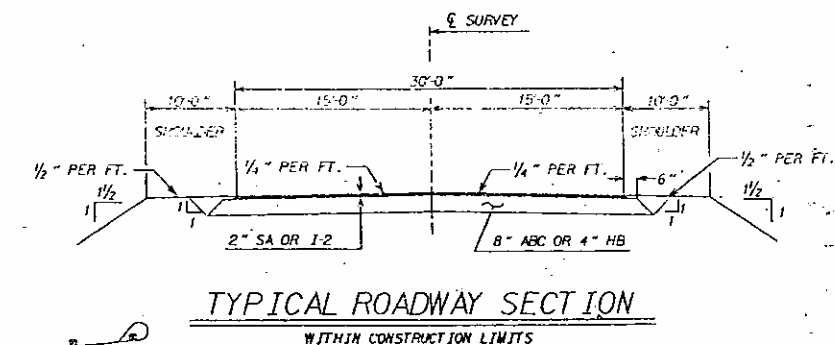
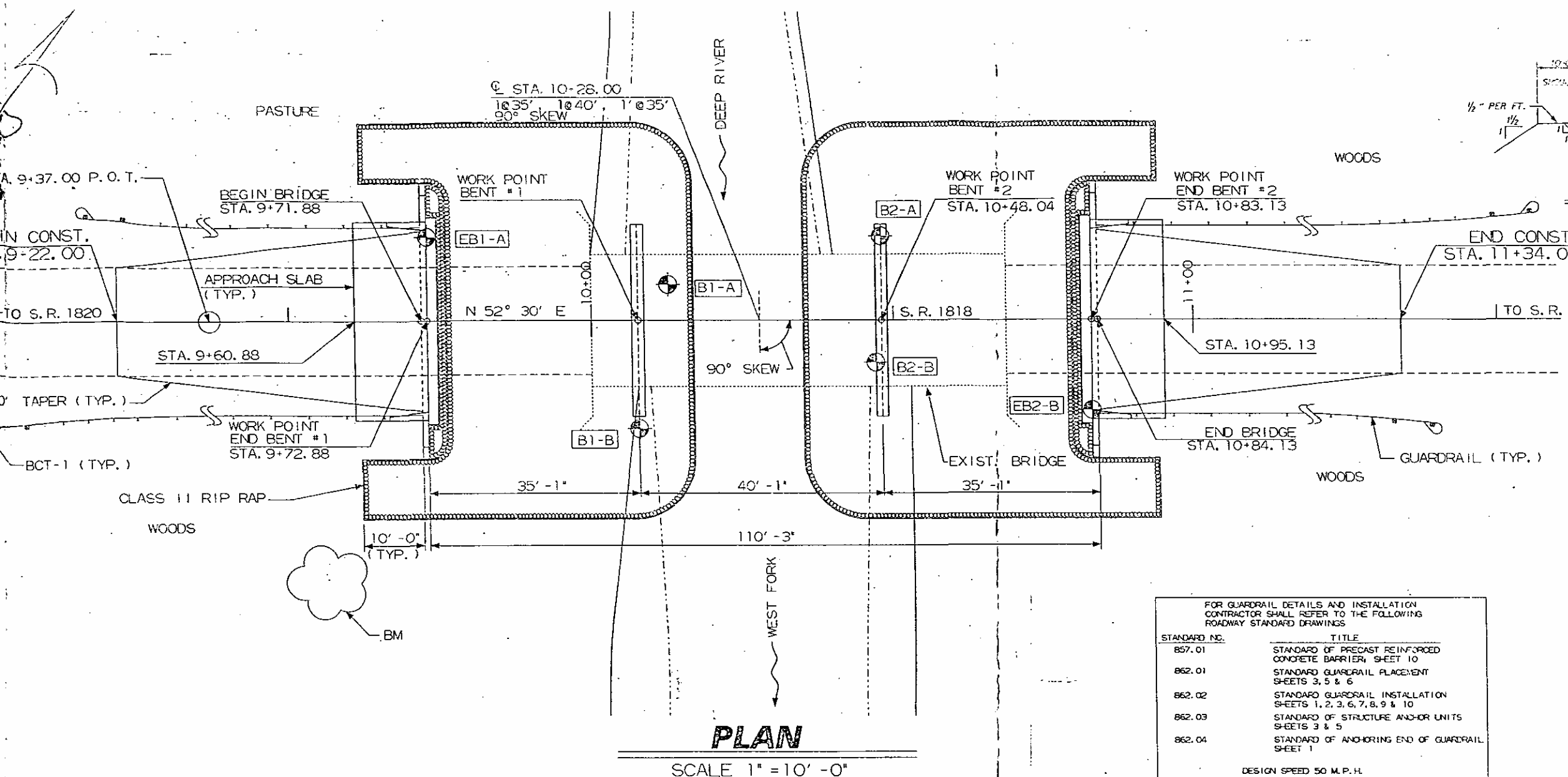




TYPICAL ROADWAY SECTION
WITHIN CONSTRUCTION LIMITS

NOTES

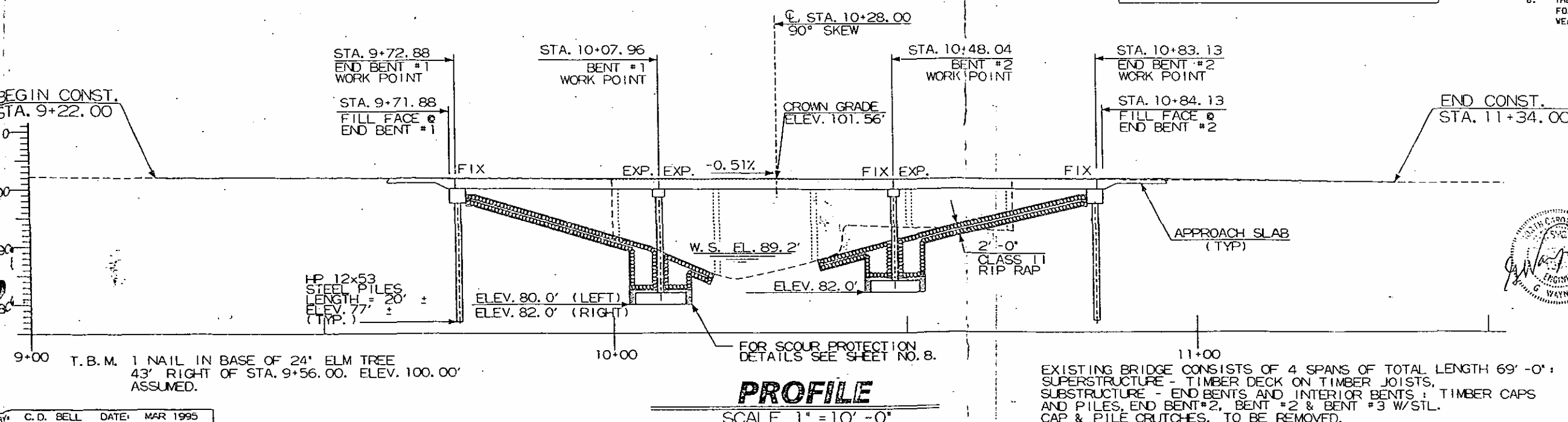
1. PILES TO BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 30 TONS EACH.
2. FOR REMOVAL OF EXISTING STRUCTURE SEE SPECIAL PROVISIONS.
3. FOR FURNISHING STEEL PILES SEE SPECIAL PROVISIONS.
4. THE QUANTITY OF RIP RAP TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF TONS OF EACH CLASS OF RIP RAP WHICH HAS BEEN INCORPORATED 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	250	TONS
END BENT NO. 2	250	TONS
BENT NO. 1	160	TONS
BENT NO. 2	200	TONS
TOTAL	860	TONS

5. TO PROVIDE PROTECTION FROM POSSIBLE SCOUR, THE FOOTING (S) SHALL NOT BE CONSTRUCTED AT AN ELEVATION HIGHER THAN SHOWN ON THE PLANS.
6. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH FHWA'S TECHNICAL ADVISORY T5140.20 (SCOUR AT BRIDGES).
7. THE SCOUR CRITICAL ELEVATION FOR BENT(S) 1 & 2 IS THE BOTTOM OF FOOTING.
8. THE FOOTINGS FOR THIS STRUCTURE HAVE BEEN DESIGNED FOR A BEARING PRESSURE OF 4.0 TONS/SQ. FT. ON SOFT WEATHERED ROCK.

STANDARD NO.	TITLE
857.01	STANDARD OF PRECAST REINFORCED CONCRETE BARRIER, SHEET 10
862.01	STANDARD GUARDRAIL PLACEMENT SHEETS 3, 5 & 6
862.02	STANDARD GUARDRAIL INSTALLATION SHEETS 1, 2, 3, 6, 7, 8, 9 & 10
862.03	STANDARD OF STRUCTURE AND/OR UNITS SHEETS 3 & 5
862.04	STANDARD OF ANCHORING END OF GUARDRAIL SHEET 1

DESIGN SPEED 50 M.P.H.
A.D.T. - 1300 YEAR - 1991



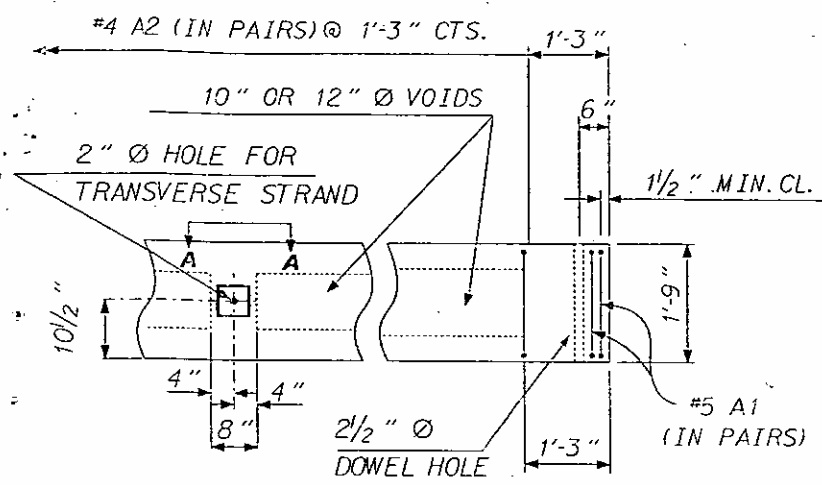
PROFILE

SCALE 1" = 10' - 0"

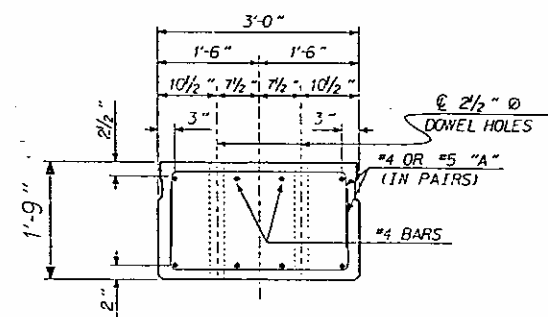
REQUISITION NO. 9845105
PROJECT NO. 5.4951185
COUNTY GUILFORD
STATION: 10+28.00
REPLACES BRIDGE NO. 308

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE OVER WEST FORK DEEP RIVER
BETWEEN S.R. 1820 AND S.R. 1966
ON S.R. 1818

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

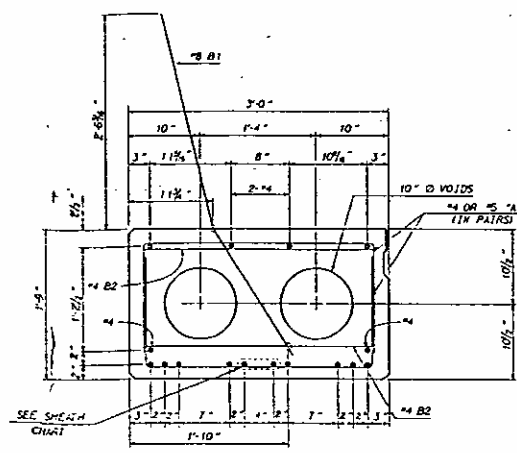


SLAB ELEVATION

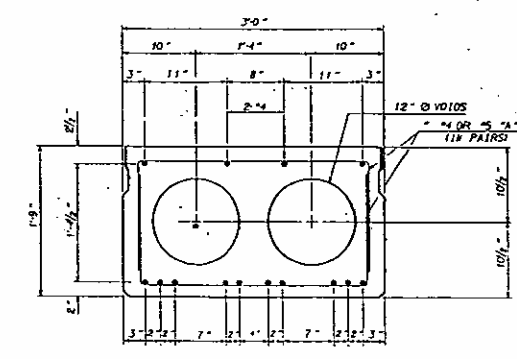


SLAB END ELEVATION

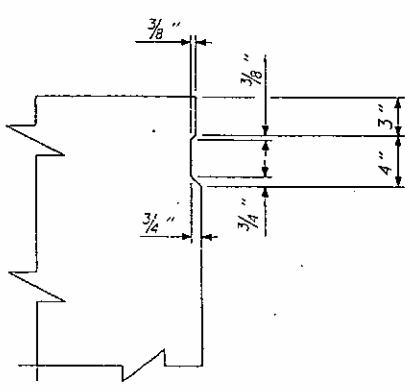
THE 2 1/2" Ø DOWEL HOLES AT EXPANSION ENDS OF SLAB SECTIONS SHALL BE FILLED WITH LOW MODULUS SILICONE MATERIAL TO 1/2" ABOVE TOP OF DOWELS AND THEN FILLED WITH GROUT. SEE SPECIAL PROVISIONS.
THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT. SEE SPECIAL PROVISIONS.



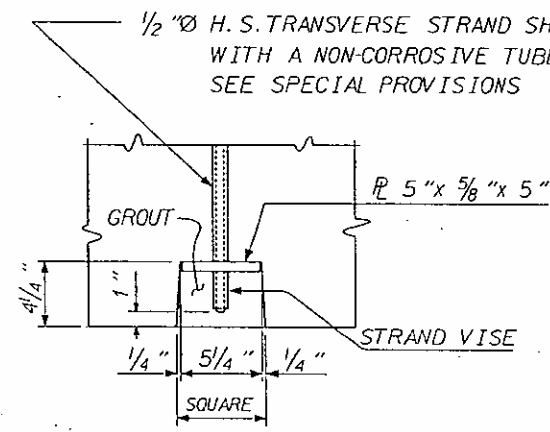
**35' SPAN
EXTERIOR SLAB SECTIONS**



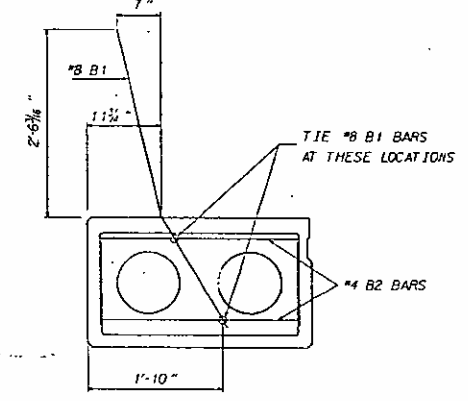
**35' SPAN
INTERIOR SLAB SECTIONS**



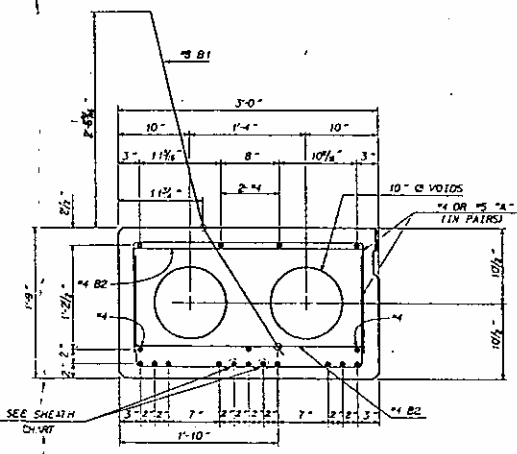
SHEAR KEY DETAIL



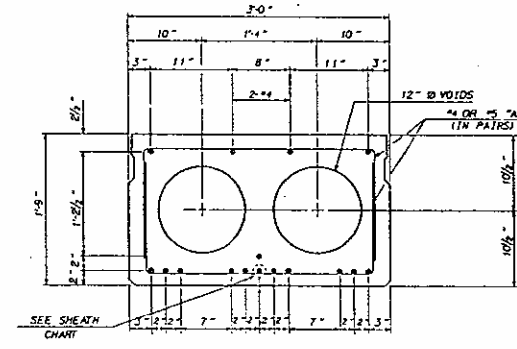
SECTION AA



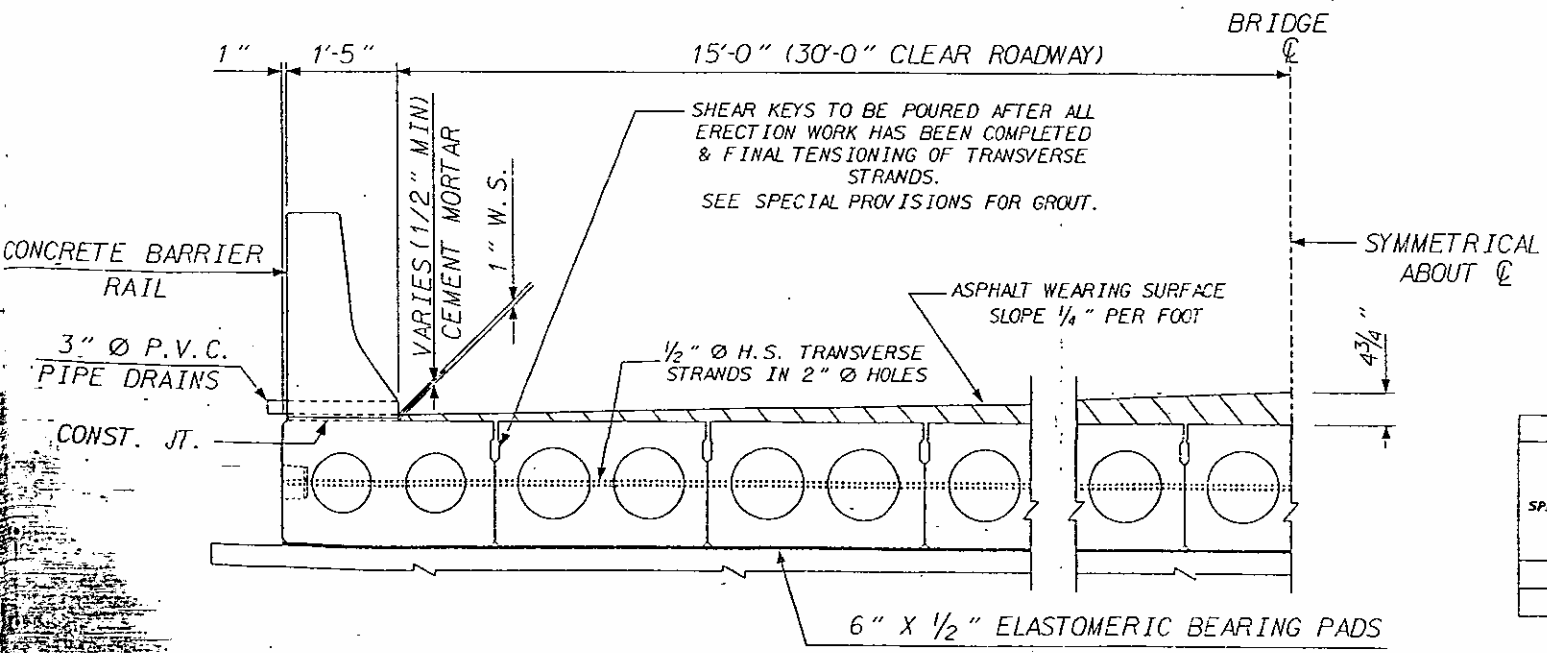
TIE LOCATION FOR #8 B1



**40' SPAN
EXTERIOR SLAB SECTIONS**



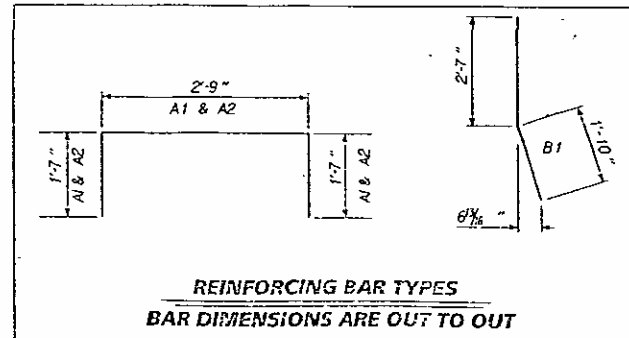
**40' SPAN
INTERIOR SLAB SECTIONS**



TYPICAL HALF SECTION

SHEATH CHART		
SPAN LENGTH	NUMBER OF SHEATHED STRANDS PER EXTERIOR SLAB SECTIONS	NUMBER OF SHEATHED STRANDS PER INTERIOR SLAB SECTIONS
35'	2	0
40'	2	1

ROUND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 4 FEET FROM END OF SLAB.



**REINFORCING BAR TYPES
BAR DIMENSIONS ARE OUT TO OUT**

GENERAL NOTES

ASSUMED LIVE LOAD - HS 20-44 OR ALTERNATE LOADING.
CONCRETE: f'c - 5000 PSI (MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS)
f'd - 4000 PSI (MINIMUM COMPRESSIVE STRENGTH @ TRANSFER OF STRESSING FORCE)
ALL PRESTRESS STRANDS SHALL MEET THE REQUIREMENTS OF ASTM A416.

ALL PRESTRESS STRANDS SHALL BE 7 WIRE, LOW RELAXATION, HIGH STRENGTH CABLES IN ACCORDANCE WITH THE SPECIFICATIONS.

SIZE TYPE AREA ULTIMATE STR.
1/2" Ø HIGH 0.153 41,300*
STR. PER CABLE

APPLIED FORCE 30,980*
PER CABLE

EXP. JT. MAT'L. SHALL MEET THE REQUIREMENTS OF AASHTO SPECIFICATION M153 TYPE I, TYPE II, OR TYPE III.

JOINT SEALER SHALL BE LOW MODULUS SILICONE SEALANT. SEE SECTION 1029-4 OF THE STANDARD SPECIFICATIONS.

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 JAN. 1, 1990 AND WITH THE SPECIAL PROVISIONS.

THE CONTRACTOR AT HIS OPTION, MAY USE STRESS RELIEVED STRANDS IN LIEU OF LOW RELAXATION STRANDS. DESIGN AND STRAND PATTERN MUST PROVIDE AT LEAST THE SAME NET COMPRESSIVE STRESS AFTER THE LOSSES.

THE ULTIMATE STRENGTH OF THE CORED SLAB MUST MEET THE REQUIREMENTS OF THE APPLICABLE AASHTO SPECIFICATIONS. STRESS RELIEVED STRANDS SHALL BE TENSIONED AND ANCHORED AT A LOAD EQUAL TO 70% OF ITS ULTIMATE STRENGTH. THIS APPLIED PRESTRESSED FORCE SHALL BE SHOWN ON THE PLANS. SIZE OF STRESS RELIEVED STRANDS SHALL NOT BE SMALLER THAN THOSE SHOWN FOR LOW RELAXATION STRANDS. DESIGN AND DETAIL PLANS USING STRESS RELIEVED STRANDS MUST BE SUBMITTED TO THE ENGINEER. ANY ADDITIONAL COST DUE TO THE USE OF STRESS RELIEVED STRANDS WILL BE PAID FOR BY THE CONTRACTOR. STRANDS SHALL CUT BE FLUSH WITH ENDS OF SLABS AND EPOXY COATED. SEE SPECIAL PROVISIONS.

A POSITIVE HOLD DOWN SYSTEM MUST BE EMPLOYED TO PREVENT VOIDS FROM RISING.

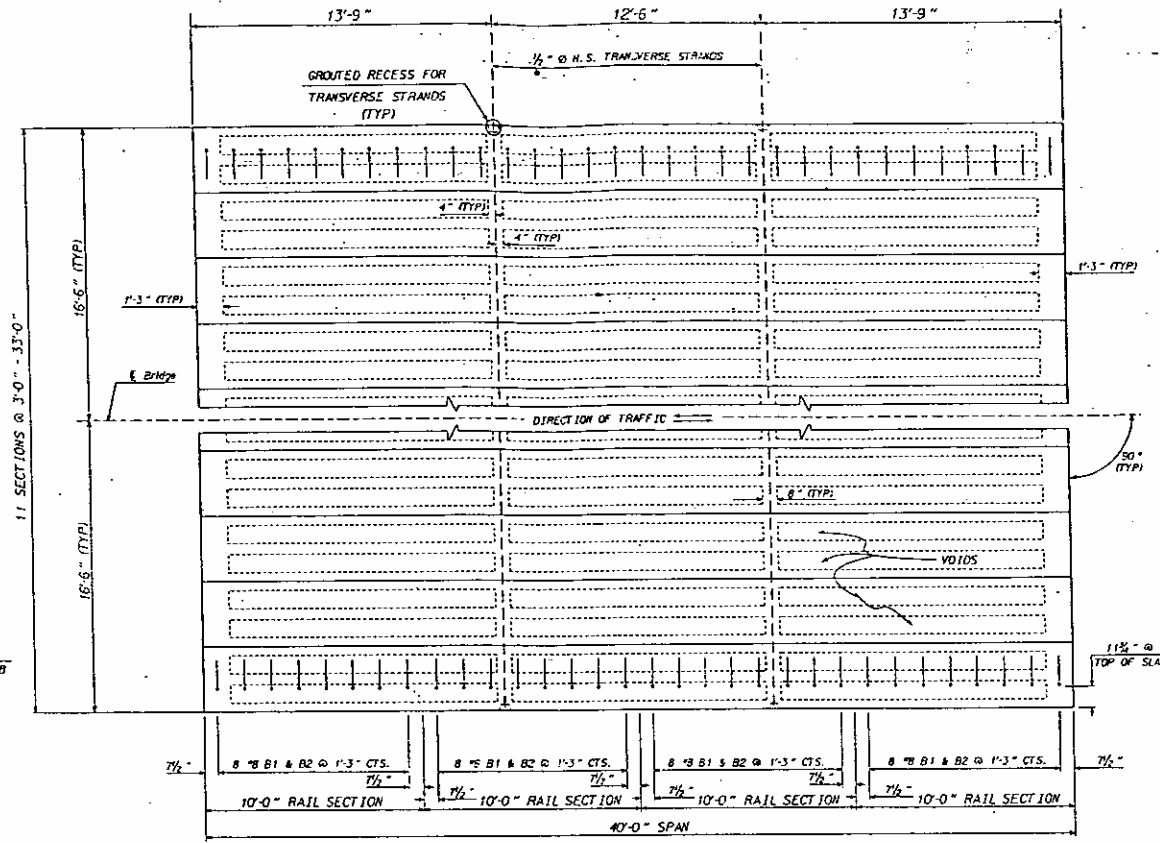
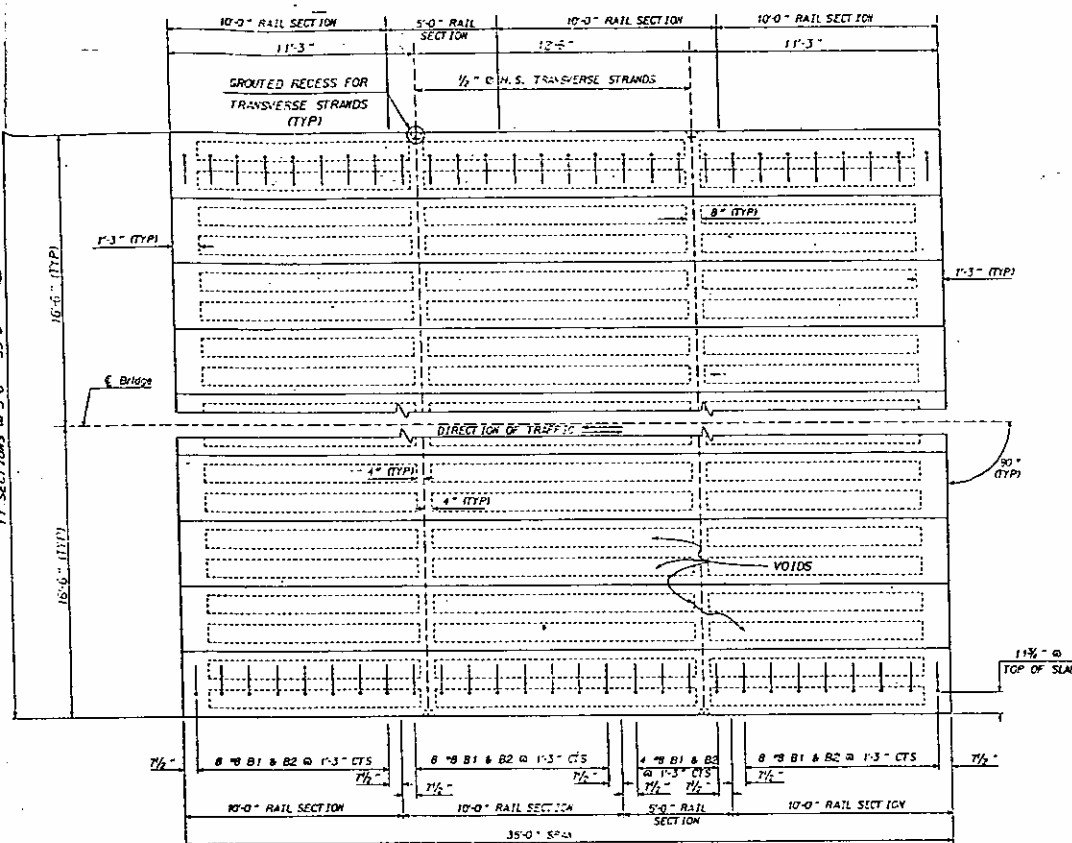
REQUISITION NO. 9845105
PROJECT NO. 5.4951185
COUNTY: GUILFORD
STATION: 10+28.00
REPLACES BRIDGE NO. 303

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD PRESTRESSED
CORED SLAB 35' & 40'
SPANS
30' CL. ROADWAY 90° SKEW

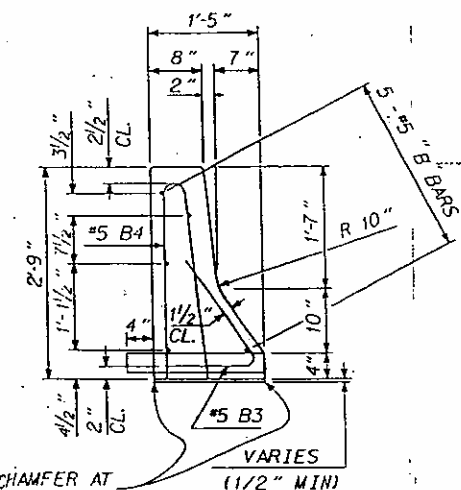
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

2
10

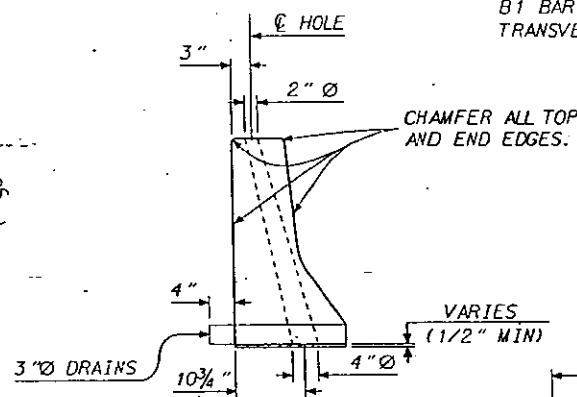


PLAN VIEW

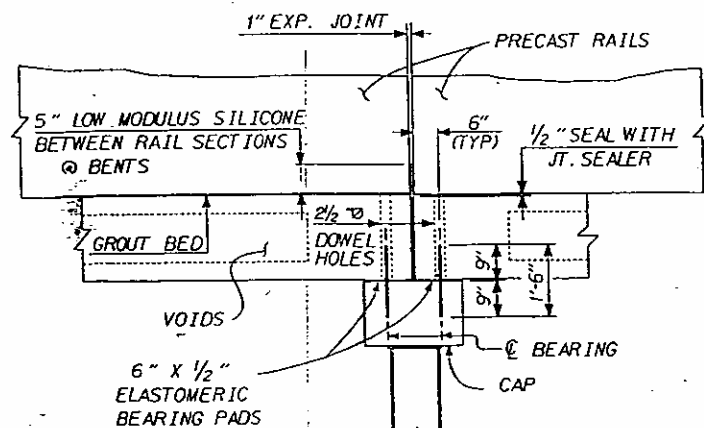
SHOWING PRECAST CONCRETE BARRIER RAIL SECTIONS, B1 BAR ARRANGEMENT, AND TRANSVERSE STRAND LOCATIONS.



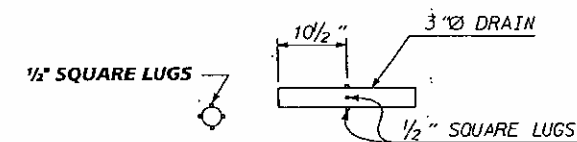
SECTION A-A



SECTION B-B



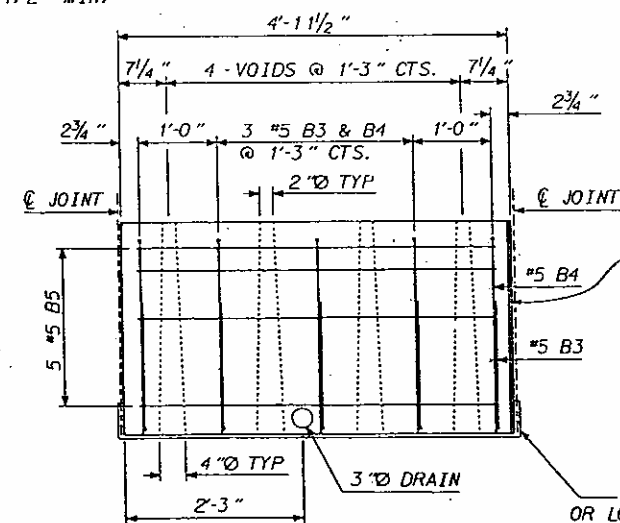
SECTION AT BENT



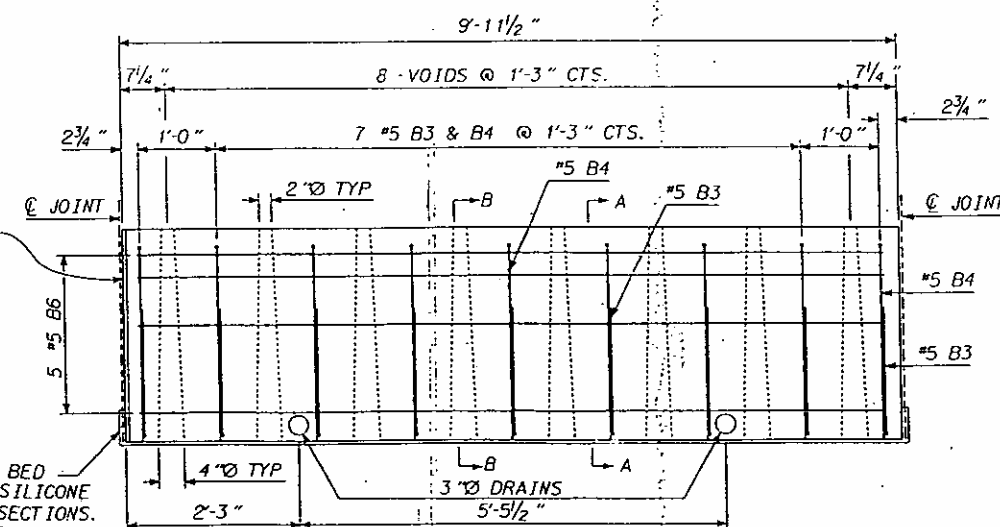
END VIEW

SIDE VIEW

DRAIN LUG DETAIL



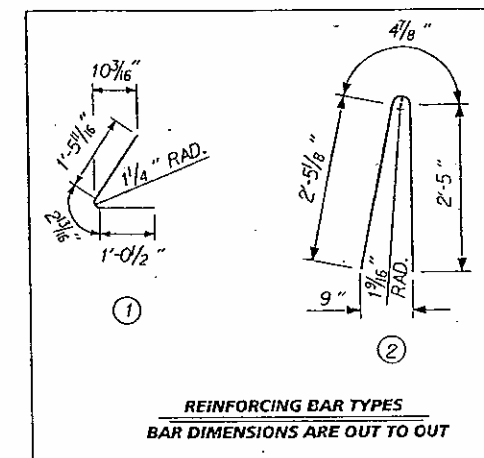
TYPICAL 5'-0" PRECAST UNIT



TYPICAL 10'-0" PRECAST UNIT

BILL OF MATERIAL					
FOR ONE 5'-0" RAIL SECTION					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B5	5	#5	STR	4'-7"	24
B3	5	#5	1	2'-9"	14
B4	5	#5	2	5'-3"	27
REINFORCING STEEL LBS. = 65					
CLASS AA CONCRETE CU.YDS. = 0.5					

BILL OF MATERIAL					
FOR ONE 10'-0" RAIL SECTION					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B6	5	#5	STR	9'-7"	50
B3	9	#5	1	2'-9"	26
B4	9	#5	2	5'-3"	49
REINFORCING STEEL LBS. = 125					
CLASS AA CONCRETE CU.YDS. = 1.0					



REINFORCING BAR TYPES
BAR DIMENSIONS ARE OUT TO OUT

NOTES

EACH PRECAST RAIL UNIT SHALL BE CAST WITH CLASS AA CONCRETE. RAIL TO BE FLUSH WITH CORED SLAB UNITS AT EACH END OF SPAN.

GROUT SHALL BE 1" ABOVE DRAINS BETWEEN RAIL SECTIONS EXCEPT AT BENTS WHERE LOW MODULUS SILICONE SHALL BE SUBSTITUTED IN PLACE OF GROUT.

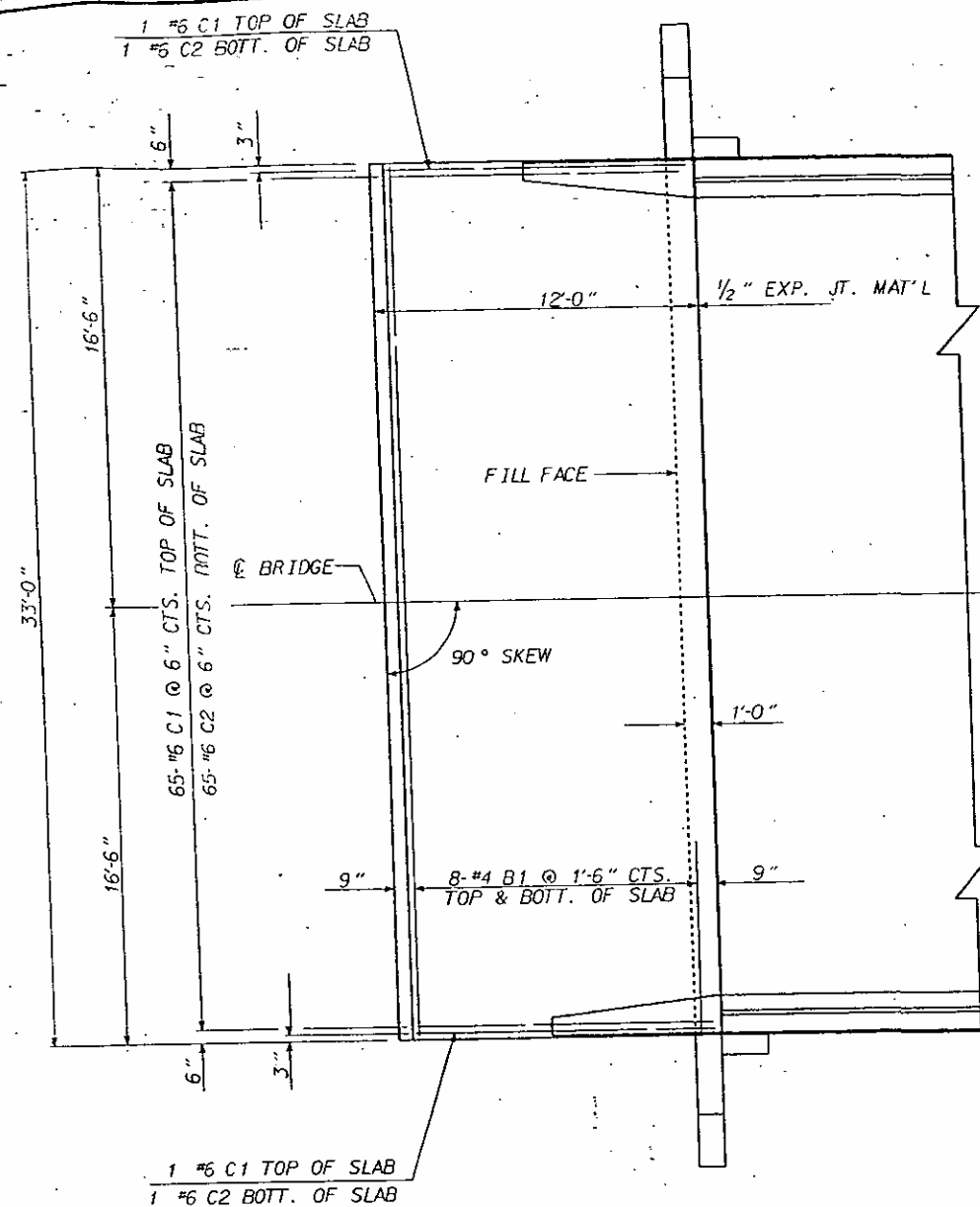
EACH PRECAST RAIL UNIT SHALL BE SUPPLIED WITH LIFTING DEVICE(S). NO CABLES ARE TO BE WRAPPED AROUND THE RAIL UNITS FOR LIFTING. FOR DECK DRAINS SEE SECTION 1054-5 OF STANDARD SPECS.

REQUISITION NO. 984510
PROJECT NO. 5.4951185
COUNTY GUILFORD
STATION: 10+28.00
REPLACES BRIDGE NO. 30

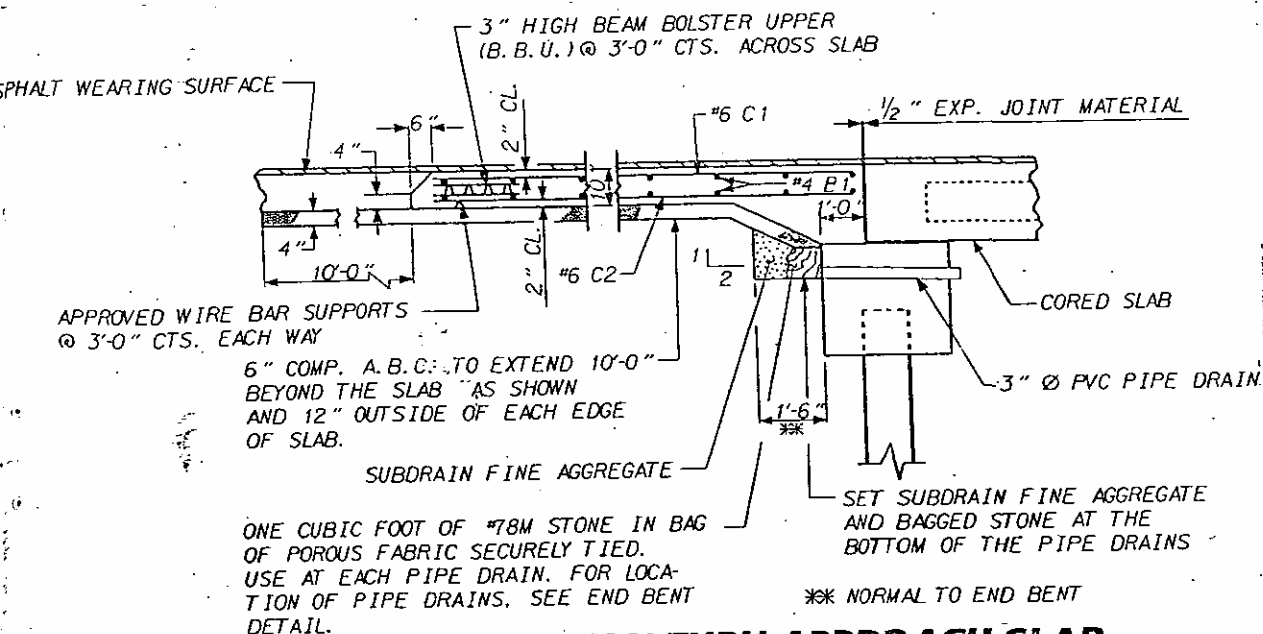
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD PRECAST CONCRETE BARRIER RAIL SECTIONS
35' & 40' SPANS
30' CLEAR ROADWAY @ 90° SKEW

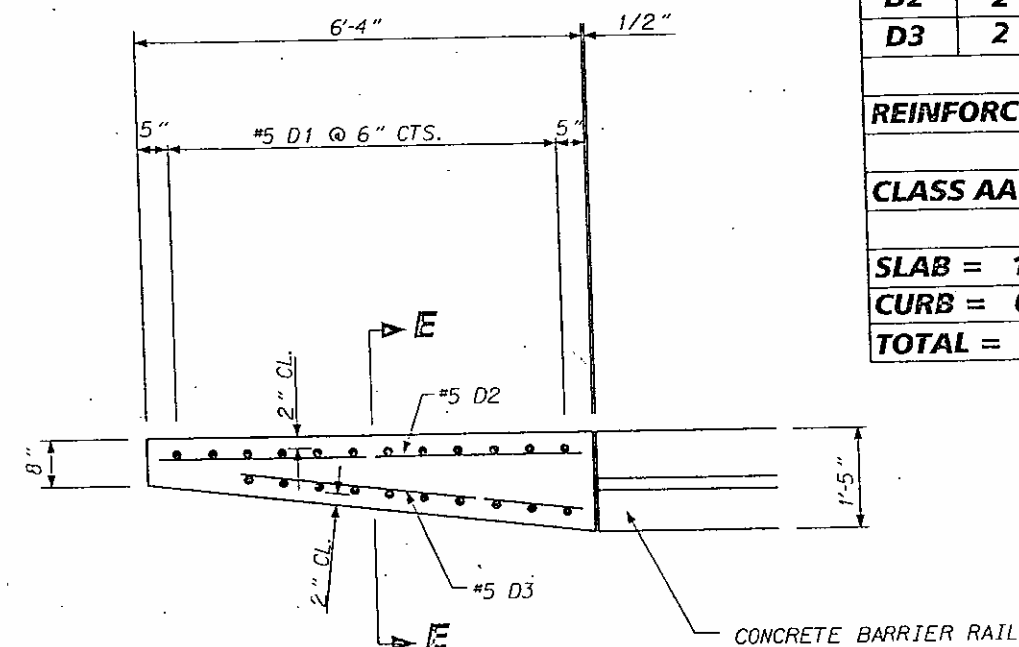
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
TOTAL 3					



PLAN OF APPROACH SLAB

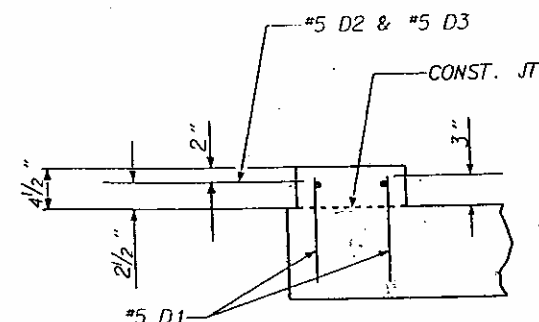


SECTION THRU APPROACH SLAB



PLAN OF CURB

NOTE: #5 D1 BARS MAY BE PUSHED INTO GREEN CONCRETE AFTER THE SLAB IS SCREED OFF.



SECTION E-E

BILL OF MATERIAL

FOR APPROACH SLAB (2 REQUIRED)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#4	STR.	32'-8"	175
C1	67	#6	STR.	11'-3"	1132
C2	67	#6	STR.	11'-8"	1174
D1	44	#5	STR.	0'-10"	38
D2	2	#5	STR.	5'-9"	12
D3	2	#5	STR.	5'-0"	10

REINFORCING STEEL LBS. = 2541

CLASS AA CONCRETE CU. YDS.

SLAB = 14.4

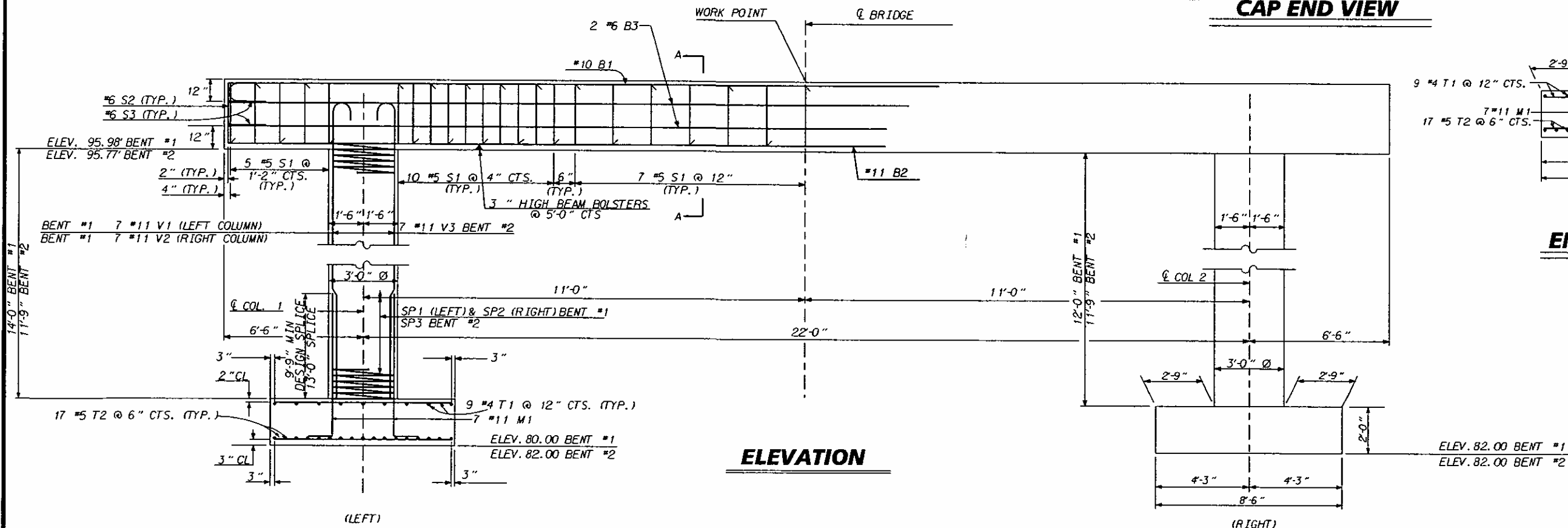
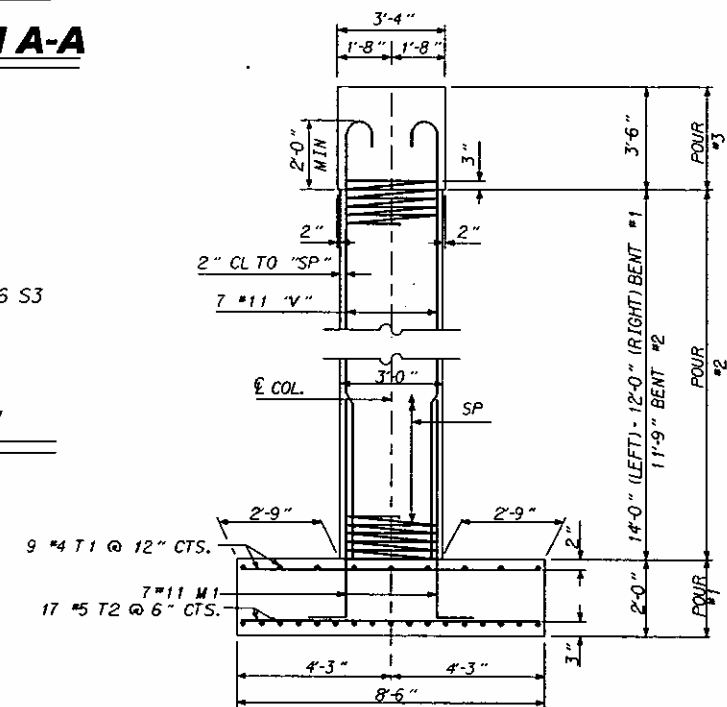
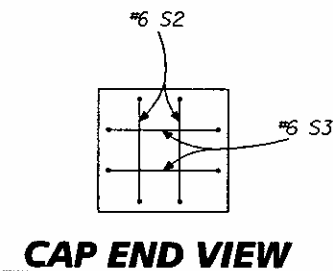
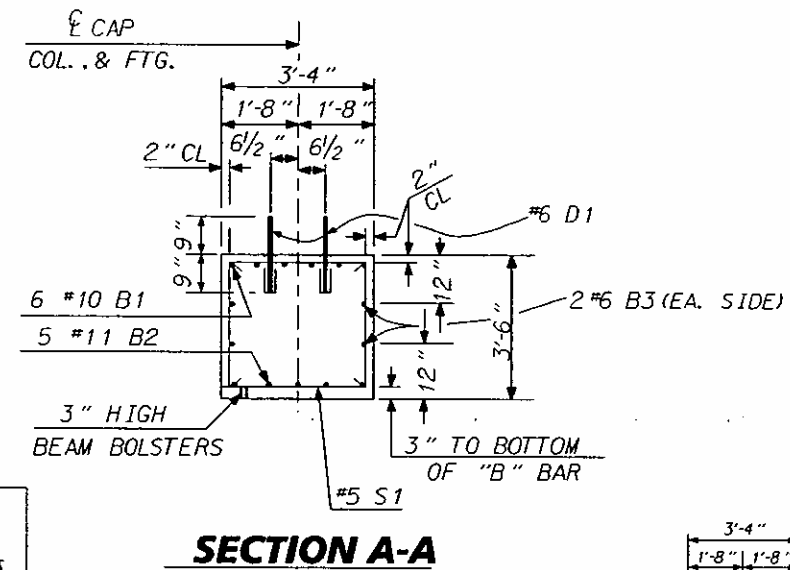
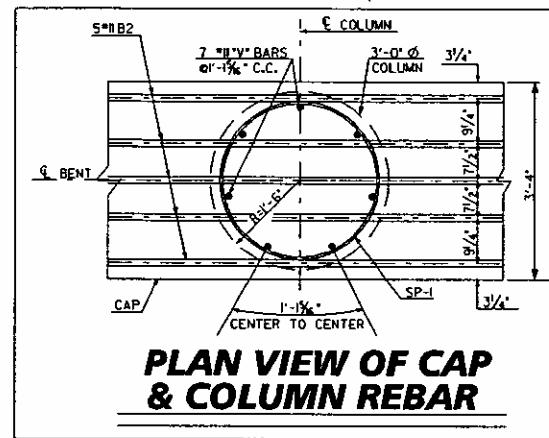
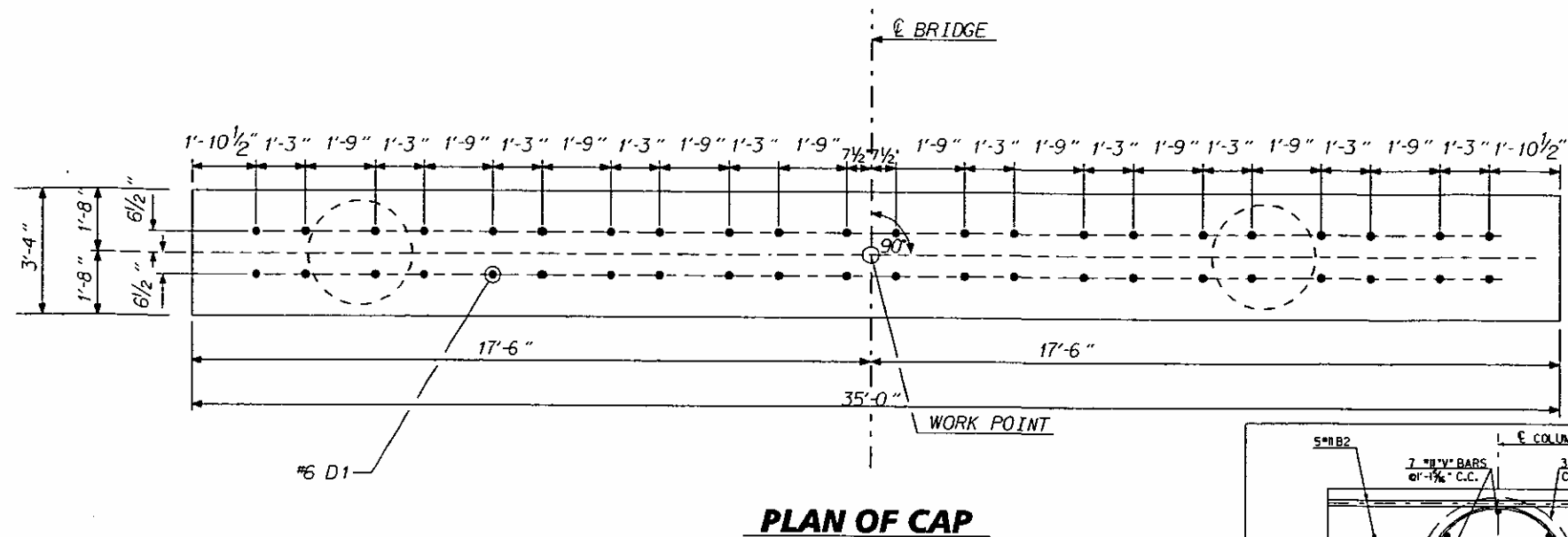
CURB = 0.2

TOTAL = 14.6

REQUISITION NO. 9845105
PROJECT NO. 5.4951185
COUNTY GUILFORD
STATION: 10+28.00
REPLACES BRIDGE NO. 308

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**STANDARD APPROACH SLAB
FOR PRESTRESSED CORED SLAB
SUPERSTRUCTURE
30'-0" CLEAR ROADWAY
90 DEGREE SKEW**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			4
2			4			10



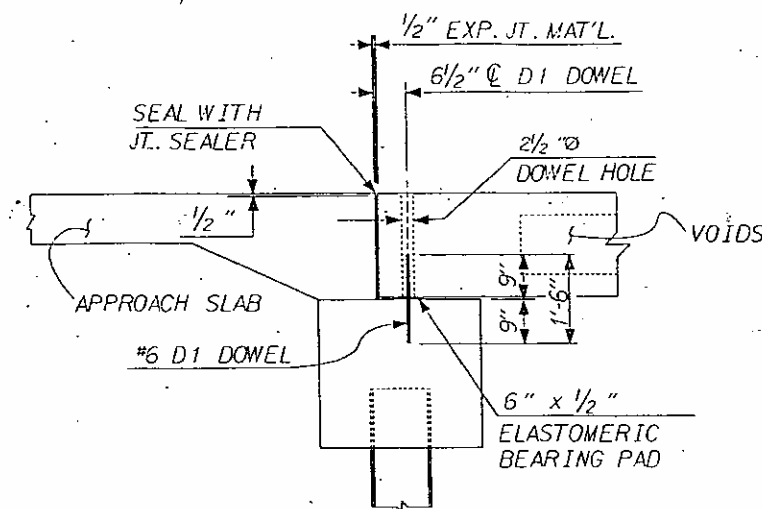
REQUISITION NO. 9845105
PROJECT NO. 5.4951185
GUILFORD COUNTY
STATION: 10+28.00
REPLACES BRIDGE NO. 308

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

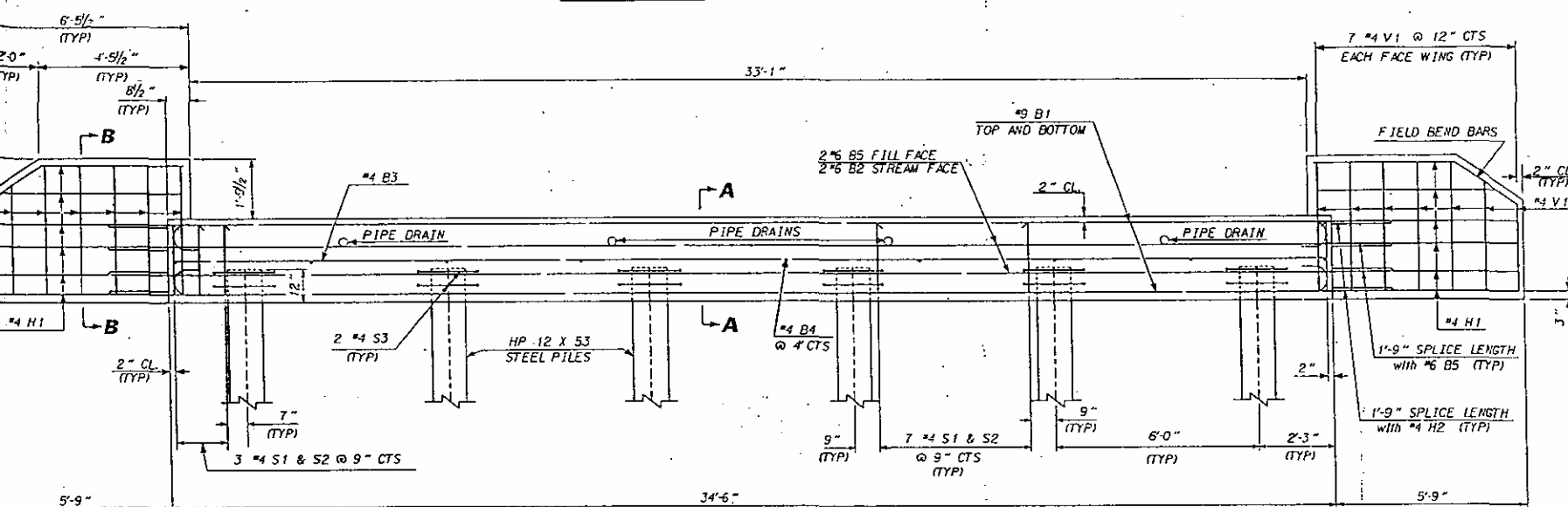
REINFORCED CONCRETE
INTERIOR BENT NO.1 & 2

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			1			5
2			2			

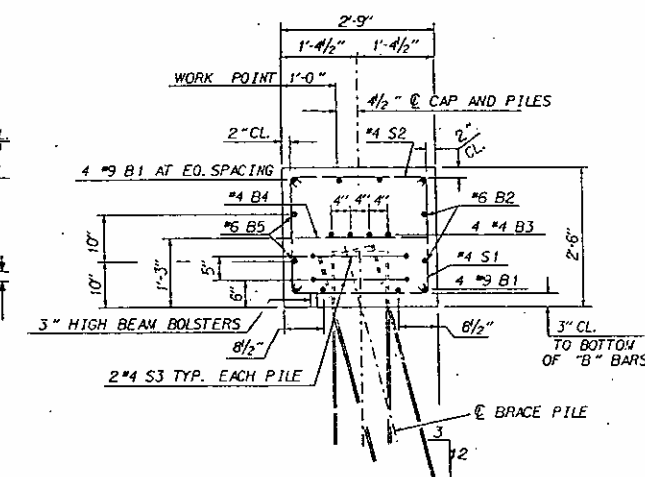
NOT TO SCALE



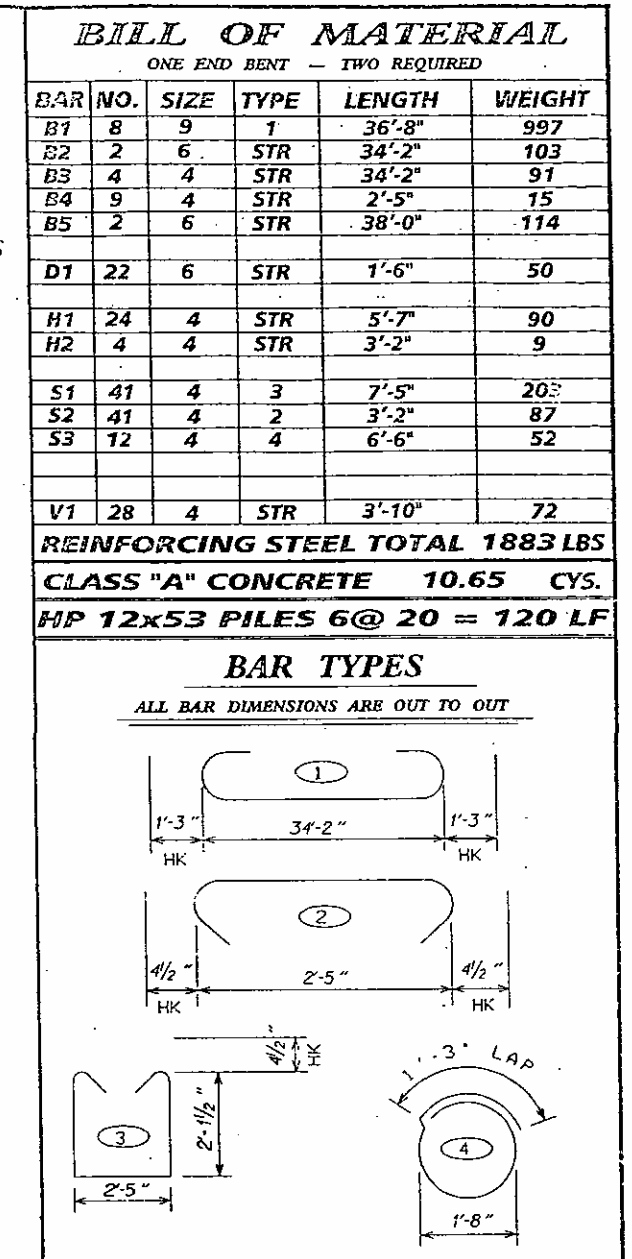
NOTE: ϕ OF DOWELS SHALL MATCH ϕ OF DOWEL HOLES IN CORED SLAB UNITS.



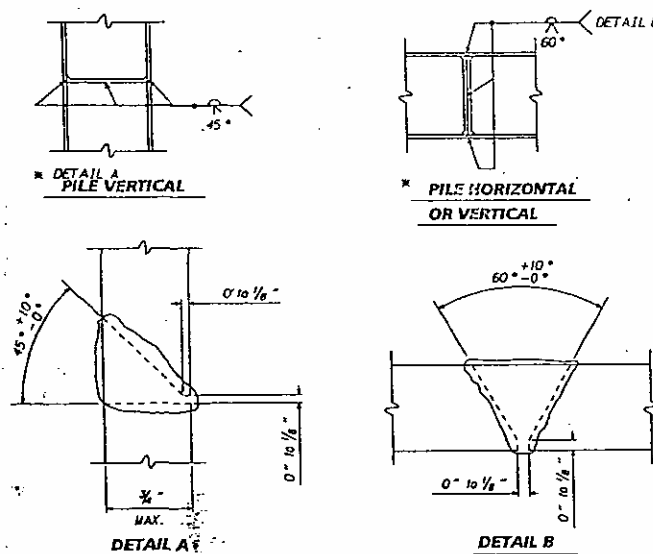
ELEVATION



SECTION A-A

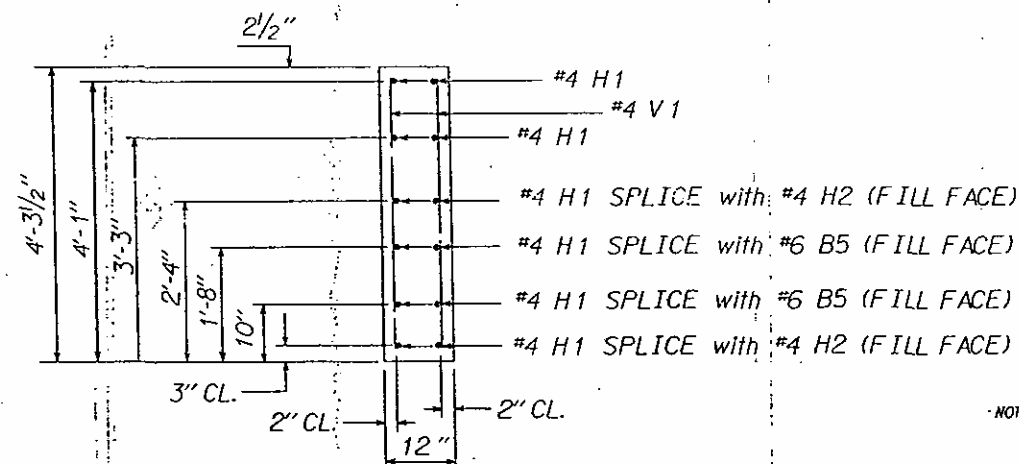


NOTE: NOT TO SCALE

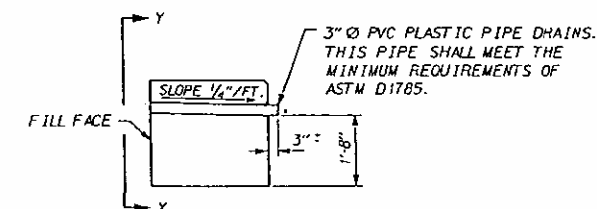


PILE SPLICE DETAILS

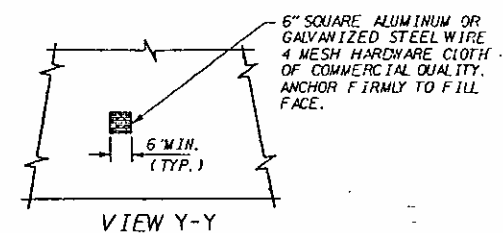
* POSITION OF PILE DURING WELDING



SECTION B-B



SECTION THRU CAP



VIEW Y-Y

PIPE DRAIN DETAILS

NOTE: NO SEPARATE PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING THE PVC PLASTIC PIPE DRAINS, HARDWARE CLOTH AND FASTENERS. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR SUBSTRUCTURE.

REQUISITION NO. 9845105
PROJECT NO. 5.4951185
COUNTY GUILFORD
STATION: 10+28.00
REPLACES BRIDGE NO. 308

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CAST-IN-PLACE END BENT
30' CLEAR ROADWAY - 90° SKEW
35' SPANS W/ APPROACH SLABS

REVISIONS						SHEET NO. 7
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 10
2			4			

PROJECT NO. 5.4951 ID. N/A COUNTY GUILFORD GEOLOGIST A. SANDERSON									
DESCRIPTION BRIDGE #308 ON SR 1818 OVER WEST FORK DEEP RIVER OFFSET 14' LT GROUND WATER									
BORING NO. B1-A BORING LOCATION (STA.) 9+73.1 DATE STARTED 2-9-93 DRILL MACHINE BK 51 0 HR. 8.0									
TOTAL DEPTH 34.5' DATE COMPLETED 2-9-93 DRILL METHOD HOLLOW STEMS 24 HR. N/A									
ELEV. FT.	DEPTH FT.	BLOW COUNT	BLOWS PER FOOT	SAMP. NO.	L	M	P	G	SOIL & ROCK DESCRIPTION
		.5' .5' .5'	0 20 40 60 80 100						
0.0	3	3	2						GROUND SURFACE
4.2	1	2	1						ROADWAY EMBANKMENT BROWN AND GREEN-BROWN SANDY SILT
9.5	1	1	2						BROWN SANDY SILTY CLAY WITH SOME GRAVEL
14.2	1	1	1						ALLUVIUM GREEN-GRAY SILTY CLAY
18.2	10	9	26						RESIDUAL GREEN-GRAY AND WHITE SANDY SILT, SAPROLITIC
24.2	48	52							GREEN-GRAY AND WHITE SOFT WEATHERED ROCK (DIORITE)
28.2	60	40							
34.2	100								
34.5									BORING TERMINATED AT ELEVATION 67.1 FEET IN SOFT WEATHERED ROCK (DIORITE)

PROJECT NO. 5.4951 ID. N/A COUNTY GUILFORD GEOLOGIST A. SANDERSON									
DESCRIPTION BRIDGE #308 ON SR 1818 OVER WEST FORK DEEP RIVER OFFSET 5' LT GROUND WATER									
BORING NO. B1-A BORING LOCATION (STA.) 10+13 DATE STARTED 2-9-93 DRILL MACHINE BK 51 0 HR. N/A									
TOTAL DEPTH 15.3' DATE COMPLETED 2-9-93 DRILL METHOD B CASING, BICOONE 24 HR. N/A									
ELEV. FT.	DEPTH FT.	BLOW COUNT	BLOWS PER FOOT	SAMP. NO.	L	M	P	G	SOIL & ROCK DESCRIPTION
		.5' .5' .5'	0 20 40 60 80 100						
100.0									
90.0	0.0	1	0						GROUND SURFACE
87.7	2.3	1	0						ALLUVIUM BROWN TO GRAY COARSE SAND WITH SOME GRAVEL
80.0	9.8	100							GRAY AND WHITE SOFT WEATHERED ROCK (DIORITE)
72.4	14.8	100							
70.0	15.3								BORING TERMINATED AT ELEVATION 72.4 FEET IN SOFT WEATHERED ROCK (DIORITE)

PROJECT NO. 5.4951 ID. N/A COUNTY GUILFORD GEOLOGIST A. SANDERSON									
DESCRIPTION BRIDGE #308 ON SR 1818 OVER WEST FORK DEEP RIVER OFFSET 18' RT GROUND WATER									
BORING NO. B1-B BORING LOCATION (STA.) 10+48 DATE STARTED 2-9-93 DRILL MACHINE BK 51 0 HR. N/A									
TOTAL DEPTH 9.7' DATE COMPLETED 2-9-93 DRILL METHOD 1/2" STEEL ROD 24 HR. N/A									
ELEV. FT.	DEPTH FT.	BLOW COUNT	BLOWS PER FOOT	SAMP. NO.	L	M	P	G	SOIL & ROCK DESCRIPTION
		.5' .5' .5'	0 20 40 60 80 100						
0									GROUND SURFACE
0									
7									BORING TERMINATED AT ELEVATION 81.4 FEET IN SOFT WEATHERED ROCK (DIORITE)

PROJECT NO. 5.4951 ID. N/A COUNTY GUILFORD GEOLOGIST A. SANDERSON									
DESCRIPTION BRIDGE #308 ON SR 1818 OVER WEST FORK DEEP RIVER OFFSET 7' RT GROUND WATER									
BORING NO. B2-B BORING LOCATION (STA.) 10+47 DATE STARTED 2-4-93 DRILL MACHINE BK 51 0 HR. N/A									
TOTAL DEPTH 25.4' DATE COMPLETED 2-4-93 DRILL METHOD BMD-4, B CASING 24 HR. N/A									
ELEV. FT.	DEPTH FT.	BLOW COUNT	BLOWS PER FOOT	SAMP. NO.	L	M	P	G	SOIL & ROCK DESCRIPTION
		.5' .5' .5'	0 20 40 60 80 100						
100.0									
80.0	8.9	1	0						GROUND SURFACE
	3.1	1	1						ALLUVIUM BROWN SANDY SILT WITH SOME MICA AND MINOR LEAF LITER
	4.6	3	2						BROWN SANDY SILTY CLAY WITH SOME MICA AND LEAF LAYERS
	7.3	15	33						BROWN COARSE SAND WITH SOME GRAVEL
	9.8	8	11						RESIDUAL GRAY SANDY SILT, SAPROLITIC (QUARTZ VEIN AT 10.8')
	12.2	100							GRAY AND WHITE SOFT AND HARD WEATHERED ROCK (DIORITE)
	20.4	50							MOD. TO SLI. FRAC., V. SLI. WEATHERED GRAY DIORITE
	25.4								EXT. MOD. FRAC., SLI. MOD. WEATHERED GRAY DIORITE
									18.5'-20.3' SEV. WEATHERED
									21.5'-24.6' V. SEV. COMPLETELY WEATHERED

PROJECT NO. 5.4951 ID. N/A COUNTY GUILFORD GEOLOGIST A. SANDERSON									
DESCRIPTION BRIDGE #308 ON SR 1818 OVER WEST FORK DEEP RIVER OFFSET 14' LT GROUND WATER									
BORING NO. B2-A BORING LOCATION (STA.) 10+48 DATE STARTED 2-9-93 DRILL MACHINE N/A 0 HR. N/A									
TOTAL DEPTH 12.8' DATE COMPLETED 2-9-93 DRILL METHOD 1/2" STEEL ROD 24 HR. N/A									
ELEV. FT.	DEPTH FT.	BLOW COUNT	BLOWS PER FOOT	SAMP. NO.	L	M	P	G	SOIL & ROCK DESCRIPTION
		.5' .5' .5'	0 20 40 60 80 100						
0.0									GROUND SURFACE
5.0									
10.0									
12.8									BORING TERMINATED AT ELEVATION 80.3 FEET IN SOFT WEATHERED ROCK (DIORITE)

PROJECT NO. 5.4951 ID. N/A COUNTY GUILFORD GEOLOGIST A. SANDERSON									
DESCRIPTION BRIDGE #308 ON SR 1818 OVER WEST FORK DEEP RIVER OFFSET 15' RT GROUND WATER									
BORING NO. B2-B BORING LOCATION (STA.) 10+48 DATE STARTED 2-9-93 DRILL MACHINE BK 51 0 HR. 11.0									
TOTAL DEPTH 34.7' DATE COMPLETED 2-9-93 DRILL METHOD HOLLOW STEMS 24 HR. 12.0									
ELEV. FT.	DEPTH FT.	BLOW COUNT	BLOWS PER FOOT	SAMP. NO.	L	M	P	G	SOIL & ROCK DESCRIPTION
		.5' .5' .5'	0 20 40 60 80 100						
100.0	0.0	2	3						GROUND SURFACE
4.2	1	1	2						ROADWAY EMBANKMENT ORANGE-BROWN SILTY SANDY CLAY
9.2	3	3	4						ALLUVIUM BROWN-GRAY SANDY SILT WITH SOME MICA
14.2	1	1	1						GRAY SAND
19.2	13	11	12						RESIDUAL GRAY, TAN, AND WHITE SAND, SAPROLITIC
24.2	75	25							GRAY-GREEN AND WHITE SOFT WEATHERED ROCK (DIORITE)
29.2	80	20							
34.2	100								
34.7									BORING TERMINATED AT ELEVATION 65.7 FEET IN SOFT WEATHERED ROCK (DIORITE)

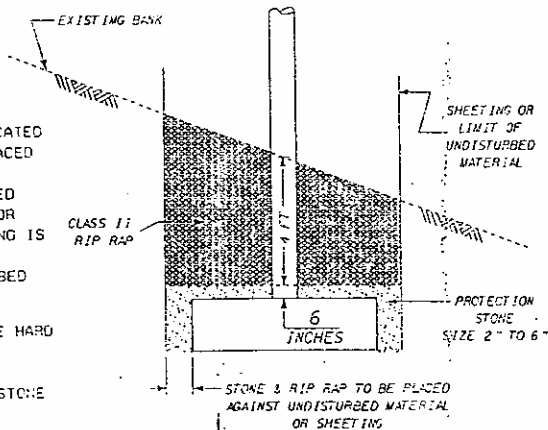
SPECIAL PROVISIONS FUR SUBSTRUCTURE SCOUR PROTECTION

SUBSTRUCTURE SCOUR PROTECTION SHALL BE PROVIDED AS INDICATED IN THE PLANS. THE TWO TO SIX INCH SIZE STONE SHALL BE PLACED AFTER FOOTING FORMWORK HAS BEEN REMOVED AND WHILE THE EXCAVATION IS DEWATERED. THE RIP RAP STONE SHALL BE PLACED BEFORE THE COFFERDAM SHEETING IS REMOVED. EITHER BEFORE OR AFTER THE EXCAVATION IS ALLOWED TO FLOOD. WHEN NO SHEETING IS USED, EACH STONE TYPE SHALL BE PLACED TO THE REQUIRED THICKNESS AND SHALL EXTEND HORIZONTALLY TO THE UNDISTURBED MATERIAL.

THE TWO TO SIX INCH SIZE SCOUR PROTECTION STONE SHALL BE HARD AND DURABLE IN NATURE. WHILE NO SPECIFIC GRADATION IS REQUIRED, THE VARIOUS SIZES OF STONE SHALL BE REASONABLY EQUALLY DISTRIBUTED WITHIN THE REQUIRED SIZE RANGE. THE STONE SHALL BE ESSENTIALLY CUBICAL IN SHAPE.

BASIS OF PAYMENT

THE ENTIRE COST OF THE ABOVE WORK INCLUDING THE TWO TO SIX INCH SIZE STONE, MATERIALS, EQUIPMENT, TOOLS, LABOR AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE IN THE LUMP SUM BID PRICE FOR PLACEMENT OF SUBSTRUCTURE. CLASS II RIP RAP SHALL BE PAID FOR AT THE UNIT PRICE BID FOR CLASS II RIP RAP PER TON.



PIER SCOUR PROTECTION

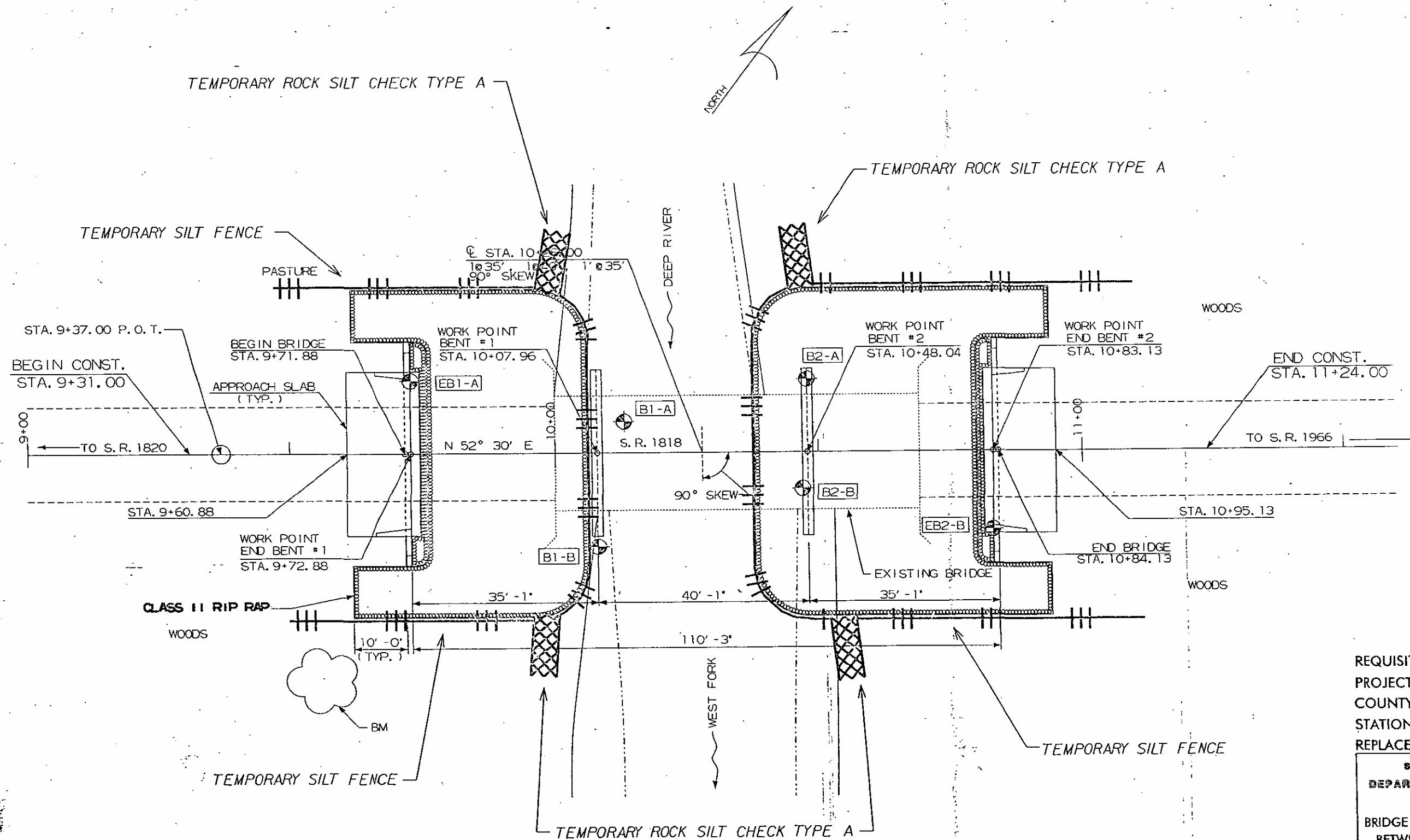
REQUISITION NO. 9845105
PROJECT NO. 5.4951185
COUNTY GUILFORD
STATION: 10+28.00
REPLACES BRIDGE NO. 308

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GEOTECHNICAL BORING LOG PIER SCOUR PROTECTION

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			8
2			4			
TOTAL SHEETS						10

EROSION CONTROL PLAN

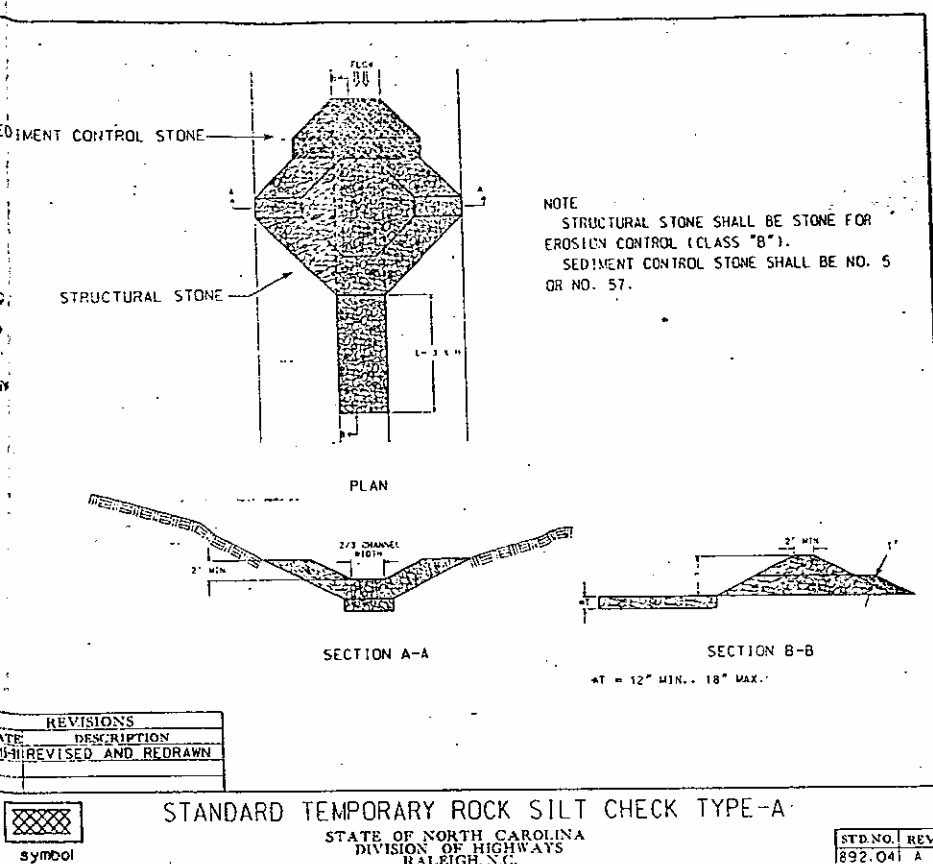


REQUISITION NO. 9845105
 PROJECT NO. 5.4951185
 COUNTY GUILFORD
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 REPLACES BRIDGE NO. 308

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

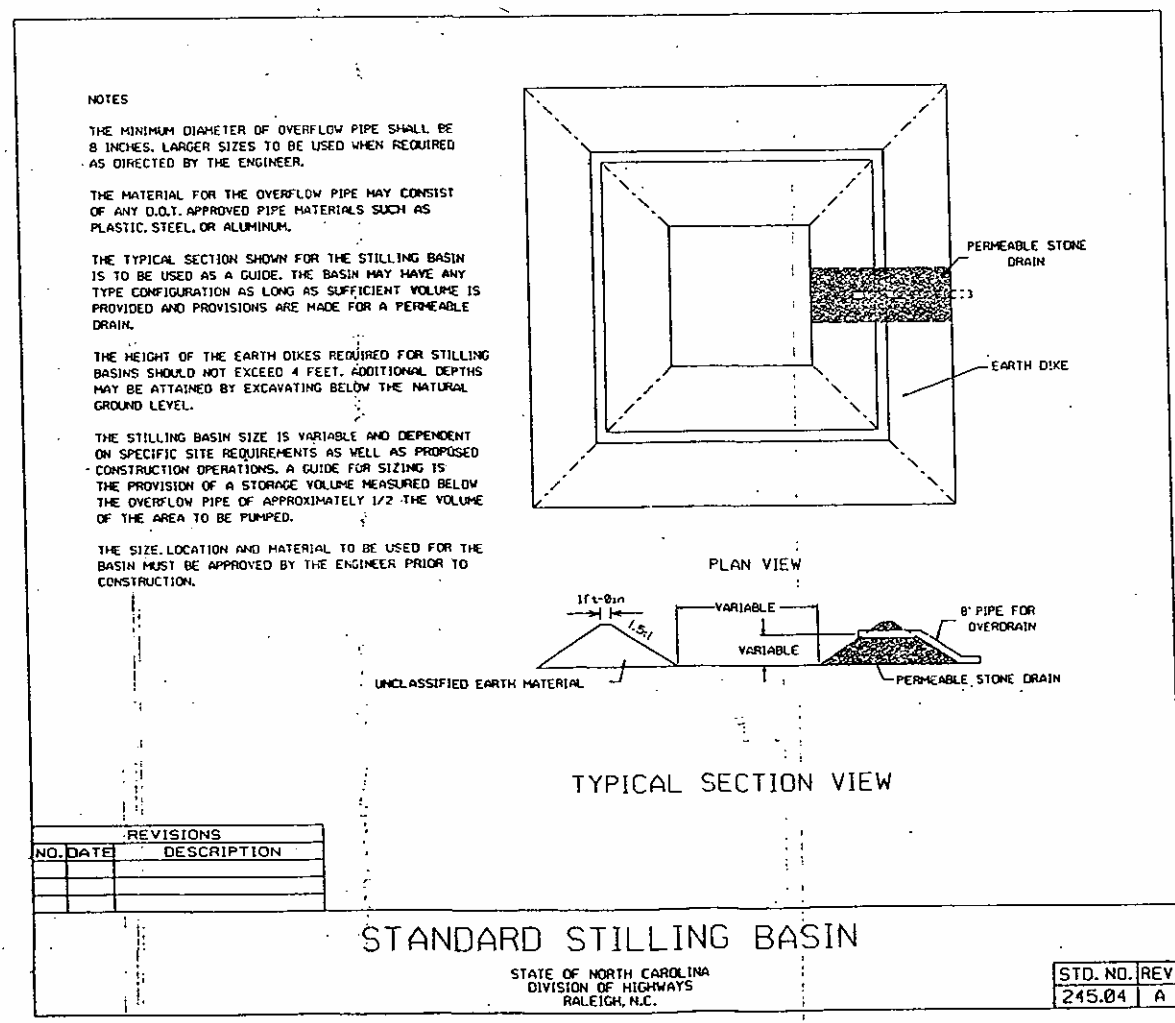
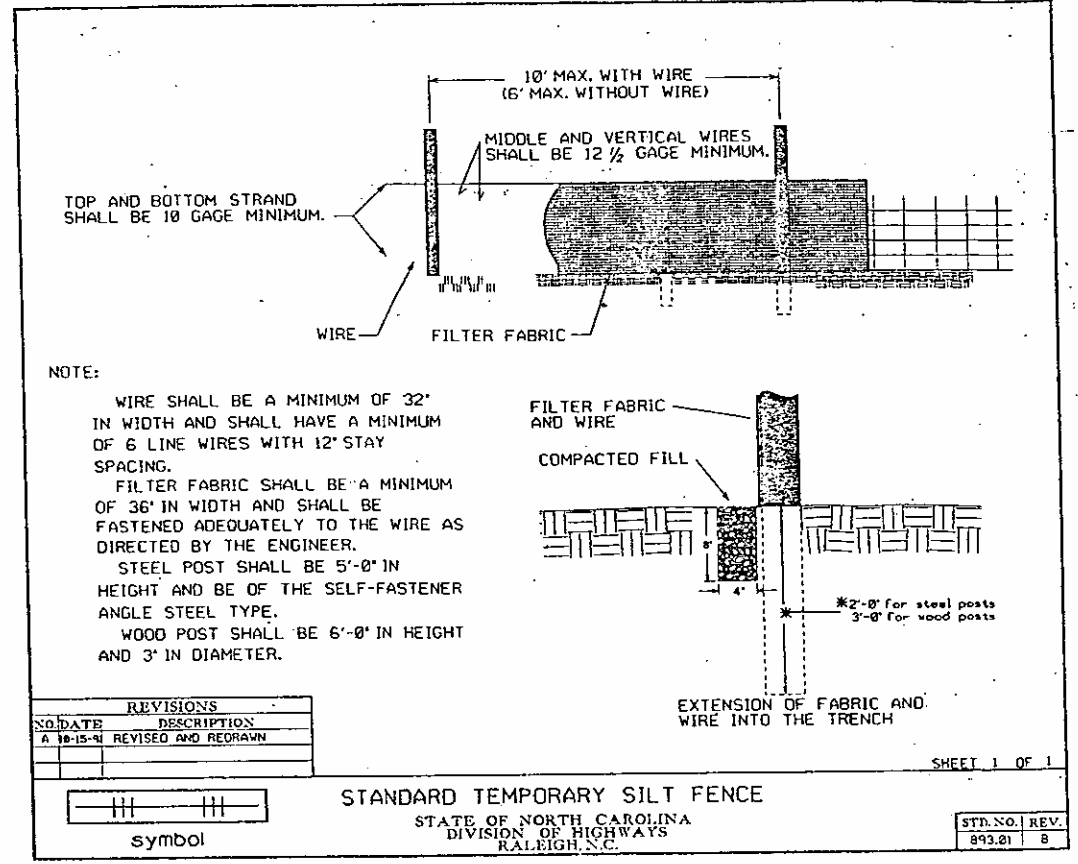
BRIDGE OVER WEST FORK DEEP RIVER
 BETWEEN S.R. 1820 AND S.R. 1966
 ON S.R. 1818

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			9
2			4			10



EROSION CONTROL PLAN

DETAILS



REQUISITION NO. 9845105
PROJECT NO. 5.4951185
COUNTY GUILFORD
STATION: 10+28.00
REPLACES BRIDGE NO. 308

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE OVER WEST FORK DEEP RIVER BETWEEN S.R. 1820 AND S.R. 1966 ON S.R. 1818					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
SHEET NO. 10					TOTAL SHEETS 10

STANDARD NOTES

IGN DATA:	
IFICATIONS	A. A. S. H. T. O. (CURRENT)
LOAD	SEE PLANS
ALLOWANCE	SEE A. A. S. H. T. O.
IN EXTREME FIBER OF	
UCTURAL STEEL - A. S. T. M. A36 GRADE	20,000 LBS. PER SQ. IN.
- A. S. T. M. A598	27,000 LBS. PER SQ. IN.
- A. S. T. M. A572, GRADE 50	27,000 LBS. PER SQ. IN.
ORCING STEEL IN TENSION	
GRADE 60	24,000 LBS. PER SQ. IN.
ETE IN COMPRESSION	1,200 LBS. PER SQ. IN.
ETE IN SHEAR	SEE A. A. S. H. T. O.
TURAL TIMBER - TREATED OR	
TREATED - EXTREME FIBER STRESS	1,800 LBS. PER SQ. IN.
SSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS. PER SQ. IN.
ALENT FLUID PRESSURE OF EARTH	30 LBS. PER CU. FT.
	(MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL
NOTES, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH
1990 STANDARD SPECIFICATIONS "FOR ROADS AND STRUCTURES" OF THE
DEPARTMENT OF TRANSPORTATION.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE
FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT:
CLASS A CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES,
RETAINMENT WALLS, AND APPROACH SLABS; CLASS B CONCRETE SHALL BE
FOR SLOPE PROTECTION AND RIP RAP; AND CLASS S SHALL BE USED
UNDERWATER FOOTING SEALS.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON
STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS:
CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT
CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS
SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED
ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES
TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS
WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

ANCHOR BOLTS:

ANCHOR BOLTS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL
BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO
WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS.
SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.
ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD
DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED
ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE
GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS
FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING
UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED
BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS. VERTICAL CURVE
ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH
BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED
TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND
ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN
ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK,
AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE
ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES
SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND
CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

FIVE SETS OF DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE
SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON
THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE
CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED WITH THE EXCEPTION OF #2
BARS WHICH MAY BE FABRICATED FROM COLD DRAWN STEEL WIRE. DIMENSIONS
RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE
INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS
OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE
INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS
LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL
BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE
3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT
THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES
SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS
ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø
STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST
BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER
PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION,
SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE
EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND
DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS
EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM
TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE".
ELECTROSLAG WELDING WILL NOT BE PERMITTED.

PLACEMENT OF BEAM OR GIRDER MEMBERS ON TRUCKS FOR HAULING SHALL
BE DONE IN COMPLIANCE WITH LIMITS SHOWN ON SKETCHES PROVIDED TO THE MATERIALS
AND TEST UNIT APPROVED BY THE STRUCTURE DESIGN UNIT DATED MAY 8, 1991.
THESE SKETCHES PRIMARILY LIMIT THE UNSUPPORTED CANTILEVER LENGTH OF MEMBERS.
WHEN THE CONTRACTOR WISHES TO PLACE MEMBERS ON TRUCKS NOT IN ACCORDANCE
WITH THESE LIMITS, TO SHIP BY RAIL, TO ATTACH SHIPPING RESTRAINTS TO THE
MEMBERS OR TO INVERT MEMBERS, HE SHALL SUBMIT A SKETCH FOR APPROVAL
PRIOR TO SHIPPING. SEE ALSO ARTICLE 1072-11.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER
SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY
ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR
EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING,
OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL
RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN
ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM
RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.
METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE
AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE.
FINISH AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE
REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL
BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL
NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL
GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN
OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE
SPECIFICATIONS ARTICLE 105-4.