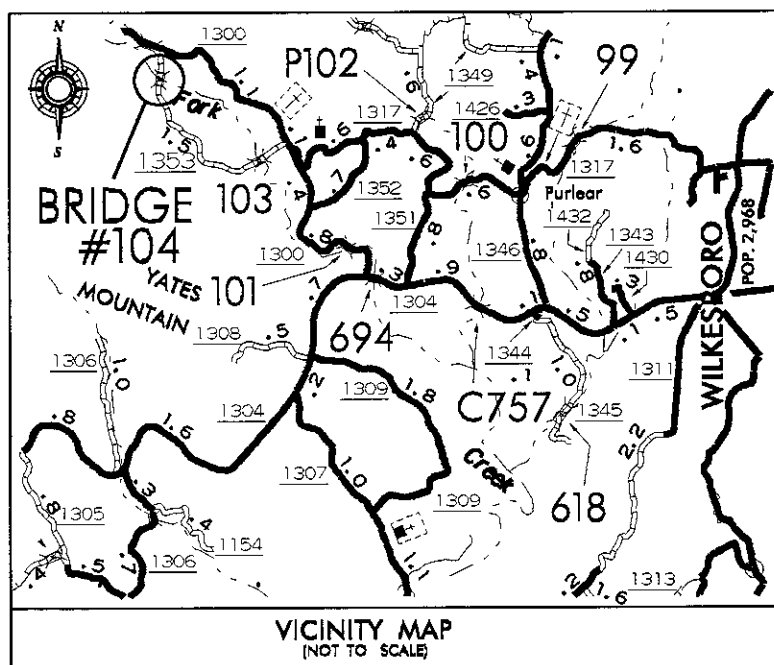


WBS 33660.1.1 TIP PROJECT: B-4323

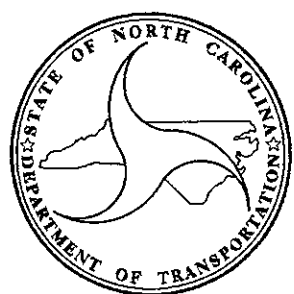
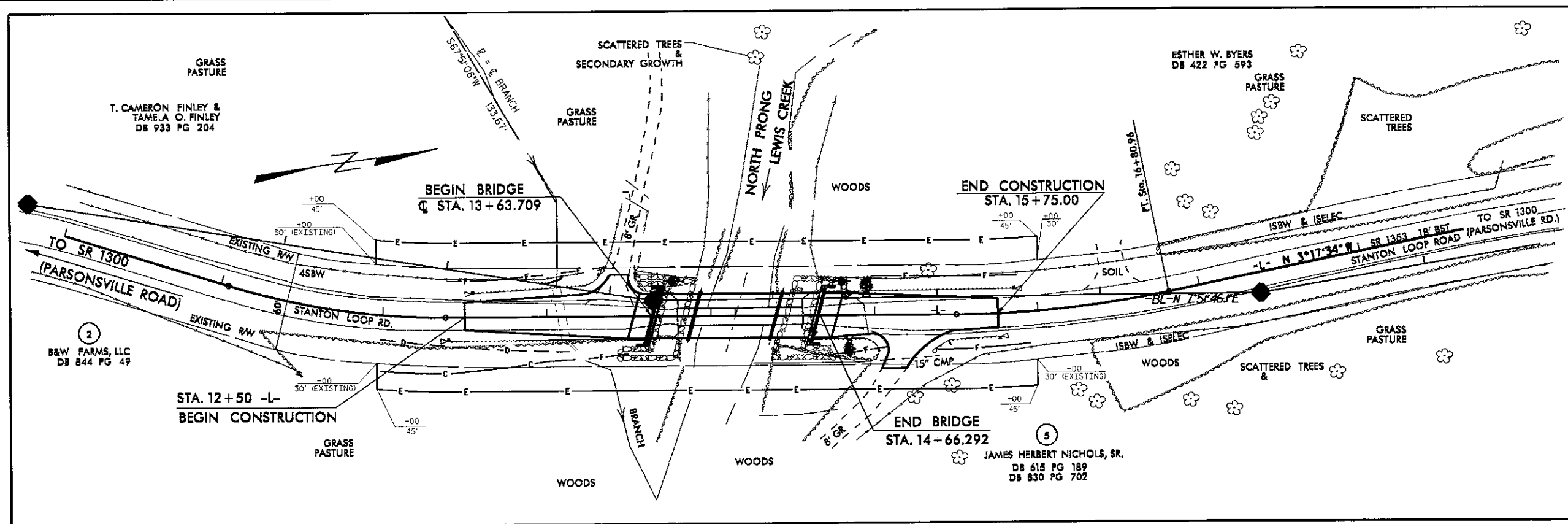


STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS WILKES COUNTY

LOCATION: SR 1353 BRIDGE NO. 104 OVER FORK CREEK.

TYPE OF WORK: BRIDGE REPLACEMENT WITH PRE-STRESSED CONCRETE CORED SLAB
SUPERSTRUCTURE ON STEEL PILE END BENTS AND INTERIOR BENTS AND ROADWAY APPROACHES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4323	1	23
STATE PROJECT NO.	R.A. PROJECT NO.	DESCRIPTION	
33660.1.1		P.E.	



DESIGN DATA

ADT 2000 = 40
ADT 2025 = 80
DESIGN SPEED = 60mph

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT = 0.0423 MILE
LENGTH STRUCTURE TIP PROJECT = 0.0193 MILE
TOTAL LENGTH TIP PROJECT = 0.0616 MILE

Prepared In the Office of:
BRIDGE MANAGEMENT UNIT
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

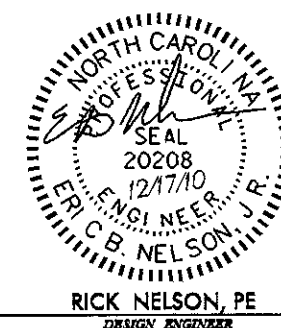
2006 STANDARD SPECIFICATIONS

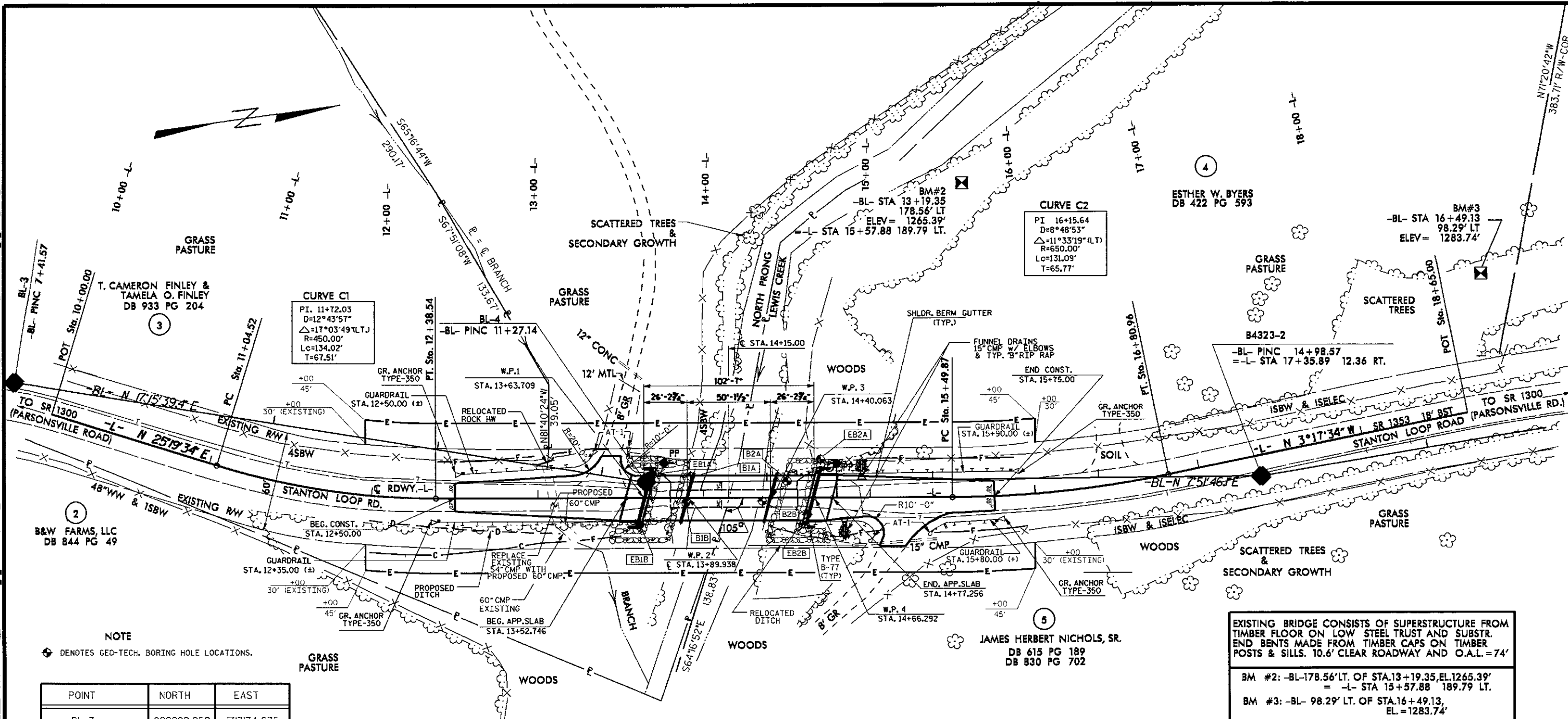
LETTING DATE:
JANUARY 20, 2011

NCDOT CONTACT:

DAN HOLDERMAN, PE
STATE BRIDGE
MANAGEMENT ENGINEER

MIKE SUMMERS
BRIDGE MANAGEMENT
PROJECT MANAGER





PLAN

POINT	NORTH	EAST
BL-3	899989.259	1313134.675
BL-4	900357.462	1313249.082
PINC 2	900725.406	1313299.895
BM #1	899637.911	1313274.754
BM #2	900572.294	1313098.494
BM #3	900873.562	1313198.019
PC-STA. 11+04.52-	900103.181	1313201.713
PI-STA. 11+72.03-	900164.206	1313230.594
PT-STA. 12+38.54-	900231.012	1313240.294
PC-STA. 15+49.87-	900539.113	1313285.038
PI-STA. 16+15.64-	900604.194	1313294.488
PT-STA. 16+80.96-	900669.856	1313290.706

POINT	NORTH	EAST
WORK POINT #1		
-L- STA. 13+63.709	900354.819	1313258.274
WORK POINT #2		
-L- STA. 13+89.938	900380.775	1313262.042
WORK POINT #3		
-L- STA. 14+40.063	900430.380	1313269.245
WORK POINT #4		
-L- STA. 14+66.292	900456.357	1313273.014
BEGIN PROJECT		
-L- STA. 12+50.00	900242.350	1313241.937
END PROJECT		
-L- STA. 15+20.00	900509.550	1313280.743

DRAWN BY: S.T. SANDOR DATE: OCT./2010
CHECKED BY: R. WEISZ DATE: NOV./2010

16-DEC-2010 09:18 ssandor AT: BGMU2403261-P00135quad BXCURRENT\WILKES\104, B-4323, WBS33660\Final\compilation\wilkes104_pro_p1n1.shx2.dgn

EXISTING BRIDGE CONSISTS OF SUPERSTRUCTURE FROM
TIMBER FLOOR ON LOW STEEL TRUSS AND SUBSTR.
END BENTS MADE FROM TIMBER CAPS ON TIMBER
POSTS & SILLS. 10.6' CLEAR ROADWAY AND O.A.L. = 74'

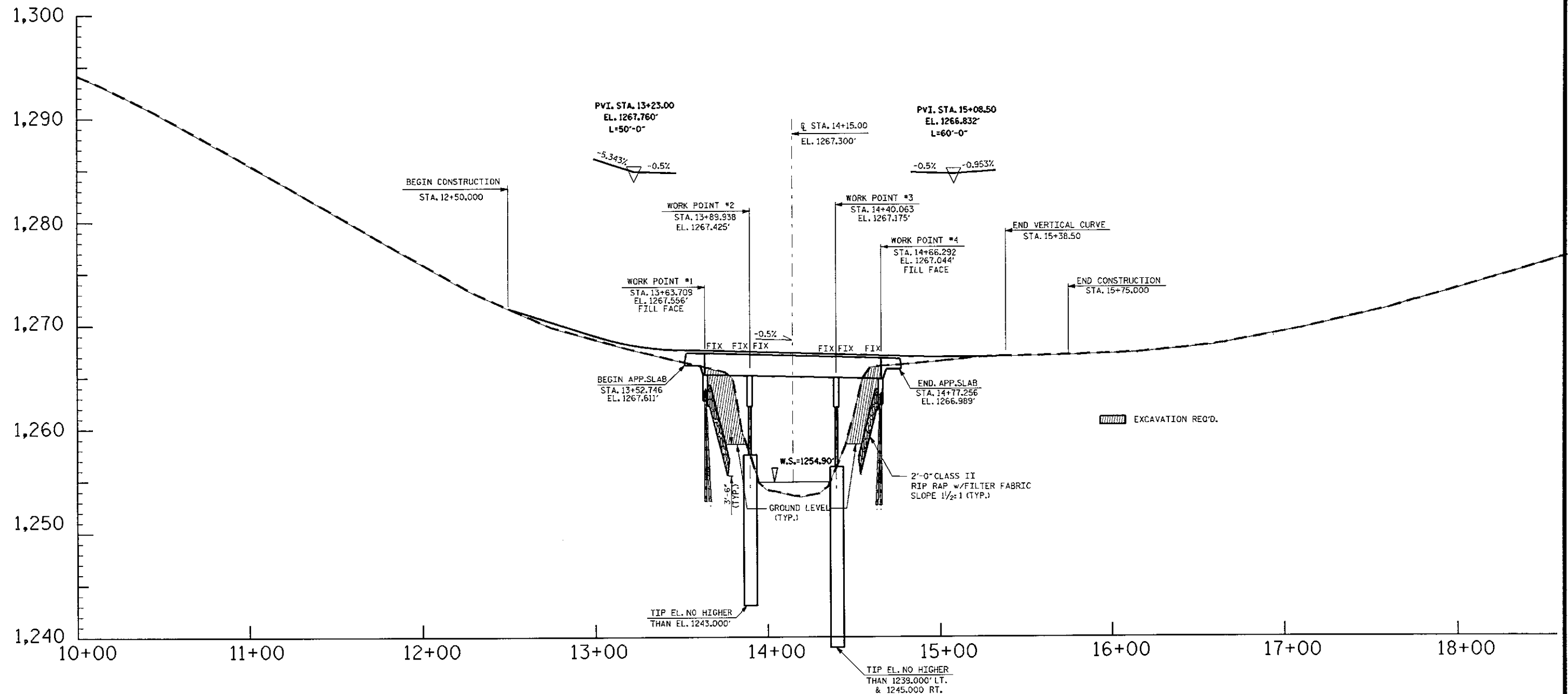
BM #2: -BL-178.56' LT. OF STA. 13+19.35, EL. 1265.39'
= -L- STA 15+57.88 189.79 LT.

BM #3: -BL- 98.29' LT. OF STA. 16+49.13,
EL. = 1283.74'

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00
REPLACES BRIDGE NO. 104

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE #104 ON
S.R. 1353 OVER NORTH
PRONG LEWIS CREEK
-PLAN SHEET-

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			2
2			4			23



PROFILE ALONG C ROADWAY -L-

SCALE: (H: 1" = 60'
V: 1" = 10')

NOTES

- DRILLED PIERS AT BENT NO.1 AND 2 ARE DESIGNED FOR BOTH SKIN FRICTION AND END BEARING. CHECK FIELD CONDITIONS FOR THE REQUIRED END BEARING CAPACITY OF 15 TSF.
- DRILLED PIERS AT BENTS NO.1 AND 2 ARE DESIGNED FOR AN APPLIED LOAD OF 151.0 TONS EACH AT THE TOP OF THE COLUMN.
- PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIERS AT BENT NO.1. IF REQUIRED, DO NOT EXTEND THE CASING BELOW ELEV. 1248 FT. WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT STEEL CASING.
- PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIERS AT BENT NO.2. IF REQUIRED, DO NOT EXTEND THE CASING BELOW ELEV. 1244 FT. WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT STEEL CASING.
- FOR PERMANENT STEEL CASING, SEE DRILLED PIERS SPECIAL PROVISION.
- DRILLED PIERS AT BENT NO.1 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 1243.0 FT. AND SATISFY THE REQUIRED END BEARING CAPACITY.
- DRILLED PIERS AT BENT NO.2 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 1239.0 FT. (LT.) AND 1245.0 (RT.), SATISFY THE REQUIRED END BEARING CAPACITY, AND HAVE A MINIMUM PENETRATION OF 5 FT. INTO ROCK AS DEFINED BY DRILLED PIERS SPECIAL PROVISION.
- THE SCOUR CRITICAL ELEVATION FOR BENT NO.1 IS ELEVATION 1246 FEET. BRIDGE MAINTENANCE USES SCOUR CRITICAL ELEVATION TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
- THE SCOUR CRITICAL ELEVATION FOR BENT NO.2 IS ELEVATION 1242 FT. (LEFT) AND 1248 FT. (RIGHT). BRIDGE MAINTENANCE SCOUR CRITICAL ELEVATIONS TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
- FOR DRILLED PIERS, SEE DRILLED PIERS SPECIAL PROVISIONS.
- SPT TESTING IS NOT REQUIRED TO DETERMINE THE END BEARING CAPACITY OF DRILLED PIERS AT BENTS NO.1 AND NO.2.
- DO NOT USE SLURRY CONSTRUCTION FOR THIS PROJECT.
- SID INSPECTIONS MAY BE REQUIRED TO INSPECT THE BOTTOM CLEANLINESS OF THE DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTION. SEE DRILLED PIERS SPECIAL PROVISION.
- CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. SEE CROSSHOLE SONIC LOGGING SPECIAL PROVISION.
- DRIVE PILES FOR END BENT NO.1 & NO.2 TO A MINIMUM BEARING CAPACITY OF 45 TONS EACH.
- WHEN DRIVING PILES DO NOT EXCEED THE MAXIMUM BLOW COUNT.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", MAY, 2001.
- REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER AND IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.
- THE QUANTITY OF RIP RAP TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF TONS OF EACH CLASS OF RIP RAP WHICH HAS BEEN INCORPORATED INTO THE COMPLETED AND ACCEPTED WORK. THE RIP RAP WILL BE MEASURED BY BEING WEIGHED IN TRUCKS ON CERTIFIED PLATFORM SCALES OR OTHER CERTIFIED WEIGHING DEVICES. THE QUANTITY OF RIP RAP WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON:

PLAIN RIP RAP CLASS II (2'-0" THICK)		
END BENT NO.1	165	TONS
END BENT NO.2	160	TONS
TOTAL	325	TONS

⬢ DENOTES GEO-TECH. BORING HOLE LOCATIONS. (SEE SHEET 2).

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+50.00
REPLACES BRIDGE NO. 104

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE #104 ON
S.R. 1353 OVER NORTH
PRONG LEWIS CREEK
-PROFILE SHEET-

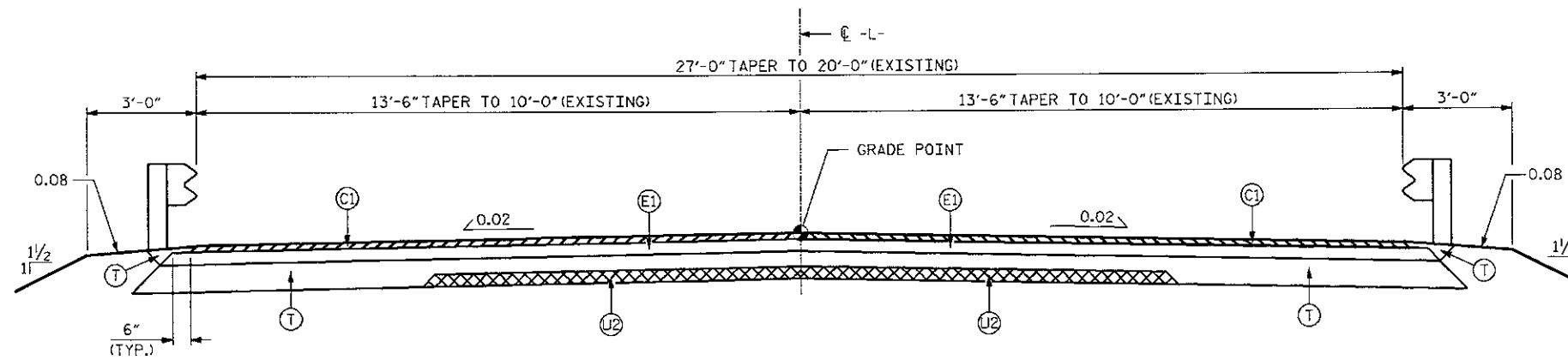
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			3
2			4			23

DRAWN BY: S. T. SANDOR DATE: OCT./2010
CHECKED BY: R. WEISZ DATE: DEC./2010

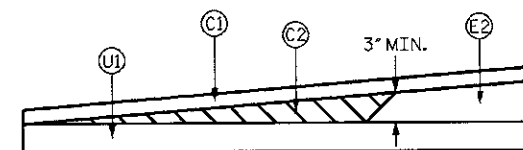
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NOTES

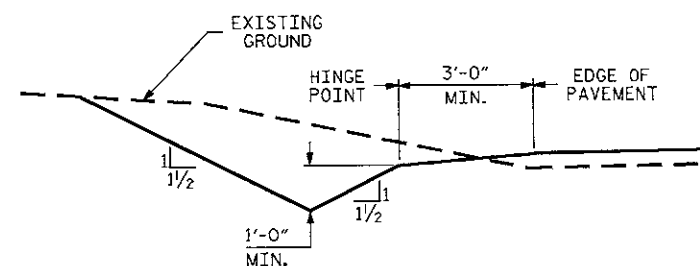
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
2. FOR METHOD OF SHOULDER CONSTRUCTION, SEE STD. DWG. 560.01.



TYPICAL ROADWAY SECTION



WEDGING DETAIL FOR RESURFACING



TYPICAL CUT SLOPE DETAIL

(C1)	PROP. APPROX. 1 1/2" MIN. ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH IN EACH OF THE TWO LAYERS.
(C2)	PROP. VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 2" IN DEPTH.
(E1)	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
(E2)	PROP. VARIABLE DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, 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 6" IN DEPTH.
(T)	EMBANKMENT MATERIAL.
(U1)	EXISTING PAVEMENT.
(U2)	EXISTING PAVEMENT TO BE REMOVED.

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00
REPLACES BRIDGE NO. 104

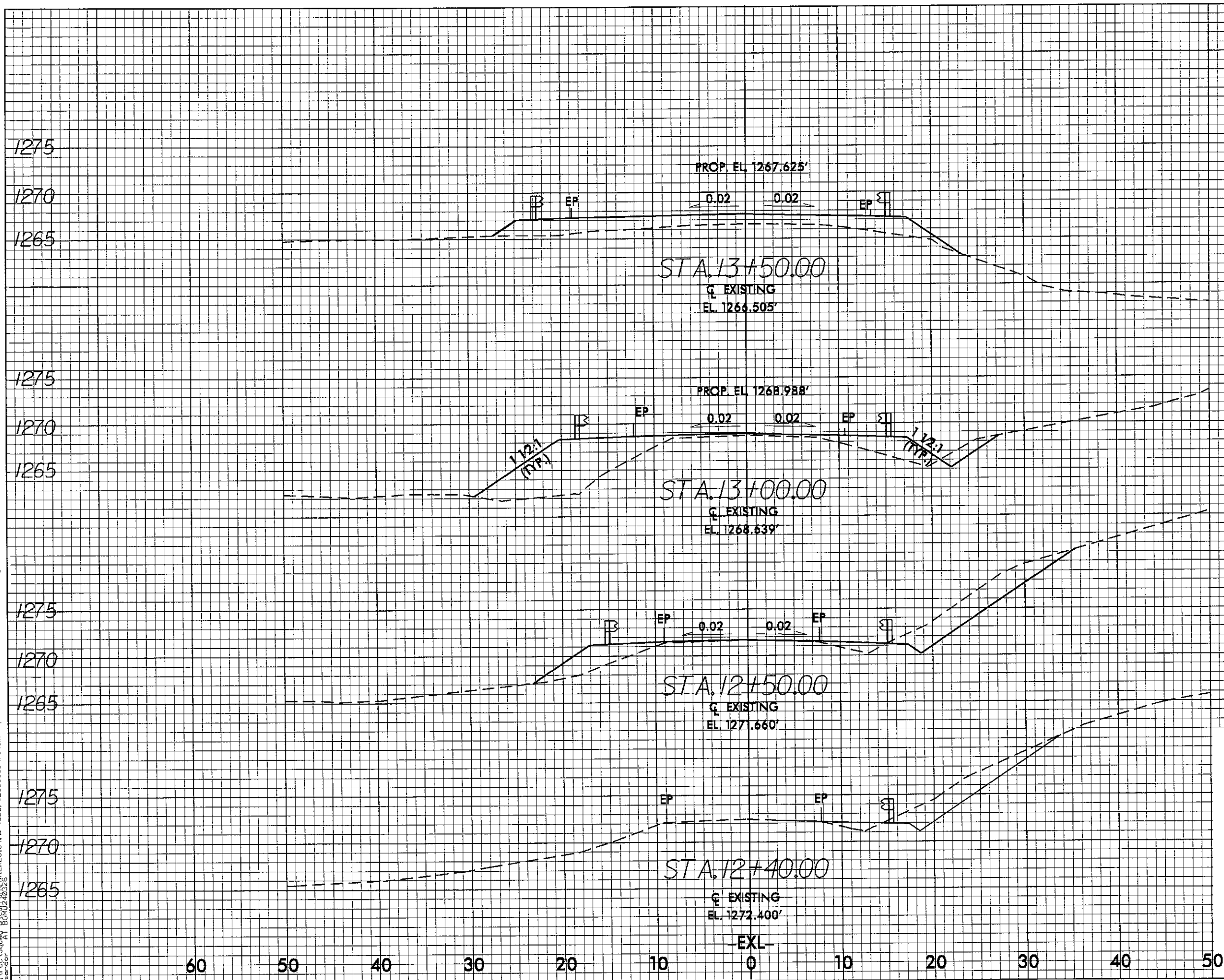
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RAILROAD

TYPICAL ROADWAY
SECTIONS

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			4
2			4			23

DRAWN BY: STS DATE: AUG./2009
CHECKED BY: R. WEISZ DATE: DEC./2009

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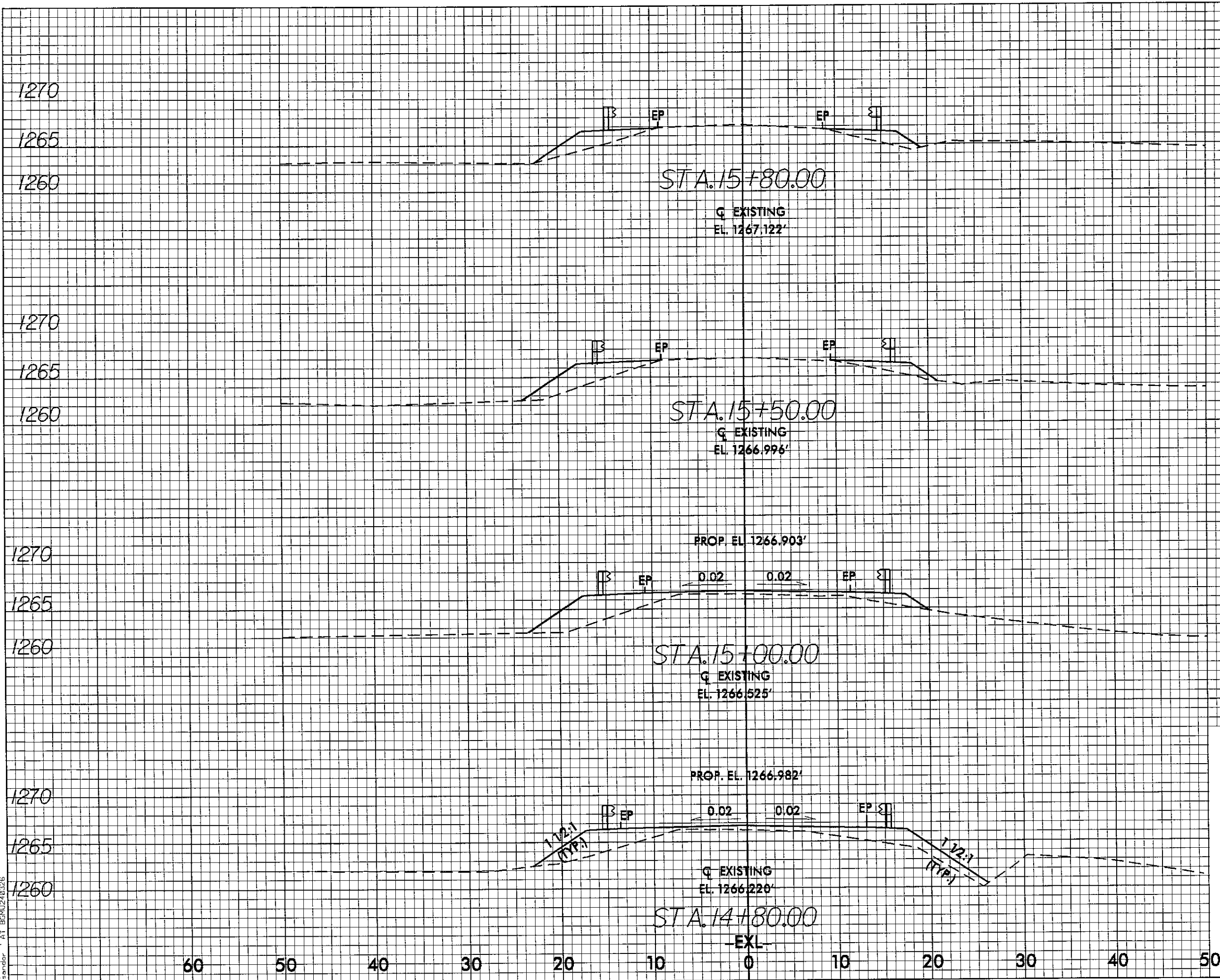
PROJECT NO. WBS. 33660
COUNTY: WILKES
STATION: 14+15.00
REPLACES BRIDGE NO. 104

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL ROADWAY
CROSSECTIONS

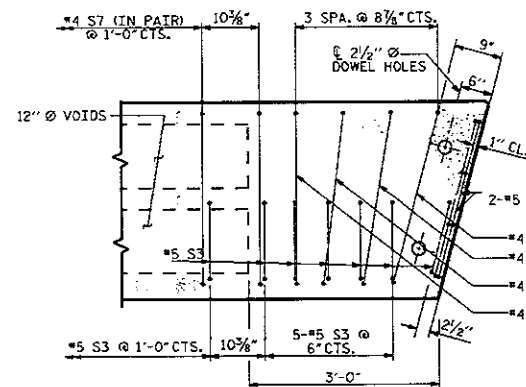
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
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2			4			TOTAL SHEETS 23

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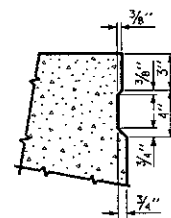
PROJECT NO. WBS. 33660
COUNTY: WILKES
STATION: 14+15.00
REPLACES BRIDGE NO. 104

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
TYPICAL ROADWAY CROSSECTIONS					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
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2			4		
SHEET NO. 6					TOTAL SHEETS 23



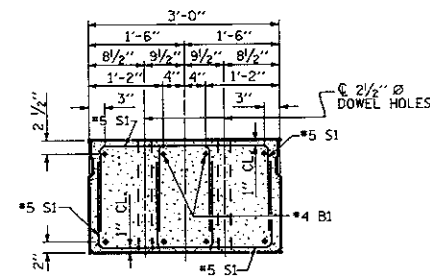
PART PLAN-EXTERIOR SECTION

NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT S3 BARS.



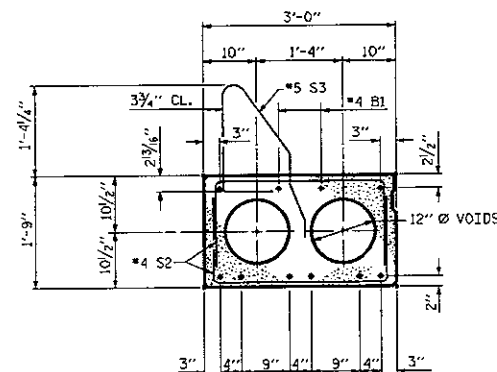
SHEAR KEY DETAIL

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

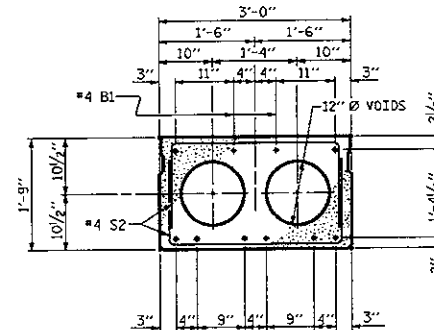


END ELEVATION

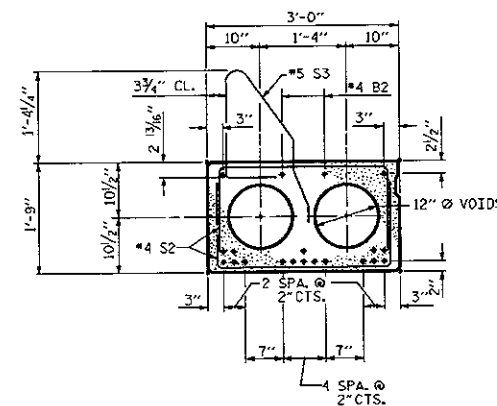
SHOWING PLACEMENT OF DOUBLE STIRRUPS AND LOCATION OF DOWEL HOLES. (STRAND LAYOUT NOT SHOWN.) INTERIOR SLAB SECTION SHOWN-EXTERIOR SLAB SECTION SIMILAR EXCEPT SHEAR KEY LOCATION.



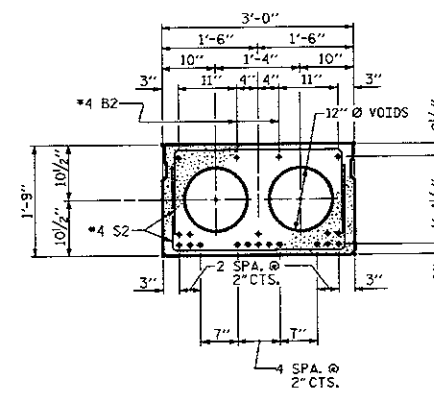
25' SPAN EXTERIOR SLAB SECTION
(8- 0.6\"/>



25' SPAN INTERIOR SLAB SECTION
(8- 0.6\"/>



50' SPAN EXTERIOR SLAB SECTION
(8- 0.6\"/>



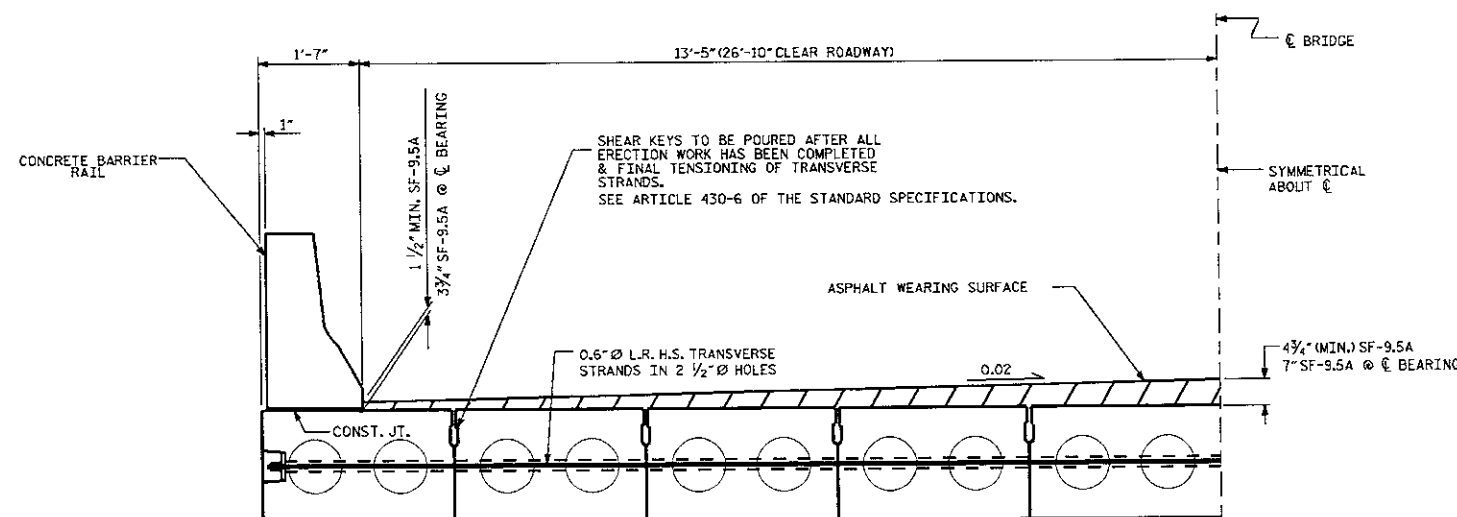
50' SPAN INTERIOR SLAB SECTION
(8- 0.6\"/>

SHEATH CHART		
SPAN LENGTH	NUMBER OF SHEATHED STRANDS PER EXTERIOR SLAB SECTIONS	NUMBER OF SHEATHED STRANDS PER INTERIOR SLAB SECTIONS
25'	0	0
50'	* 4	* 4

* BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 4'-4\"/>

CORED SLABS REQUIRED							
	NUMBER			LENGTH			TOTAL LENGTH
	SPAN A	SPAN B	SPAN C	SPAN A	SPAN B	SPAN C	
EXTERIOR C.S.	2	2	2	25'-0"	50'-0"	25'-0"	200'-0"
INTERIOR C.S.	8	8	8	25'-0"	50'-0"	25'-0"	800'-0"
TOTAL							1000'-0"

GRADE 270 STRANDS	
	0.6\"/>



TYPICAL HALF SECTION

DEAD LOAD DEFLECTION AND CAMBER- 25' SPAN-	
	3'-0\"/>

DEAD LOAD DEFLECTION AND CAMBER-50' SPAN -	
	3'-0\"/>

* INCLUDES FUTURE WEARING SURFACE

NOTES

ASSUMED LIVE LOAD = HS 20 OR ALTERNATE LOADING, EXCEPT THAT THE BEAMS HAVE BEEN DESIGNED FOR HS25.

CONCRETE:

f'c = 5000 psi (MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS)

f'ci = 4000 psi (MINIMUM COMPRESSIVE STRENGTH @ TRANSFER OF STRESSING FORCE)

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE 2 1/2\"/>

WHEN CORED SLABS ARE CAST, A POSITIVE HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. THIS SYSTEM SHALL BE DESIGNED TO BE LEFT IN PLACE UNTIL THE CONCRETE HAS REACHED RELEASE STRENGTH. AT LEAST THREE WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

TRANSVERSE POST TENSIONING OF THE CORED SLAB UNITS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, EXCEPT THAT THE STRANDS SHALL BE 0.6\"/>

STRUCTURAL STEEL ITEMS SHALL BE OF A GRADE CONFORMING TO EITHER ASTM A36 OR A373, EXCEPT HIGH STRENGTH BOLTS. HIGH STRENGTH BOLTS SHALL BE ASTM A325. ALL STRUCTURAL STEEL EXCEPT PILE CAP PLATES SHALL BE GALVANIZED AS PER THE SPECIFICATIONS.

ALL MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OF THE NC DEPARTMENT OF TRANSPORTATION DATED JULY 2006 AND THE SPECIAL PROVISIONS.

NOTE: SPIRAL WIRE REINFORCEMENT MAY BE USED IN LIEU OF DEFORMED BARS FOR STIRRUPS. MIN. W3.5 X 6\"/>

UNLESS OTHERWISE NOTED ON PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4\"/>

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00-L-
BRIDGE NO. 104

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CORED SLAB DETAILS
26'-10\"/>

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			7
2			4			23

DRAWN BY : S. T. SANDOR DATE : SEPT./2010
CHECKED BY : A. ABRAHA DATE : DEC./2010

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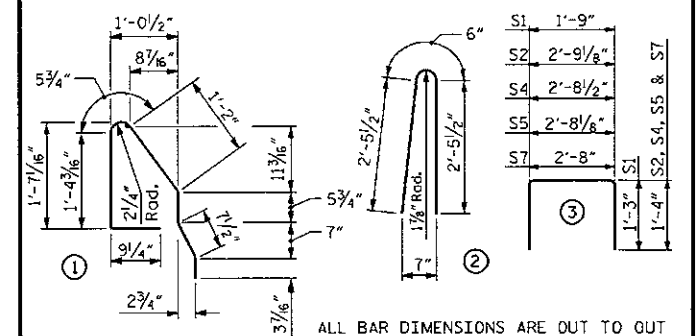
NOTES

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT. THE 2 1/2" Ø DOWEL HOLES AT EXPANSION ENDS OF SLAB SECTIONS SHALL BE FILLED WITH JOINT SEALER MATERIAL TO 1/2" ABOVE THE TOP OF DOWELS AND THEN FILLED WITH GROUT.

THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TYPE SL LOW MODULUS SILICONE SEALANT. THE 2" Ø BACKER ROD SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

BAR TYPES



BILL OF MATERIAL FOR 25'-0" CORED SLAB SECTION

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT LENGTH	EXTERIOR UNIT WEIGHT	INTERIOR UNIT LENGTH	INTERIOR UNIT WEIGHT
B1	2	#4	STR	24'-8"	33	24'-8"	33
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	4	#4	3	5'-5 1/8"	15	5'-5 1/8"	15
*S3	30	#5	1	5'-3"	164		
S4	4	#4	3	5'-4 1/2"	14	5'-4 1/2"	14
S5	4	#4	3	5'-4 1/8"	14	5'-4 1/8"	14
S7	44	#4	3	5'-4"	157	5'-4"	157
REINFORCING STEEL				268 LBS.		268 LBS.	
*EPOXY COATED REINFORCING STEEL				164 LBS.		164 LBS.	
5000 P.S.I. CONCRETE				3.40 CU. YDS.		3.40 CU. YDS.	
0.6" Ø L.R. STRANDS				No. 8		8	

BILL OF MATERIAL FOR 50'-0" CORED SLAB SECTION

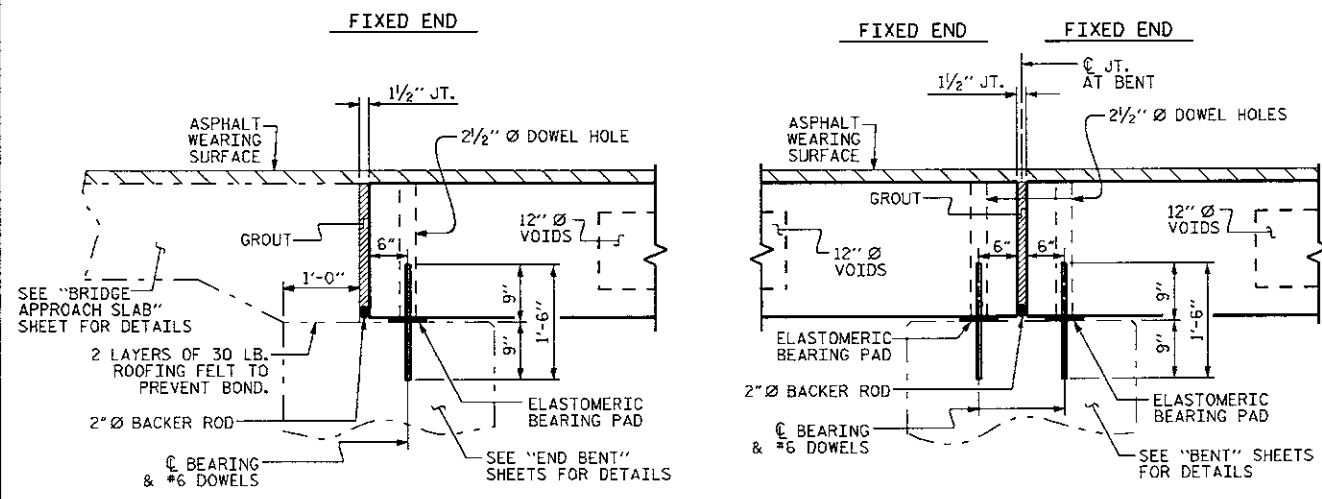
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT LENGTH	EXTERIOR UNIT WEIGHT	INTERIOR UNIT LENGTH	INTERIOR UNIT WEIGHT
B2	4	#4	STR	25'-7"	68	25'-7"	68
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	4	#4	3	5'-3 1/2"	15	5'-5 1/8"	15
*S3	55	#5	1	5'-3"	301		
S4	4	#4	3	5'-4 1/2"	14	5'-4 1/2"	14
S5	4	#4	3	5'-4 1/8"	14	5'-4 1/8"	14
S7	94	#4	3	5'-4"	335	5'-4"	335
REINFORCING STEEL				481 LBS.		481 LBS.	
*EPOXY COATED REINFORCING STEEL				301		301	
5000 P.S.I. CONCRETE				6.72 CU. YDS.		6.72 CU. YDS.	
0.6" Ø L.R. STRANDS				No. 18		18	

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00-L-
BRIDGE NO. 104

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
C.I.P. CONCRETE
BARRIER RAIL SECTION

REVISIONS						NO.
NO.	BY	DATE	NO.	BY	DATE	
1			2			8
2			4			23



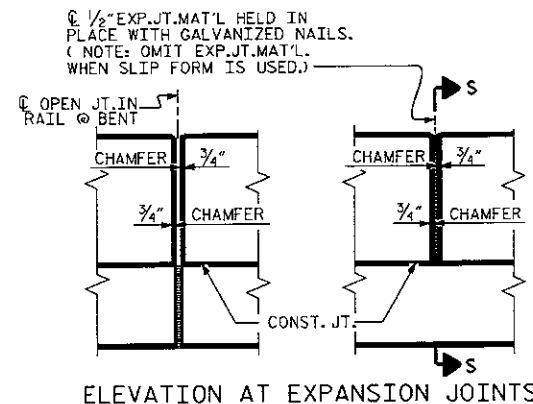
SECTION AT END BENT

BILL OF MATERIAL FOR CONCRETE BARRIER RAIL									
BAR	BARS PER SPAN			TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT	
	SPAN A	SPAN B	SPAN C						
*B3	16	32	16	64	#5	STR	24'-7"	1641	
*S3	60	110	60	230	#5	1	5'-3"	1259	
*S6	60	110	60	230	#5	2	5'-6"	1319	
*EPOXY COATED REINFORCING STEEL				4219 LBS.					
CLASS AA CONCRETE				21.7 CU. YDS.					
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL				200					

SECTION AT BENT

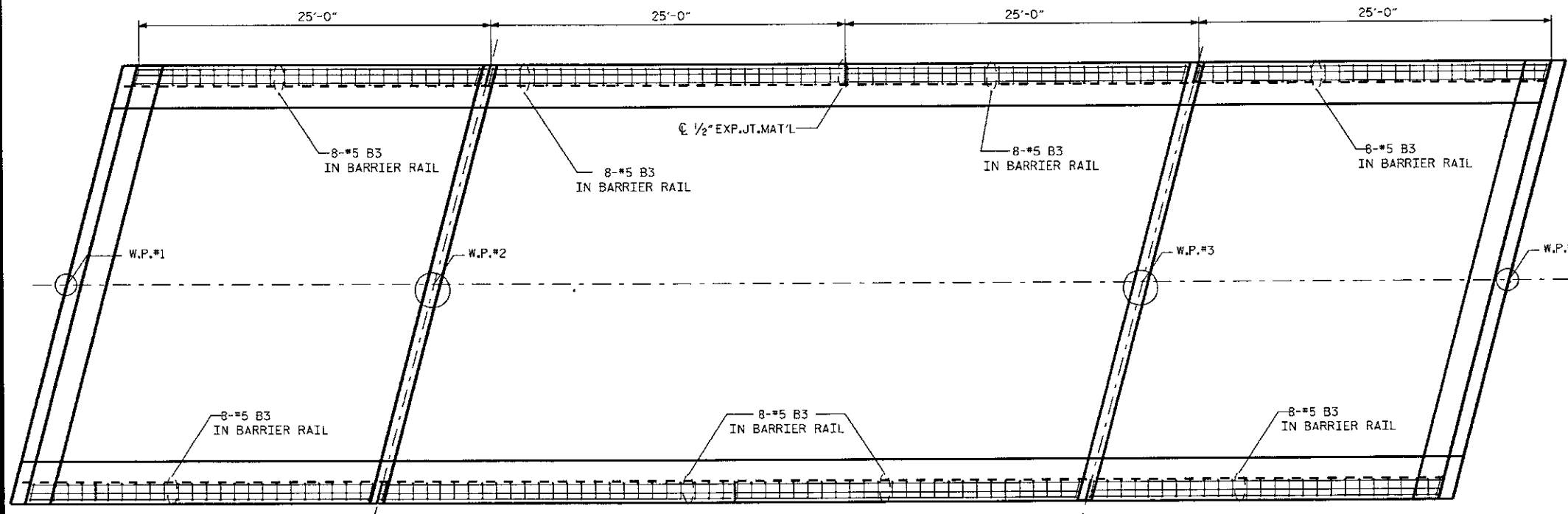
SECTION THRU RAIL

SECTION S-S AT DAM IN OPEN JOINT (THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)



ELEVATION AT EXPANSION JOINTS

BARRIER RAIL DETAILS

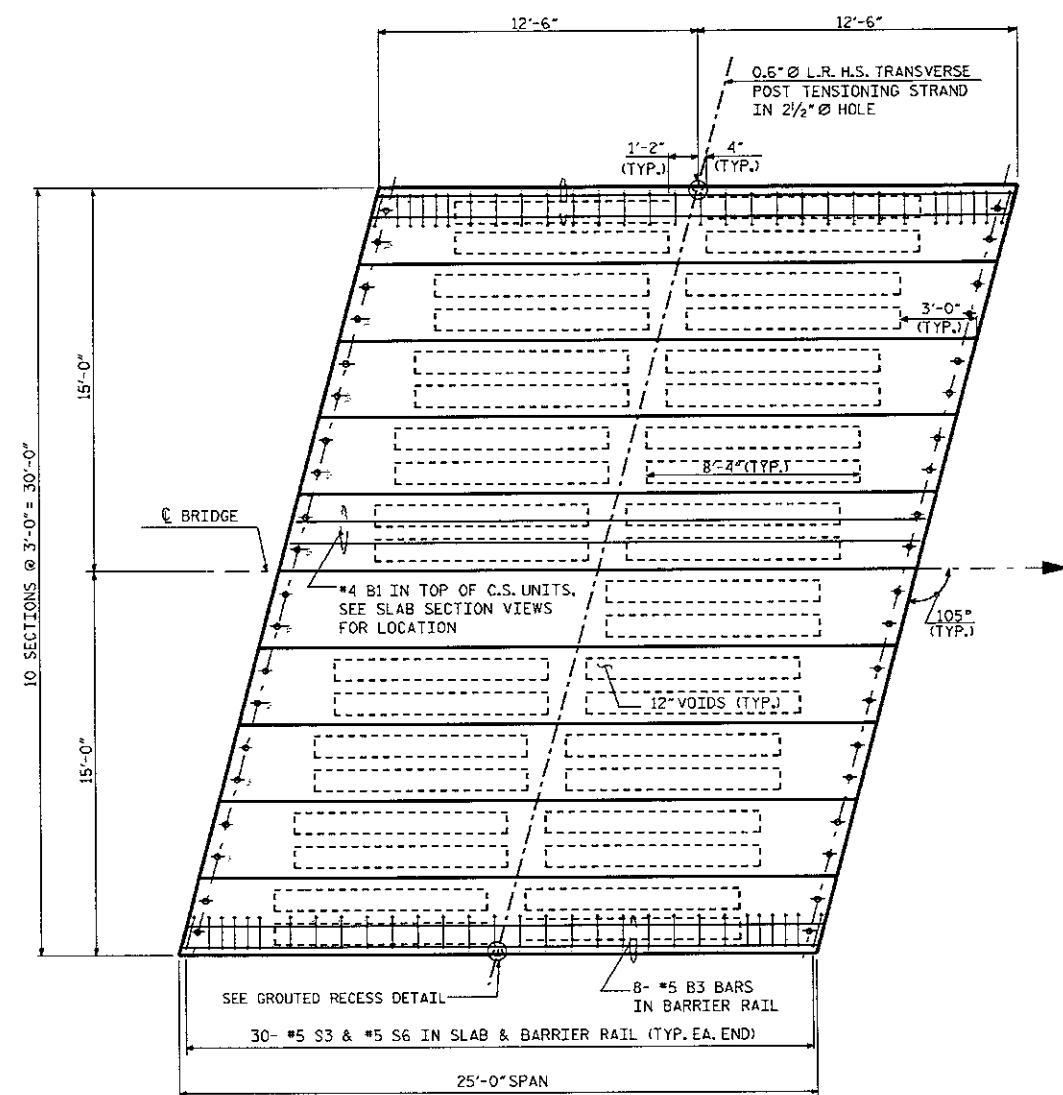


PLAN OF BARRIER RAIL

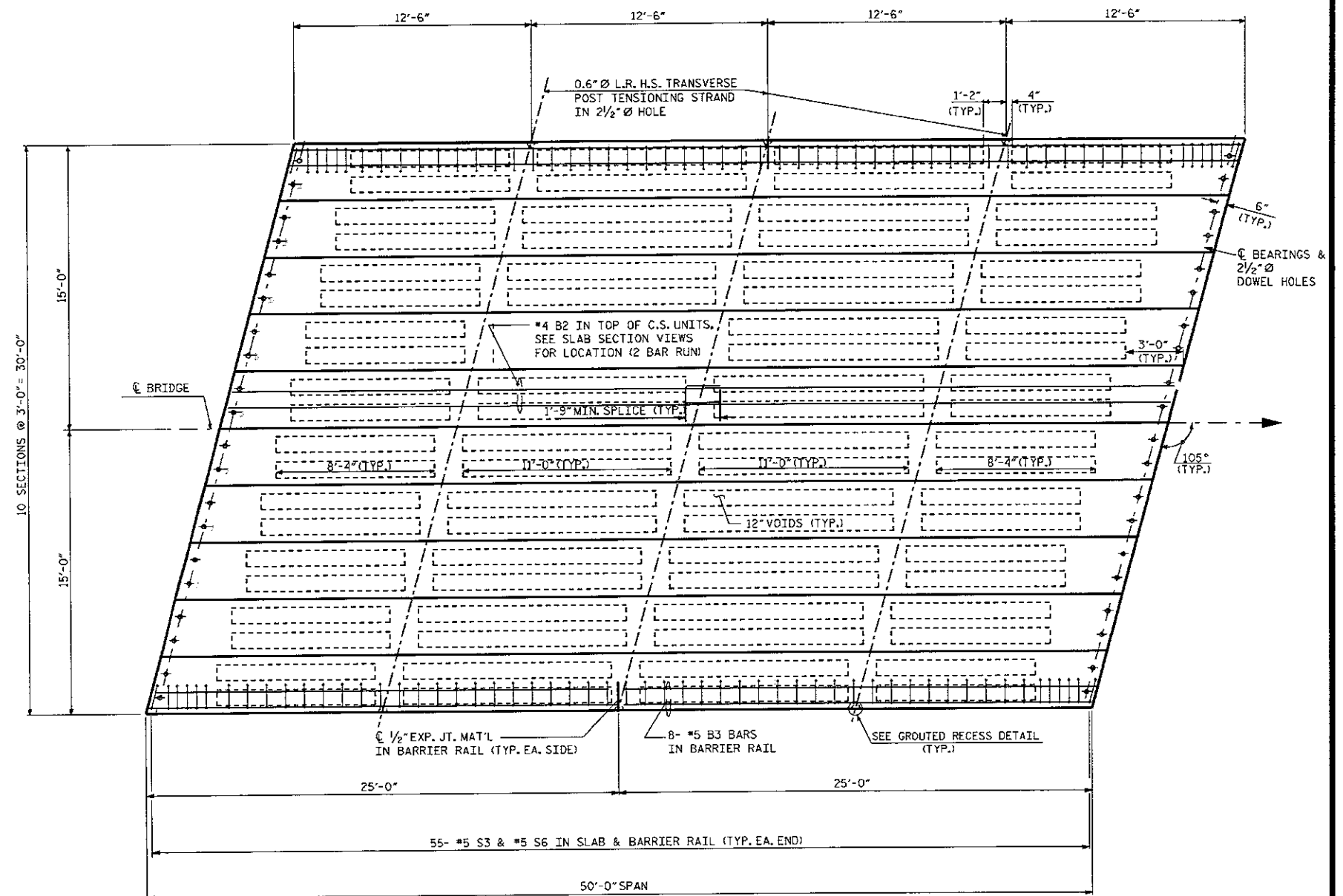
(NOT TO SCALE)

DRAWN BY : S. T. SANDOR DATE : SEPT./2010
CHECKED BY : A. ABRAHA DATE : DEC./2010

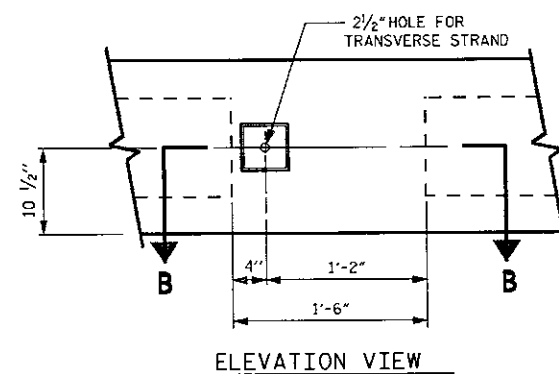
17-DEC-2010 09:20 ssandor AT BGMU240326 S:\P0C\Squad B\Current\WILKES104, B-4323, WBS33660\FinalCompilation\wilkes104_BR_Sht8.dgn



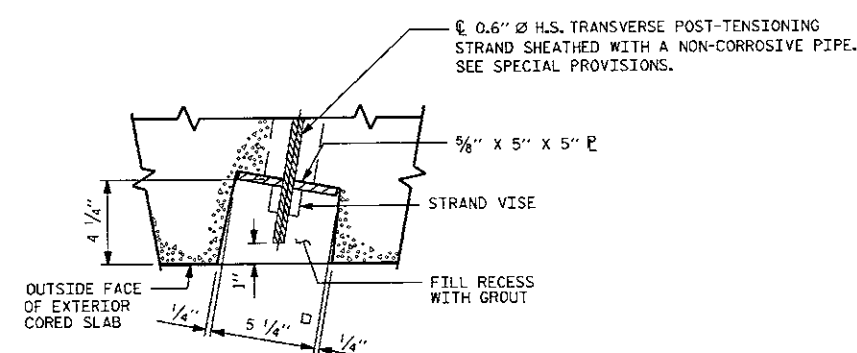
25' SPAN



50' SPAN



ELEVATION VIEW



SECTION B-B

GRAUTED RECESS DETAIL

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00-L-
BRIDGE NO. 104

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE STANDARD PRECAST CORED SLAB					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
					9
					23

DRAWN BY : S. T. SANDOR DATE : DEC./2010
CHECKED BY : A. ABRAHA DATE : DEC./2010

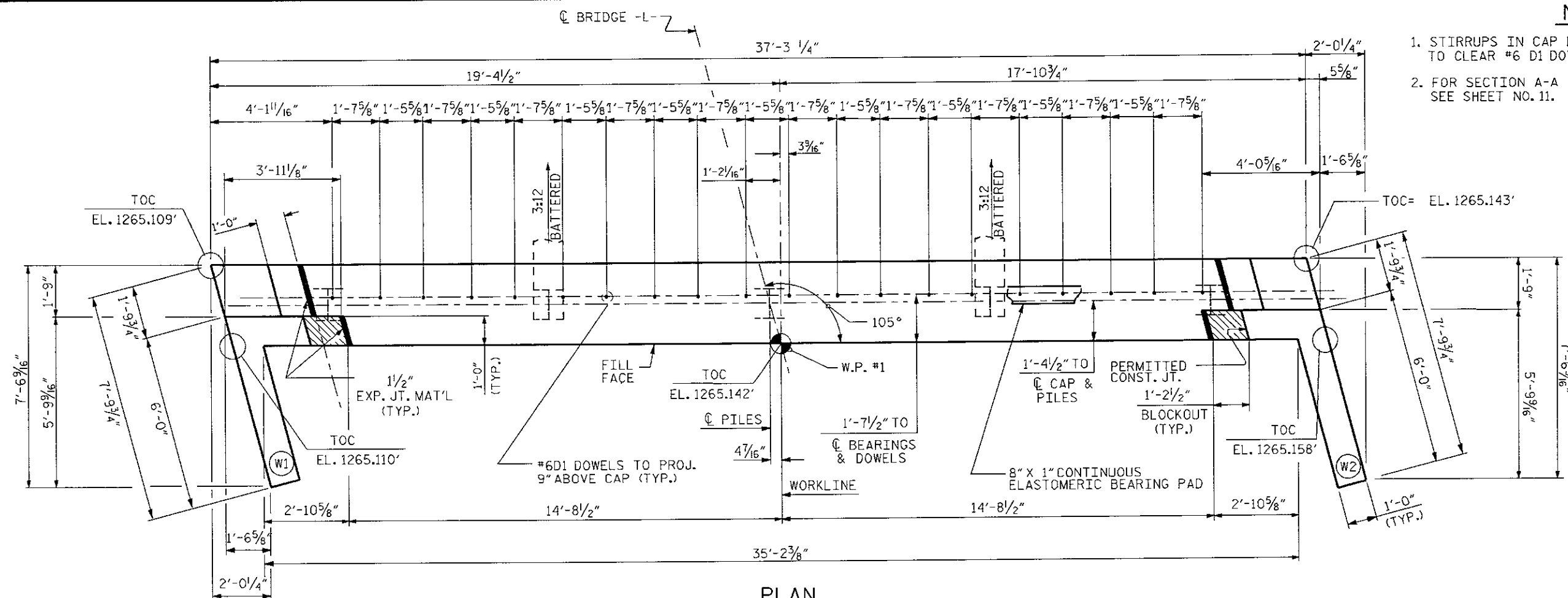
17-DEC-2010 09:23

ssandor AT BGMU240326

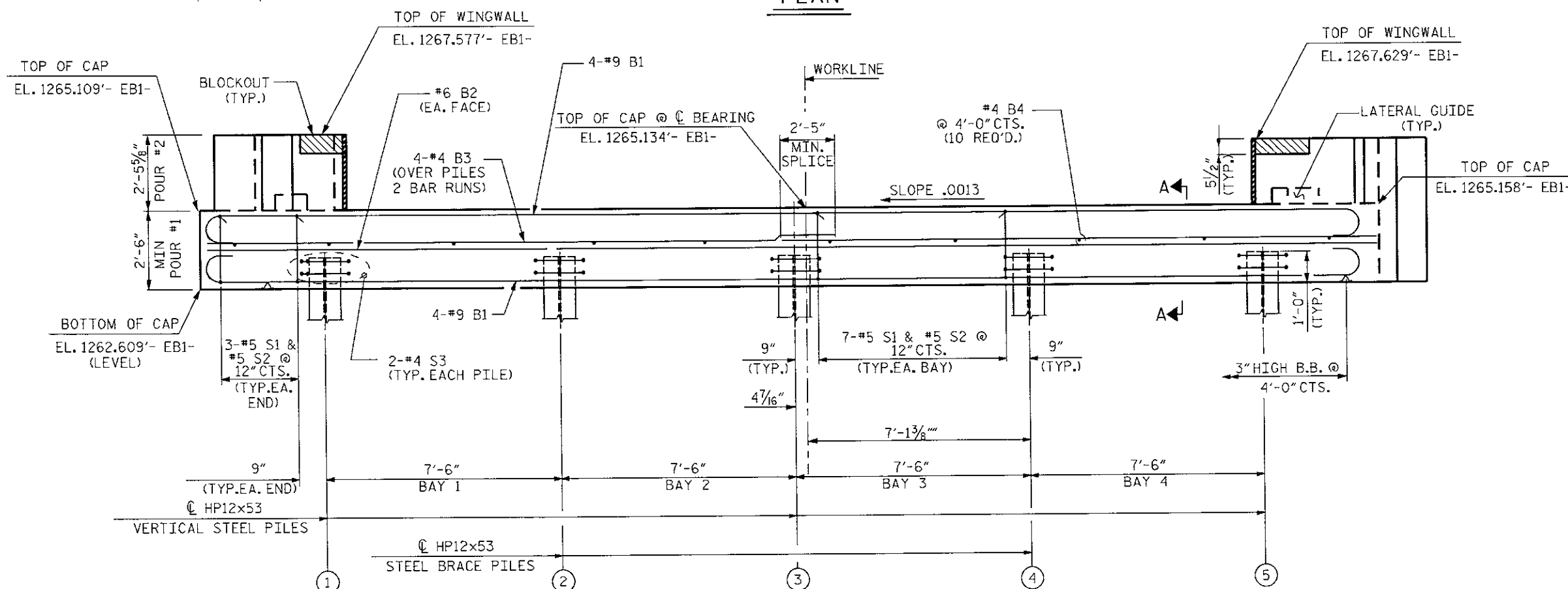
S:\P0C\Squad B\Current\WILKES104, B-4323, WBS33660\FinalCompilation\wilkes104_CS-Shf9.dgn

NOTES

1. STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #6 D1 DOWELS.
2. FOR SECTION A-A AND LATERAL GUIDE DETAILS SEE SHEET NO. 11.



PLAN



ELEVATION

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00-L-
BRIDGE NO. 104

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 1

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			2		
2			3		

SHEET NO.
10
TOTAL SHEETS
23

DRAWN BY : S. T. SANDOR DATE : DEC./2010
CHECKED BY : R. WEISZ/ A. ABRAHA DATE : DEC./2010

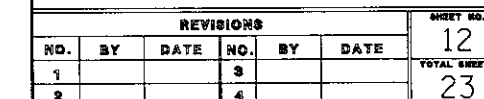
17-DEC-2010 13:20

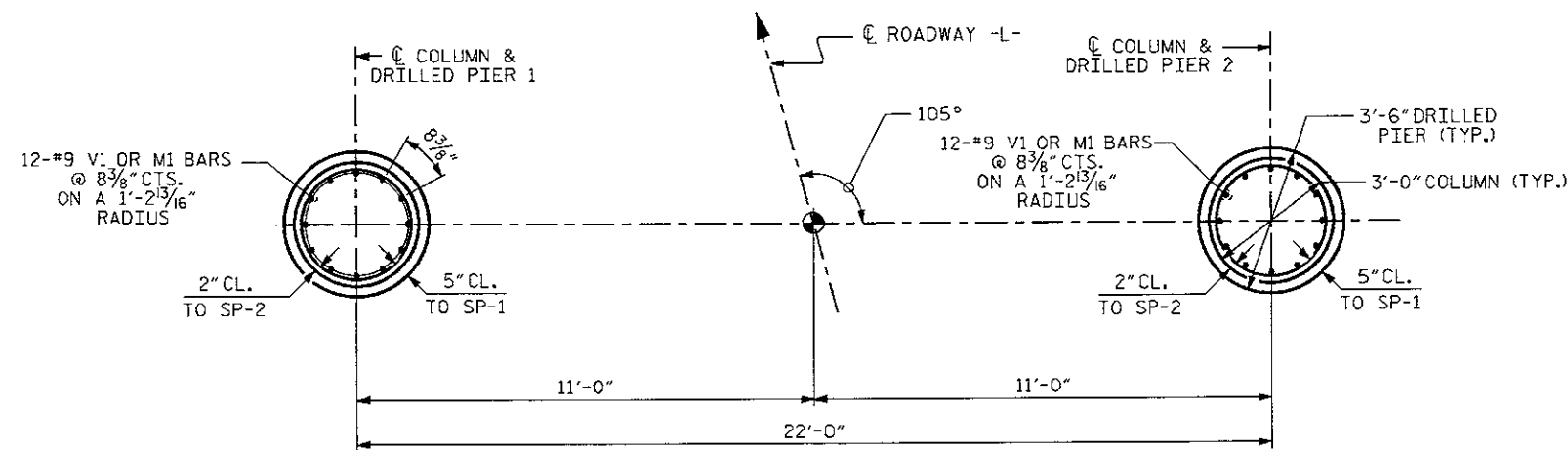
ssandor AT BGMU240326

S:\P00\Squad B\Current\WILKES104, B-4323, WBS33660\FinalCompilation\wilkes104_EB1 & EB2.dgn

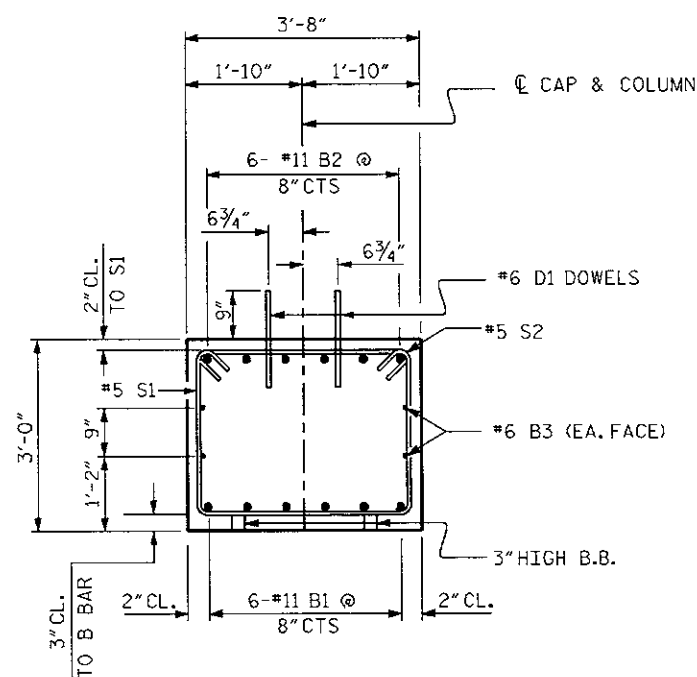


1. STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR # 6 DI DOWELS.
2. HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
3. ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEM FOR "CONSTRUCTION OF SUBSTRUCTURE".
4. FOR SECTION A-A, LATERAL GUIDE DETAILS SEE SHEET NO. 13.

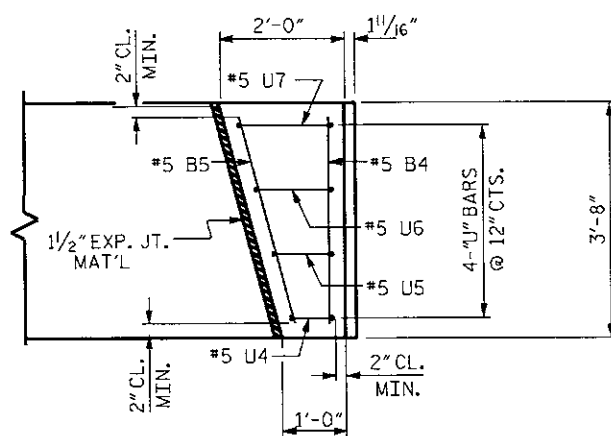




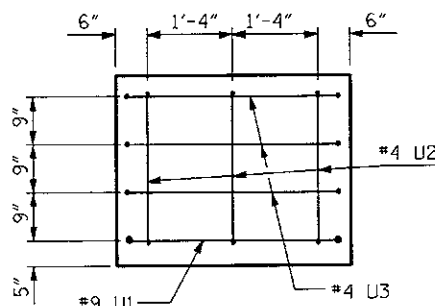
PLAN OF COLUMNS AND DRILLED PIERS



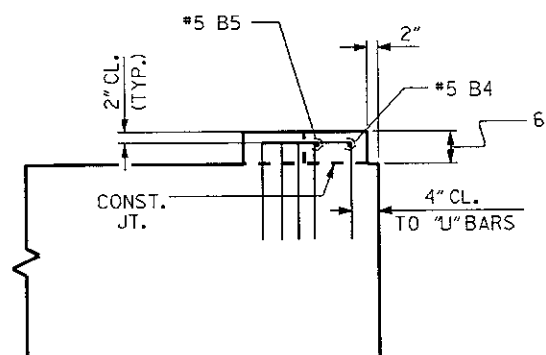
SECTION THROUGH CAP



PLAN



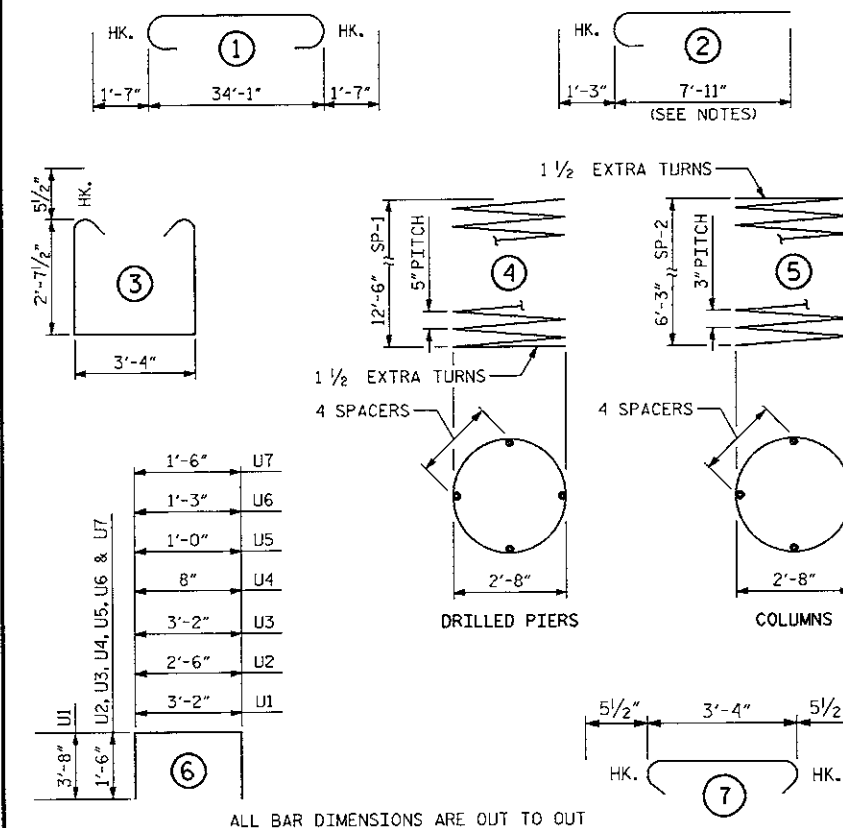
END VIEW



ELEVATION

LATERAL GUIDE DETAILS

BAR TYPES

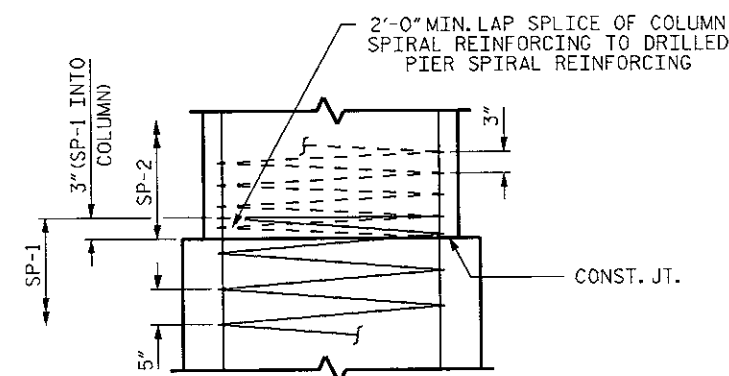


ALL BAR DIMENSIONS ARE OUT TO OUT

NOTES: THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT "V" BARS FOR THE COLUMNS ARE DETAILED WITH 3 FEET OF ADDITIONAL LENGTH.

** 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.



CONSTRUCTION JOINT DETAIL

BILL OF MATERIAL

BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	11	STR	34'-3"	1092
B2	6	11	1	37'-3"	1187
B3	4	6	STR	34'-3"	206
B4	2	5	STR	3'-2"	7
B5	2	5	STR	3'-3"	7

D1	40	6	STR	1'-6"	90
S1	36	5	3	9'-6"	357
S2	36	5	7	4'-3"	160

U1	2	9	6	10'-6"	71
U2	6	4	6	5'-6"	22
U3	6	4	6	6'-2"	25
U4	2	5	6	3'-8"	8
U5	2	5	6	4'-0"	8
U6	2	5	6	4'-3"	9
U7	2	5	6	4'-6"	9

M1	24	9	2	9'-2"	748
----	----	---	---	-------	-----

V1	24	9	STR	18'-0"	1469
----	----	---	-----	--------	------

REINFORCING STEEL = 5475 LBS

SPIRAL COLUMN REINFORCING STEEL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
SP1	2	**	4	264'-3"	353
SP2	2	***	5	222'-10"	465

SPIRAL REINFORCING STEEL = 818 LBS

CLASS A CONCRETE:

POUR 1: DRILLED PIERS 9.3 C.Y.

POUR 2: COLUMNS 3.1 C.Y.

POUR 3: CAP 14.1 C.Y.

POUR 4: LATERAL GUIDES 0.2 C.Y.

TOTAL 26.7 C.Y.

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00-L
BRIDGE NO. 104

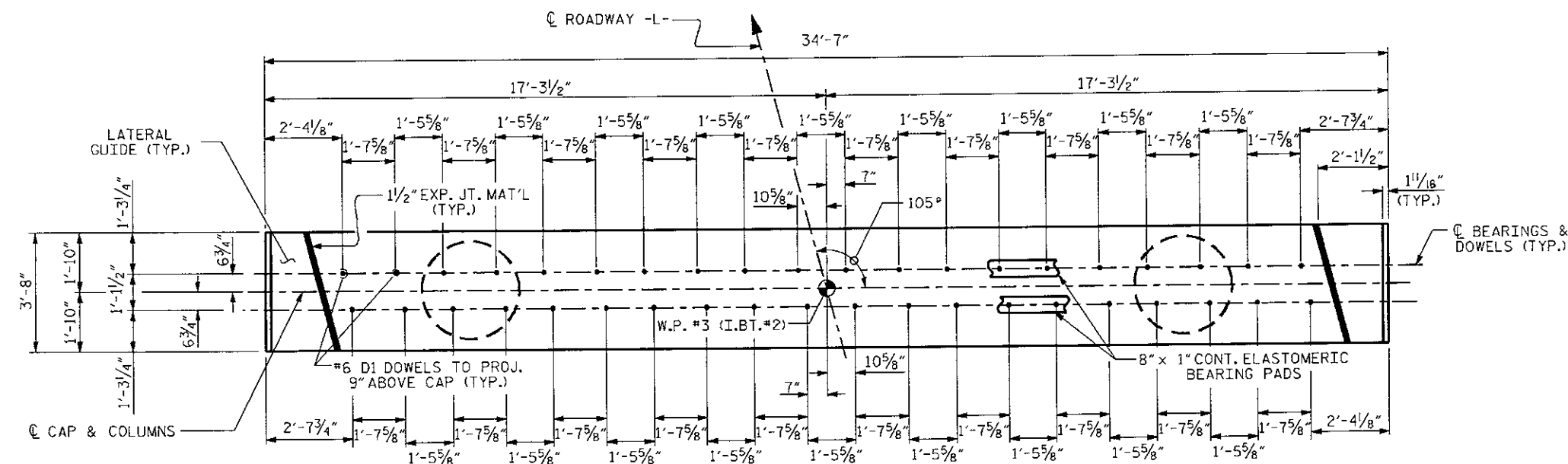
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
INT. BENT 1
DETAILS

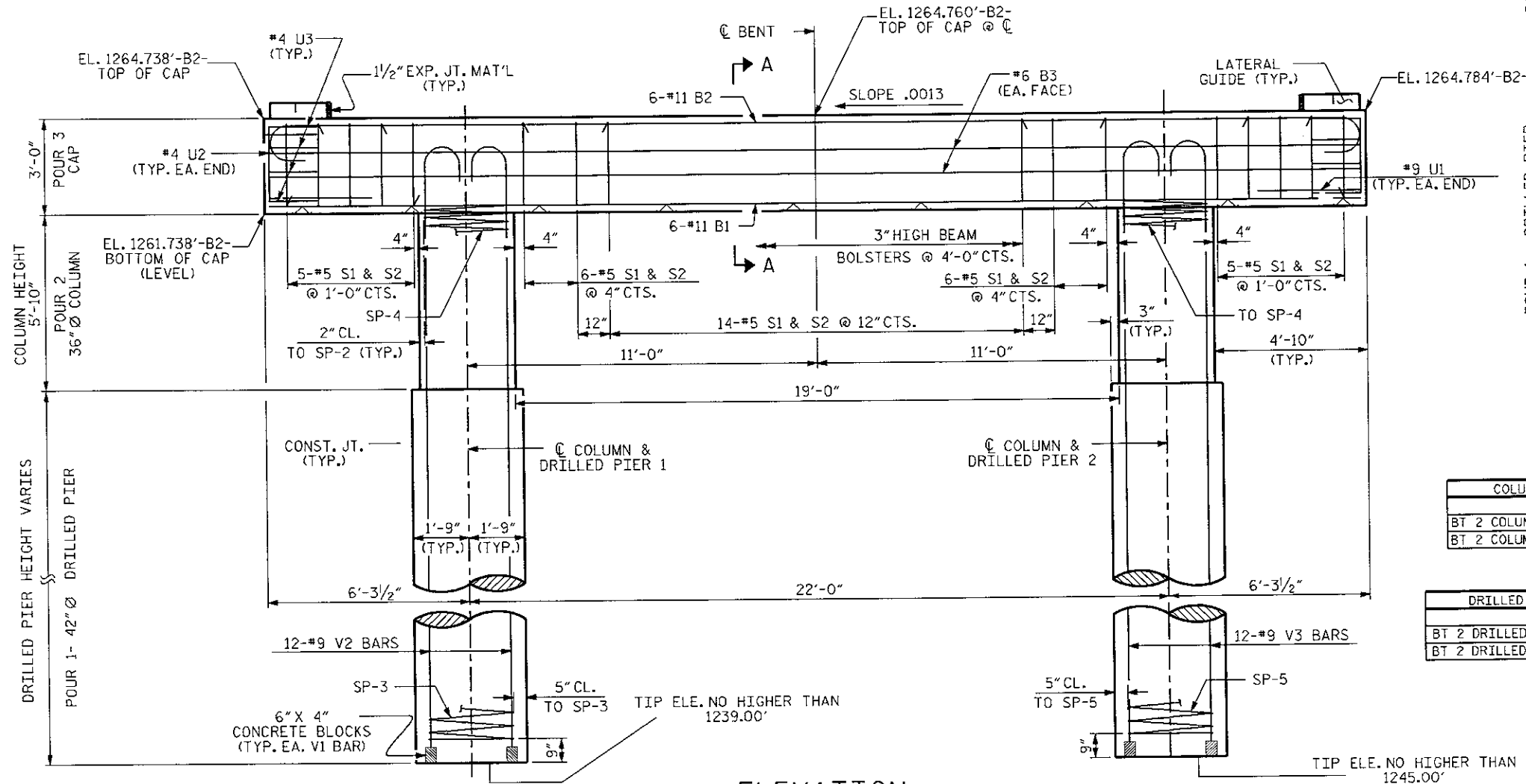
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			13
2			4			23

DRAWN BY : S. T. SANDOR DATE : DEC./2010
CHECKED BY : R. WEISZ DATE : DEC./2010

17-DEC-2010 13:44 ssandor AT BGMU240326 S:\POC\Squad B\Current\WILKES104, B-4323, WBS33660\FinalCompilation\wilkes104_IB+det_Sh+12-15.dgn



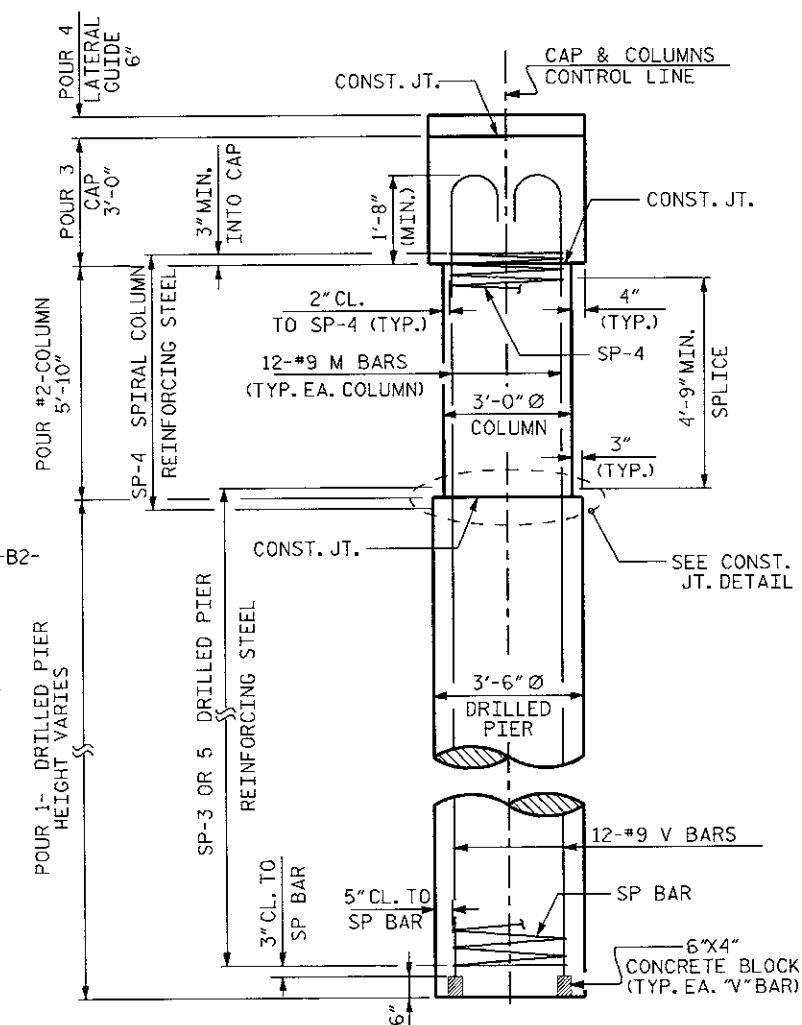
PLAN



ELEVATION

NOTES

1. STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR # 6 DI DOWELS.
2. HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
3. ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEM FOR "CONSTRUCTION OF SUBSTRUCTURE".
4. FOR SECTION A-A, LATERAL GUIDE DETAILS SEE SHEET NO. 15.



COLUMN TABLE	
BT 2 COLUMN #1	HEIGHT
BT 2 COLUMN #1	5'-10"
BT 2 COLUMN #2	HEIGHT
BT 2 COLUMN #2	5'-10"

DRILLED PIER TABLE	
BT 2 DRILLED PIER #1	HEIGHT
BT 2 DRILLED PIER #1	16'-9"
BT 2 DRILLED PIER #2	HEIGHT
BT 2 DRILLED PIER #2	10'-9"

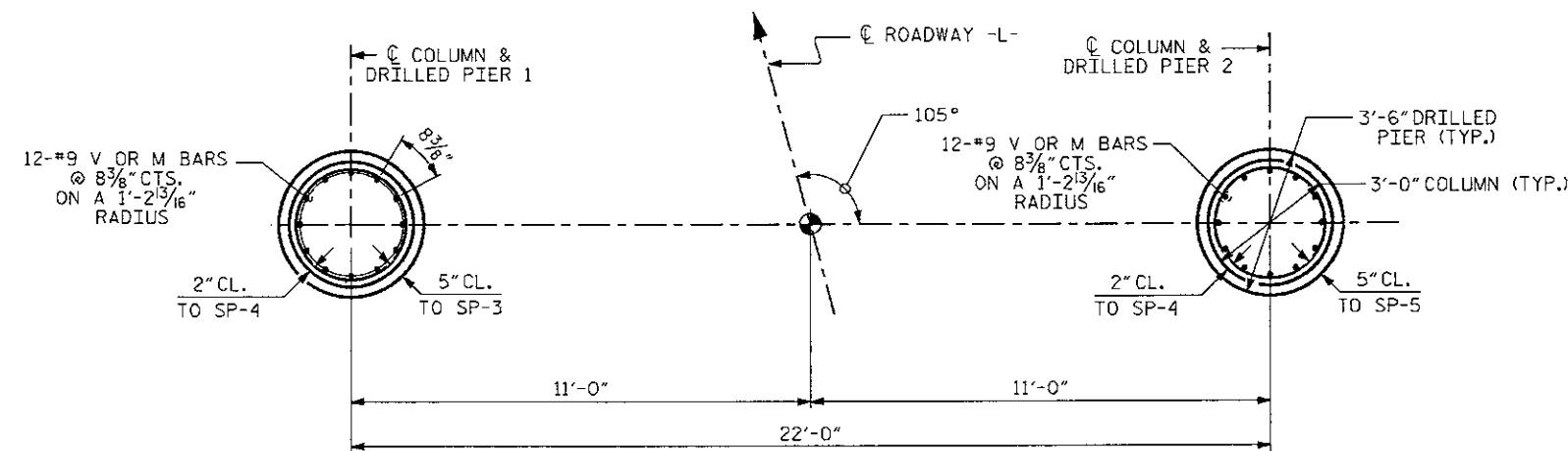
PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00-L-
BRIDGE NO. 104

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

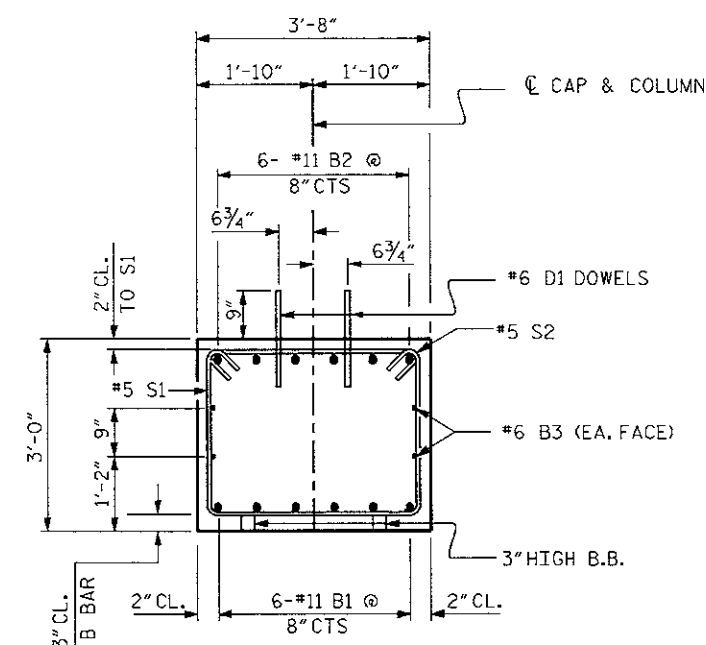
SUBSTRUCTURE
INT. BENT 2

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			14
2			4			23

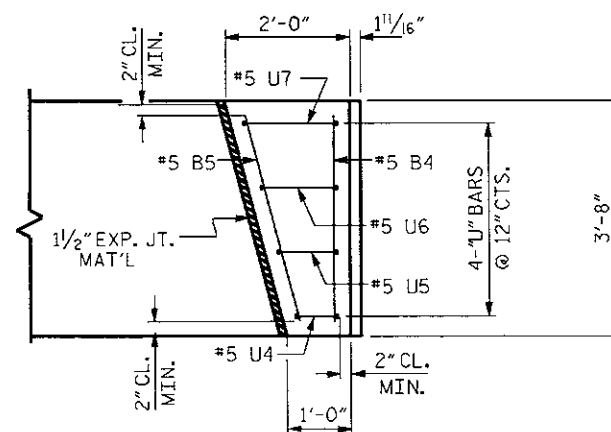
DRAWN BY : S. T. SANDOR DATE : DEC./2010
CHECKED BY : R. WEISZ DATE : DEC./2010



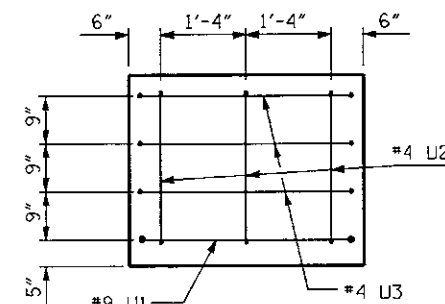
PLAN OF COLUMNS AND DRILLED PIERS



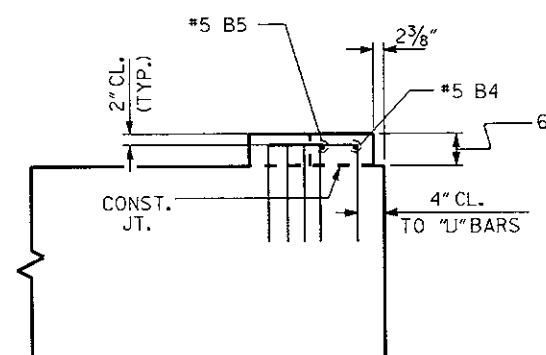
SECTION THROUGH CAP



PLAN



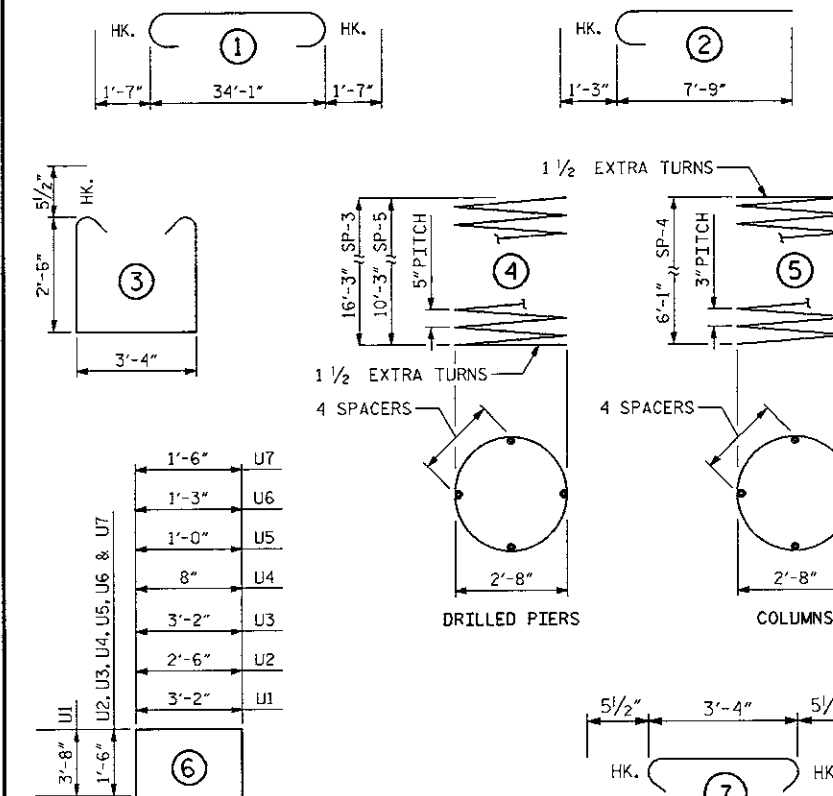
END VIEW



ELEVATION

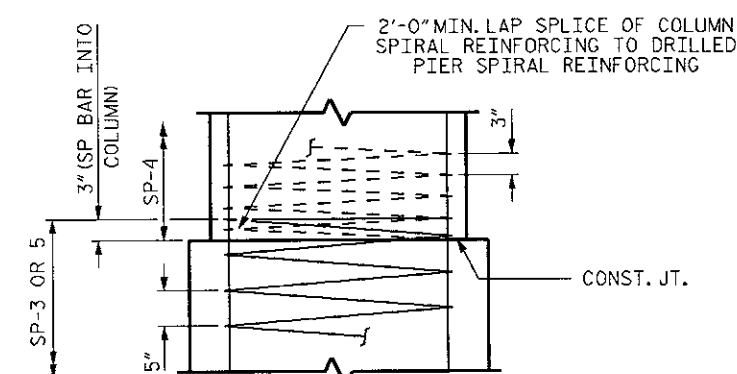
LATERAL GUIDE DETAILS

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

- NOTES:
- THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT "V" BARS FOR THE COLUMNS ARE DETAIL WITH 3 FEET OF ADDITIONAL LENGTH.
 - THE SP-3,5 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.
 - THE SP-4 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR.



CONSTRUCTION JOINT DETAIL

BILL OF MATERIAL

BENT 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	11	STR	34'-3"	1092
B2	6	11	1	37'-3"	1187
B3	4	6	STR	34'-3"	206
B4	2	5	STR	3'-2"	7
B5	2	5	STR	3'-3"	7

D1	40	6	STR	1'-6"	90
S1	36	5	3	9'-6"	357
S2	36	5	7	4'-3"	160

U1	2	9	6	10'-6"	71
U2	6	4	6	5'-6"	22
U3	6	4	6	6'-2"	25
U4	2	5	6	3'-2"	8
U5	2	5	6	4'-0"	8
U6	2	5	6	4'-3"	9
U7	2	5	6	4'-6"	9

M2	24	9	2	9'-0"	734
----	----	---	---	-------	-----

V2	12	9	STR	21'-9"	887
V3	12	9	STR	15'-9"	643

REINFORCING STEEL = 5522 LBS

SPIRAL COLUMN REINFORCING STEEL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
SP3	1	**	4	352'-4"	235
SP4	2	***	5	222'-10"	465
SP5	1	**	4	234'-11"	157

SPIRAL REINFORCING STEEL = 857 LBS

CLASS A CONCRETE:		
POUR 1: DRILLED PIERS	9.8 C.Y.	
POUR 2: COLUMNS	3.1 C.Y.	
POUR 3: CAP	14.1 C.Y.	
POUR 4: LATERAL GUIDES	0.2 C.Y.	
TOTAL	27.0 C.Y.	

DRAWN BY : S. T. SANDOR DATE : DEC./2010
CHECKED BY : R. WEISZ DATE : DEC./2010

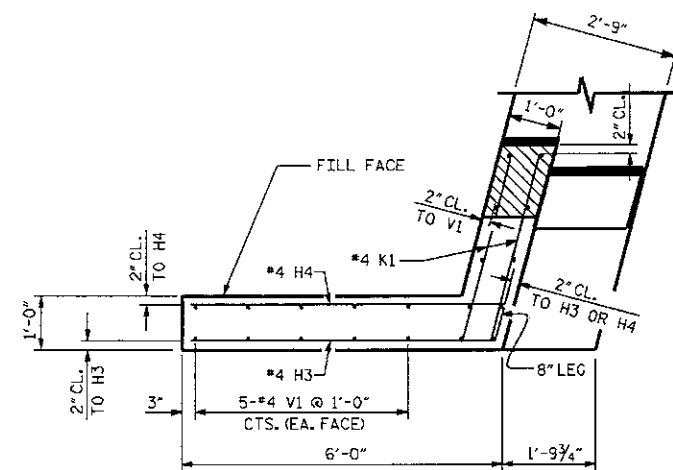
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PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00-L-
BRIDGE NO. 104

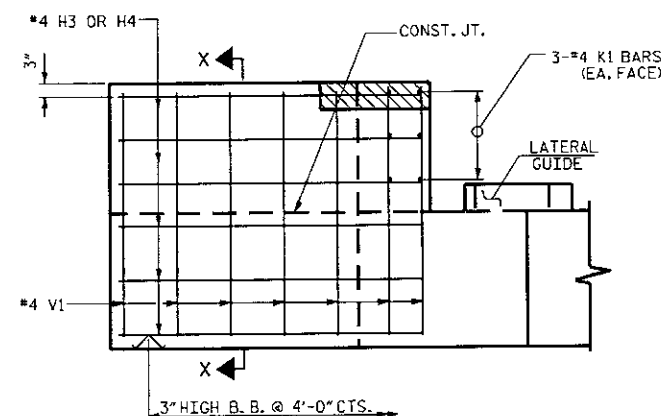
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
INT. BENT 2
DETAILS

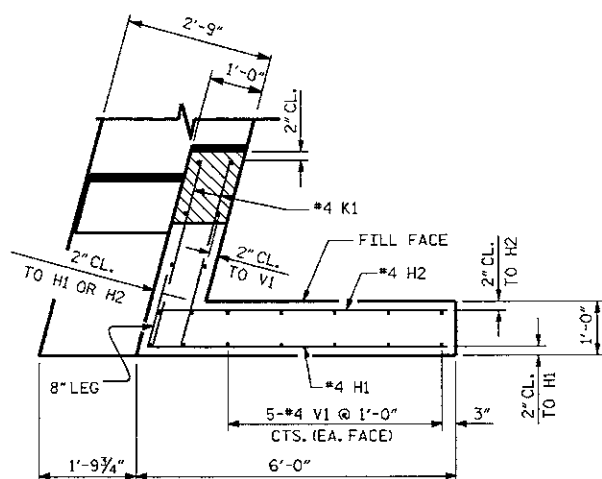
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			8			15
2			4			23



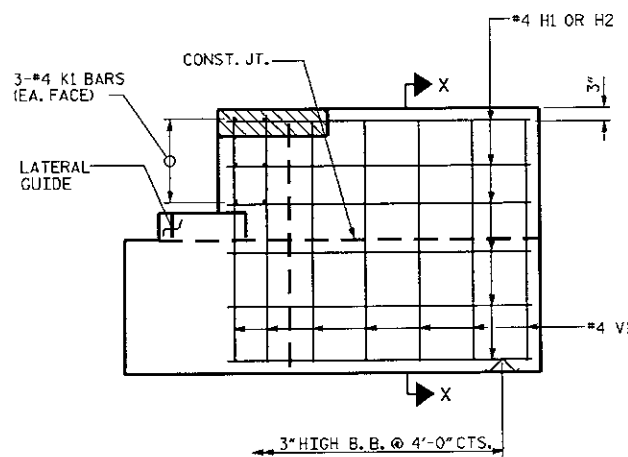
PLAN OF WING (W1)



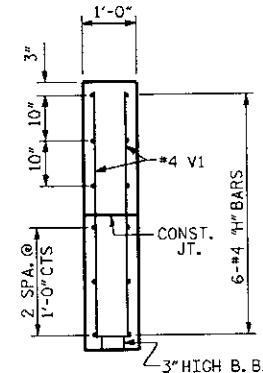
ELEVATION OF WING (W1)



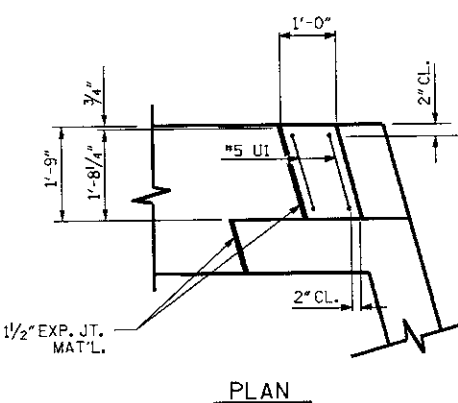
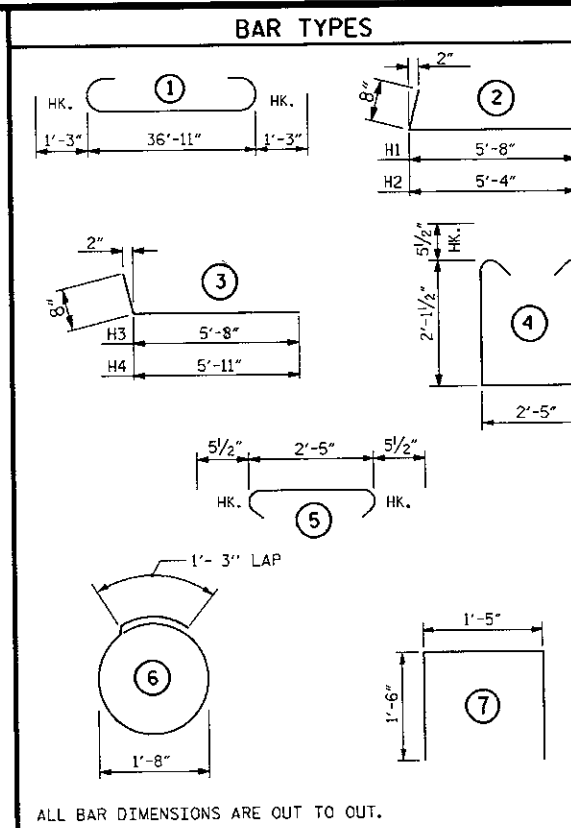
PLAN OF WING (W2)



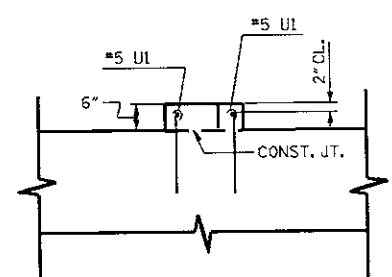
ELEVATION OF WING (W2)



SECTION X-X



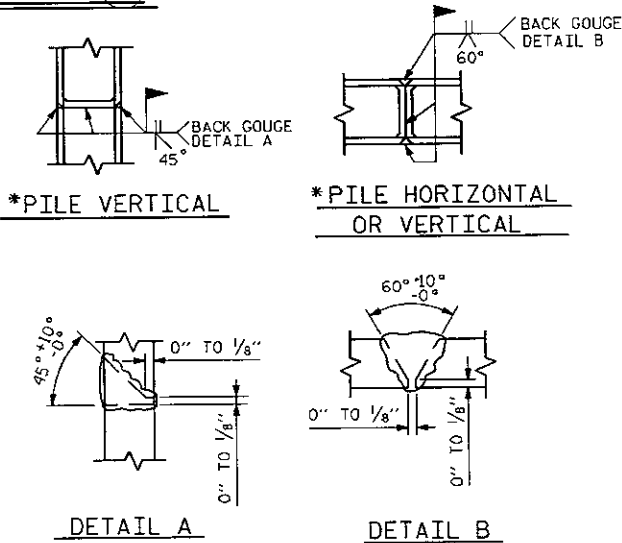
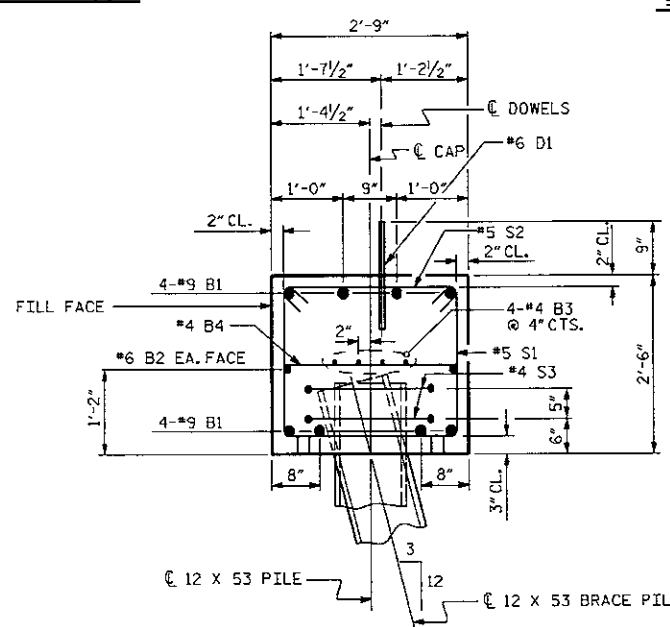
PLAN



ELEVATION

LATERAL GUIDE DETAILS

BILL OF MATERIAL					
END BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	39'-5"	1072
B2	2	6	STR	36'-11"	111
B3	8	4	STR	19'-8"	105
B4	10	4	STR	2'-5"	16
D1	20	6	STR	1'-6"	45
H1	6	4	2	6'-3"	25
H2	6	4	2	6'-1"	24
H3	6	4	3	6'-4"	25
H4	6	4	3	6'-6"	26
K1	12	4	STR	3'-6"	28
S1	34	5	4	7'-7"	269
S2	34	5	5	3'-4"	118
S3	10	4	6	6'-6"	43
U1	4	5	7	4'-5"	18
V1	40	4	STR	4'-6"	120
REINFORCING STEEL					= 2045 LBS
POUR 1 CAP & LOWER PART OF WINGS					C.Y. 10.4
POUR 2 UPPER PART OF WINGS & LAT. GUIDES					C.Y. 0.6
CLASS A CONCRETE					C.Y. 11.0
TOTAL					



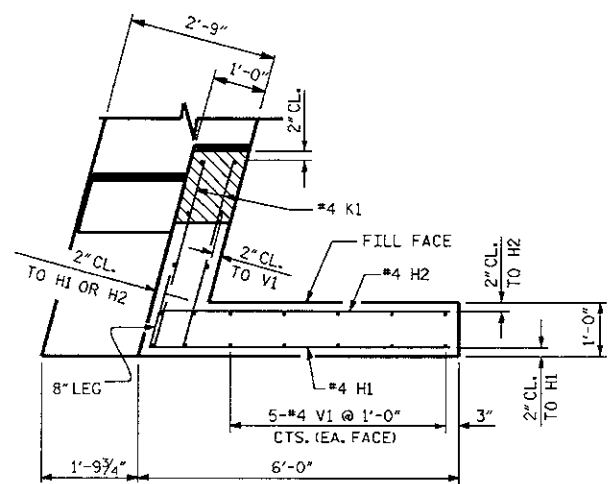
PILE SPLICE DETAILS

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00 -L-
BRIDGE NO. 104

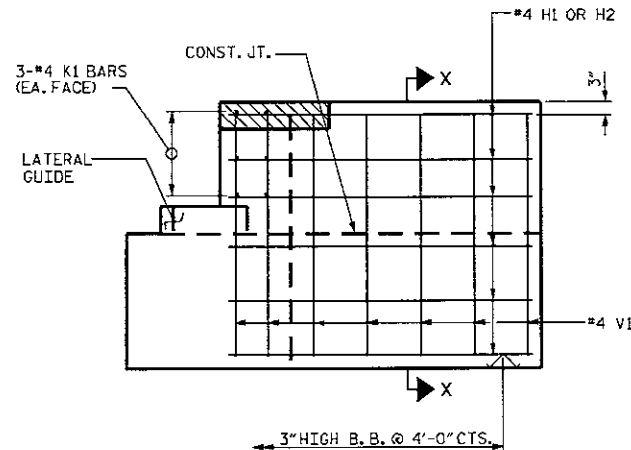
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
END BENT 2 DETAILS

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			2		
2			3		
TOTAL SHEETS					17
					23

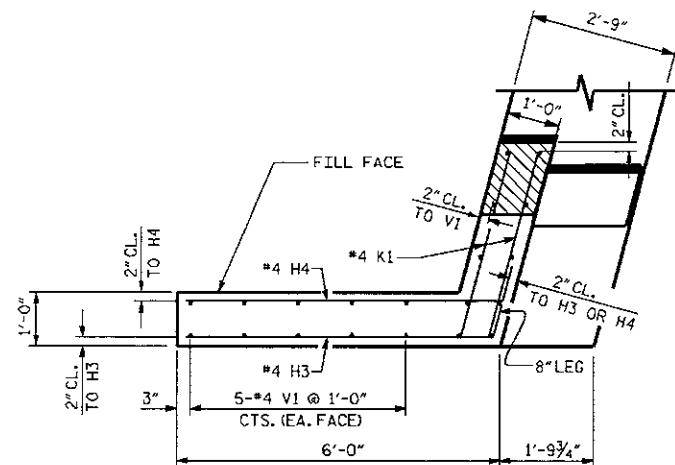
DRAWN BY : S. T. SANDOR DATE : DEC./2010
CHECKED BY : A. ABRAHA DATE : DEC./2010



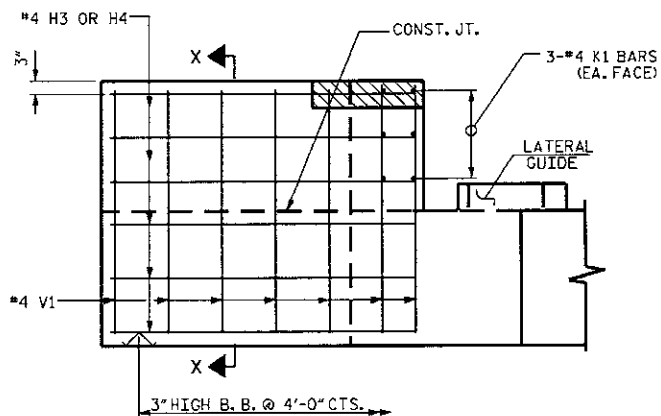
PLAN OF WING (W1)



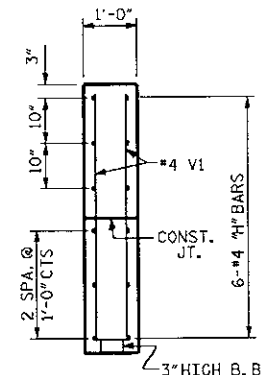
ELEVATION OF WING (W1)



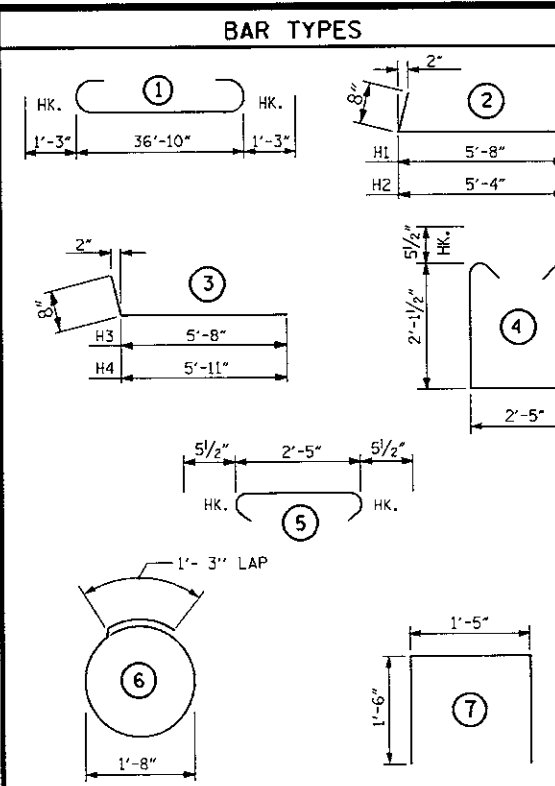
PLAN OF WING (W2)



ELEVATION OF WING (W2)

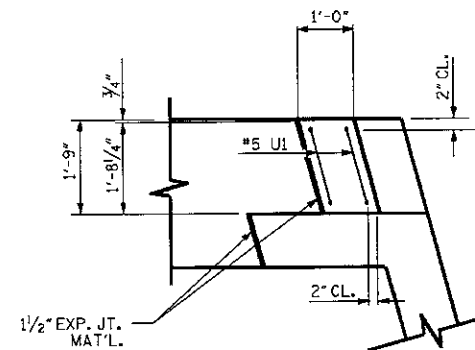


SECTION X-X

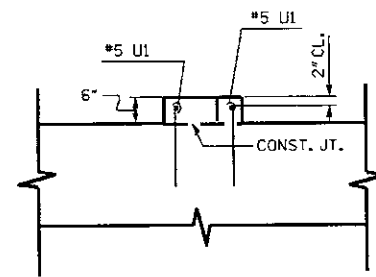


ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	9	1	39'-5"	1072
B2	2	6	STR	36'-11"	111
B3	8	4	STR	19'-8"	105
B4	10	4	STR	2'-5"	16
D1	20	6	STR	1'-6"	45
H1	6	4	2	6'-3"	25
H2	6	4	2	6'-1"	24
H3	6	4	3	6'-4"	25
H4	6	4	3	6'-6"	26
K1	12	4	STR	3'-6"	28
S1	34	5	4	7'-7"	269
S2	34	5	5	3'-4"	118
S3	10	4	6	6'-6"	43
U1	4	5	7	4'-5"	18
V1	40	4	STR	4'-6"	120
REINFORCING STEEL					= 2045 LBS
POUR 1 CAP & LOWER PART OF WINGS					C.Y. 10.4
POUR 2 UPPER PART OF WINGS & LAT. GUIDES					C.Y. 0.6
CLASS A CONCRETE					TOTAL C.Y. 11.0

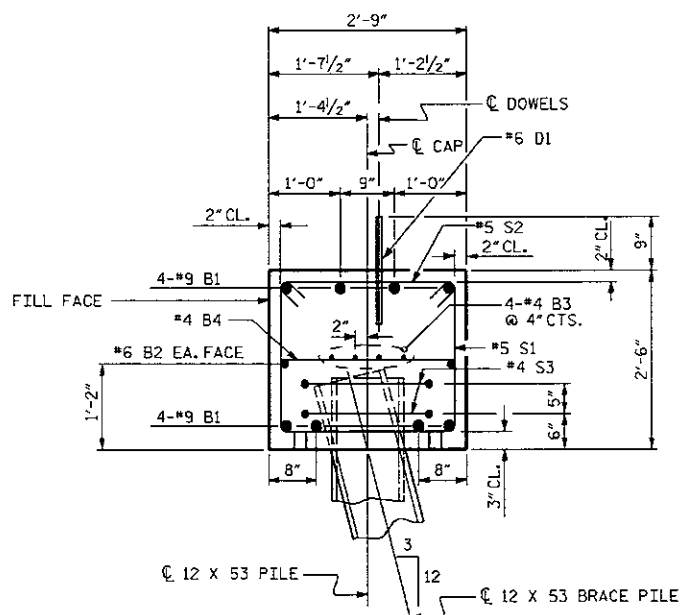


PLAN

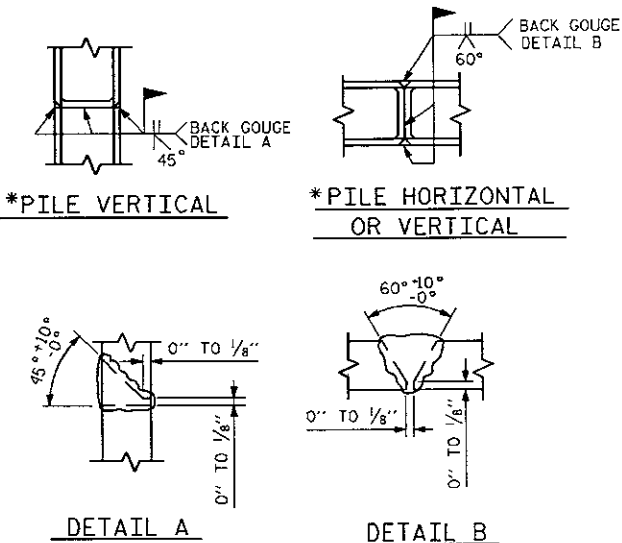


ELEVATION

LATERAL GUIDE DETAILS



SECTION A-A

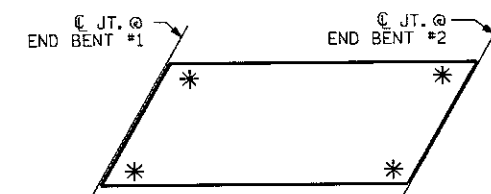
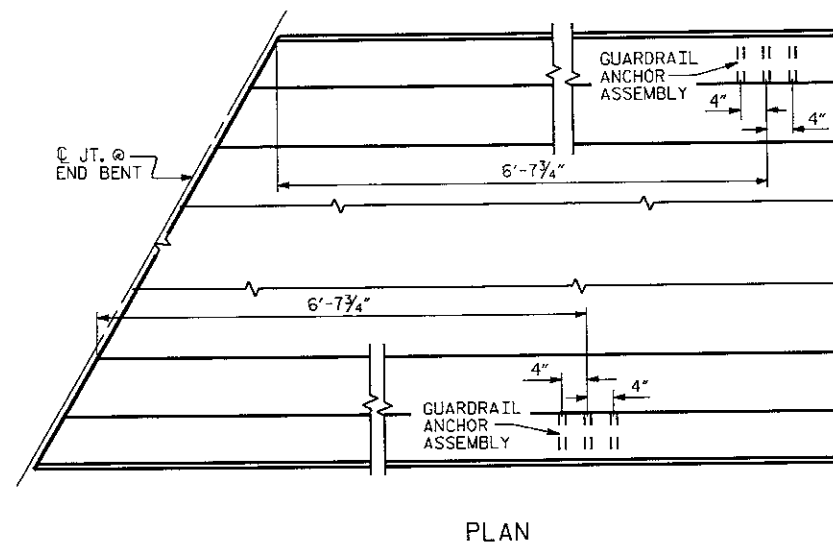
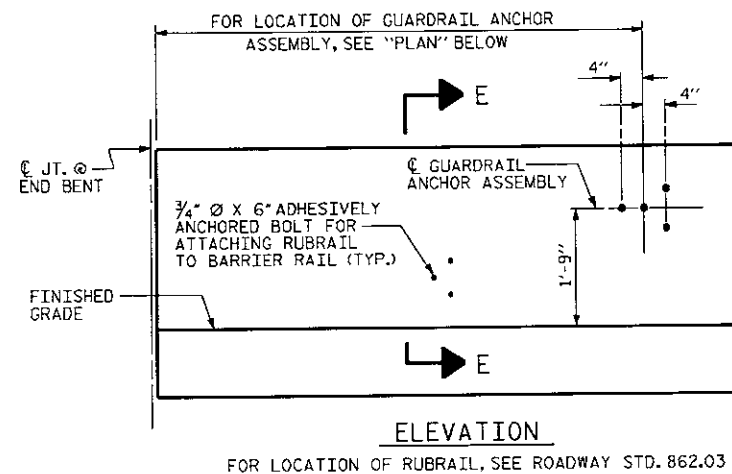
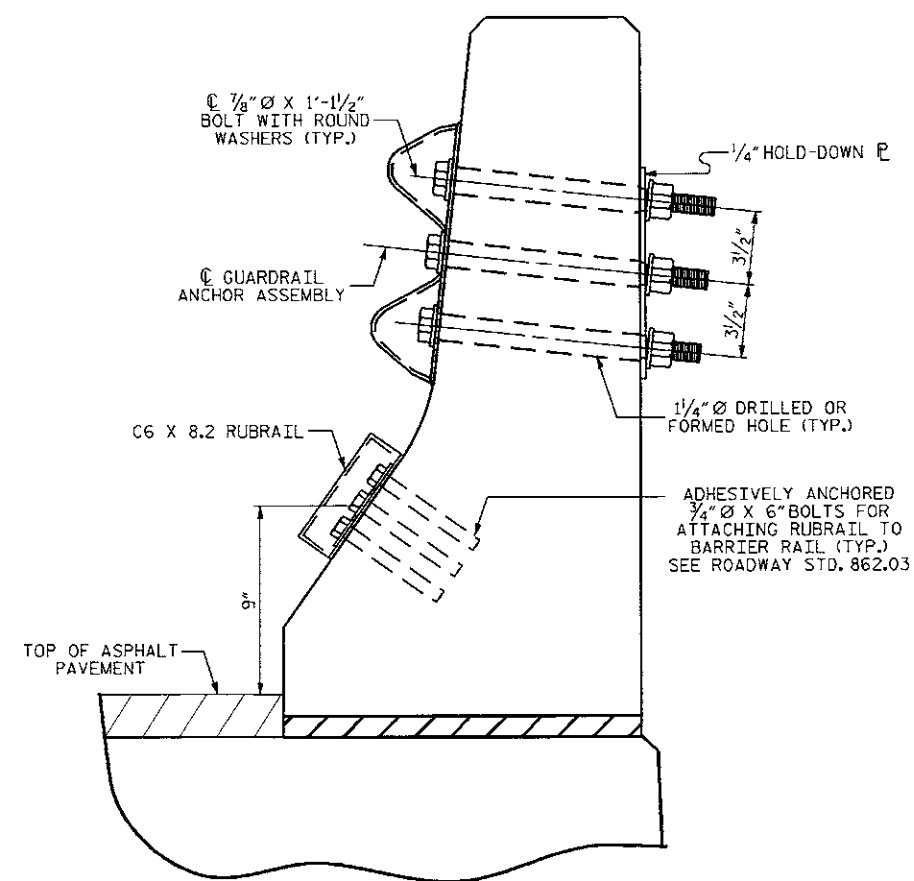
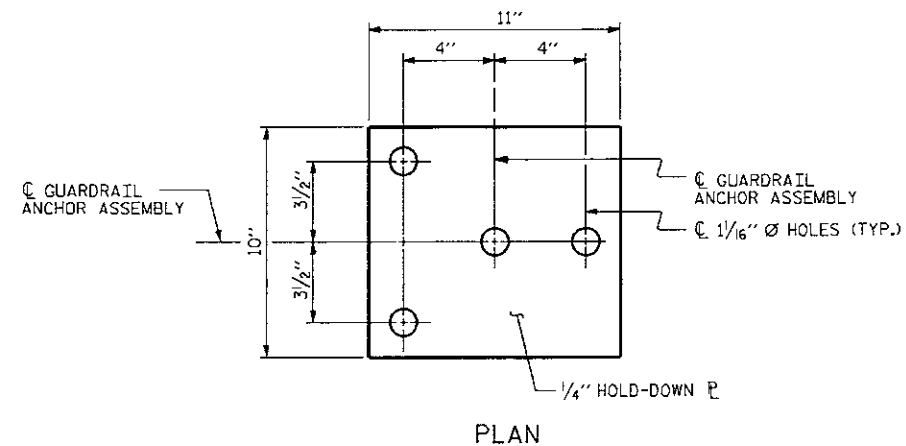


PILE SPLICE DETAILS

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00 -L-
BRIDGE NO. 104

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RAILROAD					
SUBSTRUCTURE					
END BENT 1 DETAILS					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
11					TOTAL SHEETS
23					

DRAWN BY : S. T. SANDOR DATE : DEC./2010
CHECKED BY : A. ABRAHA DATE : DEC./2010



SKETCH SHOWING POINTS OF ATTACHMENTS

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

NOTES

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

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 M11.

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 $\frac{7}{8}$ " 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 CONCRETE BARRIER RAIL.

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.

THE C6 X 8.2 RUBRAIL IS TO BE ADHESIVELY ANCHORED TO THE RAIL USING THREE $\frac{3}{4}$ " ϕ X 6" BOLTS WITH WASHERS. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE $\frac{3}{4}$ " ϕ BOLT IS 12 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS. SEE ROADWAY STANDARD 862.03 FOR DETAILS AND LOCATION OF THE RUBRAIL.

GUARDRAIL ANCHOR ASSEMBLY DETAILS

LOCATION OF ANCHORS FOR GUARDRAIL

END BENT #1 SHOWN, END BENT #2 SIMILAR.

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00-L-
REPLACE BRIDGE NO. 104

COUNTY: WILKES

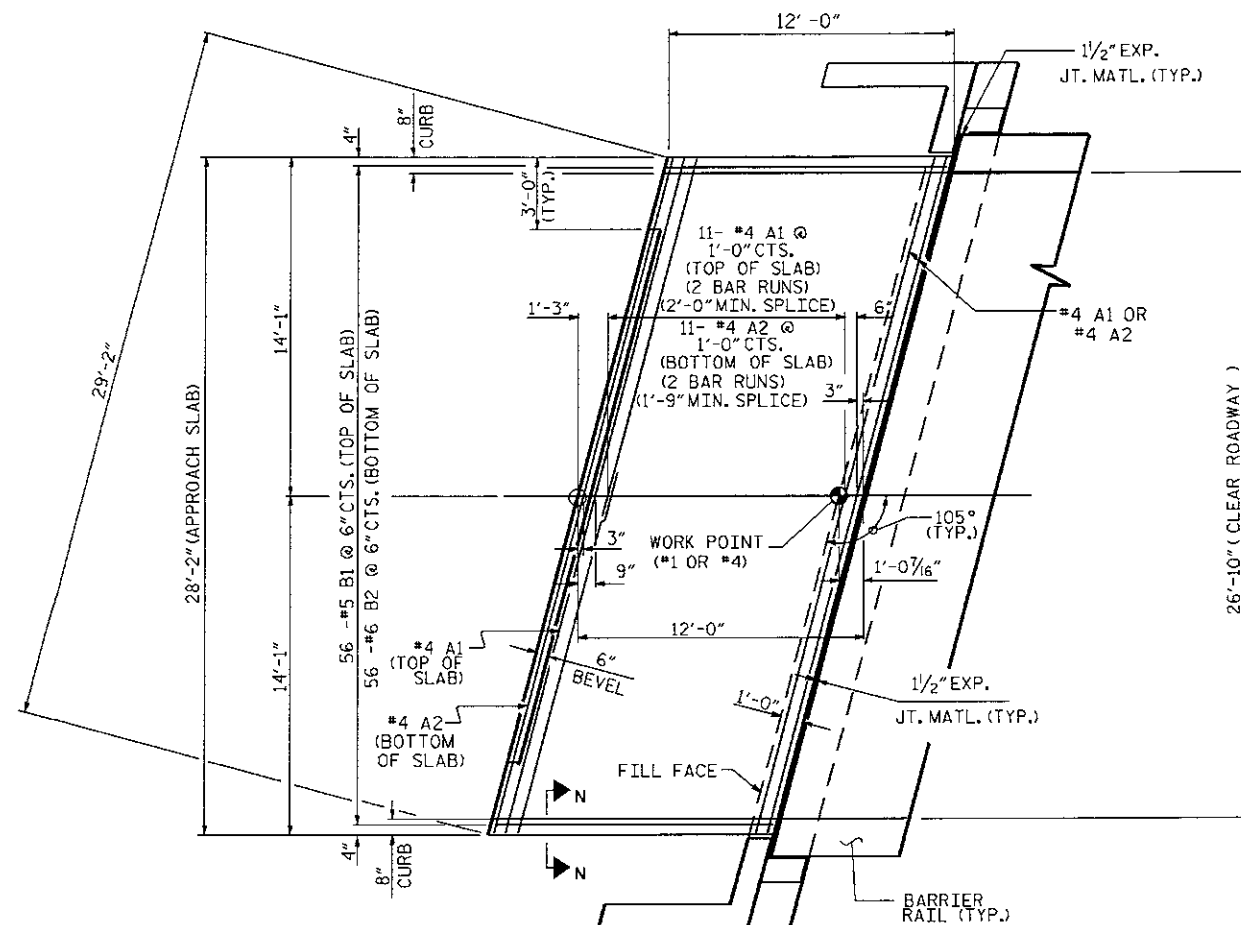
STATION: 14+15.00-L-

REPLACE BRIDGE NO. 104

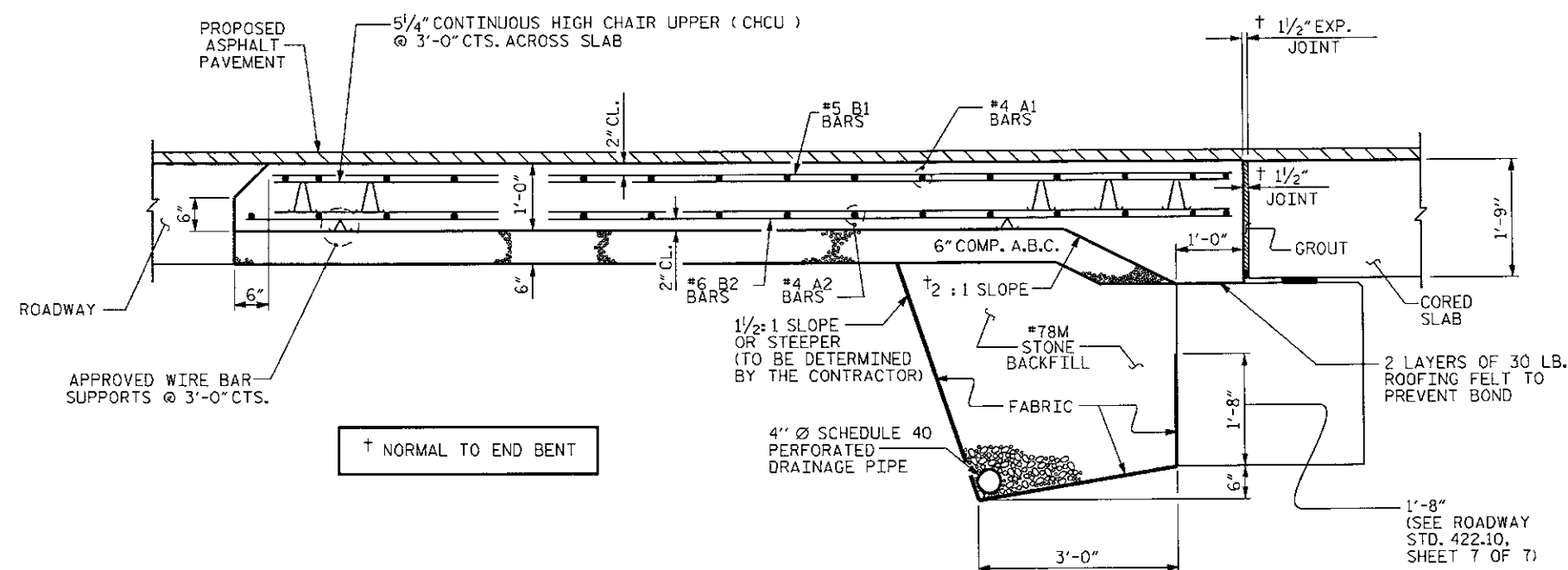
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
GUARDRAIL ANCHORAGE
FOR BARRIER RAIL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			23

(SHT 2) STD. NO. GRA2



PLAN OF APPROACH SLAB



SECTION THRU SLAB

NOTES

FOR BRIDGE APPROACH FILL INCLUDING FABRIC, 4" Ø DRAINAGE PIPE,
AND #78M STONE BACKFILL, SEE ROADWAY STANDARD 422.10.

APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK.

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

#78M STONE BACKFILL (CLASS V SELECT MATERIAL) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

#78M STONE 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 WITH 4" OF INTERMEDIATE OR SURFACE COURSE ASPHALT.

THE 6" COMP. A.B.C. SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB AND SHALL EXTEND 1'-0" OUTSIDE OF EACH EDGE OF THE APPROACH SLAB.

THE CONTRACTOR MAY USE 4" TYPE B-25.0B ASPHALT CONCRETE BASE COURSE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE BASE COURSE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB.

THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER OF 30 LB ROOFING FELT SHALL BE PLACED BETWEEN THE CONCRETE BASE AND THE APPROACH SLAB TO PREVENT BOND. THE APPROACH SLAB SHALL NOT BE CAST UNTIL THE CONCRETE BASE HAS REACHED AN AGE OF THREE CURING DAYS.

FOR JOINT DETAILS, SEE "PRESTRESSED CONCRETE CORED SLAB UNIT"
SHEET, NO. 8.

THE JOINT AT THE END BENT SHALL BE GROUTED AS SOON AS PRACTICAL AFTER THE CONSTRUCTION OF THE APPROACH SLABS.

APPROACH SLAB GROOVING IS NOT REQUIRED.

WORK SHOWN ON THIS DRAWING WILL BE PAID UNDER THE LUMP SUM PRICE FOR APPROACH SLABS.

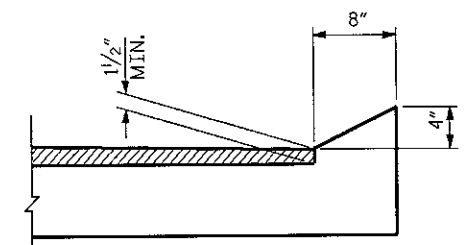
TEMPORARY DRAINAGE AND TEMPORARY BERM AND SLOPE DRAINS WILL BE PAID FOR UNDER THE LUMP SUM PRICE FOR APPROACH SLABS. SEE ROADWAY STANDARD 1622.01.

BILL OF MATERIAL

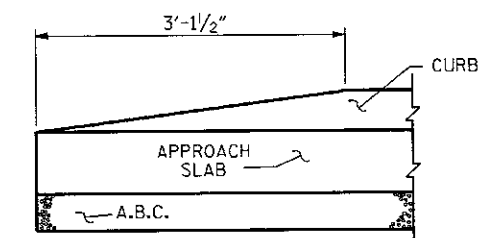
FOR ONE APPROACH SLAB
(2 REQ'D)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	26	4	STR	15'-6"	269
A2	26	4	STR	15'-4"	266
*B1	56	5	STR	11'-3"	657
B2	56	6	STR	11'-7"	974

REINFORCING STEEL	LBS.	1240
*EPOXY COATED REINFORCING STEEL	LBS.	926
CLASS AA CONCRETE	C. Y.	14.4



SECTION N-N



END OF CURB WITHOUT
SHOULDER BERM GUTTER

PROJECT NO. : 33660
COUNTY: WILKES
STATION: 14+15.00-L-
REPLACES BRIDGE NO. 104

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

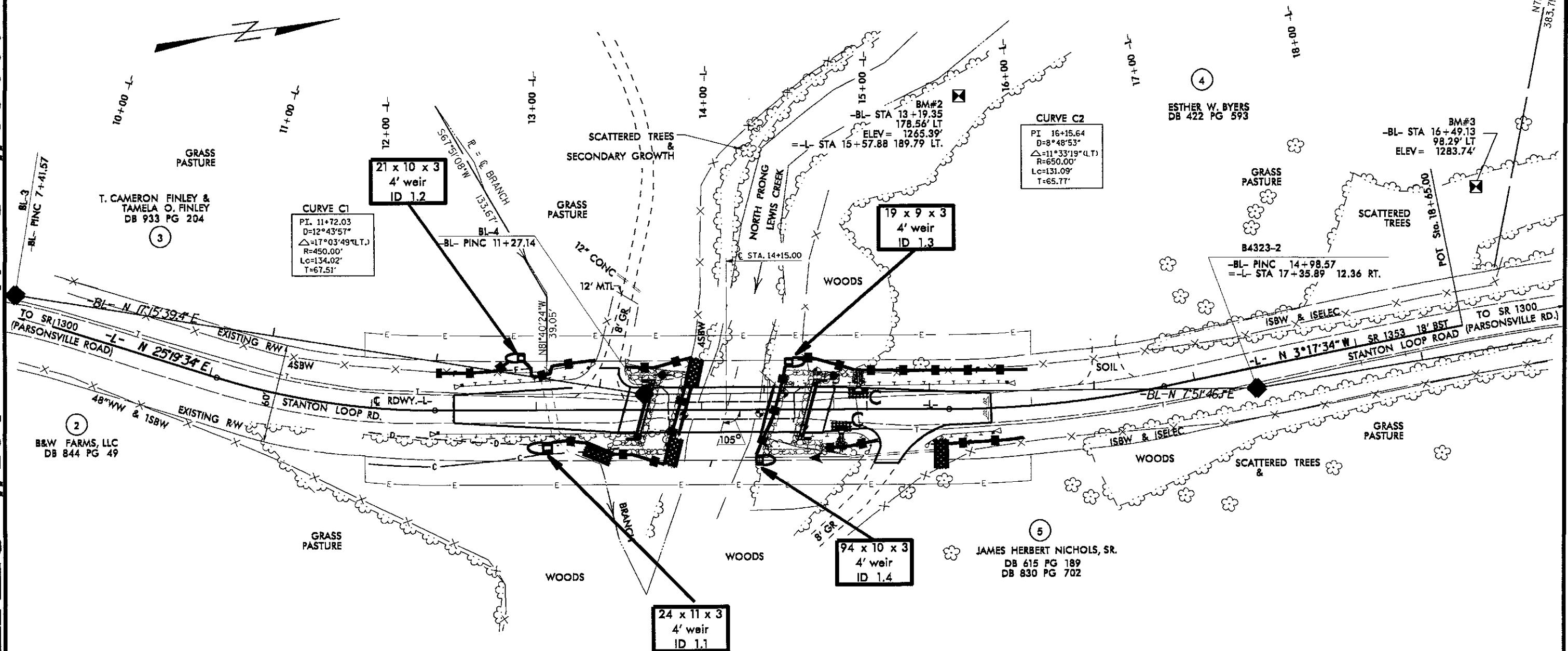
STANDARD
BRIDGE APPROACH SLAB
FOR PRESTRESSED CONCRETE
CORED SLAB

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	19
1			3			TOTAL SHEETS
2			4			23

STD. NO. BAS13

NOT TO SCALE

EROSION CONTROL PLAN



Std. #	Description	Symbol
1605.01	Temporary Silt Fence	— III — III — III —
1630.06	Special Stilling Basin	
1632.03	Rock Inlet Sediment Trap Type C	□
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-B	→
1634.02	Temporary Rock Sediment Dam Type-B	⬤

ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
2006 STANDARD SPECIFICATIONS

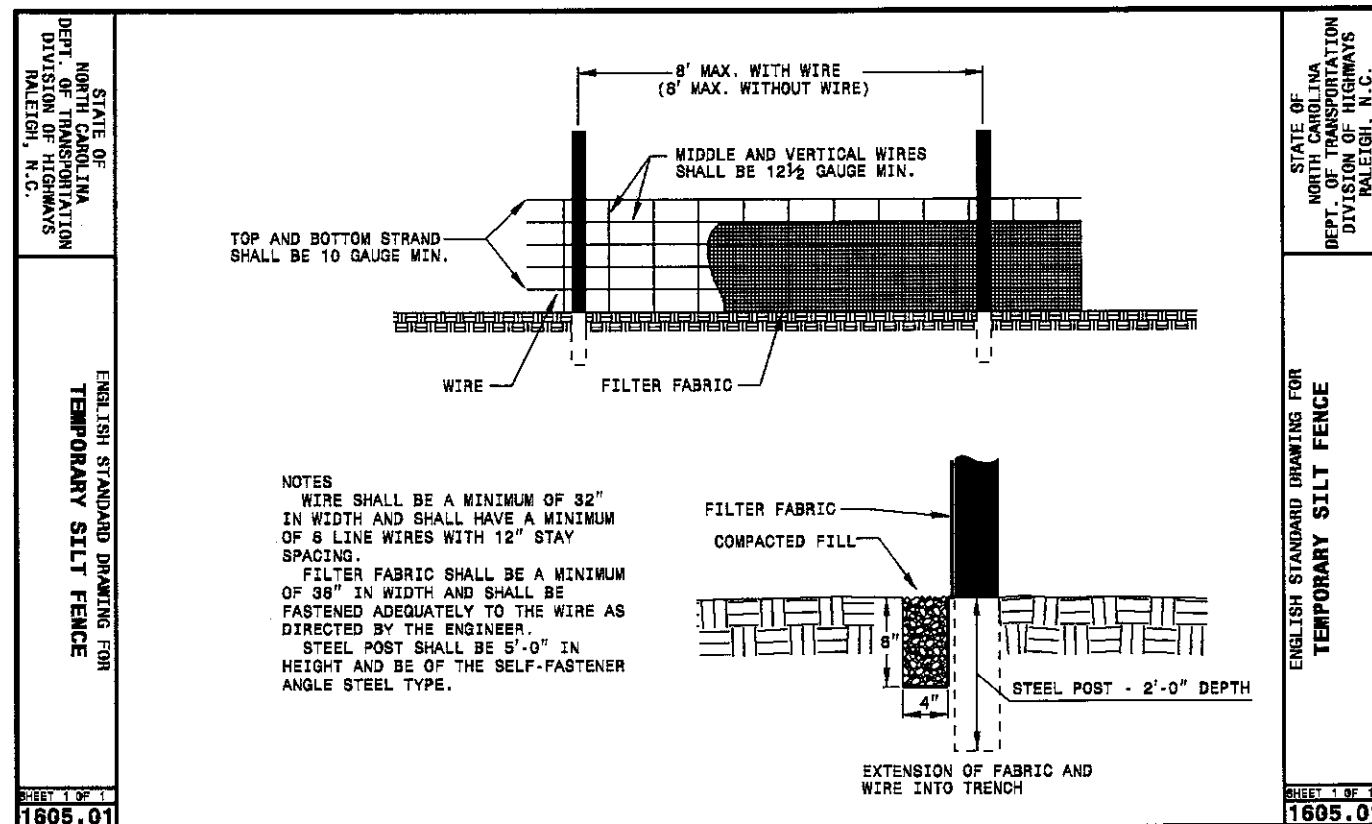
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00
REPLACES BRIDGE NO. 104

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE #104 ON S.R. 1353 OVER NORTH PRONG LEWIS CREEK -EROSION CONTROL SHEET-					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			2		
2			3		
					20
					23

EROSION CONTROL PLAN



ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

2006 STANDARD SPECIFICATIONS

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ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

Special Stilling Basin(s):

The work covered by this section consists of furnishing, placing, and removing a special stilling basin(s) as directed by the Engineer. The special stilling basin(s) shall be used to filter pumped water during the drilled pier operation, footing excavation, or culvert construction.

The filter fabric shall meet the requirements of Section 1058 for Type 2 Fabric.

Sediment control stone shall meet the requirements of Section 1005. Install stone according to the detail shown on the plans.

The special stilling basin(s) shall be a water permeable fabric bag that traps sand, silt, and fines as sediment laden water is pumped into it. This device shall be constructed such that it is portable and can be used adjacent to the drilled pier operation, footing excavation, or culvert construction.

The special stilling basin(s) shall be a bag constructed to a minimum size of 18' x 18' made from a nonwoven fabric. It shall have a sewn-in 2 in. (maximum) spout for receiving pump discharge. The bag seams shall be sewn with a double needle machine using a high strength thread. The seams shall have a minimum wide width strength as follows:

Test Method	Minimum Specifications
ASTM D-4884	90 lb/in

The fabric used to construct the bag shall be stabilized to provide resistance to ultra-violet degradation and meet the following specifications for flow rates, strength, and permeability:

Property	Test Method	Units	Minimum Specifications
Weight	ASTM D-9776	oz/yd	8.0
Grab Tensile	ASTM D-4882	lb	200.0
Puncture	ASTM D-4835	lb	100.0
Flow rate	ASTM D-4481	gal/min/sf	80.0
Permittivity	ASTM D-4991	1/sec	1.2
UV Resistance	ASTM D-4355	%	70.0

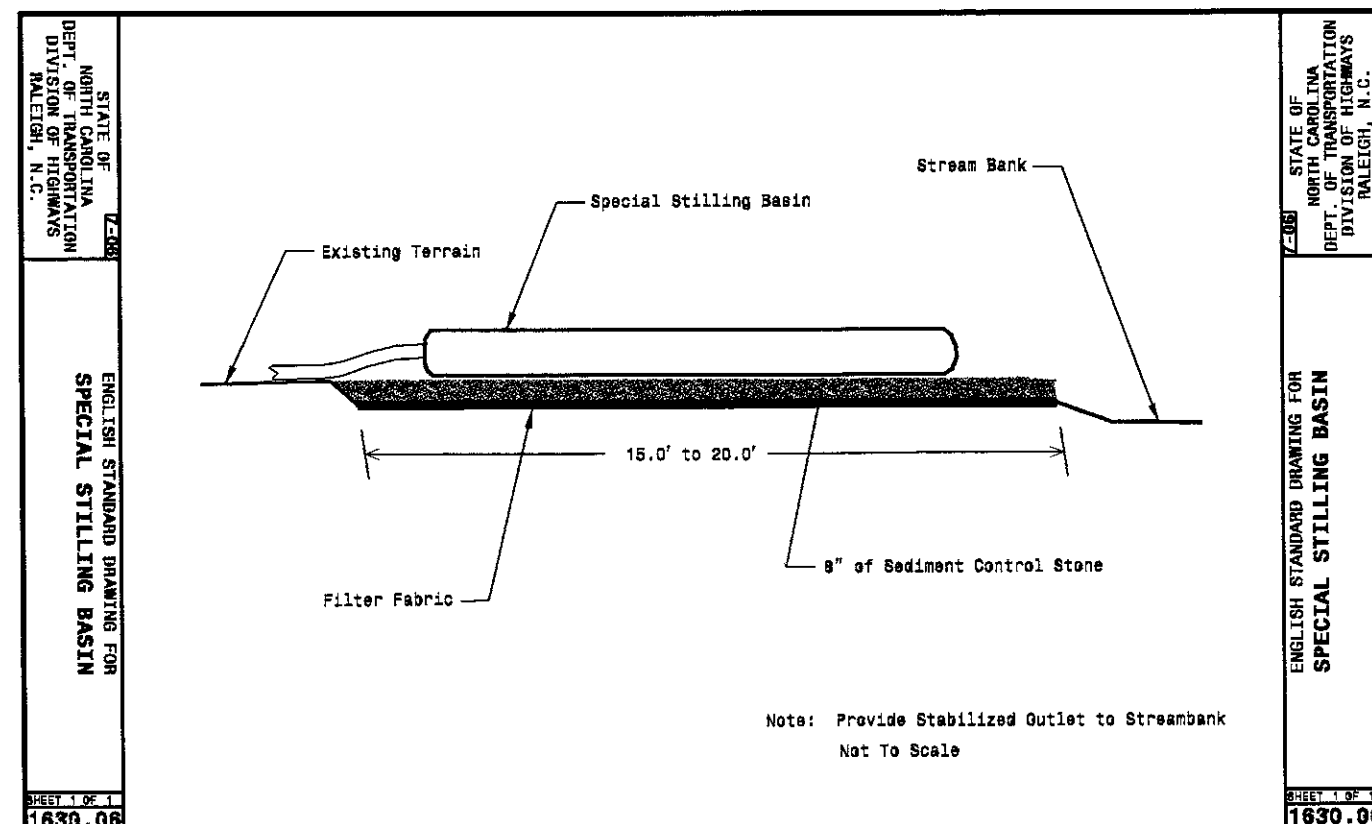
The Contractor shall install the special stilling basin in accordance with the details in the plans and at locations as directed by the Engineer.

The special stilling basin(s) shall be placed so the incoming water flows into and through the bag without causing erosion. The neck or spout of the bag shall be tied off tightly to stop the water from flowing out of the bag without going through the walls.

The special stilling basin(s) shall be replaced and disposed of when it is 3/4 full of sediment or when it is impractical for the bag to filter the sediment out at a reasonable flow rate. Prior approval from the Engineer must be received before removal and replacement.

The Contractor shall be responsible for providing a sufficient quantity of bags to contain silt from pumped effluent during the drilled pier operation, footing excavation, or culvert construction.

The quantity of sediment control stone, filter fabric for drainage, and special stilling basin(s) as measured above will be paid for at contract price for "Lump Sum for Erosion Control". Such price and payment will be full compensation for all work covered by this provision, including but not limited to, furnishing all materials, placing and maintaining the special stilling basin(s), and removal and disposal of silt accumulations and bag.



PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00
REPLACES BRIDGE NO. 104

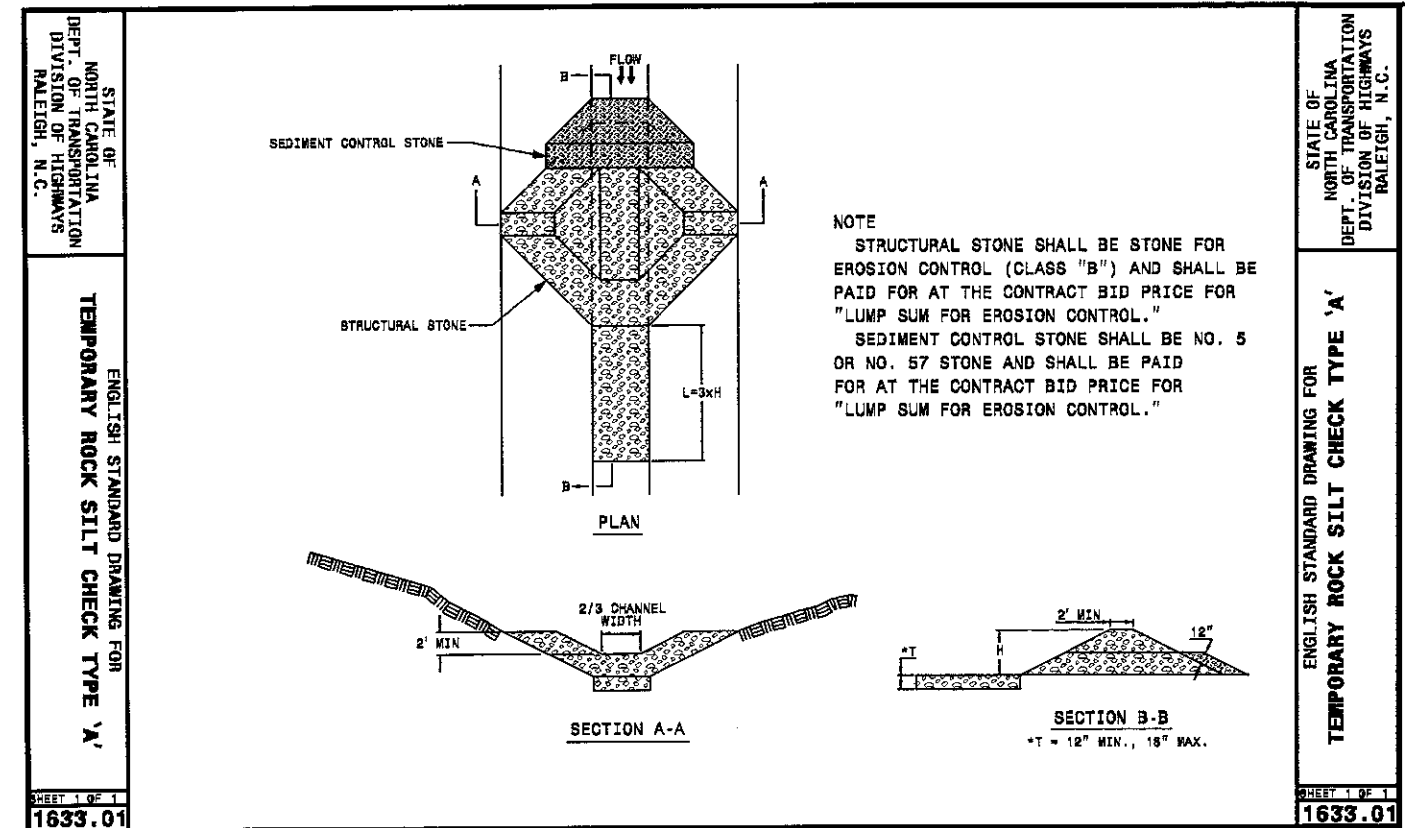
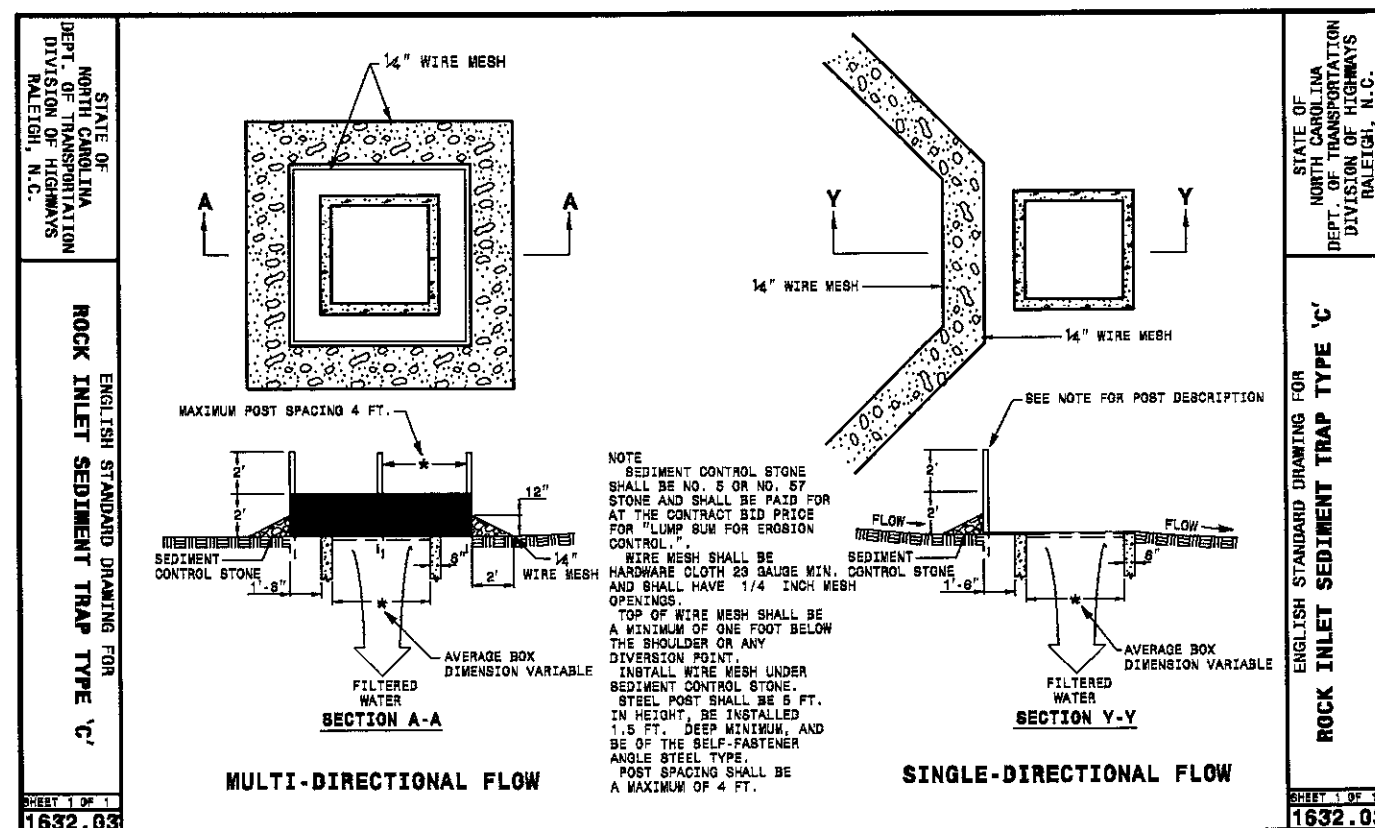
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

RALEIGH
BRIDGE #104 ON
S.R. 1353 OVER NORTH
PRONG LEWIS CREEK

-EROSION CONTROL SHEET-

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			21
2			4			23

EROSION CONTROL PLAN



ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
2006 STANDARD SPECIFICATIONS

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ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

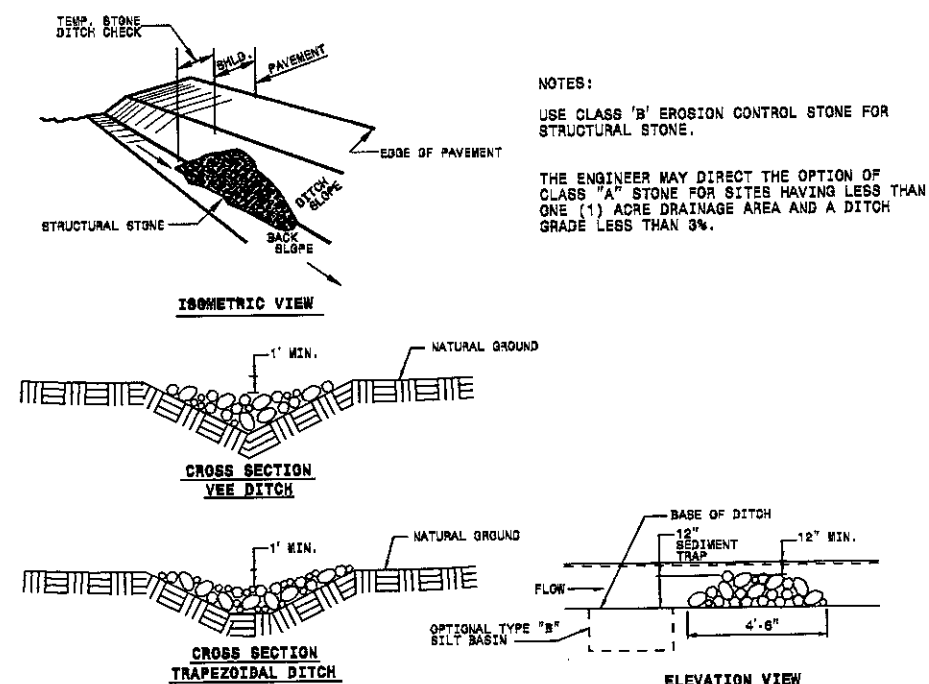
PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00
REPLACES BRIDGE NO. 104

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE #104 ON
S.R. 1353 OVER NORTH
PRONG LEWIS CREEK
-EROSION CONTROL SHEET-

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEET
2			4			

EROSION CONTROL PLAN

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

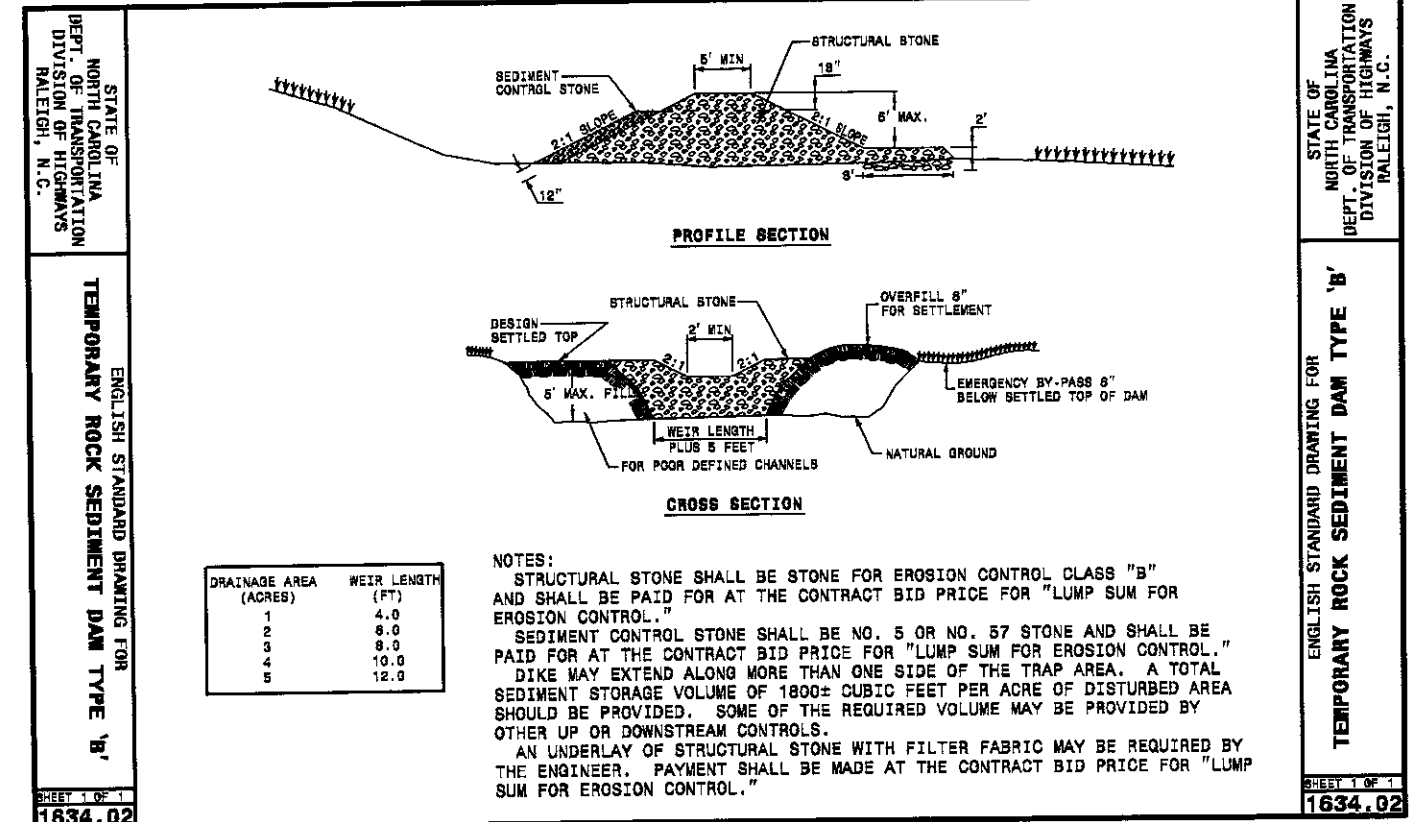


ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

2006 STANDARD SPECIFICATIONS

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ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.



PROJECT NO. 33660
COUNTY: WILKES
STATION: 14+15.00
REPLACES BRIDGE NO. 104

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE #104 ON S.R. 1353 OVER NORTH PRONG LEWIS CREEK					
-EROSION CONTROL SHEET-					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
					SHEET NO. 23
					TOTAL SHEETS 23