

USTANOVICH

COMPUTED BY: DJS DATE: 05/24/2023
CHECKED BY: JGD DATE: 05/24/2023

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. SHEET NO.
U-5312 3D-8

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, Pipe Type (Side Drain, C.S., R.C. Class III/IV), Quantities for Drainage Structures, Frame/Grates, and Remarks. Includes a SHEET TOTALS row at the bottom.

ABBREVIATIONS table listing materials like CORRUGATED ALUMINIUM ALLOY, CORRUGATED STEEL, HIGH DENSITY POLYETHYLENE, etc.

SHEET TOTALS

USTANOVICH

COMPUTED BY: _____ DATE: 05/24/2023
CHECKED BY: _____ DATE: 05/24/2023

PROJECT NO. U-5312 SHEET NO. 3D-9

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, Pipe Type (Side Drain, C.S., R.C. Class III/IV, R.C. Class V), Invert Elevation, Minimum Required Slope, Quantities for Drainage Structures, Frame, Grates, and Hood, and Remarks. Includes a SHEET TOTALS row at the bottom.

ABBREVIATIONS table listing materials like CORRUGATED ALUMINIUM ALLOY, CORRUGATED STEEL, DROP INLET, etc.

SHEET TOTALS

USTANOVICH

COMPUTED BY: DJS DATE: 05/24/2023
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. SHEET NO.
U-5312 3D-10

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, Pipe Type (Side Drain, C.S., R.C. Class III/IV), Quantities for Drainage Structures, Frame/Grates, and Remarks. Includes a SHEET TOTALS row at the bottom.

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. U-5312
SHEET NO. 3D-11

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, Pipe Type (Side Drain Pipe, C.S. PIPE, R.C. PIPE CLASS III/IV), Quantities for Drainage Structures, Frame/Grates/Hood, and Remarks. Includes a 'SHEET TOTALS' row at the bottom.

ABBREVIATIONS table listing materials like CORRUGATED ALUMINIUM ALLOY, CATCH BASIN, CORRUGATED STEEL, DROP INLET, etc.

REMARKS column containing text such as 'Remove 15" CMP', 'Flow Fill 24" CMP', 'Remove 18" RCP', etc.

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. U-5312
SHEET NO. 3D-12

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, Pipe Type (Side Drain, C.S., R.C. Class III/IV), Quantities for Drainage Structures, Frame/Grates, and Remarks. Includes a 'SHEET TOTALS' row at the bottom.

ABBREVIATIONS table listing materials like C.A.A., C.B., C.S., D.I., G.D.I., H.D.P.E., J.B., M.H., N.S., P.V.C., R.C., T.B.D.I., T.B.J.B., W.S.

REMARKS

USTANOVICH

COMPUTED BY: DJS DATE: 05/24/2023
CHECKED BY: JGD DATE: 05/24/2023

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. U-5312 SHEET NO. 3D-14

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 54 INCHES & OVER)

Table with columns for Line & Station, Offset, Structure Number, Top Elevation, Invert Elevation, Minimum Required Slope, Pipe Size (54-84), Material (RCP, CSP, CAAP, HDPE, PVC, PP), Endwalls, Reinforced Endwalls, Drainage Structure, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, Open Throat C.B., Concrete Bridge Approach D.I., D.I. Frame and Grates, G.D.I. Type, G.D.I. Frame with Grate, G.D.I. Frame w/ 2 Grates, G.D.I. Frame w/ Grate, G.D.I. Frame w/ 2 Grates, G.D.I. Frame w/ Grate, G.D.I. Frame w/ 2 Grates, Drive Way D.I., Frame w/ Grate for Drive Way, J.B., Angled Vane Grates and Frames, T.B.J.B., T.B.D.I., Steel Frame with Two Grates, Temp Steel Plate Cover Masonry Drainage, M.H. Frame and Cover, 60" NCDOT Approved Pipe Rehabilitation, 78" NCDOT Approved Pipe Rehabilitation, Convert Existing C.B. to J.B., Convert Existing D.I. to J.B., Convert Existing J.B. to D.I., Modified Conc. Flume, Flowable Fill, Concrete Collars, Concrete and Brick Pipe Plug, and Pipe Removal. Includes a grid for recording data and summary rows for SHEET TOTALS and PROJECT TOTALS.

ABBREVIATIONS
C.A.A. CORRUGATED ALUMINUM ALLOY
C.B. CATCH BASIN
C.S. CORRUGATED STEEL
D.I. DROP INLET
G.D.I. GRATED DROP INLET
H.D.P.E. HIGH DENSITY POLYETHYLENE
J.B. JUNCTION BOX
M.H. MANHOLE
N.S. NARROW SLOT
P.V.C. POLYVINYL CHLORIDE
R.C. REINFORCED CONCRETE
T.B.D.I. TRAFFIC BEARING DROP INLET
T.B.J.B. TRAFFIC BEARING JUNCTION BOX
W.S. WIDE SLOT

REMARKS

COMPUTED BY: Hunsberger, W. S. DATE: 03/09/23

CHECKED BY: Hamm, J. R. DATE: 03/09/23

(12-17-19)

PROJECT NO.
U-5312

SHEET NO.
3G-1

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

SUMMARY OF ROCK PLATING

LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
-L-	1.5:1	170+50	1.5:1	172+00	LT	2		1200
-L-	1.5:1	186+75	1.5:1	188+00	LT	2		225
							TOTAL SY:	1425

*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
			CONTINGENCY	ASU(1)	12	1900	3800	3800	
			TOTAL CY/TONS/SY:		1900	3800**	3800**	0	0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)

*AST = Aggregate Stabilization

**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Soil Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PARCEL INDEX SHEET

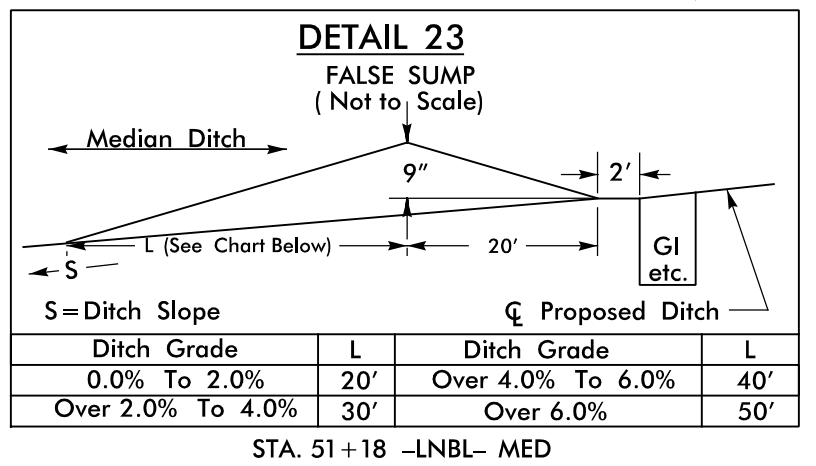
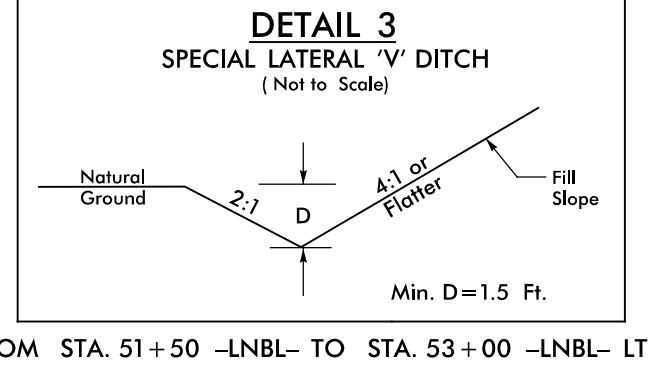
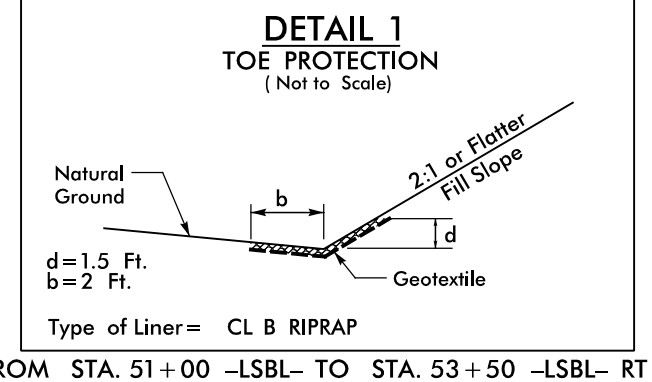
PARCEL No.	SHEET No.	PROPERTY OWNER NAME
6 (NO CLAIM)	6	FALL CREEK LAND & TIMBER, LLC
7 (NO CLAIM)	6	TOWN OF NORTH WILKESBORO
7A (NO CLAIM)	6	WILMA JEAN REYNOLDS RONALD REYNOLDS
9	6, 7	GRADY J. NICHOLS ELENA B. NICHOLS
10	6	WILLIAM ERIC JOHNSON
10A	6	DOROTHY N. JOHNSON
11	6, 7	THOMAS CAMERON FINLEY
12	7	WILLIAM BRYANT CHURCH
13	8, 9	PREMIER PROPERTY HOLDINGS, LLC
14	8, 9	MATHEW S MILLER
14A	8	LYNN ST. CLAIR DIXIE ST. CLAIR
15	9	BILLY HARRIS ELLIS
15A	9	B MYERS INVESTMENTS LLC
16	9	RALPH & MALINDA BROYHILL
17	10	CHARLES W. JOHNSON BARBARA L. JOHNSON
18	10	PMM WILKESBORO, LLC
19	10	LOWE'S HOME CENTERS, INC
20	10, 11	CMH HOMES INC
21	11	CAROLINA WEST WIRELESS INC.
22	11	FISHJIG HOLDINGS LLC
23	11, 12	SOFIELD CHILDREN'S LIMITED
24	12	PM RESTAURANT HOLDING, LLC
25	12	CS&G AAP WILKESBORO, LLC
26	12	ROCKET WASH EXPRESS 421, INC.
27	12	O'REILLY AUTOMOTIVE STORES, INC
27A	12	OVERMOUNTAIN STATION LLC
28	12	J & E VETERANS PARK, INC
29	12	WILKESBORO HOSPITALITY 1 LLC
30	13	H V W, LLC COLLETT & ASSOCIATES, INC
31	13	MCDONALDS REAL ESTATE COMPANY
32	13	EDWIN J. SWOPE
33	13	KLR REAL ESTATE LLC.
34	13	TKC CXXXIV, LLC
35	13	JAMES CLAYTON FAW SANDRA H. FAW
36	13	ROBERT W. RAASCH HEATHER J. RAASCH
37	13	TULSI B LLC
38	13	FIRST UNION NATIONAL BANK OF NC
39	13, 14	ESTATE OF JC FAW
40	13, 14	ESTATE OF JC FAW
41	14, 15	SPECTRUM HOSPITALITY VI, LLC
41A	15	T. CAMERON FINLEY
42	14, 15, 16	BILL MASTIN, ET AL
43 (NO CLAIM)	16	CAROLINA WEST INC.
44	16	JAMES L. LOWE, ET AL
45	14	HORNE PROPERTIES, INC
46	16	TWO RIVERS WILKESBORO II, LLC
46A	16	TINGEN BROADWELL FAMILY, LLC
47 (NO CLAIM)	16	JAMES H. CARTER

8/17/2023

-L-		-LSBL-		-LNBL-	
PI Sta 53+30.89	PI Sta 62+67.58	PI Sta 54+21.5	PI Sta 58+23.53	PI Sta 56+11.72	
$\Delta = 1' 22' 42.0''$ (LT)	$\Delta = 1' 22' 26.0''$ (RT)	$\Delta = 2' 5' 58.7''$ (LT)	$\Delta = 1' 44' 42.3''$ (RT)	$\Delta = 1' 07' 16.4''$ (LT)	
D = 0' 08' 48.9"	D = 0' 08' 48.9"	D = 0' 34' 22.6"	D = 0' 34' 22.6"	D = 0' 11' 27.5"	
L = 938.21'	L = 935.17'	L = 500.26'	L = 304.58'	L = 587.06'	
T = 469.13'	T = 467.61'	T = 250.18'	T = 152.30'	T = 293.54'	
R = 39,000.00'	R = 39,000.00'	R = 10,000.00'	R = 10,000.00'	R = 30,000.00'	
Se = N/A	Se = N/A	Se = EXIST.	Se = EXIST.	Se = EXIST.	

NOTE: SHEETS 4 & 5 NOT USED

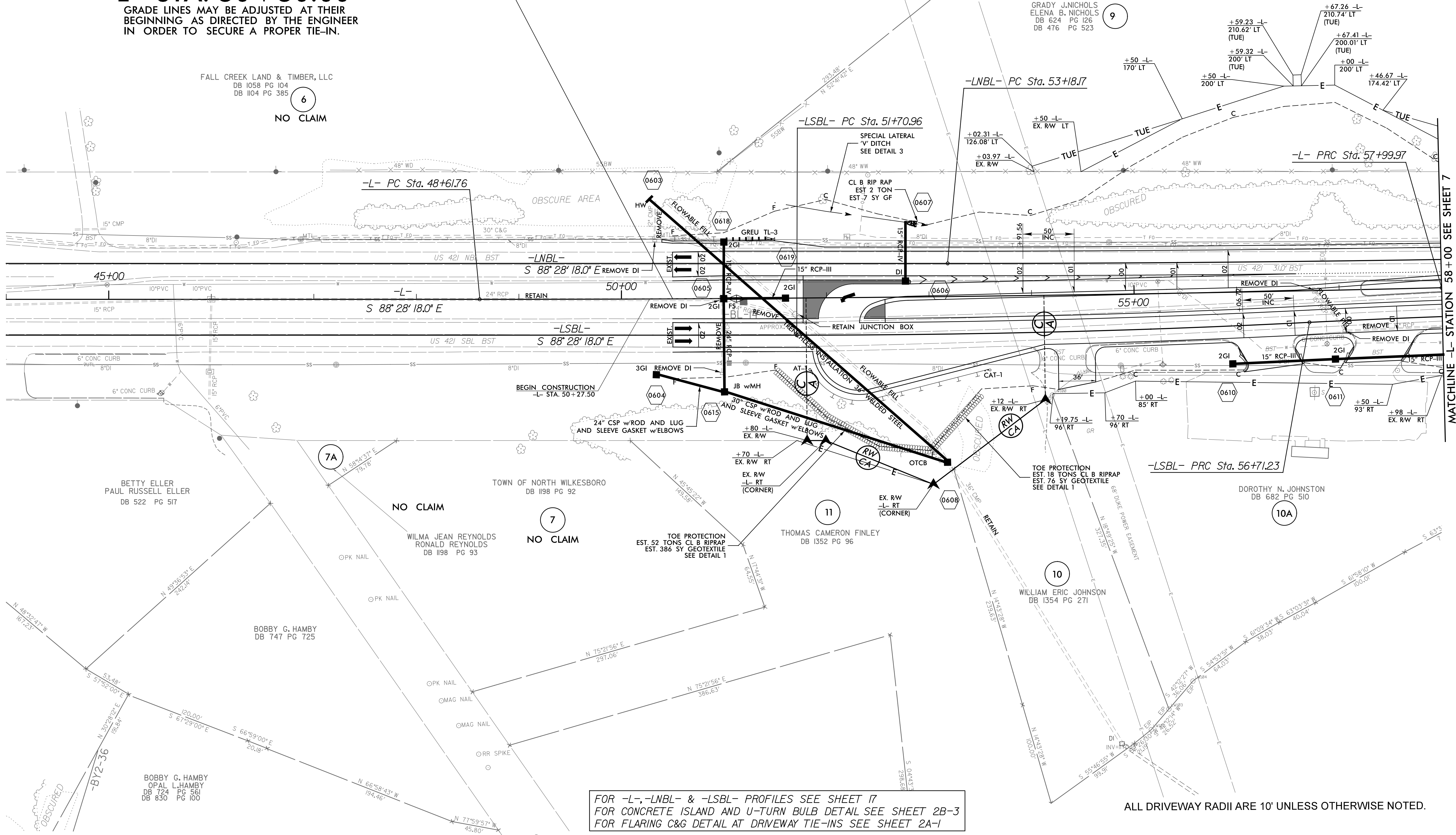
NAD 83/NSRS 2007



BEGIN TIP PROJECT U-5312

-L- STA. 50+50.00

GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.



FOR -L-, -LNBL- & -LSBL- PROFILES SEE SHEET 17
 FOR CONCRETE ISLAND AND U-TURN BULB DETAIL SEE SHEET 2B-3
 FOR FLARING C&G DETAIL AT DRIVEWAY TIE-INS SEE SHEET 2A-1

ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

PROJECT REFERENCE NO. U-5312	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DocuSigned by: Jimmy Goodnight	DocuSigned by: Josh Dalton 7/12/2023
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared by: 	

MATCHLINE -L- STATION 58+00 SEE SHEET 7

7/14/2023 11:53:12 am psh06.dgn

PROJECT REFERENCE NO. U-5312		SHEET NO. 7	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		SEAL 014493 Jimmey Goodnight 12/2023	
		SEAL 26971 Josh Dalton 7/12/2023	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared by vhb VH8 Engineering NC, P.C. (C-3705) 9401 Main Central Drive, Suite 100 Raleigh, NC 27606		SUNGATE DESIGN GROUP, P.A.	

-L-
PI Sta 62+67.58
 $\Delta = 1'22''26.0''$ (RT)
D = 0'08''48.9"
L = 935.17'
T = 467.61'
R = 39,000.00'
Se = WC

-LSBL-
PI Sta 58+23.53
 $\Delta = 1'44''42.3''$ (RT)
D = 0'34''22.6"
L = 304.58'
T = 152.30'
R = 10,000.00'
Se = EXIST.

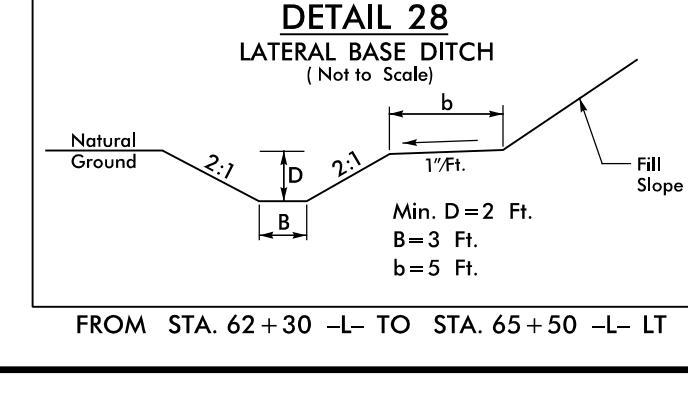
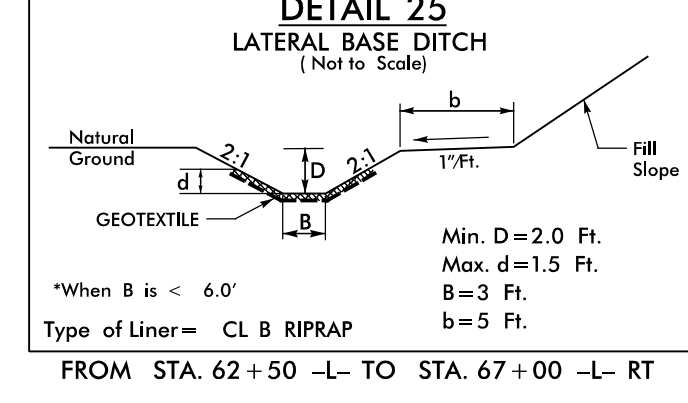
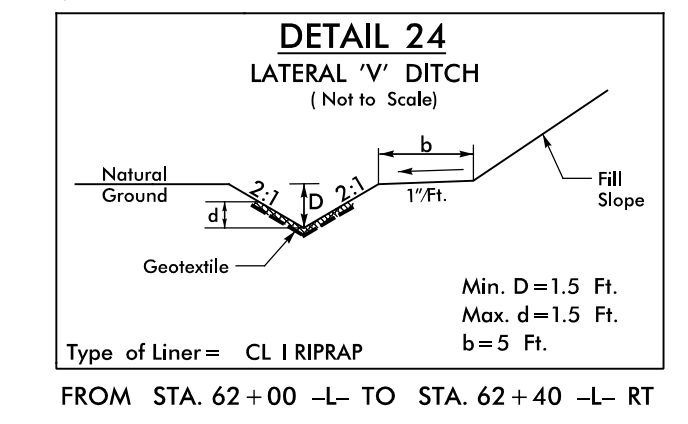
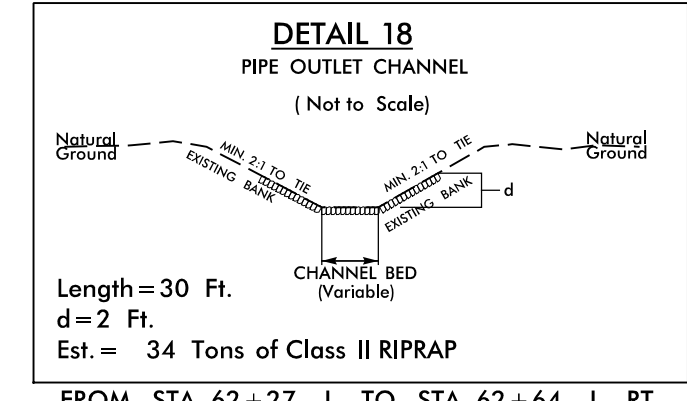
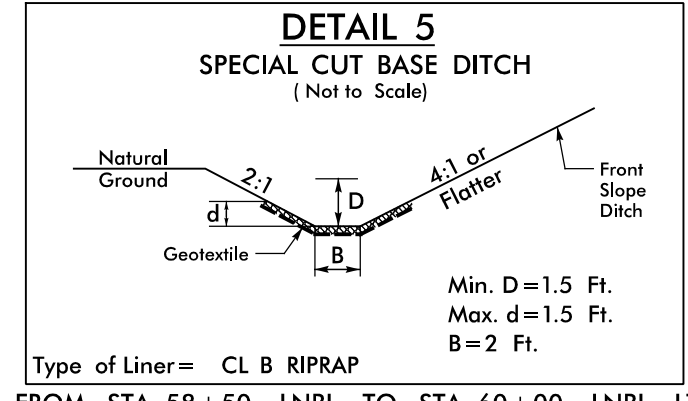
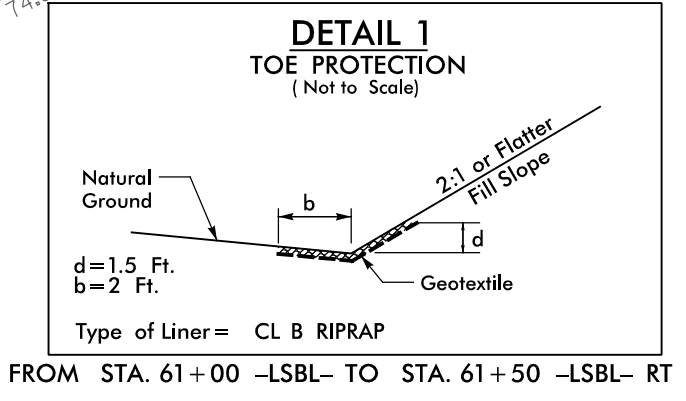
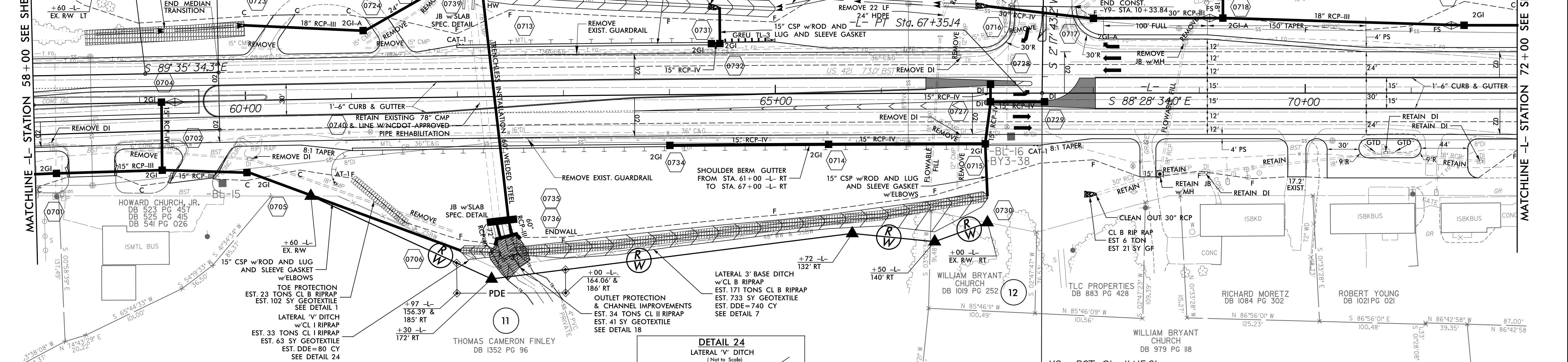
-LNBL-
PI Sta 56+11.72
 $\Delta = 1'07''16.4''$ (LT)
D = 0'11''27.5"
L = 587.06'
T = 293.54'
R = 30,000.00'
Se = EXIST.

-L- POC Sta.59+75.00 =
-LNBL- PT Sta.59+74.39 (27' LT)=
-LSBL- PT Sta.59+75.80 (27' RT)=

SPECIAL CUT
2' BASE DITCH
w/CL B RIPRAP
EST. 77 TONS CL B RIPRAP
EST. 352 SY GEOTEXTILE
SEE DETAIL 5

-LNBL-
PT Sta. 59+05.24

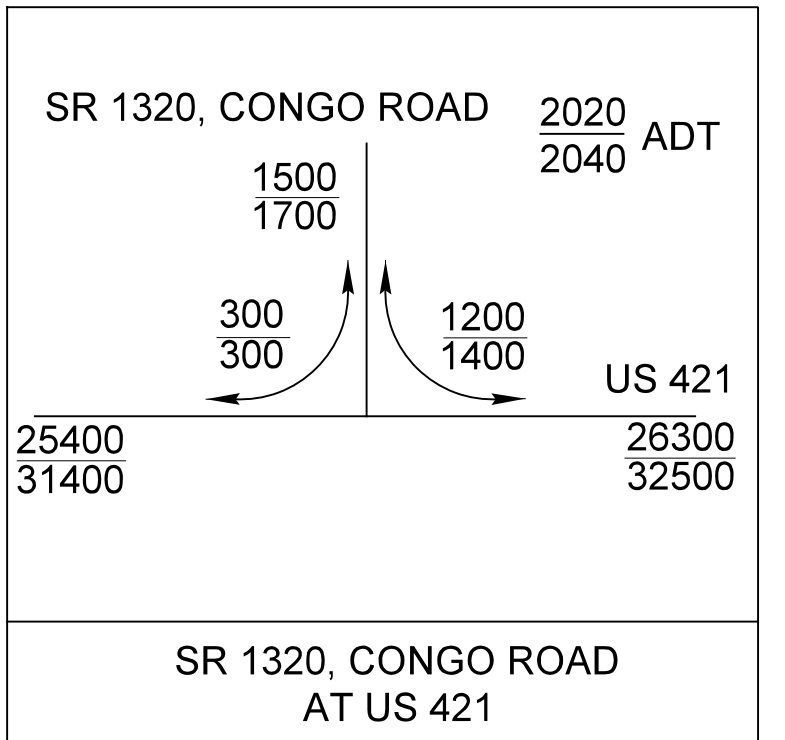
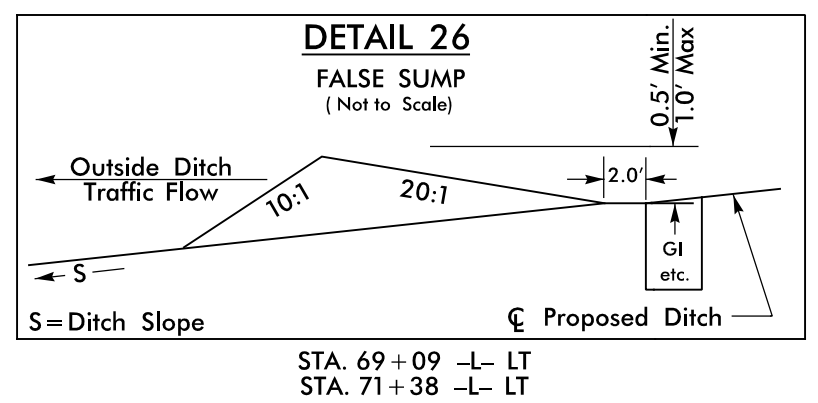
END MEDIAN TRANSITION



DETAIL 23
FALSE SUMP
(Not to Scale)

Ditch Slope	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

STA. 59+38 -LNBL- MED

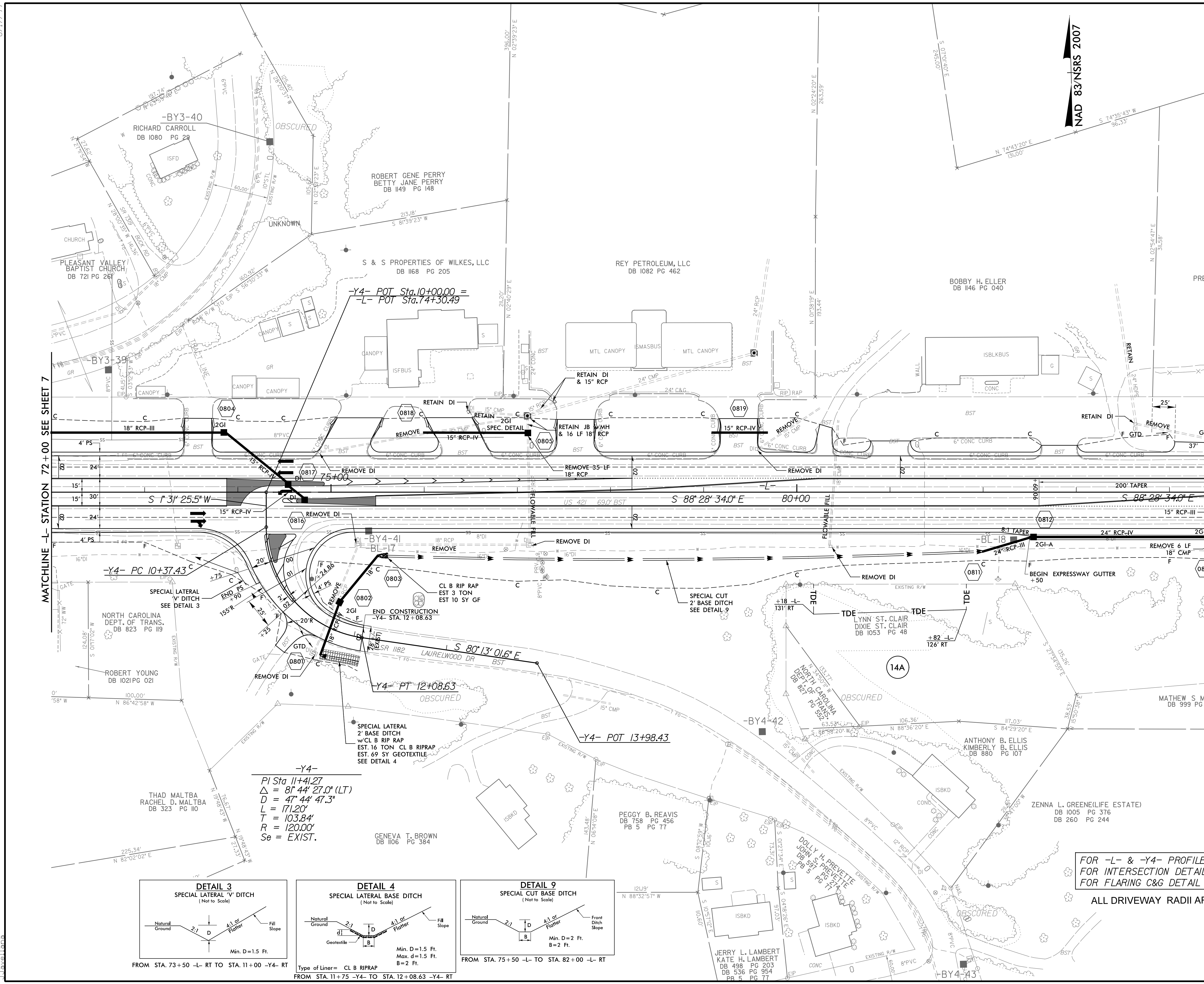


FOR -L-, -LNBL- & -LSBL- PROFILES SEE SHEET 18
FOR INTERSECTION DETAIL SEE SHEET 2B-4
FOR FLARING C&G DETAIL AT DRIVEWAY TIE-INS SEE SHEET 2A-1

ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

8.17/2023
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11/07/2023

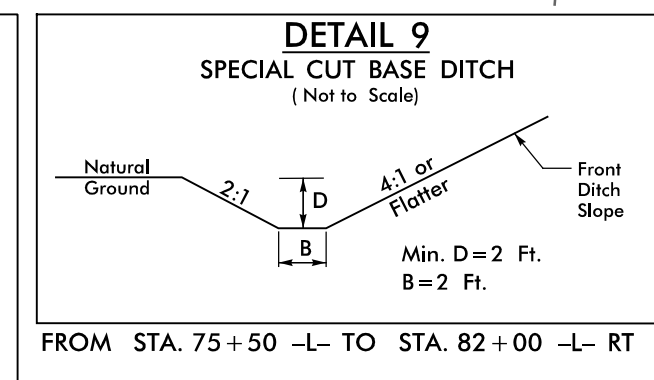
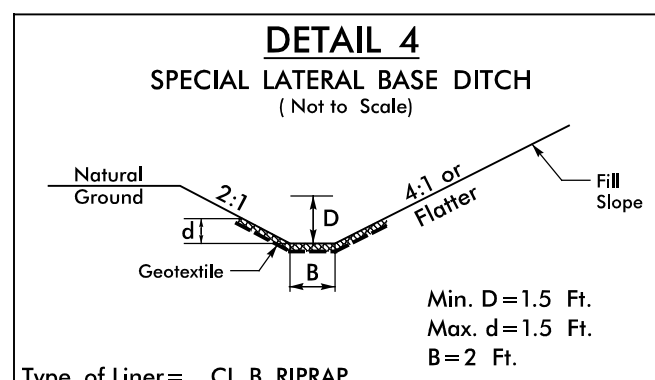
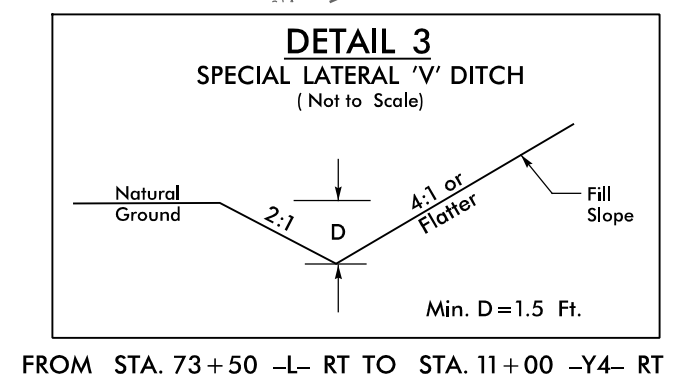
PROJECT REFERENCE NO. U-5312		SHEET NO. 8	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p> <p>Prepared by</p>			



MATCHLINE -L- STATION 72+00 SEE SHEET 7

MATCHLINE -L- STATION 86+00 SEE SHEET 9

-Y4-
 $PI\ Sta\ 11+41.27$
 $\Delta = 81\ 44\ 27.0\ (LT)$
 $D = 47\ 44\ 47.3'$
 $L = 171.20'$
 $T = 103.84'$
 $R = 120.00'$
 $Se = EXIST.$

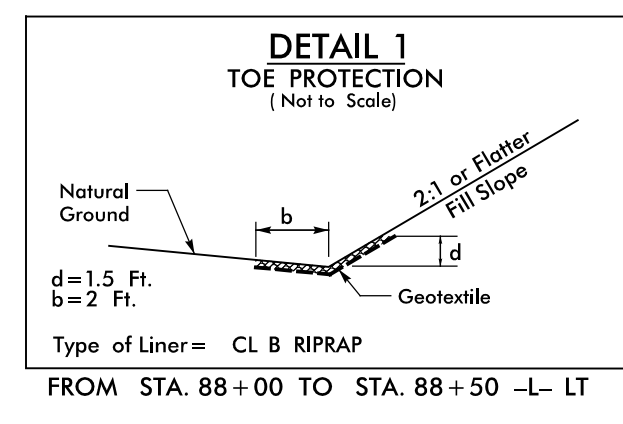
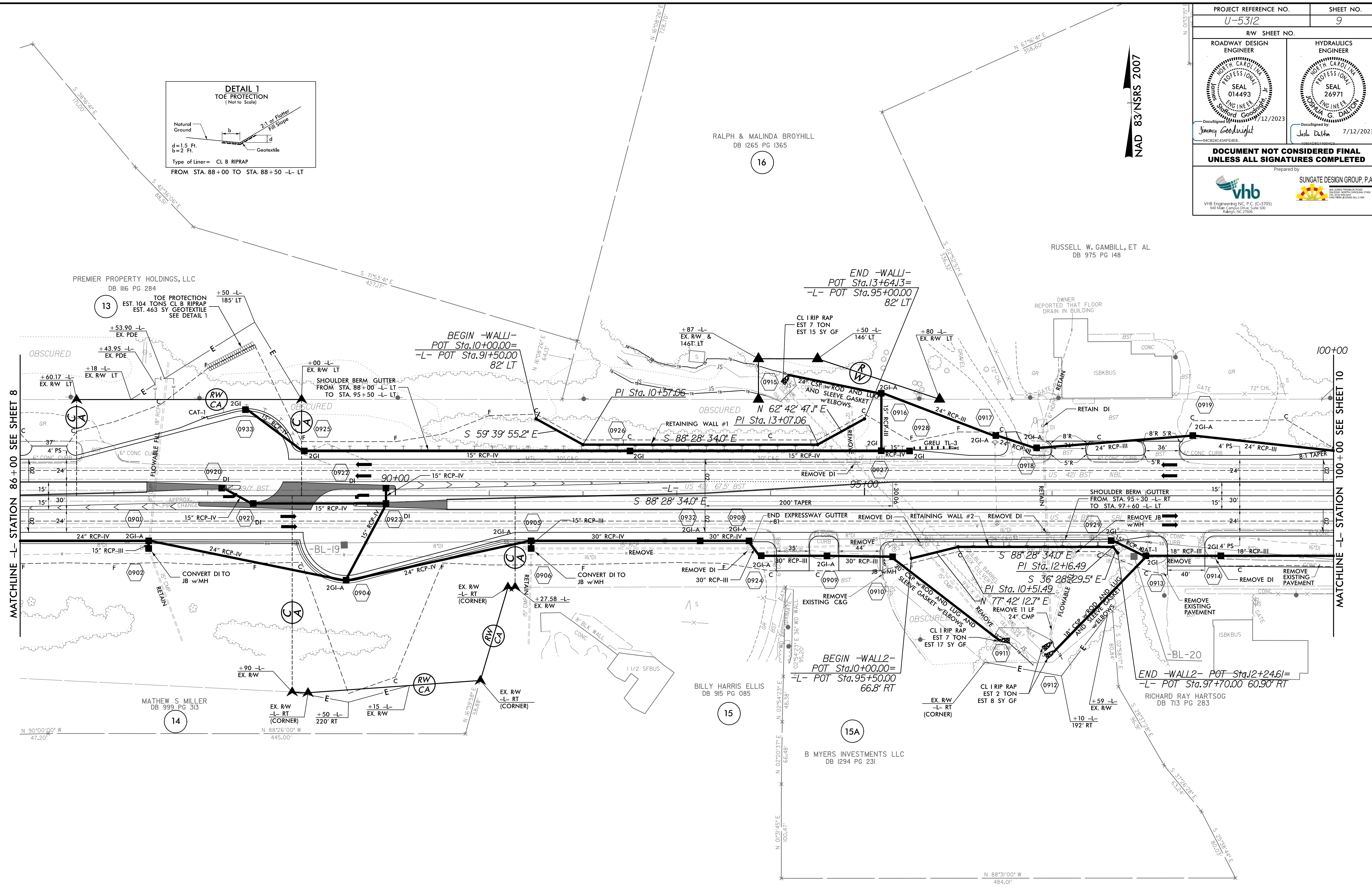


FOR -L- & -Y4- PROFILES SEE SHEETS 18 & 23
 FOR INTERSECTION DETAIL SEE SHEET 2B-5
 FOR FLARING C&G DETAIL AT DRIVEWAY TIE-INS SEE SHEET 2A-1
 ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

8/17/99
 7/14/2023
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 ps-h08.dgn

8.17.19

PROJECT REFERENCE NO. U-5312		SHEET NO. 9	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p> <p>Prepared by SUNGATE DESIGN GROUP, P.A. VHB Engineering NC, P.C. (C-3705) 9401 Main Campus Drive, Suite 500 Raleigh, NC 27606</p>			



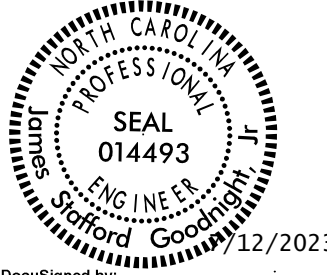
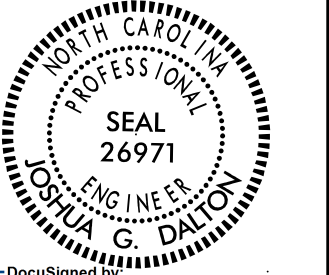
MATCHLINE -L- STATION 86+00 SEE SHEET 8

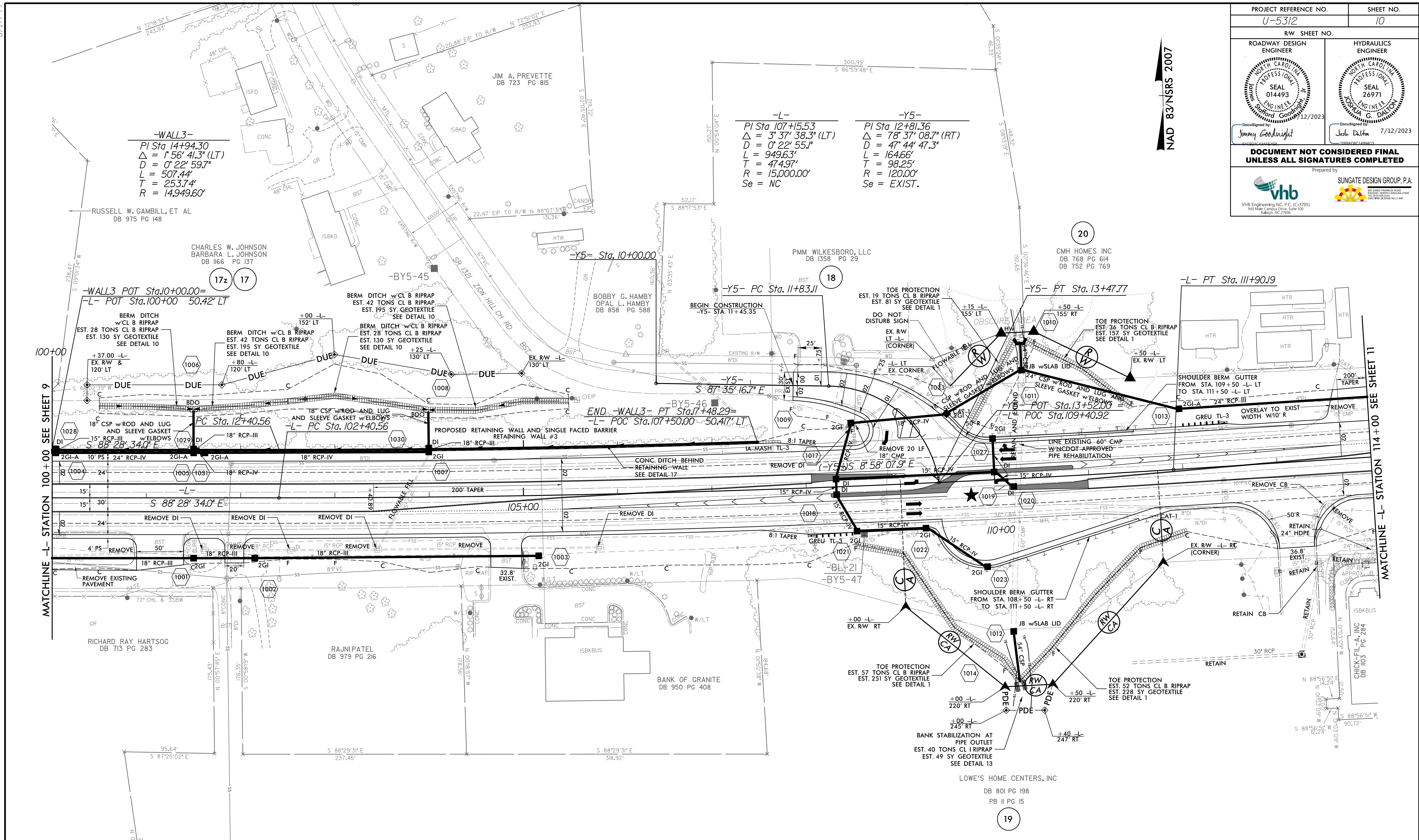
MATCHLINE -L- STATION 100+00 SEE SHEET 10

FOR -L- PROFILE SEE SHEET 19
FOR U-TURN BULBS DETAIL SEE SHEET 2B-6

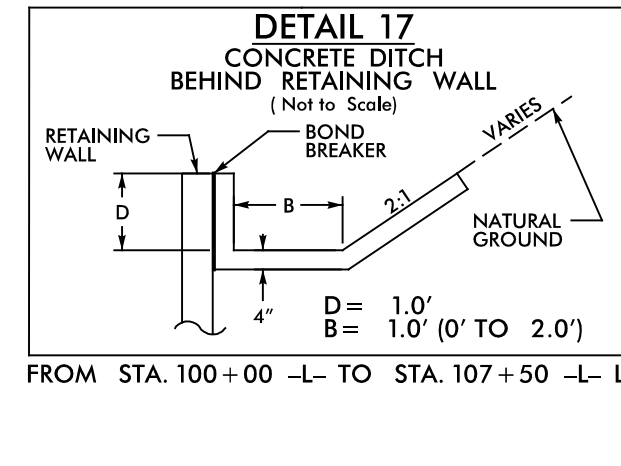
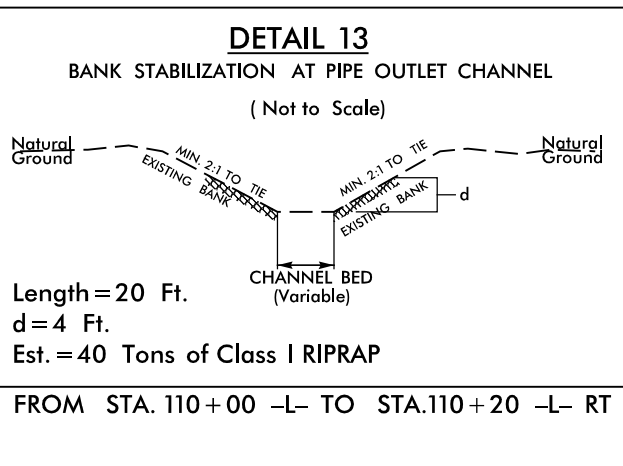
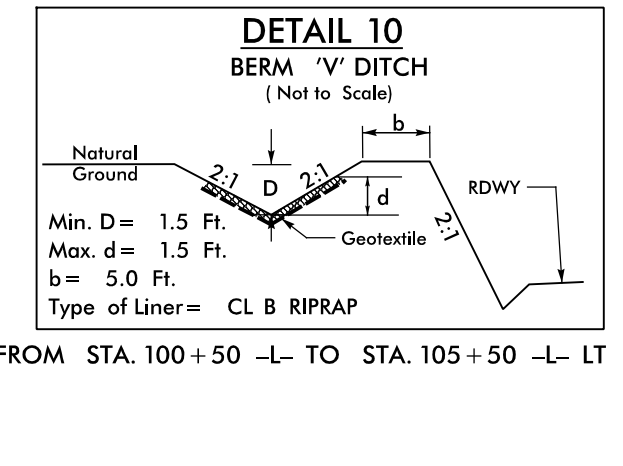
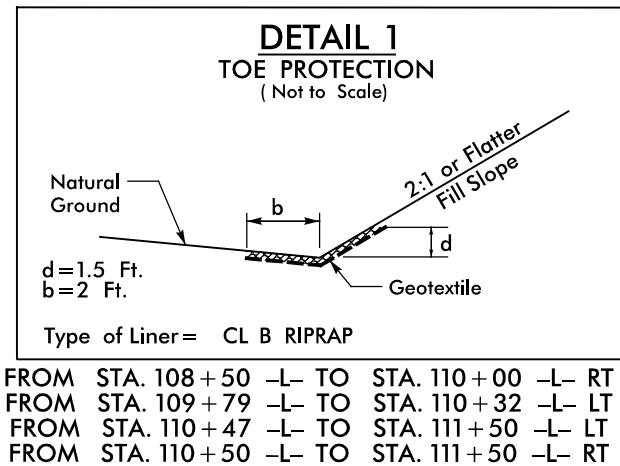
ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

7/15/2023
16:52:02
c:\psh09.dgn
javelina

PROJECT REFERENCE NO. U-5312		SHEET NO. 10	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		ENGINEER	
			
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p> <p>Prepared by vhb SUNGATE DESIGN GROUP, P.A.</p> <p>vhb Engineering NC, P.C. (C-3705) 9401 Kameron Drive, Suite 100 Raleigh, NC 27606</p>			



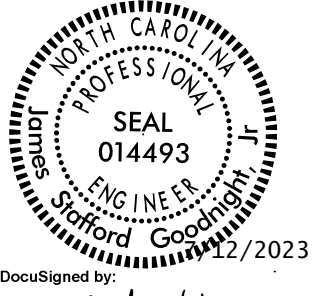
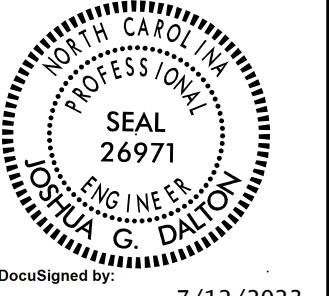

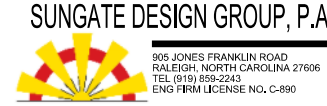
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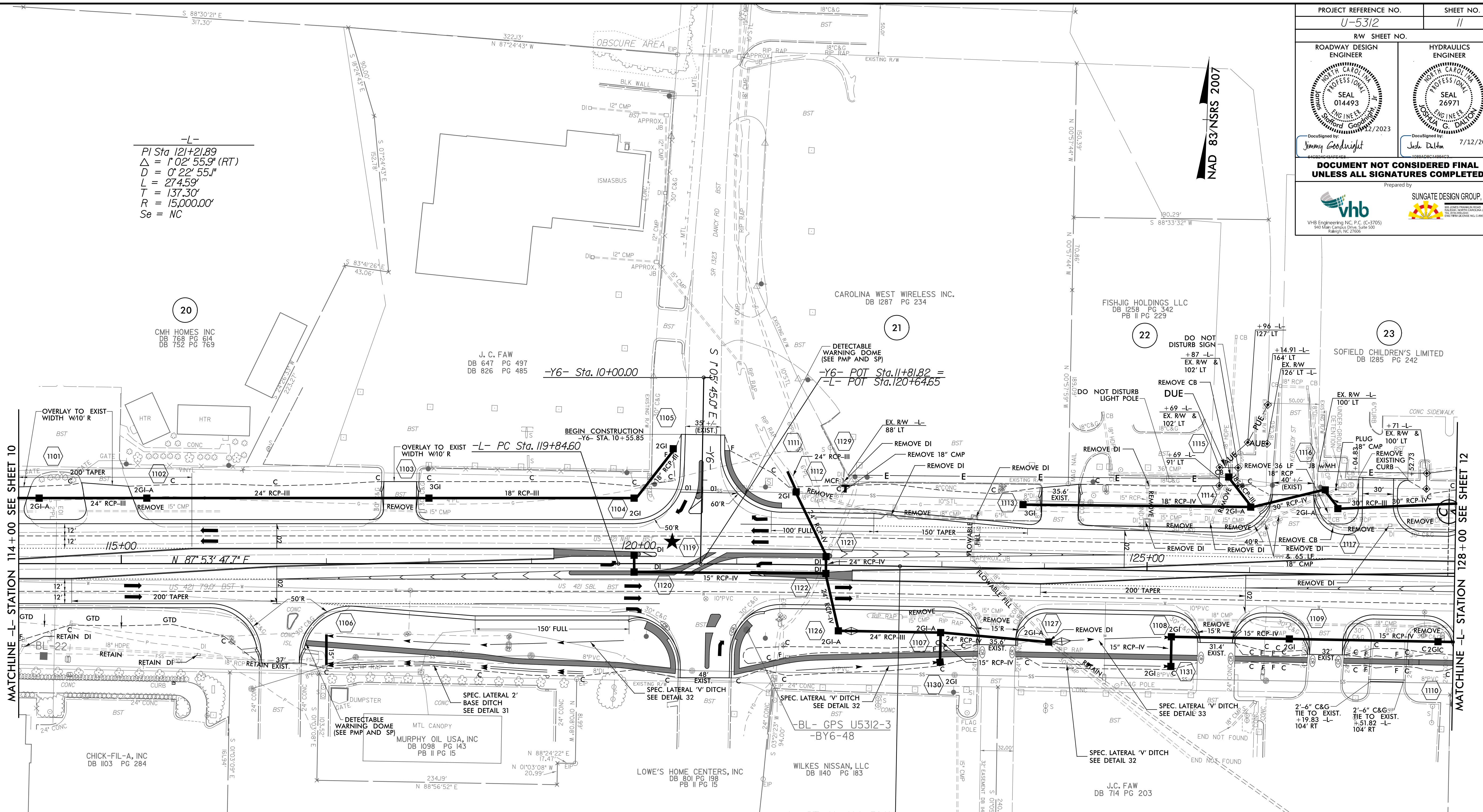


ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

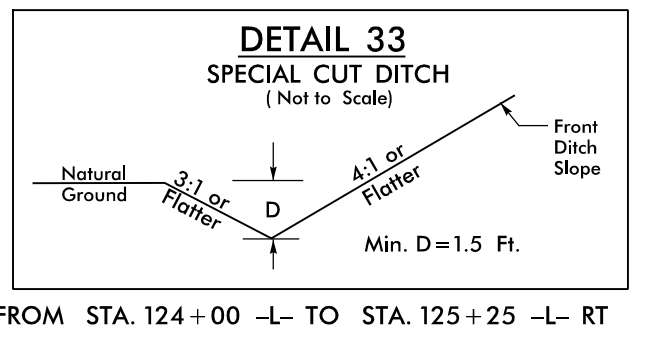
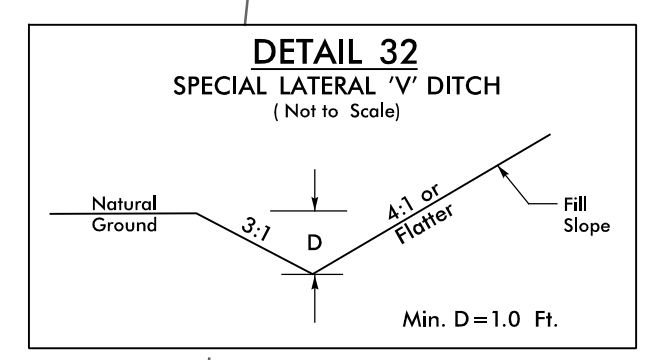
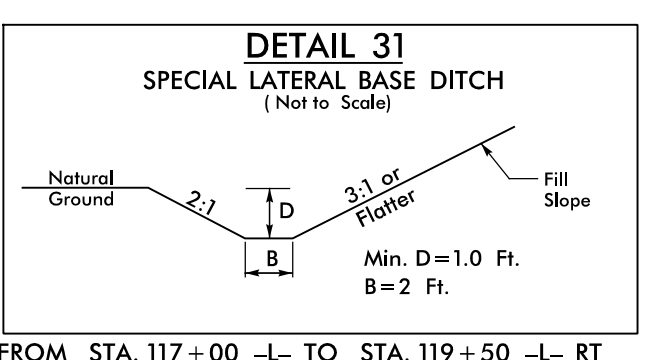
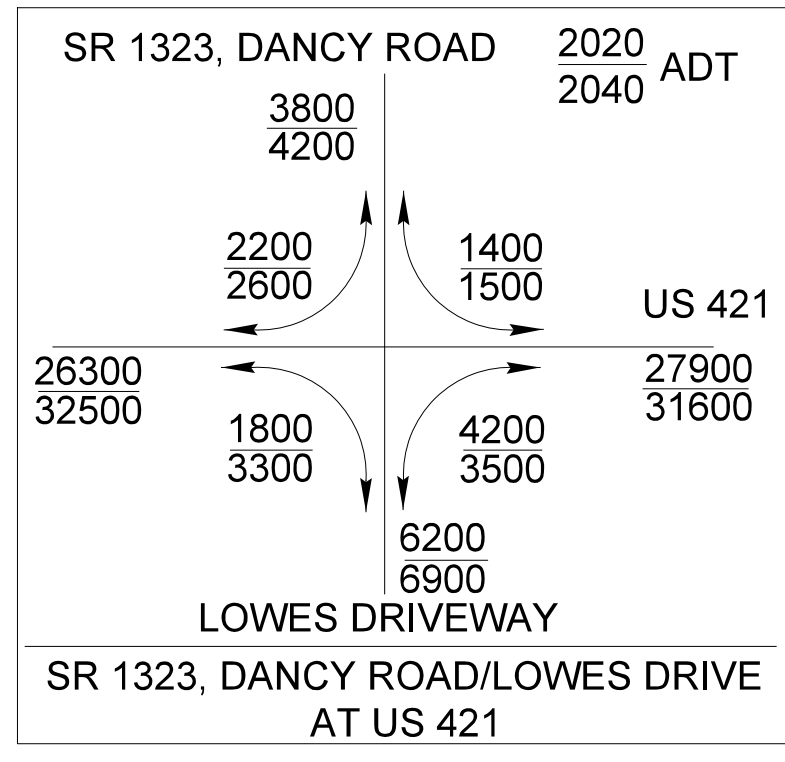
FOR -L- & -Y5- PROFILES SEE SHEETS 19 & 23
 FOR INTERSECTION DETAIL SEE SHEET 2B-7
 FOR FLARING C&G DETAIL AT DRIVEWAY TIE-INS SEE SHEET 2A-1

★ DENOTES PROPOSED SIGNALIZED INTERSECTION

PROJECT REFERENCE NO. U-5312		SHEET NO. 11	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
			
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			
<p>Prepared by  </p>			



-L-
 PI Sta. 121+21.89
 $\Delta = 1^{\circ} 02' 55.9''$ (RT)
 $D = 0^{\circ} 22' 55.1''$
 $L = 274.59'$
 $T = 137.30'$
 $R = 15,000.00'$
 $Se = NC$



FOR -L- & -Y6- PROFILES SEE SHEETS 20 & 23
 FOR INTERSECTION DETAIL SEE SHEET 2B-8
 FOR FLARING C&G DETAIL AT DRIVEWAY TIE-INS SEE SHEET 2A-1

ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

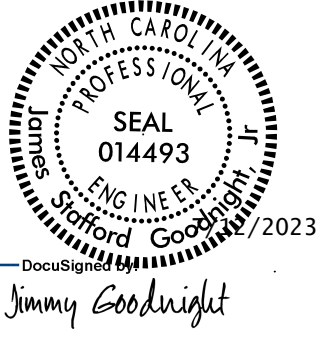
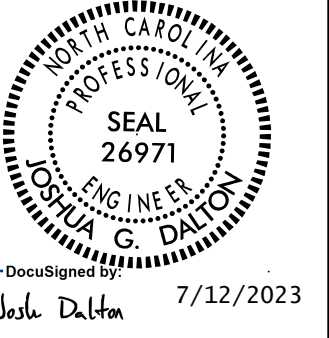

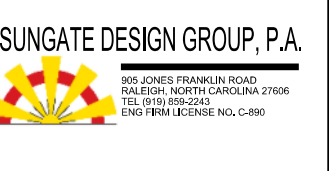
★ DENOTES PROPOSED SIGNALIZED INTERSECTION

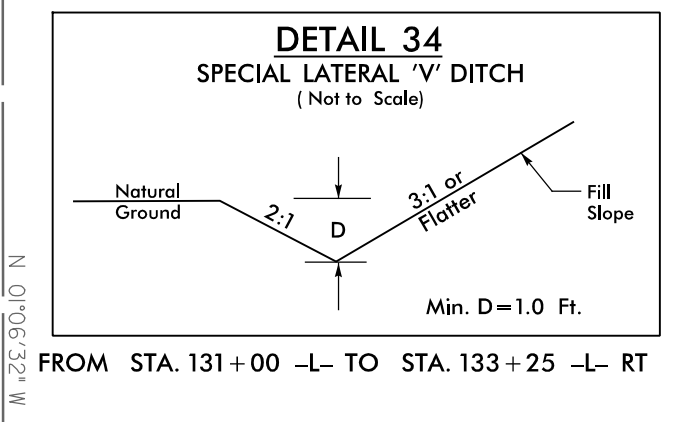
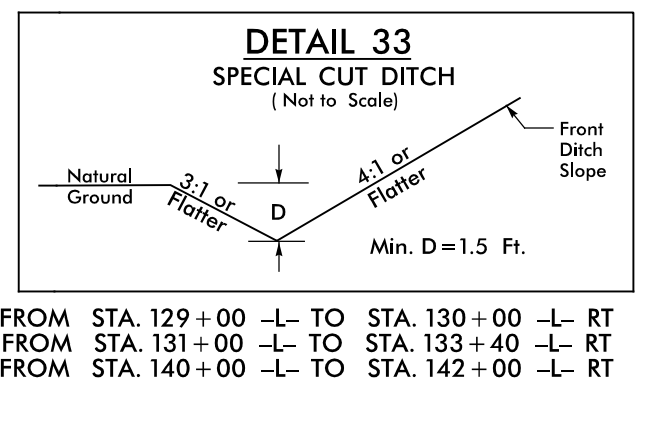
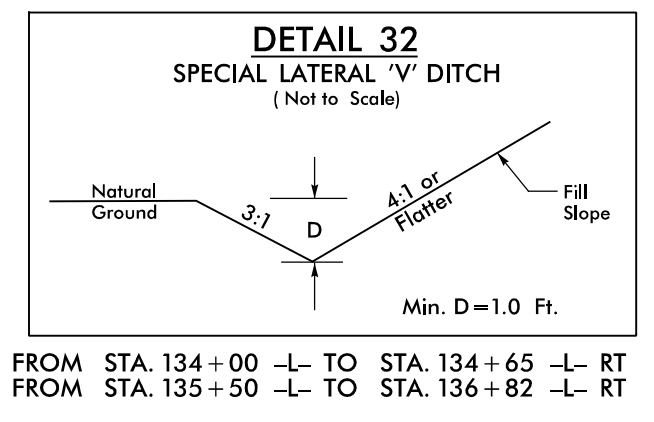
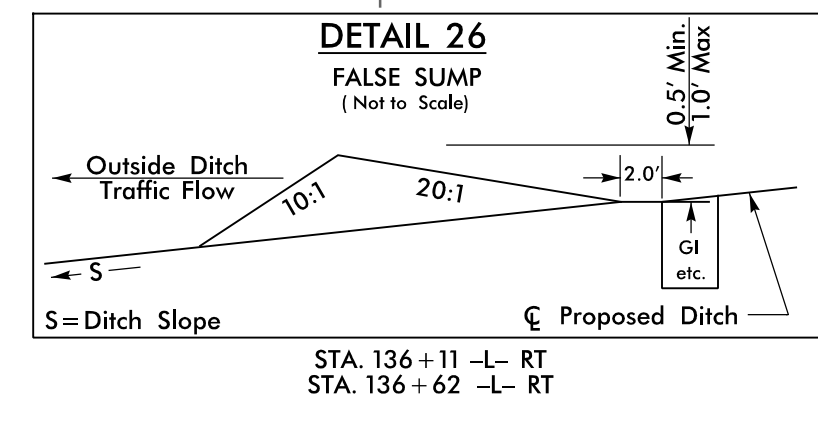
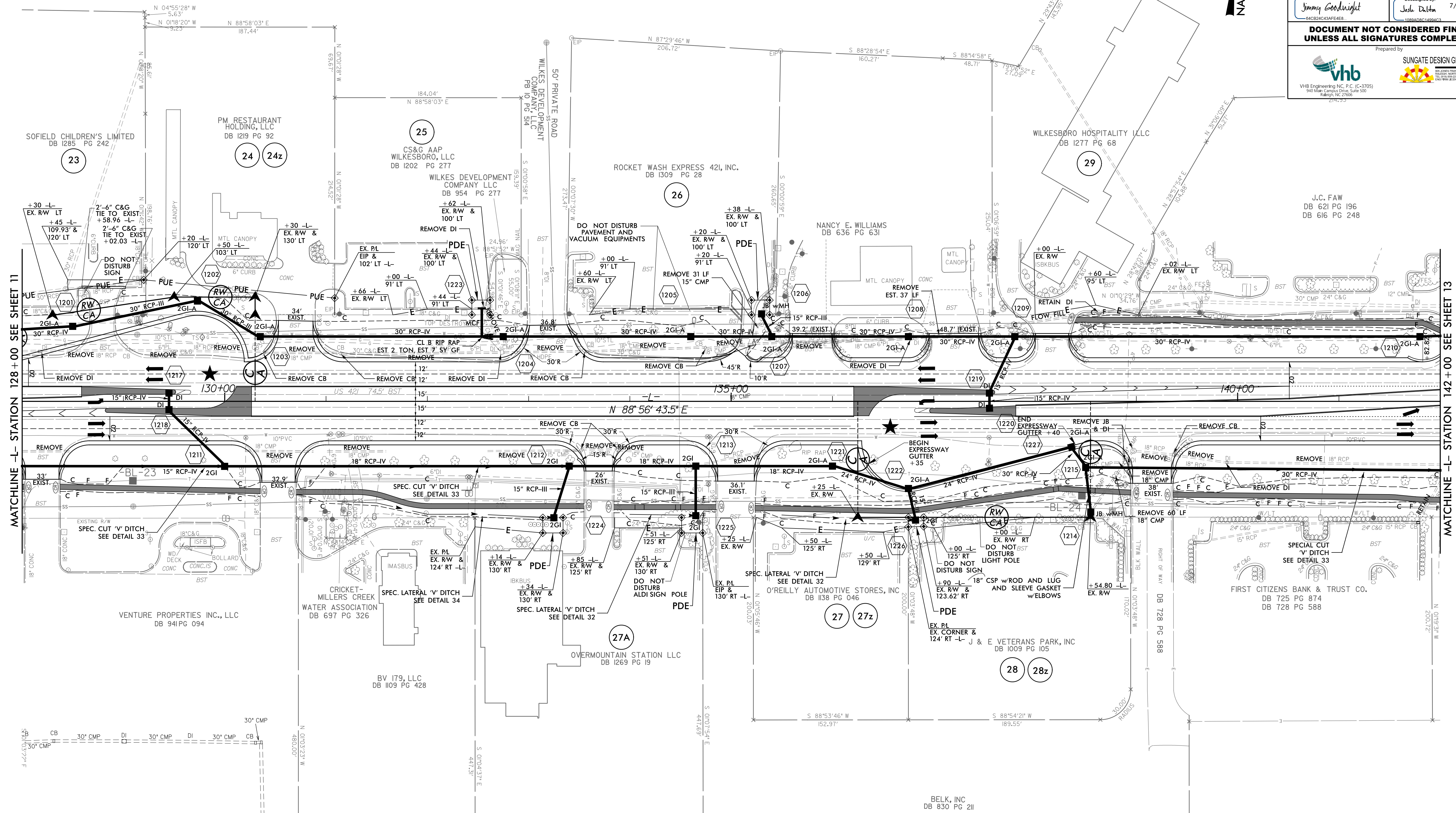
8.17.2023
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 11/11/2023

8.17.23

FOR -L- PROFILE SEE SHEET 20
FOR CONCRETE ISLANDS AND U-TURN BULB DETAILS SEE SHEETS 2B-9 & 2B-10
FOR FLARING C&G DETAIL AT DRIVEWAY TIE-INS SEE SHEET 2A-1

★ DENOTES PROPOSED SIGNALIZED INTERSECTION

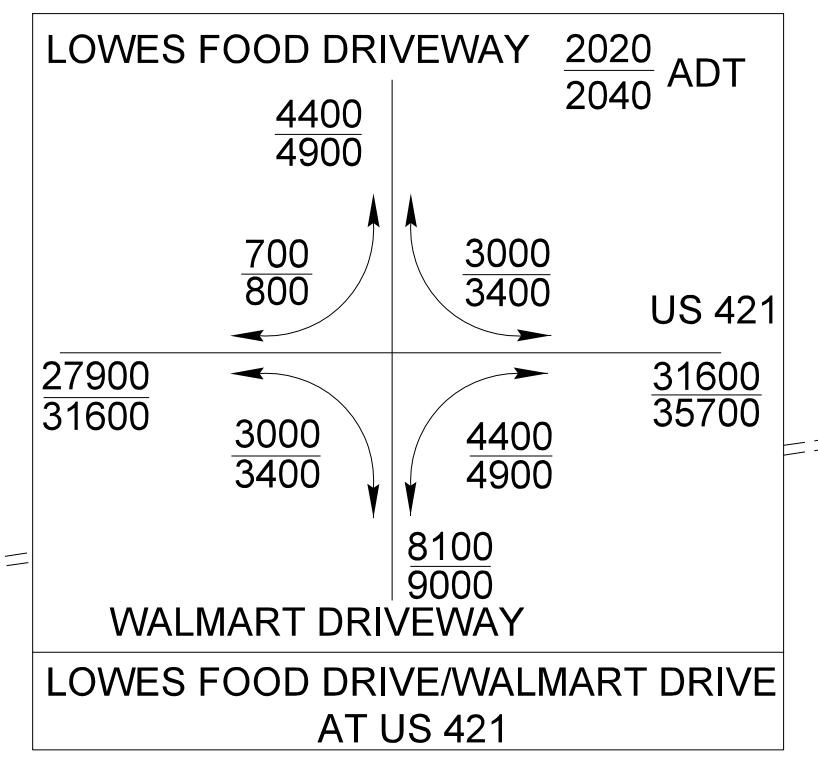
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RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		ENGINEER	
			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
			



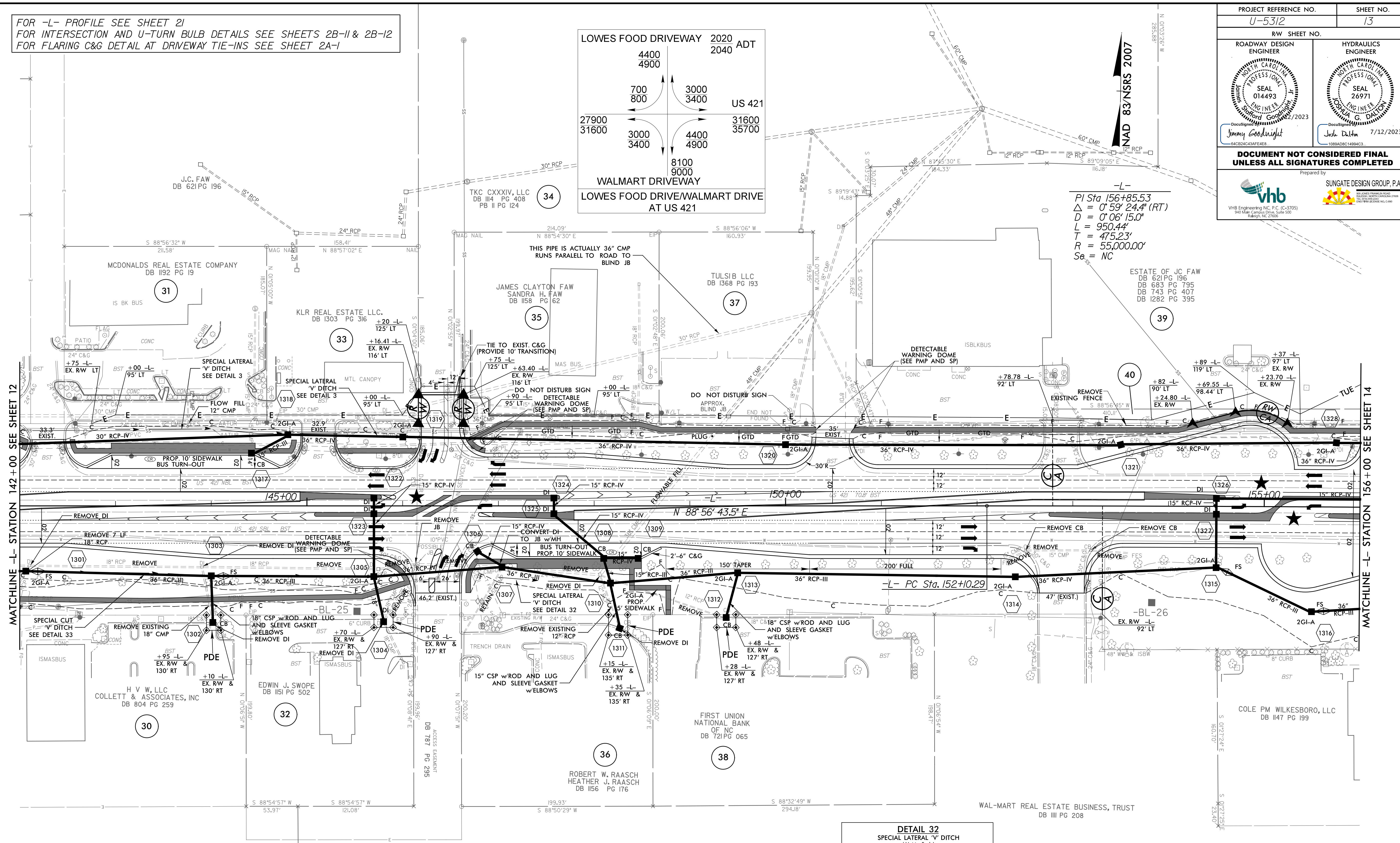
1/6/23
1/6/23
1/6/23

FOR -L- PROFILE SEE SHEET 21
FOR INTERSECTION AND U-TURN BULB DETAILS SEE SHEETS 2B-II & 2B-12
FOR FLARING C&G DETAIL AT DRIVEWAY TIE-INS SEE SHEET 2A-1

PROJECT REFERENCE NO. U-5312		SHEET NO. 13	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

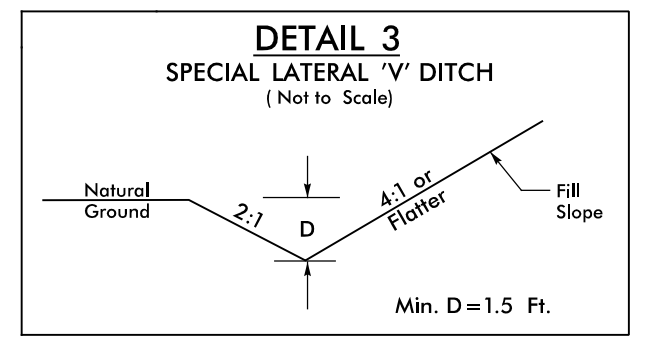


-L-
 PI Sta 156+85.53
 $\Delta = 0^{\circ} 59' 24.4''$ (RT)
 $D = 0^{\circ} 06' 15.0''$
 $L = 950.44'$
 $T = 475.23'$
 $R = 55,000.00'$
 $S_e = NC$

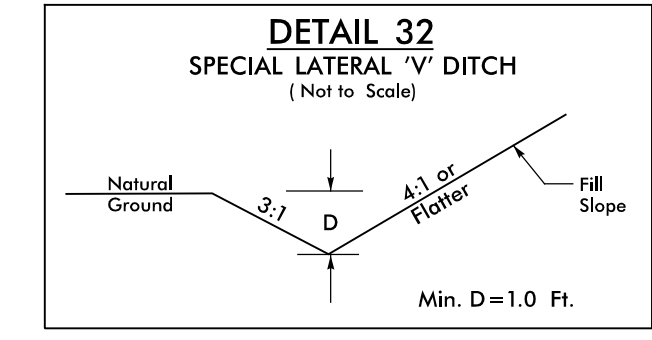


MATCHLINE -L- STATION 142+00 SEE SHEET 12

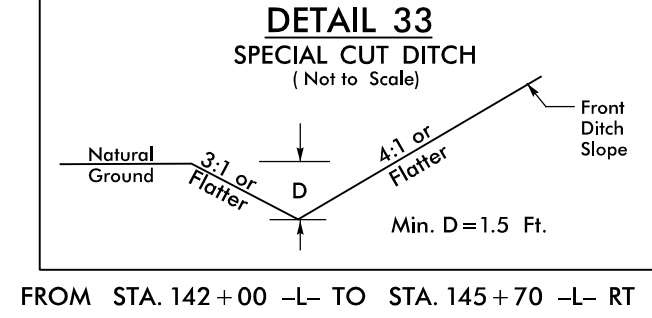
MATCHLINE -L- STATION 156+00 SEE SHEET 14



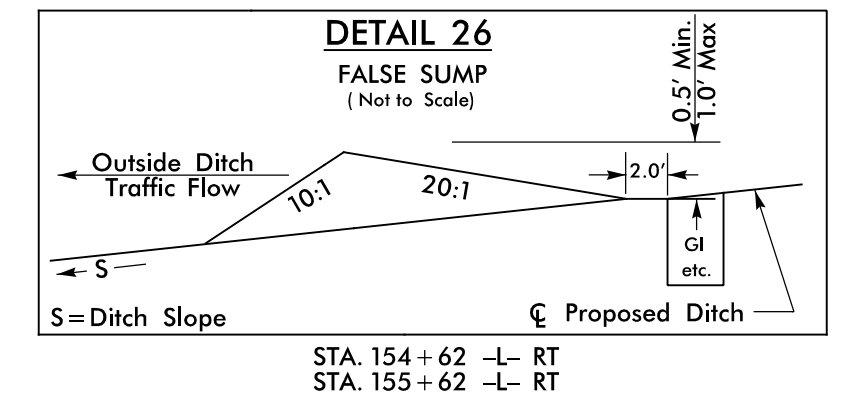
FROM STA. 143+00 -L- TO STA. 144+75 -L- LT
FROM STA. 145+60 -L- TO STA. 146+00 -L- LT



FROM STA. 147+00 -L- TO STA. 148+00 -L- RT



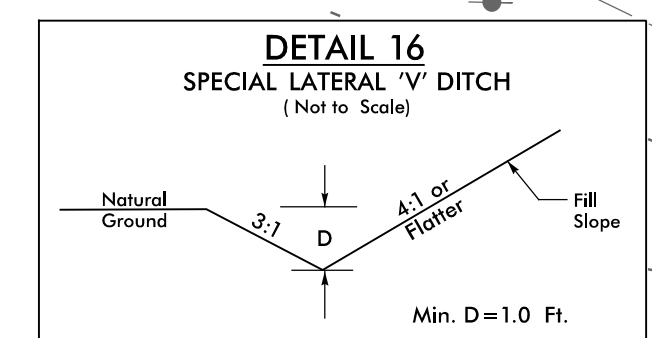
FROM STA. 142+00 -L- TO STA. 145+70 -L- RT



STA. 154+62 -L- RT
STA. 155+62 -L- RT

★ DENOTES PROPOSED SIGNALIZED INTERSECTION

PROJECT REFERENCE NO. U-5312		SHEET NO. 14	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Documented by: Jimmy Goodnight Date: 7/12/2023		Documented by: Josh Dalton Date: 7/12/2023	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



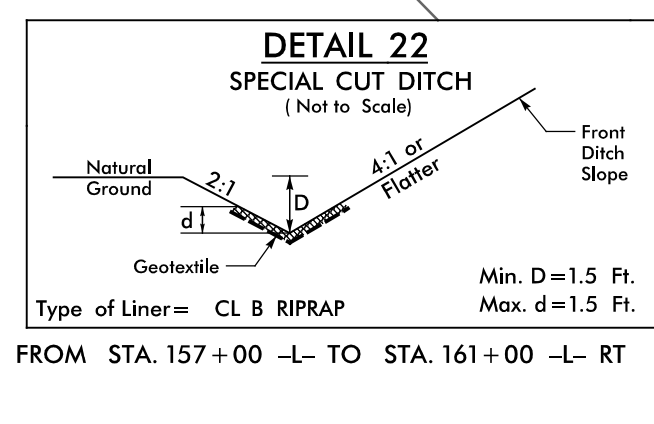
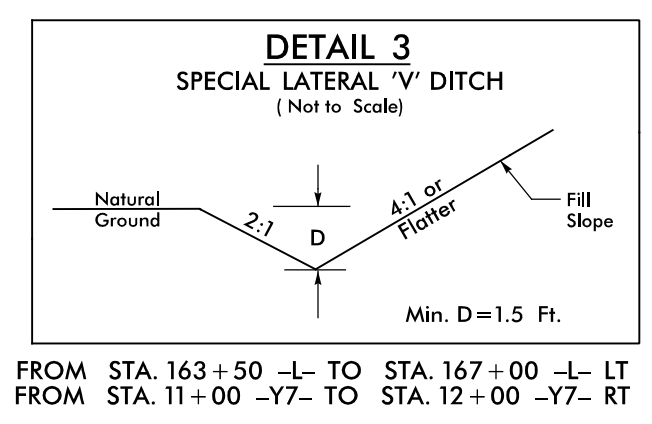
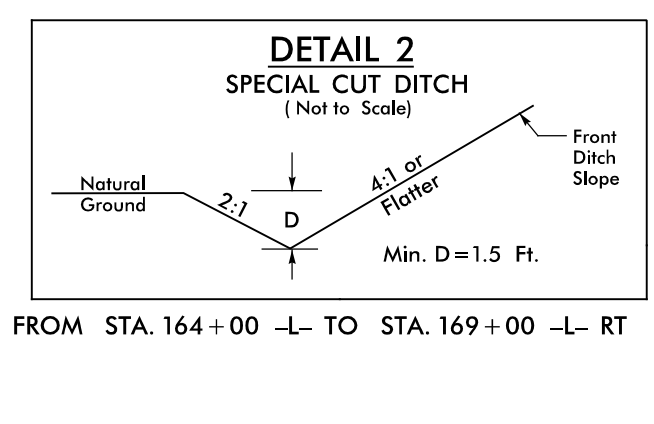
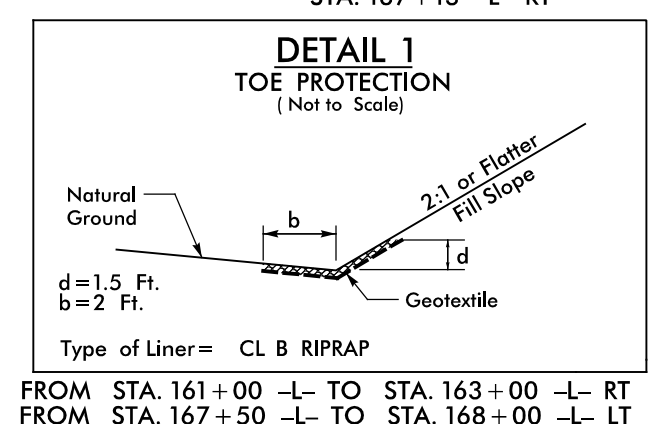
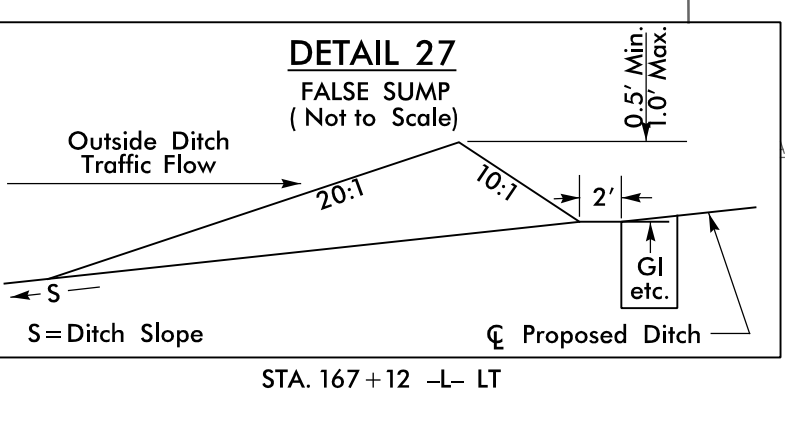
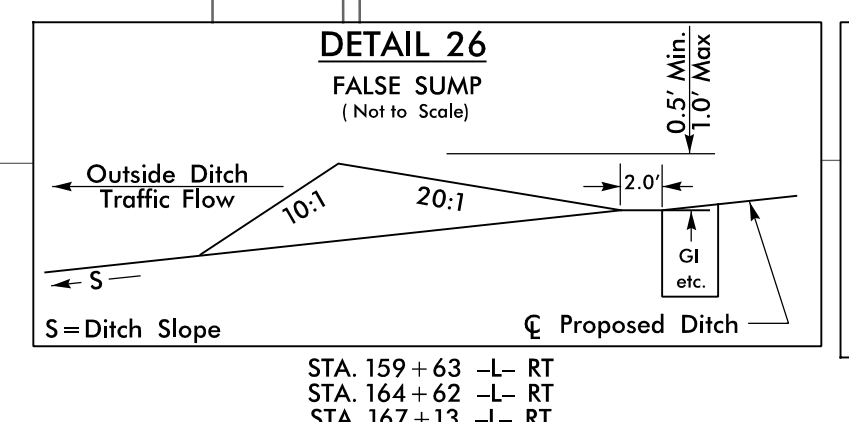
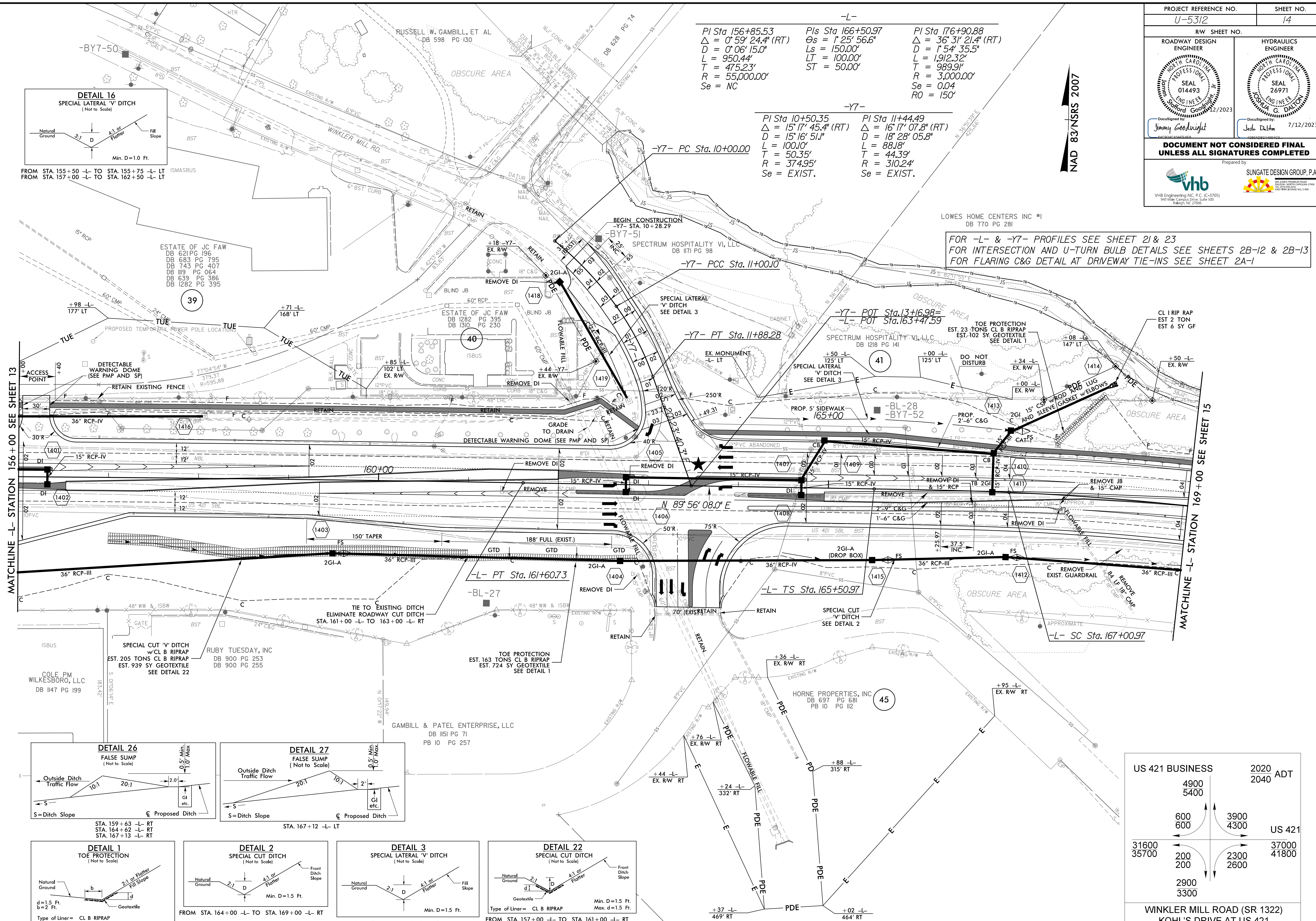
-L-

PI Sta 156+85.53 $\Delta = 0' 59' 24.4''$ (RT) $D = 0' 06' 15.0''$ $L = 950.44'$ $T = 475.23'$ $R = 55,000.00'$ $Se = NC$	PIs Sta 166+50.97 $\Delta s = 1' 25' 56.6''$ $Ls = 150.00'$ $LT = 100.00'$ $ST = 50.00'$	PI Sta 176+90.88 $\Delta = 36' 31' 21.4''$ (RT) $D = 1' 54' 35.5''$ $L = 1912.32'$ $T = 989.9'$ $R = 3,000.00'$ $RO = 150'$
---	--	---

-Y7-

PI Sta 10+50.35 $\Delta = 15' 17' 45.4''$ (RT) $D = 15' 16' 51.1''$ $L = 100.10'$ $T = 50.35'$ $R = 374.95'$ $Se = EXIST.$	PI Sta 11+44.49 $\Delta = 16' 17' 07.8''$ (RT) $D = 18' 28' 05.8''$ $L = 88.18'$ $T = 44.39'$ $R = 310.24'$ $Se = EXIST.$
--	---

FOR -L- & -Y7- PROFILES SEE SHEET 21 & 23
FOR INTERSECTION AND U-TURN BULB DETAILS SEE SHEETS 2B-12 & 2B-13
FOR FLARING C&G DETAIL AT DRIVEWAY TIE-INS SEE SHEET 2A-1



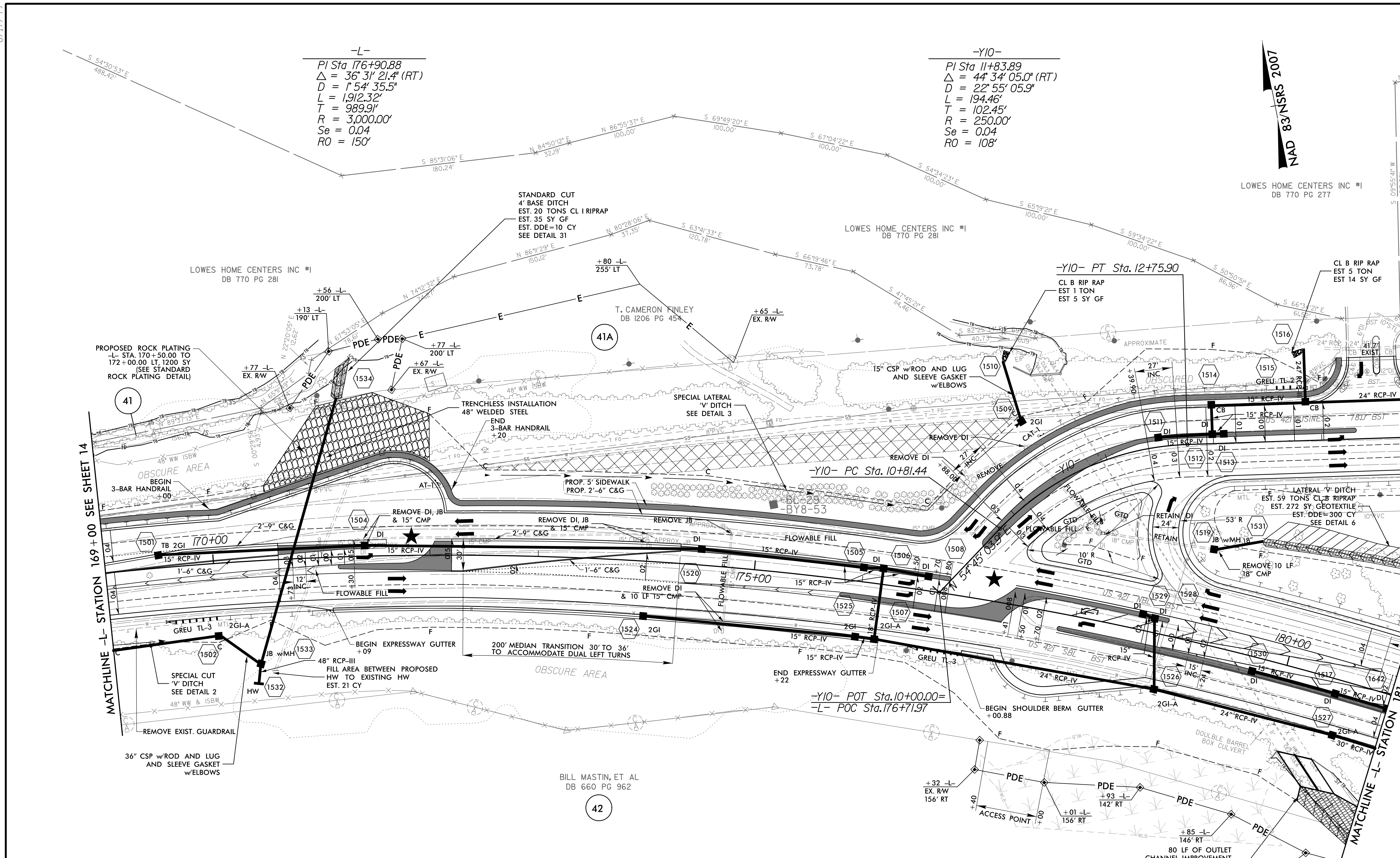
US 421 BUSINESS		2020 ADT	
4900	5400	3900	2040
600	600	4300	US 421
31600	35700	2300	37000
		2600	41800
		2900	3300

WINKLER MILL ROAD (SR 1322)
KOHL'S DRIVE AT US 421

★ DENOTES PROPOSED SIGNALIZED INTERSECTION

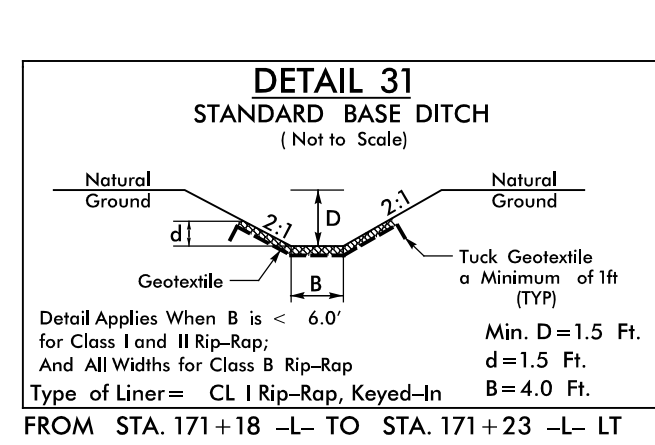
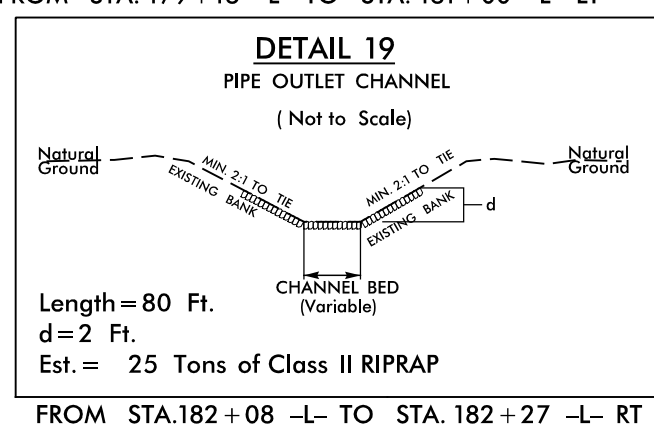
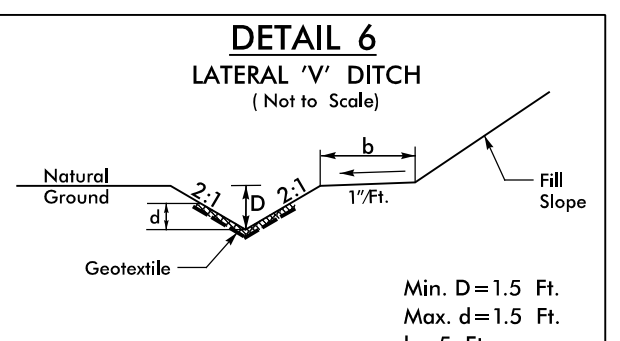
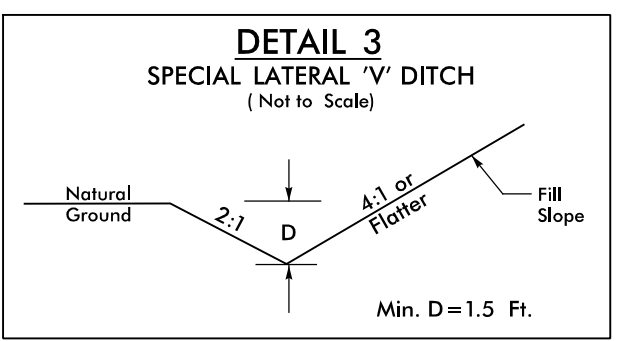
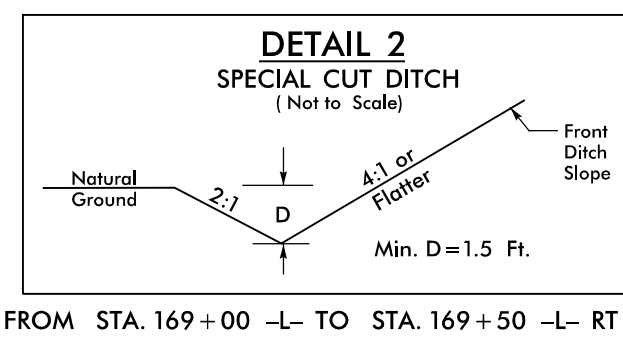
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PROJECT REFERENCE NO. U-5312		SHEET NO. 15	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		ENGINEER	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p> <p>Prepared by </p>			



MATCHLINE -L- STATION 169+00 SEE SHEET 14

MATCHLINE -Y10- STATION 15+00 SEE SHEET 16



FOR -L- & -Y10- PROFILES SEE SHEETS 22 & 24
FOR INTERSECTION AND U-TURN BULB DETAILS SEE SHEETS 2B-14 & 2B-15

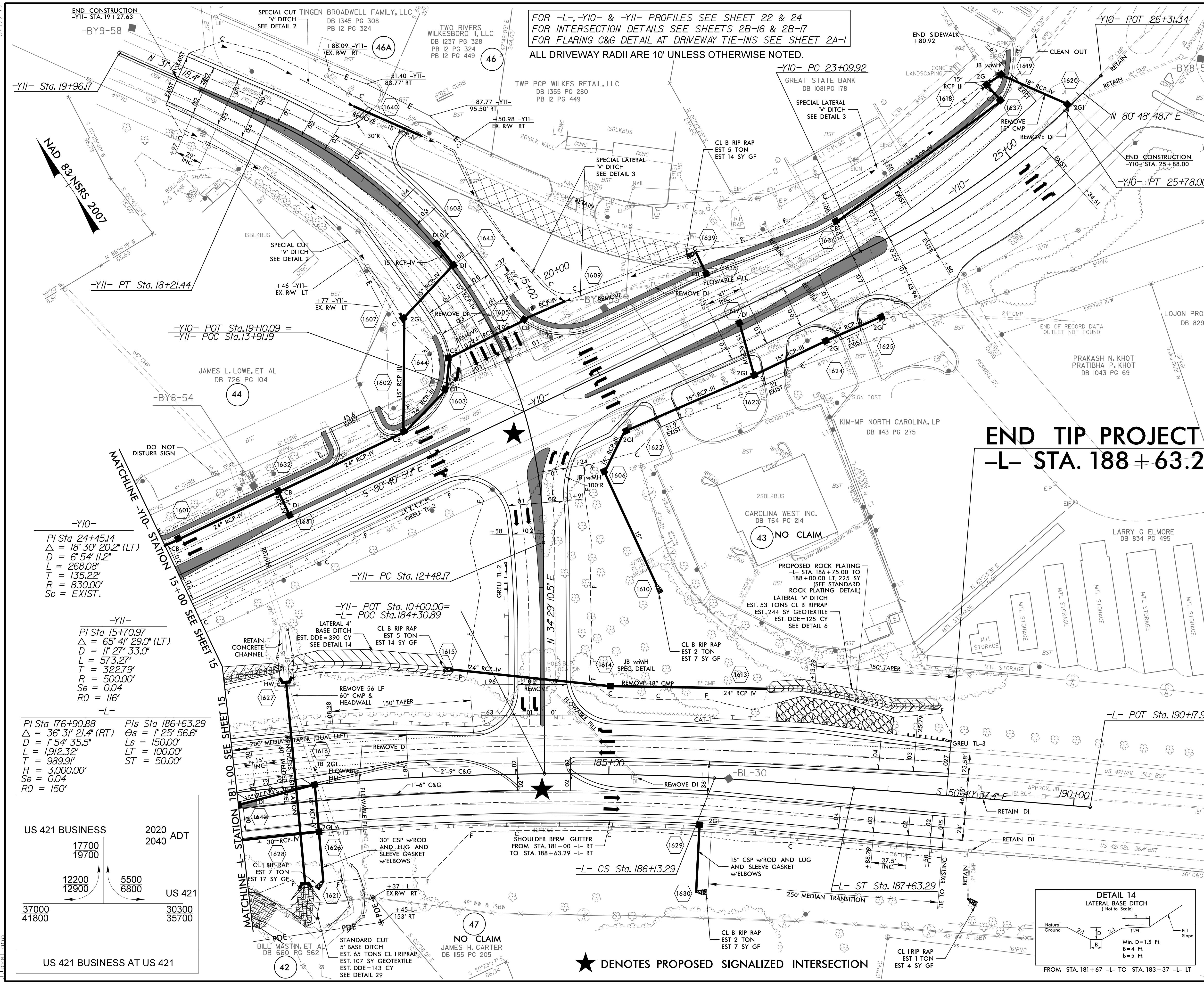
★ DENOTES PROPOSED SIGNALIZED INTERSECTION

8.17.2023

15.05.2023
15.05.2023
15.05.2023

PROJECT REFERENCE NO. U-5312		SHEET NO. 16	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared by SUNGATE DESIGN GROUP, P.A. VHB Engineering NC, P.C. (C-3705) 9401 Main Central Drive, Suite 500 Raleigh, NC 27606			

FOR -L-, -Y10- & -Y11- PROFILES SEE SHEET 22 & 24
 FOR INTERSECTION DETAILS SEE SHEETS 2B-16 & 2B-17
 FOR FLARING C&G DETAIL AT DRIVEWAY TIE-INS SEE SHEET 2A-1
 ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

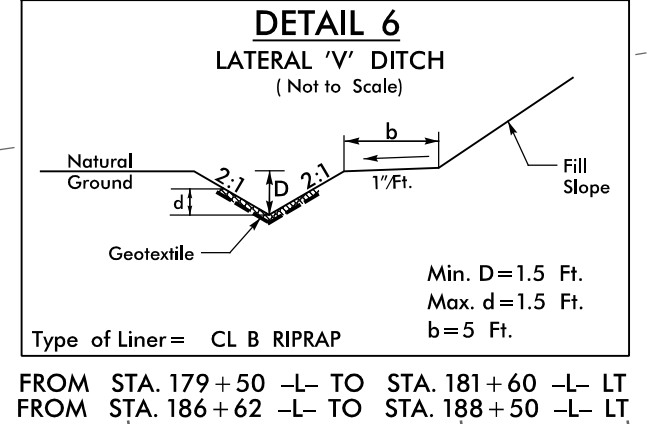
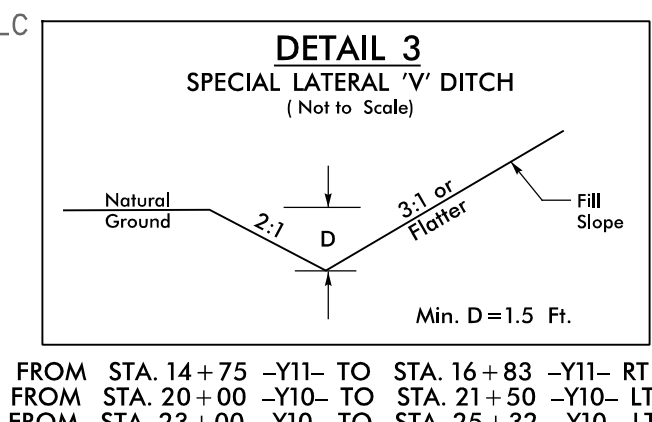
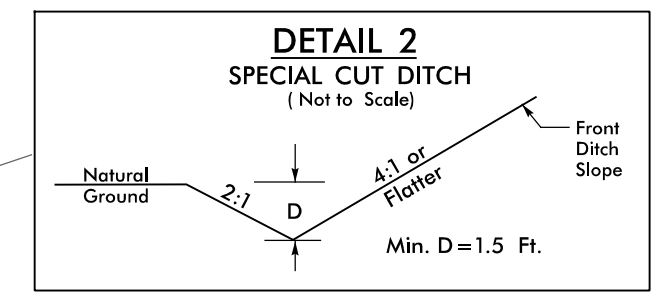


-Y10-
 PI Sta 24+45.14
 $\Delta = 18^\circ 30' 20.2''$ (LT)
 $D = 6' 54' 11.2''$
 $L = 268.08'$
 $T = 135.22'$
 $R = 830.00'$
 $Se = EXIST.$

-Y11-
 PI Sta 15+70.97
 $\Delta = 65^\circ 4' 29.0''$ (LT)
 $D = 1' 27' 33.0''$
 $L = 573.27'$
 $T = 322.79'$
 $R = 500.00'$
 $Se = 0.04$
 $RO = 116'$

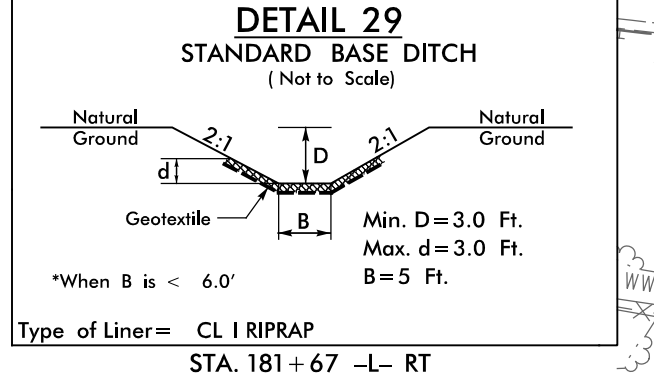
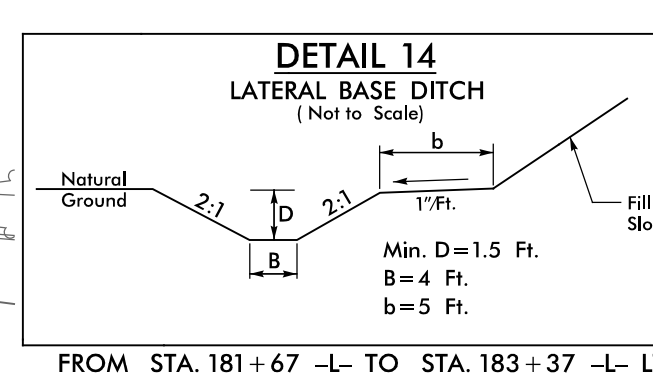
-L-
 PI Sta 176+90.88
 $\Delta = 36^\circ 3' 21.4''$ (RT)
 $D = 1' 54' 35.5''$
 $L = 1912.32'$
 $T = 989.91'$
 $R = 3,000.00'$
 $Se = 0.04$
 $RO = 150'$

US 421 BUSINESS	2020 ADT
17700	19700
12200	5500
12900	6800
	US 421
37000	30300
41800	35700
US 421 BUSINESS AT US 421	



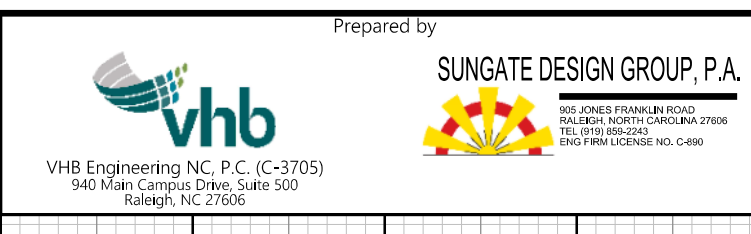
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-L- STA. 188+63.29



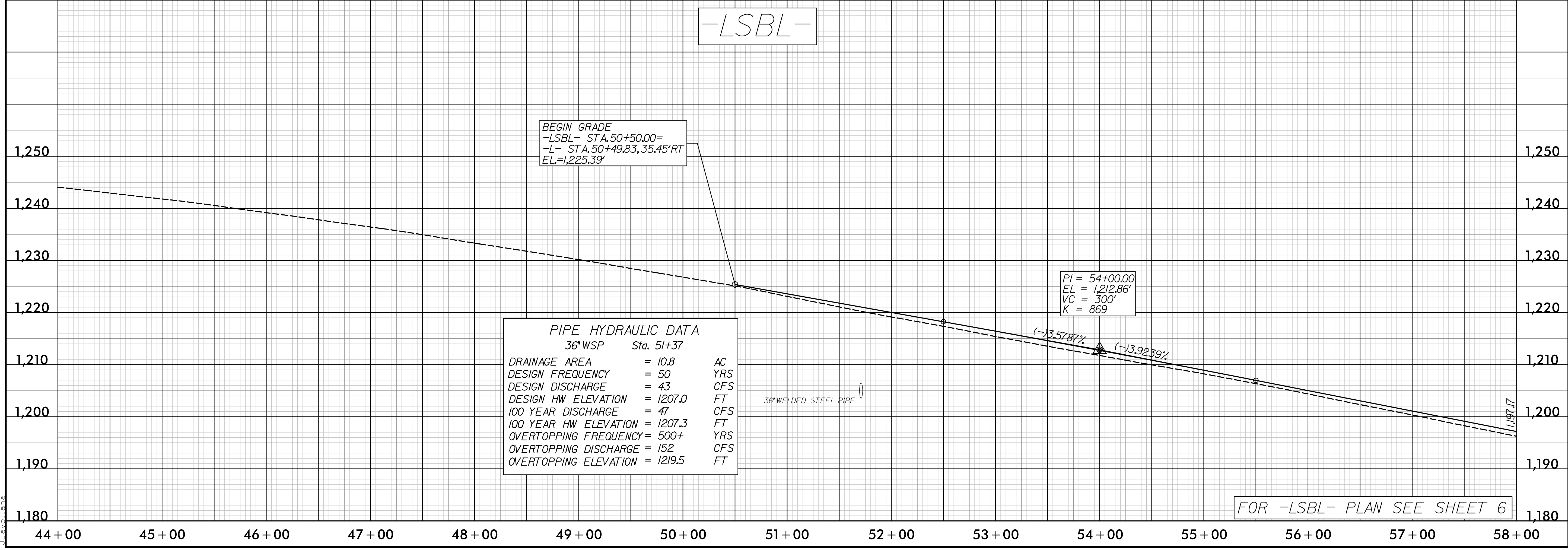
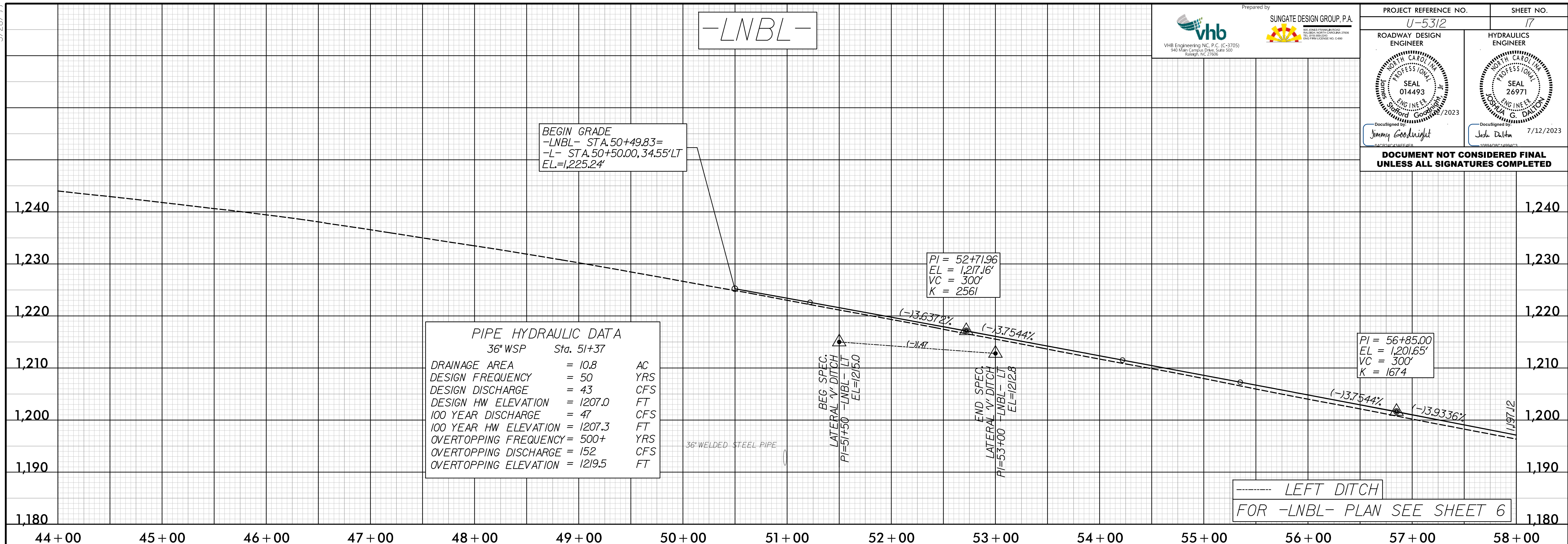
★ DENOTES PROPOSED SIGNALIZED INTERSECTION

5/28/23



PROJECT REFERENCE NO. U-5312	SHEET NO. 17
ROADWAY DESIGN ENGINEER JIMMY GOODWRIGHT Professional Seal 014493	HYDRAULICS ENGINEER JOSH DALTON Professional Seal 26971
DocuSigned by: Jimmy Goodwright	DocuSigned by: Josh Dalton 7/12/2023


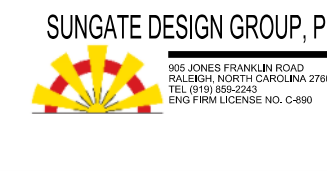
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7/12/2023
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5/28/2019

Prepared by

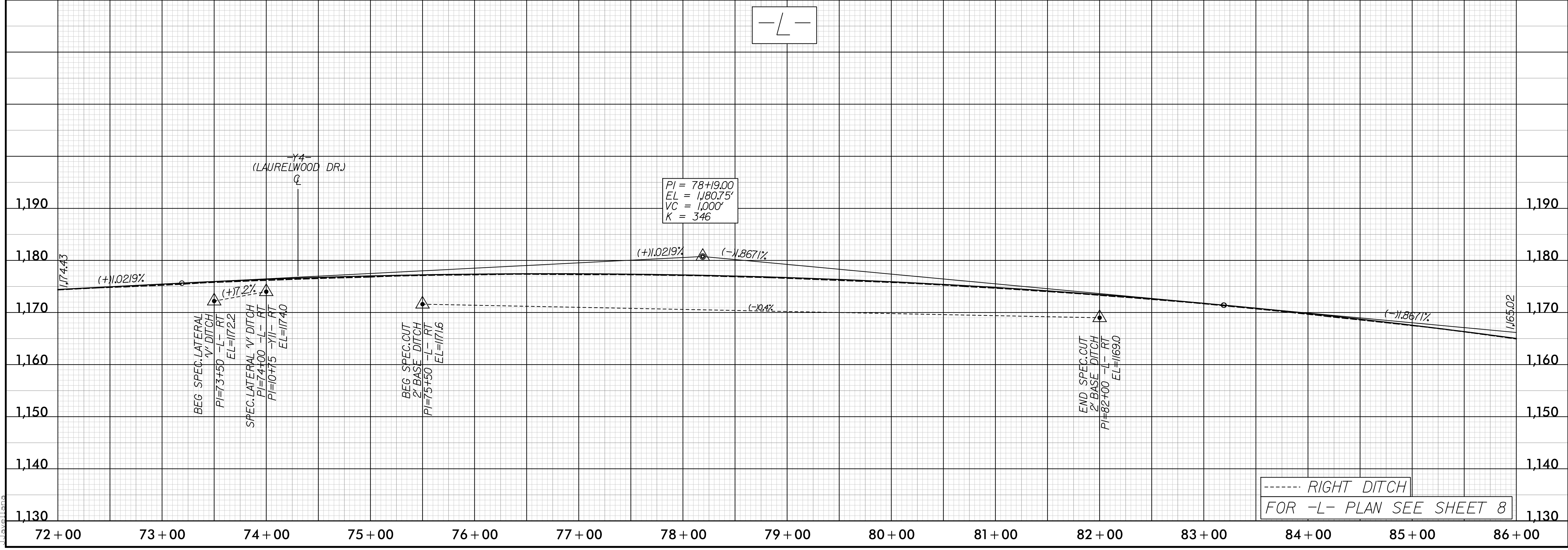
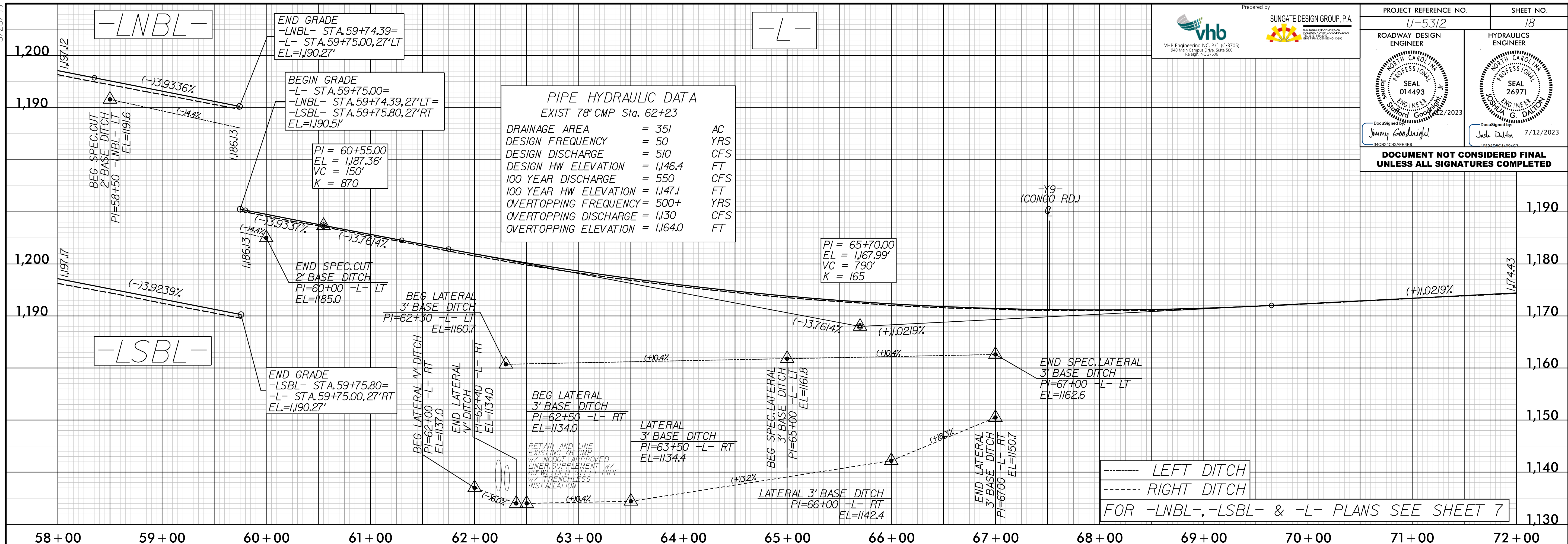



VHB Engineering NC, P.C. (C-2705)
940 Main Campus Drive, Suite 300
Raleigh, NC 27606

SUNGATE DESIGN GROUP, P.A.
10000 Sun Valley Road, Suite 200
Charlotte, NC 28226

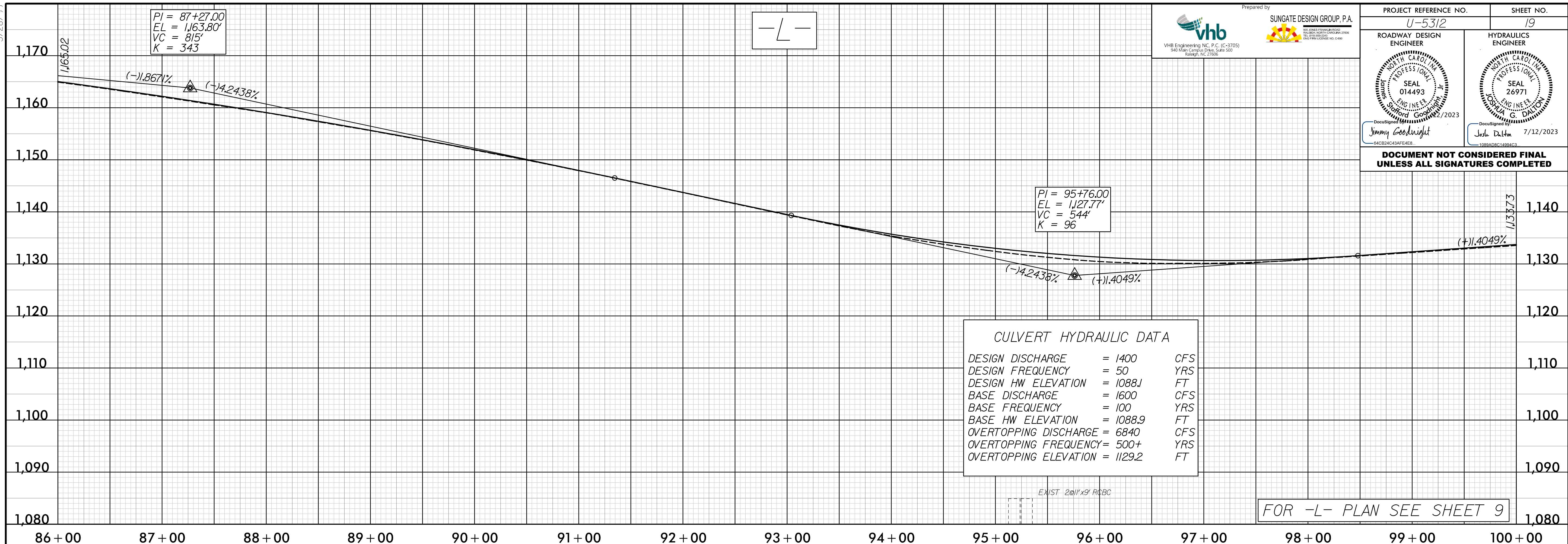
PROJECT REFERENCE NO. U-5312	SHEET NO. 18
ROADWAY DESIGN ENGINEER SEAL 014493 JIMMY GOODRIGHT 7/12/2023	HYDRAULICS ENGINEER SEAL 26971 JOSH DULIN 7/12/2023

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



3/2/2023
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11/16/2023

5/28/23



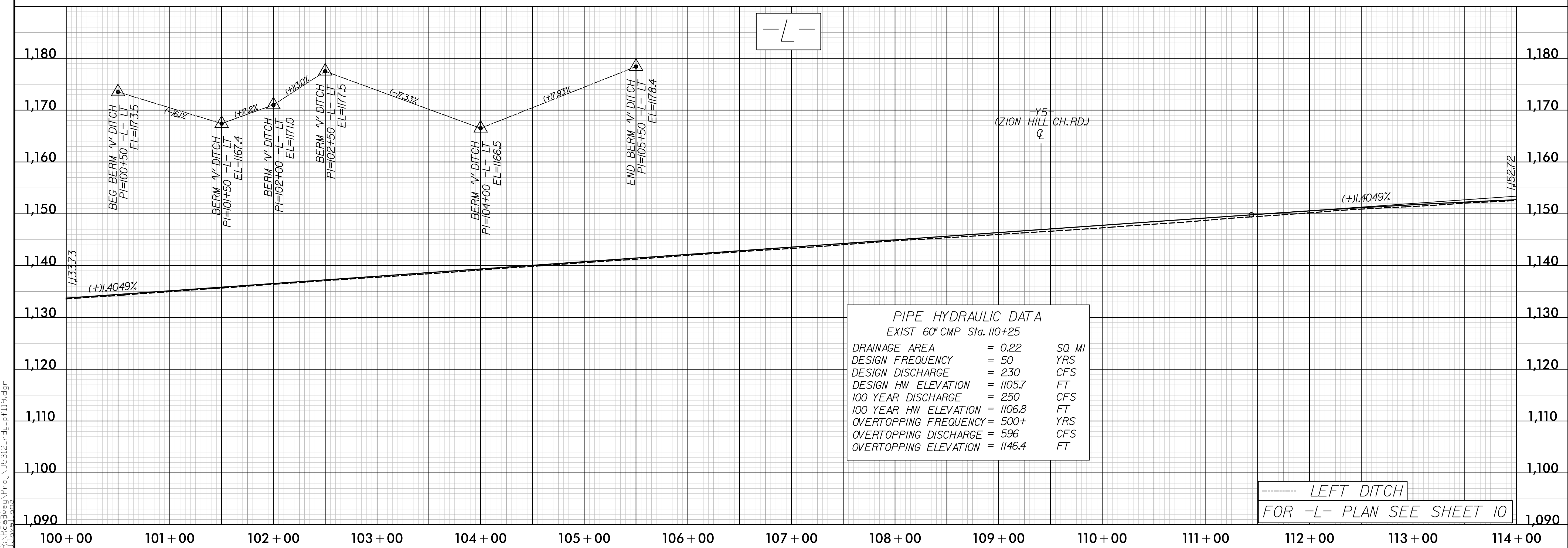
Prepared by

VHB Engineering NC, P.C. (C-2705)
940 Main Campus Drive, Suite 300
Raleigh, NC 27606

SUNGATE DESIGN GROUP, P.A.

PROJECT REFERENCE NO. U-5312	SHEET NO. 19
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER


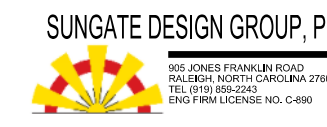
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



7/1/2023
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 11/1/2023

5/28/2023

Prepared by

VHB Engineering NC, P.C. (C-2705)
940 Main Campus Drive, Suite 300
Raleigh, NC 27606

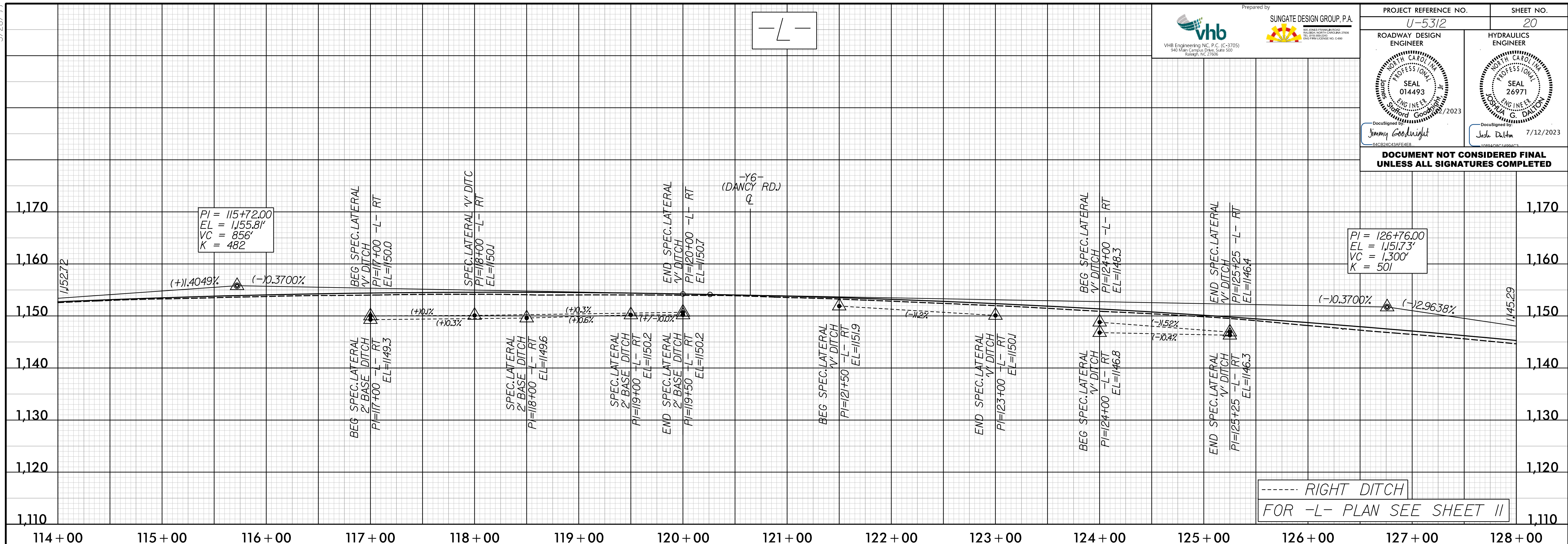
SUNGATE DESIGN GROUP, P.A.
10000 Sunset Blvd, Suite 100
Dallas, TX 75242

PROJECT REFERENCE NO. U-5312	SHEET NO. 20
ROADWAY DESIGN ENGINEER JIMMY GOODWRIGHT	HYDRAULICS ENGINEER JACK DALTON

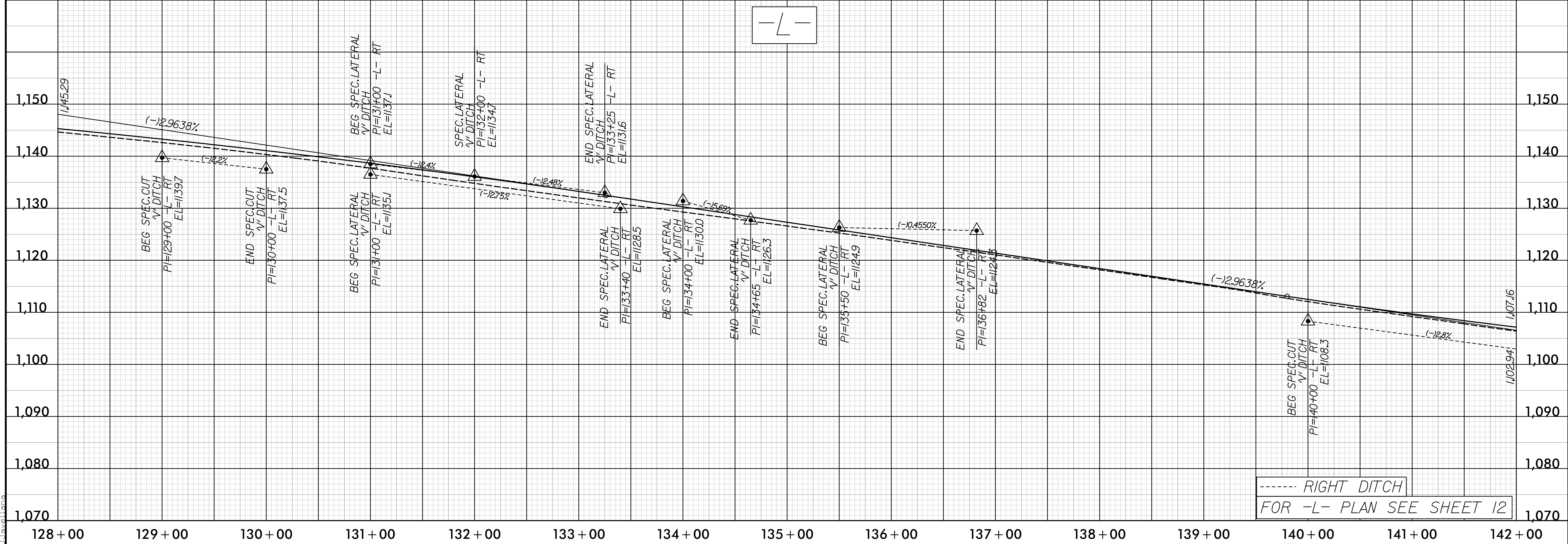
Seal: 014493 (Roadway Design), 26971 (Hydraulics)

Documented by: Jimmy Goodwright, Jack Dalton
Date: 7/12/2023

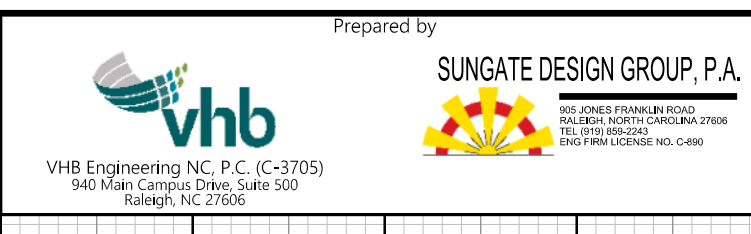
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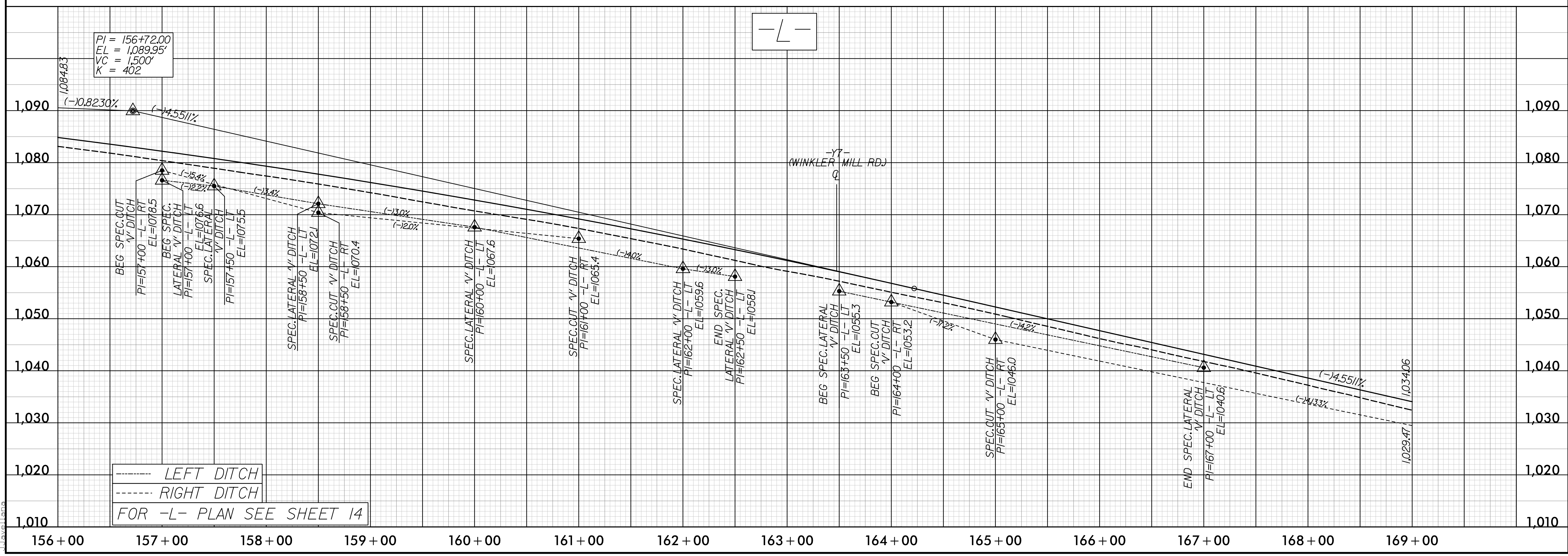
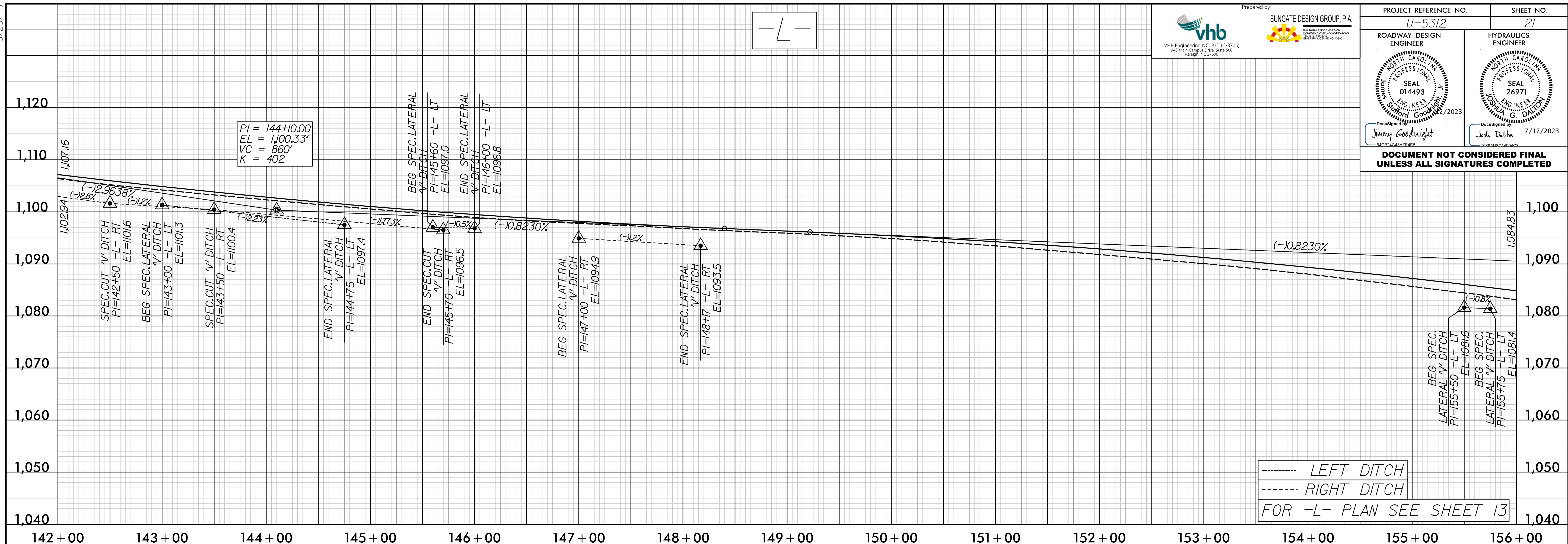
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5/28/24

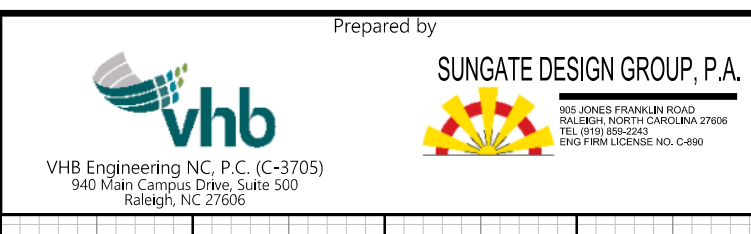


PROJECT REFERENCE NO. U-5312		SHEET NO. 21	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			

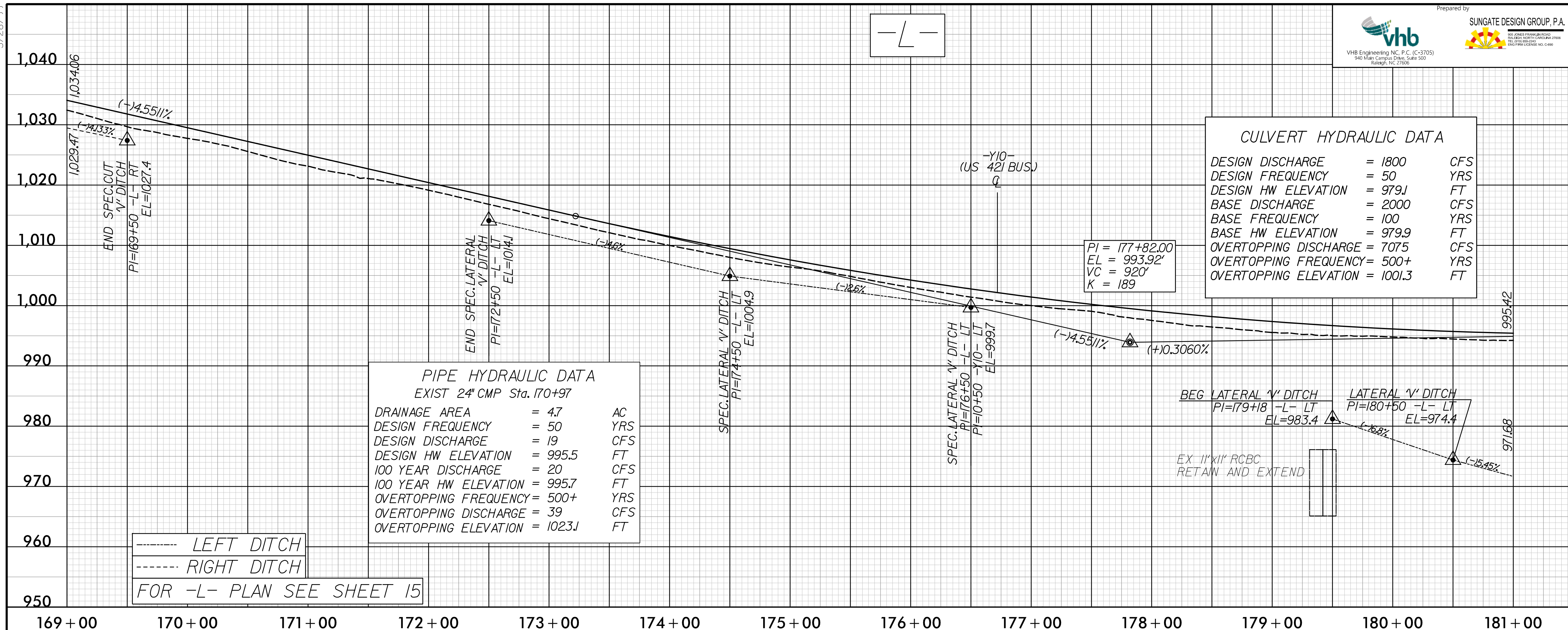


7/1/2023
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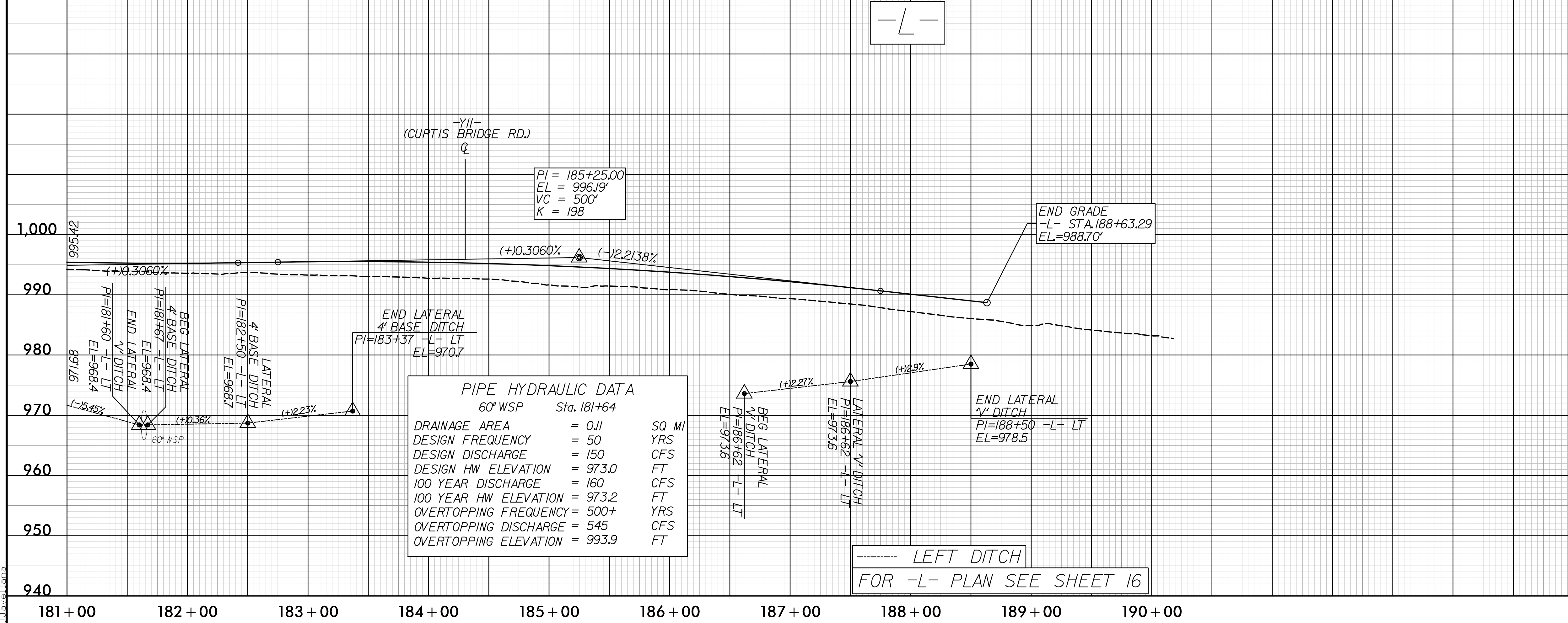
5/28/2023



PROJECT REFERENCE NO. U-5312	SHEET NO. 22
ROADWAY DESIGN ENGINEER SEAL 014493 Jimmy Goodnight	HYDRAULICS ENGINEER SEAL 26971 Josh Dalton
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



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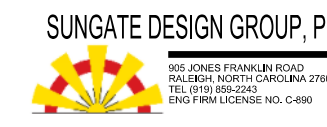


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5/28/2023

Prepared by

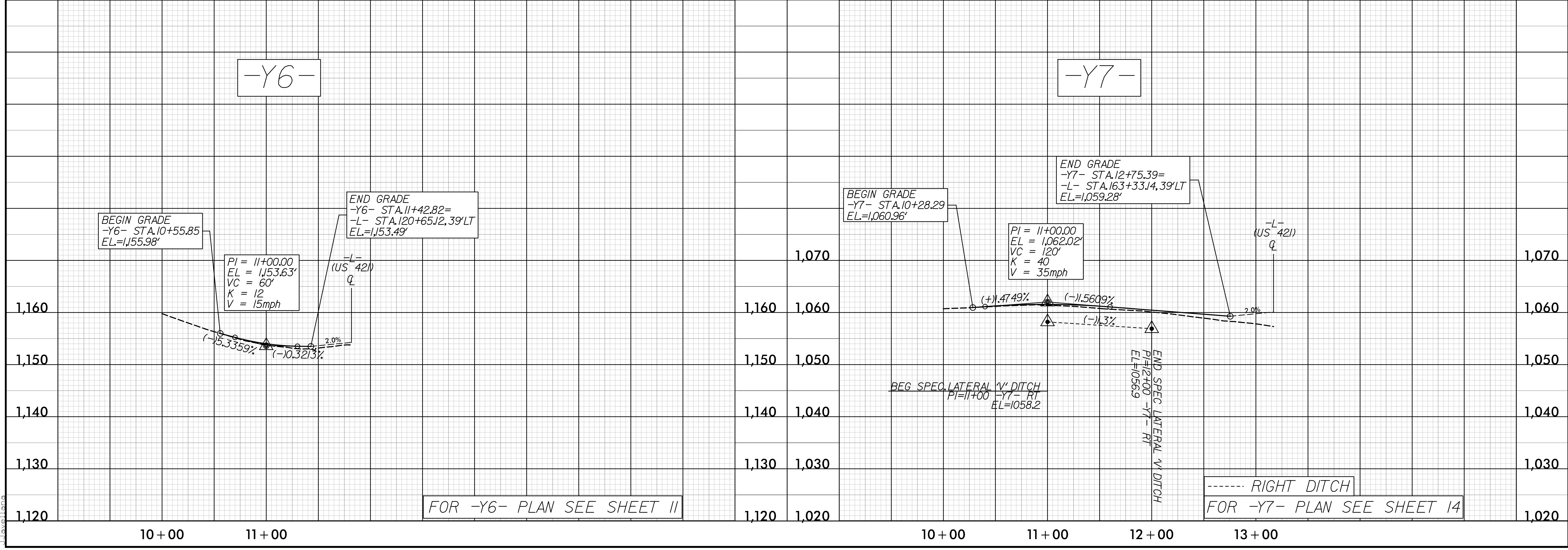
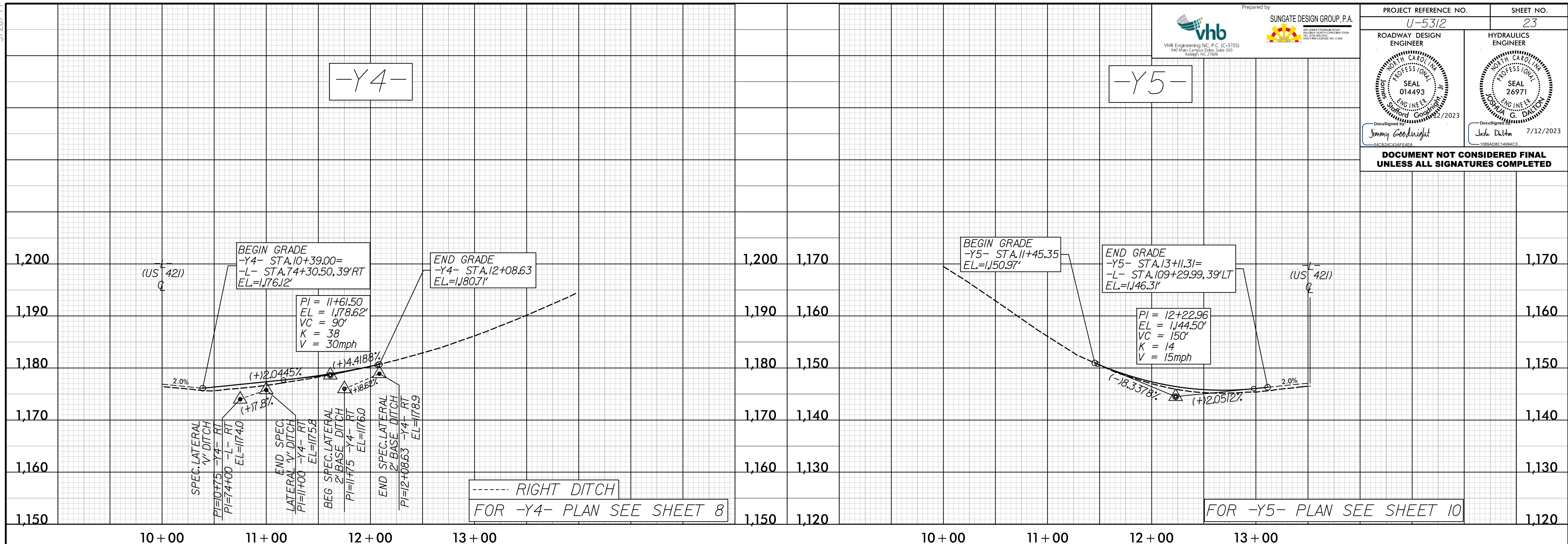
VHB Engineering NC, P.C. (C-2705)
940 Main Campus Drive, Suite 300
Raleigh, NC 27606

SUNGATE DESIGN GROUP, P.A.
10000 W. Hargett Street, Suite 100
Raleigh, NC 27615

PROJECT REFERENCE NO. U-5312	SHEET NO. 23
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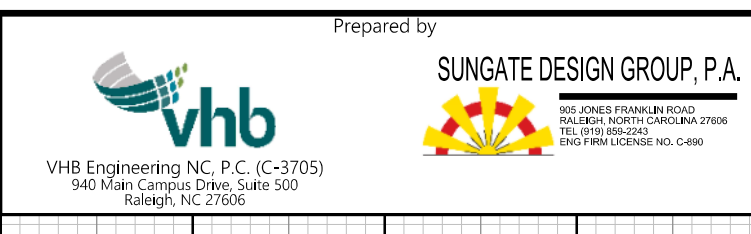
Documented by: Jimmy Goodnight
Documented by: Jesse Dalton

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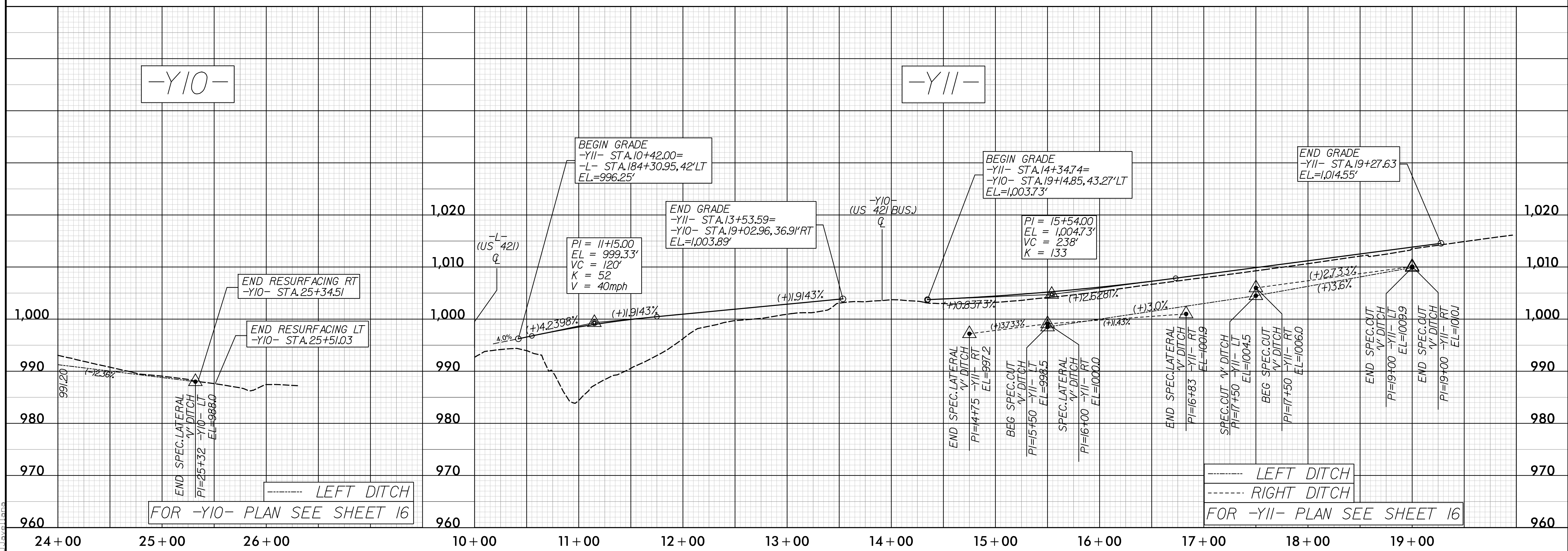
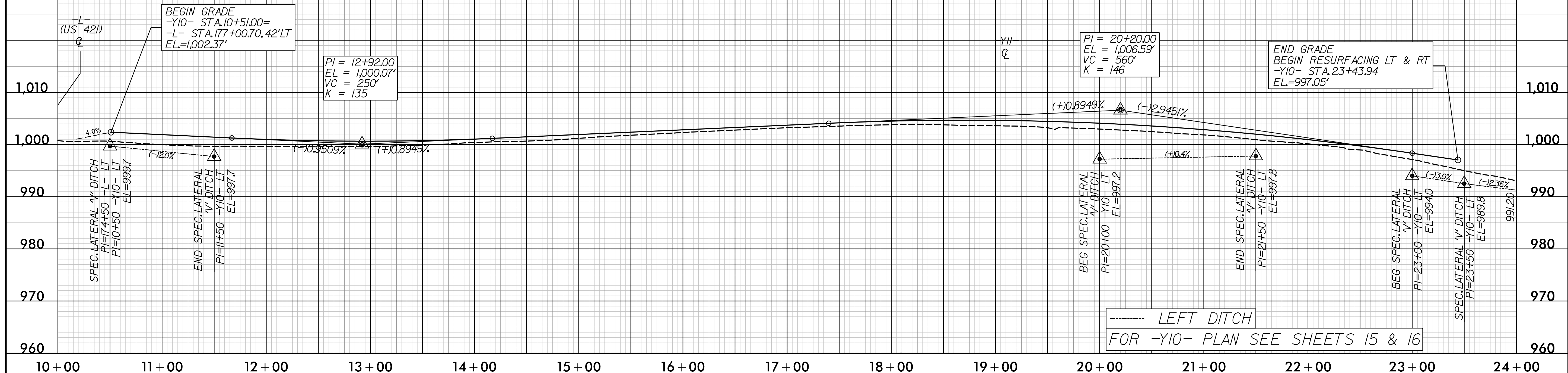
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5/28/2023



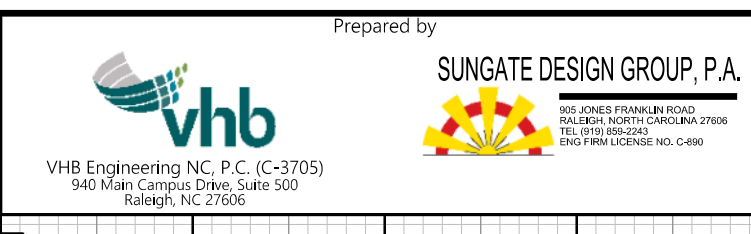
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
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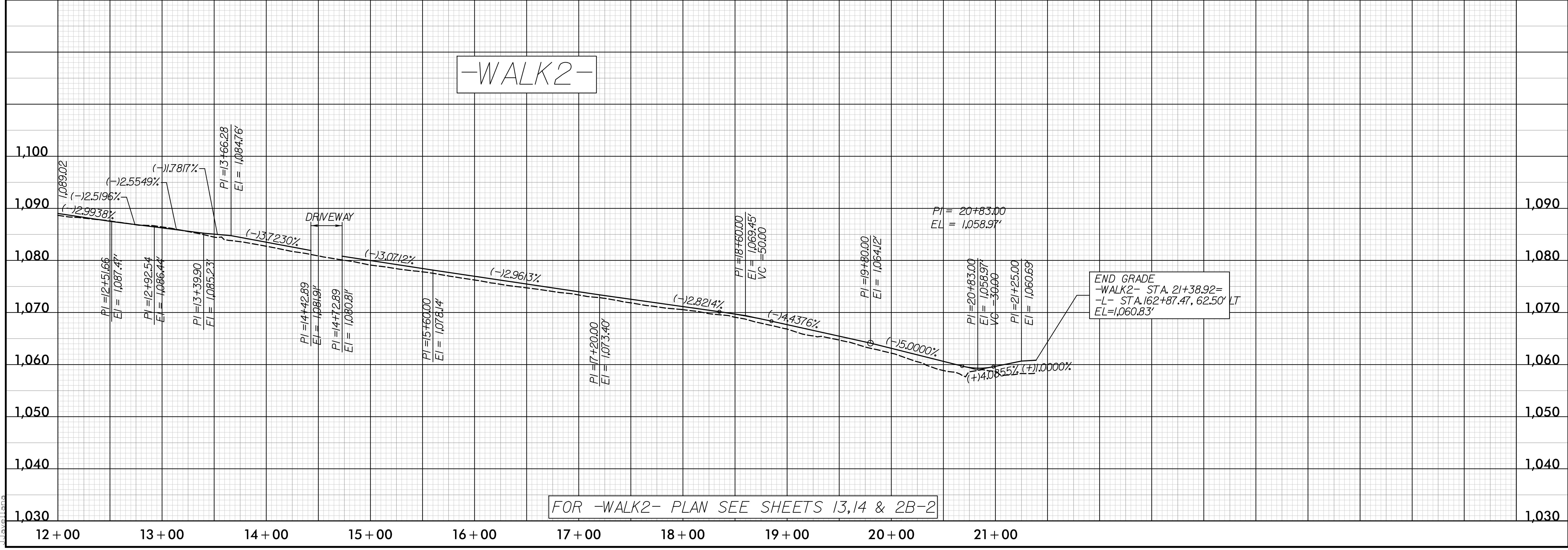
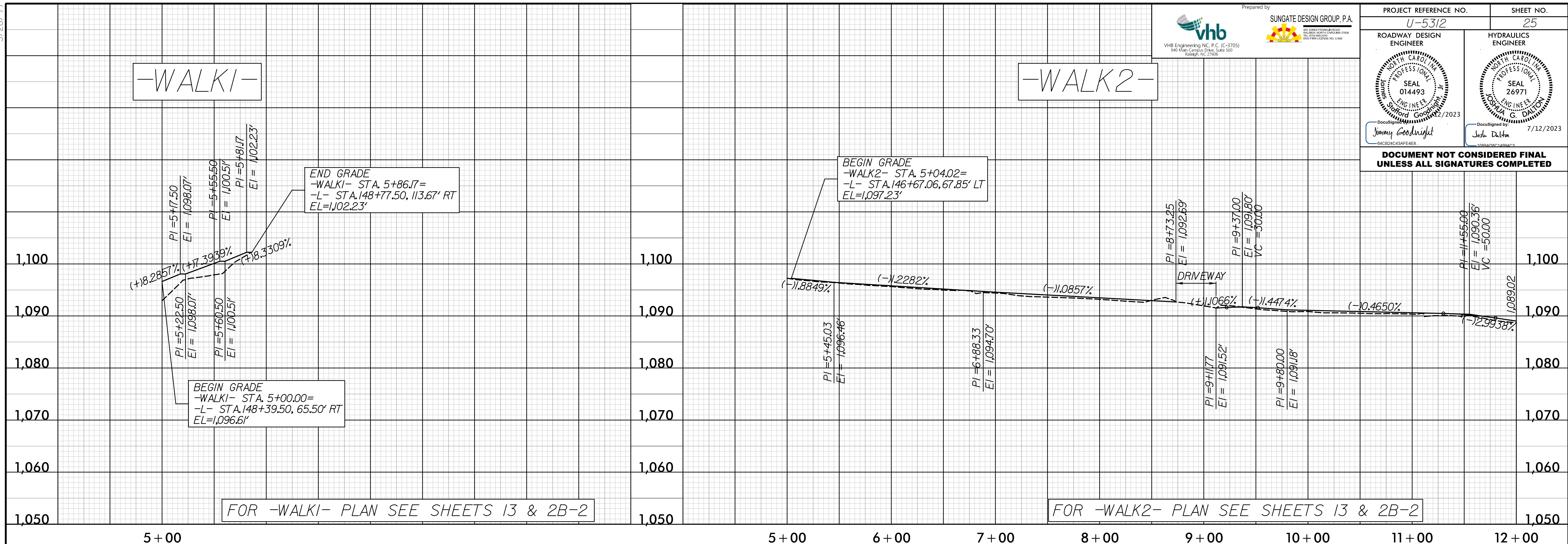
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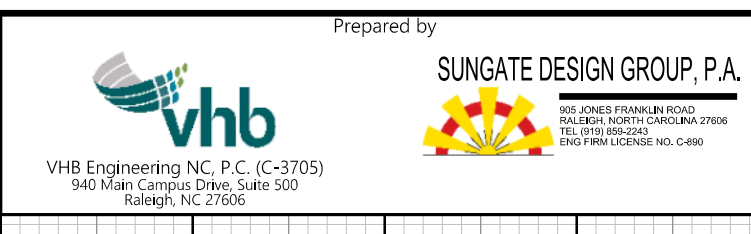
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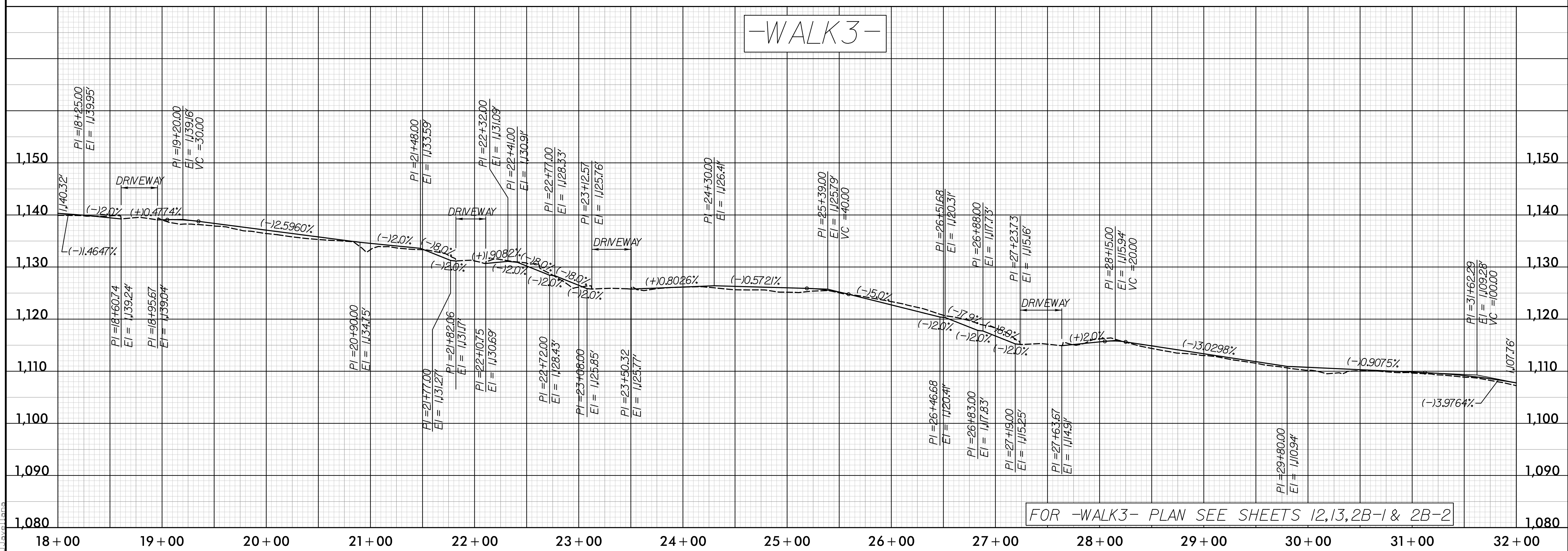
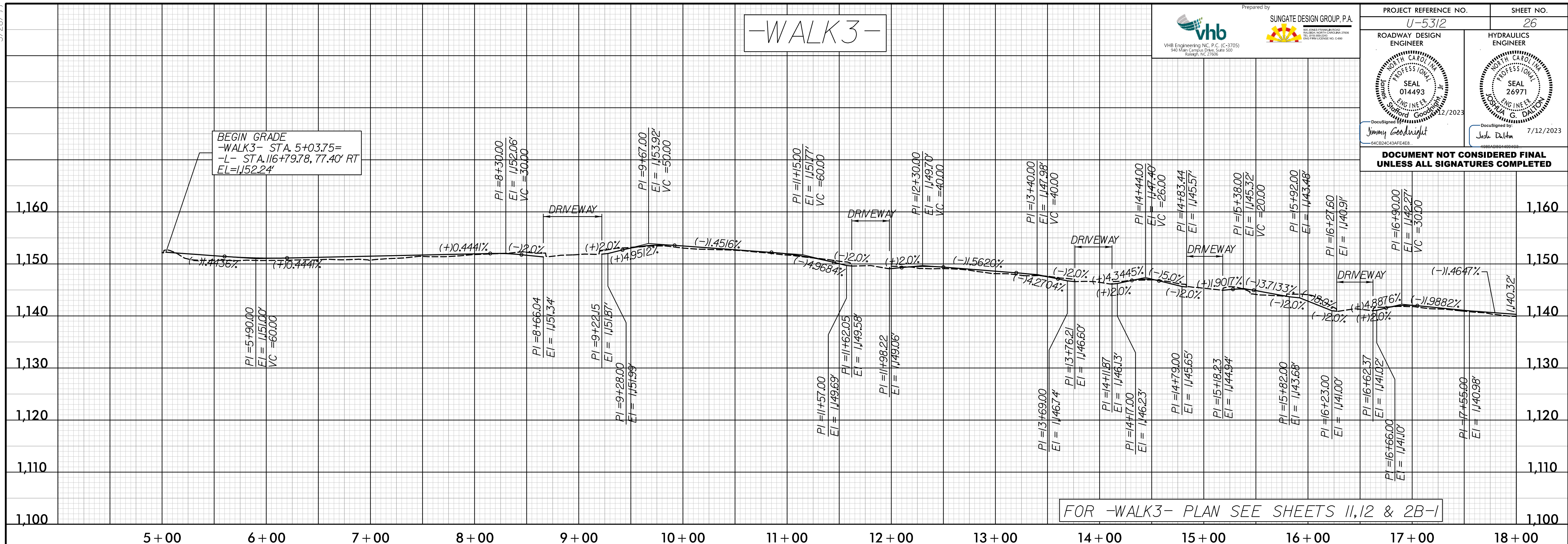
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PROJECT REFERENCE NO. U-5312		SHEET NO. 26
ROADWAY DESIGN ENGINEER SEAL 014493	HYDRAULICS ENGINEER SEAL 26971	
Documented by Jimmy Goodnight 64C2B2C45AF6E8		Documented by Jude Dalton 488A8848496E8

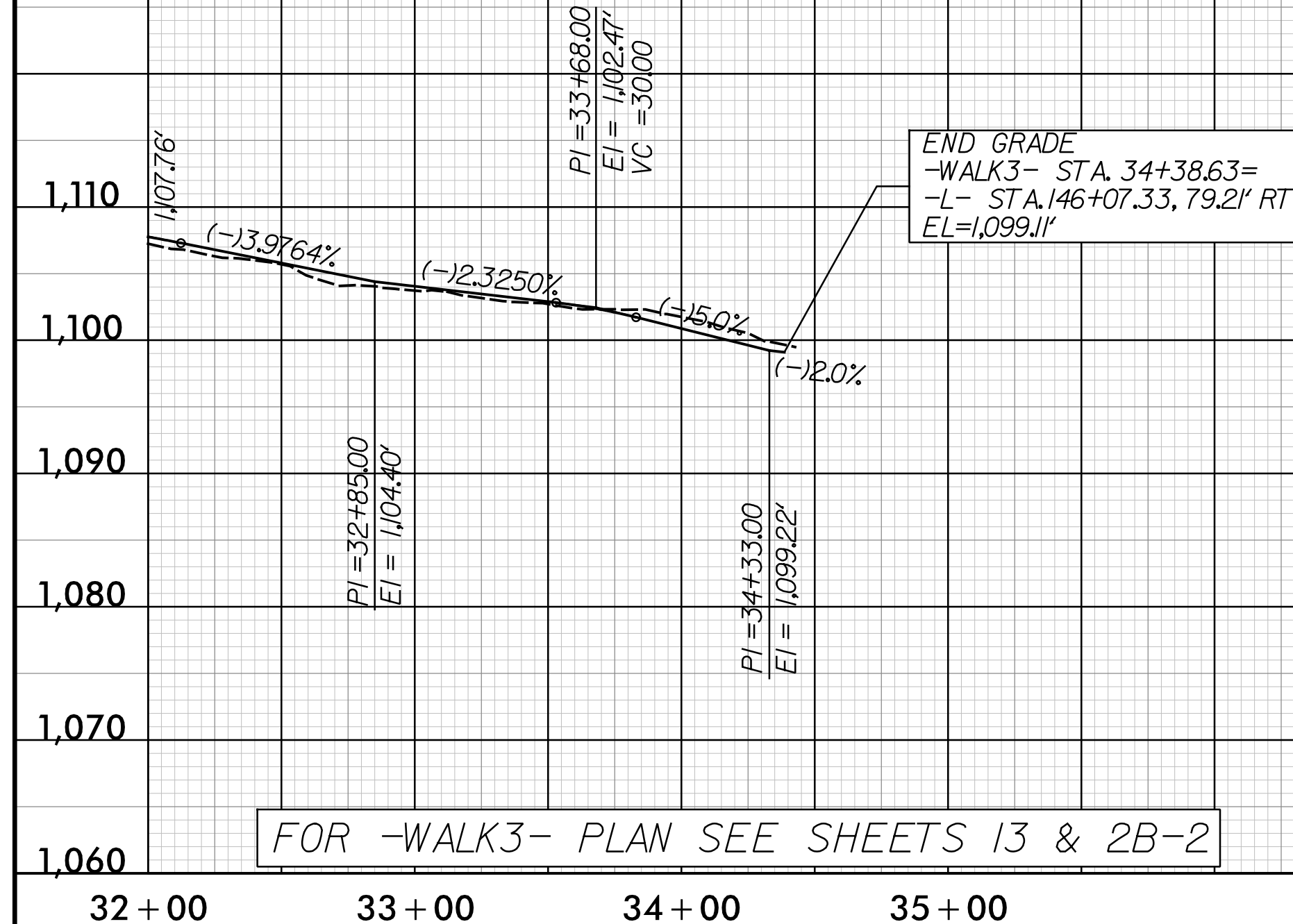
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JGoodnight

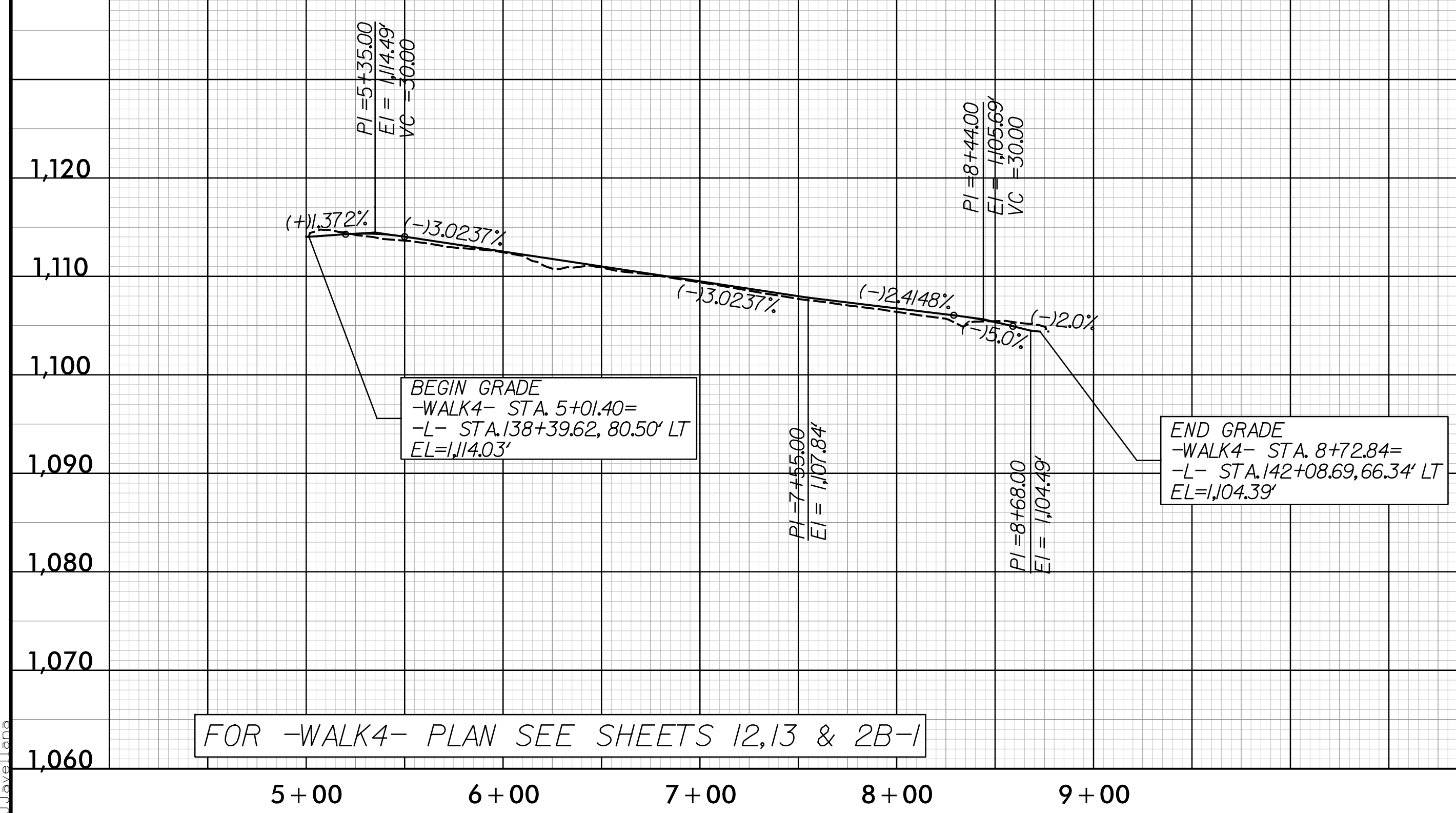
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-WALK3-




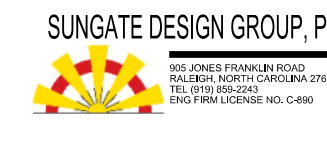
FOR -WALK3- PLAN SEE SHEETS 13 & 2B-2

-WALK4-



FOR -WALK4- PLAN SEE SHEETS 12,13 & 2B-1

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PROJECT REFERENCE NO. U-5312	SHEET NO. 27
ROADWAY DESIGN ENGINEER SEAL 014493 Jimmy Goodnight 7/12/2023	HYDRAULICS ENGINEER SEAL 26971 Jesse Dalton 7/12/2023

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7/12/2023
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