

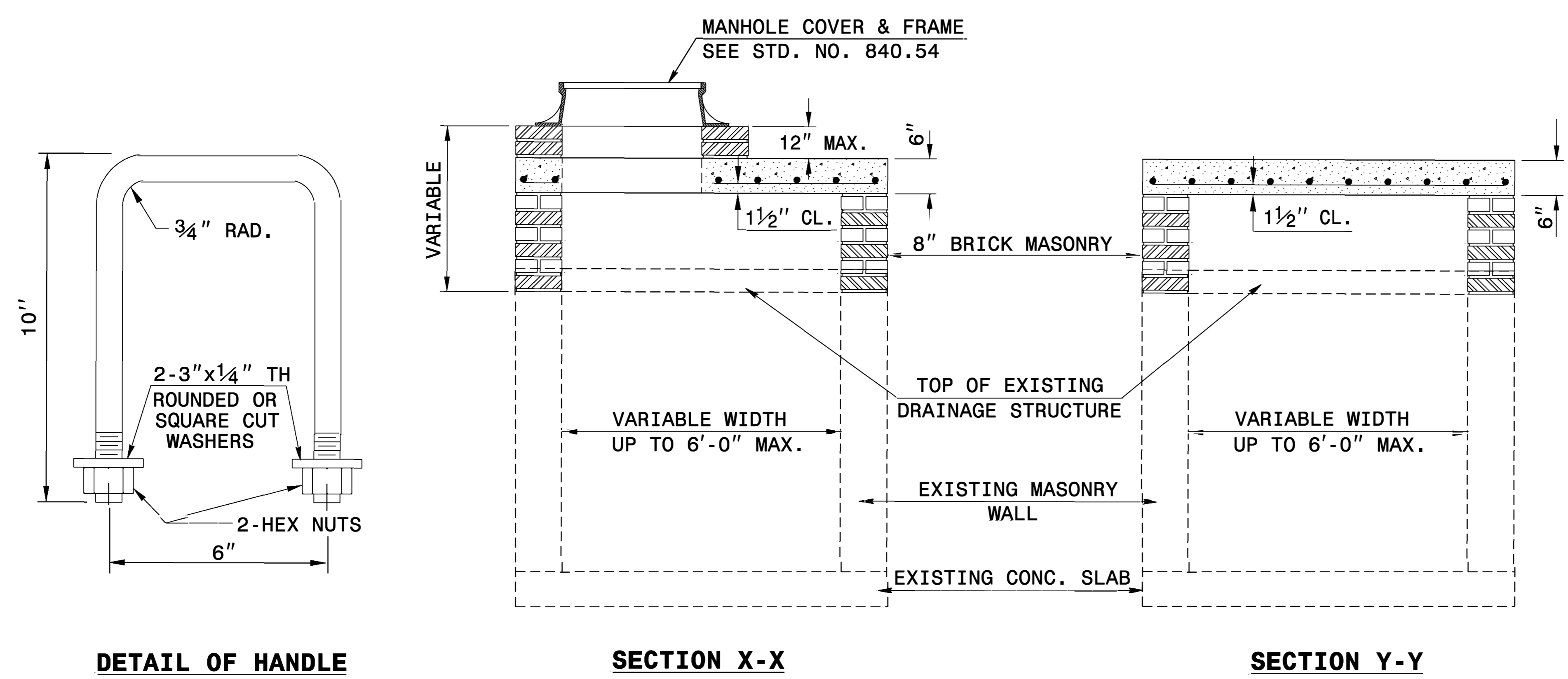
**GENERAL NOTES:**

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

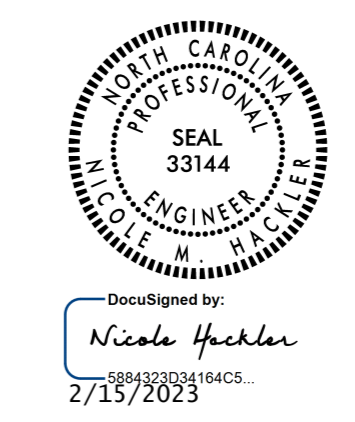
THE DIMENSIONS FOR THE EXISTING BOXES ARE APPROXIMATE AND MAY VARY SLIGHTLY.

DETAIL INTENDED FOR NON-TRAFFIC BEARING DRAINAGE STRUCTURES.

BILL OF MATERIALS				
REINFORCING STEEL				
CODE	SIZE	QTY.	LENGTH	REINF. STEEL LBS.
A	#4	20	4'-6"	60.12
B	#4	8	1'-1"	5.79
TOTAL				65.91 *
MASONRY				CU YDS
TOP SLAB CONCRETE CLASS "B"				.4326 *
BRICK MASONRY PER FT HT (MIN)				.4111



**\* NOTE:**  
QUANTITIES BASED ON 3'-6" X 3'-6" DRAINAGE STRUCTURE. ADJUST QUANTITIES FOR LARGER STRUCTURES AND MANHOLE CONSTRUCTION.



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

**DETAIL TO CONVERT EXISTING DI, CB, OTCB or GI TO JUNCTION BOX (MANHOLE OPTIONAL)**

ORIGINAL BY: T.S.S. DATE: NOV. 1997  
 MODIFIED BY: T.S.S. DATE: FEB. 2000  
 CHECKED BY: DATE:  
 FILE SPEC.: ds174:/usr/details/stand/boxtojbe.dgn

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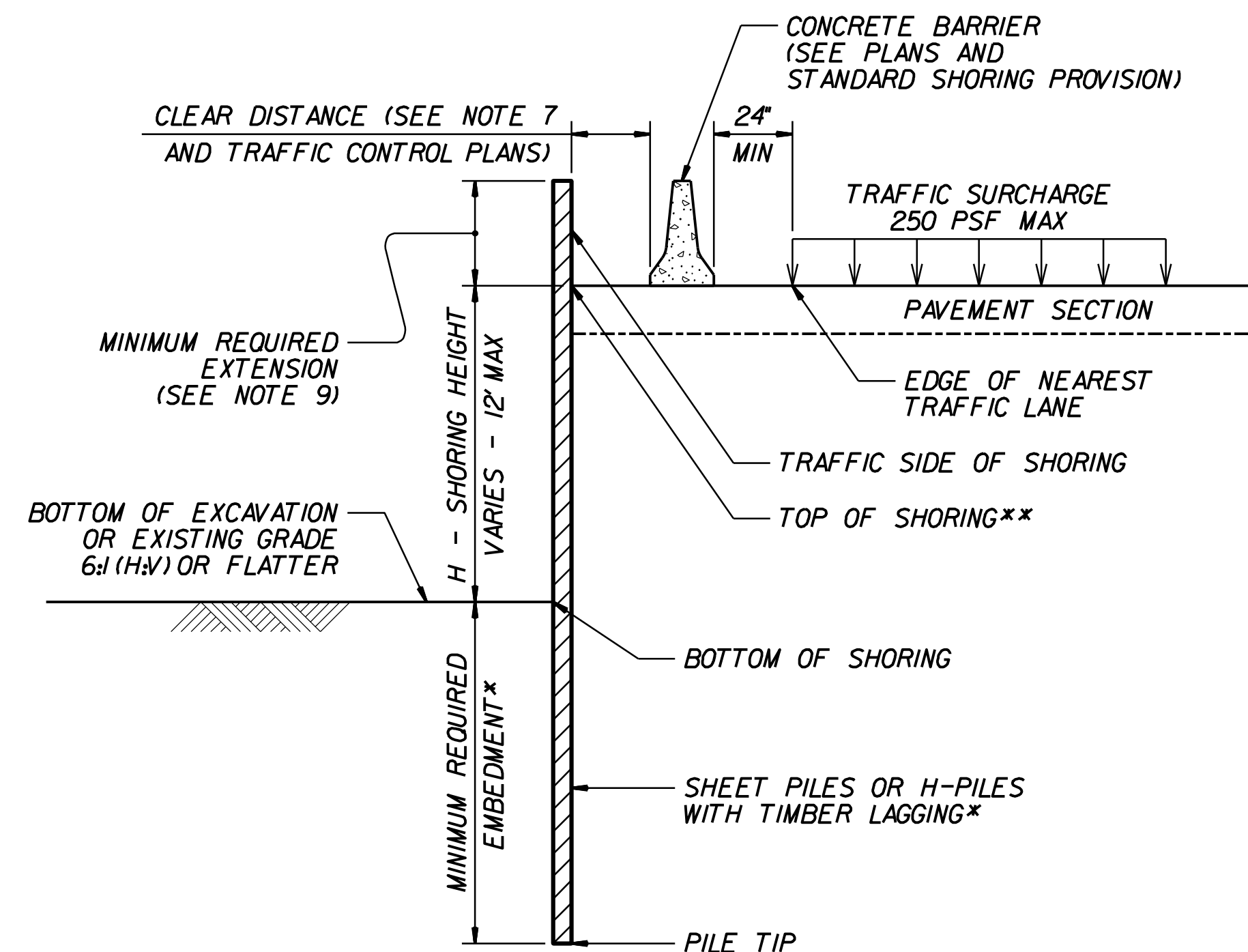
GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H-PILES WITH TIMBER LAGGING			SHEET PILES		H-PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN <sup>3</sup> /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)			MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN <sup>3</sup> /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)		
			HP 10x42	HP 12x53	HP 14x73			HP 10x42	HP 12x53	HP 14x73	
GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5
	8	15.0	10.0	--	15.0	15.0	18.0	17.0	--	15.5	15.5
	9	17.0	14.0	--	17.0	17.0	19.0	20.0	--	17.0	17.0
	10	18.5	19.5	--	--	18.5	20.0	23.5	--	--	18.5
	11	20.5	26.0	--	--	--	21.0	28.0	--	--	20.0
12	22.5	33.0	--	--	--	22.0	33.0	--	--	21.5	
GROUNDWATER ELEVATION BELOW PILE TIP	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5
	9	11.0	9.5	--	12.0	12.0	13.5	16.5	--	12.5	12.5
	10	12.5	13.0	--	--	13.5	14.0	19.5	--	13.5	13.5
	11	13.5	17.0	--	--	14.5	15.0	22.5	--	--	14.5
12	15.0	21.5	--	--	16.0	16.0	25.5	--	--	15.5	

**NOTES:**

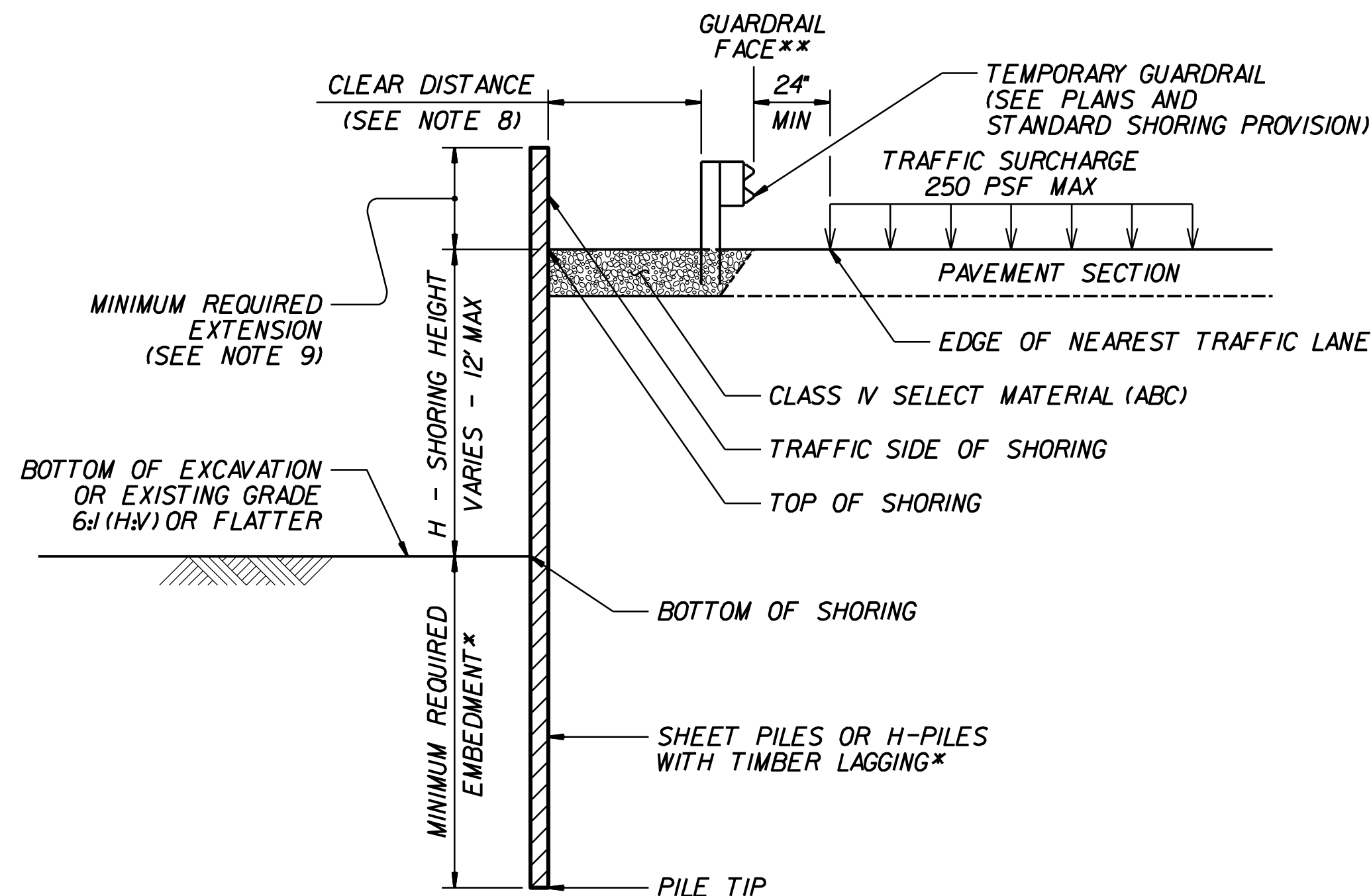
- AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
- FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
- STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:  
 UNIT WEIGHT,  $\gamma = 120$  PCF  
 FRICTION ANGLE,  $\phi = 30$  DEGREES  
 COHESION,  $c = 0$  PSF
- DO NOT USE STANDARD TEMPORARY SHORING IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
- DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS WITHIN THE EMBEDMENT DEPTH.
- USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, USE "GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP" FOR GROUNDWATER CONDITION. DO NOT USE STANDARD TEMPORARY SHORING IF GROUNDWATER IS ABOVE BOTTOM OF SHORING.
- AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN THE MINIMUM REQUIRED FOR CONCRETE BARRIER, SET BARRIER NEXT TO AND UP AGAINST TRAFFIC SIDE OF PILES AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
- AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN 4' FOR TEMPORARY GUARDRAIL, ATTACH GUARDRAIL TO TRAFFIC SIDE OF PILES AS SHOWN IN THE PLANS AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
- MINIMUM REQUIRED EXTENSION IS 6' FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32' FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".
- MINIMUM REQUIRED EMBEDMENT FOR H-PILES WITH TIMBER LAGGING IS BASED ON DRIVEN H-PILES AT MAXIMUM 6' SPACING. AT THE CONTRACTOR'S OPTION, EMBEDMENT DEPTHS MAY BE REDUCED BY 25% FOR DRILLED-IN H-PILES.
- SUBMIT A "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY SHORING CONSTRUCTION. UP TO 3 SHORING LOCATIONS MAY BE INCLUDED ON EACH FORM. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM:  
[connect.ncdot.gov/resources/Geological/Pages/Geotech\\_Forms\\_Details.aspx](http://connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx)
- CONTACT THE ENGINEER IF PILES DO NOT ATTAIN THE MINIMUM REQUIRED EMBEDMENT.

**MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS**

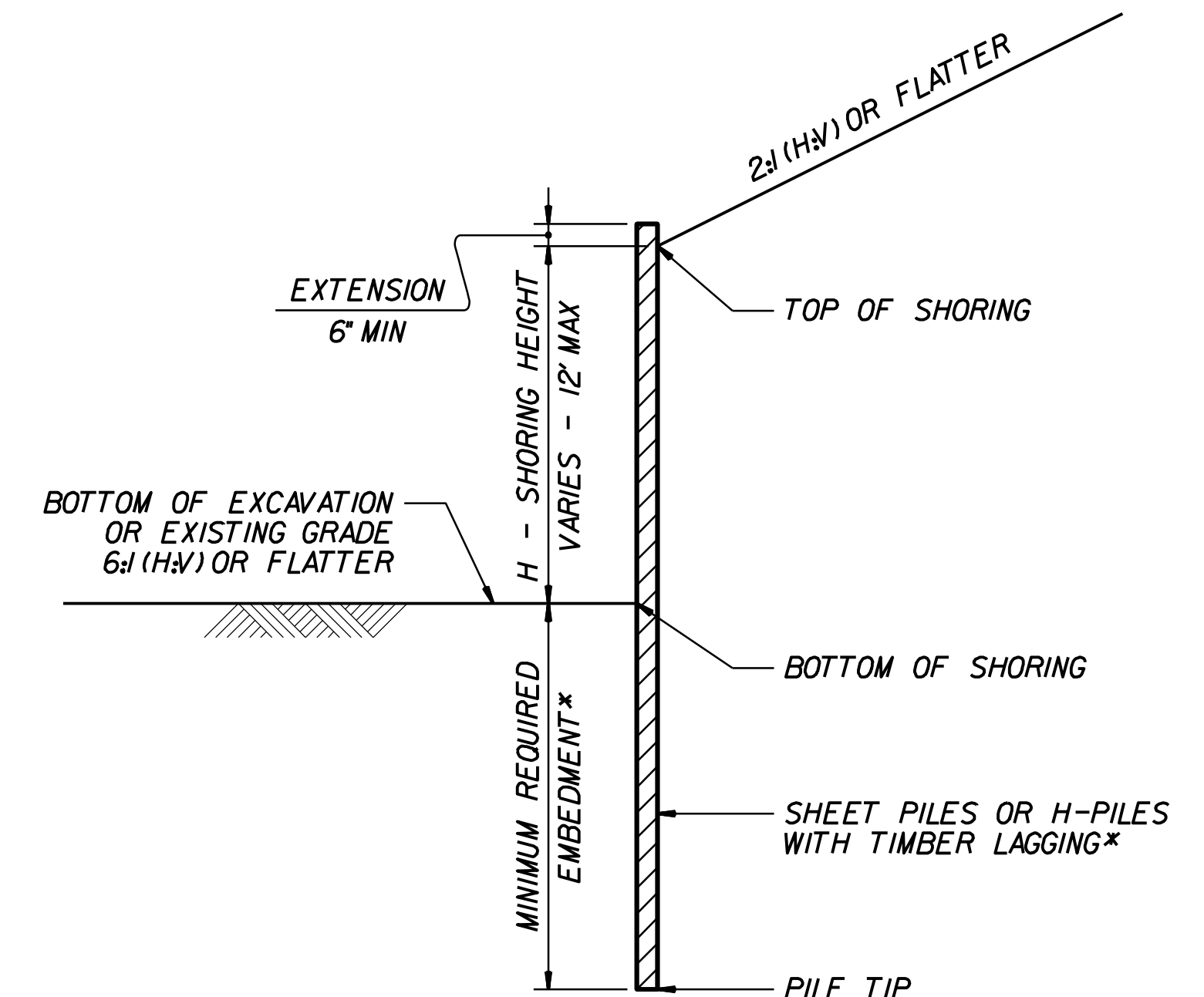
\*DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "--".



**CONCRETE BARRIER**  
 \*\*TOP OF SHORING =  
 EDGE OF PAVEMENT

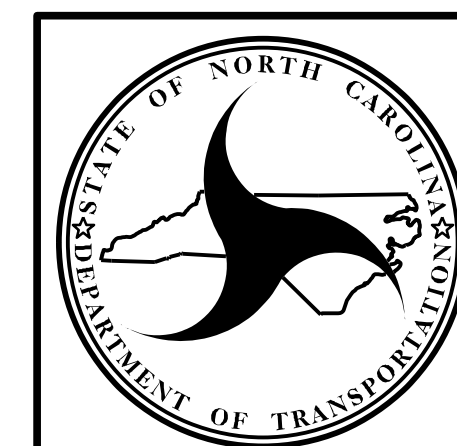


**TEMPORARY GUARDRAIL**  
 \*\*GUARDRAIL FACE =  
 EDGE OF PAVEMENT



**STANDARD TEMPORARY SHORING (SLOPE CASE)**  
 \*SEE TABLE ABOVE.

**STANDARD TEMPORARY SHORING (SURCHARGE CASE)**  
 \*SEE TABLE ABOVE.

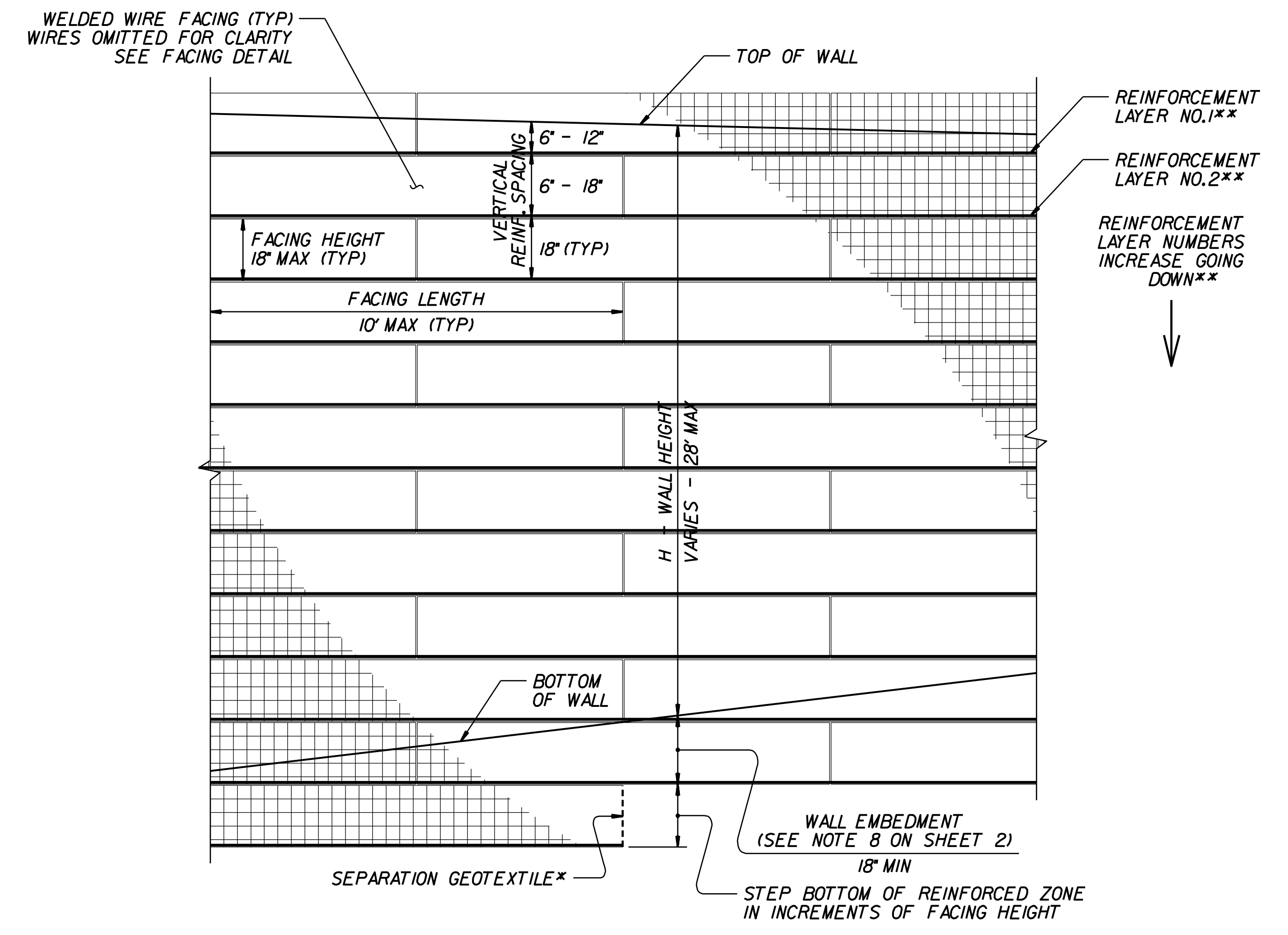
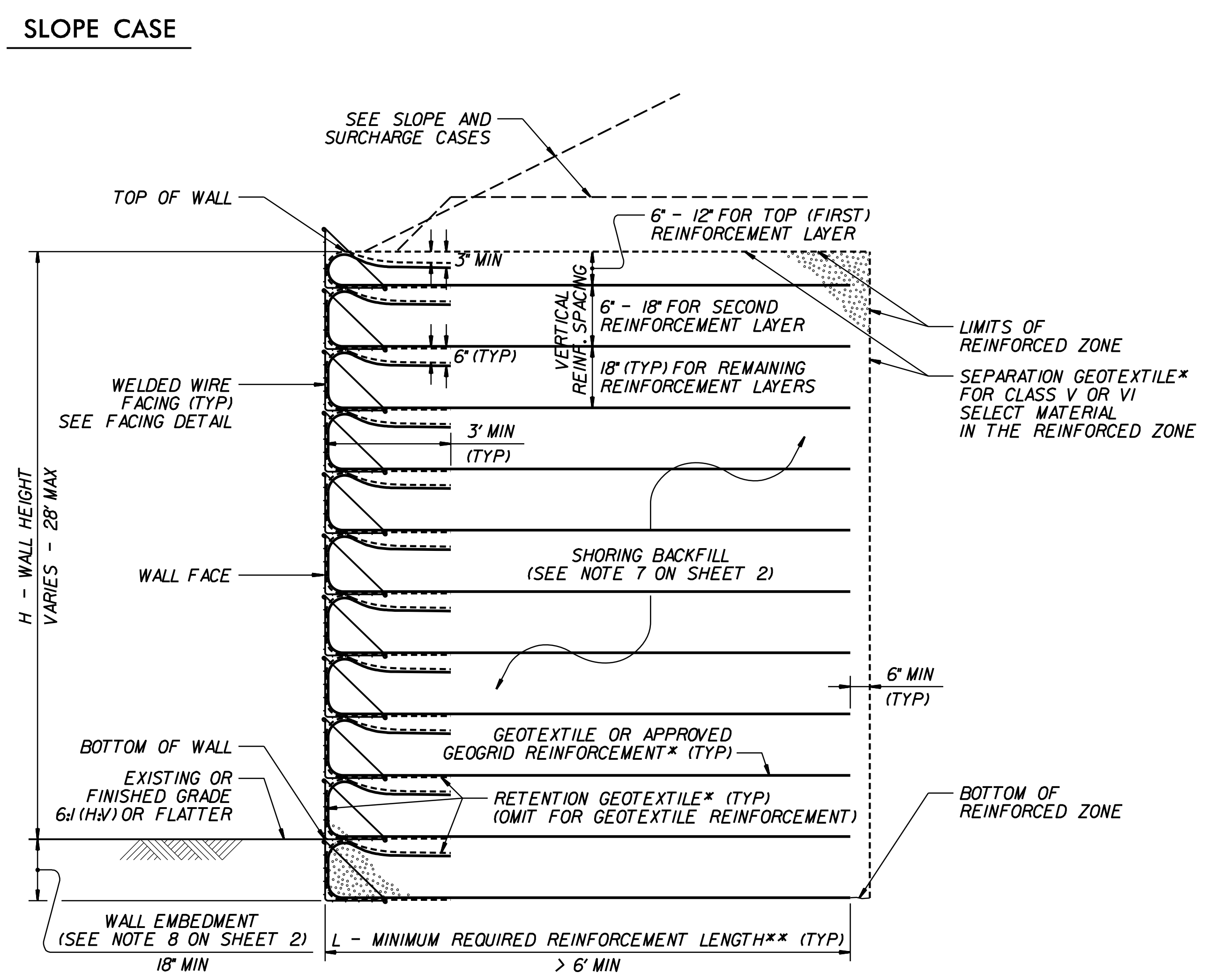
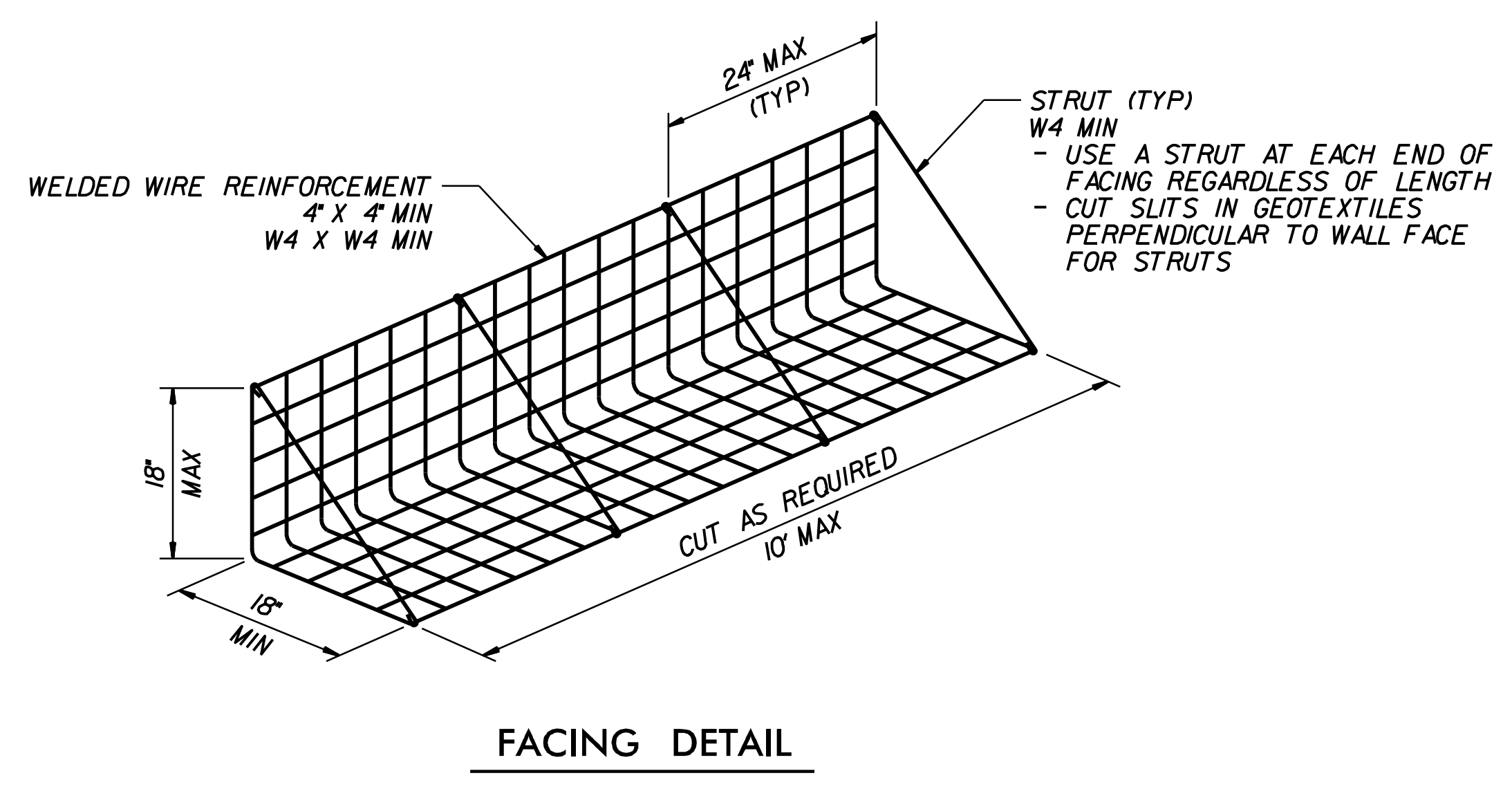
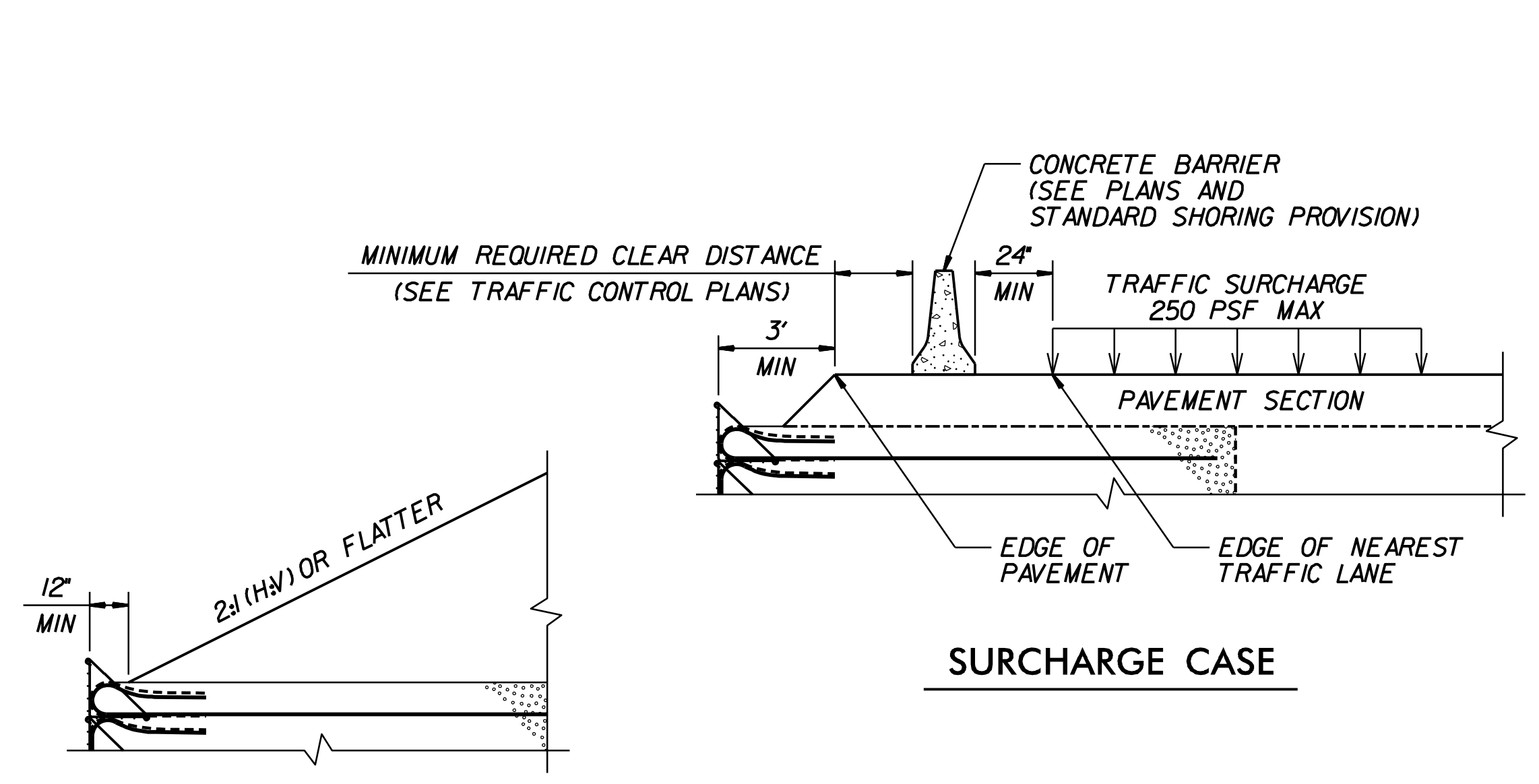


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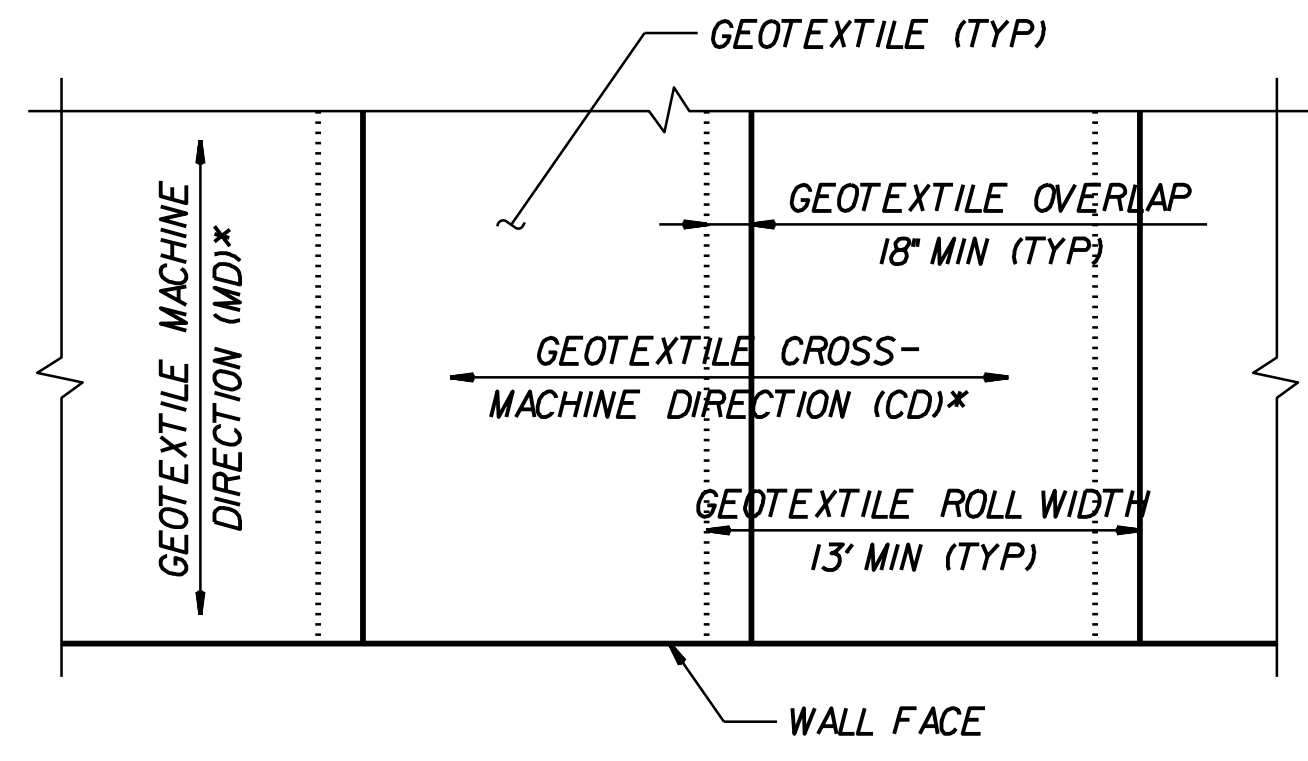
STANDARD DETAIL NO. 1801.01

STANDARD TEMPORARY SHORING

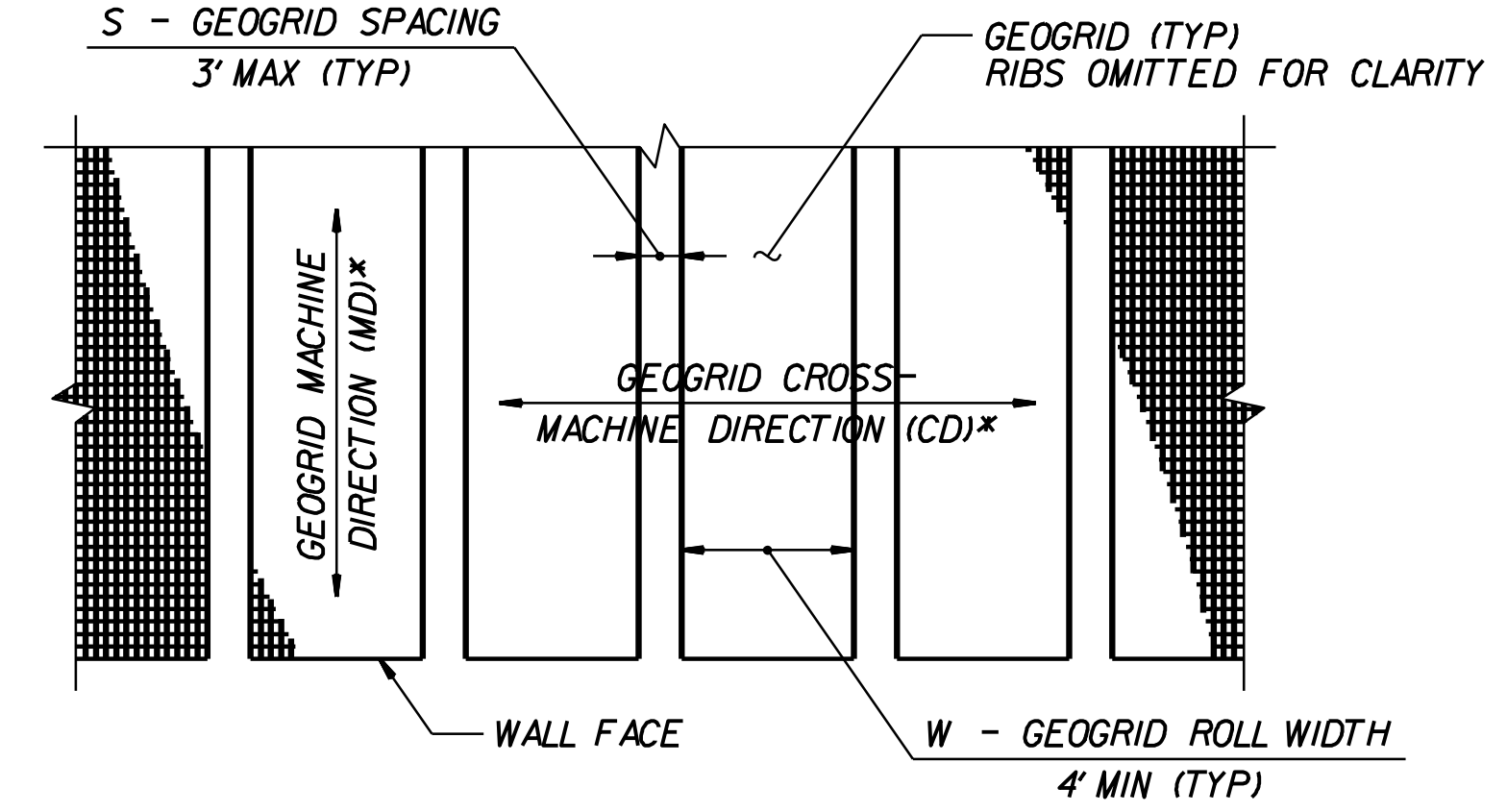






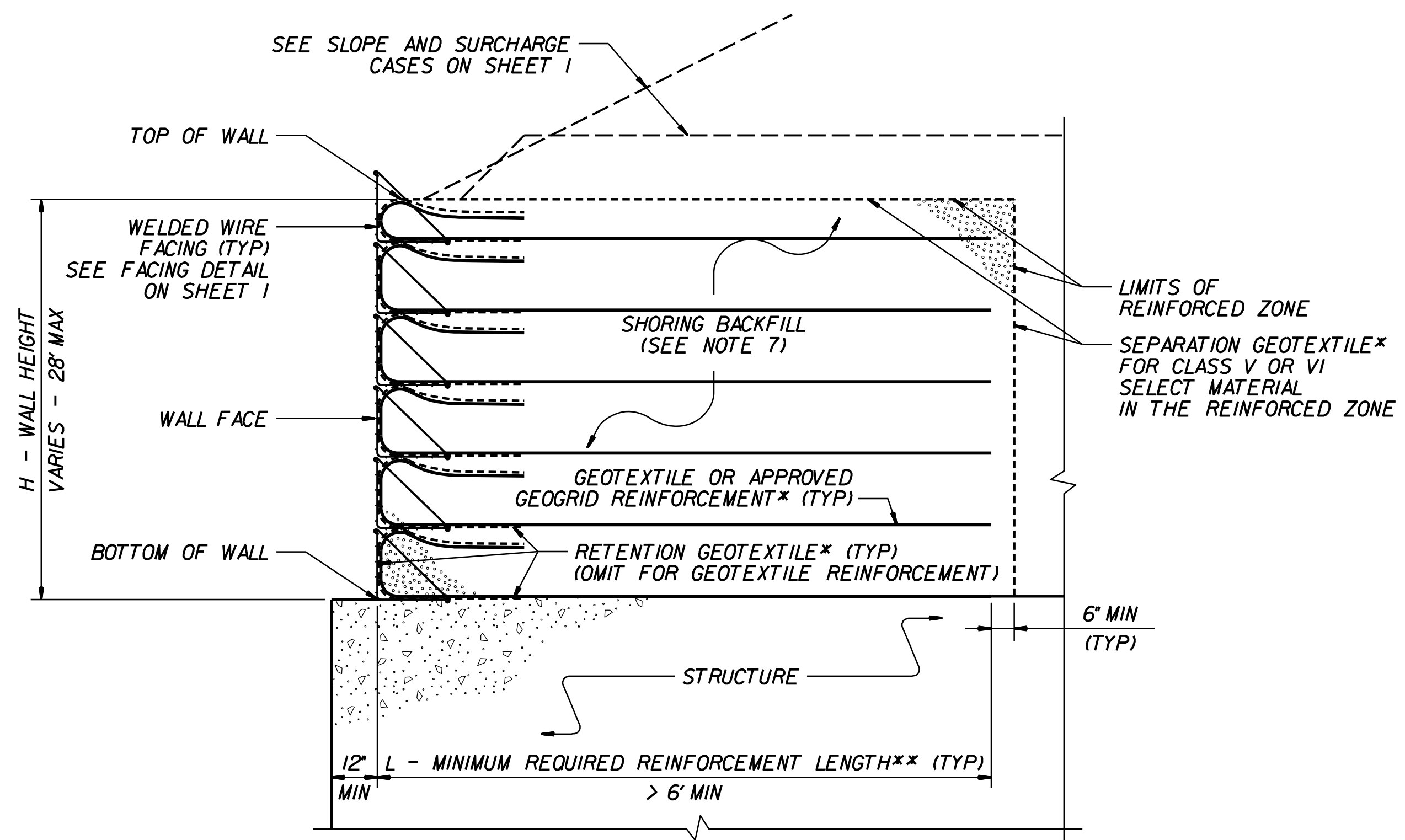


**GEOTEXTILE PLACEMENT**  
(100% COVERAGE MIN FOR GEOTEXTILE REINFORCEMENT)



**GEOGRID PLACEMENT**  
(80% COVERAGE MIN FOR GEOGRID REINFORCEMENT -  $\frac{W}{W+S} \times 100 \geq 80\%$ , SEE NOTE 11)

**GEOSYNTHETIC PLACEMENT DETAILS**  
(PLAN VIEW)  
\*SEE NOTE 12.



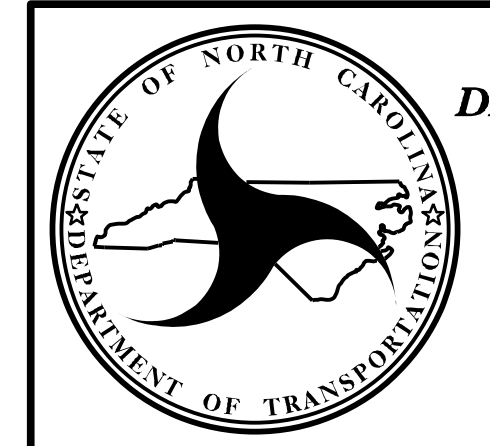
**TEMPORARY WALL ON STRUCTURE DETAIL**  
\*SEE GEOSYNTHETIC PLACEMENT DETAILS.  
\*\*SEE REINFORCEMENT TABLES ON SHEET 3.

**NOTES:**

- AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY WALLS AS NOTED IN THE PLANS.
- FOR STANDARD TEMPORARY WALLS, SEE STANDARD SHORING PROVISION.
- STANDARD TEMPORARY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:  
UNIT WEIGHT,  $\gamma = 120$  PCF  
FRICTION ANGLE,  $\phi = 30$  DEGREES  
COHESION,  $c = 0$  PSF
- DO NOT USE STANDARD TEMPORARY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
- DO NOT USE STANDARD TEMPORARY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW TEMPORARY WALLS.
- USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, ASSUME GROUNDWATER DEPTH IS LESS THAN 7' BELOW BOTTOM OF REINFORCED ZONE. DO NOT USE STANDARD TEMPORARY WALLS IF GROUNDWATER OR FLOOD ELEVATION IS ABOVE BOTTOM OF REINFORCED ZONE.
- DO NOT USE A-2-4 SOIL FOR STANDARD TEMPORARY WALLS AROUND CULVERTS OR IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS FOR SLOPE CASES. DO NOT USE CLASS VI SELECT MATERIAL IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS WITH GEOTEXTILE REINFORCEMENT.
- WALL EMBEDMENT IS NOT REQUIRED FOR STANDARD TEMPORARY WALLS ON STRUCTURES OR ROCK AS DETERMINED BY THE ENGINEER.
- DO NOT USE MORE THAN 4 DIFFERENT REINFORCEMENT STRENGTHS FOR EACH STANDARD TEMPORARY WALL.
- GEOGRIDS FOR GEOGRID REINFORCEMENT ARE APPROVED FOR SHORT TERM DESIGN STRENGTHS (3-YEAR DESIGN LIFE) IN THE MD AND CD BASED ON MATERIAL TYPE. THE LIST OF APPROVED GEOGRIDS WITH DESIGN STRENGTHS IS AVAILABLE FROM: [connect.ncdot.gov/resources/Geological/Pages/Products.aspx](http://connect.ncdot.gov/resources/Geological/Pages/Products.aspx) DEFINE MATERIAL TYPE FROM THE WEBSITE ABOVE FOR SHORING BACKFILL AS FOLLOWS:

MATERIAL TYPE	SHORING BACKFILL
BORROW	A-2-4 SOIL
FINE AGGREGATE	CLASS II, TYPE I OR CLASS III SELECT MATERIAL
COARSE AGGREGATE	CLASS V OR VI SELECT MATERIAL

- FOR GEOGRID REINFORCEMENT WITH LESS THAN 100% COVERAGE, STAGGER REINFORCEMENT SO GEOGRIDS ARE CENTERED OVER GAPS IN THE REINFORCEMENT LAYER BELOW.
- AT THE CONTRACTOR'S OPTION, REINFORCEMENT MAY BE INSTALLED WITH THE MD PARALLEL TO THE WALL FACE IF BOTH OF THE FOLLOWING CONDITIONS OCCUR:  
- W (REINFORCEMENT ROLL WIDTH)  $\geq$  (MINIMUM REQUIRED REINFORCEMENT LENGTH) + 4.5' AND  
- REINFORCEMENT STRENGTH IN CD  $\geq$  MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD.
- SUBMIT A "STANDARD TEMPORARY WALL SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY WALL CONSTRUCTION. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM: [connect.ncdot.gov/resources/Geological/Pages/Geotech\\_Forms\\_Details.aspx](http://connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx)
- DO NOT PLACE SHORING BACKFILL OR REINFORCEMENT UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
- FOR STANDARD TEMPORARY WALLS WITH PILE FOUNDATIONS IN THE REINFORCED ZONE, DRIVE PILES THROUGH REINFORCEMENT AFTER CONSTRUCTING TEMPORARY WALLS.
- DO NOT SPLICE OR OVERLAP REINFORCEMENT SO SEAMS ARE PARALLEL TO THE WALL FACE.
- CONTACT THE ENGINEER WHEN EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT.
- FOR STANDARD TEMPORARY WALLS WITH INTERIOR ANGLES LESS THAN 90 DEGREES, WRAP GEOSYNTHETICS AT ACUTE CORNERS AS DIRECTED BY THE ENGINEER.
- FOR STANDARD TEMPORARY WALLS WITH TOP OF WALL WITHIN 5' OF FINISHED GRADE, REMOVE TOP FACING AND INCORPORATE TOP REINFORCEMENT LAYER INTO FILL WHEN PLACING FILL IN FRONT OF WALL.




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STANDARD DETAIL NO. 1801.02

STANDARD  
TEMPORARY WALL  
SHEET 2 OF 3



<b>PROJECT REFERENCE NO.</b> BR-0043	<b>SHEET NO.</b> 2G-4
GEOTECHNICAL ENGINEER  SEAL 022246 SCOTT A. HIDDEN ENGINEER	ENGINEER
DocuSigned by: Scott A. Hidden 01/26/2023 F78042E28E6A84 SIGNATURE DATE	SIGNATURE DATE
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

SLOPE OR SURCHARGE CASE	GROUNDWATER DEPTH BELOW BOTTOM OF REINFORCED ZONE (SEE NOTE 6 ON SHEET 2) (FT)	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)	H - WALL HEIGHT (FT)																									
			< 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
SLOPE CASE	> 0	CLASS II, TYPE I, CLASS III, CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	8	9	11	12	13	13	14	15	16	17	18	19	20	21	22	23	24	24	25	26	27	27	
SURCHARGE CASE	> 0 TO 7 FOR H < 20' > 0 TO 10 FOR H ≥ 20'	ALL SHORING BACKFILL TYPES	6	7	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	17	17	18	19	19	20	21	22	
		A-2-4 SOIL	6	6	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	16	17	18	18	19	20	20	21	
		CLASS II, TYPE I OR CLASS III SELECT MATERIAL	6	6	7	7	8	8	9	10	10	11	11	12	12	13	14	15	15	16	16	17	17	18	18	19	20	
	> 7 FOR H < 20' > 10 FOR H ≥ 20'	CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	7	7	8	8	9	9	10	10	11	12	13	13	14	14	15	15	16	17	17	18	19	19	

**L - MINIMUM REQUIRED REINFORCEMENT LENGTH (FT)**  
(FOR ALL REINFORCEMENT TYPES)

WALL HEIGHT (H) + WALL EMBEDMENT (FT)	NUMBER OF REINFORCEMENT LAYERS*
2.5 - 4	3
4 - 5.5	4
5.5 - 7	5
7 - 8.5	6
8.5 - 10	7
10 - 11.5	8
11.5 - 13	9
13 - 14.5	10
14.5 - 16	11
16 - 17.5	12
17.5 - 19	13
19 - 20.5	14
20.5 - 22	15
22 - 23.5	16
23.5 - 25	17
25 - 26.5	18
26.5 - 28	19
28 - 29.5	20

\*BASED ON VERTICAL REINFORCEMENT SPACING SHOWN ON SHEET 1.

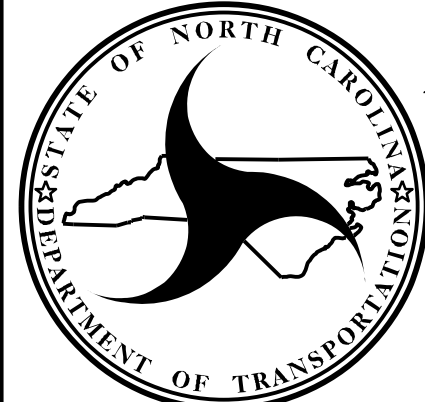
REINFORCEMENT LAYER NUMBER*	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)				
	SLOPE CASE		SURCHARGE CASE		
	CLASS II, TYPE I OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE I OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL
1	2400	2400	2400	2400	2400
2	2400	2400	2400	2400	2400
3	2400	2400	2400	2400	2400
4	2400	2400	2500	2400	2400
5	2500	2400	3000	2400	2400
6	3000	2400	3500	2800	2400
7	3500	2700	4000	3200	2600
8	4000	3100	4500	3600	2900
9	4500	3500	5000	4000	3200
10	5000	3900	5500	4400	3500
11	5500	4300	6000	4800	3800
12	6000	4700	6500	5200	4100
13	6500	5100	7000	5600	4400
14	7000	5400	7500	6000	4700
15	7500	5800	8000	6400	5000
16	8000	6200	8500	6800	5300
17	8500	6600	9000	7200	5600
18	9000	7000	9500	7600	5900
19	9500	7400	10000	8000	6200
20	10000	7800	10500	8400	6500

GEOTEXTILE REINFORCEMENT  
ULTIMATE TENSILE STRENGTH (LB/FT)

REINFORCEMENT LAYER NUMBER*	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)				
	SLOPE CASE		SURCHARGE CASE		
	CLASS II, TYPE I OR CLASS III SELECT MATERIAL	CLASS V OR CLASS VI SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE I OR CLASS III SELECT MATERIAL	CLASS V OR CLASS VI SELECT MATERIAL
1	240	200	340	290	240
2	380	310	520	430	350
3	530	420	700	570	460
4	690	550	870	720	570
5	860	690	1050	860	680
6	1030	830	1220	1000	790
7	1200	970	1400	1150	900
8	1370	1110	1580	1290	1010
9	1550	1240	1750	1430	1120
10	1720	1380	1930	1580	1230
11	1890	1520	2100	1720	1340
12	2060	1660	2280	1860	1450
13	2240	1800	2450	2010	1560
14	2410	1940	2630	2150	1670
15	2580	2080	2800	2290	1780
16	2750	2220	2980	2440	1890
17	2930	2360	3160	2580	2000
18	3100	2500	3330	2720	2110
19	3270	2640	3510	2860	2220
20	3440	2780	3690	3000	2330

GEOGRID REINFORCEMENT  
SHORT-TERM DESIGN STRENGTH (LB/FT)  
(SEE NOTE 10 ON SHEET 2.)

**MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD**  
(SEE NOTE 9 ON SHEET 2.)  
\*SEE PARTIAL ELEVATION ON SHEET 1 FOR REINFORCEMENT LAYER NUMBERING.



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**GEOTECHNICAL  
ENGINEERING UNIT**

STANDARD DETAIL NO. 1801.02

STANDARD  
TEMPORARY WALL  
SHEET 3 OF 3

DATE: 11-19-13







COMPUTED BY: \_\_\_\_\_ CW \_\_\_\_\_ DATE: 3/22/2022  
 CHECKED BY: \_\_\_\_\_ WPA \_\_\_\_\_ DATE: 3/22/2022

(12-17-19)

PROJECT NO.  
BR-0043

SHEET NO.  
3G-1

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	200
				<b>TOTAL LF:</b>	200

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

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	
-L-	20+25	23+25	1		130	260	400			
-L-	29+25	39+06.56	1		500	1290	2040			
-RPB	20+90	22+75	1		90	170	270			
CONTINGENCY					100	150	700			
					<b>TOTAL CY/TONS/SY:</b>	820	1870**	3410**	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.

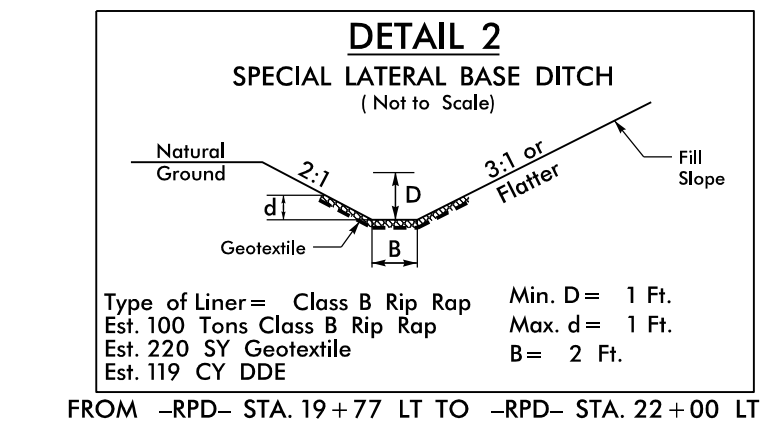
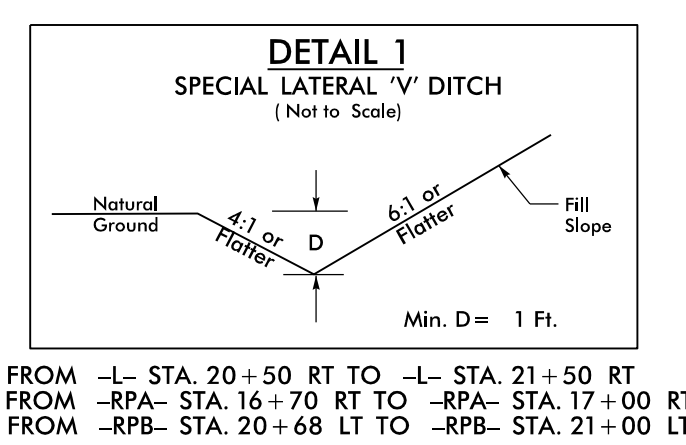
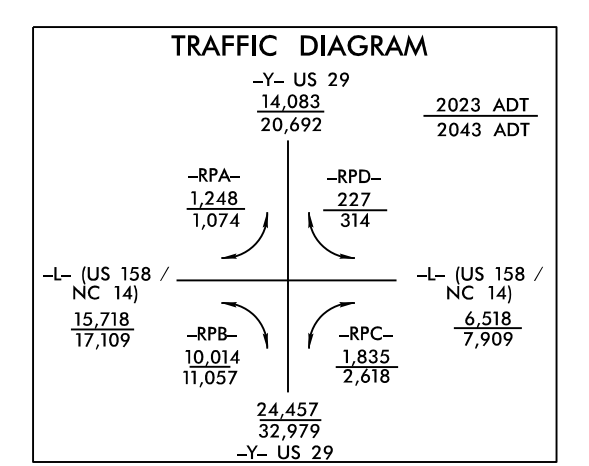
SUMMARY OF BRIDGE WAITING PERIODS

Bridge Description	End Bent/ Bent No.	MONTHS
Bridge 780151 on US 158 / NC 14 over US 29	End Bent 1	1
Bridge 780151 on US 158 / NC 14 over US 29	End Bent 2	1





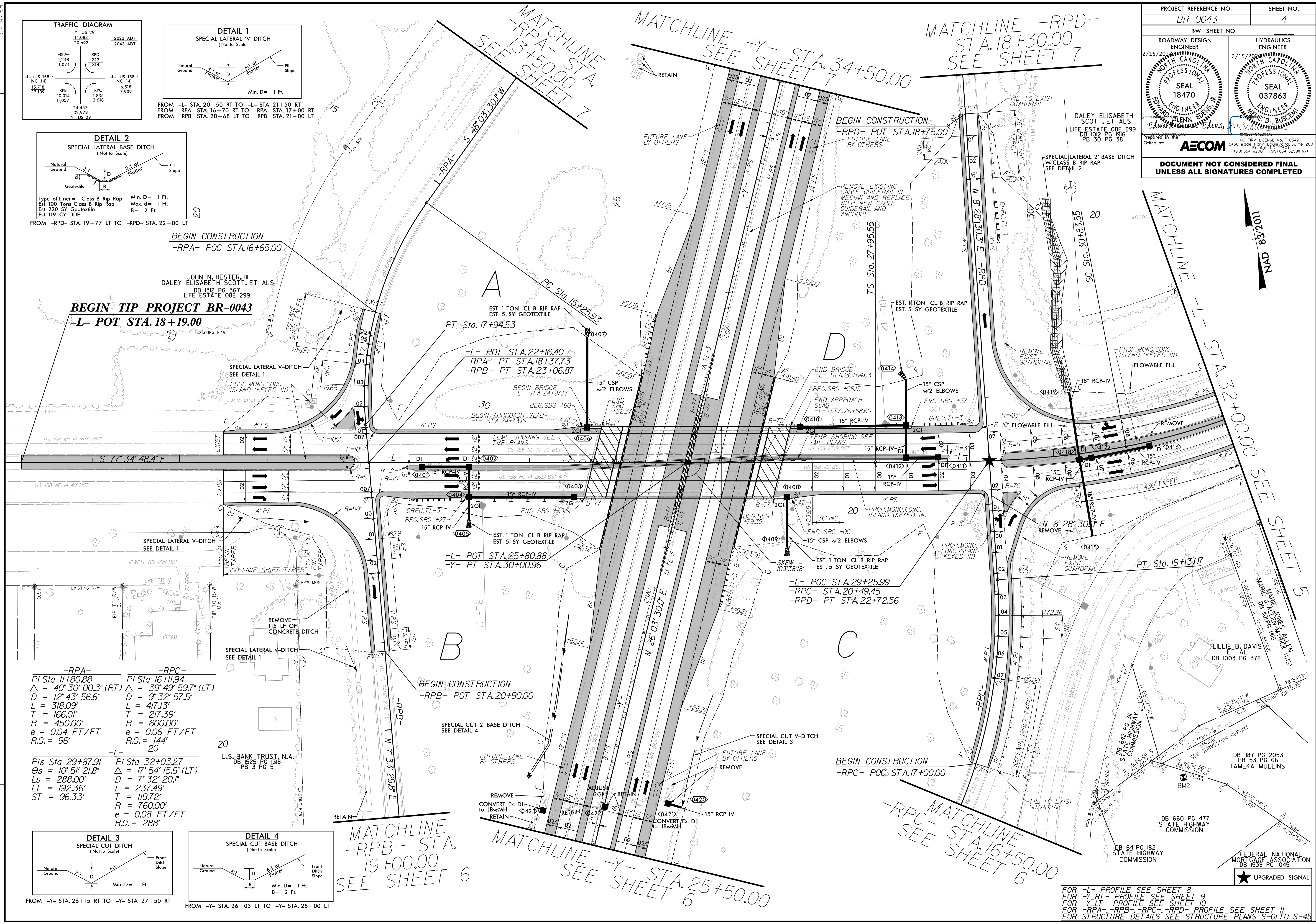
PROJECT REFERENCE NO. BR-0043		SHEET NO. 4	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
2/15/2023		2/15/2023	
DALEY ELISABETH SCOTT, ET ALS LIFE ESTATE OBE 299 DB 1012 PG 1916 PB 30 PG 38		DALEY ELISABETH SCOTT, ET ALS LIFE ESTATE OBE 299 DB 1012 PG 1916 PB 30 PG 38	
Prepared in the Office of:		NC FIRM LICENSE No. F-0342 5438 Wade Park Boulevard, Suite 200 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)	
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BEGIN CONSTRUCTION  
-RPA- POC STA. 16+65.00

JOHN N. HESTER, III  
DALEY ELISABETH SCOTT, ET ALS  
DB 1312 PG 367  
LIFE ESTATE OBE 299

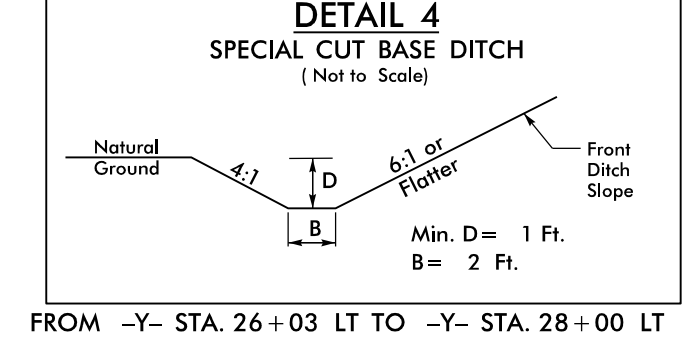
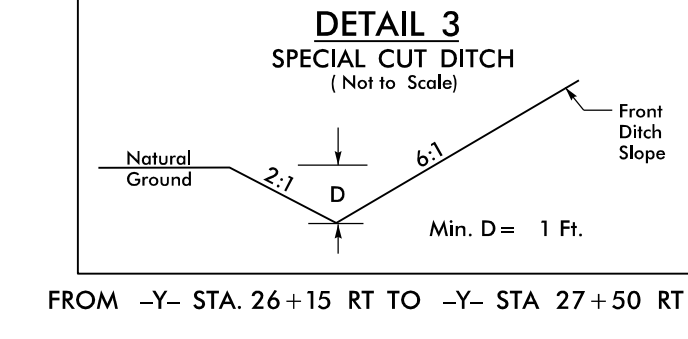
BEGIN TIP PROJECT BR-0043  
-L- POT STA. 18+19.00



-RPA-	-RPC-
PI Sta 11+80.88	PI Sta 16+11.94
$\Delta = 40^\circ 30' 00.3''$ (RT)	$\Delta = 39^\circ 49' 59.7''$ (LT)
D = 12' 43" 56.6"	D = 9' 32" 57.5"
L = 318.09'	L = 417.13'
T = 166.01'	T = 217.39'
R = 450.00'	R = 600.00'
e = 0.04 FT/FT	e = 0.06 FT/FT
R.O. = 144'	R.O. = 144'

-L-	-RPA-
PIs Sta 29+87.91	PI Sta 32+03.27
$\Delta = 10^\circ 51' 21.8''$	$\Delta = 17^\circ 54' 15.6''$ (LT)
Ls = 288.00'	D = 7' 32" 20.1"
LT = 192.36'	L = 237.49'
ST = 96.33'	T = 119.72'
	R = 760.00'
	e = 0.08 FT/FT
	R.O. = 288'

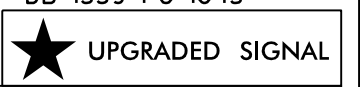


MATCHLINE -RPB- STA. 19+00.00  
SEE SHEET 6

MATCHLINE -Y- STA. 25+50.00  
SEE SHEET 6

MATCHLINE -RPC- STA. 16+50.00  
SEE SHEET 6

FOR -L- PROFILE SEE SHEET 8  
FOR -Y- RT- PROFILE SEE SHEET 9  
FOR -Y- LT- PROFILE SEE SHEET 10  
FOR -RPA-, -RPB-, -RPC-, -RPD- PROFILE SEE SHEET 11  
FOR STRUCTURE DETAILS SEE STRUCTURE PLANS S-01 TO S-45



REVISIONS

NAD 83/2011



5/14/99

PROJECT REFERENCE NO. <i>BR-0043</i>		SHEET NO. <i>5</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER 2/15/2023 NORTH CAROLINA PROFESSIONAL SEAL 18470 EDWARD J. GLENN, EDES, JR.		HYDRAULICS ENGINEER 2/15/2023 NORTH CAROLINA PROFESSIONAL SEAL 037863 DAVID D. BUSCEMI	
Prepared in the Office of: <b>AECOM</b> NC FIRM LICENSE No: F-0342 5438 Wade Park Boulevard, Suite 200 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)			
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CLARK M. HOLT, TRUSTEE  
JOHN N. HESTER, III  
DALEY ELISABETH SCOTT, ET ALS  
DB 1291 PG 41  
LIFE ESTATE OBE 299  
PB 30 PG 38

DALEY ELISABETH SCOTT, ET ALS  
LIFE ESTATE OBE 299  
DB 1012 PG 196  
PB 30 PG 38

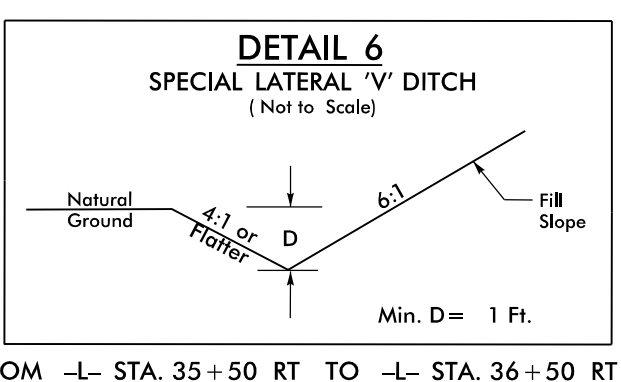
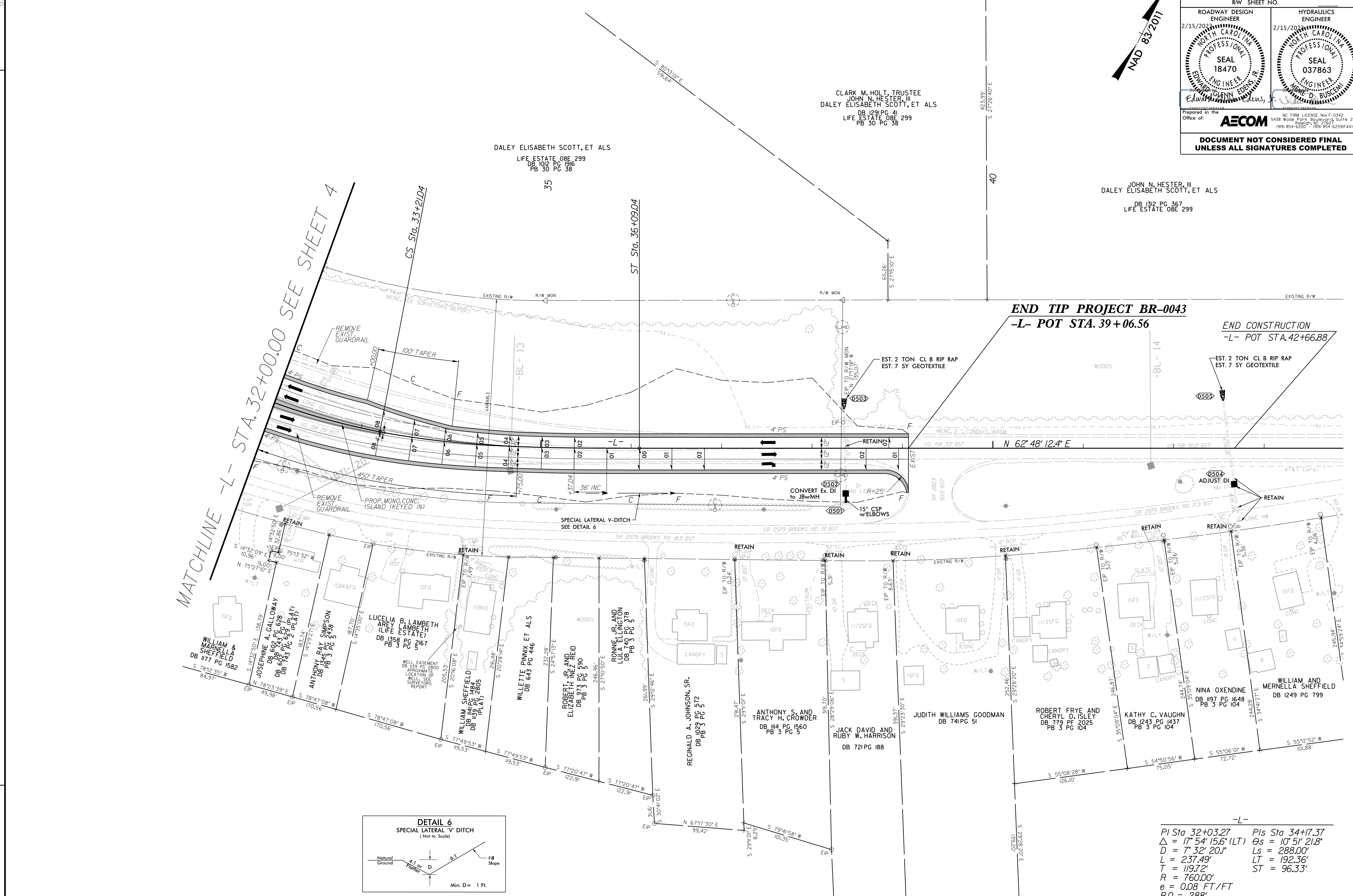
JOHN N. HESTER, III  
DALEY ELISABETH SCOTT, ET ALS  
DB 1312 PG 367  
LIFE ESTATE OBE 299

MATCHLINE -L- STA. 32+00.00 SEE SHEET 4

END TIP PROJECT BR-0043  
-L- POT STA. 39+06.56

END CONSTRUCTION  
-L- POT STA. 42+66.88

REVISIONS



-L-  
 PI Sta 32+03.27      PIs Sta 34+17.37  
 $\Delta = 17' 54'' 15.6''$  (LT)       $\Delta s = 10' 51'' 21.8''$   
 $D = 7' 32'' 20.1''$        $Ls = 288.00'$   
 $L = 237.49'$        $LT = 192.36'$   
 $T = 119.72'$        $ST = 96.33'$   
 $R = 760.00'$   
 $e = 0.08$  FT/FT  
 $R.O. = 288'$

FOR -L- PROFILE SEE SHEET 8

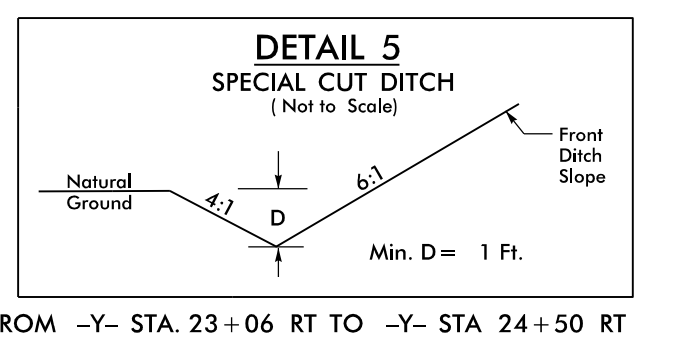
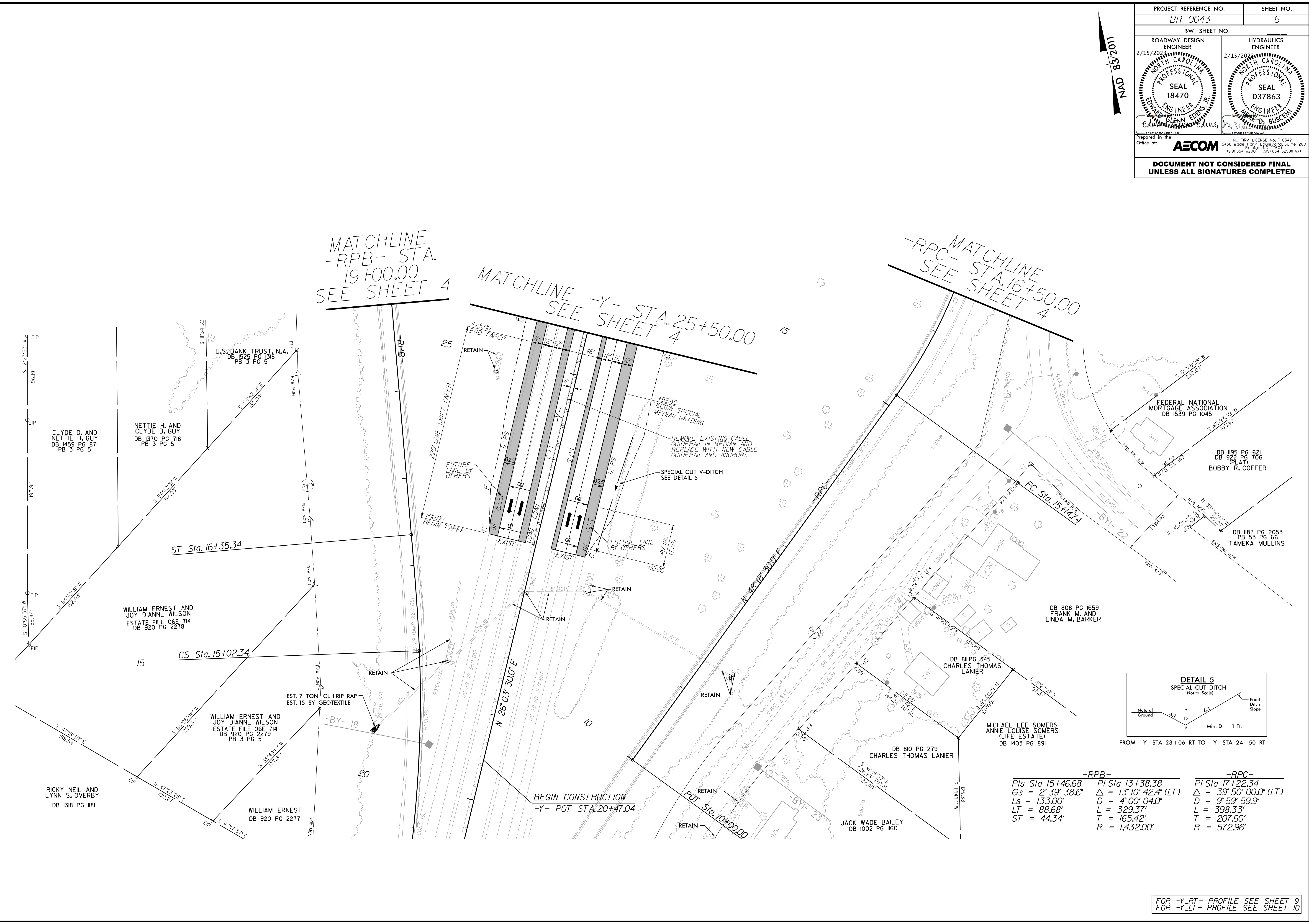


5/14/99

PROJECT REFERENCE NO. <i>BR-0043</i>		SHEET NO. <b>6</b>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER 2/15/2022 NORTH CAROLINA PROFESSIONAL SEAL 18470 EDWARD P. BLINN		HYDRAULICS ENGINEER 2/15/2022 NORTH CAROLINA PROFESSIONAL SEAL 037863 EDWARD D. BUSCEMI	
Prepared in the Office of: <b>AECOM</b> NC FIRM LICENSE No: F-0342 5438 Wade Park Boulevard, Suite 200 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)			
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NAD 83/2011

REVISIONS



-RPB-	-RPC-	-RPC-
PI Sta 15+46.68	PI Sta 13+38.38	PI Sta 17+22.34
Os = 2° 39' 38.6"	Δ = 13° 10' 42.4" (LT)	Δ = 39° 50' 00.0" (LT)
Ls = 133.00'	D = 4° 00' 04.0"	D = 9° 59' 59.9"
LT = 88.68'	L = 329.37'	L = 398.33'
ST = 44.34'	T = 165.42'	T = 207.60'
	R = 1,432.00'	R = 572.96'

FOR -Y-RT- PROFILE SEE SHEET 9  
FOR -Y-LT- PROFILE SEE SHEET 10



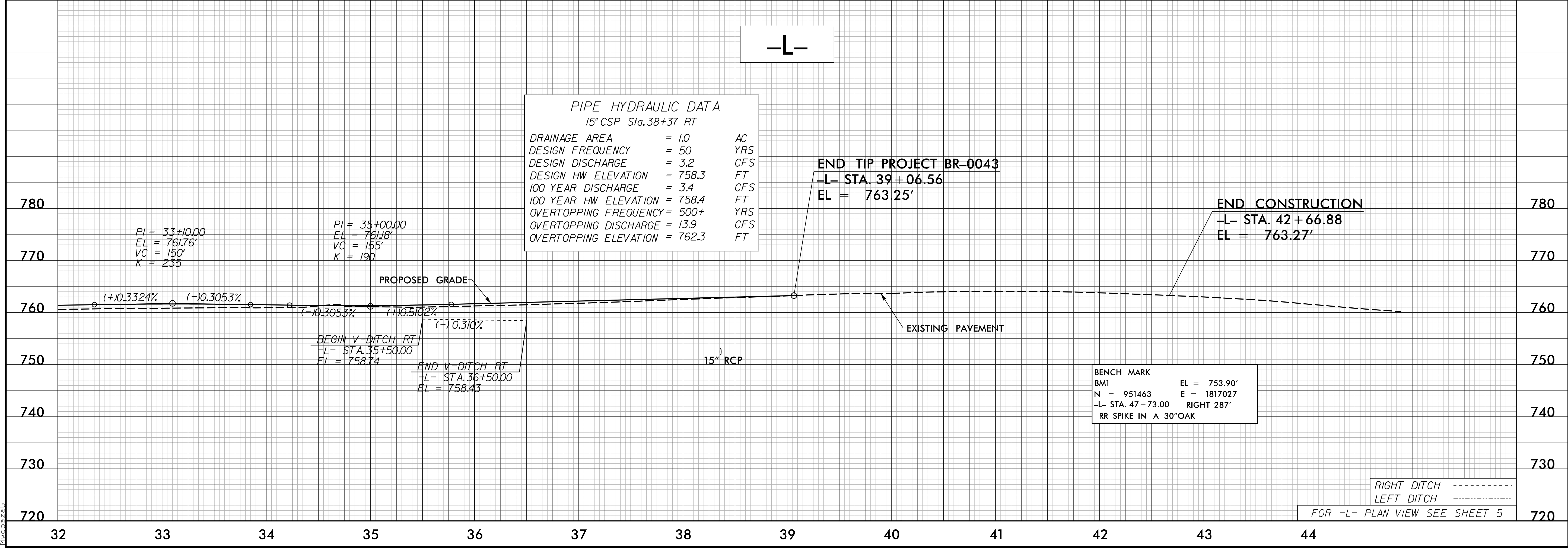
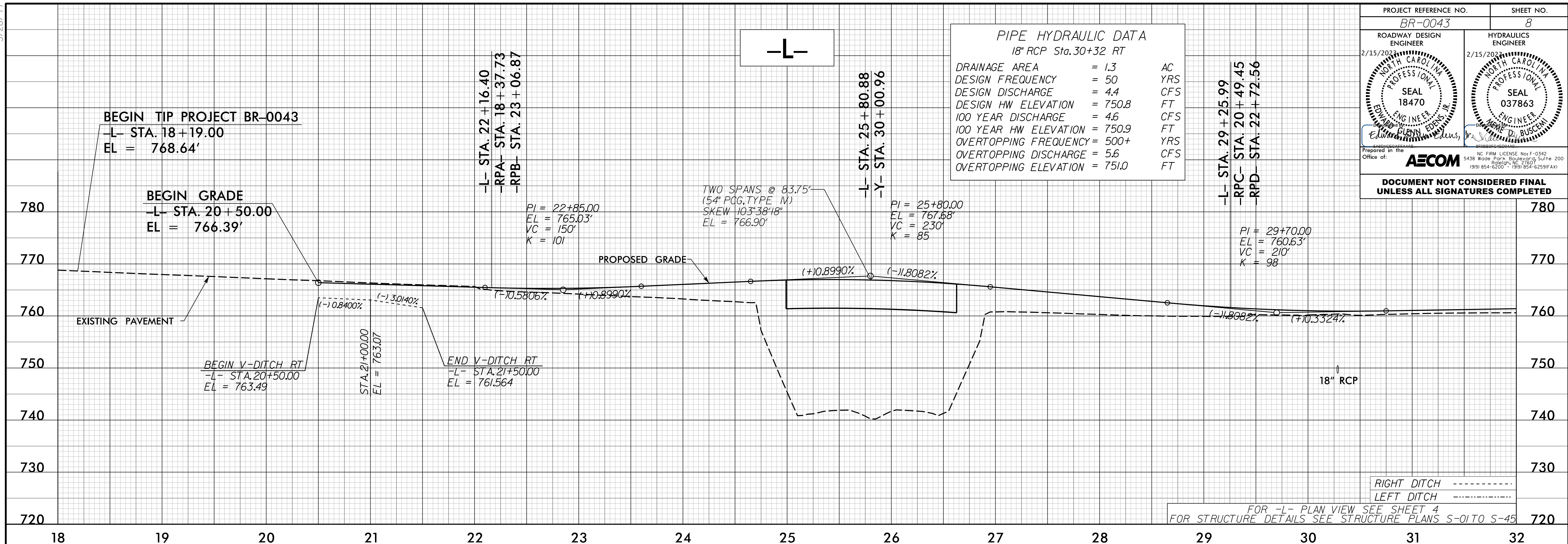




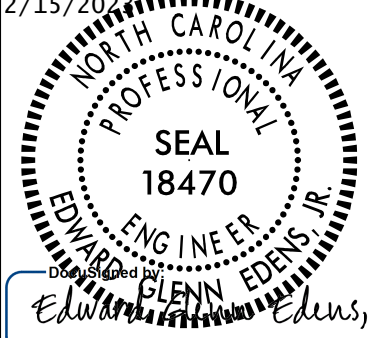
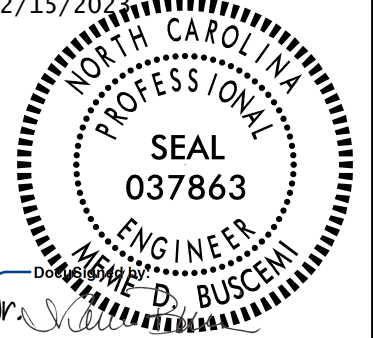
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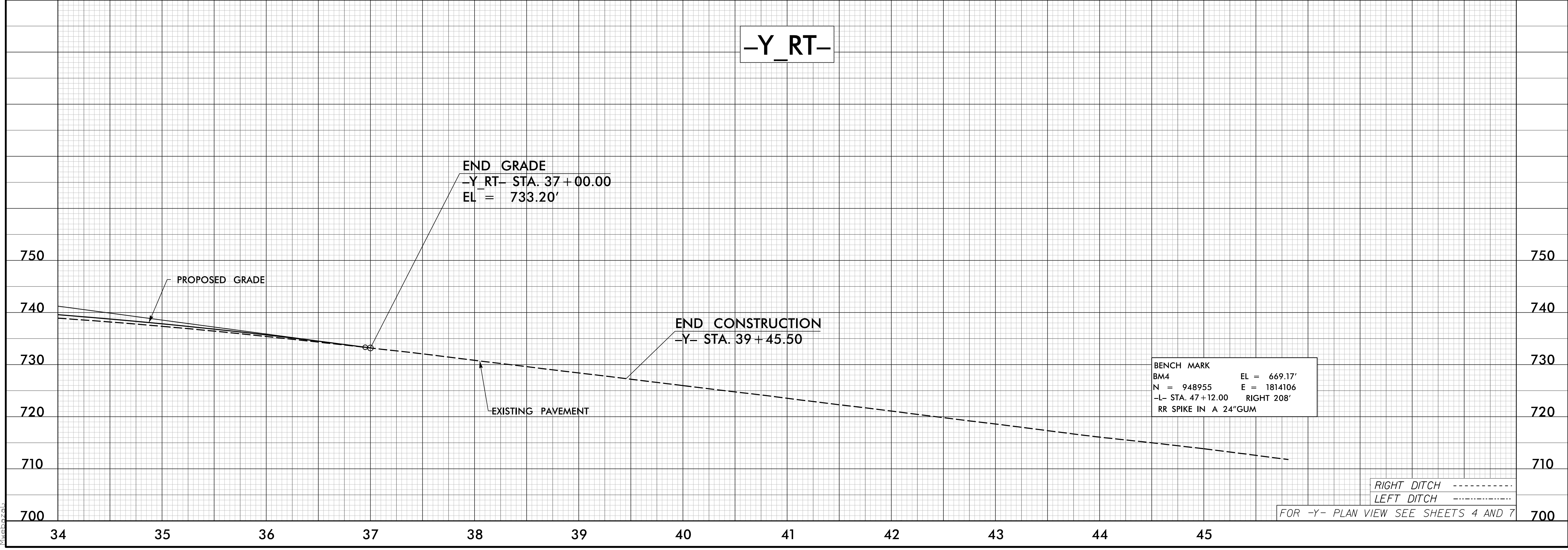
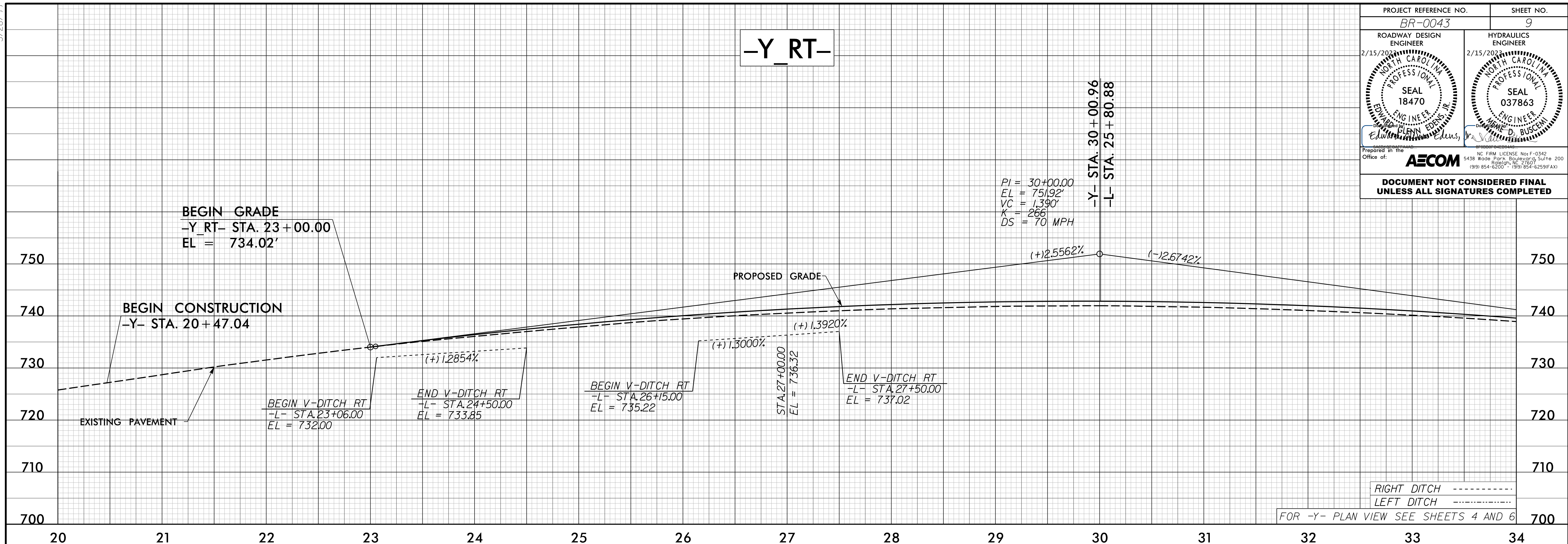
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PROJECT REFERENCE NO. <b>BR-0043</b>	SHEET NO. <b>8</b>
ROADWAY DESIGN ENGINEER 2/15/2019 	HYDRAULICS ENGINEER 2/15/2019 
<p>Prepared in the Office of:</p> <p>NC FIRM LICENSE No: F-0342 5438 Rouse St., Raleigh, NC 27607 (919) 854-6000 • (919) 854-6259 (FAX)</p>	
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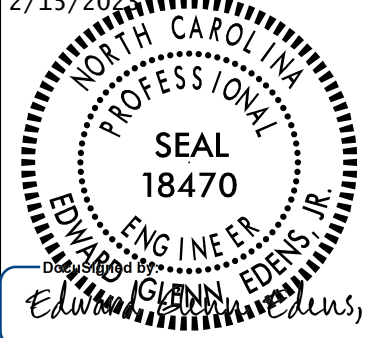
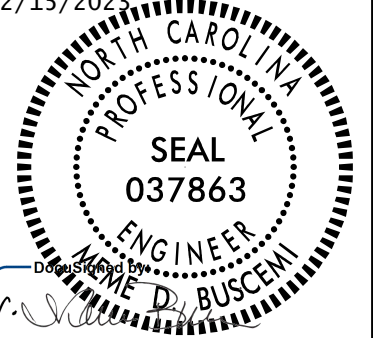
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2/6/2023  
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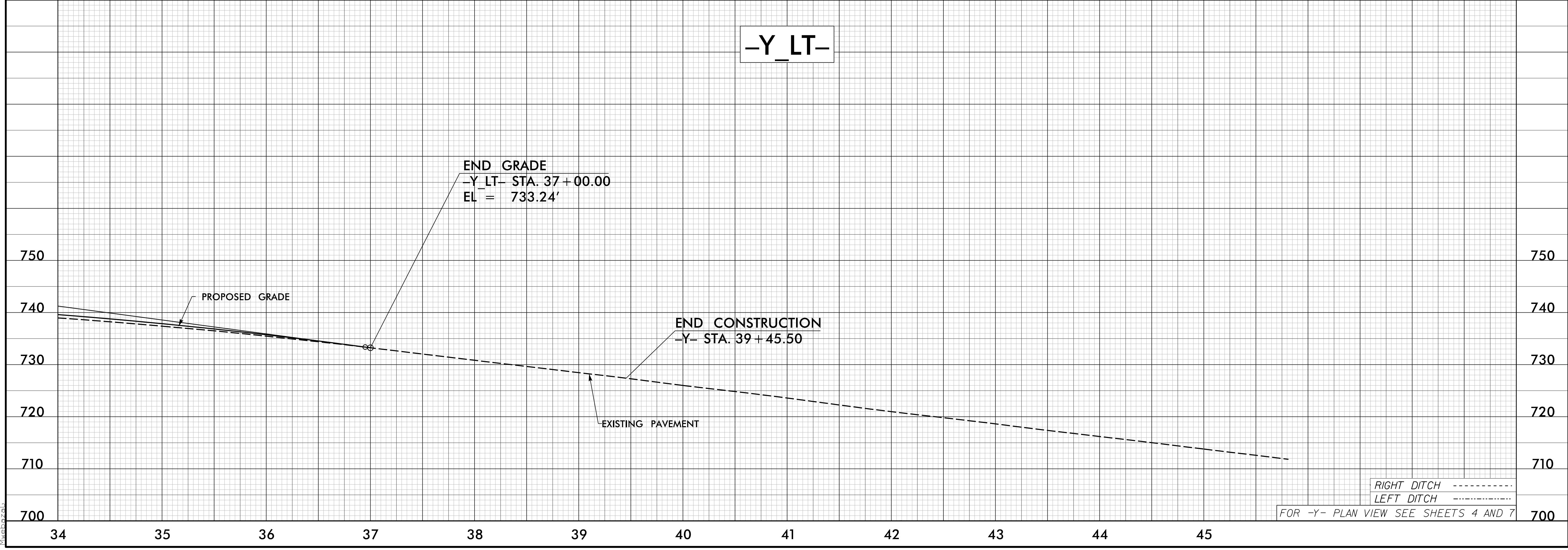
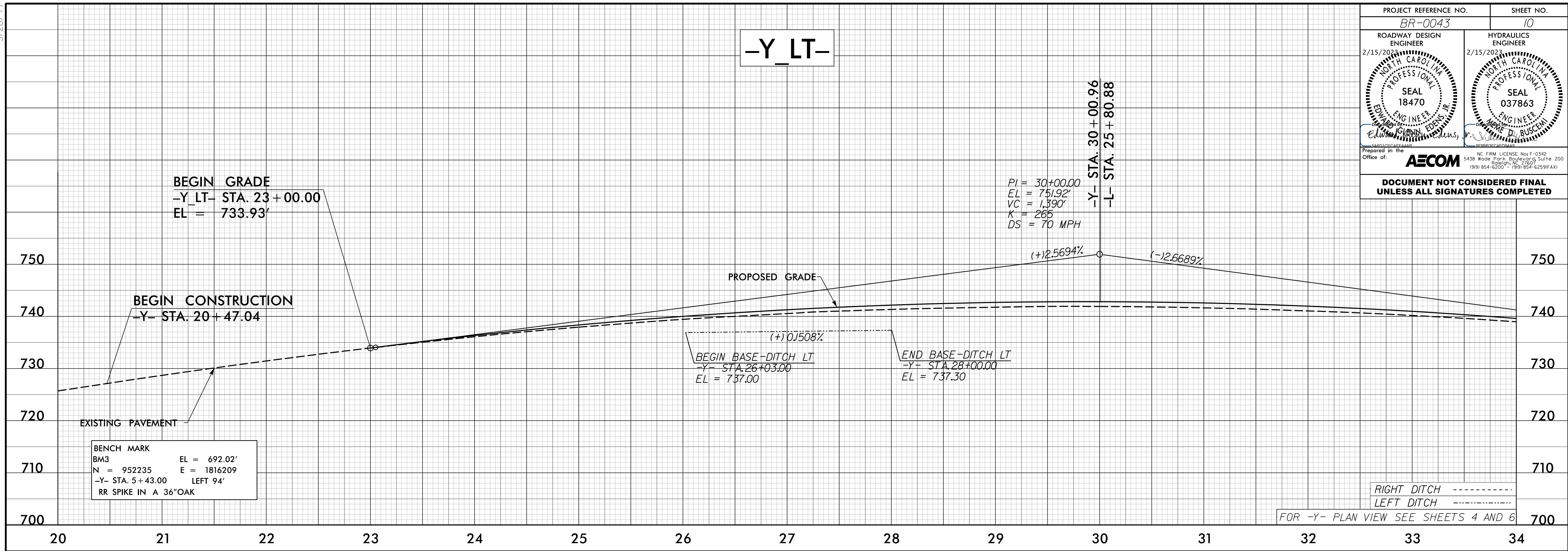
PROJECT REFERENCE NO. <b>BR-0043</b>	SHEET NO. <b>9</b>
ROADWAY DESIGN ENGINEER 2/15/2019 	HYDRAULICS ENGINEER 2/15/2019 
Prepared in the Office of: <b>AECOM</b>	
<small>NC FIRM LICENSE No: F-0342 5438 Rode Park Boulevard, Suite 200 Charlotte, NC 28207 (919) 854-6000 • (919) 854-6259 FAX</small>	
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PROJECT REFERENCE NO. <i>BR-0043</i>	SHEET NO. <i>10</i>
ROADWAY DESIGN ENGINEER 2/15/2023 	HYDRAULICS ENGINEER 2/15/2023 
Prepared in the Office of: <b>AECOM</b>	
<small>NC FIRM LICENSE No. F-0342 5438 Rode Park Boulevard, Suite 200 Raleigh, NC 27607 (919) 854-6000 • (919) 854-6258 FAX</small>	
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2/6/2023  
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PROJECT REFERENCE NO. BR-0043	SHEET NO. 11
ROADWAY DESIGN ENGINEER 2/15/2023 SEAL 18470 EDWARD P. EDWARDS	HYDRAULICS ENGINEER 2/15/2023 SEAL 037863 D. BUSCHEN
Prepared in the Office of: <b>AECOM</b> <small>NC FIRM LICENSE No. F-0342 5438 Woodlark Boulevard, Suite 200 Charlotte, NC 28207 (919) 854-6000 • (919) 854-6258 FAX</small>	

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