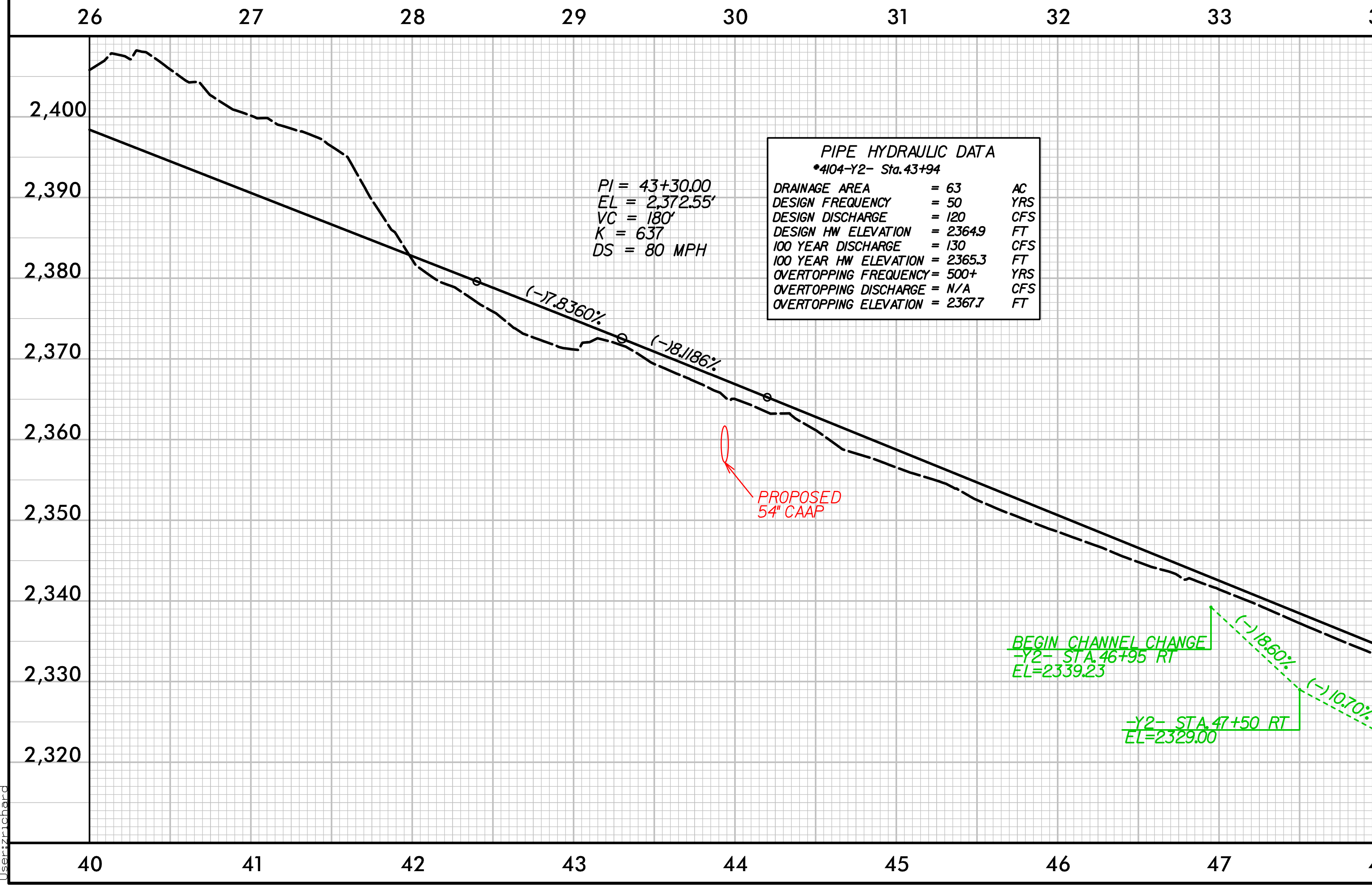
-Y2-

PROJECT REFERENCE NO. A-0009CC	SHEET NO. 72
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



PIPE HYDRAULIC DATA
*4017-Y2- Sta. 36+01

DRAINAGE AREA	= 55.2	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 100	CFS
DESIGN HW ELEVATION	= 2424.1	FT
100 YEAR DISCHARGE	= 110	CFS
100 YEAR HW ELEVATION	= 2424.5	FT
OVERTOPPING FREQUENCY	= 100	YRS
OVERTOPPING DISCHARGE	= 110	CFS
OVERTOPPING ELEVATION	= 2424.5	FT



PIPE HYDRAULIC DATA
*4108-Y2- Sta. 50+28

DRAINAGE AREA	= 47.5	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 93	CFS
DESIGN HW ELEVATION	= 2304.7	FT
100 YEAR DISCHARGE	= 100	CFS
100 YEAR HW ELEVATION	= 2305.3	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING ELEVATION	= 2308.3	FT

PI = 53+00.00
EL = 2,293.80'
VC = 180'
K = 1323
DS = 80 MPH

BEGIN CHANNEL CHANGE
-Y2- STA. 52+00 LT
EL=2253.70

-Y2- STA. 52+25 LT
EL=2250.00


END CHANNEL CHANGE
-Y2- STA. 53+00 LT
EL=2245.10

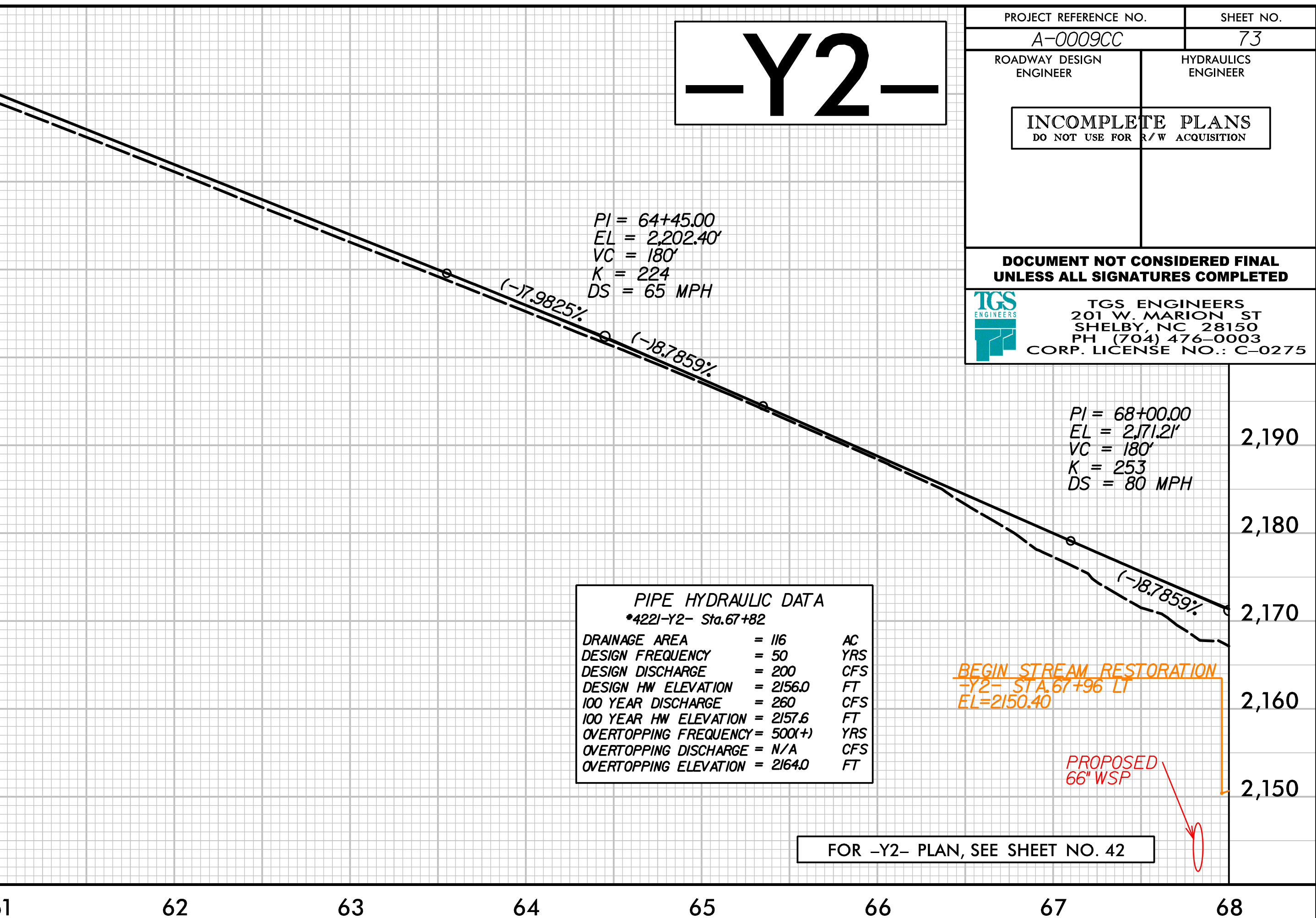
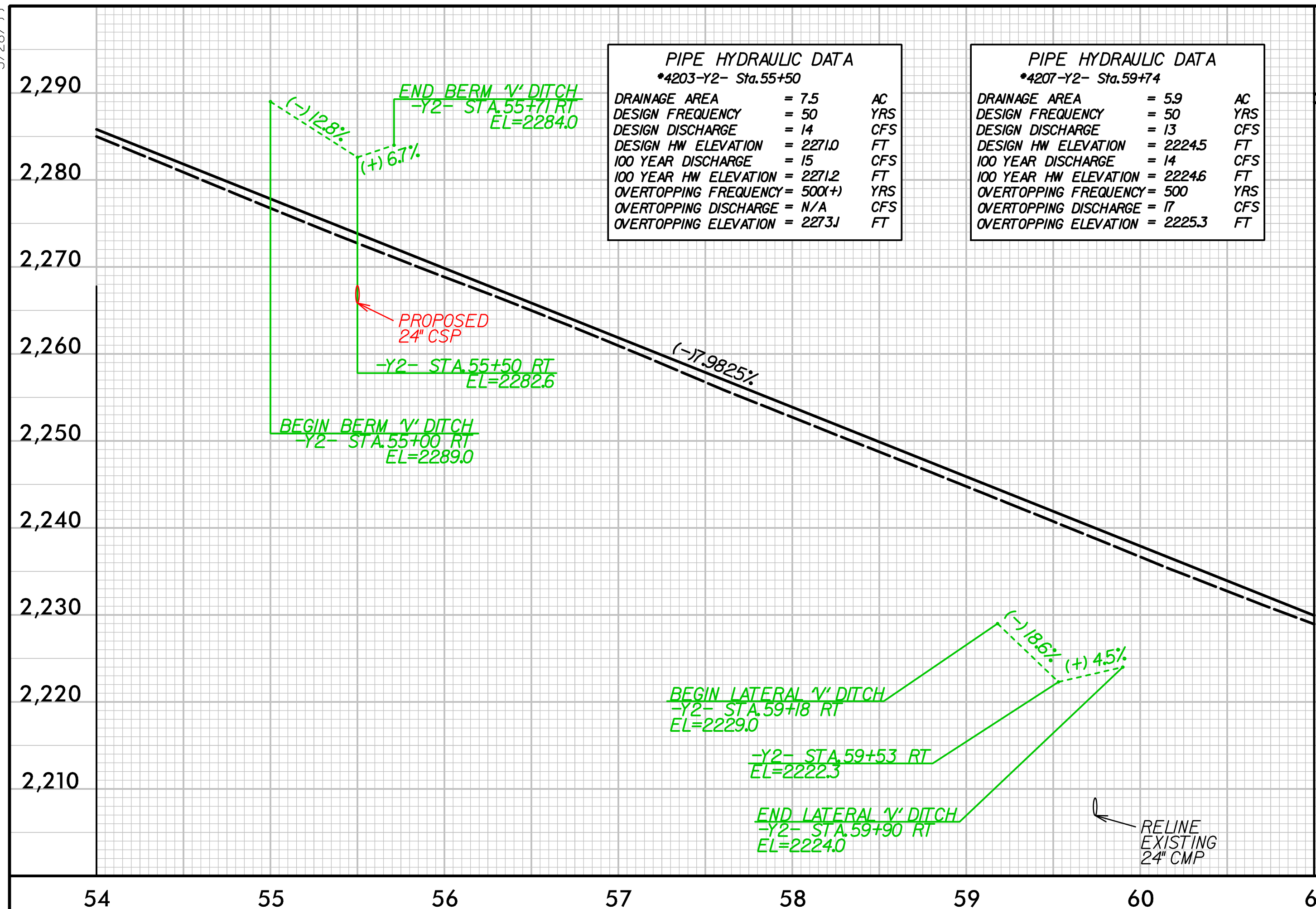
FOR -Y2- PLAN, SEE SHEET NO. 41

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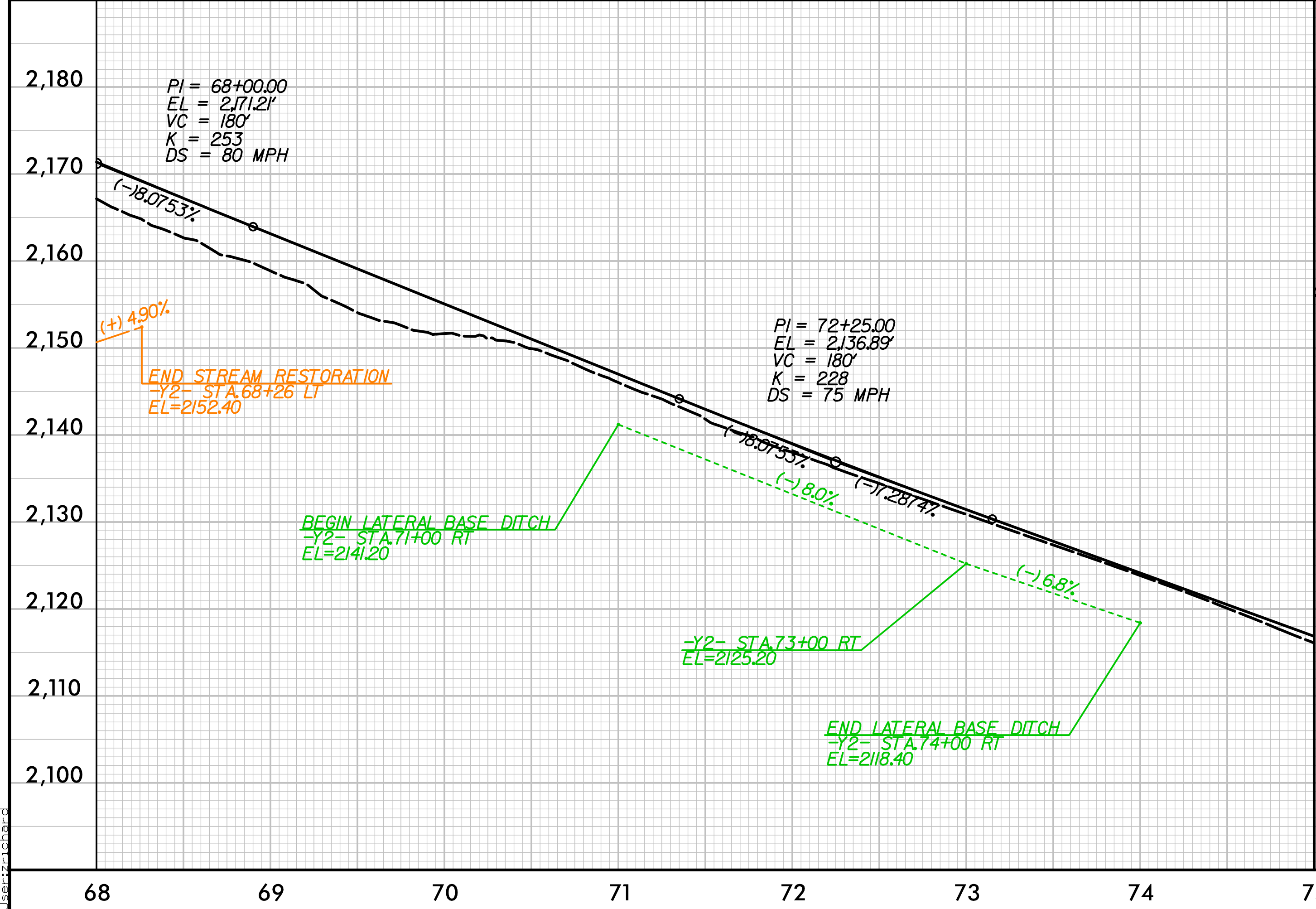
5/28/99

-Y2-

PROJECT REFERENCE NO. A-0009CC	SHEET NO. 73
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



FOR -Y2- PLAN, SEE SHEET NO. 42




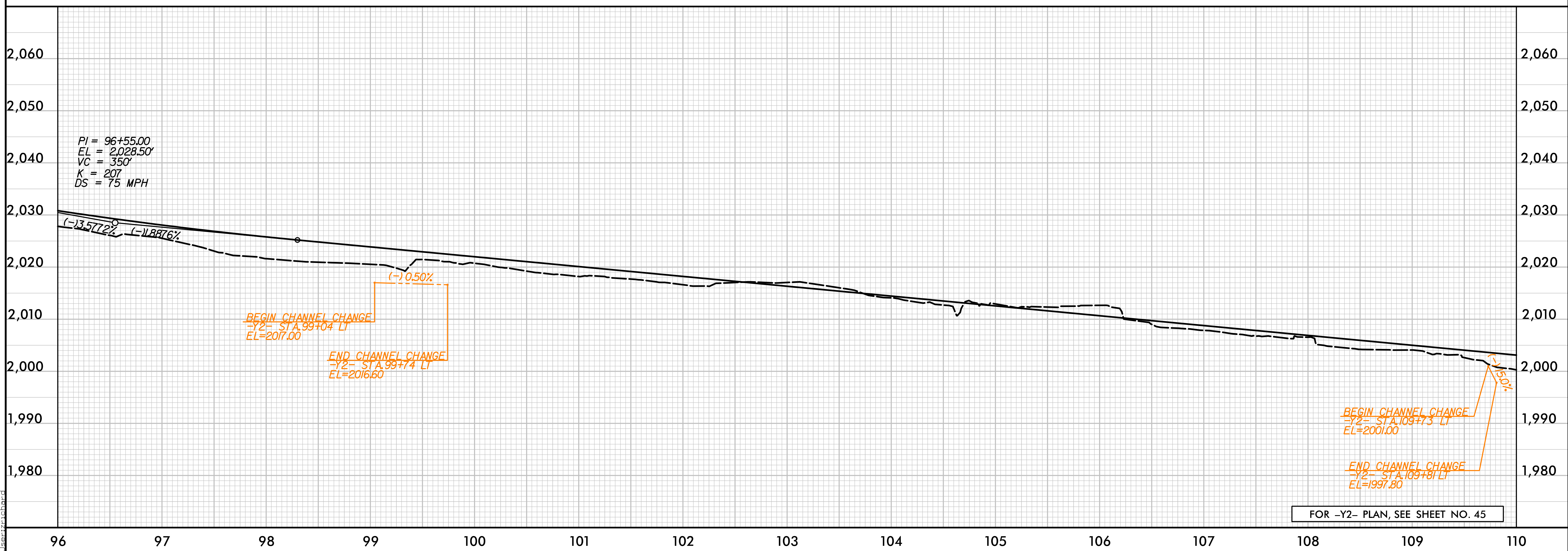
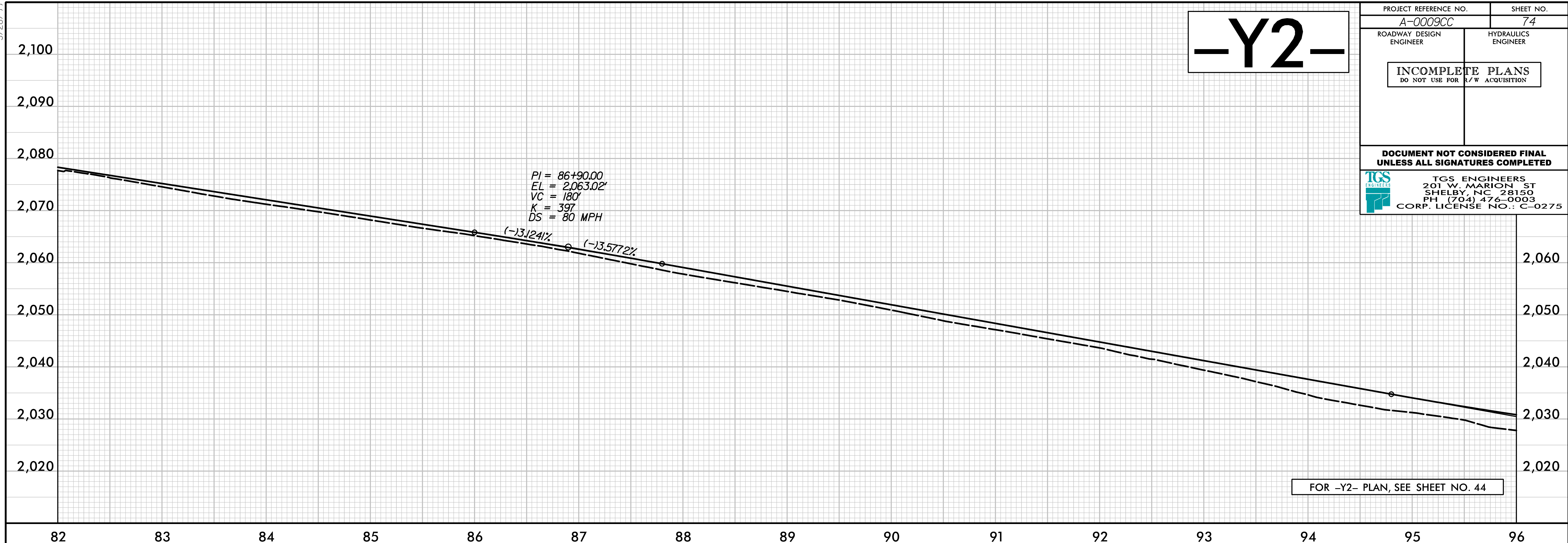
FOR -Y2- PLAN, SEE SHEET NO. 43

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5/28/99

-Y2-


PROJECT REFERENCE NO. A-0009CC	SHEET NO. 74
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

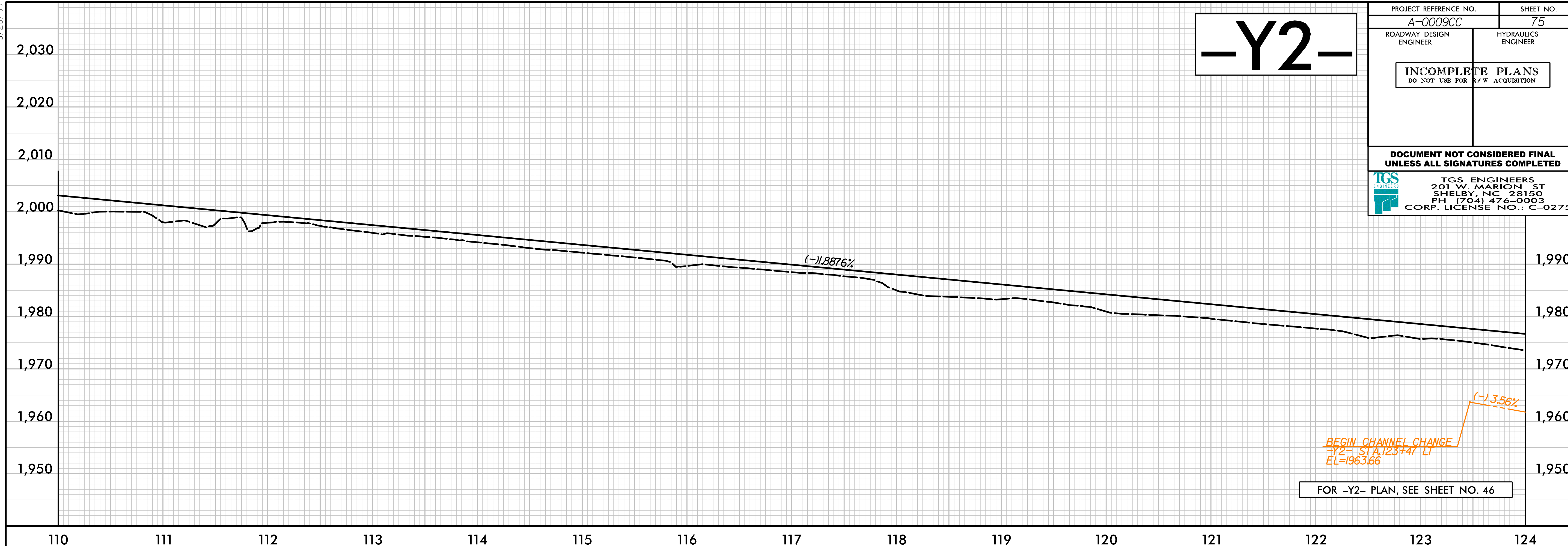


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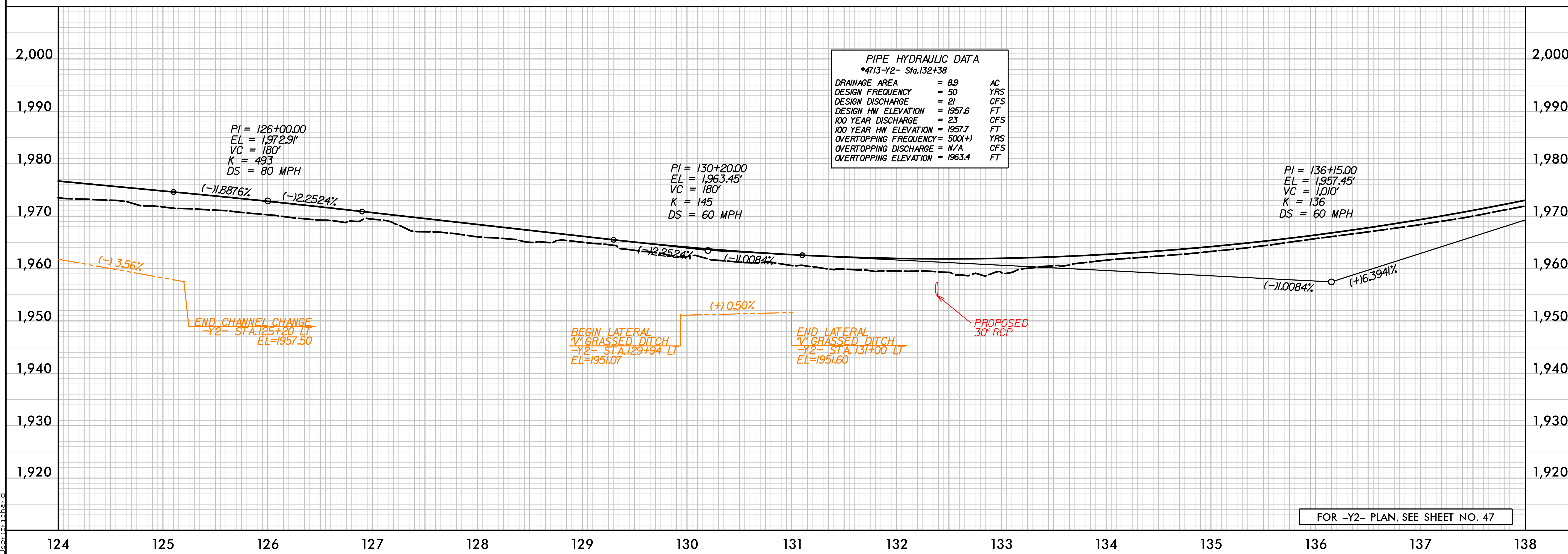
5/28/99

-Y2-

PROJECT REFERENCE NO. A-0009CC	SHEET NO. 75
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



PIPE HYDRAULIC DATA		
*4713-Y2- Sta.132+38		
DRAINAGE AREA	= 89	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 21	CFS
DESIGN HW ELEVATION	= 1957.6	FT
100 YEAR DISCHARGE	= 23	CFS
100 YEAR HW ELEVATION	= 1957.7	FT
OVERTOPPING FREQUENCY	= 500(+)	YRS
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING ELEVATION	= 1963.4	FT




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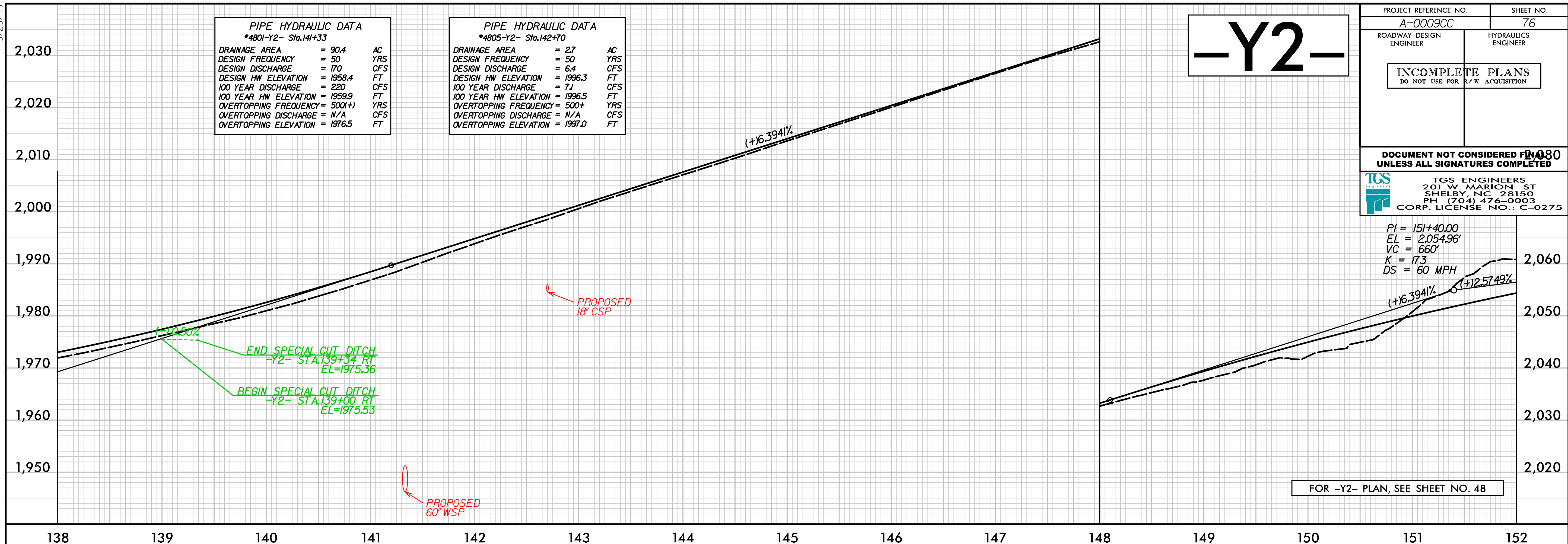
5/28/99

PIPE HYDRAULIC DATA		
*4801-Y2- Sta.141+33		
DRAINAGE AREA	= 90.4	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 170	CFS
DESIGN HW ELEVATION	= 1958.4	FT
100 YEAR DISCHARGE	= 220	CFS
100 YEAR HW ELEVATION	= 1959.9	FT
OVERTOPPING FREQUENCY (500+)		YRS
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING ELEVATION	= 1976.5	FT

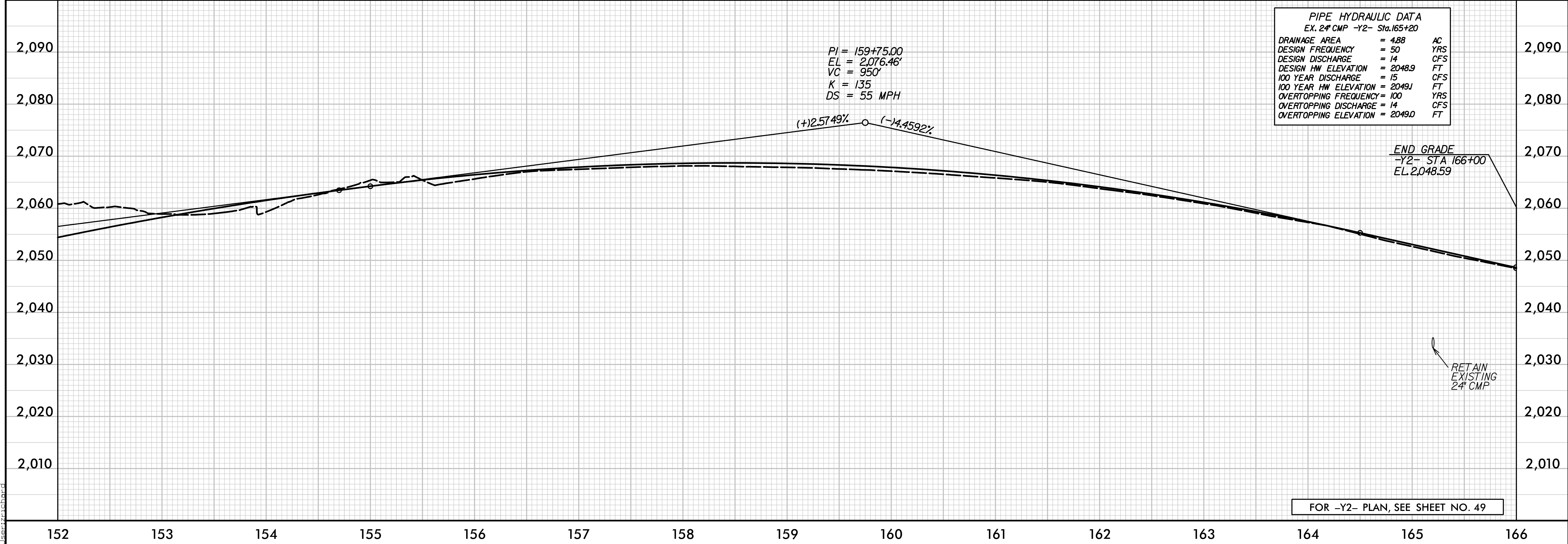
PIPE HYDRAULIC DATA		
*4805-Y2- Sta.142+70		
DRAINAGE AREA	= 27	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 6.4	CFS
DESIGN HW ELEVATION	= 1996.3	FT
100 YEAR DISCHARGE	= 7.1	CFS
100 YEAR HW ELEVATION	= 1996.5	FT
OVERTOPPING FREQUENCY (500+)		YRS
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING ELEVATION	= 1997.0	FT

-Y2-

PROJECT REFERENCE NO. A-0009CC	SHEET NO. 76
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



FOR -Y2- PLAN, SEE SHEET NO. 48

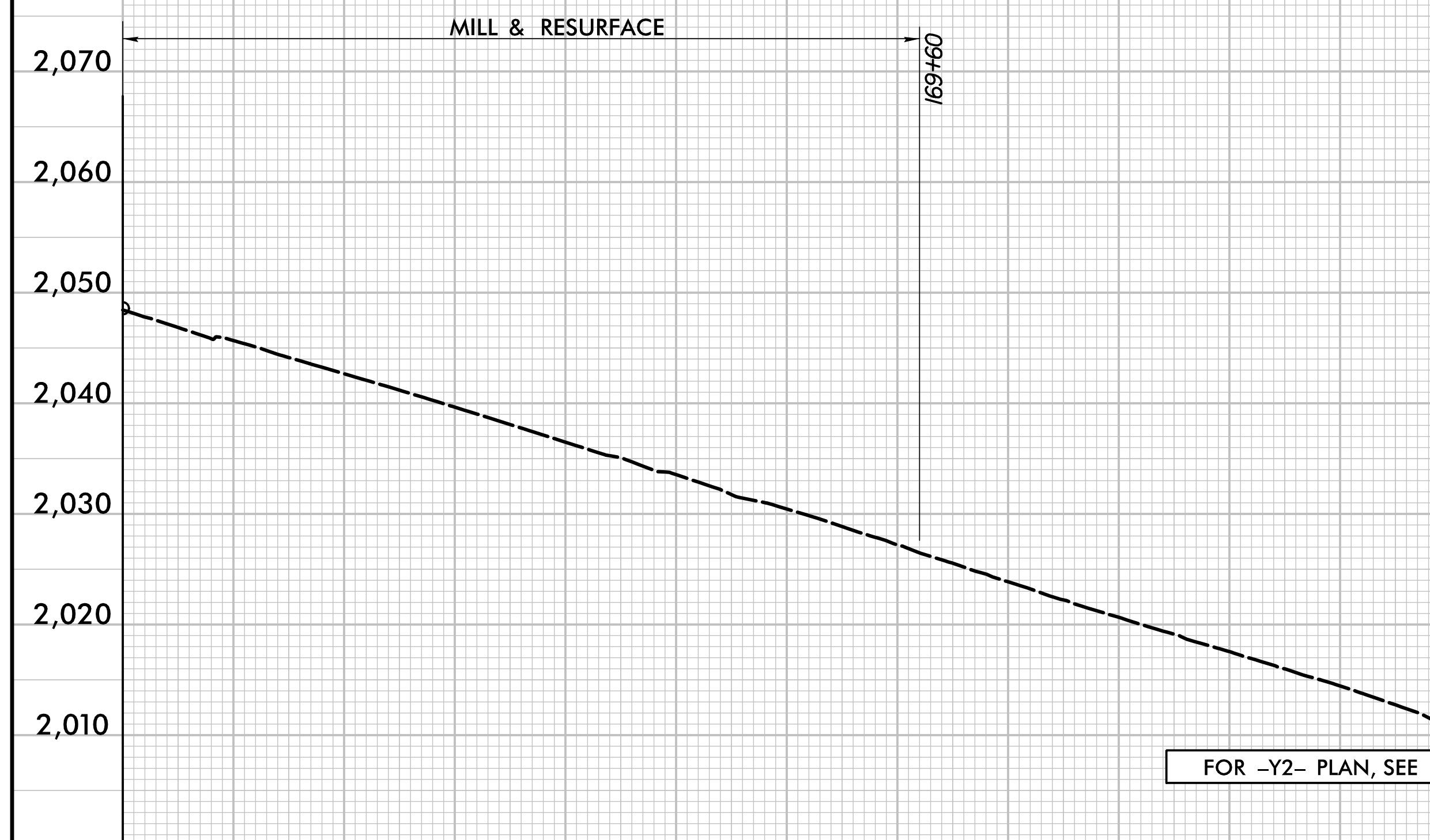


FOR -Y2- PLAN, SEE SHEET NO. 49

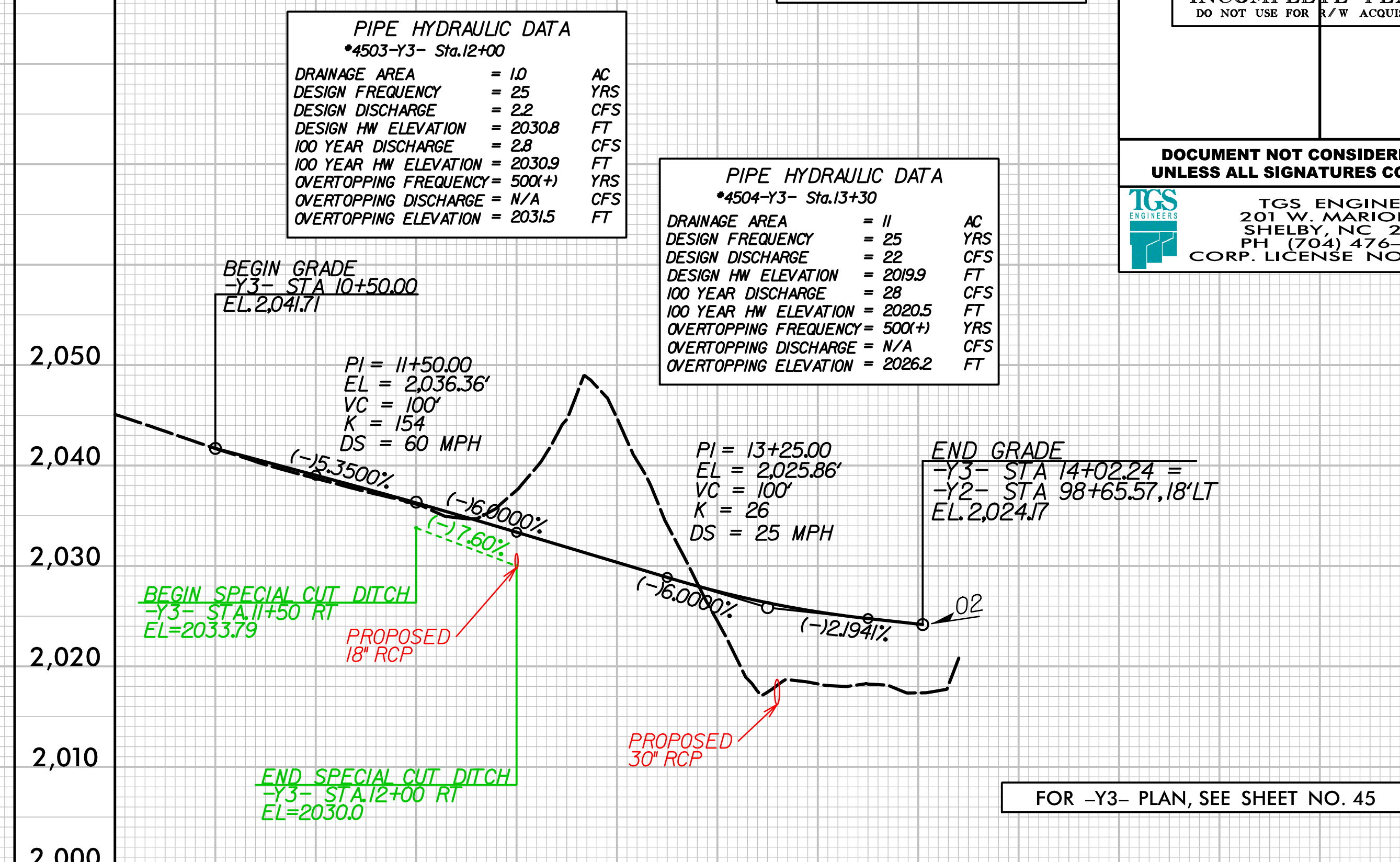
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5/28/99

-Y2-



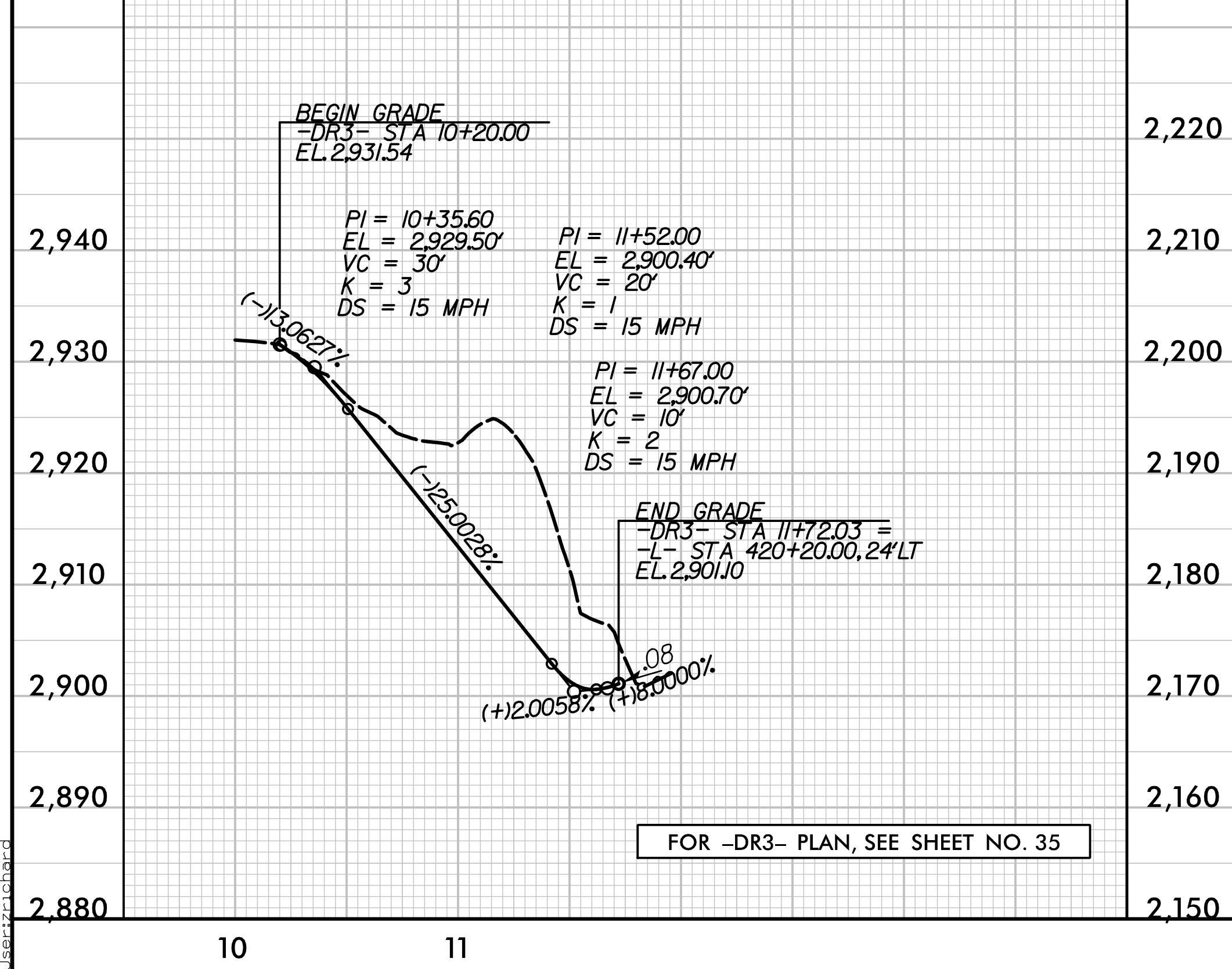
-Y3-



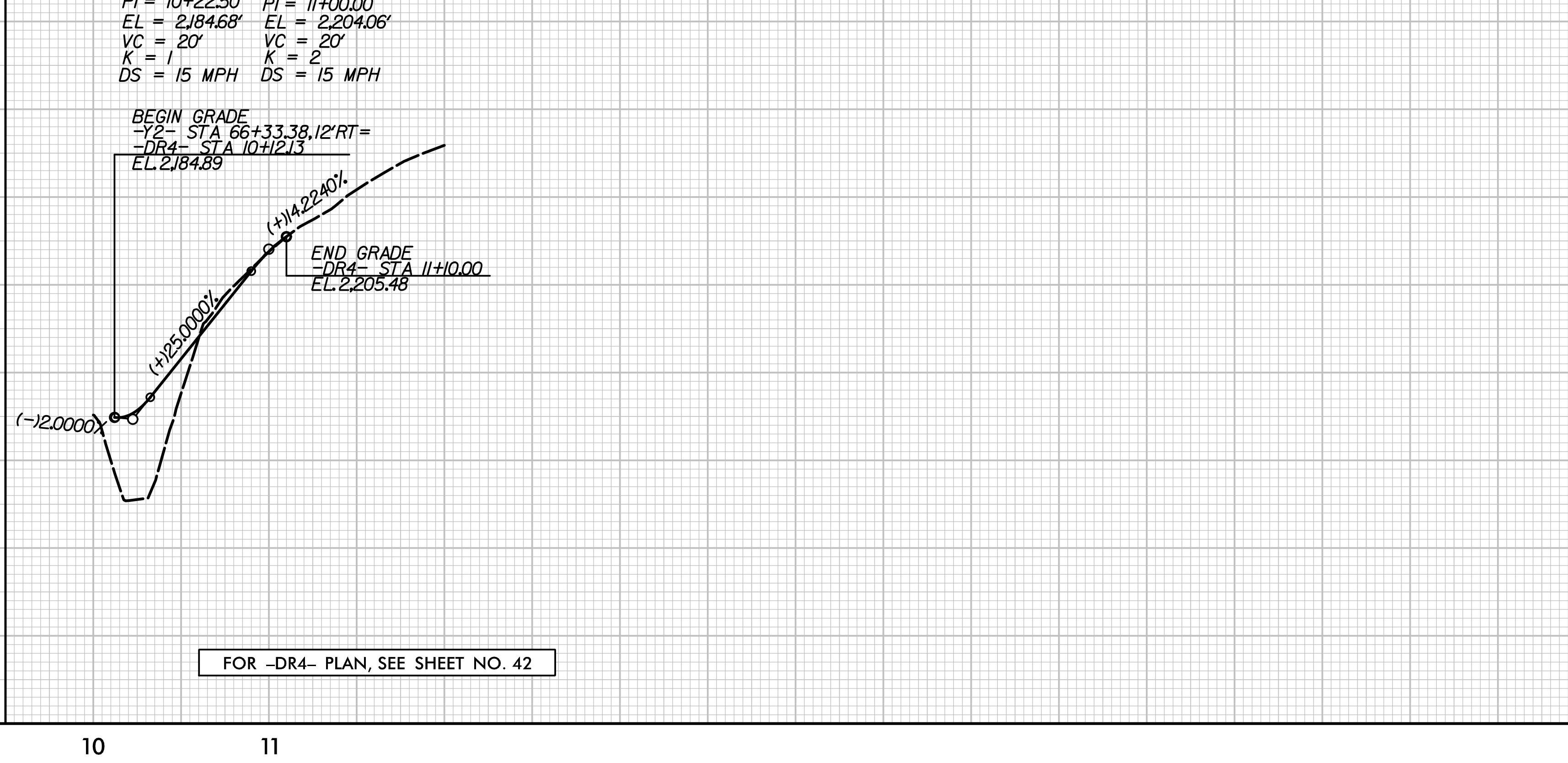
PROJECT REFERENCE NO. A-0009CC	SHEET NO. 77
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

166 167 168 169 170 171 10 11 12 13 14

-DR3-



-DR4-



10 11 10 11

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