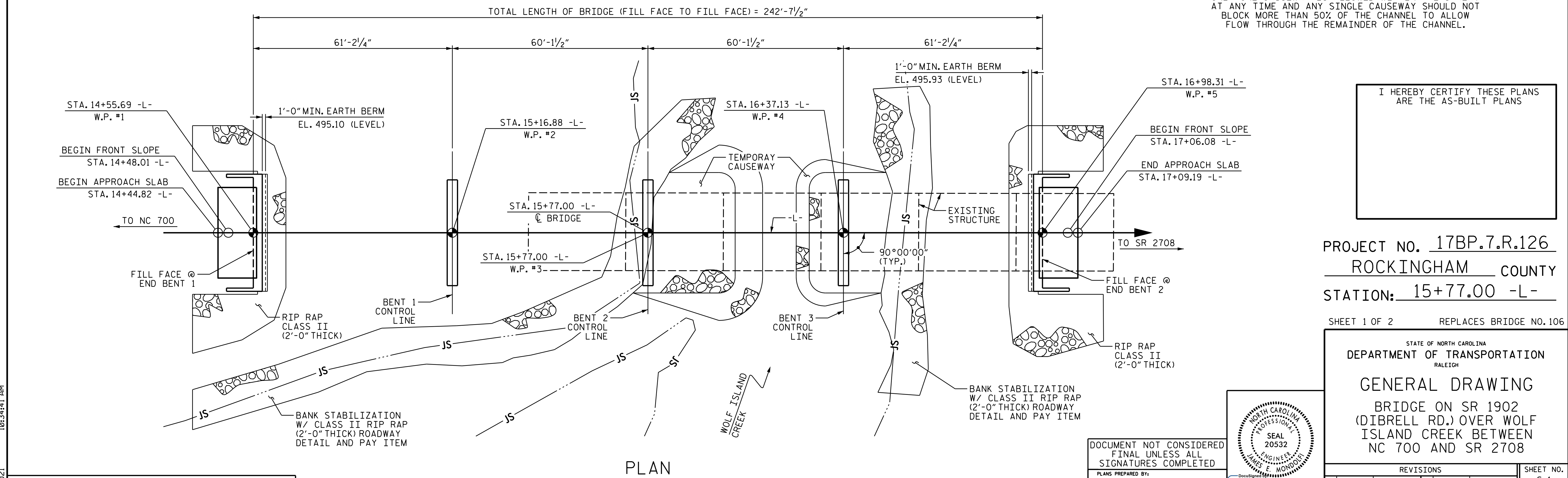
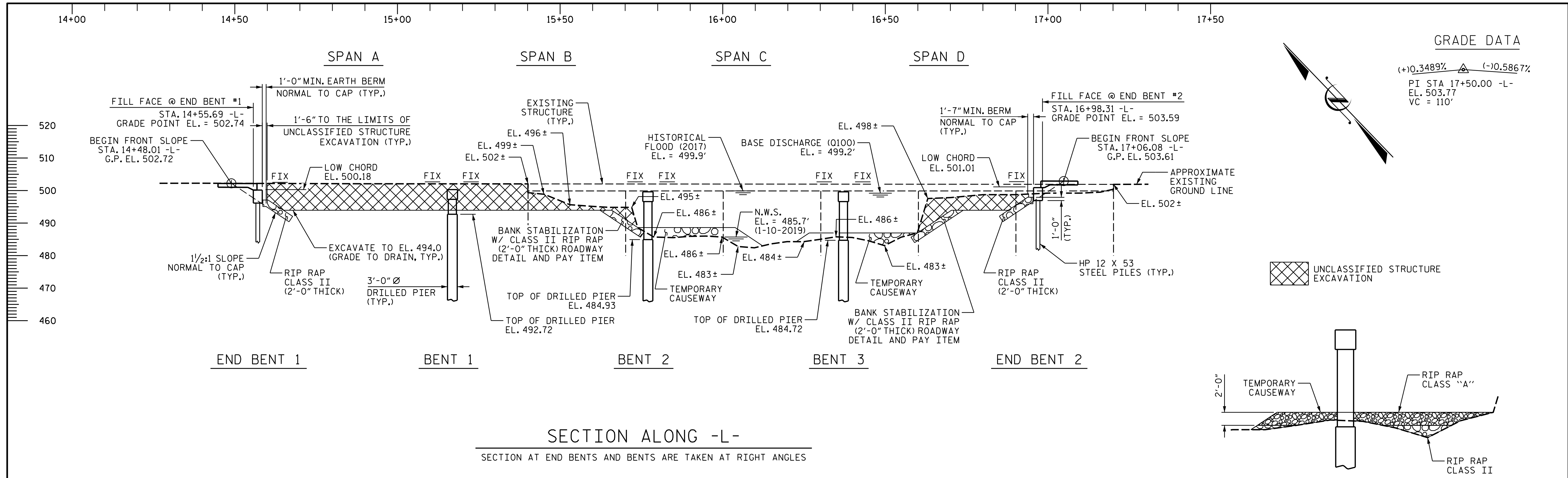


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and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

**This file or an individual page
shall not be considered a certified document.**



I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. 17BP.7.R.126
ROCKINGHAM COUNTY
STATION: 15+77.00 -L-

SHEET 1 OF 2 REPLACES BRIDGE NO. 106

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
BRIDGE ON SR 1902 (DIBRELL RD.) OVER WOLF ISLAND CREEK BETWEEN NC 700 AND SR 2708

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-1 TOTAL SHEETS 20
2			4			

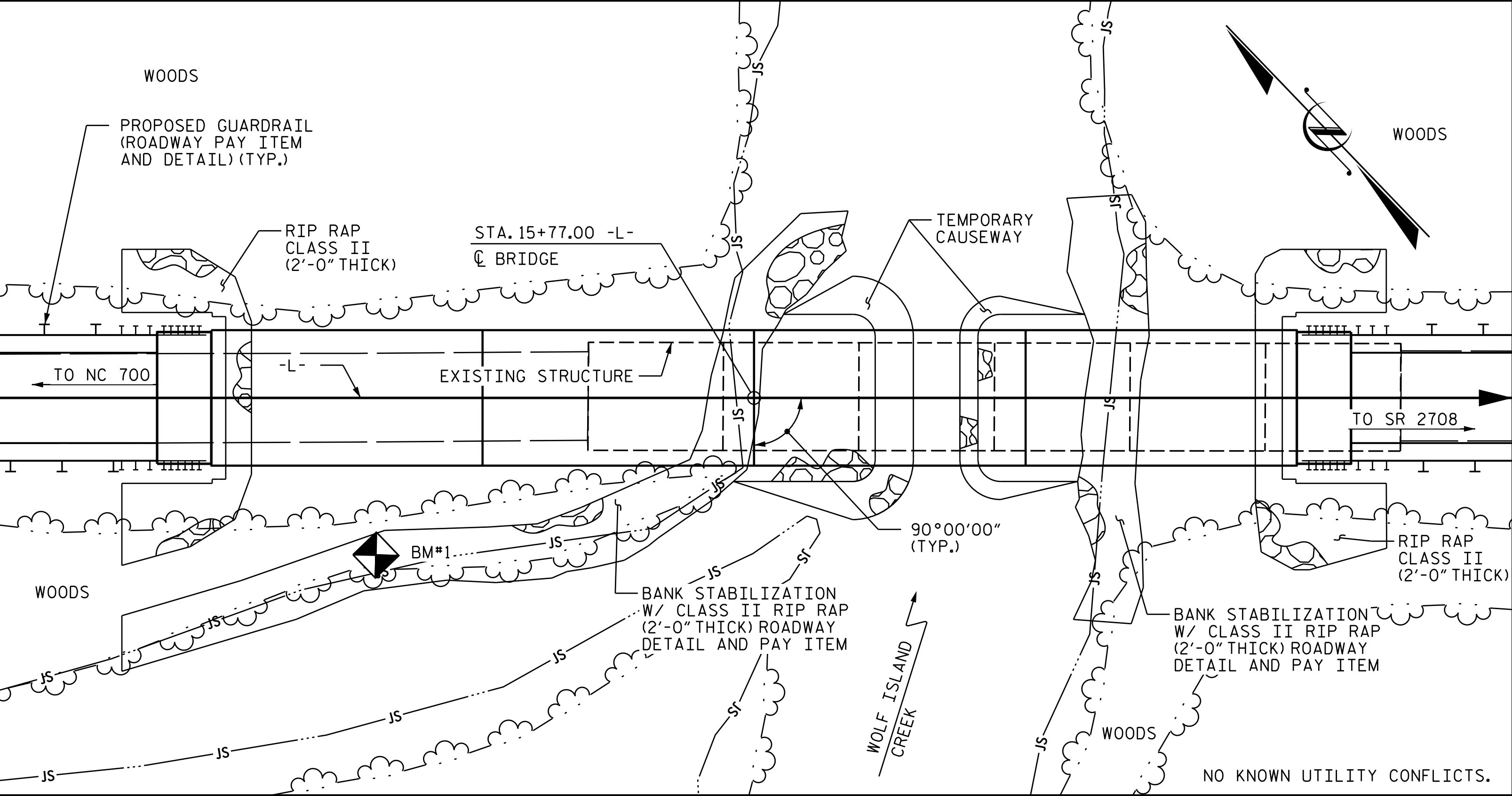
NORTH CAROLINA PROFESSIONAL SEAL 20532
JAMES E. MONDOLFI
3/23/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PLANS PREPARED BY:
MOTT MACDONALD
PO Box 700
Fuquay-Varina, NC 27526
9191 552-2253
www.mottmac.com
LICENSE NO. F-0669

\\157077\157077\Drawings\17BP.7.R.126.SMU.GDL.780106.dgn
3/23/2021 10:34:41 AM

DRAWN BY: J. M. ABRIL / J. T. WILLIAMS DATE: 12-2020
CHECKED BY: J. E. MONDOLFI DATE: 12-2020
DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 12-2020

BM #1 RR SPIKE SET IN 20" POPLAR TREE, STA. 14+93.26 -L-, 34.80' RT., EL. 497.68'



LOCATION SKETCH

FOUNDATION RECOMMENDATIONS

FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

SID INSPECTIONS MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS. FOR SID INSPECTIONS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES AT END BENT NOS. 1 AND 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 90 TONS PER PILE.

DRIVE PILES AT END BENT NOS. 1 AND 2 TO A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.

TESTING PILES WITH THE PDA DURING DRIVING, RESTRIKING, OR REDRIVING MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR PDA TESTING. FOR PDA TESTING, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

DRILLED PIERS AT BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 400 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 40 TSF.

PERMANENT STEEL CASINGS MAY BE REQUIRED FOR DRILLED PIERS AT BENT NO. 1. IF REQUIRED, DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 474.3 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT CASINGS.

INSTALL PERMANENT STEEL CASINGS AT BENT NO. 1 BY VIBRATING, SCREWING, OR DRIVING PERMANENT CASINGS BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION 489.4 FT.

INSTALL DRILLED PIERS AT BENT NO. 1 TO A TIP ELEVATION NO HIGHER THAN 449.0 FT WITH THE REQUIRED TIP RESISTANCE.

THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS 486.4 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

DRILLED PIERS AT BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 400 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 40 TSF.

FOUNDATION RECOMMENDATIONS CONT.

PERMANENT STEEL CASINGS MAY BE REQUIRED FOR DRILLED PIERS AT BENT NO. 2. IF REQUIRED, DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 474.2 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT CASINGS.

INSTALL PERMANENT STEEL CASINGS AT BENT NO. 2 BY VIBRATING, SCREWING, OR DRIVING PERMANENT CASINGS BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION 476.0 FT.

INSTALL DRILLED PIERS AT BENT NO. 2 TO A TIP ELEVATION NO HIGHER THAN 447.0 FT WITH THE REQUIRED TIP RESISTANCE.

THE SCOUR CRITICAL ELEVATION FOR BENT NO. 2 IS 473.0 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

DRILLED PIERS AT BENT NO. 3 ARE DESIGNED FOR A FACTORED RESISTANCE OF 400 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 40 TSF.

PERMANENT STEEL CASINGS MAY BE REQUIRED FOR DRILLED PIERS AT BENT NO. 3. IF REQUIRED, DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 475.4 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT CASINGS.

INSTALL PERMANENT STEEL CASINGS AT BENT NO. 3 BY VIBRATING, SCREWING, OR DRIVING PERMANENT CASINGS BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION 475.9 FT.

INSTALL DRILLED PIERS AT BENT NO. 3 TO A TIP ELEVATION NO HIGHER THAN 447.0 FT WITH THE REQUIRED TIP RESISTANCE.

THE SCOUR CRITICAL ELEVATION FOR BENT NO. 3 IS 472.9 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

TOTAL BILL OF MATERIAL

	CONST., MAINT., & REMOVAL OF TEMP. ACCESS	REMOVAL OF EXISTING STRUCTURE	ASBESTOS ASSESSMENT	3'-0" Ø DRILLED PIERS IN SOIL	3'-0 Ø DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-0" Ø DRILLED PIER	PDA TESTING	SID INSPECTIONS	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE (BRIDGE)	BRIDGE APPROACH SLABS	REINFORCING STEEL (BRIDGE)	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES		VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLABS	
	LUMP SUM	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	EA.	EA.	EA.	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	LBS.	EA.	NO.	LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE												LUMP SUM						481			LUMP SUM	40	2400
END BENT 1											20.2		2,449		5	5	163		115	128			
BENT 1				111.3	20	58.4					14.0		11,419	2,478									
BENT 2				91.0	23	35.4					18.4		12,946	2,616									
BENT 3				86.3	27	31.0					18.6		12,973	2,625									
END BENT 2											20.2		2,449		5	5	138		138	154			
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	288.6	70	124.8	1	3	3	LUMP SUM	91.4	LUMP SUM	42,236	7,719	10	10	301	481	253	282	LUMP SUM	40	2400

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE SPECIFICATIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

FOR OTHER DESIGN DATA AND GENERAL NOTES SEE SHEET SN.

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE "HEC 18 - EVALUATING SCOUR AT BRIDGES."

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

NOTES CONT.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET 1 OF 2 SHALL BE EXCAVATED FOR A DISTANCE OF 38± FT RIGHT AND 34± FT LEFT OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

THE EXISTING STRUCTURE CONSISTING OF 6 SPANS @ 30'-0"; 23'-11" CLEAR ROADWAY WIDTH; ASPHALT WEARING SURFACE ON PRESTRESSED CONCRETE CHANNELS; PRESTRESSED CONCRETE END AND INTERIOR BENT CAPS; END BENTS AND INTERIOR BENTS ON STEEL PILES LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

NOTES CONT.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAY, THE CLASS II RIP RAP USED IN THE CAUSEWAY MAY BE PLACED AS RIP RAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 15+77.00 -L-.

HYDRAULIC DATA

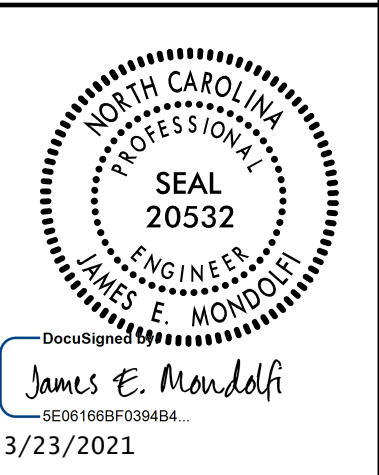
DESIGN DISCHARGE = 6,260 C.F.S.
FREQUENCY OF DESIGN FLOOD = 25 YRS.
DESIGN HIGH WATER ELEVATION = 497.9 FT
DRAINAGE AREA = 54.3 SQ. MI.
BASE DISCHARGE (Q100) = 9,040 C.F.S.
BASE HIGH WATER ELEVATION = 499.2 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 15,000 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD = 500 YRS.
OVERTOPPING FLOOD ELEVATION = 501.6 FT.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLANS PREPARED BY:
MOTT MACDONALD
PO Box 700
Fuquay-Varina, NC 27526
919 552-2253
www.mottmac.com
3/23/2021
LICENSE NO. F-0669



PROJECT NO. 17BP.7.R.126
ROCKINGHAM COUNTY
STATION: 15+77.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

BRIDGE ON SR 1902
(DIBRELL RD.) OVER WOLF
ISLAND CREEK BETWEEN
NC 700 AND SR 2708

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			20

LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LEVEL		VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE						COMMENT NUMBER	
							LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT					
								DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (ft)
DESIGN LOAD RATING		HL-93(Inv)	N/A	1	1.33	--	1.75	0.275	1.33	60'	EL	29.5	0.52	1.33	60'	EL	5.9	0.80	0.275	1.37	60'	EL	29.5	
		HL-93(0pr)	N/A	--	1.725	--	1.35	0.275	1.73	60'	EL	29.5	0.52	1.72	60'	EL	5.9	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	2	1.601	57.643	1.75	0.275	1.69	60'	EL	29.5	0.52	1.6	60'	EL	5.9	0.80	0.275	1.74	60'	EL	29.5	
		HS-20(0pr)	36.000	--	2.076	74.723	1.35	0.275	2.19	60'	EL	29.5	0.52	2.08	60'	EL	5.9	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.745	50.557	1.4	0.275	4.55	60'	EL	29.5	0.52	4.63	60'	EL	5.9	0.80	0.275	3.74	60'	EL	29.5	
		SNGARBS2	20.000	--	2.867	57.338	1.4	0.275	3.48	60'	EL	29.5	0.52	3.33	60'	EL	5.9	0.80	0.275	2.87	60'	EL	29.5	
		SNAGRIS2	22.000	--	2.748	60.46	1.4	0.275	3.34	60'	EL	29.5	0.52	3.11	60'	EL	5.9	0.80	0.275	2.75	60'	EL	29.5	
		SNCOTTS3	27.250	--	1.866	50.841	1.4	0.275	2.27	60'	EL	29.5	0.52	2.31	60'	EL	5.9	0.80	0.275	1.87	60'	EL	29.5	
		SNAGGRS4	34.925	--	1.588	55.465	1.4	0.275	1.93	60'	EL	29.5	0.52	1.95	60'	EL	5.9	0.80	0.275	1.59	60'	EL	29.5	
		SNS5A	35.550	--	1.551	55.139	1.4	0.275	1.89	60'	EL	29.5	0.52	1.99	60'	EL	5.9	0.80	0.275	1.55	60'	EL	29.5	
		SNS6A	39.950	--	1.435	57.347	1.4	0.275	1.74	60'	EL	29.5	0.52	1.83	60'	EL	5.9	0.80	0.275	1.44	60'	EL	29.5	
		SNS7B	42.000	--	1.367	57.434	1.4	0.275	1.66	60'	EL	29.5	0.52	1.81	60'	EL	5.9	0.80	0.275	1.37	60'	EL	29.5	
	TTST	TNAGRIT3	33.000	--	1.754	57.887	1.4	0.275	2.13	60'	EL	29.5	0.52	2.17	60'	EL	5.9	0.80	0.275	1.75	60'	EL	29.5	
		TNT4A	33.075	--	1.765	58.389	1.4	0.275	2.15	60'	EL	29.5	0.52	2.1	60'	EL	5.9	0.80	0.275	1.77	60'	EL	29.5	
		TNT6A	41.600	--	1.456	60.551	1.4	0.275	1.77	60'	EL	29.5	0.52	1.96	60'	EL	5.9	0.80	0.275	1.46	60'	EL	29.5	
		TNT7A	42.000	--	1.469	61.714	1.4	0.275	1.79	60'	EL	29.5	0.52	1.88	60'	EL	5.9	0.80	0.275	1.47	60'	EL	29.5	
		TNT7B	42.000	--	1.535	64.463	1.4	0.275	1.87	60'	EL	29.5	0.52	1.76	60'	EL	5.9	0.80	0.275	1.53	60'	EL	29.5	
		TNAGRIT4	43.000	--	1.45	62.329	1.4	0.275	1.76	60'	EL	29.5	0.52	1.7	60'	EL	5.9	0.80	0.275	1.45	60'	EL	29.5	
		TNAGT5A	45.000	--	1.361	61.247	1.4	0.275	1.65	60'	EL	29.5	0.52	1.71	60'	EL	5.9	0.80	0.275	1.36	60'	EL	29.5	
		TNAGT5B	45.000	3	1.34	60.282	1.4	0.275	1.63	60'	EL	29.5	0.52	1.61	60'	EL	5.9	0.80	0.275	1.34	60'	EL	29.5	

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ _{DC}	γ _{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

CONTROLLING LOAD RATING

1 DESIGN LOAD RATING (HL-93)

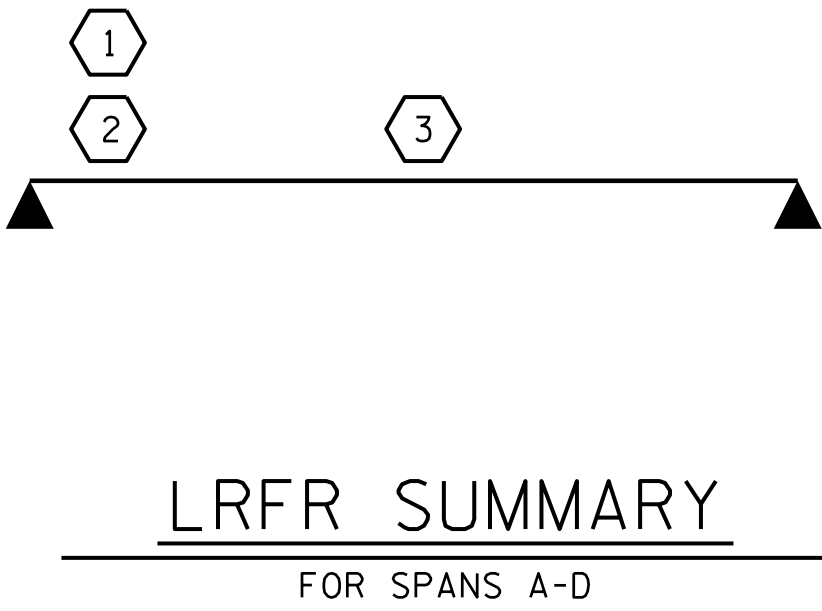
2 DESIGN LOAD RATING (HS-20)

3 LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



PROJECT NO. 17BP.7.R.126
ROCKINGHAM COUNTY
STATION: 15+77.00 -L-

w:\157077-17BP.7.R.126-SMU.LRFR-780106.dgn
3/22/2021 10:34:43 AM

DRAWN BY: J. M. ABRIL / J. T. WILLIAMS	DATE: 12-2020
CHECKED BY: J. E. MONDOLFI	DATE: 12-2020
DESIGN ENGINEER OF RECORD: J. M. ROBINSON	DATE: 12-2020

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

PLANS PREPARED BY:
MOTT MACDONALD

PO Box 700
Fuquay-Varina, NC 27526
919.552.2253
www.mottmac.com
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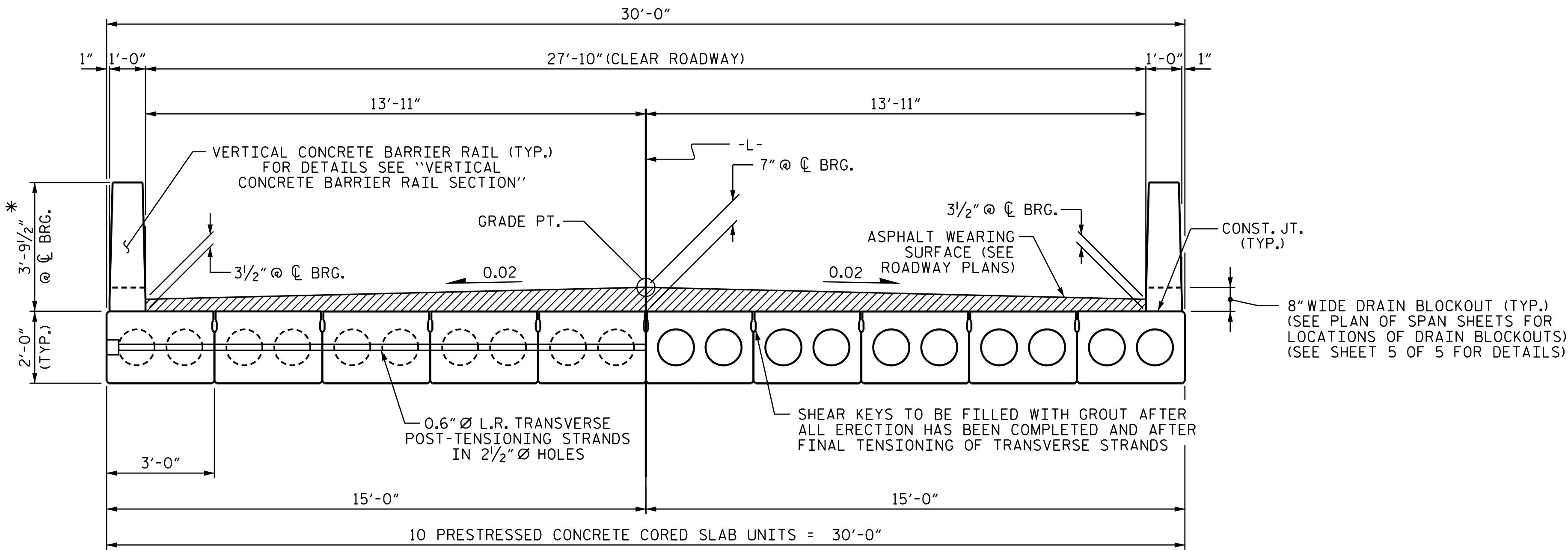
NORTH CAROLINA
PROFESSIONAL
SEAL
20532
ENGINEER
JAMES E. MONDOLFI

3/23/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

LRFR SUMMARY FOR
60' CORED SLAB UNITS
90°SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO. S-3
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 20
2			4			



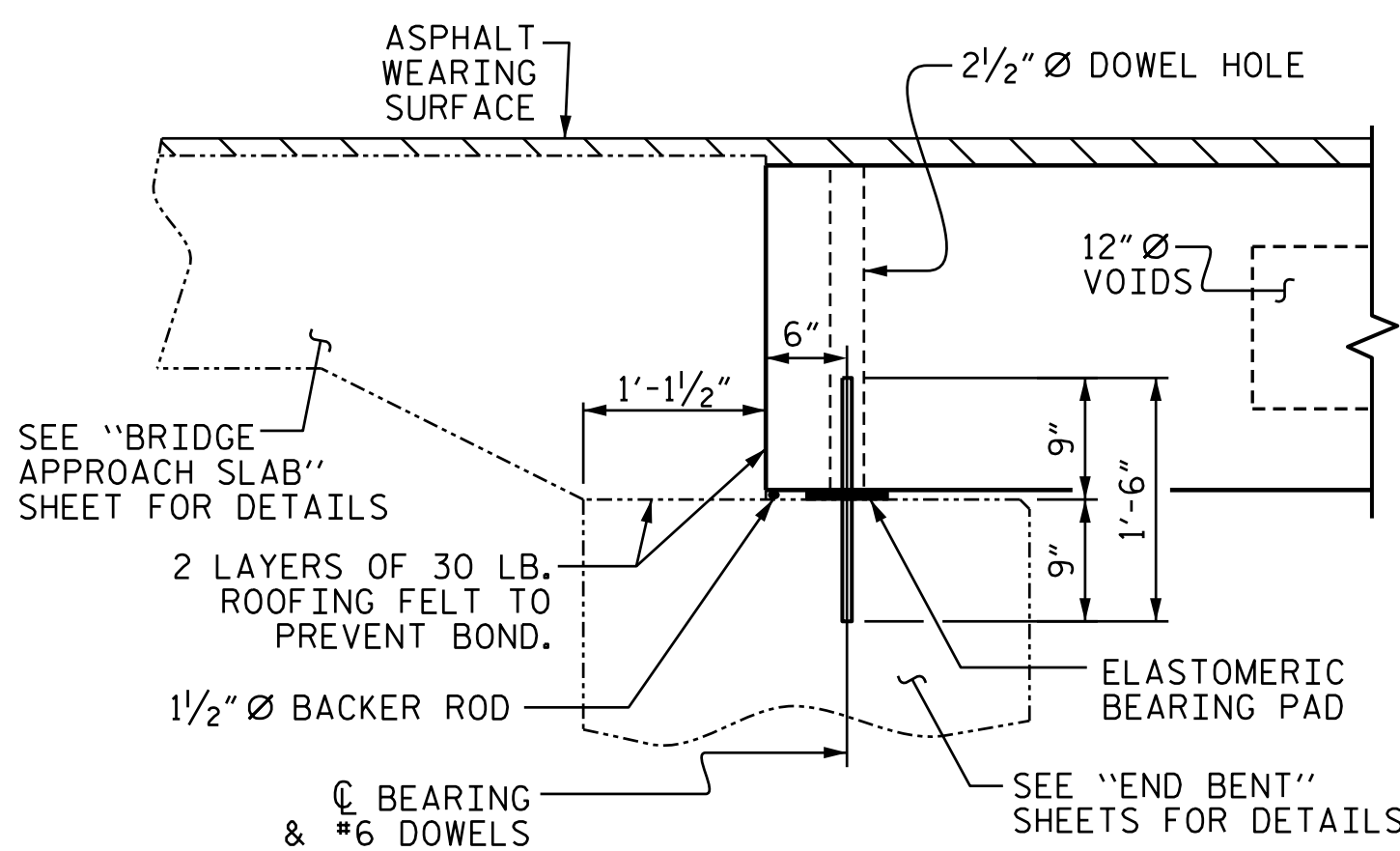
HALF SECTION
AT INTERMEDIATE DIAPHRAGMS

TYPICAL SECTION

HALF SECTION
THROUGH VOIDS

* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS, SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.

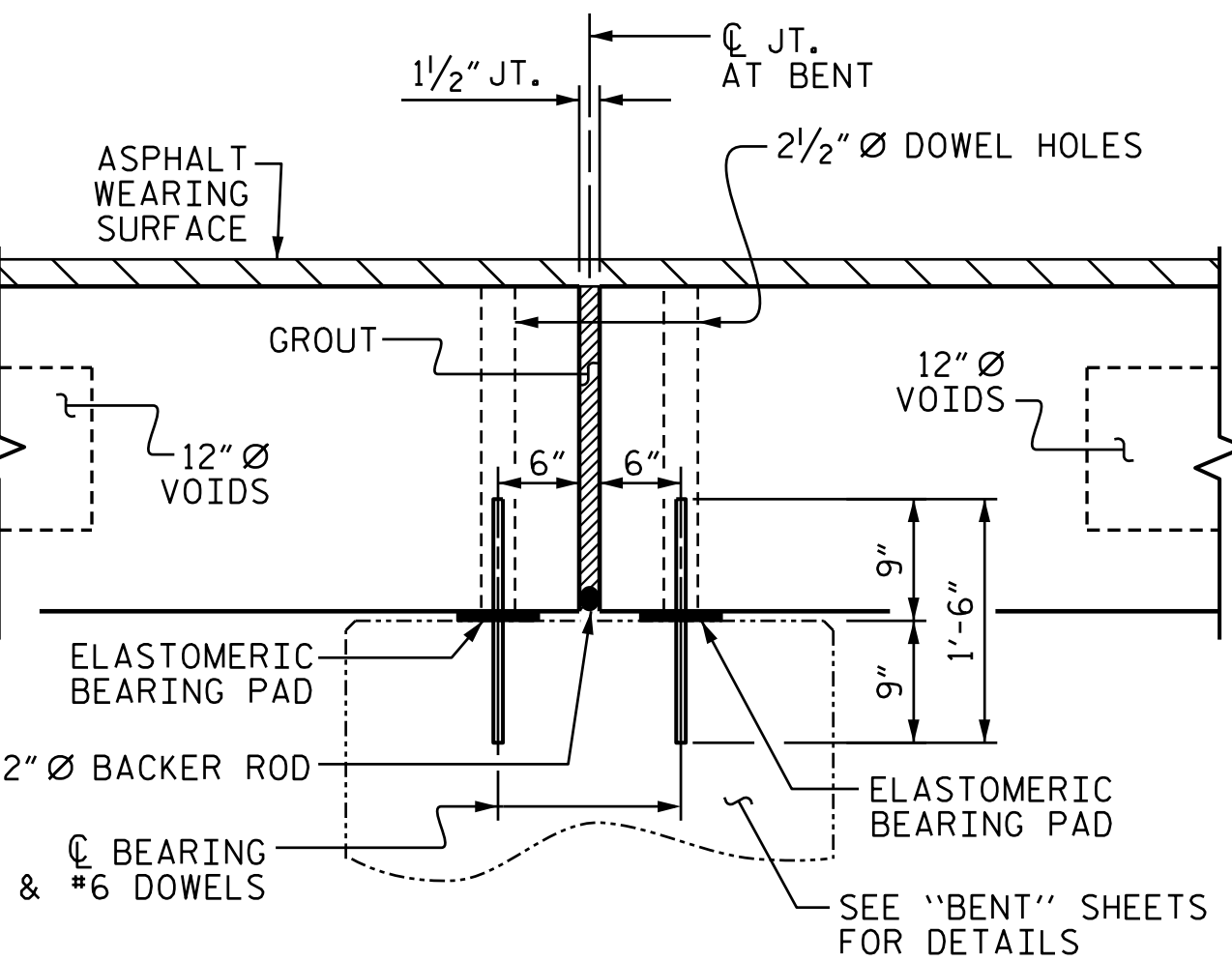
FIXED END



SECTION AT END BENT

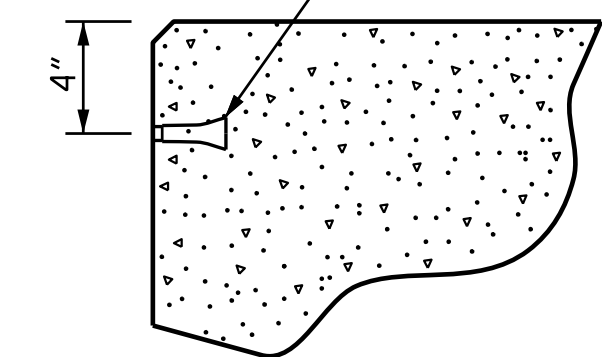
FIXED END

FIXED END

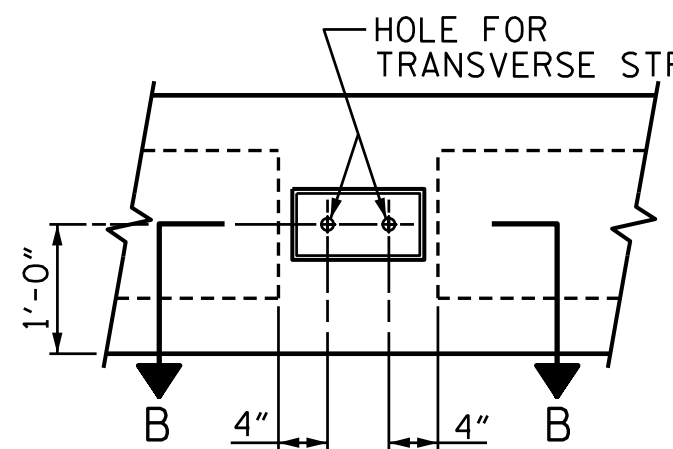


SECTION AT BENT

PERMITTED THREADED INSERT
CAST IN OUTSIDE FACE OF
EXTERIOR UNIT AND
RECESSED 3/8" SIZE TO BE
DETERMINED
BY CONTRACTOR.

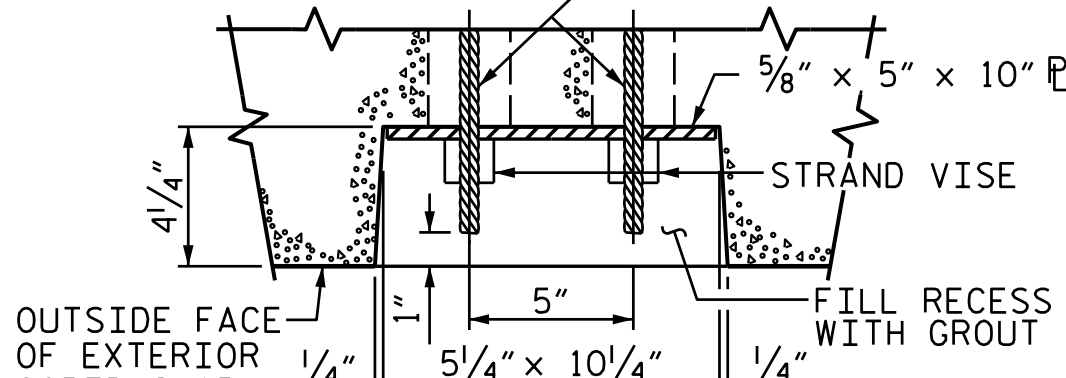


THREADED INSERT DETAIL



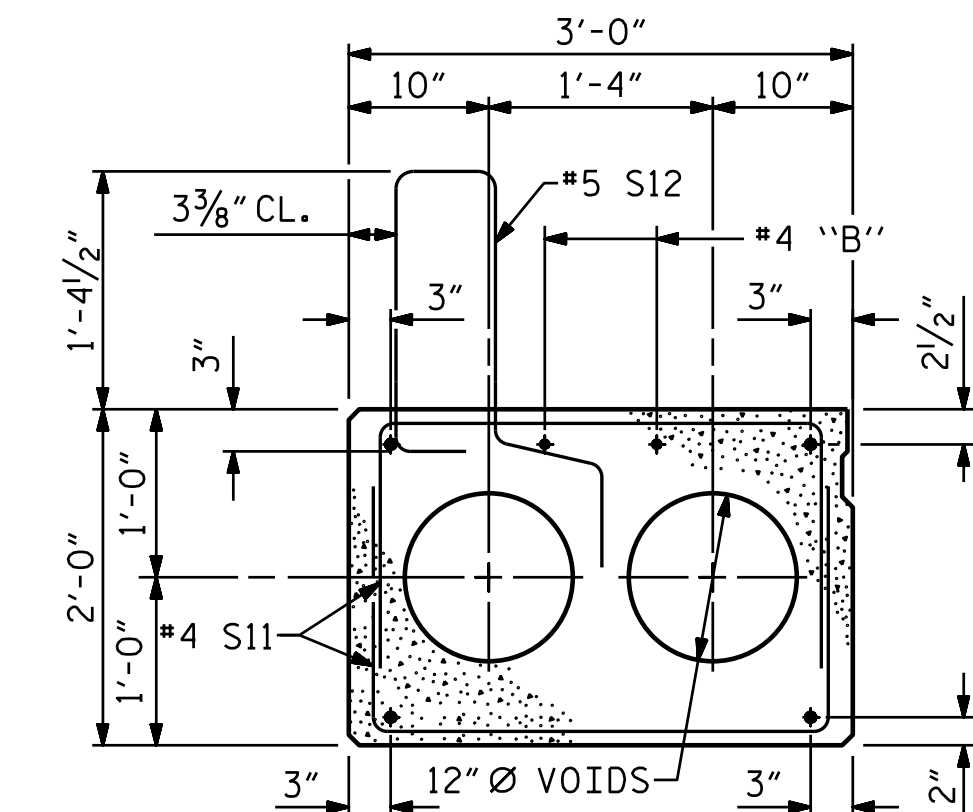
ELEVATION VIEW

0.6" L.R. TRANSVERSE
POST-TENSIONING STRAND
SHEATHED WITH A
NON-CORROSIVE PIPE.



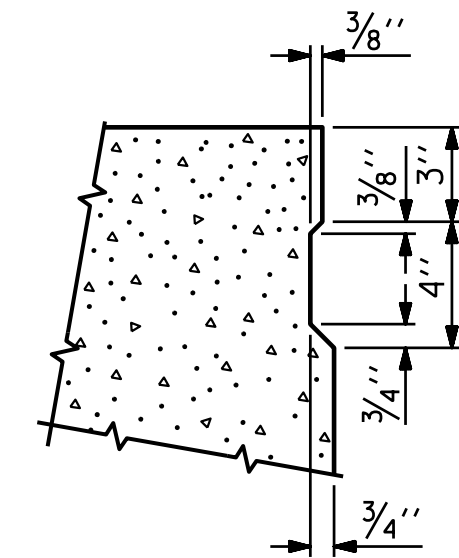
SECTION B-B

GRAUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS



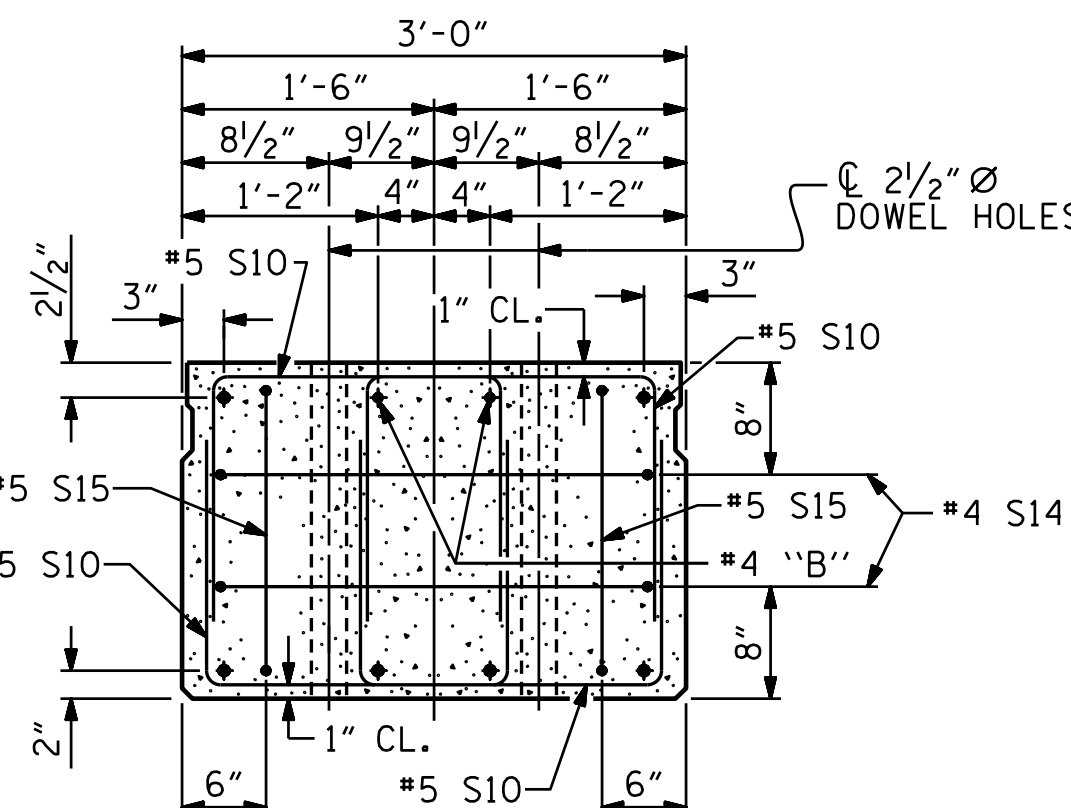
EXTERIOR SLAB SECTION

(FOR PRESTRESSED STRAND LAYOUT, SEE
INTERIOR SLAB SECTION.)



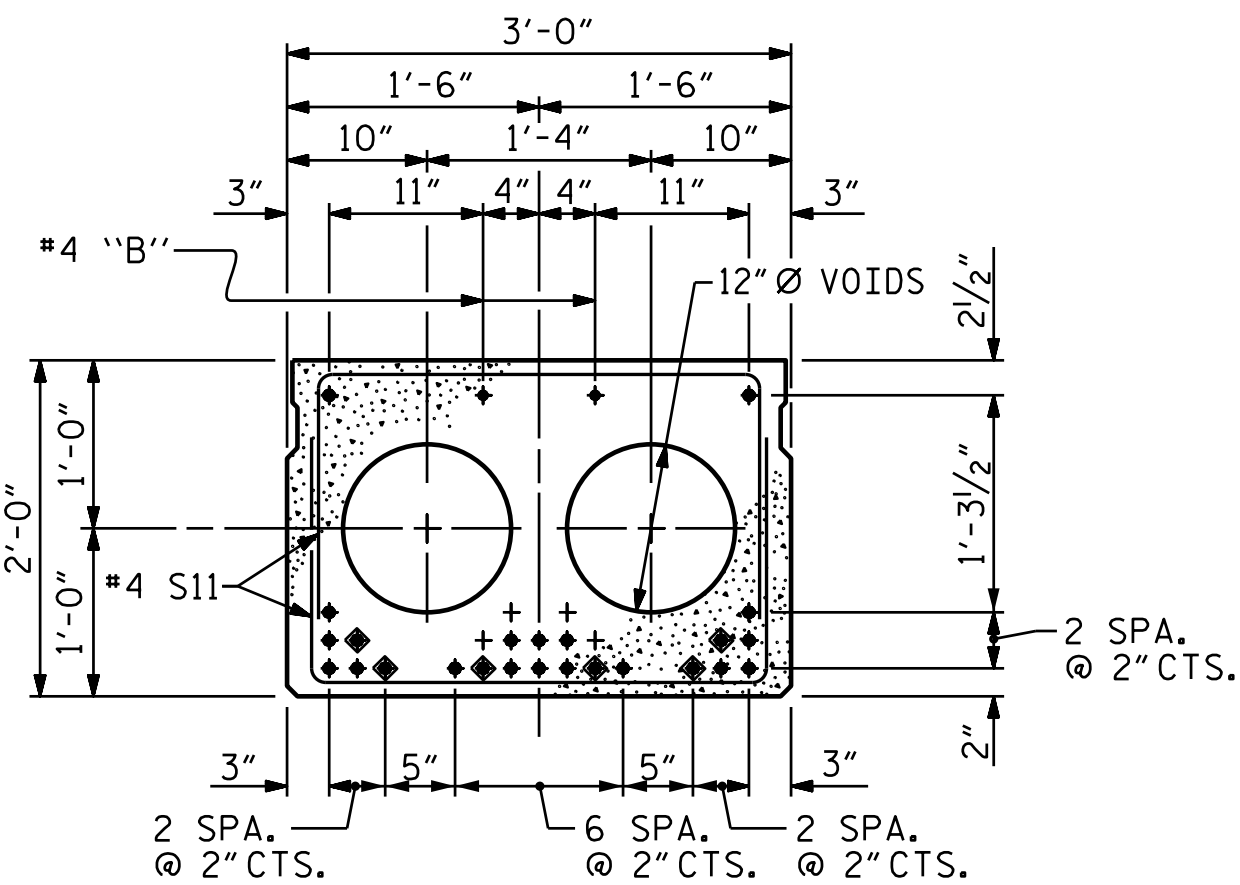
SHEAR KEY DETAIL

NOTE: OMIT SHEAR KEY ON OUTSIDE FACE
OF EXTERIOR CORED SLABS.



END ELEVATION

SHOWING PLACEMENT OF DOUBLE STIRRUPS
AND LOCATION OF DOWEL HOLES.
(STRAND LAYOUT NOT SHOWN.)
INTERIOR SLAB UNIT SHOWN-EXTERIOR SLAB
UNIT SIMILAR EXCEPT SHEAR KEY LOCATION.



INTERIOR SLAB SECTION (60' UNIT)
(24 STRANDS REQUIRED)

0.6" Ø LOW RELAXATION STRAND LAYOUT

◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A
DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT.
SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND

PROJECT NO. 17BP.7.R.126
ROCKINGHAM COUNTY
STATION: 15+77.00 -L-

SHEET 1 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

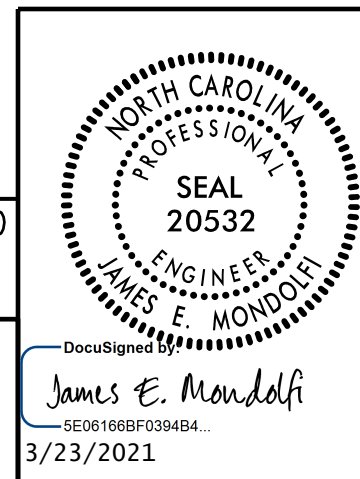
3'-0" x 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT

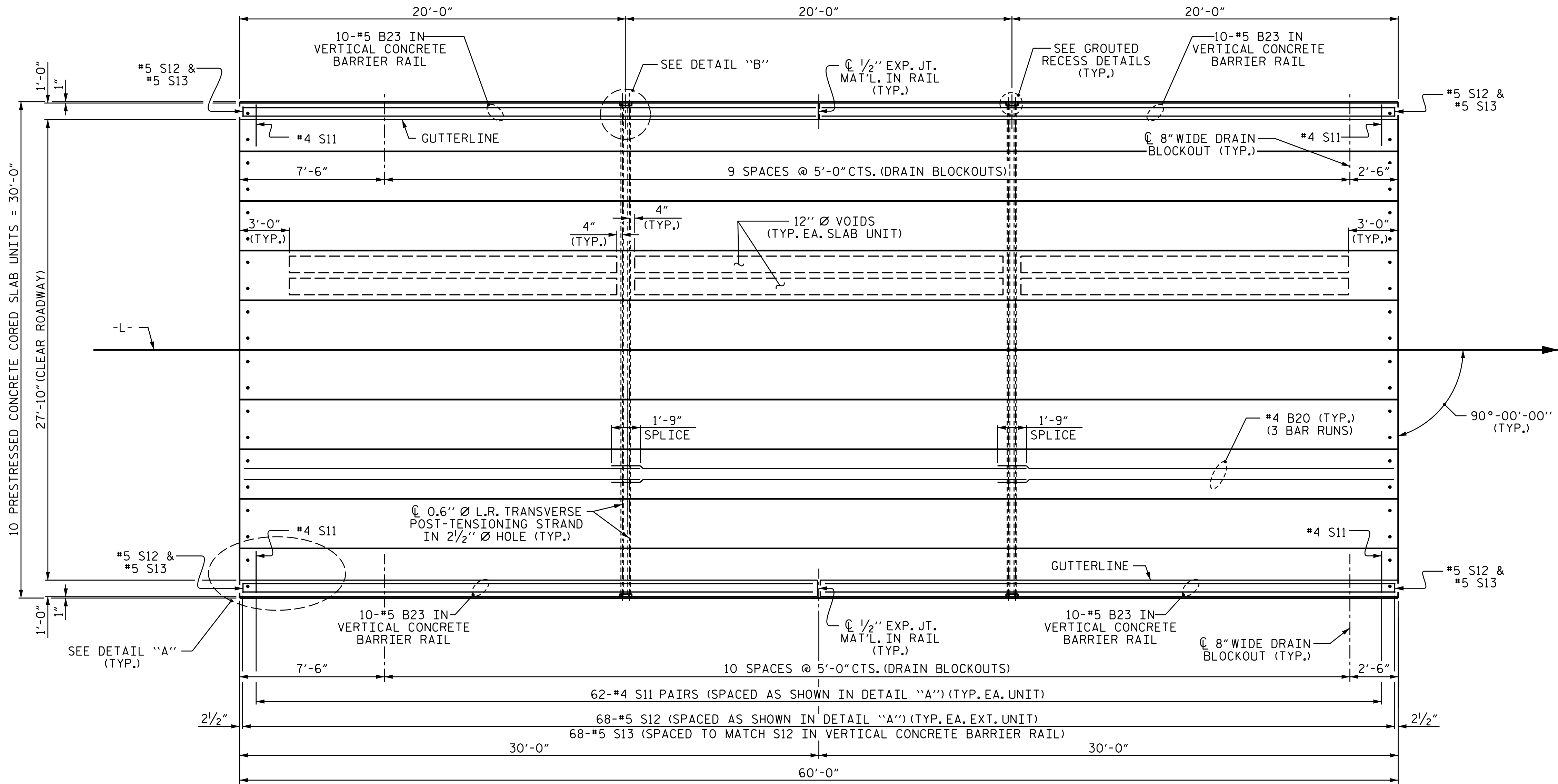
REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S-4
2			4			TOTAL SHEETS 20

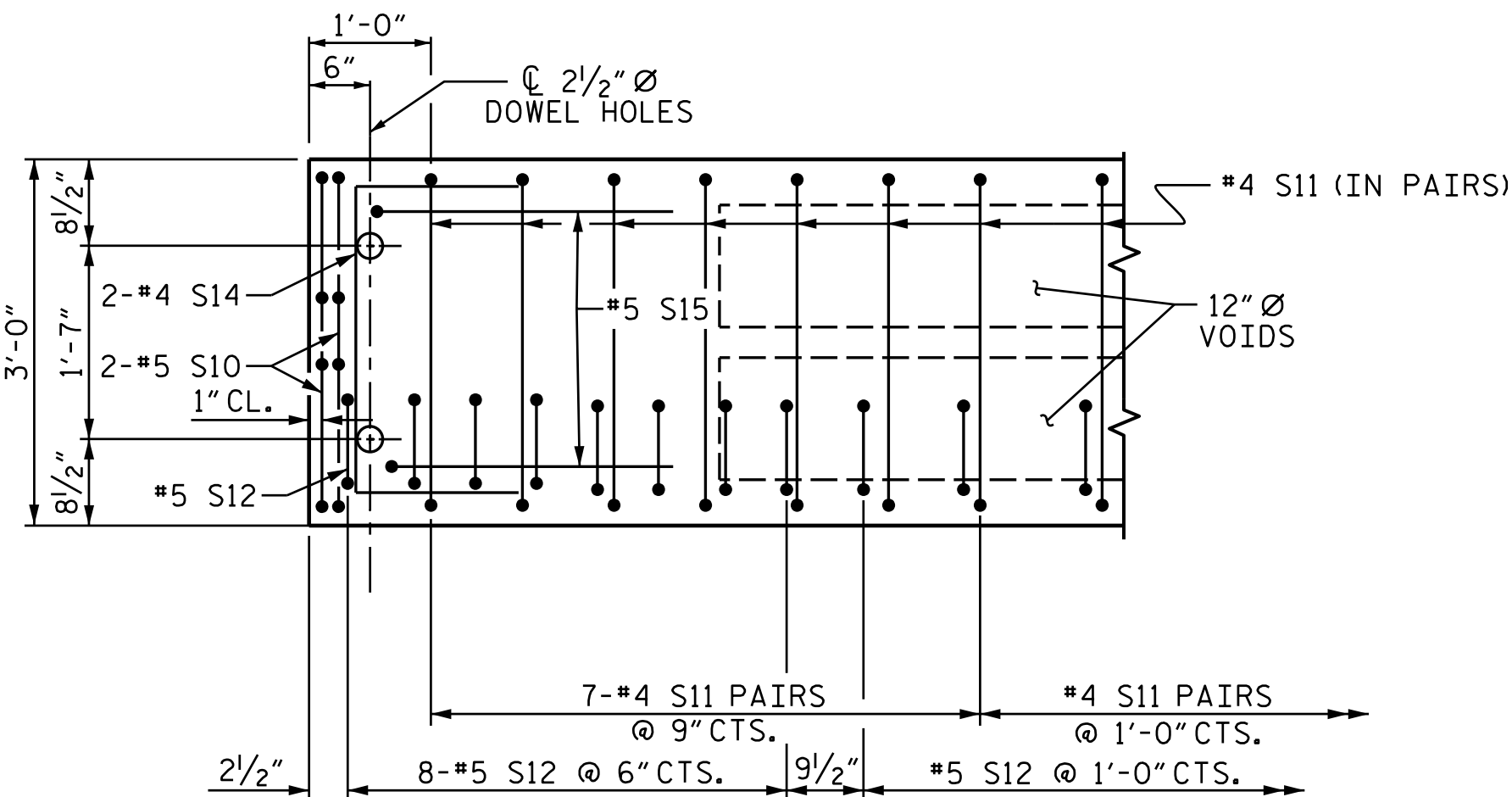
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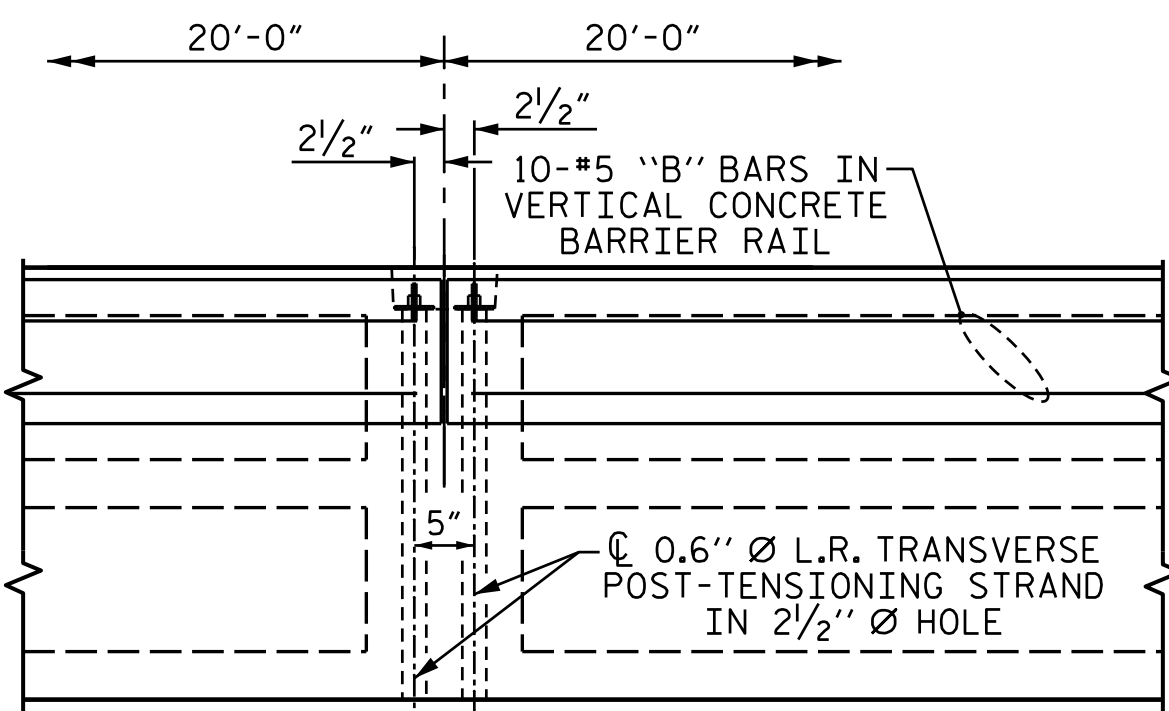


PLAN OF SPAN A UNIT



DETAIL "A"

(TYPICAL EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR
UNIT SIMILAR EXCEPT OMIT #5 S12 BARS.

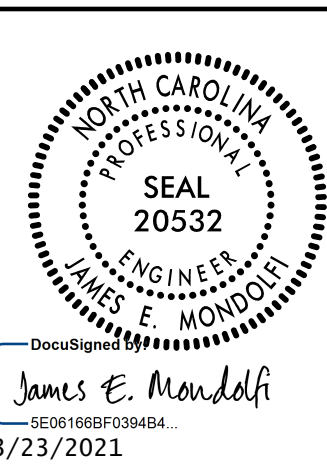


DETAIL "B"

#4 S11 BARS MAY BE SHIFTED AS NECESSARY
TO MAINTAIN 1" CLEAR TO GROUDED RECESS AND
2 1/2" Ø TRANSVERSE POST-TENSIONING STRAND HOLES

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PROJECT NO. 17BP.7.R.126
ROCKINGHAM COUNTY
STATION: 15+77.00 -L-

SHEET 2 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

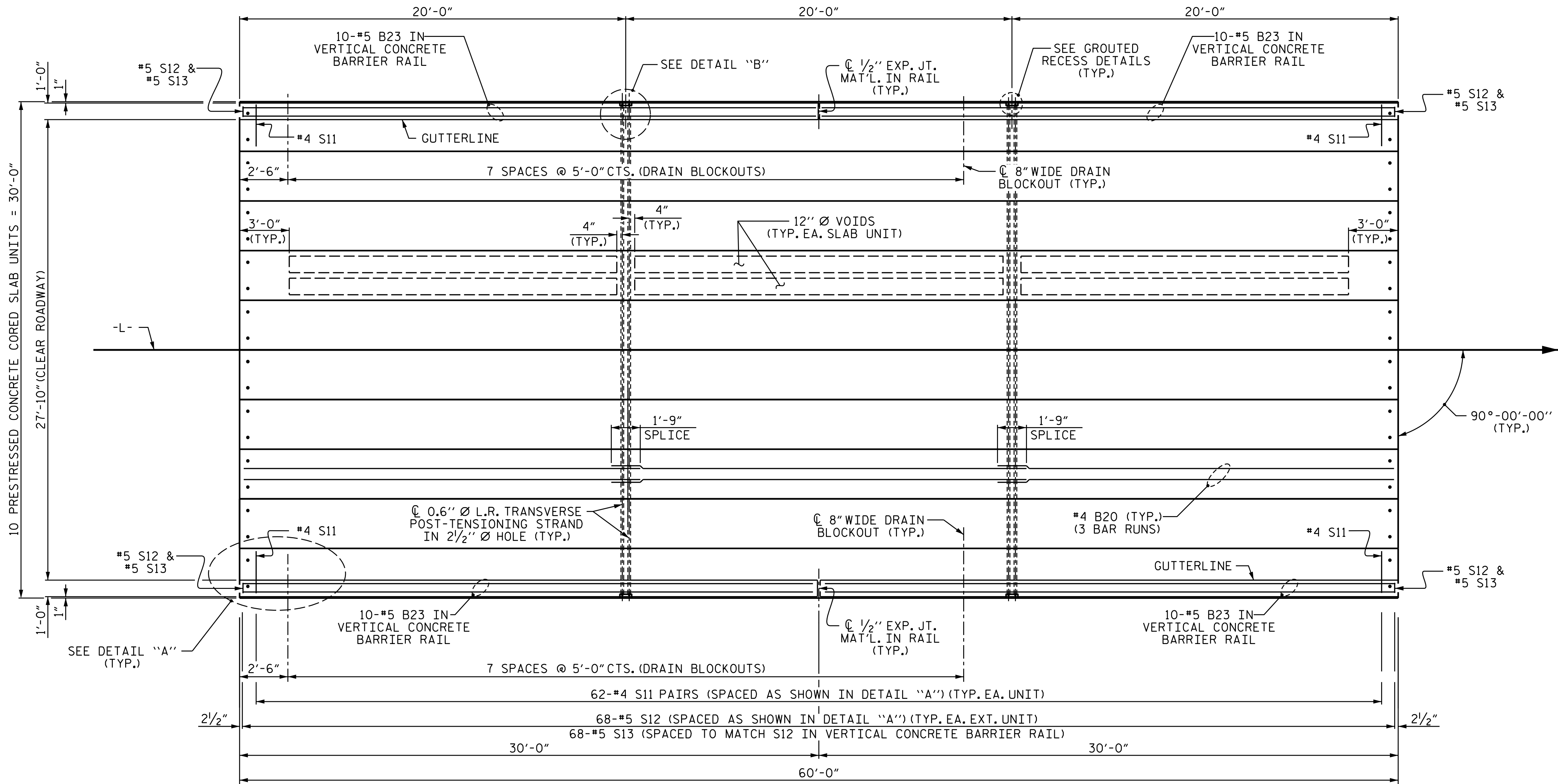
SUPERSTRUCTURE

PLAN OF 60' UNIT
27'-10" CLEAR ROADWAY
90° SKEW

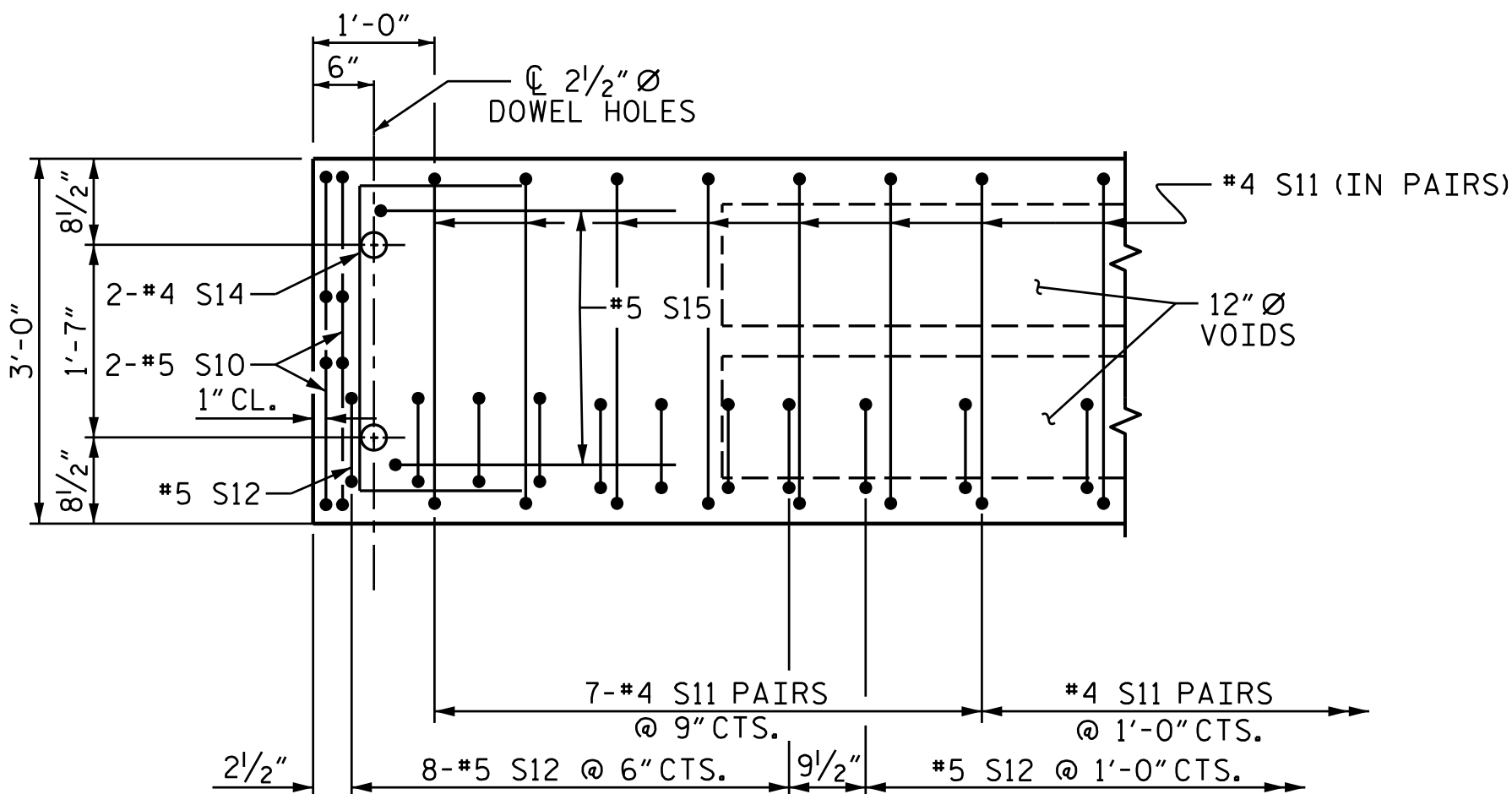
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 20
2			4			

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DRAWN BY: J. M. ABRIL / J. T. WILLIAMS DATE: 12-2020
CHECKED BY: J. E. MONDOLFI DATE: 12-2020
DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 12-2020

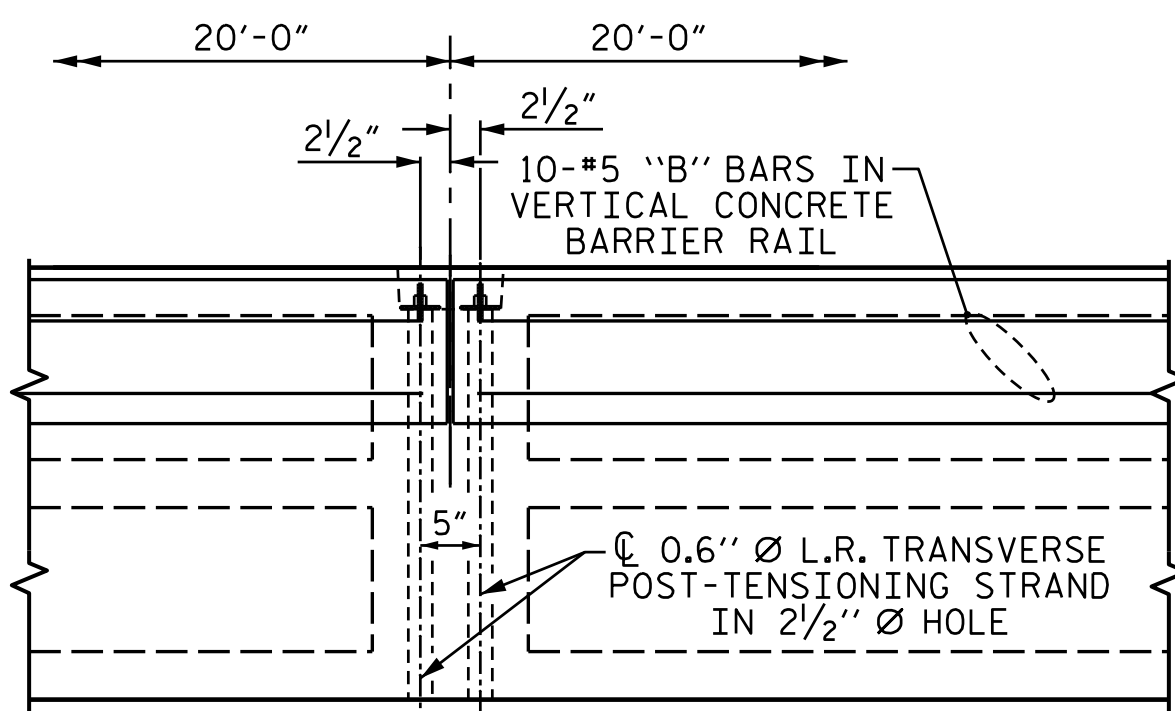


PLAN OF SPAN B UNIT



DETAIL "A"

(TYPICAL EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR
UNIT SIMILAR EXCEPT OMIT #5 S12 BARS.



DETAIL "B"

#4 S11 BARS MAY BE SHIFTED AS NECESSARY
TO MAINTAIN 1" CLEAR TO GROUTED RECESS AND
2 1/2" Ø TRANSVERSE POST-TENSIONING STRAND HOLES

PROJECT NO. 17BP.7.R.126
ROCKINGHAM COUNTY
STATION: 15+77.00 -L-

SHEET 3 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

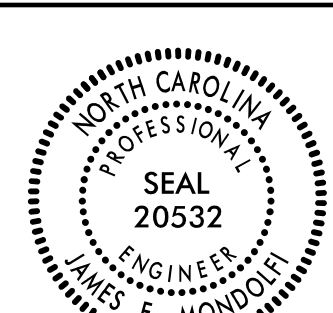
PLAN OF 60' UNIT
27'-10" CLEAR ROADWAY
90° SKEW

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S-6
2			4			TOTAL SHEETS
						20

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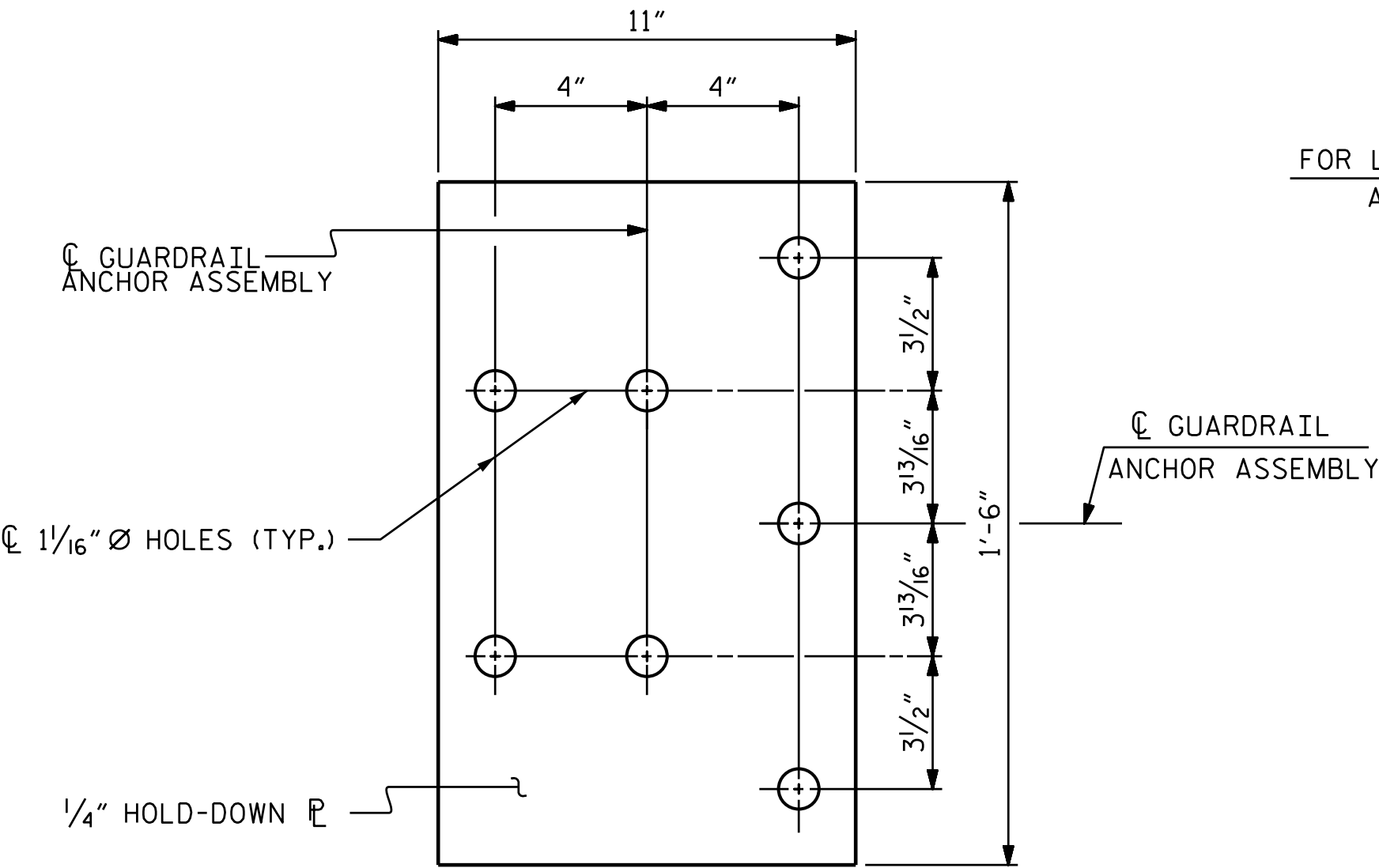


James E. Mondolfi
3/23/2021

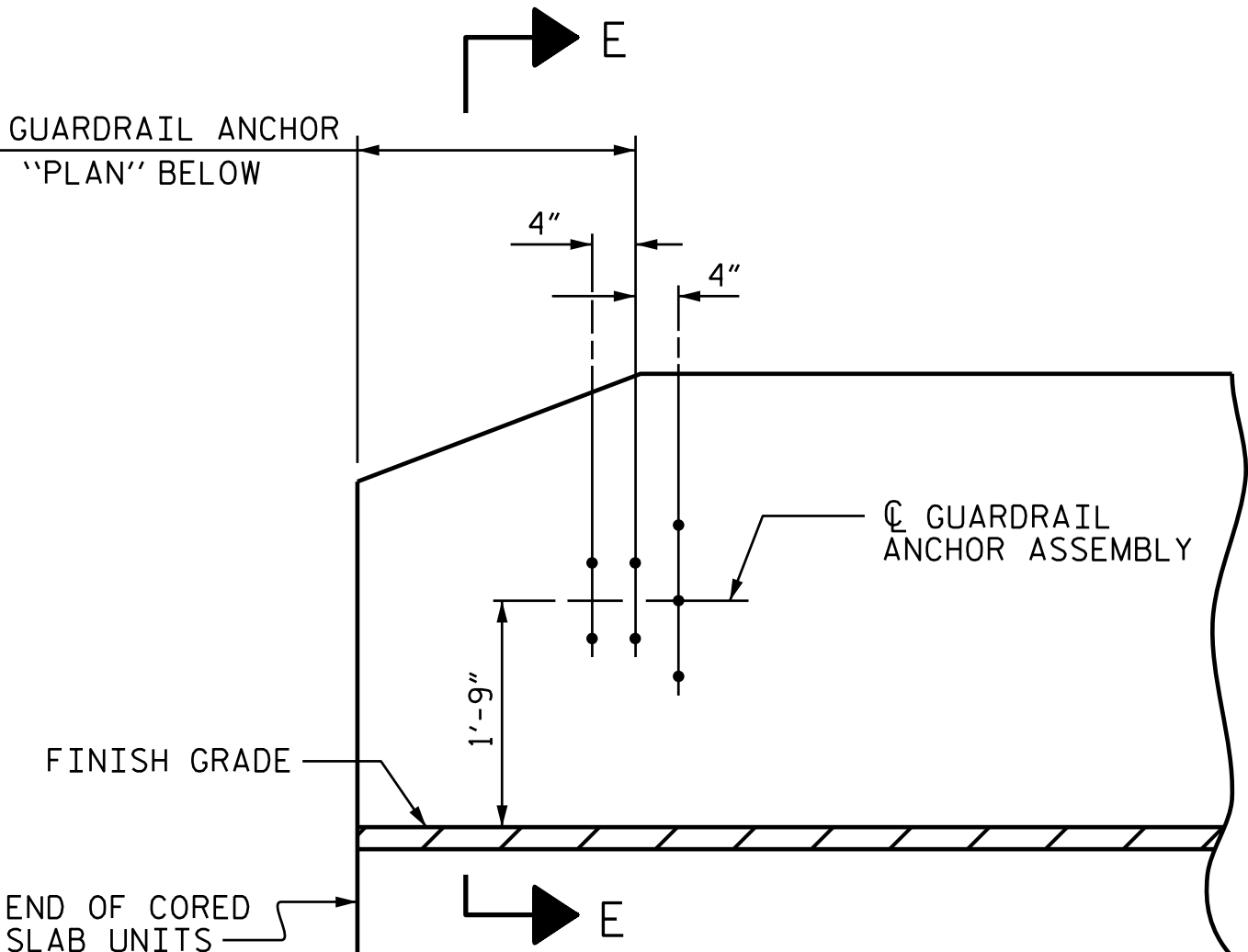


DETAIL ``B''

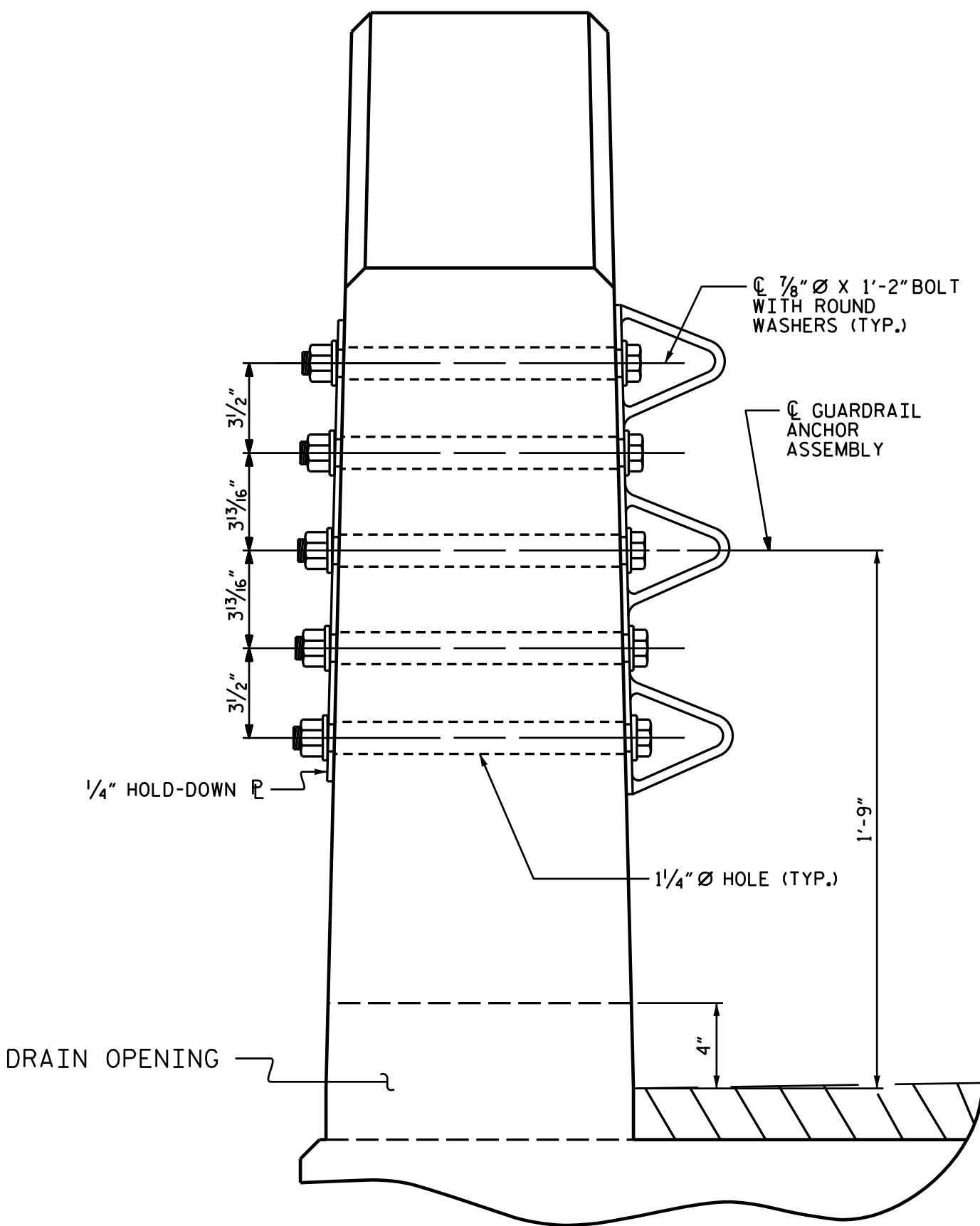
SHEET NO.	S-7
TOTAL SHEETS	20



PLAN

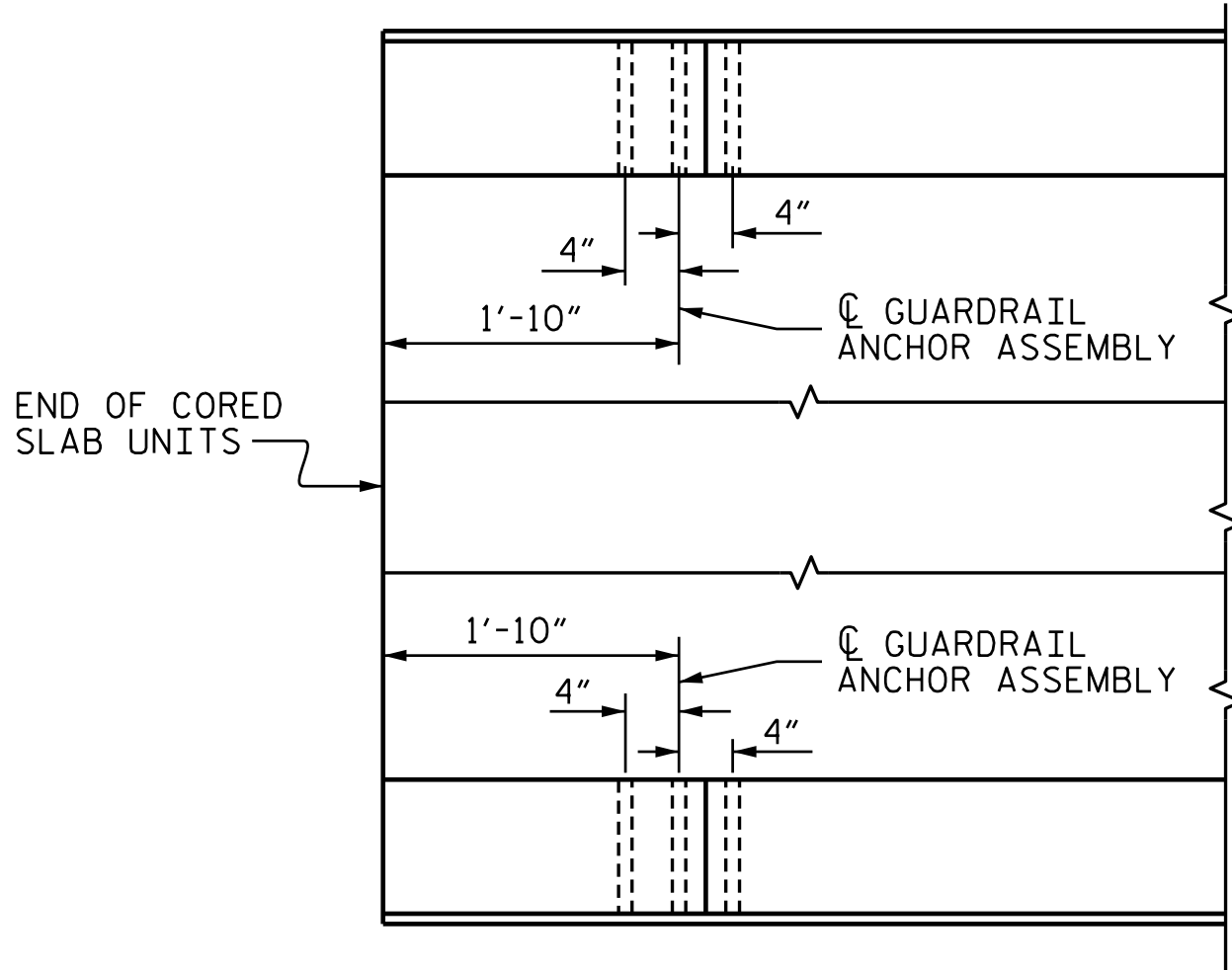


ELEVATION



SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

END BENT 1 SHOWN, END BENT 2 SIMILAR.



SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 1/8" Ø BOLTS WITH NUTS AND WASHERS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

PROJECT NO. 17BP.7.R.126

ROCKINGHAM COUNTY

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DEPARTMENT OF TRANSPORTATION
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GUARDRAIL ANCHORAGE
DETAILS FOR
VERTICAL CONCRETE
BARRIER RAIL

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.

S-9

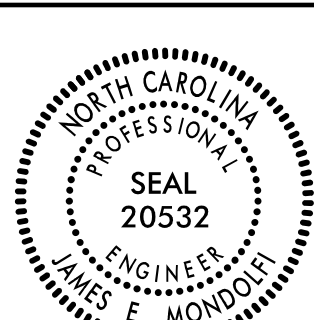
TOTAL

SHEETS

20

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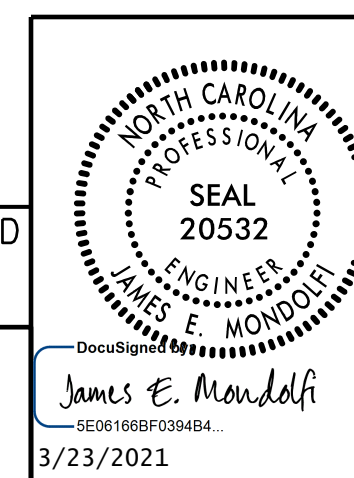
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FOR WING DETAILS, SEE SHEET 3 OF 4.


SHEET 1 OF 4

END BENT No. 1

REVISIONS						SHEET NO. 5-10
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 20
2			4			



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 CHECKED BY: J. E. MONDOLFI DATE: 12-2020
 DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 12-2020



DocuSigned by
James E. Mondolfi
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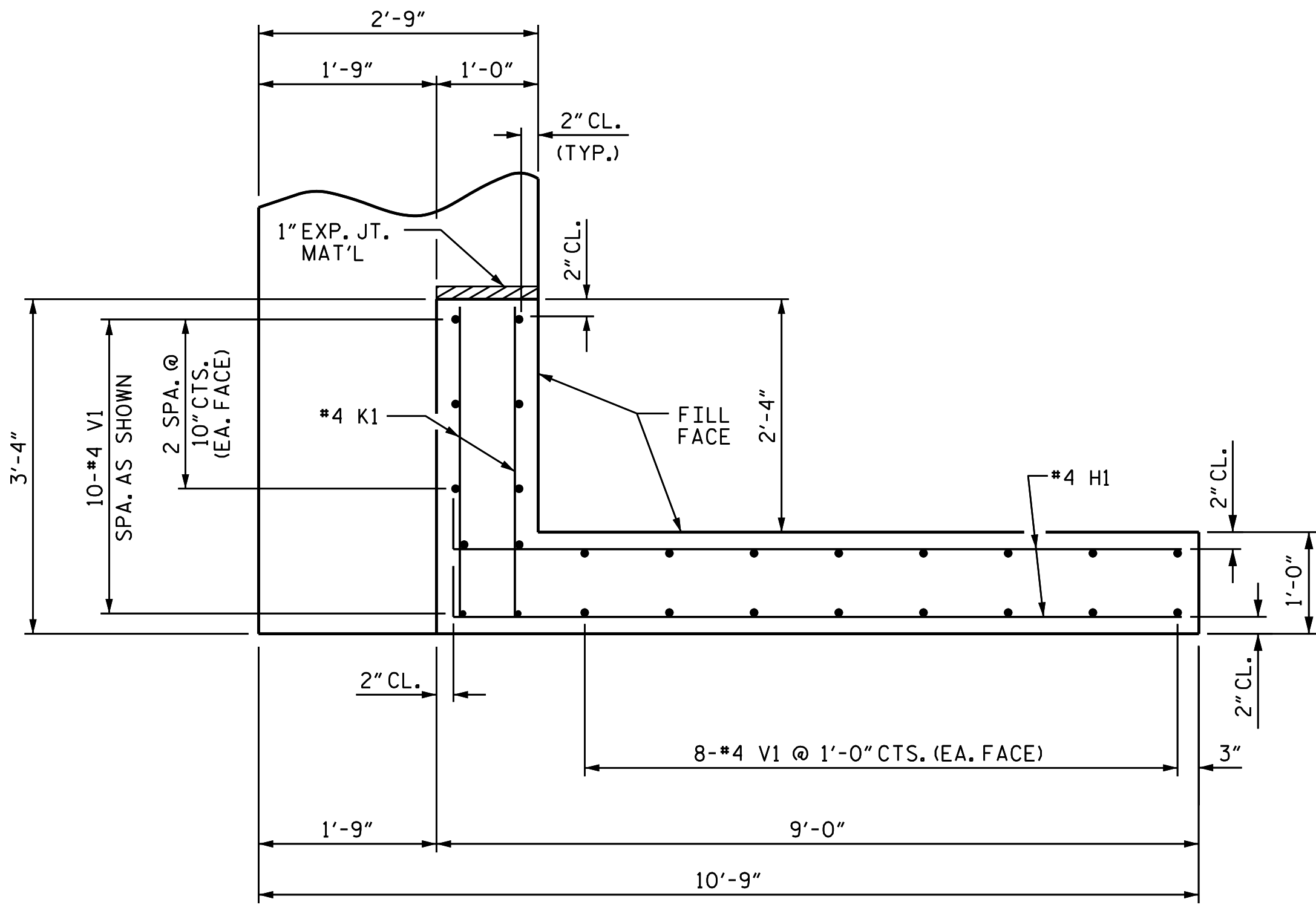
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ROCKINGHAM COUNTY
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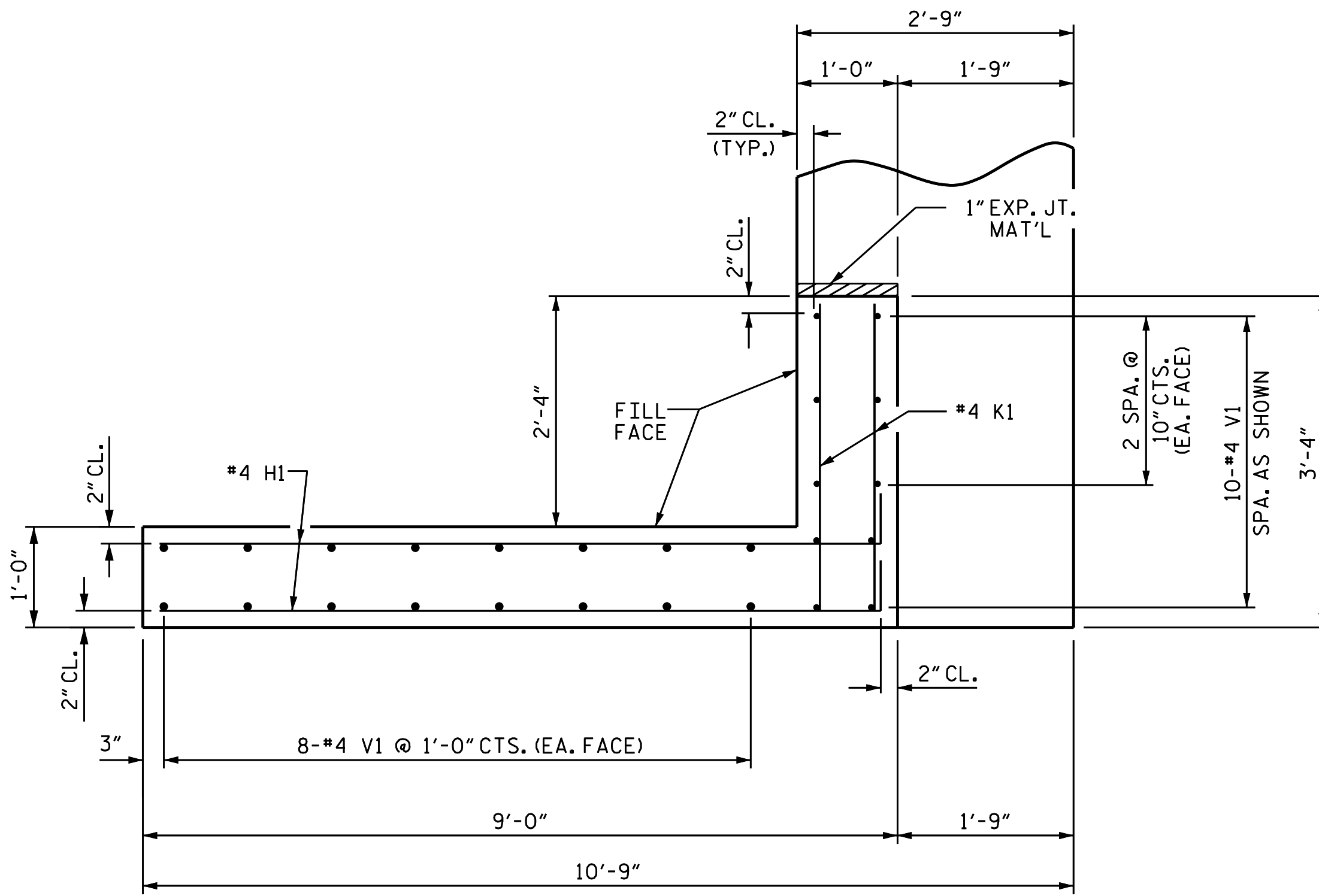
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT No. 2

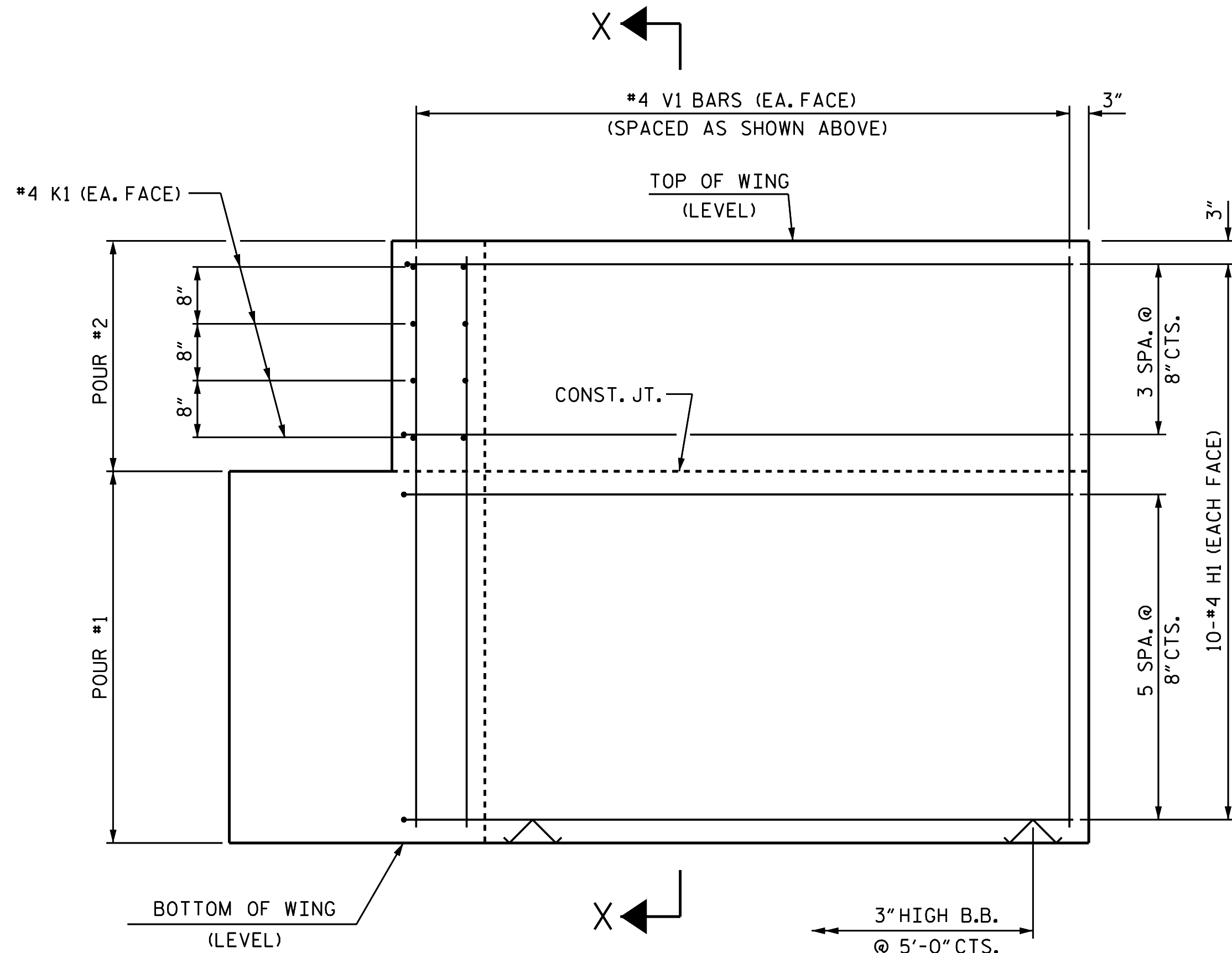
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2			4			



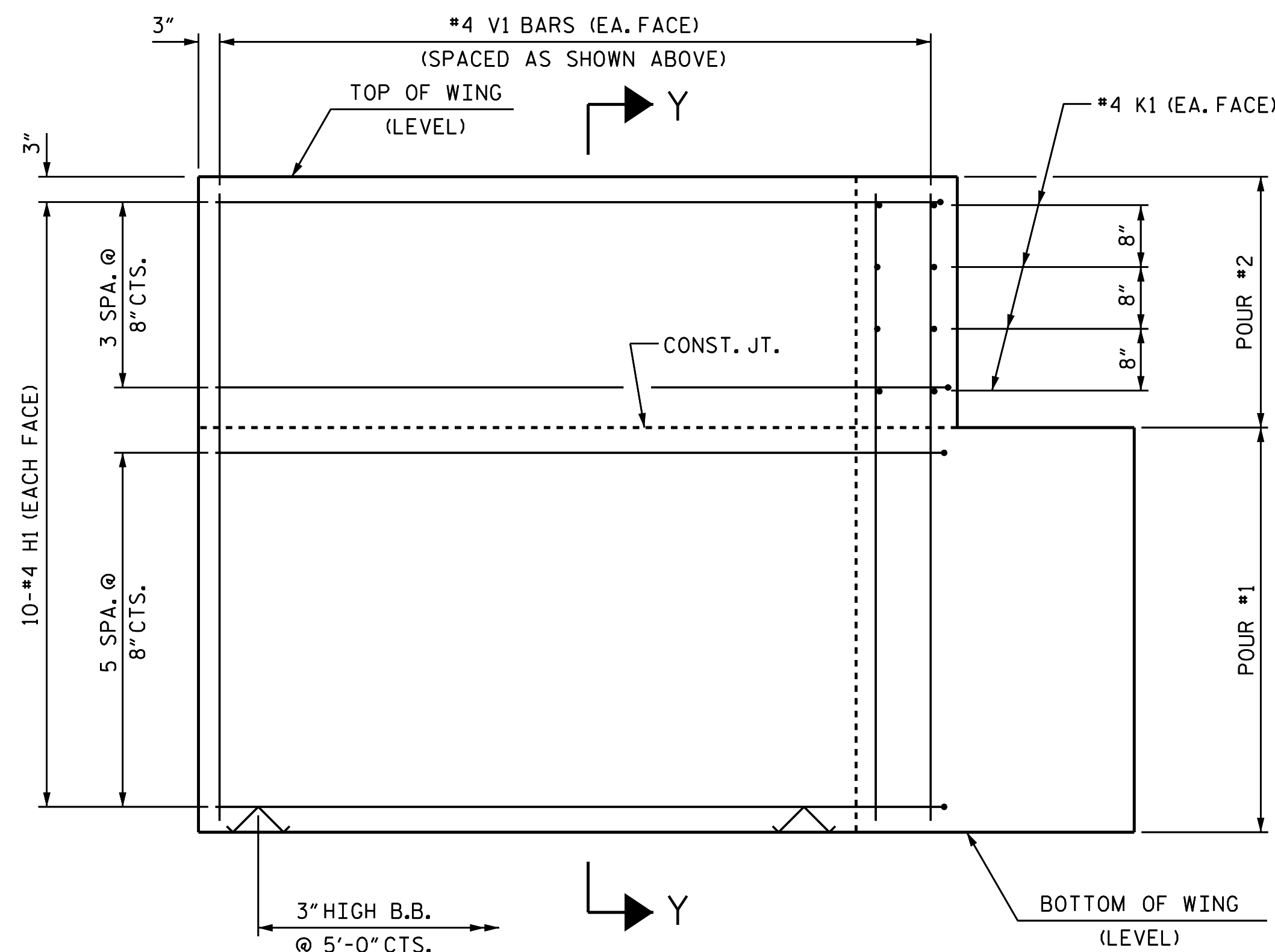
PLAN OF WING (W1)



PLAN OF WING (W2)

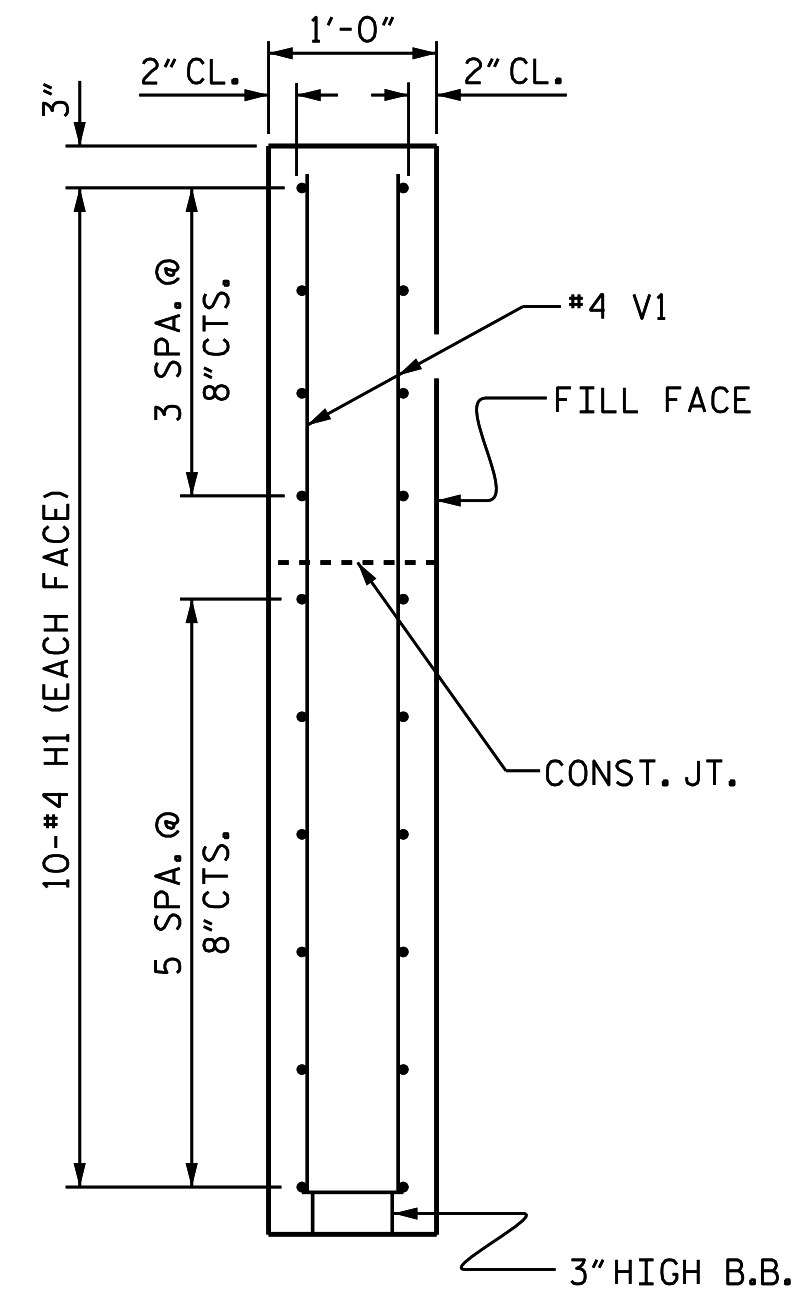


ELEVATION OF WING (W1)

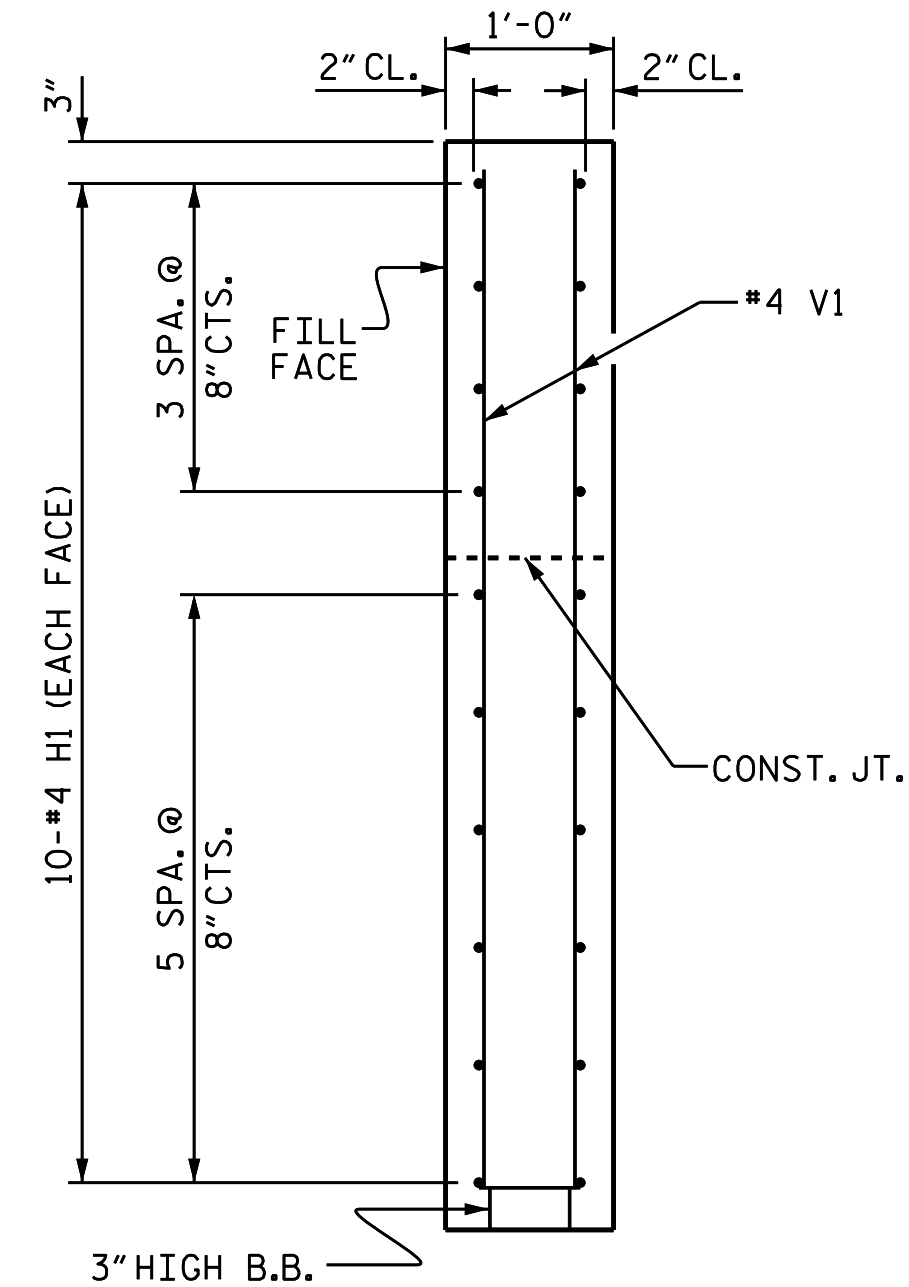


ELEVATION OF WING (W2)

WING DETAILS



SECTION X-X



SECTION Y-Y

PROJECT NO. 17BP.7.R.126
ROCKINGHAM COUNTY
STATION: 15+77.00 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

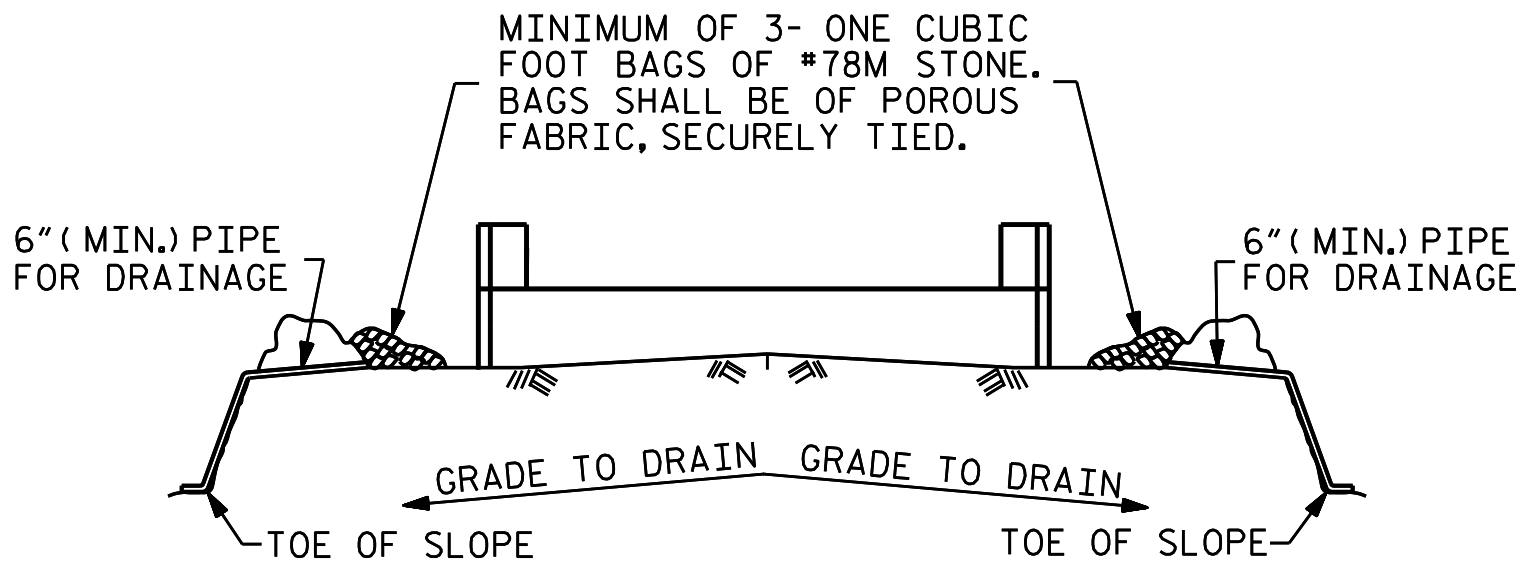
END BENT
WING DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-12
2			4			

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PO Box 700
Fuquay-Varina, NC 27526
(919) 552-2253
www.mottmac.com
LICENSE NO. F-0669

SEAL
20532
JAMES E. MONDOLFI
ENGINEER
3/23/2021

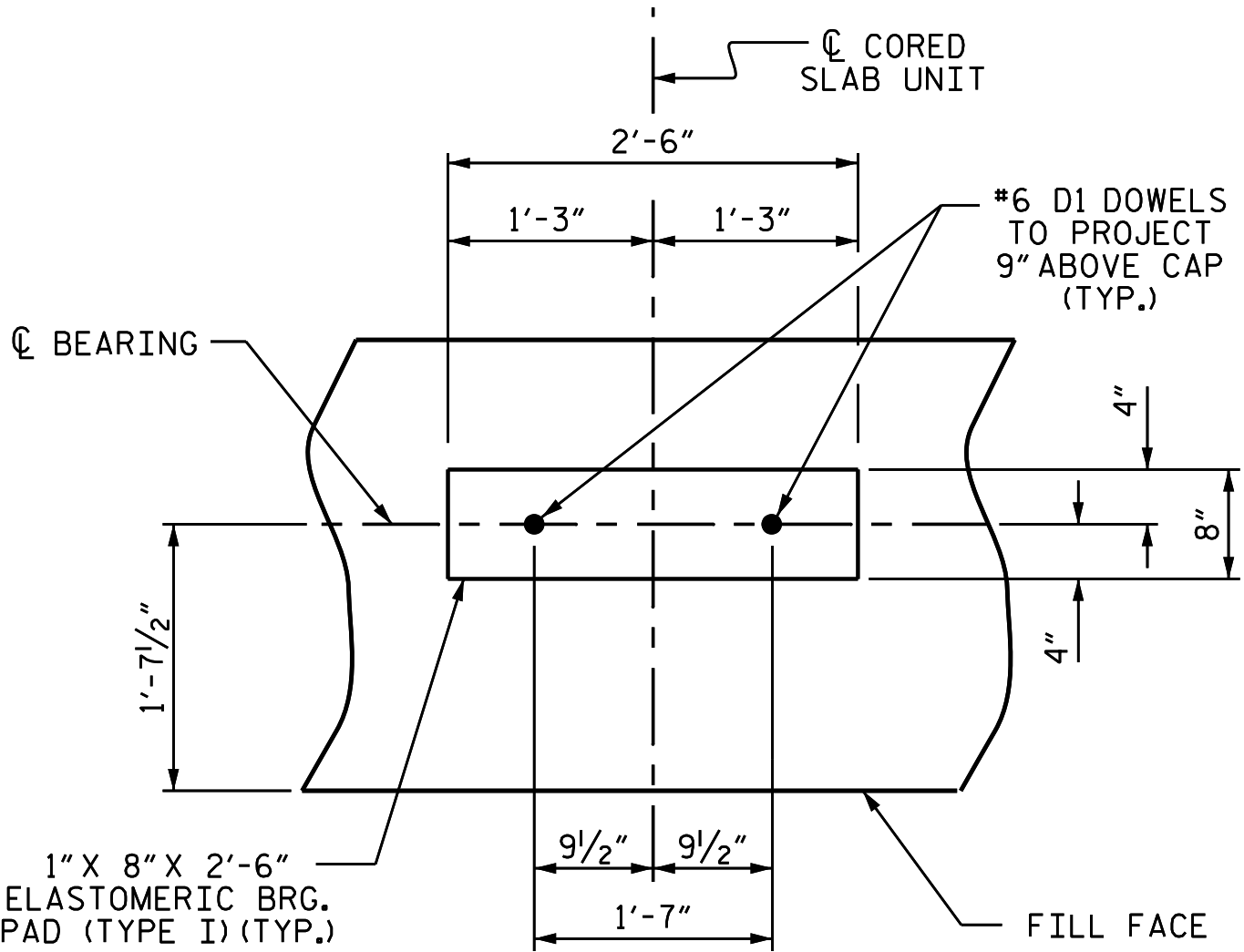


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

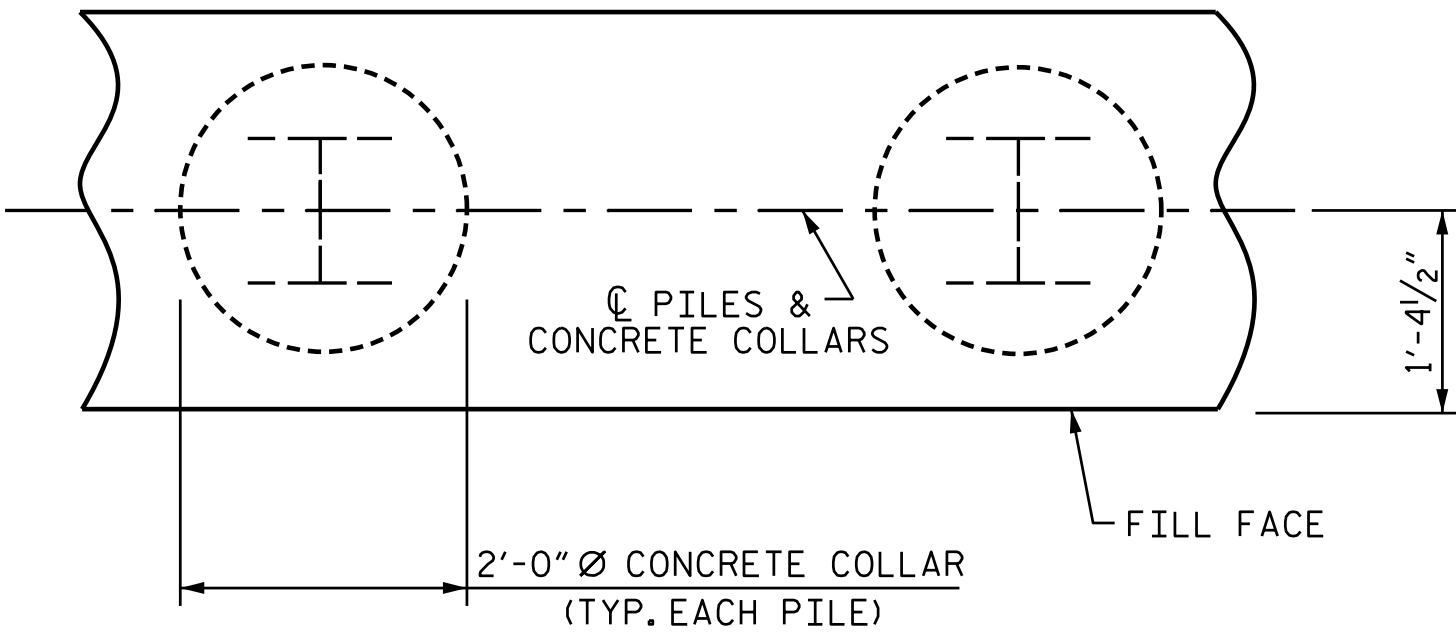
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



DETAIL "A"

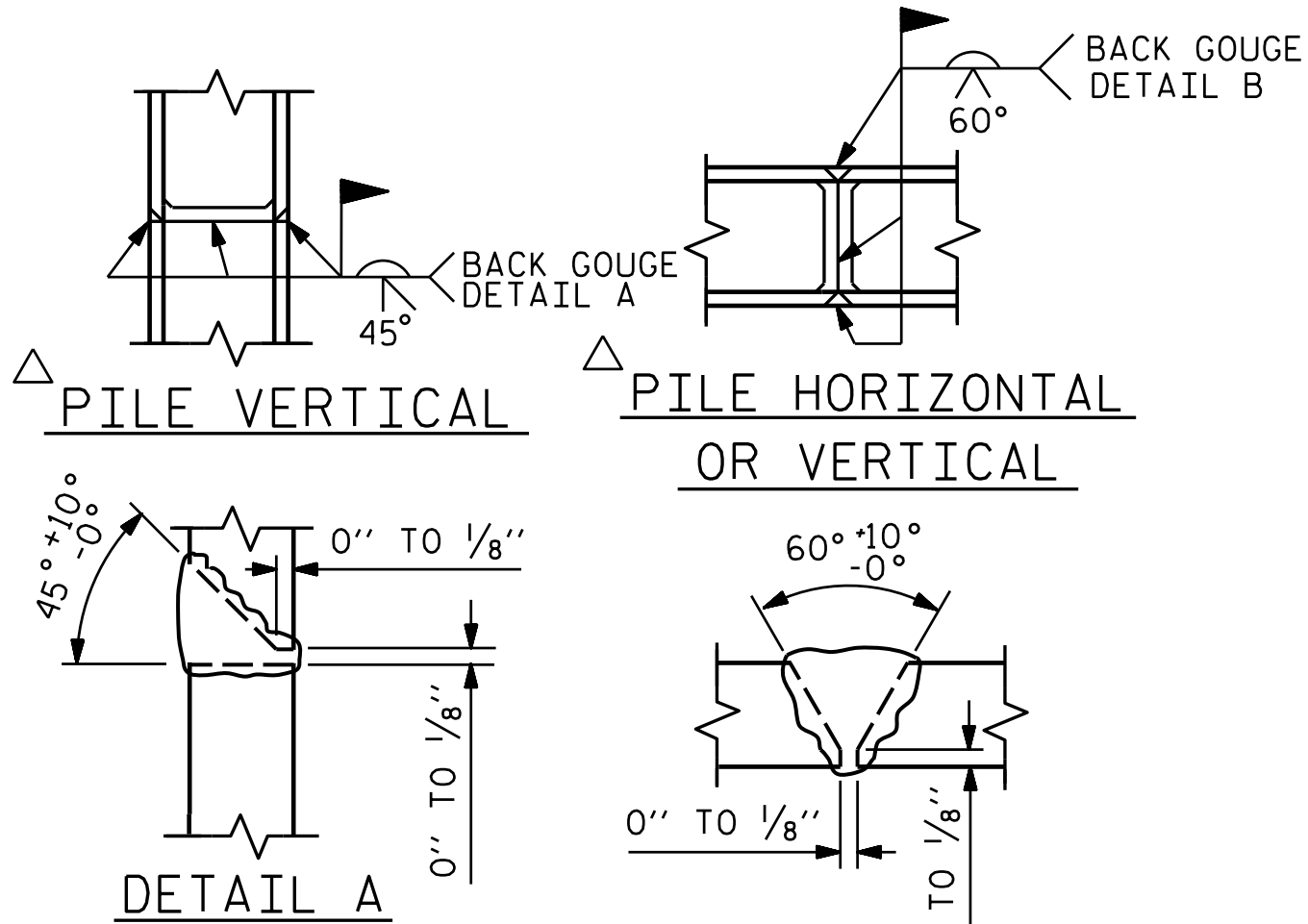
(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



PLAN

CORROSION PROTECTION FOR STEEL PILES DETAIL

(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)

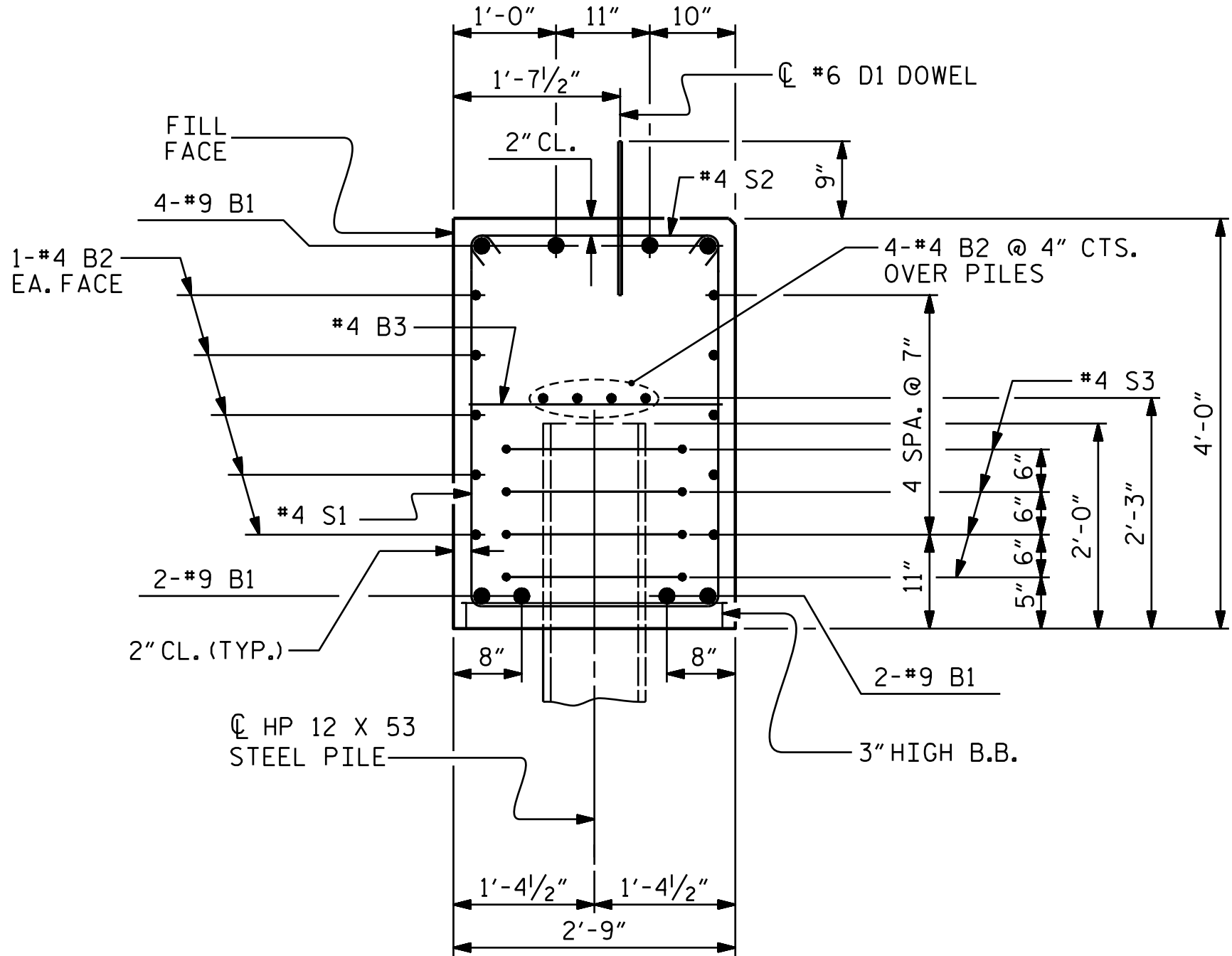


POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

BAR TYPES		BILL OF MATERIAL FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT		
B1	8	#9	1	38'-0"	1034		
B2	28	#4	STR	19'-1"	357		
B3	9	#4	STR	2'-5"	15		
D1	20	#6	STR	1'-6"	45		
H1	40	#4	2	9'-4"	249		
K1	16	#4	STR	2'-11"	31		
S1	46	#4	3	10'-5"	320		
S2	46	#4	4	3'-2"	97		
S3	20	#4	5	6'-6"	87		
V1	52	#4	STR	6'-2"	214		
REINFORCING STEEL (FOR ONE END BENT)					2449 LBS.		
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)							
POUR #1	CAP, LOWER PART OF WINGS & COLLARS				17.9 C.Y.		
POUR #2	UPPER PART OF WINGS				2.3 C.Y.		
TOTAL CLASS A CONCRETE					20.2 C.Y.		
END BENT No. 1		END BENT No. 2					
HP 12 X 53 STEEL PILES		HP 12 X 53 STEEL PILES					
NO: 5		NO: 5					
LIN. FT.= 163		LIN. FT.= 138					
PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES		PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES					
NO: 5		NO: 5					
PDA TESTING		NO: 1					

ALL BAR DIMENSIONS ARE OUT TO OUT.



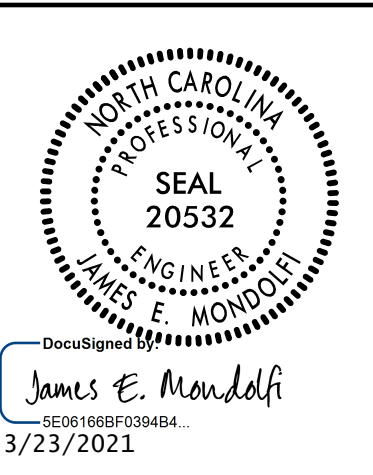
SECTION A-A

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")

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STATION: 15+77.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

SUBSTRUCTURE

END BENT No. 1 & 2

DETAILS

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

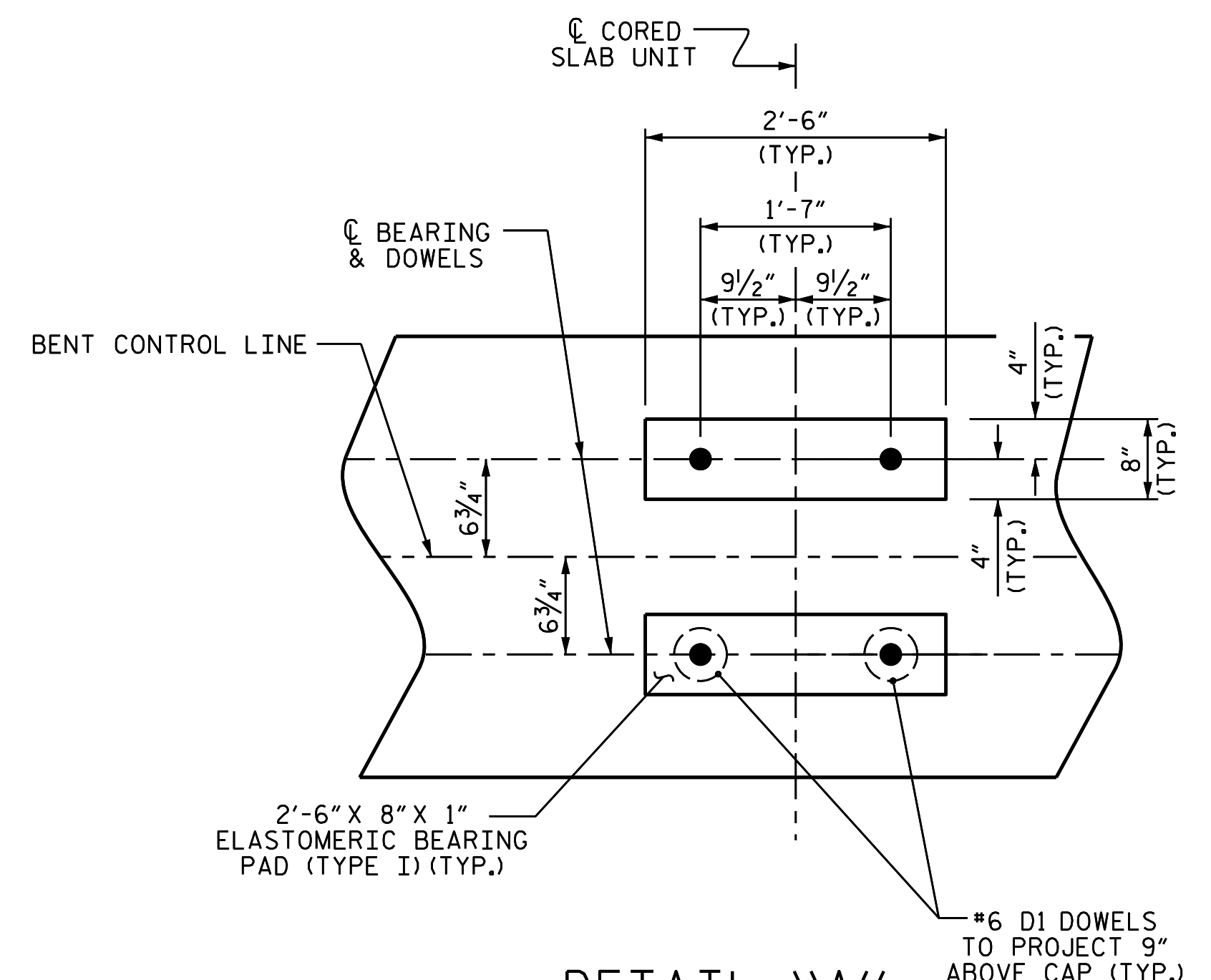
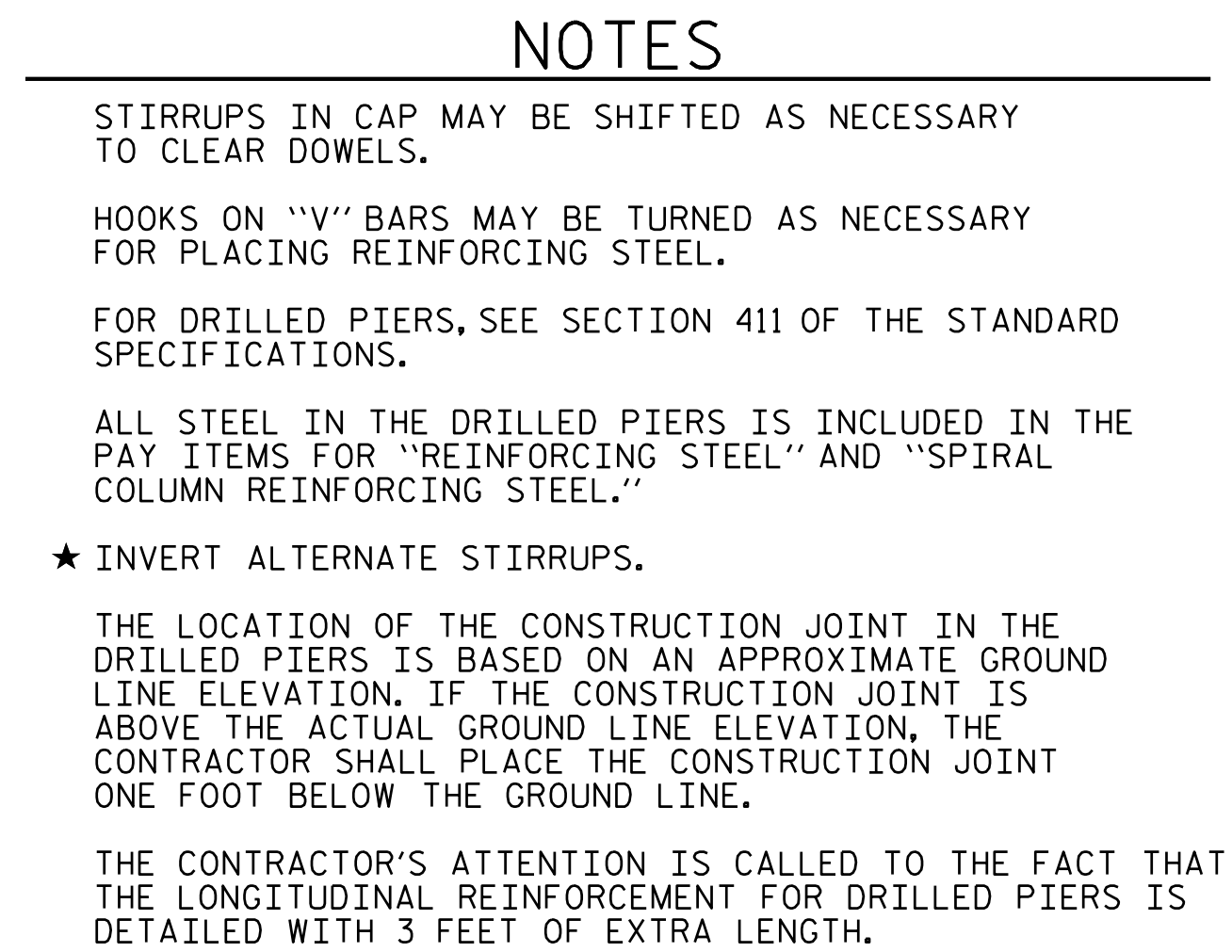
SHEET NO.

S-13

TOTAL

SHEETS

20



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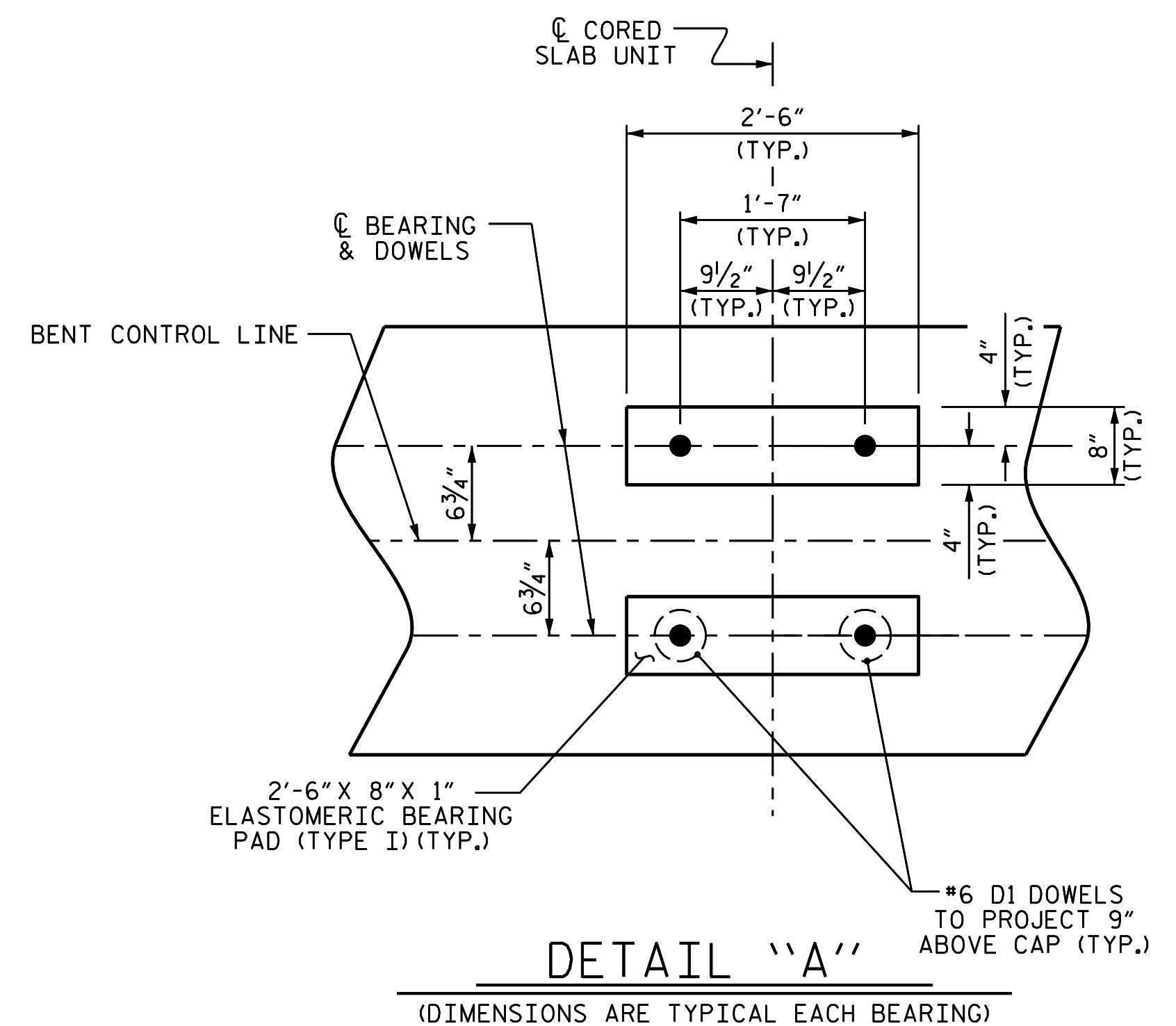
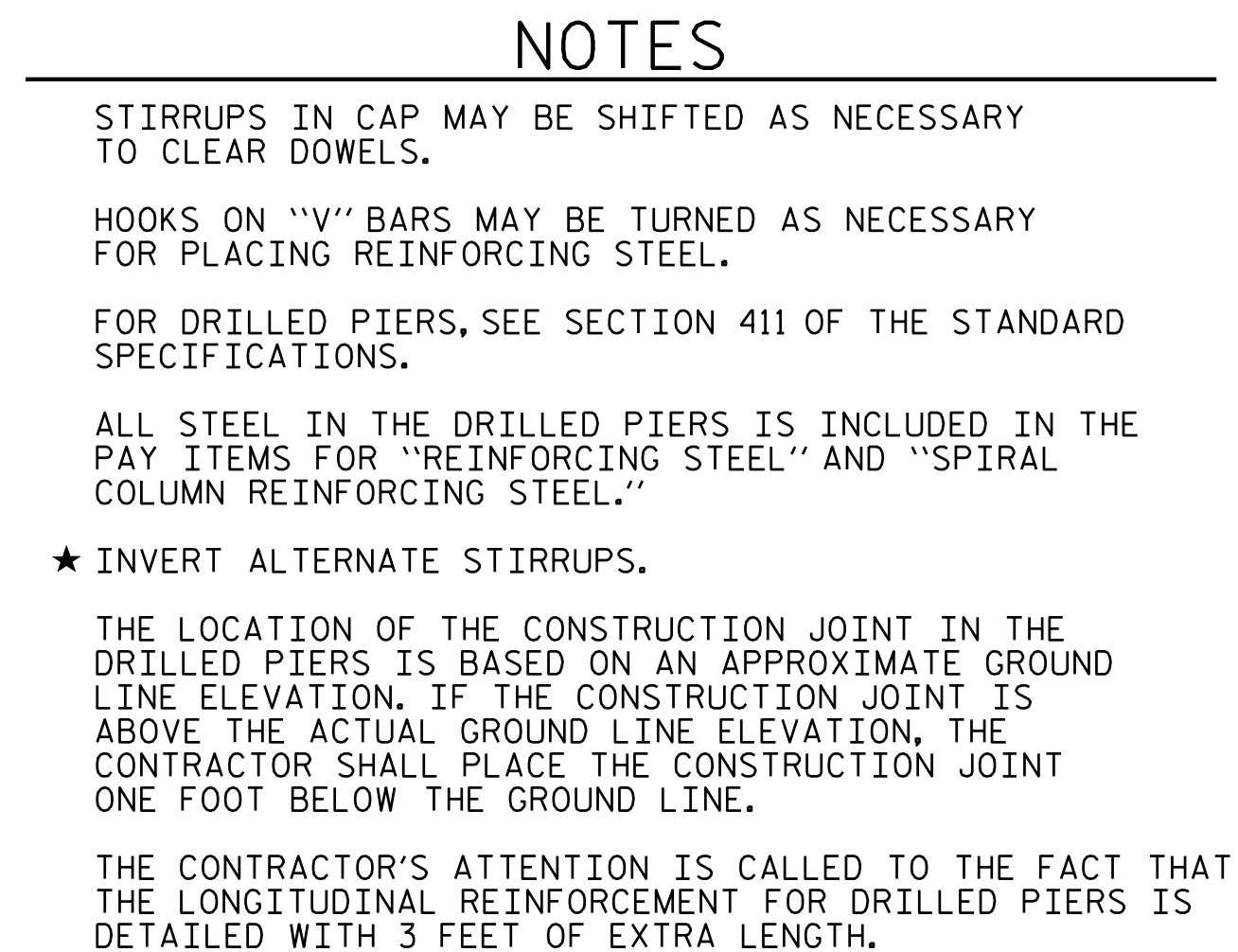
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2			4			

DIMENSIONS & REINFORCING STEEL ARE TYPICAL FOR EACH COLUMN & DRILLED PIER UNLESS OTHERWISE NOTED.

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James E. Mondolfi

3/23/2021



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ROCKINGHAM COUNTY
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SHEET 2 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

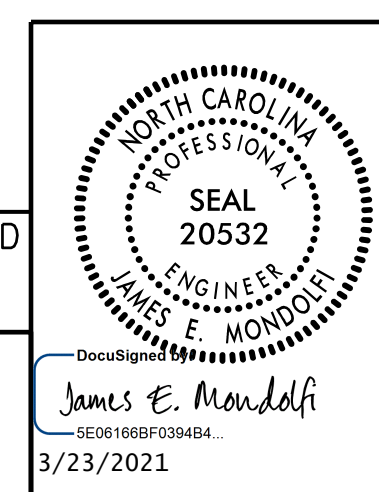
SUBSTRUCTURE
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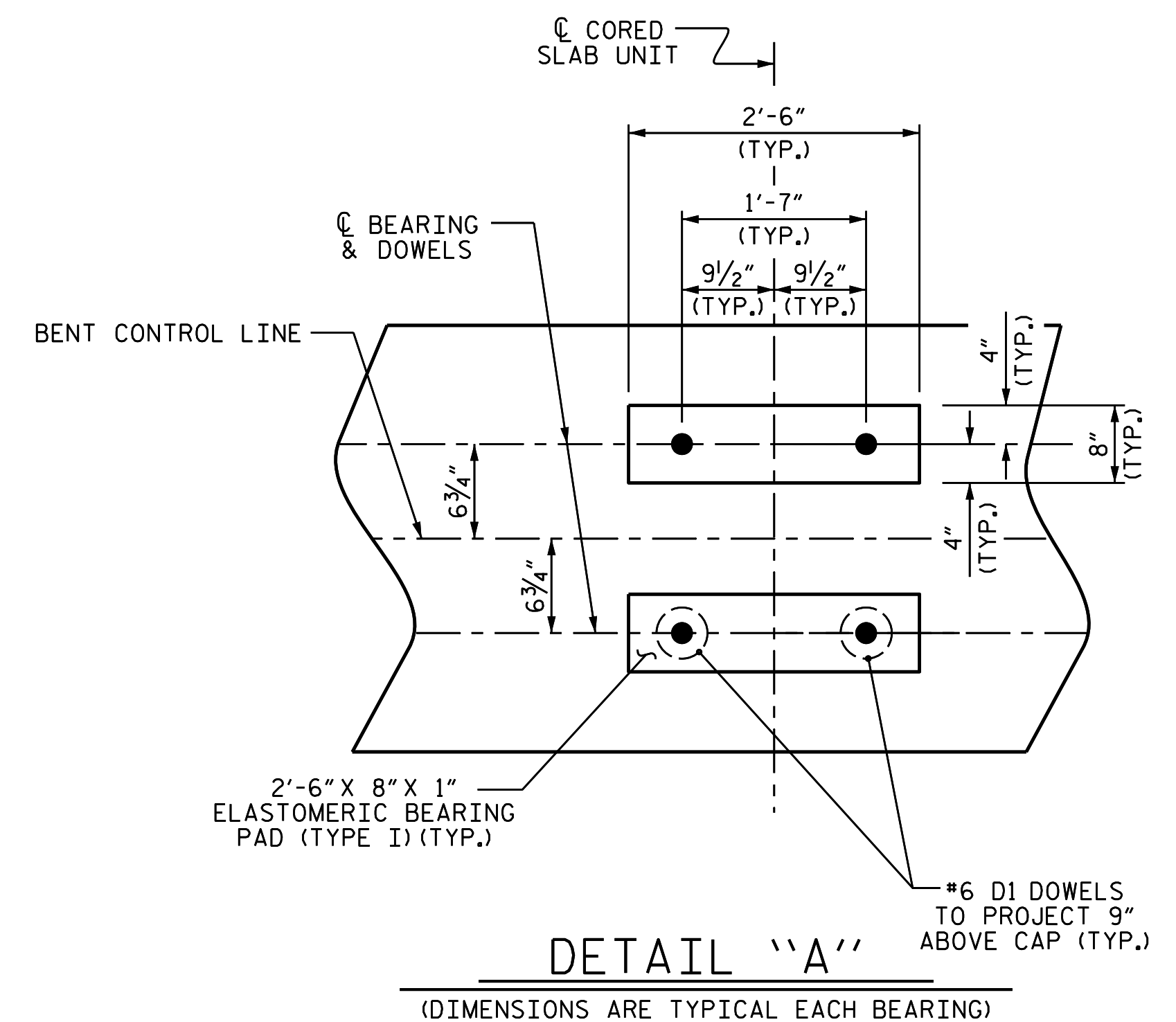
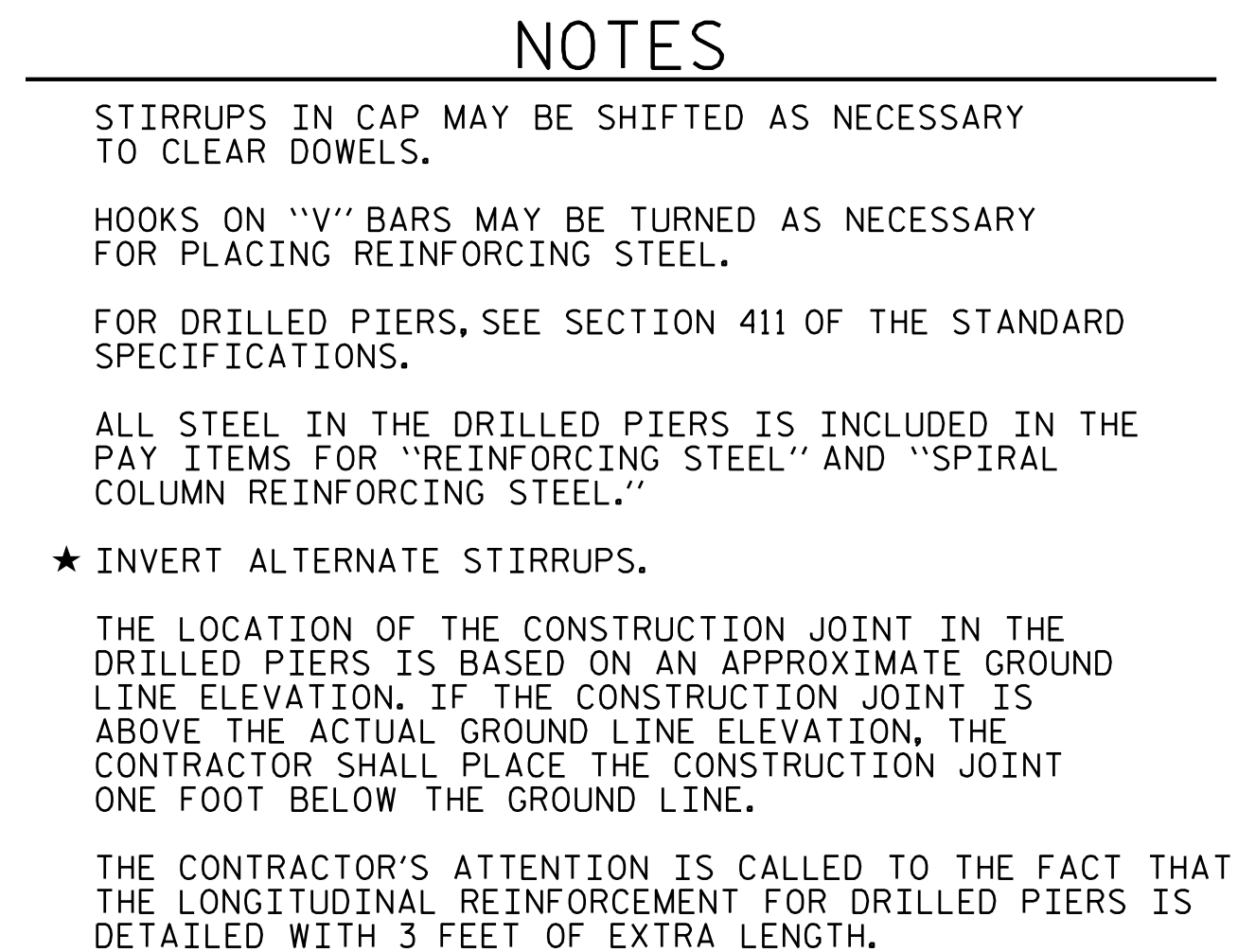
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DIMENSIONS & REINFORCING STEEL ARE TYPICAL FOR EACH COLUMN & DRILLED PIER UNLESS OTHERWISE NOTED.



PROJECT NO. 17BP.7.R.126
ROCKINGHAM COUNTY
 STATION: 15+77.00 -L-

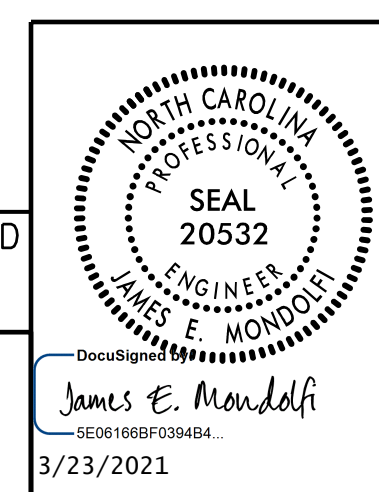
SHEET 3 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT No. 3

REVISIONS						SHEET NO. S-16
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			

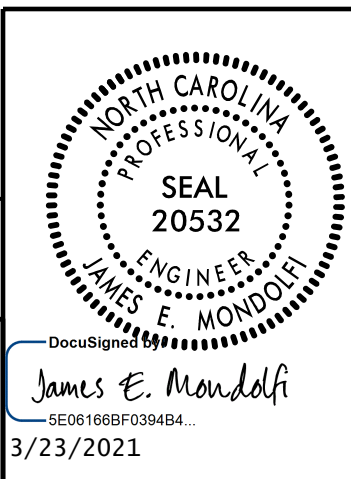
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DIMENSIONS & REINFORCING STEEL ARE TYPICAL FOR EACH COLUMN & DRILLED PIER UNLESS OTHERWISE NOTED.



TOTAL SHEETS	20
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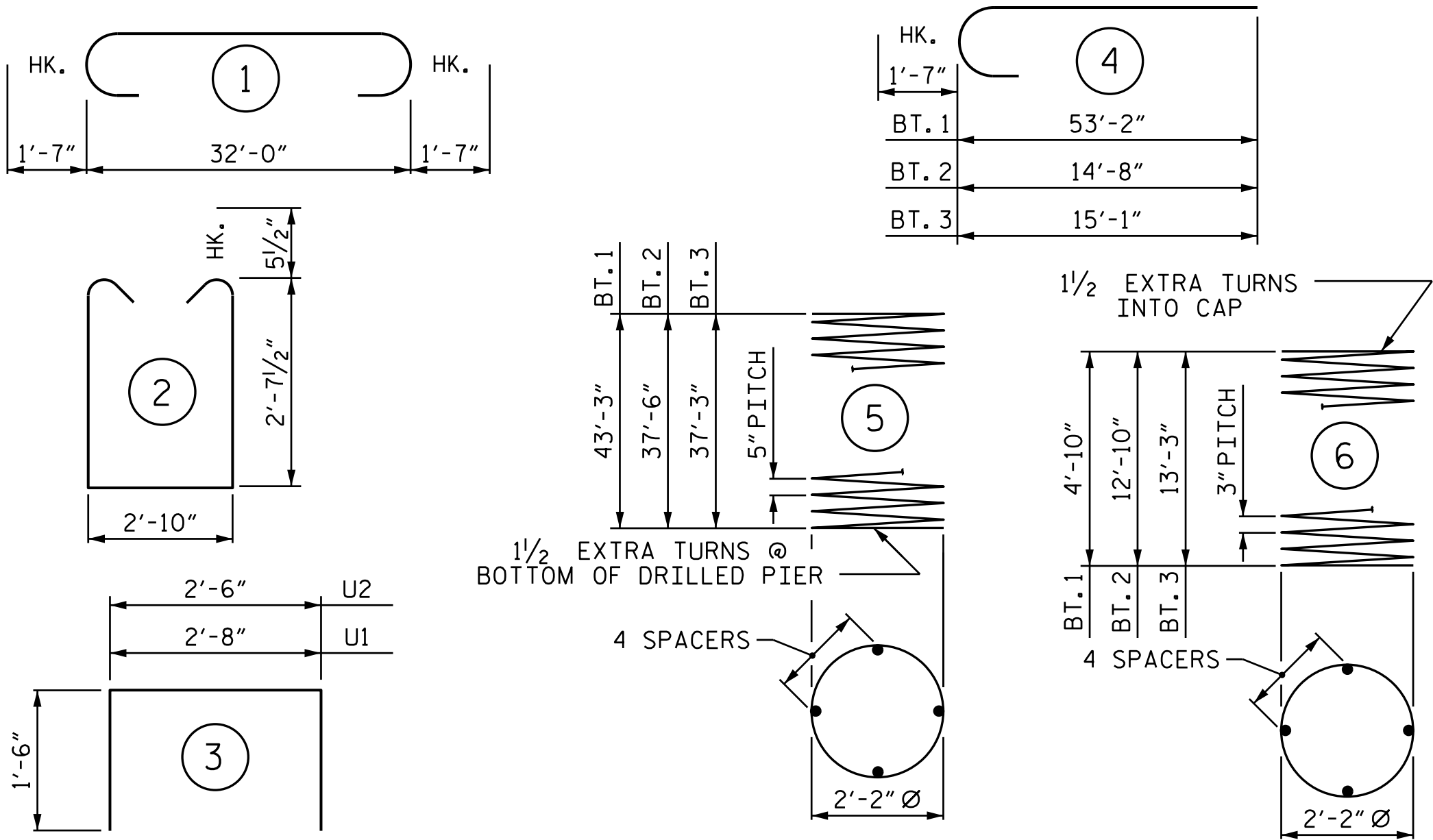
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MOTT **M**
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James E. Mondolfi
5E06168BF0394B4...
3/23/2021

BILL OF MATERIAL						BILL OF MATERIAL						BILL OF MATERIAL					
FOR BENT 1						FOR BENT 2						FOR BENT 3					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#11	1	35'-2"	1868	B1	10	#11	1	35'-2"	1868	B1	10	#11	1	35'-2"	1868
B2	6	#5	STR	32'-2"	201	B2	6	#5	STR	32'-2"	201	B2	6	#5	STR	32'-2"	201
D1	40	#6	STR	1'-6"	90	D1	40	#6	STR	1'-6"	90	D1	40	#6	STR	1'-6"	90
M1	30	#11	4	54'-9"	8727	M1	30	#11	STR	48'-1"	7664	M1	30	#11	STR	47'-10"	7624
S1	52	#5	2	9'-0"	488	S1	52	#5	2	9'-0"	488	S1	52	#5	2	9'-0"	488
U1	6	#4	3	5'-8"	23	U1	6	#4	3	5'-8"	23	U1	6	#4	3	5'-8"	23
U2	6	#4	3	5'-6"	22	U2	6	#4	3	5'-6"	22	U2	6	#4	3	5'-6"	22
						V1	30	#11	4	16'-3"	2590	V1	30	#11	4	16'-8"	2657
REINFORCING STEEL (FOR BENT 1) 11,419 LBS.						REINFORCING STEEL (FOR BENT 2) 12,946 LBS.						REINFORCING STEEL (FOR BENT 3) 12,973 LBS.					
SP-1	3	*	5	702'-3"	2197	SP-1	3	*	5	609'-1"	1906	SP-1	3	*	5	605'-9"	1895
SP-2	3	**	6	140'-4"	281	SP-2	3	**	6	354'-1"	710	SP-2	3	**	6	364'-2"	730
SPIRAL COLUMN REINFORCING STEEL (FOR BENT 1) 2,478 LBS.						SPIRAL COLUMN REINFORCING STEEL (FOR BENT 2) 2,616 LBS.						SPIRAL COLUMN REINFORCING STEEL (FOR BENT 3) 2,625 LBS.					
* THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR						* THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR						* THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR					
** THE SP-2 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR						** THE SP-2 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR						** THE SP-2 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR					
CLASS A CONCRETE BREAKDOWN (FOR BENT 1)						CLASS A CONCRETE BREAKDOWN (FOR BENT 2)						CLASS A CONCRETE BREAKDOWN (FOR BENT 3)					
POUR #2 (COLUMNS) 2.5 C.Y.						POUR #2 (COLUMNS) 6.9 C.Y.						POUR #2 (COLUMNS) 7.1 C.Y.					
POUR #3 (CAP) 11.5 C.Y.						POUR #3 (CAP) 11.5 C.Y.						POUR #3 (CAP) 11.5 C.Y.					
TOTAL CLASS A CONCRETE 14.0 C.Y.						TOTAL CLASS A CONCRETE 18.4 C.Y.						TOTAL CLASS A CONCRETE 18.6 C.Y.					
DRILLED PIERS: (FOR BENT 1)						DRILLED PIERS: (FOR BENT 2)						DRILLED PIERS: (FOR BENT 3)					
DRILLED PIER CONCRETE POUR #1 (DRILLED PIERS) 34.4 C.Y.						DRILLED PIER CONCRETE POUR #1 (DRILLED PIERS) 29.9 C.Y.						DRILLED PIER CONCRETE POUR #1 (DRILLED PIERS) 29.7 C.Y.					
3'-0"Ø DRILLED PIER NOT IN SOIL 20 LIN. FT.						3'-0"Ø DRILLED PIER NOT IN SOIL 23 LIN. FT.						3'-0"Ø DRILLED PIER NOT IN SOIL 27 LIN. FT.					
3'-0"Ø DRILLED PIER IN SOIL 111.3 LIN. FT.						3'-0"Ø DRILLED PIER IN SOIL 91.0 LIN. FT.						3'-0"Ø DRILLED PIER IN SOIL 86.3 LIN. FT.					
PERMANENT STEEL CASING FOR 3'-0"Ø DRILLED PIER 58.4 LIN. FT.						PERMANENT STEEL CASING FOR 3'-0"Ø DRILLED PIER 35.4 LIN. FT.						PERMANENT STEEL CASING FOR 3'-0"Ø DRILLED PIER 31.0 LIN. FT.					
CSL TUBES 543 LIN. FT.						CSL TUBES 474 LIN. FT.						CSL TUBES 471 LIN. FT.					
SID INSPECTIONS						NO. 3											
CSL TESTING						NO. 3											

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

NOTES

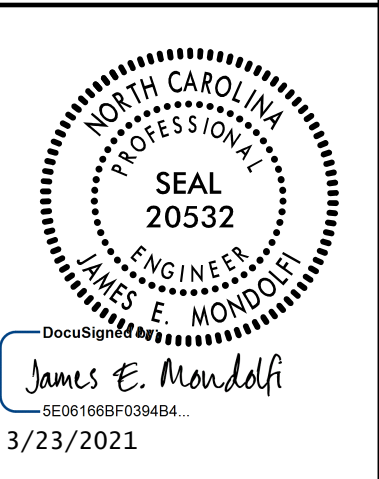
FOR BENT 1, BENT 2 AND BENT 3 DETAILS, SEE SHEET 4 OF 5.

PROJECT NO. 17BP.7.R.126
ROCKINGHAM COUNTY
STATION: 15+77.00 -L-

SHEET 5 OF 5

STATE OF NORTH CAROLINA
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SUBSTRUCTURE
BENT DETAILS BOM



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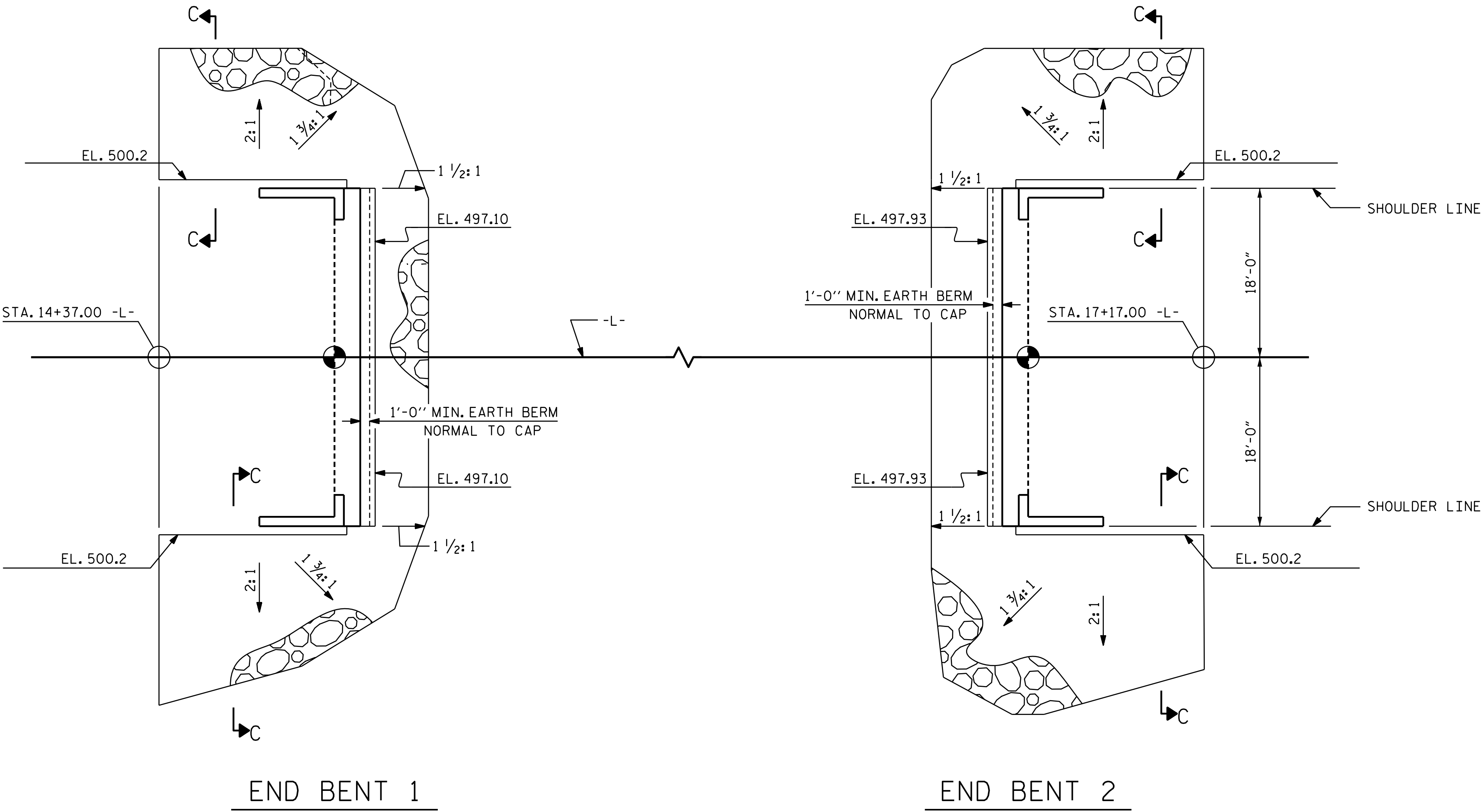
PLANS PREPARED BY:
M MOTT MACDONALD
PO Box 700
Fuquay-Varina, NC 27526
(919) 552-2253
www.mottmac.com
LICENSE NO. F-0669

REVISIONS						SHEET NO. S-18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 20
2			4			

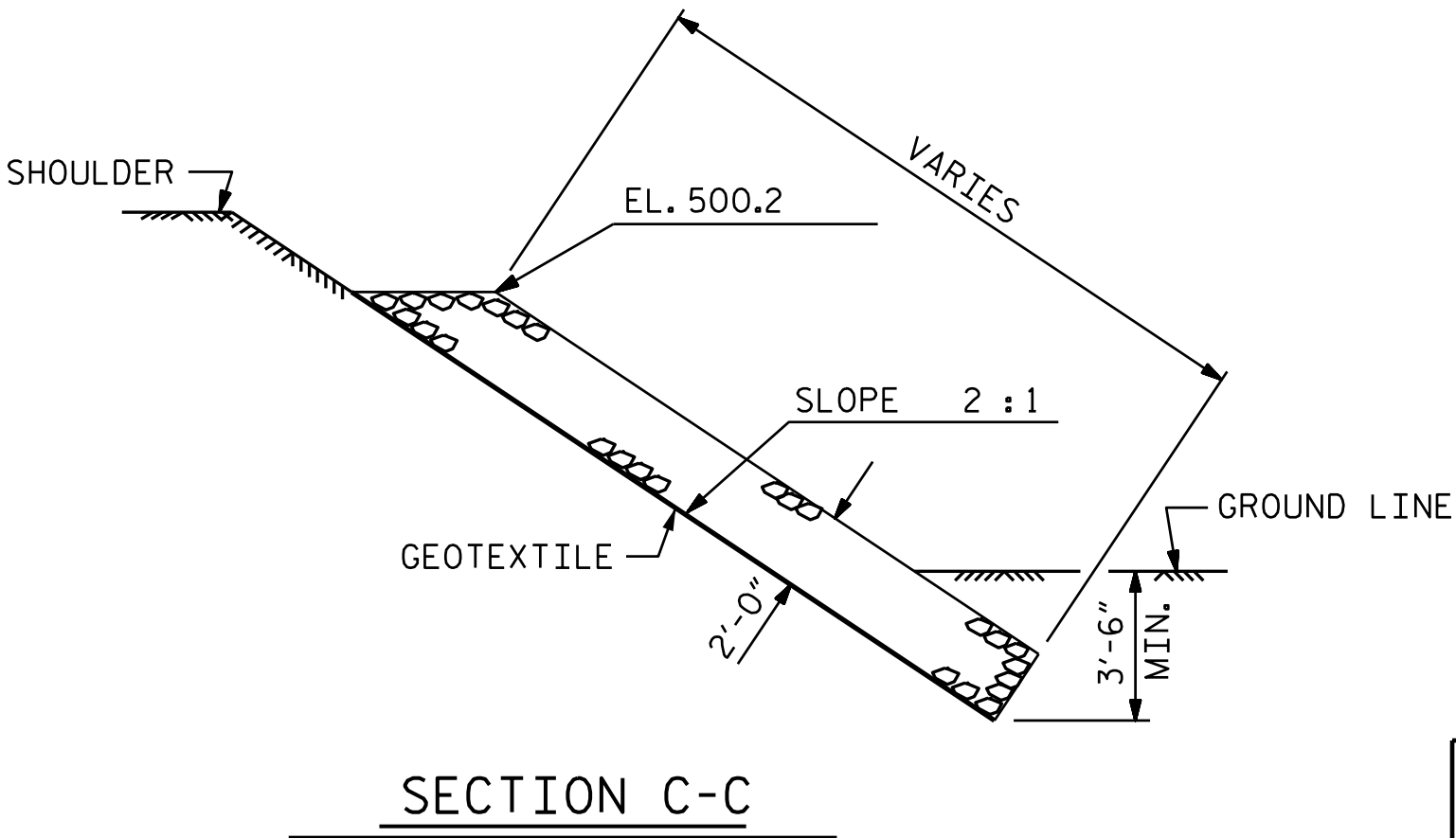
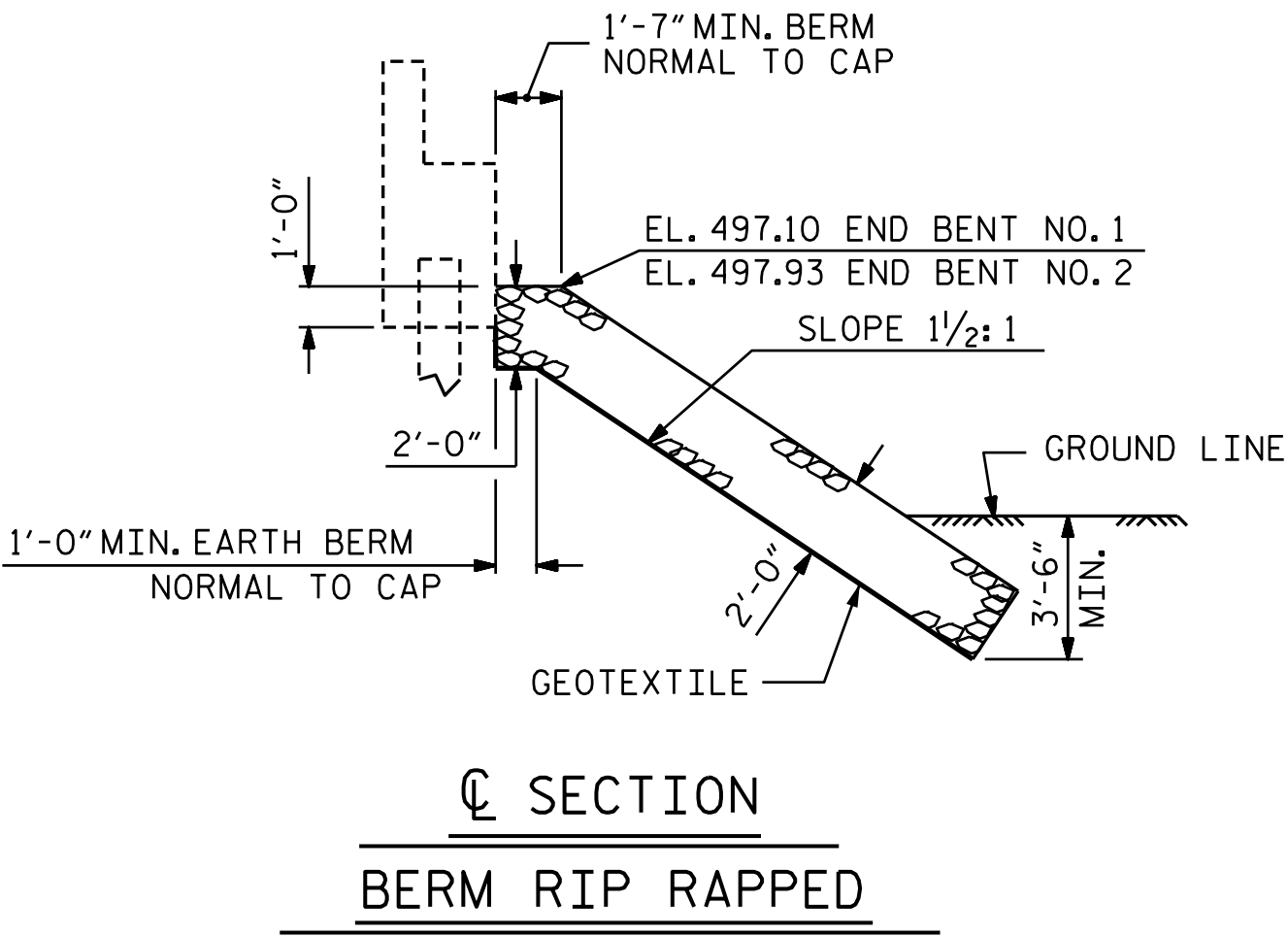
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CHECKED BY: J. E. MONDOLFI DATE: 12-2020
DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 12-2020

NOTES :
FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.



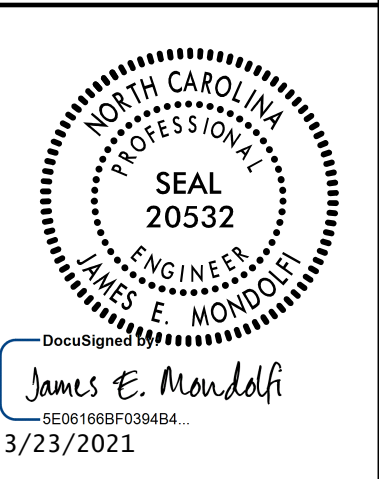
ESTIMATED QUANTITIES		
BRIDGE @ STA. 15+77.00 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	115	128
END BENT 2	138	154



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RALEIGH

RIP RAP DETAILS



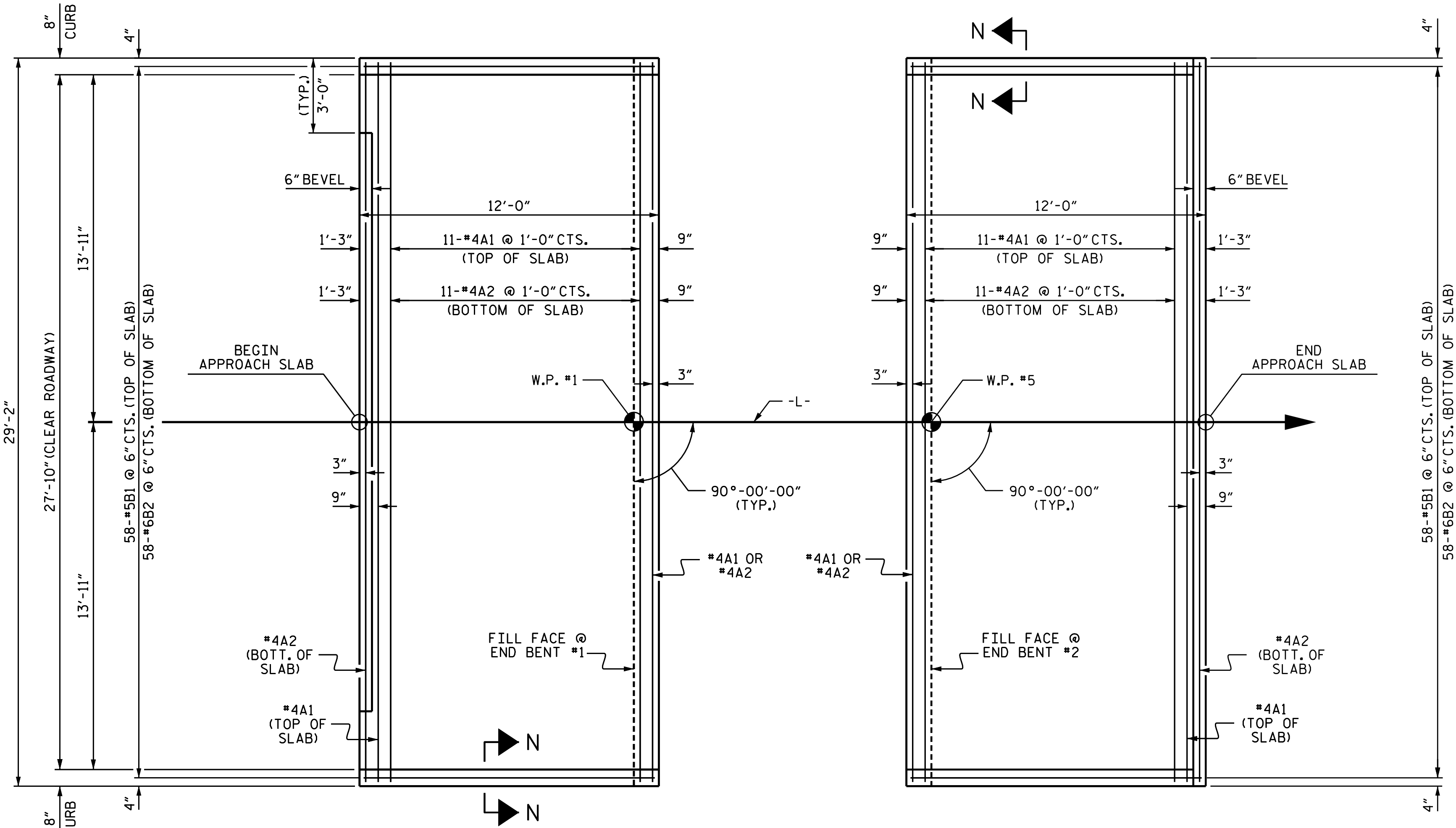
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M MOTT
MACDONALD
PO Box 700
Fuquay-Varina, NC 27526
(919) 552-2253
www.mottmac.com
LICENSE NO. F-0669

REVISIONS						SHEET NO. S-19
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2			4			20

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DESIGN ENGINEER OF RECORD: J. M. ROBINSON DATE: 12-2020



NOTES

FOR BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, 4"Ø DRAINAGE PIPE, AND SELECT MATERIAL BACKFILL, SEE ROADWAY PLANS.

GEOTEXTILE SHALL BE TYPE 1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.

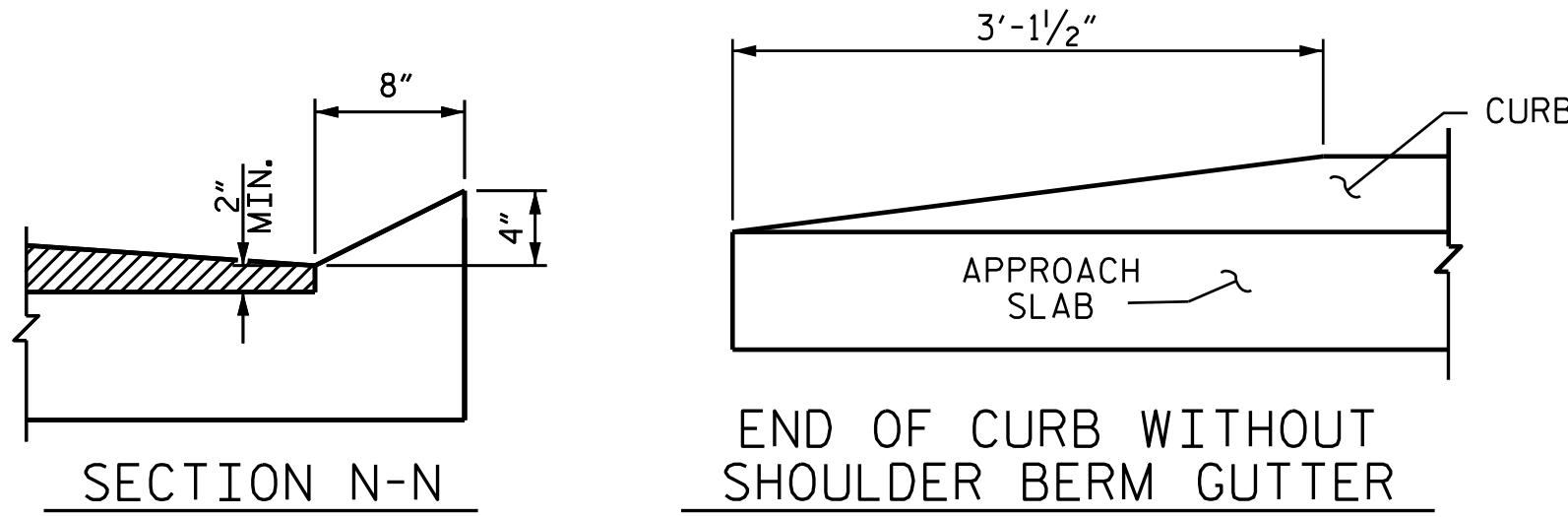
SELECT MATERIAL BACKFILL (CLASS V OR CLASS VI) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

SELECT MATERIAL BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB.

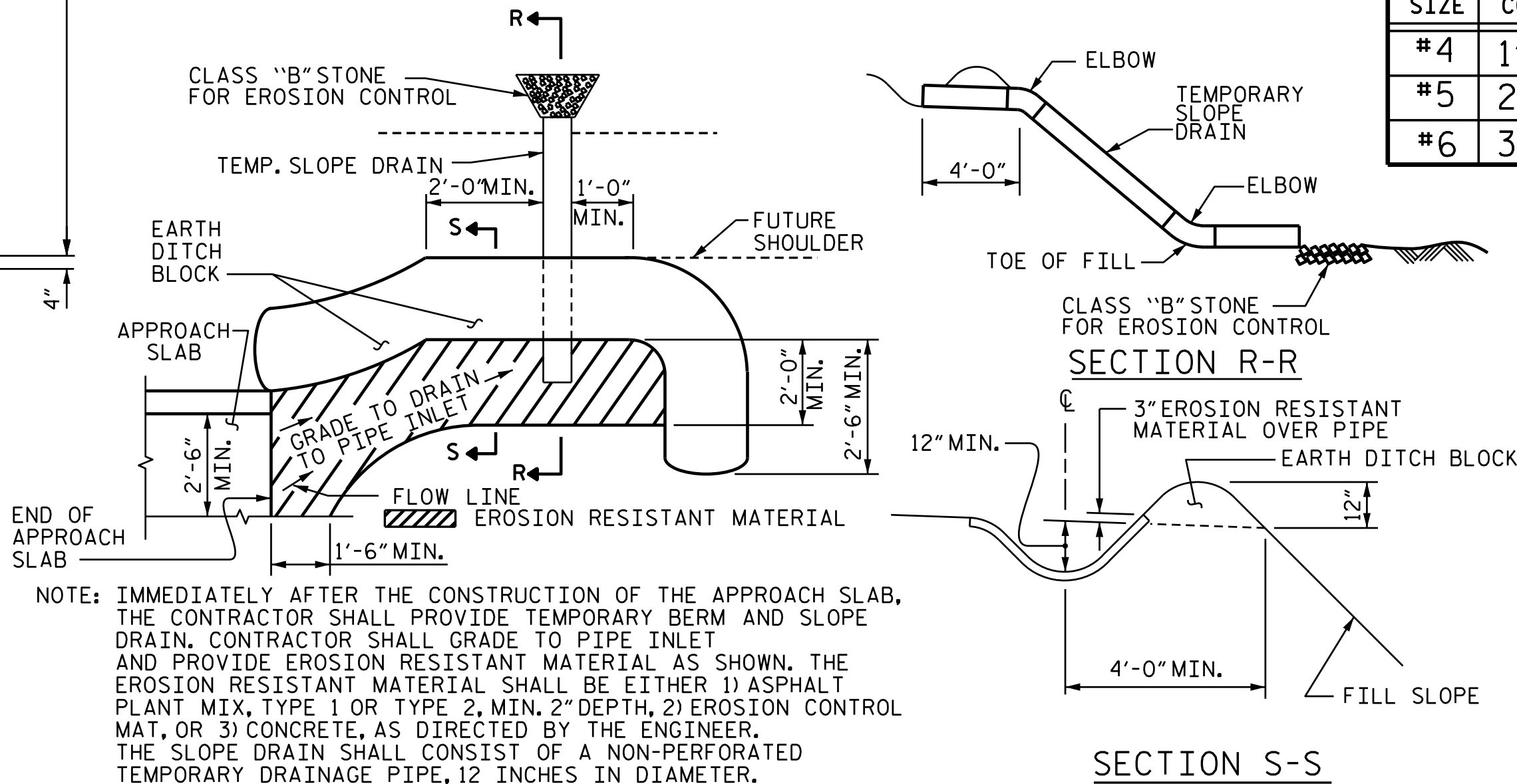
FOR THE 4"Ø DRAINAGE PIPE OUTLET(S), SEE ROADWAY STANDARD DRAWINGS.

AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

APPROACH SLAB GROOVING IS NOT REQUIRED.



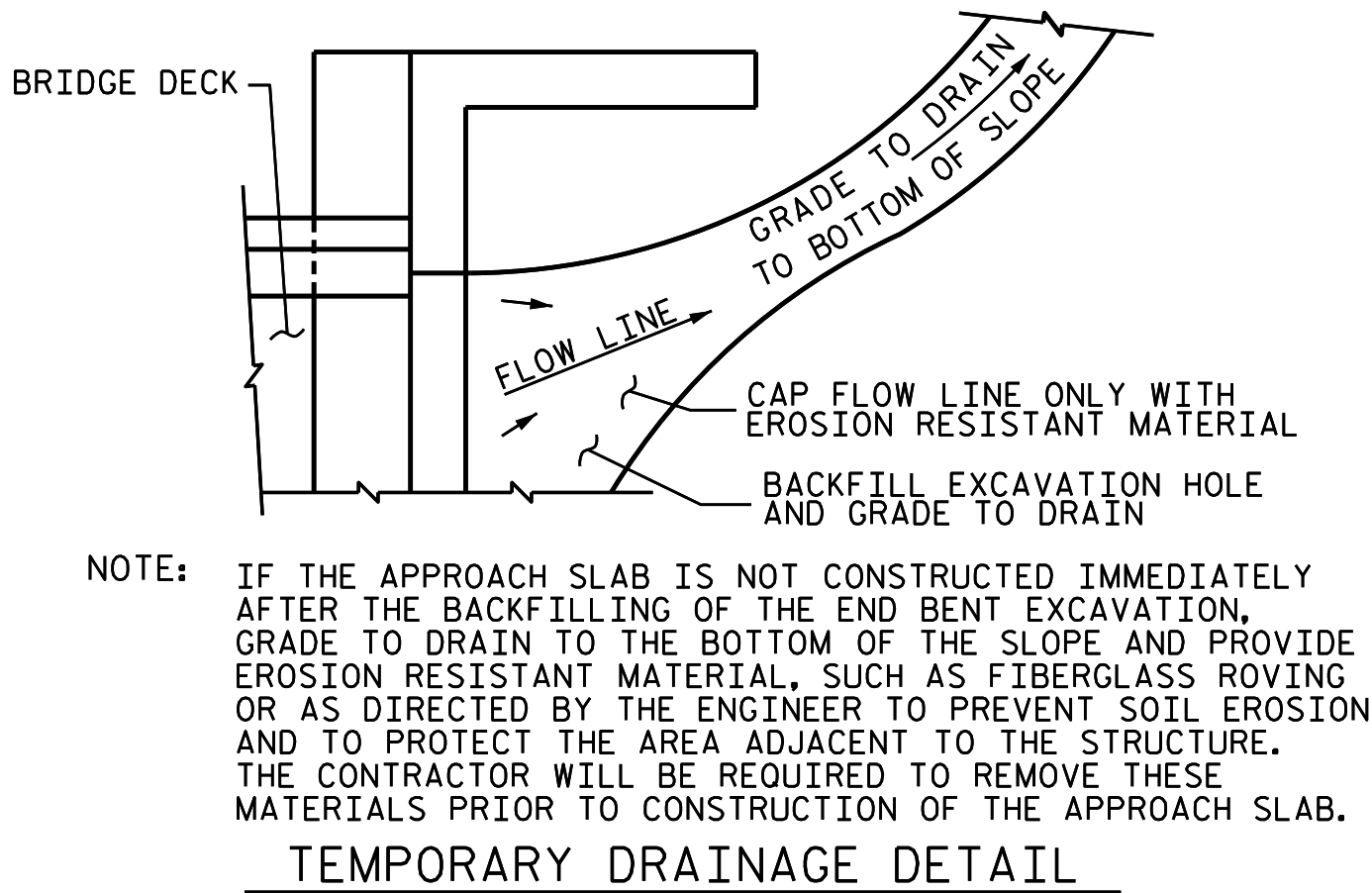
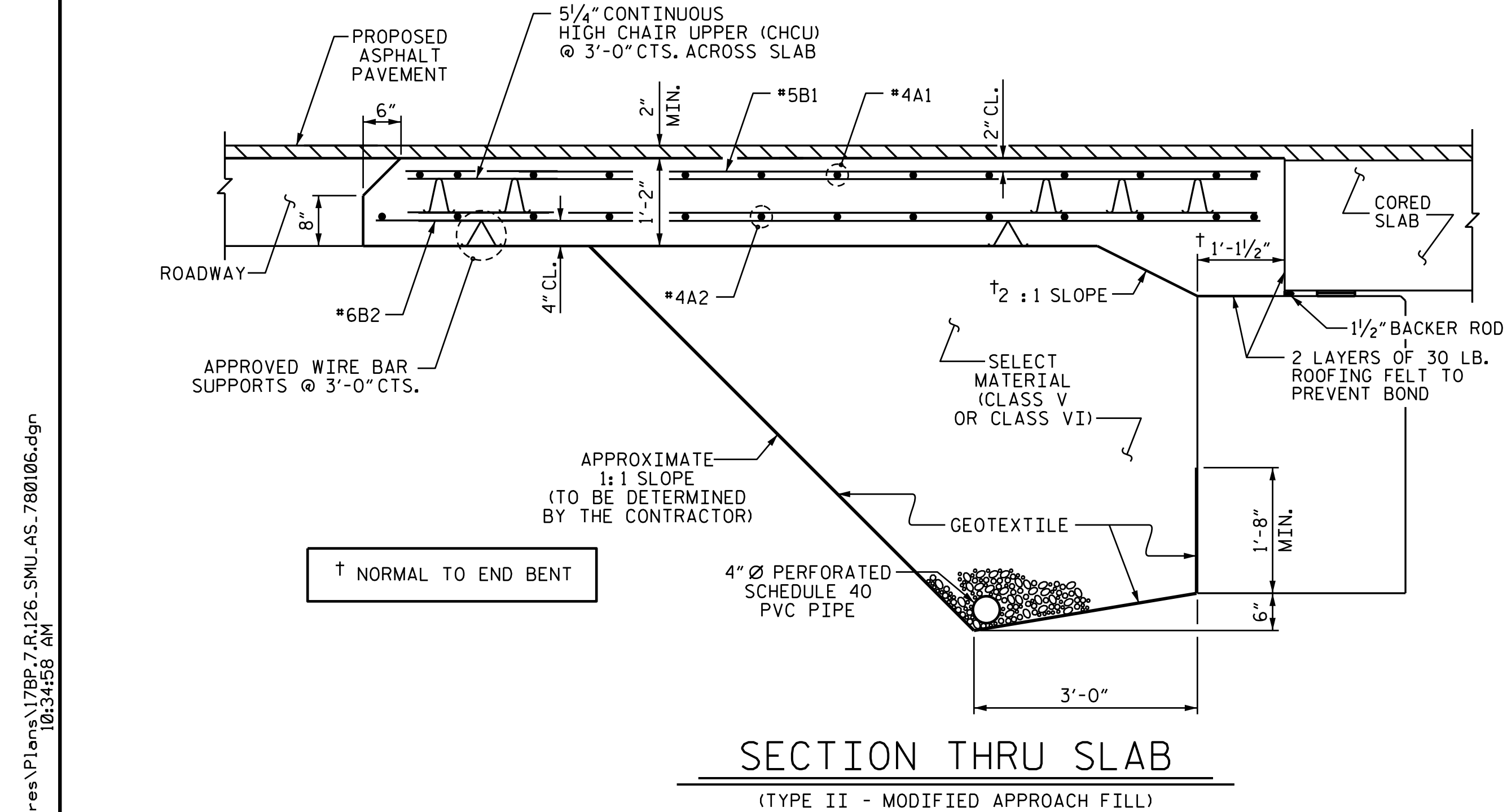
CURB DETAILS



TEMPORARY BERM AND SLOPE DRAIN DETAILS

(SHOULDER BERM GUTTER IS REQUIRED AT END BENT 1)

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ROCKINGHAM COUNTY
STATION: 15+77.00 -L-



BILL OF MATERIAL					
APPROACH SLAB AT EB #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	13	*4	STR	28'-10"	250
A2	13	*4	STR	28'-10"	250
* B1	58	*5	STR	11'-2"	676
B2	58	*6	STR	11'-8"	1016
REINFORCING STEEL				LBS.	1266
* EPOXY COATED REINFORCING STEEL				LBS.	926
CLASS AA CONCRETE				C. Y.	17.7
APPROACH SLAB AT EB #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	13	*4	STR	28'-10"	250
A2	13	*4	STR	28'-10"	250
* B1	58	*5	STR	11'-2"	676
B2	58	*6	STR	11'-8"	1016
REINFORCING STEEL				LBS.	1266
* EPOXY COATED REINFORCING STEEL				LBS.	926
CLASS AA CONCRETE				C. Y.	17.7

SPLICE LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"

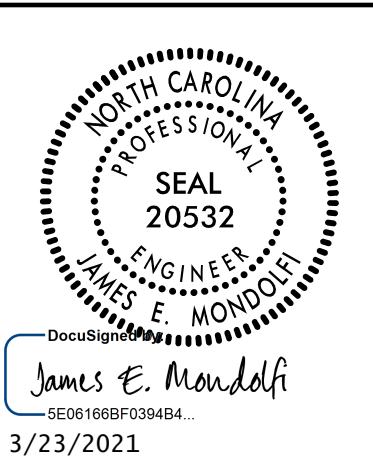
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					20