

09.05/24

TIP PROJECT: B-5610

CONTRACT: C204732

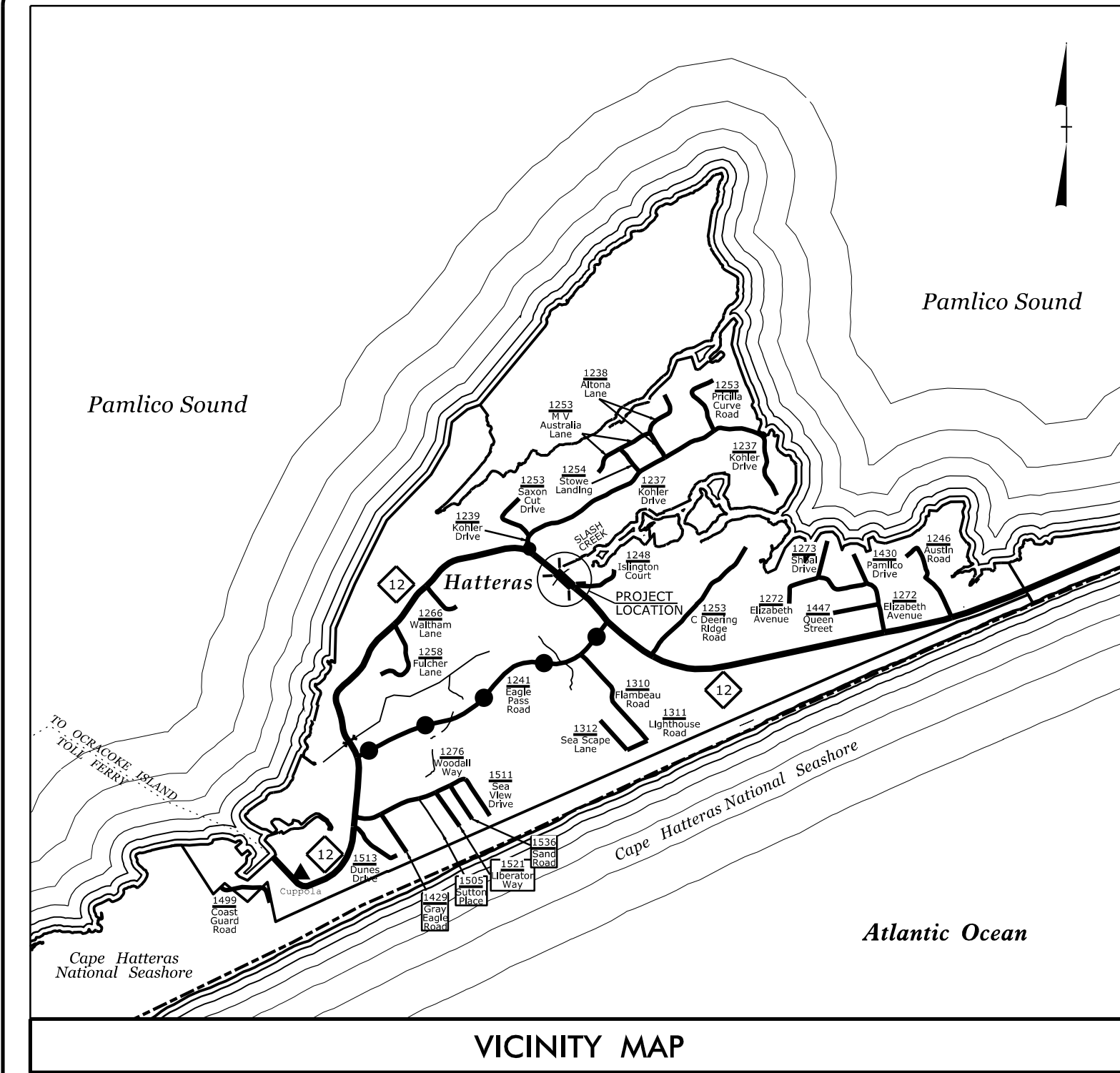
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS DARE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5610	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45565.1.2	N/A	PE	
45565.2.1	0012068	RIGHT-OF-WAY	
45565.2.2	0012068	UTILITIES	
45565.3.1	0012068	CONSTRUCTION	

PART 2

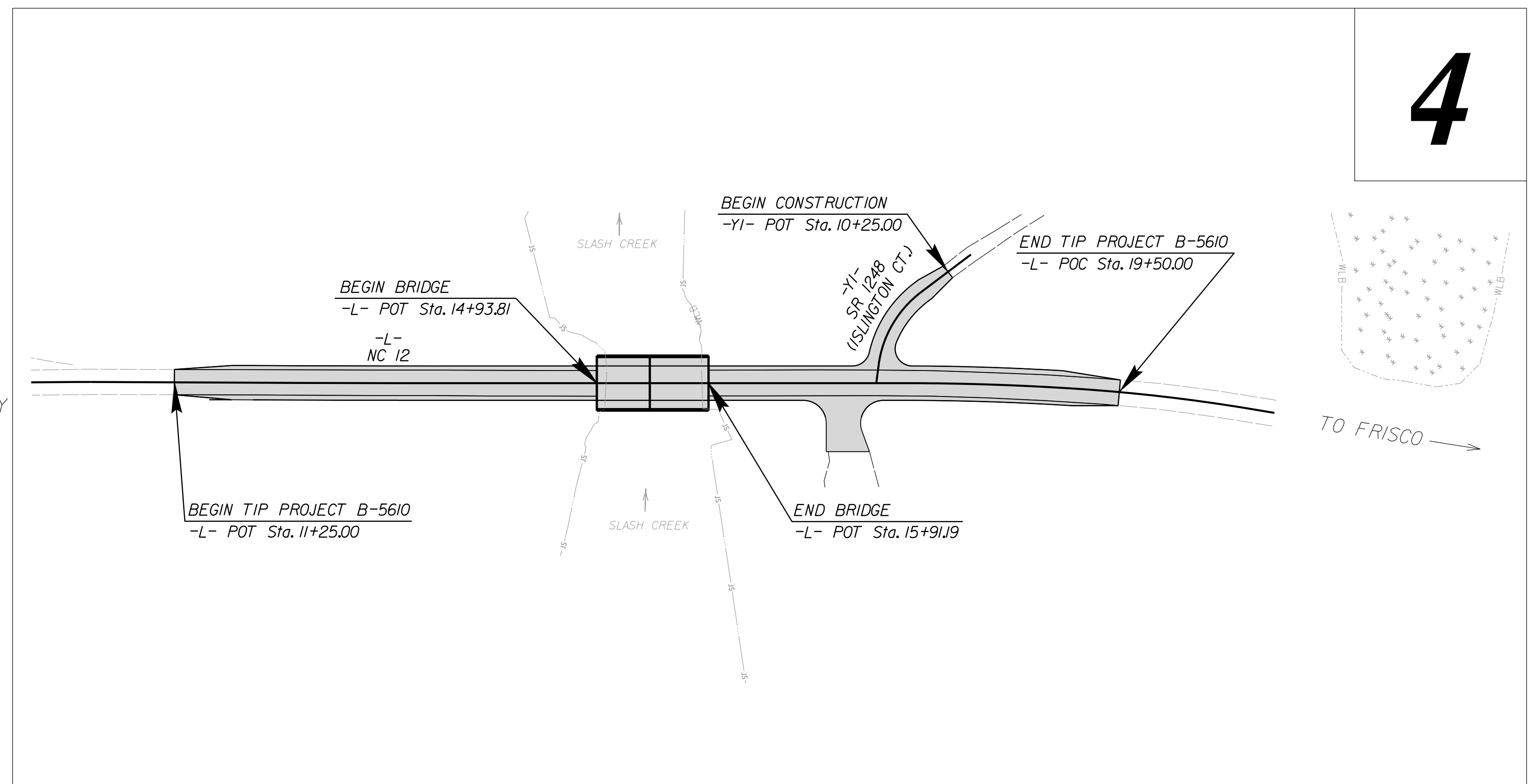
LOCATION: REPLACE BRIDGE #270008 OVER THE SLASH CREEK ON NC-12 AND SR-1241 (EAGLE PASS RD) FROM NC-12 TO NC-12

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE



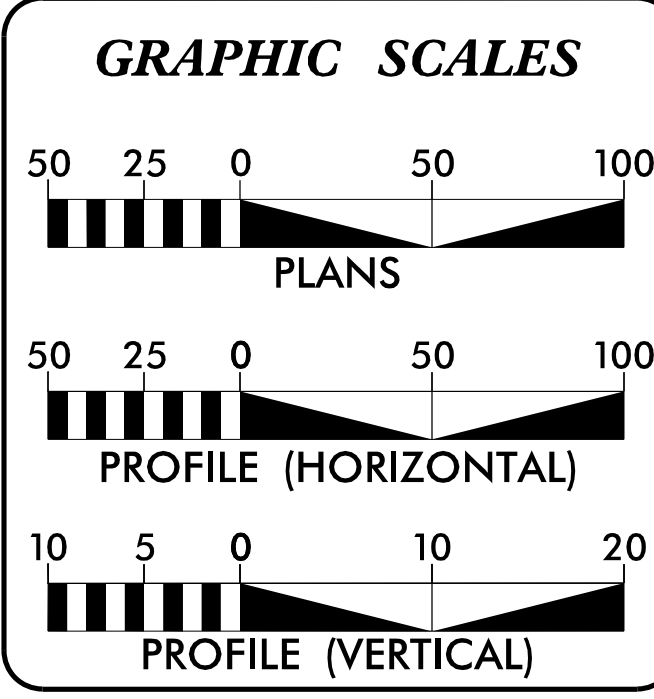
VICINITY MAP

Off-Site Detour



4

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA
 2024 ADT = 4,566 VPD
 2044 ADT = 5,980 VPD
 K = 8%
 D = 55%
 T = 8% *
 V = 40 MPH
 * (TTST 1% + DUAL 7%)
 FUNC. CLASS. = MAJOR COLLECTOR REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5610	=	0.138 mi.
LENGTH STRUCTURES TIP PROJECT B-5610	=	0.018 mi.
TOTAL LENGTH TIP PROJECT B-5610	=	0.156 mi.

Prepared in the Offices of:

STEWART
223 S. WEST ST., STE 1100
RALEIGH, NC 27603
T 919.380.8735
www.stewartinc.com

SUNGATE DESIGN GROUP, P.A.
806 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL 919.886.2424
ENG FIRM LICENSE NO. C-4890

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 19, 2021

LETTING DATE:
JUNE 18, 2024

ANDY YOUNG, PE
PROJECT ENGINEER

MICHAEL BURNS, PE
PROJECT DESIGN ENGINEER

TIERRE PETERSON, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

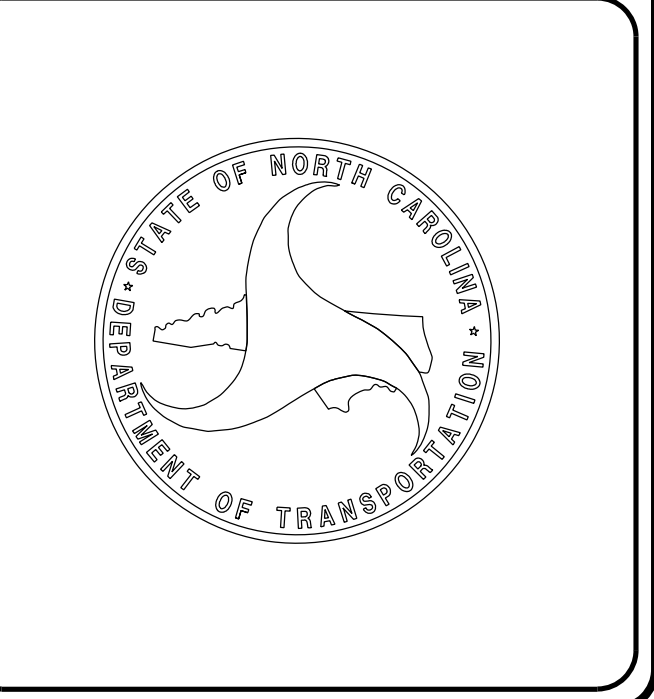
4/5/2024

DocuSigned by:
Jeslwa G. Dalton
1099AD8C1459AC3
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

4/5/2024

DocuSigned by:
Michael S. Burns, Jr.
1455C8C008F437...
SIGNATURE: P.E.

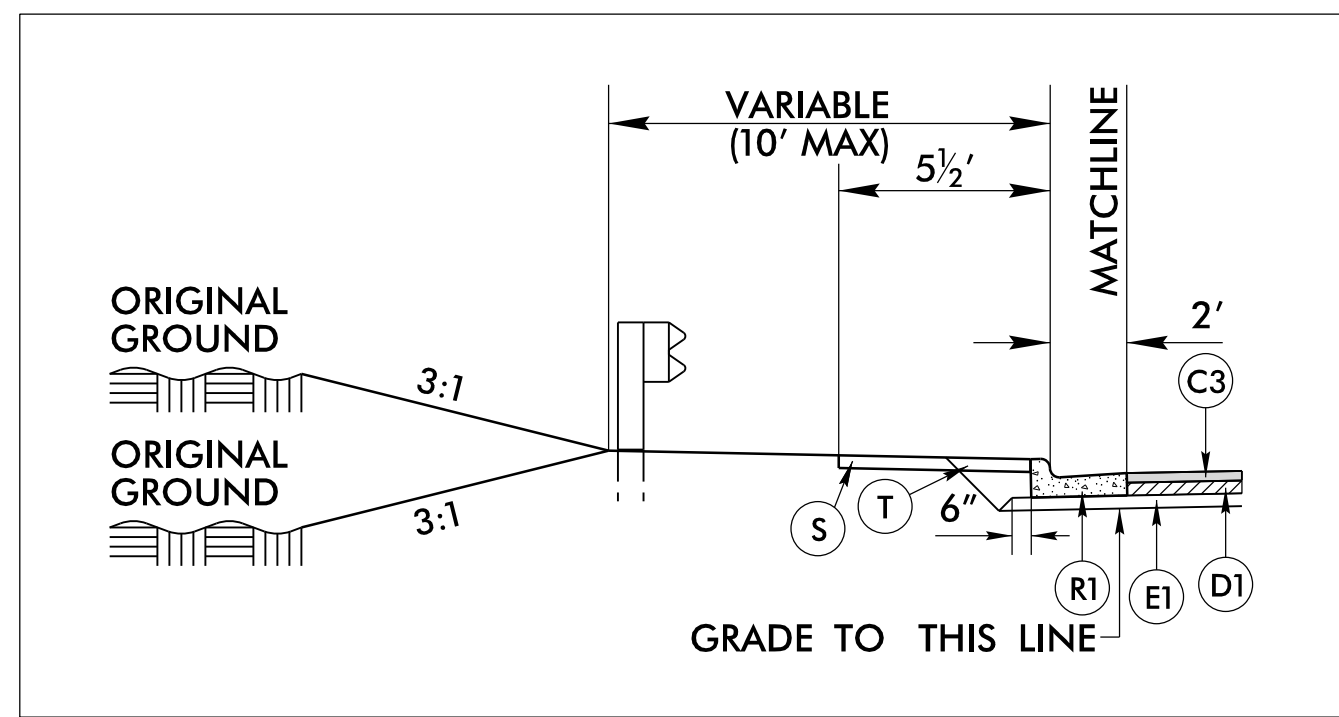


3/27/2024
U:\Roadway\Proj\B5610_Rdy_fsh.dgn
USER:rdyoung

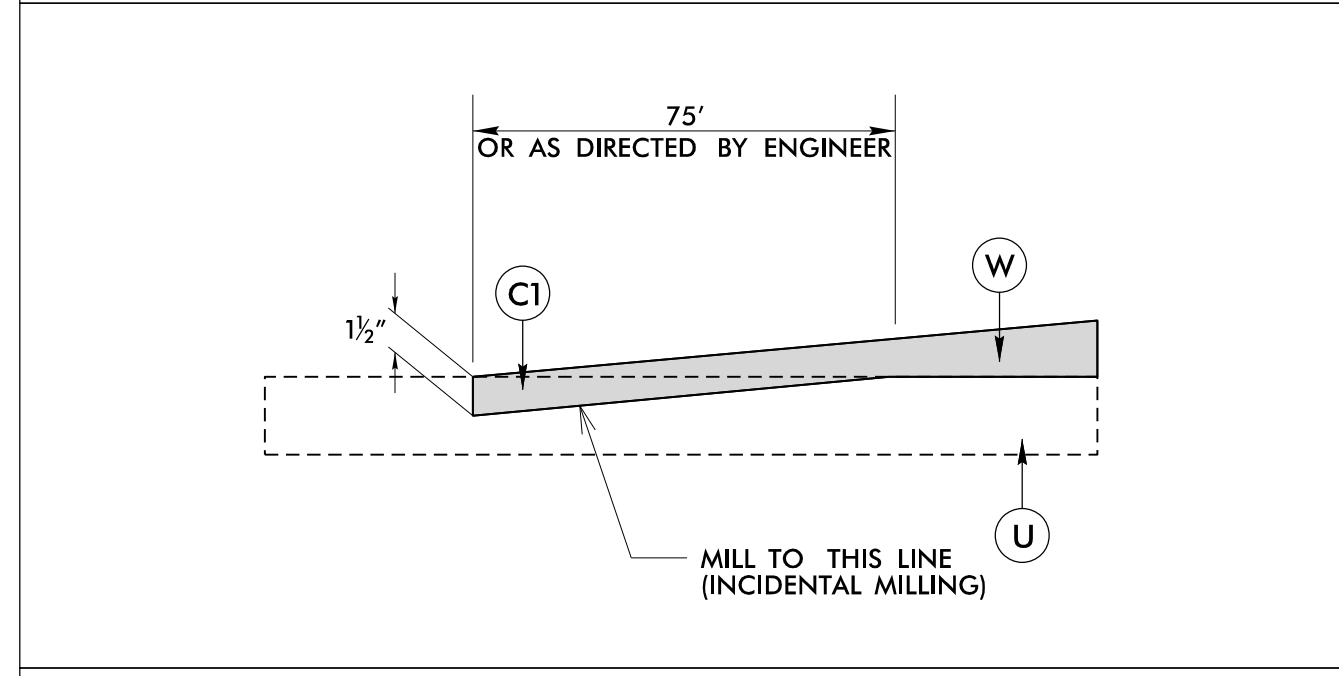
5/14/2019

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN 5/3/2019)	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137½ LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	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.
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 1½" 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. 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 2½" IN DEPTH 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 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	2'-6" CONCRETE CURB AND GUTTER.
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

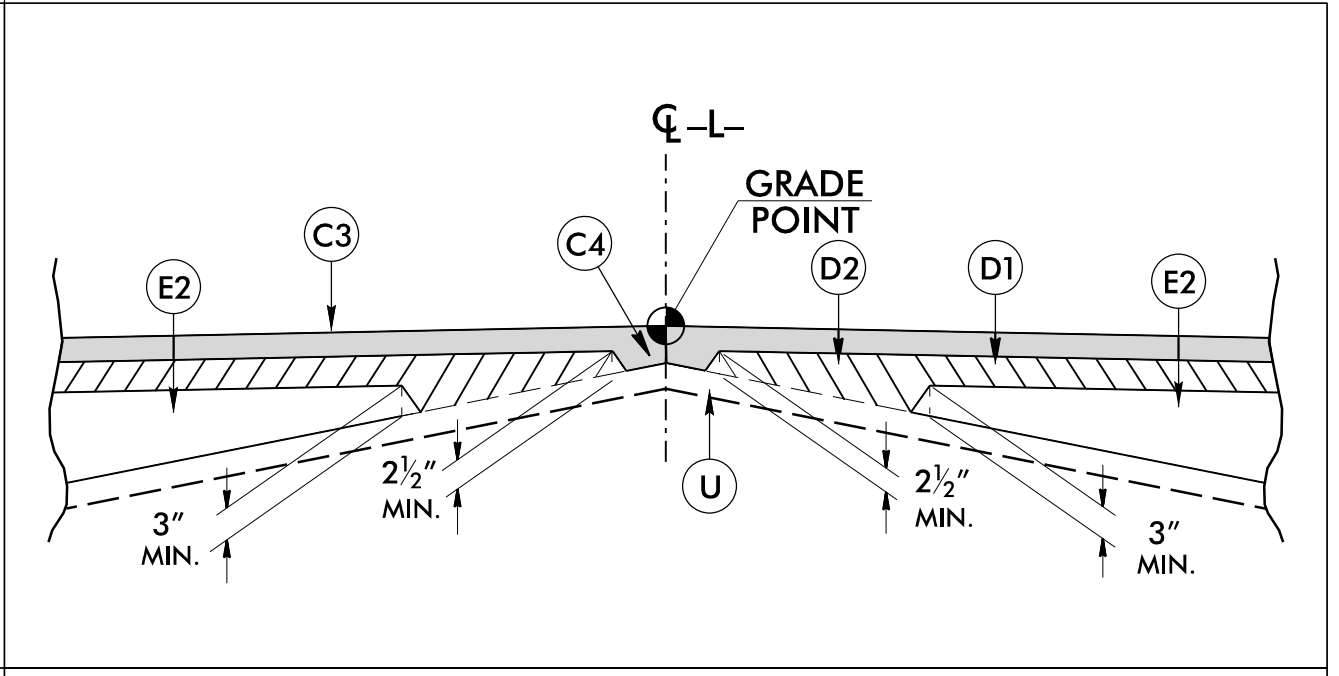
NOTE: PAVEMENT EDGE SLOPES ARE 1:1, UNLESS SHOWN OTHERWISE



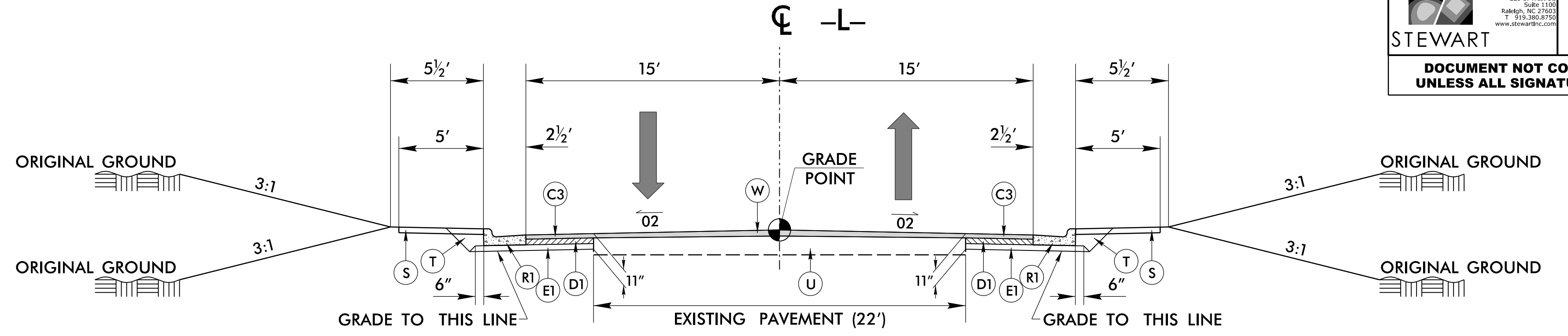
DETAIL SHOWING GUARDRAIL PLACEMENT BEHIND SIDEWALK



DETAIL SHOWING MILLED PAVEMENT PROFILE TIE-IN

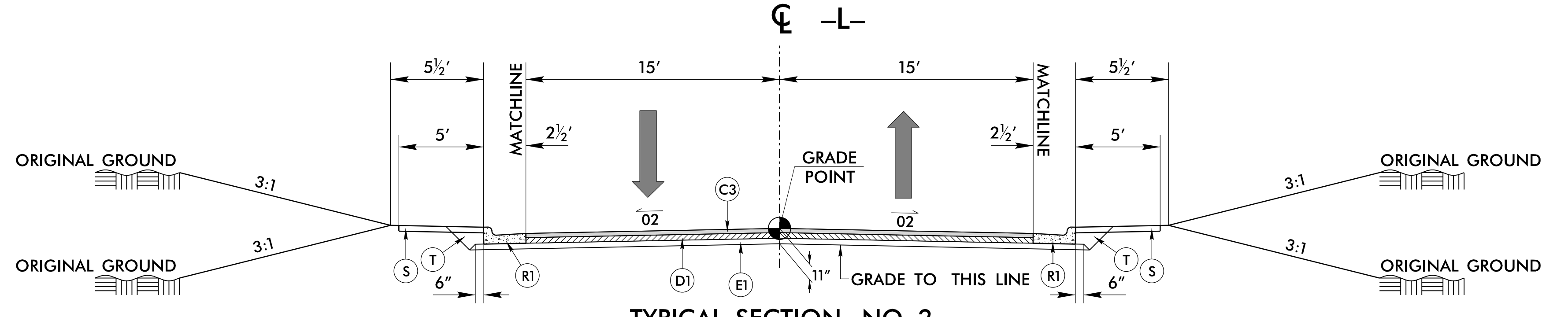


DETAIL SHOWING METHOD OF WEDGING



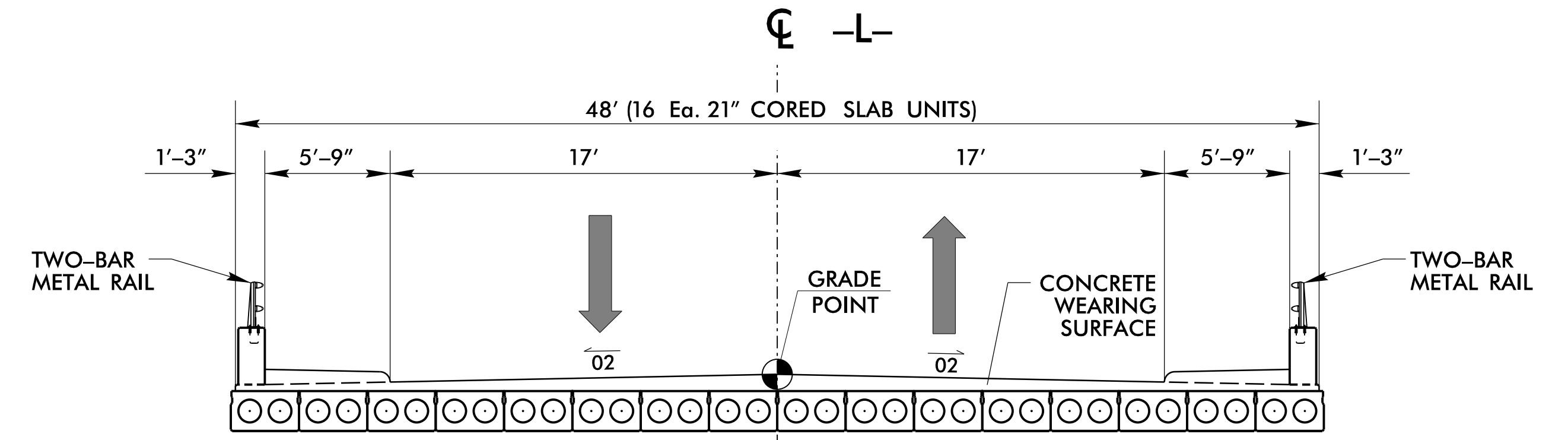
TYPICAL SECTION NO. 1

-L- STA. 11+25.00 TO -L- STA. 13+25.00
-L- STA. 17+00.00 TO -L- STA. 19+50.00



TYPICAL SECTION NO. 2

-L- STA. 13+25.00 TO -L- STA. 14+93.81 (BEGIN BRIDGE)
-L- STA. 15+91.19 (END BRIDGE) TO -L- STA. 17+00.00



TYPICAL SECTION NO. 3

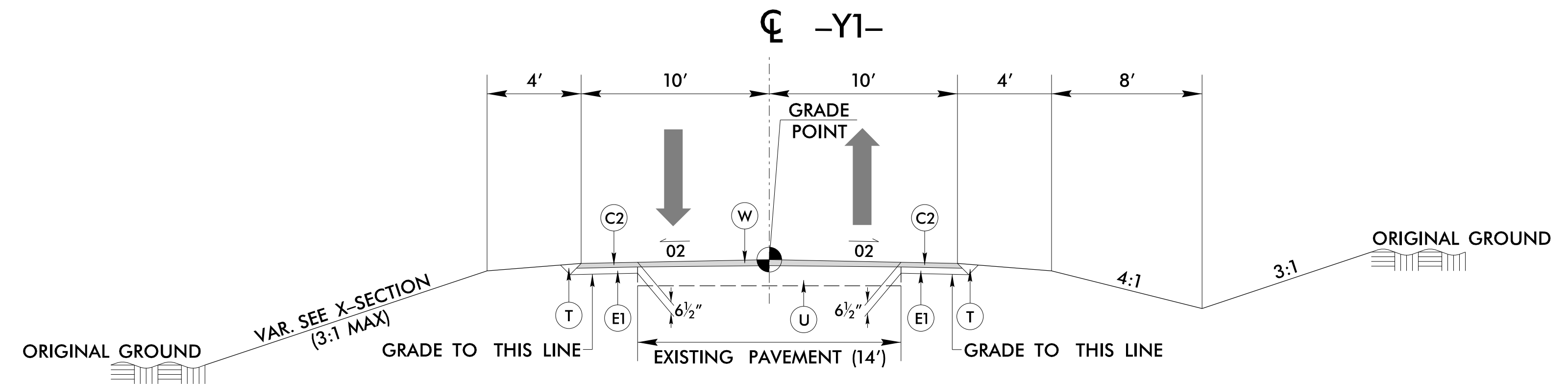
-L- STA. 14+93.81 TO -L- STA. 15+91.19

PROJECT REFERENCE NO. B-5610	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER 4/1/2024 MICHAEL S. BURNS, JR. SEAL 045230	PAVEMENT DESIGN ENGINEER 4/1/2024 ANDREW D. WARRG SEAL 044590
DocuSigned by: Michael S. Burns, Jr.	DocuSigned by: Andrew Warrg
STEWART	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

3/27/2024
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5/14/99

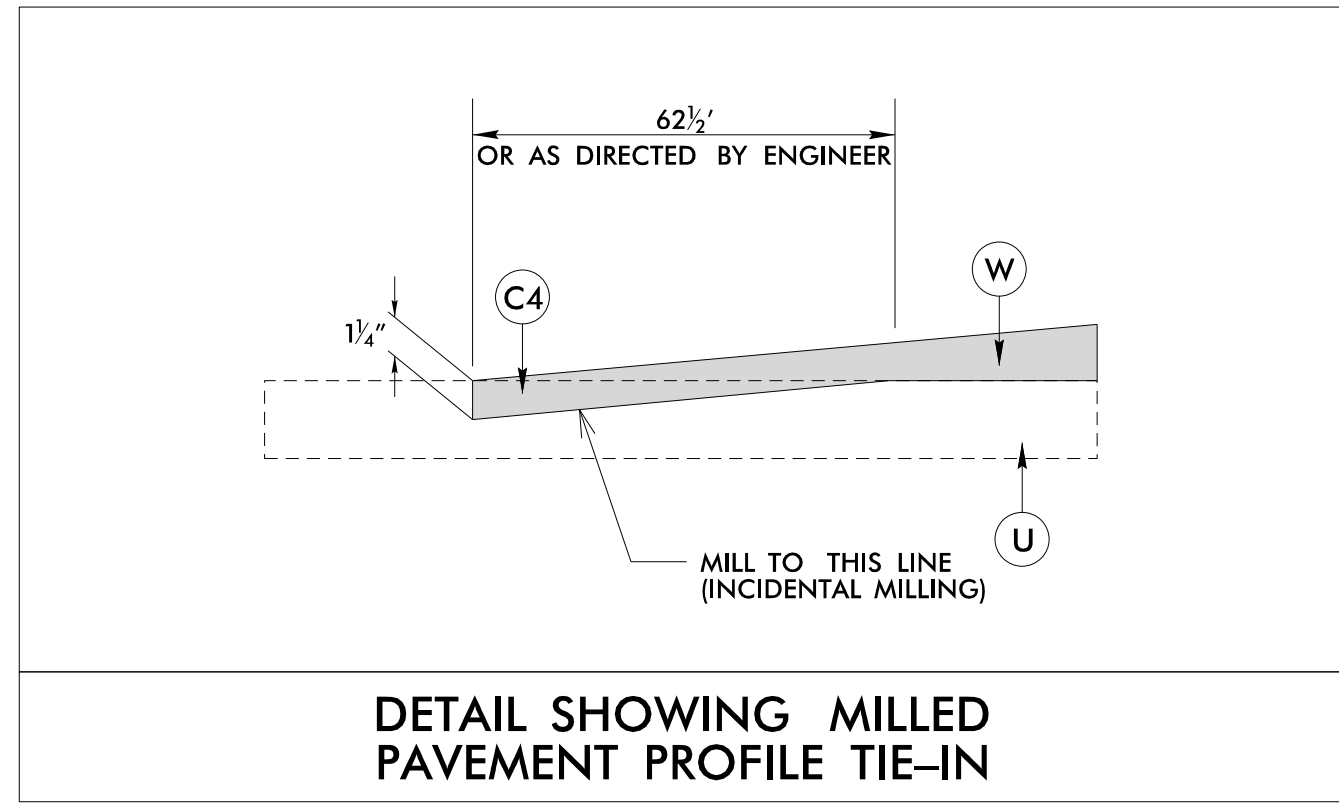
PROJECT REFERENCE NO. B-5610		SHEET NO. 2A-2	
ROADWAY DESIGN ENGINEER 4/5/2024 MICHAEL S. BURNS, JR. SEAL 045230		PAVEMENT DESIGN ENGINEER 4/5/2024 ANDREW WARGO SEAL 044590	
DocuSigned by: Michael S. Burns, Jr.		DocuSigned by: Andrew Wargo	
STEWART		STEWART	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



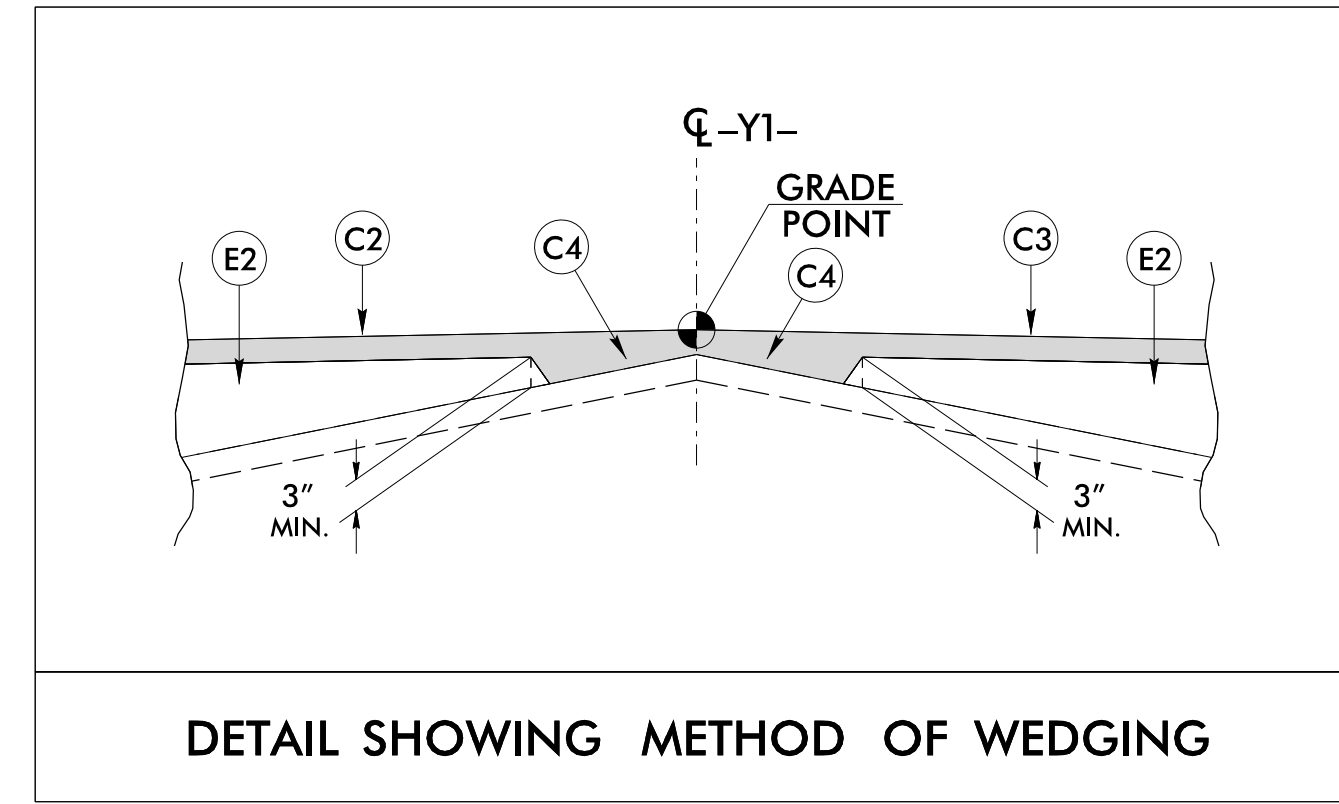
TYPICAL SECTION NO. 4
-Y1- STA. 10+25.00 TO -Y1- STA. 11+30.95

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1 1/2" S9.5B
C2	2 1/2" S9.5B
C3	3" S9.5B
C4	VAR. S9.5B
D1	4" I19.0C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
R1	2'-6" C & G
S	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

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



DETAIL SHOWING MILLED PAVEMENT PROFILE TIE-IN



DETAIL SHOWING METHOD OF WEDGING

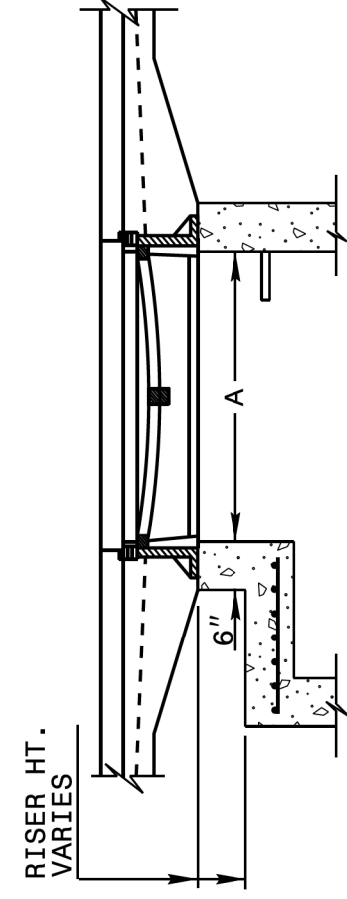
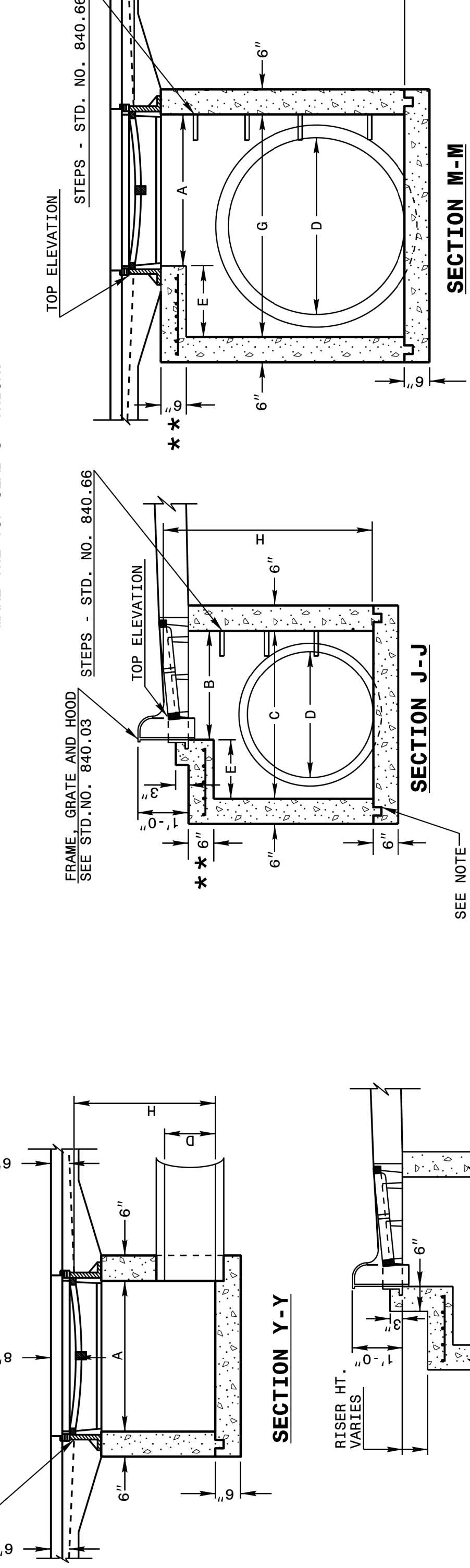
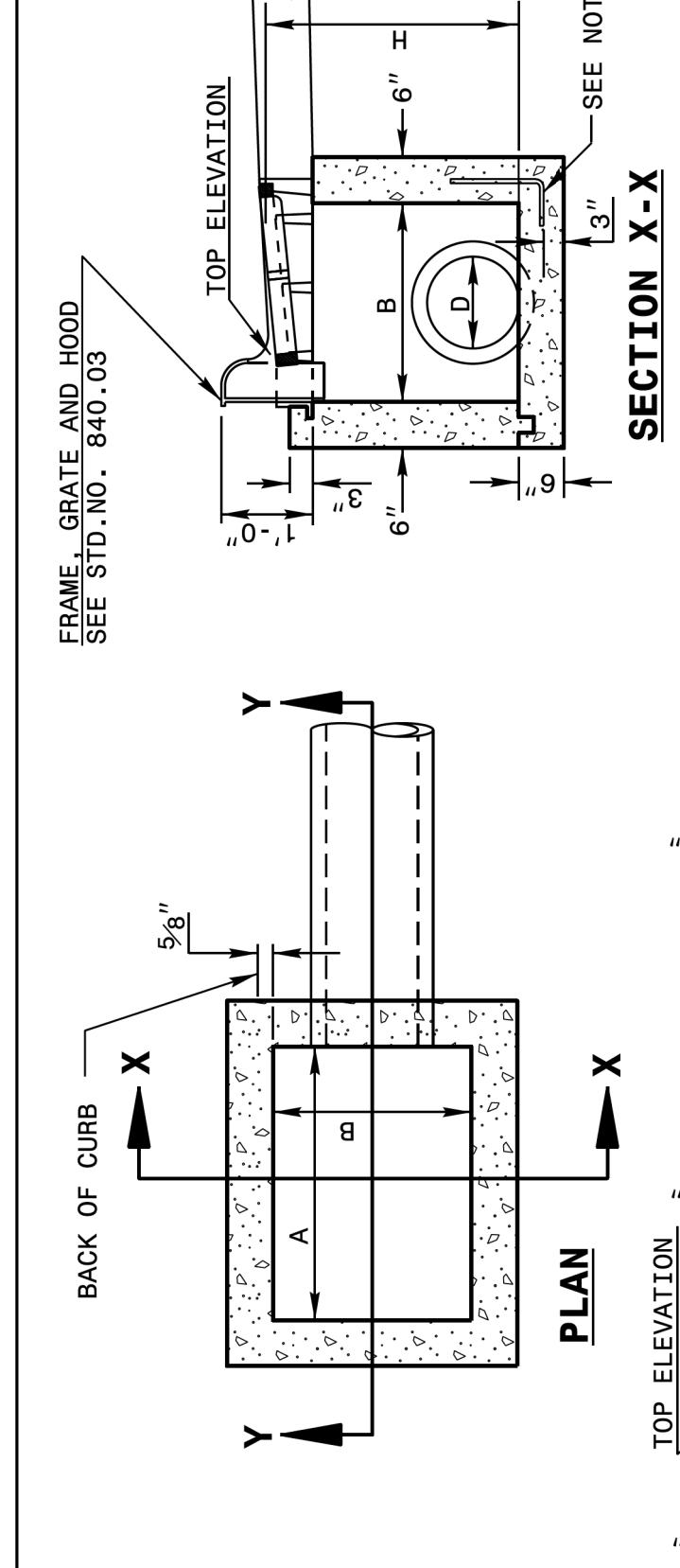
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STATE OF
 NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
 CONCRETE CATCH BASIN**
 12" THRU 84" PIPE

SHEET 1 OF 2
840D02

GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66. OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12 CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
 USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
 FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.
 CONSTRUCT WITH PIPE CROWNS MATCHING.
 CHAMFER ALL EXPOSED CORNERS 1".
 ** FOR STRUCTURES WITH PIPE LARGER THAN 54", MAKE THE TOP SLAB 8" THICK.



DETAIL SHOWING METHOD OF RISER CONSTRUCTION

SHEET 1 OF 2
840D02

STATE OF
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 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
 CONCRETE CATCH BASIN**
 12" THRU 84" PIPE

SHEET 1 OF 2
840D02

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

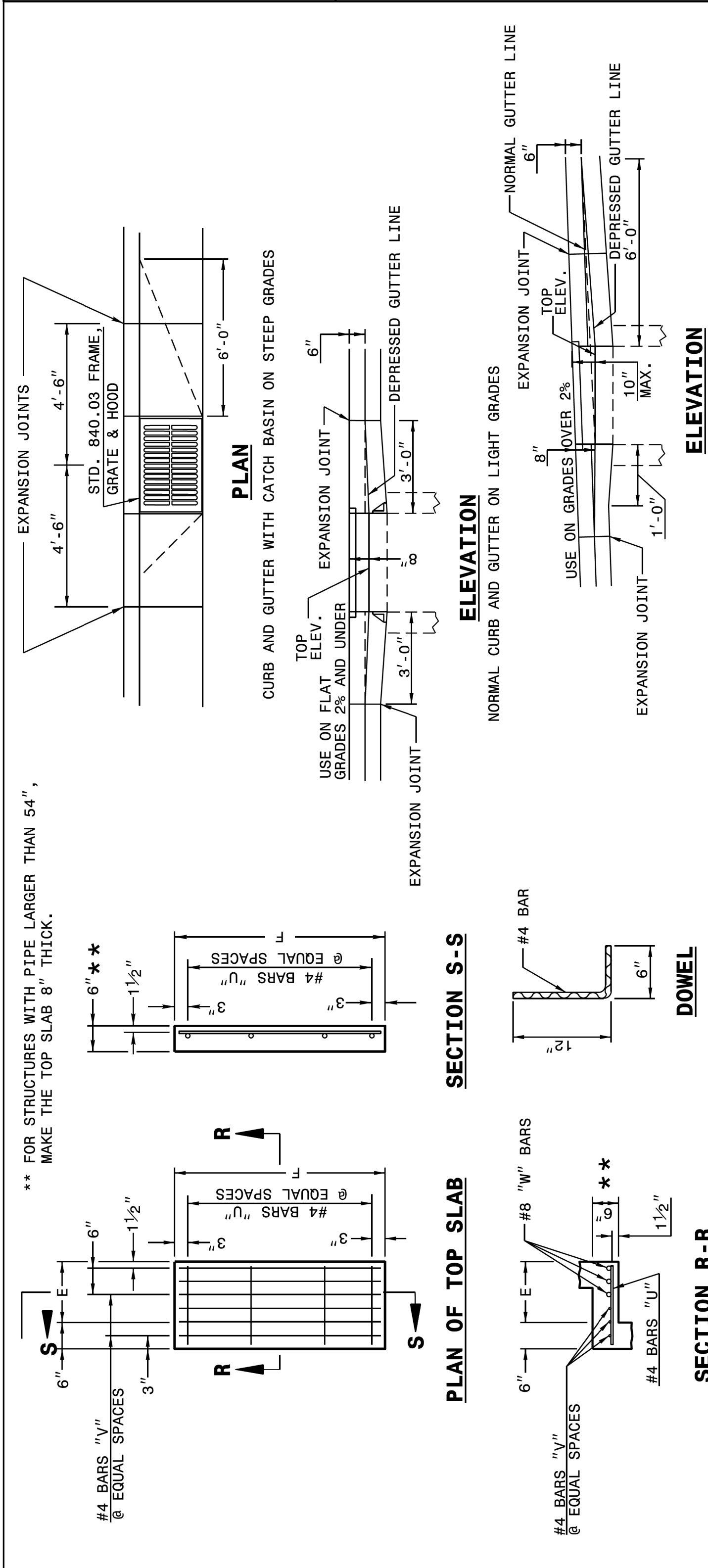
ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
 CONCRETE CATCH BASIN**
 12" THRU 84" PIPE

SHEET 2 OF 2
840D02

STATE OF
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 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
 CONCRETE CATCH BASIN**
 12" THRU 84" PIPE

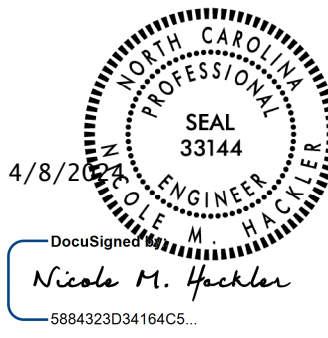
SHEET 2 OF 2
840D02



SECTION S-S
 SECTION R-R
 ELEVATION

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

PIPE D	MINIMUM DIMENSIONS OF BOX AND PIPE COVER			DIMENSIONS OF BOX AND PIPE COVER			MINIMUM DIMENSIONS OF CONCRETE CATCH BASIN (BASED ON MIN. HEIGHT, H, WITH NO RISER) *			DEDUCTIONS ONE PIPE								
	SPAN	WIDTH	SPAN	MIN.	HEIGHT	COVER	BAR NO.	LENGTH	BAR NO.	LENGTH	TOTAL LBS.	CUL. YDS. CONC. IN BOX	TOP SLAB	BOTTOM SLAB	R.C.			
12"	3'-0"	2'-2"	2'-2"	2'-0"	2'-3"	2'-6"	---	---	---	---	---	0.235	0.772	0.015	0.026			
15"	3'-0"	2'-2"	2'-2"	2'-0"	2'-3"	2'-6"	---	---	---	---	---	0.235	0.829	0.023	0.036			
18"	3'-0"	2'-2"	2'-2"	2'-0"	2'-3"	2'-6"	---	---	---	---	---	0.235	0.887	0.033	0.049			
24"	3'-0"	2'-2"	2'-2"	2'-0"	2'-3"	2'-6"	---	---	---	---	---	0.235	1.001	0.059	0.085			
30"	3'-0"	2'-2"	3'-4"	3'-4"	3'-10"	3'-11"	1'-2"	4'-4"	4	1'-5"	2	4'-1"	39	0.123	0.347	1.433	0.092	0.127
36"	3'-0"	2'-2"	3'-10"	3'-10"	4'-6"	4'-11"	1'-8"	4'-10"	4	1'-11"	3	4'-7"	43	0.161	0.492	1.714	0.132	0.178
42"	3'-0"	2'-2"	4'-5"	4'-5"	4'-11"	5'-5"	2'-2"	5'-5"	5	2'-5"	4	5'-2"	47	0.200	0.543	1.738	0.180	0.243
48"	3'-0"	2'-2"	5'-0"	5'-0"	5'-6"	6'-0"	2'-10"	6'-0"	5	3'-1"	4	5'-9"	51	0.235	0.687	2.082	0.235	0.317
54"	3'-0"	2'-2"	5'-7"	5'-7"	6'-0"	6'-7"	3'-5"	6'-7"	6	3'-8"	3	6'-4"	56	0.289	0.802	2.387	0.287	0.401
60"	3'-0"	2'-2"	6'-3"	6'-3"	6'-6"	6'-6"	4'-1"	7'-3"	6	4'-4"	5	7'-0"	61	0.340	0.973	2.722	0.363	0.546
66"	3'-0"	2'-2"	6'-11"	6'-11"	7'-0"	7'-0"	4'-9"	7'-11"	7	5'-0"	6	7'-8"	66	0.391	1.160	3.057	0.440	0.655
72"	3'-0"	2'-2"	7'-6"	7'-6"	7'-6"	7'-6"	5'-3"	8'-6"	7	5'-6"	6	8'-3"	72	0.442	1.340	3.392	0.524	0.774
78"	3'-0"	2'-2"	8'-1"	8'-1"	8'-0"	8'-0"	5'-11"	9'-1"	8	6'-2"	7	8'-10"	78	0.493	1.530	3.727	0.615	0.893
84"	3'-0"	2'-2"	8'-9"	8'-9"	8'-6"	8'-6"	6'-7"	9'-9"	8	6'-10"	7	9'-6"	84	0.544	1.760	4.062	0.713	1.010

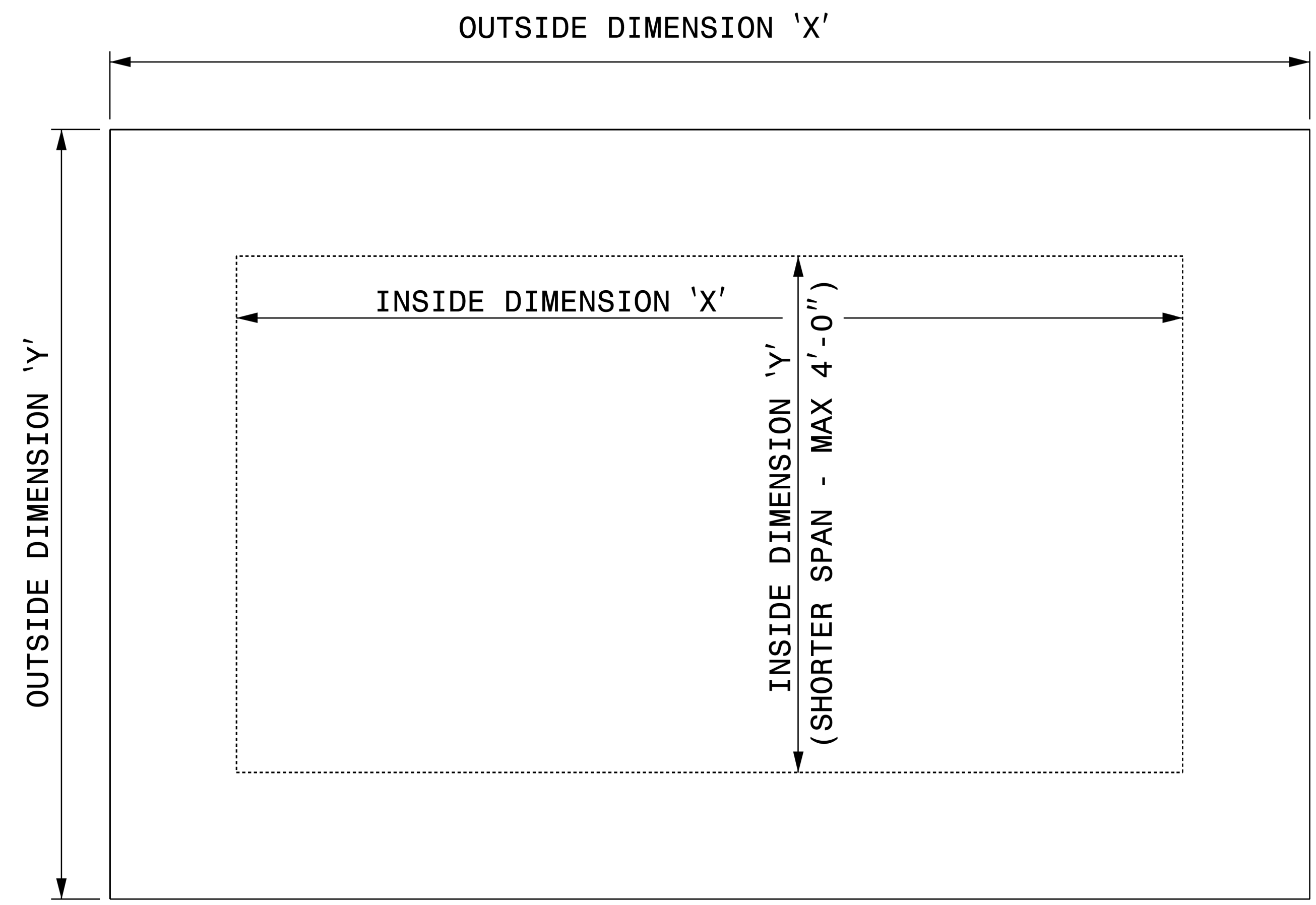


CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

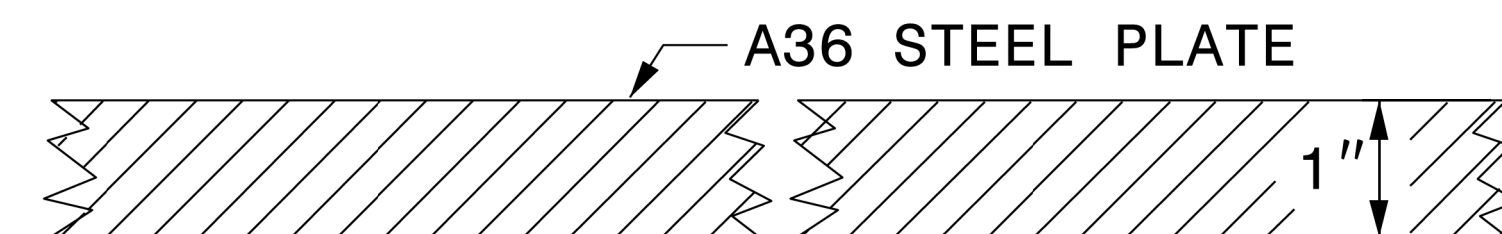
ORIGINAL BY: 2002 Std.840.01 DATE: _____
 MODIFIED BY: E.E. WARD DATE: 3-1-02
 CHECKED BY: _____ DATE: _____
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DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



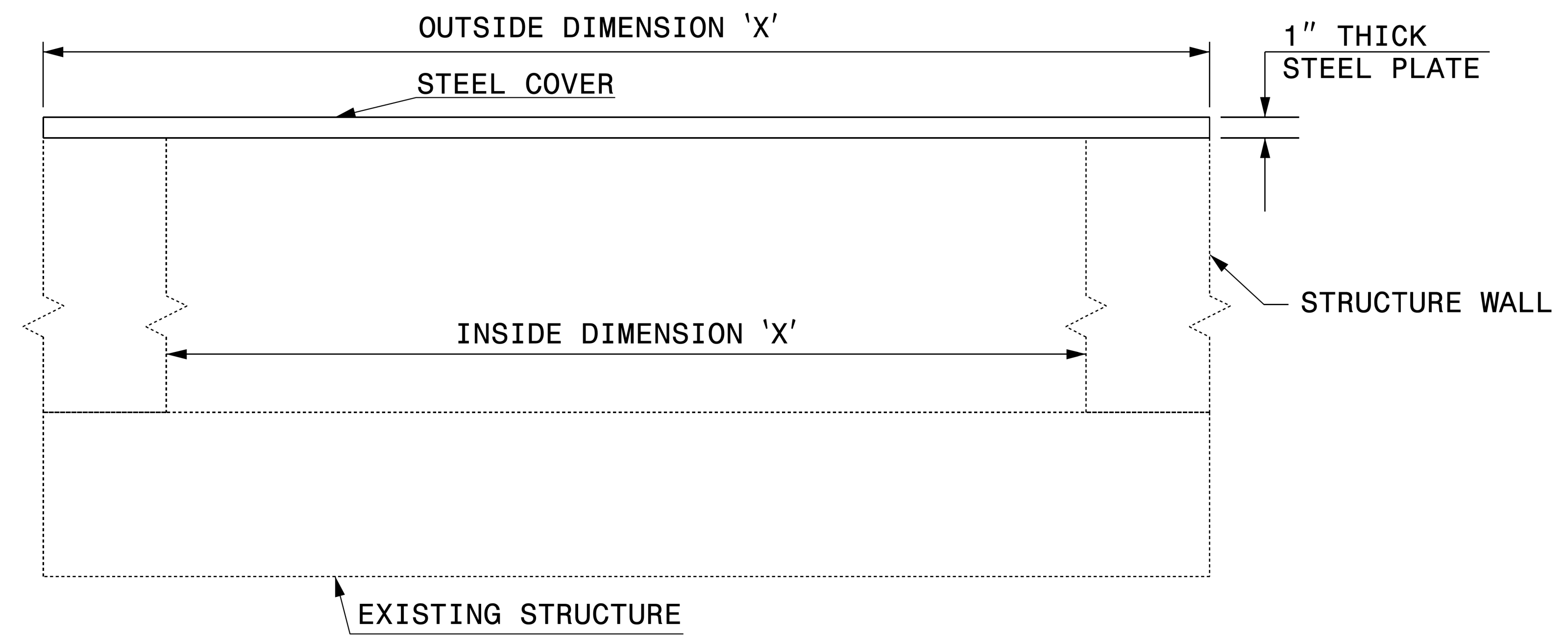
GENERAL NOTES:

- USE GRADE A36 STEEL
- STEEL COVERS ARE FOR TEMPORARY USE DURING PHASE CONSTRUCTION.
- FILL SHALL BE PLACED DIRECTLY OVER THE STEEL PLATES.
- SEE ROADWAY PLANS AND PROVISIONS FOR LOCATIONS
- QUANTITIES TO BE PAID FOR AT THE UNIT PRICE BID PER EACH.

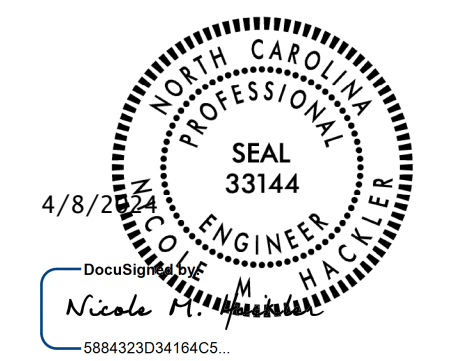


SECTION VIEW OF STEEL TOP PLATE

PLAN VIEWS



ELEVATION VIEWS



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UNLESS ALL SIGNATURES COMPLETED

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

**DETAIL OF TEMPORARY
1" STEEL COVER**

ORIGINAL BY: E.E. WARD DATE: 2-2-98
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: eric:/usr/details/metric/stand/stlcvr2.dgn

07-DEC-2018 09:57
 S:\Contracts\Special Details\Jhower-ton\Steel Cover.dgn
 Jhower-ton AT CSD-292595

SUMMARY OF EARTHWORK

IN CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L- Sta. 11+25.00	-L- Sta. 14+93.81 (BR)	44	1,014	970	0
-L- Sta. 15+91.19 (BR)	-L- Sta. 19+50.00	58	745	687	0
-Y1- Sta. 10+25.00	-Y1- Sta. 11+30.95	23	61	38	0
SUBTOTAL:		125	1,820	1,695	0
TOTAL:		125	1,820	1,695	0
PROJECT TOTAL:		125	1,820	1,695	0
EST. 5% REPLACE TOPSOIL ON BORROW PIT				85	
GRAND TOTAL:		125	1,820	1,780	0
SAY:		130		1,870	

UNDERCUT EXCAVATION (FOR EMBANKMENT STABILITY) = 100 CY
 UNDERCUT EXCAVATION (FOR SUBGRADE STABILITY) = 200 CY
 TOTAL UNDERCUT EXCAVATION = 300 CY

SELECT GRANULAR MATERIAL = 300 CY

GEOTEXTILE FOR SOIL STABILIZATION (FOR EMBANKMENT STABILITY) = 100 SY
 GEOTEXTILE FOR SOIL STABILIZATION (FOR SUBGRADE STABILITY) = 200 SY
 TOTAL GEOTEXTILE FOR SOIL STABILIZATION = 300 SY

Note: Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for grading.

Note: Earthwork quantities are calculated by the Roadway Design Engineer. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L-	11+25	15+00	RT	554.28			
-L-	11+25	15+00	LT	638.95			
-L-	14+70	15+00	CL	93.02			
-L-	15+87	16+15	CL	88.55			
-L-	13+25	14+70	CL		450.94		
-L-	16+15	17+00	CL		271.92		
TOTAL:				1,374.80	722.86		
SAY:				1,380	730		

COMPUTED BY: Devyn Howe DATE: 2/6/2024
 CHECKED BY: Michael Burns, PE DATE: 2/6/2024

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

GUARDRAIL SUMMARY

G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

N = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS								
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GREU TL-2	M-350	TYPE III	CAT-1	TYPE II	BIC	G	NG														
-L-	13+43.88	14+93.81 (BR)	RT	150'			14+93.81		7'-6"	9'-6"	25'		0.5'																									
-L-	15+91.19 (BR)	17+16.13	LT	125'			15+91.19		7'-6"	9'-6"	25'		0.5'																									
SUBTOTAL:				275																																		
LESS ANCHOR DEDUCTIONS:																																						
				TYPE III (2@18.75')																																		
				GREU, TL-2 (2@25')																																		
TOTAL:				187.5'																																		
SAY:				200'																																		
ADDITIONAL GUARDRAIL POSTS= 5 EA																																						

SOG-BELAW

COMPUTED BY: MCE DATE: 03/26/2024
CHECKED BY: BNE DATE: 03/26/2024

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO. SHEET NO.
B-5610 3D-1

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: LINE & STATION, OFFSET, STRUCTURE NUMBER, TOP ELEVATION, INVERT ELEVATION, MINIMUM REQUIRED SLOPE, Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC), C. A. A. PIPE, R. C. PIPE CLASS III, R. C. PIPE CLASS IV, ENDWALLS, REINFORCED ENDWALLS, DRAINAGE STRUCTURE, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD, CONCRETE TRANSITIONAL SECTION, GRADE TYPE, PIPE REMOVAL, and REMARKS. Includes a SHEET TOTALS row at the bottom.

ABBREVIATIONS table listing codes and their corresponding material or structure names, such as C.A.A. CORRUGATED ALUMINIUM ALLOY, C.B. CATCH BASIN, etc.

SOG-BELAM

COMPUTED BY: MCE DATE: 03/26/2024
CHECKED BY: BNE DATE: 03/26/2024

PROJECT NO. SHEET NO.
B-5610 3D-2

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)

Main data table with columns for Line & Station, Offset, Structure Number, Invert Elevation, Drainage Pipe, C.A.A. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Endwalls, Reinforced Endwalls, Drainage Structure, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, Grate Type, Pipe Removal, and Remarks.

SHEET TOTALS and PROJECT TOTALS summary rows.

ABBREVIATIONS table listing codes 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. and their corresponding material descriptions.

COMPUTED BY: Tyler C. Bottoms DATE: 8/13/19
 CHECKED BY: Thein Tun Zan DATE: 08/20/2019

(5-15-18)

PROJECT NO.	SHEET NO.
B-5610	3G-1

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

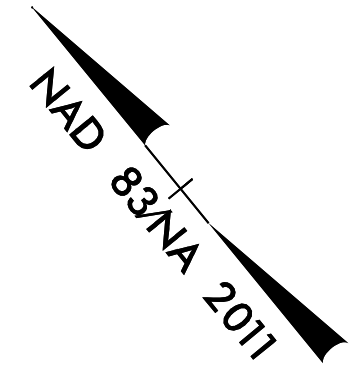
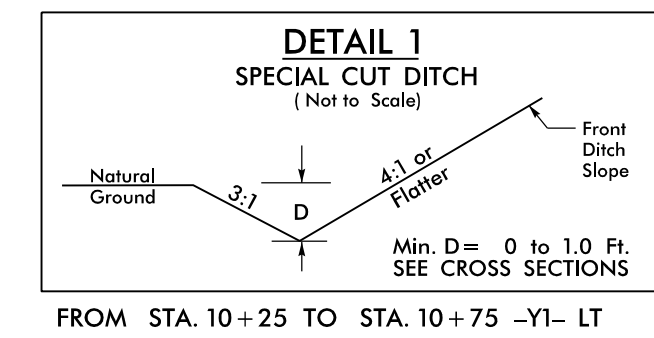
SUMMARY OF SUBSURFACE DRAINAGE

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

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

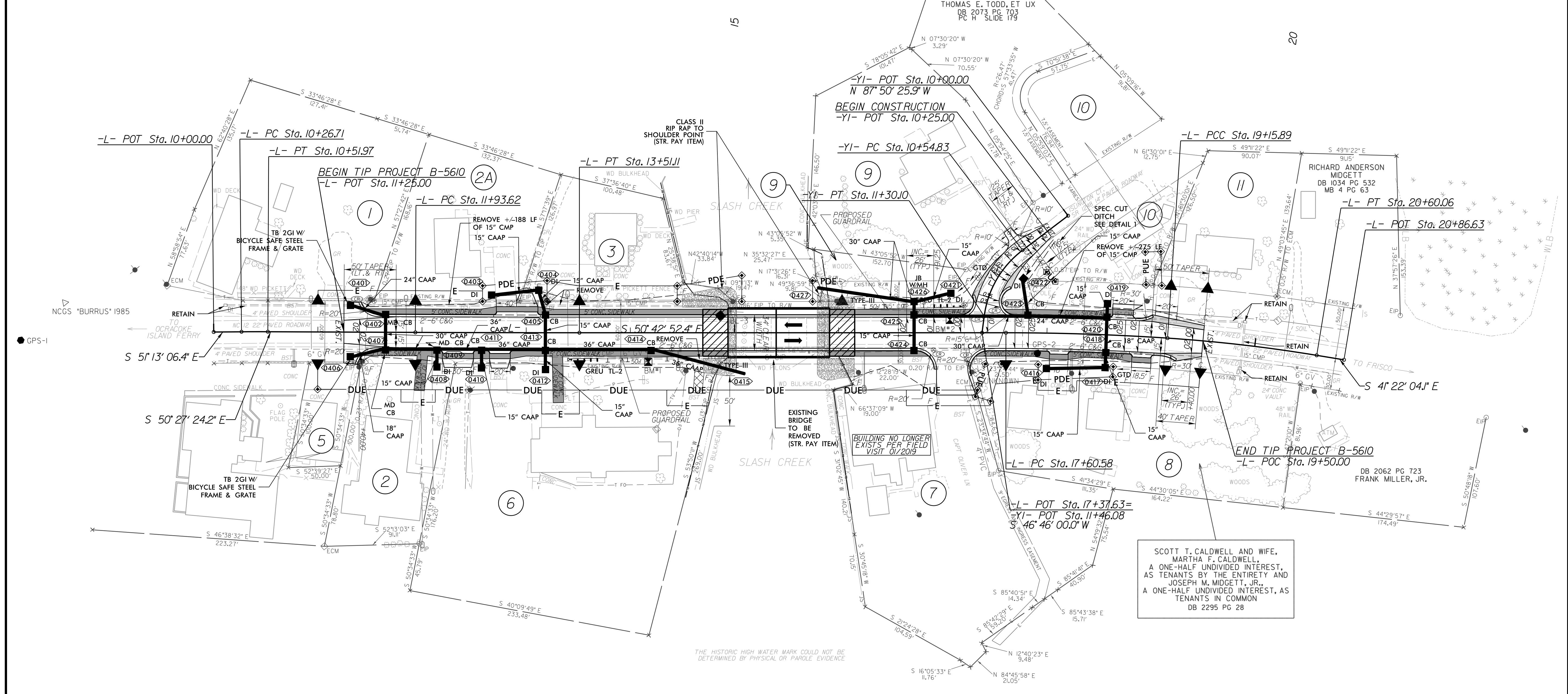
8.17.17.99

-L-				-YI-			
PI Sta 10+39.34	PI Sta 12+72.36	PI Sta 18+38.26	PI Sta 19+88.03	PI Sta 10+94.57			
$\Delta = 0^{\circ} 45' 42.2''$ (RT)	$\Delta = 0^{\circ} 15' 28.2''$ (LT)	$\Delta = 3^{\circ} 48' 10.4''$ (RT)	$\Delta = 5^{\circ} 32' 37.9''$ (RT)	$\Delta = 45^{\circ} 23' 34.1''$ (LT)			
$D = 3^{\circ} 00' 56.0''$	$D = 0^{\circ} 09' 49.3''$	$D = 2^{\circ} 26' 54.7''$	$D = 3^{\circ} 50' 43.3''$	$D = 60^{\circ} 18' 40.8''$			
$L = 25.26'$	$L = 157.50'$	$L = 155.31'$	$L = 144.17'$	$L = 75.26'$			
$T = 12.63'$	$T = 78.75'$	$T = 77.68'$	$T = 72.14'$	$T = 39.73'$			
$R = 1,900.00'$	$R = 35,000.00'$	$R = 2,340.00'$	$R = 1,490.00'$	$R = 95.00'$			
$S_e = \text{Exist.}$	$S_e = \text{NC}$	$S_e = 2.5\%$	$S_e = 3\%$	$S_e = 3.5\%$			
		Runoff = 65'	Runoff = 78'	Runoff = 43.75'			
				$V_0 = 15 \text{ MPH}$			



CONTRACTOR WILL NEED TO FIELD ADJUST PROPOSED SIDEWALK TIES AT THE BEGINNING AND END OF PROJECT AS DIRECTED BY THE ENGINEER TO TIE TO SIDEWALK THAT WAS INSTALLED DURING THE DESIGN OF THIS PROJECT. EXISTING SURVEY DOES NOT ACCURATELY SHOW LIMITS OF EXISTING SIDEWALK.

PROJECT REFERENCE NO. B-5610	SHEET NO. 4
ROADWAY DESIGN ENGINEER 4/5/2024 MICHAEL S. BURNS, JR. PROFESSIONAL SEAL 045230 MICHAEL S. BURNS, JR. ENGINEER 045230	HYDRAULICS ENGINEER 4/5/2024 JASUN G. DILTON PROFESSIONAL SEAL 026971 JASUN G. DILTON ENGINEER 026971
STEWART	SUNGATE DESIGN GROUP, P.A.
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



1 DROVER LLC DB 1992 PG 95 PC B SLIDE 348	2A HATTERAS UNITED METHODIST CHURCH DB 139 PG 506	2 HATTERAS UNITED METHODIST CHURCH DB 1617 PG 299 DB B PG 278 DB A PG 480 DB B PG 420	3 DARREL ALLEN DANIELS, ET UX DB 1670 PG 104 MB 2 PG 225	9 JEFFREY LYNN ODEN DB 1904 PG III PB 338 PG 569	5 HATTERAS VILLAGE CIVIC ASSOCIATION INC. DB 974 PG 546 DB 1954 PG 41 DB 1994 PG 306 DB 125 PG 376
6 HATTERAS VILLAGE MEDICAL ASSOCIATES DB 130 PG 591	7 PALMATIER, LLC DB 2600 PG 903	8 SEE PROPERTY OWNER INFO (THIS SHEET)	9 JEFFREY LYNN ODEN, ET UX DB 1558 PG 70 PB 338 PG 569	10 CHRISTY D. KELLUM DB 1957 PG 308 PC H SLIDE 179	11 RICHARD ANDERSON MIDGETT DB 2545 PG 879

	ASPHALT SHOULDER
	CONCRETE SIDEWALK
	PAVEMENT REMOVAL

FOR -L- PROFILE, SEE SHEET 5

FOR -YI- PROFILE, SEE SHEET 5

FOR ROW AND EASEMENT CALLOUTS, SEE SHEET RW-04 THRU RW-04A

FOR STRUCTURE PLANS, SEE SHEETS S-1 THRU S-29

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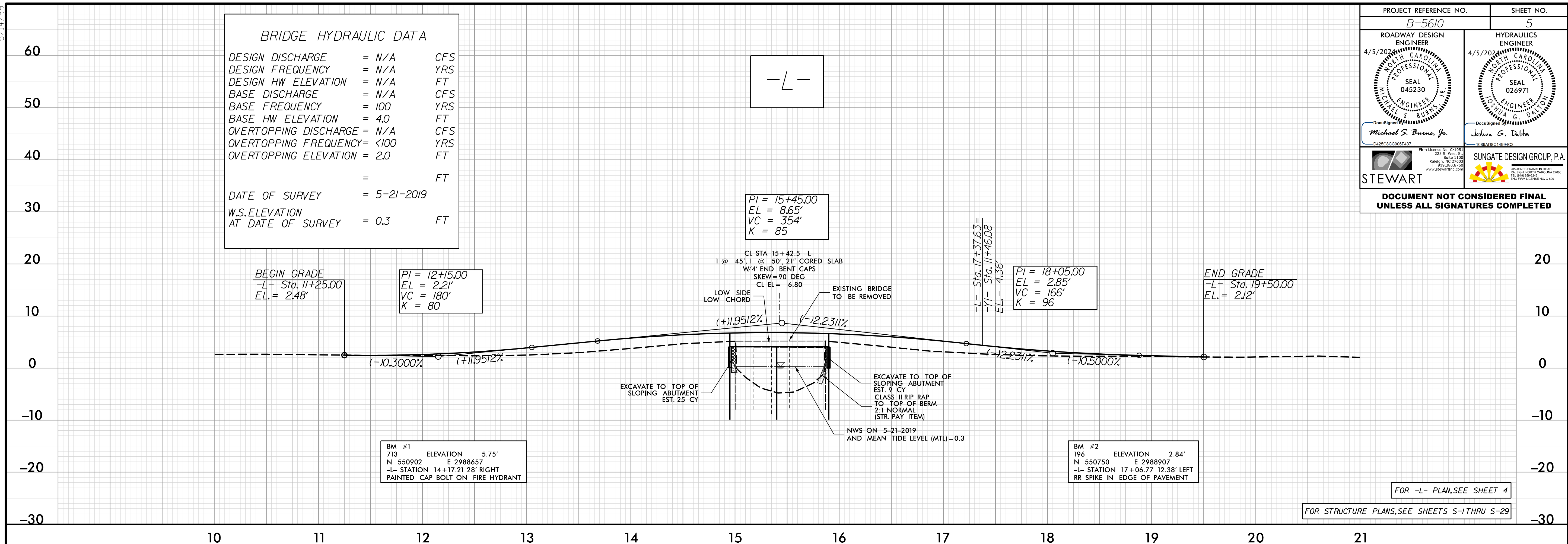
5/14/19

PROJECT REFERENCE NO. B-5610	SHEET NO. 5
ROADWAY DESIGN ENGINEER 4/5/2019 MICHAEL S. BURNS, JR. SEAL 045230	HYDRAULICS ENGINEER 4/5/2019 JESUNA G. DALTON SEAL 026971
Michael S. Burns, Jr. D4252C8C000F437	Jesuna G. Dalton 1088AD8C14884C3
STEWART	SUNGATE DESIGN GROUP, P.A.
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE = N/A CFS
 DESIGN FREQUENCY = N/A YRS
 DESIGN HW ELEVATION = N/A FT
 BASE DISCHARGE = N/A CFS
 BASE FREQUENCY = 100 YRS
 BASE HW ELEVATION = 4.0 FT
 OVERTOPPING DISCHARGE = N/A CFS
 OVERTOPPING FREQUENCY = <100 YRS
 OVERTOPPING ELEVATION = 2.0 FT

DATE OF SURVEY = 5-21-2019
 W.S. ELEVATION AT DATE OF SURVEY = 0.3 FT



FOR -L- PLAN, SEE SHEET 4
 FOR STRUCTURE PLANS, SEE SHEETS S-1 THRU S-29



FOR -YI- PLAN, SEE SHEET 4

3/27/2024
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