

U-2107BA

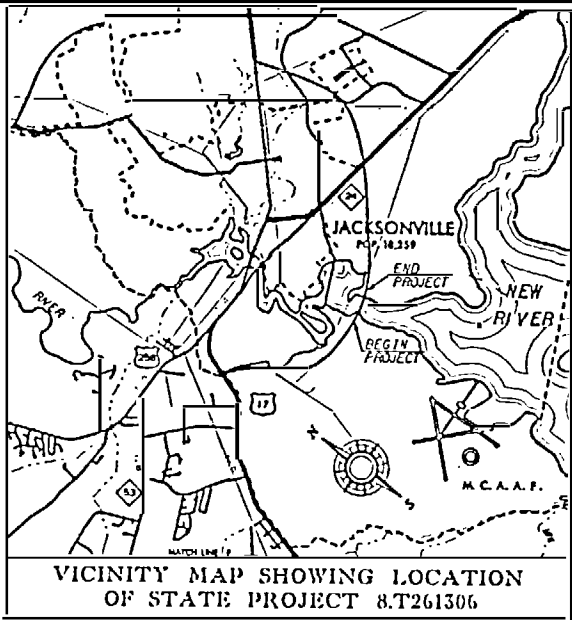
PROJECT: 8.T261306

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

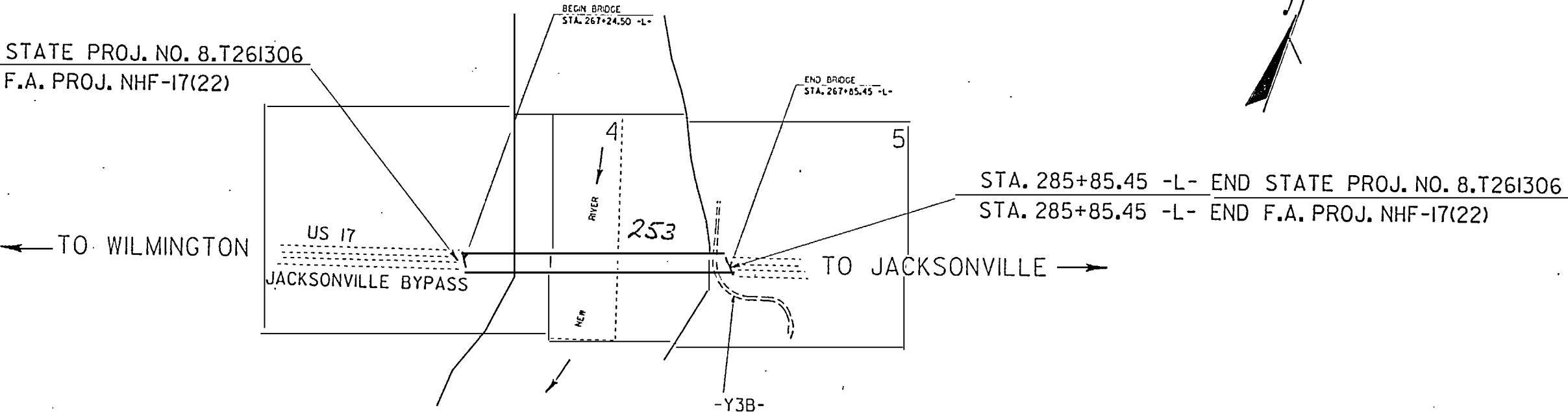
PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY

ONSLOW COUNTY

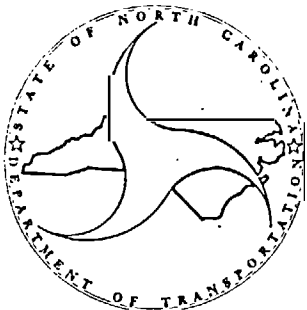
LOCATION: BRIDGE OVER NEW RIVER ON PROPOSED JACKSONVILLE BYPASS (US 17)
TYPE OF WORK: STRUCTURE



STA. 267+00.00 -L- BEGIN STATE PROJ. NO. 8.T261306
STA. 267+00.00 -L- BEGIN F.A. PROJ. NHF-17(22)



STRUCTURE



DESIGN DATA

ADT 1997 39,400 vpd
ADT 2017 61,800 vpd
DHV 10%
D 60%
DUAL 6%
TTST 4%
V 60 MPH

PROJECT LENGTH

LENGTH ROADWAY STATE PROJECT 8.T261306 = 0.000 MILES
LENGTH STRUCTURES STATE PROJECT 8.T261306 = 0.350 MILES
TOTAL LENGTH STATE PROJECT 8.T261306 = 0.350 MILES

THIS IS A CONTROLLED ACCESS PROJECT WITH
ACCESS BEING LIMITED TO INTERCHANGES

Prepared In the Office of
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

1995 STANDARDS SPECIFICATION

LETTING DATE: July 21, 1998.

Omar R. Azizi, P.E.
PROJECT ENGINEER

Thomas Paul Garrett, P.E.
PROJECT DESIGN ENGINEER

STATE BRIDGE DESIGN ENGINEER



William J. Rogers
8/21/97

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

R. P. Hill, P.E.
STATE HIGHWAY ENGINEER - DESIGN
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED FOR
DIVISION ADMINISTRATION
DATE: 4-22-98

28-8A-1997 1342
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INDEX		
STATION	DESCRIPTION	SHEET NUMBERS
277+50.00 -L-	EROSION CONTROL PLAYS	EC1 AND EC2
277+50.00 -L- 253	STRUCTURE	S1 THRU S170

PROJECT NO. U-2107BA
ONslow COUNTY
STATION: _____

SHEET OF

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

INDEX

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

DRAWN BY : N.M.K.M. DATE : 4/16/97
CHECKED BY : _____ DATE : _____

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Reforestation	
1630.05	Temporary Silt Ditch	
1630.01	Temporary Diversion	
1630.01	Temporary Silt Fence	
1630.01	Temporary Berms and Slope Drains	
1630.01	Silt Basin Type A	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
1633.02	Temporary Rock Silt Check Type-B	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1636.01	Rock Silt Screen	
1630.04	Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	OR
1632.02	Type B	OR
1632.03	Type C	OR

HIGH QUALITY WATER(S) ZONE
ON THIS PROJECT

High Quality Water Zone(s) Exist
Refer To E.C. Special Provisions
for Special Considerations.

Roadway Standard Drawings

The following roadway standard drawings are approved as appearing in "Roadway Standard Drawings" - Roadway Design Unit - N.C. Department of Transportation - Raleigh, N.C. dated July 14, 1995 and the latest editions thereto are applicable to this project and by reference hereby are considered a part of these plans.

1635.01 Temporary Silt Fence
1633.01 Temporary Rock Silt Check Type A

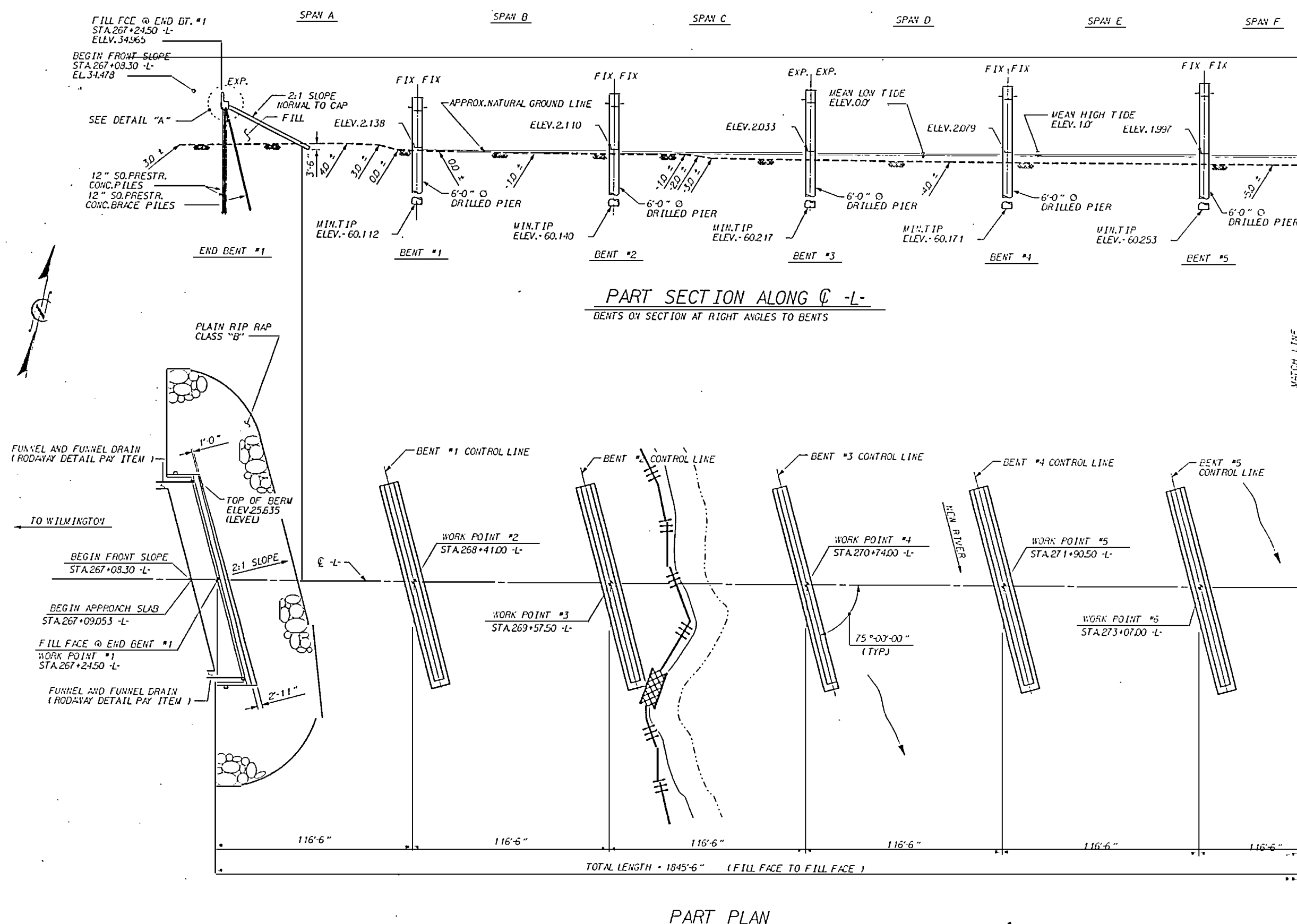
PROJECT NO. U-2107BA
ONSLOW COUNTY

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EROSION CONTROL PLANS
FOR U-2107BA

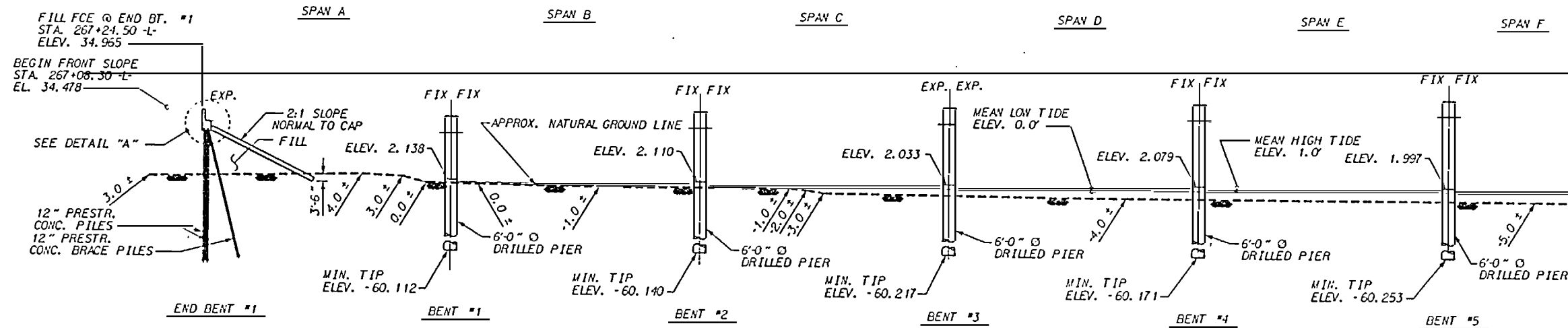
SCALE - 30

REVISIONS						SHEET NO.
NO	BY	DATE	NO	BY	DATE	
1			1			EC-1
2			2			TOTAL SHEETS

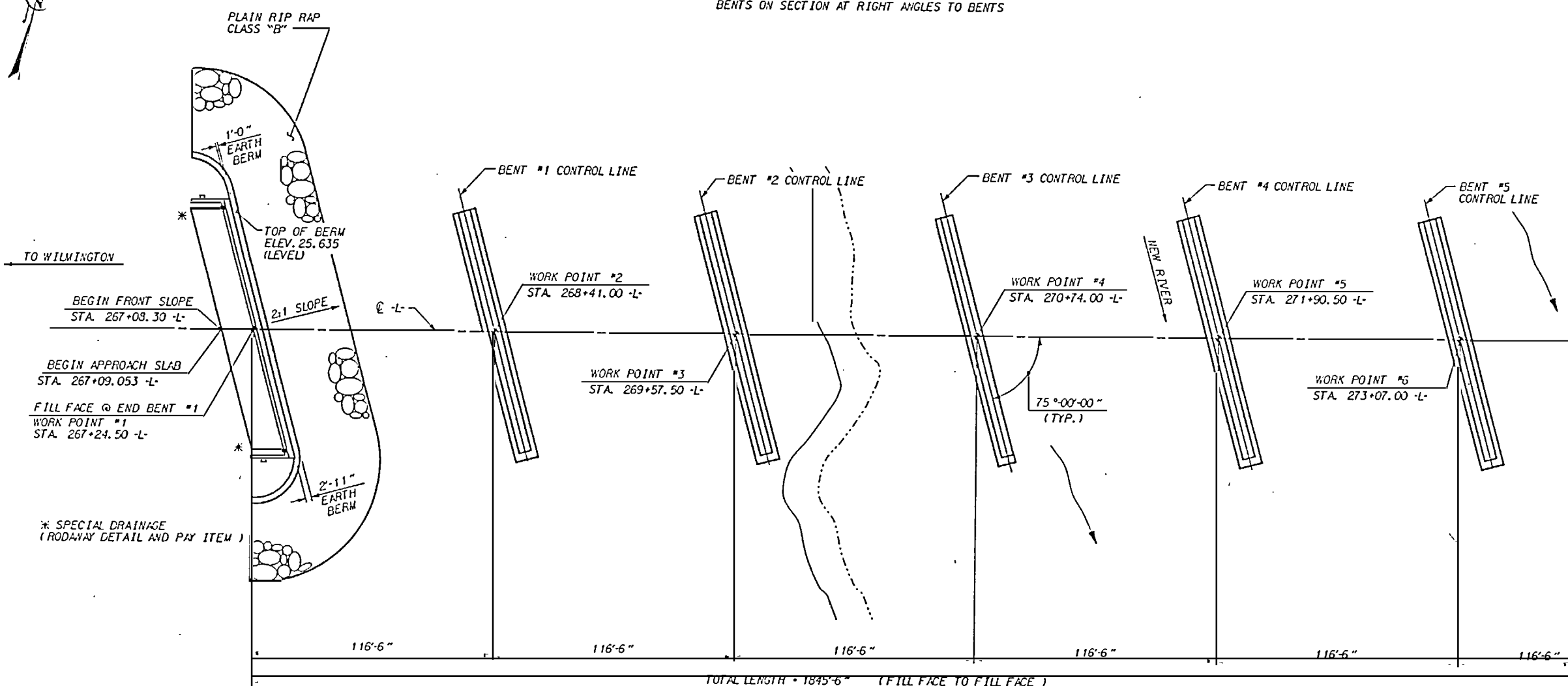


267+00.00 267+50.00 268+00.00 268+50.00 269+00.00 269+50.00 270+00.00 270+50.00 271+00.00 271+50.00 272+00.00 272+50.00 273+00.00 273+50.00

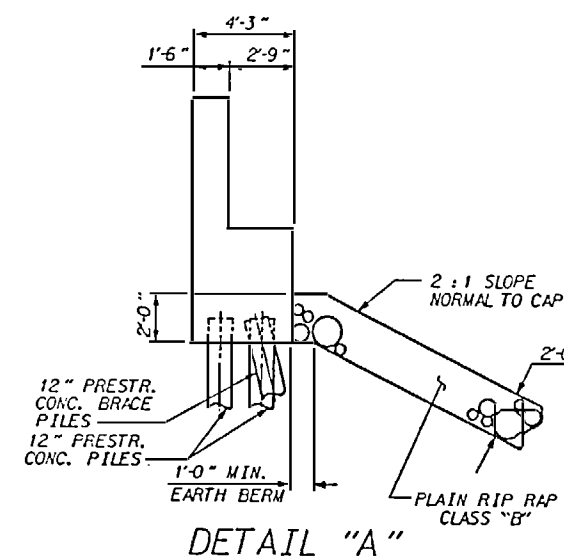
F. A. PROJECT No. NHF-17(22)



PART SECTION ALONG C-L-
BENTS ON SECTION AT RIGHT ANGLES TO BENTS



PART PLAN



PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

SHEET 1 OF 9

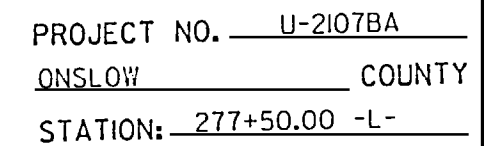
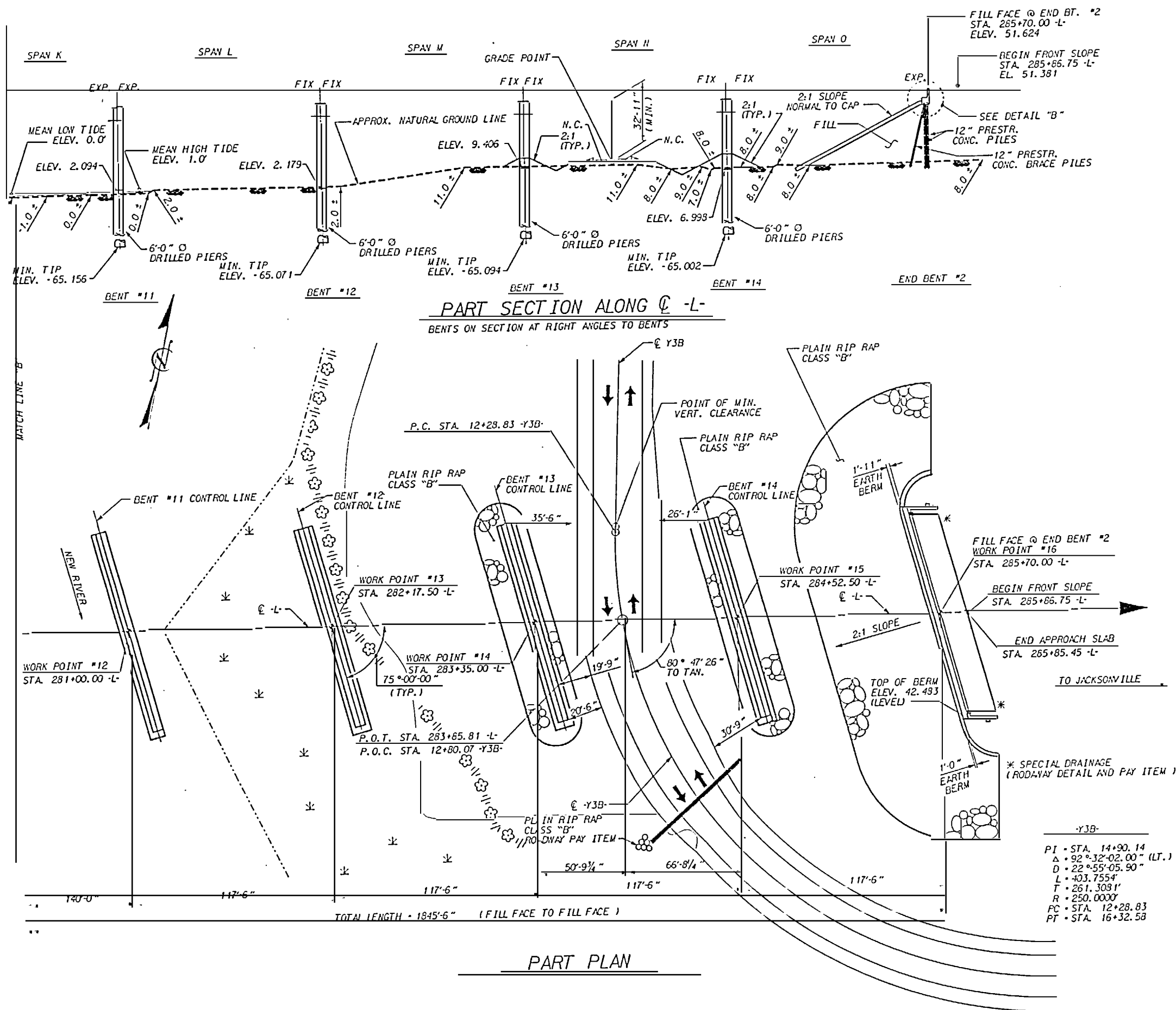
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR
BRIDGE ON PROPOSED
US 17 OVER NEW RIVER



AN BY: D. M. R. II DATE: 2/22/96
RED BY: J. N. CARROLL DATE: 1/14/97

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-1
2			4			
TOTAL SHEETS						170

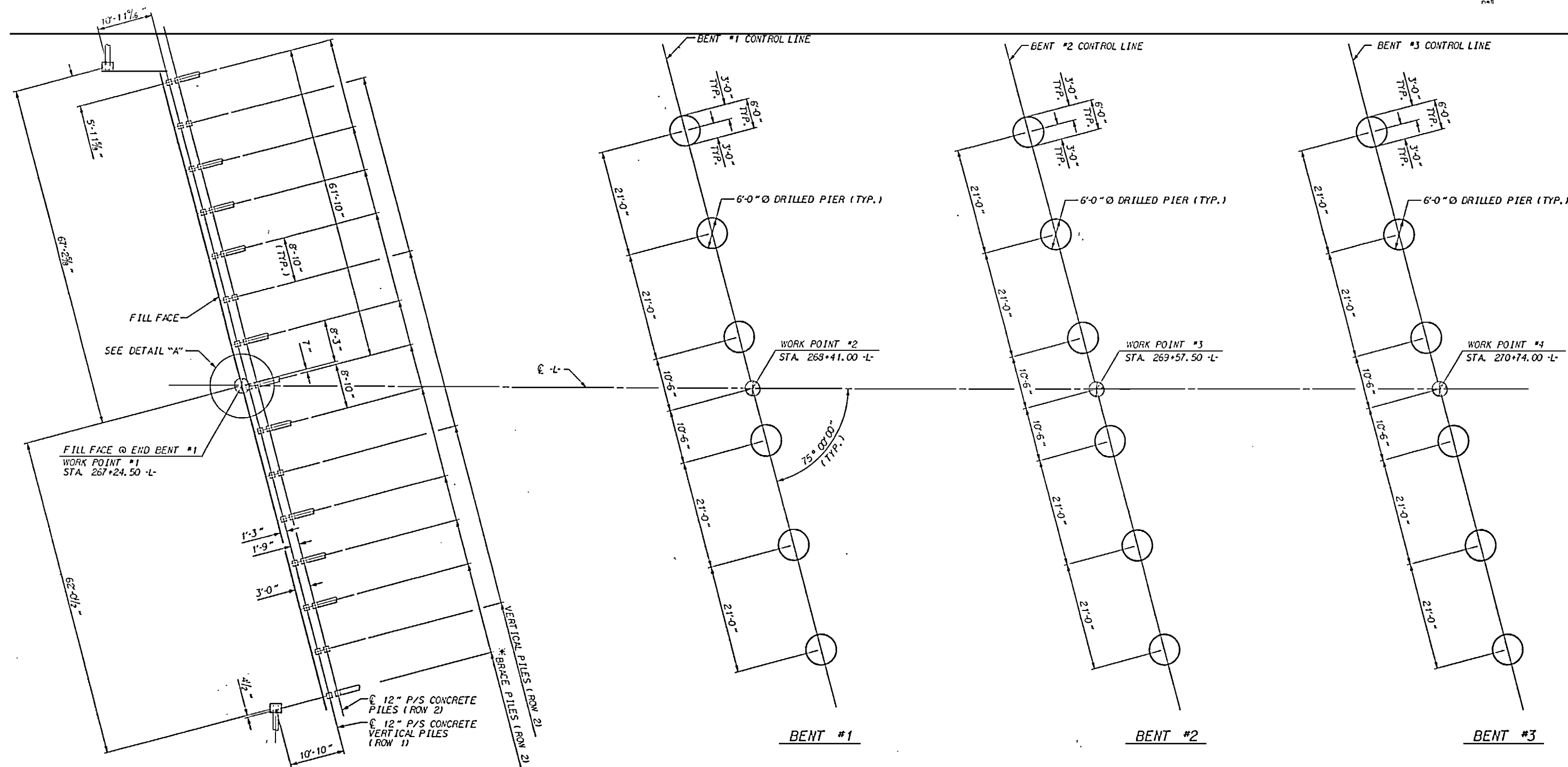


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

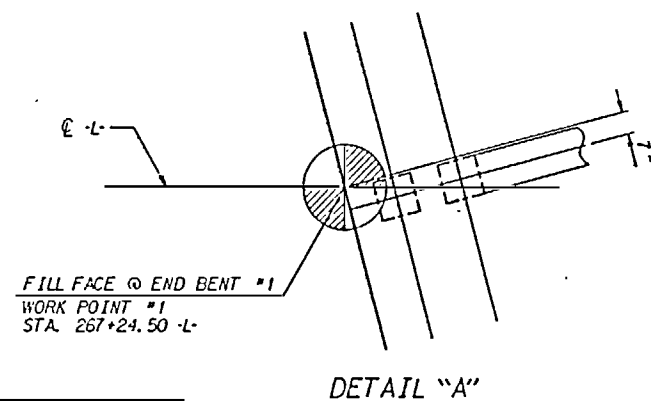
GENERAL DRAWING FOR
BRIDGE ON PROPOSED
US 17 OVER NEW RIVER

REVISIONS						SHEET NO. S-3
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

SHEET NO.	S-3
TOTAL SHEETS	170



END BENT #1

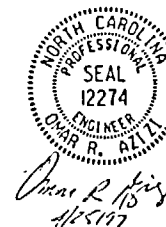


FOUNDATION LAYOUT

* PILES ARE TO BE BATTERED AT 3:12 BATTER
DIMENSIONS LOCATED IN PILES ARE SHOWN TO THE PILE CENTERLINE

PROJECT NO. U-2107BA
ONslow COUNTY
STATION: 277+50.00 -L

SHEET 4 OF 9



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR
BRIDGE ON PROPOSED
US 17 OVER NEW RIVER

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

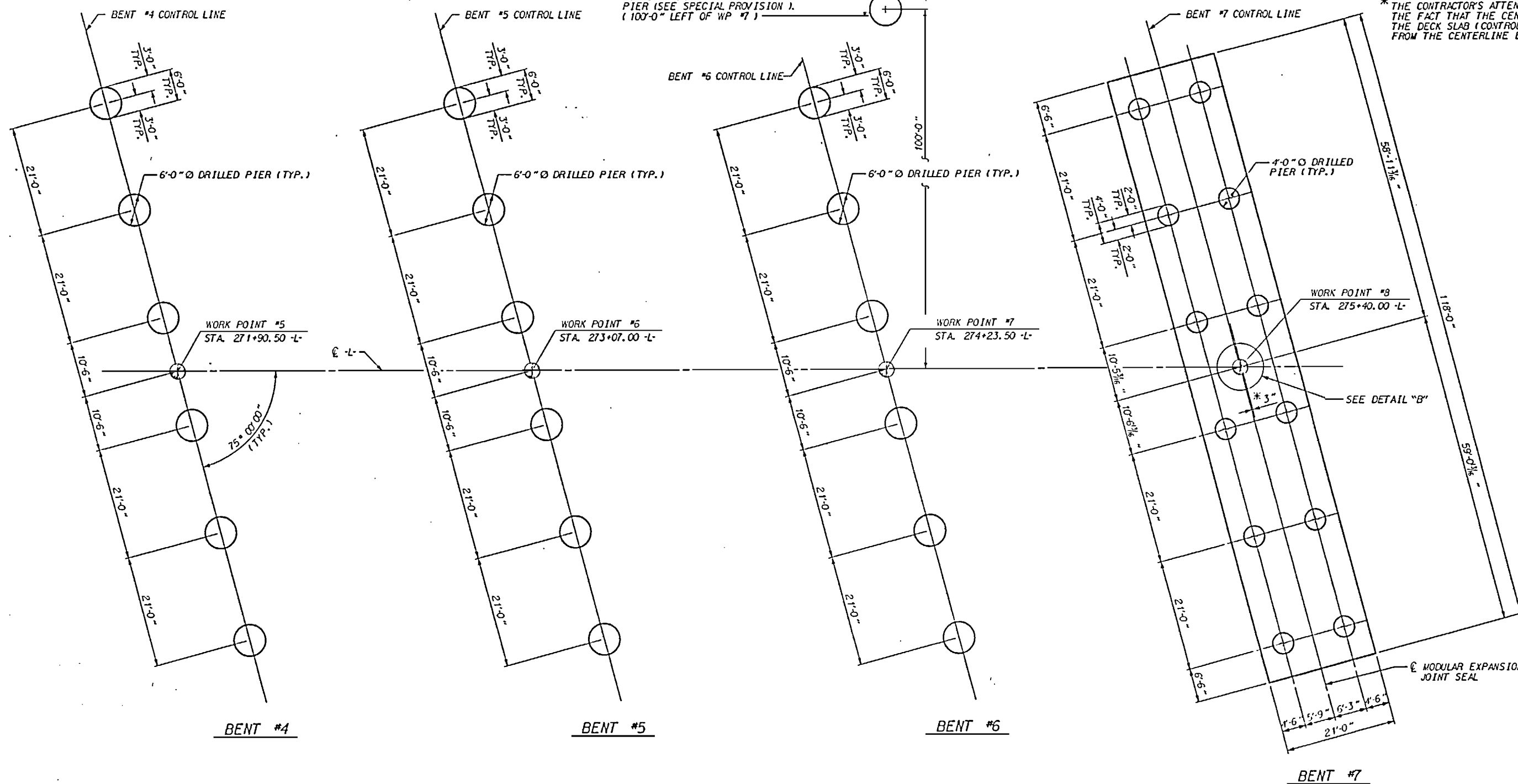
TOTAL SHEETS: 170

APPROVED BY: THRO CARROLL DATE: 12/12/96
DATE: 1/14/97

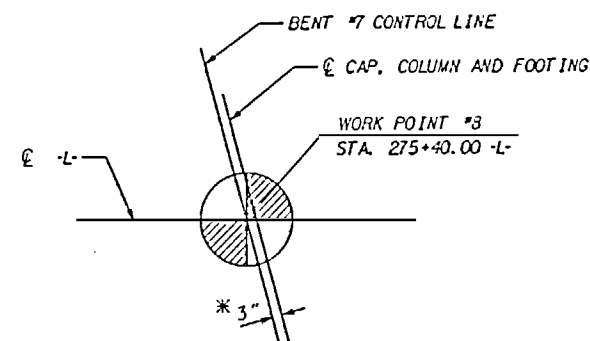
~~LOCATION OF AXIAL COMPRESSIVE LOAD TEST
FOR 6'-0" DIAMETER DEMONSTRATION DRILLED
PIER (SEE SPECIAL PROVISION).
(100'-0" LEFT OF WP #7)~~

— NOTE —

* THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE CENTERLINE JOINT IN THE DECK SLAB (CONTROL LINE) IS OFFSET FROM THE CENTERLINE BENT.



FOUNDATION LAYOUT



DETAIL "B"

PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L

SHEET 5 OF 9

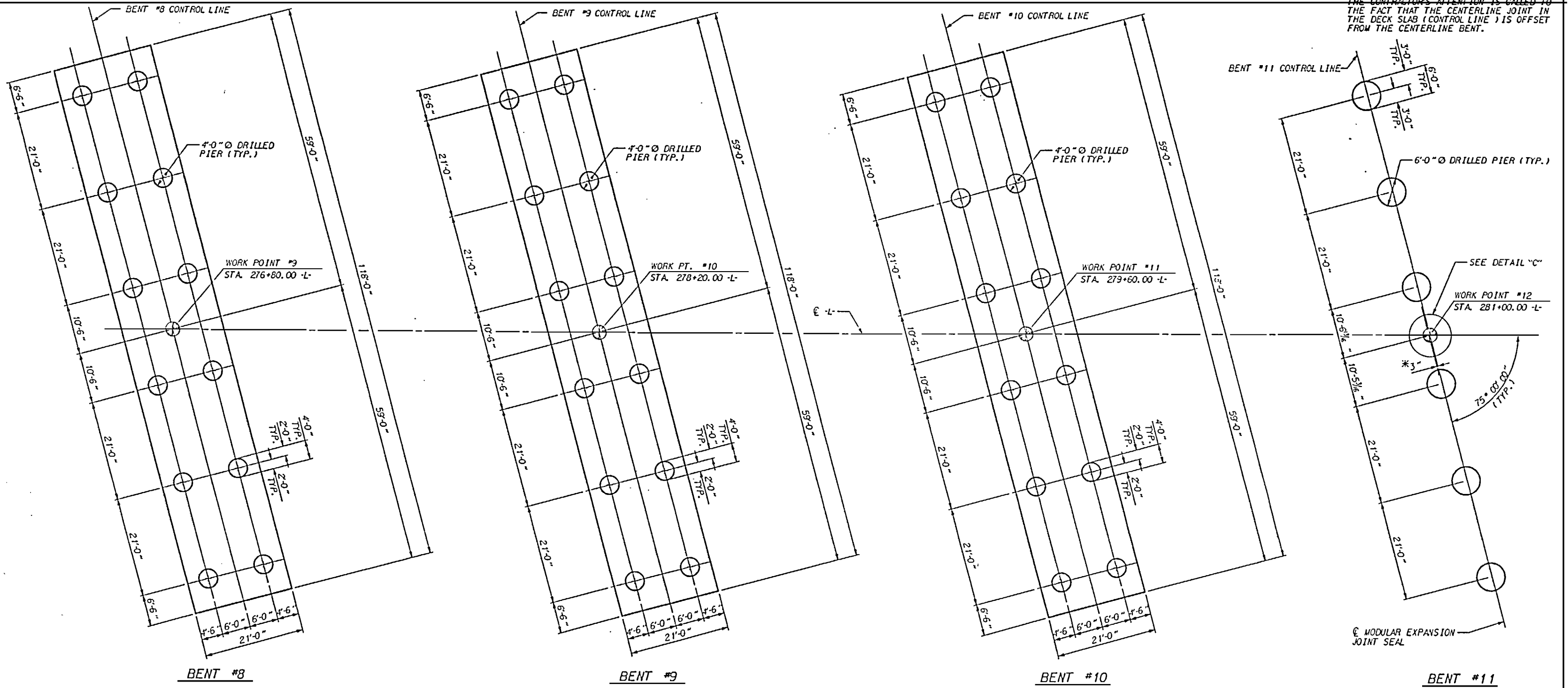
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR
BRIDGE ON PROPOSED
US 17 OVER NEW RIVER

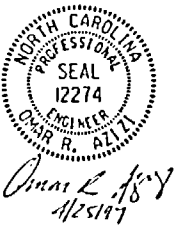
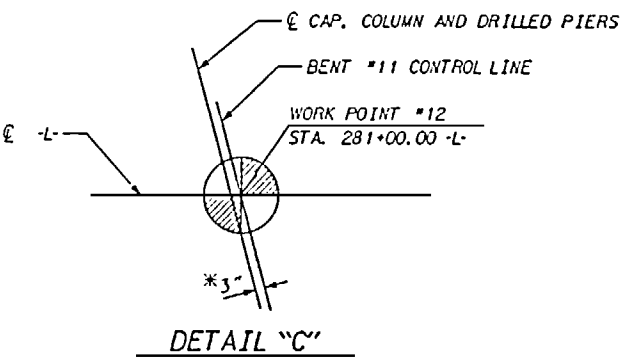
REVISIONS						SHEET NO. S-5
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

AN BY : Jul M. Ruffa DATE : 12/12/96
 PREP BY : THAO CARROLL DATE : 1/14/97

NOTE
* THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE CENTERLINE JOINT IN THE DECK SLAB (CONTROL LINE) IS OFFSET FROM THE CENTERLINE BENT.



FOUNDATION LAYOUT

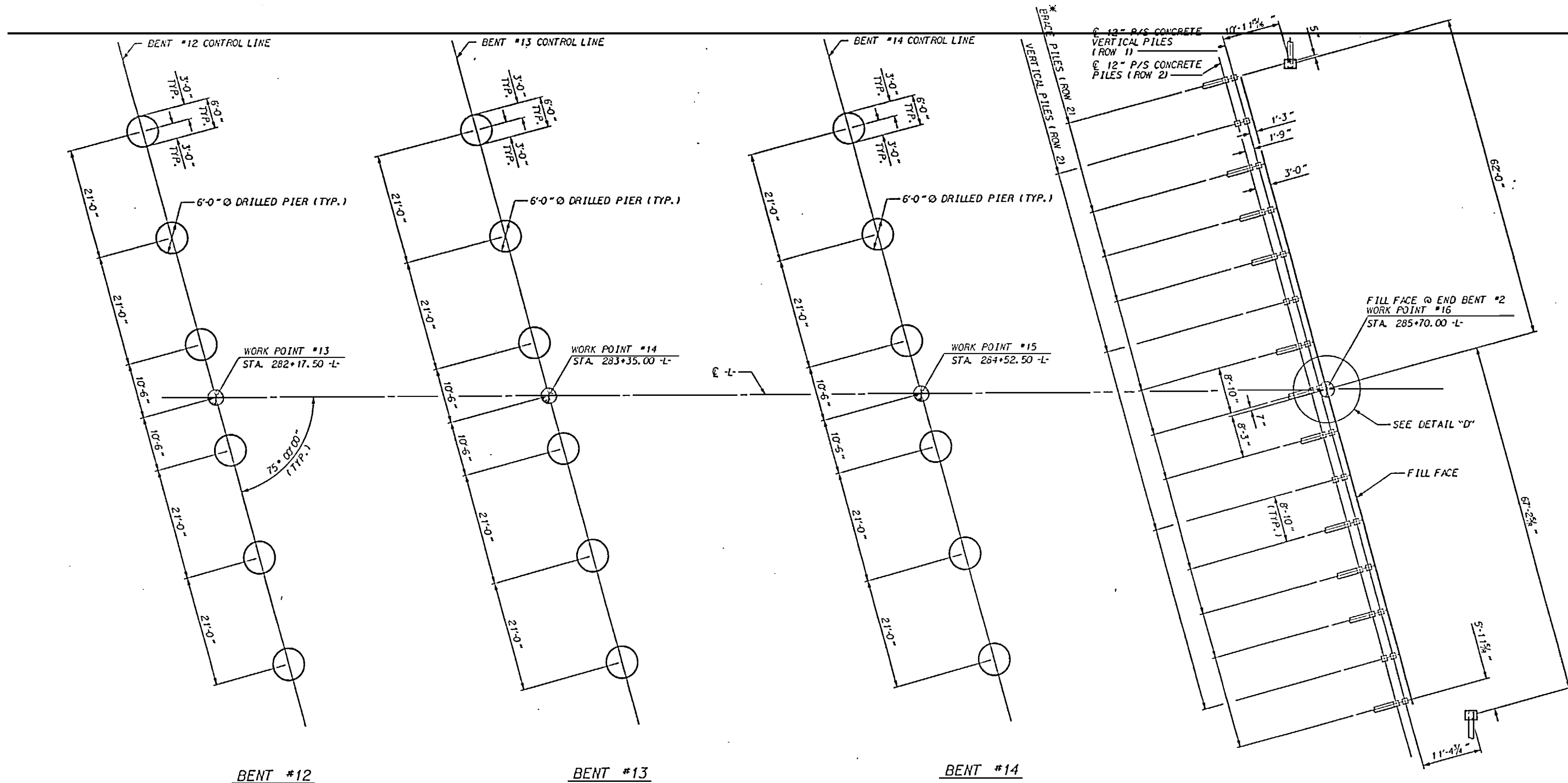


PROJECT NO. U-2107BA
ONslow COUNTY
STATION: 277+50.00 -L
SHEET 6 OF 9

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING FOR
BRIDGE ON PROPOSED
US 17 OVER NEW RIVER

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-6
2			4			TOTAL SHEETS 170

Wn BY: U. M. K. /a DATE: 12/12/96
Ckd BY: THAO CARRON DATE: 1/14/97



BENT #12

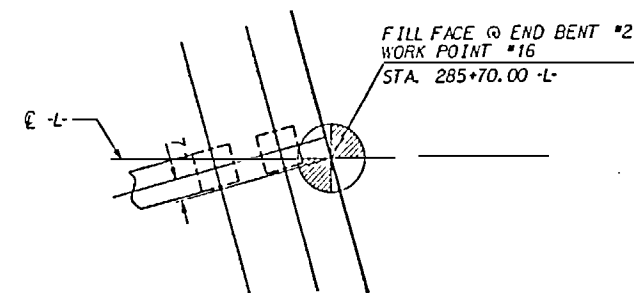
BENT #13

BENT #14

END BENT #2

FOUNDATION LAYOUT

* PILES ARE TO BE BATTERED AT 3:12 BATTER
DIMENSIONS LOCATED IN PILES ARE SHOWN TO THE PILE CENTERLINE



DETAIL "D"

PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L

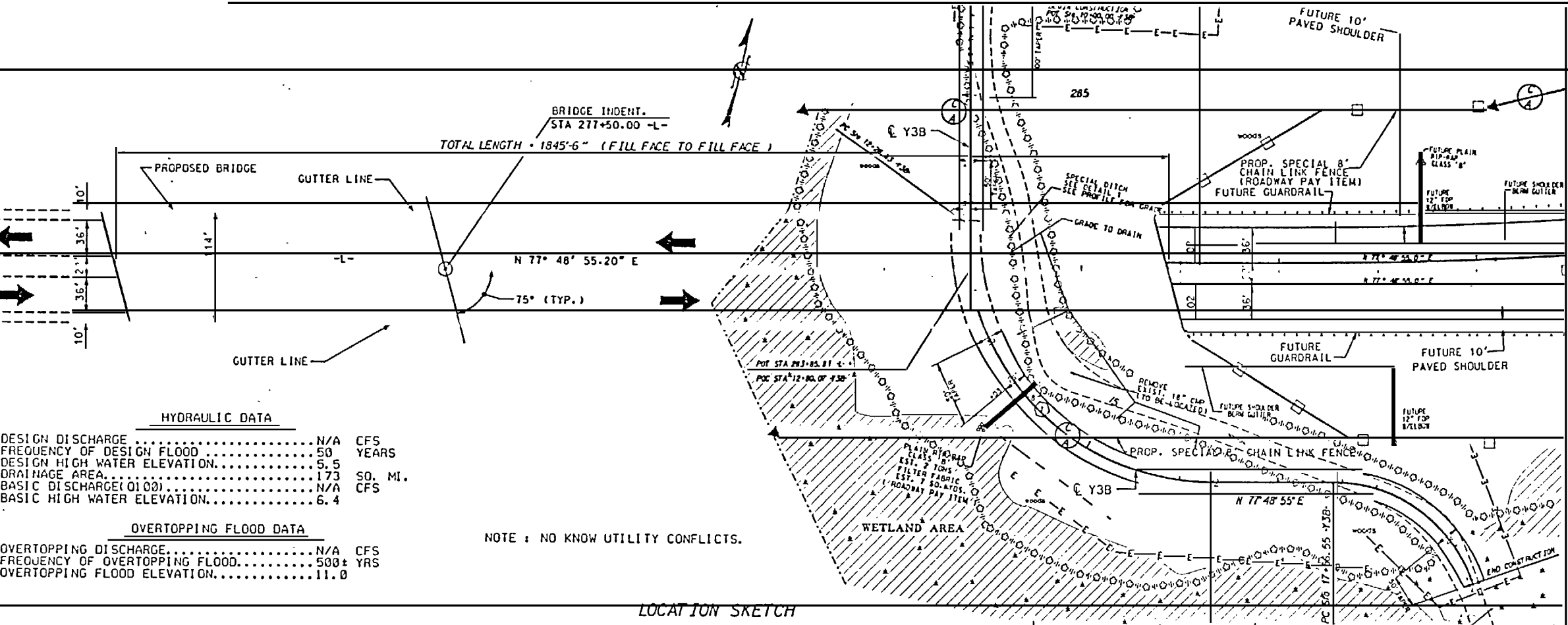
SHEET 7 OF 9

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR
BRIDGE ON PROPOSED
US 17 OVER NEW RIVER

REVISIONS						SHEET NO. S-7 TOTAL SHEETS 170
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

WON BY: 11/11/97 DATE: 12/12/95
CREO BY: THAO CASHO DATE: 12/14/97



--- NOTES ---

FOR SECURING OF VESSELS, SEE SPECIAL PROVISIONS.

FOR WORK IN, OVER, OR ADJACENT TO NAVIGABLE WATER, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMS OVER OR ADJACENT TO TRAFFIC, SEE SPECIAL PROVISIONS.

"FALSEWORK AND FORMS OVER OR ADJACENT TO TRAFFIC" SPECIAL PROVISION SHALL APPLY TO CONSTRUCTION OVER THE NAVIGATIONAL CHANNEL, SPAN 1, AND OVER TANK TRAIL.

THE WATER/CEMENT RATIO FOR PRESTRESSED CONCRETE PILES SHALL NOT EXCEED 0.40.

THIS STRUCTURE CONTAINS THE NECESSARY CORROSION PROTECTION REQUIRED FOR A STRUCTURE IN A HIGHLY CORROSIVE AREA.

ALL REINFORCING STEEL SHALL BE GRADE 60.

ALL REINFORCING STEEL IN CAST-IN-PLACE CONCRETE SHALL BE EPOXY COATED.

FOR FABRICATED METAL STAY-IN-PLACE FORMS, SEE SPECIAL PROVISIONS.

FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE THIRTY INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO THIRTY INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

FOR EXPANSION JOINT SEAL, SEE SPECIAL PROVISIONS.

FOR MODULAR EXPANSION JOINT SEAL, SEE SPECIAL PROVISIONS.

FOR TIMBER FENDER BOARDS AT CHANNEL BENTS, SEE SPECIAL PROVISIONS.

THE CONCRETE USED IN THE BRIDGE RAILS, MEDIAN BARRIER, APPROACH SLAB, AND SUBSTRUCTURE (EXCLUDING PRECAST PILES) SHALL BE CLASS AA CONCRETE, NORMALWEIGHT, AS PER THE STANDARD SPECIFICATIONS.

FOR NEW RIVER NAVIGATIONAL AND AIRCRAFT WARNING LIGHTING SYSTEM, SEE SPECIAL PROVISIONS.

FOR CONCRETE MEDIAN BARRIER, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC BEARING, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

FOR THE 72" PRESTRESSED CONCRETE GIRDER, SEE SPECIAL PROVISIONS.

FOR THE 63" PRESTRESSED CONCRETE GIRDER, SEE SPECIAL PROVISIONS.

TURBIDITY CURTAIN WILL BE REQUIRED AT ALL DRILLED PIERS AND TEMPORARY WORK BRIDGES LOCATED IN THE WATER, SEE SPECIAL PROVISION FOR "FLOATING TURBIDITY CURTAIN".

FOR REINFORCED BRIDGE APPROACH FILLS, SEE SPECIAL PROVISIONS.

PERMANENT STEEL CASING IS REQUIRED FOR BENT #1 THROUGH BENT #14 AND DEMO DRILLED PIER, AND PERMANENT STEEL CASING SHOULD EXTEND TO THE ELEVATIONS LISTED BELOW:

BENT NO.	ELEVATIONS (FEET)
1 - 4	- 22.000
5, 7	- 24.000
6 - DEMO D.P.	- 22.000
8	- 28.000
9	- 24.000
10 - 14	- 21.000

PROJECT NO. U-2107BA

ONSLow COUNTY

STATION: 277+50.00 -L-

SHEET 8 OF 9

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR
BRIDGE ON PROPOSED
US 17 OVER NEW RIVER

REVISIONS

NO.	DATE	BY	DATE	BY
1				
2				

SHEET NO. S-8
TOTAL SHEETS 170

--- NOTES ---

ASSUMED LIVE LOAD = HS 25-44 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES" FOR SEISMIC PERFORMANCE CATEGORY A.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH AASHTO'S GUIDE SPECIFICATIONS AND COMMENTARY FOR VESSEL COLLISION DESIGN OF HIGHWAY BRIDGES. USING CRITICAL IMPORTANCE CLASSIFICATION METHOD 1 CRITERIA, VESSEL DESIGN FORCES FOR BENT 6 THROUGH 11 ARE AS FOLLOWS:

BENT NO.	* TRANSVERSE FORCE (PERPENDICULAR TO -L-)	* LONGITUDINAL FORCE (PARALLEL TO -L-)	APPLIED @ ELEV.
6	361.57	180.79	13.800
7	616.72	308.36	13.800
8	1010.40	505.20	13.800
9	1010.40	505.20	13.800
10	616.72	308.36	13.800
11	318.21	159.11	13.800

* THESE FORCES ARE NOT APPLIED SIMULTANEOUSLY.

DESIGN WIND VELOCITY = 120 MPH.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET S-N.

PILES FOR END BENT #1 & #2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS EACH.

PILE INTEGRITY TESTING (P.I.T.) WILL BE PERFORMED ON EACH DRILLED PIER.

FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.

FOR MASS CONCRETE, SEE SPECIAL PROVISIONS (APPLIES TO FOOTING POURS AT BENT #7 THRU #10).

FOR REINFORCED CONCRETE DECK SLAB, SEE SPECIAL PROVISIONS. "REINFORCED CONCRETE DECK SLAB (SAND-LIGHTWEIGHT CONCRETE)".

FOR SAND-LIGHTWEIGHT CONCRETE, SEE SPECIAL PROVISIONS.

FOR CURING BRIDGE DECK SLAB, SEE THE SPECIAL PROVISIONS "REINFORCED CONCRETE DECK SLAB (SAND-LIGHTWEIGHT CONCRETE)".

FOR MAINTENANCE OF WATER TRAFFIC, SEE SPECIAL PROVISIONS.

FOR CALCIUM NITRITE CORROSION INHIBITOR, SEE SPECIAL PROVISION.

FOR "SOLAR ARRAY SUPPORT PLATFORM/CHAIN LINK FENCE", SEE SPECIAL PROVISIONS.

DRAWN BY: J. M. R. DATE: 7/15/96
CHECKED BY: T. N. CASELL DATE: 12/14/97

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGE", APRIL, 1993. THE SCOUR CRITICAL ELEVATIONS SHOWN IN THIS TABLE ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THIS STRUCTURE.

BENT NO.	MIN. TIP EL. BOTTOM OF SHAFT	SCOUR CRITICAL ELEVATION
1	- 60.112	- 25.000
2	- 60.140	- 25.000
3	- 60.217	- 25.000
4	- 60.171	- 25.000
5	- 60.253	- 25.000
6	- 60.253	- 25.000
7	- 74.423	- 30.000
8	- 74.449	- 30.000
9	- 74.496	- 30.000
10	- 74.338	- 25.000
11	- 65.156	- 25.000
12	- 65.071	- 25.000
13	- 65.094	- 25.000
14	- 65.002	- 25.000

DRILLED PIERS SHALL BE CONSTRUCTED TO A MINIMUM TIP ELEVATION AS SHOWN BELOW.

BENT NO.	MIN. TIP EL. BOTTOM OF SHAFT	DESIGN CAPACITY (TONS)
1	- 60.112	625
2	- 60.140	625
3	- 60.217	600
4	- 60.171	600
5	- 60.253	600
6	- 60.253	640
7	- 74.423	530
8	- 74.449	530
9	- 74.496	530
10	- 74.338	530
11	- 65.156	740
12	- 65.071	660
13	- 65.094	660
14	- 65.002	660

AN AXIAL COMPRESSIVE LOAD TEST SHALL BE CONDUCTED ON A DEMONSTRATION DRILLED PIER AT THE FOLLOWING LOCATION:

BENT NO.	DRILLED PIER SIZE	DESIGN CAPACITY
6 (100 FT. LEFT)	6'-0" DIA.	640 TONS

FOR LOAD TEST REQUIREMENTS, SEE SPECIAL PROVISION FOR AXIAL COMPRESSIVE LOAD TESTING OF DRILLED PIER.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.

FOR DRILLED PIER SLURRY, SEE SPECIAL PROVISIONS FOR DRILLED PIERS.

TOTAL BILL OF MATERIAL

TOTAL BILL OF MATERIAL																								
	MOBILIZATION	REINFORCED CONCRETE DECK SLAB (SAND-LIGHTWEIGHT CONCRETE)	GROOVING BRIDGE FLOORS	CLASS AA CONCRETE	BRIDGE APPROACH SLABS	EPOXY COATED REINFORCING STEEL	12" PRESTRESSED CONCRETE PILES	2" DIA GALVANIZED STEEL PIPE RAIL	CONCRETE BARRIER RAIL	CONCRETE MEDIUM BARRIER	PLAIN RIP RAP CLASS B	ELASTOMERIC BEARINGS	EXPANSION JOINT SEALS	MODULAR EXPANSION JOINT SEALS	EPOXY COATED SPIRAL COLUMN REINFORCING STEEL	6'-0" DIA. DRILLED PIERS	4'-0" DIA. DRILLED PIERS	63" PRESTRESSED CONCRETE GIRDERS	72" PRESTRESSED CONCRETE GIRDERS	TIMBER FENDER BOARDS AT CHANNEL BENTS	AXIAL COMPRESSIVE LOAD TEST 6'-0" DIA DRILLED PIER			
	LUMP SUM	SOFT.	SOFT.	CUYDS.	LUMP SUM	LBS.	NO.	LINFT.	LINFT.	LIN.FT.	LIN.FT.	TON	LUMP SUM	LUMP SUM	LUMP SUM	LBS.	LIN.FT.	LIN.FT.	NO.	LINFT.	NO.	LINFT.	LUMP SUM	EACH
SUPERSTRUCTURE	LUMP SUM	215,579	194,619		LUMP SUM				3,694.8	1,878	1,370	LUMP SUM	LUMP SUM	LUMP SUM				121	13,941.2	60	8,330.0	LUMP SUM	EACH	
END BENT NO.1				144.2		16,962	32	1,600																
BENT NO.1				297.1		119,124			255.0							20,747	373.5							
BENT NO.2				315.0		121,054			255.0															
BENT NO.3				321.3		121,463			132.5							21,621	373.5							
BENT NO.4				344.4		125,346			255.0							22,433	373.5							
BENT NO.5				356.3		127,128			255.0							23,120	373.5							
BENT NO.6																23,745	373.5							
BENT NO.7				365.5		128,559			255.0															
BENT NO.8				Δ 1,069.4		246,069			132.5							24,244	373.5							
BENT NO.9				1,077.1		253,978			255.0									912.0						
BENT NO.9																								
BENT NO.9				1,081.0		248,779			255.0							28,994		972.0						
BENT NO.10				1,030.8		243,929			255.0							27,852		912.0						
BENT NO.11				Δ 378.9		135,514			132.5							27,914		912.0						
BENT NO.12				380.7		137,143			255.0							26,285	403.5							
BENT NO.13				338.4		137,295			255.0							26,285	403.5							
BENT NO.14				344.9		135,806			255.0			380				25,919	447.0							
DEMO.DRILLED PIER						12,397					1,210					25,584	432.0							
END BENT NO.2				137.1		16,953	32	2,000			2,410					27,34	70.0						1	
TOTAL	LUMP SUM	215,579	194,619	Δ 8,032.1	LUMP SUM	2,331,599	64	3,690	3,202.5	3,694.8	1,878	5,370	LUMP SUM	LUMP SUM	LUMP SUM	355,171	3,997.0	37,03.0	121	13,941.2	60	8,330.0	LUMP SUM	1

	SOLAR ARRAY SUPPORT PLATFORM/ CHAIN LINK FENCE	REINFORCED BRIDGE APPROACH FILL	CONSTRUCTION AND REMOVAL OF TEMPORARY ACCESS	CONSTRUCTION SURVEYING	6'-0" DIAMETER PERMANENT STEEL CASING	4'-0" DIAMETER PERMANENT STEEL CASING
	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.
SUPERSTRUCTURE	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM		
END BENT NO.1						
BENT NO.1					144.83	
BENT NO.2					144.66	
BENT NO.3					144.20	
BENT NO.4					144.47	
BENT NO.5					155.98	
BENT NO.6					144.26	
BENT NO.7						306.93
BENT NO.8						354.62
BENT NO.9						306.05
BENT NO.10						271.95
BENT NO.11					138.56	
BENT NO.12					139.07	
BENT NO.13					182.44	
BENT NO.14					167.99	
DEMO.DRILLED PIER					32.00	
END BENT NO.2						
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	1,538.46	1,239.55

DRAWN BY: William R. Allen DATE: 12/23/96
CHECKED BY: T. H. CARROLL DATE: 1/14/97

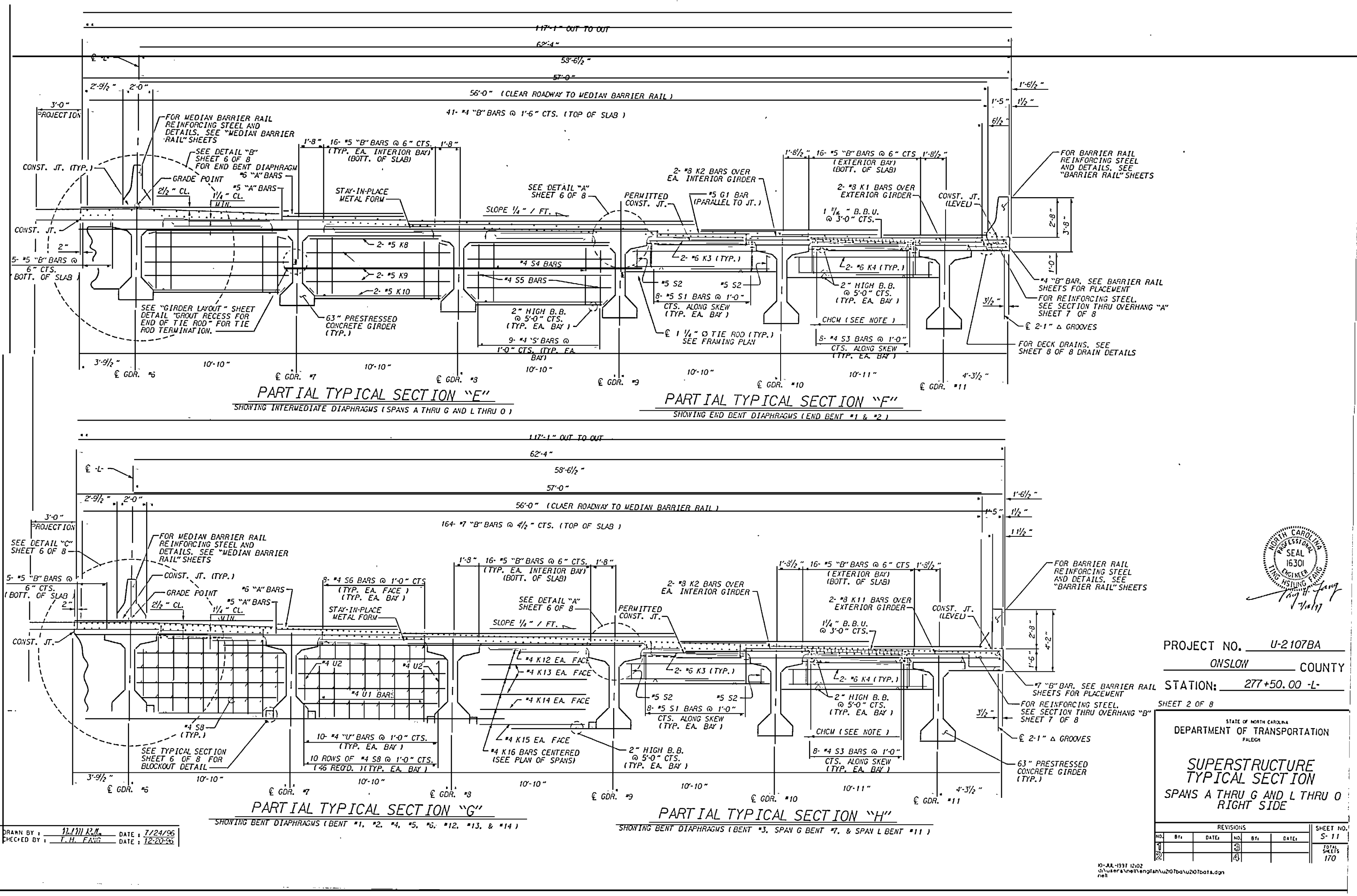
REV. #1: REVISED CONCRETE QUANTITIES FOR
BENT 7 AND 11 AND THE TOTAL
BY: NMR DATE: 10-9-98
CHECK BY: SDG DATE: 10-14-99

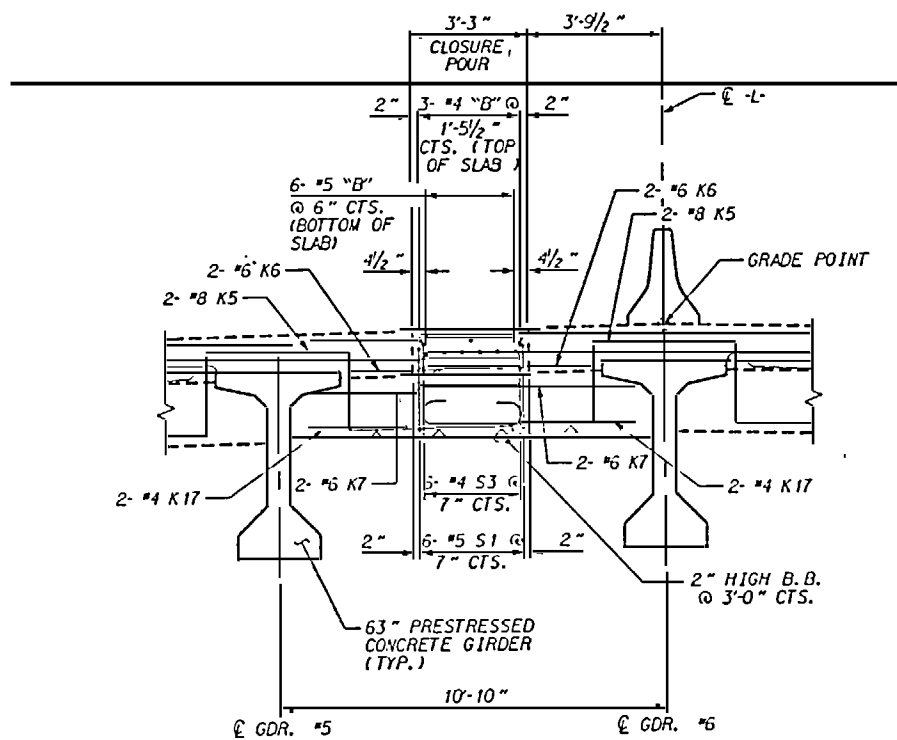


PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

SHEET 9 OF 9

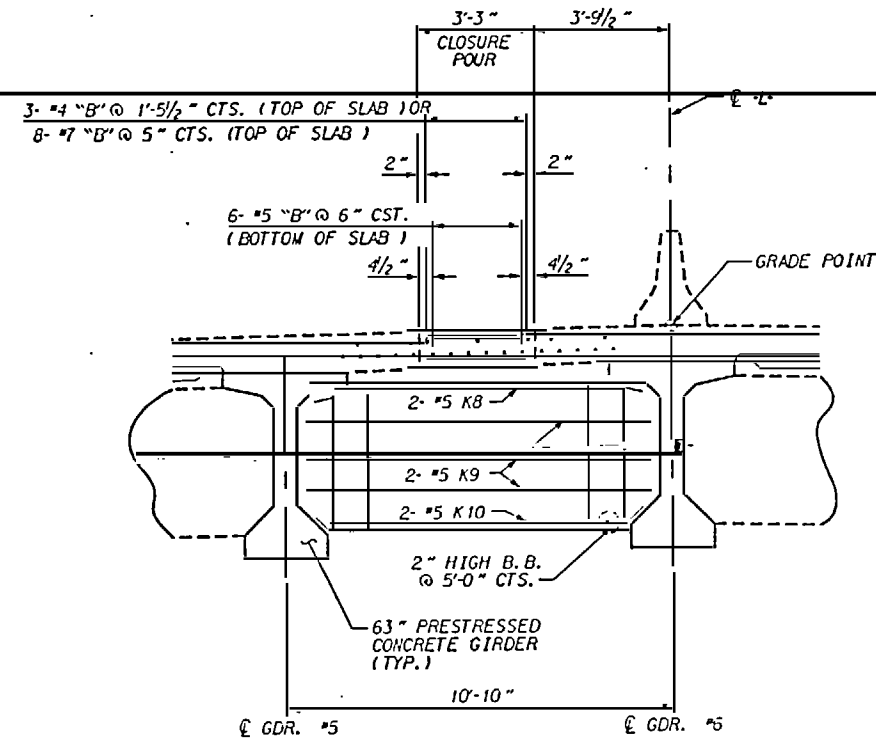
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
GENERAL DRAWING FOR BRIDGE ON PROPOSED US 17 OVER NEW RIVER					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	NMR	10-9-98	3		
2			4		
SHEET NO.					5-9
TOTAL SHEETS					170





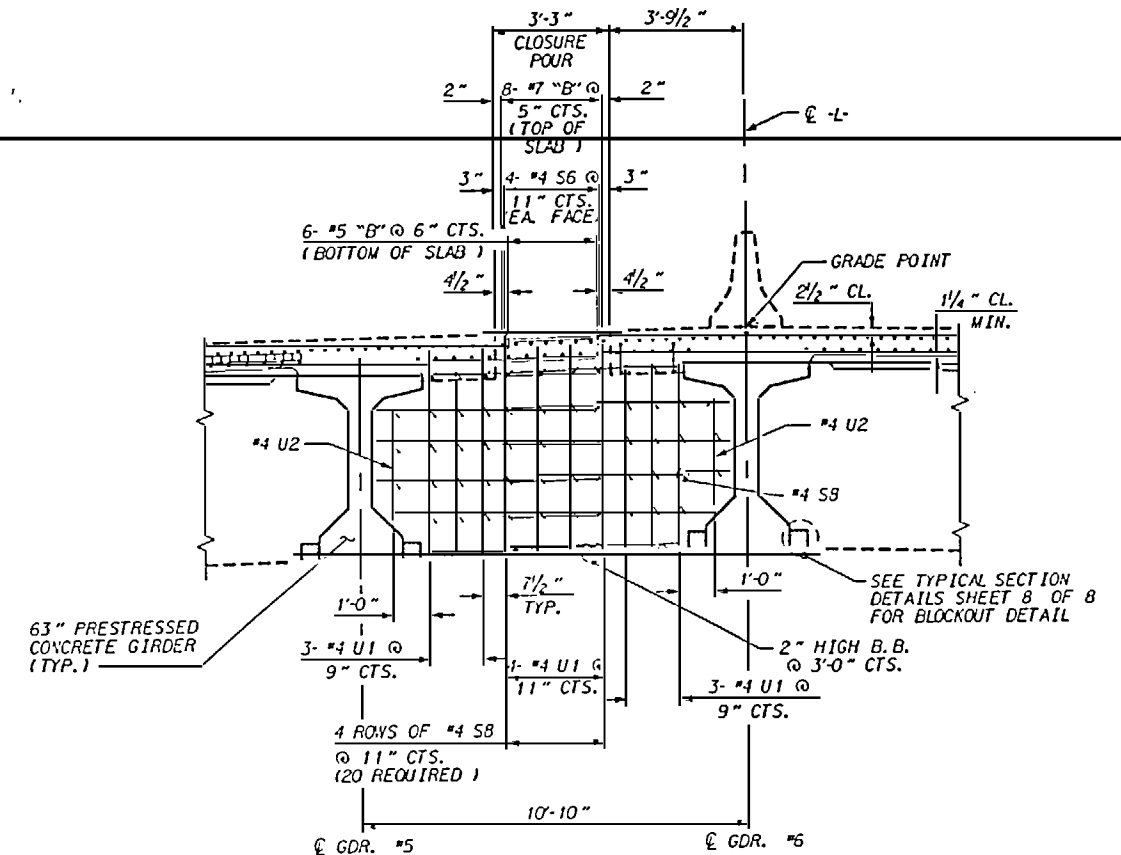
TYPICAL SECTION THRU CLOSURE POUR

SHOWING END BENT #1 & #2
DIAPHRAGMS FOR CLOSURE POUR



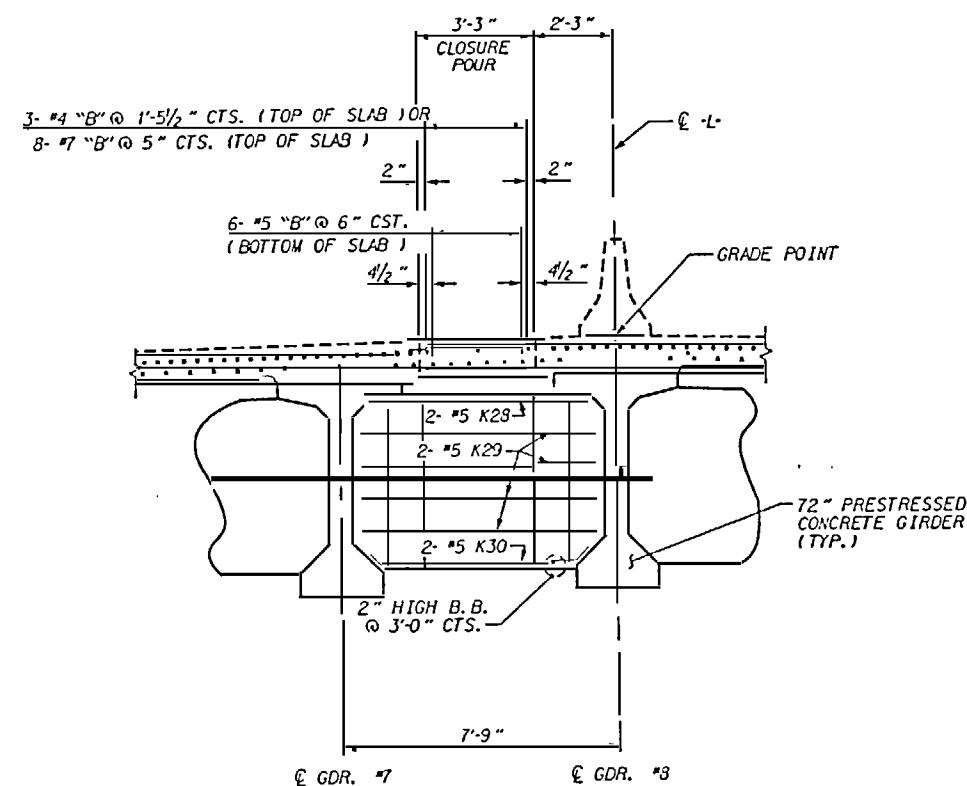
TYPICAL SECTION THRU CLOSURE POUR

SHOWING INTERMEDIATE DIAPHRAGMS
FOR CLOSURE POUR, SPANS A THRU
G AND SPANS L THRU O



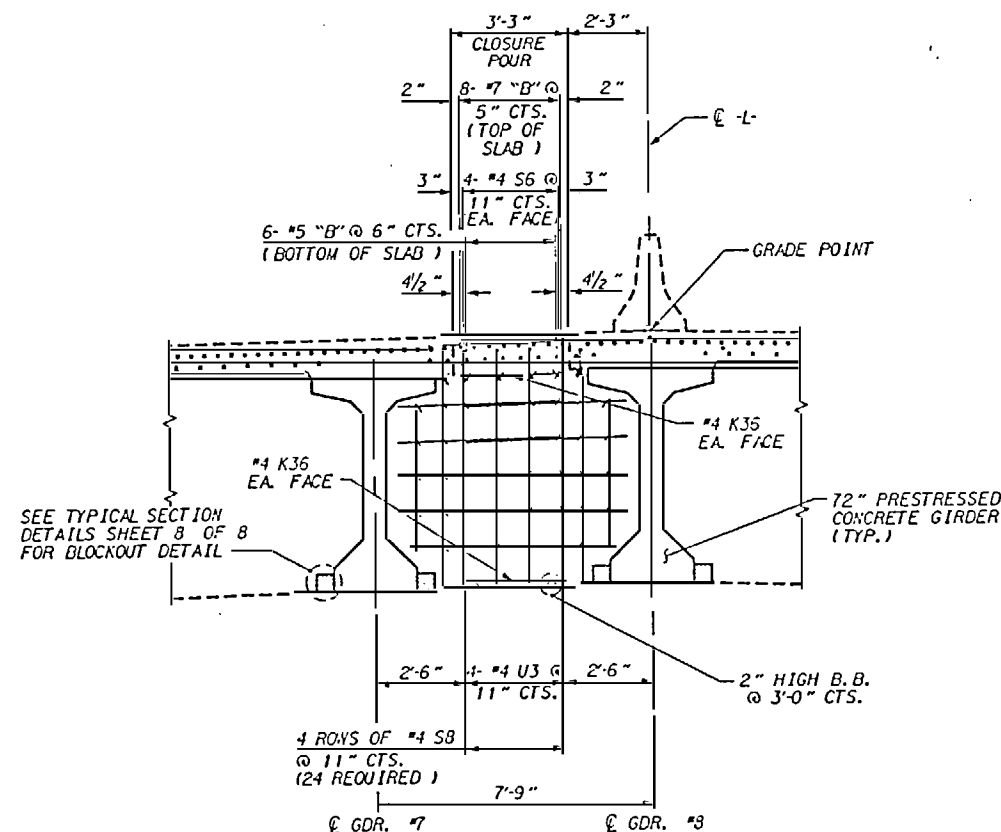
TYPICAL SECTION THRU CLOSURE POUR

SHOWING BENT #1, #2, #4, #5, #6, #12, #13, & #14
DIAPHRAGMS FOR CLOSURE POUR
ALSO SEE DETAIL "C", SHEET 6 OF 8 FOR MORE
DETAILS



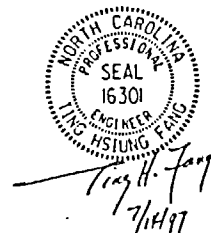
TYPICAL SECTION THRU CLOSURE POUR

SHOWING INTERMEDIATE DIAPHRAGMS
FOR CLOSURE POUR, SPANS H THRU K.
ALSO SEE PARTIAL TYPICAL SECTION "J" SHEET 3 OF 8.



TYPICAL SECTION THRU CLOSURE POUR

SHOWING BENT #3, #9, & #10
DIAPHRAGMS FOR CLOSURE POUR.
ALSO SEE DETAIL "D", SHEET 6 OF 8
FOR MORE DETAILS.



PROJECT NO. U-2107BA
ONslow COUNTY
STATION: 277+50.00 -L-

SHEET 5 OF 8

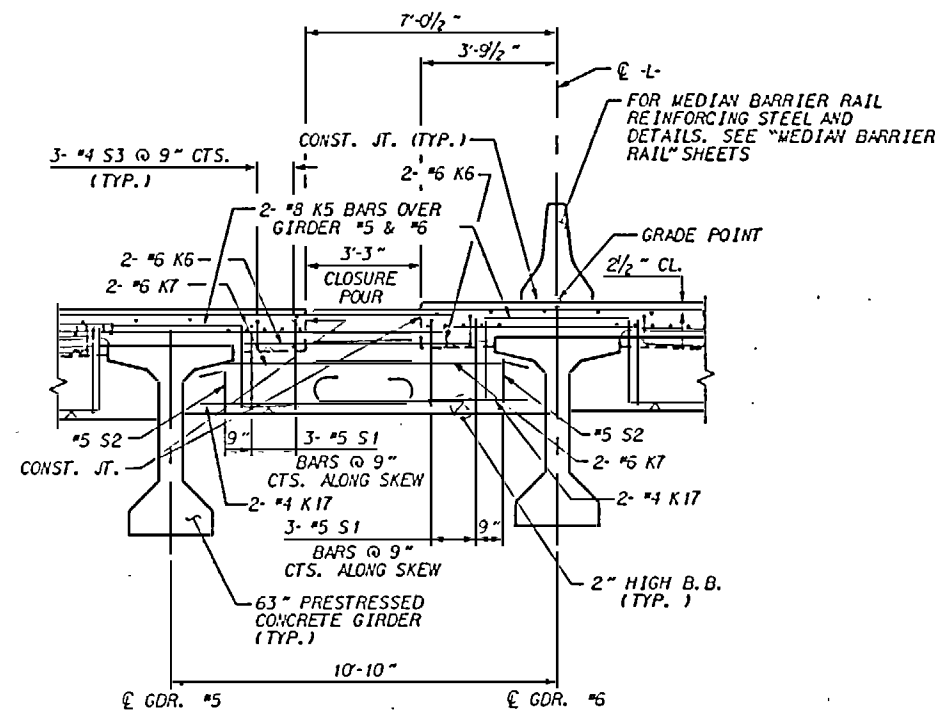
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
TYPICAL SECTION

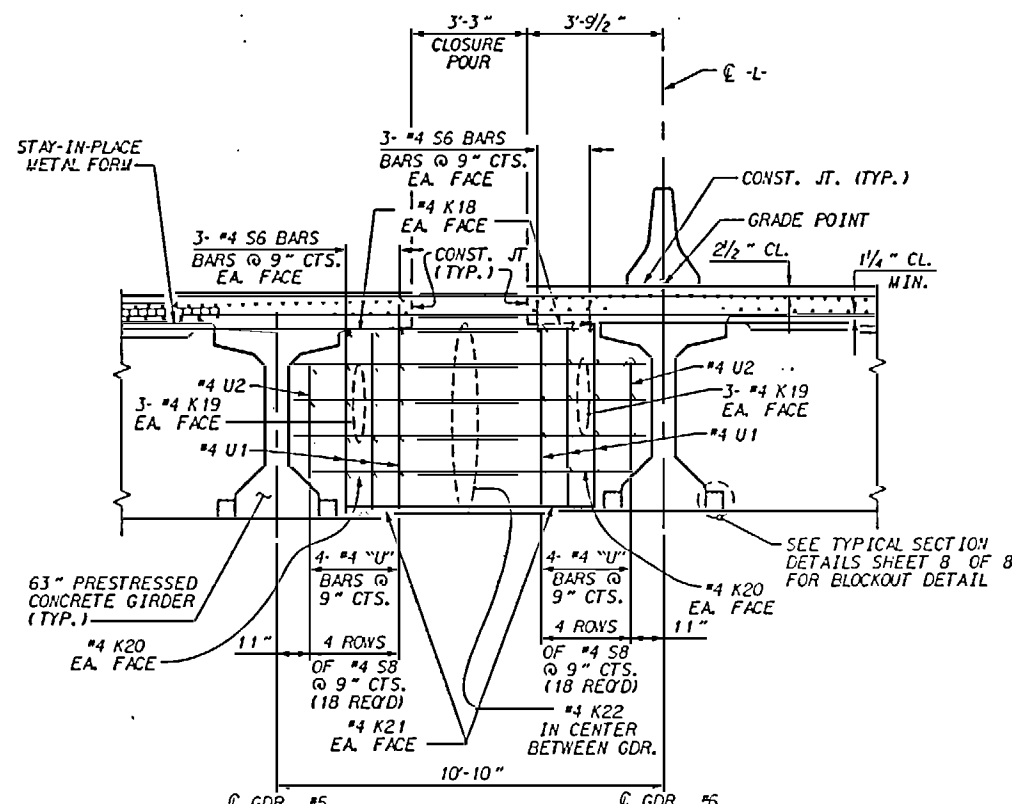
REVISIONS						SHEET NO. 5-14
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

AN BY: T.H. FASO DATE: 11/7/96
RED BY: T.H. FASO DATE: 12/20/96

10-AU-1997 12/02
dl:\user\neil\eng\shu\2107ba\2107ba1.s.dgn
neil

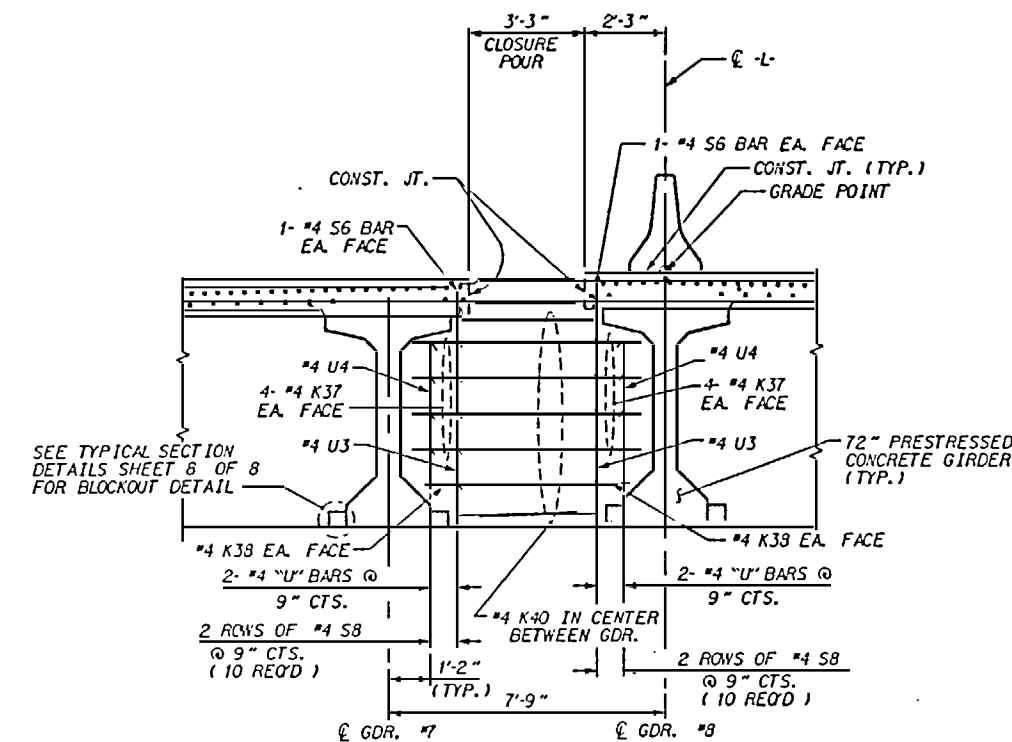


DETAIL "B"
SHOWING END BENT #1 & #2
DIAPHRAGMS AT CLOSURE POUR



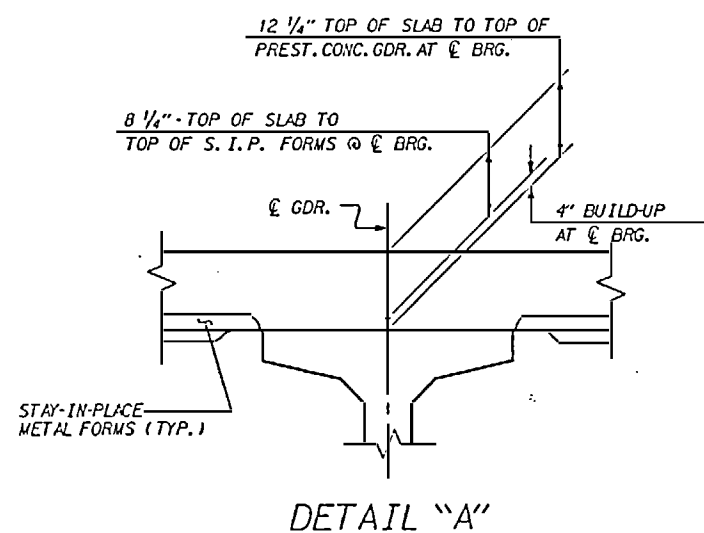
DETAIL "C"

SHOWING BENT #1, #2, #4, #5, #6,
#12, #13, & #14 DIAPHRAGMS AT
CLOSURE POUR

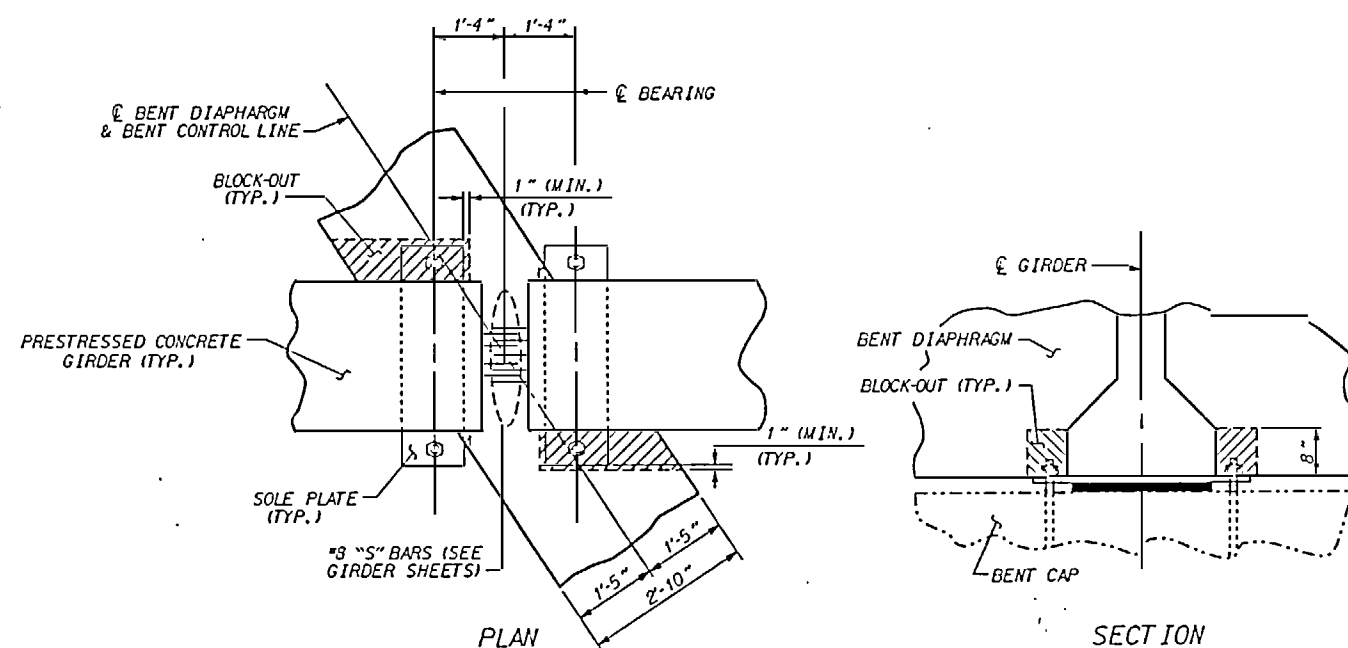


DETAIL "D"

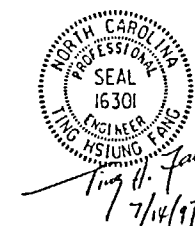
SHOWING BENT #3, #9, & #10
DIAPHRAGMS AT CLOSURE POUR



DETAIL "A"



BENT DIAPHRAGM BLOCK-OUT DETAIL



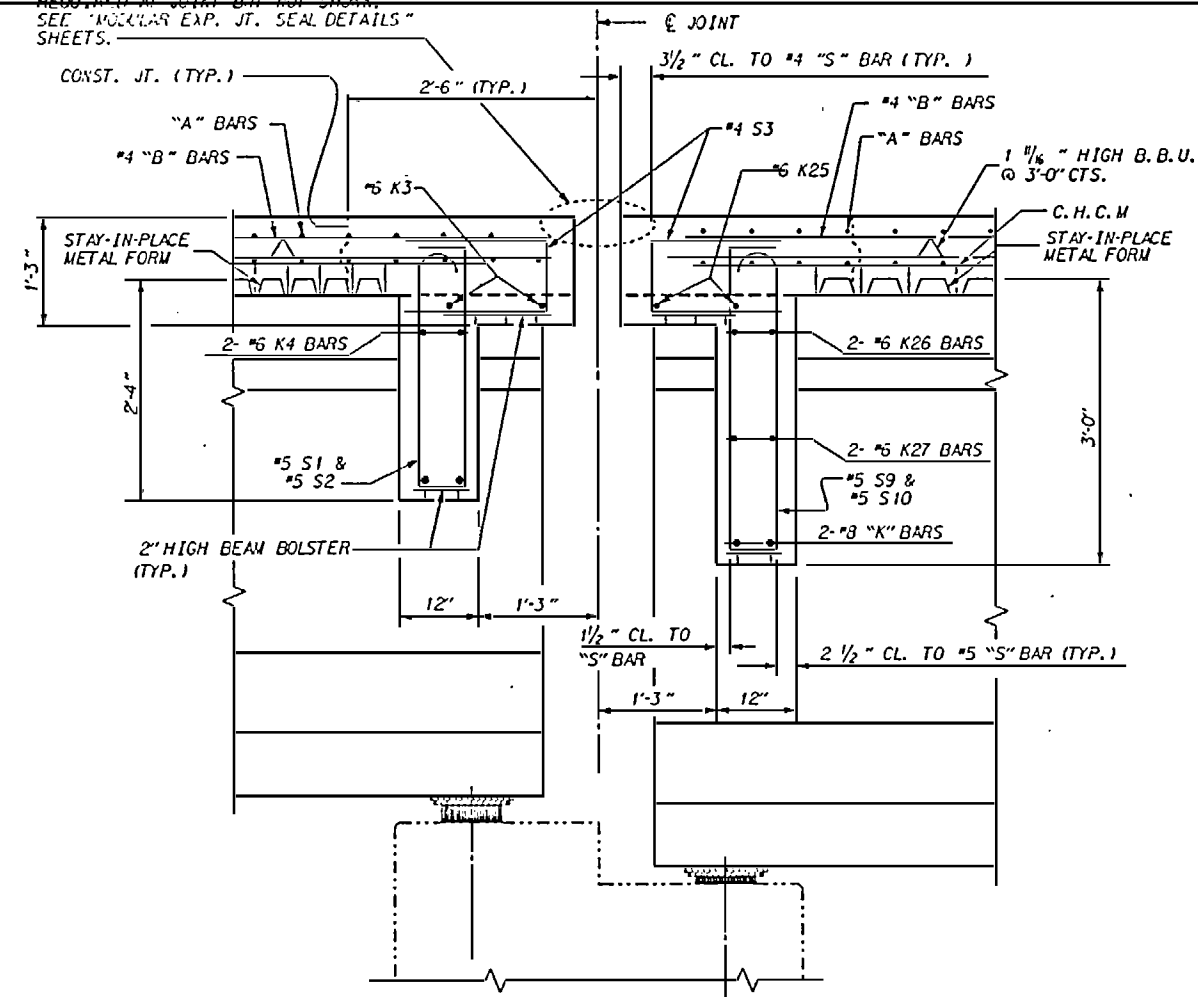
PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-
SHEET 6 OF 8

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-15
2			4			
TOTAL SHEETS						170

IN BY: T.H. FANG DATE: 10/24/96
RED BY: T.H. FANG DATE: 12-20-96

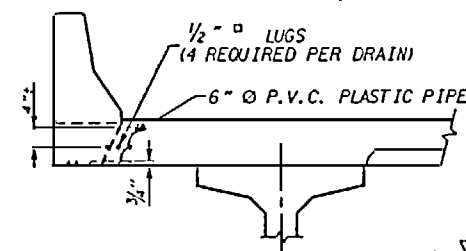
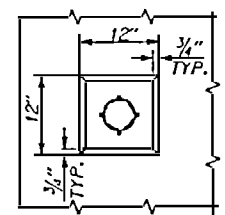
10-AS-1997 12-02
du:\user\an\eng\shu2107ba\2107ba1s.dgn

MODULAR EXPANSION JOINT SEAL IS
REQUIRED AT JOINT BUT NOT SHOWN.
SEE "MODULAR EXP. JT. SEAL DETAILS"
SHEETS.

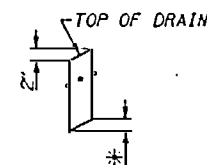


SECTION THRU BENT #7 OR #11 DIAPHRAGM

FOR SLAB AT BENT #7 AND #11 DECK POUR AT MODULAR EXPANSION JOINT
SEAL SHALL BE MADE IN ONE OPERATION FULL DECK WIDTH (117'-1").
NO LONGITUDINAL CLOSURE POUR PERMITTED.

ELEVATION

PLAN OF RECESS

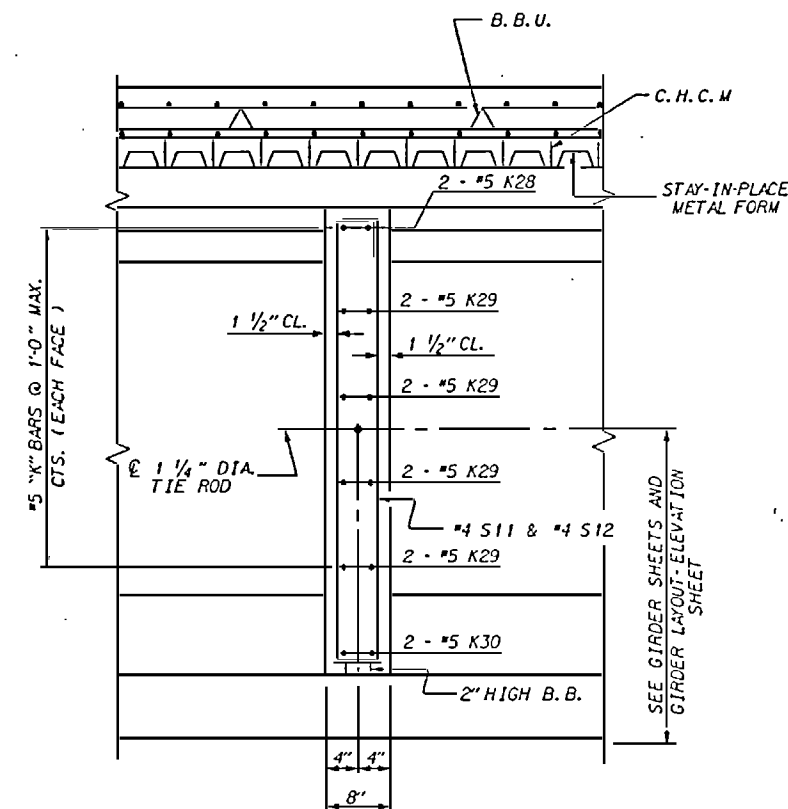


* TO BE SET TO MATCH SLOPE
OF BOTTOM OF OVERHANG
(DRAINS REQUIRED)

PIPE DETAIL

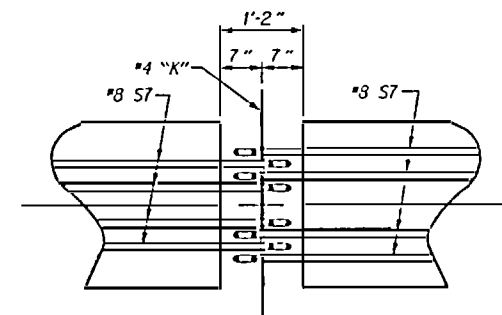
TOP OF FLOOR DRAINS TO BE SET $\frac{3}{8}$ "
BELOW SURFACE OF SLAB.
4 - $\frac{1}{2}$ " $\square$ LUGS TO BE GLUED TO THE P.V.C. PLASTIC
PIPE AT EQUAL SPACES AROUND THE PIPE DRAIN.

DRAIN DETAILS



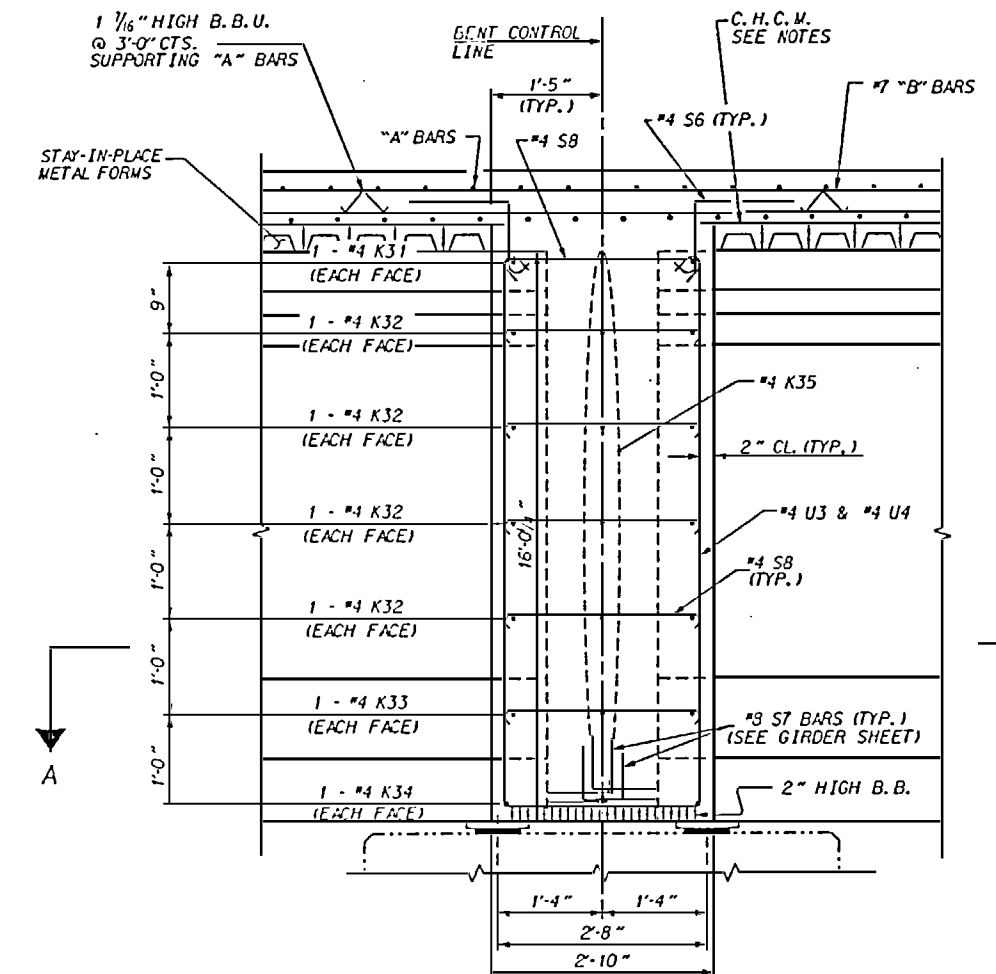
SECTION THRU INTERMEDIATE DIAPHRAGM

SHOWING INTERMEDIATE DIAPHRAGMS (SPANS H THRU K)



SECTION A-A

SEE SECTIONS AND ELEVATION VIEW ON GIRDER
SHEETS FOR SPACING OF #3 ST BAR.



SECTION THRU BENT DIAPHRAGM

FOR TYPE VI AASHTO PRESTRESS CONCRETE GIRDER
SHOWING BENT DIAPHRAGMS (BENT #8, #9, & #10)

PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 8 OF 8

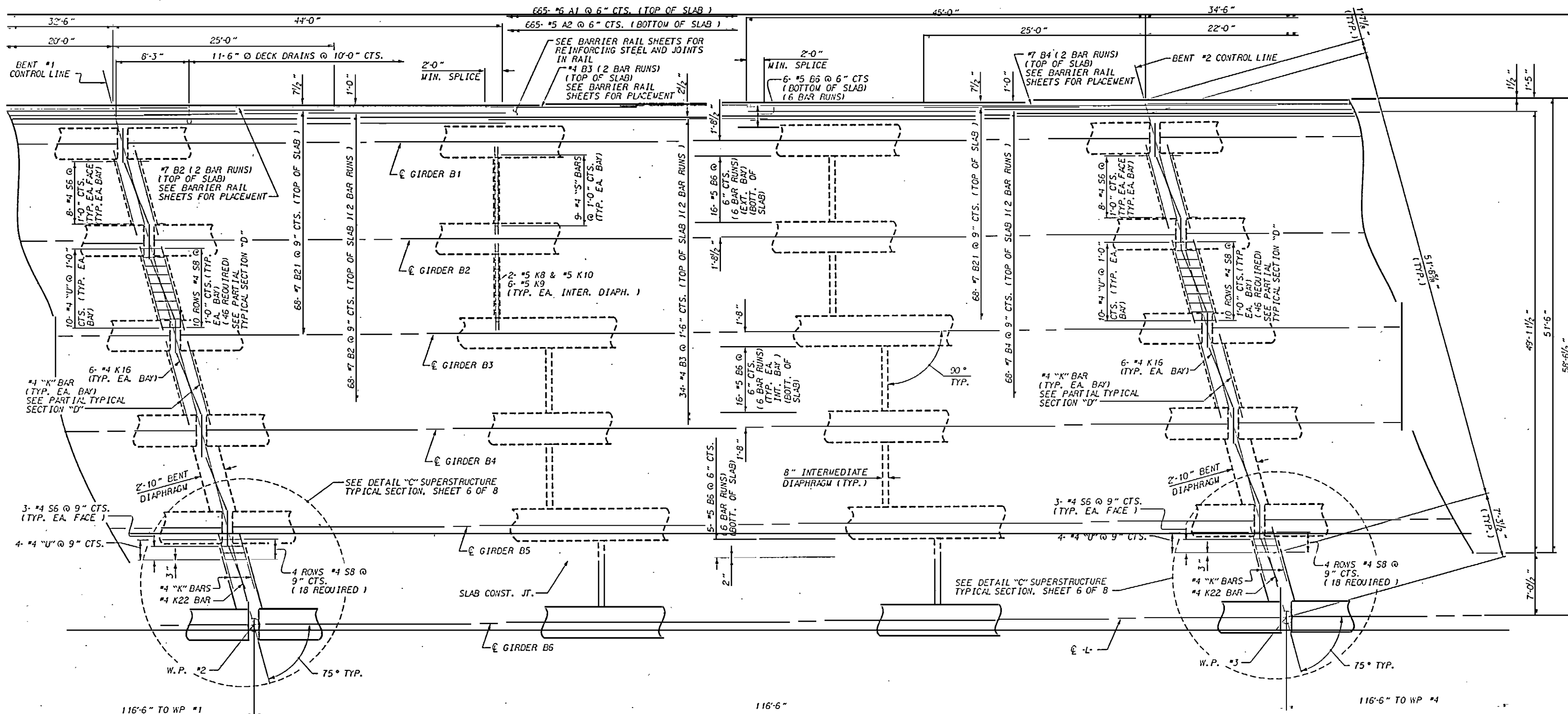
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
TYPICAL SECTION
DETAILS

H BY : 11/11/12/11 DATE : 11/7/96
 ED BY : T.H. FAYG DATE : 12-20-96

REVISIONS						SHEET NO. 5-17
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

REVISIONS						SHEET NO. S- 18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 3 OF 6

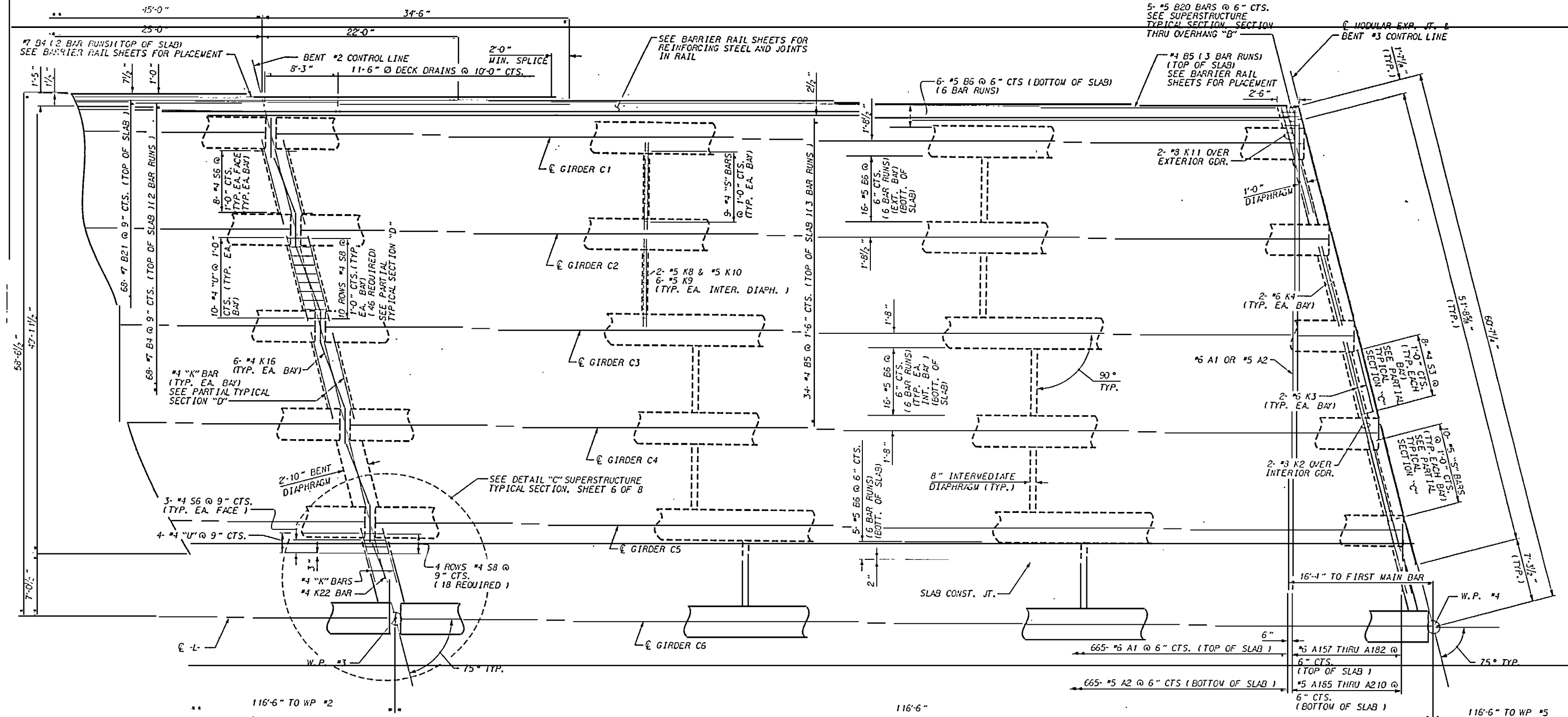


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**SUPERSTRUCTURE
 PLAN OF SPANS
 FOR CONTINUOUS SPANS
 A, B, AND C
 LEFT SIDE**

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

DRAWN BY: Y. H. FANG DATE: 11/29/96
 CHECKED BY: Y. H. FANG DATE: 1/21/97

REVISIONS						SHEET NO. S-21
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			



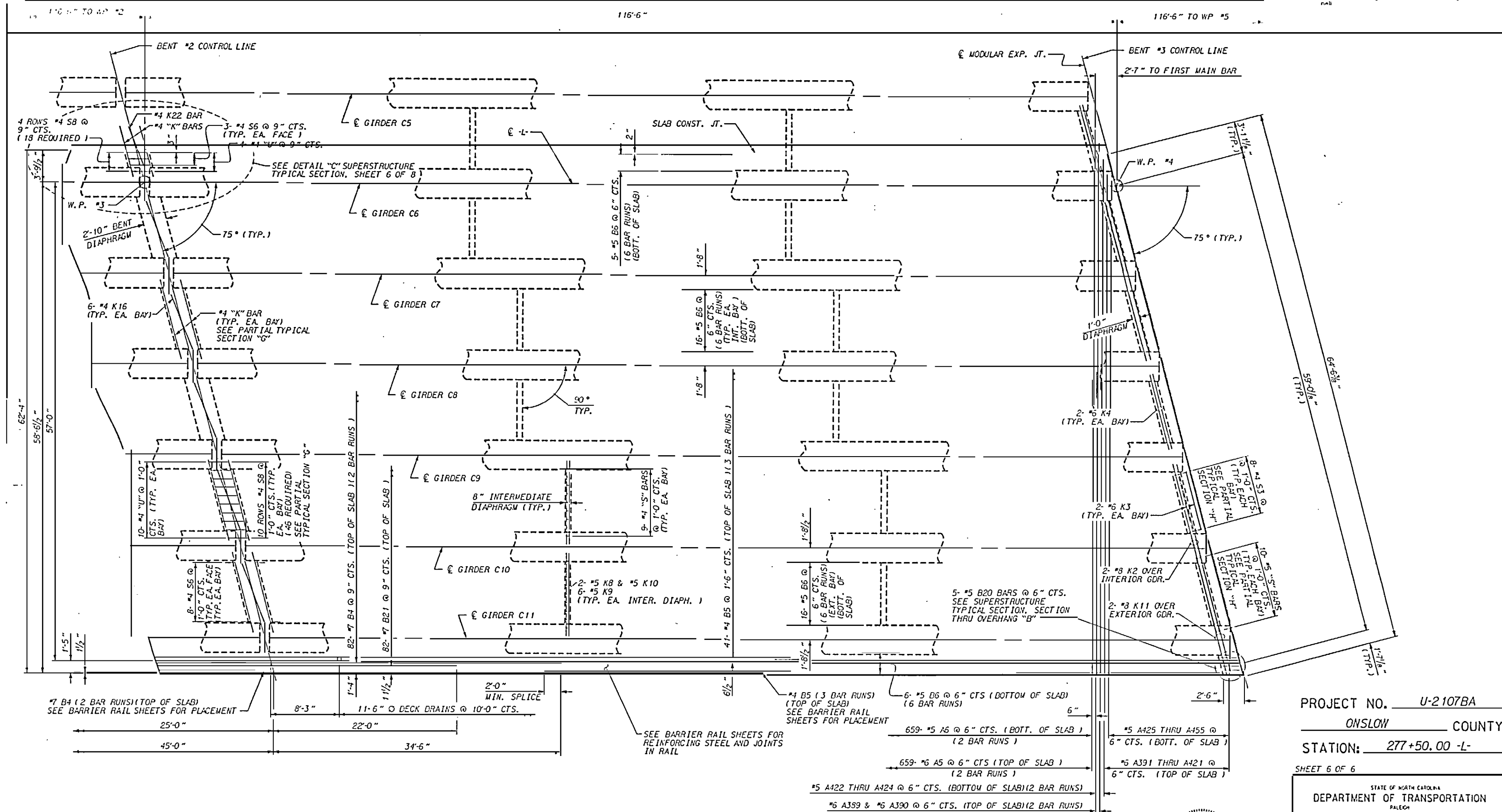
PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 5 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
PLAN OF SPANS
FOR CONTINUOUS SPANS:
A, B, AND C
LEFT SIDE

REVISIONS						SHEET NO. 5-22
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

DRAWN BY : LI-MING R. H. DATE : 11/29/96
CHECKED BY : TING H. FANG DATE : 1/21/97



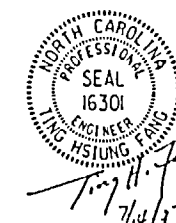
PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

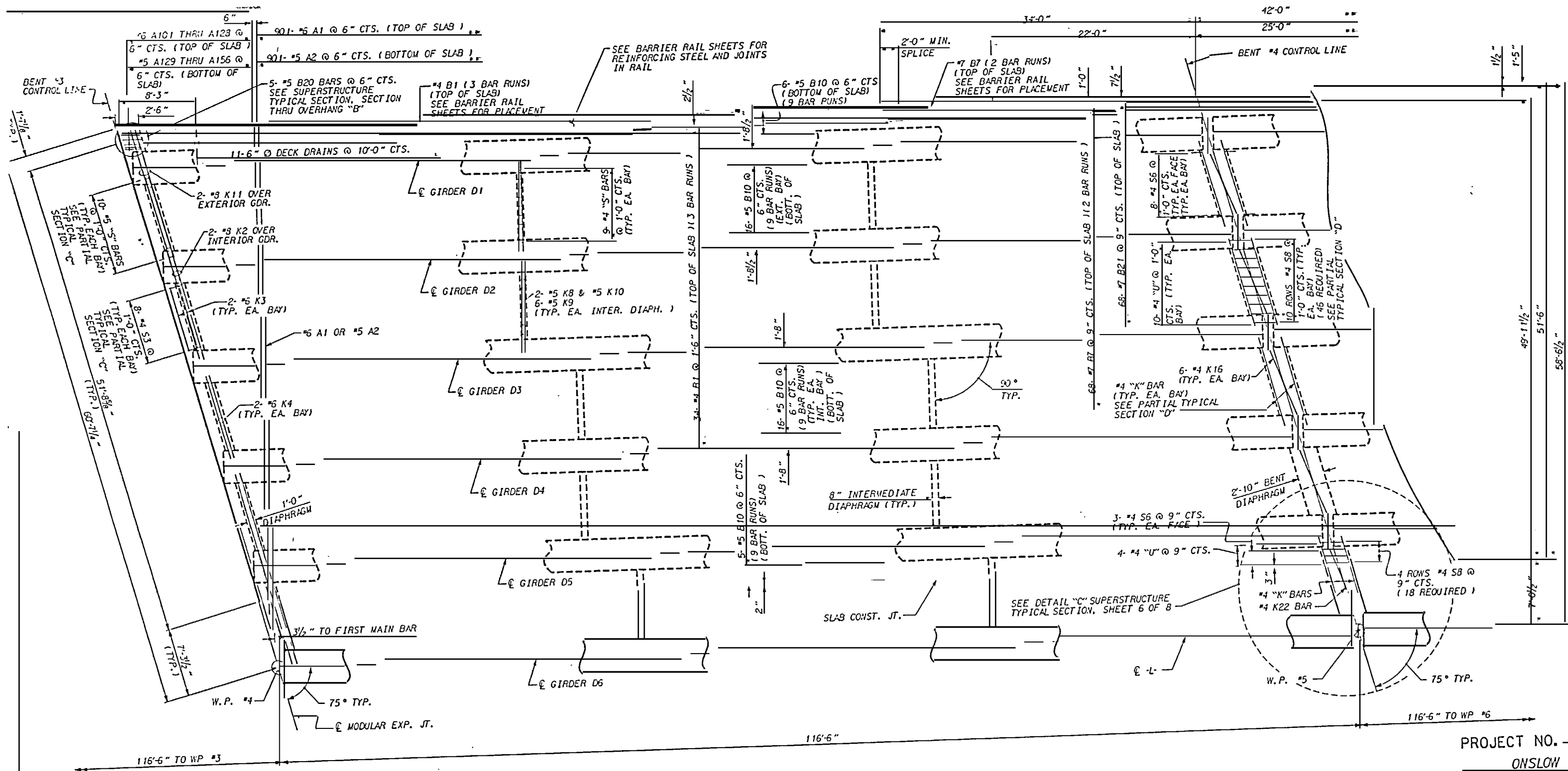
SHEET 6 OF 6

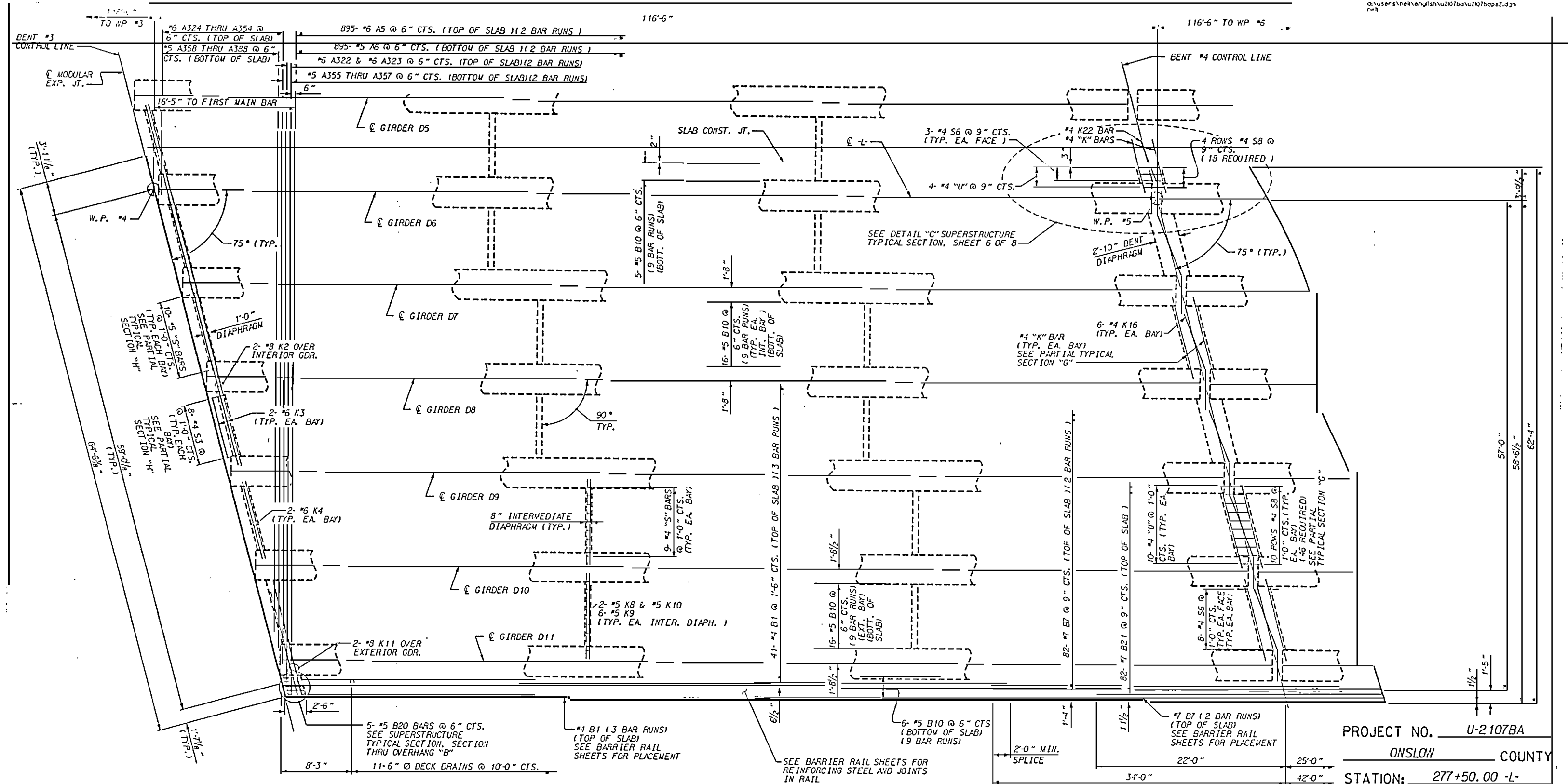
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 Raleigh
**SUPERSTRUCTURE
 PLAN OF SPANS
 FOR CONTINUOUS SPANS
 A, B, AND C
 RIGHT SIDE**

REVISIONS				SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE
1			2		
2			4		
				TOTAL SHEETS	
				170	

DRAWN BY: U. M. R. / DATE: 11/29/95
 CHECKED BY: TRG H. FAYG DATE: 1/21/97







SPAN D

PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 2 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
*SUPERSTRUCTURE
PLAN OF SPANS
FOR CONTINUOUS SPANS
D, E, F, AND G
RIGHT SIDE*

REVISIONS						SHEET NO. 5-25
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

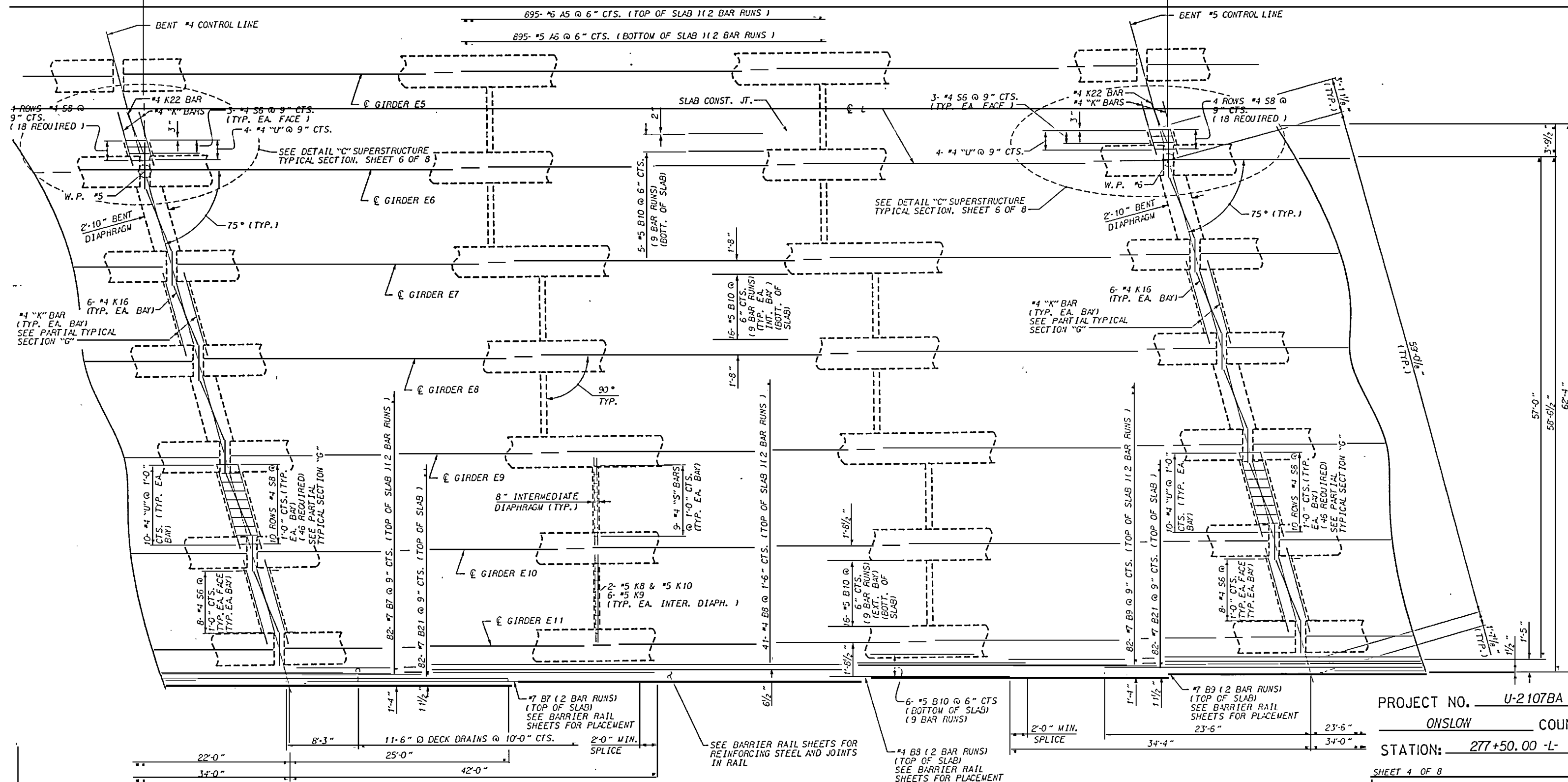
DRAWN BY : LLM R/L DATE : 11/29/96
CHECKED BY : TING H. FANG DATE : 1/21/97

DRAWN BY : LLMLR/H DATE : 11/29/95
CHECKED BY : TING H. FANG DATE : 1/21/97

116.5" TO 3P 4.7

116'-6"

116'-6" TO WP #7



SPAN E

PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

SHEET 4 OF 8

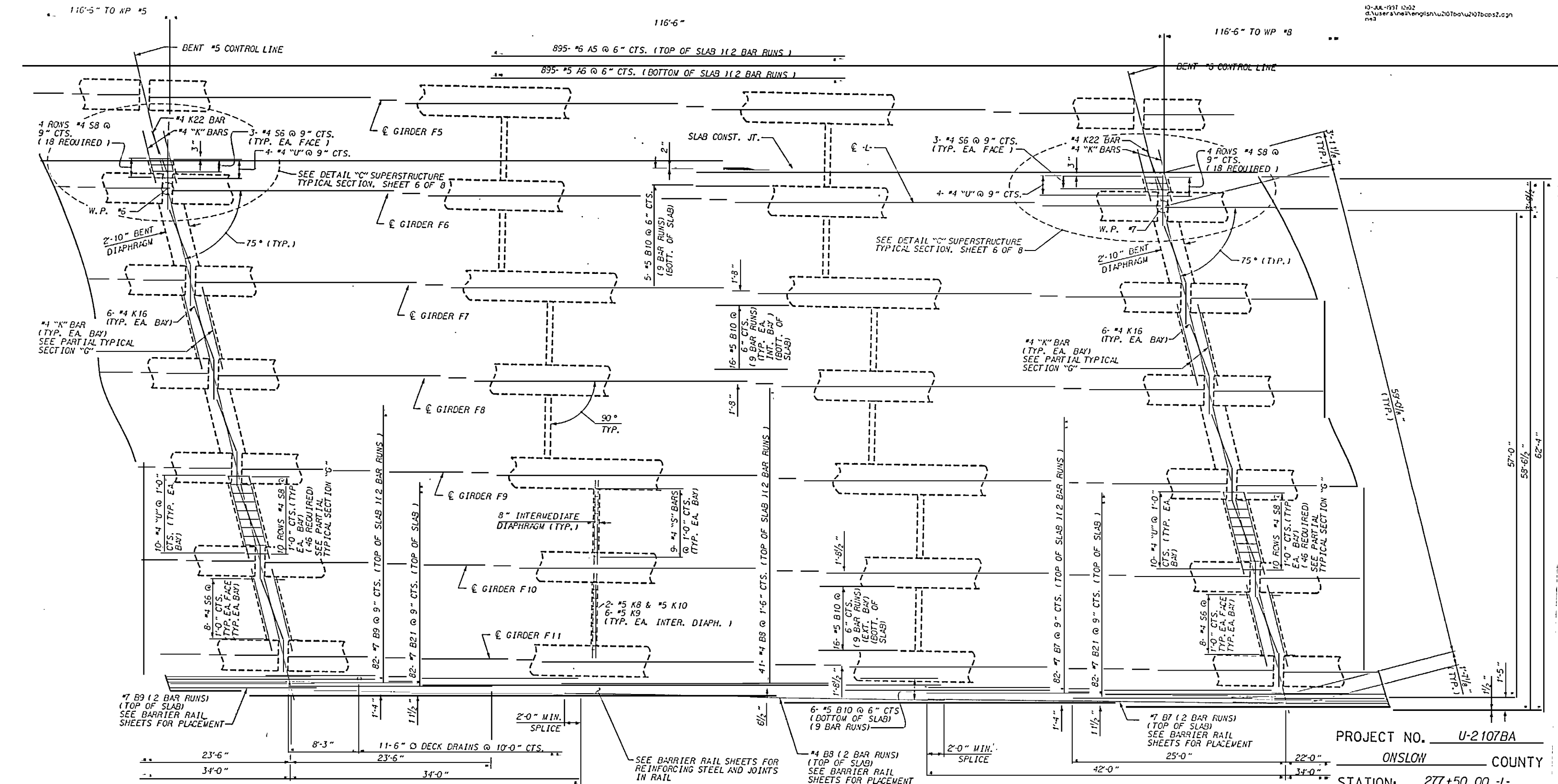


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
PLAN OF SPANS
FOR CONTINUOUS SPANS
D, E, F, AND G
RIGHT SIDE

REVISIONS						SHEET 1 S-27 TOTAL SHEETS 170
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

DRAWN BY : 11.111.12.11 DATE : 11/29/95
CHECKED BY : TING H. FANG DATE : 1/21/97

DRAWN BY : 11/11/96 DATE : 11/29/96
CHECKED BY : TING H. FANG DATE : 1/21/97



SPAN F

PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

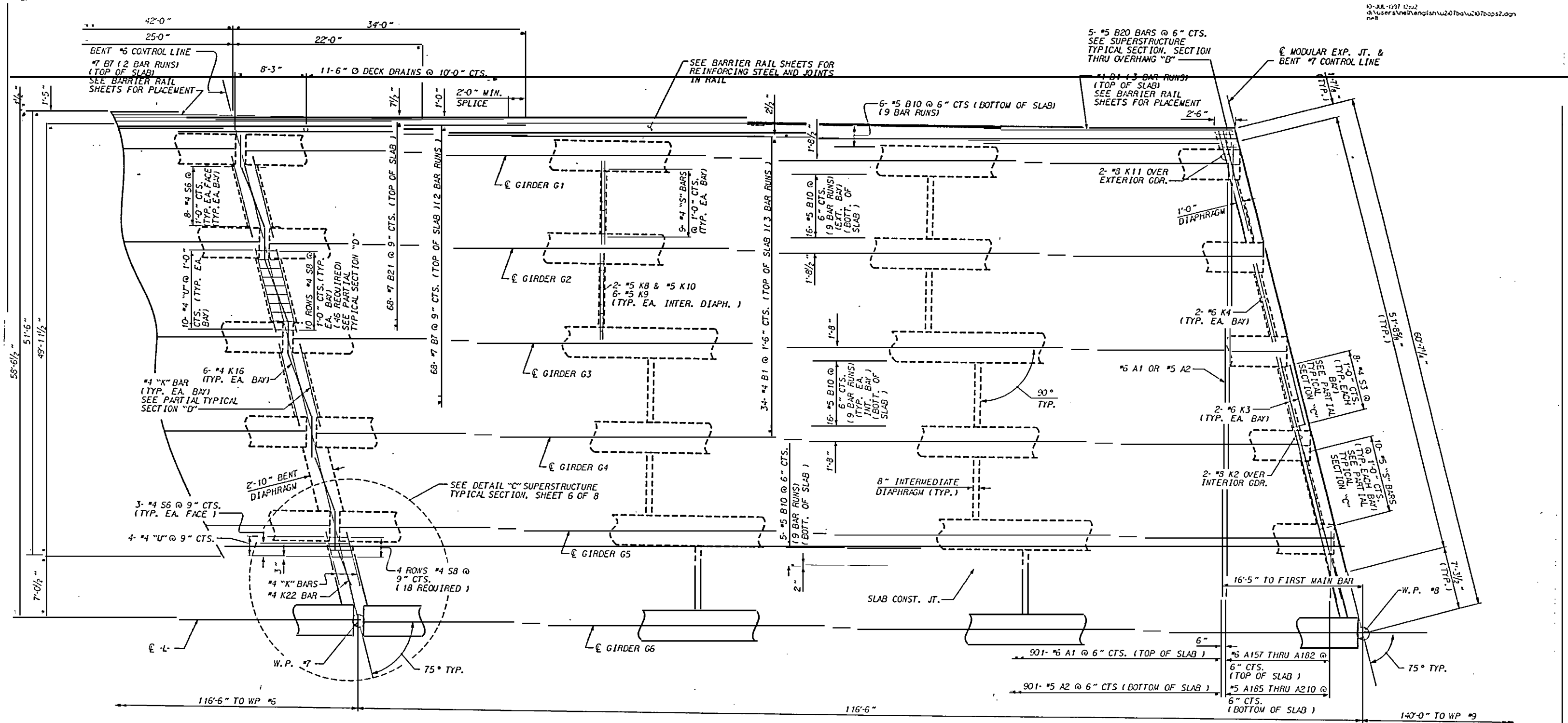
SHEET 6 OF 8



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PALEKH
**SUPERSTRUCTURE
PLAN OF SPANS
FOR CONTINUOUS SPANS
D, E, F, AND G
RIGHT SIDE**

DRAWN BY: M. P. R. J. DATE: 11/29/95
CHECKED BY: TING H. FANG DATE: 1/21/97

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-29
2			4			
TOTAL SHEETS 170						



SPAN G

PROJECT NO. U-2107BA

ONslow COUNTY

STATION: 277+50.00 -L-

SHEET 7 OF 8

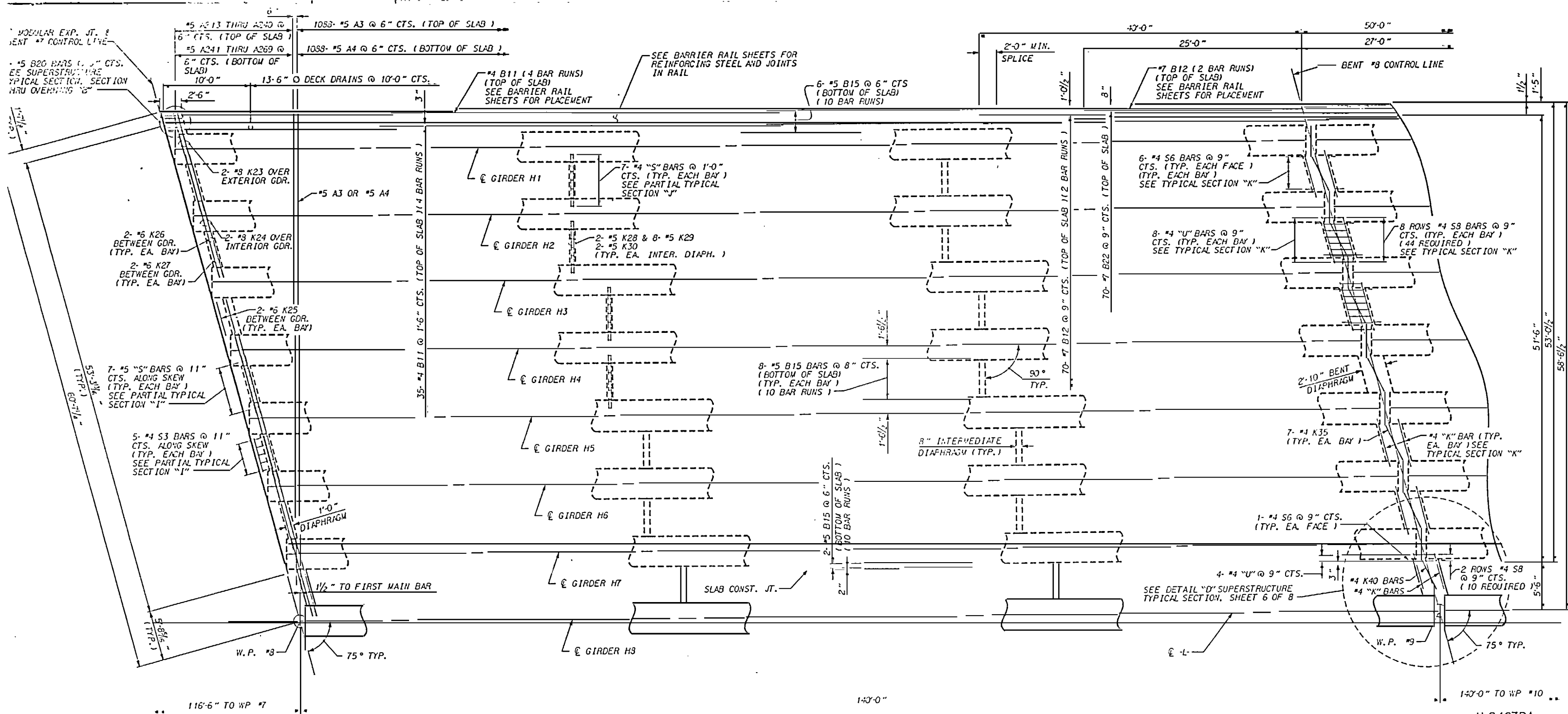


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
PLAN OF SPANS
FOR CONTINUOUS SPANS
D, E, F, AND G
LEFT SIDE

DRAWN BY: J. L. K. H. DATE: 11/29/96
CHECKED BY: TING H. FUNG DATE: 1/21/97

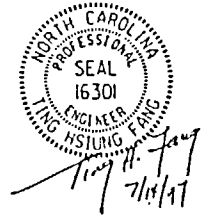
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-30
2			4			
TOTAL SHEETS						170

REVISIONS						SHEET NO 5-31
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			



SPAN H

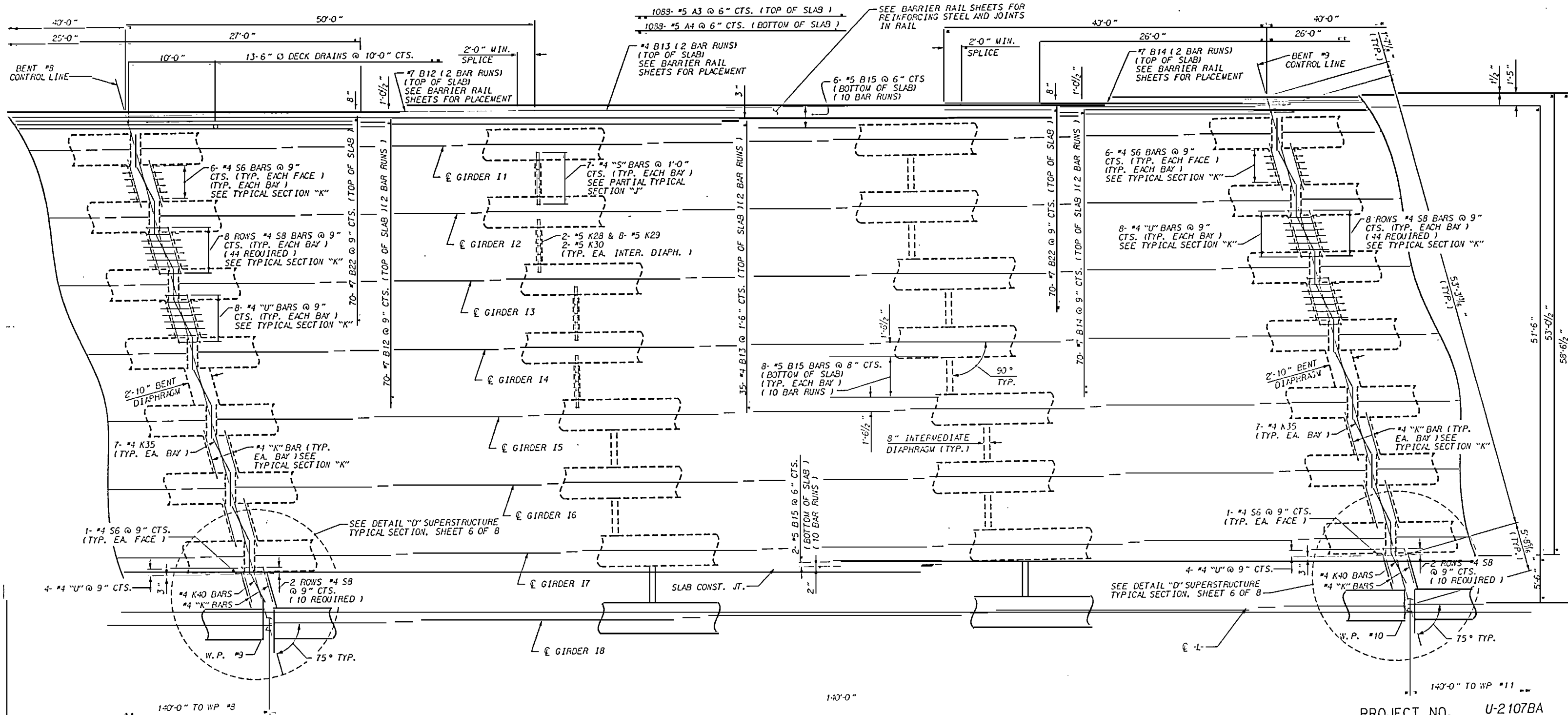
PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-
 SHEET 1 OF 8



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**SUPERSTRUCTURE
 PLAN OF SPANS
 FOR CONTINUOUS SPANS
 H, I, J, AND K
 LEFT SIDE**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-32
2			4			170

DRAWN BY: M.M.R. DATE: 11/29/95
 CHECKED BY: TING H. FANG DATE: 1/21/97



SPAN I

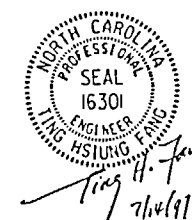
PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

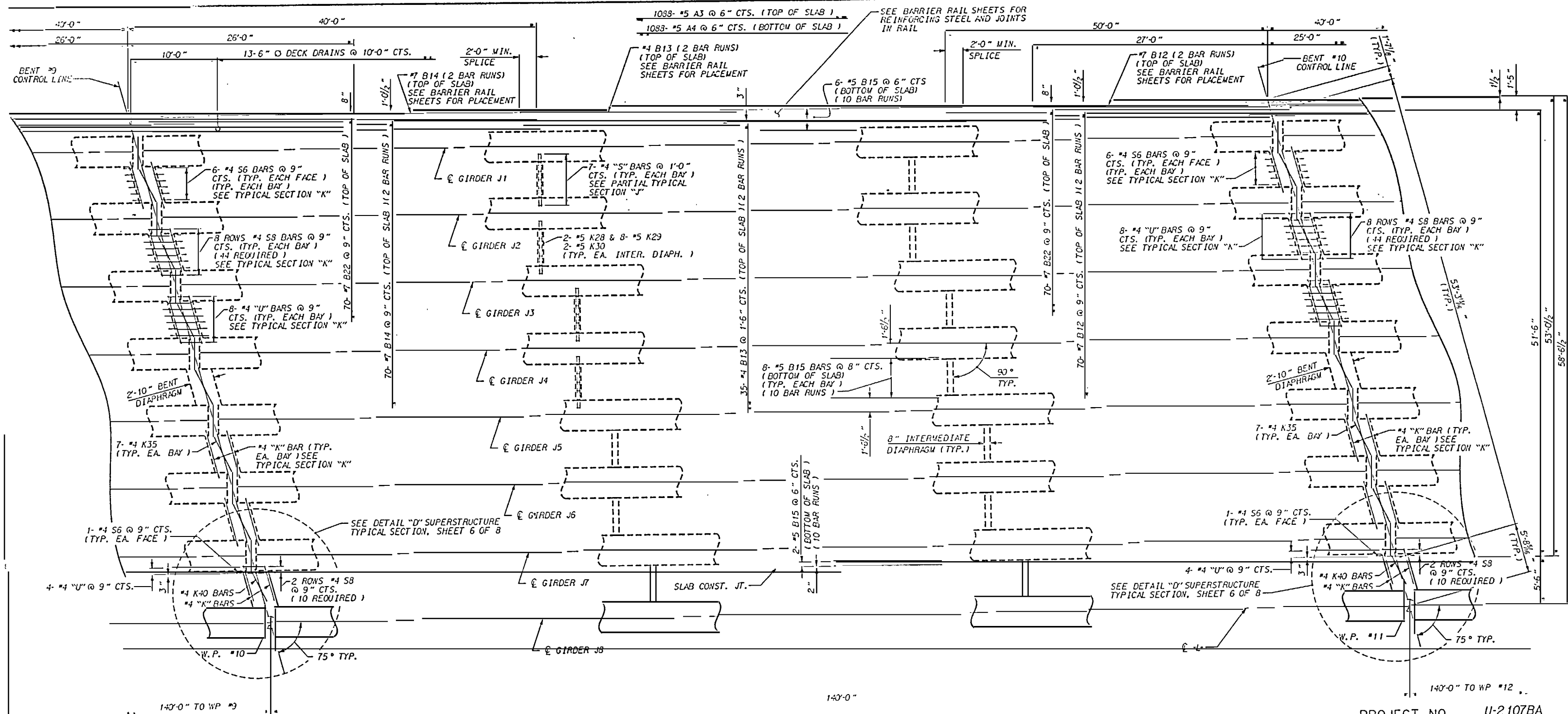
SHEET 3 OF 8

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**SUPERSTRUCTURE
 PLAN OF SPANS
 FOR CONTINUOUS SPANS
 H, I, J, AND K
 LEFT SIDE**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-34
2			4			
TOTAL SHEETS						170

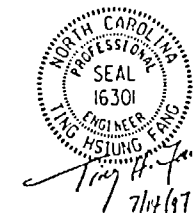
DRAWN BY: M.M.R. DATE: 11/29/95
 CHECKED BY: TING H. FANG DATE: 1/21/97





SPAN J

PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 5 OF 8

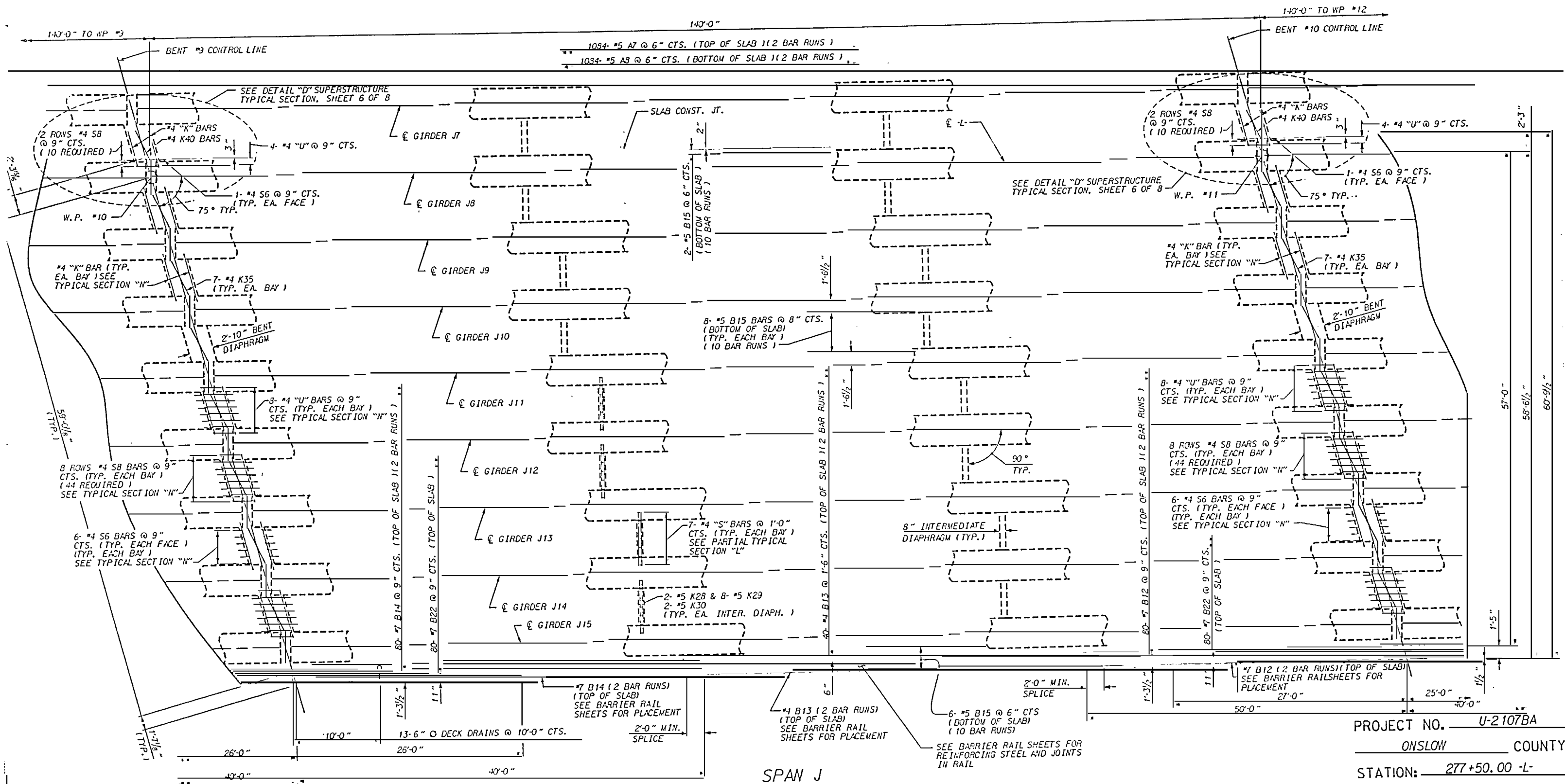


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 SUPERSTRUCTURE
 PLAN OF SPANS
 FOR CONTINUOUS SPANS
 H, I, J, AND K
 LEFT SIDE

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

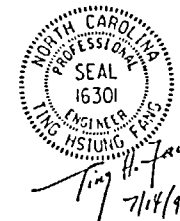
SHEET 5
 5-36
 TOTAL
 SHEETS
 170

DRAWN BY: W. M. R. J. DATE: 11/29/96
 CHECKED BY: W. H. F. A. S. G. DATE: 12/21/97



PROJECT NO. **U-2107BA**
ONSLOW COUNTY
 STATION: **277+50.00 -L-**

SHEET 6 OF 8

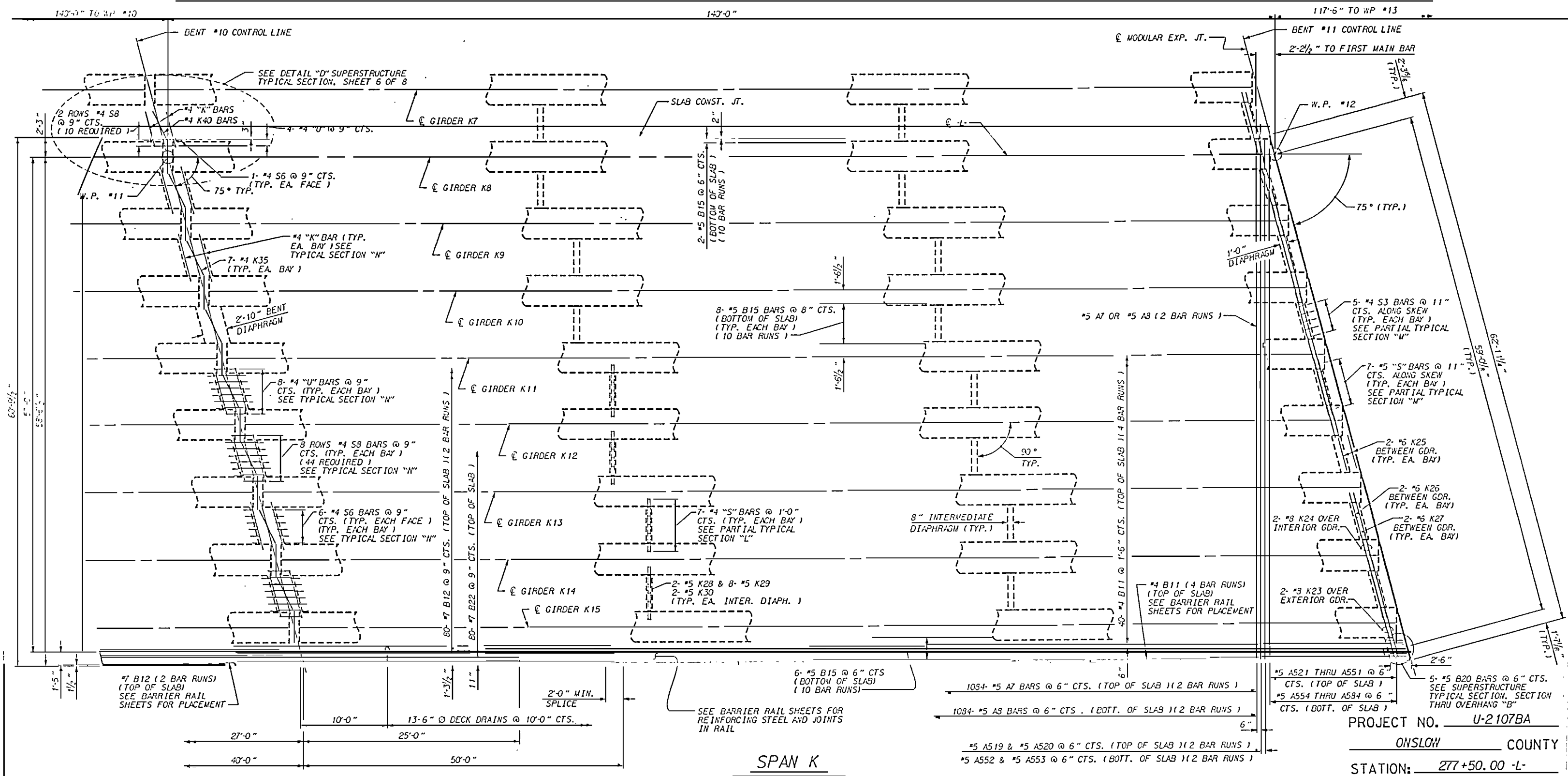


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
**SUPERSTRUCTURE
 PLAN OF SPANS
 FOR CONTINUOUS SPANS
 H, I, J, AND K
 RIGHT SIDE**

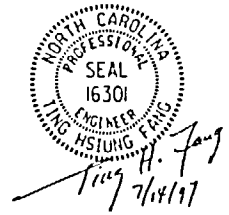
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-37
2			4			
TOTAL SHEETS 170						

DRAWN BY: **11/21/97** DATE: **11/29/97**
 CHECKED BY: **11/21/97** DATE: **1/21/97**

DRAWN BY : W. M. R. / DATE : 11/29/95
CHECKED BY : TING H. FANG DATE : 1/21/97



DRAWN BY: 11/29/95 DATE: 11/29/95
CHECKED BY: 11/29/95 DATE: 11/29/95



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PALEMON
SUPERSTRUCTURE
PLAN OF SPANS
FOR CONTINUOUS SPANS
H, I, J, AND K
RIGHT SIDE

REVISIONS						SHEET NO.
NO.	DATE	BY	DATE	BY	DATE	
1						5-39
2						TOTAL SHEETS 170

5-5 B19 BARS @ 6" CTS.
SEE SUPERSTRUCTURE
TYPICAL SECTION
THRU OVERHANGS

MODULAR EXP. JT. &
BENT #11 CONTROL LINE

11-6" O DECK DRAINS @ 10'-0" CTS.

5-5 A101 THRU A128 @
6" CTS. (TOP OF SLAB)

5-5 A129 THRU A156 @
6" CTS. (BOTTOM OF SLAB)

4-4 B16 (3 BAR RUNS)
(TOP OF SLAB)
SEE BARRIER RAIL
SHEETS FOR PLACEMENT

SEE BARRIER RAIL SHEETS FOR
REINFORCING STEEL AND JOINTS
IN RAIL

6-5 B19 @ 6" CTS
(BOTTOM OF SLAB)
(9 BAR RUNS)

34'-0" 22'-0" 12'-0" 25'-0"

7-67 (2 BAR RUNS)
(TOP OF SLAB)
SEE BARRIER RAIL
SHEETS FOR PLACEMENT

BENT #12 CONTROL LINE

10-5 S BARS
(TYP. EACH BAY)
SEE PARTIAL
SECTION "C"

2-3 K11 OVER
EXTERIOR GDR.

2-3 K2 OVER
INTERIOR GDR.

2-5 K3
(TYP. EA. BAY)

5-5 A1 OR
5-5 A2

2-5 K4
(TYP. EA. BAY)

GIRDER L1

GIRDER L2

GIRDER L3

GIRDER L4

GIRDER L5

GIRDER L6

9-4 S BARS
(TYP. EA. BAY)
@ 1'-0" CTS.

2-5 K8 & 5-5 K10
6-5 K9
(TYP. EA. INTER. DIAPH.)

5-5 B19 @ 6" CTS.
(9 BAR RUNS)
(BOTT. OF SLAB)

8" INTERMEDIATE
DIAPHRAGM (TYP.)

4-4 K BAR
(TYP. EA. BAY)
SEE PARTIAL
SECTION "D"

6-4 K16
(TYP. EA. BAY)

3-4 S5 @ 9" CTS.
(TYP. EA. FACE)

4-4 S @ 9" CTS.

2-10" BENT
DIAPHRAGM

4-4 K BARS
4-4 K22 BAR

4 ROWS 4-4 S8 @
9" CTS.
(18 REQUIRED)

W.P. #12

75° TYP.

140'-0" TO WP #11

117'-6"

W.P. #13

75° TYP.

117'-6" TO WP #14

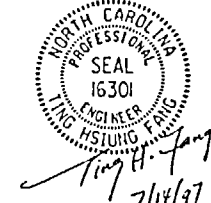
SPAN L

PROJECT NO. U-2107BA

ONSLOW COUNTY

STATION: 277+50.00 -L-

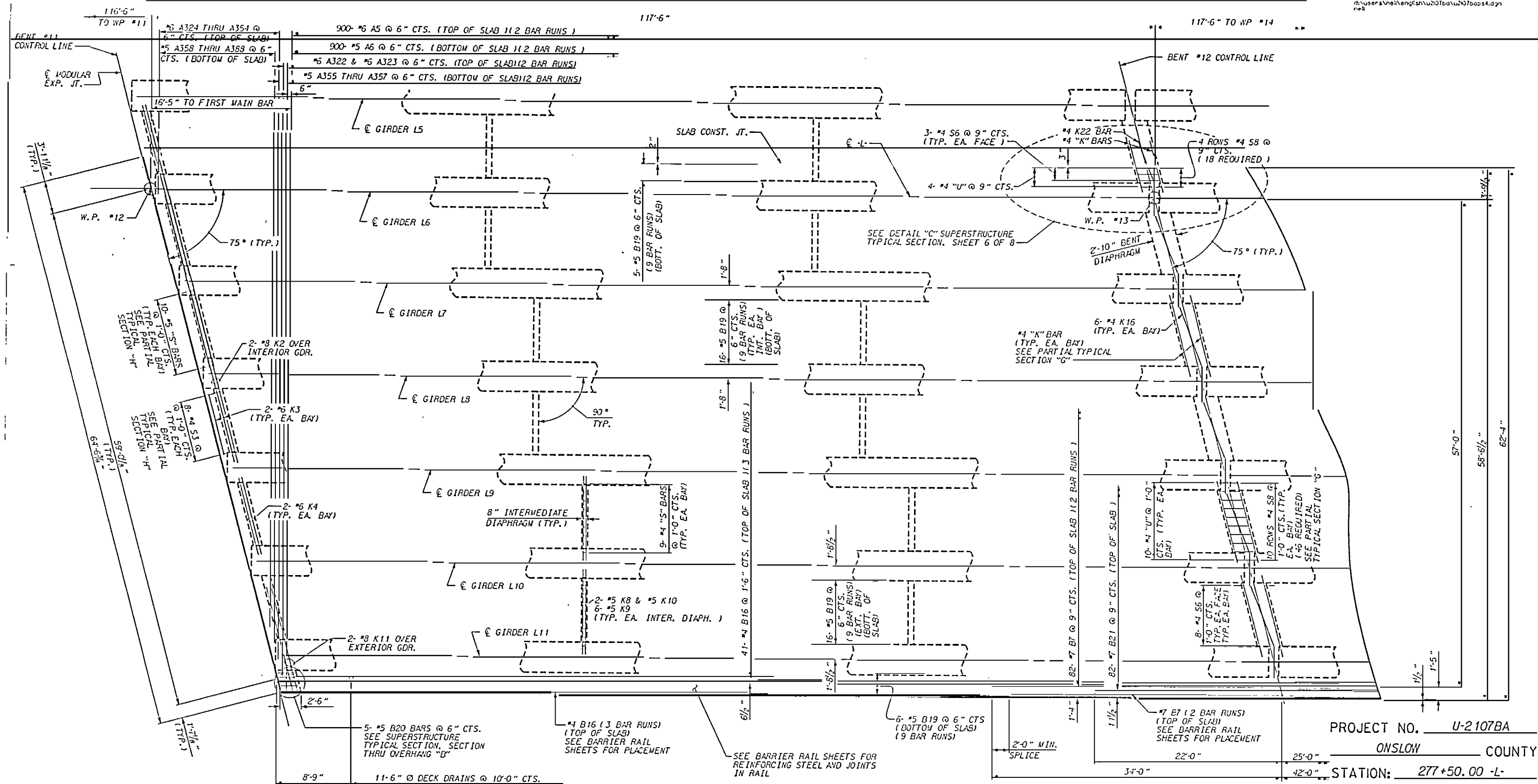
SHEET 1 OF 8



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
PLAN OF SPANS
FOR CONTINUOUS SPANS
L, M, N, AND O
LEFT SIDE

DESIGNED BY: TING H. FAYS DATE: 11/29/96
CHECKED BY: TING H. FAYS DATE: 1/21/97

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-40
2			4			
TOTAL SHEETS						170



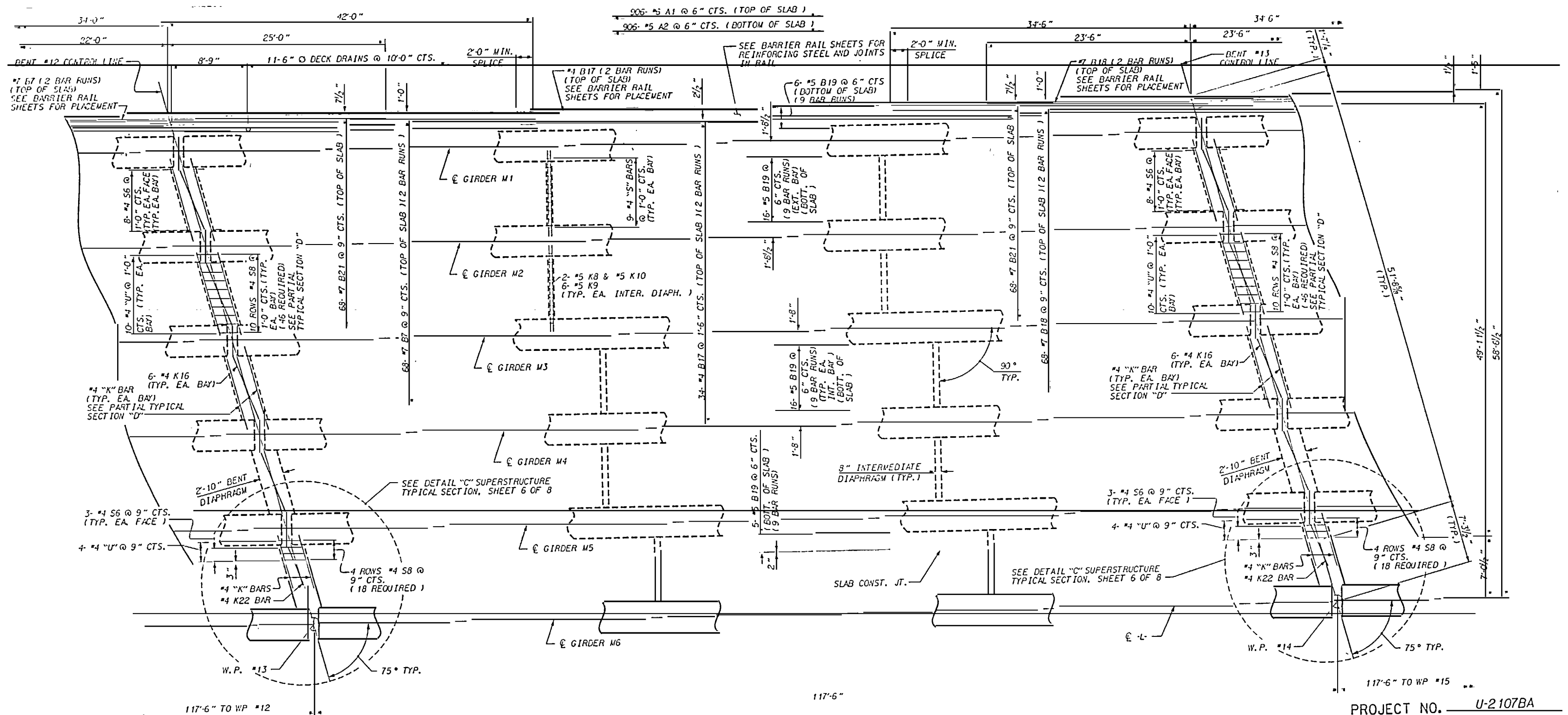
SPAN L

PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 2 OF 8

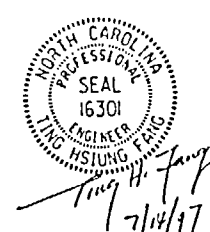
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
PLAN OF SPANS
FOR CONTINUOUS SPANS
L, M, N, AND O
RIGHT SIDE

REVISIONS						SHEET NO. S-41
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			



SPAN M

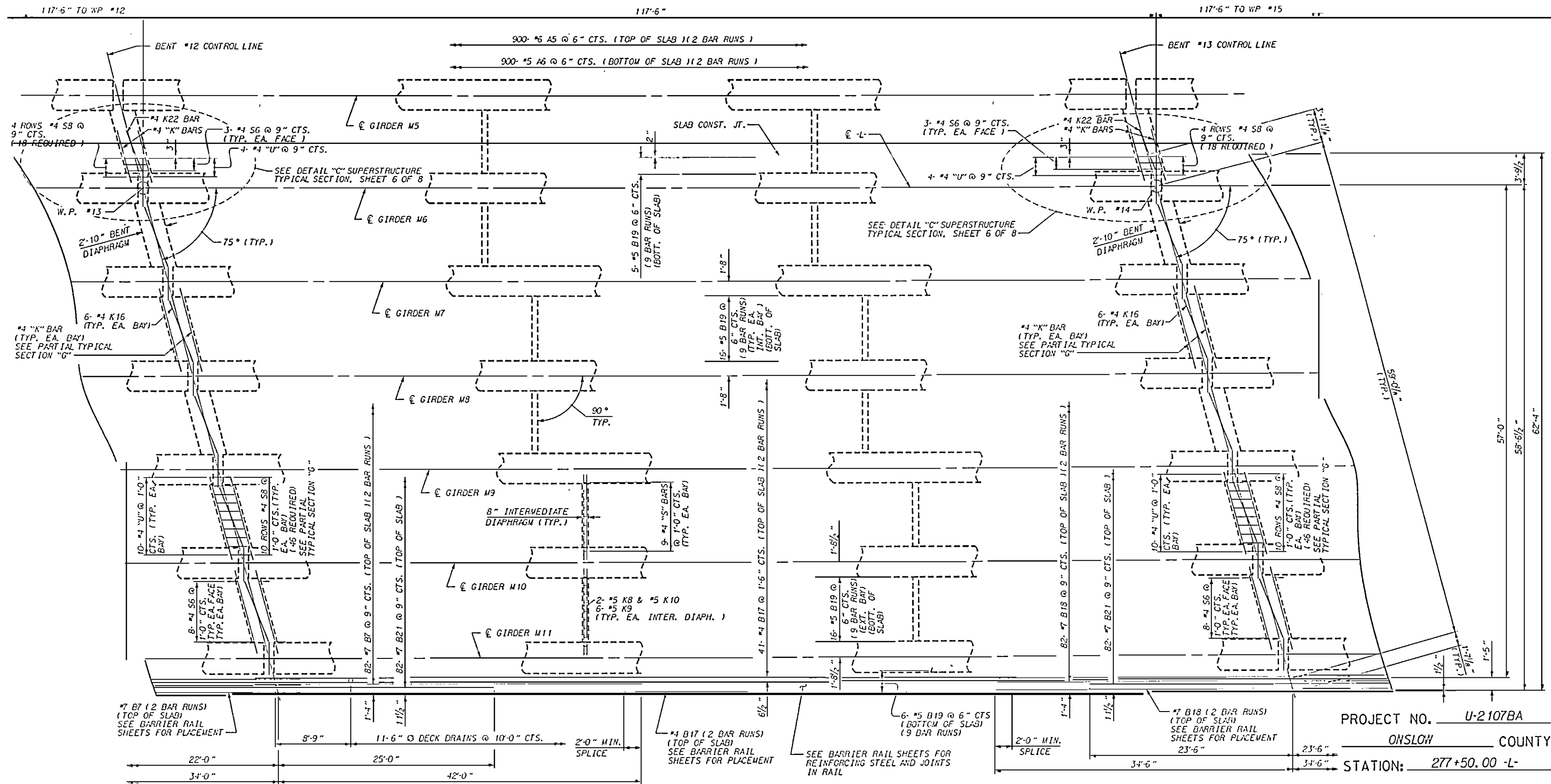
PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 3 OF 8



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 SUPERSTRUCTURE
 PLAN OF SPANS
 FOR CONTINUOUS SPANS
 L, M, N, AND O
 LEFT SIDE

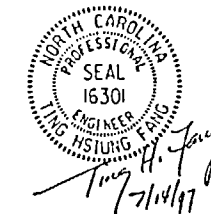
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-42
2			4			
TOTAL SHEETS						170

DRAWN BY: Ting H. Yang DATE: 11/29/96
 CHECKED BY: Ting H. Yang DATE: 1/21/97



PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

SHEET 4 OF 8

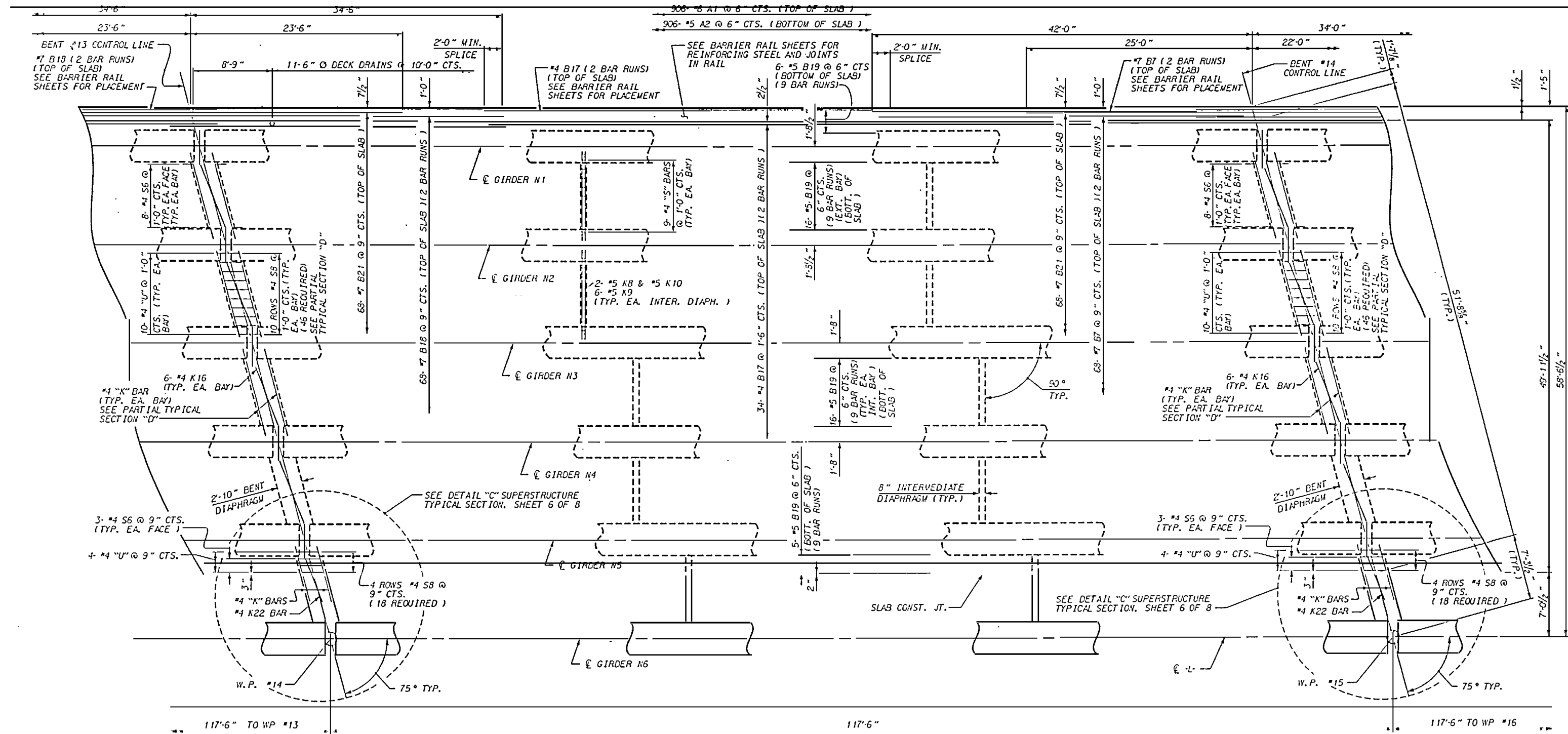


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**SUPERSTRUCTURE
PLAN OF SPANS
FOR CONTINUOUS SPANS
L, M, N, AND O
RIGHT SIDE**

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

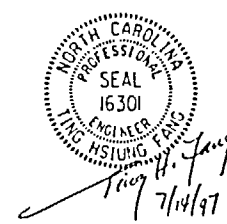
TOTAL SHEETS 170

DRAWN BY: L.M.R. DATE: 11/29/95
CHECKED BY: LING H. FANG DATE: 1/21/97



SPAN N

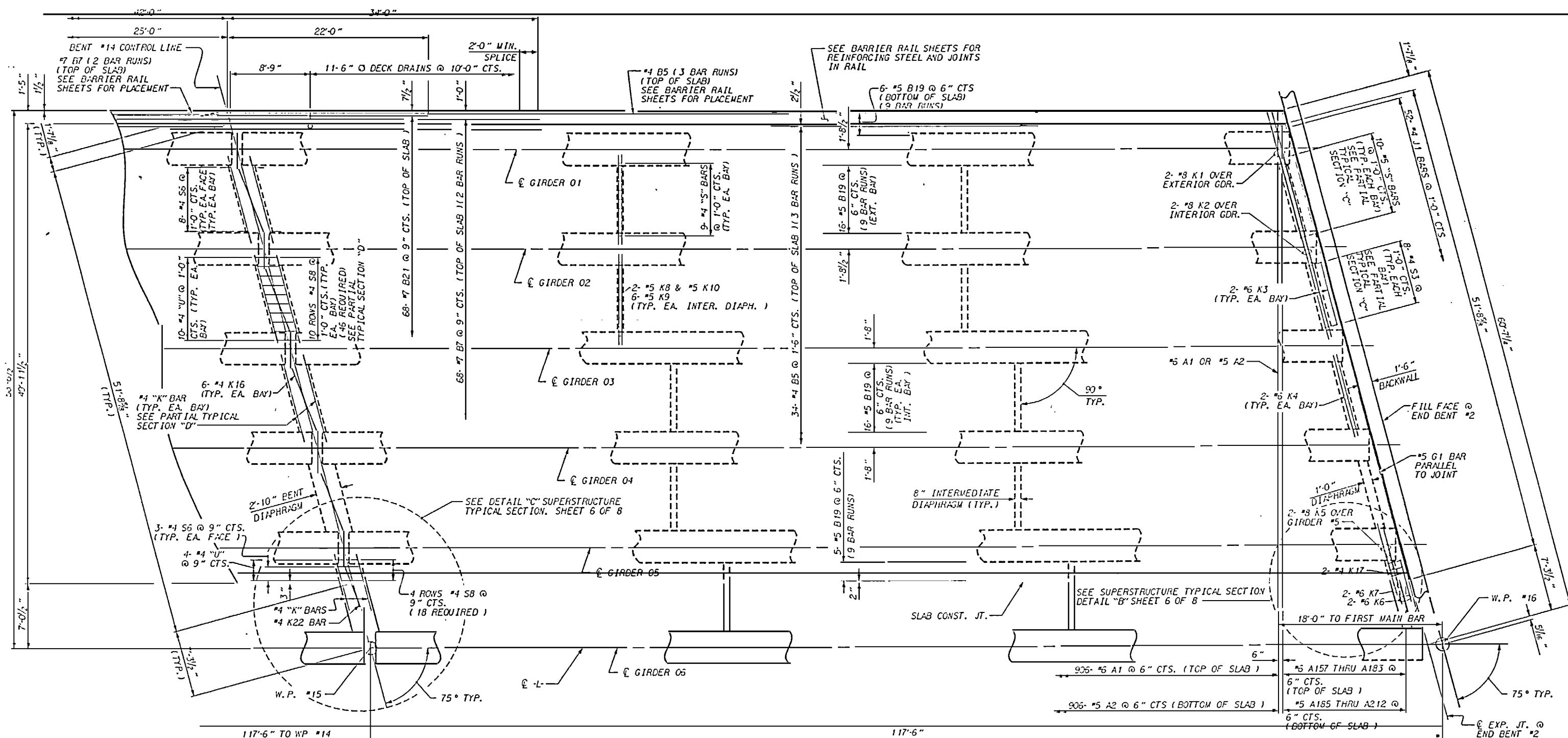
PROJECT NO. U-2107BA
ONSLow COUNTY
STATION: 277+50.00 -L-
SHEET 5 OF 8



REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-44
2			4			
TOTAL SHEETS						170

AWN BY: L. M. N. AND O DATE: 11/29/96
CHECKED BY: L. M. N. AND O DATE: 11/29/96

REVISIONS						SHEET NO 5-45
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			



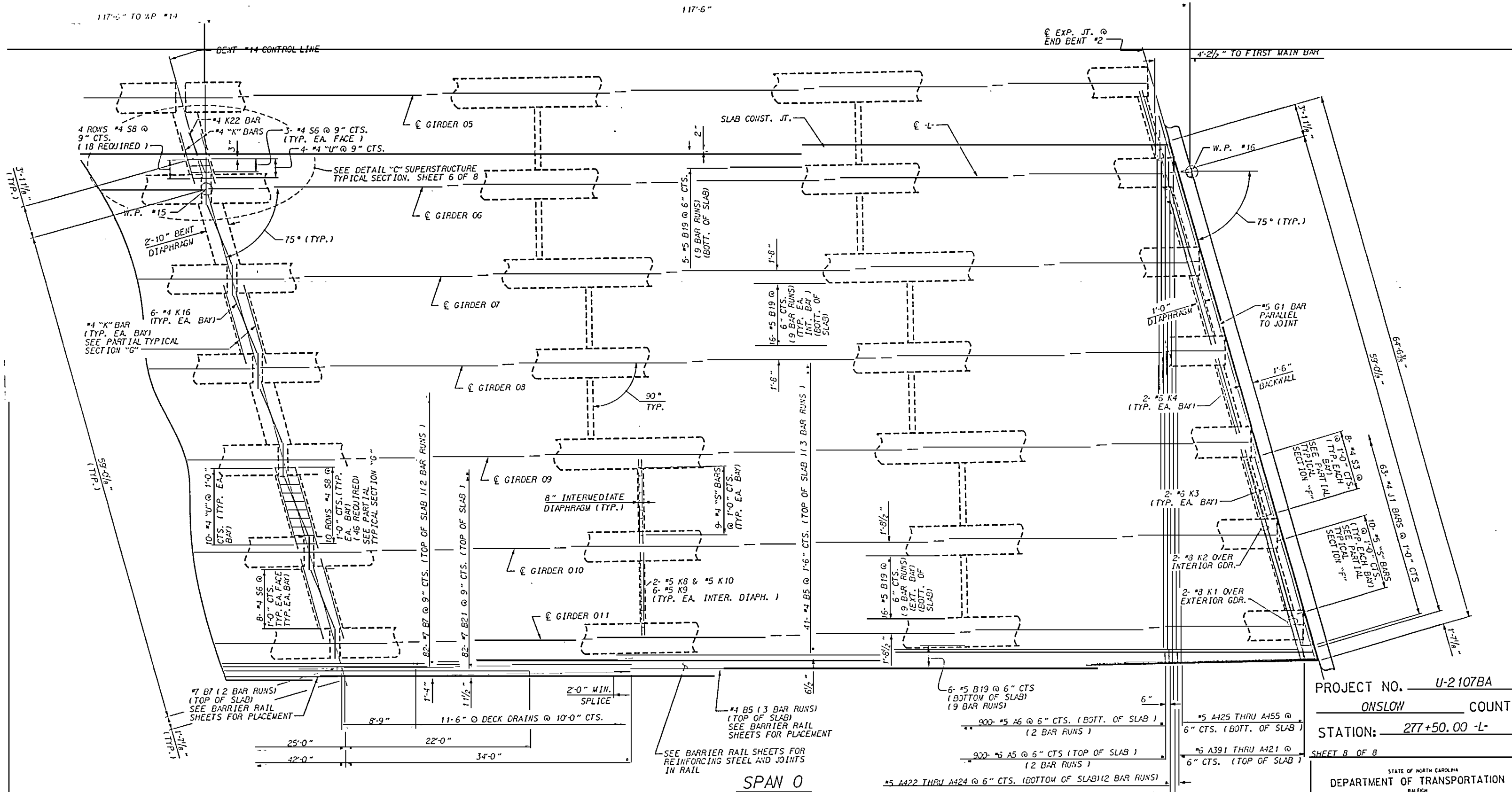
PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-
 SHEET 7 OF 8

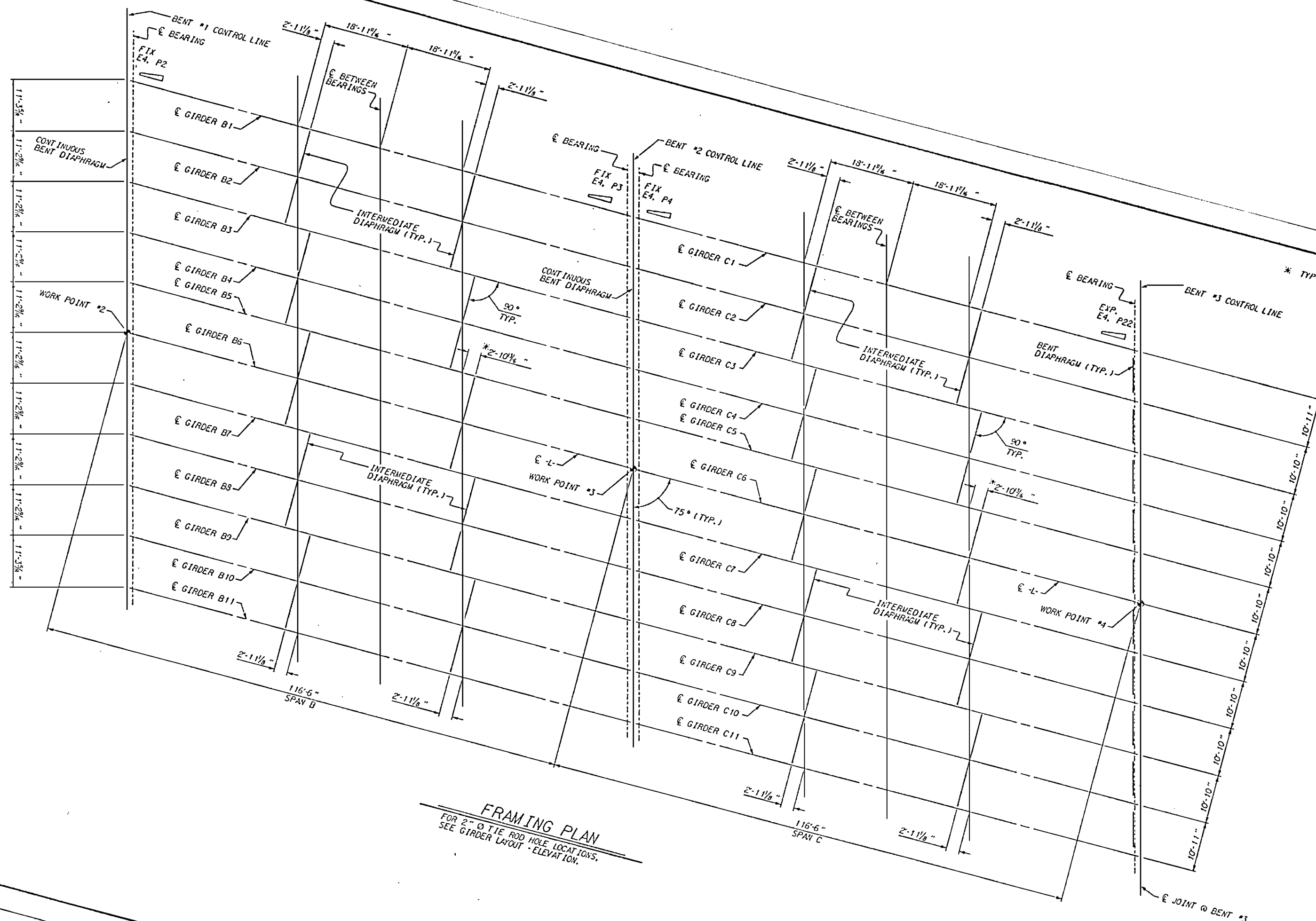
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
PLAN OF SPANS
FOR CONTINUOUS SPANS
L, M, N, AND O
LEFT SIDE

REVISIONS						SHEET NO. S-46
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

DRAWN BY : 11/11/24 DATE : 11/29/96
CHECKED BY : TING H. FANG DATE : 1/21/97

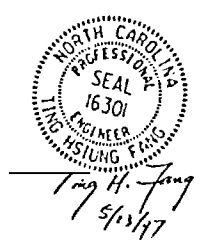
SPAN 0





FRAMING PLAN
FOR 2" Ø TIE ROD HOLE LOCATIONS,
SEE GIRDER LAYOUT ELEVATION.

DRAWN BY: T.H. E.S.G. DATE: 7/25/05
CHECKED BY: T.H. E.S.G. DATE: 12/20/05



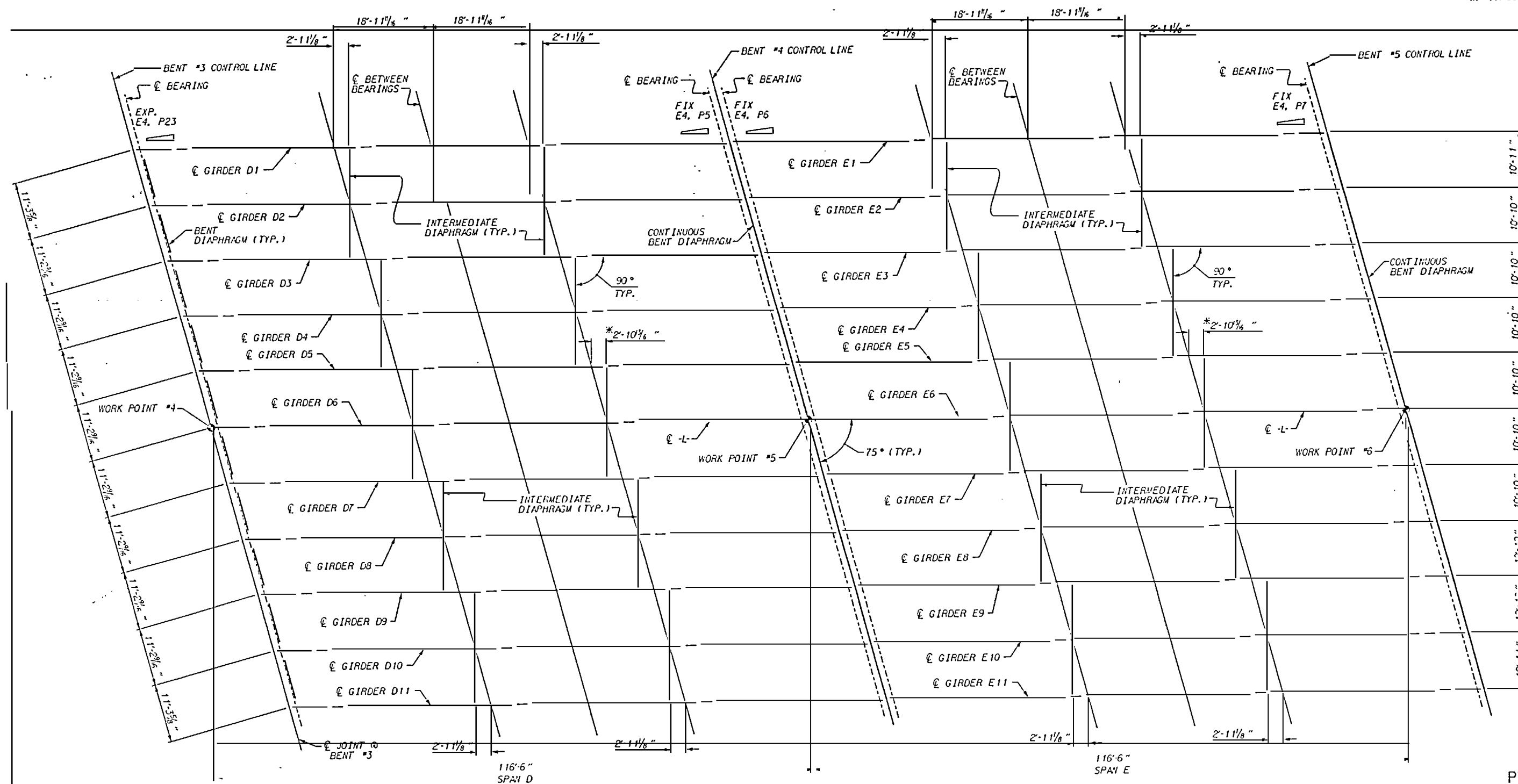
PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-
SHEET 2 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE
FRAMING PLAN
SPANS B AND C

REVISIONS				SHEET NO.
NO.	BY	DATE	DESCRIPTION	
1				5-49
2				170

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* TYPICAL, EXCEPT FOR EXTERIOR GIRDERS.

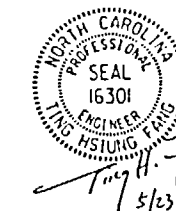


FRAMING PLAN

FOR 2" Ø TIE ROD HOLE LOCATIONS,
SEE GIRDER LAYOUT - ELEVATION.

PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

SHEET 3 OF 8



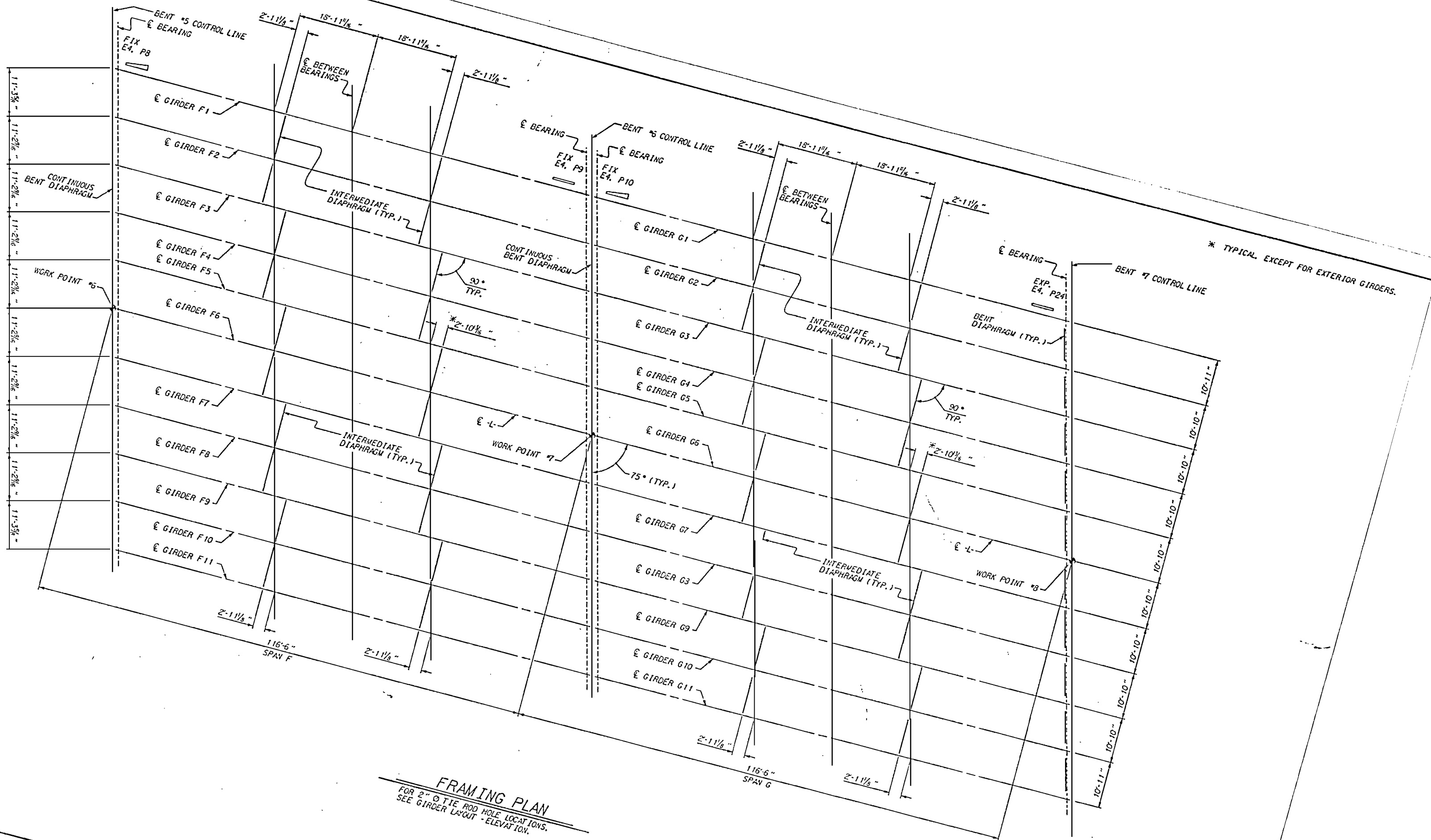
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
FRAMING PLAN
 SPANS D AND E

REVISIONS						SHEET
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-5
2			4			

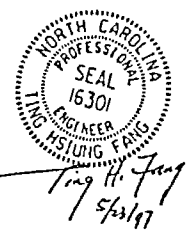
DRAWN BY: William K. H. DATE: 7/25/96
 CHECKED BY: T.H. FAY DATE: 12/20/96

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FRAMING PLAN
FOR 2" O TIE ROD HOLE LOCATIONS,
SEE GIRDER LAYOUT - ELEVATION.

DRAWN BY: SLH/KLL DATE: 7/25/95
CHECKED BY: L.H. FAYE DATE: 12/20/95

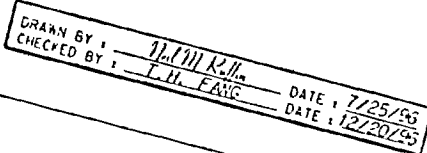


PROJECT NO. U-2107BA
ONSLON COUNTY
STATION: 277+50.00 -L-

SHEET 4 OF 8
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
FRAMING PLAN
SPANS F AND G

REVISIONS				SHEET 14 5-51
NO.	BY	DATE	DESCRIPTION	
1				
2				

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FRAMING PLAN
FOR 2" Ø TIE ROD HOLE LOCATIONS.
SEE GIRDER LAYOUT - ELEVATION.

PROJECT NO. U-2107BA

STATION: 277+50.00 COUNT 2107BA
SHEET 6 OF 8 UNSLW -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTOCK

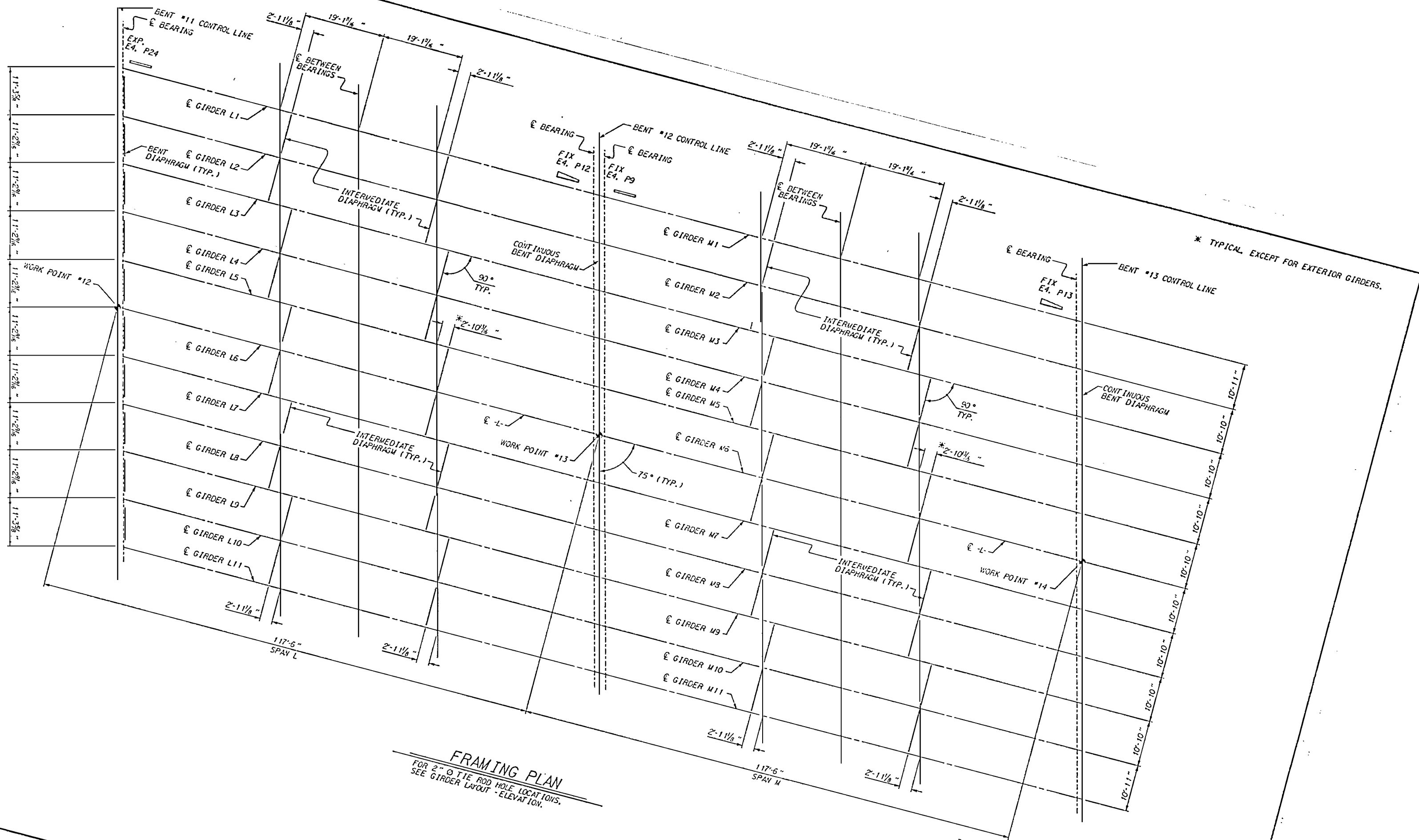
OF TRANSPORTATION
RALEIGH
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REVISIONS			
NO.	BY:	DATE:	
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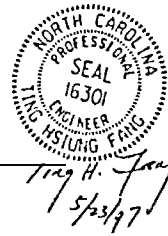
SHEET NO. 12
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FRAMING PLAN
FOR 2" O.TIE ROD HOLE LOCATIONS.
SEE GIRDER LAYOUT - ELEVATION.

DESIGNED BY: L.H. FAYE DATE: 7/25/95
CHECKED BY: L.H. FAYE DATE: 12/20/95

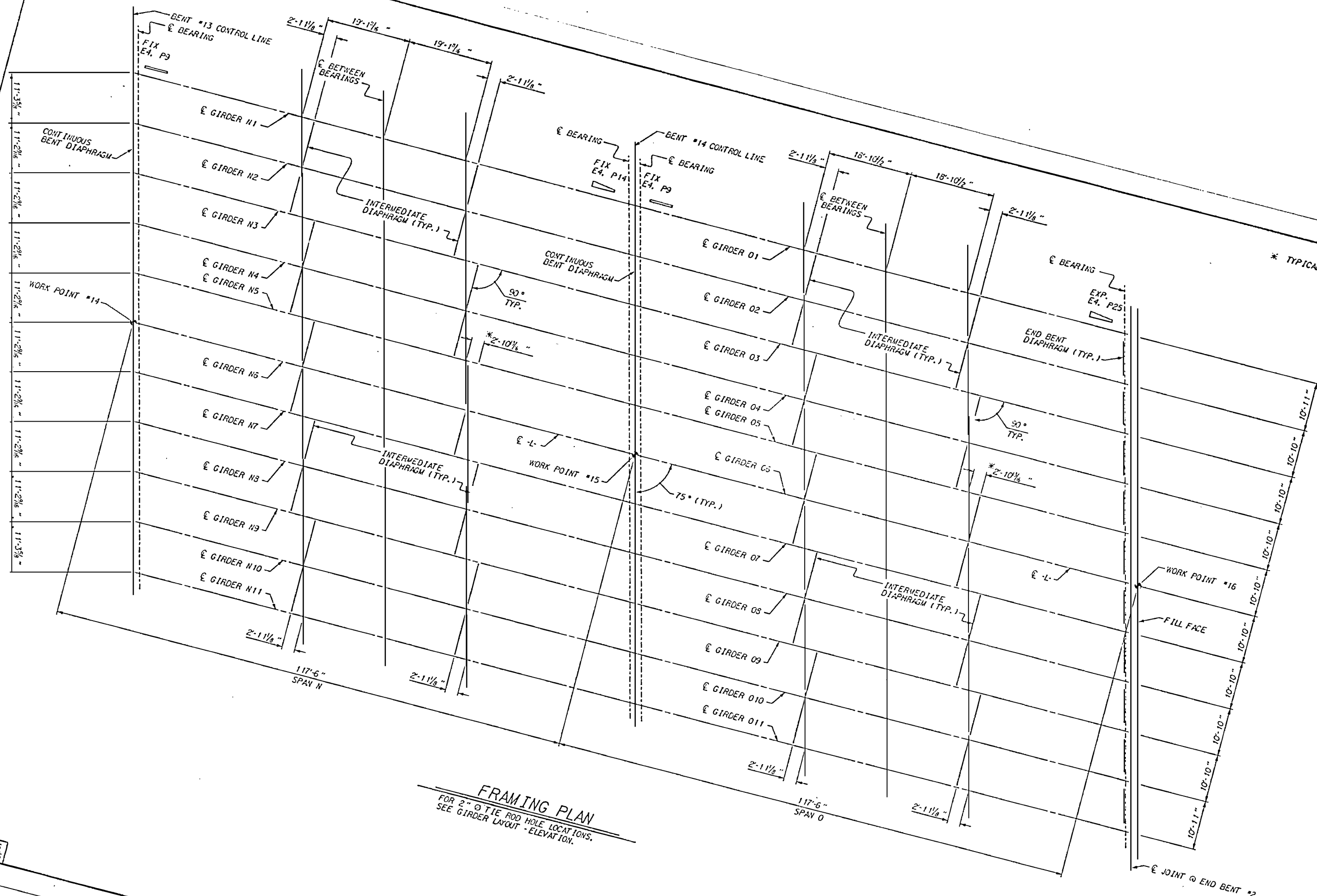


PROJECT NO. U-2107BA
ON SLOW COUNTY
STATION: 277+50.00 -L-

SHEET 7 OF 8
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
FRAMING PLAN
SPANS L AND M

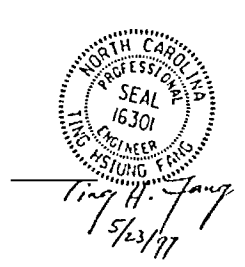
REVISIONS				SHEET NO.
NO.	BY	DATE	DESCRIPTION	
1				5-54
2				170

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FRAMING PLAN
 FOR 2" Ø TIE ROD HOLE LOCATIONS.
 SEE GIRDER LAYOUT - ELEVATION.

DRAWN BY: 11/11/12/14
 CHECKED BY: L.H. EAST DATE: 1/25/95
 DATE: 12/20/95

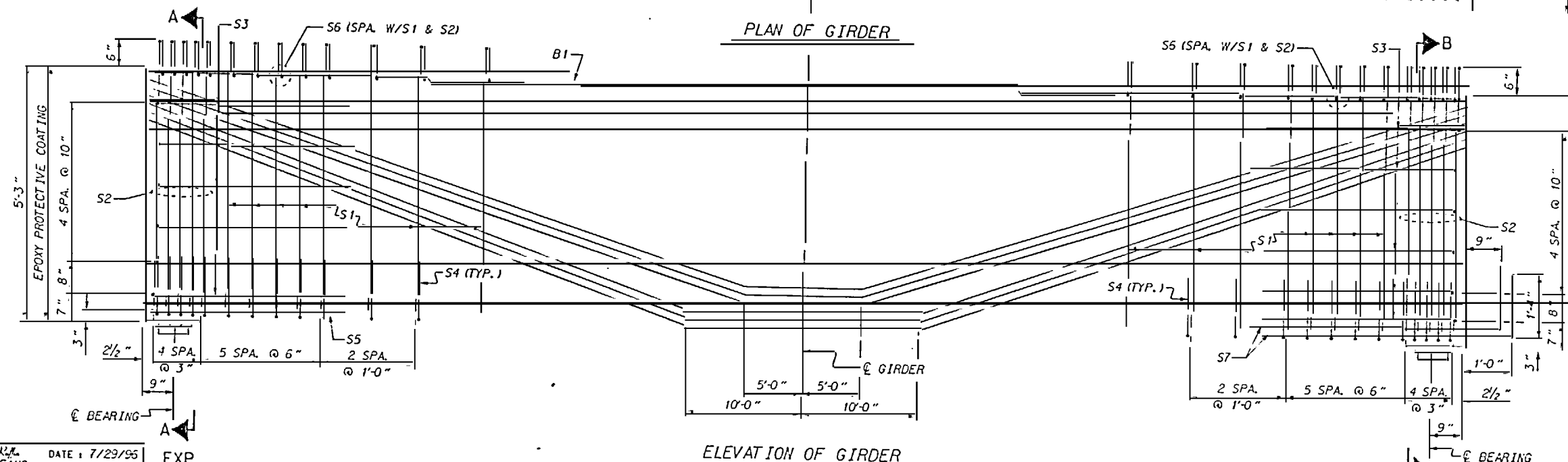
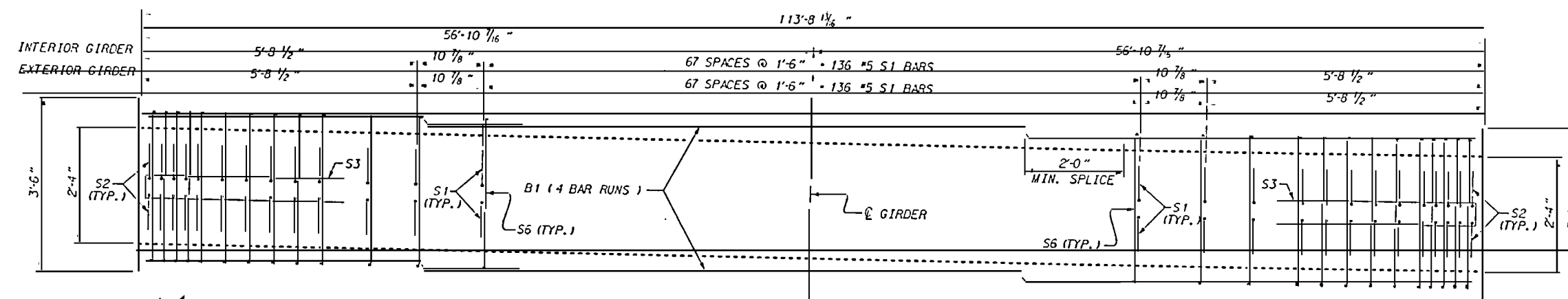
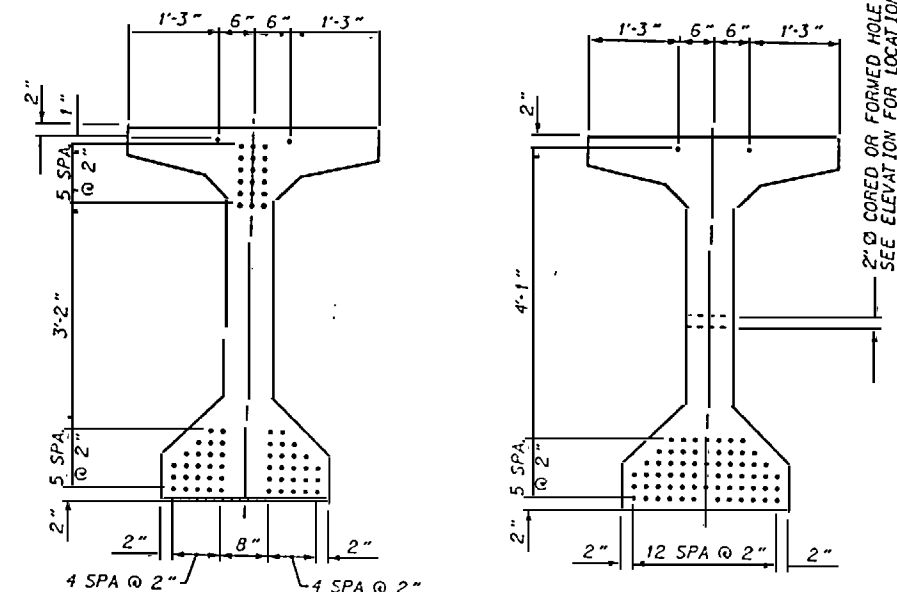
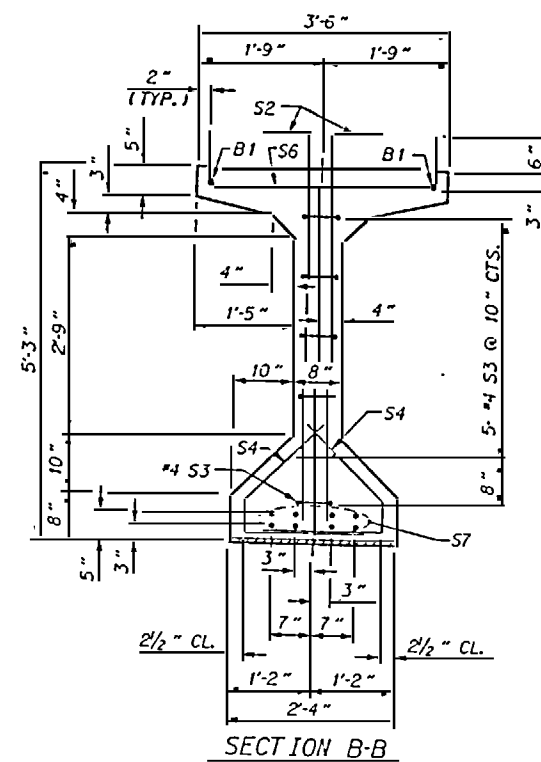
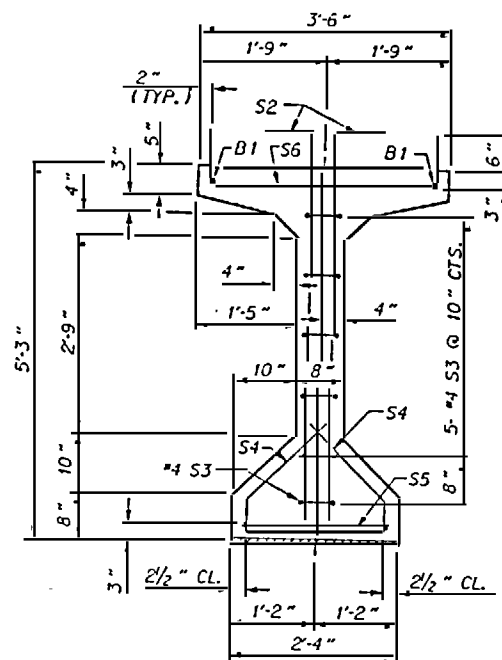


PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 8 OF 8

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE
FRAMING PLAN
SPANS N AND O

REVISIONS			
NO.	BY	DATE	DESCRIPTION
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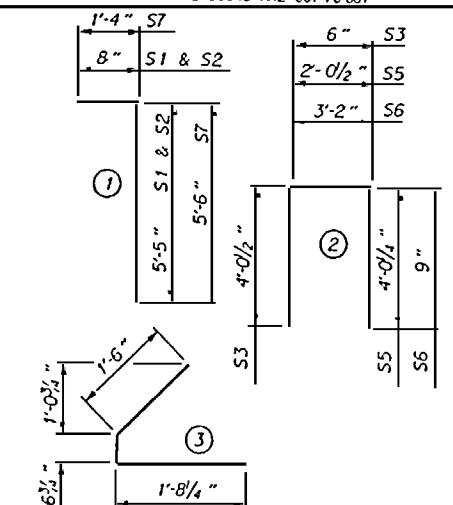


1/2" Ø L. R. GRADE 270 STRANDS		
AREA (SQUARE INCHES)	ULTIMATE STRENGTH (LBS. PER STRAND)	APPLIED PRESTRESS (LBS. PER STRAND)
0.53	41,300	30,980

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#4	STR	29'-11"	160
S1	164	#5	1	6'-1"	1041
S1	164	#5	1	6'-1"	1041
S2	20	#6	1	6'-1"	183
S3	12	#4	2	8'-7"	69
S4	43	#5	3	3'-9"	188
S5	1	#5	2	10'-1"	11
S6	92	#5	2	4'-8"	448
S7	8	#3	1	6'-10"	146

BAR TYPES

ALL BAR DIMENSIONS ARE OUT-TO-OUT



QUANTITIES FOR ONE GIRDER	
1	1
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94	94
95	95
96	96
97	97
98	98
99	99
100	100

	REINFORCING STEEL	8,000 PSI CONCRETE	1/2" O L.R. STRANDS
	LB.	C.Y.	No.
INTERIOR GIRDER	2246	29.6	68
EXTERIOR GIRDER	2246	29.6	68

GIRDERS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
INTERIOR GOR.	9	113'-8 ¹ / ₆ "	1023'-7 ⁵ / ₁₆ "
EXTERIOR GOR.	2	113'-8 ¹ / ₆ "	227'-5 ⁵ / ₈ "

PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 1 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
AASHTO TYPE V
PRESTRESSED CONCRETE GIRDER
CONTINUOUS FOR LIVE LOAD
SPAN A

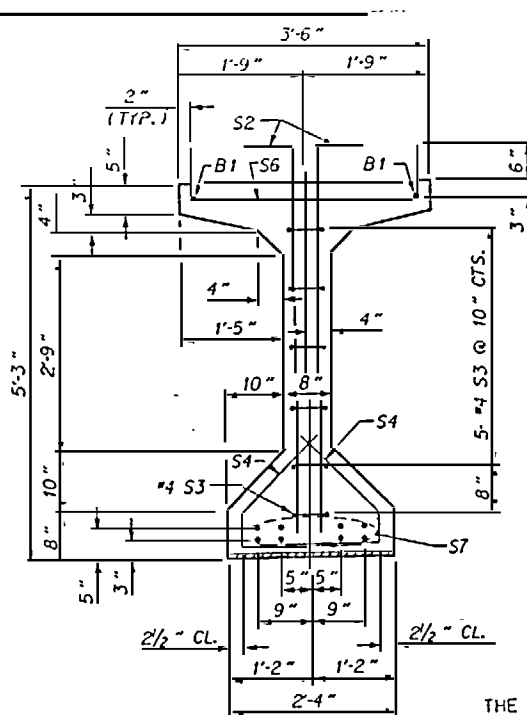
JUNE SPAN A 1996

REVISIONS						SHEET NO. S- 56
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			

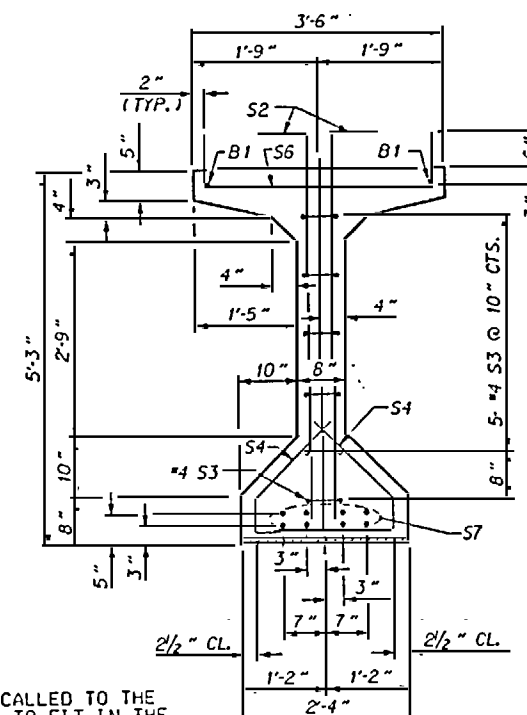
WRITEN BY :	<i>11/11/95</i>	DATE :	7/29/95
ED BY :	<i>T. H. FANG</i>	DATE :	12/20/95

N BY : EEM 6/96
*EO BY : VAP 6/96

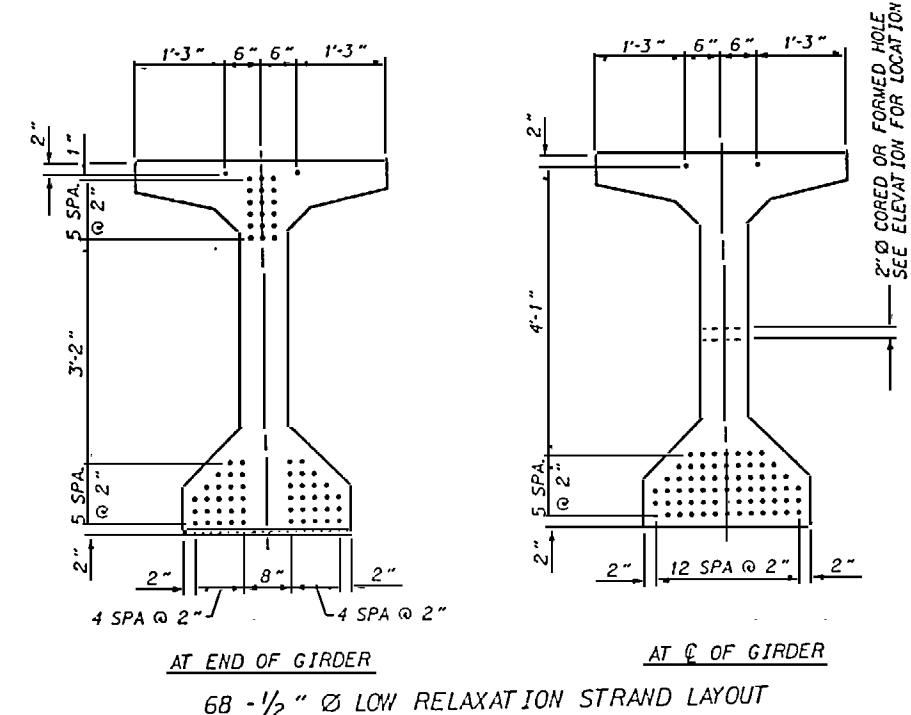
10-JUL-1977 12:00
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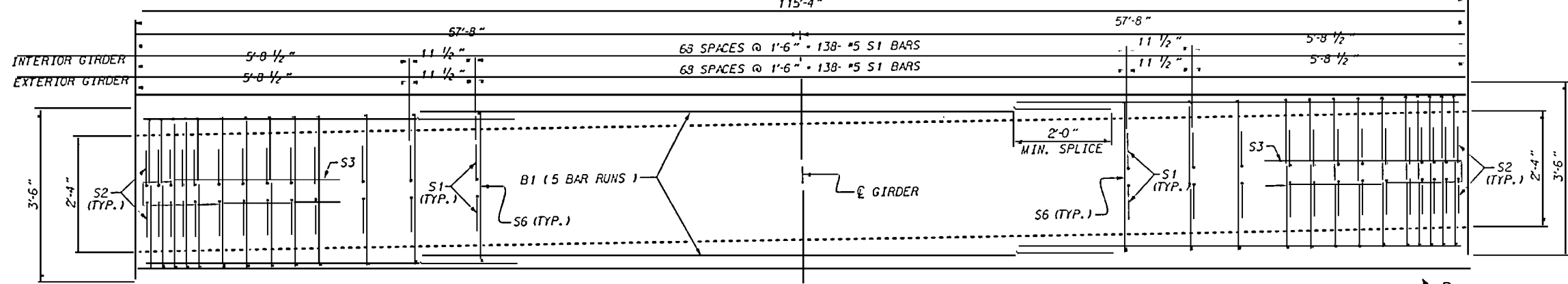
SECTION A-A
 (SPAN B @ BENT #1)
 (SPAN E @ BENT #4)
 (SPAN F @ BENT #5)



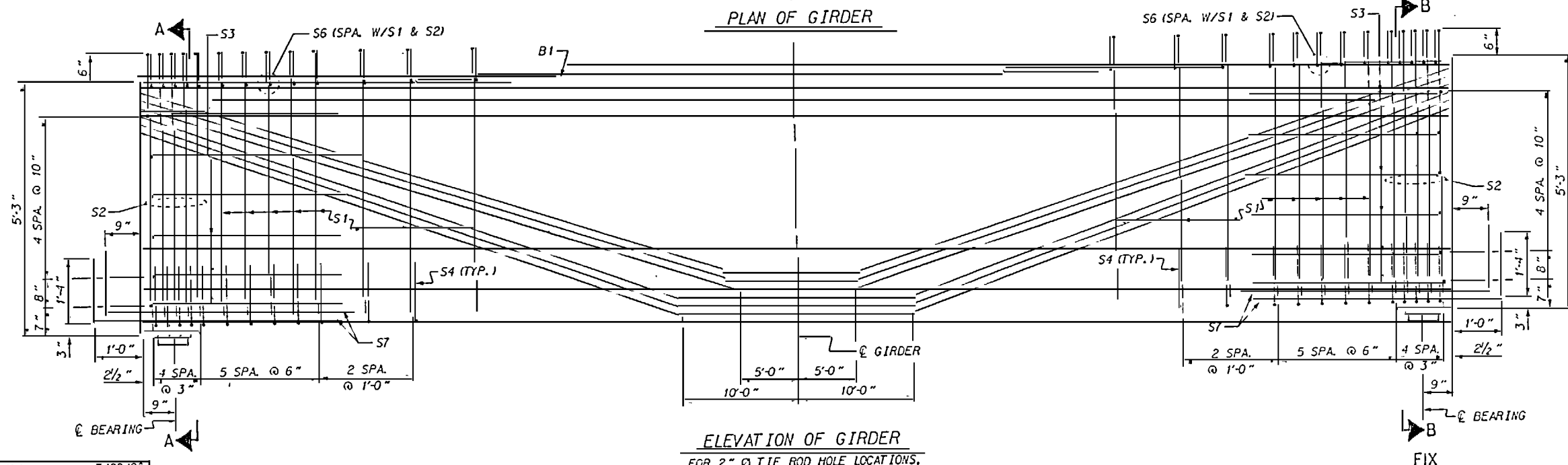
SECTION B-B
 (SPAN B @ BENT #2)
 (SPAN E @ BENT #5)
 (SPAN F @ BENT #6)



68 - 1/2" Ø LOW RELAXATION STRAND LAYOUT
 AT END OF GIRDER
 AT C OF GIRDER



PLAN OF GIRDER



ELEVATION OF GIRDER
 FOR 2" Ø TIE ROD HOLE LOCATIONS,
 SEE GIRDER LAYOUT - ELEVATION.

EMBED BY: J. H. K. DATE: 7/29/93
 CHECKED BY: T. H. FANG DATE: 12/20/95
 AN BY: EEM 6/96
 CKED BY: VAP 6/96

10-AUG-1997 12:00
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1/2" Ø L. R. GRADE 270 STRANDS

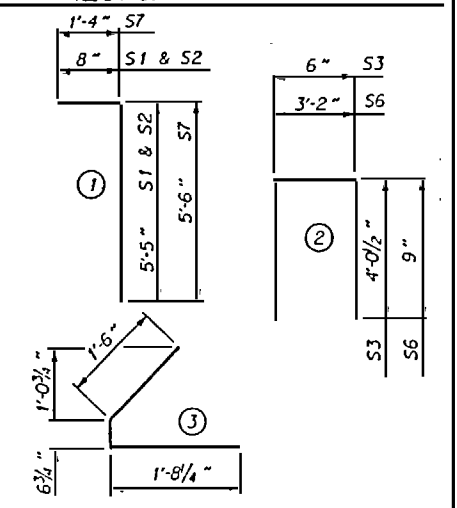
AREA (SQUARE INCHES)	ULTIMATE STRENGTH (LBS. PER STRAND)	APPLIED PRESTRESS (LBS. PER STRAND)
0.153	41,300	30,980

REINFORCING STEEL FOR ONE GIRDER

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#4	STR	24'-8"	165
S1	166	#5	1	6'-1"	1053
S2	20	#5	1	6'-1"	183
S3	12	#4	2	8'-7"	69
S4	48	#5	3	3'-9"	188
S6	93	#5	2	4'-8"	453
S7	16	#3	1	6'-10"	292

BAR TYPES

ALL BAR DIMENSIONS ARE OUT-TO-OUT



QUANTITIES FOR ONE GIRDER

	REINFORCING STEEL	8,000 PSI CONCRETE	1/2" Ø L.R. STRANDS
	LB.	C.Y.	No.
INTERIOR GIRDER	2403	30.0	68
EXTERIOR GIRDER	2403	30.0	68

GIRDERS REQUIRED

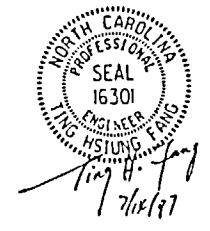
NUMBER	LENGTH	TOTAL LENGTH
27	115'-4"	3114'-0"
6	115'-4"	692'-0"

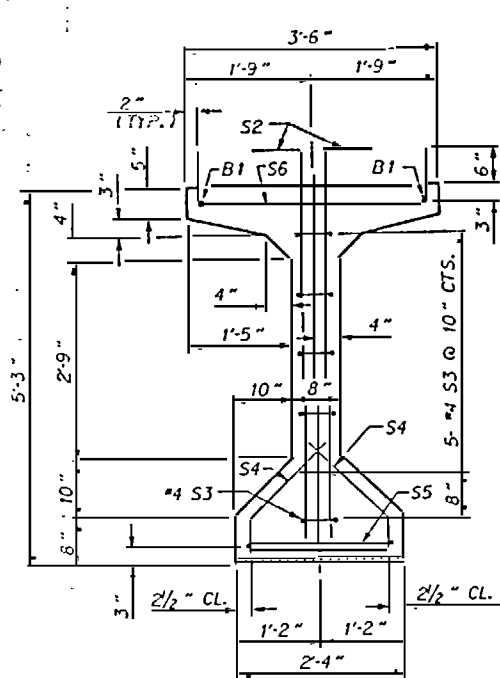
PROJECT NO. U-2107BA
ONSLow COUNTY
 STATION: 277+50.00 -L-

SHEET 2 OF 6

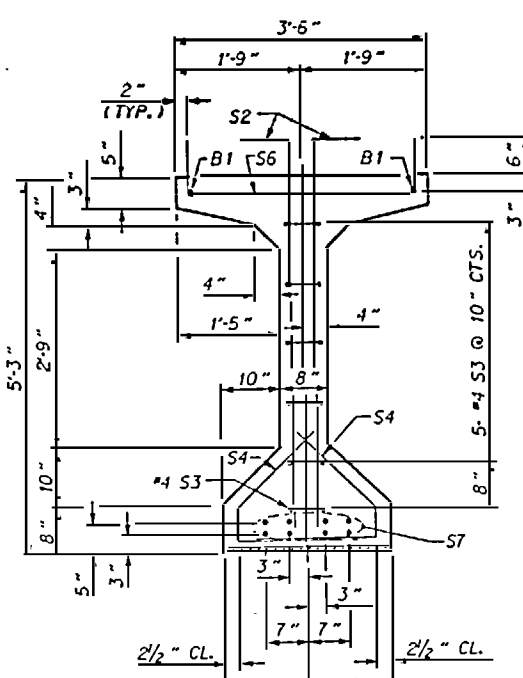
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 STANDARD
 AASHTO TYPE V
 PRESTRESSED CONCRETE GIRDER
 CONTINUOUS FOR LIVE LOAD
 SPANS B, E, & F

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

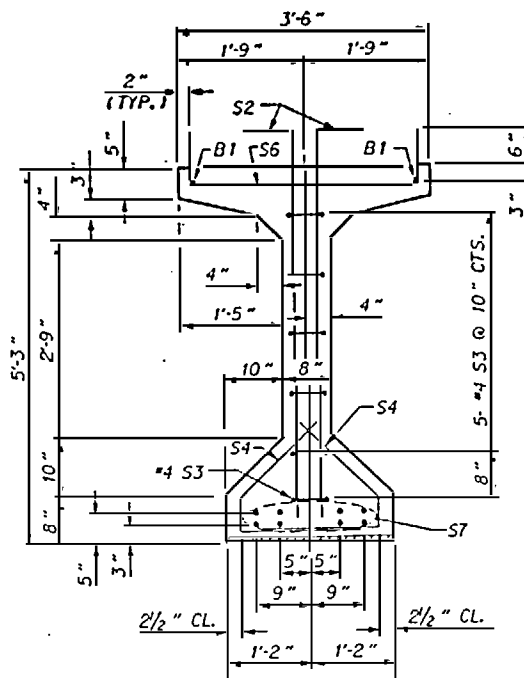




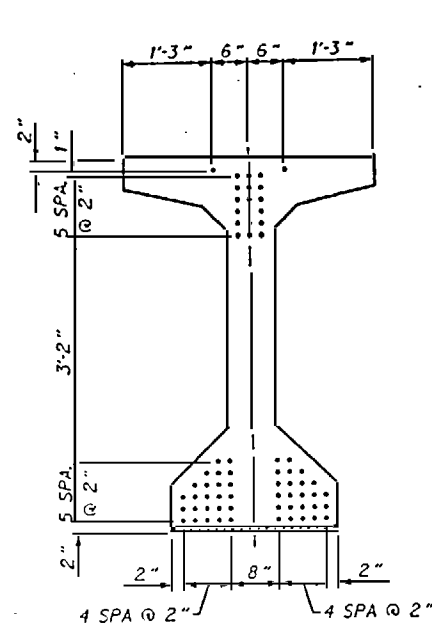
SECTION A-A
SPAN C, D, & G



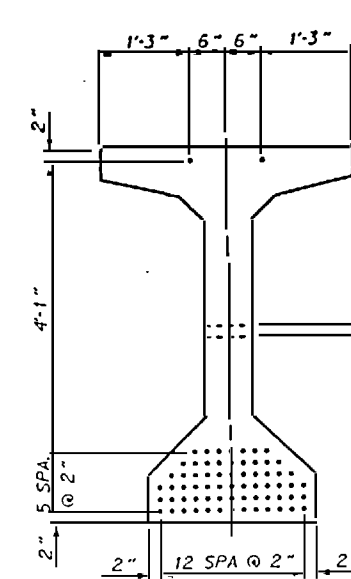
SECTION B-B
SPAN D ONLY



SECTION C-C
SPAN C & G ONLY

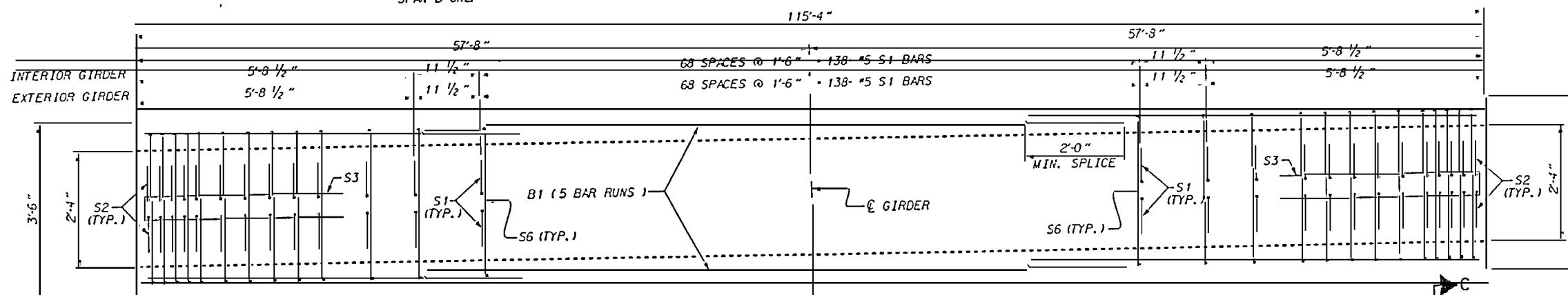


AT END OF GIRDER

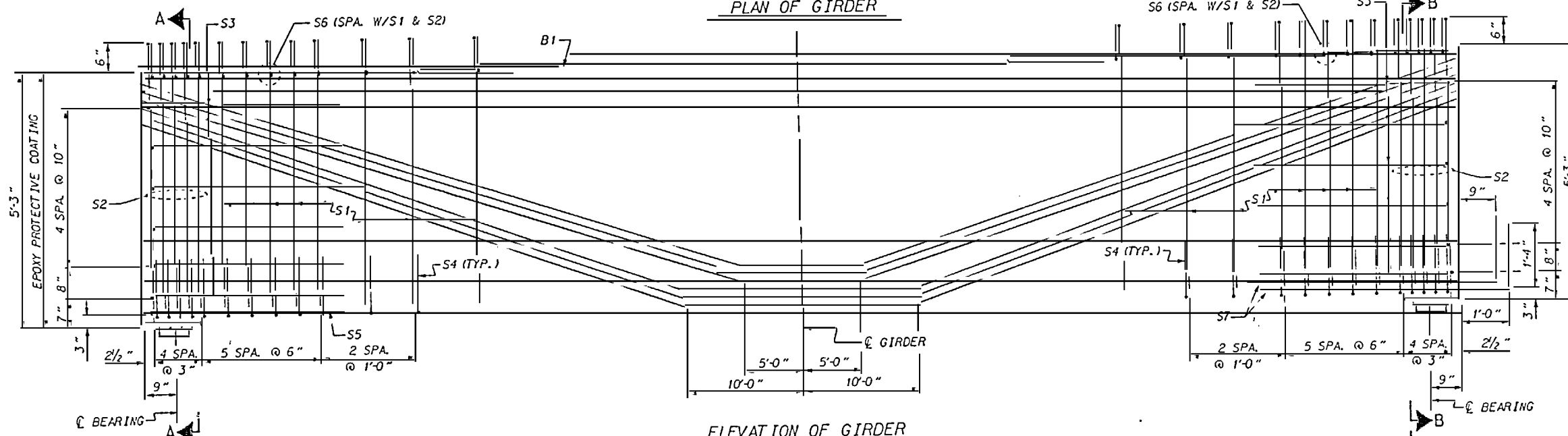


AT C. OF GIRDER

68 - 1/2" Ø LOW RELAXATION STRAND LAYOUT



PLAN OF GIRDER



ELEVATION OF GIRDER
FOR 2" Ø TIE ROD HOLE LOCATIONS.
SEE GIRDER LAYOUT - ELEVATION.

ASSEMBLED BY: JLM/ML DATE: 7/29/96
CHECKED BY: T.H. FANG DATE: 12/20/96
DRAWN BY: EEM 6/96
CHECKED BY: VAP 6/96

EXP.

3-JUL-1997 12:03
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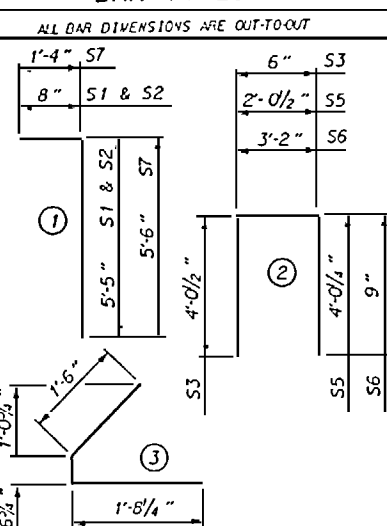
1/2" Ø L.R. GRADE 270 STRANDS

AREA (SQUARE INCHES)	ULTIMATE STRENGTH (LBS. PER STRAND)	APPLIED PRESTRESS (LBS. PER STRAND)
0.153	41,300	30,980

REINFORCING STEEL FOR ONE GIRDER

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#4	STR	24'-8"	165
S1	166	#5	1	6'-1"	1053
S2	20	#6	1	6'-1"	183
S3	12	#4	2	8'-7"	69
S4	48	#5	3	3'-9"	188
S5	1	#5	2	10'-1"	11
S6	93	#5	2	4'-8"	453
S7	8	#8	1	6'-10"	146

BAR TYPES



QUANTITIES FOR ONE GIRDER

	REINFORCING STEEL	8,000 PSI CONCRETE	1/2" Ø L.R. STRANDS
	LB.	C.Y.	No.
INTERIOR GIRDER	2268	30.0	63
EXTERIOR GIRDER	2268	30.0	68

GIRDERS REQUIRED

NUMBER	LENGTH	TOTAL LENGTH
27	115'-4"	3114'-0"
6	115'-4"	692'-0"

PROJECT NO. U-2107BA

ONSLow COUNTY

STATION: 277+50.00 -L-

SHEET 3 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
AASHTO TYPE IV
PRESTRESSED CONCRETE GIRDER
CONTINUOUS FOR LIVE LOAD
SPANS C, D, & G

JUNE 1996

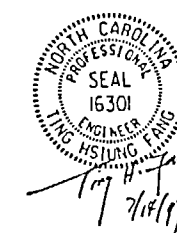
NO.	BY	DATE	NO.	BY	DATE
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3			4		

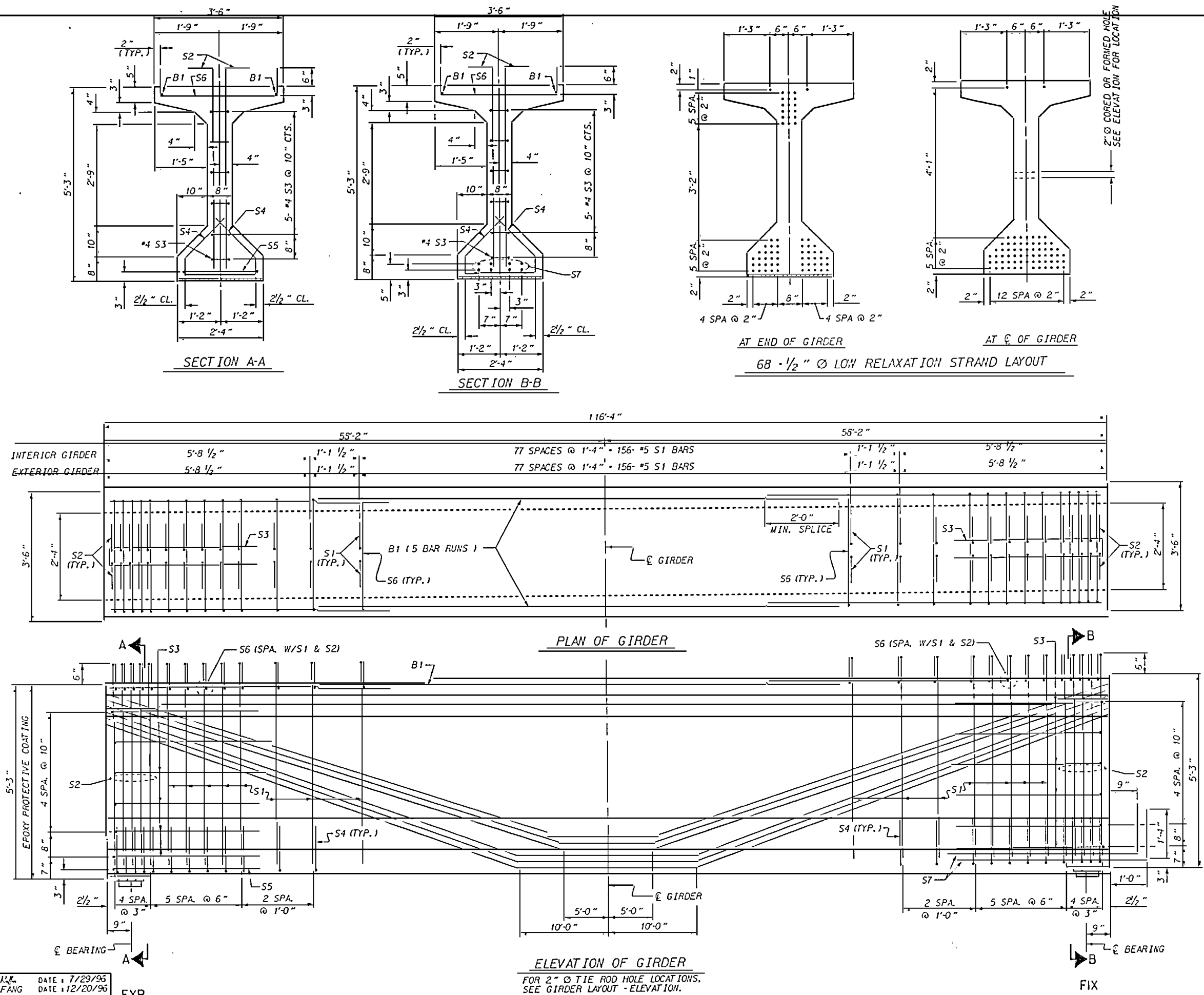
SHEET NO.

5-58

TOTAL

170





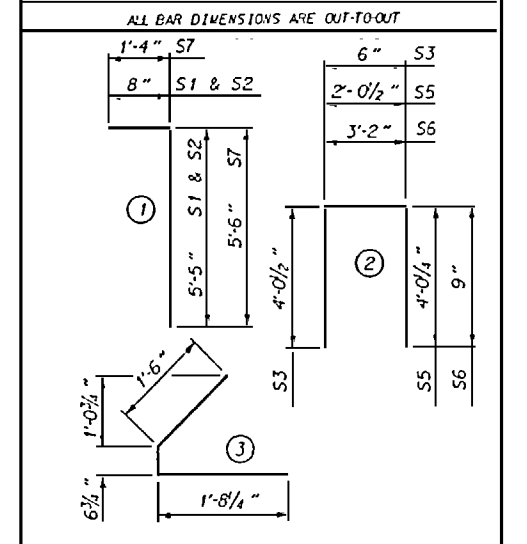
1/2" Ø L.R. GRADE 270 STRANDS

AREA (SQUARE INCHES)	ULTIMATE STRENGTH (LBS. PER STRAND)	APPLIED PRESTRESS (LBS. PER STRAND)
0.153	41,300	30,980

REINFORCING STEEL FOR ONE GIRDER

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#4	STR	2'-10"	166
S1	184	#5	1	6'-1"	1167
S2	20	#5	1	6'-1"	183
S3	12	#4	2	8'-7"	69
S4	48	#5	3	3'-9"	188
S5	1	#5	2	10'-1"	11
S6	102	#5	2	4'-8"	495
S7	8	#3	1	6'-10"	145

BAR TYPES



QUANTITIES FOR ONE GIRDER

	REINFORCING STEEL	8,000 PSI CONCRETE	1/2" Ø L.R. STRANDS
	LB.	C.Y.	No.
INTERIOR GIRDER	2426	30.3	68
EXTERIOR GIRDER	2426	30.3	68

GIRDERS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
INTERIOR GDR.	9	116'-4"	1047'-0"
EXTERIOR GDR.	2	116'-4"	232'-8"

PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

SHEET 4 OF 6

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 AASHTO TYPE V
 PRESTRESSED CONCRETE GIRDER
 CONTINUOUS FOR LIVE LOAD
 SPAN L

JUNE 1996

REVISIONS

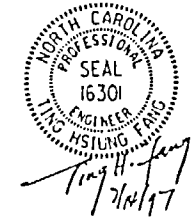
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1			3		
2			4		

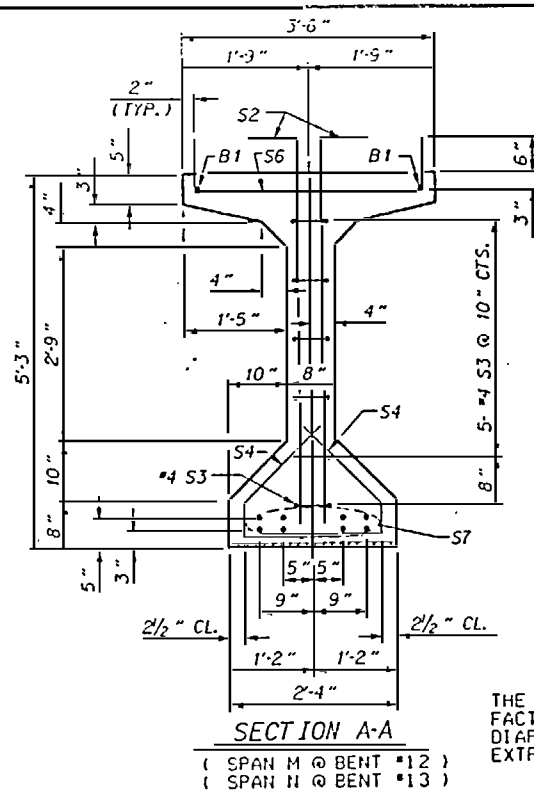
SHEET NO. S-59
 TOTAL SHEETS 170

DRAWN BY: W.M. K. DATE: 7/29/96
 CHECKED BY: T.H. FANG DATE: 12/20/96
 AN BY: EEM 6/96
 CKD BY: VAP 6/96

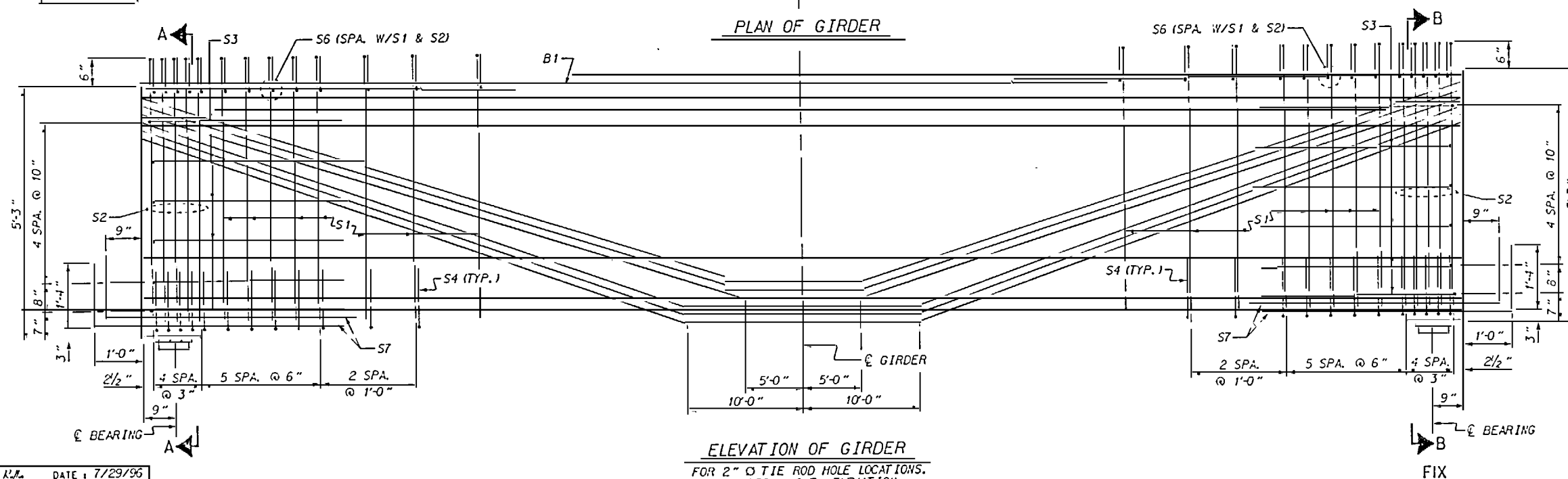
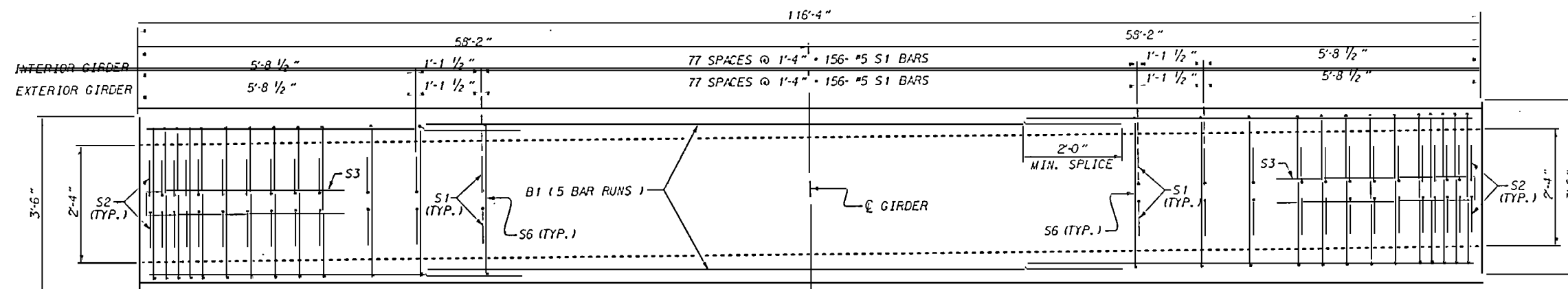
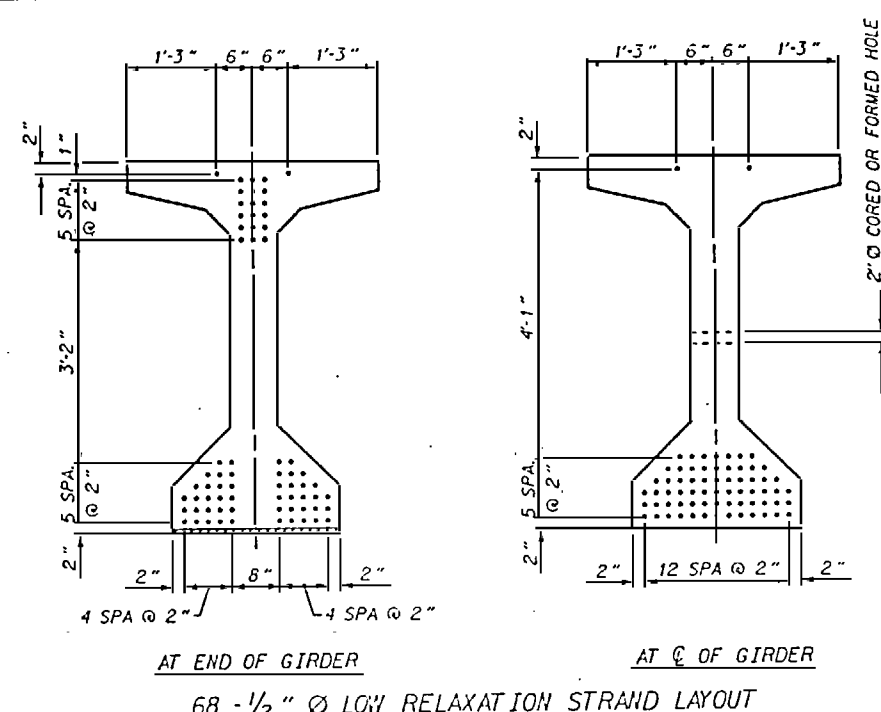
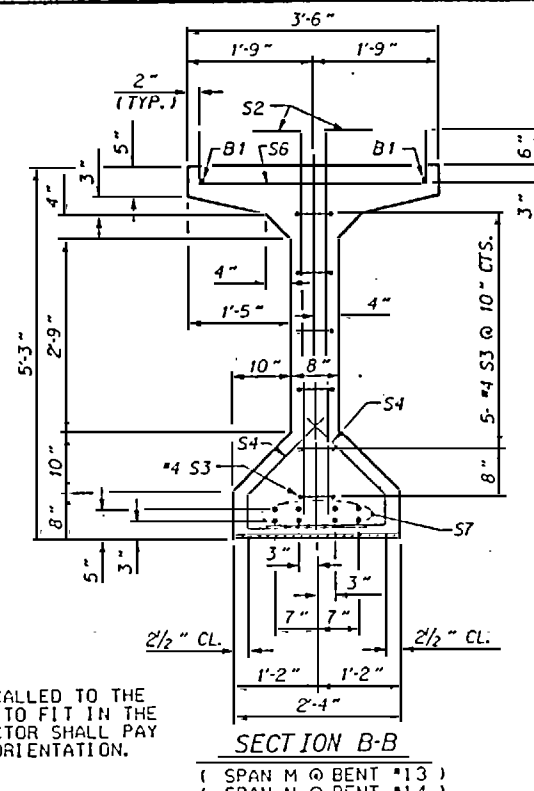
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THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT, IN ORDER FOR THE S7 BARS TO FIT IN THE DIAPHRAGM PROPERLY, THE CONTRACTOR SHALL PAY EXTRA ATTENTION TO THE GIRDER ORIENTATION.



1/2" Ø L.R. GRADE 270 STRANDS

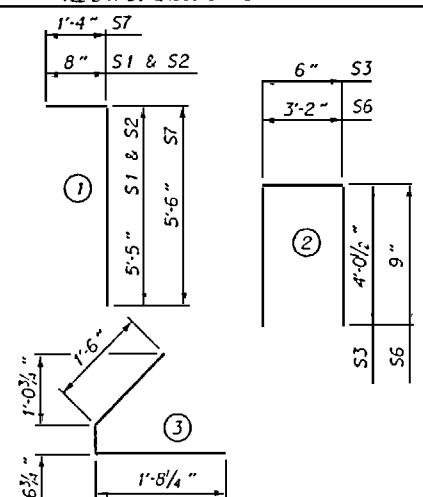
AREA (SQUARE INCHES)	ULTIMATE STRENGTH (LBS. PER STRAND)	APPLIED PRESTRESS (LBS. PER STRAND)
0.153	41,300	30,980

REINFORCING STEEL FOR ONE GIRDER

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#4	STR	2'-10"	166
S1	184	#5	1	6'-1"	1167
S2	20	#5	1	6'-1"	183
S3	12	#4	2	8'-7"	69
S4	48	#5	3	3'-9"	188
S6	102	#5	2	4'-8"	495
S7	16	#3	1	6'-10"	292

BAR TYPES

ALL BAR DIMENSIONS ARE OUT-TO-OUT



QUANTITIES FOR ONE GIRDER

	REINFORCING STEEL	8,000 PSI CONCRETE	1/2" Ø L.R. STRANDS
	LB.	C.Y.	No.
INTERIOR GIRDER	2561	30.3	68
EXTERIOR GIRDER	2561	30.3	68

GIRDERS REQUIRED

NUMBER	LENGTH	TOTAL LENGTH
INTERIOR GDR.	18	116'-4"
EXTERIOR GDR.	4	116'-4"

PROJECT NO. U-2107BA

ONSLow COUNTY

STATION: 277+50.00 -L-

SHEET 5 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
AASHTO TYPE V
PRESTRESSED CONCRETE GIRDER
CONTINUOUS FOR LIVE LOAD
SPANS M & N

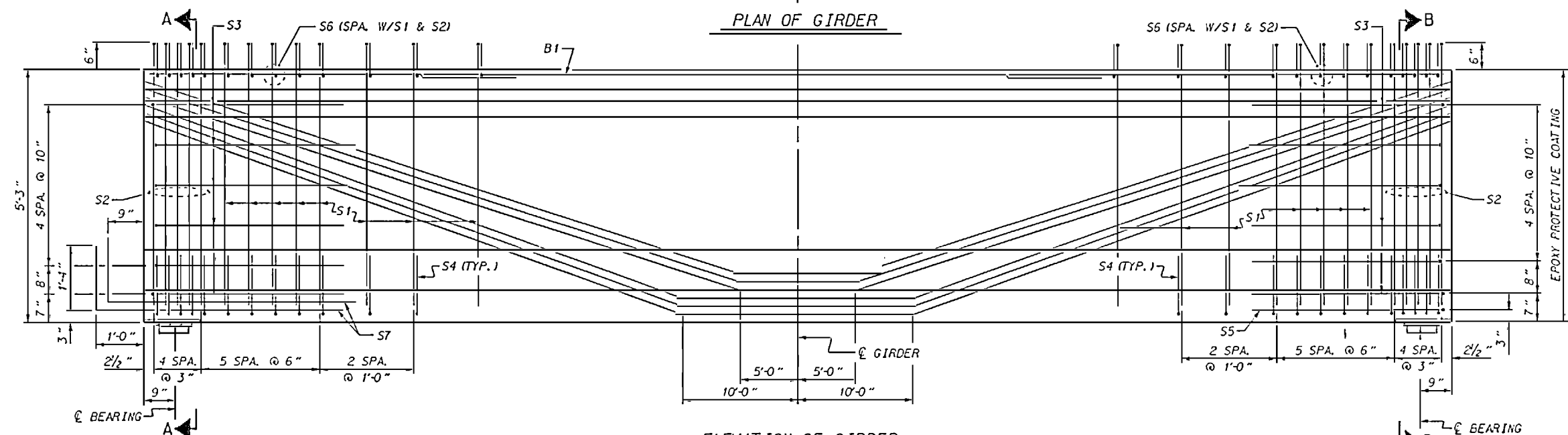
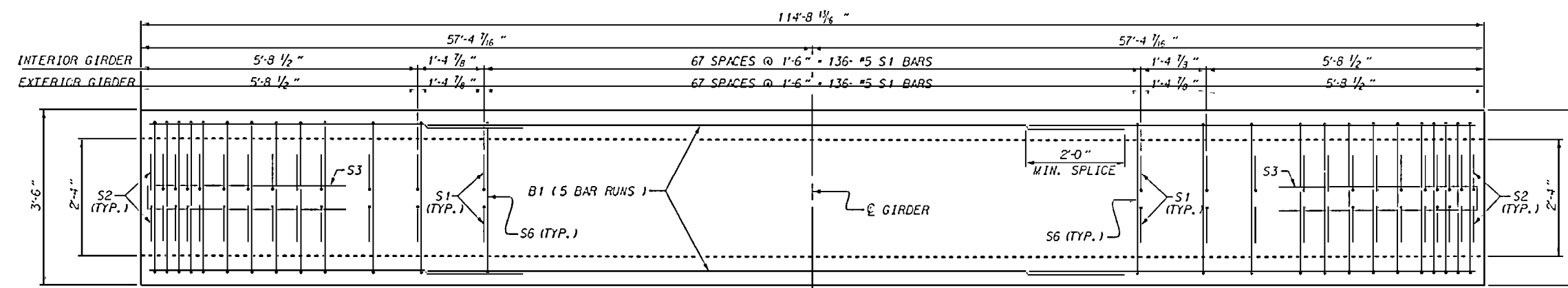
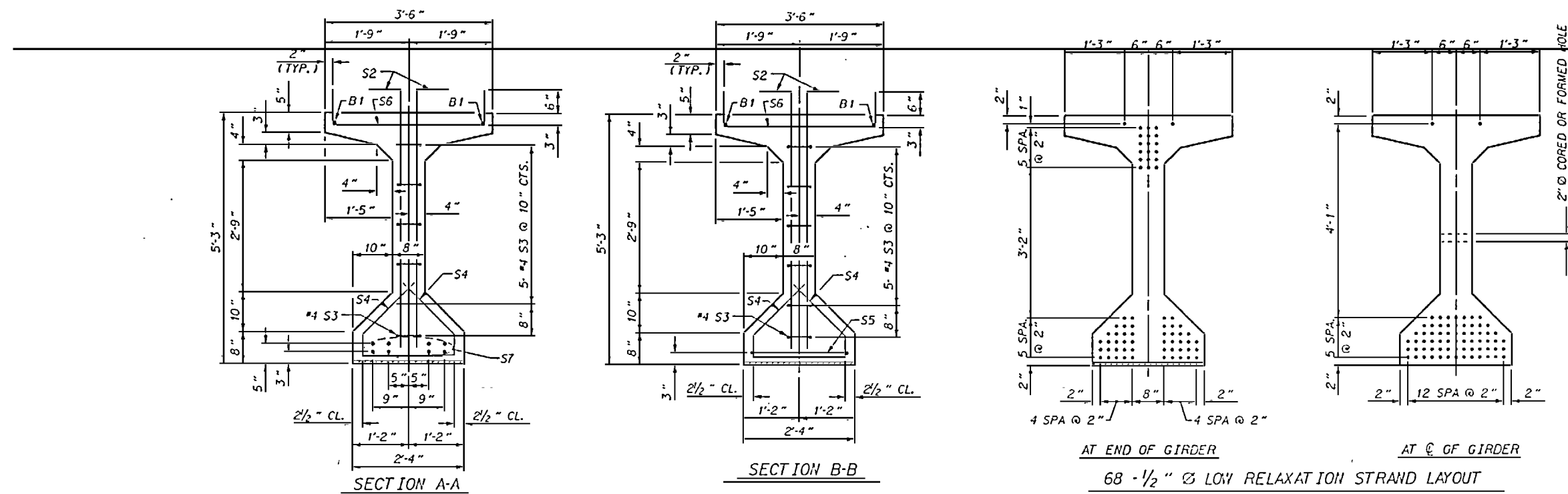
JUNE 1996

NO.	BY	DATE	NO.	BY	DATE	SHEET NO.
1			2			5-60
2			3			TOTAL SHEETS 170

DESIGNED BY: J. H. K. DATE: 7/29/96
CHECKED BY: T. H. FANG DATE: 12/20/96
DRAWN BY: EEM 6/96
REVIEWED BY: VAP 6/96

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DESIGNED BY: JLM/MLM DATE: 7/29/95
 CHECKED BY: T.H. FAYG DATE: 12/20/96
 IN BY: EEM 6/96
 EX BY: VAP 6/96

FIX

ELEVATION OF GIRDER

FOR 2" Ø TIE ROD HOLE LOCATIONS, SEE GIRDER LAYOUT - ELEVATION.

EXP.

1/2" Ø L. R. GRADE 270 STRANDS

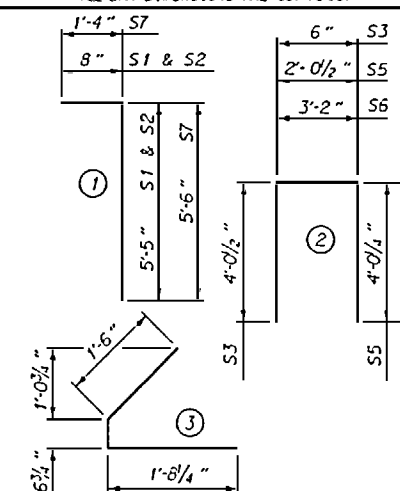
AREA	ULTIMATE STRENGTH	APPLIED PRESTRESS
(SQUARE INCHES)	(LBS. PER STRAND)	(LBS. PER STRAND)
0.153	41,300	30,980

REINFORCING STEEL FOR ONE GIRDER

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#4	STR	24'-7"	164
S1	164	#5	1	6'-1"	1041
S2	20	#5	1	6'-1"	183
S3	12	#4	2	8'-7"	69
S4	48	#5	3	3'-9"	189
S5	1	#5	2	10'-1"	11
S6	92	#5	2	4'-8"	443
S7	8	#8	1	6'-10"	146

BAR TYPES

ALL BAR DIMENSIONS ARE OUT-TO-OUT



QUANTITIES FOR ONE GIRDER

	REINFORCING STEEL	8,000 PSI CONCRETE	1/2" Ø L.R. STRANDS
	LB.	C.Y.	NO.
INTERIOR GIRDER	2250	29.9	68
EXTERIOR GIRDER	2250	29.9	69

GIRDERS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
INTERIOR GDR.	9	114'-8 1/8"	1032'-7 1/8"
EXTERIOR GDR.	2	114'-8 1/8"	229'-5 1/8"

PROJECT NO. U-2107BA

ONSLOW COUNTY

STATION: 277+50.00 -L-

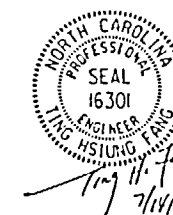
SHEET 6 OF 6

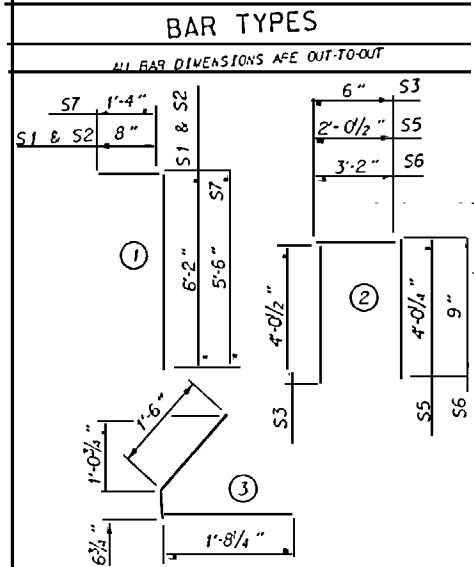
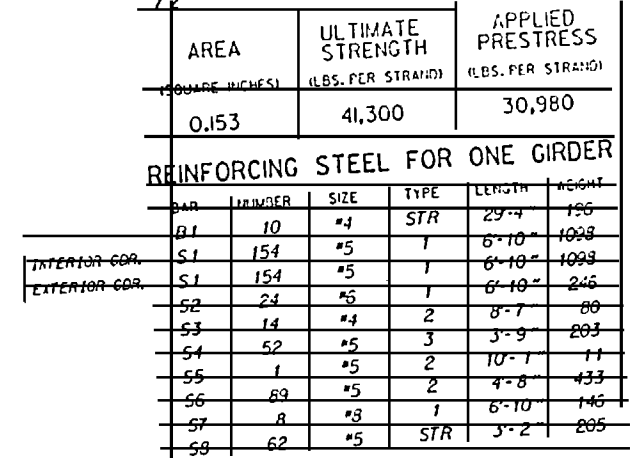
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
 AASHTO TYPE V
 PRESTRESSED CONCRETE GIRDER
 CONTINUOUS FOR LIVE LOAD
 SPAN 0

JUNE 1996

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	5-61
1			3			TOTAL SHEETS 170
2			4			





QUANTITIES FOR ONE GIRDER			
	REINFORCING STEEL	8,000 PSI CONCRETE	1/2" O.L. STRAP
	LB.	C.Y.	NO.
INTERIOR GIRDER	26.18	38.8	65
EXTERIOR GIRDER	26.18	38.8	60

GIRDERS REQUIRED		
	NUMBER	LENGTH
INTERIOR GDR.	26	138'-10"
EXTERIOR GDR.	4	138'-10"

PROJECT NO. U-2107/BA
ONSLOW COUN
 STATION: 277+50.00 -L-

SHEET 1 OF 2

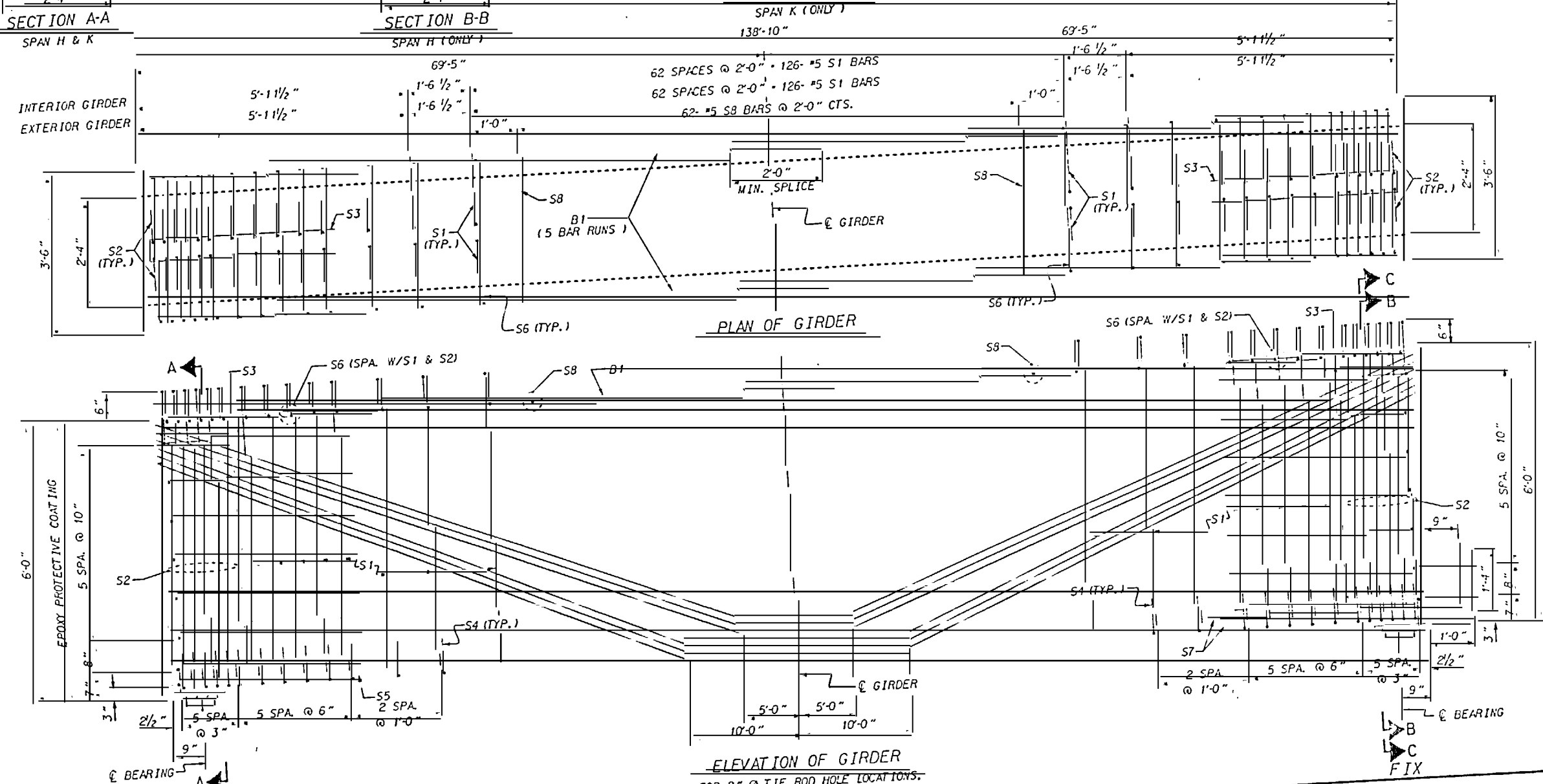
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
AASHTO TYPE VI
PRESTRESSED CONCRETE GIRDS
CONTINUOUS FOR LIVE LOAD
SPANS H & K

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

STD.No.PCG9

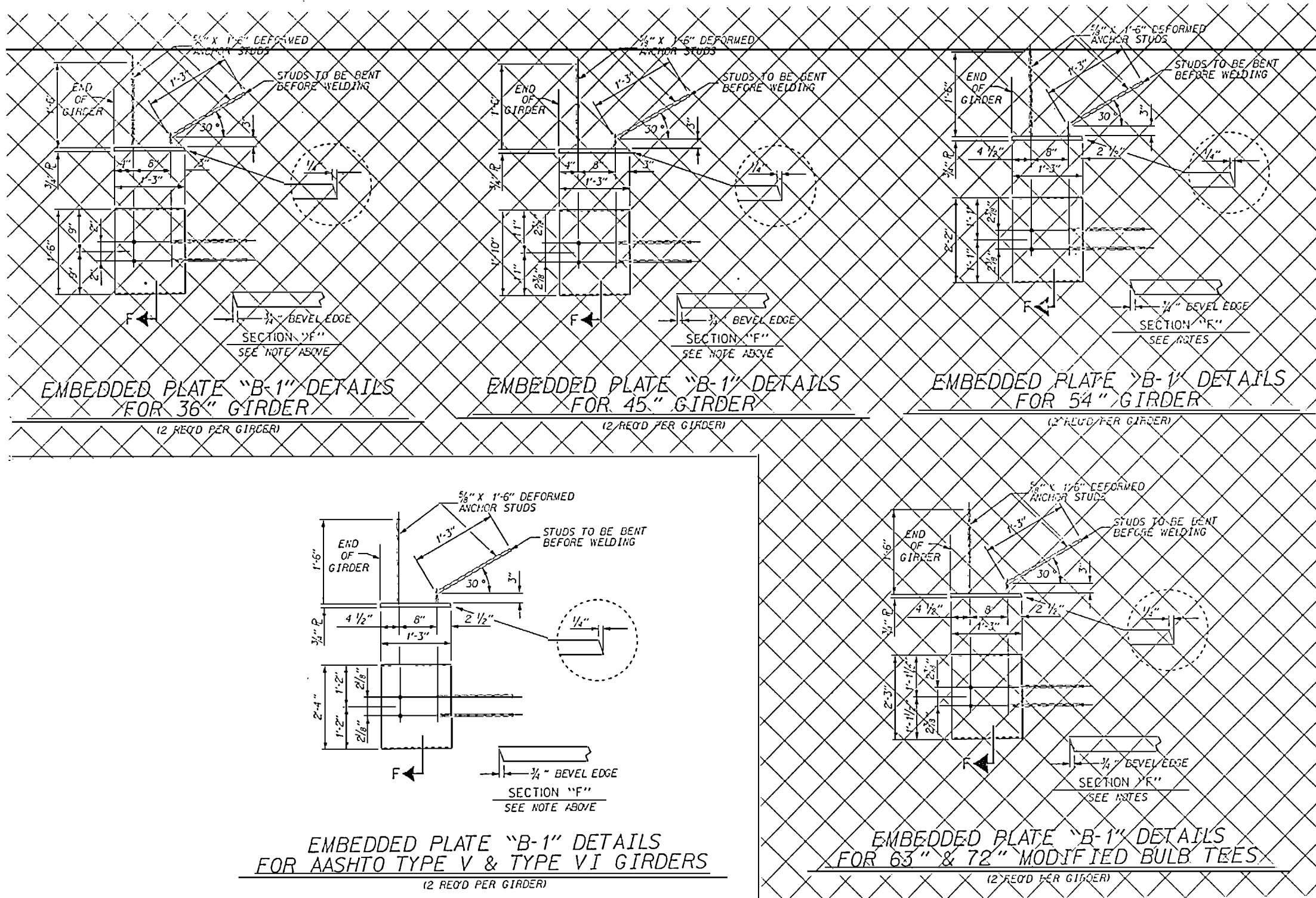


ELEVATION OF GIRDER
FOR 2" Ø TIE ROD HOLE LOCATIONS.
SEE GIRDER LAYOUT - ELEVATION.

ASSEMBLED BY : <i>W.M. Koff</i>		DATE : <i>11/23/97</i>
CHECKED BY : <i>T.H. FANG</i>		DATE : <i>12/20/97</i>
DRAWN BY : EEM	6/96	
CHECKED BY : VAP	6/96	

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NOTES

ALL PRESTRESSING STRANDS SHALL BE 7 WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO ASTM A-416 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TIE ROD ASSEMBLY SHALL BE AASHTO M270 GRADE 36 STRUCTURAL STEEL.

ALL REINFORCING STEEL SHALL BE GRADE 60.

APPLY EPOXY PROTECTIVE COATING TO END OF GIRDER SURFACES INDICATED IN ELEVATION VIEW. FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

EMBEDDED PLATE "B-1" SHALL BE GALVANIZED IN ACCORDANCE WITH THE SPECIFICATIONS.

STEEL SOLE PLATES, BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE SPECIFICATIONS.

BEVEL EDGES OF PLATE "B-1" TO GIVE CLOSE FIT BUT NOT TIGHT FIT TO STEEL CASTING FORM.

DEFORMED ANCHOR STUDS SHALL CONFORM TO ASTM A-495. WELDING PROCEDURE QUALIFICATION TEST FOR DEFORMED ANCHOR STUDS MAY BE REQUIRED.

AT FIXED ENDS OF GIRDERS TO BE EMBEDDED IN CONCRETE DIAPHRAGMS OR END WALLS, PRESTRESSING STRANDS MAY EXTEND A MAXIMUM OF 2" BEYOND THE GIRDER ENDS.

AT EXPANSION ENDS OF GIRDERS, PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE GIRDER ENDS.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE GIRDER SHALL BE DONE WHEN CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 6000 PSI.

DEPENDENT ON THE TYPE OF SYSTEM USED TO SUPPORT THE DECK SLAB FORMS, PRESET ANCHORS MAY BE NECESSARY IN THE PRESTRESSED CONCRETE GIRDER.

THE TOP SURFACE OF THE GIRDER SHALL BE RAKED TO A DEPTH OF 1/4" EXCEPT IN THE AREA BETWEEN THE STIRRUP AND THE EDGE OF THE GIRDER.

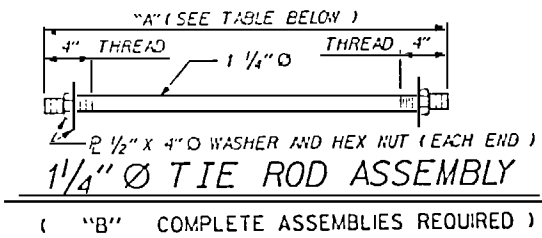
WHEN DRAPED STRANDS ARE DETAIL, THE LONGITUDINAL LOCATION OF THE HOLD DOWN DEVICES SHALL BE WITHIN 6" OF THE LOCATION SHOWN AND THE CENTER OF GRAVITY OF THE GROUP OF DRAPED STRANDS SHALL BE LOCATED WITHIN 1/2" OF THE THEORETICAL LOCATION SHOWN.

FOR HIGH STRENGTH PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

PRESTRESSED CONCRETE GIRDERS SHALL CONTAIN CALCIUM NITRITE CORROSION INHIBITOR. SEE SPECIAL PROVISIONS FOR "CALCIUM NITRITE CORROSION INHIBITOR."

FOR GROUTED RECESS FOR END OF TIE ROD DETAIL, SEE SUPERSTRUCTURE "GIRDER LAYOUT - ELEVATION."

FOR GROUT FOR ENDS OF TIE RODS FOR PRESTRESSED GIRDERS, SEE SPECIAL PROVISIONS.

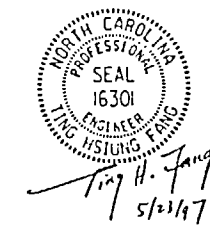


SPANS	"A" (LENGTH)	"B" (QUANTITIES)
H, I, J, K	16'-0"	56
A THRU G AND L THRU O (EXT. GDR.)	22'-3"	66
A THRU G AND L THRU O (INT. GDR.)	22'-2"	44

PROJECT NO. U-2107BA

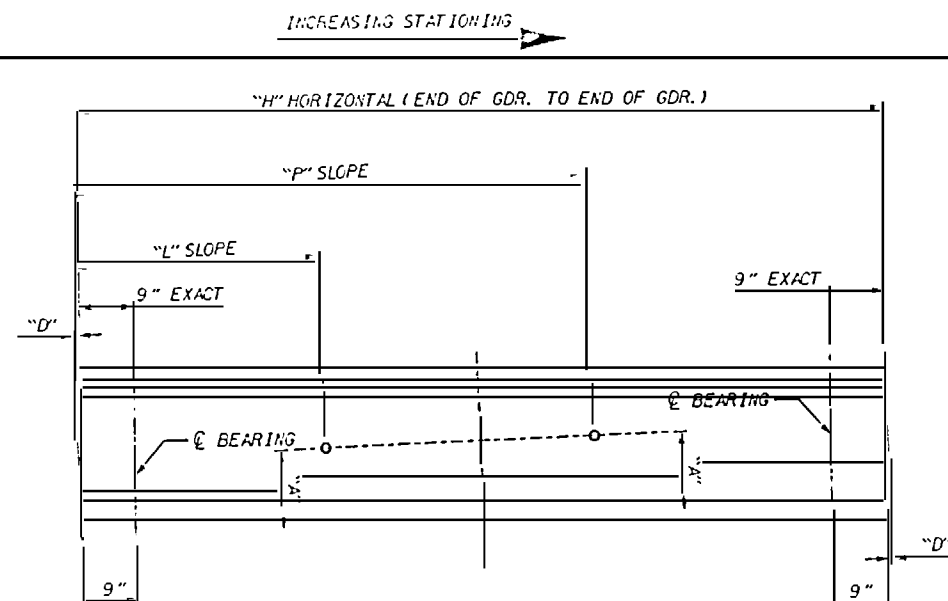
ONSLOW COUNTY

STATION: 277+50.00 -L-



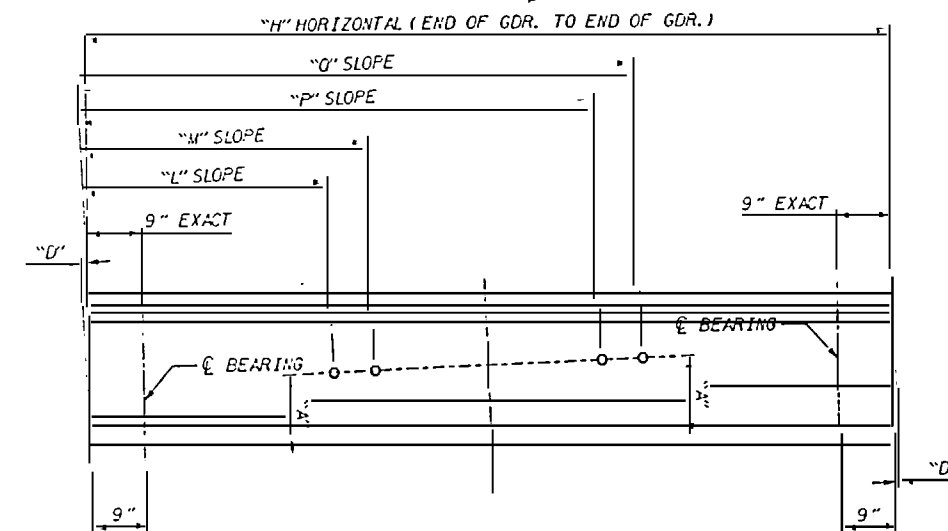
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FALECH					
STANDARD PRESTRESSED CONCRETE GIRDER CONTINUOUS FOR LIVE LOAD DETAILS					
NOVEMBER 1991					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
SHEET NO. S-64					TOTAL SHEETS 170

DESIGNED BY: <u>11/11/12/1</u>	DATE: <u>7/29/96</u>
REVIEWED BY: <u>T. H. FANG</u>	DATE: <u>12/20/96</u>
IN BY: <u>ELR 11/91</u>	REV. 6/1/94 EEM/CRP
EX BY: <u>GRP 11/91</u>	REV. 6/16/95RR EEM/RCW



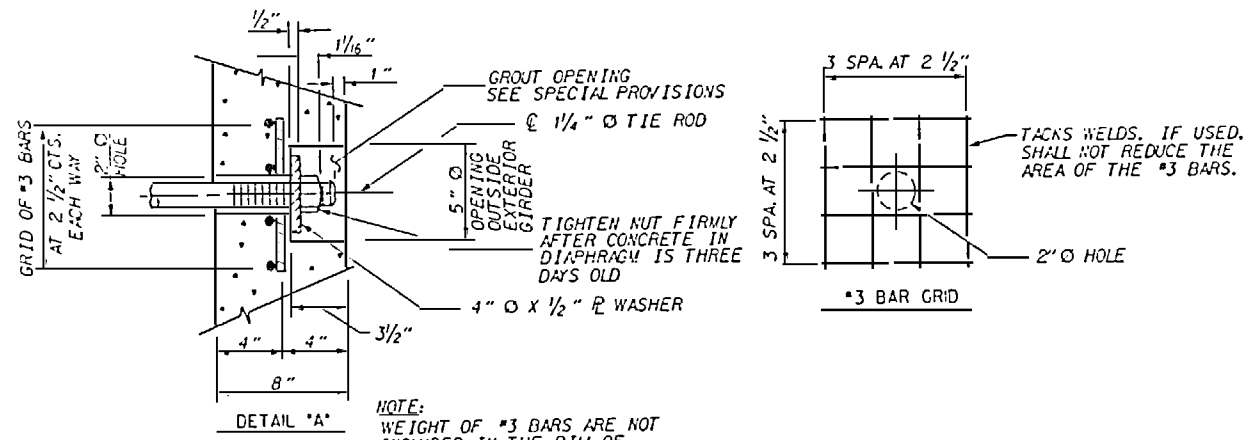
GIRDER LAYOUT - ELEVATION

FOR SPANS A THROUGH J



GIRDER LAYOUT - ELEVATION

FOR SPANS A THROUGH J

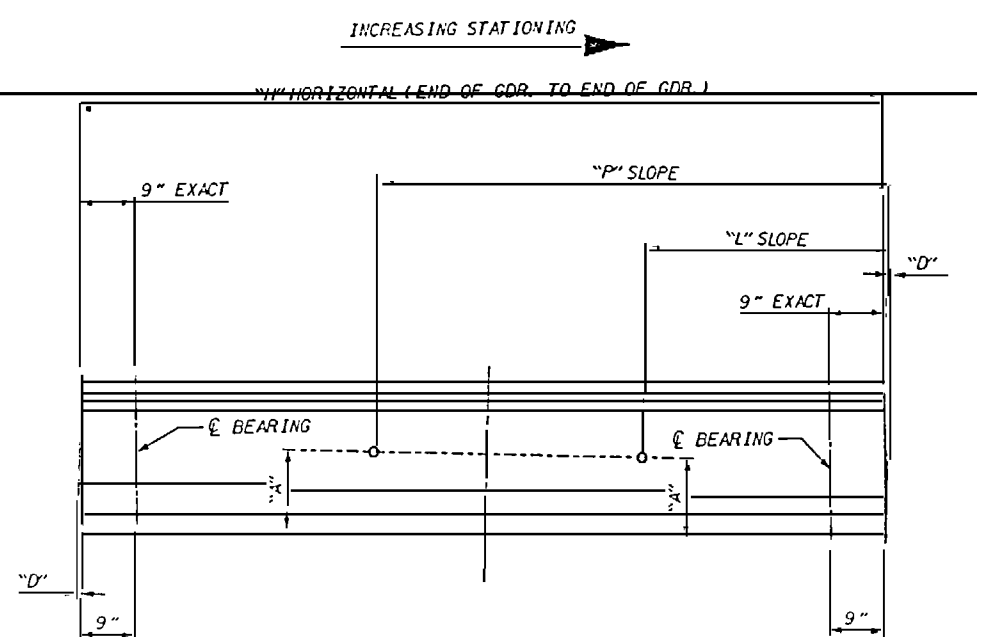


NOTE: WEIGHT OF #3 BARS ARE NOT INCLUDED IN THE BILL OF MATERIAL

GROUTED RECESS FOR END OF TIE ROD

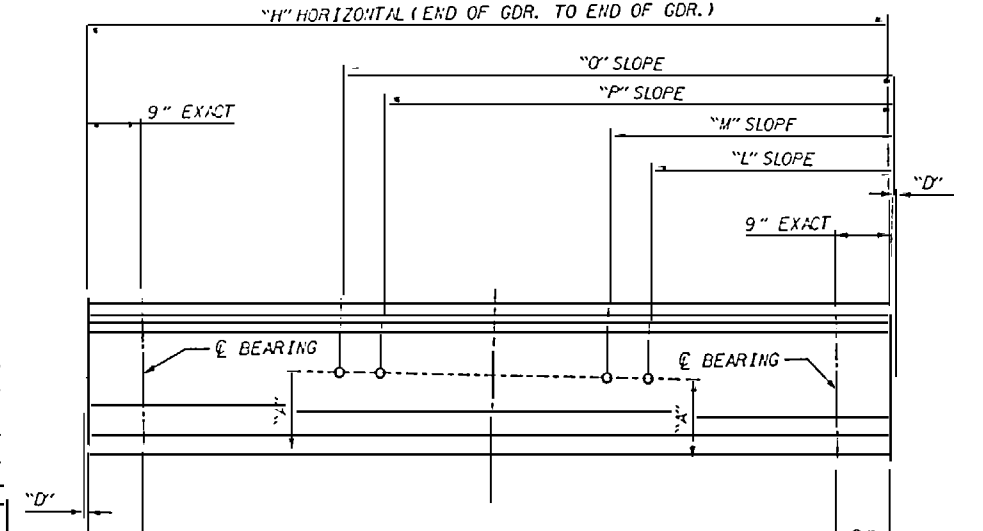
GIRDER DIMENSIONS								
SPAN	GIRDER #	"A"	"D"	"H"	"L"	"M"	"P"	"U"
A	2, 4, 8, 10	2'-9"	1 1/8"	113'-8 1/8"	38'-1 1/4"		75'-6 3/8"	
A	6	2'-6 3/8"	1 1/8"	113'-8 1/8"	38'-1 1/8"		75'-6 3/8"	
A	1	2'-9"	1 1/8"	113'-8 1/8"	41'-0 3/8"		78'-5 1/2"	
A	11	2'-9"	1 1/8"	113'-8 1/8"	35'-2 1/8"		72'-7 1/4"	
A	3, 5, 7, 9	2'-9"	1 1/8"	113'-8 1/8"	35'-2 3/8"	41'-0 1/8"	72'-7 1/8"	78'-5 1/4"
B	2, 4, 8, 10	2'-9"	1 1/8"	115'-4"	38'-7 3/8"		76'-7 1/8"	
B	6	2'-6 3/8"	1 1/8"	115'-4"	38'-7 1/8"		76'-7 1/8"	
B	1	2'-9"	1 1/8"	115'-4"	41'-6 1/4"		79'-6 1/8"	
B	11	2'-9"	1 1/8"	115'-4"	35'-8 1/2"		73'-8"	
B	3, 5, 7, 9	2'-9"	1 1/8"	115'-4"	35'-8 3/4"	41'-6 1/2"	73'-8 1/8"	79'-6"
C	2, 4, 8, 10	2'-9"	1 1/8"	115'-4"	38'-7 1/8"		76'-7 1/8"	
C	6	2'-6 3/8"	1 1/8"	115'-4"	38'-7 3/8"		76'-7 1/8"	
C	1	2'-9"	1 1/8"	115'-4"	41'-6 1/8"		79'-6 1/8"	
C	11	2'-9"	1 1/8"	115'-4"	35'-8 1/8"		73'-8 1/8"	
C	3, 5, 7, 9	2'-9"	1 1/8"	115'-4"	35'-8 1/2"	41'-6 1/2"	73'-8 1/8"	79'-6"
D	2, 4, 8, 10	2'-9"	1 1/8"	115'-4"	38'-7 1/4"		76'-7 1/4"	
D	6	2'-6 3/8"	1 1/8"	115'-4"	38'-7 1/8"		76'-7 1/4"	
D	1	2'-9"	1 1/8"	115'-4"	41'-6 1/8"		79'-6 1/8"	
D	11	2'-9"	1 1/8"	115'-4"	35'-8 1/8"		73'-8 1/8"	
D	3, 5, 7, 9	2'-9"	1 1/8"	115'-4"	35'-8 1/2"	41'-6 1/2"	73'-8 1/8"	79'-6 1/4"
E	2, 4, 8, 10	2'-9"	1 1/8"	115'-4"	38'-7 1/4"		76'-7 1/4"	
E	6	2'-6 3/8"	1 1/8"	115'-4"	38'-7 1/8"		75'-7 1/8"	
E	1	2'-9"	1 1/8"	115'-4"	41'-6 1/8"		79'-6 1/8"	
E	11	2'-9"	1 1/8"	115'-4"	35'-8 1/8"		73'-8 1/8"	
E	3, 5, 7, 9	2'-9"	1 1/8"	115'-4"	35'-8 1/2"	41'-6 1/2"	73'-8 1/8"	79'-6 1/8"
F	2, 4, 8, 10	2'-9"	1 1/8"	115'-4"	38'-7 1/8"		76'-7 1/8"	
F	6	2'-6 3/8"	1 1/8"	115'-4"	38'-7 1/4"		76'-7 1/4"	
F	1	2'-9"	1 1/8"	115'-4"	41'-6 1/8"		79'-6 1/8"	
F	11	2'-9"	1 1/8"	115'-4"	35'-8 3/4"		73'-8 3/8"	
F	3, 5, 7, 9	2'-9"	1 1/8"	115'-4"	35'-8 1/2"	41'-6 1/2"	73'-8 3/8"	79'-6 1/8"
G	2, 4, 8, 10	2'-9"	1 1/8"	115'-4"	38'-7 1/8"		76'-7 1/8"	
G	6	2'-6 3/8"	1 1/8"	115'-4"	38'-7 1/4"		76'-7 1/4"	
G	1	2'-9"	1 1/8"	115'-4"	41'-7 1/8"		79'-6 1/8"	
G	11	2'-9"	1 1/8"	115'-4"	35'-8 1/8"		73'-8 1/8"	
G	3, 5, 7, 9	2'-9"	1 1/8"	115'-4"	35'-8 1/2"	41'-6 1/2"	73'-8 1/2"	79'-6 1/8"
H	2, 4, 6, 10, 12, 14	3'-1 1/2"	3/8"	138'-10"	48'-6"		92'-3 1/4"	
H	8	2'-1 1/8"	3/8"	138'-10"	48'-5 5/8"		92'-3 1/2"	
H	1	3'-1 1/2"	3/8"	138'-10"	48'-6 1/8"		94'-4 1/8"	
H	15	3'-1 1/2"	3/8"	138'-10"	44'-5 1/8"		90'-2 1/2"	
H	3, 5, 7, 9, 11, 13	3'-1 1/2"	3/8"	138'-10"	44'-5 1/4"	48'-5 5/8"	90'-2 1/8"	94'-4 1/4"
I	2, 4, 6, 10, 12, 14	3'-1 1/2"	1/8"	138'-10"	48'-6 1/8"		92'-3 1/8"	
I	8	2'-1 1/8"	1/8"	138'-10"	48'-6 1/4"		94'-4 1/8"	
I	1	3'-1 1/2"	1/8"	138'-10"	48'-7"		94'-4 1/8"	
I	15	3'-1 1/2"	1/8"	138'-10"	44'-5 1/2"		90'-2 1/8"	
I	3, 5, 7, 9, 11, 13	3'-1 1/2"	1/8"	138'-10"	44'-5 1/4"	48'-7 1/8"	90'-2 1/4"	94'-4 1/8"
J	2, 4, 6, 10, 12, 14	3'-1 1/2"	3/8"	138'-10"	48'-6 1/4"		92'-3 1/8"	
J	8	2'-1 1/8"	3/8"	138'-10"	48'-6 1/4"		92'-3 1/8"	
J	1	3'-1 1/2"	3/8"	138'-10"	48'-7 1/8"		94'-4 1/2"	
J	15	3'-1 1/2"	3/8"	138'-10"	44'-5 3/8"		90'-2 1/4"	
J	3, 5, 7, 9, 11, 13	3'-1 1/2"	3/8"	138'-10"	44'-5 1/4"	48'-7 1/4"	90'-2 1/4"	94'-4 1/2"

GIRDER DIMENSIONS								
SPAN	GIRDER #	"A"	"D"	"H"	"L"	"M"	"P"	"U"
K	2, 4, 6, 10, 12, 14	3'-1 1/2"	1/8"	138'-10"	48'-6 1/8"		92'-3 1/2"	
K	8	2'-1 1/8"	1/8"	138'-10"	48'-6 1/8"		92'-3 1/2"	
K	1	3'-1 1/2"	1/8"	138'-10"	44'-5 5/8"		90'-2 1/8"	
K	15	3'-1 1/2"	1/8"	138'-10"	48'-7 1/8"		94'-4 1/8"	
K	3, 5, 7, 9, 11, 13	3'-1 1/2"	1/8"	138'-10"	44'-5 1/4"	48'-7 1/8"	90'-2 1/8"	94'-4 1/8"
L	2, 4, 8, 10	2'-9"	3/8"	116'-4"	38'-1 1/8"		77'-3 1/4"	
L	6	2'-6 3/8"	3/8"	116'-4"	38'-1 1/8"		77'-3 1/4"	
L	1	2'-9"	3/8"	116'-4"	38'-0 1/2"		74'-4 1/8"	
L	11	2'-9"	3/8"	116'-4"	41'-11"		80'-2 1/8"	
L	3, 5, 7, 9	2'-9"	3/8"	116'-4"	38'-1 1/8"	41'-10 1/8"	74'-4 1/8"	80'-2 1/8"
M	2, 4, 8, 10	2'-9"	1/2"	116'-4"	38'-1 1/8"		77'-2 1/4"	
M	6	2'-6 3/8"	1/2"	116'-4"	38'-1 1/8"		77'-2 1/4"	
M	1	2'-9"	1/2"	116'-4"	38'-0 1/2"		74'-3 1/8"	
M	11	2'-9"	1/2"	116'-4"	41'-10 1/2"		80'-2"	
M	3, 5, 7, 9	2'-9"	1/2"	116'-4"	38'-0 1/2"	41'-10 1/4"	77'-2 1/8"	80'-1 1/4"
N	2, 4, 8, 10	2'-9"	1/8"	116'-4"	38'-1 1/8"		77'-2 1/8"	
N	6	2'-6 3/8"	1/8"	116'-4"	38'-1 1/8"		77'-2 1/8"	
N	1	2'-9"	1/8"	116'-4"	38'-0 1/2"		74'-3 1/8"	
N	11	2'-9"	1/8"	116'-4"	41'-10 1/8"		80'-1 1/8"	
N	3, 5, 7, 9	2'-9"	1/8"	116'-4"	38'-0 1/2"	41'-10 1/8"	74'-3 1/4"	80'-1 1/8"
O	2, 4, 8, 10	2'-9"	1/8"	114'-8 1/8"	38'-4 1/8"		76'-1 1/8"	
O	6	2'-6 3/8"	1/8"	114'-8 1/8"	38'-4 1/8"		76'-1 1/8"	
O	1	2'-9"	1/8"	114'-8 1/8"	35'-5 1/2"		73'-2 1/2"	
O	11	2'-9"	1/8"	114'-8 1/8"	41'-3 3/8"		79'-0 1/8"	
O	3, 5, 7, 9	2'-9"	1/8"	114'-8 1/8"	35'-5 1/4"	41'-3 1/4"	73'-2 1/4"	79'-0 1/4"



GIRDER LAYOUT - ELEVATION

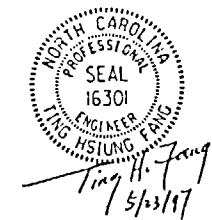
FOR SPANS K THROUGH O



GIRDER LAYOUT - ELEVATION

FOR SPANS K THROUGH O

PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-

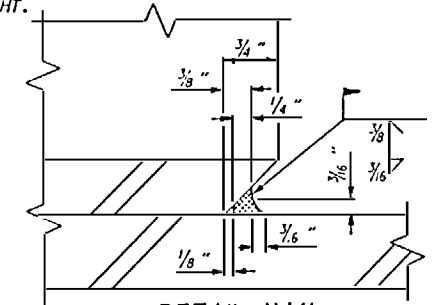


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 = GIRDER LAYOUT - ELEVATION =

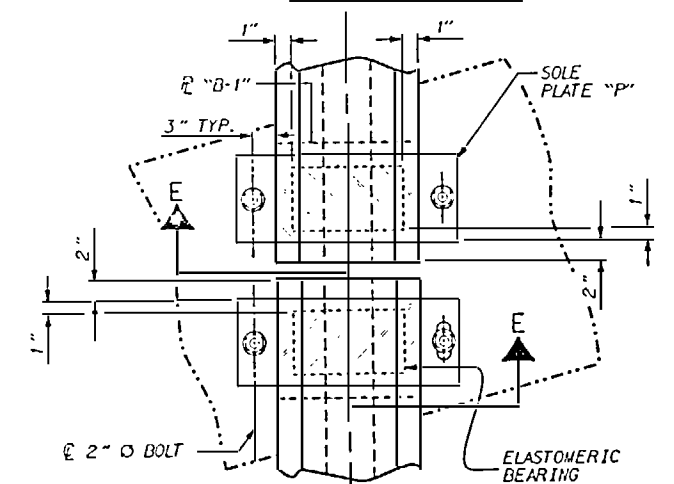
REVISIONS				SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

DESIGNED BY: THM R. H. DATE: 8/2/06
 CHECKED BY: L. H. FARR DATE: 12/20/05

10-APR-1997 R036
 d:\user\h\eng\shu\207ba\207ba.dgn
 net



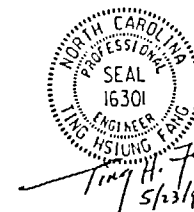
DETAIL "A"



TYPICAL HALF-PLAN
(SHOWING CONTINUOUS BENT)

TYPICAL HALF-PLAN
(SHOWING SIMPLE SPAN BENT)

PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

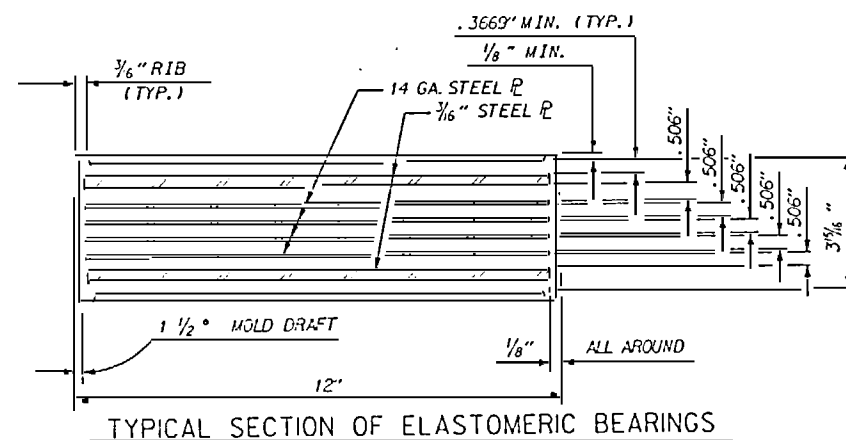
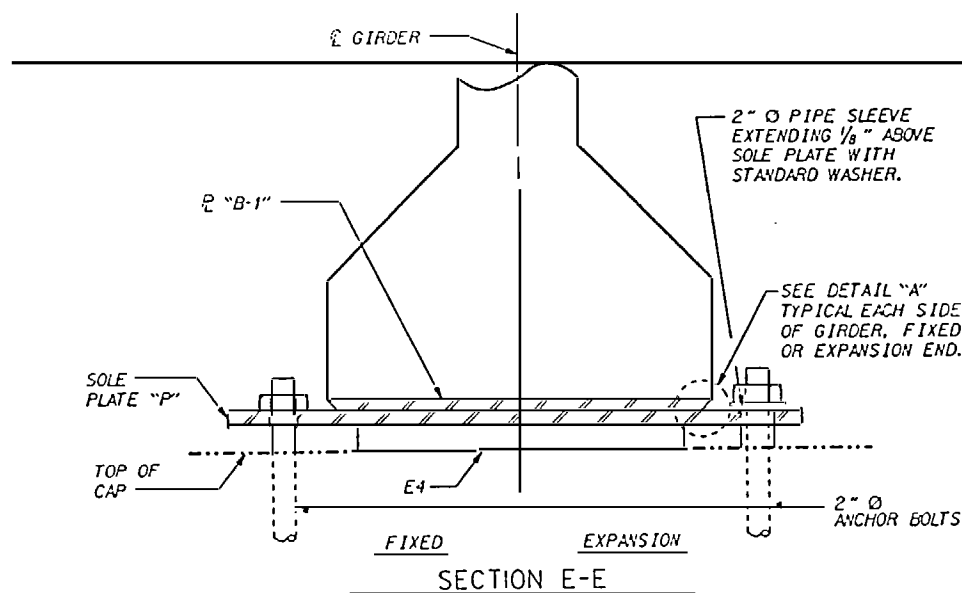


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

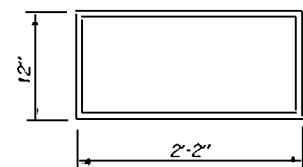
**ELASTOMERIC BEARING
DETAILS**
PRESTRESSED CONCRETE GIRDER
SUPERSTRUCTURE 1996

REVISIONS						SHEET NO. S-66
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			

— LOAD RATINGS —	
ASSHTO GIRDER	MAX. D. L. + L.
63" PCG - TYPE V	251.0 K
72" PCG - TYPE VI	249.0 K



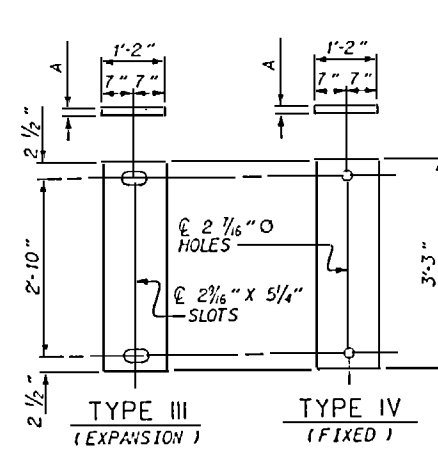
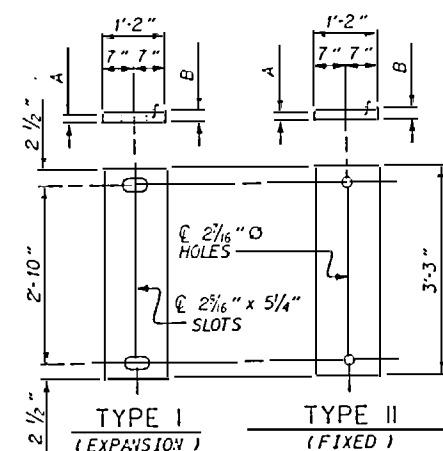
TYPICAL SECTION OF ELASTOMERIC BEARINGS



E4 (242 REQ'D)

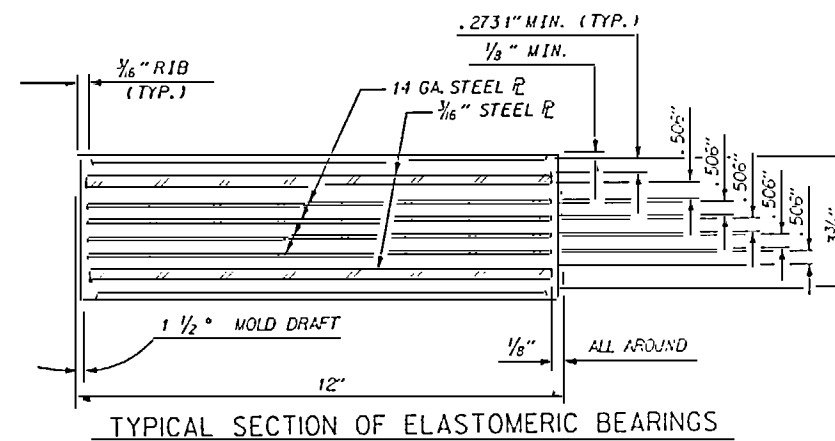
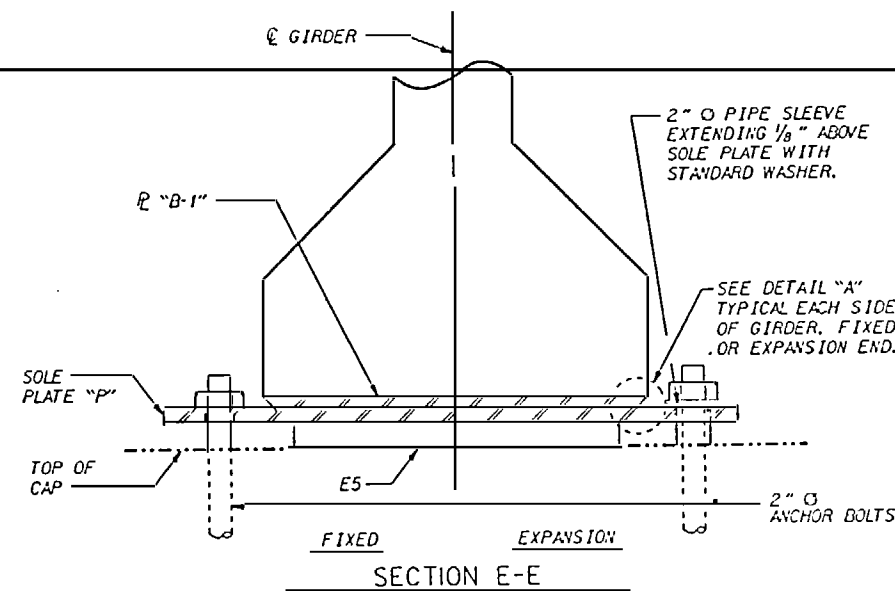
PLAN VIEW OF ELASTOMERIC BEARING

AASHTO TYPE V GIRDER

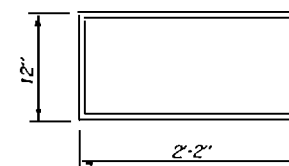
(63^a PCG)

SOLE PLATE DETAILS ("P")

SEE CHART FOR DIMENSIONS A AND B



TYPICAL SECTION OF ELASTOMERIC BEARINGS



E5 (120 REQ'D)

PLAN VIEW OF ELASTOMERIC BEARING

AASHTO TYPE VI GIRDER

(72' PCG)

SOLE PLATES				
SOLE PLATE	No. REQ'D	TYPE	A	B
P1	11	II	1 1/4 "	1 3/16 "
P2	11	II	2 1/16 "	2 1/8 "
P3	11	II	1 1/2 "	1 1/2 "
P4	11	II	2 1/16 "	2 3/16 "
P5	11	II	1 1/4 "	1 1/16 "
P6	11	II	1 1/16 "	2 1/4 "
P7	11	II	1 1/4 "	1 3/32 "
P8	11	II	1 3/4 "	2 1/8 "
P9	104	IV	1 1/4 "	
P10	11	II	1 3/16 "	1 1/8 "
P11	15	II	1 1/16 "	1 5/8 "
P12	11	VI	1 3/16 "	1 3/8 "
P13	11	VI	1 1/8 "	1 1/16 "
P14	11	VI	1 1/8 "	1 1/2 "
P15	15	IV	1 3/8 "	
P21	11	I	1 1/4 "	1 1/16 "
P22	26	I	1 1/4 "	1 1/2 "
P23	11	I	1 1/16 "	2 1/32 "
P24	37	III	1 1/4 "	
P25	11	V	1 3/16 "	1 1/4 "

SOLE PLATES

DEMILED BY : 12/11/96 R.H. DATE : 7/1/96
 CRED BY : T.H. FANG DATE : 12/20/96

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																																	
$\frac{1}{2}$ " ϕ LOW RELAXATION	SPAN A											SPAN A											SPAN A										
	GIRDERS 1 & 11											GIRDERS 2, 3, 9 & 10											GIRDERS 4, 5, 7, 8										
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0
TENTH POINTS	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0
CAMBER (GIRDER ALONE IN PLACE)	0	0.138	0.262	0.358	0.420	0.441	0.420	0.358	0.262	0.138	0	0	0.138	0.262	0.358	0.420	0.441	0.420	0.358	0.262	0.138	0	0	0.138	0.262	0.359	0.420	0.441	0.420	0.359	0.262	0.138	0
* DEFLECTION DUE TO SUPERIMPOSED D.L.	0	0.050	0.094	0.129	0.151	0.159	0.151	0.129	0.094	0.050	0	0	0.051	0.097	0.133	0.156	0.164	0.156	0.133	0.097	0.051	0	0	0.051	0.097	0.133	0.155	0.163	0.155	0.133	0.097	0.051	0
FINAL CAMBER	0	$\frac{1}{16}$ "	2"	$2\frac{3}{4}$ "	$3\frac{1}{4}$ "	$3\frac{3}{8}$ "	$3\frac{1}{4}$ "	$2\frac{3}{4}$ "	2"	$\frac{1}{16}$ "	0	0	$\frac{1}{16}$ "	$\frac{1}{8}$ "	$2\frac{1}{8}$ "	$3\frac{3}{8}$ "	$3\frac{3}{8}$ "	$3\frac{3}{8}$ "	$2\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{1}{16}$ "	0	0	$\frac{1}{16}$ "	2"	$2\frac{1}{8}$ "	$3\frac{3}{8}$ "	$3\frac{3}{8}$ "	$3\frac{3}{8}$ "	$2\frac{1}{8}$ "	2"	$\frac{1}{16}$ "	0

* INCLUDES FUTURE WEARING SURFACE
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																																	
$\frac{1}{2}$ " ϕ LOW RELAXATION	SPAN A											SPANS B THRU G										SPANS B THRU G											
	GIRDER 6											GIRDERS 1 & 11										GIRDERS 2, 3, 9 & 10											
	TENTH POINTS											TENTH POINTS										TENTH POINTS											
CAMBER (GIRDER ALONE IN PLACE)	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0
* DEFLECTION DUE TO SUPERIMPOSED D. L.	0	0.053	0.101	0.138	0.162	0.170	0.162	0.138	0.101	0.053	0	0	0.053	0.100	0.136	0.160	0.168	0.160	0.136	0.100	0.053	0	0	0.054	0.103	0.141	0.165	0.173	0.165	0.141	0.103	0.054	0
FINAL CAMBER	0	1"	$1\frac{1}{8}$ "	$2\frac{5}{8}$ "	$3\frac{3}{8}$ "	$3\frac{1}{4}$ "	$3\frac{1}{8}$ "	$2\frac{5}{8}$ "	$1\frac{5}{8}$ "	1"	0	0	$\frac{1}{16}$ "	$1\frac{5}{8}$ "	$2\frac{1}{8}$ "	$3\frac{3}{8}$ "	$3\frac{3}{8}$ "	$3\frac{3}{8}$ "	$2\frac{1}{8}$ "	$1\frac{5}{8}$ "	$\frac{1}{16}$ "	0	0	1"	$1\frac{5}{8}$ "	$2\frac{5}{8}$ "	$3\frac{3}{8}$ "	$3\frac{1}{4}$ "	$3\frac{3}{8}$ "	$2\frac{5}{8}$ "	$1\frac{5}{8}$ "	1"	0

* INCLUDES FUTURE WEARING SURFACE
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

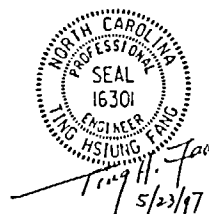
DEAD LOAD DEFLECTION TABLE FOR GIRDERS																																	
$\frac{1}{2}$ " ϕ LOW RELAXATION	SPANS B THRU G GIRDERS 4, 5, 7 & 8											SPANS B THRU G GIRDER 6										SPANS H, I, J & K GIRDERS 1, 15											
	TENTH POINTS																																
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0
CAMBER (GIRDER ALONE IN PLACE) ↓	0	0.139	0.264	0.361	0.423	0.444	0.423	0.361	0.264	0.139	0	0	0.139	0.264	0.361	0.423	0.444	0.423	0.361	0.264	0.139	0	0	0.126	0.238	0.325	0.381	0.400	0.381	0.325	0.238	0.126	0
* DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.054	0.102	0.140	0.164	0.172	0.164	0.140	0.102	0.054	0	0	0.056	0.107	0.146	0.171	0.179	0.171	0.146	0.107	0.056	0	0	0.069	0.130	0.178	0.208	0.218	0.208	0.178	0.130	0.069	0
FINAL CAMBER ↓	0	1"	1 $\frac{1}{8}$ "	2 $\frac{5}{8}$ "	3 $\frac{3}{8}$ "	3 $\frac{1}{4}$ "	3 $\frac{1}{8}$ "	2 $\frac{5}{8}$ "	1 $\frac{5}{8}$ "	1"	0	0	1"	1 $\frac{1}{8}$ "	2 $\frac{1}{8}$ "	3"	3 $\frac{3}{8}$ "	3"	2 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "	1"	0	0	$\frac{1}{16}$ "	1 $\frac{1}{8}$ "	1 $\frac{3}{4}$ "	2 $\frac{1}{16}$ "	2 $\frac{1}{16}$ "	2 $\frac{1}{16}$ "	1 $\frac{3}{4}$ "	1 $\frac{1}{16}$ "	$\frac{1}{16}$ "	0

* INCLUDES FUTURE WEARING SURFACE
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																																	
$\frac{1}{2}$ " ϕ LOW RELAXATION TENTH POINTS CAMBER (GIRDER ALONE IN PLACE) * DEFLECTION DUE TO SUPERIMPOSED D.L. FINAL CAMBER	SPANS H, I, J & K GIRDERS 2, 3, 13, 14											SPANS H, I, J & K GIRDERS 4, 5, 6, 7, 9, 10, 11, 12											SPANS H, I, J & K GIRDER 8										
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0
	0	.126	.238	.325	.381	.400	.381	.325	.238	.126	0	0	.126	.238	.325	.381	.400	.381	.325	.238	.126	0	0	.126	.238	.325	.381	.400	.381	.325	.238	.126	0
	0	.062	.118	.161	.139	.198	.139	.161	.118	.062	0	0	.061	.116	.159	.186	.195	.186	.159	.116	.061	0	0	.065	.123	.169	.198	.208	.198	.169	.123	.065	0
	0	$\frac{3}{4}$ "	$1\frac{1}{8}$ "	$1\frac{5}{8}$ "	$2\frac{1}{8}$ "	$2\frac{1}{8}$ "	$2\frac{1}{8}$ "	$1\frac{5}{8}$ "	$1\frac{1}{8}$ "	$\frac{3}{4}$ "	0	0	$\frac{3}{4}$ "	$1\frac{1}{8}$ "	2"	$2\frac{1}{8}$ "	$2\frac{1}{8}$ "	$2\frac{1}{8}$ "	2"	$1\frac{1}{8}$ "	$\frac{3}{4}$ "	0	0	$\frac{3}{4}$ "	$1\frac{1}{8}$ "	$1\frac{1}{8}$ "	$2\frac{1}{8}$ "	$2\frac{1}{8}$ "	$2\frac{1}{8}$ "	$1\frac{1}{8}$ "	$1\frac{1}{8}$ "	$\frac{3}{4}$ "	0

* INCLUDES FUTURE WEARING SURFACE
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

WBY: T.M. R.H. DATE: 8/5/95
C'D BY: T.H. F.R.S. DATE: 12/16/95



PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

SHEET 1 OF 2

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-67
2			4			TOTAL SHEETS 170

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

$\frac{1}{2}$ " ϕ LOW RELAXATION	SPANS L, M, & N GIRDERS 1 & 11											SPANS L, M, & N GIRDERS 2, 3, 9, 10											SPANS L, M, & N GIRDERS 4, 5, 7 & 8											
TENTH POINTS	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	
CAMBER (GIRDER ALONE IN PLACE)	↑	0	0.140	0.265	0.362	0.424	0.446	0.424	0.362	0.265	0.140	0	0	0.140	0.265	0.362	0.424	0.446	0.424	0.362	0.265	0.140	0	0	0.140	0.265	0.362	0.424	.446	0.424	0.362	0.265	0.140	0
* DEFLECTION DUE TO SUPERIMPOSED D. L.	↓	0	0.055	0.103	0.141	0.165	0.174	0.165	0.141	0.103	0.055	0	0	0.056	0.107	0.146	0.171	0.179	0.171	0.146	0.107	0.056	0	0	0.056	0.106	0.145	0.169	0.178	0.169	0.145	0.106	0.056	0
FINAL CAMBER	↑	0	1"	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	3 $\frac{1}{8}$ "	3 $\frac{1}{4}$ "	3 $\frac{1}{8}$ "	2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	1"	0	0	1"	1 $\frac{1}{8}$ "	2 $\frac{1}{8}$ "	3 $\frac{1}{16}$ "	3 $\frac{1}{8}$ "	3 $\frac{1}{16}$ "	2 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "	1"	0	0	1"	1 $\frac{1}{8}$ "	2 $\frac{1}{8}$ "	3 $\frac{1}{16}$ "	3 $\frac{1}{8}$ "	3 $\frac{1}{16}$ "	2 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "	1"	0

* INCLUDES FUTURE WEARING SURFACE
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

$\frac{1}{2}$ " ϕ LOW RELAXATION TENTH POINTS	SPANS L, M & N GIRDER 6											SPAN 0 GIRDERS 1 & 11											SPAN 0 GIRDERS 2, 3, 9, 10											
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	
	CAMBER (GIRDER ALONE IN PLACE)	↑	0	0.140	0.265	0.362	0.424	0.446	0.424	0.362	0.265	0.140	0	0	0.139	0.263	0.360	0.422	0.443	0.422	0.360	0.263	0.139	0	0	0.139	0.263	0.360	0.422	0.443	0.422	0.360	0.263	0.139
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0	0.058	0.110	0.151	0.177	0.186	0.177	0.151	0.110	0.058	0	0	0.052	0.098	0.134	0.156	0.164	0.156	0.134	0.098	0.052	0	0	0.053	0.101	0.138	0.162	0.170	0.162	0.138	0.101	0.053	0
FINAL CAMBER	↑	0	1"	1 $\frac{1}{8}$ "	2 $\frac{1}{8}$ "	2 $\frac{1}{4}$ "	3 $\frac{1}{8}$ "	2 $\frac{1}{4}$ "	2 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "	1"	0	0	1 $\frac{1}{16}$ "	2"	2 $\frac{1}{8}$ "	3 $\frac{1}{8}$ "	3 $\frac{1}{16}$ "	3 $\frac{1}{8}$ "	2 $\frac{1}{4}$ "	2"	1 $\frac{1}{16}$ "	0	0	1 $\frac{1}{16}$ "	1 $\frac{1}{8}$ "	2 $\frac{1}{8}$ "	3 $\frac{1}{8}$ "	3 $\frac{1}{4}$ "	3 $\frac{1}{8}$ "	2 $\frac{1}{4}$ "	1 $\frac{1}{8}$ "	1 $\frac{1}{16}$ "	0

* INCLUDES FUTURE WEARING SURFACE
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

$\frac{1}{2}$ " ϕ LOW RELAXATION TENTH POINTS	SPAN 0 GIRDERS 4, 5, 7, 8											SPAN 0 GIRDER 6											SPAN GIRDERS										
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0
	0	0.139	0.263	0.360	0.422	0.443	0.422	0.360	0.263	0.139	0	0	0.139	0.263	0.360	0.422	0.443	0.422	0.360	0.263	0.139	0											
CAMBER (GIRDER ALONE IN PLACE)	↑	0	0.139	0.263	0.360	0.422	0.443	0.422	0.360	0.263	0.139	0	0	0.139	0.263	0.360	0.422	0.443	0.422	0.360	0.263	0.139	0										
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0	0.053	0.100	0.137	0.160	0.168	0.160	0.137	0.100	0.053	0	0	0.055	0.104	0.143	0.167	0.176	0.167	0.143	0.104	0.055	0										
FINAL CAMBER	↑	0	1 $\frac{1}{16}$ "	1 $\frac{1}{8}$ "	2 $\frac{1}{8}$ "	3 $\frac{1}{8}$ "	3 $\frac{1}{16}$ "	3 $\frac{1}{8}$ "	2 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "	1 $\frac{1}{16}$ "	0	0	1"	1 $\frac{1}{8}$ "	2 $\frac{1}{8}$ "	3 $\frac{1}{16}$ "	3 $\frac{1}{8}$ "	3 $\frac{1}{16}$ "	2 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "	1"	0										

* INCLUDES FUTURE WEARING SURFACE
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).



PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

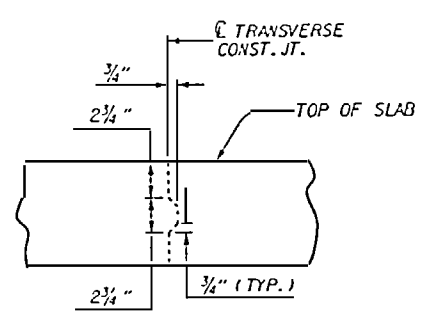
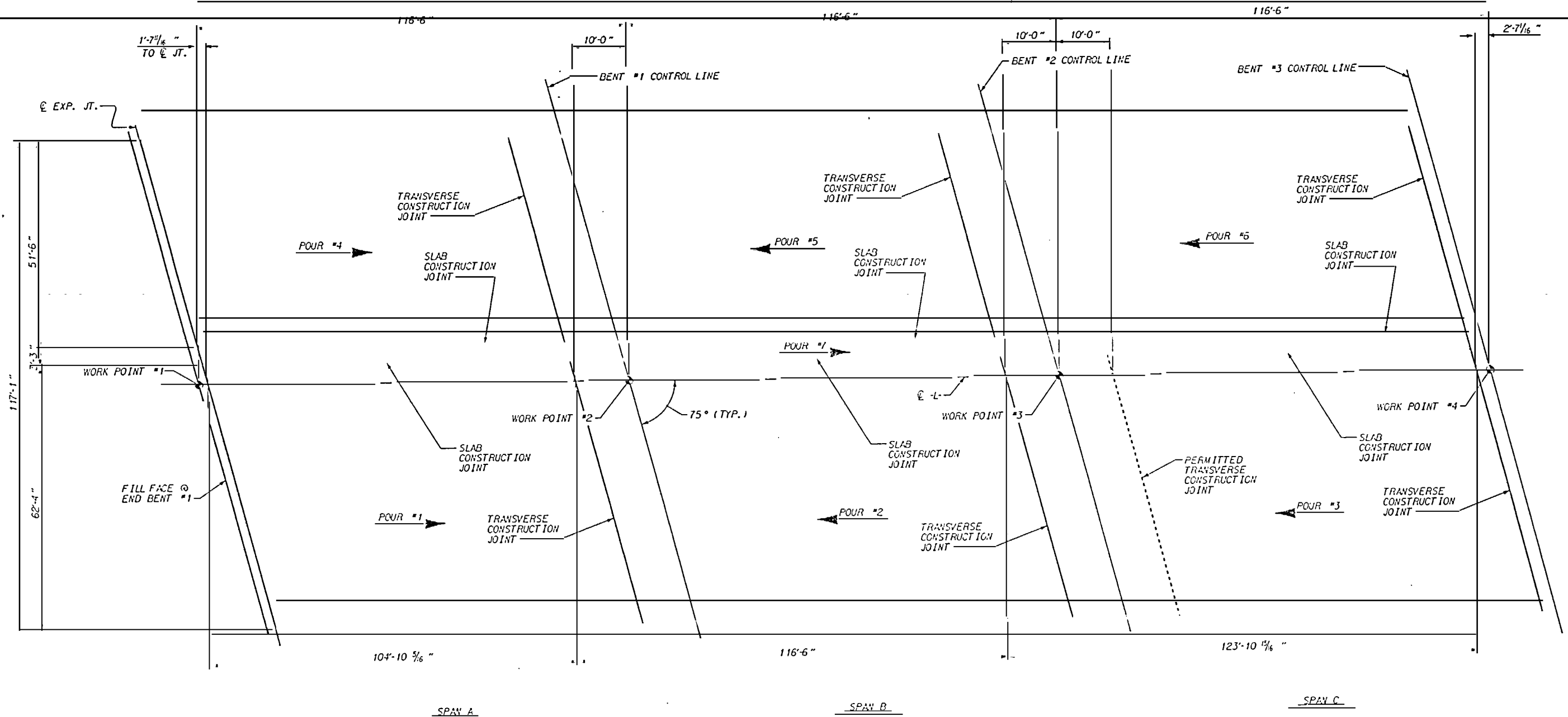
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DEAD LOAD
DEFLECTIONS

REVISIONS						SHEET NO. S-68
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

APPROVED BY: William R. Fong DATE: 8/5/95
CHECKED BY: J.H. Fong DATE: 12/16/95

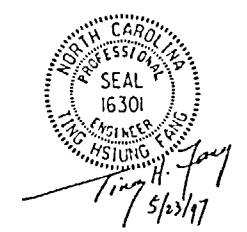


TRANSVERSE & PERMITTED TRANSVERSE CONSTRUCTION JOINT DETAIL

NOTE: SLAB REINFORCING STEEL SHALL BE CONTINUOUS THRU JOINT

PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

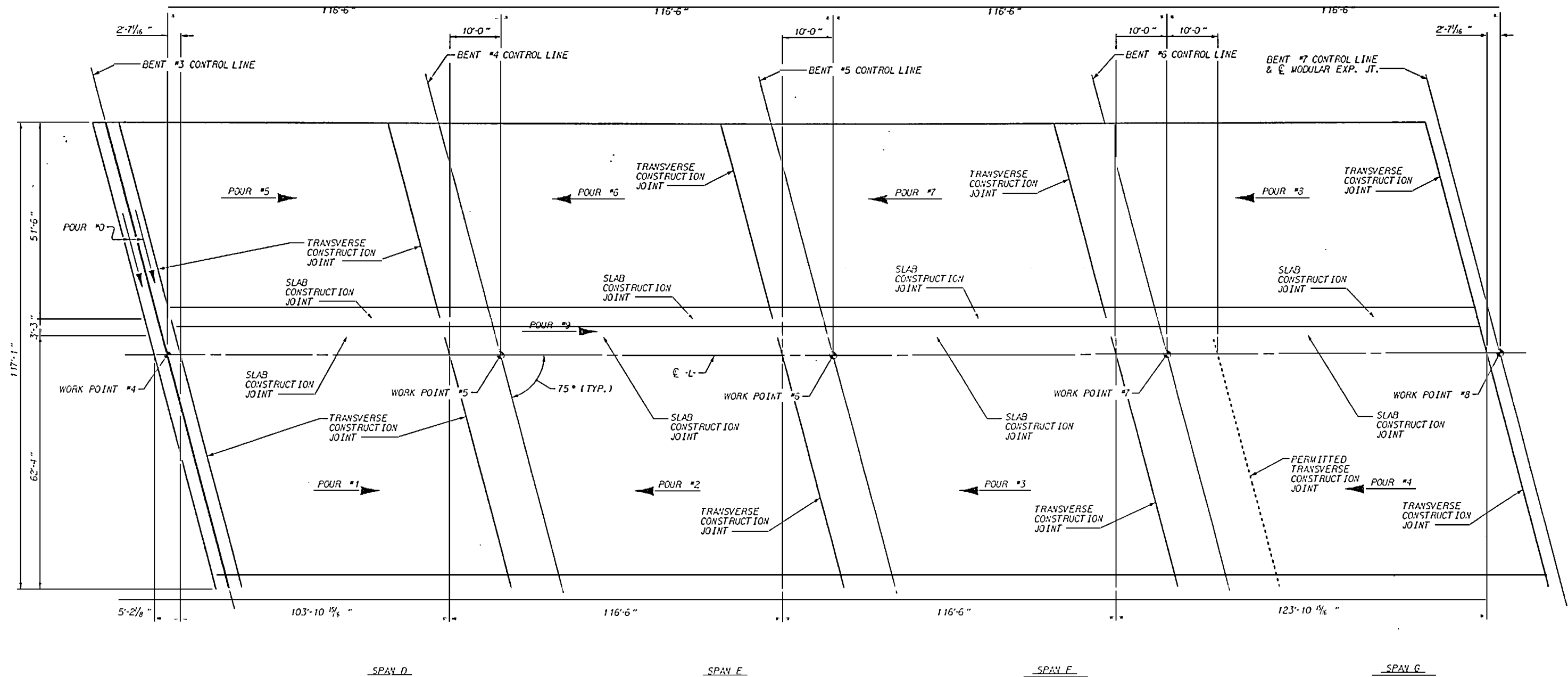
SHEET 1 OF 4



REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-69
2			4			
TOTAL SHEETS						170

AN BY: T.H. Jay DATE: 8/5/96
 DESIGNED BY: T.H. Jay DATE: 1/31/97

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PROJECT NO. U-2107BA

ONslow COUNTY

STATION: 277+50.00 -L-

SHEET 2 OF 4



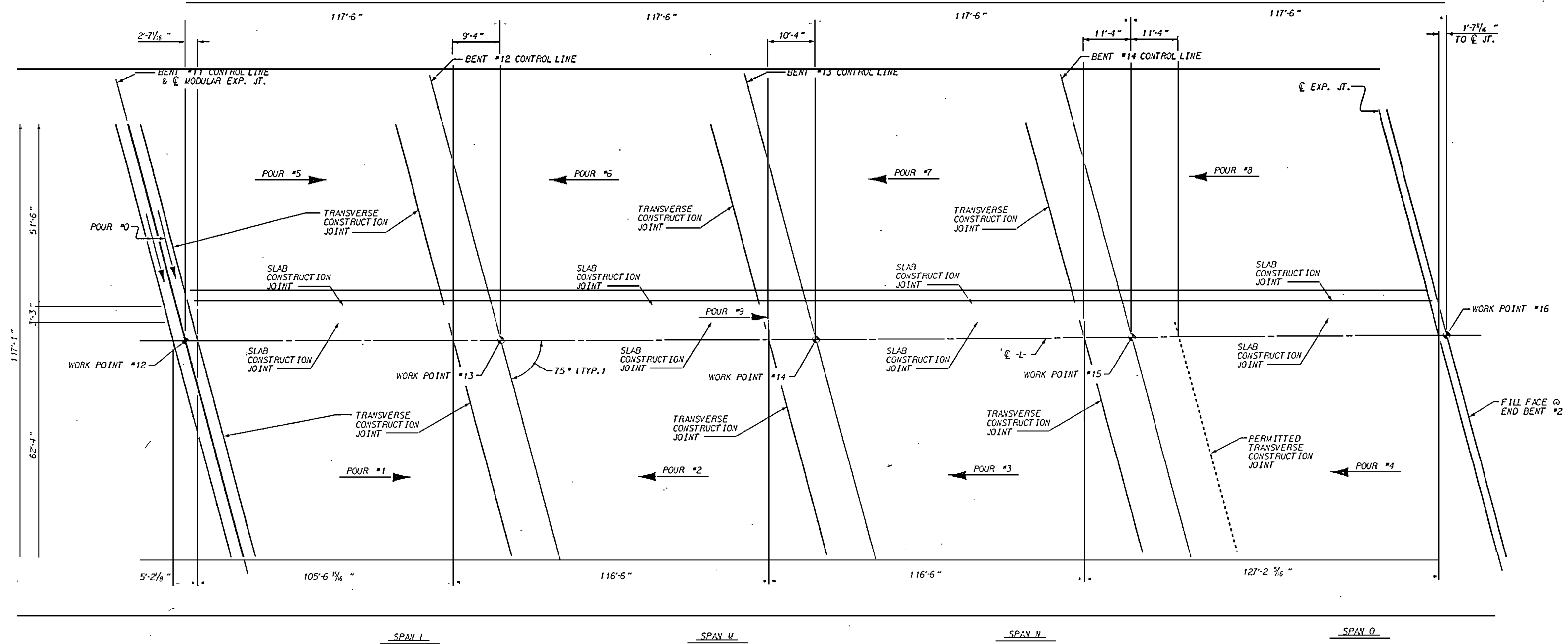
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**OPTION #1
WITH CLOSURE POUR
LAYOUT OF POURING
SEQUENCE**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-70
2			4			

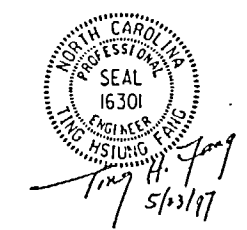
TOTAL
SHEETS
170

DRAWN BY: 11/11/17 DATE: 8/5/16
CHECKED BY: T.H. FAY DATE: 1/11/17



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 4 OF 4

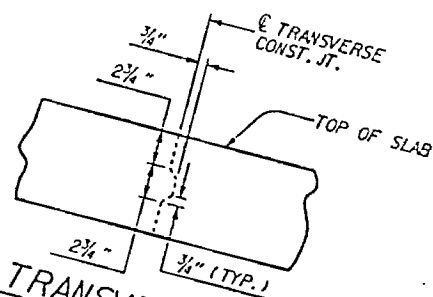
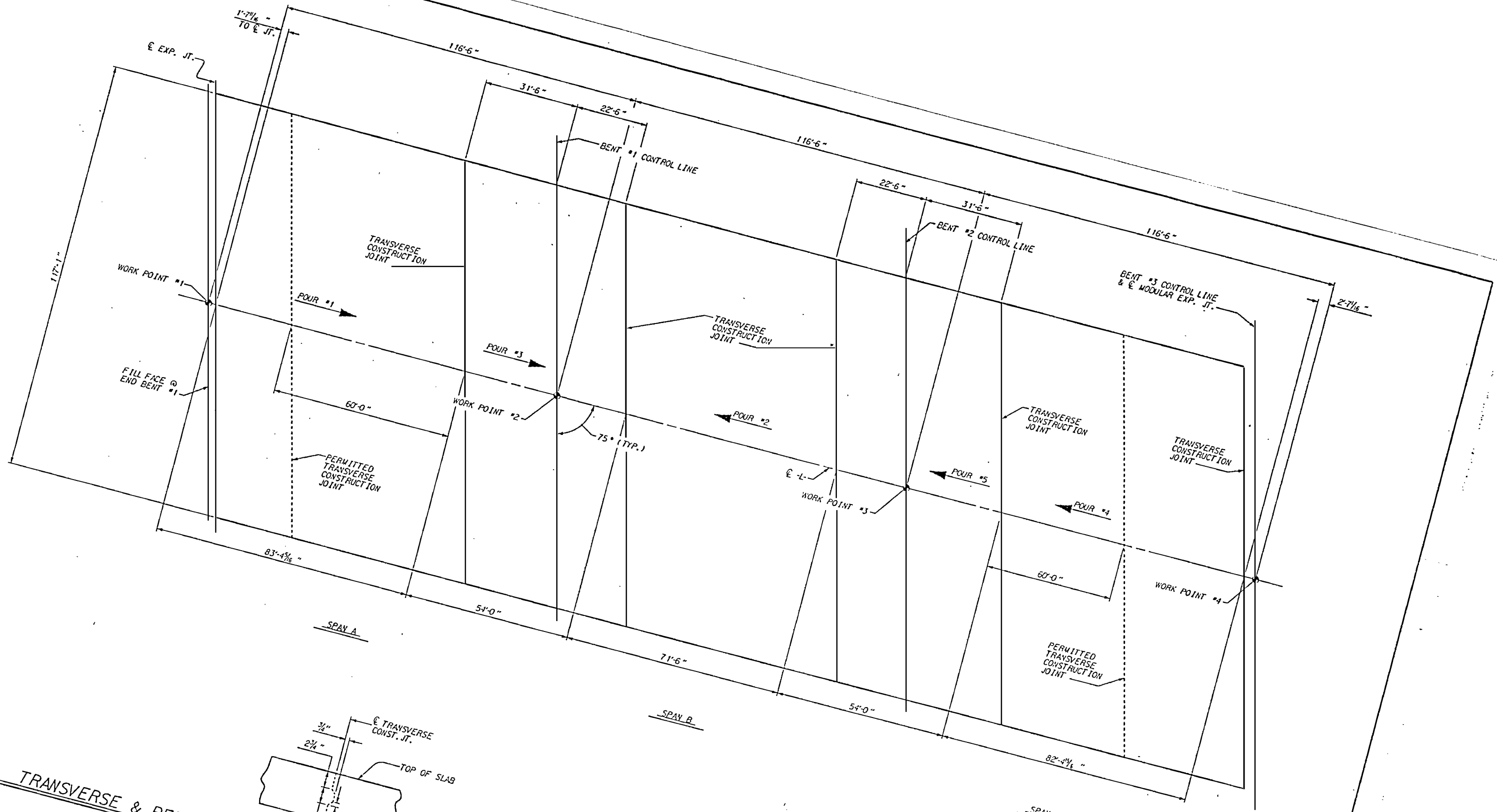


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 PALEIGH
**OPTION #1
 WITH CLOSURE POUR
 LAYOUT OF POURING
 SEQUENCE**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-72
2			4			

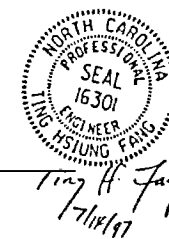
DESIGNED BY: William R. Hays DATE: 8/5/96
 CHECKED BY: T.H. FAY DATE: 1/31/97

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TRANSVERSE & PERMITTED TRANSVERSE CONSTRUCTION JOINT DETAIL

NOTE: SLAB REINFORCING STEEL SHALL BE CONTINUOUS THRU JOINT



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 1 OF 4

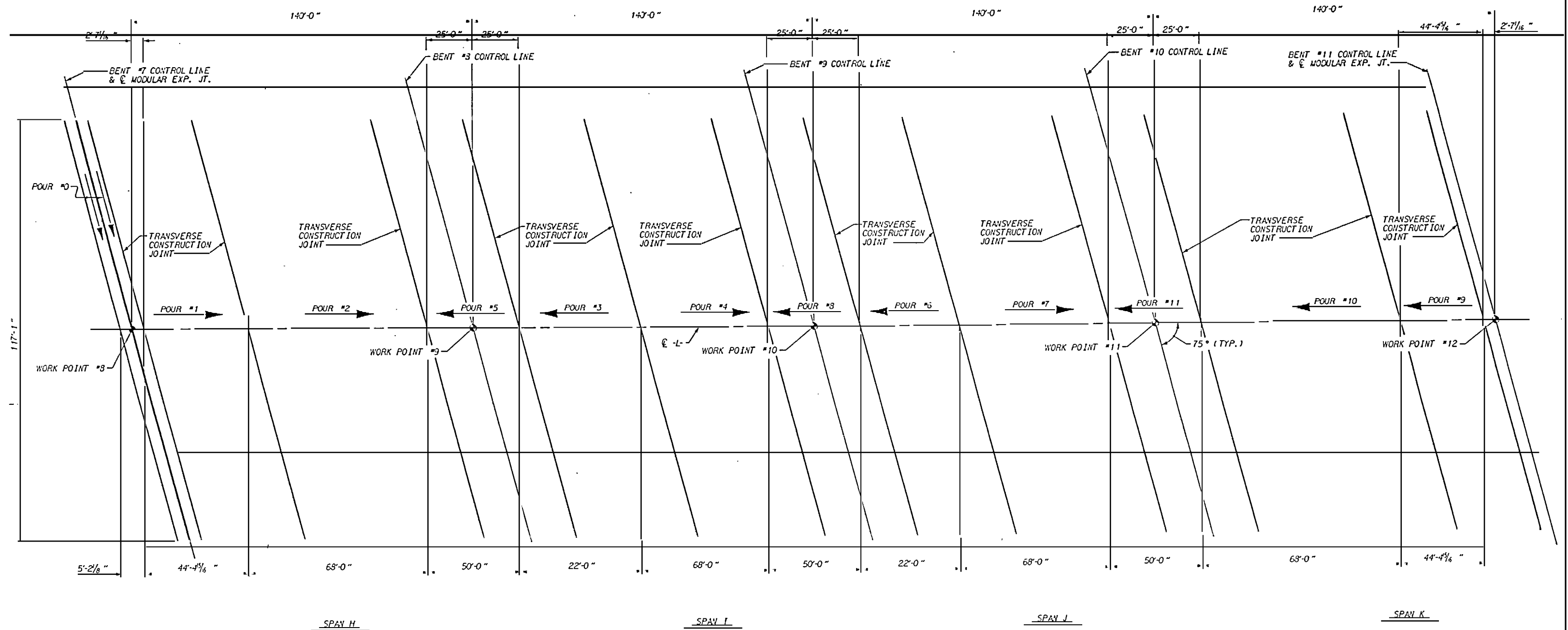
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

OPTION #2
 WITHOUT CLOSURE POUR
 LAYOUT OF POURING
 SEQUENCE

REVISIONS				SHEET NO.
NO.	BY	DATE	NO.	
1			3	5-73
2			4	10TH
				SHEETS
				170

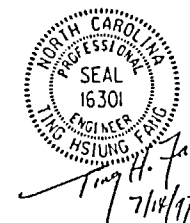
10-AR-1937 (2/02)
 01/02/02
 01/02/02

BY: T.H. YANG DATE: 12/11/95
 D BY: T.H. YANG DATE: 12/11/95



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 3 OF 4

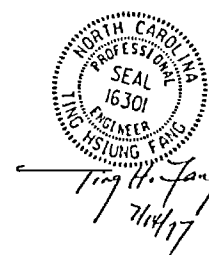
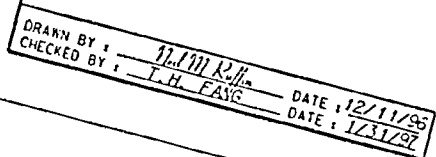


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
OPTION #2
WITHOUT CLOSURE POUR
LAYOUT OF POURING
SEQUENCE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-75
2			4			TOTAL SHEETS 170

DRAWN BY: W. M. R. J. DATE: 12/11/96
 CHECKED BY: T. H. FANG DATE: 1/31/97

13-332-1997 12/02
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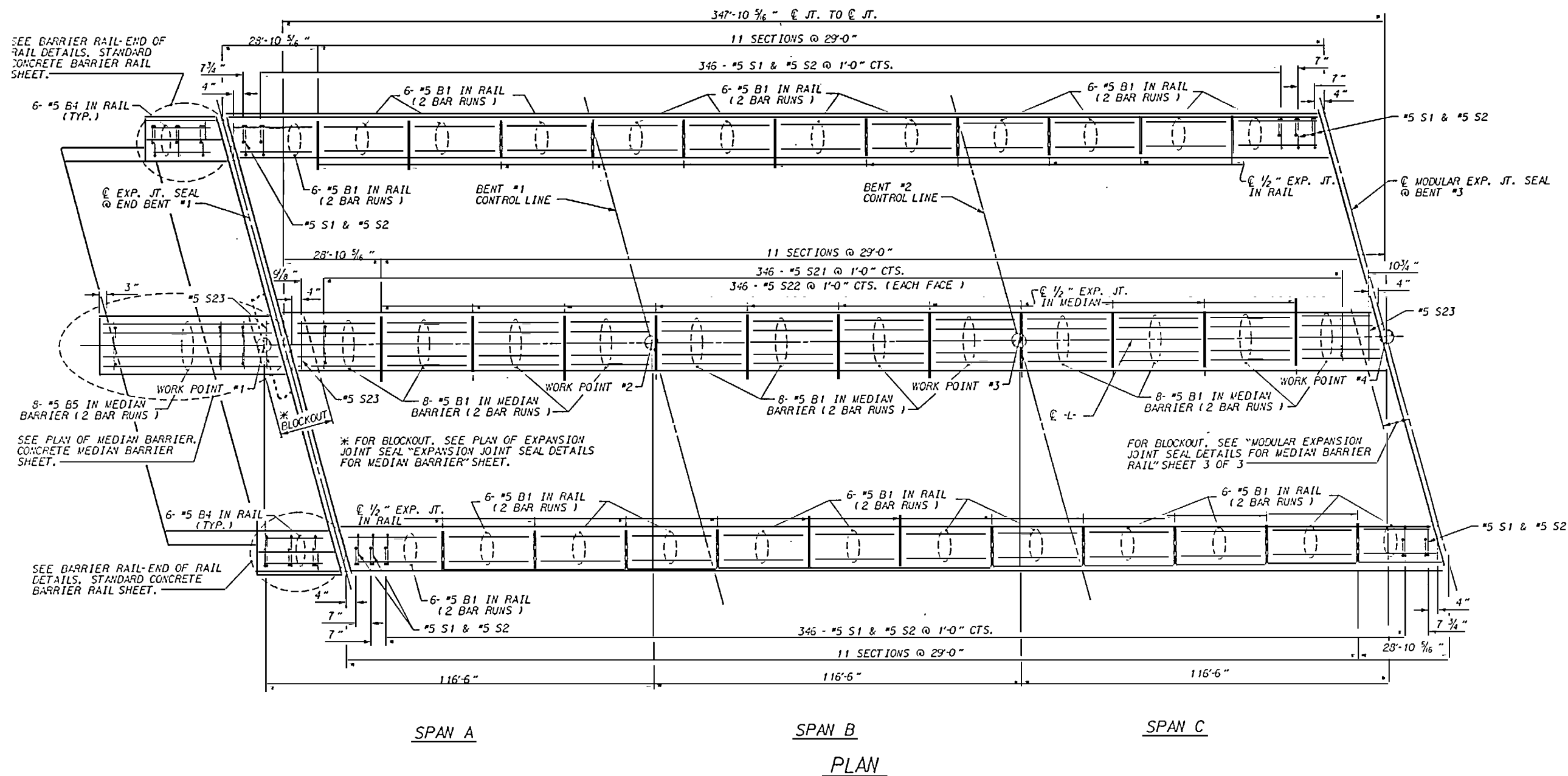
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TRANSPORTATION
RALEIGH
OPTION #2
WITHOUT CLOSURE POUR
LAYOUT OF POURING
SEQUENCE

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

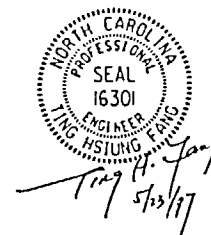
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TOTAL SHEET 170



PROJECT NO. U-2107BA
ONSLow COUNTY
 STATION: 277+50.00 -L-

SHEET 1 OF 4

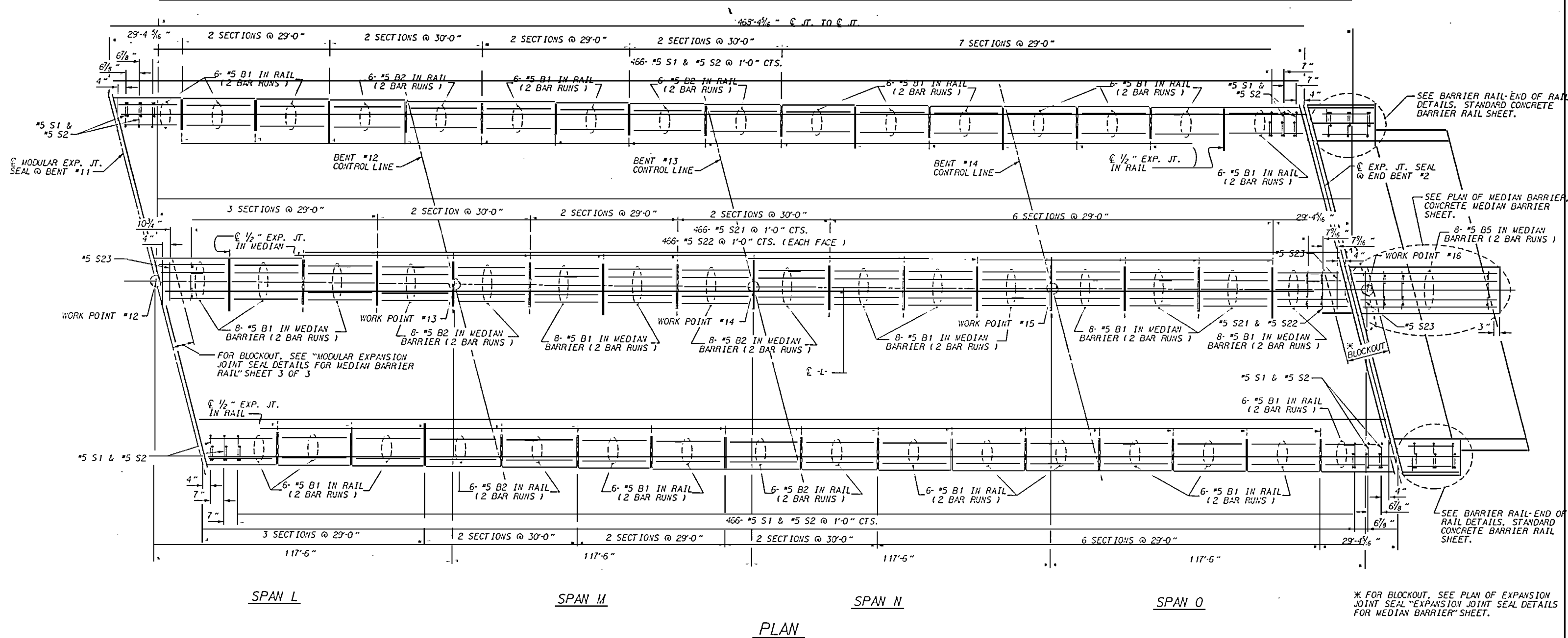


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**CONCRETE BARRIER RAIL
 & MEDIAN BARRIER
 CONTINUOUS SPANS
 A, B, AND C**

REVISIONS						SHEET NO. 5-77
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

DRAWN BY: T. H. F. DATE: 5/18/96
 CHECKED BY: T. H. F. DATE: 12/30/96

10-APR-1997 12:00
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* FOR BLOCKOUT, SEE PLAN OF EXPANSION JOINT SEAL "EXPANSION JOINT SEAL DETAILS FOR MEDIAN BARRIER" SHEET.

PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

SHEET 4 OF 4

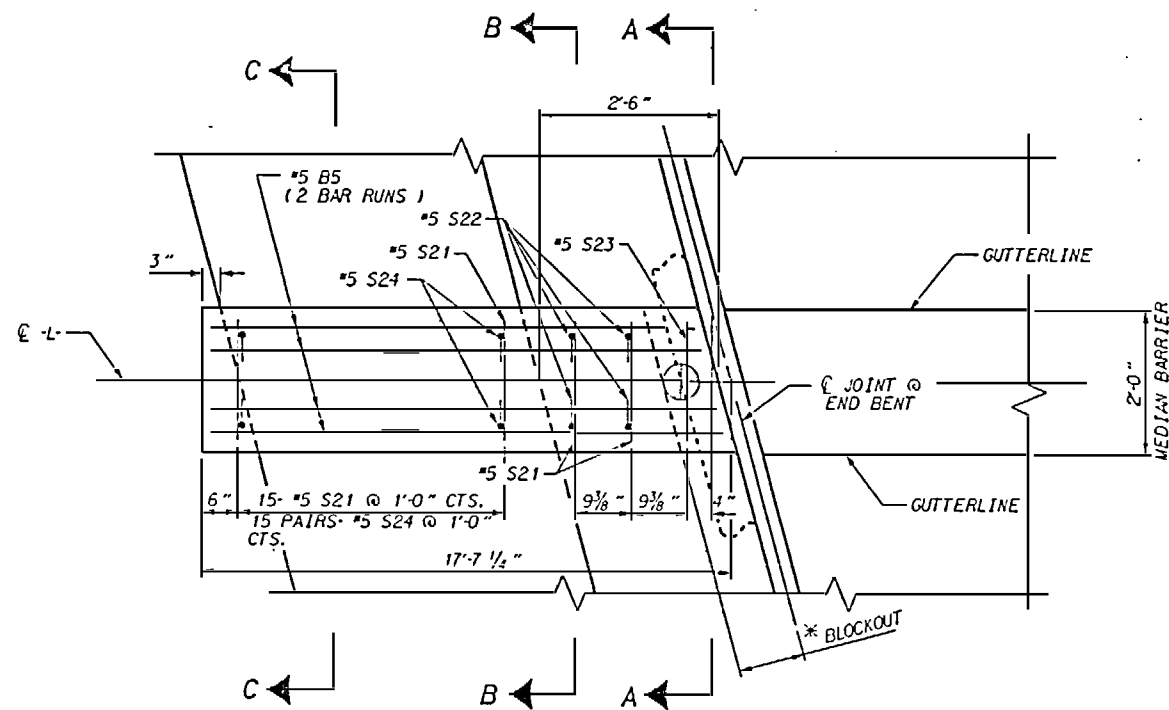


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**CONCRETE BARRIER RAIL
 & MEDIAN BARRIER
 CONTINUOUS SPANS
 L, M, N, AND O**

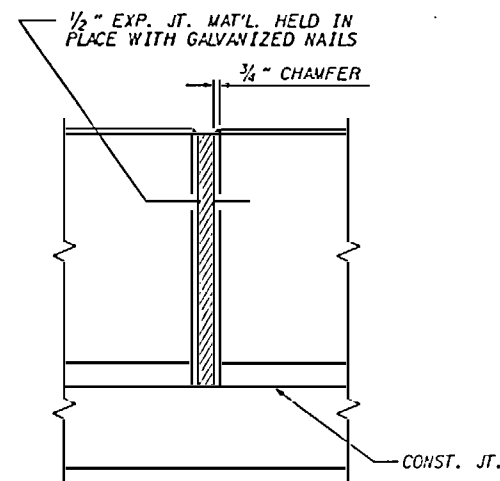
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-80
2			4			TOTAL SHEETS 170

DESIGNED BY: T. H. Yang DATE: 6/18/96
 CHECKED BY: T. H. Yang DATE: 12/30/96

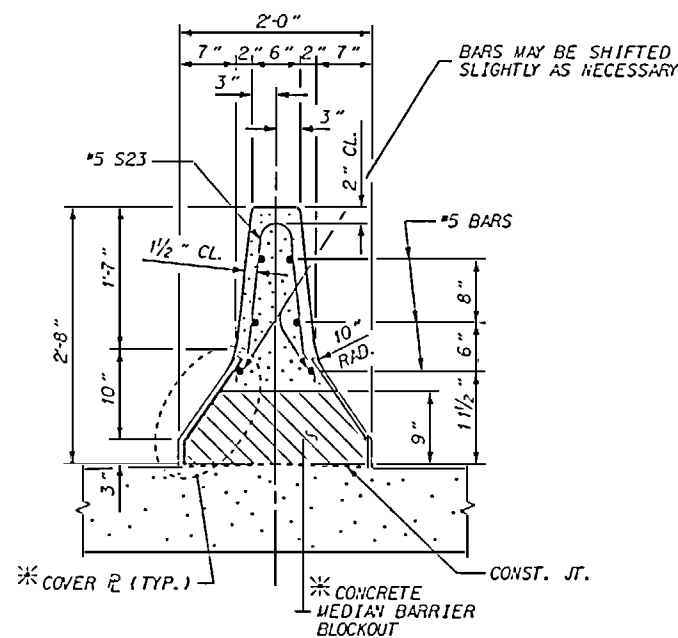
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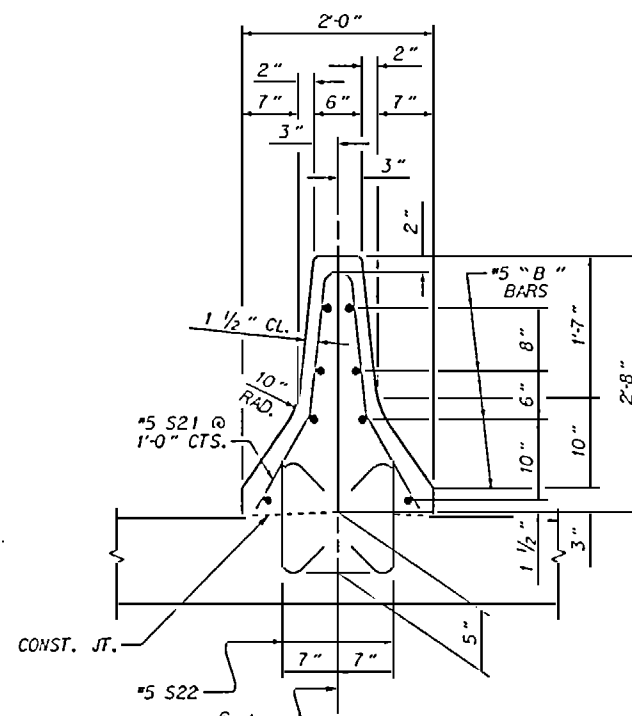
PLAN OF MEDIAN BARRIER



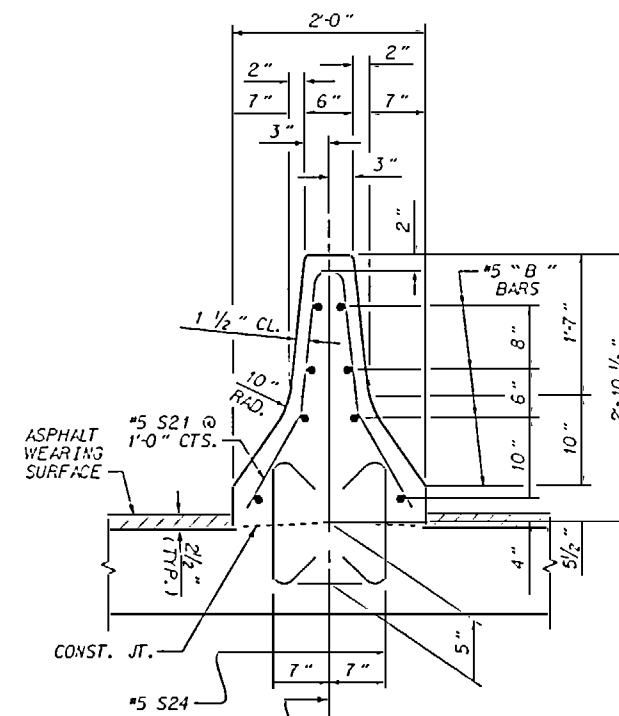
ELEVATION AT MEDIAN BARRIER
SHOWING EXPANSION JOINT MATERIAL
ON CONTINUOUS SLAB



SECTION A-A



SECTION B-B



SECTION C-C
(ON APPROACH SLAB ONLY)

NOTES

THE MEDIAN BARRIER RAIL IN A CONTINUOUS UNIT SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THE SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

THE MEDIAN BARRIER RAIL ON THE APPROACH SLABS SHALL NOT BE CAST UNTIL ALL CONCRETE FOR APPROACH SLABS HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

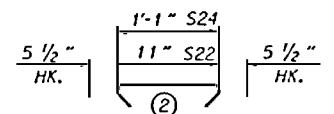
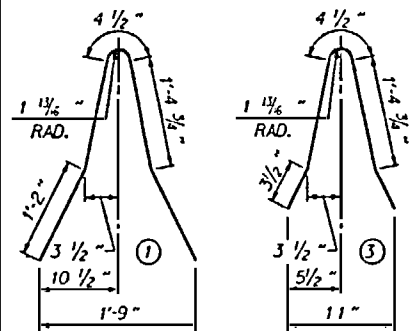
ALL REINFORCING STEEL IN CONCRETE MEDIAN SHALL BE EPOXY COATED.

THE CONTRACTORS ATTENTION IS CALLED TO THE FACT THAT THE MEDIAN BARRIER RAIL SHALL BE CONSTRUCTED PLUMB.

* FOR BLOCKOUT IN CONCRETE MEDIAN BARRIER FOR COVER PLATE AT END BENTS, SEE PLAN OF EXPANSION JOINT SEAL "EXPANSION JOINT SEAL DETAILS FOR MEDIAN BARRIER" SHEET 4 OF 4.

* FOR BLOCKOUT IN CONCRETE MEDIAN BARRIER FOR COVER PLATE AT BENTS, SEE PLAN OF MODULAR EXPANSION JOINT SEAL "MODULAR EXPANSION JOINT SEAL DETAILS FOR MEDIAN BARRIER" SHEET 3 OF 3.

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL

FOR CONCRETE MEDIAN BARRIER ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	608	#5	STR	16- 1	10,199
B2	96	#5	STR	16- 7	1,660
B3	320	#5	STR	15- 7	5,201
B5	32	#5	STR	10- 5	348
S21	1869	#5	1	5- 6	10,722
S22	3678	#5	2	1-10	7,033
S23	10	#5	3	3- 9	39
S24	60	#5	2	2- 0	125

EPOXY COATED REINFORCING STEEL 35, 327 LBS
CLASS A-A CONCRETE 190.5 CU. YDS.
CONC. MEDIAN BARR. RAIL 1678.0 LIN. FT.

PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CONCRETE
MEDIAN BARRIER

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

5-82
TOTAL
SHEETS
170

BY: J.M. R. DATE: 6/3/96
ED BY: J.H. FAYG DATE: 12/20/95

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NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF THE FOLLOWING COMPONENTS :

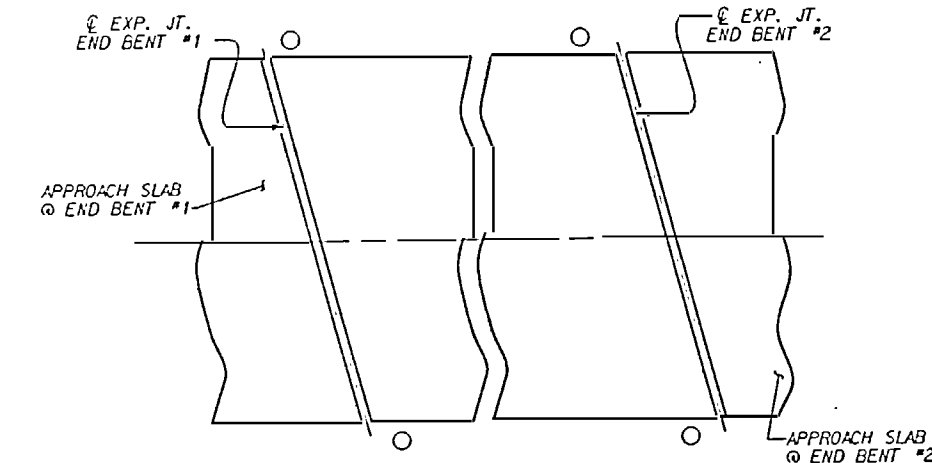
- FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF ASTM A108, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 1 1/2".
- 4 - 1/8" O X 2 3/4" BOLTS WITH WASHERS FOR GUARDRAIL ANCHOR ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTORS OPTION, STAINLESS STEEL BOLTS WITH WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1/8" O X 2 3/4" GALVANIZED BOLTS 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.)
- WIRE STRUTS SHOWN IN THE ANCHOR ASSEMBLY ARE THE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 PSI.

THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS SHALL BE ASSEMBLED IN THE SHOP. BOLT THREADS MAY BE RECUT AS NECESSARY.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CONCRETE BARRIER RAIL.

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.

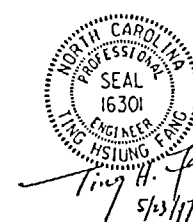
THE CONTRACTOR MAY, AT HIS OPTION, USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF GUARDRAIL ANCHOR ASSEMBLY. SEE SPECIAL PROVISIONS FOR "ADHESIVELY ANCHORED ANCHOR BOLTS OR DONELS". THE YIELD LOAD OF THE 1/8" O BOLT IS 16.6 KIPS. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.



○ - DENOTES GUARDRAIL ANCHOR ASSEMBLY

SKETCH SHOWING POINTS OF ATTACHMENTS

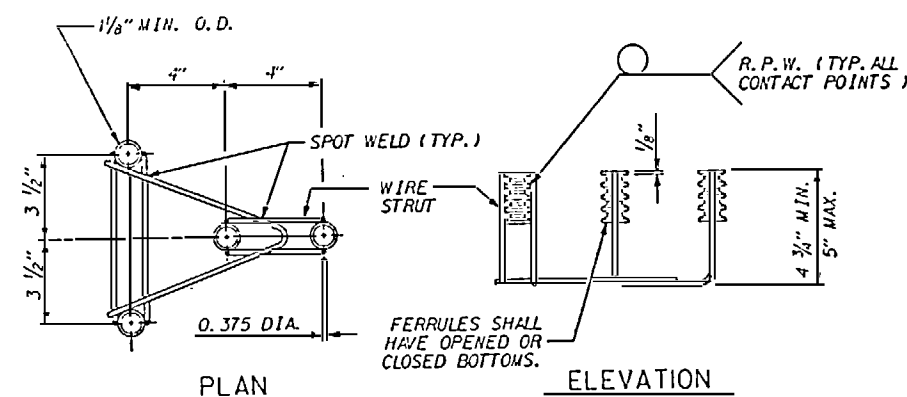
PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-



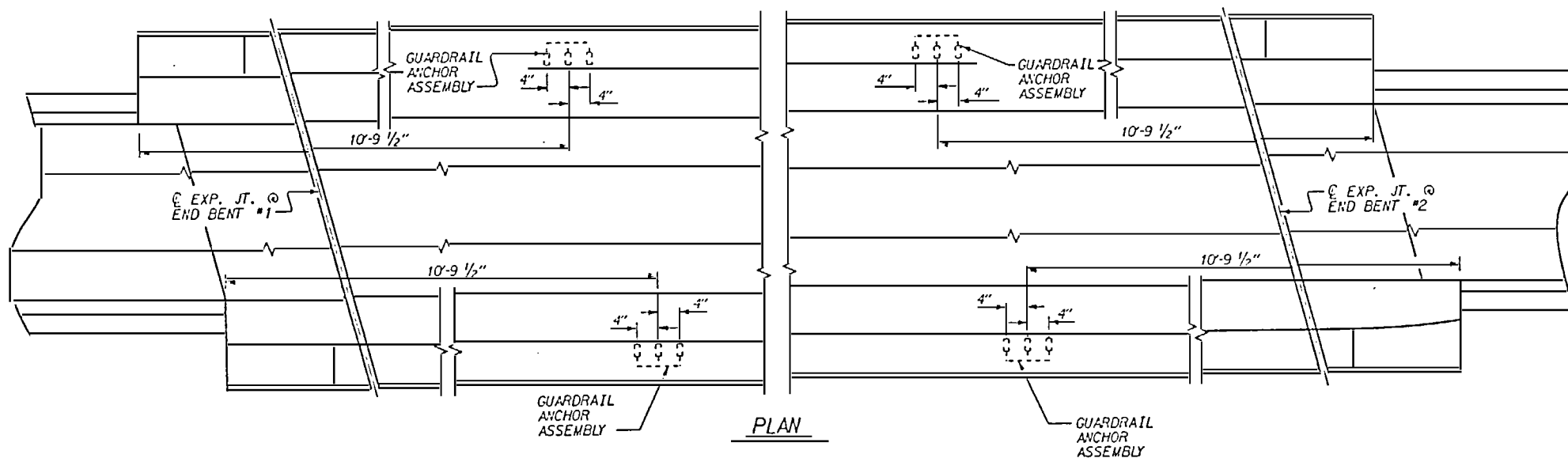
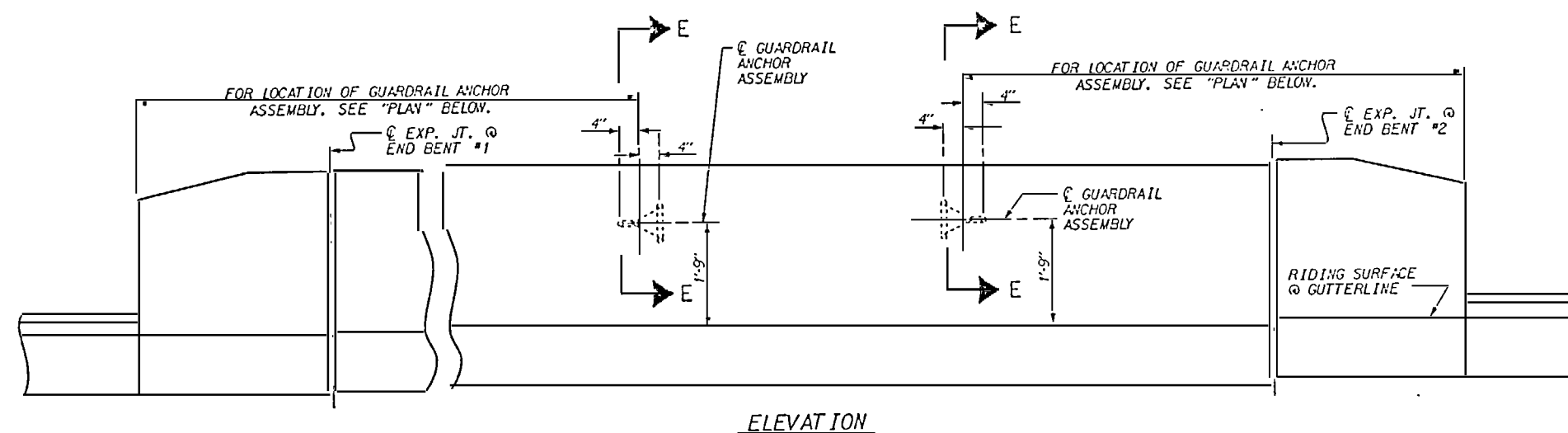
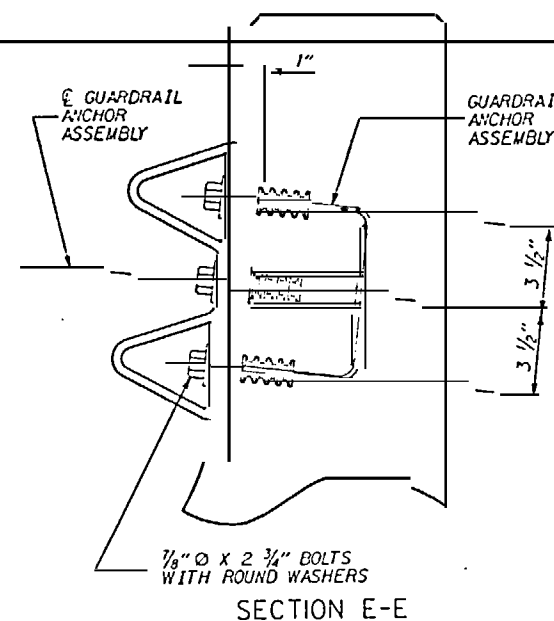
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 GUARDRAIL ANCHORAGE
 FOR BARRIER RAIL

REVISIONS					SHEET NO.
NO.	BY	DATE	NO.	BY	
1			3		5-83
2			4		170

STD. No. GRA1



GUARDRAIL ANCHOR ASSEMBLY



LOCATION OF ANCHORS FOR GUARDRAIL

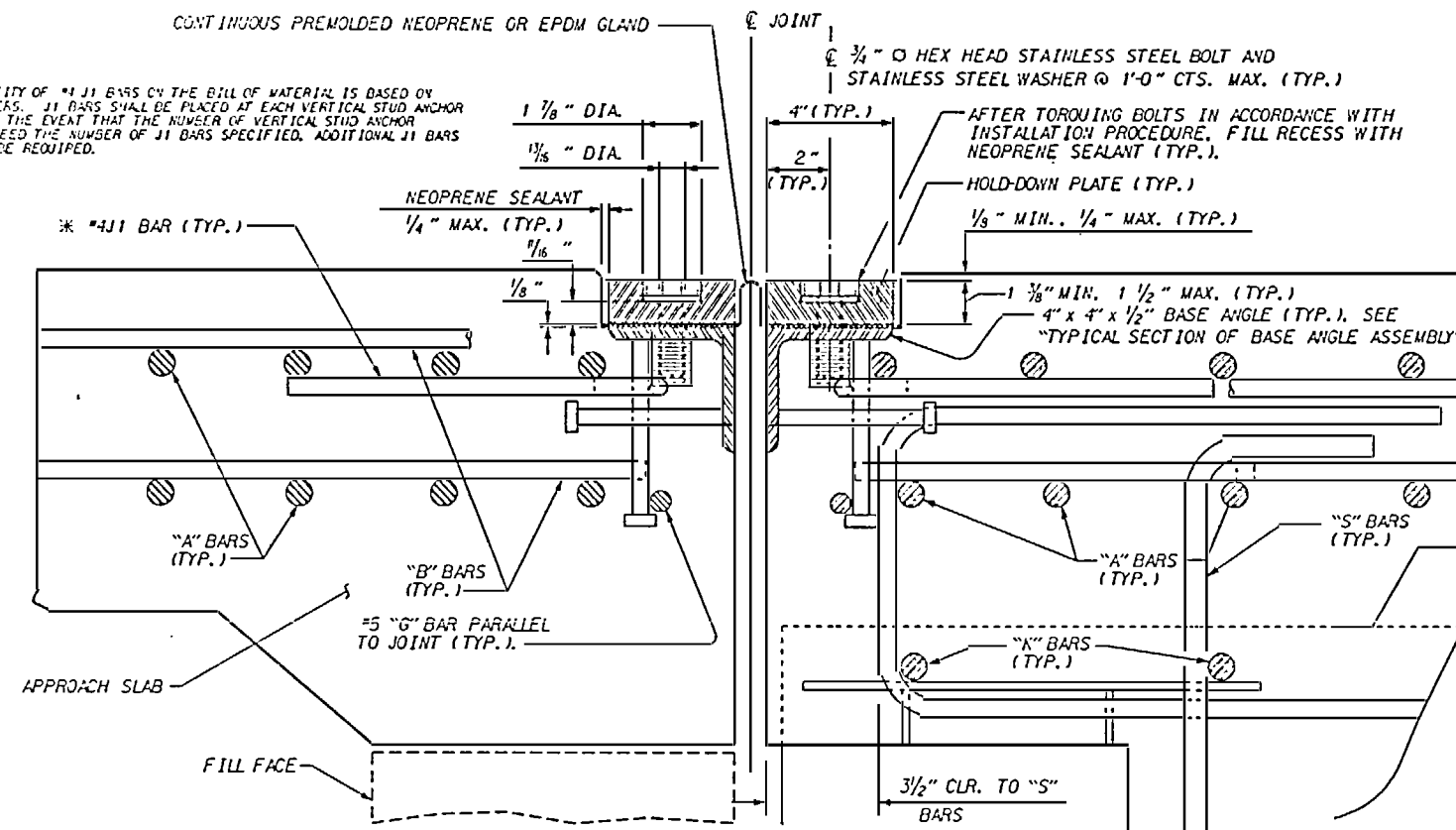
DESIGNED BY: <u>W. H. R. H.</u>	DATE: <u>7/18/96</u>	SPECIAL
RED BY: <u>L. H. FAN</u>	DATE: <u>12/20/96</u>	
IN BY: <u>MIKE DRITT</u>	DATE: <u>EEC. 1997</u>	STANDARD
RED BY: <u>RANDY RISSETTE</u>	DATE: <u>EEC. 1997</u>	

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 nch

INSTALLATION PROCEDURE

GENERAL NOTES

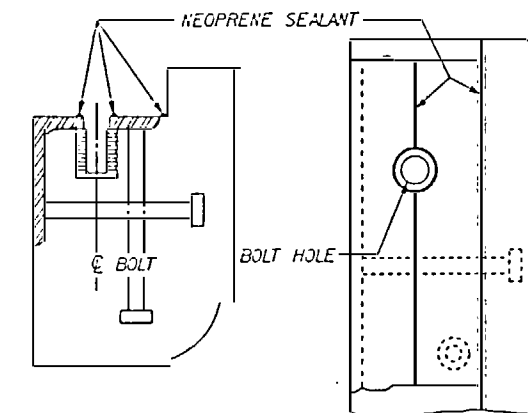
* THE QUANTITY OF #4 J1 BARS ON THE BILL OF MATERIAL IS BASED ON 1'-0" CENTERS. J1 BARS SHALL BE PLACED AT EACH VERTICAL STUD ANCHOR BOLT. IN THE EVENT THAT THE NUMBER OF VERTICAL STUD ANCHOR BOLTS EXCEED THE NUMBER OF J1 BARS SPECIFIED, ADDITIONAL J1 BARS WILL NOT BE REQUIRED.



EXPANSION JOINT DETAILS

SECTION NORMAL TO JOINT -- PRESTRESSED GIRDER SUPERSTRUCTURE

1. A TEMPLATE OR OTHER SUITABLE DEVICE SHALL BE USED TO FORM THE TOP OF THE EXPANSION JOINT SEAL BURR OUT TO THE PROPER DEPTH AND WIDTH. THE TEMPLATE SHALL BE 1/2\"
2. AFTER THE CONCRETE HAS BEEN CAST ON BOTH SIDES OF THE JOINT, REMOVE THE TEMPLATE. THOROUGHLY CLEAN THE BOLT HOLES AND THE ANGLE PLATE. REMOVE ANY EXCESS CONCRETE THAT COMES OUT OF THE WEEP HOLES. ANY DAMAGED STEEL SHALL BE COATED WITH A MINIMUM THICKNESS OF 4 DRY MILS OF ZINC-RICH PAINT IN ACCORDANCE WITH THE SPECIFICATIONS.
3. LAY THE GLAND ON THE BASE ANGLE AND FIELD MARK THE GLAND FOR THE BOLT HOLES. HOLES IN THE GLAND SHALL BE PUNCHED 1/8\"
4. IN ORDER TO CHECK FOR PROPER ALIGNMENT, PLACE THE GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. DO NOT APPLY NEOPRENE SEALANT. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE BUT DO NOT TIGHTEN. THE ENGINEER SHALL INSPECT THE JOINT SEAL DEVICE FOR PROPER ALIGNMENT.
5. AFTER INSPECTION, REMOVE THE HOLD-DOWN PLATES AND GLAND. APPLY NEOPRENE SEALANT TO THE BASE ANGLE IN ACCORDANCE WITH THE "INSTALLATION SKETCH". PLACE GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE ASSEMBLY AND TORQUE THE BOLTS TO 85 FT-LBS WITH A TORQUE WRENCH. THE TORQUE WRENCH SHALL BE CALIBRATED IN ACCORDANCE WITH SECTION 44-10.10 OF THE STANDARD SPECIFICATIONS. CHECK THE TORQUE AFTER THREE (3) HOURS AND, IF NECESSARY, RETIGHTEN TO 65 FT-LBS. A FINAL CHECK SHALL BE MADE AT SEVEN (7) DAYS. TORQUE SHALL NOT BE LESS THAN 80 FT-LBS AFTER SEVEN (7) DAYS.
6. AFTER PROPER TORQUING, CLEAN THE BOLT HOLE RECESSES AND THE RECESS BETWEEN THE JOINT SEAL DEVICE AND CONCRETE. COMPLETELY FILL THESE RECESSES WITH NEOPRENE SEALANT.



CROSS SECTION

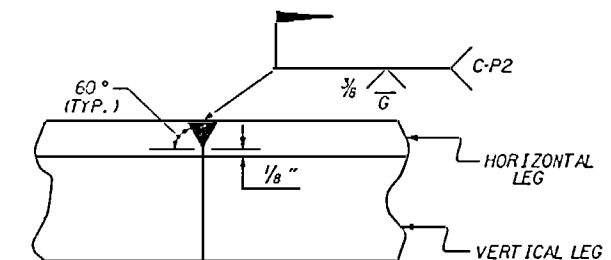
PLAN VIEW

INSTALLATION SKETCH

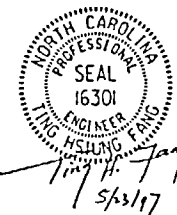
MOVEMENT AND SETTING AT JOINT

END BENT NO.	SKIEW ANGLE	TOTAL MOVEMENT (ALONG C. RDWAY)	PERPENDICULAR JOINT OPENING AT 30° F	PERPENDICULAR JOINT OPENING AT 60° F	PERPENDICULAR JOINT OPENING AT 90° F
#1	75°	2"	2 1/4"	2"	1 1/4"
#2	75°	2"	2 1/4"	2"	1 1/4"

1. ALL PLATES AND ANGLES SHALL CONFORM TO AASHTO #270 GRADE 36 STEEL OR APPROVED EQUAL. ALL HOLD-DOWN BOLTS SHALL CONFORM TO ASTM F593 TYPE 304 STAINLESS STEEL AND WASHERS SHALL CONFORM TO ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL. ALL STUD ANCHORS SHALL CONFORM TO ASTM A108, GRADES 1010 THRU 1020 OR APPROVED EQUAL. ALL CONCRETE INSERTS SHALL BE CLOSED END AND SHALL CONFORM TO ASTM A108, GRADE 12L14. TENSILE CAPACITY SHALL BE 3000 LBS. MIN.
2. A. FIRMED CORRUGATED OR NONCORRUGATED GLAND SHALL BE USED FOR JOINTS SKEWED BETWEEN 50° THRU 130°. FOR JOINTS SKEWED LESS THAN 50° OR MORE THAN 130°, ONLY A CORRUGATED GLAND SHALL BE USED.
3. CLOSED END FERRULES AND STUD ANCHORS SHALL BE SHOP WELDED AND ALL HOLES SHALL BE SHOP DRILLED AS SHOWN ON PLANS. STUD ANCHORS SHALL BE ELECTRIC ARC END WELDED WITH COMPLETE FUSION.
4. SURFACES COMING IN CONTACT WITH NEOPRENE SHALL BE GROUND SMOOTH PRIOR TO METALLIZING.
5. UPON COMPLETION OF SHOP FABRICATION, ALL STEEL PARTS, EXCLUDING STAINLESS STEEL BOLTS, SHALL BE COMMERCIAL BLAST CLEANED AND METALLIZED TO A MINIMUM THICKNESS OF 4 MILS. SEE SPECIAL PROVISIONS FOR THERMAL SPRAYED COATINGS (METALLIZATION).
6. BASE ANGLE ASSEMBLY SHALL BE CONTINUOUS FOR THE LENGTH OF THE JOINT. AT CROWN BREAKS, THE ENDS OF THE BASE ANGLE ASSEMBLY SHALL BE CUT PARALLEL TO THE BRIDGE CENTERLINE FOR SKEWS LESS THAN 60° AND GREATER THAN 100°. FINISHED WELD SHALL BE GROUND SMOOTH AND COATED WITH A MINIMUM THICKNESS OF 4 DRY MILS OF ZINC-RICH PAINT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
7. FIELD SPLICES OF HOLD-DOWN PLATES SHALL BE KEPT TO A MINIMUM. CONTRACTOR SHALL FURNISH DETAILED PLANS SHOWING PROPOSED SPLICE LOCATIONS FOR APPROVAL. HOLD-DOWN PLATES SHALL NOT EXCEED 20' LENGTHS UNLESS APPROVED BY THE ENGINEER. SEE SPECIAL PROVISIONS FOR EXPANSION JOINT SEALS.
8. NO ALTERNATE JOINT DETAILS SHALL BE PERMITTED IN LIEU OF THOSE SHOWN ON THESE PLANS.
9. THE CONTRACTOR MAY, AT HIS OPTION, USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF CONCRETE INSERTS FOR COVER PLATES. SEE SPECIAL PROVISIONS FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOVELS. THE YIELD LOAD OF THE 3/4\"
10. FOR EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.
11. NO SEPARATE PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING THE COVER PLATES. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR EXPANSION JOINT SEALS.



DETAIL - FIELD WELD SPLICE OF BASE ANGLE



PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

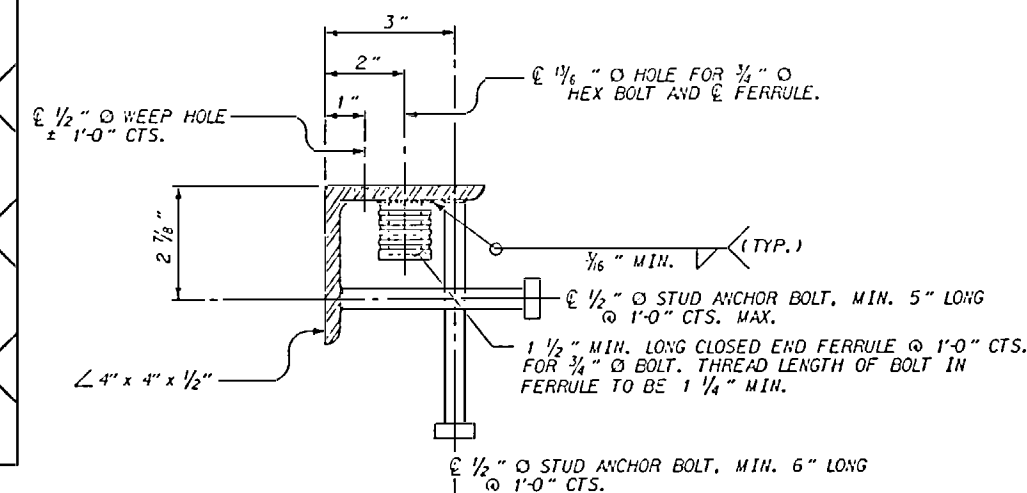
SHEET 1 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 Raleigh

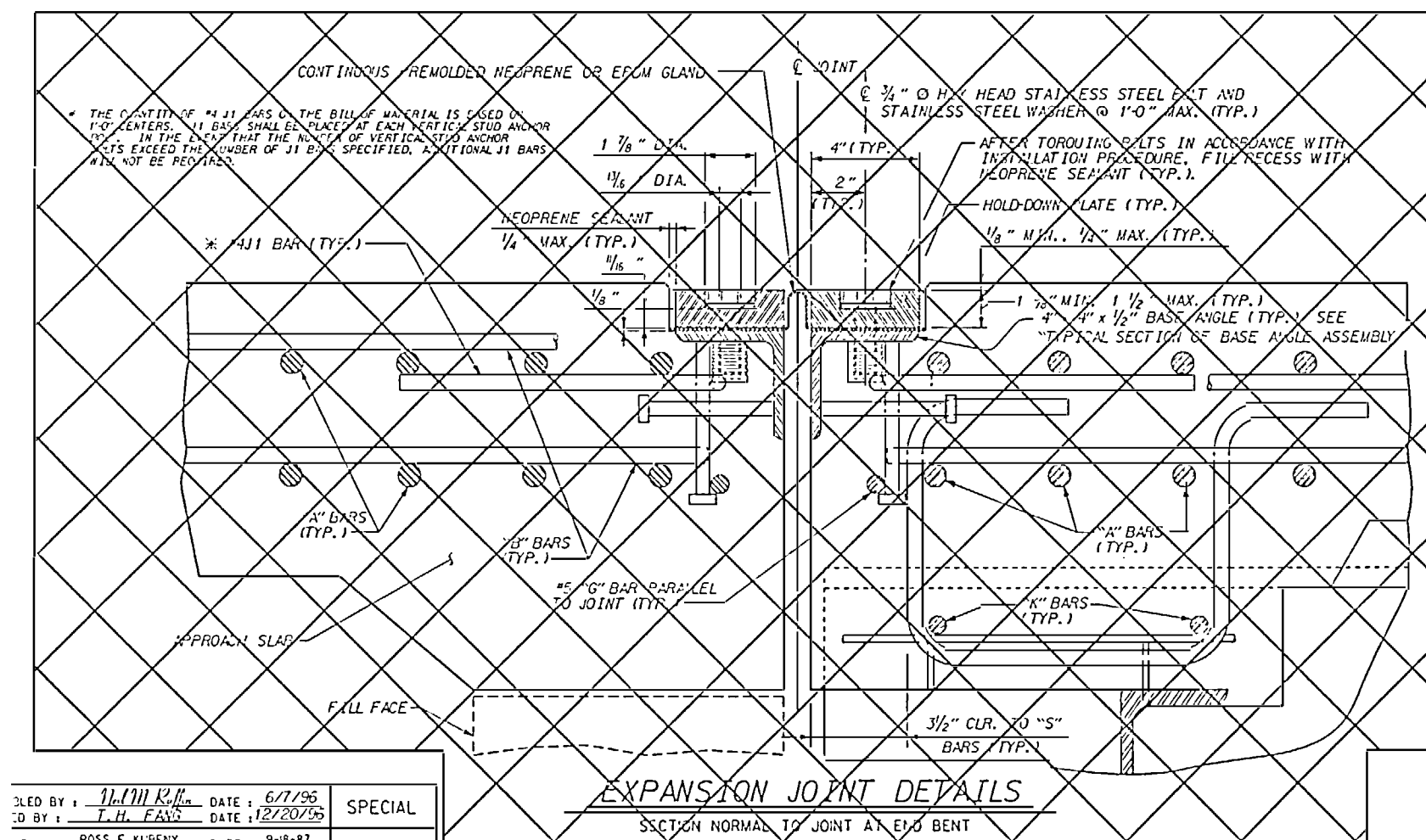
STANDARD
 EXPANSION JOINT
 SEAL DETAILS
 @ END BENT #1 AND #2

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

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TYPICAL SECTION OF BASE ANGLE ASSEMBLY



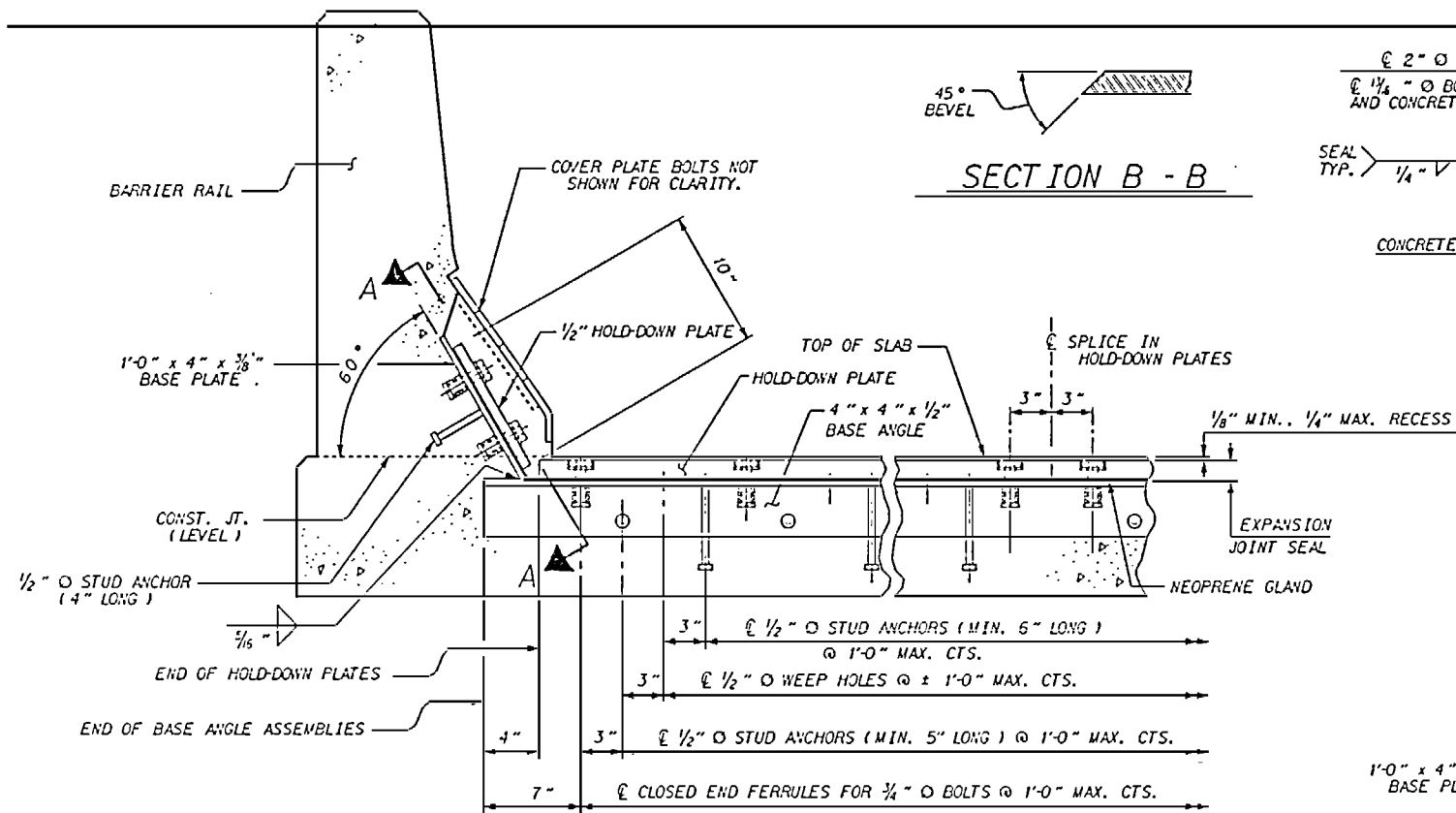
EXPANSION JOINT DETAILS

SECTION NORMAL TO JOINT AT END BENT

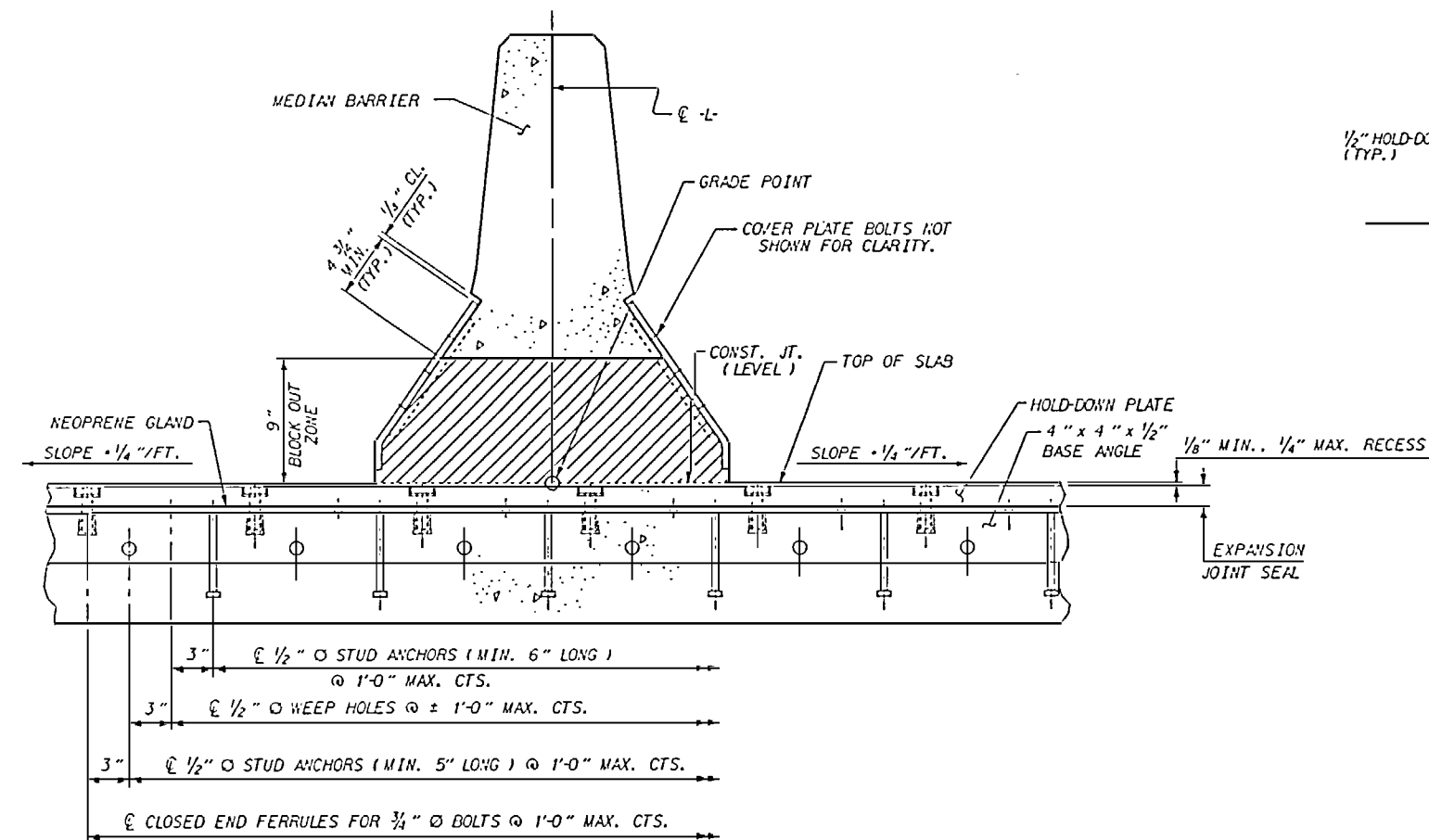
DESIGNED BY: T.H. FARR DATE: 6/7/95
 CHECKED BY: ROSS E. KUBENY DATE: 12/20/95
 APPROVED BY: CHERYL R. KINGS DATE: 9-18-87
 DATE: 10-2-87
 SPECIAL
 STANDARD

1/1/94 EEM GJGFP
 1/6/95 EEM GJGFP

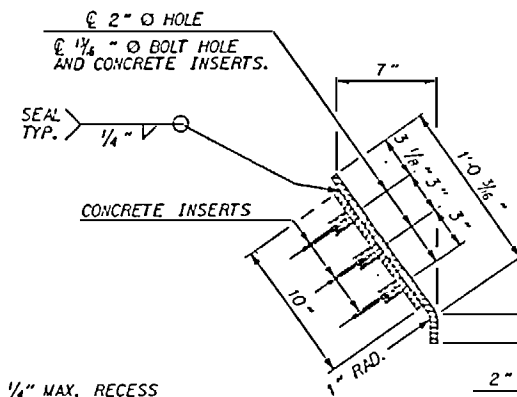
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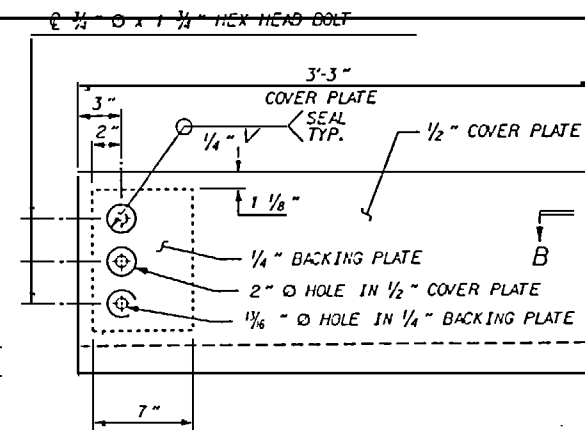
SECTION THRU RAIL NORMAL TO JOINT



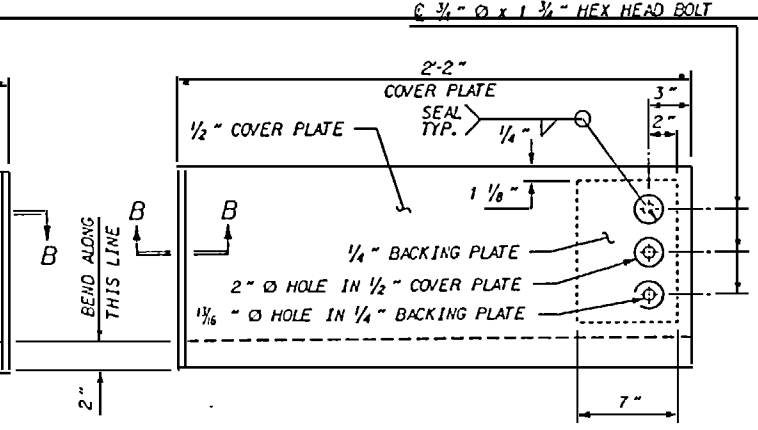
SECTION THRU MEDIAN BARRIER NORMAL TO JOINT



END VIEW

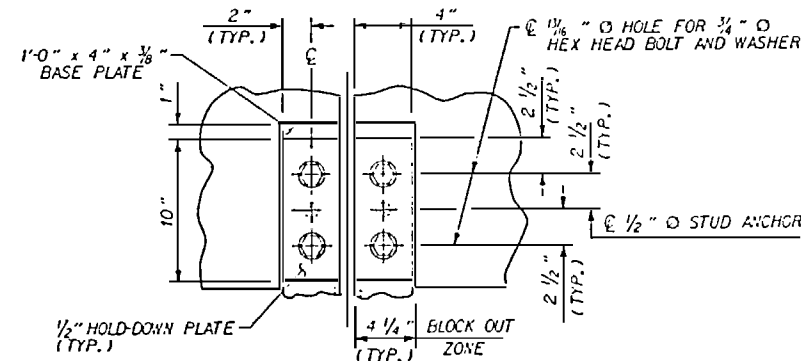


TYPE I - ELEVATION VIEW
FOR MEDIAN BARRIER

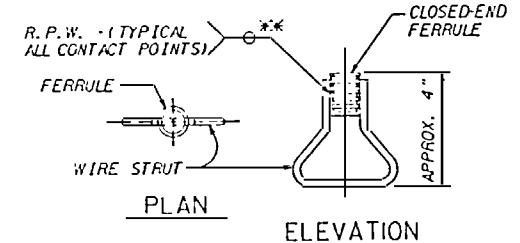


TYPE II - ELEVATION VIEW
FOR BARRIER RAIL

COVER PLATE DETAILS

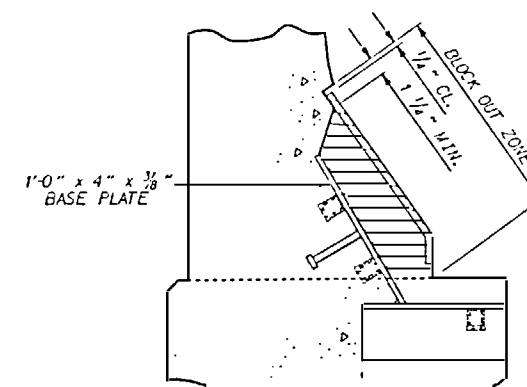


SECTION A - A



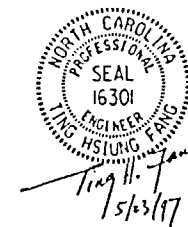
CONCRETE INSERT

** EACH WELDED ATTACHMENT OF WIRE TO FERRULE SHALL DEVELOP THE TENSILE STRENGTH OF THE WIRE.



BLOCK OUT DETAIL

SEE "SECTION A - A" FOR OTHER DETAILS.



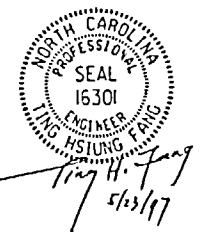
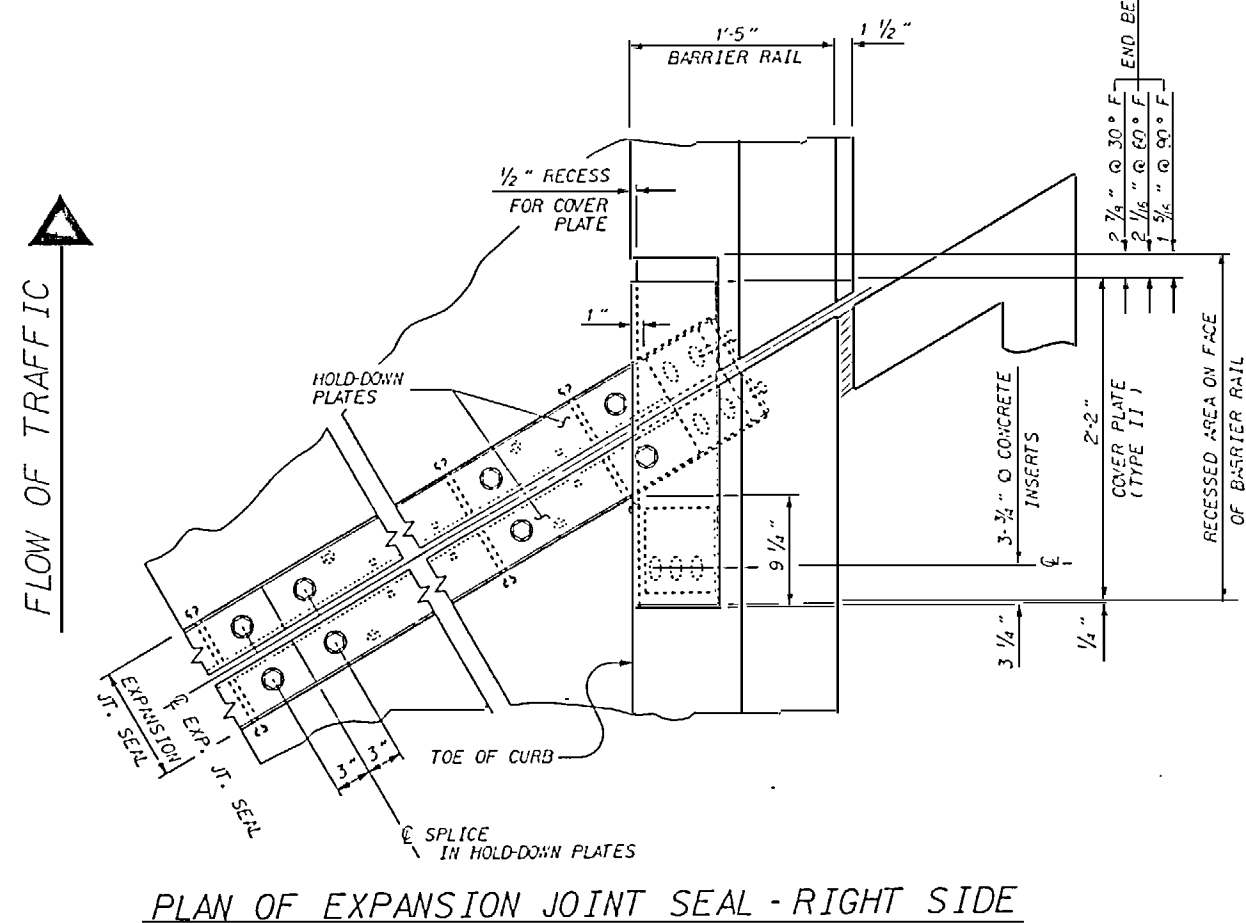
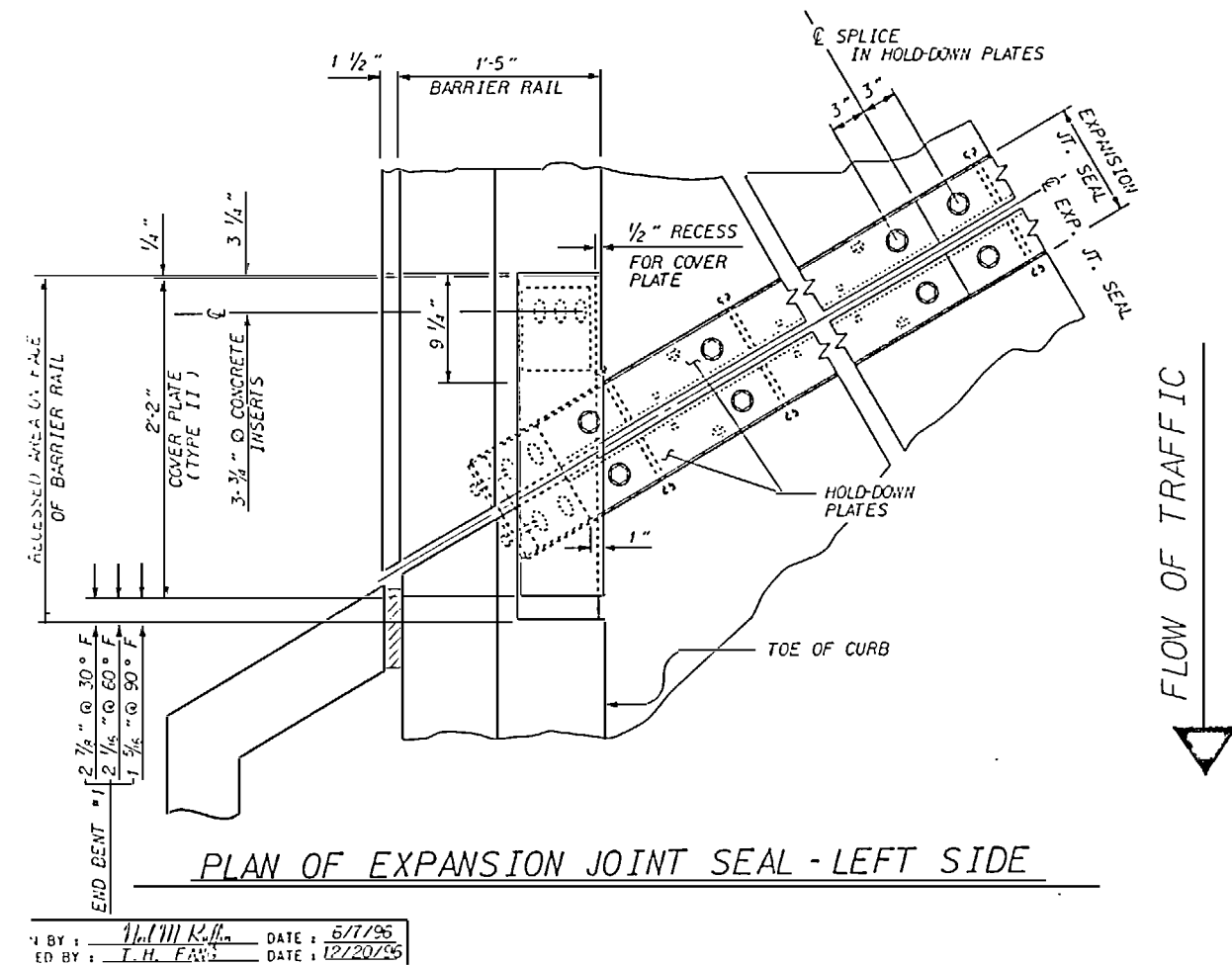
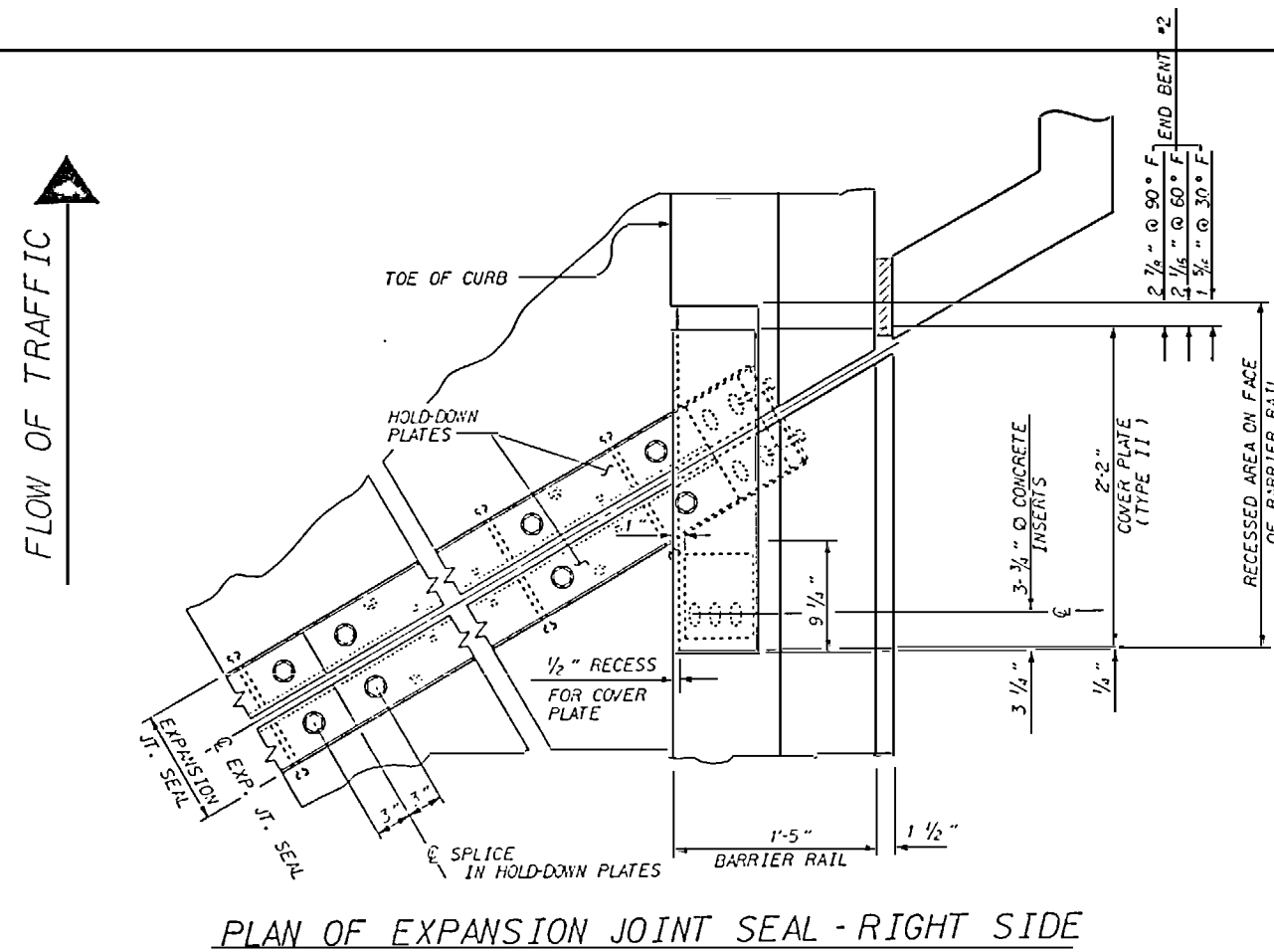
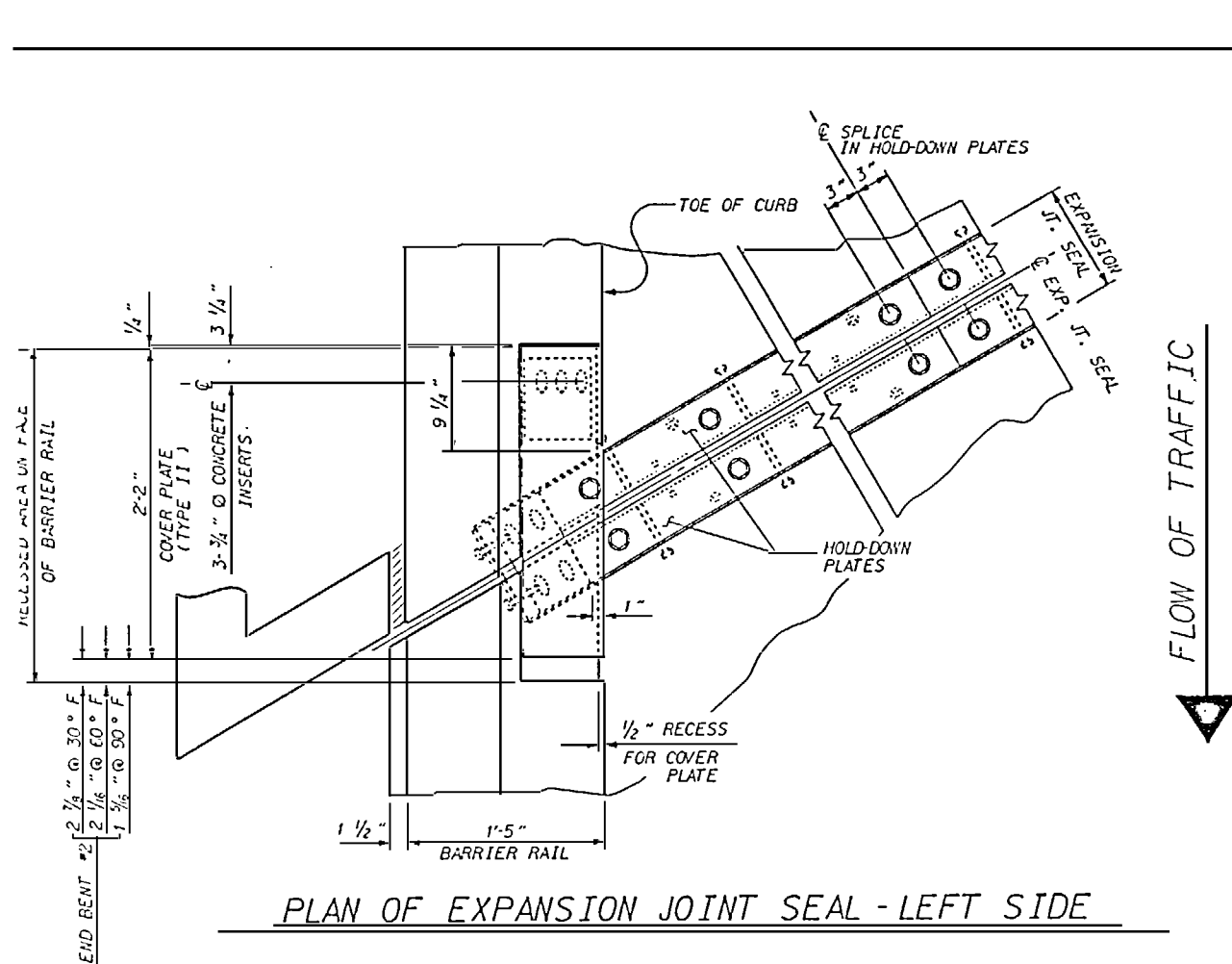
PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 2 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD EXPANSION JOINT SEAL DETAILS FOR BARRIER RAIL @ END BENT #1 AND #2					
FEBRUARY 1988					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
					SHEET NO. S-85 TOTAL SHEETS 170

ASSEMBLED BY: T.H. Fang DATE: 6/7/95 SPECIAL
 CHECKED BY: T.H. Fang DATE: 12/20/95
 DRAWN BY: ROSS E. KUBENY DATE: 9-18-87 STANDARD
 CHECKED BY: CHADY R. KING DATE: 10-2-87
 EV 6-16-95 ELM WGRP
 EV 6-16-95 ELM WGRW

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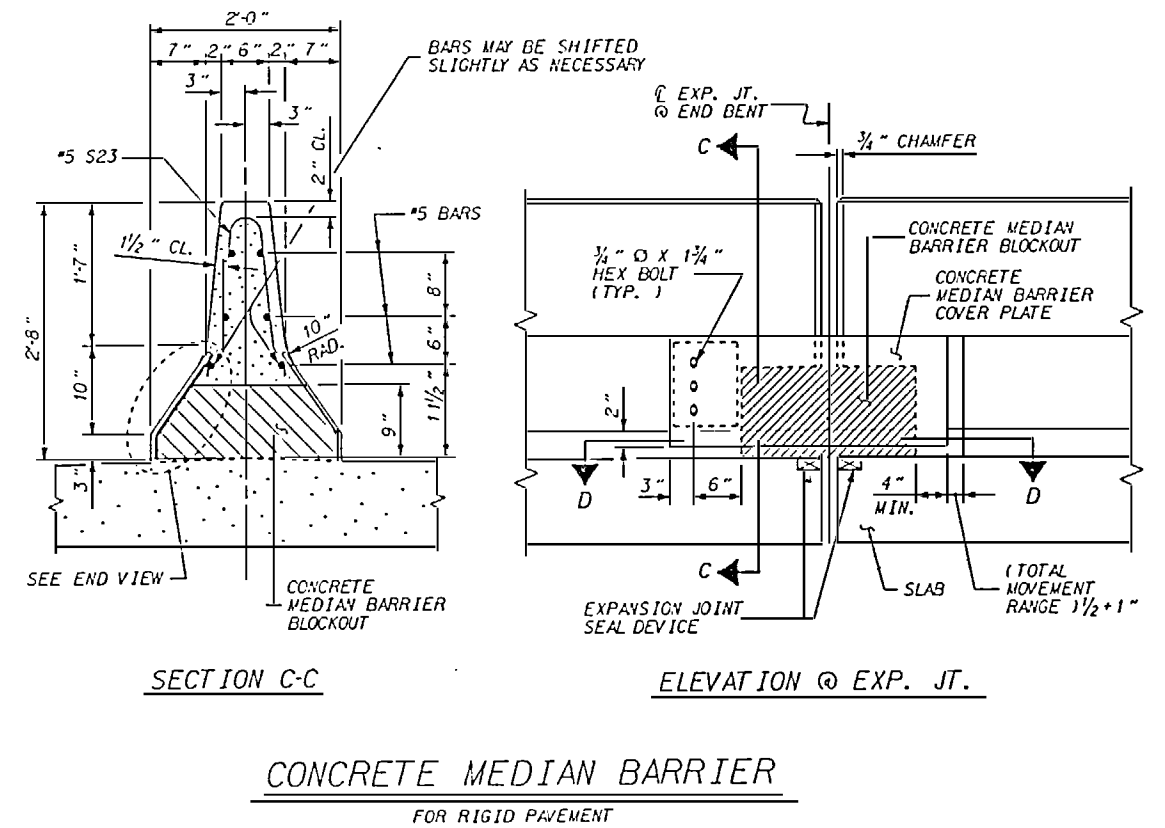
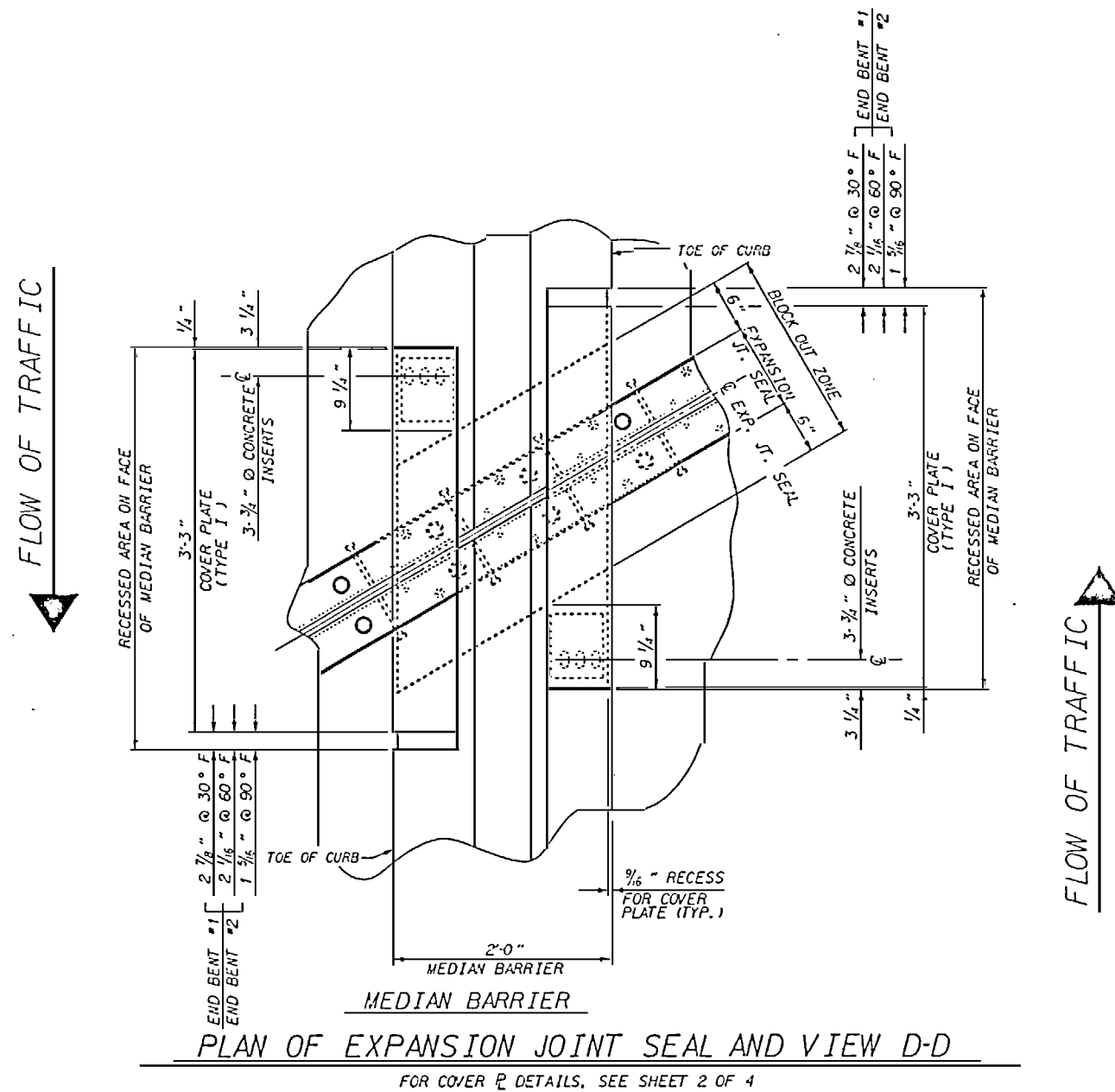


PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 3 OF 4

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-86
2			4			
TOTAL SHEETS						170

BY: T.H. Yang DATE: 6/7/96
 ED BY: T.H. Yang DATE: 12/20/96

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PROJECT NO. U-2107BA

ONSLOW COUNTY

STATION: 277+50.00 -L-

SHEET 4 OF 4



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EXPANSION JOINT
SEAL DETAILS
FOR MEDIAN BARRIER
@ END BENT #1 AND #2

REVISIONS					SHEET NO.
NO.	BY	DATE	NO.	DATE	
1			3		5-87
2			4		

BY: T. H. FERG DATE: 6/7/95

ED BY: T. H. FERG DATE: 12/20/15

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NOTES

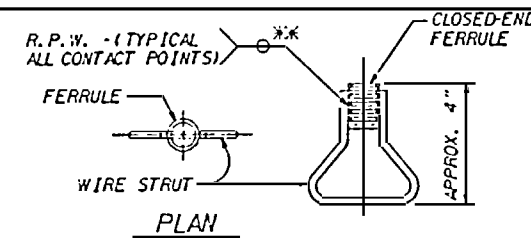
THE STEEL PLATES SHALL CONFORM TO AASHTO M270 GRADE 36 OR APPROVED EQUAL. AFTER FABRICATION, THE PLATES SHALL BE COMMERCIALY BLAST CLEANED AND COATED WITH A MINIMUM THICKNESS OF 4 DRY MILS OF ZINC-RICH PAINT IN ACCORDANCE WITH SPECIFICATIONS. AT THE CONTRACTORS OPTION, THESE SURFACES MAY BE METALLIZED TO A MINIMUM THICKNESS OF 4 MILS. SEE SPECIAL PROVISIONS FOR THERMAL SPRAYED COATINGS (METALLIZATION).

THE 1/2" DIAMETER HEX BOLTS SHALL CONFORM TO ASTM F593 TYPE 304 STAINLESS STEEL.

THE 1/2" CONCRETE INSERTS SHALL BE CLOSED-END FERRULES WITH LOOPED WIRE STRUTS ATTACHED TO THEM. THE INSERTS SHALL CONFORM TO ASTM A108, GRADE 12L14 AND SHALL HAVE A TENSILE WORKING LOAD CAPACITY OF 3000 LBS.

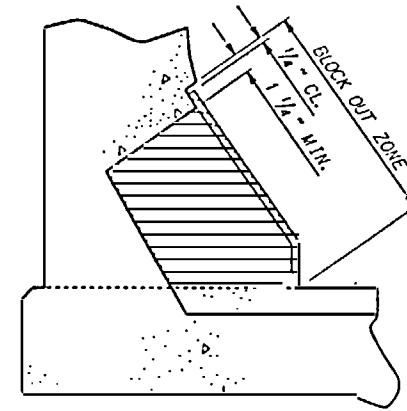
NO SEPARATE PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING THE COVER PLATES. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR "MODULAR EXPANSION JOINT SEALS".

FOR MODULAR EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

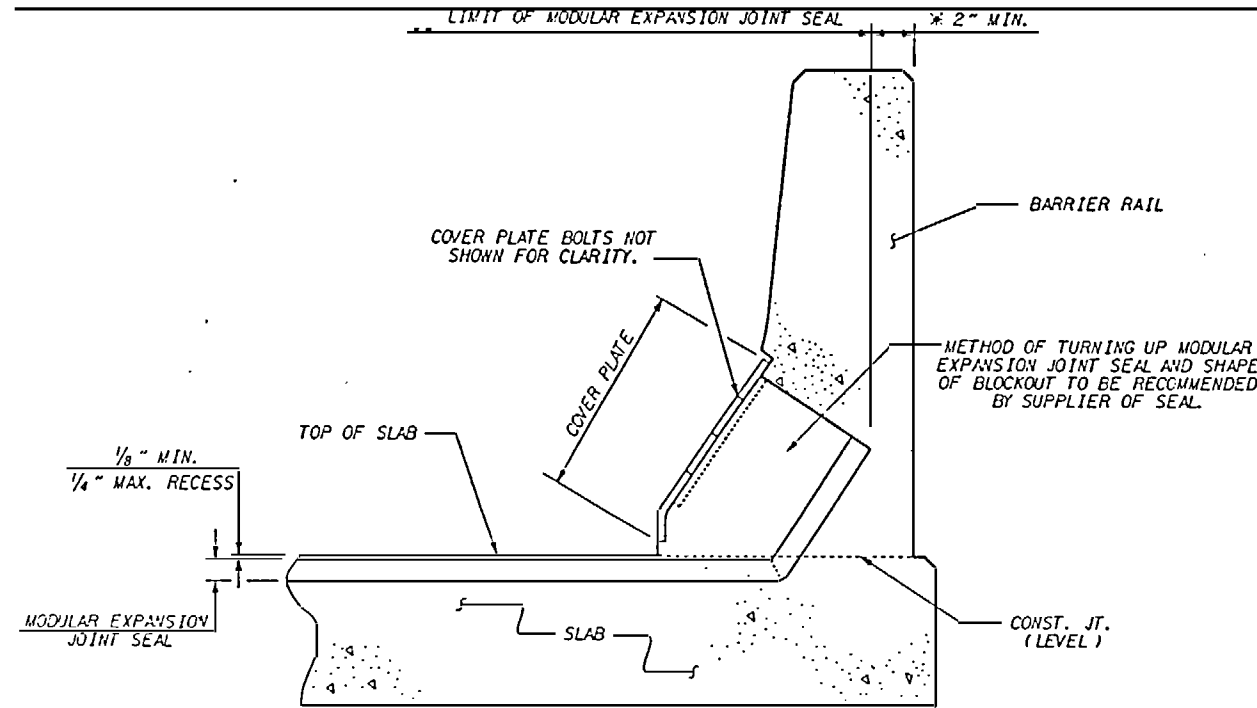


CONCRETE INSERT

** EACH WELDED ATTACHMENT OF WIRE TO FERRULE SHALL DEVELOP THE TENSILE STRENGTH OF THE WIRE.

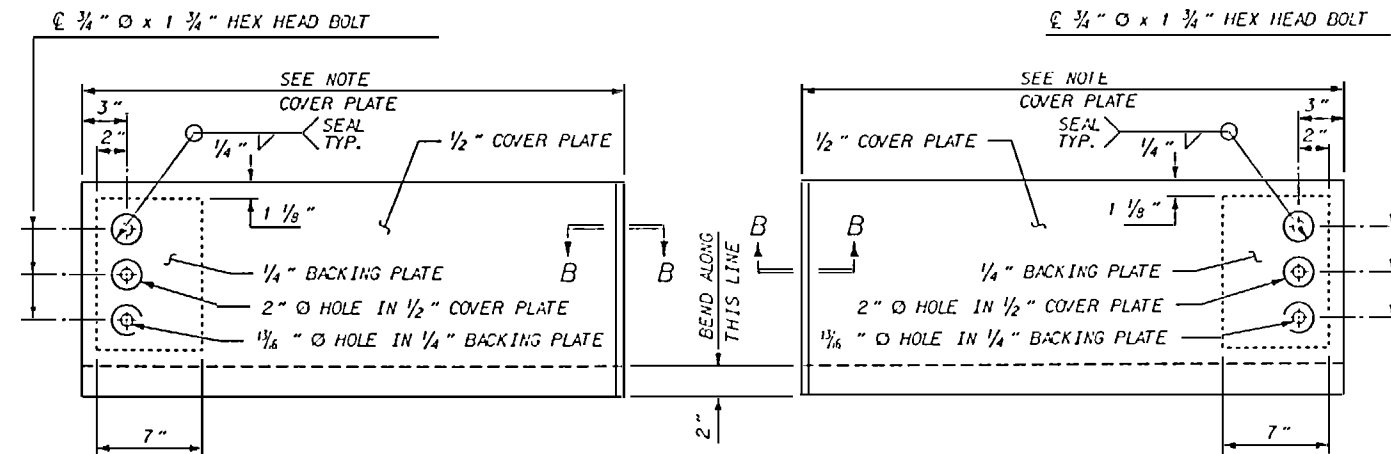


BLOCK OUT DETAIL



SECTION THRU RAIL NORMAL TO JOINT

* A 2" MINIMUM CLEAR DISTANCE SHALL BE REQUIRED BETWEEN THE OUTSIDE OF BARRIER RAIL AND THE MODULAR EXPANSION JOINT SEAL AND/OR ITS ANCHORS.

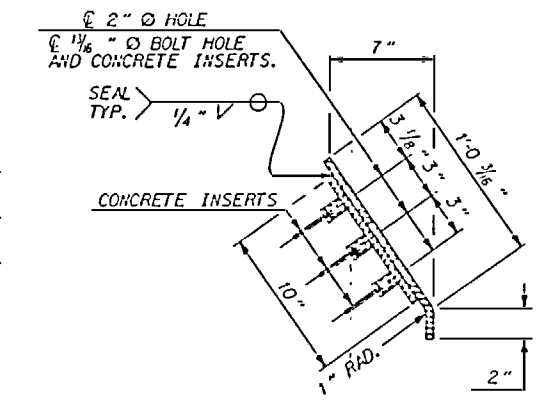


TYPE I - ELEVATION VIEW FOR MEDIAN BARRIER

TYPE II - ELEVATION VIEW FOR BARRIER RAIL

NOTE : SUPPLIER OF MODULAR EXPANSION JOINT SEAL IS TO DETERMINE LENGTH OF COVER PLATES REQUIRED. DETAILS OF COVER PLATES ARE SUBJECT TO CHANGE DEPENDING ON DETAILS OF MODULAR EXPANSION JOINT SEAL FURNISHED.

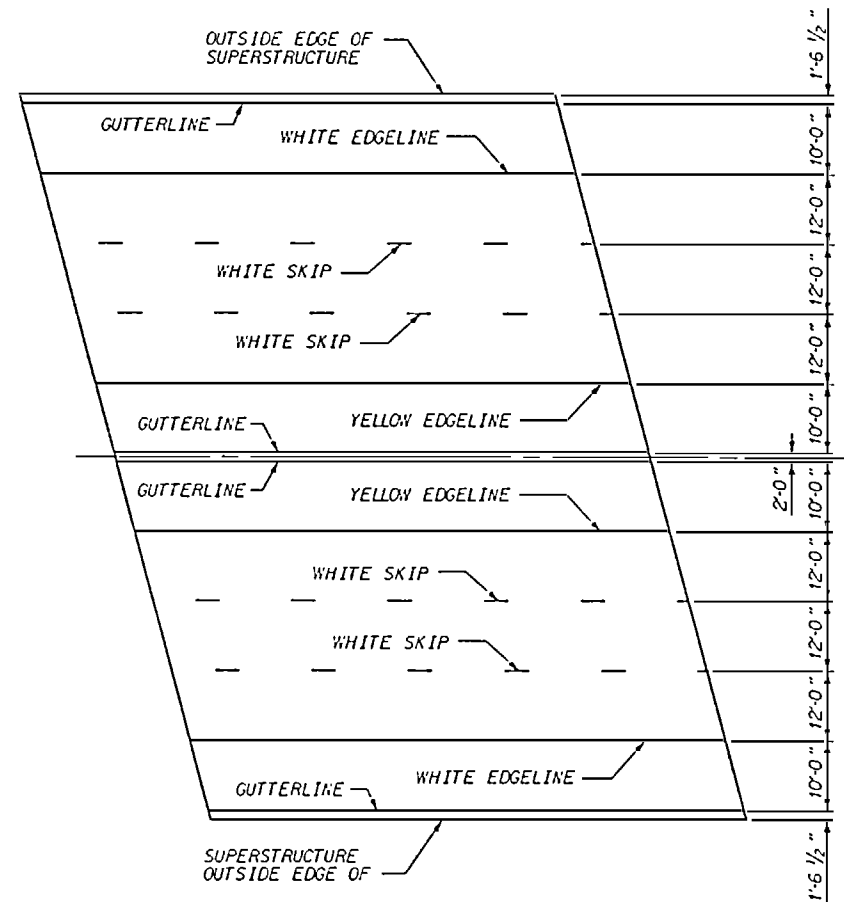
COVER PLATE DETAILS



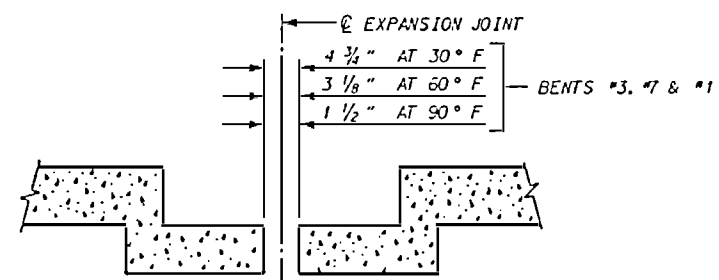
END VIEW



SECTION B - B



PAVEMENT MARKING ALIGNMENT



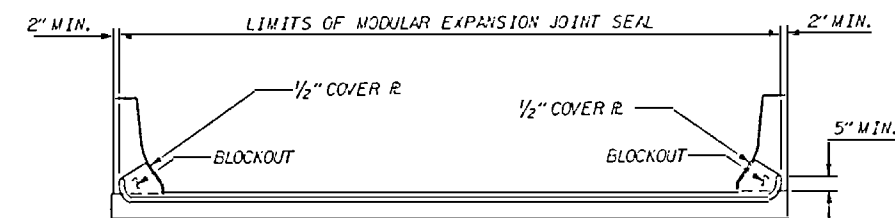
SECTION THRU SLAB NORMAL TO JOINT

NOTE: MODULAR EXPANSION JOINT SEAL IS REQUIRED AT THIS JOINT BUT NOT SHOWN. SEE SKETCH SHOWING LIMITS OF MODULAR EXPANSION JOINT SEAL.

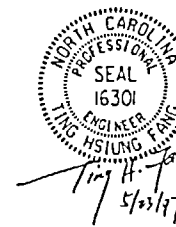
SET TOP OF MODULAR EXPANSION JOINT SEAL DEVICE A MINIMUM OF 1/8" AND A MAXIMUM OF 1/4" BELOW TOP OF SLAB.

THE MODULAR EXPANSION JOINT SEAL AT BENT NO. 3, 7 & 11 SHALL BE CAPABLE OF HANDLING A TOTAL MOVEMENT, MEASURED PARALLEL TO THE CENTER LINE OF THE ROADWAY, OF 3 1/4" (1 3/8" EXPANSION AND 1 7/8" CONTRACTION FROM A MIDPOINT TEMPERATURE OF 60° F.)

TYPICAL MODULAR EXPANSION JOINT SEAL DETAILS @ BENTS



SKETCH SHOWING LIMITS OF MODULAR EXPANSION JOINT SEAL



PROJECT NO. U-2107BA
ONSLow COUNTY
STATION: 277+50.00 -L-

SHEET 1 OF 3

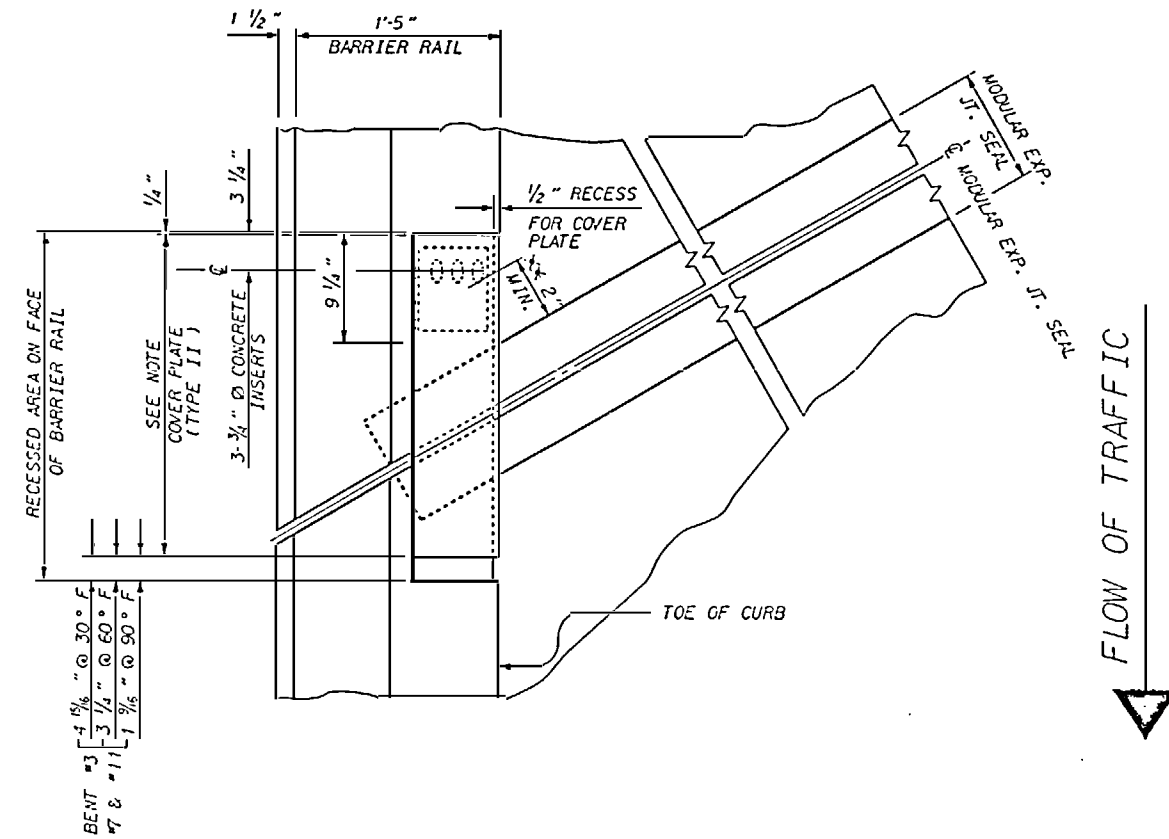
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
MODULAR EXPANSION JOINT SEAL DETAILS FOR BARRIER RAIL

REVISIONS				SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
				TOTAL SHEETS	170

IN BY : M. M. R. DATE : 6/5/96
*ED BY : T. H. FAY DATE : 12/20/96

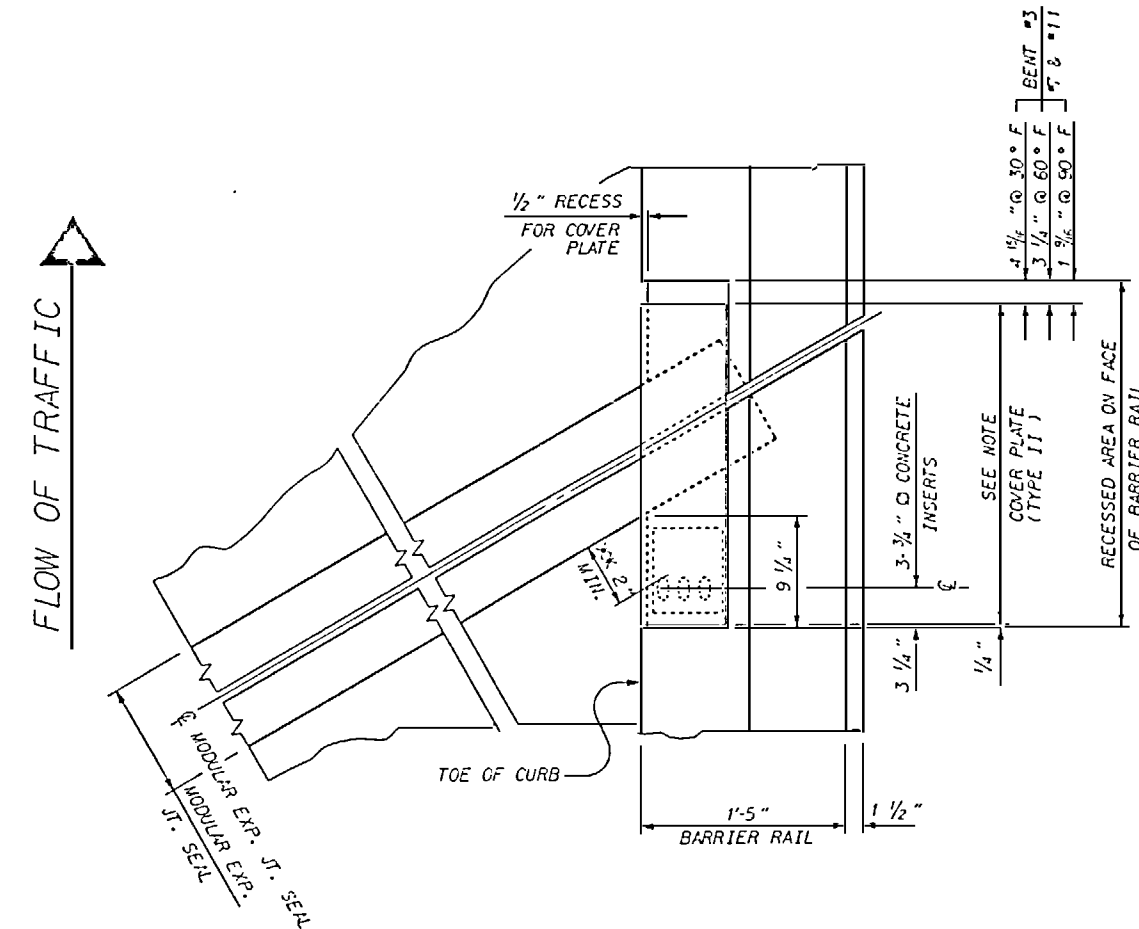
10-APR-1717 1242
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NOTE: SUPPLIER OF THE MODULAR EXPANSION JOINT SEAL IS TO DETERMINE LENGTH OF COVER PLATES REQUIRED. DETAILS OF COVER PLATES ARE SUBJECT TO CHANGE DEPENDING ON DETAILS OF MODULAR EXPANSION JOINT SEAL FURNISHED.



PLAN OF MODULAR EXPANSION JOINT SEAL - LEFT SIDE

** A 2" MINIMUM CLEAR DISTANCE SHALL BE REQUIRED BETWEEN THE MODULAR EXPANSION JOINT SEAL AND THE WIRE STRUTS.

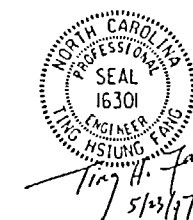


PLAN OF MODULAR EXPANSION JOINT SEAL - RIGHT SIDE

** A 2" MINIMUM CLEAR DISTANCE SHALL BE REQUIRED BETWEEN THE MODULAR EXPANSION JOINT SEAL AND THE WIRE STRUTS.

PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 2 OF 3



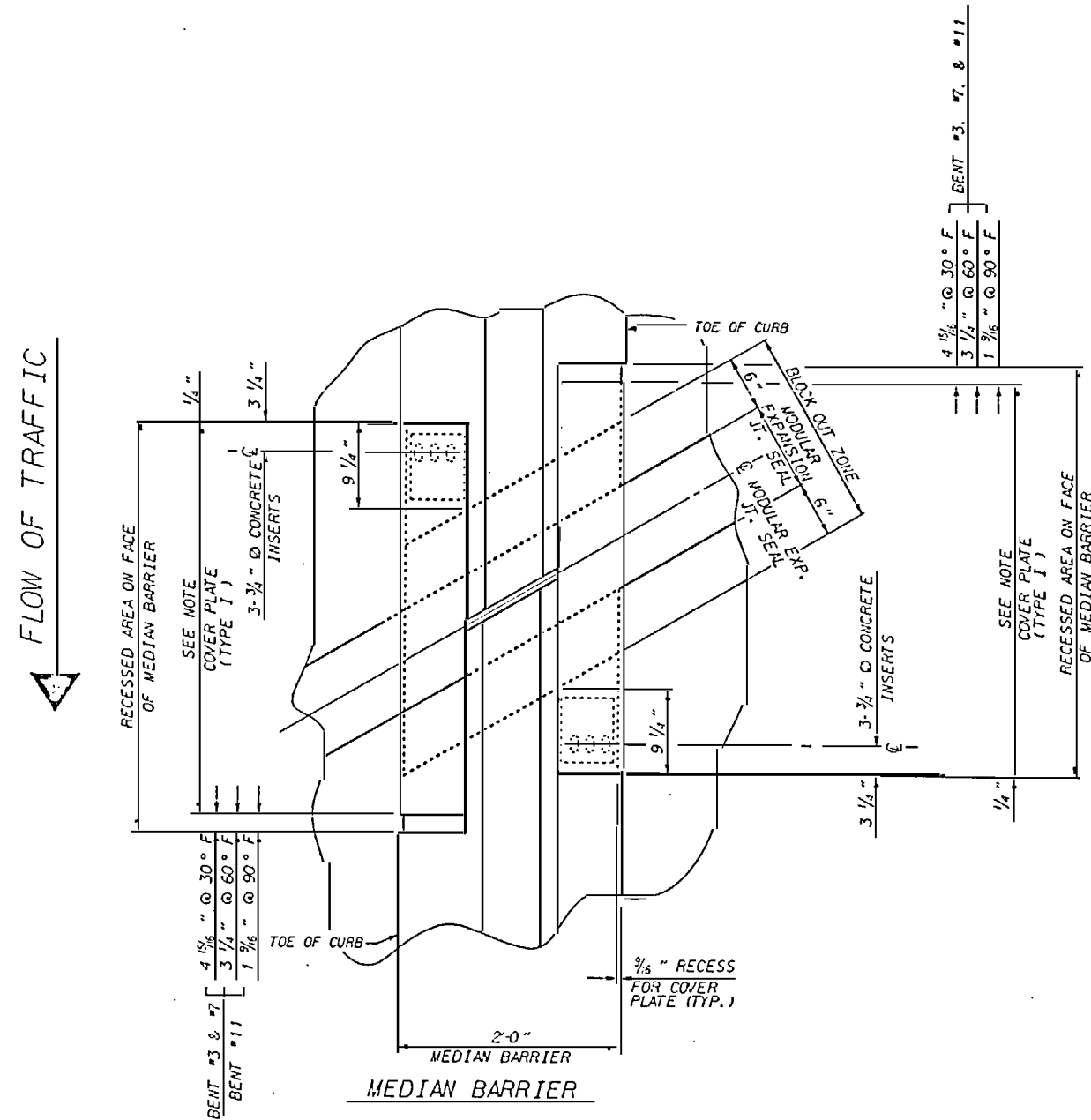
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**MODULAR EXPANSION
 JOINT SEAL DETAILS
 FOR BARRIER RAIL**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-89
2			4			170

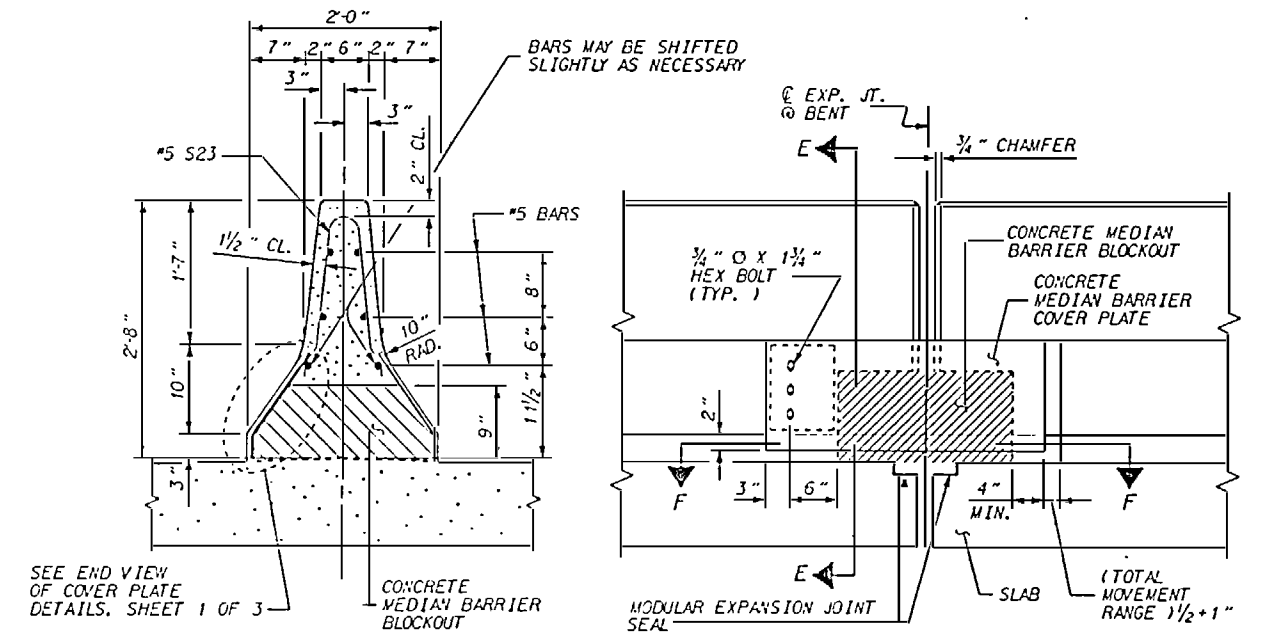
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BY: T.H. Fang DATE: 6/5/96
 ED BY: T.H. Fang DATE: 12/20/96

NOTE : SUPPLIER OF THE MODULAR EXPANSION JOINT SEAL IS TO DETERMINE LENGTH OF COVER PLATES REQUIRED. DETAILS OF COVER PLATES ARE SUBJECT TO CHANGE DEPENDING ON DETAILS OF MODULAR EXPANSION JOINT SEAL FURNISHED.



PLAN OF MODULAR EXPANSION JOINT SEAL AND VIEW F-F
FOR COVER & DETAILS, SEE SHEET 1 OF 3



SECTION E-E

ELEVATION @
EXP. JT.

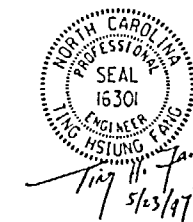
CONCRETE MEDIAN BARRIER
FOR RIGID PAVEMENT

PROJECT NO. U-2 107BA

ONSLOW COUNTY

STATION: 277+50.00 -L-

SHEET 3 OF 3



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

*MODULAR EXPANSION
JOINT SEAL DETAILS
FOR MEDIAN BARRIER
RAIL*

REVISIONS						SHEET NO 5-90
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			

BY : W. M. Kujala DATE : 6/5/95
ED BY : T. H. FANG DATE : 12/20/95

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REINFORCING BAR SCHEDULE

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

SPAN A THRU C (LEFT SIDE OF CLOSURE POUR)

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	#6	STR	54'-4"	54270
A2	#5	STR	54'-4"	37685
A101	#6	STR	52'-8"	79
A102	#6	STR	50'-9"	76
A103	#6	STR	48'-11"	71
A104	#6	STR	47'-1"	68
A105	#6	STR	45'-2"	65
A106	#6	STR	43'-4"	62
A107	#6	STR	41'-6"	59
A108	#6	STR	39'-7"	57
A109	#6	STR	37'-9"	54
A110	#6	STR	35'-10"	51
A111	#6	STR	34'-2"	48
A112	#6	STR	32'-2"	45
A113	#6	STR	30'-5"	43
A114	#6	STR	28'-5"	40
A115	#6	STR	26'-8"	37
A116	#6	STR	24'-10"	34
A117	#6	STR	22'-11"	31
A118	#6	STR	20'-11"	29
A119	#6	STR	19'-1"	26
A120	#6	STR	17'-2"	23
A121	#6	STR	15'-4"	20
A122	#6	STR	13'-6"	17
A123	#6	STR	11'-7"	15
A124	#6	STR	9'-9"	12
A125	#6	STR	7'-11"	9
A126	#6	STR	6'-0"	6
A127	#6	STR	4'-2"	3
A128	#6	STR	2'-3"	3
A129	#5	STR	54'-1"	56
A130	#5	STR	52'-3"	54
A131	#5	STR	50'-5"	53
A132	#5	STR	48'-6"	51
A133	#5	STR	46'-8"	49
A134	#5	STR	44'-9"	47
A135	#5	STR	42'-11"	45
A136	#5	STR	41'-1"	43
A137	#5	STR	39'-2"	41
A138	#5	STR	37'-4"	39
A139	#5	STR	35'-5"	37
A140	#5	STR	33'-7"	35
A141	#5	STR	31'-9"	33
A142	#5	STR	29'-10"	31
A143	#5	STR	28'-0"	29
A144	#5	STR	26'-1"	27
A145	#5	STR	24'-3"	25
A146	#5	STR	22'-5"	23
A147	#5	STR	20'-6"	21
A148	#5	STR	18'-8"	19
A149	#5	STR	16'-9"	17
A150	#5	STR	14'-11"	16
A151	#5	STR	13'-1"	14
A152	#5	STR	11'-2"	12
A153	#5	STR	9'-4"	10
A154	#5	STR	7'-6"	8
A155	#5	STR	5'-7"	6
A156	#5	STR	3'-9"	4
A157	#6	STR	52'-7"	79
A158	#6	STR	50'-8"	76
A159	#6	STR	48'-10"	73
A160	#6	STR	47'-0"	71
A161	#6	STR	45'-1"	68
A162	#6	STR	43'-3"	65
A163	#6	STR	41'-5"	62
A164	#6	STR	39'-6"	59
A165	#6	STR	37'-8"	57
A166	#6	STR	35'-9"	54
A167	#6	STR	33'-11"	51
A168	#6	STR	32'-1"	48
A169	#6	STR	30'-2"	45
A170	#6	STR	28'-4"	43
A171	#6	STR	26'-5"	40
A172	#6	STR	24'-7"	37
A173	#6	STR	22'-9"	34
A174	#6	STR	20'-10"	31
A175	#6	STR	19'-0"	29
A176	#6	STR	17'-1"	26
A177	#6	STR	15'-3"	23
A178	#6	STR	13'-5"	20
A179	#6	STR	11'-6"	17
A180	#6	STR	9'-8"	15
A181	#6	STR	7'-9"	12

EPOXY COATED
REINFORCING STEEL LBS. 176159

SPAN D THRU G (LEFT SIDE OF CLOSURE POUR)

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
A182	#6	STR	5-11	9
A183	#6	STR	54'-4"	73529
A184	#5	STR	54'-4"	51059
A185	#5	STR	52'-8"	79
A186	#5	STR	50'-9"	76
A187	#5	STR	48'-11"	71
A188	#5	STR	47'-1"	68
A189	#5	STR	45'-2"	65
A190	#5	STR	43'-4"	62
A191	#5	STR	41'-6"	59
A192	#5	STR	39'-7"	57
A193	#5	STR	37'-9"	54
A194	#5	STR	35'-10"	51
A195	#5	STR	34'-2"	48
A196	#5	STR	32'-2"	45
A197	#5	STR	30'-5"	43
A198	#5	STR	28'-5"	40
A199	#5	STR	26'-8"	37
A200	#5	STR	24'-10"	34
A201	#5	STR	22'-11"	31
A202	#5	STR	20'-11"	29
A203	#5	STR	19'-1"	26
A204	#5	STR	17'-2"	23
A205	#5	STR	15'-4"	20
A206	#5	STR	13'-6"	17
A207	#5	STR	11'-7"	15
A208	#5	STR	9'-9"	12
A209	#5	STR	7'-11"	9
A210	#5	STR	6'-0"	6
A211	#5	STR	4'-2"	3
A212	#5	STR	2'-3"	3
A213	#5	STR	54'-1"	56
A214	#5	STR	52'-3"	54
A215	#5	STR	50'-5"	53
A216	#5	STR	48'-6"	51
A217	#5	STR	46'-8"	49
A218	#5	STR	44'-9"	47
A219	#5	STR	42'-11"	45
A220	#5	STR	41'-1"	43
A221	#5	STR	39'-2"	41
A222	#5	STR	37'-4"	39
A223	#5	STR	35'-5"	37
A224	#5	STR	33'-7"	35
A225	#5	STR	31'-9"	33
A226	#5	STR	29'-10"	31
A227	#5	STR	28'-0"	29
A228	#5	STR	26'-1"	27
A229	#5	STR	24'-3"	25
A230	#5	STR	22'-5"	23
A231	#5	STR	20'-6"	21
A232	#5	STR	18'-8"	19
A233	#5	STR	16'-9"	17
A234	#5	STR	14'-11"	16
A235	#5	STR	13'-1"	14
A236	#5	STR	11'-2"	12
A237	#5	STR	9'-4"	10
A238	#5	STR	7'-6"	8
A239	#5	STR	5'-7"	6
A240	#5	STR	3'-9"	4
A241	#5	STR	54'-1"	56
A242	#5	STR	52'-3"	54
A243	#5	STR	50'-5"	53
A244	#5	STR	48'-6"	51
A245	#5	STR	46'-8"	49
A246	#5	STR	44'-9"	47
A247	#5	STR	42'-11"	45
A248	#5	STR	41'-1"	43
A249	#5	STR	39'-2"	41
A250	#5	STR	37'-4"	39
A251	#5	STR	35'-5"	37
A252	#5	STR	33'-7"	35
A253	#5	STR	31'-9"	33
A254	#5	STR	29'-10"	31
A255	#5	STR	28'-0"	29
A256	#5	STR	26'-1"	27
A257	#5	STR	24'-3"	25
A258	#5	STR	22'-5"	23
A259	#5	STR	20'-6"	21
A260	#5	STR	18'-8"	19
A261	#5	STR	16'-9"	17
A262	#5	STR	14'-11"	16
A263	#5	STR	13'-1"	14
A264	#5	STR	11'-2"	12
A265	#5	STR	9'-4"	10
A266	#5	STR	7'-6"	8
A267	#5	STR	5'-7"	6
A268	#5	STR	3'-9"	4
A269	#5	STR	54'-1"	56
A270	#5	STR	52'-3"	54
A271	#5	STR	50'-5"	53
A272	#5	STR	48'-6"	51
A273	#5	STR	46'-8"	49
A274	#5	STR	44'-9"	47
A275	#5	STR	42'-11"	45
A276	#5	STR	41'-1"	43
A277	#5	STR	39'-2"	41
A278	#5	STR	37'-4"	39
A279	#5	STR	35'-5"	37
A280	#5	STR	33'-7"	35
A281	#5	STR	31'-9"	33
A282	#5	STR	29'-10"	31
A283	#5	STR	28'-0"	29
A284	#5	STR	26'-1"	27
A285	#5	STR	24'-3"	25
A286	#5	STR	22'-5"	23
A287	#5	STR	20'-6"	21
A288	#5	STR	18'-8"	19
A289	#5	STR	16'-9"	17
A290	#5	STR	14'-11"	16
A291	#5	STR	13'-1"	14
A292	#5	STR	11'-2"	12
A293	#5	STR	9'-4"	10
A294	#5	STR	7'-6"	8
A295	#5	STR	54'-1"	56

EPOXY COATED
REINFORCING STEEL LBS. 239438

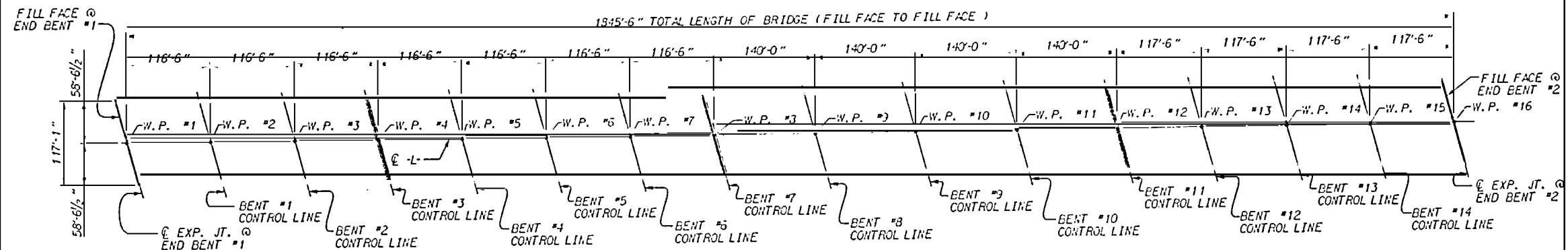
SPAN H THRU K (LEFT SIDE OF CLOSURE POUR)

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
A3	1088	#5	STR	55-10
A4	1088	#5	STR	55-10
A213	1	#5	STR	54'-2
A214	1	#5	STR	52'-4
A215	1	#5	STR	50'-6
A216	1	#5	STR	48'-7
A217	1	#5	STR	46'-9
A218	1	#5	STR	44'-10
A219	1	#5	STR	43'-0
A220	1	#5	STR	41'-2
A221	1	#5	STR	39'-3
A222	1	#5	STR	37'-5
A223	1	#5	STR	35'-6
A224	1	#5	STR	33'-8
A225	1	#5	STR	31'-10
A226	1	#5	STR	29'-11
A227	1	#5	STR	28'-1
A228	1	#5	STR	26'-2
A229	1	#5	STR	24'-4
A230	1	#5	STR	22'-6
A231	1	#5	STR	20'-7
A232	1	#5	STR	18'-9
A233	1	#5	STR	16'-11
A234	1	#5	STR	15'-0
A235	1	#5	STR	13'-2
A236	1	#5	STR	11'-3
A237	1	#5	STR	9'-5
A238	1	#5	STR	7'-7
A239	1	#5	STR	5'-8
A240	1	#5	STR	3'-10
A241	1	#5	STR	55'-8
A242	1	#5	STR	53'-9
A243	1	#5	STR	51'-11
A244	1	#5	STR	50'-1
A245	1	#5	STR	48'-2
A246	1	#5	STR	46'-4
A247	1	#5	STR	44'-5
A248	1	#5	STR	42'-7
A249	1	#5	STR	40'-9
A250	1	#5	STR	38'-10
A251	1	#5	STR	37'-0
A252	1	#5	STR	35'-1
A253	1	#5	STR	33'-3
A254	1	#5	STR	31'-5
A255	1	#5	STR	29'-8
A256	1	#5	STR	27'-9
A257	1	#5	STR	25'-11
A258	1	#5	STR	23'-1
A259	1	#5	STR	22'-1
A260	1	#5	STR	20'-2
A261	1	#5	STR	18'-4
A262	1	#5	STR	16'-6
A263	1	#5	STR	14'-7
A264	1	#5	STR	12'-9
A265	1	#5	STR	10'-10
A266	1	#5	STR	9'-0
A267	1	#5	STR	7'-2
A268	1	#5	STR	5'-3
A269	1	#5	STR	3'-5
A270	1	#5	STR	54'-1
A271	1	#5	STR	52'-3
A272	1	#5	STR	50'-5
A273	1	#5	STR	48'-6
A274	1	#5	STR	46'-8
A275	1	#5	STR	44'-9
A276	1	#5	STR	42'-11
A277	1	#5	STR	41'-1
A278	1	#5	STR	39'-2
A279	1	#5	STR	37'-4
A280	1	#5	STR	35'-5
A281	1	#5	STR	33'-7
A282	1	#5	STR	31'-9
A283	1	#5	STR	29'-10
A284	1	#5	STR	28'-0
A285	1	#5	STR	26'-1
A286	1	#5	STR	24'-3
A287	1	#5	STR	22'-5
A288	1	#5	STR	20'-6
A289	1	#5	STR	18'-8
A290	1	#5	STR	16'-10
A291	1	#5	STR	14'-11
A292	1	#5	STR	13'-1
A293	1	#5	STR	11'-2
A294	1	#5	STR	9'-4
A295	1	#5	STR	7'-6
A296	1	#5	STR	5-8
A297	1	#5	STR	55-7
A298	1	#5	STR	53-8
A299	1	#5	STR	51-10
A300	1	#5	STR	50-0
A301	1	#5	STR	48-1
A302	1	#5	STR	46-3
A303	1	#5	STR	44-4
A304	1	#5	STR	42-6
A305	1	#5	STR	40-8
A306	1	#5	STR	38-9
A307	1	#5	STR	36-11
A308	1	#5	STR	35-0
A309	1	#5	STR	33-2
A310	1	#5	STR	31-4
A311	1	#5	STR	29-5
A312	1	#5	STR	27-7
A313	1	#5	STR	25-8
A314	1	#5	STR	23-10
A315	1	#5	STR	22-0
A316	1	#5	STR	20-1
A317	1	#5	STR	18-3
A318	1	#5	STR	16-5
A319	1	#5	STR	14-6
A320	1	#5	STR	12-8
A321	1	#5	STR	10-9
A322	1	#5	STR	8-11
A323	1	#5	STR	7-1
B11	289	#4	STR	26-11
B12	284	#7	STR	47-8
B13	1444	#4	STR	28-0
B14	142	#7	STR	42-8
B15	560	#5	STR	58-3
B20	10	#5	STR	2-1
B22	210	#7	STR	52-0
K23	4	#8	10	16-6
K24	24	#8	11	22-10
K25	28	#6	STR	4-0
K26	28	#6	3	6-8
K27	28	#6	STR	6-9
K28	112	#5	3	6-7
K29	448	#5	STR	7-1
K30	112	#5	6	7-5
K31	35	#4	STR	4-0
K32	144	#4	STR	6-9
K33	36	#4	STR	6-1
K34	36	#4	STR	4-7
K35	126	#4	8	11-9
K37	24	#4	STR	4-9
K38	6	#4	STR	4-4
K40	21	#4	9	7-5
S3	70	#4	13	4-1
S6	111	#4	15	2-8
S8	864	#4	16	3-3
S9	70	#5	12	8-1
S10	28	#5	12	5-3
S11	280	#4	14	10-7
S12	112	#4	14	9-9
U3	111	#4	17	14-10
U4	39	#4	17	11-6
EPOXY COATED REINFORCING STEEL LBS.				251093

REINFORCING BAR SCHEDULE

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

SPAN 1 THRU 0 (LEFT SIDE OF CLOSURE POUR)											
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	906	#6	STR	54- 4	73937	A185	1	#5	STR	54- 0	56
A2	906	#5	STR	54- 4	51343	A186	1	#5	STR	52- 2	54
						A187	1	#5	STR	50- 3	52
A101	1	#6	STR	52- 8	79	A188	1	#5	STR	48- 5	50
A102	1	#6	STR	50- 9	76	A189	1	#5	STR	46- 7	49
A103	1	#6	STR	48-11	73	A190	1	#5	STR	44- 8	47
A104	1	#6	STR	47- 1	71	A191	1	#5	STR	42-10	45
A105	1	#6	STR	45- 2	68	A192	1	#5	STR	41- 0	43
A106	1	#6	STR	43- 4	65	A193	1	#5	STR	39- 1	41
A107	1	#6	STR	41- 6	62	A194	1	#5	STR	37- 3	39
A108	1	#6	STR	39- 7	59	A195	1	#5	STR	35- 4	37
A109	1	#6	STR	37- 9	57	A196	1	#5	STR	33- 6	35
A110	1	#6	STR	35-10	54	A197	1	#5	STR	31- 8	33
A111	1	#6	STR	34- 0	51	A198	1	#5	STR	29- 9	31
A112	1	#6	STR	32- 2	48	A199	1	#5	STR	27-11	29
A113	1	#6	STR	30- 3	45	A200	1	#5	STR	26- 0	27
A114	1	#6	STR	28- 5	43	A201	1	#5	STR	24- 2	25
A115	1	#6	STR	26- 6	40	A202	1	#5	STR	22- 4	23
A116	1	#6	STR	24- 8	37	A203	1	#5	STR	20- 5	21
A117	1	#6	STR	22-10	34	A204	1	#5	STR	18- 7	19
A118	1	#6	STR	20-11	31	A205	1	#5	STR	16- 8	17
A119	1	#6	STR	19- 1	29	A206	1	#5	STR	14-10	15
A120	1	#6	STR	17- 2	26	A207	1	#5	STR	13- 0	14
A121	1	#6	STR	15- 4	23	A208	1	#5	STR	11- 1	12
A122	1	#6	STR	13- 6	20	A209	1	#5	STR	9- 3	10
A123	1	#6	STR	11- 7	17	A210	1	#5	STR	7- 4	8
A124	1	#6	STR	9- 9	15	A211	1	#5	STR	5- 6	6
A125	1	#6	STR	7-11	12	A212	1	#5	STR	3- 8	4
A126	1	#6	STR	6- 0	9						
A127	1	#6	STR	4- 2	6						
A128	1	#6	STR	2- 3	3						
						B5	105	#4	STR	29- 3	2052
A129	1	#5	STR	54- 1	56	B7	276	#7	STR	40- 8	22942
A130	1	#5	STR	52- 3	54	B16	105	#4	STR	29- 9	2087
A131	1	#5	STR	50- 5	53	B17	140	#4	STR	23- 6	2198
A132	1	#5	STR	48- 6	51	B18	138	#7	STR	37- 2	10484
A133	1	#5	STR	46- 8	49	B19	675	#5	STR	54- 3	38193
A134	1	#5	STR	44- 9	47	B20	5	#5	STR	2- 1	11
A135	1	#5	STR	42-11	45	B21	204	#7	STR	47- 0	19598
A136	1	#5	STR	41- 1	43						
A137	1	#5	STR	39- 2	41	G1	1	#5	STR	56- 1	58
A138	1	#5	STR	37- 4	39	J1	52	#4	18	1- 5	49
A139	1	#5	STR	35- 5	37	K1	2	#8	1	17- 2	92
A140	1	#5	STR	33- 7	35	K2	14	#8	2	26- 0	972
A141	1	#5	STR	31- 9	33	K3	18	#6	STR	7- 0	189
A142	1	#5	STR	29-10	31	K4	18	#6	3	9-11	268
A143	1	#5	STR	28- 0	29	K5	2	#8	4	23- 5	125
A144	1	#5	STR	26- 1	27	K6	2	#6	STR	4-11	15
A145	1	#5	STR	24- 3	25	K7	2	#6	5	6- 1	18
A146	1	#5	STR	22- 5	23	K8	80	#5	3	9- 7	803
A147	1	#5	STR	20- 6	21	K9	240	#5	STR	10- 1	2524
A148	1	#5	STR	18- 8	19	K10	80	#5	6	10- 6	876
A149	1	#5	STR	16- 9	17	K11	2	#8	7	18- 1	97
A150	1	#5	STR	14-11	16	K12	24	#4	STR	7- 2	115
A151	1	#5	STR	13- 1	14	K13	72	#4	STR	10- 0	481
A152	1	#5	STR	11- 2	12	K14	24	#4	STR	9- 3	148
A153	1	#5	STR	9- 4	10	K15	24	#4	STR	7- 4	118
A154	1	#5	STR	7- 6	8	K16	72	#4	8	14-11	717
A155	1	#5	STR	5- 7	6	K17	2	#4	STR	3- 2	4
A156	1	#5	STR	3- 9	4	K18	6	#4	STR	4-11	20
						K19	18	#4	STR	6- 5	77
A157	1	#6	STR	52- 7	79	K20	6	#4	STR	6- 0	24
A158	1	#6	STR	50- 8	76	K21	6	#4	STR	5- 1	20
A159	1	#6	STR	48-10	73	K22	18	#4	9	8-11	107
A160	1	#6	STR	47- 0	71						
A161	1	#6	STR	45- 1	68	S1	75	#5	12	6- 9	528
A162	1	#6	STR	43- 3	65	S2	19	#5	12	3- 9	74
A163	1	#6	STR	41- 5	62	S3	75	#4	13	4- 1	205
A164	1	#6	STR	39- 6	59	S4	280	#4	14	9- 3	1733
A165	1	#6	STR	37- 8	57	S5	80	#4	14	9- 1	485
A166	1	#6	STR	35- 9	54	S6	210	#4	15	2- 8	374
A167	1	#6	STR	33-11	51	S8	606	#4	16	3- 3	1316
A168	1	#6	STR	32- 1	48						
A169	1	#6	STR	30- 2	45	U1	105	#4	17	13- 4	935
A170	1	#6	STR	28- 4	43	U2	27	#4	17	9- 6	171
A171	1	#6	STR	26- 5	40						
A172	1	#6	STR	24- 7	37						
A173	1	#6	STR	22- 9	34						
A174	1	#6	STR	20-10	31						
A175	1	#6	STR	19- 0	29						
A176	1	#6	STR	17- 1	26						
A177	1	#6	STR	15- 3	23						
A178	1	#6	STR	13- 5	20						
A179	1	#6	STR	11- 6	17						
A180	1	#6	STR	9- 8	15						
A181	1	#6	STR	7- 9	12						
A182	1	#6	STR	5-11	9						
A183	1	#6	STR	4- 1	6						
EPOXY COATED REINFORCING STEEL LBS. 240567											



LAYOUT FOR COMPUTING AREA
OF REINFORCED CONCRETE DECK SLAB
(SQ. FT. = 215,579)

PROJECT NO. U-2107BA
ON NSLOW COUNTY
STATION: 277+50.00 -L-

SHEET 2 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD SUPERSTRUCTURE BILL OF MATERIAL					
OCTOBER 1987					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
SHEET NO. 5-92 TOTAL SHEETS 170					

STD. NO. BOM2

ASSEMBLED BY: J. H. F. Davis DATE: 12/11/85
CHECKED BY: J. H. F. Davis DATE: 12/11/85
DRAWN BY: M. BRITT DATE: 5/28/87
CHECKED BY: S. J. DAVIS DATE: 9/3/87

REV. 6/1/84 EEM WGP

10-JUL-1997 12:00
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081

REINFORCING BAR SCHEDULE

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

SPAN A THRU G (RIGHT SIDE OF CLOSURE POUR)

SPAN D THRU G (RIGHT SIDE OF CLOSURE POUR)

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT				
A5 1318	#5	STR	34-1	67473	A389 2	#6	STR	33-3	100	K8 60	#5	3	9-7	603	A5 1798	#6	STR	34-1	91636	A389 2	#6	STR	33-3	100	K2 20	#8	2	26-0	1388				
A6 1318	#5	STR	33-10	46510	A390 2	#6	STR	32-3	97	K9 180	#5	STR	10-1	1893	A6 1793	#5	STR	33-10	63166	A390 2	#6	STR	32-3	97	K3 20	#6	STR	7-0	210				
A322 2	#6	STR	33-3	100	A391 1	#6	STR	59-9	90	K10 60	#5	6	10-6	657	A322 2	#6	STR	33-3	100	A391 1	#6	STR	59-9	90	K4 20	#6	3	9-11	298				
A323 2	#6	STR	32-4	97	A392 1	#6	STR	57-11	87	K11 2	#8	7	18-1	97	A323 2	#6	STR	32-4	97	A392 1	#6	STR	57-11	87	K8 80	#5	3	9-7	800				
A324 1	#6	STR	59-8	90	A393 1	#6	STR	56-0	84	K12 20	#4	STR	7-2	96	A324 1	#6	STR	59-8	90	A393 1	#6	STR	56-0	84	K9 240	#5	STR	10-1	2524				
A325 1	#6	STR	57-10	87	A394 1	#6	STR	54-2	81	K13 60	#4	STR	10-0	401	A325 1	#6	STR	57-10	87	A394 1	#6	STR	54-2	81	K10 80	#5	7	10-6	876				
A326 1	#6	STR	55-11	84	A395 1	#6	STR	52-4	79	K14 20	#4	STR	9-3	124	A326 1	#6	STR	55-11	84	A395 1	#6	STR	52-4	79	K11 4	#8	7	18-1	193				
A327 1	#6	STR	54-1	81	A396 1	#6	STR	50-5	76	K15 20	#4	STR	7-4	98	A327 1	#6	STR	54-1	81	A396 1	#6	STR	50-5	76	K12 30	#4	STR	7-0	140				
A328 1	#6	STR	52-3	78	A397 1	#6	STR	48-7	73	K16 60	#4	8	14-11	598	A328 1	#6	STR	52-3	78	A397 1	#6	STR	48-7	73	K13 90	#4	STR	10-0	601				
A329 1	#6	STR	50-4	76	A398 1	#6	STR	46-8	70	K17 2	#4	STR	3-2	4	A329 1	#6	STR	50-4	76	A398 1	#6	STR	46-8	70	K14 30	#4	STR	9-3	185				
A330 1	#6	STR	48-6	73	A399 1	#6	STR	44-10	67	K18 4	#4	STR	4-11	13	A330 1	#6	STR	48-6	73	A399 1	#6	STR	44-10	67	K15 30	#4	STR	7-4	147				
A331 1	#6	STR	46-7	70	A400 1	#6	STR	43-0	65	K19 12	#4	STR	6-5	51	A331 1	#6	STR	46-7	70	A400 1	#6	STR	43-0	65	K16 90	#4	8	14-11	897				
A332 1	#6	STR	44-9	67	A401 1	#6	STR	41-1	62	K20 4	#4	STR	6-0	16	A332 1	#6	STR	44-9	67	A401 1	#6	STR	41-1	62	K18 6	#4	STR	4-11	20				
A333 1	#6	STR	42-11	64	A402 1	#6	STR	39-3	59	K21 4	#4	STR	5-1	14	A333 1	#6	STR	42-11	64	A402 1	#6	STR	39-3	59	K19 18	#4	STR	6-5	77				
A334 1	#6	STR	41-0	62	A403 1	#6	STR	37-4	56	K22 12	#4	9	8-11	71	A334 1	#6	STR	41-0	62	A403 1	#6	STR	37-4	56	K20 6	#4	STR	6-0	24				
A335 1	#6	STR	39-2	59	A404 1	#6	STR	35-6	53	S1 83	#5	12	6-9	584	A335 1	#6	STR	39-2	59	A404 1	#6	STR	35-6	53	K21 6	#4	STR	5-1	20				
A336 1	#6	STR	37-3	56	A405 1	#6	STR	33-8	51	S2 21	#5	12	3-9	82	A336 1	#6	STR	37-3	56	A405 1	#6	STR	33-8	51	K22 18	#4	9	8-11	107				
A337 1	#6	STR	35-5	53	A406 1	#6	STR	31-9	48	S3 83	#4	13	4-1	226	A337 1	#6	STR	35-5	53	A406 1	#6	STR	31-9	48	S1 83	#5	12	6-9	563				
A338 1	#6	STR	33-7	50	A407 1	#6	STR	29-11	45	S4 210	#4	14	9-3	1298	A338 1	#6	STR	33-7	50	A407 1	#6	STR	29-11	45	S2 20	#5	12	3-9	78				
A339 1	#6	STR	31-8	48	A408 1	#6	STR	28-0	42	S5 60	#4	14	9-1	364	A339 1	#6	STR	31-8	48	A408 1	#6	STR	28-0	42	S3 80	#4	13	4-1	218				
A340 1	#6	STR	29-10	45	A409 1	#6	STR	26-2	39	S6 172	#4	15	2-8	306	A340 1	#6	STR	29-10	45	A409 1	#6	STR	26-2	39	S4 280	#4	14	9-3	1730				
A341 1	#6	STR	27-11	42	A410 1	#6	STR	24-4	37	S8 496	#4	16	3-3	1077	A341 1	#6	STR	27-11	42	A410 1	#6	STR	24-4	37	S5 80	#4	14	9-1	485				
A342 1	#6	STR	26-1	39	A411 1	#6	STR	22-5	34	U1 86	#4	17	13-4	766	A342 1	#6	STR	26-1	39	A411 1	#6	STR	22-5	34	S6 258	#4	15	2-8	460				
A343 1	#6	STR	24-3	36	A412 1	#6	STR	20-7	31	U2 22	#4	17	9-6	140	A343 1	#6	STR	24-3	36	A412 1	#6	STR	20-7	31	S8 744	#4	16	3-3	1615				
A344 1	#6	STR	22-4	34	A413 1	#6	STR	18-8	28	EPOXY COATED REINFORCING STEEL LBS. 215566					A344 1	#6	STR	22-4	34	A413 1	#6	STR	18-8	28	U1 129	#4	17	13-4	1149				
A345 1	#6	STR	20-6	31	A414 1	#6	STR	16-10	25						A345 1	#6	STR	20-6	31	A414 1	#6	STR	16-10	25	A414 1	#6	STR	16-10	25	U2 33	#4	17	9-6
A346 1	#6	STR	18-7	28	A415 1	#6	STR	15-0	23	A346 1	#6	STR	18-7	28	A415 1	#6	STR	15-0	23	A415 1	#6	STR	15-0	23	EPOXY COATED REINFORCING STEEL LBS. 312912				A415 1	#6	STR	13-1	17
A347 1	#6	STR	16-9	25	A416 1	#6	STR	13-1	20	A347 1	#6	STR	16-9	25	A416 1	#6	STR	13-1	20	A416 1	#6	STR	13-1	20					A417 1	#6	STR	11-3	14
A348 1	#6	STR	14-11	22	A417 1	#6	STR	11-3	17	A348 1	#6	STR	14-11	22	A417 1	#6	STR	11-3	17	A417 1	#6	STR	11-3	17	A418 1	#6	STR	9-5	11				
A349 1	#6	STR	13-0	20	A418 1	#6	STR	9-5	14	A349 1	#6	STR	13-0	20	A418 1	#6	STR	9-5	14	A418 1	#6	STR	9-5	14	A419 1	#6	STR	7-6	9				
A350 1	#6	STR	11-2	17	A419 1	#6	STR	7-6	11	A350 1	#6	STR	11-2	17	A419 1	#6	STR	7-6	11	A419 1	#6	STR	7-6	11	A420 1	#6	STR	5-8	6				
A351 1	#6	STR	9-4	14	A420 1	#6	STR	5-8	9	A351 1	#6	STR	9-4	14	A420 1	#6	STR	5-8	9	A420 1	#6	STR	5-8	9	A421 1	#6	STR	3-9	6				
A352 1	#6	STR	7-5	11	A421 1	#6	STR	3-9	6	A352 1	#6	STR	7-5	11	A421 1	#6	STR	3-9	6	A421 1	#6	STR	3-9	6	A422 2	#5	STR	33-9	70				
A353 1	#6	STR	5-7	8	A422 2	#5	STR	33-9	70	A353 1	#6	STR	5-7	8	A422 2	#5	STR	33-9	70	A422 2	#5	STR	33-9	70	A423 2	#5	STR	32-9	68				
A354 1	#6	STR	3-8	6	A423 2	#5	STR	32-9	68	A354 1	#6	STR	3-8	6	A423 2	#5	STR	32-9	68	A423 2	#5	STR	32-9	68	A424 2	#5	STR	31-10	66				
A355 2	#5	STR	33-8	70	A424 2	#5	STR	31-10	66	A355 2	#5	STR	33-8	70	A424 2	#5	STR	31-10	66	A424 2	#5	STR	31-10	66	A425 1	#5	STR	59-4	62				
A356 2	#5	STR	32-9	68	A425 1	#5	STR	59-4	62	A356 2	#5	STR	32-9	68	A425 1	#5	STR	59-4	62	A425 1	#5	STR	59-4	62	A426 1	#5	STR	57-6	60				
A357 2	#5	STR	31-9	66	A426 1	#5	STR	57-6</																									

REINFORCING BAR SCHEDULE

SPAN H THRU K (RIGHT SIDE OF CLOSURE POUR)

SPAN L THRU O (RIGHT SIDE OF CLOSURE POUR)

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT					
A7 2168	#5	STR	33-1	74809	A522	#5	STR	56-4	59	K23	#8	10	16-6	176	A389	#6	STR	33-3	100	B16	#4	STR	29-9	2504	A322	#6	STR	33-3	100	B17	#4	STR	29-9	2504
A8 2168	#5	STR	33-1	74809	A523	#5	STR	56-7	57	K24	#8	11	22-10	1707	A390	#6	STR	33-3	97	B18	#4	STR	29-9	2504	A323	#6	STR	33-3	97	B19	#4	STR	29-9	2504
A456	#5	STR	32-2	67	A524	#5	STR	56-7	55	K25	#8	11	22-10	1707	A391	#6	STR	33-3	97	B20	#4	STR	29-9	2504	A324	#6	STR	33-3	97	B21	#4	STR	29-9	2504
A457	#5	STR	32-0	63	A525	#5	STR	56-9	53	K26	#8	11	22-10	1707	A392	#6	STR	33-3	97	B22	#4	STR	29-9	2504	A325	#6	STR	33-3	97	B23	#4	STR	29-9	2504
A458	#5	STR	58-2	61	A526	#5	STR	48-11	51	K27	#8	11	22-10	1707	A393	#6	STR	33-3	97	B24	#4	STR	29-9	2504	A326	#6	STR	33-3	97	B25	#4	STR	29-9	2504
A459	#5	STR	56-3	59	A527	#5	STR	47-8	49	K28	#8	11	22-10	1707	A394	#6	STR	33-3	97	B26	#4	STR	29-9	2504	A327	#6	STR	33-3	97	B27	#4	STR	29-9	2504
A460	#5	STR	54-5	57	A528	#5	STR	45-2	47	K29	#8	11	22-10	1707	A395	#6	STR	33-3	97	B28	#4	STR	29-9	2504	A328	#6	STR	33-3	97	B29	#4	STR	29-9	2504
A461	#5	STR	52-6	55	A529	#5	STR	43-2	45	K30	#8	11	22-10	1707	A396	#6	STR	33-3	97	B30	#4	STR	29-9	2504	A329	#6	STR	33-3	97	B31	#4	STR	29-9	2504
A462	#5	STR	50-8	53	A530	#5	STR	41-5	43	K31	#8	11	22-10	1707	A397	#6	STR	33-3	97	B32	#4	STR	29-9	2504	A330	#6	STR	33-3	97	B33	#4	STR	29-9	2504
A463	#5	STR	48-10	51	A531	#5	STR	39-7	41	K32	#8	11	22-10	1707	A398	#6	STR	33-3	97	B34	#4	STR	29-9	2504	A331	#6	STR	33-3	97	B35	#4	STR	29-9	2504
A464	#5	STR	46-11	49	A532	#5	STR	37-8	39	K33	#8	11	22-10	1707	A399	#6	STR	33-3	97	B36	#4	STR	29-9	2504	A332	#6	STR	33-3	97	B37	#4	STR	29-9	2504
A465	#5	STR	45-1	47	A533	#5	STR	35-10	37	K34	#8	11	22-10	1707	A400	#6	STR	33-3	97	B38	#4	STR	29-9	2504	A333	#6	STR	33-3	97	B39	#4	STR	29-9	2504
A466	#5	STR	43-2	45	A534	#5	STR	33-11	35	K35	#8	11	22-10	1707	A401	#6	STR	33-3	97	B40	#4	STR	29-9	2504	A334	#6	STR	33-3	97	B41	#4	STR	29-9	2504
A467	#5	STR	41-4	43	A535	#5	STR	32-11	33	K36	#8	11	22-10	1707	A402	#6	STR	33-3	97	B42	#4	STR	29-9	2504	A335	#6	STR	33-3	97	B43	#4	STR	29-9	2504
A468	#5	STR	39-6	41	A536	#5	STR	30-3	31	K37	#8	11	22-10	1707	A403	#6	STR	33-3	97	B44	#4	STR	29-9	2504	A336	#6	STR	33-3	97	B45	#4	STR	29-9	2504
A469	#5	STR	37-7	39	A537	#5	STR	28-4	29	K38	#8	11	22-10	1707	A404	#6	STR	33-3	97	B46	#4	STR	29-9	2504	A337	#6	STR	33-3	97	B47	#4	STR	29-9	2504
A470	#5	STR	35-9	37	A538	#5	STR	26-6	27	K39	#8	11	22-10	1707	A405	#6	STR	33-3	97	B48	#4	STR	29-9	2504	A338	#6	STR	33-3	97	B49	#4	STR	29-9	2504
A471	#5	STR	33-10	35	A539	#5	STR	24-8	25	K40	#8	11	22-10	1707	A406	#6	STR	33-3	97	B50	#4	STR	29-9	2504	A339	#6	STR	33-3	97	B51	#4	STR	29-9	2504
A472	#5	STR	32-0	33	A540	#5	STR	22-9	23	S3	#8	13	4-1	191	A407	#6	STR	33-3	97	B52	#4	STR	29-9	2504	A340	#6	STR	33-3	97	B53	#4	STR	29-9	2504
A473	#5	STR	30-2	31	A541	#5	STR	20-11	22	S6	#8	15	2-8	230	A408	#6	STR	33-3	97	B54	#4	STR	29-9	2504	A341	#6	STR	33-3	97	B55	#4	STR	29-9	2504
A474	#5	STR	28-3	29	A542	#5	STR	19-0	20	S8	#8	16	3-3	2162	A409	#6	STR	33-3	97	B56	#4	STR	29-9	2504	A342	#6	STR	33-3	97	B57	#4	STR	29-9	2504
A475	#5	STR	26-5	28	A543	#5	STR	17-2	18	S9	#8	17	8-1	590	A410	#6	STR	33-3	97	B58	#4	STR	29-9	2504	A343	#6	STR	33-3	97	B59	#4	STR	29-9	2504
A476	#5	STR	24-7	26	A544	#5	STR	15-4	16	S10	#8	18	5-3	153	A411	#6	STR	33-3	97	B60	#4	STR	29-9	2504	A344	#6	STR	33-3	97	B61	#4	STR	29-9	2504
A477	#5	STR	22-8	24	A545	#5	STR	13-5	14	S11	#8	19	10-7	1980	A412	#6	STR	33-3	97	B62	#4	STR	29-9	2504	A345	#6	STR	33-3	97	B63	#4	STR	29-9	2504
A478	#5	STR	20-10	22	A546	#5	STR	11-7	12	S12	#8	20	9-9	729	A413	#6	STR	33-3	97	B64	#4	STR	29-9	2504	A346	#6	STR	33-3	97	B65	#4	STR	29-9	2504
A479	#5	STR	18-11	20	A547	#5	STR	9-8	10	U3	#8	17	14-10	1278	A414	#6	STR	33-3	97	B66	#4	STR	29-9	2504	A347	#6	STR	33-3	97	B67	#4	STR	29-9	2504
A480	#5	STR	17-1	18	A548	#5	STR	7-10	8	U4	#8	17	11-6	346	A415	#6	STR	33-3	97	B68	#4	STR	29-9	2504	A348	#6	STR	33-3	97	B69	#4	STR	29-9	2504
A481	#5	STR	15-3	16	A549	#5	STR	6-0	6						A416	#6	STR	33-3	97	B70	#4	STR	29-9	2504	A349	#6	STR	33-3	97	B71	#4	STR	29-9	2504
A482	#5	STR	13-4	14	A550	#5	STR	4-1	4						A417	#6	STR	33-3	97	B72	#4	STR	29-9	2504	A350	#6	STR	33-3	97	B73	#4	STR	29-9	2504
A483	#5	STR	11-6	12	A551	#5	STR	2-3	2						A418	#6	STR	33-3	97	B74	#4	STR	29-9	2504	A351	#6	STR	33-3	97	B75	#4	STR	29-9	2504
A484	#5	STR	9-7	10											A419	#6	STR	33-3	97	B76	#4	STR	29-9	2504	A352	#6	STR	33-3	97	B77	#4	STR	29-9	2504
A485	#5	STR	7-9	8											A420	#6	STR	33-3	97	B78	#4	STR	29-9	2504	A353	#6	STR	33-3	97	B79	#4	STR	29-9	2504
A486	#5	STR	5-11	6											A421	#6	STR	33-3	97	B79	#4	STR	29-9	2504	A354	#6	STR	33-3	97	B80	#4	STR	29-9	2504
A487	#5	STR	32-11	69	A552	#5	STR	33-0	69						A422	#6	STR	33-3	97	B81	#4	STR	29-9	2504	A355	#6	STR	33-3	97	B82	#4	STR	29-9	2504
A488	#5	STR	32-0	67	A553	#5	STR	32-0	67						A423	#6	STR	33-3	97	B82	#4	STR	29-9	2504	A356	#6	STR	33-3	97	B83	#4	STR	29-9	2504
A489	#5	STR	59-7	62	A554	#5	STR	59-8	62						A424	#6	STR	33-3	97	B83	#4	STR	29-9	2504	A357	#6	STR	33-3	97	B84	#4	STR	29-9	2504
A490	#5	STR	57-9	60	A555	#5	STR	57-10	60						A425	#6	STR	33-3	97	B84	#4	STR	29-9	2504	A358	#6	STR	33-3	97	B85	#4	STR	29-9	2504
A491	#5	STR	55-10	58	A556	#5	STR	55-11	58						A426	#6	STR	33-3	97	B85	#4	STR	29-9	2504	A359	#6	STR	33-3	97	B86	#4	STR	29-9	2504
A492	#5	STR	54-0	56	A557	#5	STR	54-1	56						A427	#6	STR	33-3	97	B86	#4	STR	29-9	2504	A360	#6	STR	33-3	97	B87	#4	STR	29-9	2504
A493	#5	STR	52-1	54	A558	#5	STR	52-2	54						A428	#6	STR	33-3	97	B87	#4	STR	29-9	2504	A361	#6	STR	33-3	97	B88	#4	STR	29-9	2504
A494	#5	STR	50-3	52	A559	#5	STR	50-4	52						A429	#6	STR	33-3	97	B88	#4	STR	29-9	2504	A362	#6	STR	33-3	97	B89	#4	STR	29-9	2504
A495	#5	STR	48-5	50	A560	#5	STR	48-6	51						A430	#6	STR	33-3	97	B89	#4	STR	29-9	2504	A363	#6	STR	33-3	97	B90	#4	STR	29-9	2504
A496	#5	STR	46-6	48	A561	#5	STR	46-7	49						A431	#6	STR	33-3	97	B90	#4	STR	29-9	2504	A364	#6	STR	33-3	97	B91	#4	STR	29-9	2504
A497	#5	STR	44-8	47	A562	#5	STR	44-9	47						A432	#6	STR	33-3	97	B91	#4	STR	29-9	2504	A365	#6	STR	33-3	97	B92	#4	STR	29-9	2504
A498	#5	STR	42-9	45	A563	#5	STR	42-10	45						A433	#6	STR	33-3	97	B92	#4	STR	29-9	2504	A366	#6	STR	33-3	97	B93	#4	STR	29-9	2504
A499	#5	STR	40-11	43	A564	#5	STR	41-0	43						A434	#6	STR	33-3	97	B93	#4	STR	29-9	2504	A367	#6	STR	33-3	97	B94	#4	STR	29-9	2504
A500	#5	STR	39-1	41	A565	#5	STR	39-2	41						A435	#6	STR	33-3	97	B94	#4	STR	29-9	2504	A368	#6	STR	33-3	97	B95	#4	STR	29-9	2504
A501	#5	STR	37-2	39																														

SUPERSTRUCTURE BILL OF MATERIAL			
	CLASS A-A CONCRETE POUR OPTION #1 (CU. YDS.)	CLASS A-A CONCRETE POUR OPTION #2 (CU. YDS.)	EPOXY COATED REINFORCING STEEL (LBS.)
SPAN "A, B, & C"			391.725
POUR #1	261.4	361.6	
POUR #2	247.0	251.2	
POUR #3	260.9	245.9	
POUR #4	166.2	289.5	
POUR #5	204.1	246.9	
POUR #6	215.6		
SPAN "D, E, F, & G"			552.350
POUR #3	25.2	25.2	
POUR #1	276.2	369.2	
POUR #2	247.0	237.1	
POUR #3	247.0	246.9	
POUR #4	260.9	237.1	
POUR #5	161.6	246.9	
POUR #6	204.1	287.8	
POUR #7	204.1	246.9	
POUR #8	215.6		
SPAN "H, I, J, & K"			542.046
POUR #0	27.1	27.1	
POUR #1	341.6	256.6	
POUR #2	297.1	250.6	
POUR #3	297.1	81.1	
POUR #4	319.0	250.6	
POUR #5	217.6	243.1	
POUR #6	259.4	81.1	
POUR #7	259.4	250.6	
POUR #8	278.5	248.1	
POUR #9		163.7	
POUR #10		250.6	
POUR #11		248.1	
SPAN "L, M, N, & O"			535.111
POUR #0	27.1	27.1	
POUR #1	279.3	372.7	
POUR #2	247.0	240.6	
POUR #3	247.0	246.9	
POUR #4	270.9	240.6	
POUR #5	164.2	246.9	
POUR #6	204.1	302.4	
POUR #7	204.1	246.9	
POUR #8	223.8		
CLOSURE POUR			30.325
SPAN ABC POUR #7	40.8		
SPAN DEFG POUR #9	55.3		
SPAN HIJK POUR #9	59.6		
SPAN LMNO POUR #9	56.5		
TOTALS X	7573.3	7573.5	2,051,557

* * QUANTITIES FOR BARRIER RAIL ARE NOT INCLUDED
 * ALL INTERMEDIATE DIAPHRAGMS CONCRETE ARE INCLUDED IN
 POUR #1 CONCRETE FOR EACH CONTINUOUS UNIT.

SUPERSTRUCTURE REINFORCING STEEL
 LENGTHS ARE BASED ON THE
 FOLLOWING MINIMUM SPLICE LENGTHS

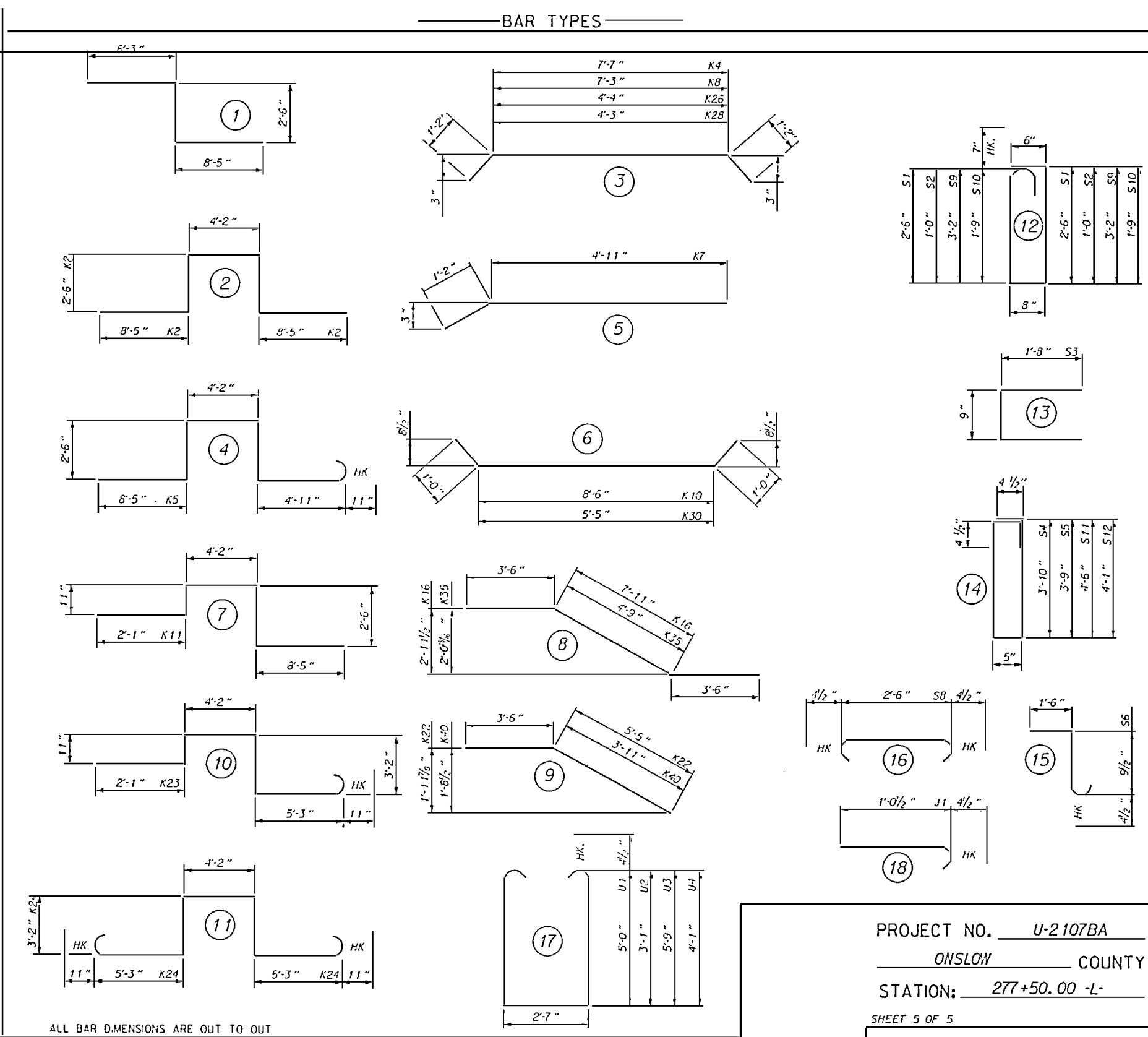
BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL		APPROACH SLABS		PARAPET AND BARRIER RAIL
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	
#4	2'-0"	1'-9"	2'-0"	1'-9"	2'-9"
#5	2'-6"	2'-2"	2'-6"	2'-2"	3'-6"
#6	3'-0"	2'-7"	3'-10"	2'-7"	4'-4"
#7	5'-3"	3'-6"	5'-3"	3'-6"	5'-11"
#8	6'-10"	4'-7"	6'-10"	4'-7"	7'-9"

ASSEMBLED BY : 11/11/1995 DATE : 12/11/95
 CHECKED BY : T. H. FANG DATE : 1/21/97
 DRAWN BY : M. BRITT DATE : 5/28/87
 CHECKED BY : S.J. DAVIS DATE : 9/3/87

24.6/194 EEM 40 GRP

10-JUL-1997 12:00
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 nhl

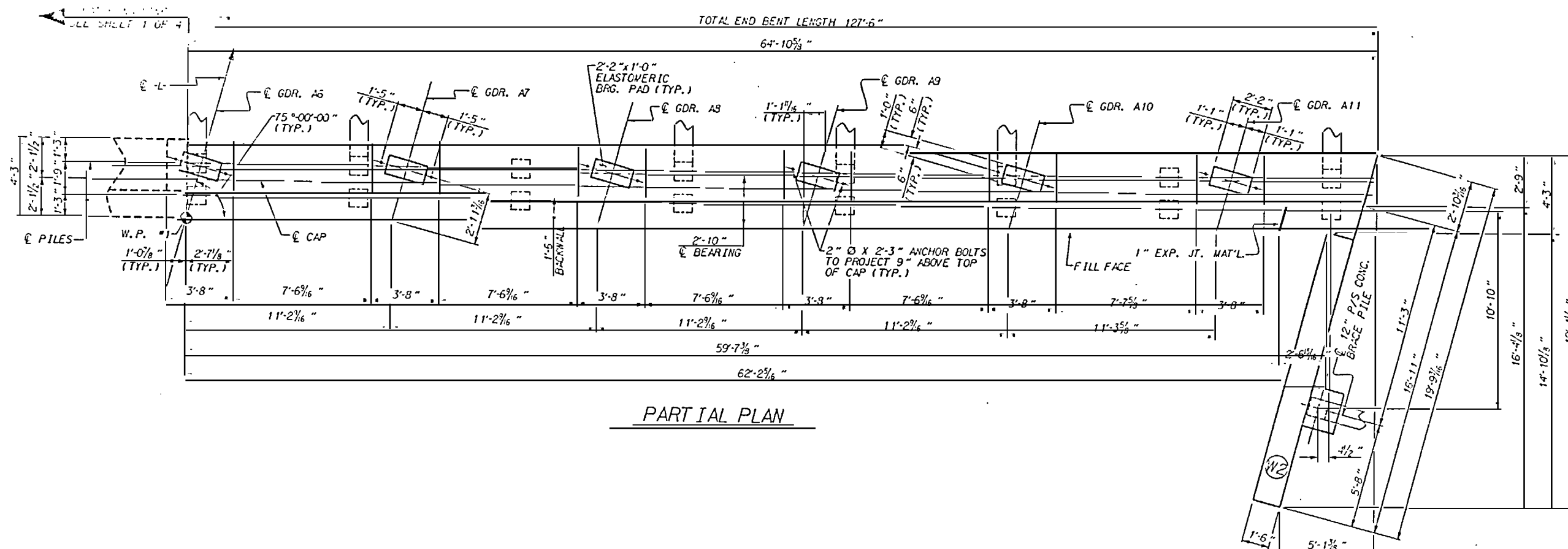
ALL REINFORCING STEEL SHALL BE EPOXY COATED.



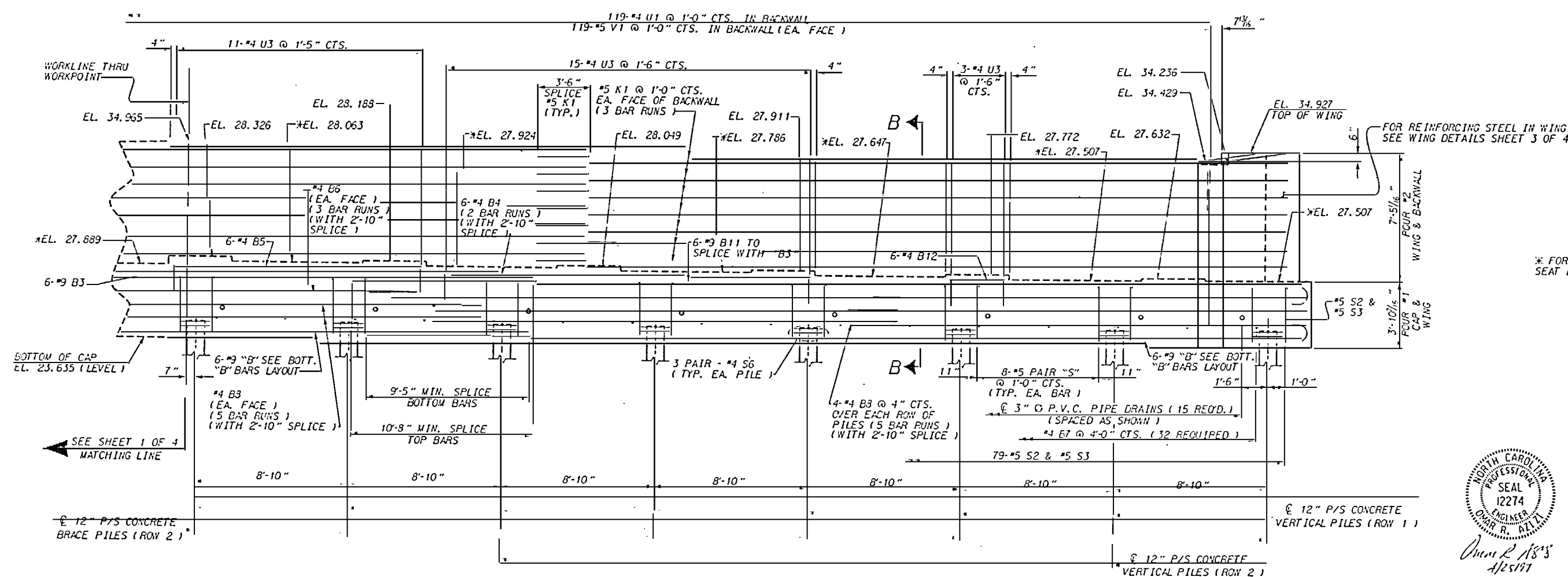
PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 5 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD SUPERSTRUCTURE BILL OF MATERIAL					
OCTOBER 1987					
REVISIONS			SHEET NO.		
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
TOTAL SHEETS			170		

STD. NO. BOM2



PARTIAL PLAN



PARTIAL ELEVATION

* FOR LOCATION OF ELEVATION BETWEEN BRIDGE SEAT BUILDUPS, SEE SECTIONS SHEET 4 OF 4.

PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

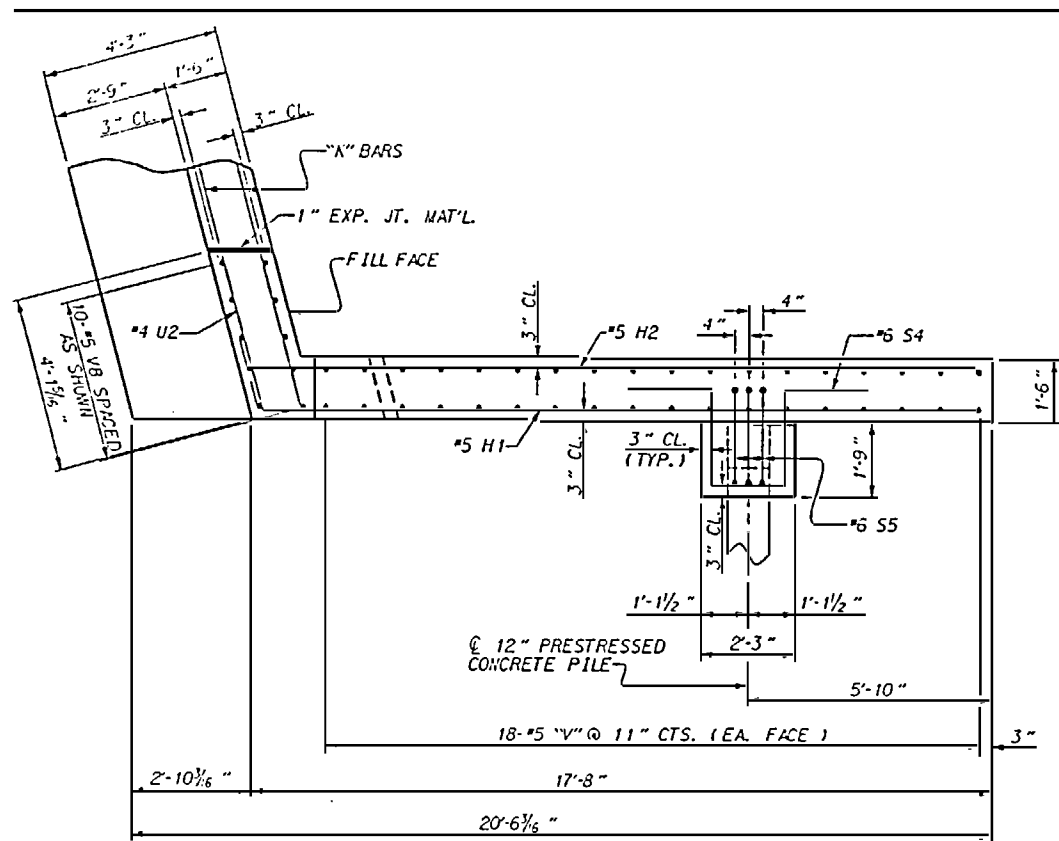
SUBSTRUCTURE
 END BENT #1



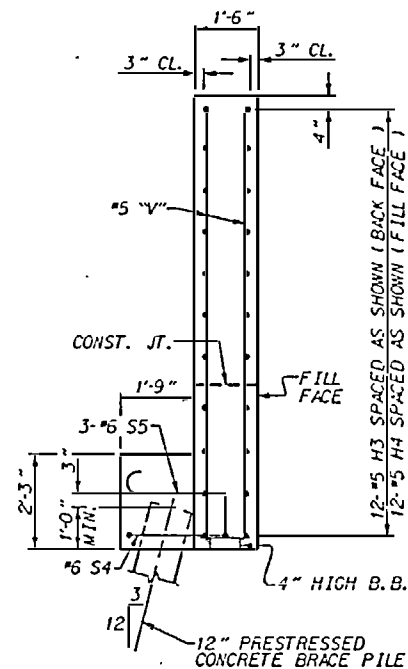
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			97
2			4			TOTAL SHEETS 170

BY: G.D. CARROLL DATE: 7/95
 BY: T.N. CARROLL DATE: 7/95

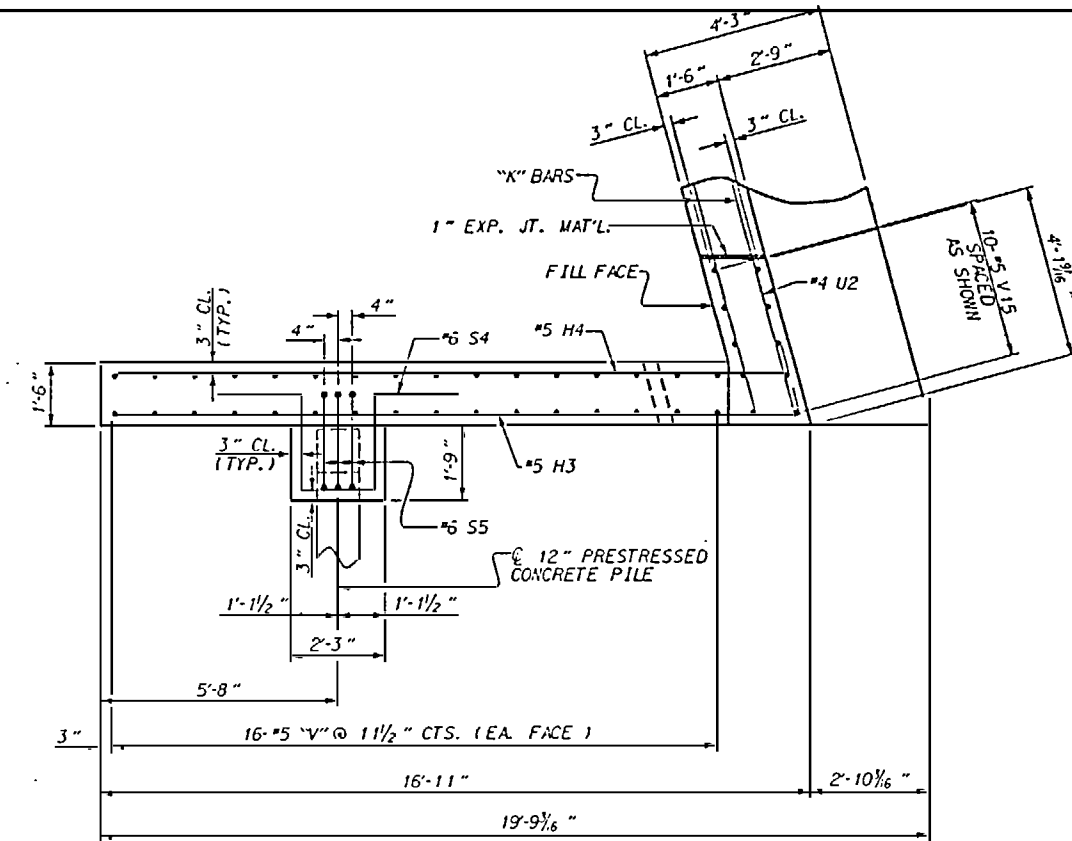
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 greg



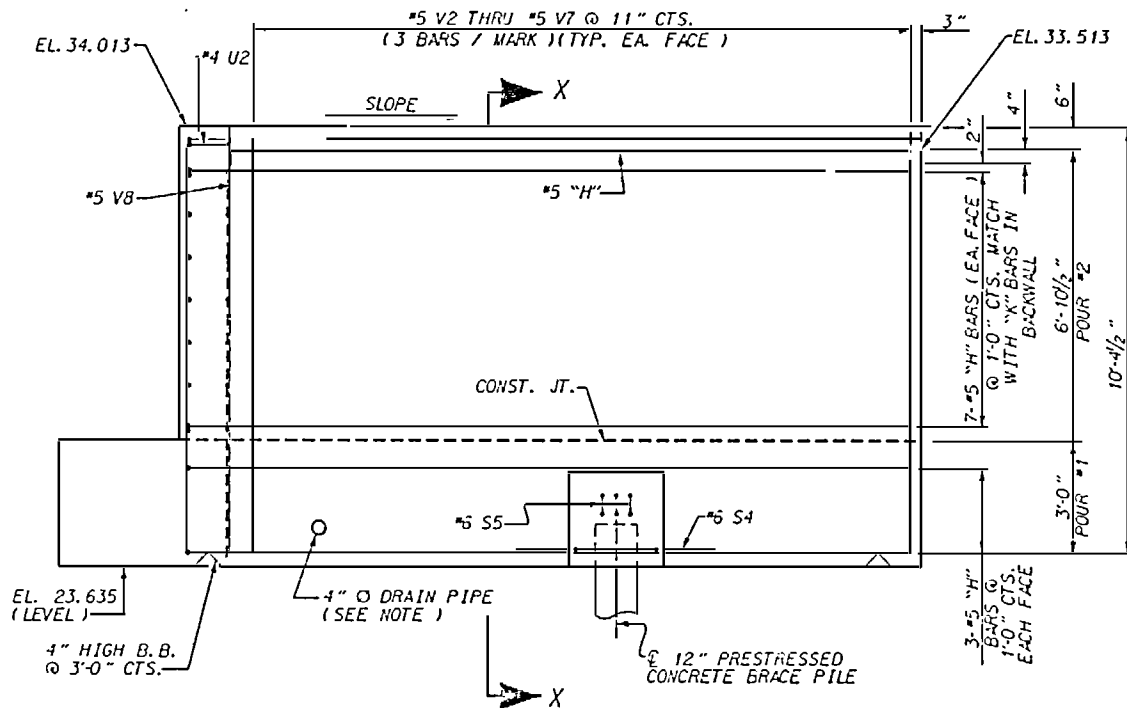
PLAN OF LEFT WING - W1



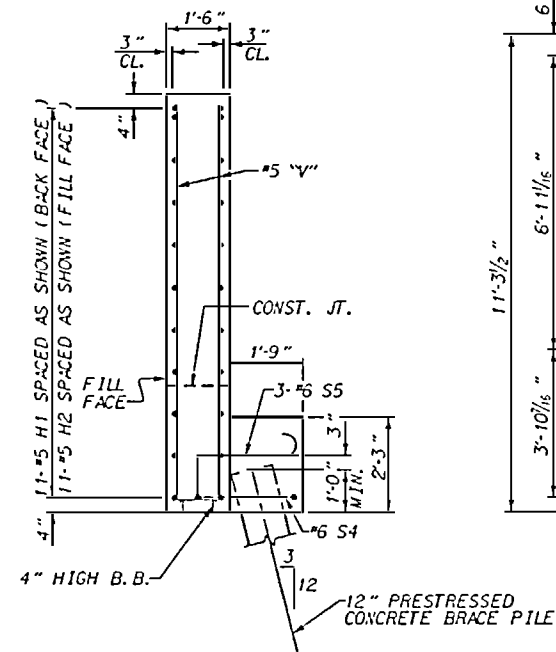
SECTION Y-Y



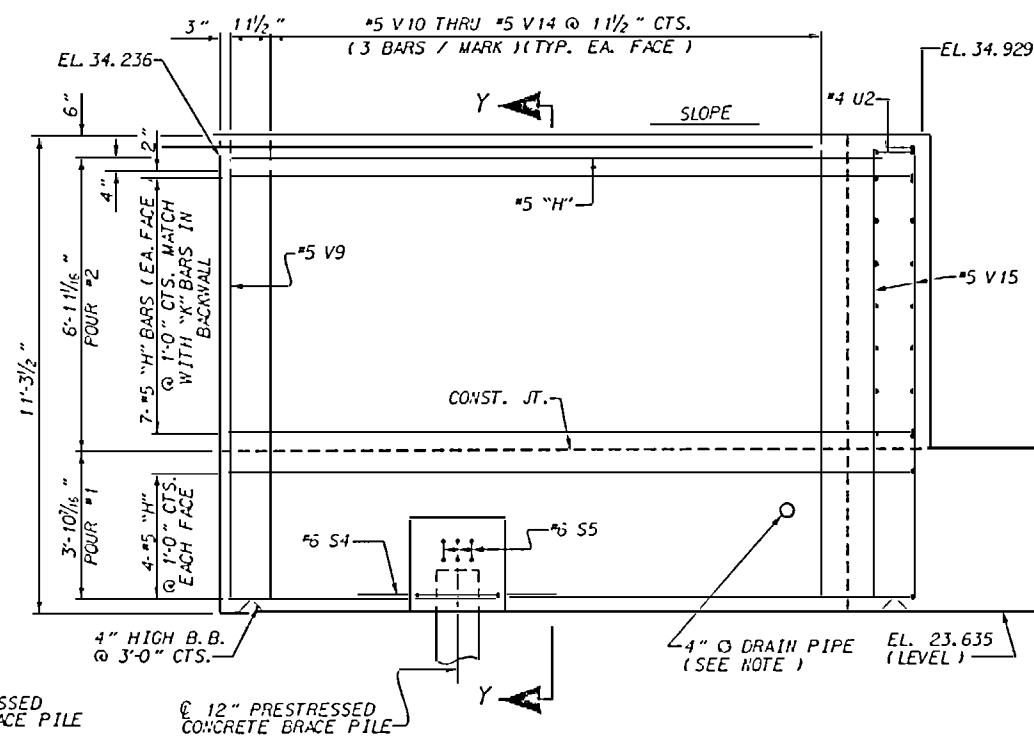
PLAN OF RIGHT WING - W2



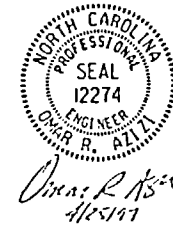
ELEVATION OF LEFT WING - W1



SECTION X-X



ELEVATION OF RIGHT WING - W2



PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-

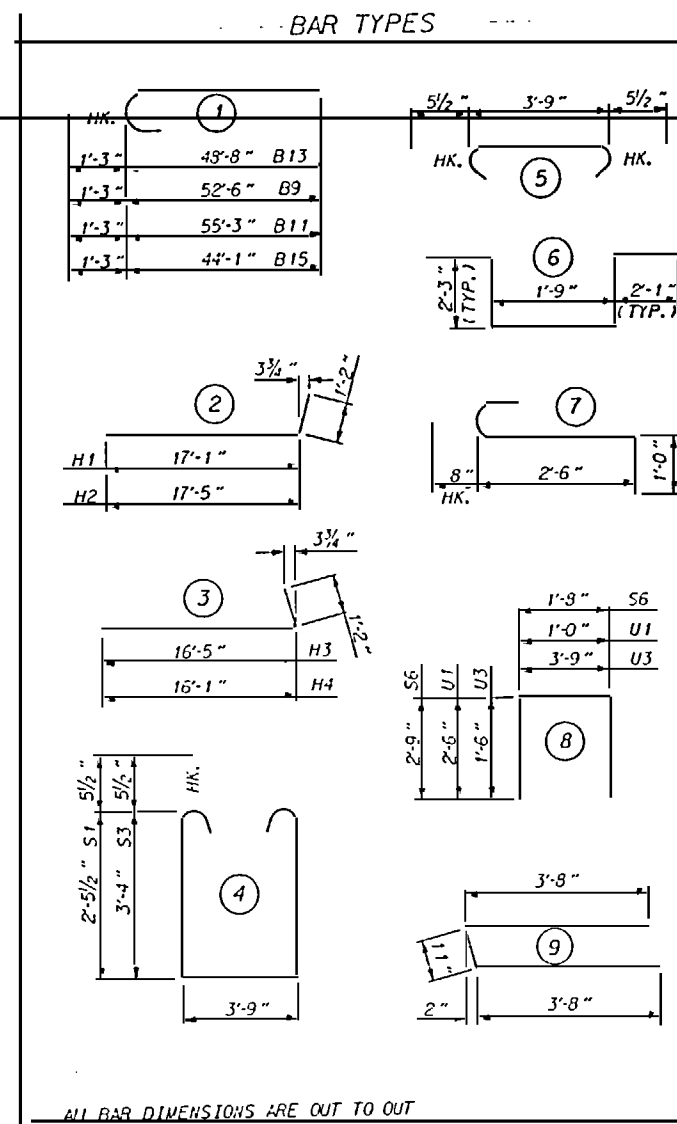
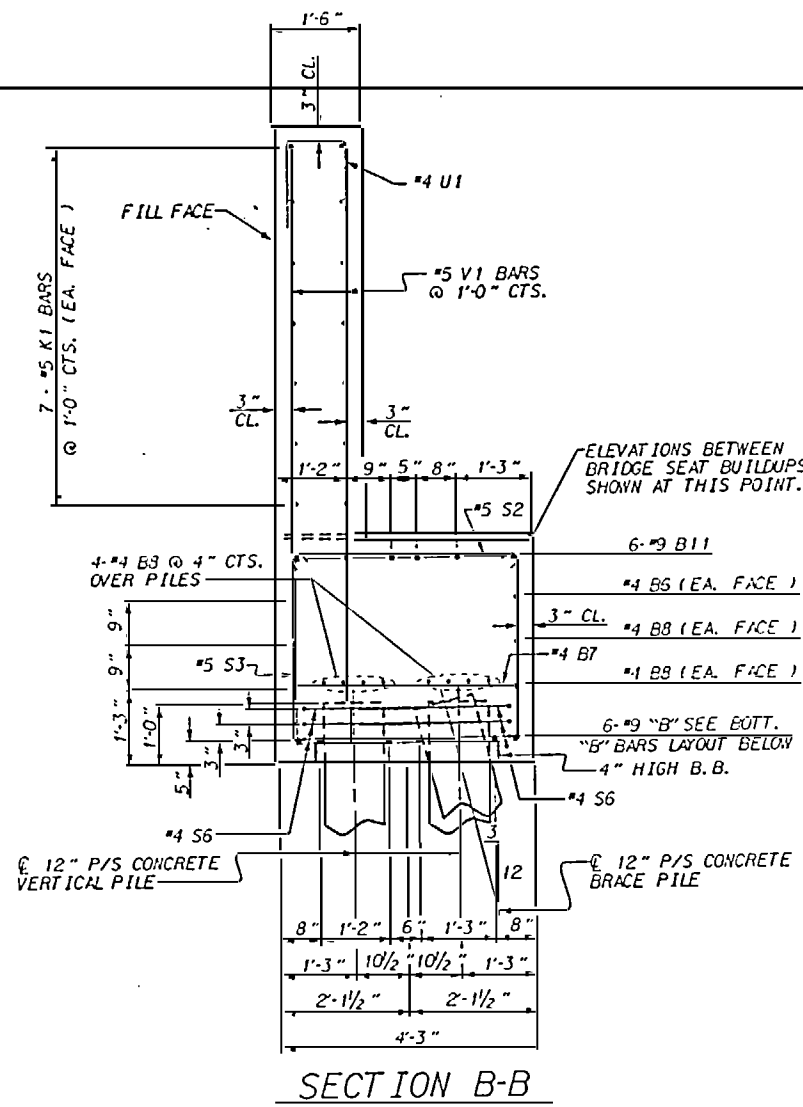
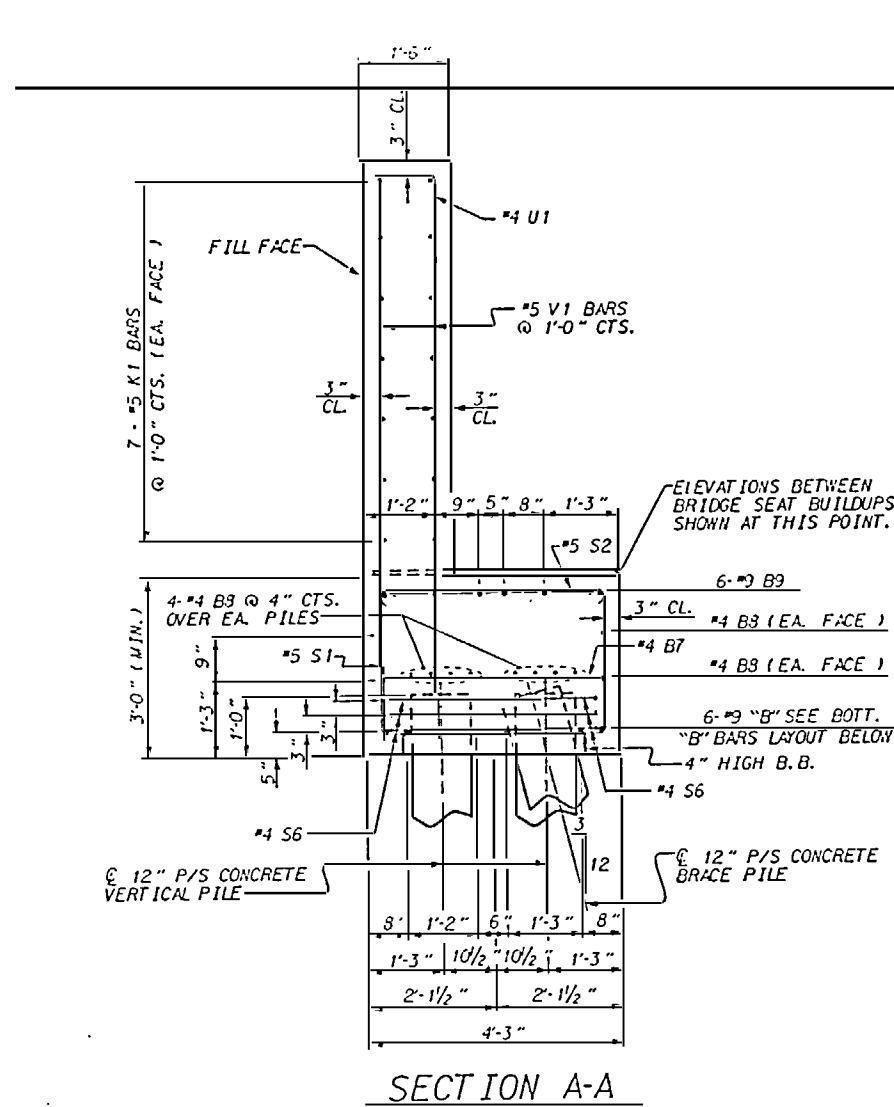
SHEET 3 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT #1

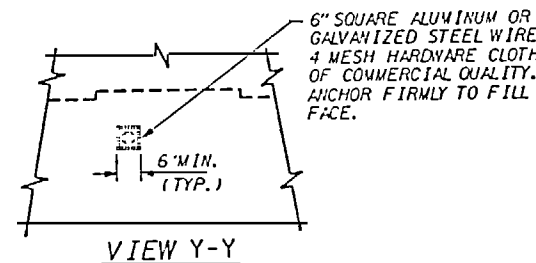
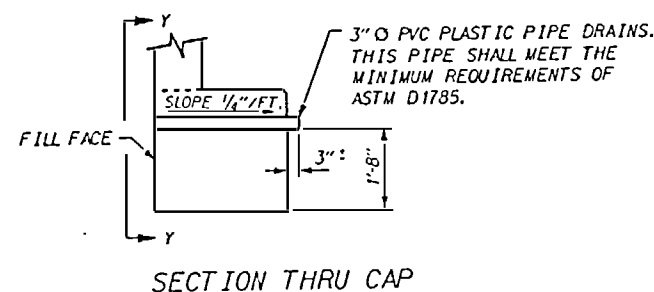
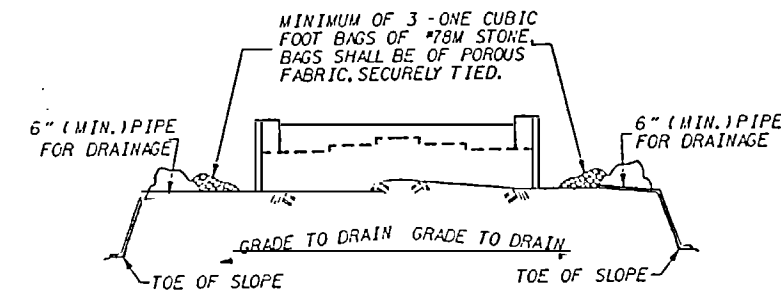
DRAWN BY: G. D. CARROLL DATE: 9/95
 CHECKED BY: T. H. CARROLL DATE: 9/95

REVISIONS						SHEET NO.
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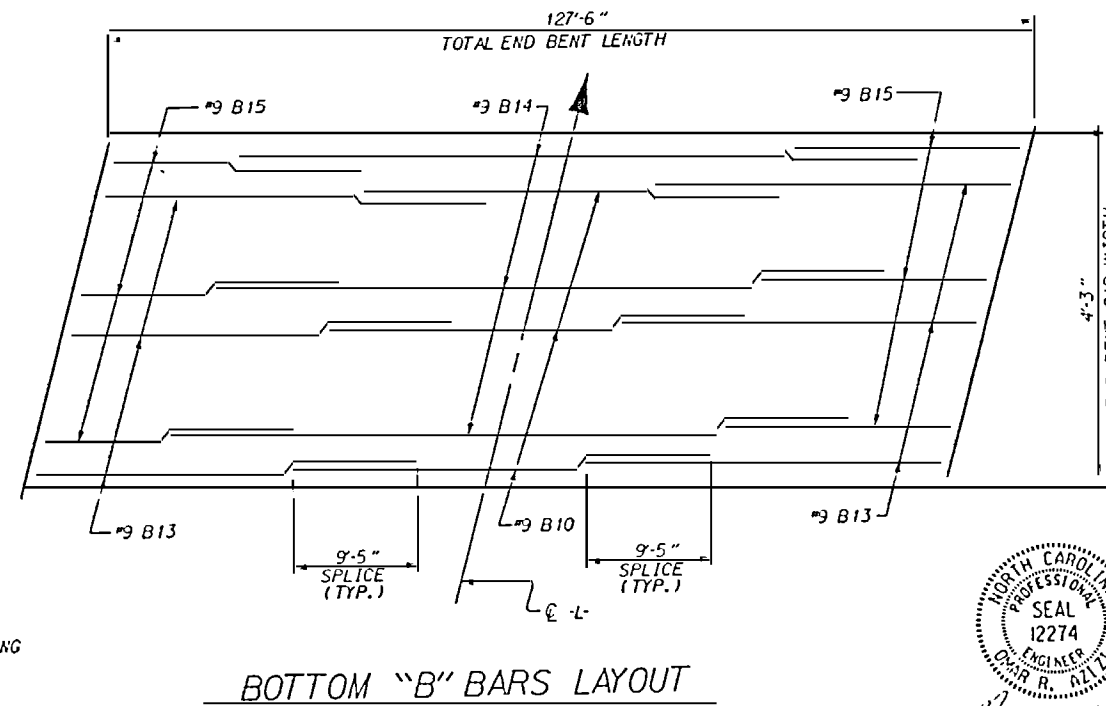


BILL OF MATERIAL					
END BENT #1					
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
B1	6	4	STR	14'-3"	57
B2	6	4	STR	25'-4"	102
B3	6	9	STR	44'-0"	893
B4	12	4	STR	25'-8"	206
B5	6	4	STR	14'-4"	57
B6	6	4	STR	27'-8"	111
B7	32	4	STR	3'-10"	82
B8	60	4	STR	27'-8"	1109
B9	6	9	I	53'-9"	1097
B10	3	9	STR	48'-8"	496
B11	6	9	I	56'-6"	1153
B12	6	4	STR	3'-2"	13
B13	6	9	I	49'-11"	1018
B14	3	9	STR	57'-8"	588
B15	6	9	I	45'-4"	925
H1	11	5	2	18'-3"	209
H2	11	5	2	18'-7"	213
H3	12	5	3	17'-7"	220
H4	12	5	3	17'-3"	216
K1	42	5	STR	44'-8"	1957
S1	35	5	4	9'-7"	350
S2	114	5	5	4'-8"	555
S3	79	5	4	11'-4"	934
S4	2	6	6	10'-5"	31
S5	6	6	7	4'-2"	38
S6	90	4	8	7'-2"	431
U1	119	4	8	6'-0"	477
U2	2	4	9	8'-3"	11
U3	53	4	8	6'-9"	239
V1	238	5	STR	9'-1"	2255
V2	6	6	STR	9'-8"	60
V3	6	6	STR	9'-7"	60
V4	6	6	STR	9'-6"	59
V5	6	6	STR	9'-5"	59
V6	6	6	STR	9'-4"	58
V7	6	6	STR	9'-3"	58
V8	10	6	STR	9'-9"	102
V9	6	6	STR	10'-2"	21
V10	6	6	STR	10'-3"	64
V11	6	6	STR	10'-4"	65
V12	6	6	STR	10'-5"	65
V13	6	6	STR	10'-6"	66
V14	6	6	STR	10'-7"	66
V15	10	5	STR	10'-8"	111
EPOXY COATED REINFORCING STEEL LBS.					16962



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 UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

PIPE DRAIN DETAILS



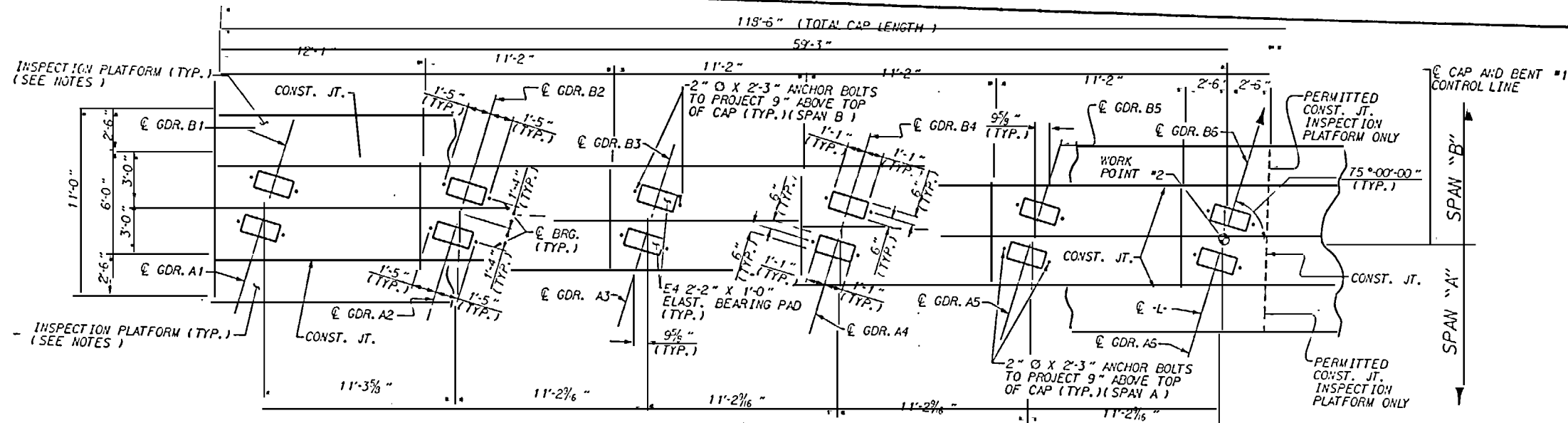
PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 4 OF 4
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SUBSTRUCTURE
END BENT #1

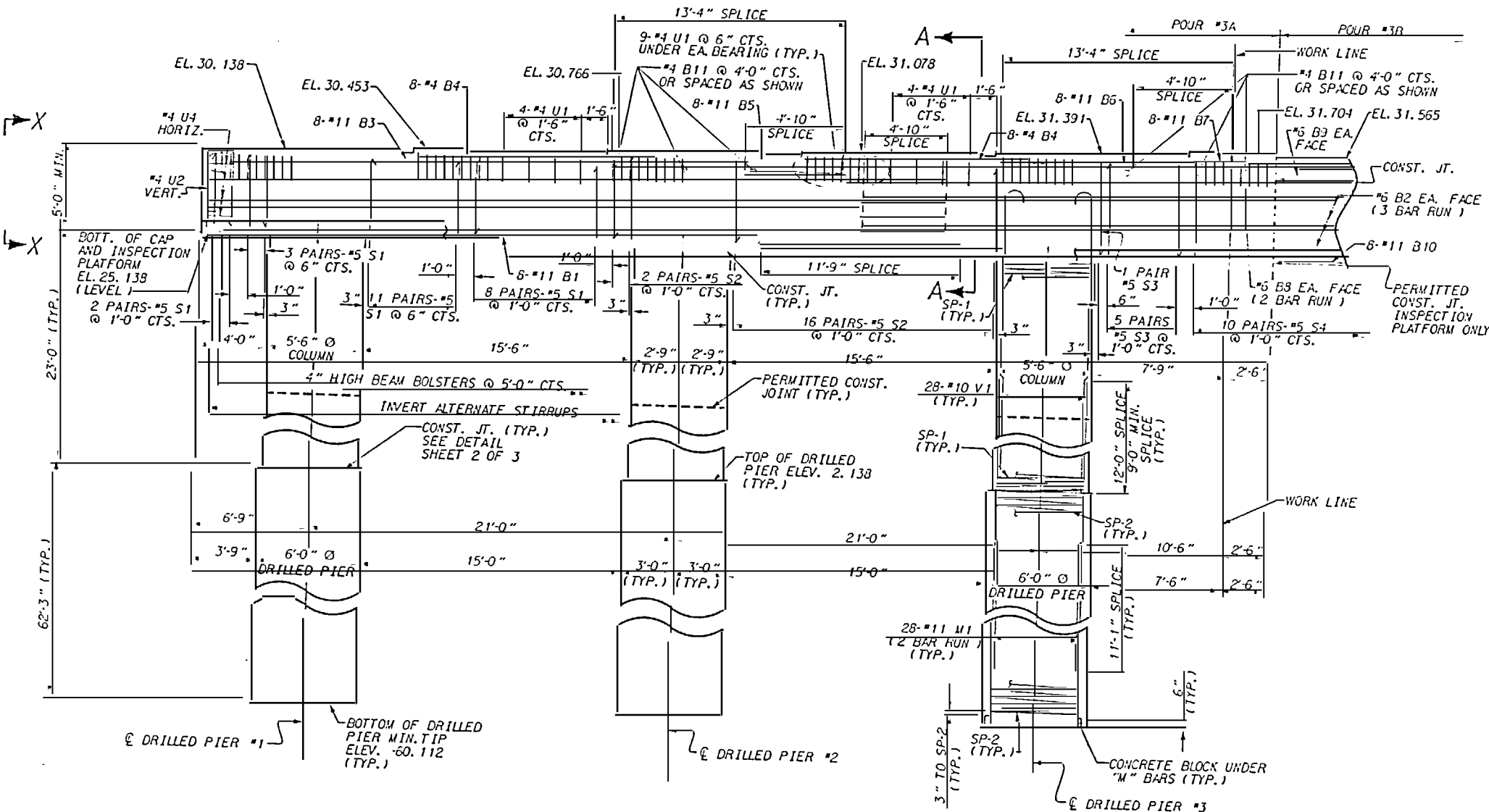
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NO.	BY	DATE	NO.	BY	DATE
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DRAWN BY: G.D. CARROLL DATE: 9/95
 CHECKED BY: T.H. CARROLL DATE: 9/95

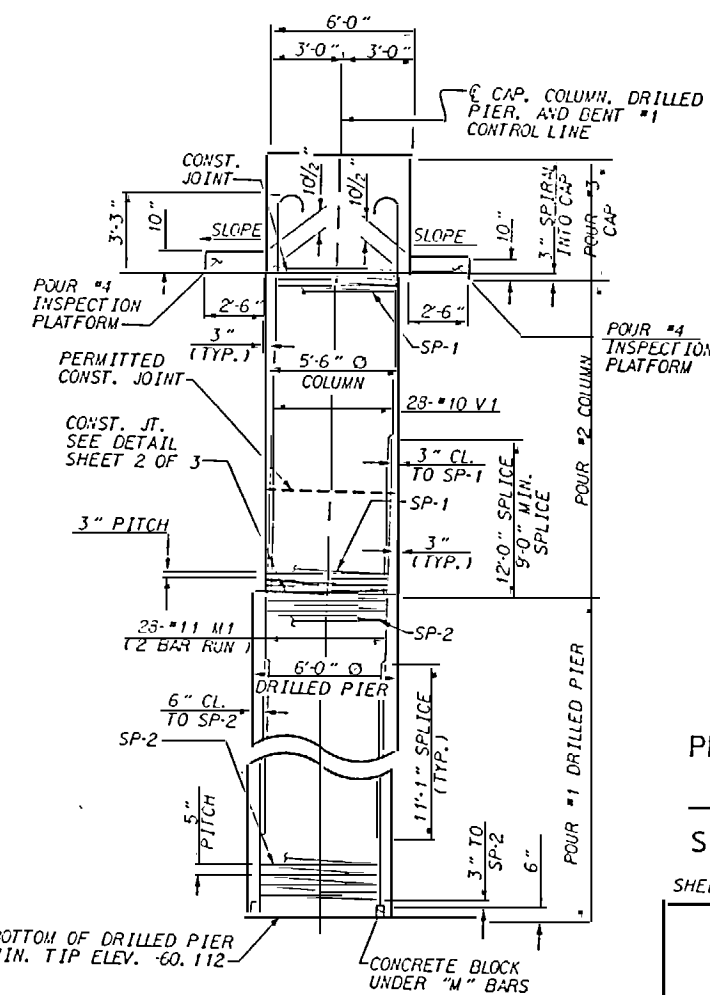


PARTIAL PLAN
(COLUMNS NOT SHOWN FOR CLARITY)



PARTIAL ELEVATION

(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH COLUMN & DRILLED PIER)



LEFT END ELEVATION

NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.
- FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
- ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL AND EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.
- THE DRILLED PIERS SHALL BE INSTALLED TO MINIMUM TIP ELEVATION SHOWN ON PLAN.
- FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.
- ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.
- FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL, DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT INSPECTION PLATFORM DETAILS SHEET.
- FOR OPTIONAL MECHANICAL BUTT SPlicing FOR REINFORCING STEEL, SEE SPECIAL PROVISIONS.



PROJECT NO. U-2107BA
ONSLow COUNTY
STATION: 277+50.00 -L-

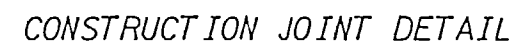
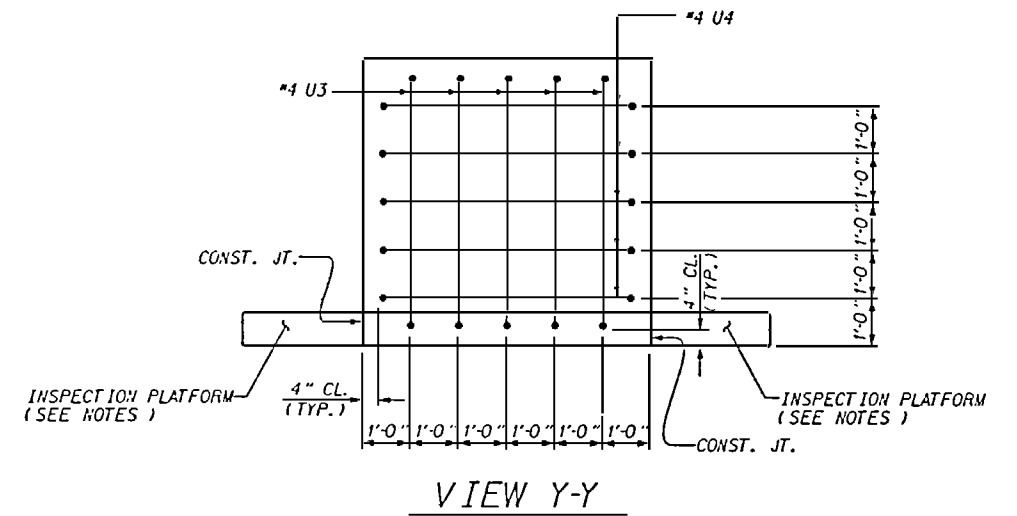
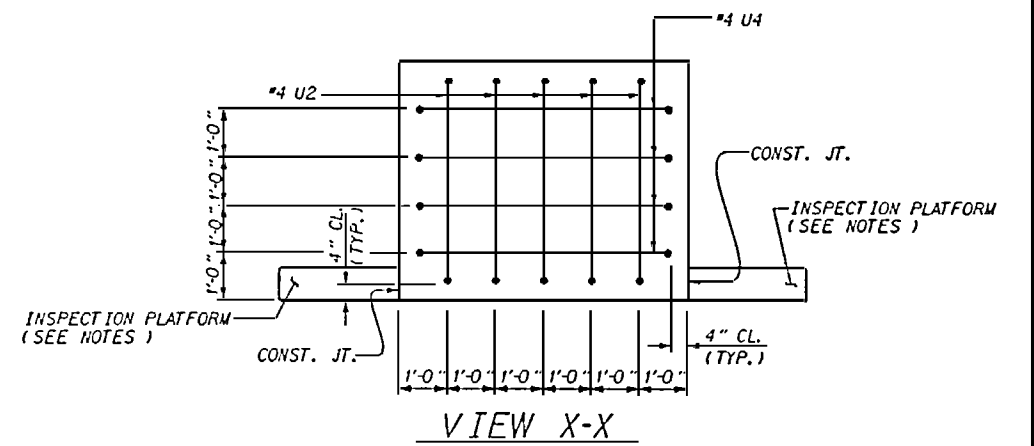
SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

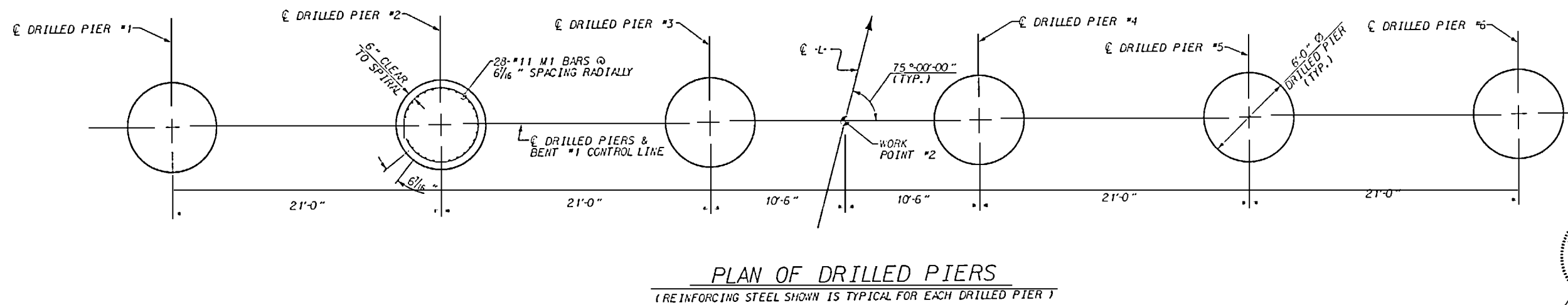
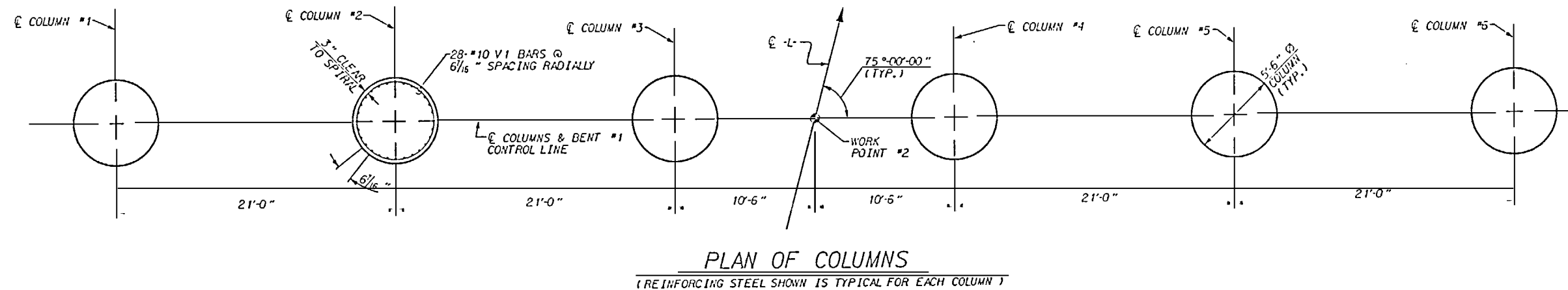
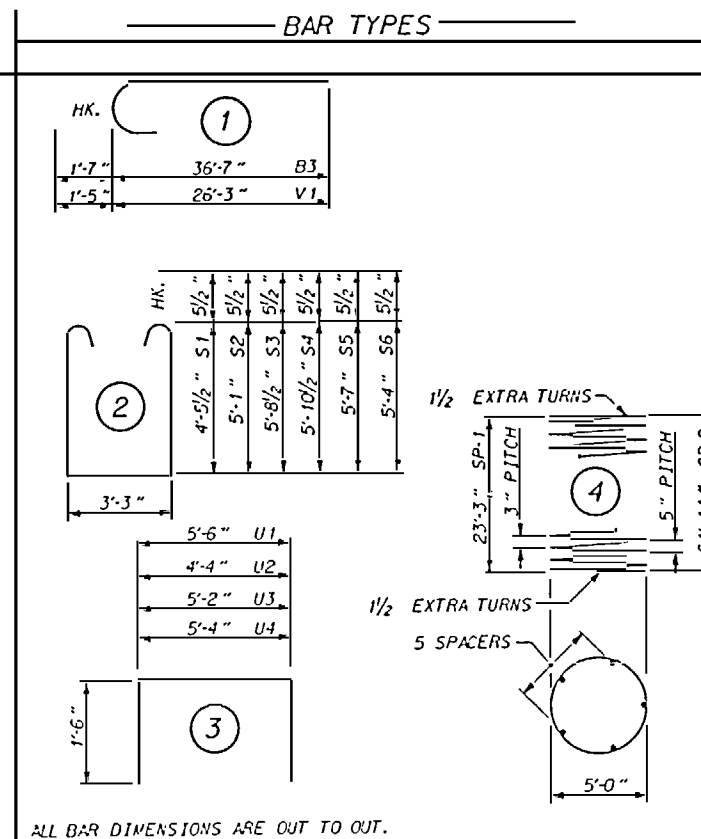
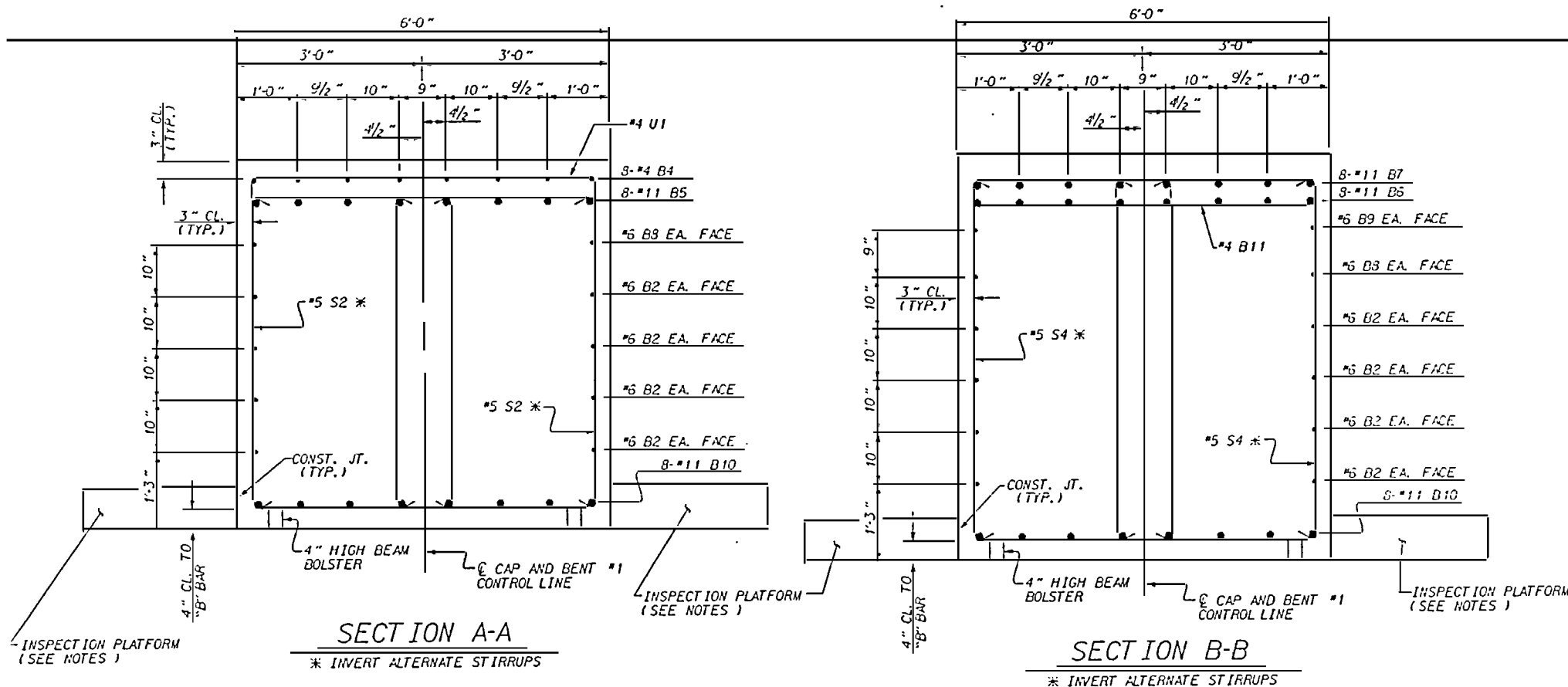
**SUBSTRUCTURE
BENT #1**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
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2			3			
TOTAL SHEETS 170						

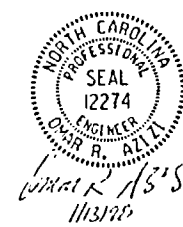
DRAWN BY: G.D. CARROLL/SBW DATE: 10/31/95
CHECKED BY: G.B. AZIZI DATE: 12/13/95



E-APR-1997 14:27
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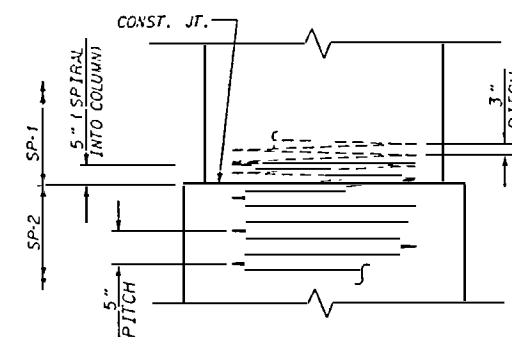
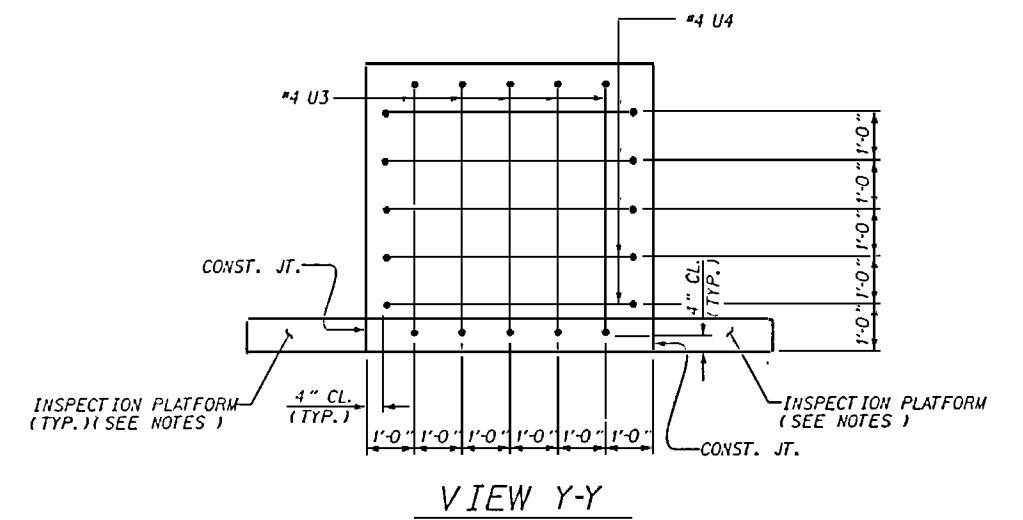
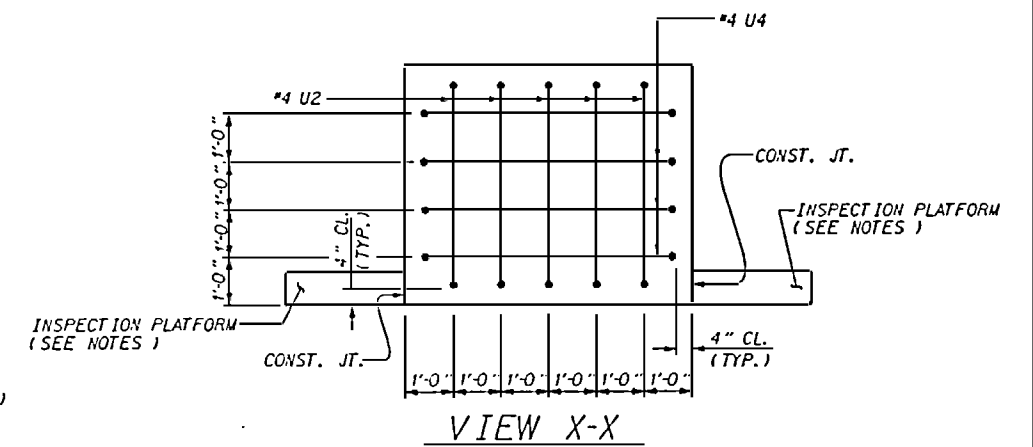
AN BY: G.D. CARROLL/SEW DATE: 10/31/96
 YED BY: G.R. AZIZI DATE: 12/13/96



PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 3 OF 3

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
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2			3			
TOTAL SHEETS 170						

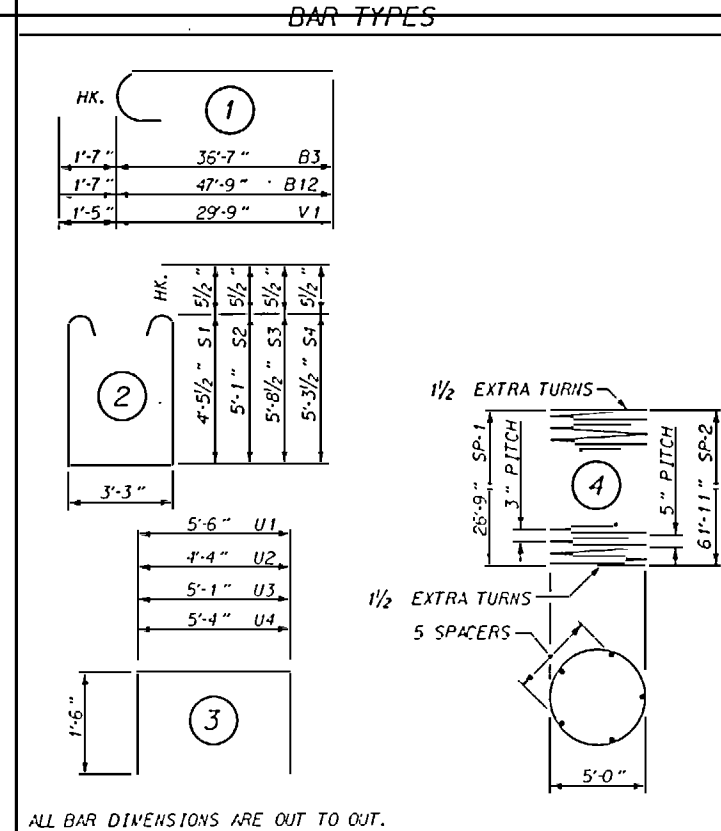
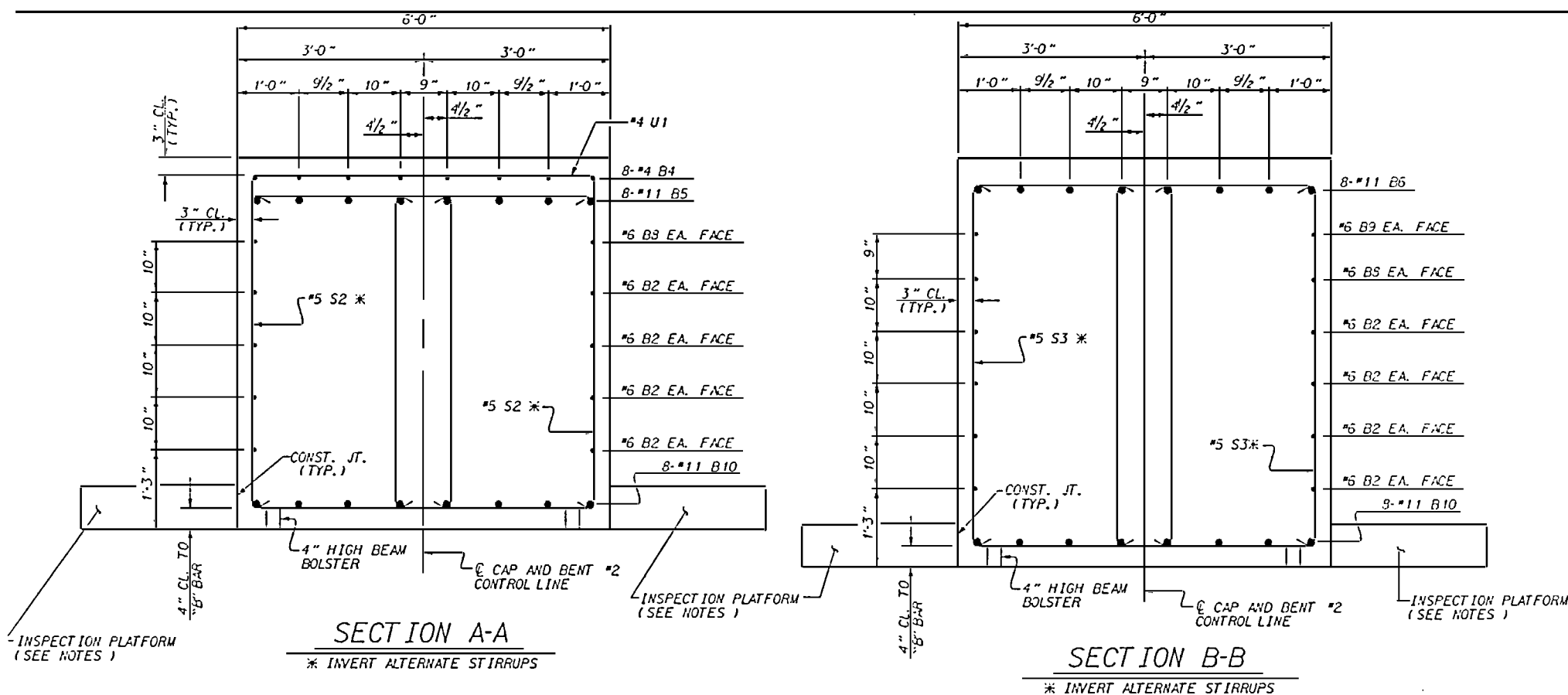
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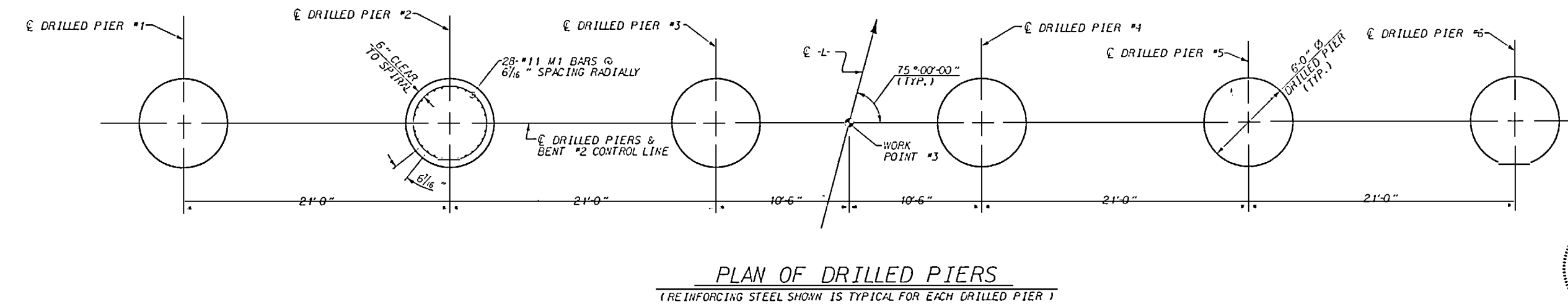
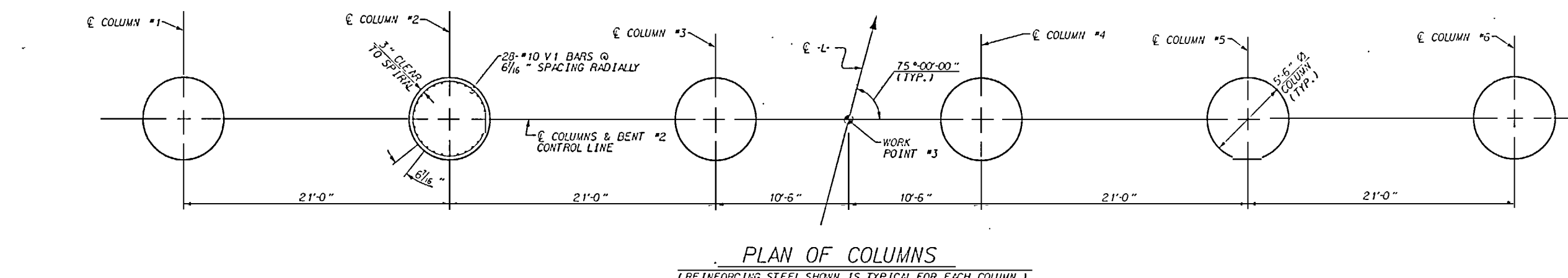
PARTIAL ELEVATION

11-APR-1997 14:21

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BILL OF MATERIAL					
BENT #2					
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
B1	16	#4	STR	43'-11"	3733
B2	24	#6	STR	42'-7"	1535
B3	8	#8	STR	38'-2"	1622
B4	24	#4	STR	13'-9"	220
B5	8	#8	STR	35'-8"	1516
B6	8	#8	STR	38'-0"	1615
B7	8	#4	STR	4'-6"	24
B8	4	#6	STR	45'-8"	274
B9	2	#6	STR	21'-0"	63
B10	8	#8	STR	54'-0"	2295
B11	10	#4	STR	5'-6"	37
B12	8	#8	STR	49'-4"	2097
MI	336	#8	STR	42'-5"	75721
S1	48	#5	2	13'-1"	655
S2	36	#5	2	14'-4"	538
S3	58	#5	2	15'-7"	943
S4	60	#5	2	14'-9"	923
U1	11	#4	3	8'-6"	630
U2	5	#4	3	7'-4"	24
U3	5	#4	3	8'-1"	27
U4	9	#4	3	8'-4"	50
VI	168	#10	1	31'-2"	22531
INSPECTION PLATFORM EPOXY COATED REINFORCING STEEL LBS.					3981
EPOXY COATED REINFORCING STEEL LBS.					121054
SP-1	6	#4	1713'-8"	6868	
SP-2	6	#4	2357'-5"	14753	
EPOXY COATED SPIRAL COLUMN REINFORCING STEEL LBS.					21621
CONCRETE BREAKDOWN					
CLASS AA CONCRETE					
POUR #2 COLUMN				C.Y.	139.9
POUR #3A CAP				C.Y.	78.0
POUR #3B CAP				C.Y.	77.0
POUR #4 INSPECTION PLATFORM				C.Y.	20.1
TOTAL				C.Y.	315.0
DRILLED PIERS					
CONCRETE BREAKDOWN					
CLASS AA CONCRETE					
POUR #1 DRILLED PIERS				C.Y.	391.1
6'-0" DIA. DRILLED PIERS					373.5 L.F.
2" Ø GALVANIZED STEEL PIPE RAIL					
					255.0 L.F.
6'-0" DIA. PERMANENT STEEL CASING					
					144.66 L.F.



BY: G.D. CARROLL DATE: 12/10/95
 CHECKED BY: O.R. AZIZI DATE: 12/13/95



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 3 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE BENT #2					
REVISIONS					SHEET NO. 5-105
NO.	BY	DATE	NO.	DATE	
1			3		TOTAL SHEETS 170
2			4		

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO
CLEAR ANCHOR BOLTS.

FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL,
SEE SPECIAL PROVISIONS.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS .

ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR EPOXY COATED REINFORCING STEEL AND EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.

THE DRILLED PIERS SHALL BE INSTALLED TO MINIMUM
TIP ELEVATION SHOWN ON PLAN.

FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.

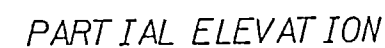
ALL REINFORCING STEEL SHALL BE EPOXY COATED.

ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.

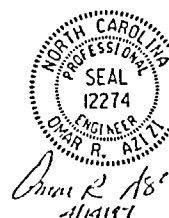
FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL,
DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT
INSPECTION PLATFORM DETAILS SHEET.

FOR OPTIONAL MECHANICAL BUTT SPlicing FOR REINFORCING
STEEL, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.



DRAWN BY : G. D. CARROLL DATE : 12/10/95
CHECKED BY : O. R. AZIZI DATE : 12/13/95



PROJECT NO. U-2 107BA

ONSLOW COUNTY

STATION: 277+50.00 -L-

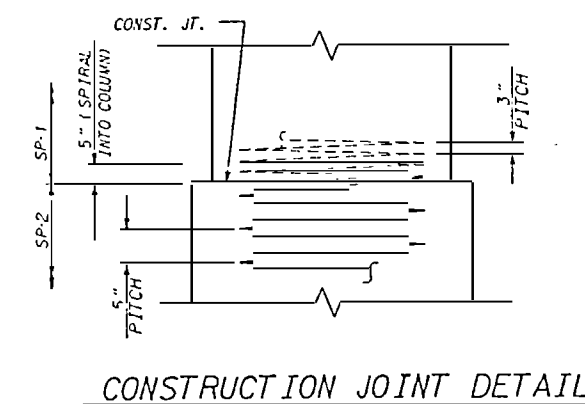
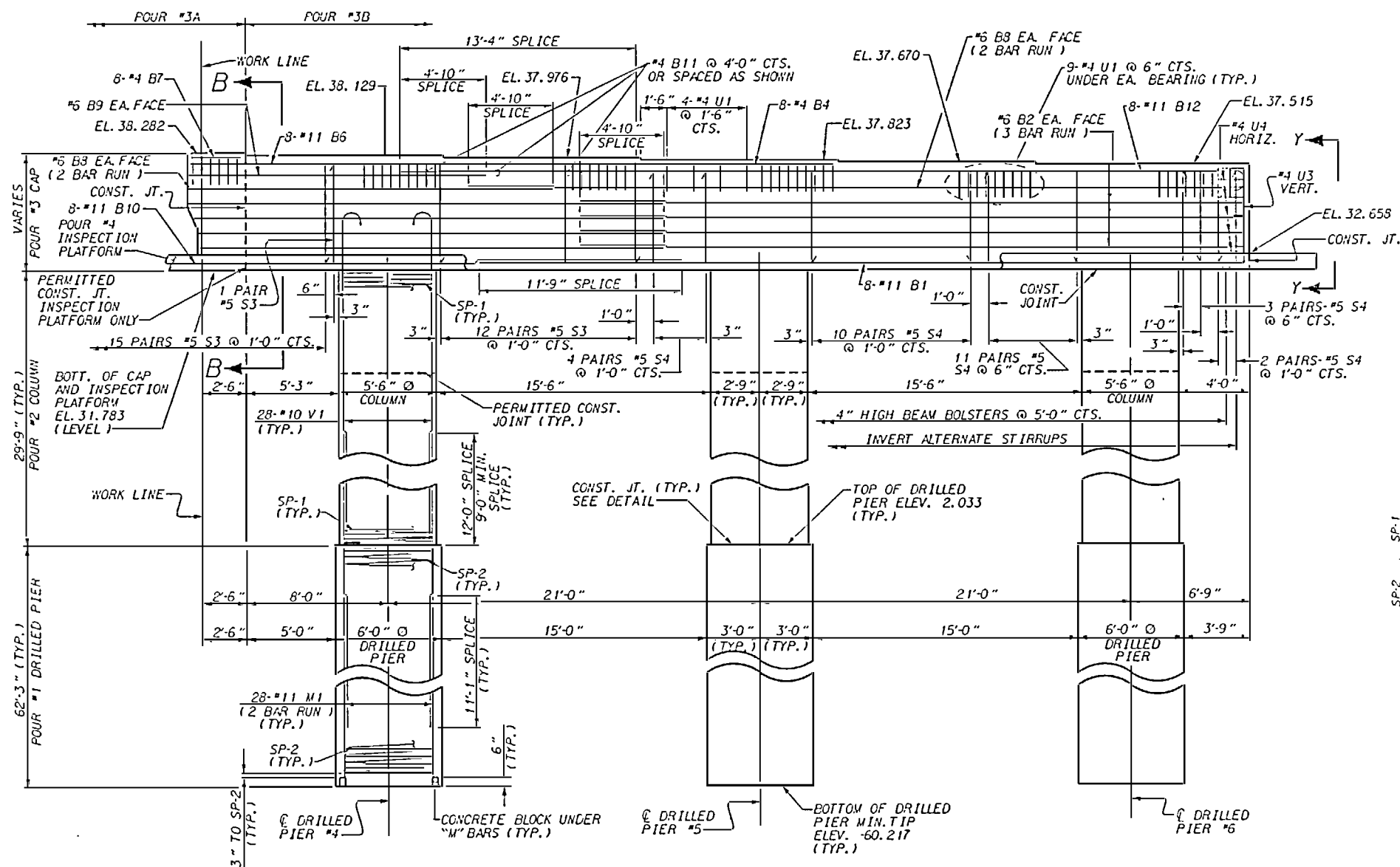
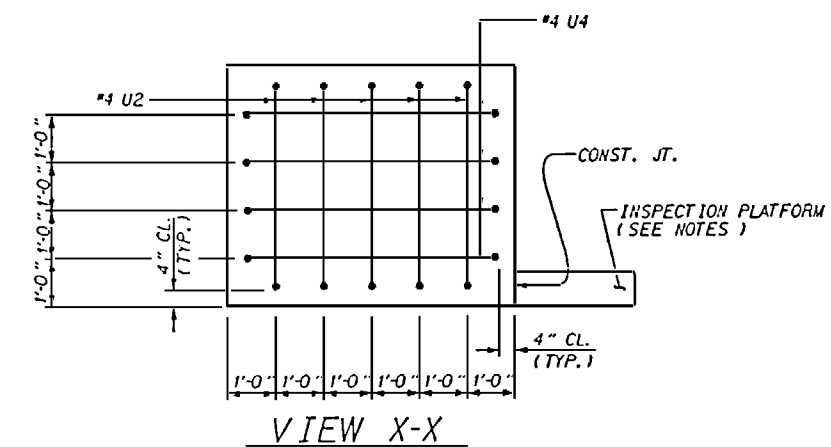
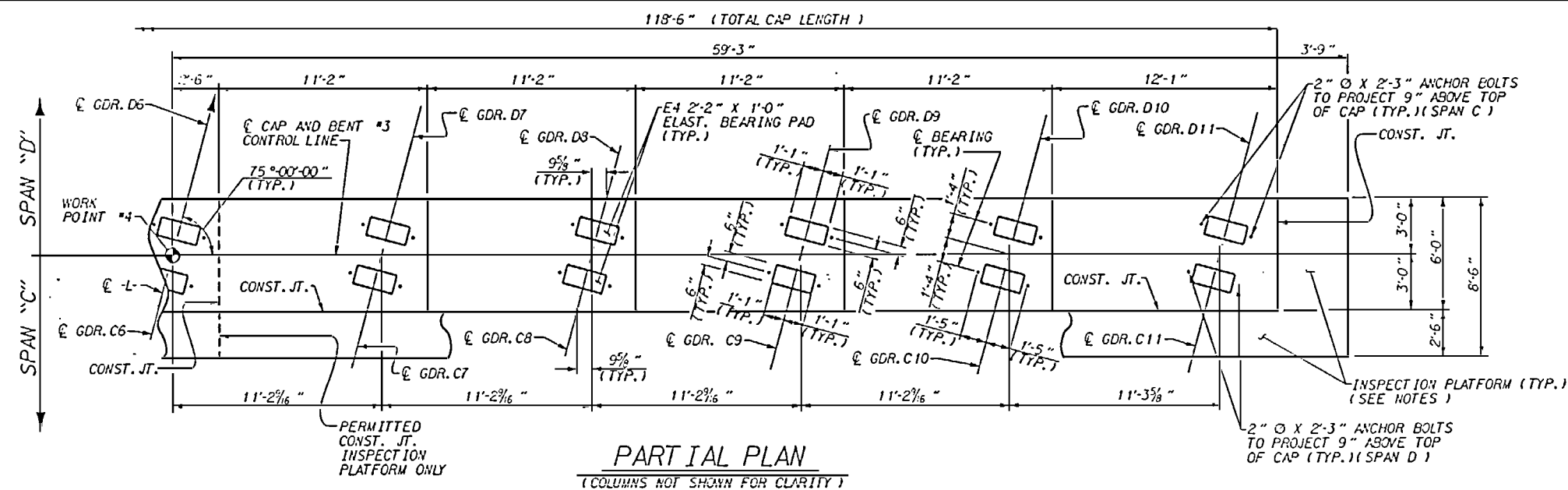
SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

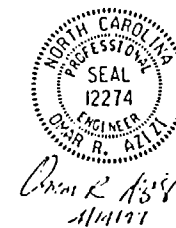
SUBSTRUCTURE
BENT #3

REVISIONS						SHEET NO. S-10
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			

#-APR-1997 14:27
#####DGN#####
C600



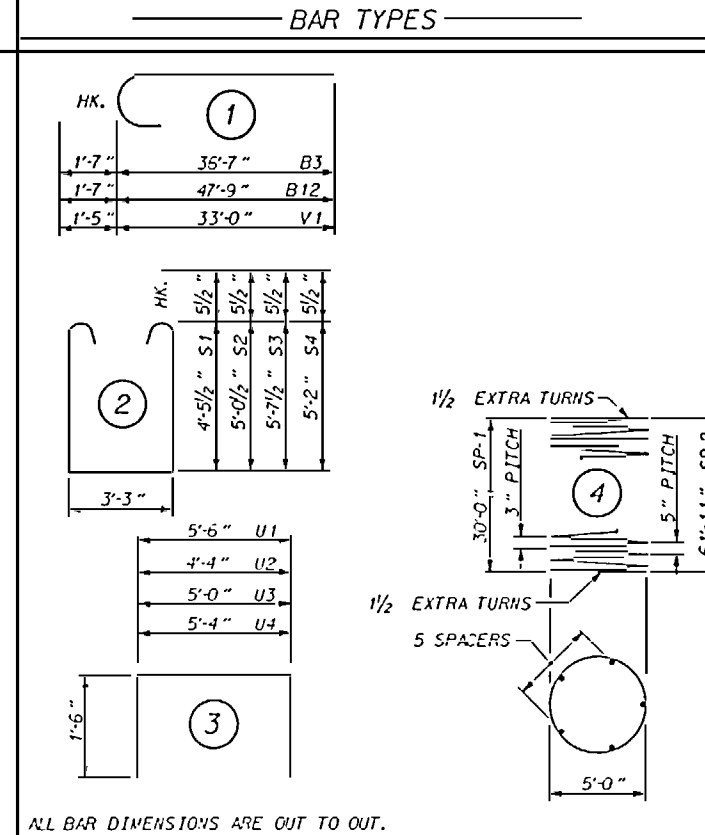
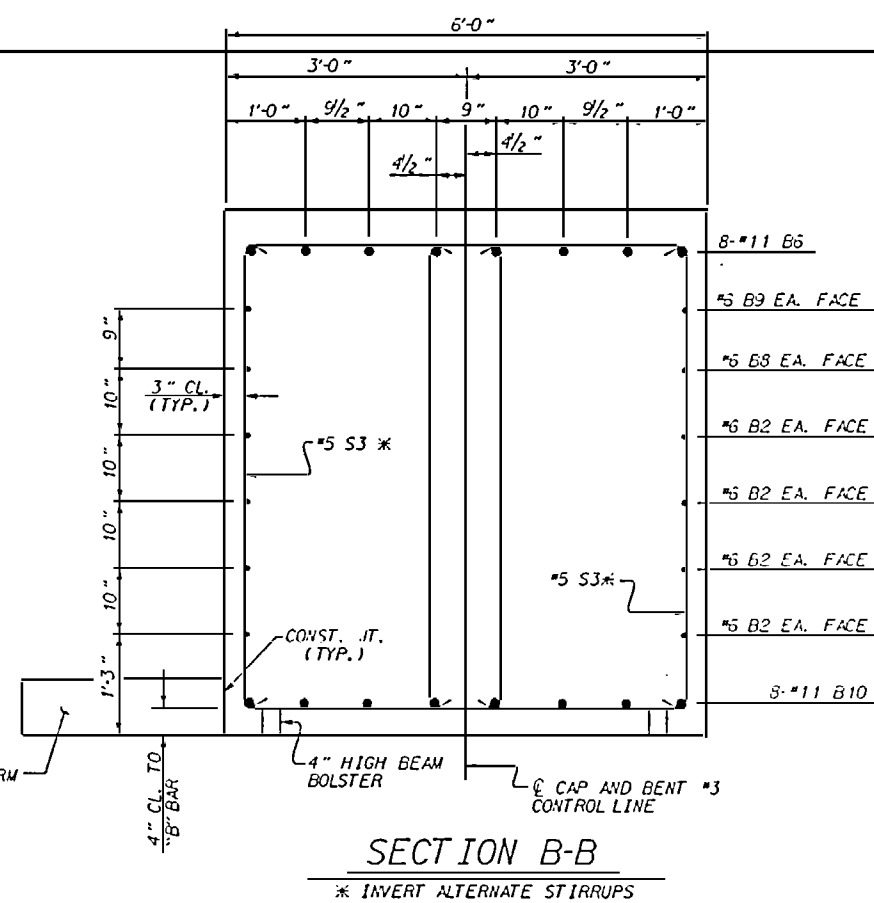
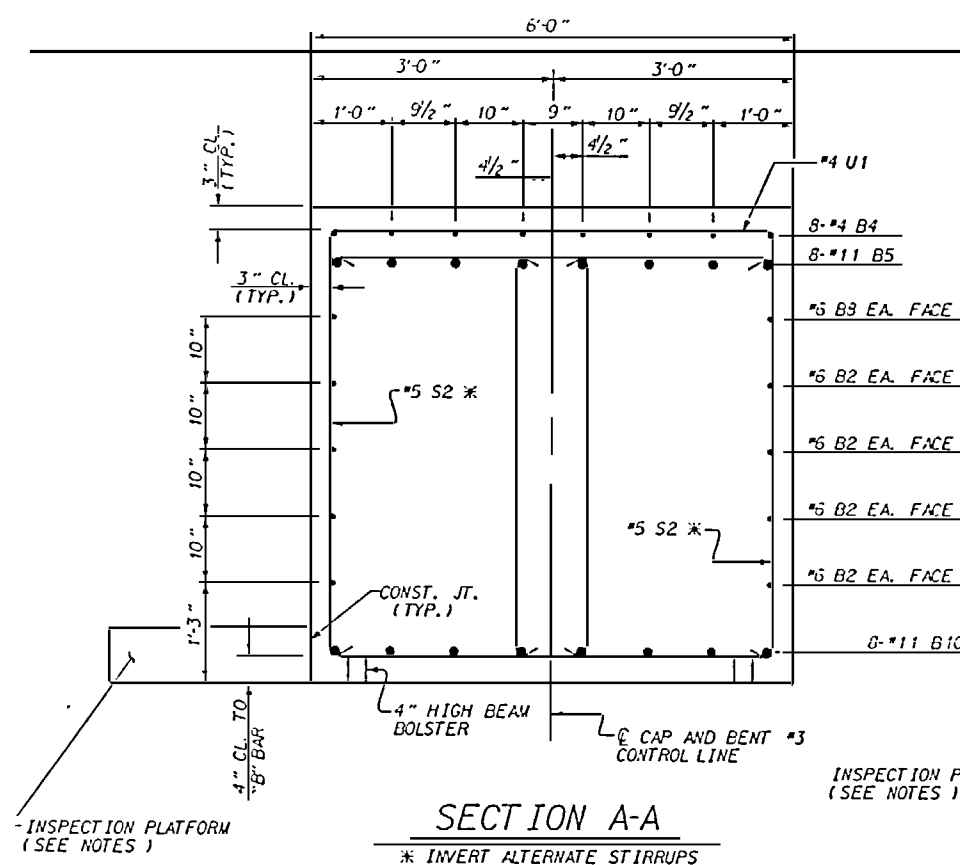
BY: G. D. CARROLL DATE: 12/10/95
 D BY: O. R. AZIZI DATE: 12/13/95



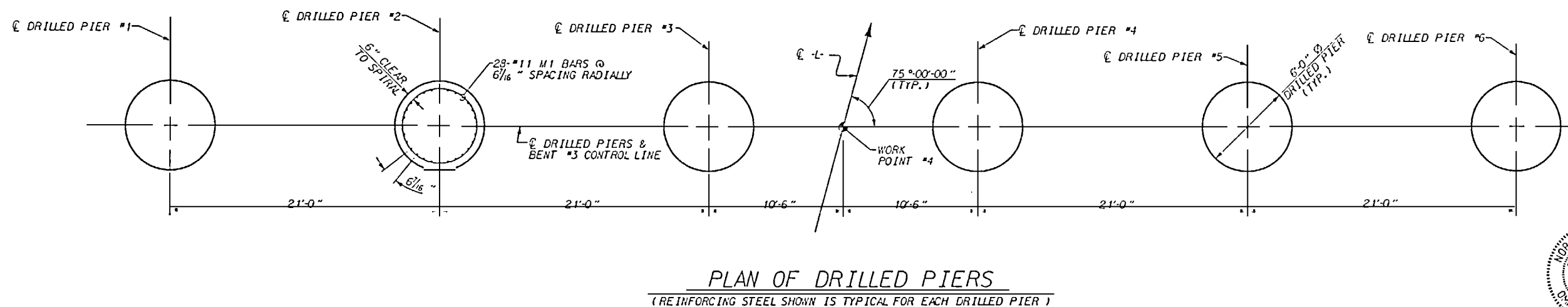
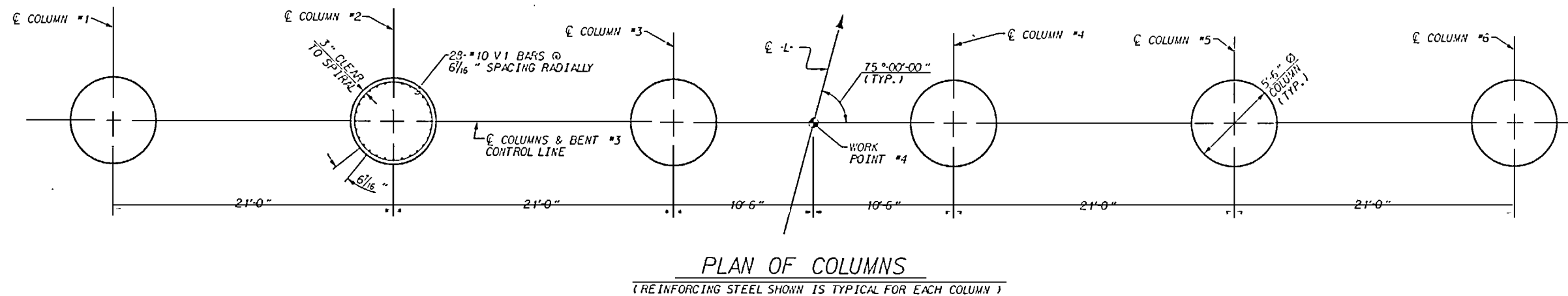
PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 2 OF 3

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-107
2			4			
TOTAL SHEETS 170						

11-APR-1997 14:27
 *****DCN*****
 greg



BILL OF MATERIAL				
BENT #3				
BAR	NO	SIZE	TYPE	WEIGHT
B1	16	II	STR	3733
B2	24	6	STR	1535
B3	8	II	I	1622
B4	24	4	STR	220
B5	8	II	STR	1516
B6	8	II	STR	1615
B7	8	4	STR	24
B8	4	6	STR	274
B9	2	6	STR	63
B10	8	II	STR	2255
B11	10	4	STR	37
B12	8	II	I	2097
M1	336	II	STR	75721
S1	48	5	2	655
S2	36	5	2	535
S3	58	5	2	933
S4	60	5	2	907
U1	4	3	8	630
U2	4	3	8	24
U3	4	3	8	27
U4	4	3	8	50
VI	168	10	1	24880
INSPECTION PLATFORM EPOXY COATED REINFORCING STEEL LBS.				2070
EPOXY COATED REINFORCING STEEL LBS.				121463
SP-1	6	4	1916-3	7680
SP-2	6	4	2357-5	14753
EPOXY COATED SPIRAL COLUMN REINFORCING STEEL LBS.				22433
CONCRETE BREAKDOWN				
CLASS AA CONCRETE				
POUR #2 COLUMN				C. Y. 157.1
POUR #3A CAP				C. Y. 77.1
POUR #3B CAP				C. Y. 76.1
POUR #4 INSPECTION PLATFORM				C. Y. 10.4
TOTAL				C. Y. 321.8
DRILLED PIERS				
CONCRETE BREAKDOWN				
CLASS AA CONCRETE				
POUR #1 DRILLED PIERS				C. Y. 391.1
6'-0" DIA. DRILLED PIERS				373.5 L. F.
2" O GALVANIZED STEEL PIPE RAIL				132.5 L. F.
6'-0" DIA. PERMANENT STEEL CASING				144.20 L. F.



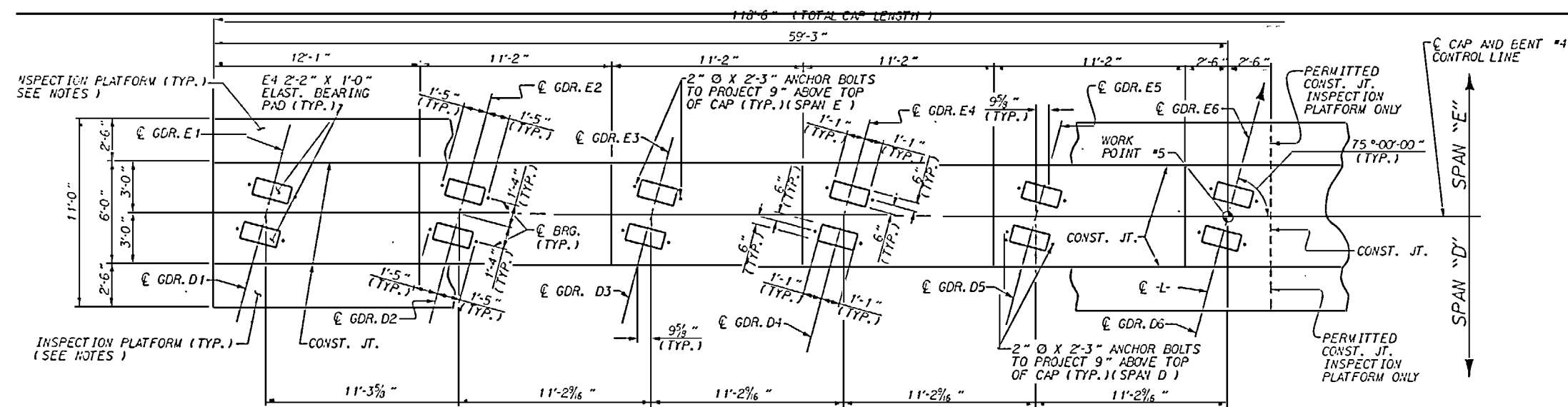
PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 3 OF 3				
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH				
SUBSTRUCTURE BENT #3				
REVISIONS				
NO.	BY	DATE	NO.	DATE
1			2	
2			3	
				SHEET NO. 5-103
				TOTAL SHEETS 170

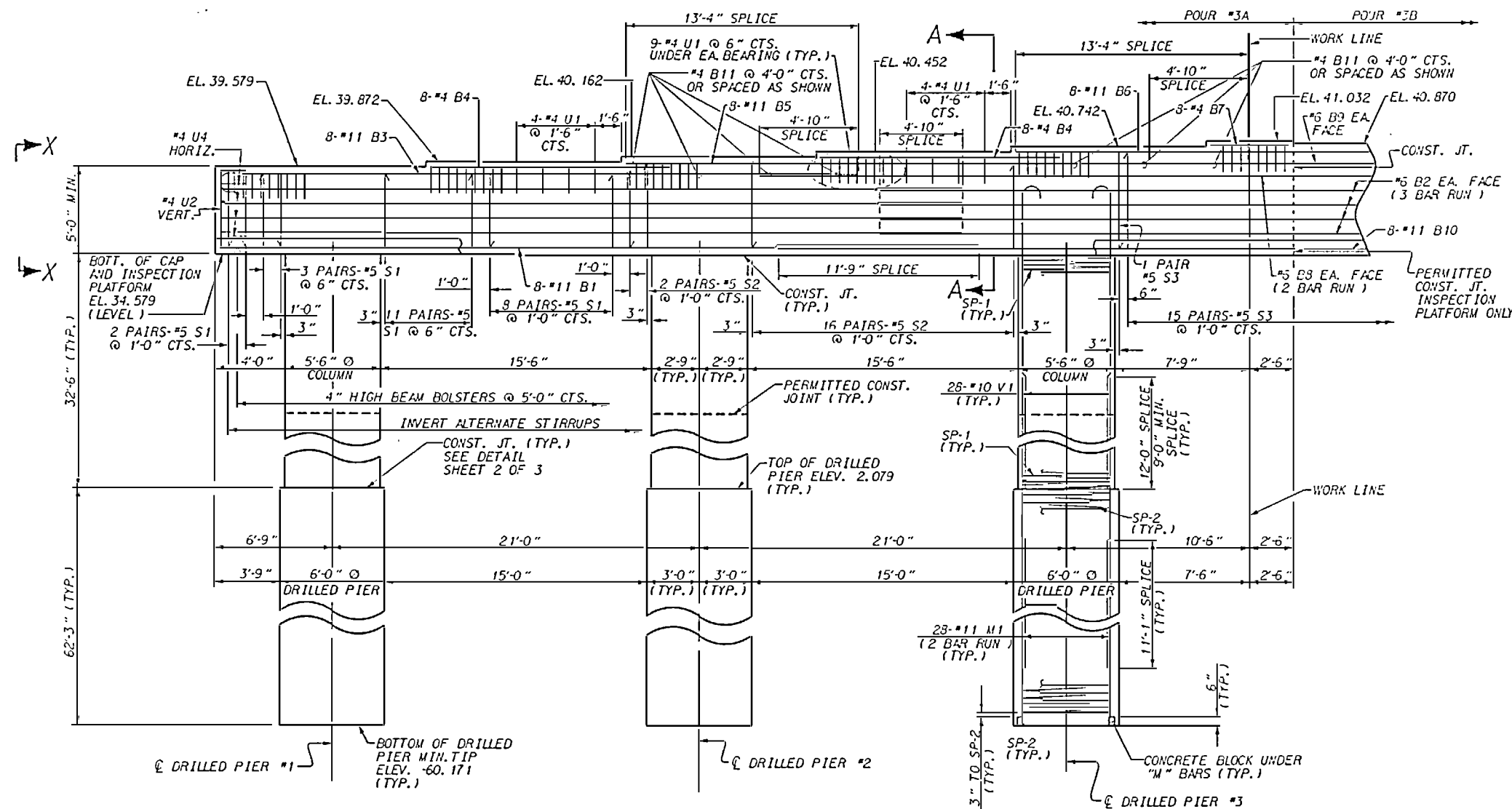


BY: G.D. CARROLL DATE: 12/10/95
 BY: G.R. AZIZI DATE: 12/13/95

12-JAN-1998 14:37

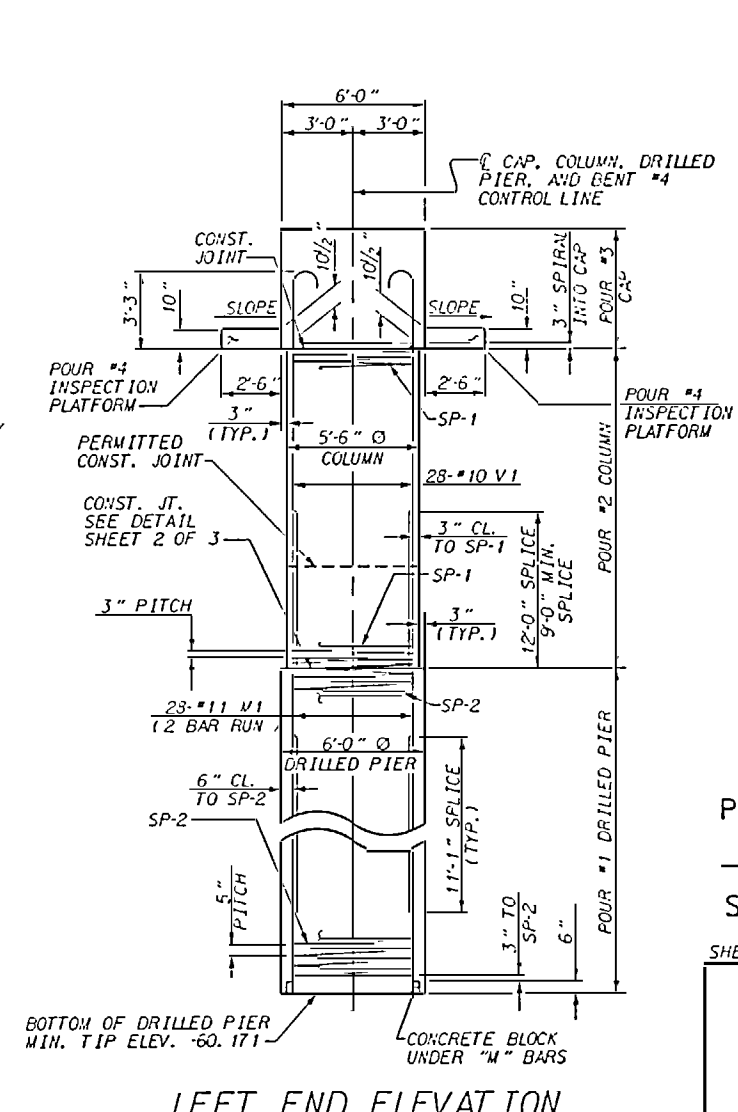


PARTIAL PLAN
(COLUMNS NOT SHOWN FOR CLARITY)



PARTIAL ELEVATION

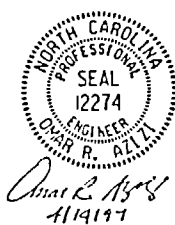
(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH COLUMN & DRILLED PIER)



LEFT END ELEVATION

NOTES

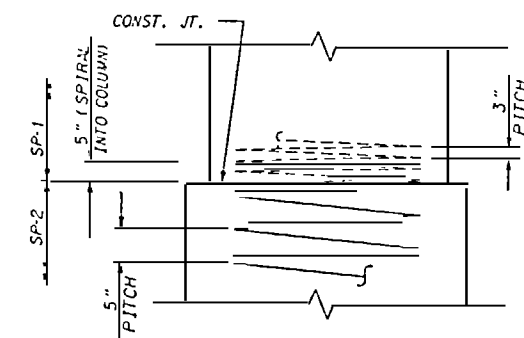
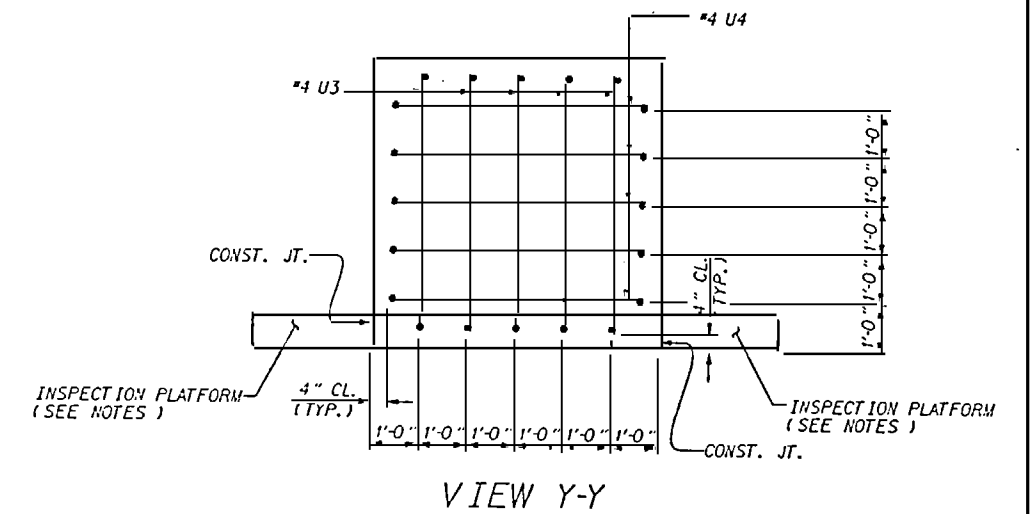
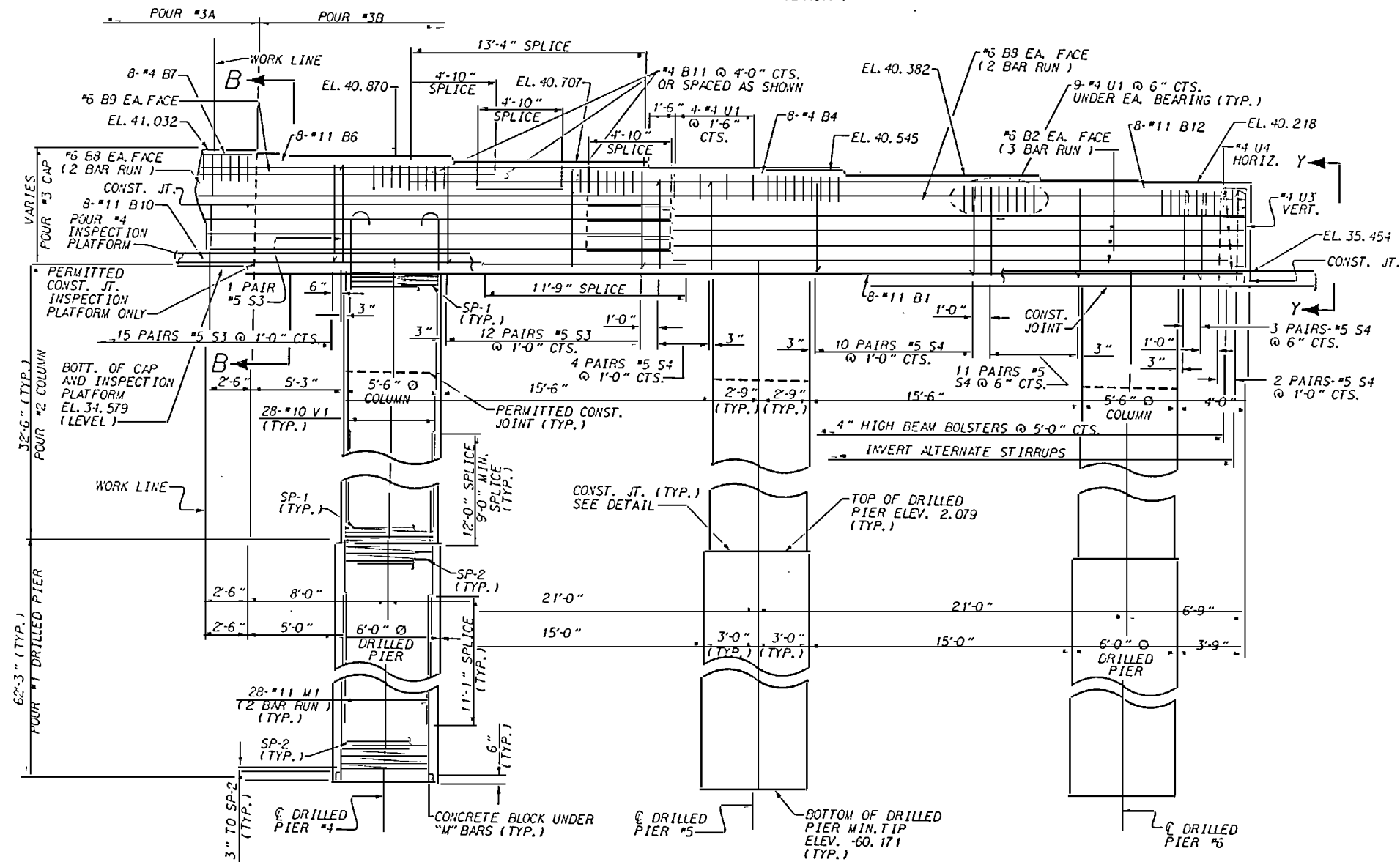
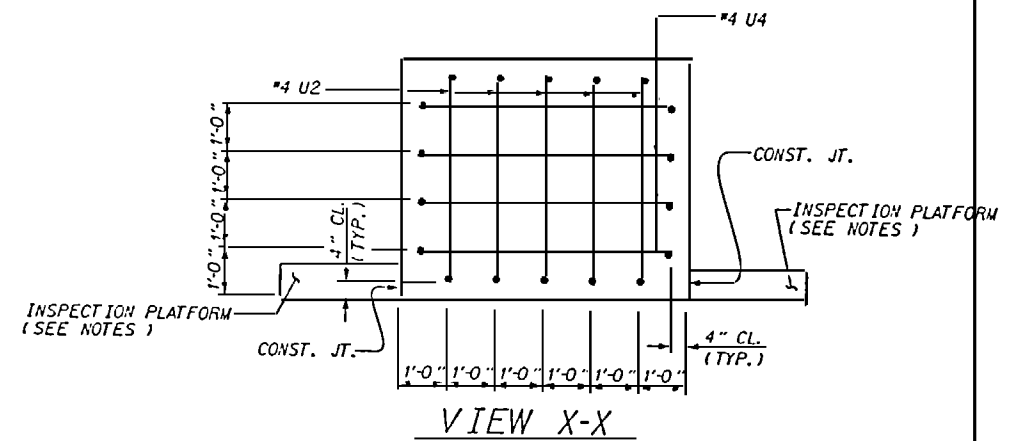
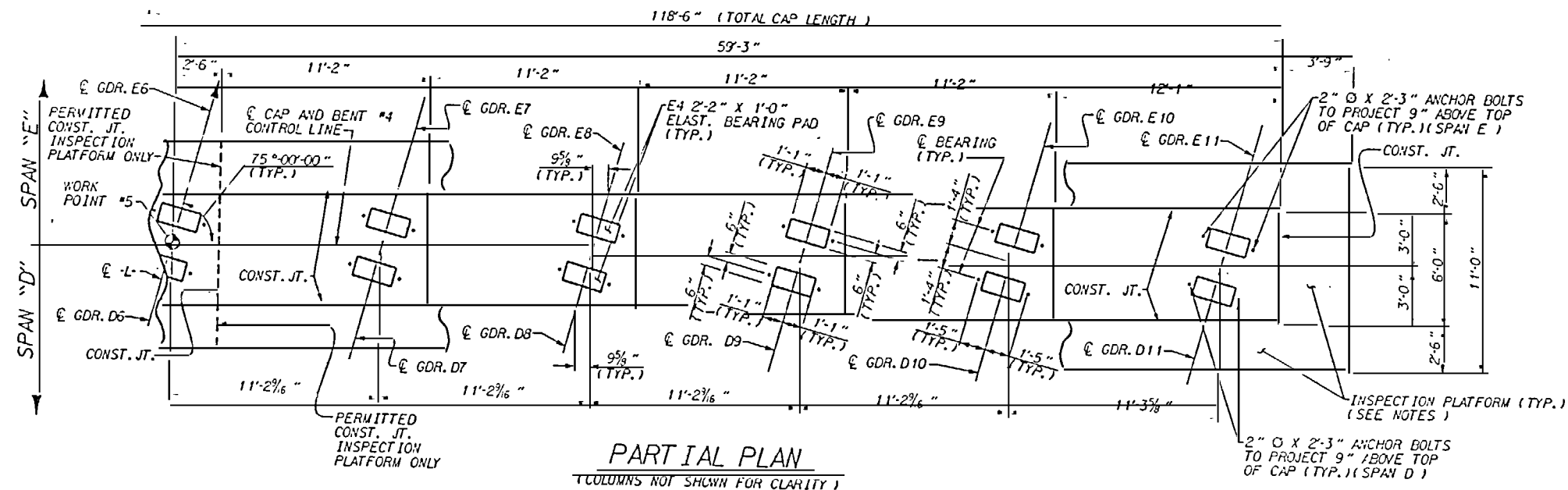
- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- HOOKS ON V-BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.
- FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
- ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR EPOXY COATED REINFORCING STEEL AND EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.
- THE DRILLED PIERS SHALL BE INSTALLED TO MINIMUM TIP ELEVATION SHOWN ON PLAN.
- FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.
- ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.
- FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL, DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT INSPECTION PLATFORM DETAILS SHEET.
- FOR OPTIONAL MECHANICAL BUTT SPLICING FOR REINFORCING STEEL, SEE SPECIAL PROVISIONS.



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 1 OF 3

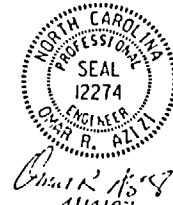
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			2			5-109
2			3			TOTAL SHEETS 170

DRAWN BY: G.D. CARROLL DATE: 12/10/95
 CHECKED BY: O.R. AZIZI DATE: 12/13/95

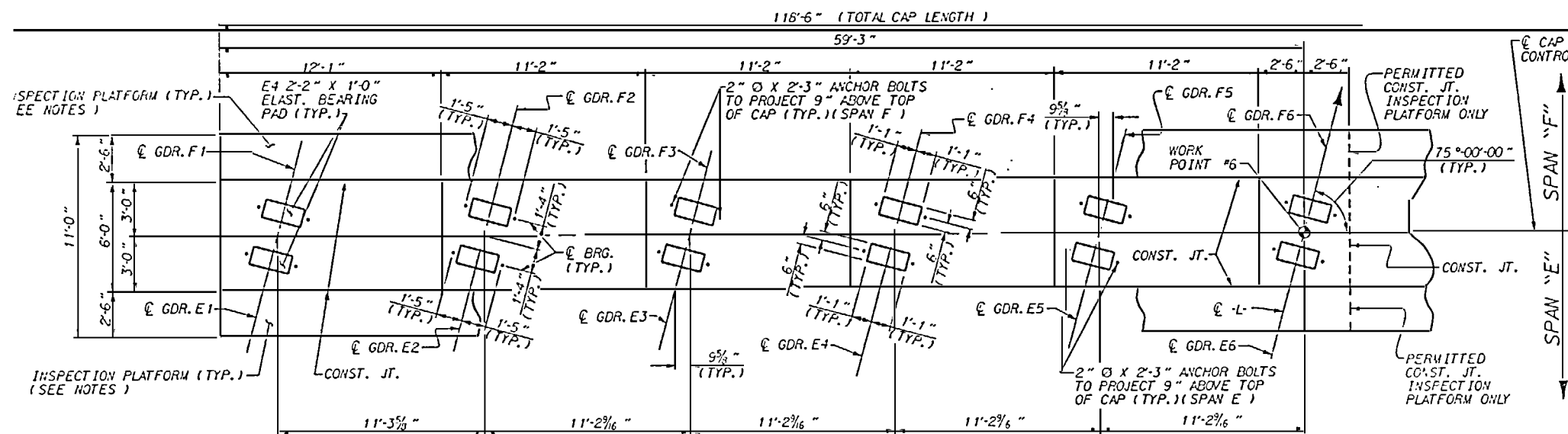


PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-
 SHEET 2 OF 3

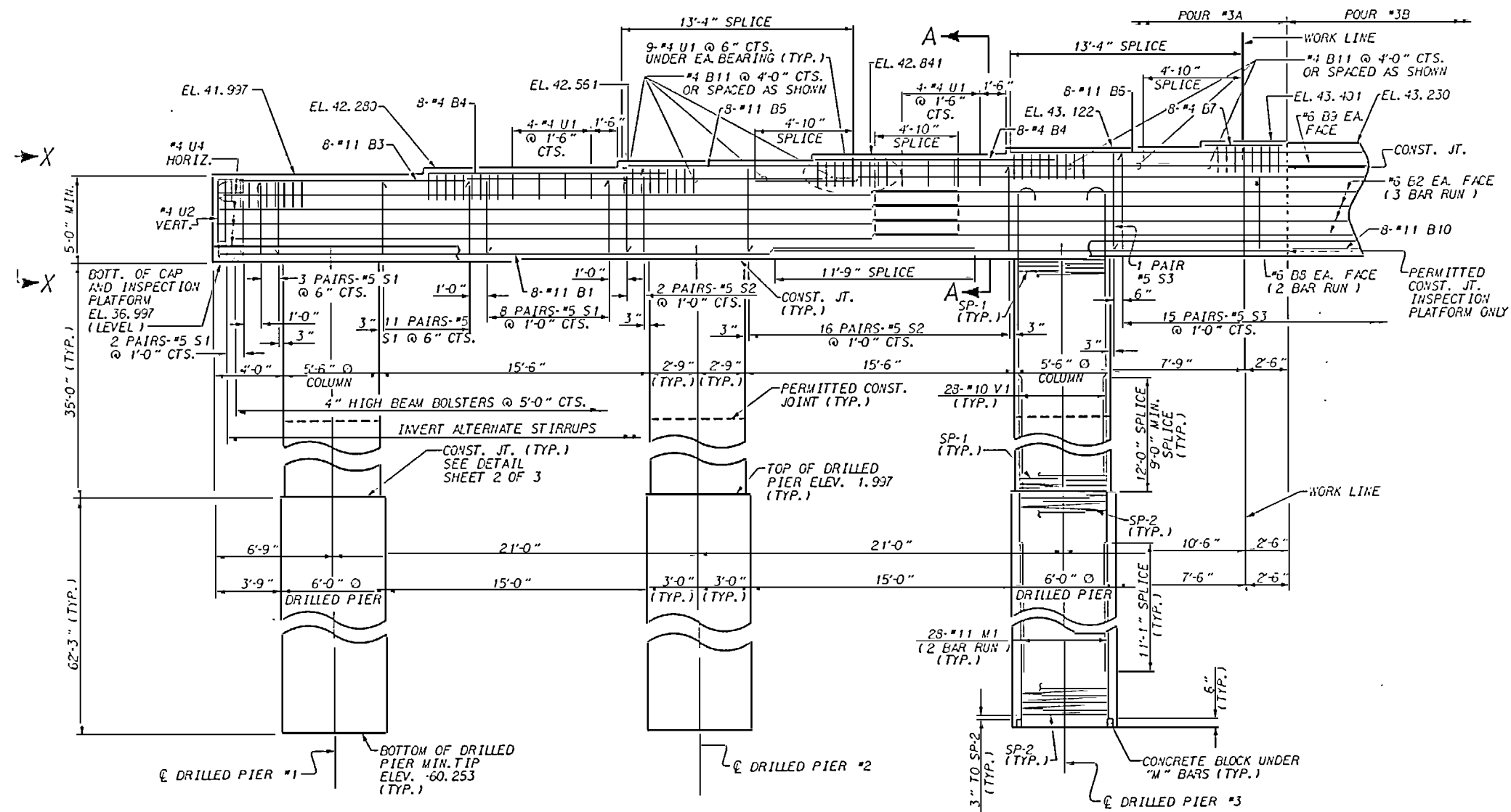
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-110
2			4			TOTAL SHEETS 170



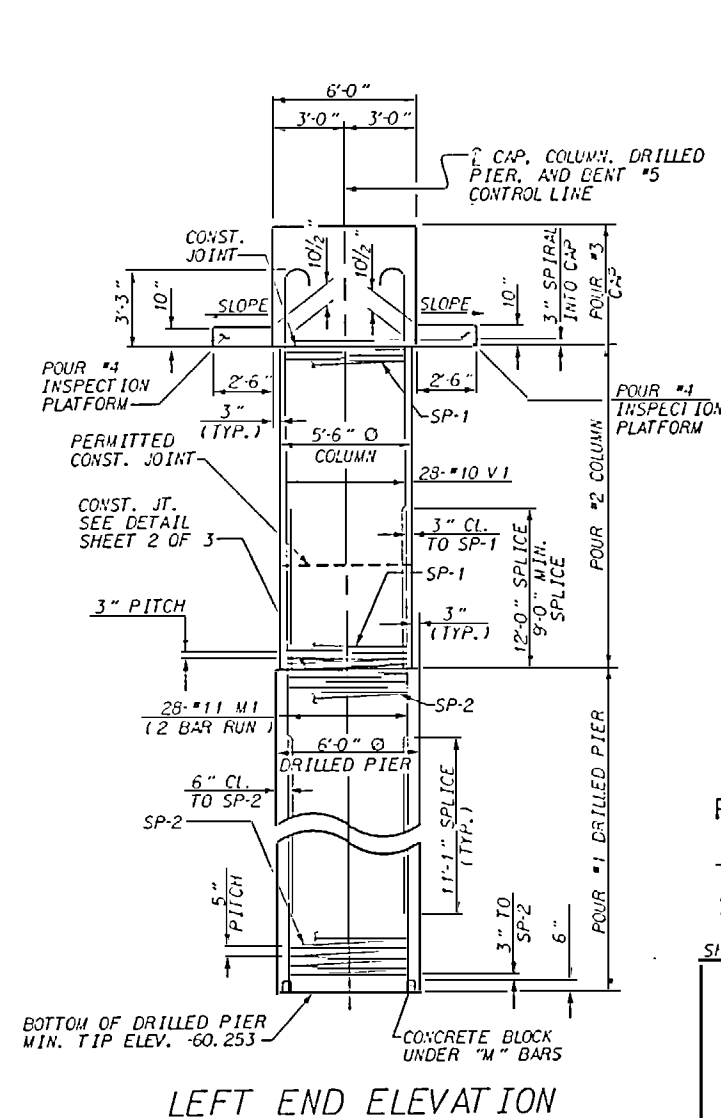
BY: G.D. CARROLL DATE: 12/10/96
 BY: O.R. AZIZI DATE: 12/13/95



PARTIAL PLAN
(COLUMNS NOT SHOWN FOR CLARITY)



PARTIAL ELEVATION
(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH COLUMN & DRILLED PIER)



NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.
- FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
- ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR EPOXY COATED REINFORCING STEEL AND EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.
- THE DRILLED PIERS SHALL BE INSTALLED TO MINIMUM TIP ELEVATION SHOWN ON PLAN.
- FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.
- ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.
- FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL, DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT INSPECTION PLATFORM DETAILS SHEET.
- FOR OPTIONAL MECHANICAL BUTT SPlicing FOR REINFORCING STEEL, SEE SPECIAL PROVISIONS.



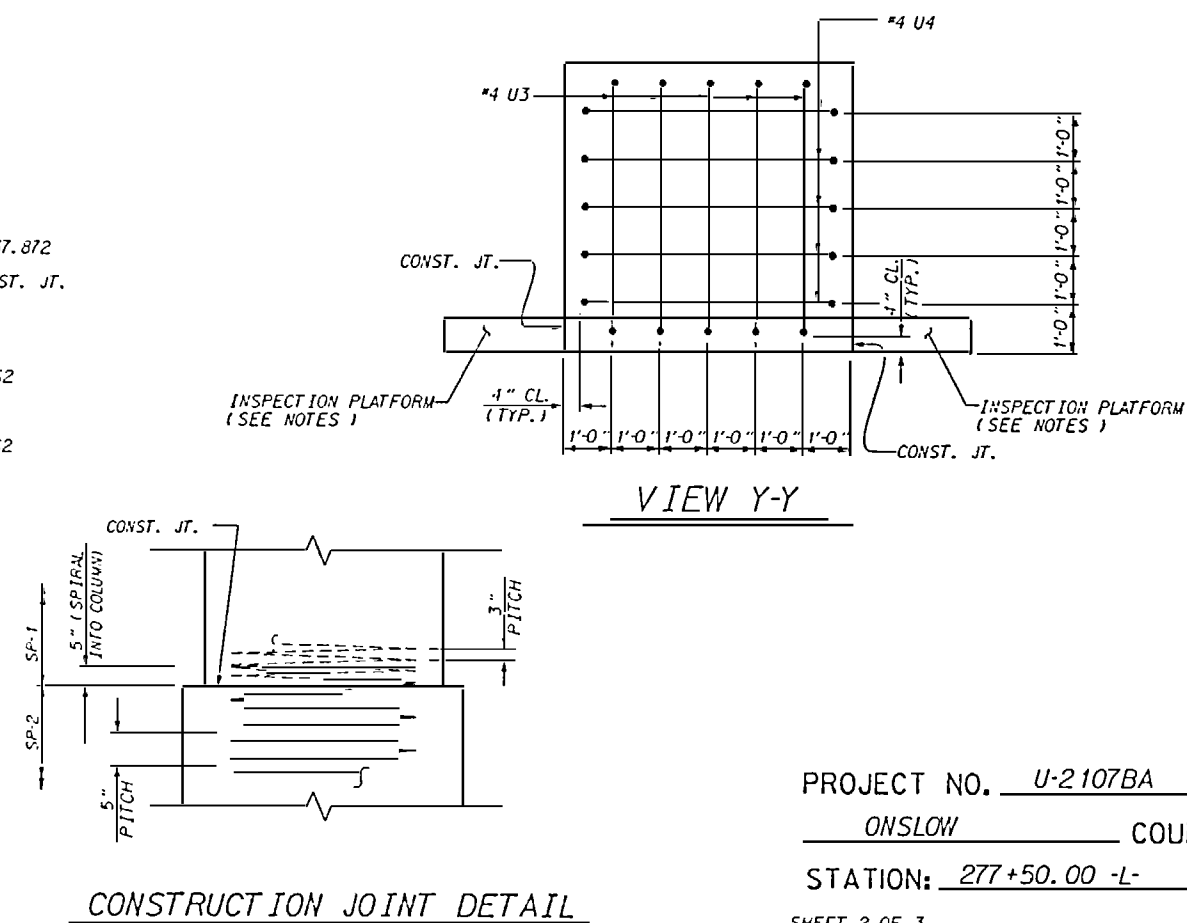
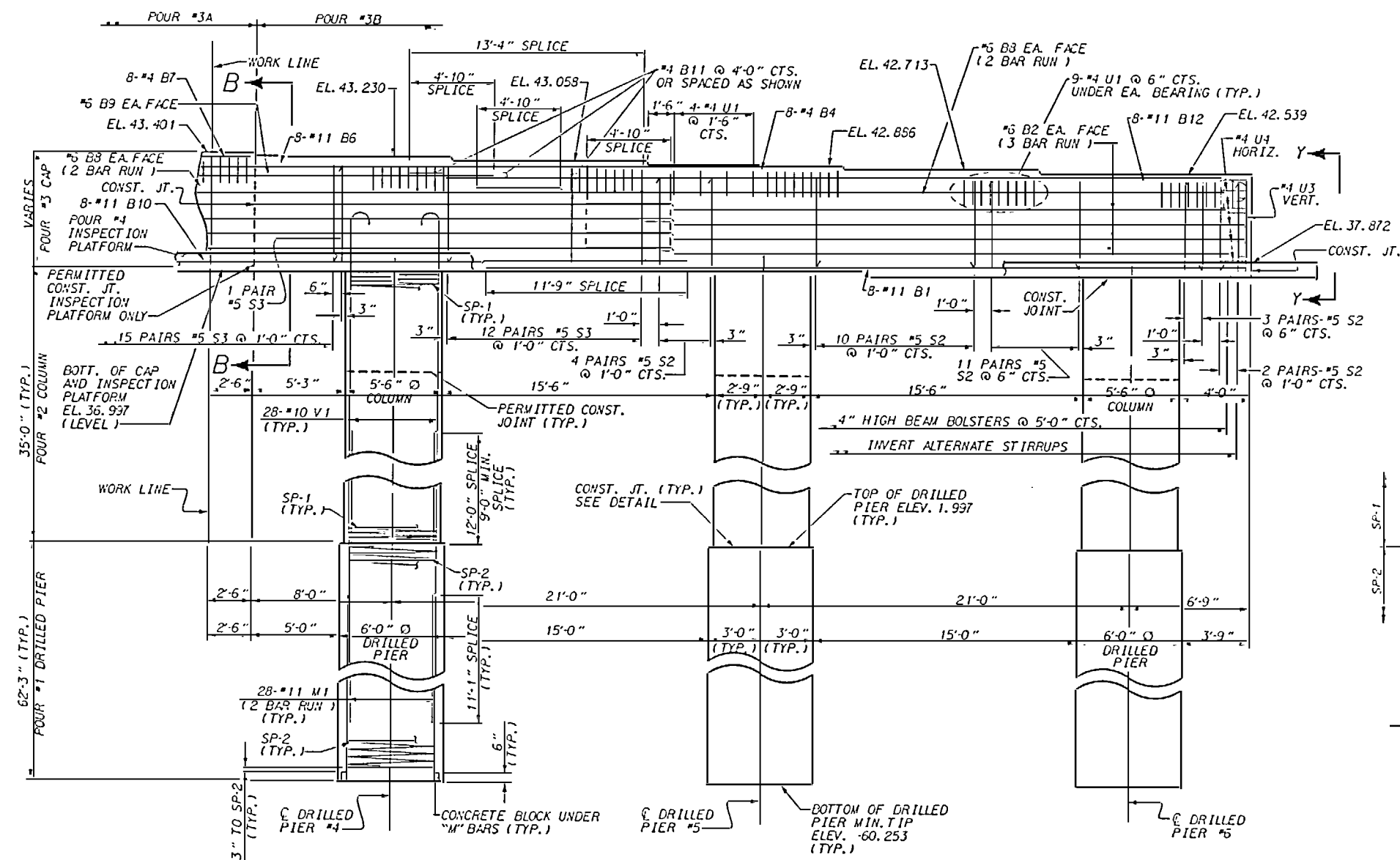
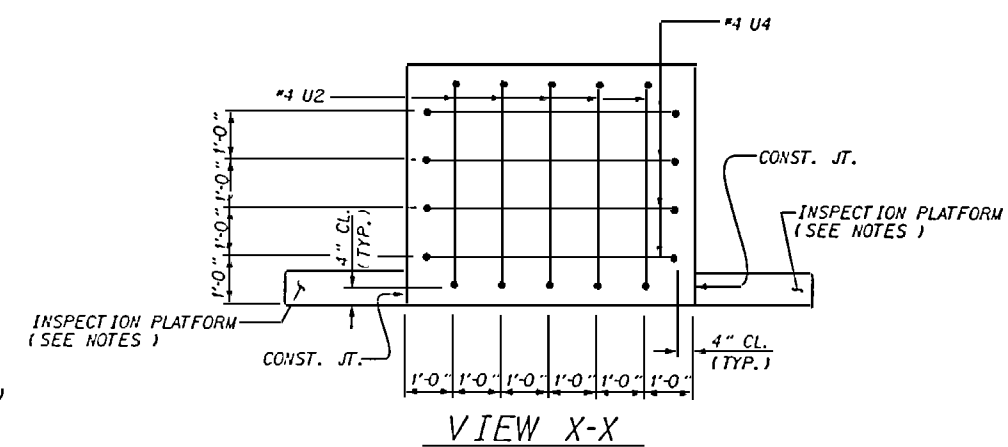
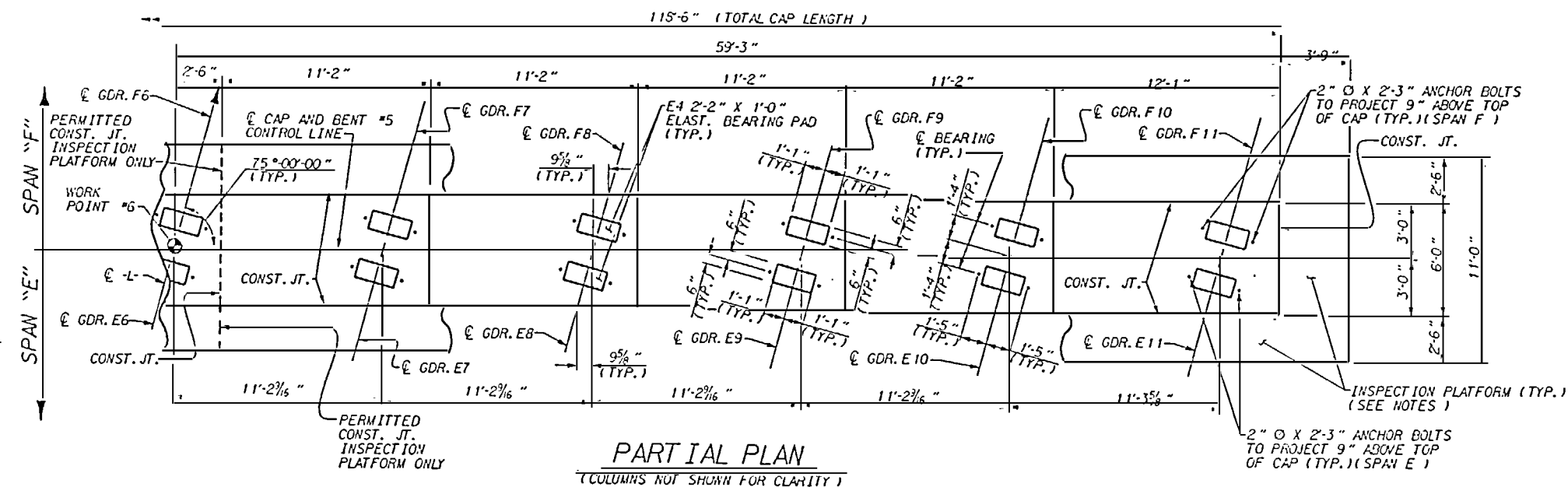
PROJECT NO. U-2107BA
ONSLow COUNTY
 STATION: 277+50.00 -L-

SHEET 1 OF 3

REVISIONS						SHEET NO. S-112
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

DRAWN BY: G.D. CARROLL DATE: 12/10/95
 CHECKED BY: O.R. AZIZI DATE: 12/20/95

APR 1997 14:28
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 079



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT #5

REVISIONS						SHEET NO. 5-113
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			

1-APR-1997 14:29
 *****DGN*****
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NOTES

STIRRUPS IN CAP MAY BE SHIFED AS NECESSARY TO CLEAR ANCHOR BOLTS.

HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.

FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.

ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR EPOXY COATED REINFORCING STEEL AND EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.

THE DRILLED PIERS SHALL BE INSTALLED TO MINIMUM TIP ELEVATION SHOWN ON PLAN.

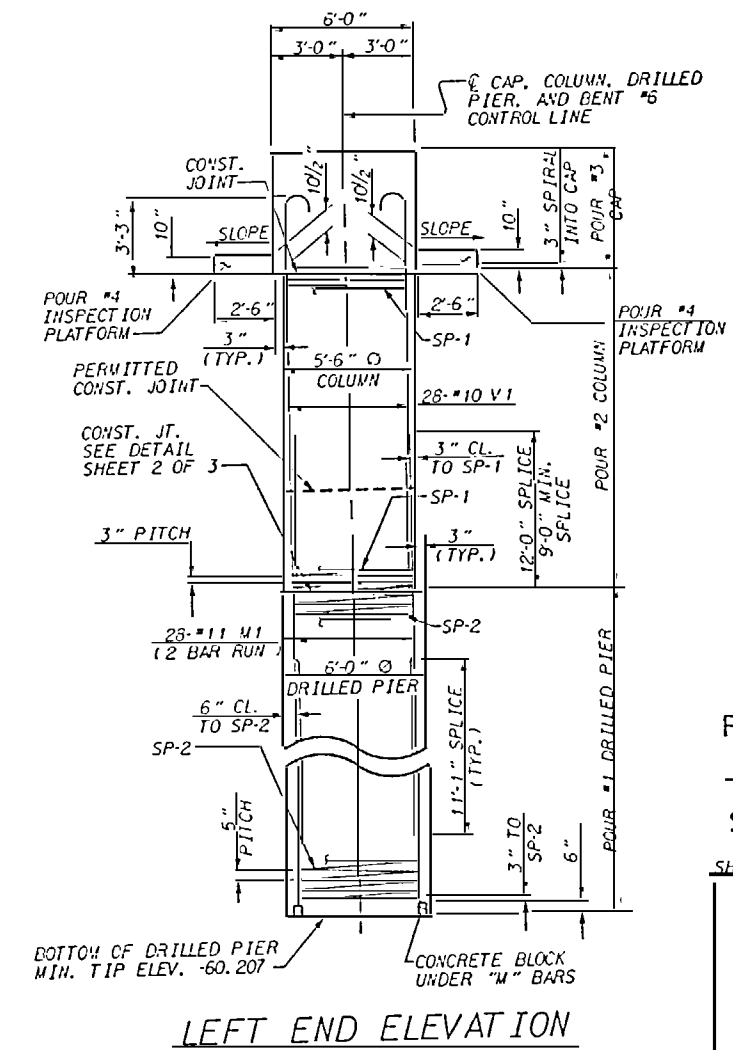
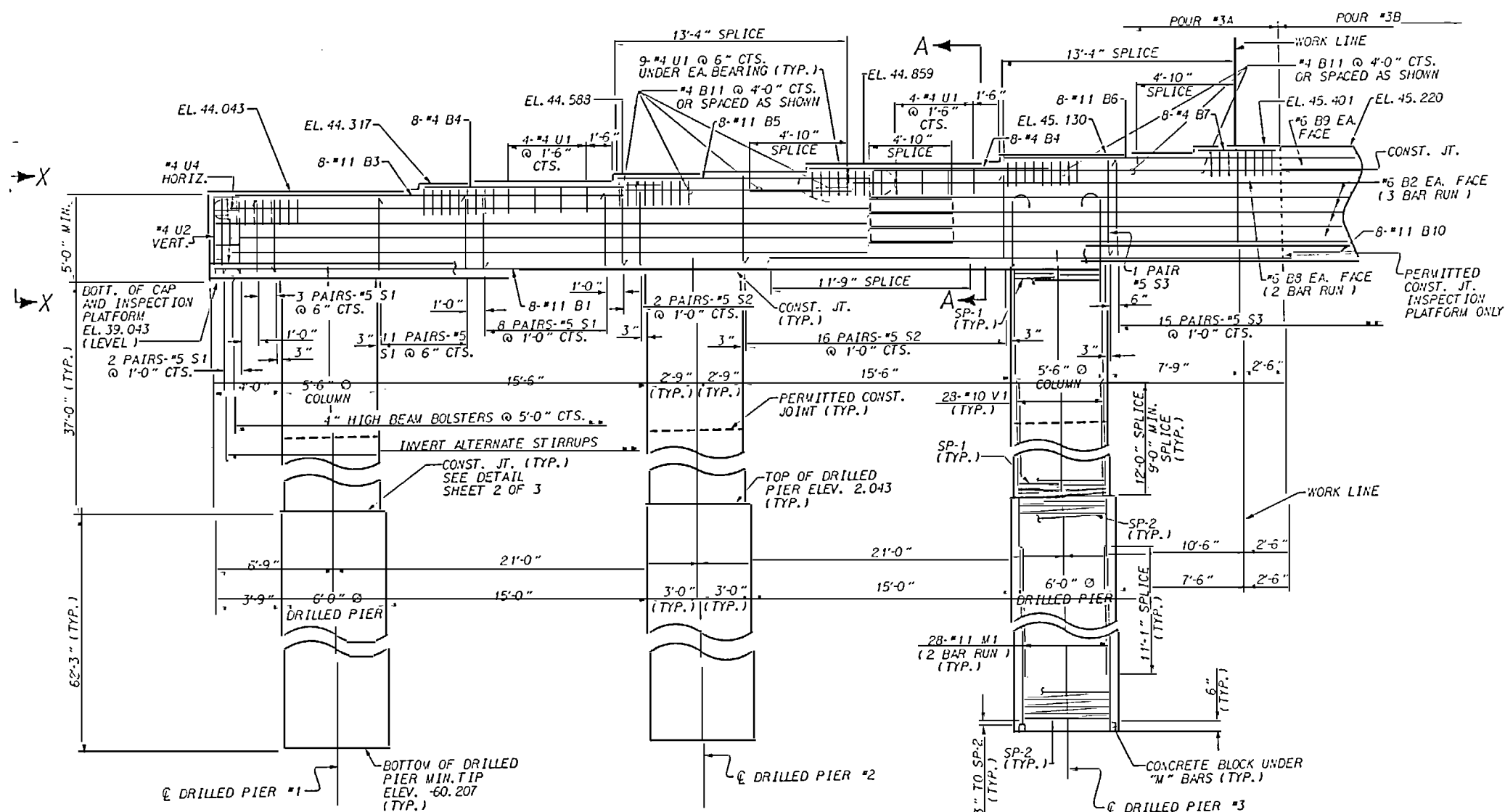
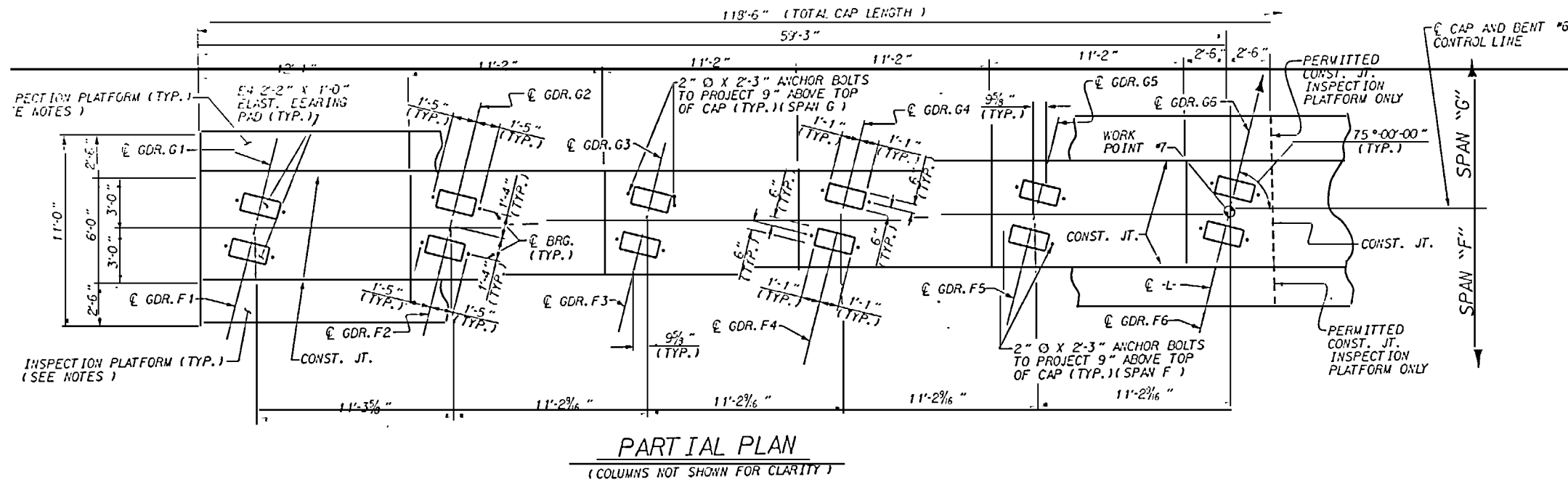
FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.

FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL, DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT INSPECTION PLATFORM DETAILS SHEET.

FOR OPTIONAL MECHANICAL BUTT SPlicing FOR REINFORCING STEEL, SEE SPECIAL PROVISIONS.



PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 1 OF 3

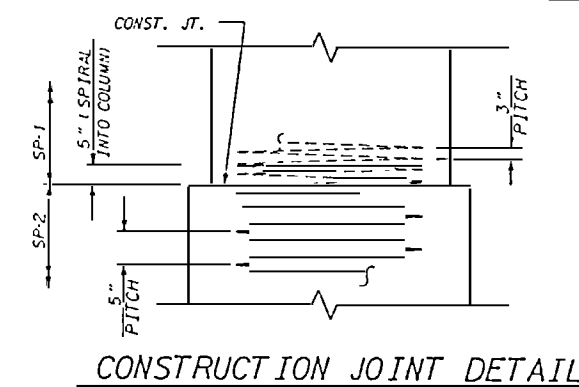
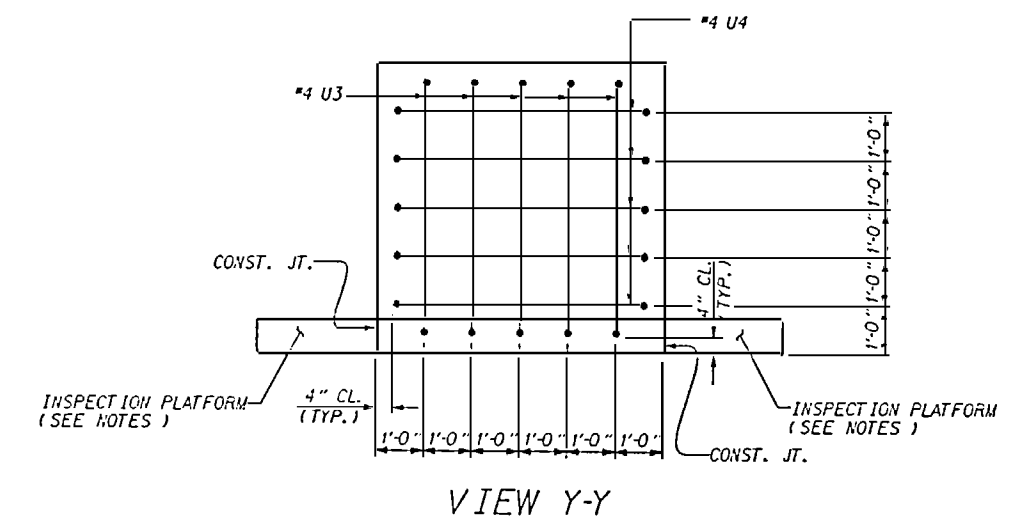
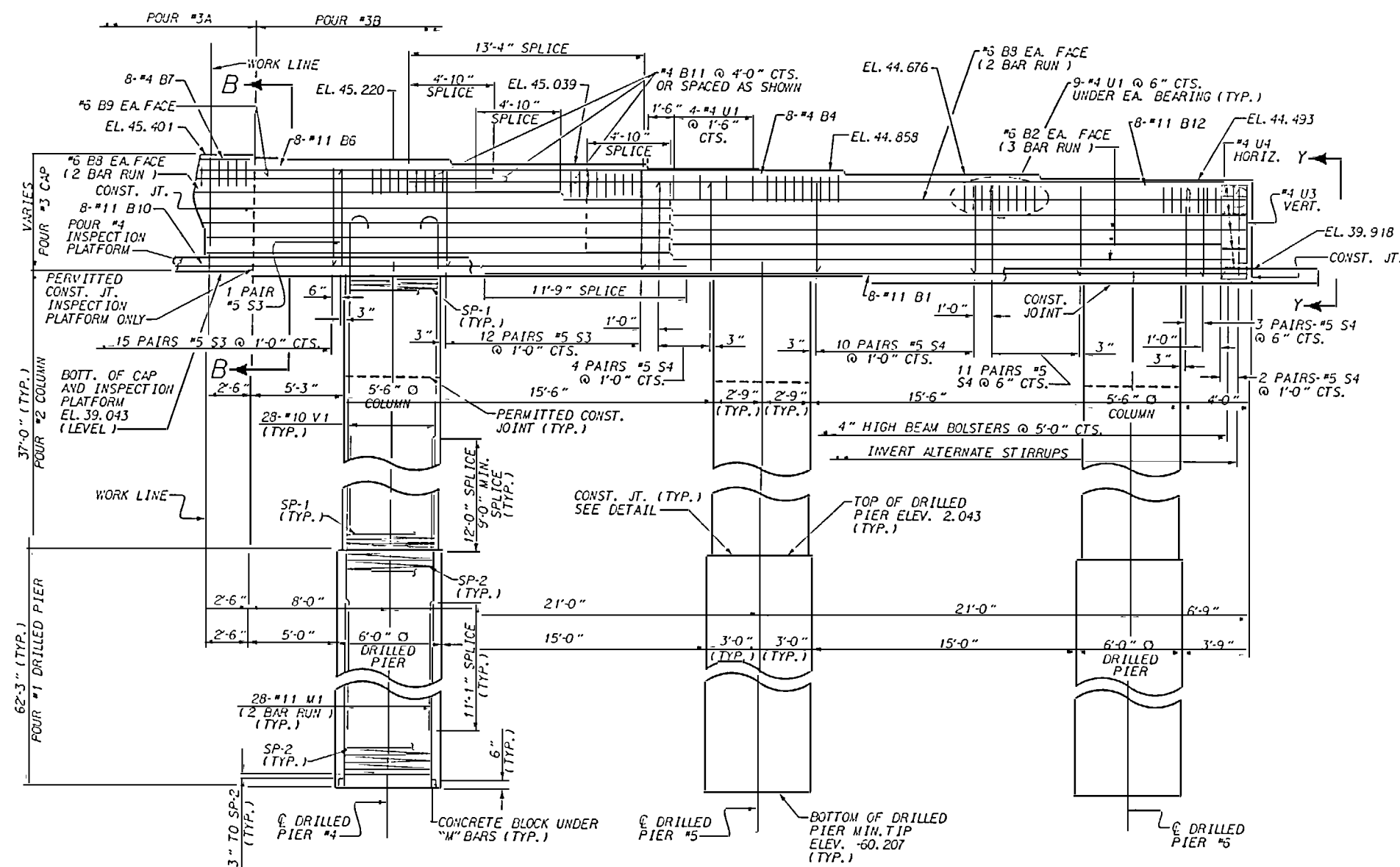
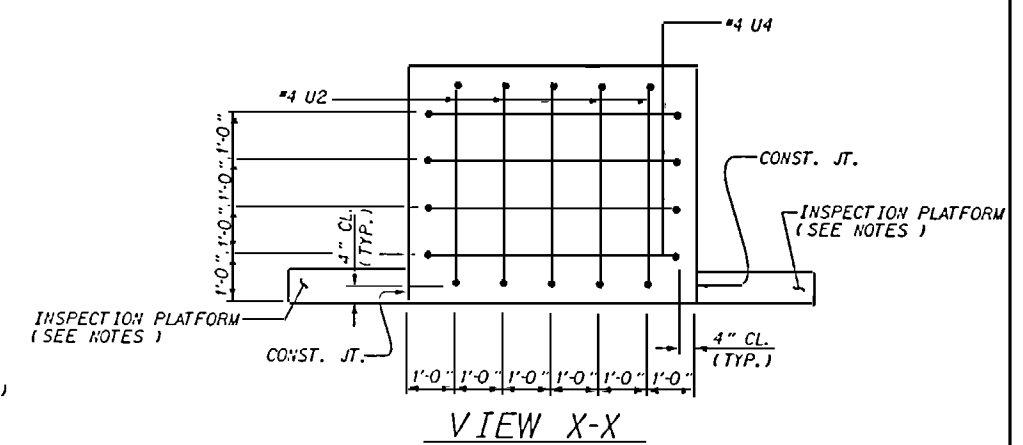
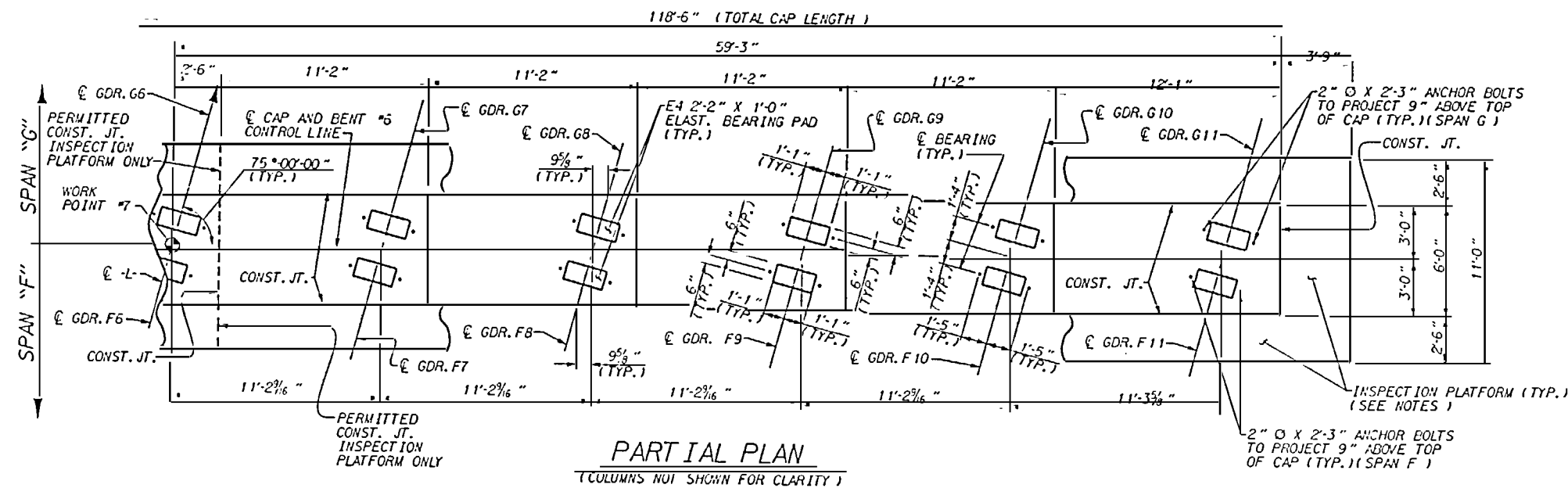
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENT #6

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

8-APR-1997 14:28
 *****EDG*****
 greg

DRAWN BY: G.D. CARROLL DATE: 12/10/95
 CHECKED BY: O.R. AZIZI DATE: 12/13/95



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

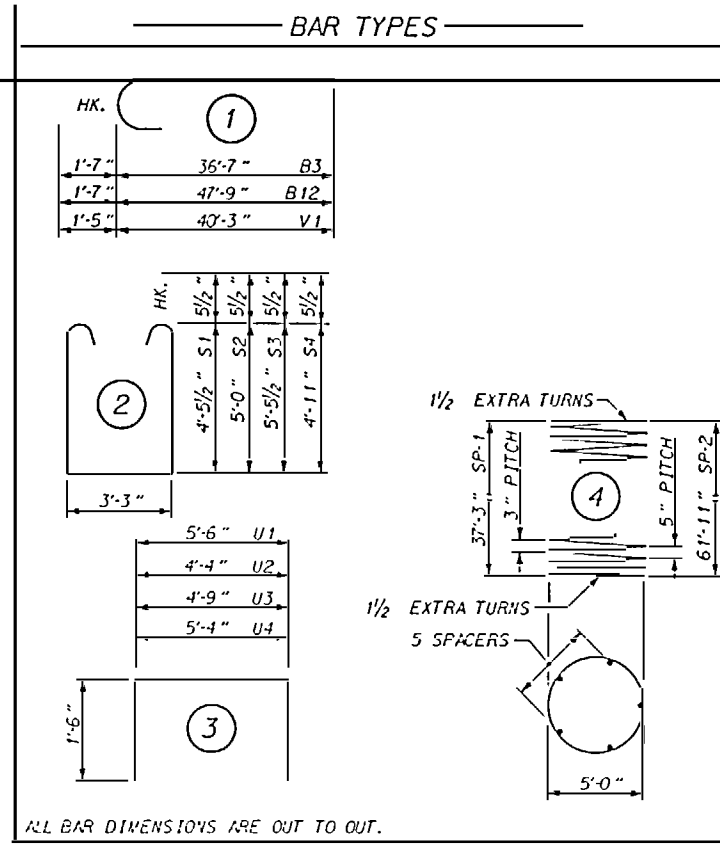
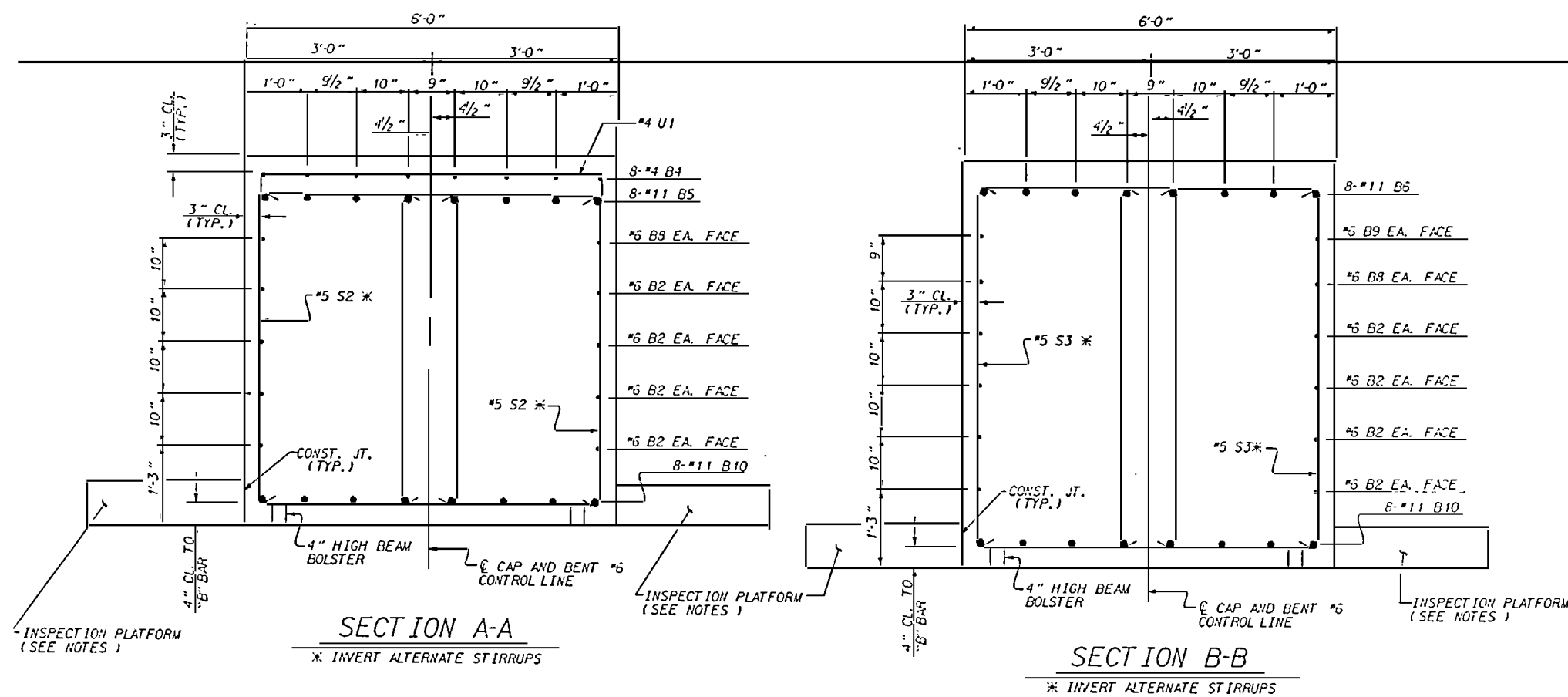
SUBSTRUCTURE
BENT #6

BY : G.D. CARROLL DATE : 12/10/96
BY : O.R. AZIZI DATE : 12/13/96

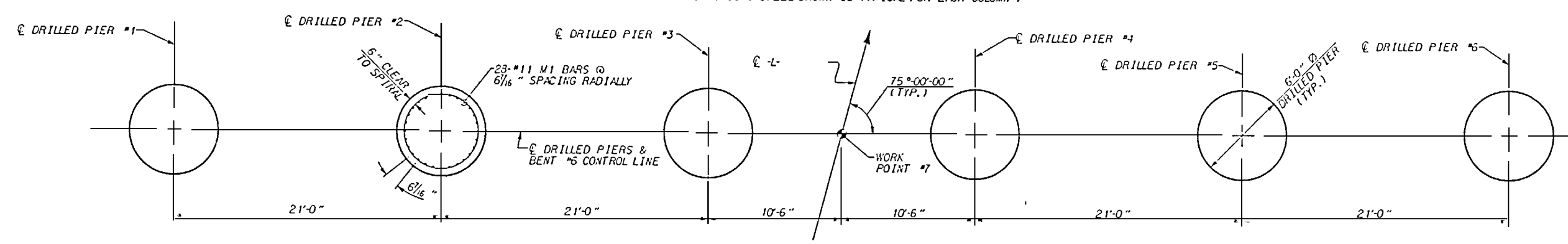
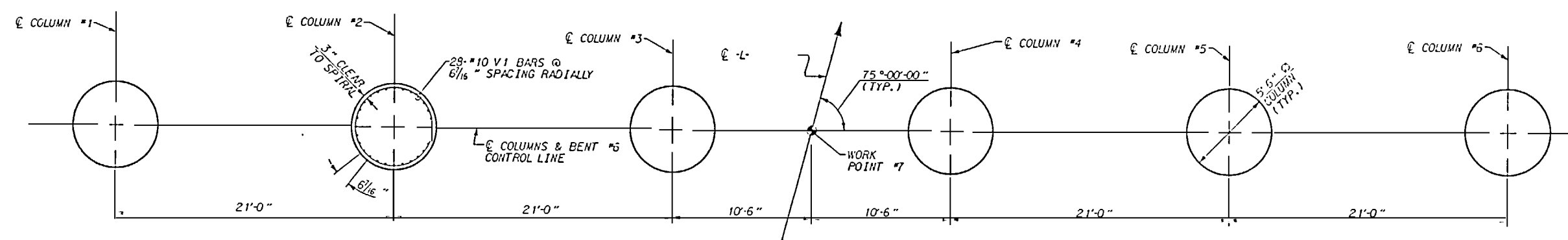
Chas R. Foy
4/14/97

REVISIONS						SHEET NO. 5-116
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

1-APR-1997 14:28
#####DGN#####
CSC



BILL OF MATERIAL					
BENT #6					
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
B1	16	II	STR	43- II	3735
B2	24	6	STR	42- 7	1535
B3	8	II	I	38- 2	1622
B4	24	4	STR	13- 9	220
B5	8	II	STR	35- 8	1516
B6	8	II	STR	38- 0	1615
B7	8	4	STR	4- 6	24
B8	4	6	STR	45- 8	274
B9	2	6	STR	21- 0	63
B10	8	II	STR	54- 0	2295
B11	10	4	STR	5- 6	31
B12	8	II	I	49- 4	2097
M1	336	II	STR	42- 5	7572
S1	48	5	2	13- 1	655
S2	36	5	2	14- 2	532
S3	58	5	2	15- 1	92
S4	60	5	2	14- 0	876
U1	III	4	3	8- 6	630
U2	III	4	3	7- 4	24
U3	III	4	3	7- 9	28
U4	III	4	3	8- 4	50
V1	168	10	I	41- 8	3012
INSPECTION PLATFORM EPOXY COATED REINFORCING STEEL LBS.					398
EPOXY COATED REINFORCING STEEL LBS.					128559
SP-1	6	4	2368- 0	949	
SP-2	6	4	2357- 5	14753	
EPOXY COATED SPIRAL COLUMN REINFORCING STEEL LBS.					24244
CONCRETE BREAKDOWN					
CLASS AA CONCRETE					
POUR #2 COLUMN				C. Y.	195.3
POUR #3A CAP				C. Y.	76.9
POUR #3B CAP				C. Y.	73.2
POUR #4 INSPECTION PLATFORM				C. Y.	20.1
TOTAL				C. Y.	365.5
DRILLED PIERS					
CONCRETE BREAKDOWN					
CLASS AA CONCRETE					
POUR #1 DRILLED PIERS				C. Y.	391.
6'-0" DIA. DRILLED PIERS					373.5 L. F.
2" O GALVANIZED STEEL PIPE RAIL					255.0 L. F.
6'-0" DIA. PERMANENT STEEL CASING					144.26 L. F.



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

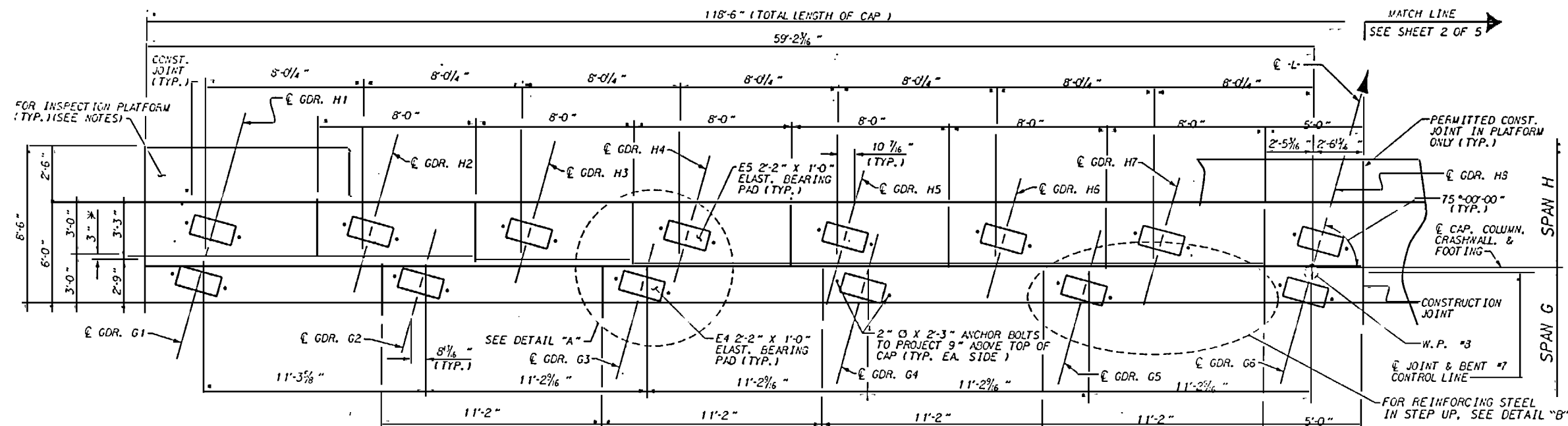
REVISIONS					SHEET NO.
NO.	DATE	BY	DATE	BY	5-117
1					
2					
TOTAL SHEETS					170

BY: G.D. CARROLL DATE: 12/10/95
 ED BY: O.R. AZIZI DATE: 12/13/95



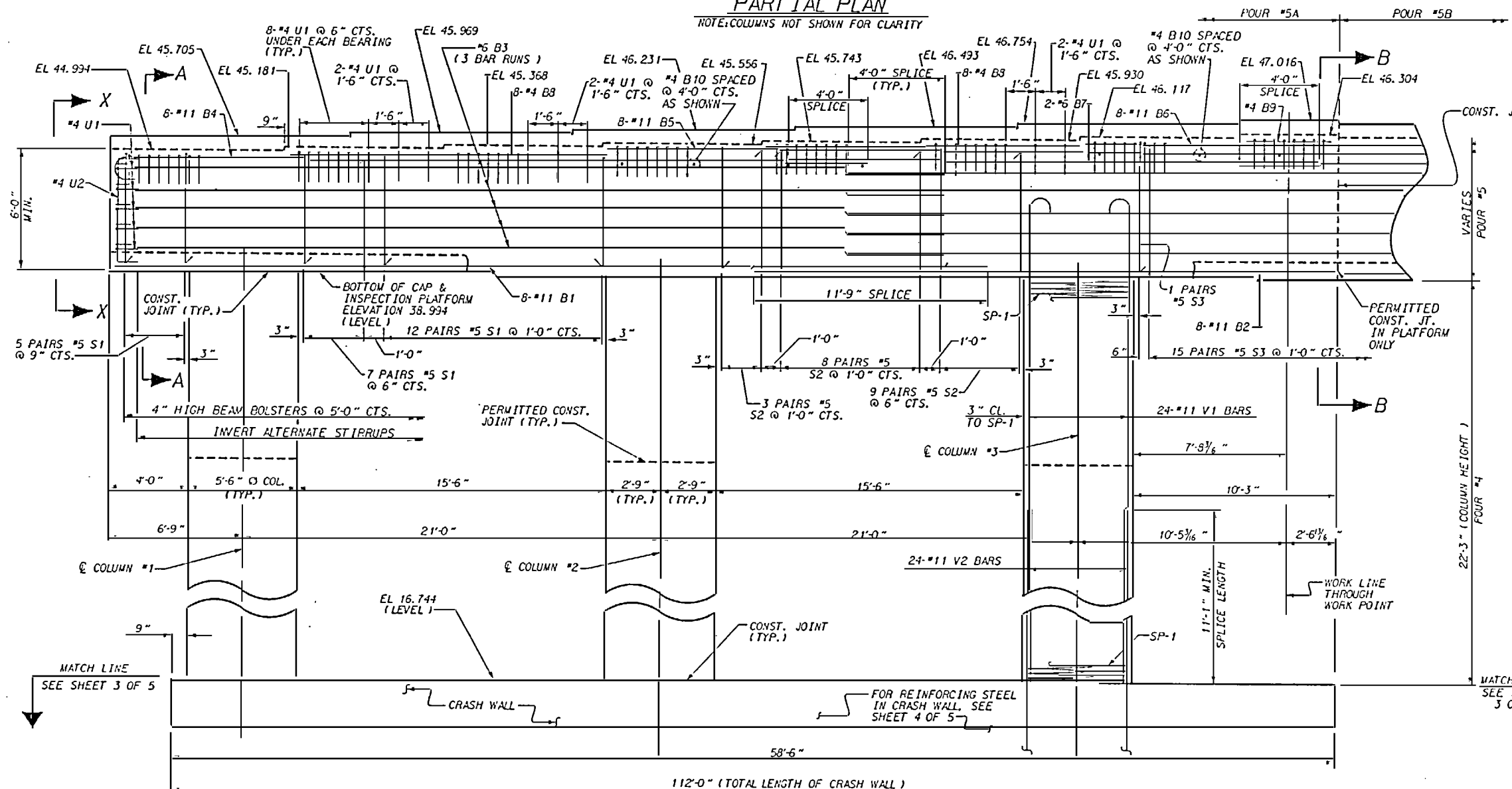
NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.
- FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
- ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR EPOXY COATED REINFORCING STEEL AND EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.
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- ALL REINFORCING STEEL SHALL BE EPOXY COATED.
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- FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL, DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT INSPECTION PLATFORM DETAILS SHEET.
- FOR MECHANICAL BUTT SPlicing FOR REINFORCING STEEL, SEE SPECIAL PROVISIONS.
- * THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE CENTERLINE JOINT IN THE DECK SLAB IS OFFSET FROM THE CENTERLINE BENT.
- FOOTING CONCRETE SHALL BE CONSIDERED MASS CONCRETE, SEE SPECIAL PROVISIONS.
- FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.



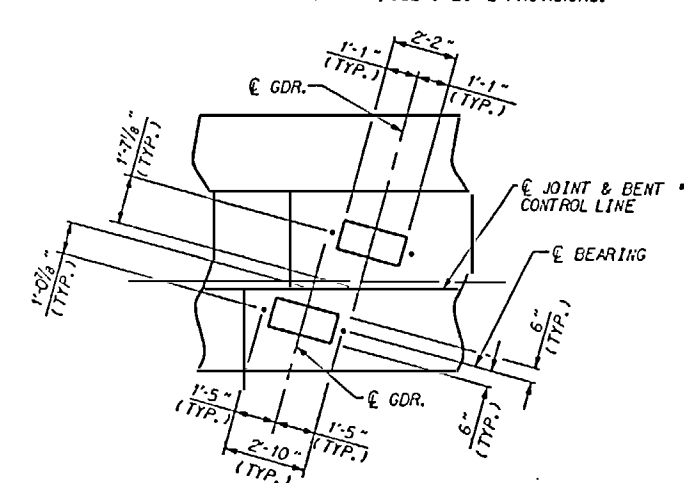
PARTIAL PLAN

NOTE: COLUMNS NOT SHOWN FOR CLARITY

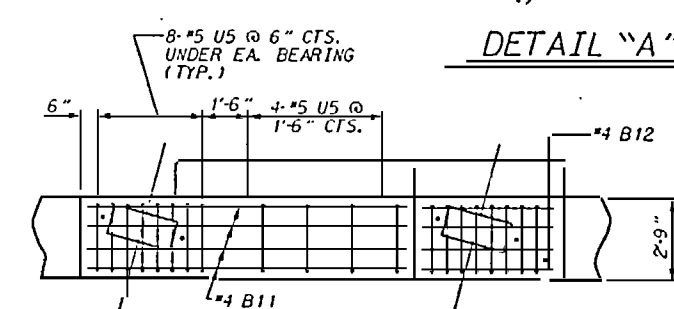


PARTIAL ELEVATION

(DATA SHOWN IS TYPICAL FOR EACH COLUMN)
(REINFORCING STEEL IN STEP UP NOT SHOWN FOR CLARITY)



DETAIL "A"



DETAIL "B"

PROJECT NO. U-2107BA
ON SLOW COUNTY
STATION: 277+50.00 -L-

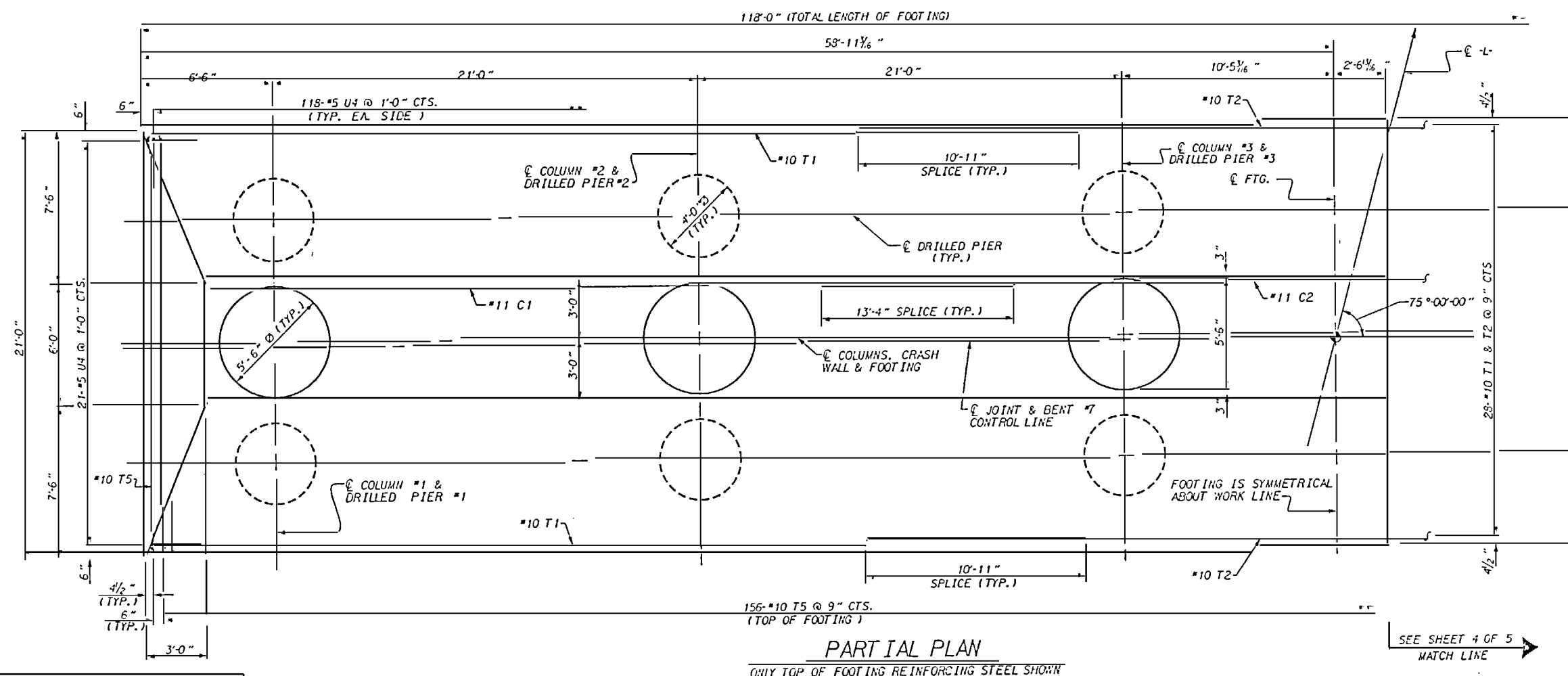
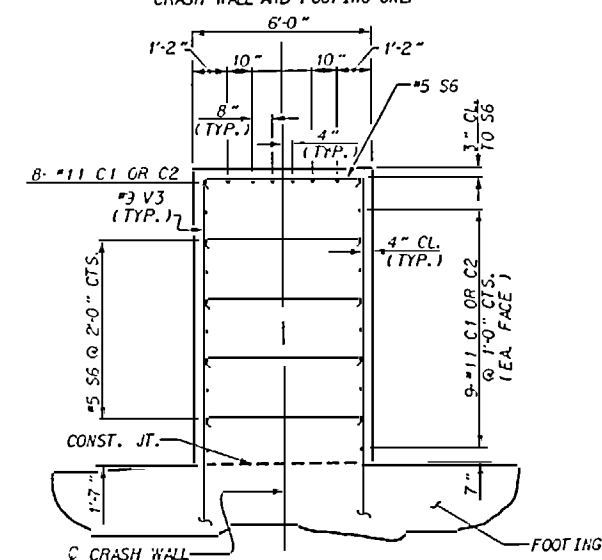
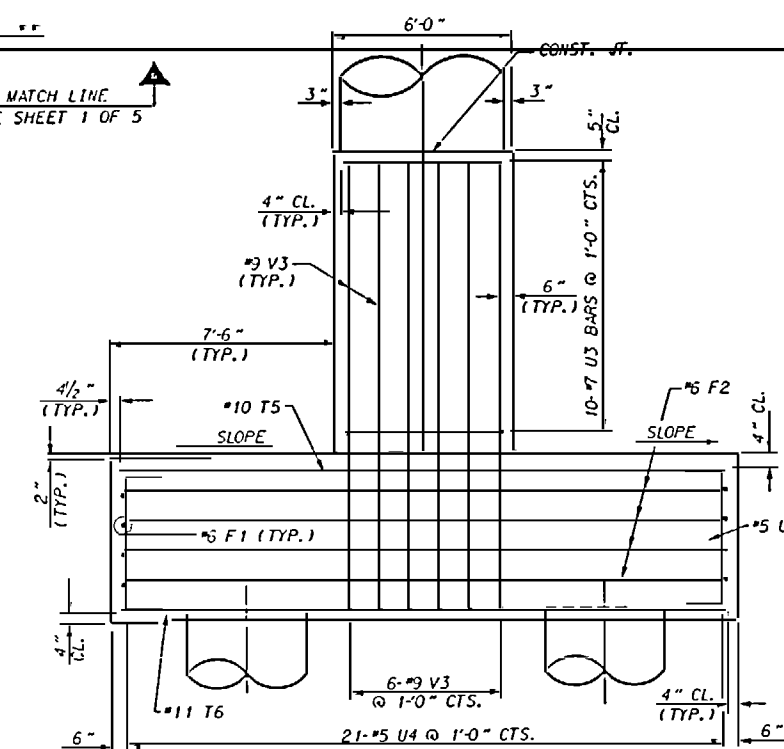
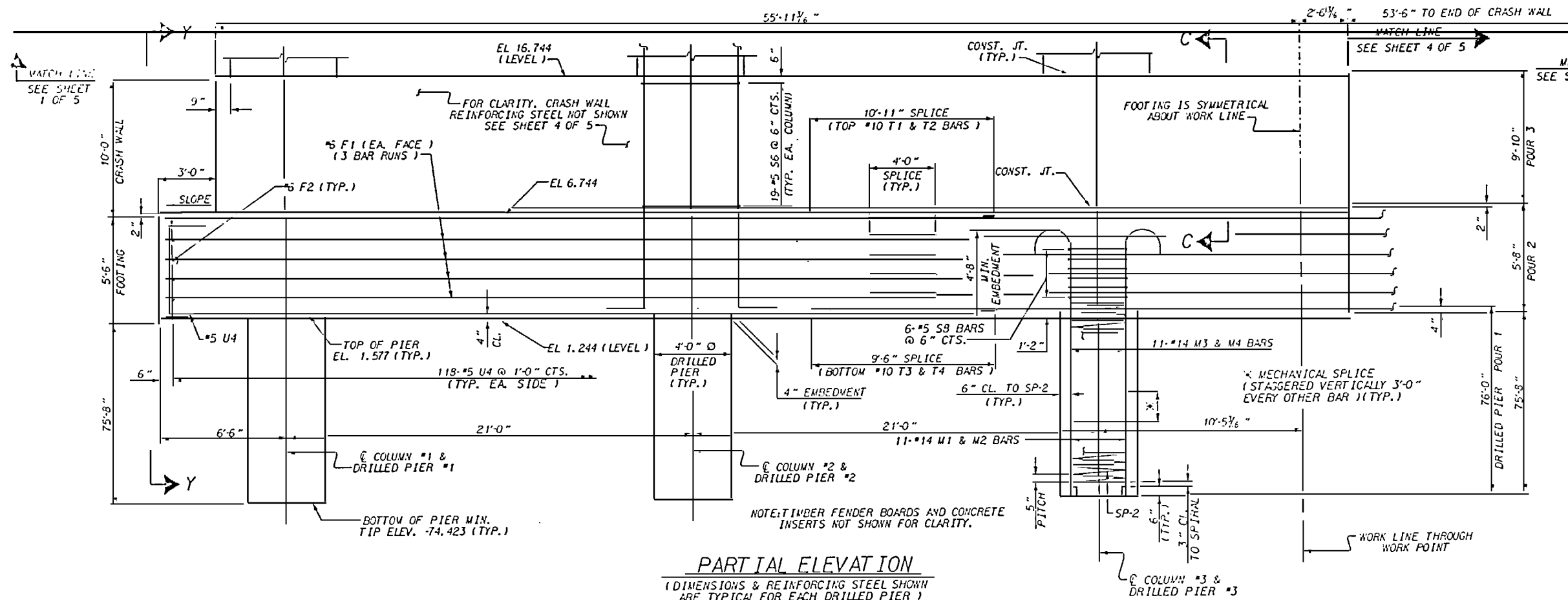
SHEET 1 OF 5



REVISIONS						SHEET #
#	BY	DATE	#	BY	DATE	
1			3			S-118
2			4			
TOTAL SHEETS						170

DRAWN BY: S.B. WILLIAMS/GDC DATE: 7-95
CHECKED BY: N.M. RUFFIN DATE: 3/97

MATCH LINE
SEE SHEET 2 OF 5



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 3 OF 5

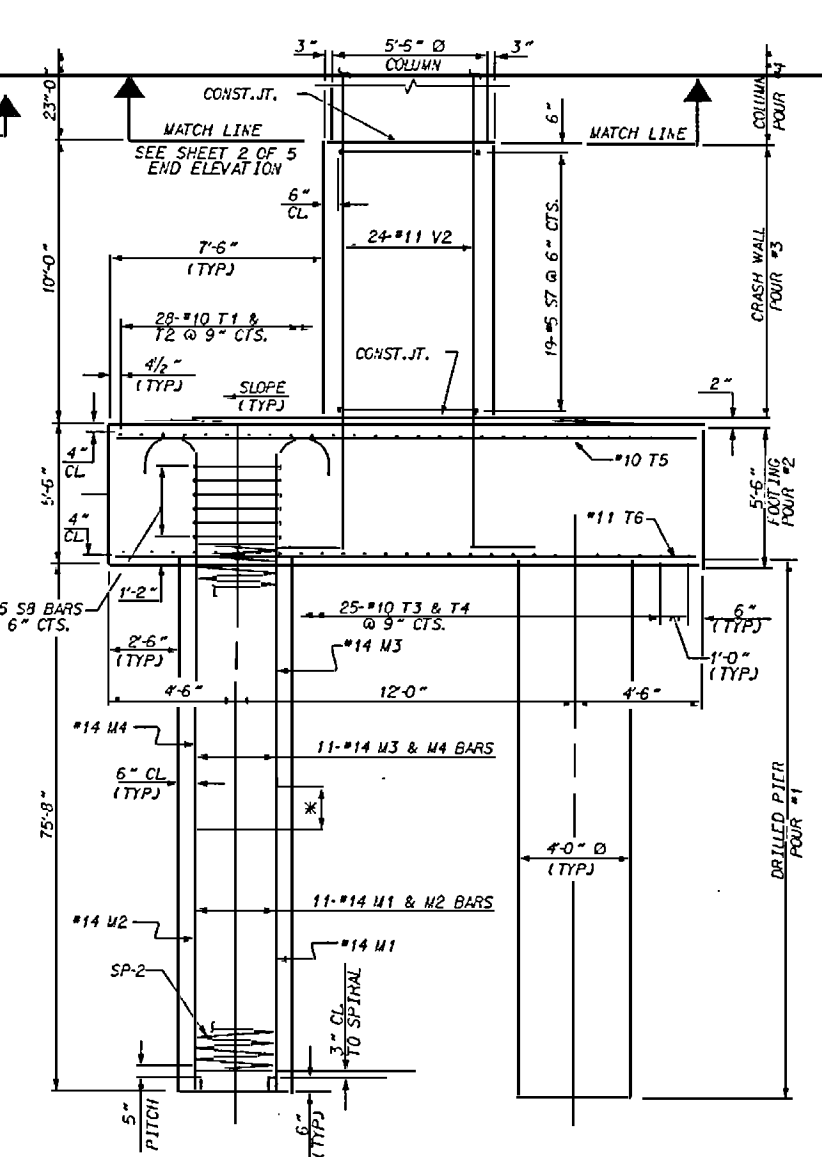
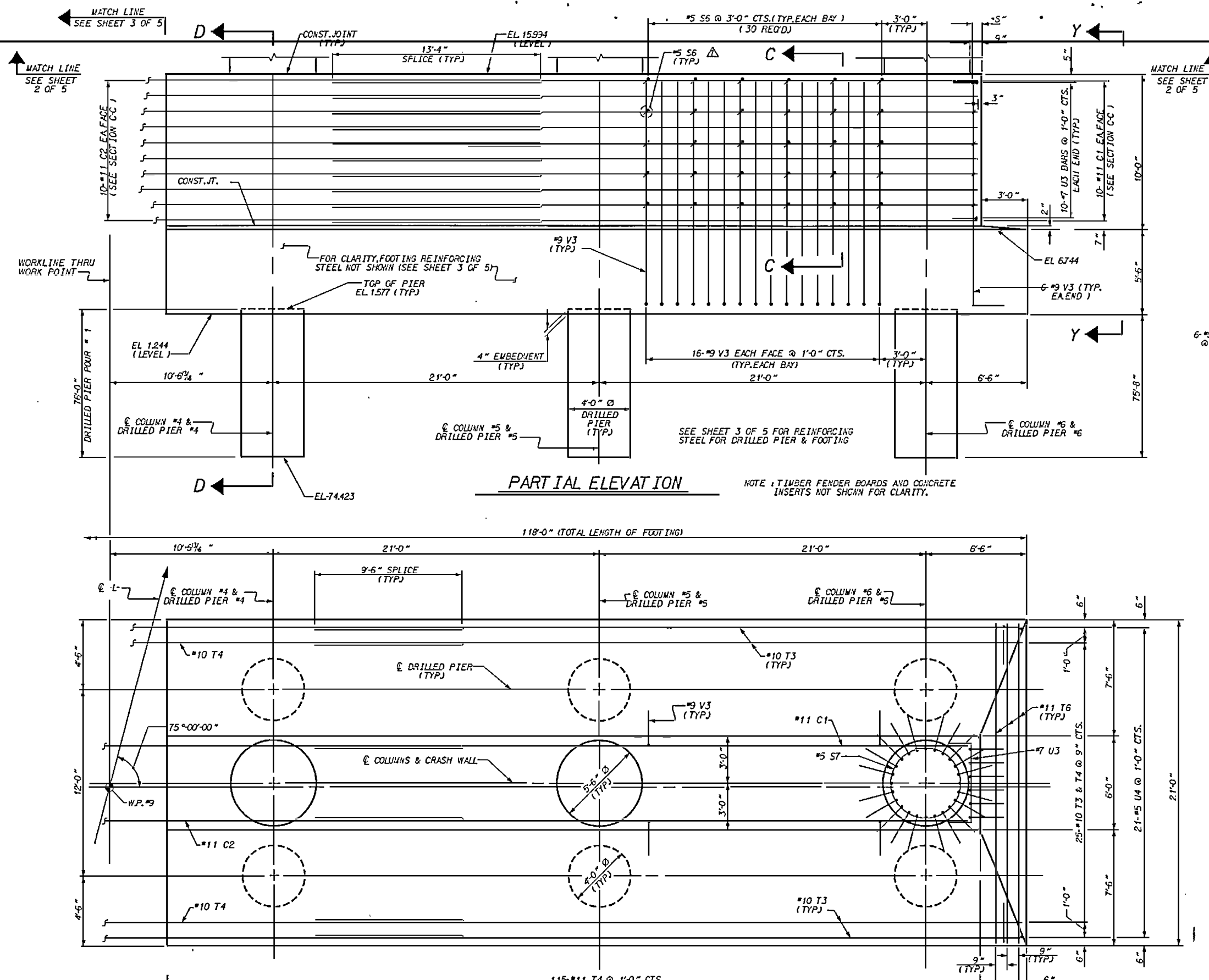
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT #7**

REVISIONS				SHEET S-120
NO.	BY	DATE	DESCRIPTION	
1				TOTAL SHEETS 170
2				

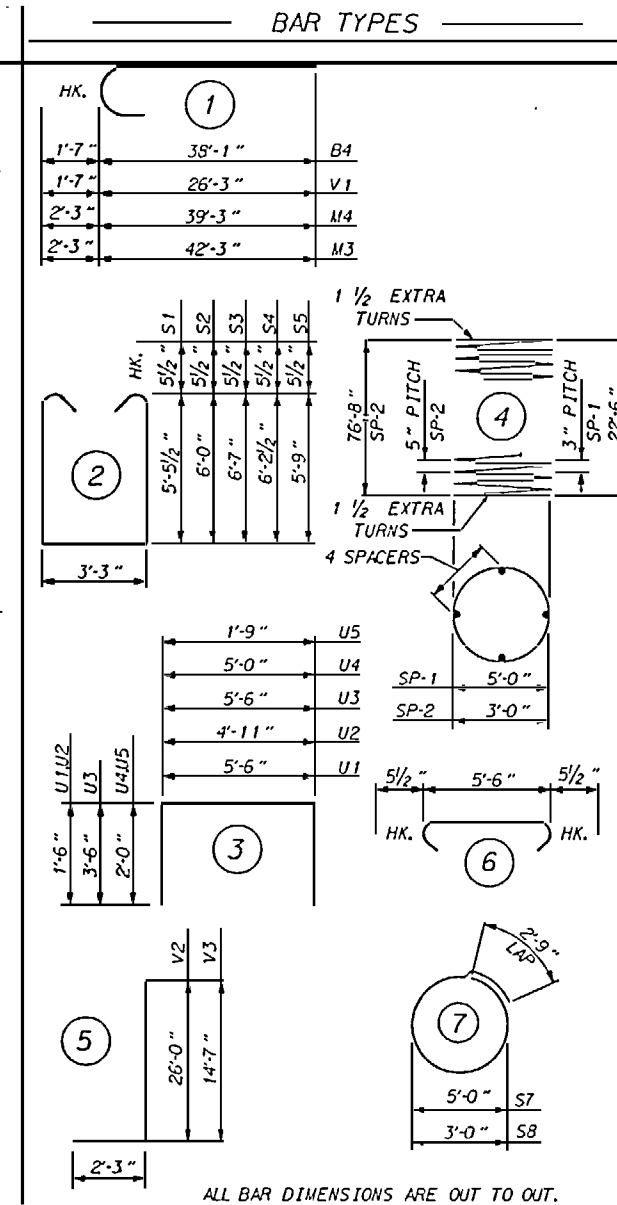
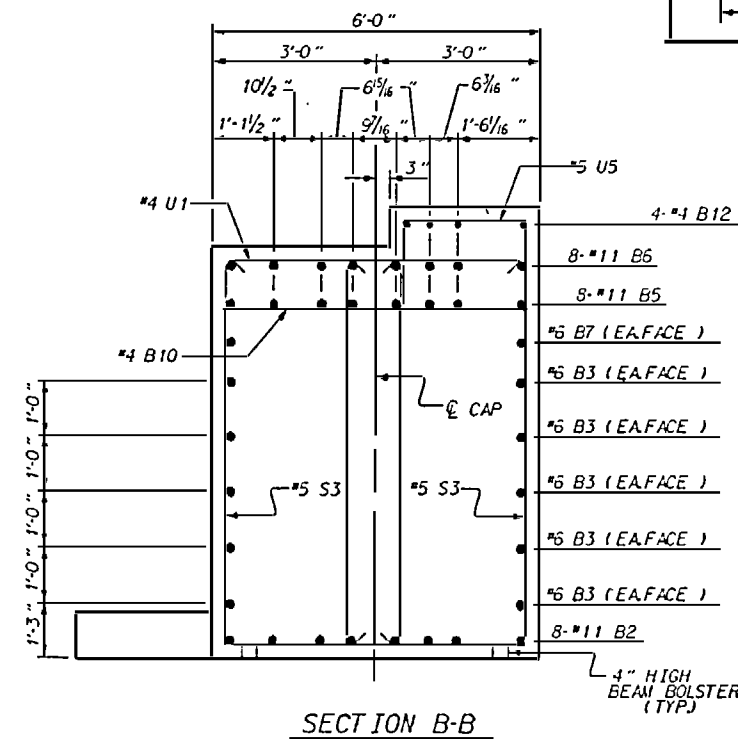
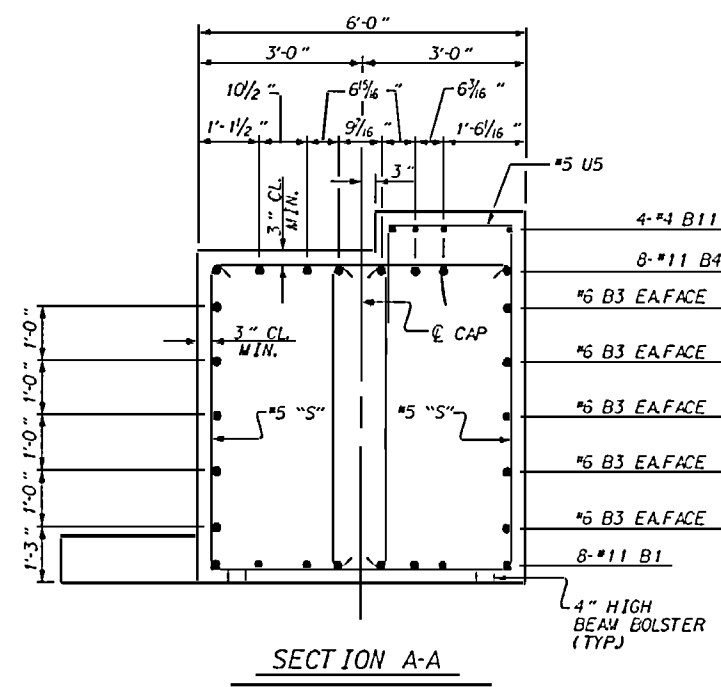
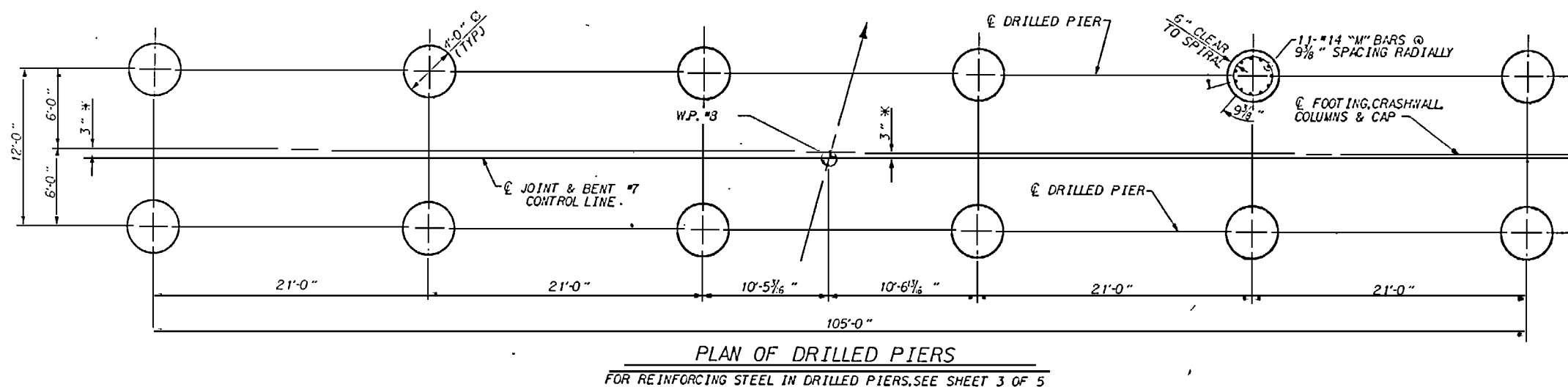
BY: S.B. WILLIAMS/GDC DATE: 9-25
 C BY: H.M. PUFFIN DATE: 3/27





NORTH CAROLINA
PROFESSIONAL
SEAL
12274
ENGINEER
DAVID R. HARRIS
4/27/99

PROJECT NO. U-2107BA
ONslow COUNTY
STATION: 277+50.00 -L-
SHEET 4 of 5
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**SUBSTRUCTURE
BENT #7**



BILL OF MATERIAL						
BENT #7						
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT	
B1	16	II	STR	43 - II	3733	
B2	8	II	STR	53 - 9	2265	
B3	30	6	STR	42 - 0	1893	
B4	16	II	I	39 - 8	3372	
B5	16	II	STR	37 - 4	3174	
B6	8	II	STR	20 - 6	871	
B7	4	6	STR	26 - II	162	
B8	32	4	STR	15 - 9	337	
B9	8	4	STR	4 - 6	24	
B10	14	4	STR	5 - 6	51	
B11	40	4	STR	II - 10	316	
B12	8	4	STR	4 - 6	24	
C1	52	II	STR	41 - 5	11442	
C2	26	II	STR	54 - 10	7575	
F1	24	6	STR	41 - 10	1508	
F2	8	6	STR	20 - 6	246	
M1	66	14	STR	37 - 7	18976	
M2	66	14	STR	40 - 7	20491	
M3	66	14	I	44 - 6	22468	
M4	66	14	I	41 - 6	20953	
S1	48	5	2	15 - 1	755	
S2	40	5	2	16 - 2	674	
S3	34	5	2	17 - 4	615	
S4	34	5	2	16 - 7	588	
S5	54	5	2	15 - 8	882	
S6	150	5	6	6 - 5	1004	
S7	114	5	7	18 - 6	2200	
S8	72	5	7	12 - 3	920	
T1	56	10	STR	43 - 3	10422	
T2	28	10	STR	52 - II	6376	
T3	54	10	STR	42 - 6	9875	
T4	27	10	STR	51 - 6	5983	
T5	156	10	STR	20 - 6	13761	
T6	115	II	STR	20 - 6	12525	
U1	144	4	3	8 - 6	818	
U2	10	4	3	7 - II	53	
U3	20	7	3	12 - 6	511	
U4	278	5	3	9 - 0	2610	
U5	129	5	3	5 - 9	774	
V1	144	II	I	27 - 10	21295	
V2	144	II	5	28 - 3	21613	
V3	172	9	5	16 - 10	9844	
INSPECTION PLATFORM EPOXY COATED REINFORCING STEEL LBS.					2070	
EPOXY COATED REINFORCING STEEL LBS.					246069	
SP-1 6 4 1495 - 8					5995	
SP-2 12 4 1733 - 8					21699	
EPOXY COATED SPIRAL COLUMN REINFORCING STEEL LBS.					27694	

CONCRETE BREAKDOWN		
CLASS AA CONCRETE		
	POUR #2 FOOTING	C. Y. 512.4
	POUR #3 CRASHWALL	C. Y. 244.8
	POUR #4 COLUMNS	C. Y. 117.5
Δ	POUR #5A CAP	C. Y. 95.1
	POUR #5B CAP	C. Y. 89.2
Δ	PCUR #6 INSPECTION PLATFORM	C. Y. 10.4
	TOTAL	C. Y. 1069.4

DRILLED PIERS	
CONCRETE BREAKDOWN	
CLASS AA CONCRETE	
POUR #1 DRILLED PIERS	C.Y. 424.5
4'-0" DIA. DRILLED PIERS	912.0 L.F.
2" ~ GALVANIZED STEEL	
PIPE RAIL	132.5 L.F.
4'-0" DIA. PERMANENT	
STEEL CASING	306.93 L.F.

PROJECT NO. U-2107BA
ON SLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 5 OF 5

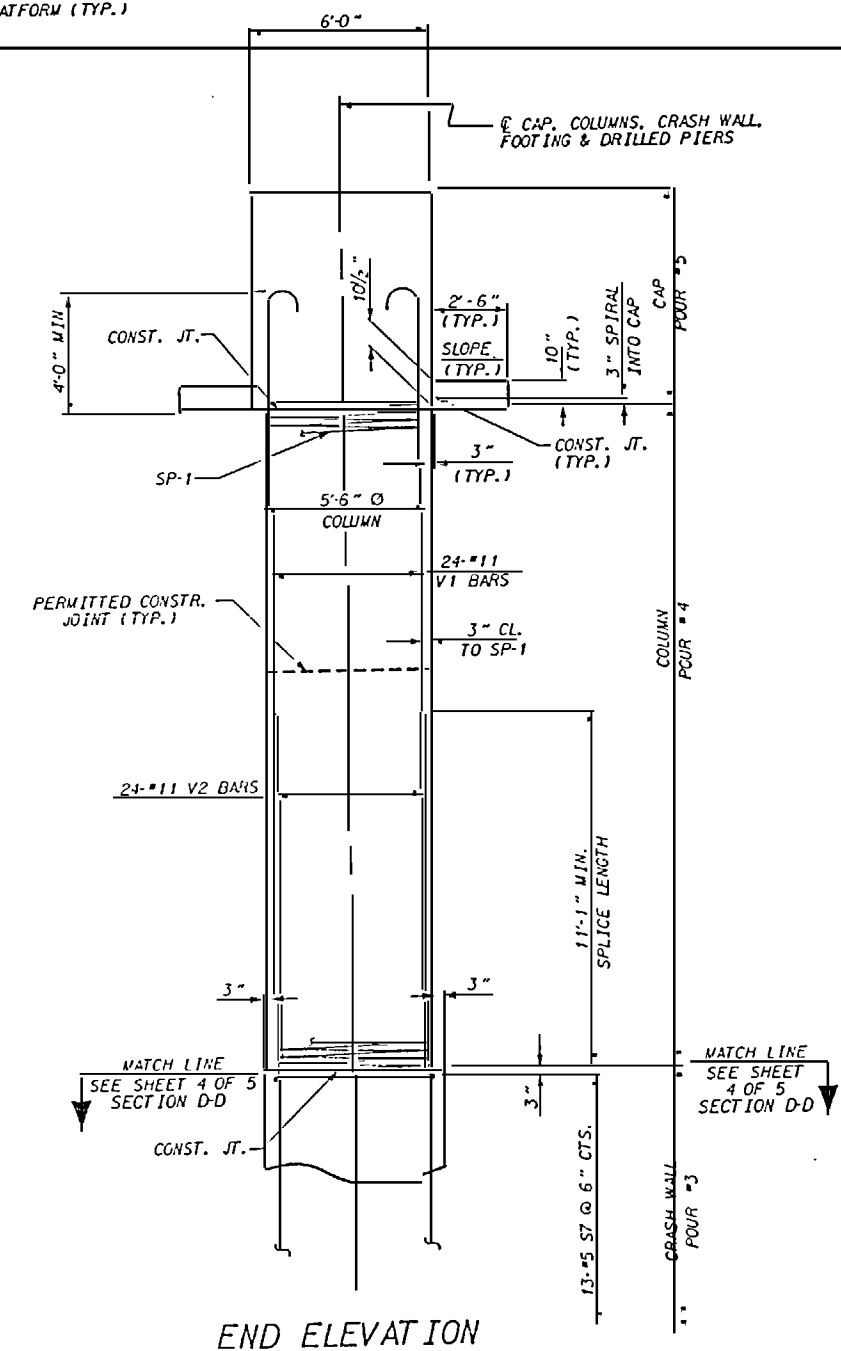
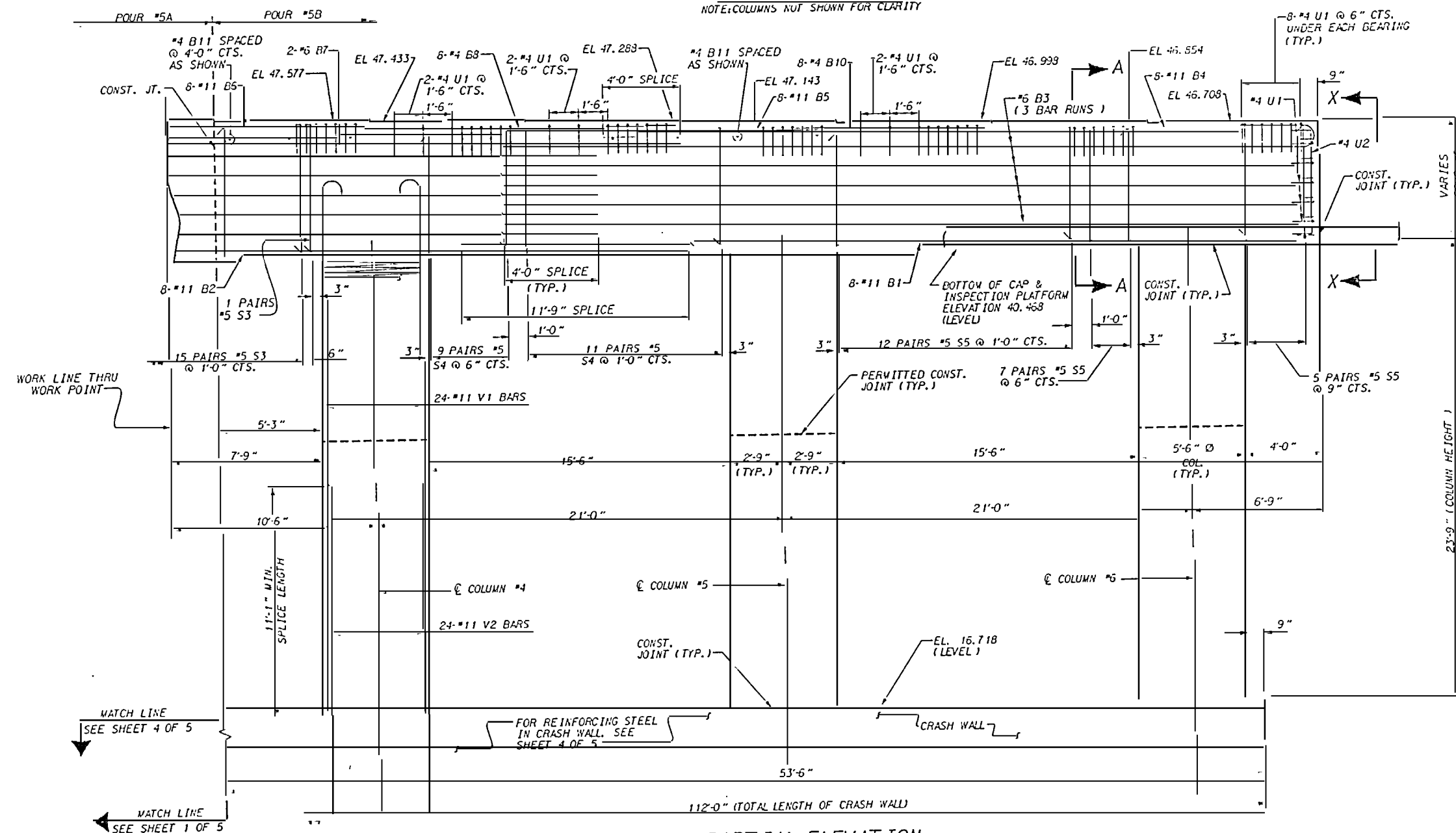
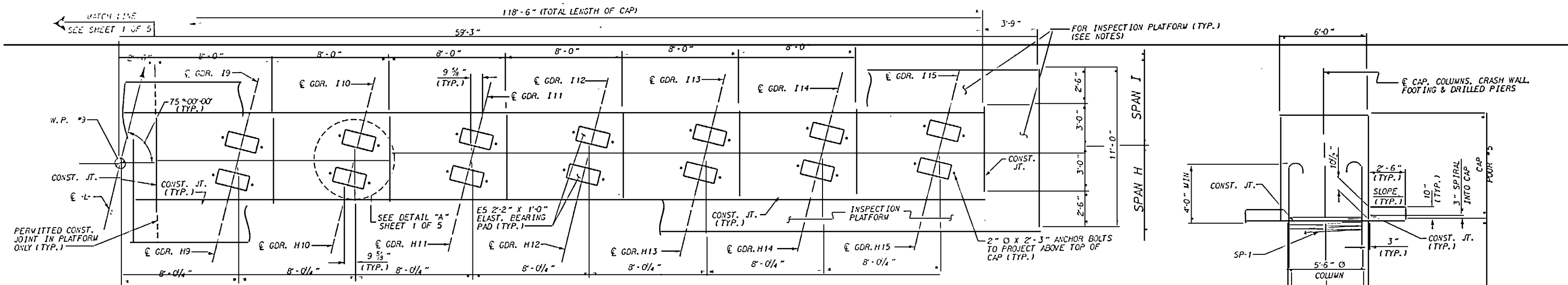
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT #7

REVISIONS						SHEET •	
•	BY:	DATE:	•	BY:	DATE:	S-122	
1	NMR	10/5/98	3			TOTAL SHEETS	
2			4			170	

DRAWN BY : S.B.WILLIAMS/GDC DATE : 8-96
CHECKED BY : N.M.RUFFIN DATE : 3/97

Δ REV. #1, REVISED THE CONCRETE QUANTITY FOR THE
BENT CAP.
BY: NMR DATE: 10/5/98
CHECKED BY: SDC DATE: 10-14-98



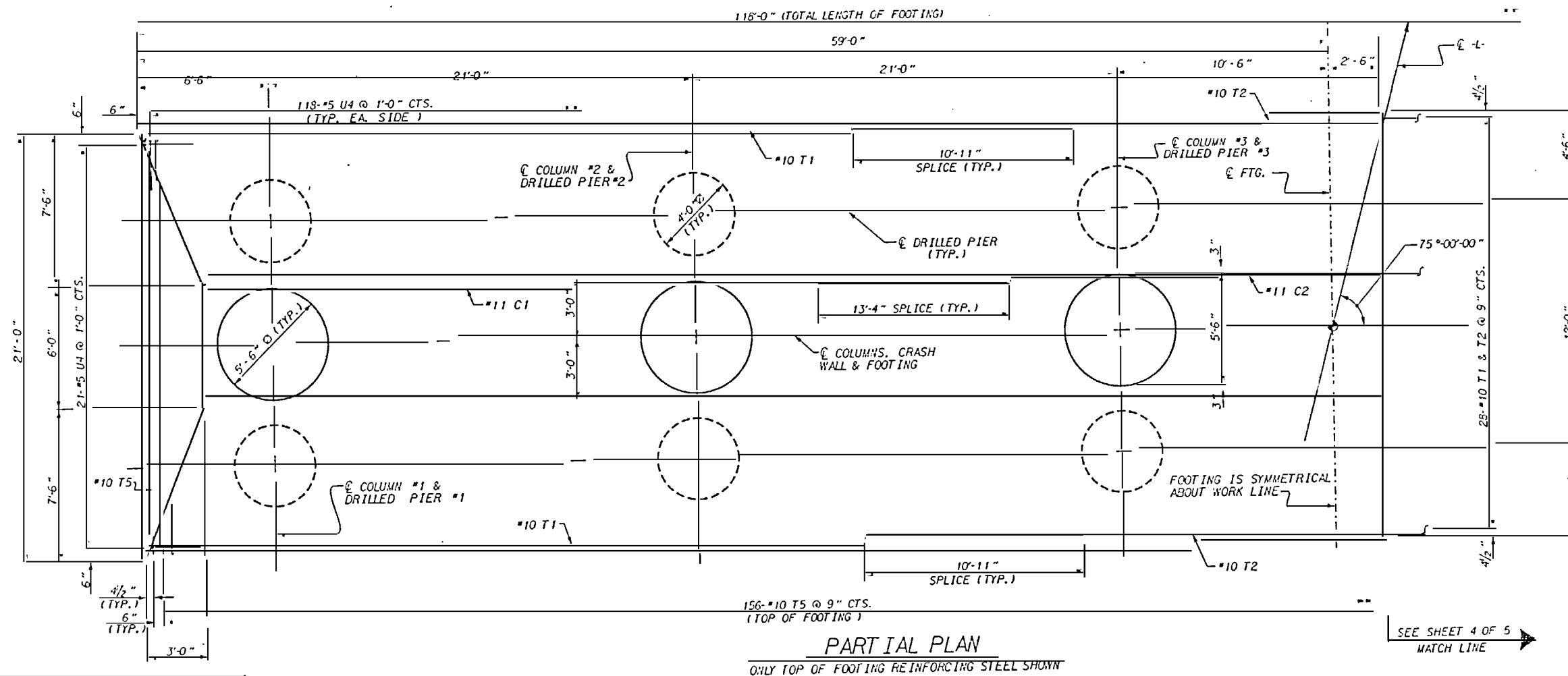
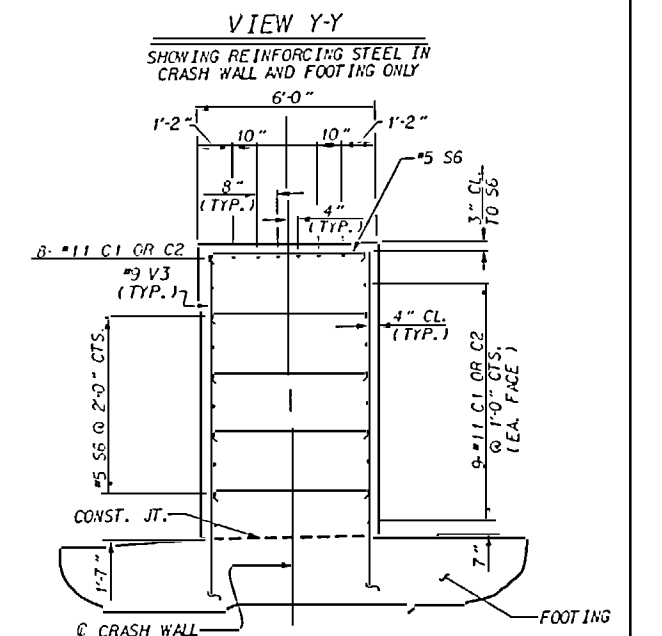
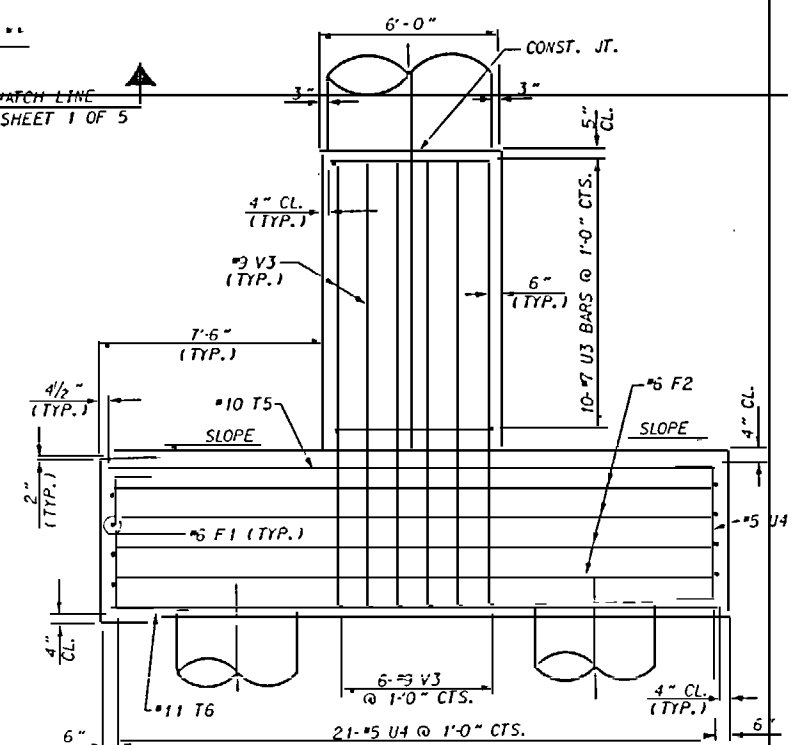
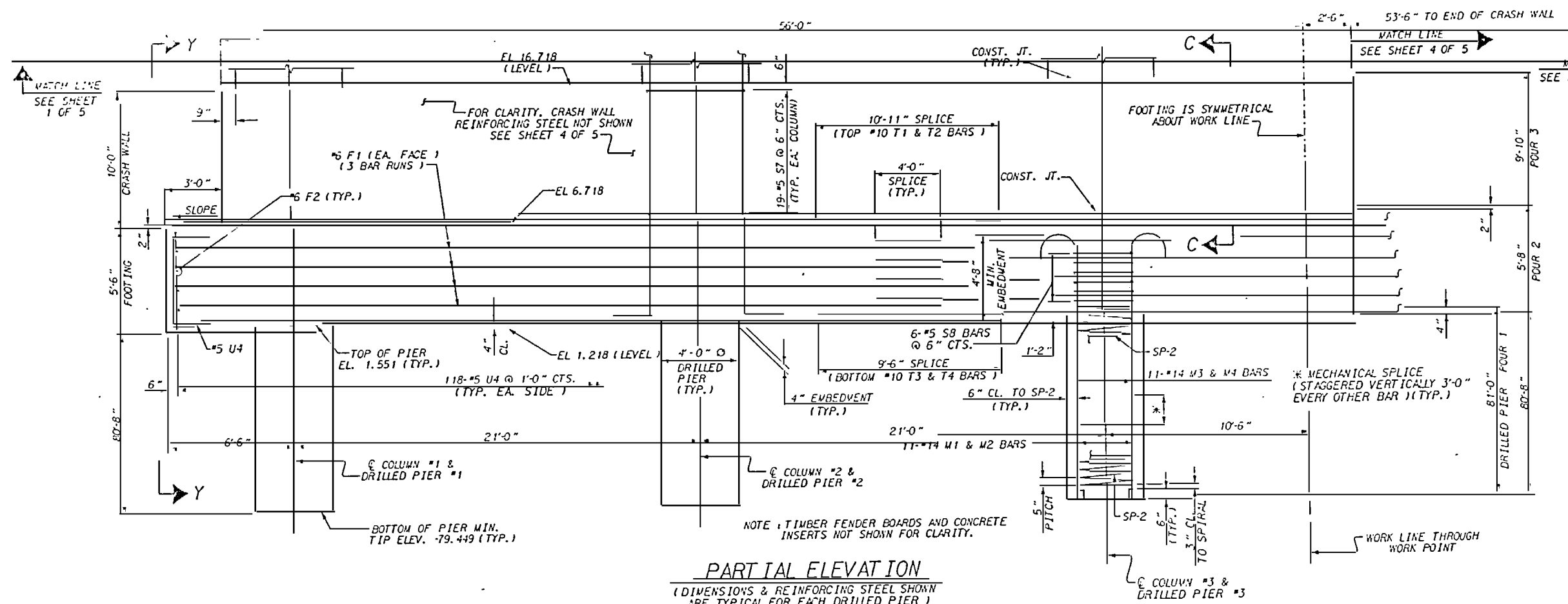
PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT #8

REVISIONS						SHEET NO. 5-124
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			

RAAN BY : S. B. WILLIAMS/GDC DATE : 7-95
 CHECKED BY : N. M. RUFFIN DATE : 2/97



AN BY : S.B. WILLIAMS/GDC DATE : 9-96
C'D BY : H.M. RUFFIN DATE : 2/97

CREATED BY: N. M. RUFFIN DATE: 2/97

PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

ONSLOW COUNTY

STATION: 277+50.00 -L-

SHEET 3 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT #8

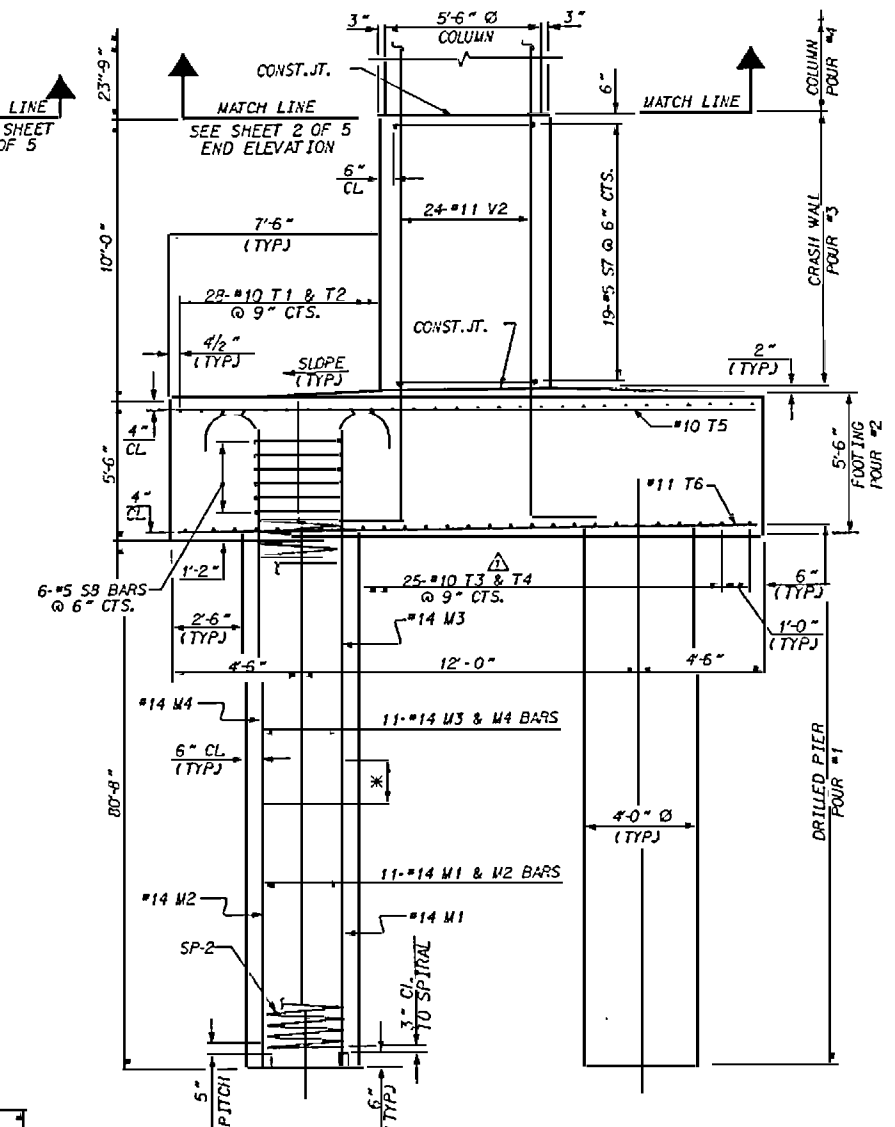
BENT #8

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-125	
1			3			TOTAL S-SHETS 170	
2			4				

SHEET NO.

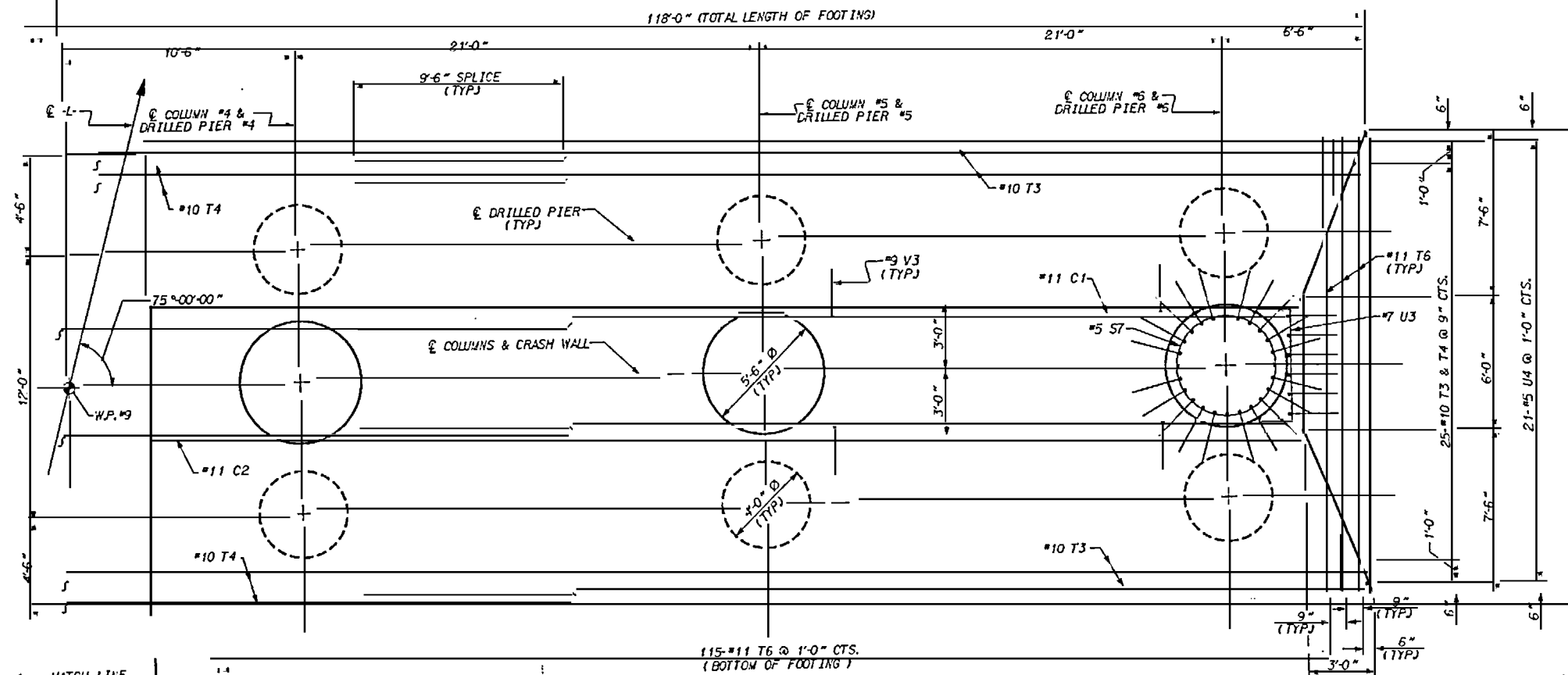
$$\begin{array}{r} 5-125 \\ \hline 1041 \end{array}$$

170



(DIMENSIONS & REINFORCING STEEL SHOWN
ARE TYPICAL FOR EACH DRILLED PIER)

NOTE : TIMBER FENDER BOARDS AND CONCRETE
INSERTS NOT SHOWN FOR CLARITY.



* MECHANICAL BUTT SPLICE
(STAGGERED VERTICALLY 3'-0"
EVERY OTHER BAR) (TYP)

PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

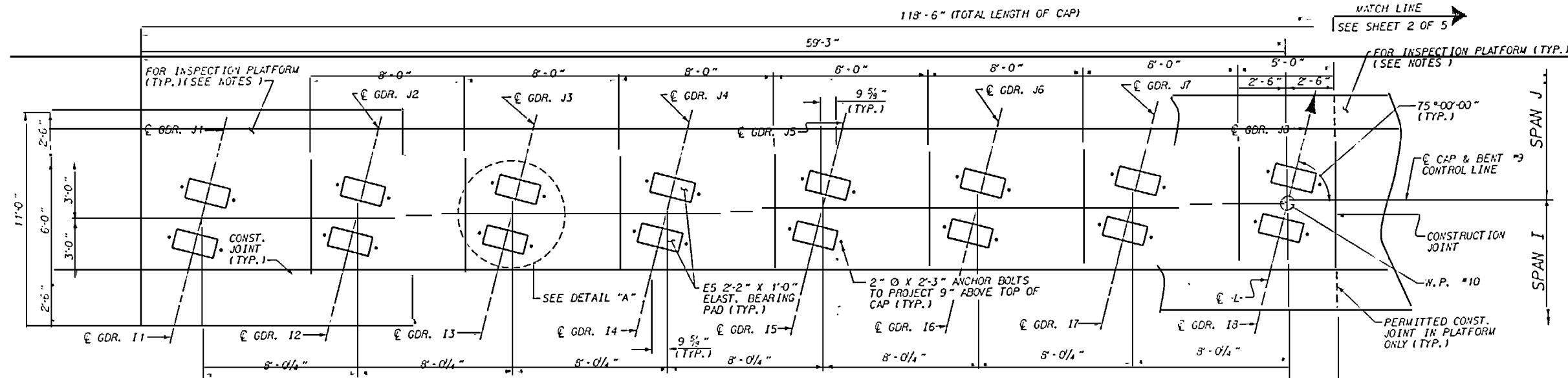
SHEET 4 of 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT #8**

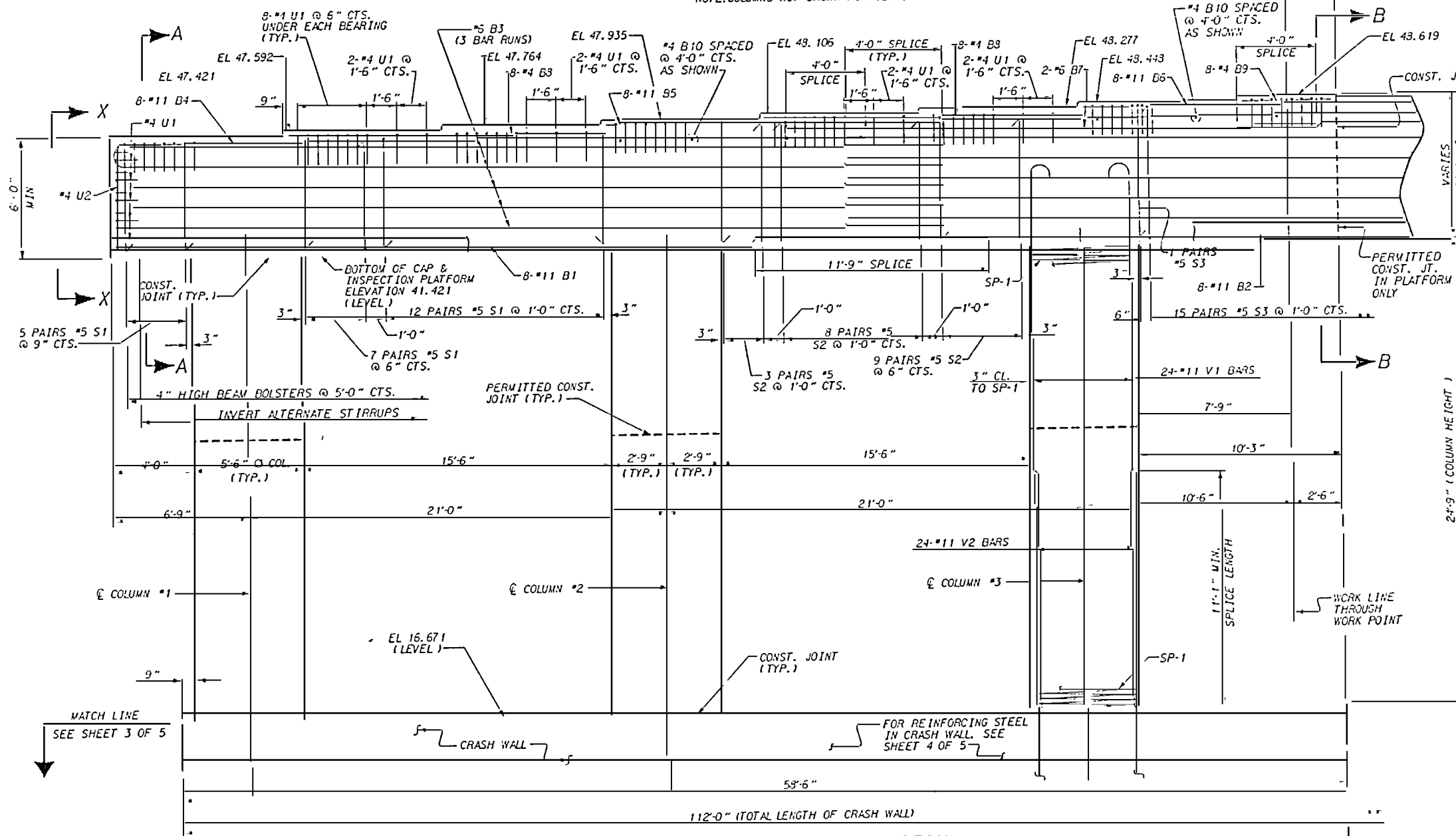
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-125

△ REV. #1, REVISED #10T2 IN
SECTION D-D TO #10T4
DATE 11/12/89



PARTIAL PLAN

NOTE: COLUMNS NOT SHOWN FOR CLARITY

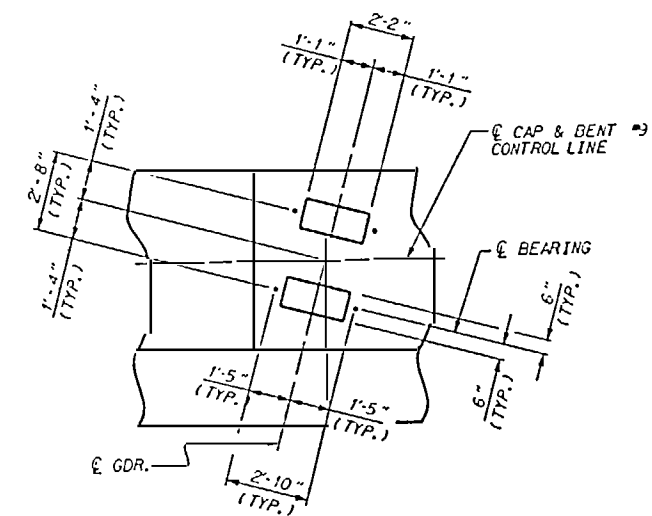


PARTIAL ELEVATION

(DATA SHOWN IS TYPICAL FOR EACH COLUMN)

NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.
- FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
- ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR EPOXY COATED REINFORCING STEEL AND EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.
- THE DRILLED PIERS SHALL BE INSTALLED TO MINIMUM TIP ELEVATION SHOWN ON PLAN.
- FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.
- ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.
- FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL, DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT INSPECTION PLATFORM DETAILS SHEET.
- FOR MECHANICAL BUTT SPlicing FOR REINFORCING STEEL, SEE SPECIAL PROVISIONS.
- FOR TIMBER FENDER BOARDS AND CONCRETE INSERTS SEE "TIMBER FENDER BOARDS" & BENT #8 & #9 SHEET.
- FOOTING CONCRETE SHALL BE CONSIDERED MASS CONCRETE, SEE SPECIAL PROVISIONS.



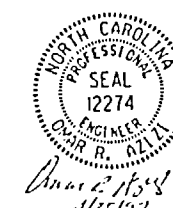
DETAIL "A"

PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

SHEET 1 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

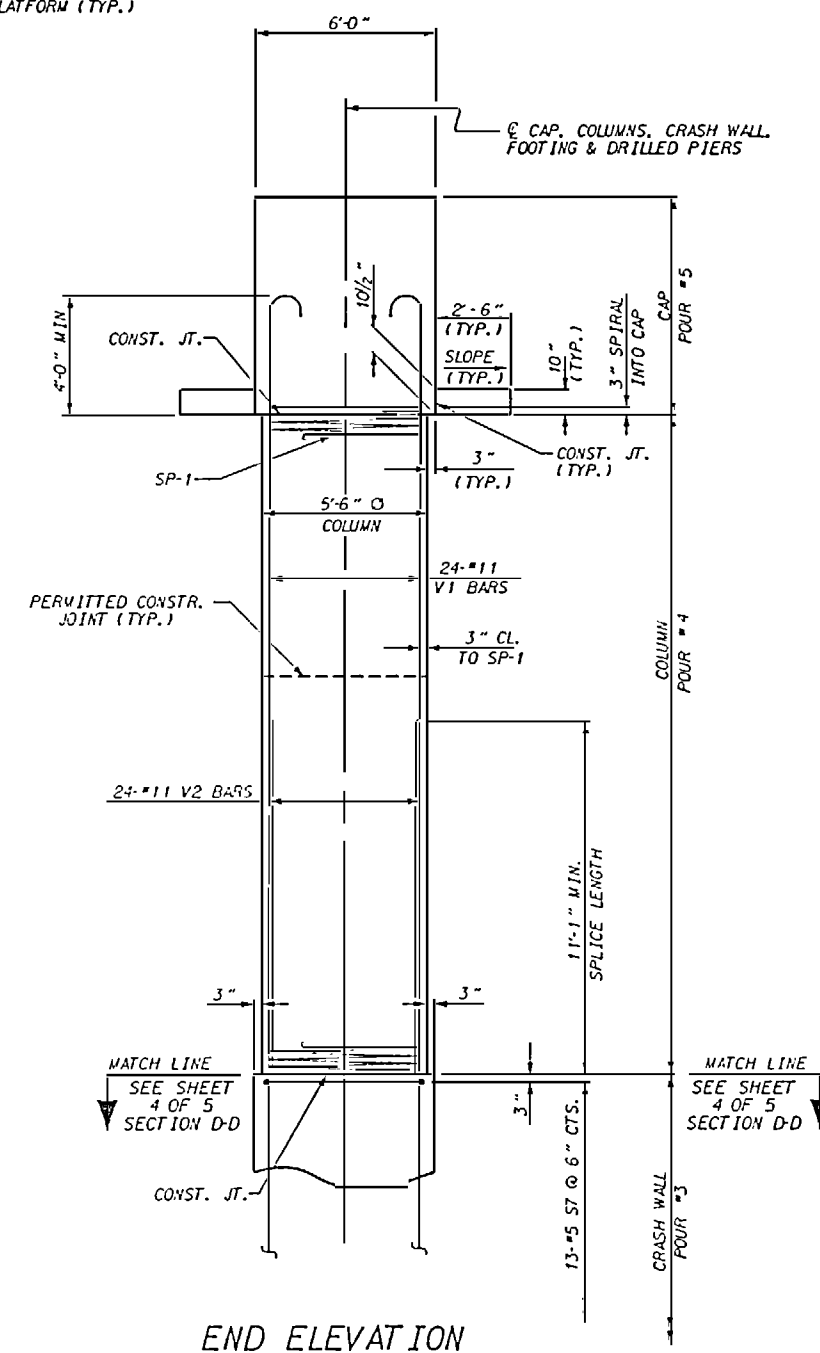
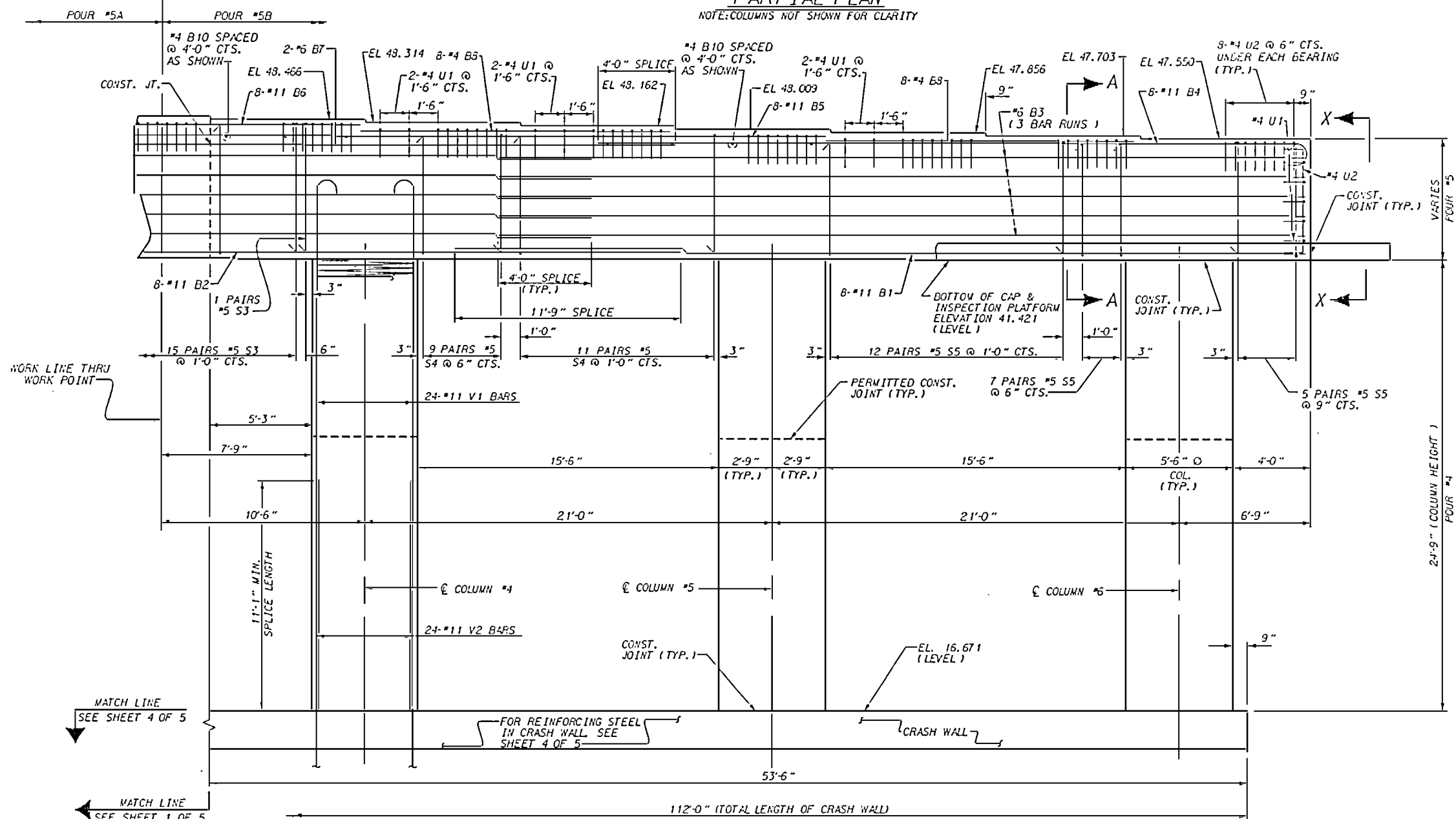
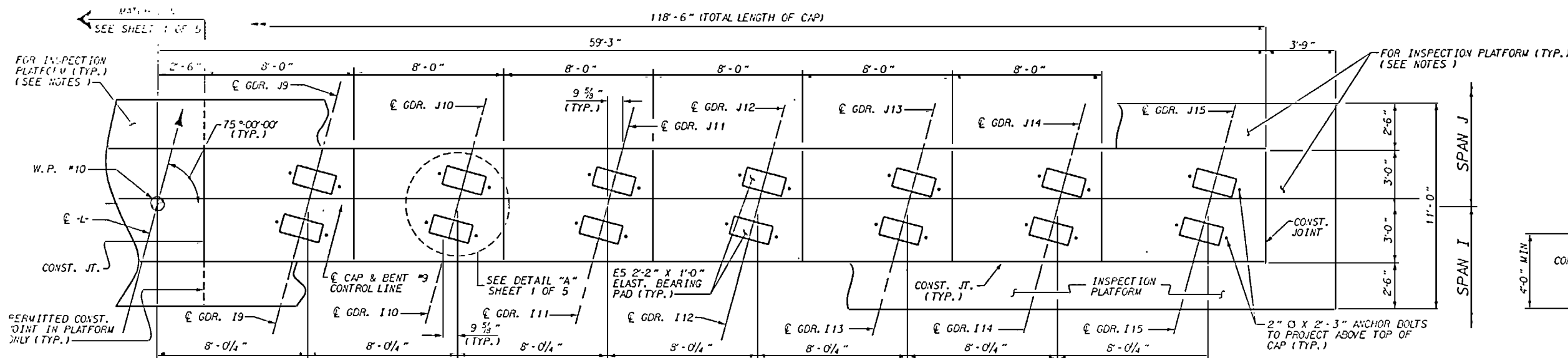
**SUBSTRUCTURE
 BENT #9**



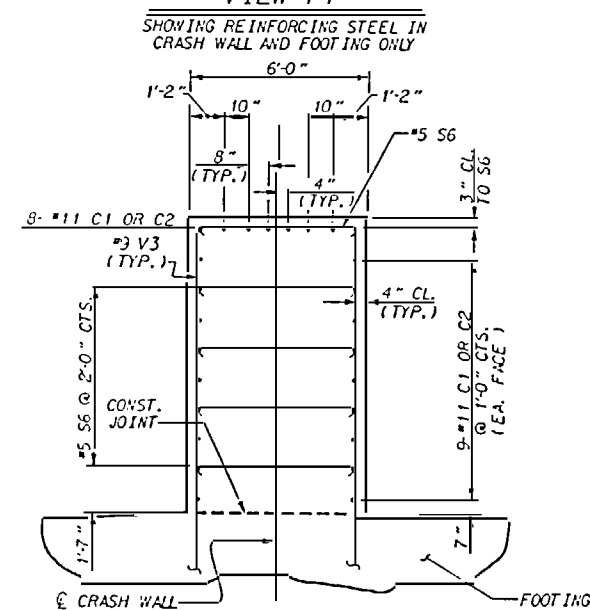
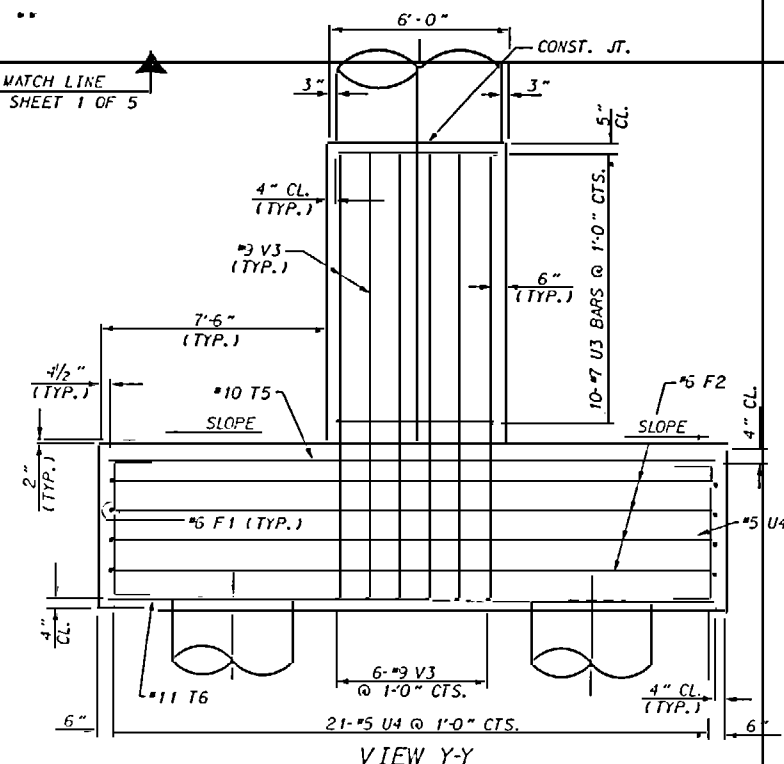
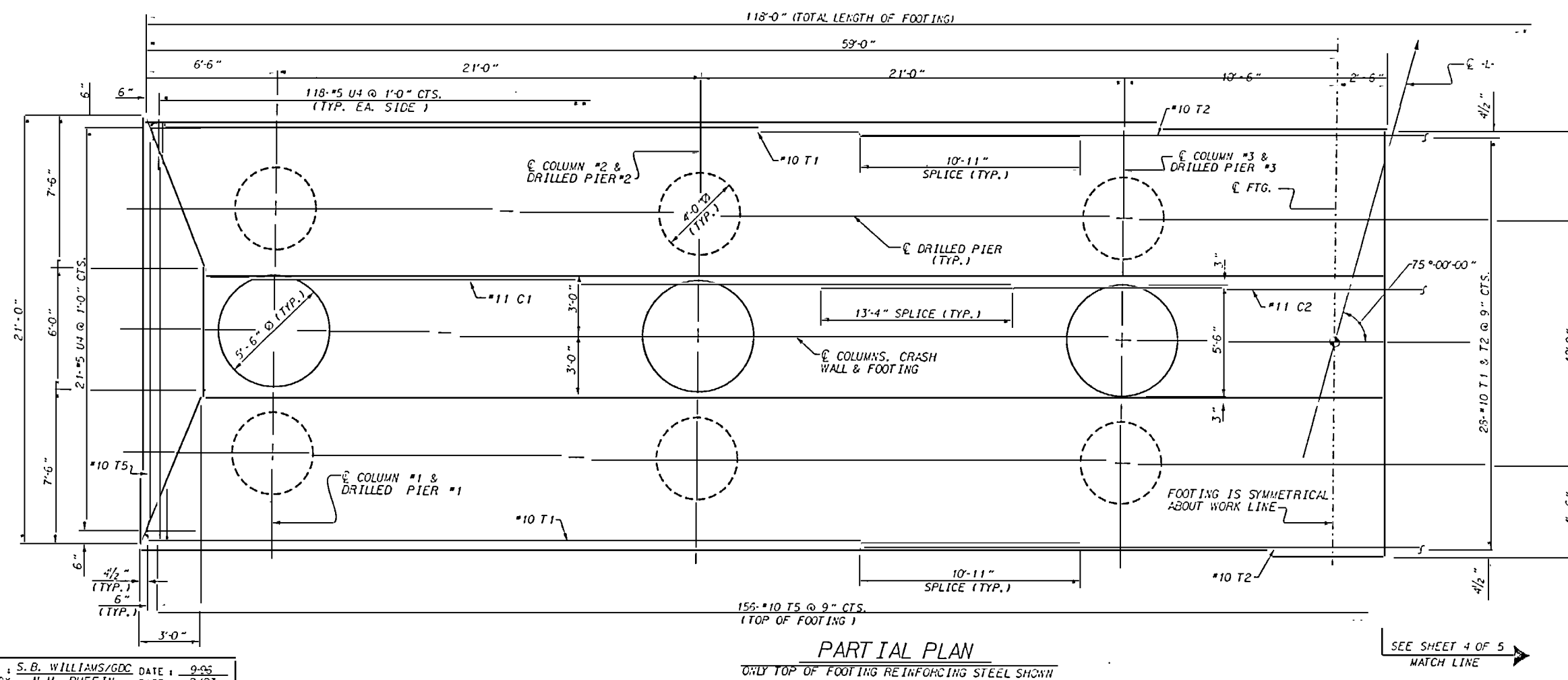
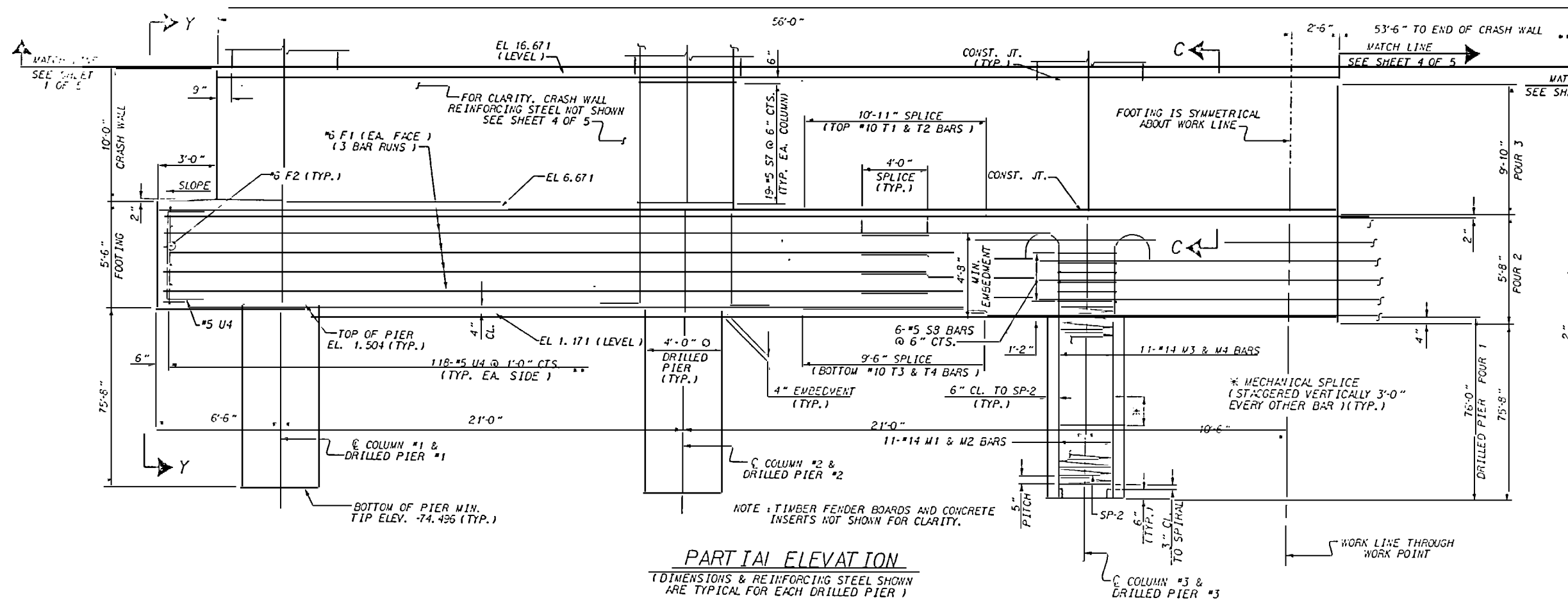
DRAWN BY: S.B. WILLIAMS/GDC DATE: 7-95
 CHECKED BY: H.M. RUFFIN DATE: 2/97

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

TOTAL
 SHEETS
 170



REVISIONS						SHEET NO. S-129
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			



PROJECT NO. U-2107BA
ON SLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 3 OF 5

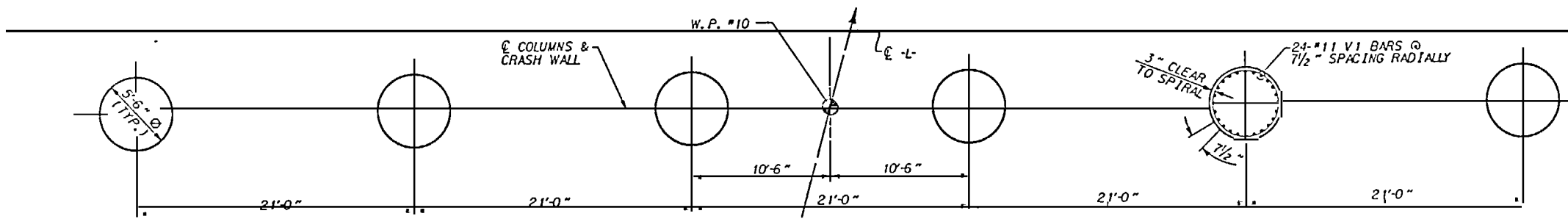
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT #9

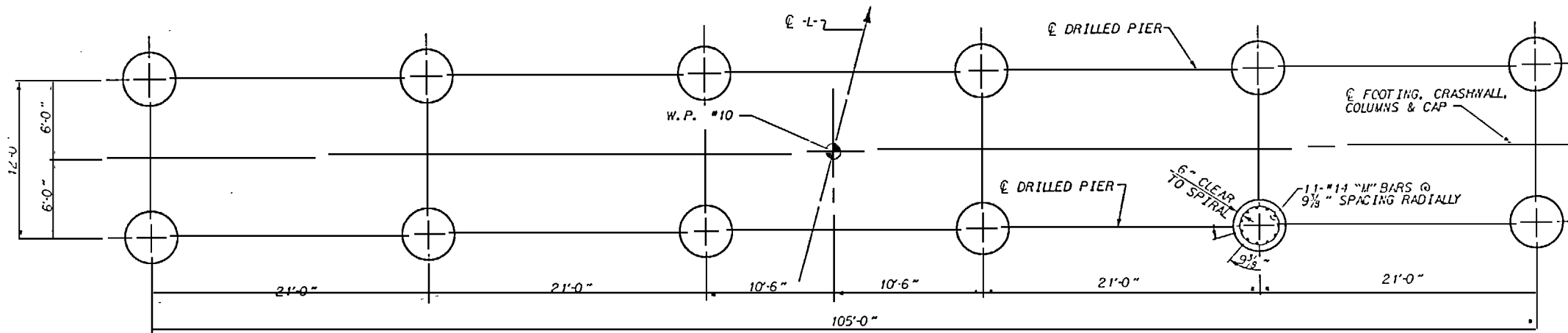
REVISIONS						SHEET NO 5-130
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			

IN BY : S.B. WILLIAMS/GDC DATE : 9-06
 RECD BY : N.W. RUFFIN DATE : 2/07

RECEIVED BY : N.M. RUFFIN DATE : 2/07

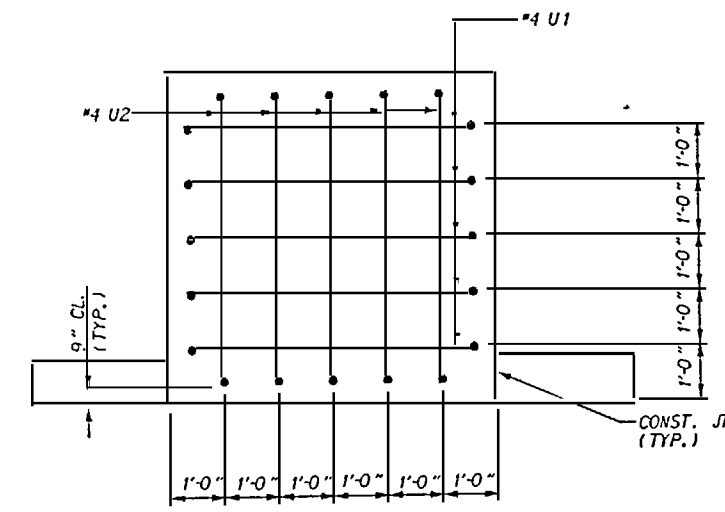


PLAN OF COLUMNS

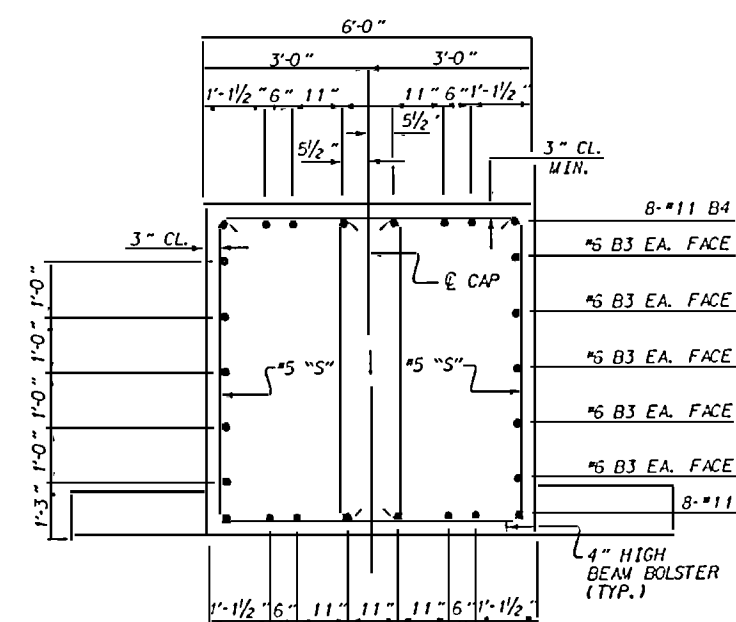


PLAN OF DRILLED PIERS

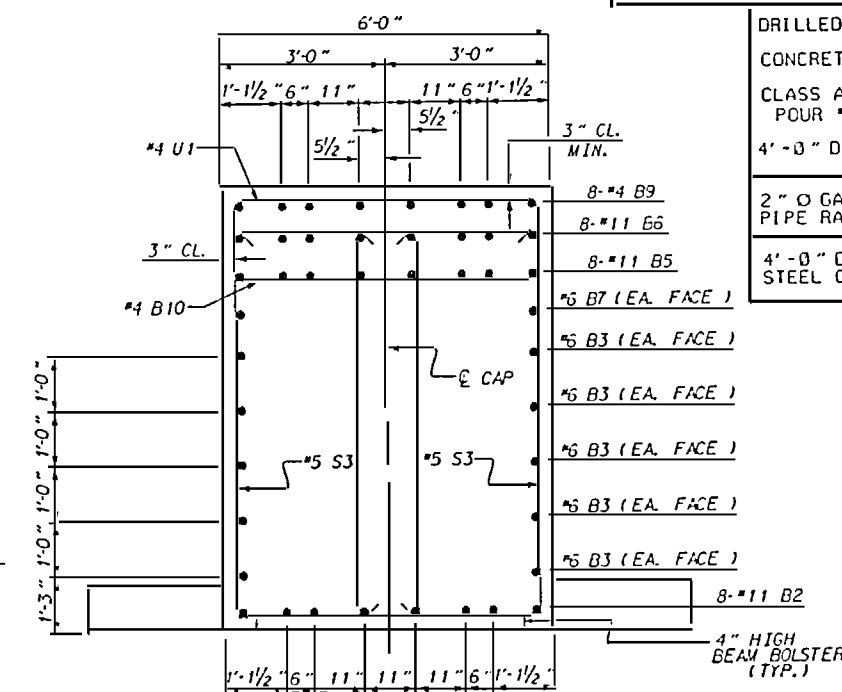
FOR REINFORCING STEEL IN DRILLED PIERS, SEE SHEET 3 OF 5



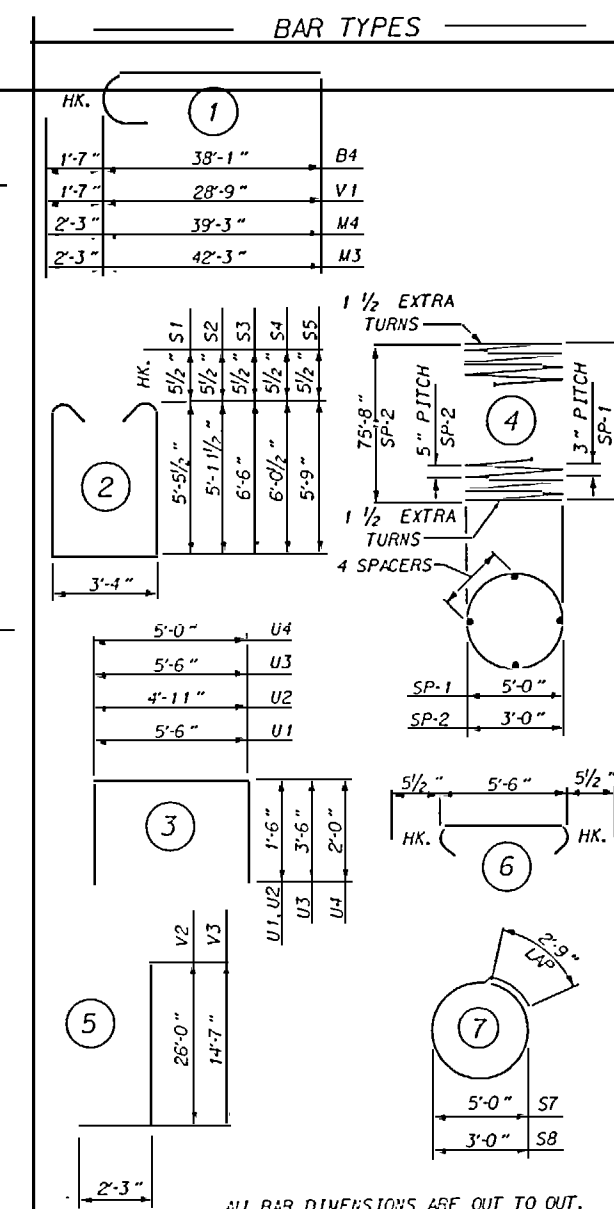
SECTION X-X



SECTION A-A



SECTION B-B



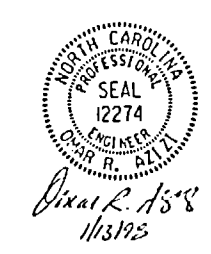
DRILLED PIERS	
CONCRETE BREAKDOWN	
CLASS AA CONCRETE	
POUR #1 DRILLED PIERS	C.Y. 424.5
4'-0" DIA. DRILLED PIERS	912.0 L.F.
2" O GALVANIZED STEEL	
PIPE RAIL	255.0 L.F.
4'-0" DIA. PERMANENT	
STEEL CASING	302.05 L.F.

BILL OF MATERIAL					
BENT NO. 9					
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
B1	16	11	STR	43'-11"	3733
B2	8	11	STR	53'-9"	2285
B3	30	6	STR	42'-0"	1893
B4	16	11	STR	39'-8"	3372
B5	16	11	STR	37'-4"	3174
B6	8	11	STR	20'-6"	871
B7	4	6	STR	26'-11"	162
B8	32	4	STR	15'-9"	337
B9	8	4	STR	4'-6"	24
B10	14	4	STR	5'-6"	51
C1	52	11	STR	41'-5"	1442
C2	26	11	STR	54'-10"	7575
F1	24	6	STR	41'-10"	1508
F2	8	6	STR	20'-6"	246
M1	132	14	STR	37'-7"	37952
M2	132	14	STR	40'-7"	40961
M3	132	14	STR	44'-6"	44936
M4	132	14	STR	41'-6"	41907
S1	48	5	2	15'-2"	759
S2	40	5	2	16'-2"	674
S3	34	5	2	17'-3"	612
S4	40	5	2	16'-4"	681
S5	48	5	2	15'-9"	789
S6	150	5	2	6'-6"	1004
S7	14	5	7	18'-6"	2200
S8	72	5	7	12'-3"	920
T1	56	10	STR	43'-3"	10422
T2	28	10	STR	52'-11"	6376
T3	54	10	STR	42'-6"	9875
T4	27	10	STR	51'-6"	5983
T5	156	10	STR	20'-6"	13761
T6	115	11	STR	20'-6"	12525
U1	144	4	3	8'-6"	818
U2	10	4	3	7'-11"	53
U3	20	7	3	12'-6"	511
U4	278	5	3	9'-0"	2610
V1	144	11	1	30'-4"	23207
V2	144	11	5	28'-3"	21613
V3	172	9	5	16'-10"	9844
INSPECTION PLATFORM EPOXY COATED REINFORCING STEEL LBS.					3981
EPOXY COATED REINFORCING STEEL LBS.					33667
SP-1	6	4	1604'-8"	6432	
SP-2	12	4	1711'-5"	21420	
EPOXY COATED SPIRAL COLUMN REINFORCING STEEL LBS.					27852
CONCRETE BREAKDOWN					
CLASS AA CONCRETE					
POUR #2 FOOTING			C.Y.	512.4	
POUR #3 CRASHWALL			C.Y.	244.7	
POUR #4 COLUMNS			C.Y.	130.7	
POUR #5A CAP			C.Y.	93.1	
POUR #5B CAP			C.Y.	83.0	
POUR #6 INSPECTION PLATFORM			C.Y.	20.1	
TOTAL					C.Y. 1081.0

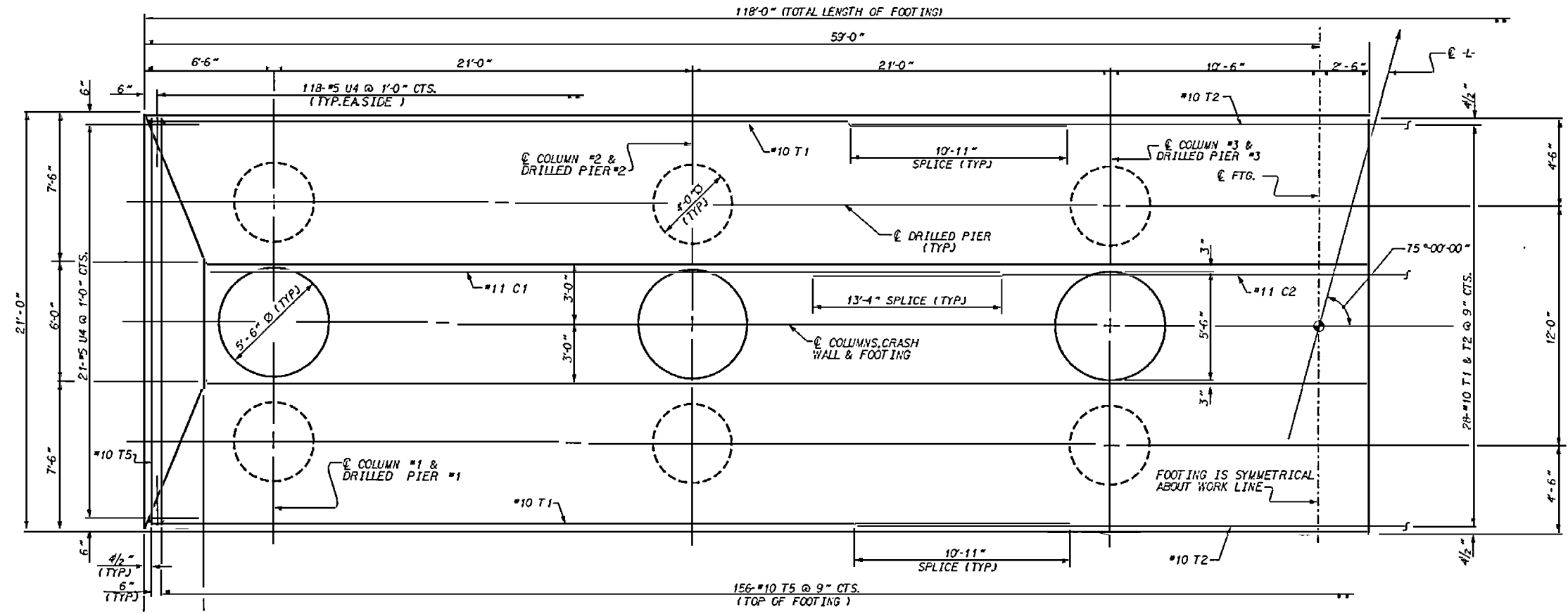
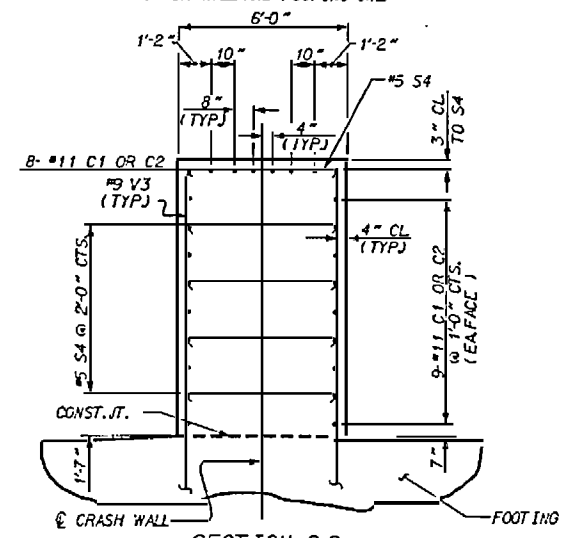
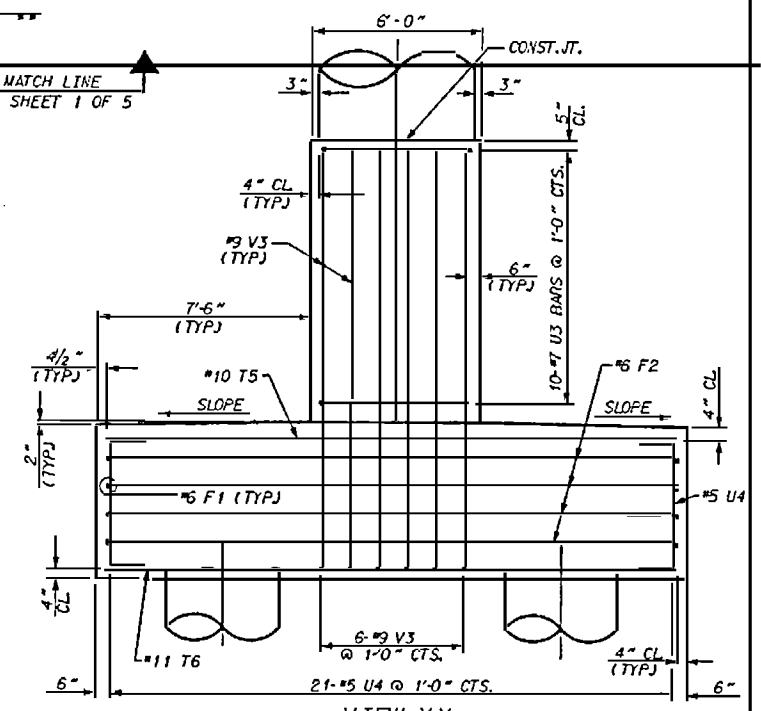
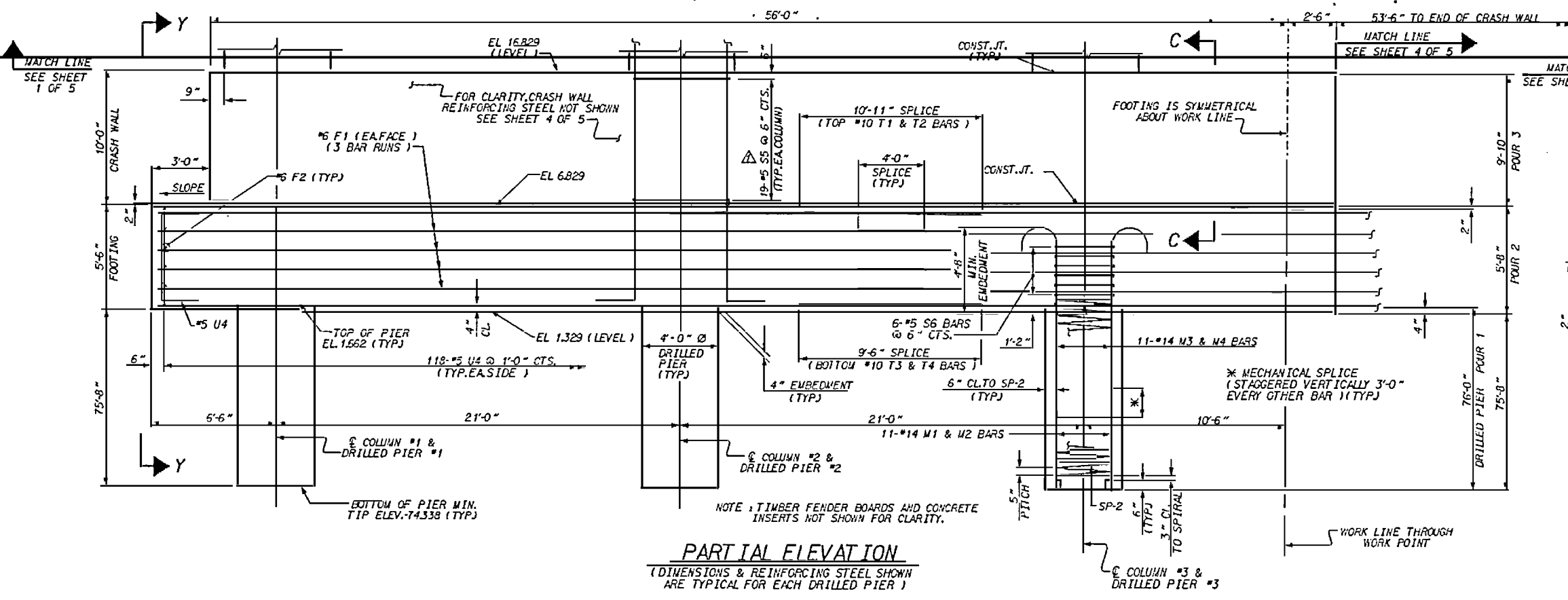
PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

REVISIONS					
NO.	DATE	BY	DATE	BY	DATE
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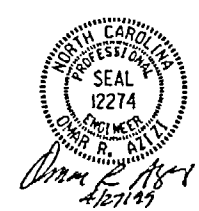
DRAWN BY: S.B. WILLIAMS/GDC DATE: 8-96
 CHECKED BY: N.M. RUFFIN DATE: 2/97



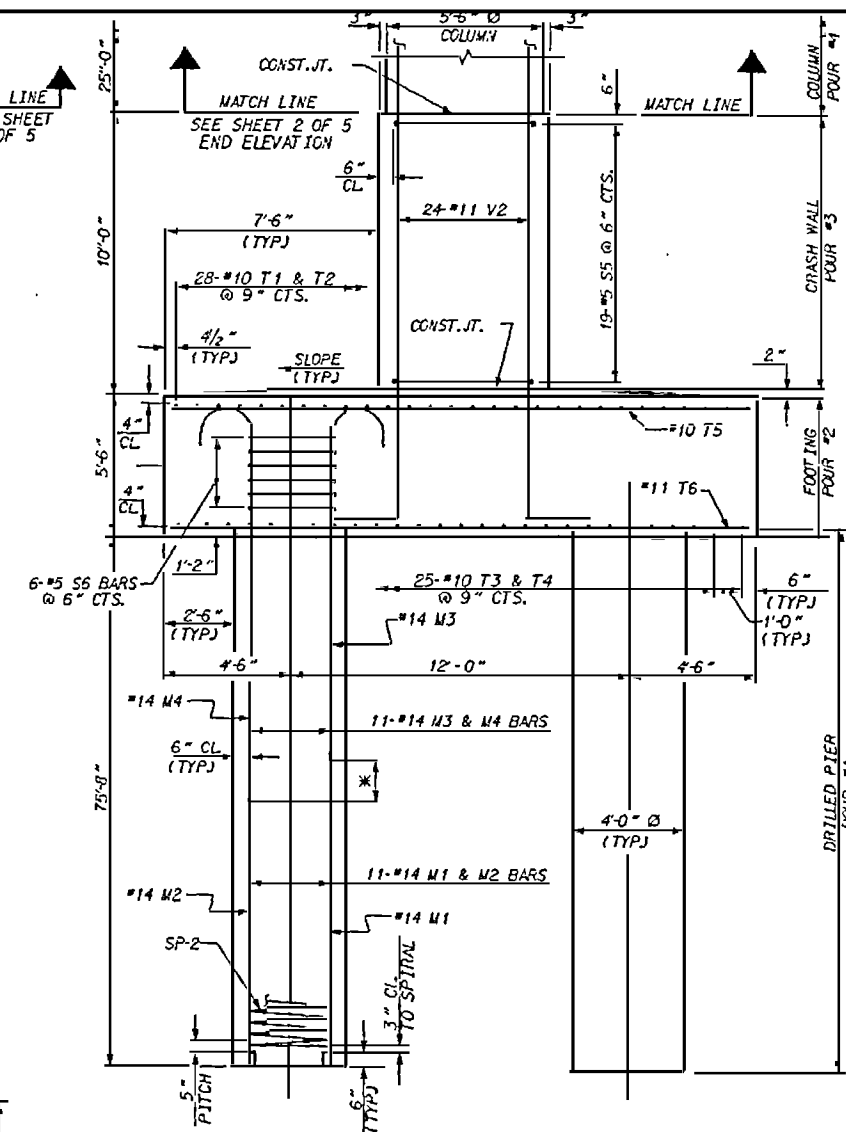
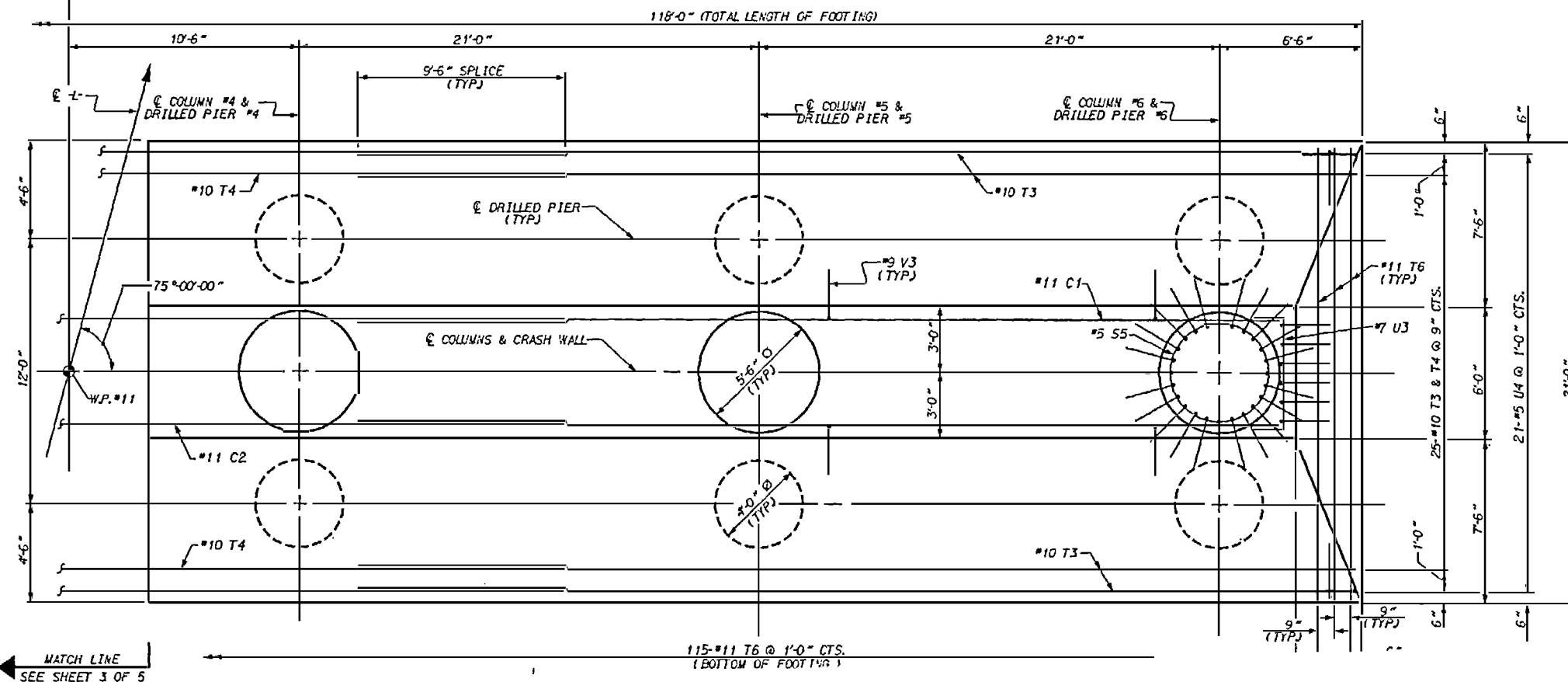
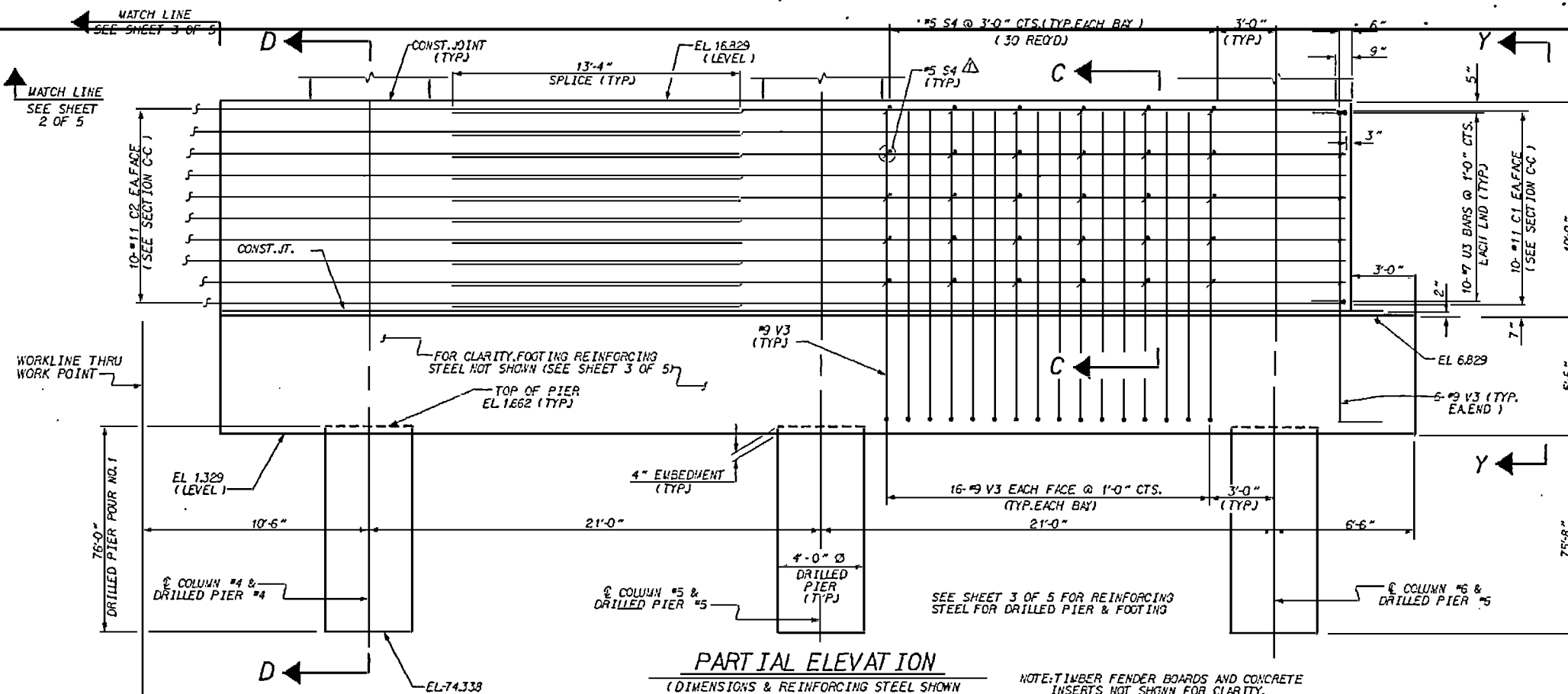




PROJECT NO. U-2107BA
ON SLOW COUNTY
STATION: 277+50.00 -L-
SHEET 3 OF 5



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
BENT #10



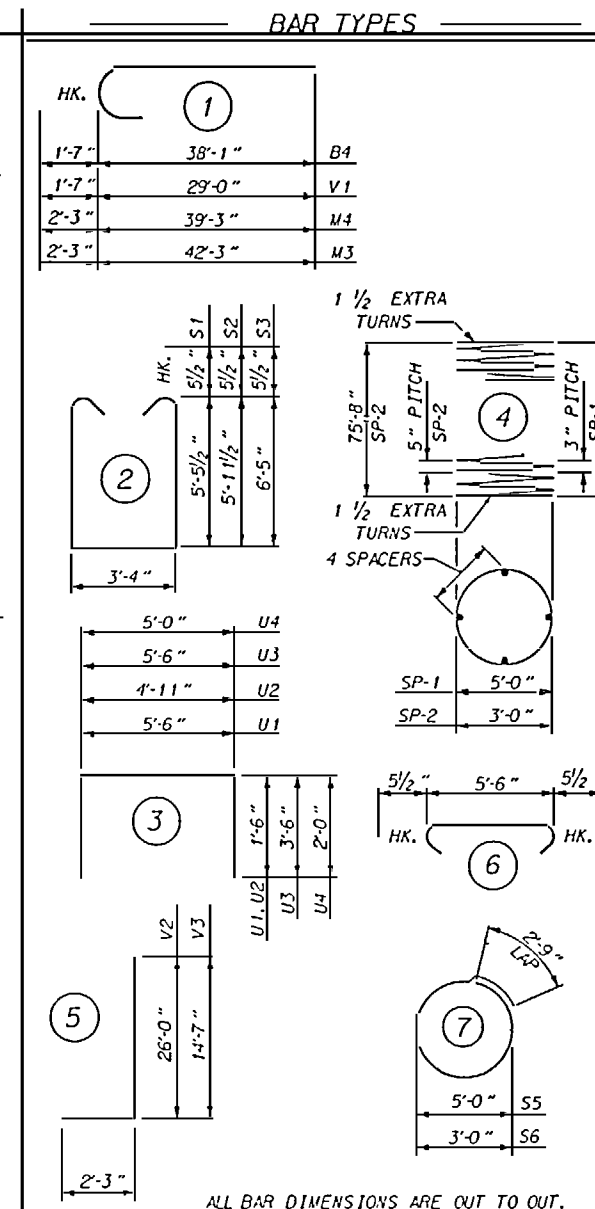
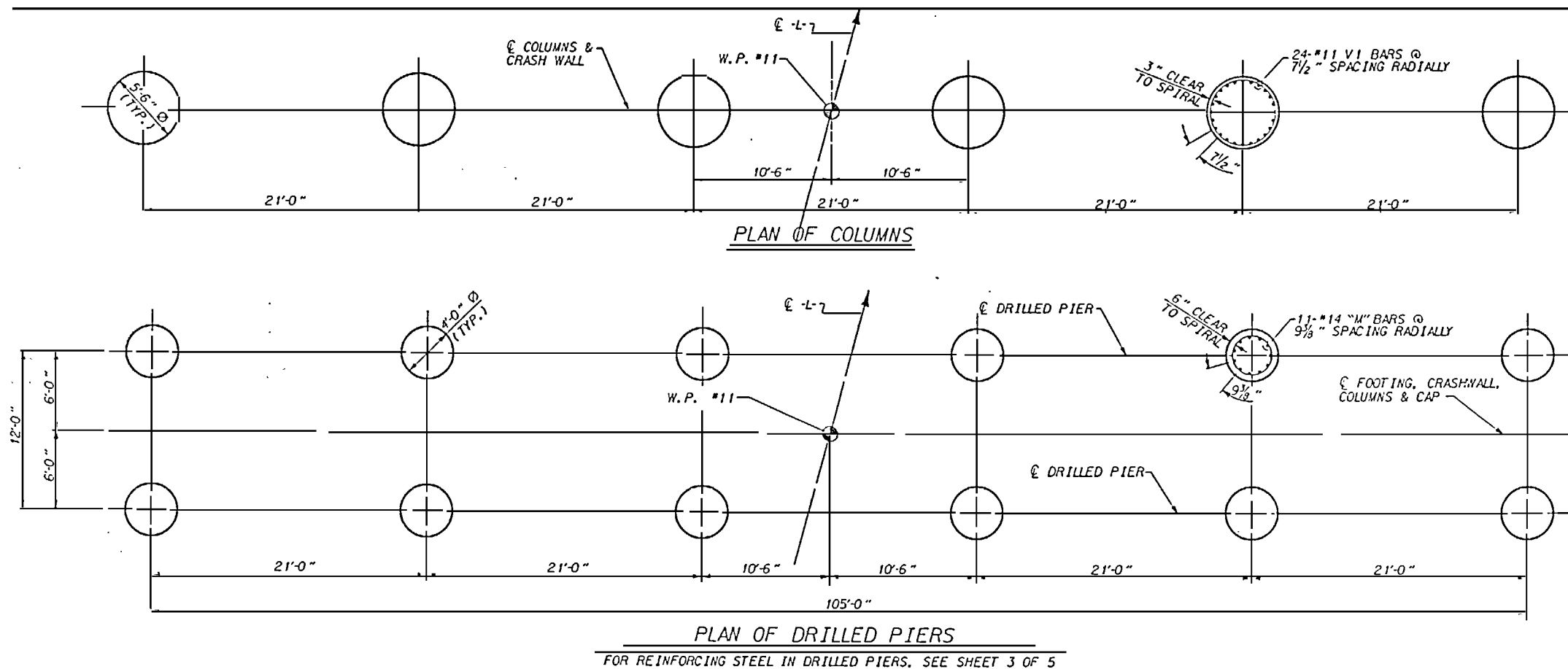
PROJECT NO. U-2107BA
ONslow COUNTY
STATION: 277+50.00 -L-

SHEET 4 of 5

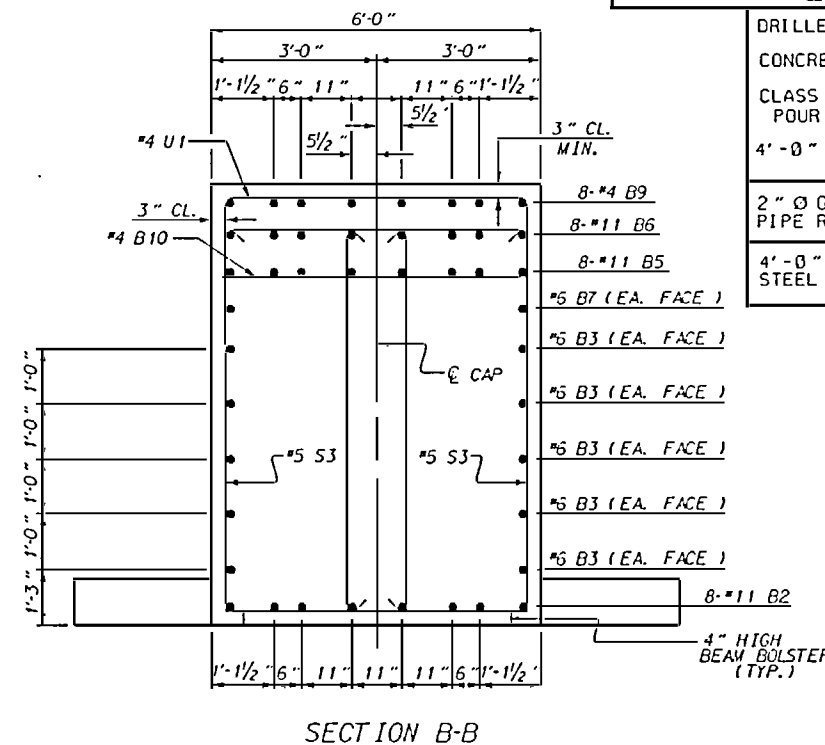
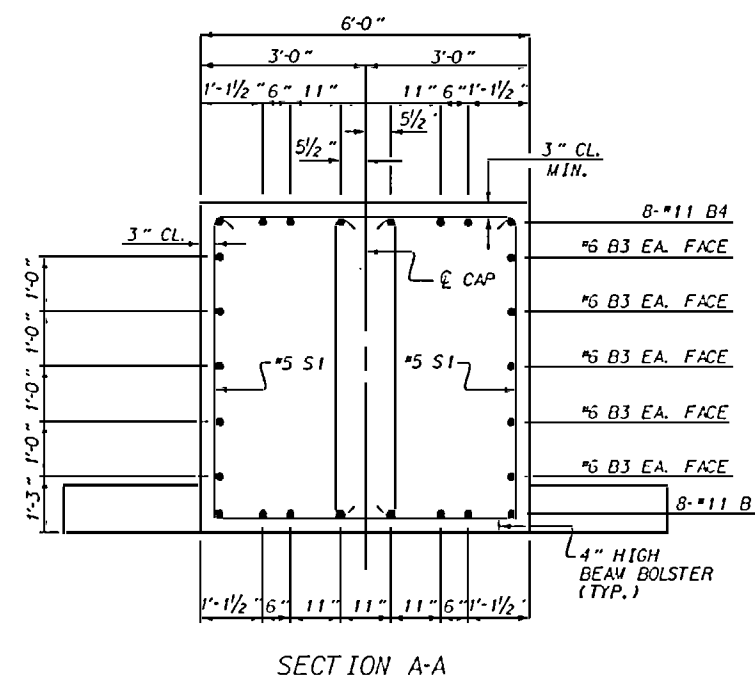
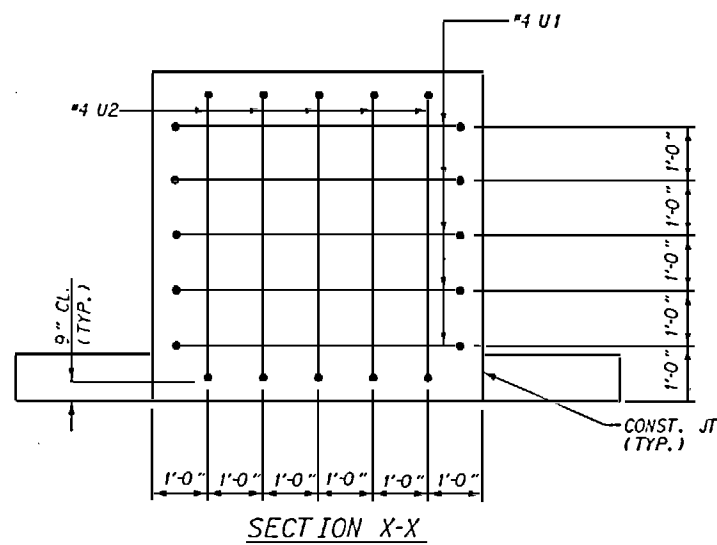
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT #10**





BILL OF MATERIAL					
BENT NO. 10					
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
B1	16	II	STR	43'-11"	3733
B2	8	II	STR	53'-9"	2285
B3	30	6	STR	42'-0"	1893
B4	16	II	STR	39'-8"	3372
B5	16	II	STR	37'-4"	3174
B6	8	II	STR	20'-6"	871
B7	4	6	STR	26'-11"	162
B8	32	4	STR	15'-9"	337
B9	8	4	STR	4'-6"	24
B10	14	4	STR	5'-6"	51
C1	52	II	STR	41'-5"	11442
C2	26	II	STR	54'-10"	7575
F1	24	6	STR	41'-10"	1508
F2	8	6	STR	20'-6"	246
M1	132	14	STR	37'-7"	37952
M2	132	14	STR	40'-0"	40392
M3	132	14	STR	44'-6"	44936
M4	132	14	STR	41'-6"	41907
S1	96	5	STR	15'-2"	1519
S2	80	5	STR	16'-2"	1349
S3	34	5	STR	17'-1"	606
S4	150	5	STR	6'-5"	1004
S5	114	5	STR	18'-6"	2200
S6	72	5	STR	12'-3"	920
T1	56	10	STR	43'-3"	10422
T2	28	10	STR	52'-11"	6376
T3	54	10	STR	42'-6"	9875
T4	27	10	STR	51'-6"	5983
T5	156	10	STR	20'-6"	13761
T6	15	10	STR	20'-6"	12525
U1	144	4	STR	8'-6"	818
U2	10	4	STR	7'-11"	53
U3	20	7	STR	12'-6"	511
U4	278	5	STR	9'-0"	2610
V1	144	II	STR	30'-7"	23398
V2	144	II	STR	28'-3"	21613
V3	172	9	STR	16'-10"	9844
INSPECTION PLATFORM EPOXY COATED REINFORCING STEEL LBS.					3981
EPOXY COATED REINFORCING STEEL LBS.					331228
SP-1	6	4	1620'-3"	6494	
SP-2	12	4	1711'-5"	21420	
EPOXY COATED SPIRAL COLUMN REINFORCING STEEL LBS.					27914
CONCRETE BREAKDOWN					
CLASS AA CONCRETE					
POUR #2 FOOTING			C. Y.	512.4	
POUR #3 CRASHWALL			C. Y.	244.7	
POUR #4 COLUMNS			C. Y.	132.0	
POUR #5A CAP			C. Y.	89.7	
POUR #5B CAP			C. Y.	81.6	
POUR #6 INSPECTION PLATFORM			C. Y.	20.1	
TOTAL					C. Y. 1088.8



DRILLED PIERS	
CONCRETE BREAKDOWN	
CLASS AA CONCRETE	
POUR #1 DRILLED PIERS	C. Y. 424.5
4'-0" DIA. DRILLED PIERS	912.0 L.F.
2" Ø GALVANIZED STEEL PIPE RAIL	255.0 L.F.
4'-0" DIA. PERMANENT STEEL CASING	267.95 L.F.

PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

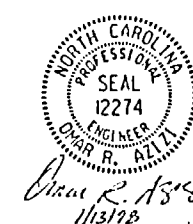
SHEET 5 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
BENT #10

REVISIONS				SHEET NO
NO.	BY	DATE	REVISION	
1				5-137
2				170

DRAWN BY: S.B. WILLIAMS/GDC DATE: 8-96
 CHECKED BY: N.W. RUFFIN DATE: 2-97



NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.

HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.

FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.

ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR EPOXY COATED REINFORCING STEEL AND EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.

THE DRILLED PIERS SHALL BE INSTALLED TO MINIMUM TIP ELEVATION SHOWN ON PLAN.

FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.

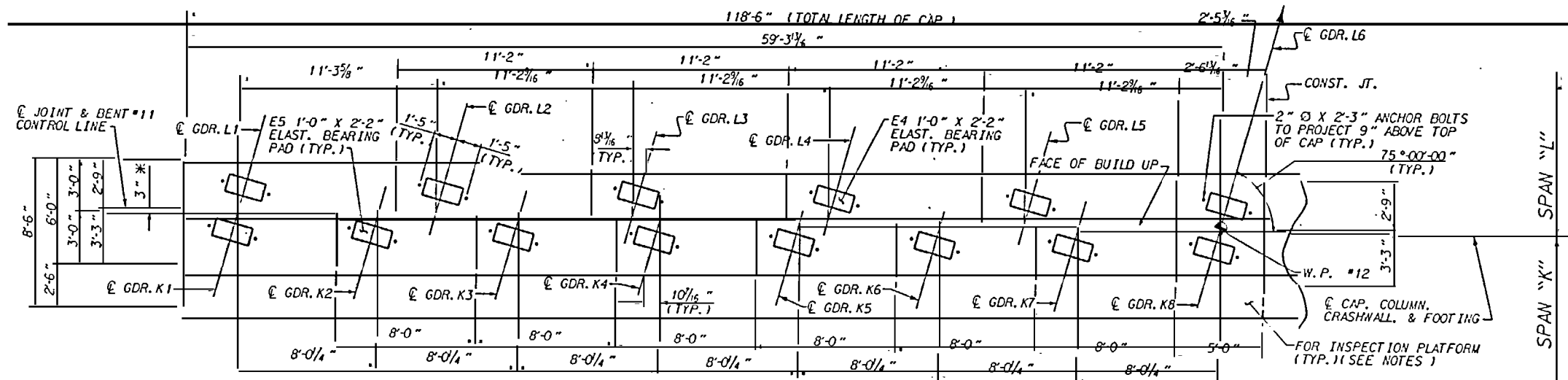
ALL REINFORCING STEEL SHALL BE EPOXY COATED.

ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.

FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL, DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT INSPECTION PLATFORM DETAILS SHEET.

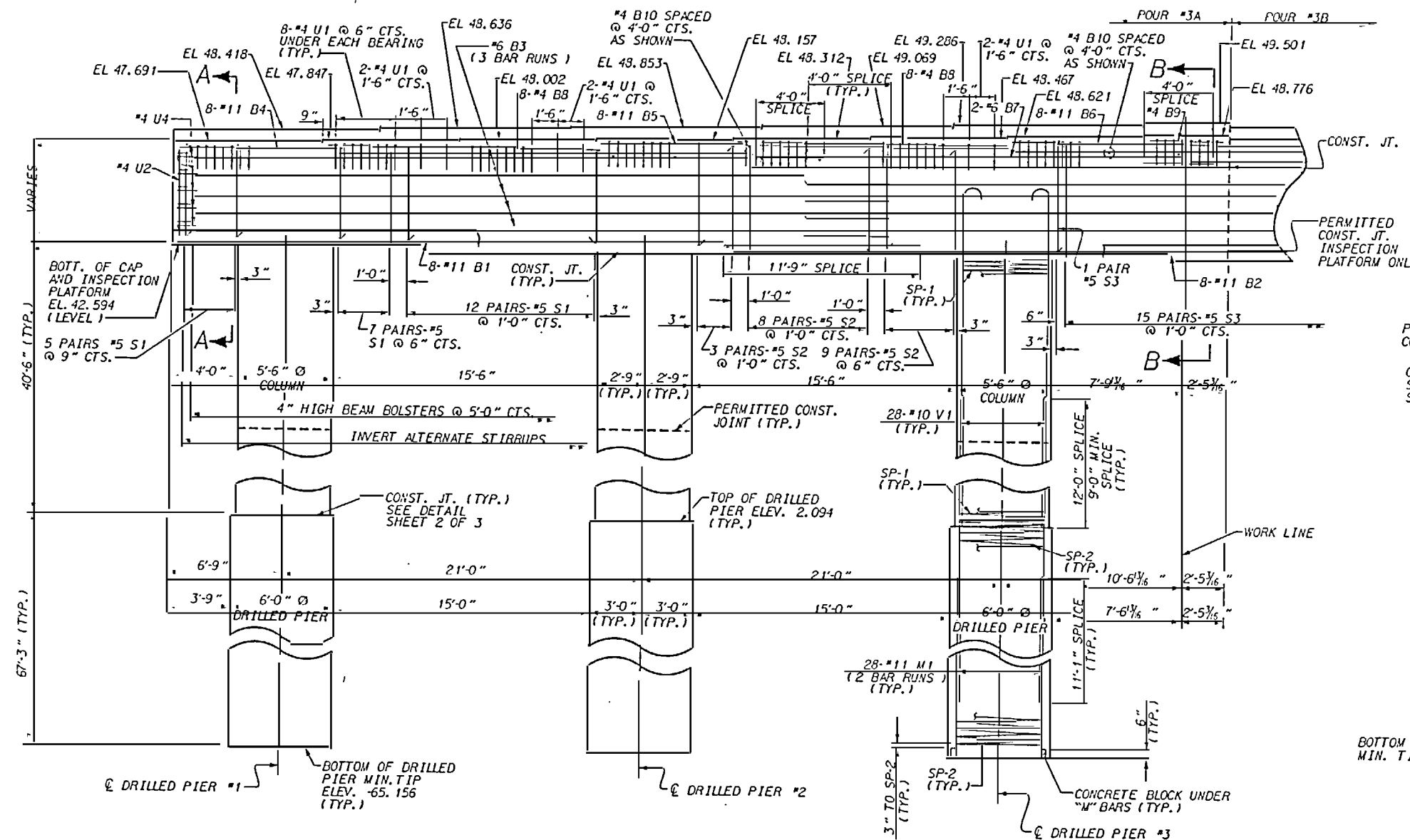
THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE CENTERLINE JOINT IN THE DECK SLAB IS OFFSET FROM THE CENTERLINE BENT.

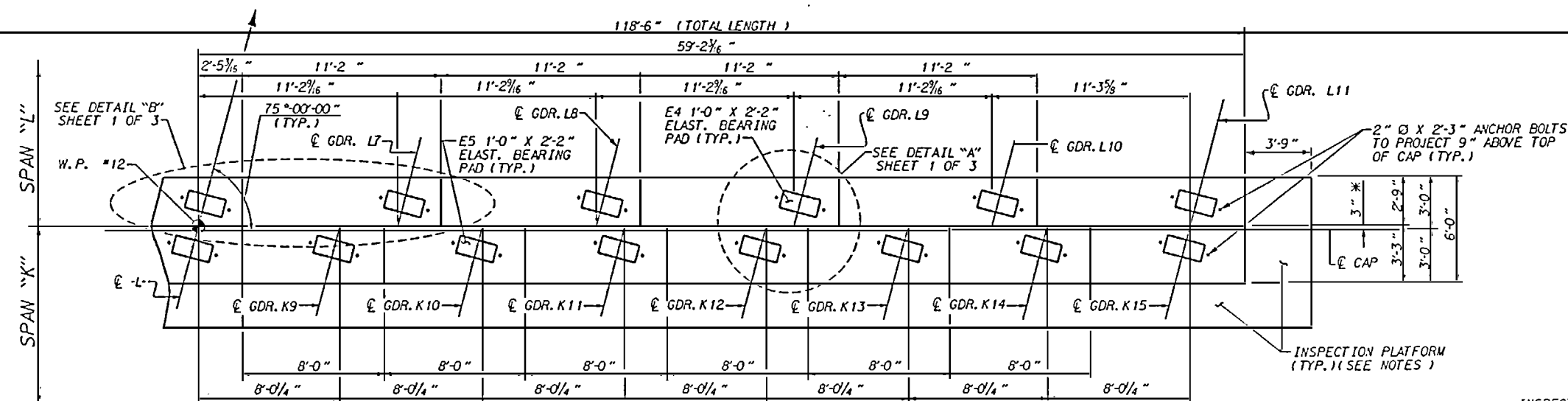
FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.



PARTIAL PLAN

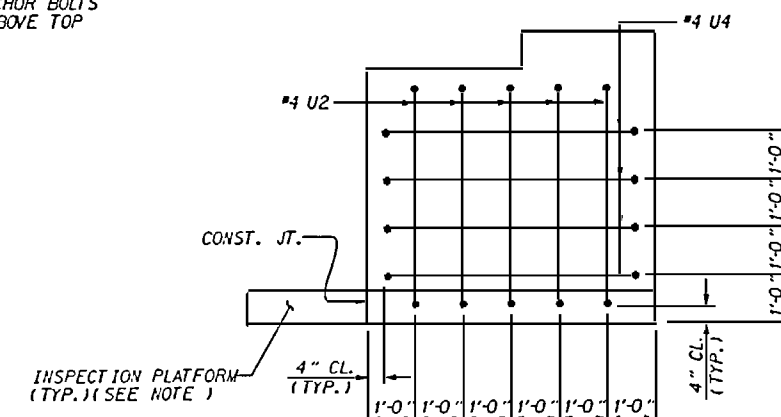
NOTE: COLUMNS & DRILLED PIERS NOT SHOWN FOR CLARITY



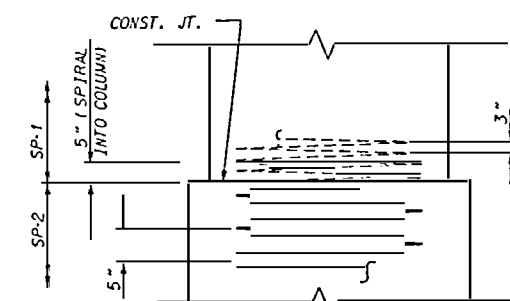


PARTIAL PLAN

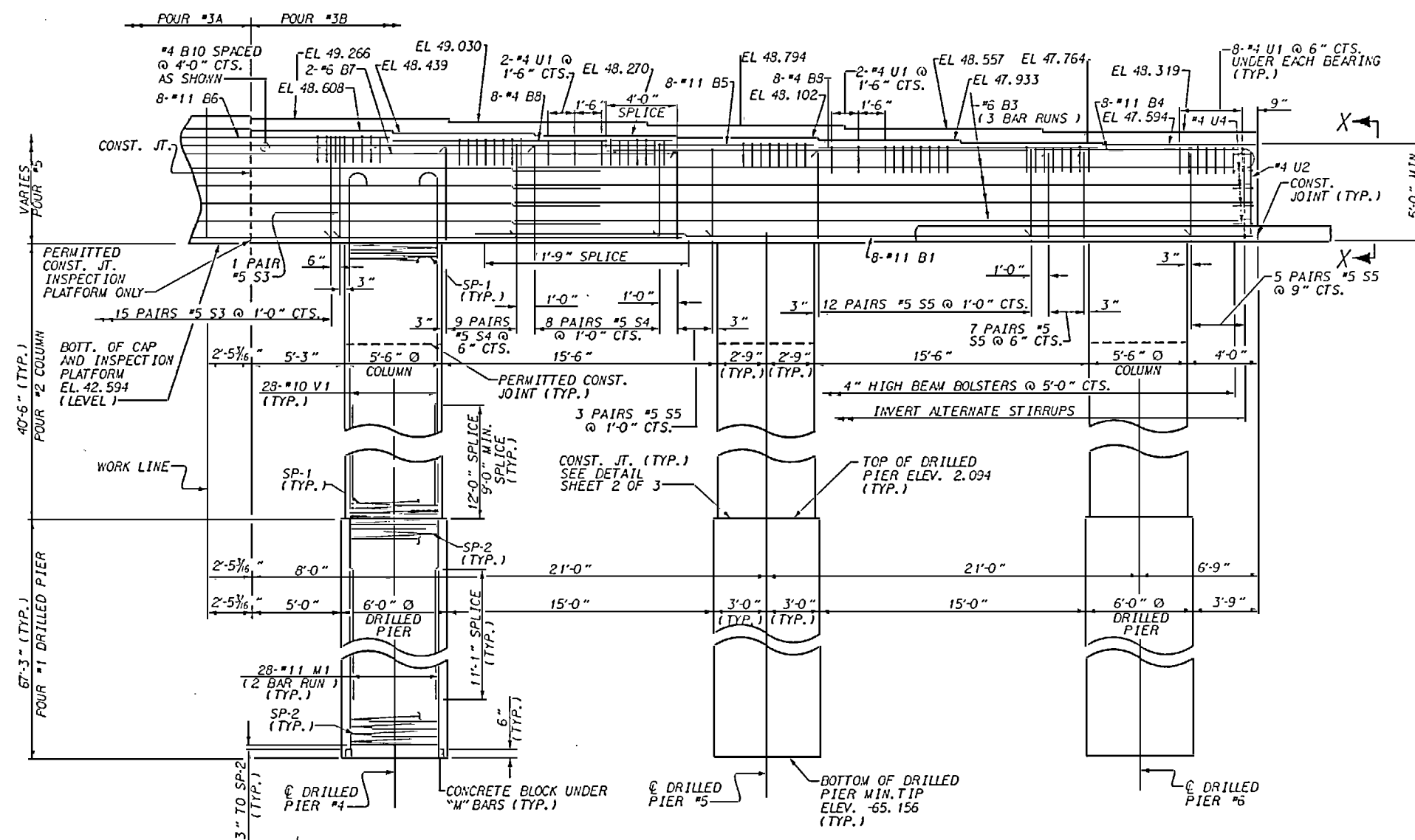
NOTE : COLUMNS & DRILLED PIERS NOT SHOWN FOR CLARITY



VIEW X-X



CONSTRUCTION JOINT DETAIL



PARTIAL ELEVATION

(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH COLUMN & DRILLED PIER)

BY : S. B. WILLIAMS/GDC DATE : 12-6-95
ED BY : H. M. RUFFIN DATE : 2/21/97

PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

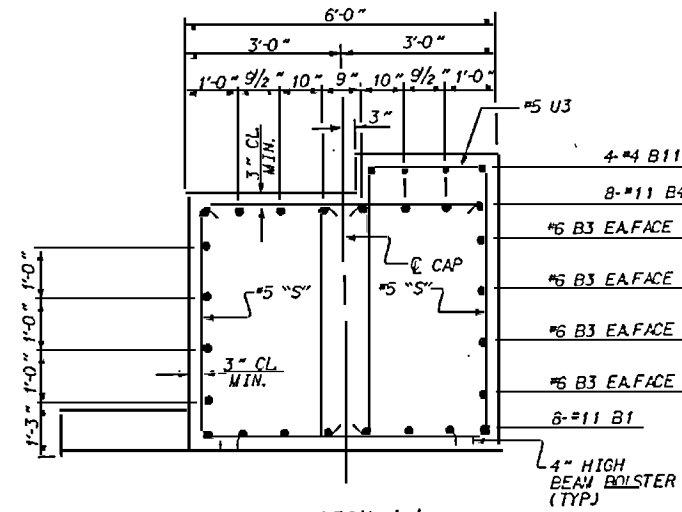
SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

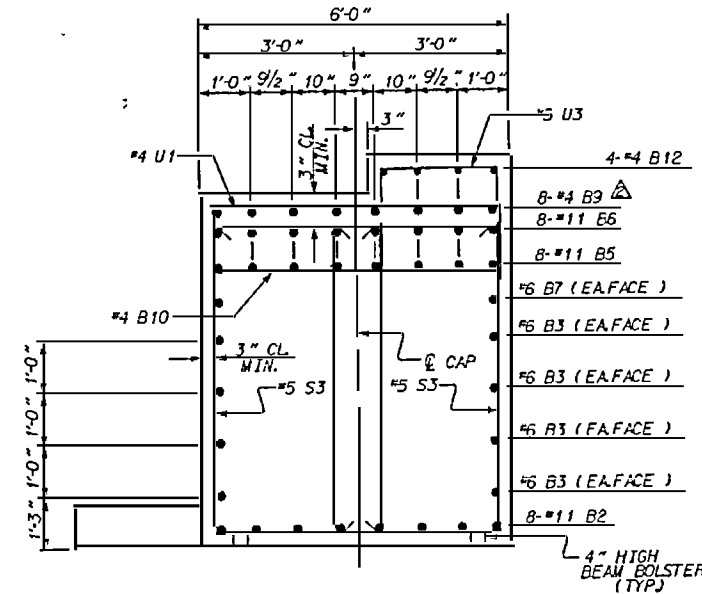
SUBSTRUCTURE
BENT #11

REVISIONS						SHEET NO. 139
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			

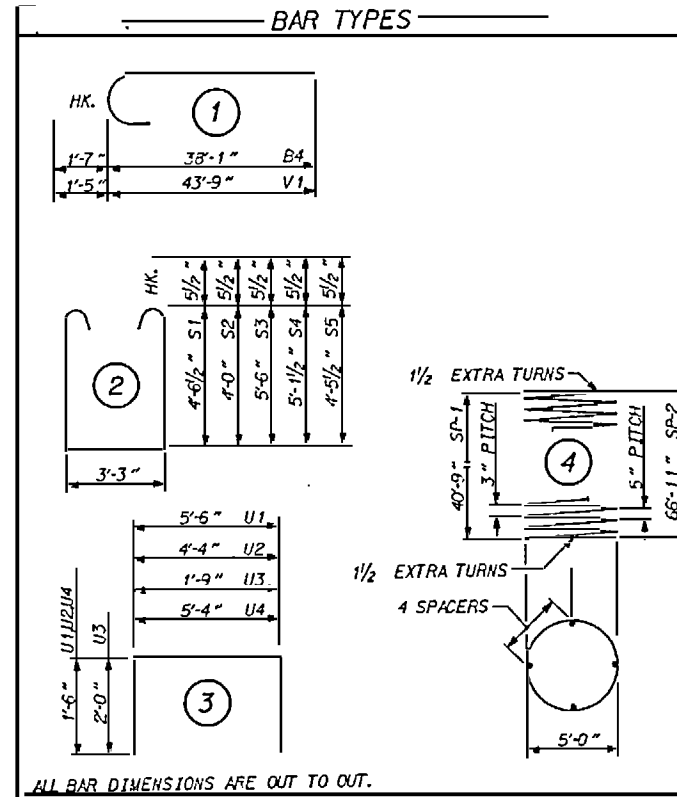
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OC02



SECTION A-A



SECTION B-B



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

BENT #11

BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
B1	16	II	STR	43'-11	3733
B2	8	II	STR	53'-9	2285
B3	28	II	STR	42'-0	1703
B4	16	II	STR	39'-8	3372
B5	16	II	STR	37'-4	3174
B6	8	II	STR	20'-6	871
B7	4	II	STR	26'-11	162
B8	32	II	STR	15'-9	337
B9	8	II	STR	4'-6	24
B10	14	II	STR	5'-6	51
B11	40	II	STR	11'-10	316
B12	8	II	STR	4'-6	24

M1	336	II	STR	44'-11	8084
S1	48	5	2	13'-3	663
S2	40	5	2	12'-2	508
S3	34	5	2	15'-2	538
S4	34	5	2	14'-5	511
S5	54	5	2	13'-1	737

U1	130	4	3	8'-6	738
U2	10	4	3	7'-4	49
U3	128	5	3	5'-9	768
U4	8	4	3	8'-4	45

VI	168	10	1	45'-2	32651
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INSPECTION PLATFORM EPOXY COATED REINFORCING STEEL LBS. 2070

EPOXY COATED REINFORCING STEEL LBS. 135514

SP-1 6 4 2586-2 10365

SP-2 6 4 2544-0 15920

EPOXY COATED SPIRAL COLUMN REINFORCING STEEL LBS. 26285

CONCRETE BREAKDOWN
CLASS AA CONCRETE
POUR #2 COLUMN C.Y. 213.8
POUR #3A CAP C.Y. 81.3
POUR #3B CAP C.Y. 73.4

POUR #4 INSPECTION PLATFORM C.Y. 10.4

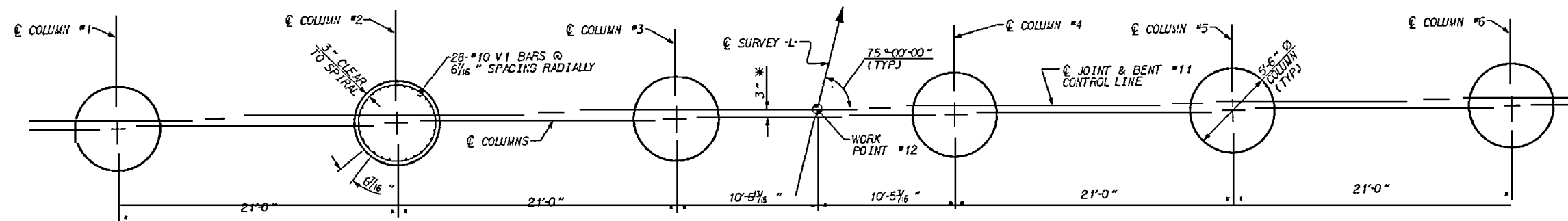
TOTAL C.Y. 378.9

DRILLED PIERS
CONCRETE BREAKDOWN
CLASS AA CONCRETE
POUR #1 DRILLED PIERS C.Y. 422.5

6'-0" DIA. DRILLED PIERS 403.5 L.F.

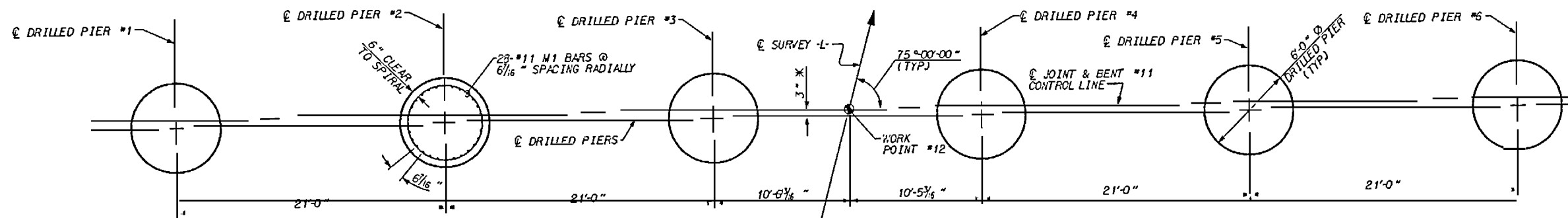
2" Ø GALVANIZED STEEL PIPE RAIL 132.5 L.F.

6'-0" DIA. PERMANENT STEEL CASING 138.56 L.F.



PLAN OF COLUMNS

(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH COLUMN)



PLAN OF DRILLED PIERS

(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH DRILLED PIER)

REV. #2 SHOW #489 BARS IN SECTION B-B

BY: MJH DATE: 4/19/99
CHECKED BY: SDC DATE: 4/20/99

REV. #1: REVISED CONCRETE QUANTITY FOR BENT CAP

BY: J. M. R. DATE: 10/5/98



PROJECT NO. U-2107BA

ONSLOW COUNTY

STATION: 277+50.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT #11

NO.	BY	DATE	NO.	BY	DATE
1	BY	DATE	1	BY	DATE

SHEET NO. 140

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.

HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.

FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.

ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR EPOXY COATED REINFORCING STEEL AND EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.

THE DRILLED PIERS SHALL BE INSTALLED TO MINIMUM TIP ELEVATION SHOWN ON PLAN.

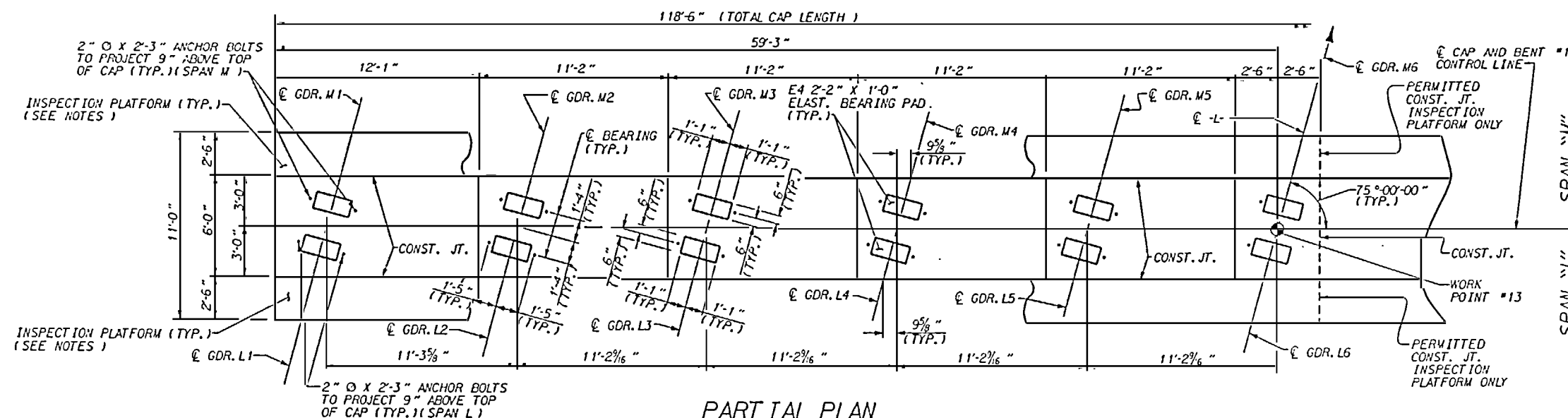
FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

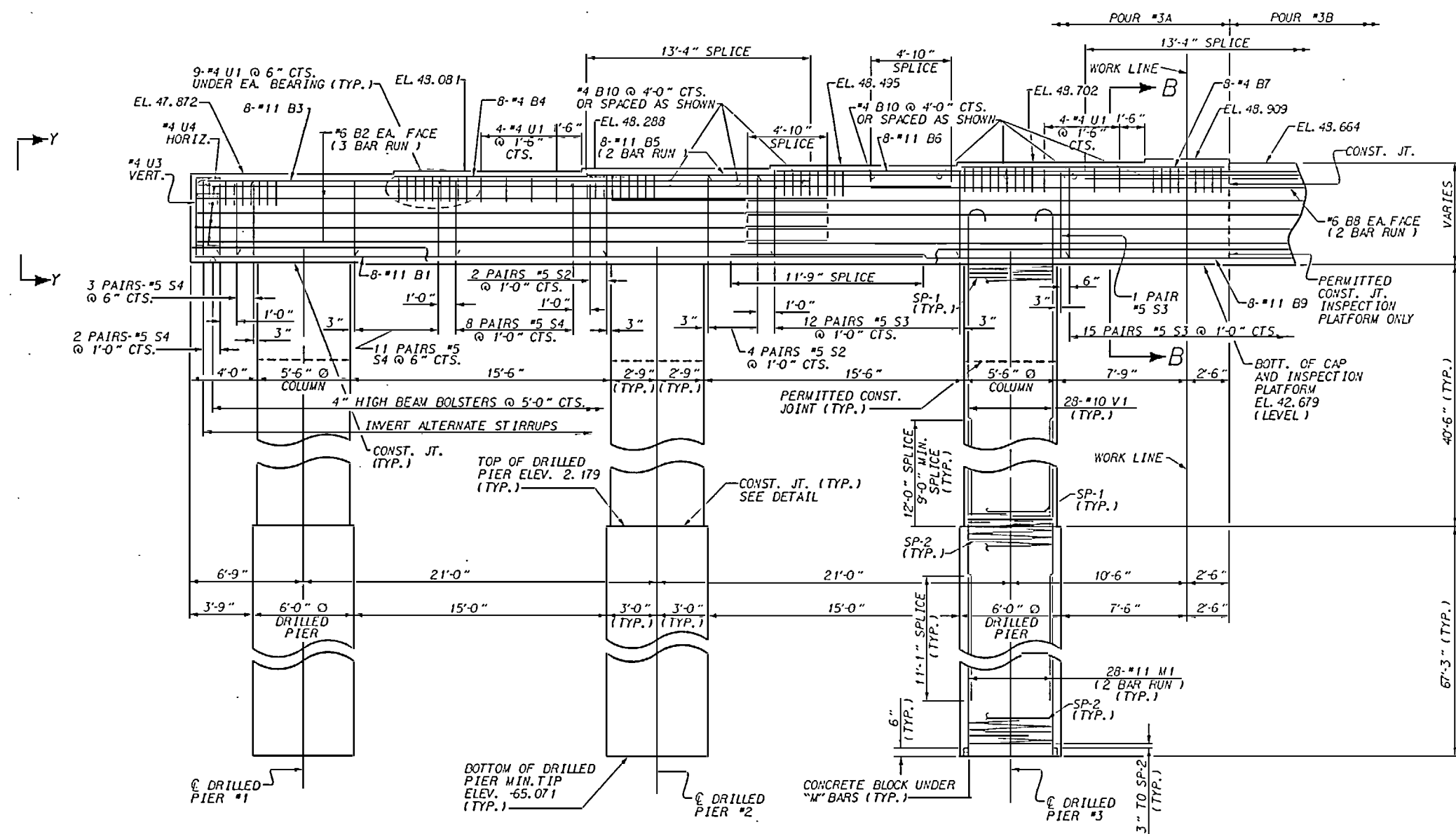
ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.

FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL, DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT INSPECTION PLATFORM DETAILS SHEET.

FOR OPTIONAL MECHANICAL BUTT SPLICING FOR REINFORCING STEEL, SEE SPECIAL PROVISIONS.

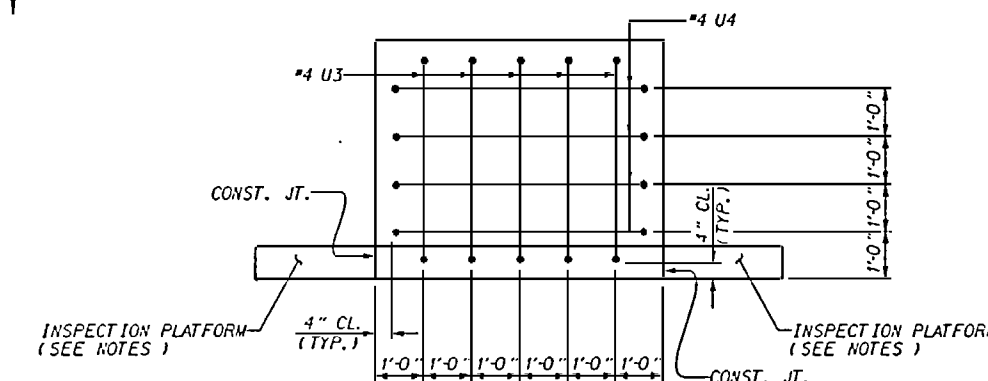


PARTIAL PLAN
(COLUMNS NOT SHOWN FOR CLARITY)

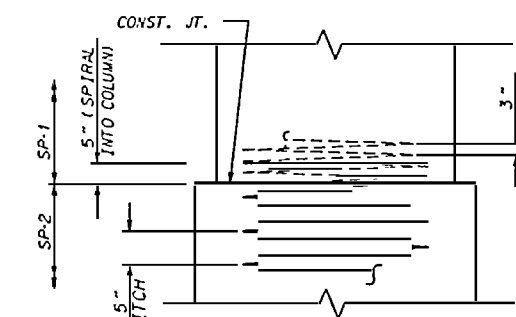


PARTIAL ELEVATION

(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH COLUMN & DRILLED PIER)



VIEW Y-Y



CONSTRUCTION JOINT DETAIL

PROJECT NO. U-2107BA

ONSLow COUNTY

STATION: 277+50.00 -L-

SHEET 1 OF 3

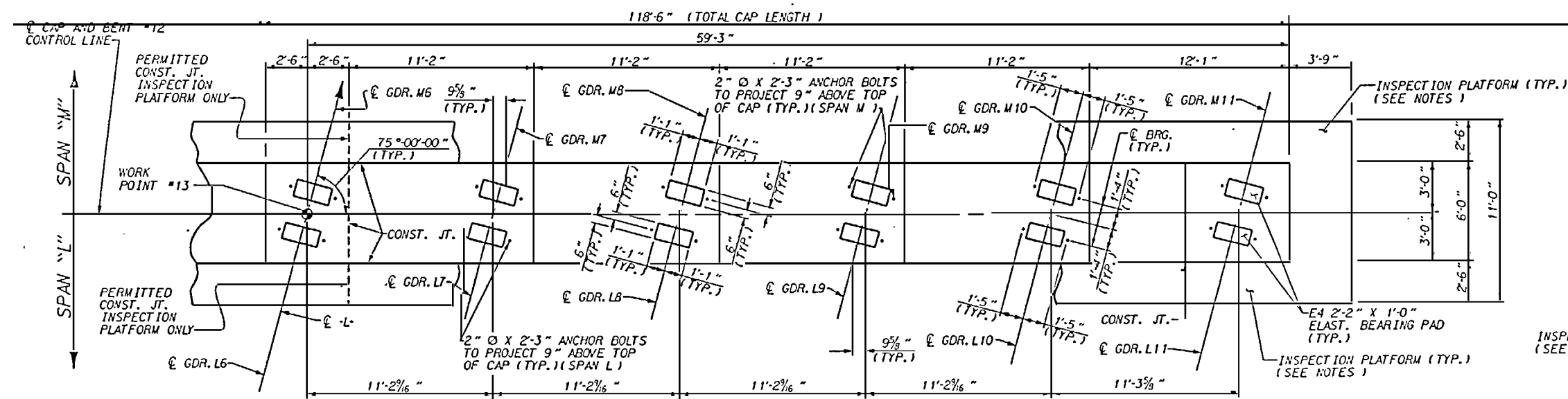
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
BENT #12**



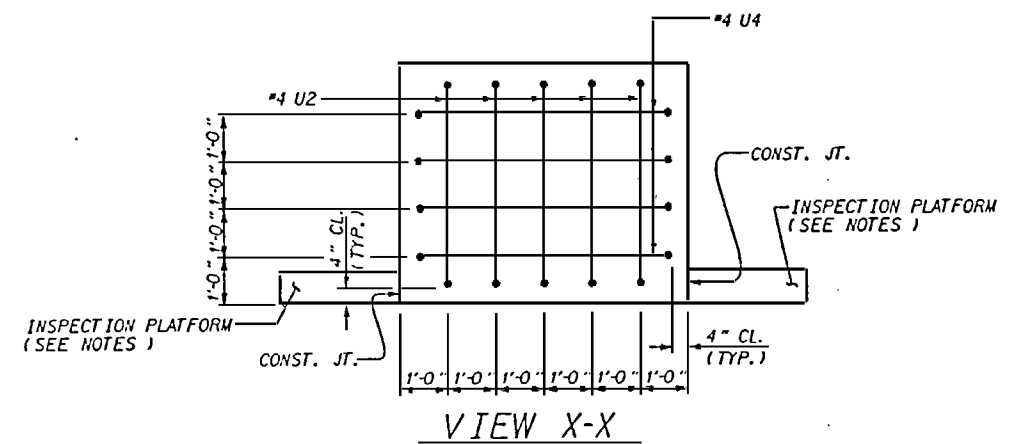
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			2			5-141
2			3			TOTAL SHEETS 170

DRAWN BY: G.D. CARROLL DATE: 12/18/95
CHECKED BY: O.R. ALT DATE: 12/20/95

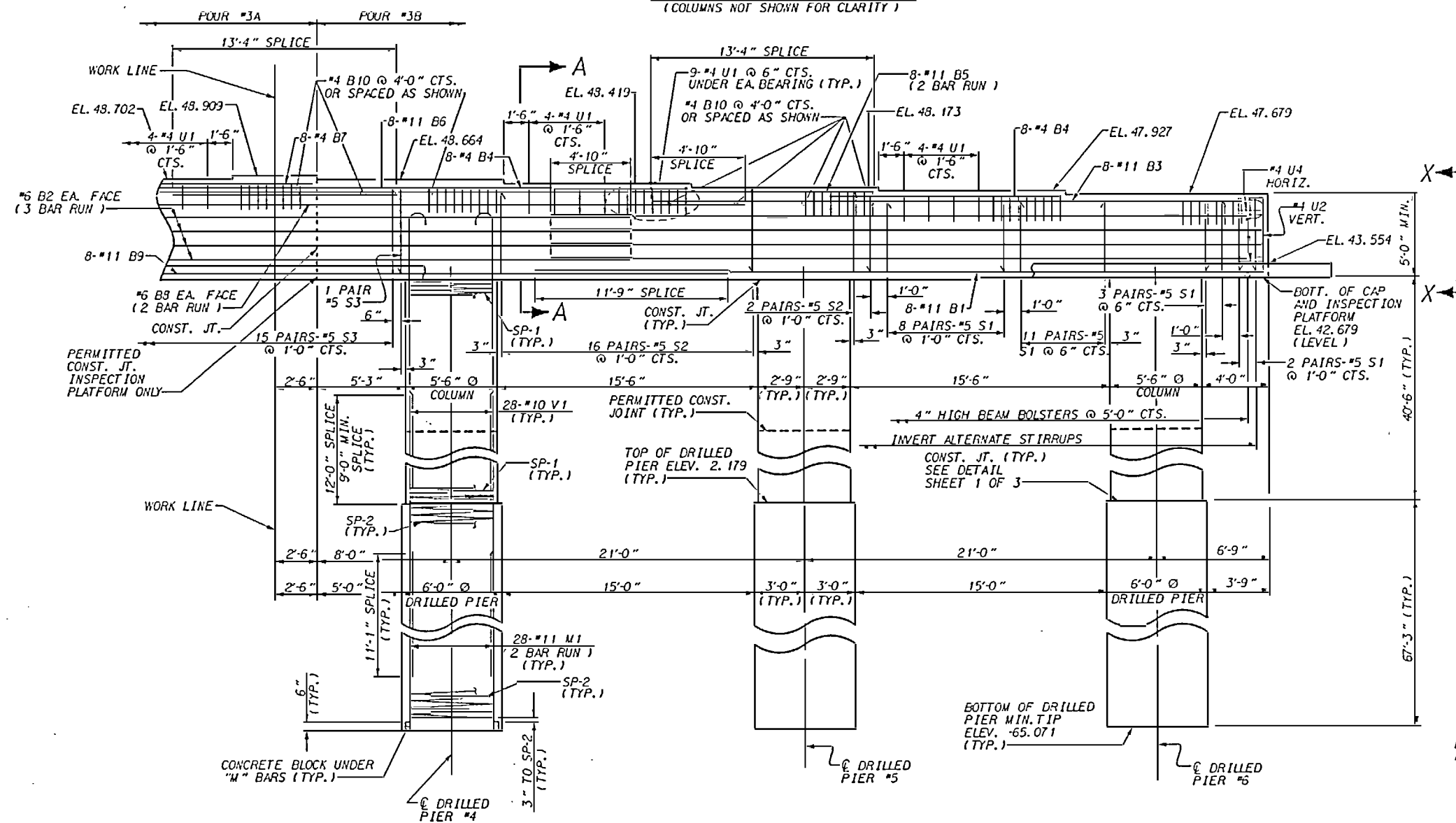


PARTIAL PLAN

(COLUMNS NOT SHOWN FOR CLARITY)

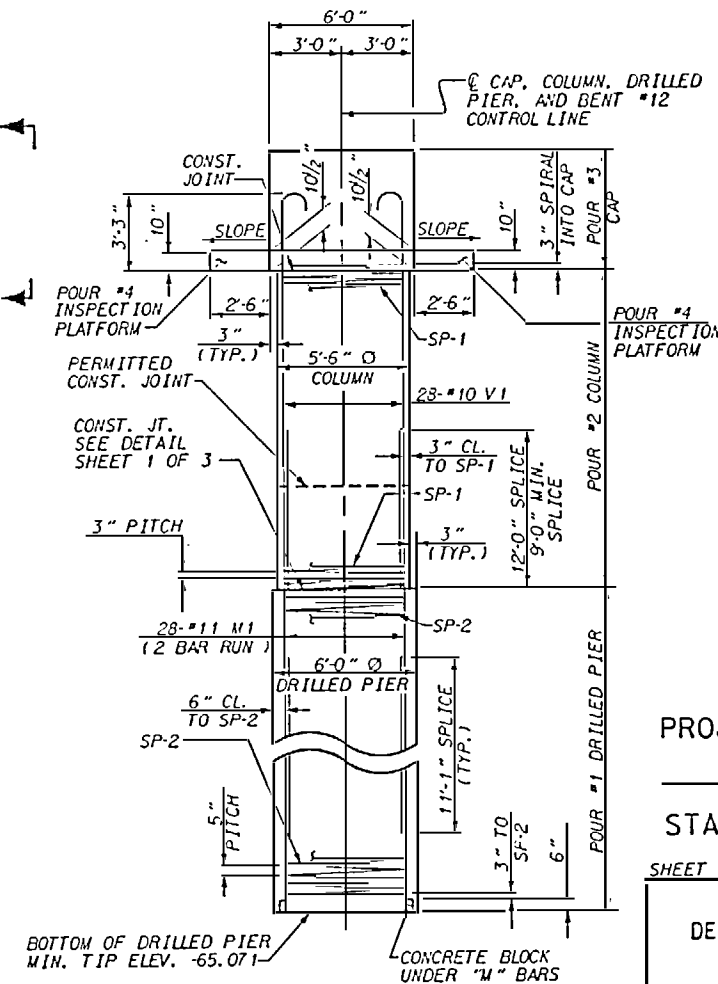


VIEW X-X



PARTIAL ELEVATION

(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH COLUMN & DRILLED PIER)



RIGHT END ELEVATION



PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 2 OF 3

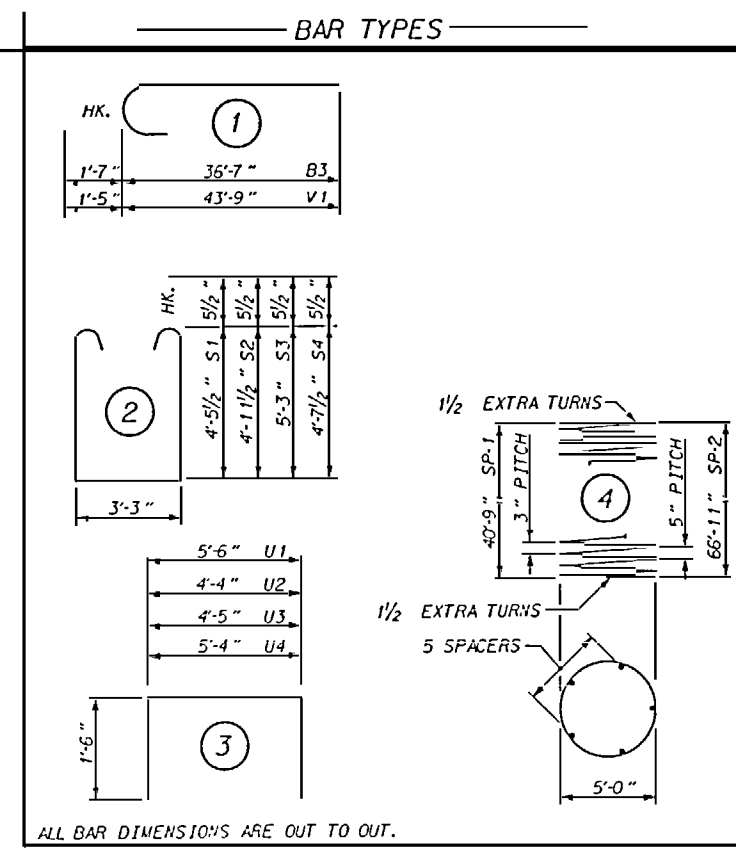
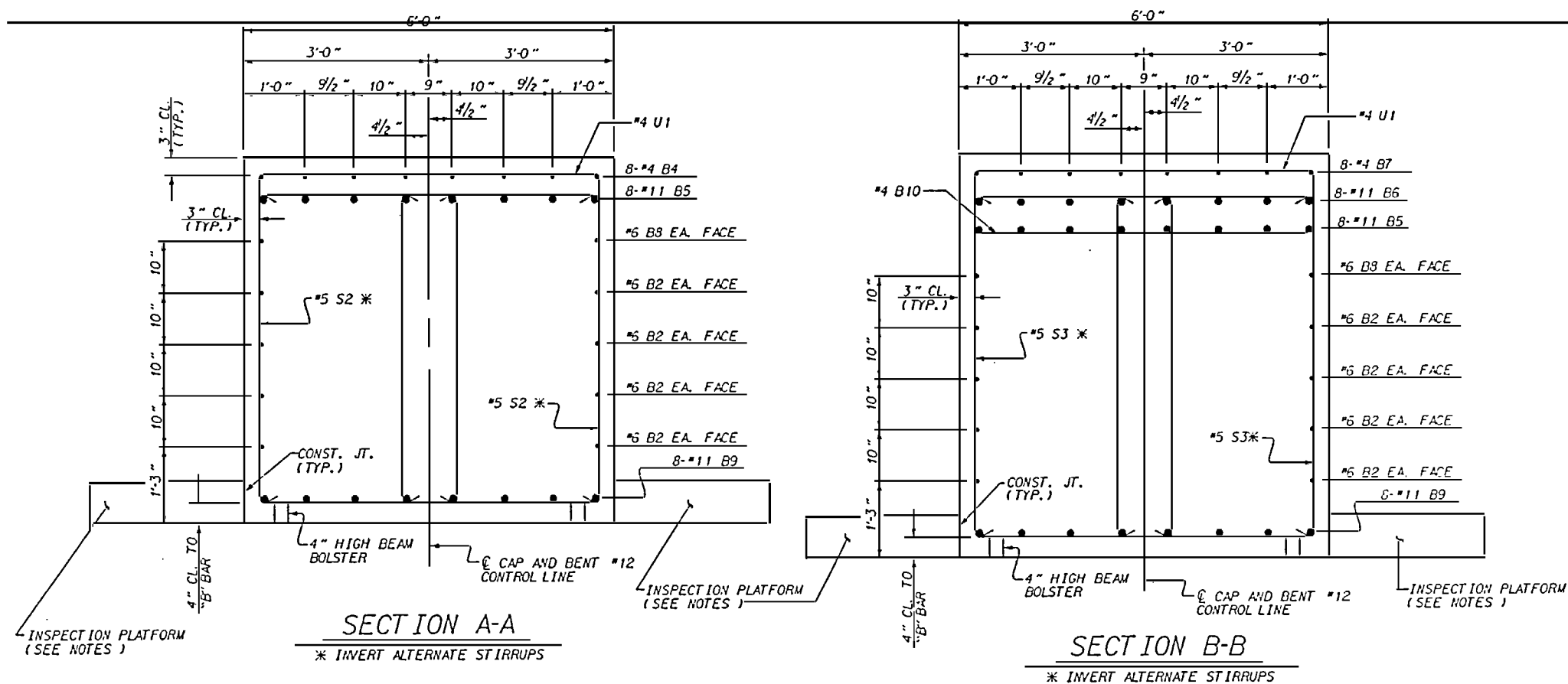
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 BENT #12**

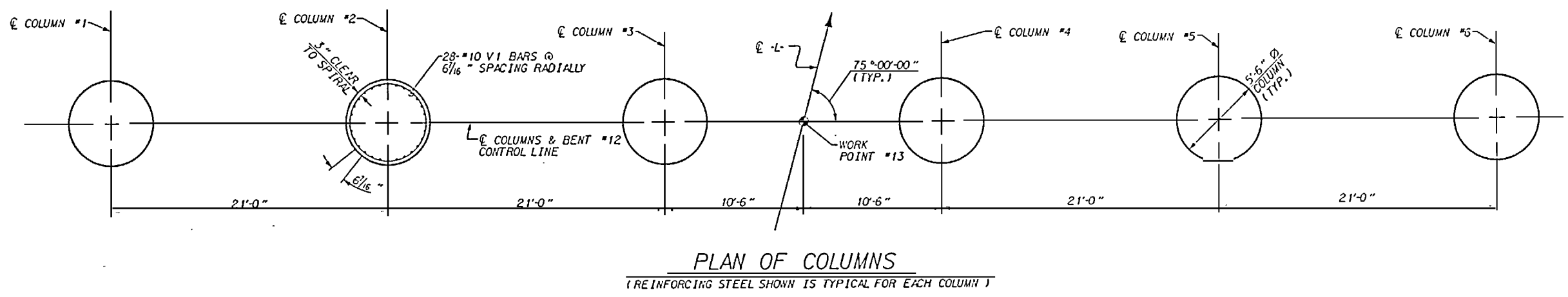
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
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2			4			TOTAL SHEETS 170

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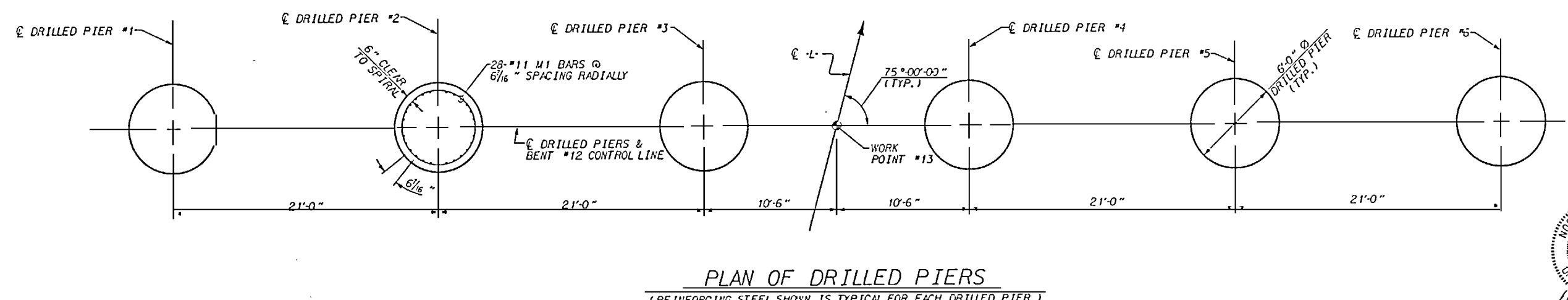
BY: G.D. CARROLL DATE: 12/18/96
 ED BY: O.R. AZIZI DATE: 12/20/96



BILL OF MATERIAL					
BENT #12					
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
B1	16	II	STR	43'-11"	3733
B2	24	6	STR	42'-7"	1535
B3	16	II	STR	38'-2"	3244
B4	24	4	STR	13'-9"	220
B5	16	II	STR	42'-5"	3606
B6	8	II	STR	38'-0"	1615
B7	8	4	STR	15'-8"	84
B8	4	6	STR	45'-7"	274
B9	8	II	STR	54'-0"	2295
B10	15	4	STR	5'-6"	55
M1	336	II	STR	44'-11"	80184
S1	48	5	2	13'-1"	655
S2	48	5	2	14'-1"	705
S3	58	5	2	14'-8"	887
S4	48	5	2	13'-5"	672
U1	115	4	3	8'-6"	653
U2	5	4	3	7'-4"	24
U3	5	4	3	7'-5"	25
U4	8	4	3	8'-4"	45
VI	168	10	1	45'-2"	32651
INSPECTION PLATFORM EPOXY COATED REINFORCING STEEL LBS.					3981
EPOXY COATED REINFORCING STEEL LBS.					137143
SP-1	6	4	2586-2	10365	
SP-2	6	4	2544-0	15920	
EPOXY COATED SPIRAL COLUMN REINFORCING STEEL LBS.					26285
CONCRETE BREAKDOWN					
CLASS AA CONCRETE					
POUR #2 COLUMN					C. Y. 213.8
POUR #3A CAP					C. Y. 77.6
POUR #3B CAP					C. Y. 69.2
POUR #4 INSPECTION PLATFORM					C. Y. 20.1
TOTAL					C. Y. 380.7
DRILLED PIERS					
CONCRETE BREAKDOWN					
CLASS AA CONCRETE					
POUR #1 DRILLED PIERS					C. Y. 422.5
6'-0" DIA. DRILLED PIERS NOT IN ROCK					403.5 L. F.
2" Ø GALVANIZED STEEL PIPE RAIL					255.0 L. F.
6'-0" DIA. PERMANENT STEEL CASING					139.07 L. F.



PLAN OF COLUMNS
(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH COLUMN)



PLAN OF DRILLED PIERS
(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH DRILLED PIER)

AM BY: G.D. CARROLL DATE: 12/18/96
CKED BY: O.R. AZIZI DATE: 12/20/96



PROJECT NO. U-2107BA
ONSLow COUNTY
STATION: 277+50.00 -L-
SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT #12

REVISIONS						SHEET NO. S-143
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

12-JAN-1999 14:32
*****ADG*****

STIRRIPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.

HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.

FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS .

ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR EPOXY COATED REINFORCING STEEL AND EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.

THE DRILLED PIERS SHALL BE INSTALLED TO MINIMUM TIP ELEVATION SHOWN ON PLAN.

FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.

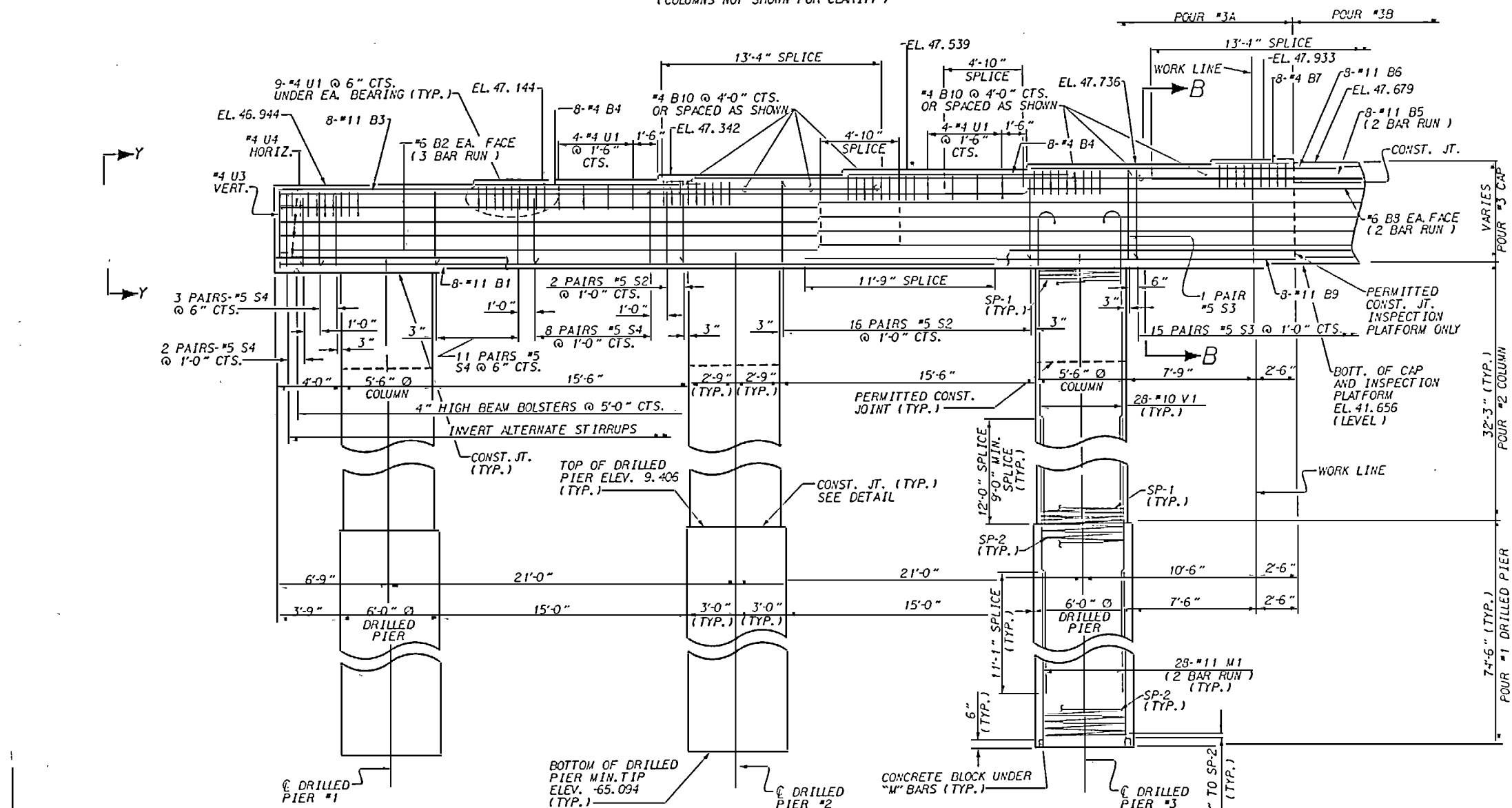
ALL REINFORCING STEEL SHALL BE EPOXY COATED.

ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.

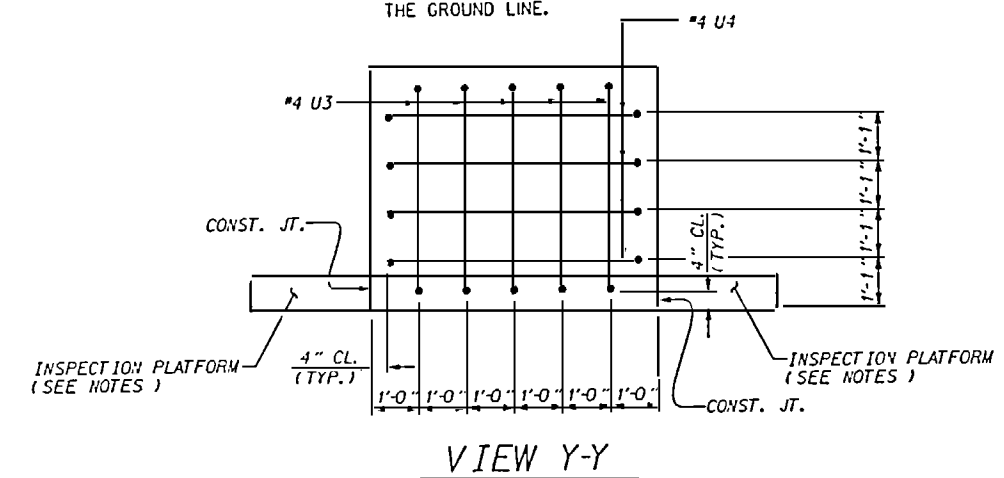
FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL, DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT INSPECTION PLATFORM DETAILS SHEET.

FOR OPTIONAL MECHANICAL BUTT SPlicing FOR REINFORCING STEEL, SEE SPECIAL PROVISIONS.

THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIER IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 1'-0" BELOW THE GROUND LINE.



(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH COLUMN & DRILLED PIER)



VIEW Y-Y



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT #13

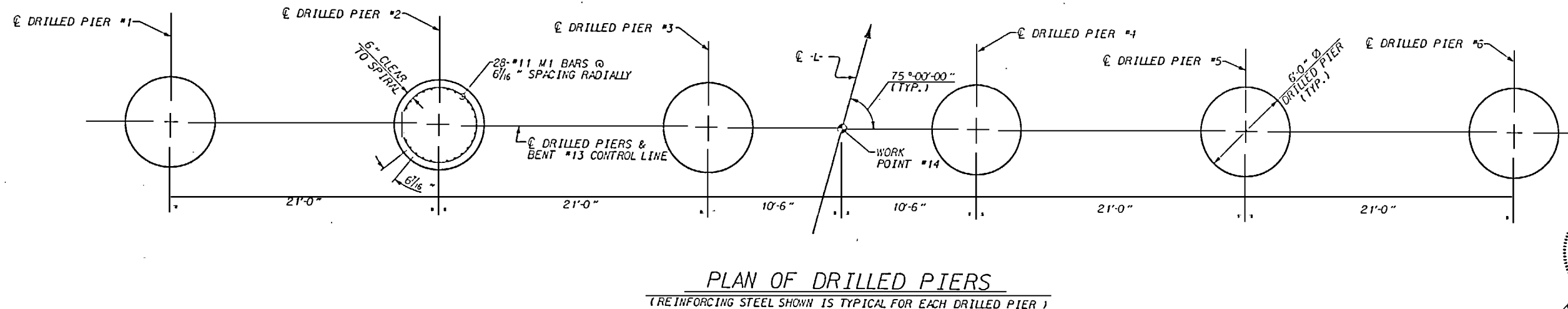
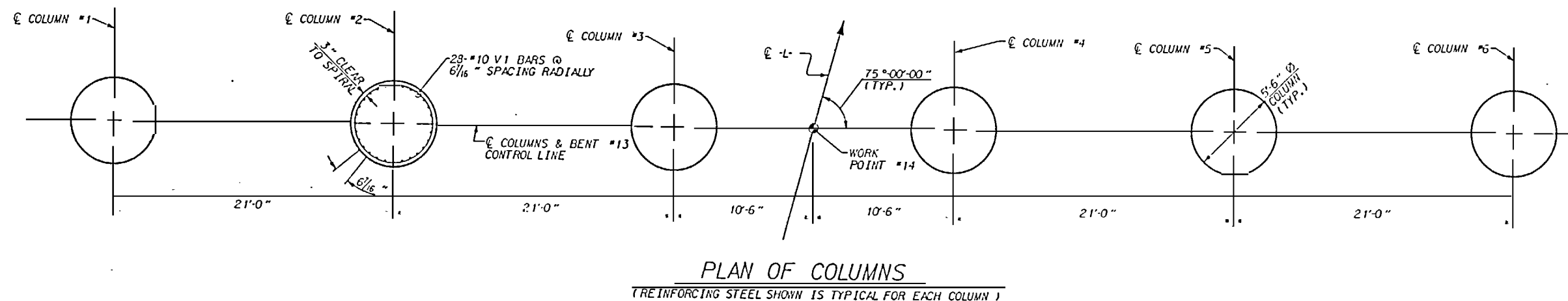
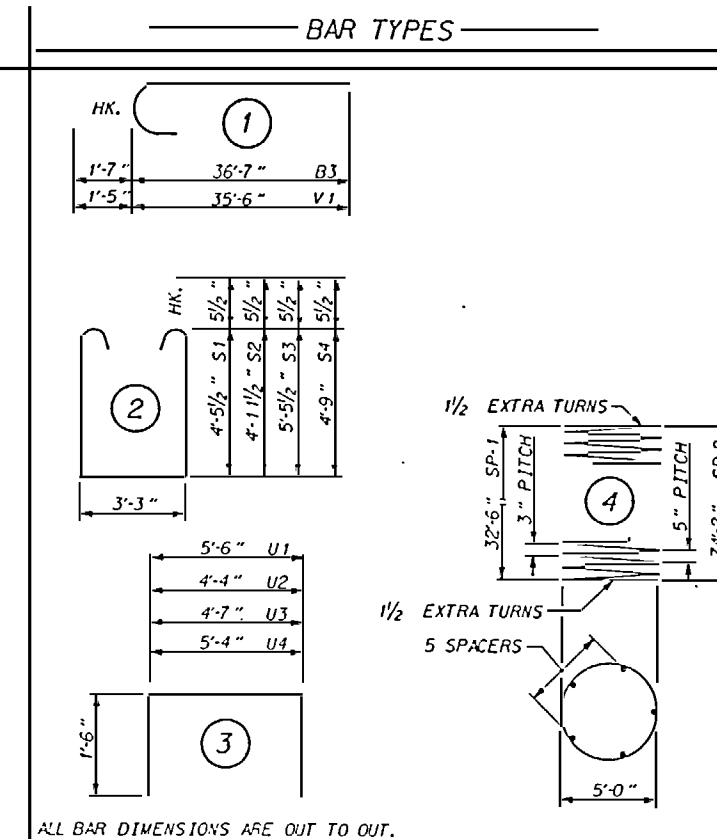
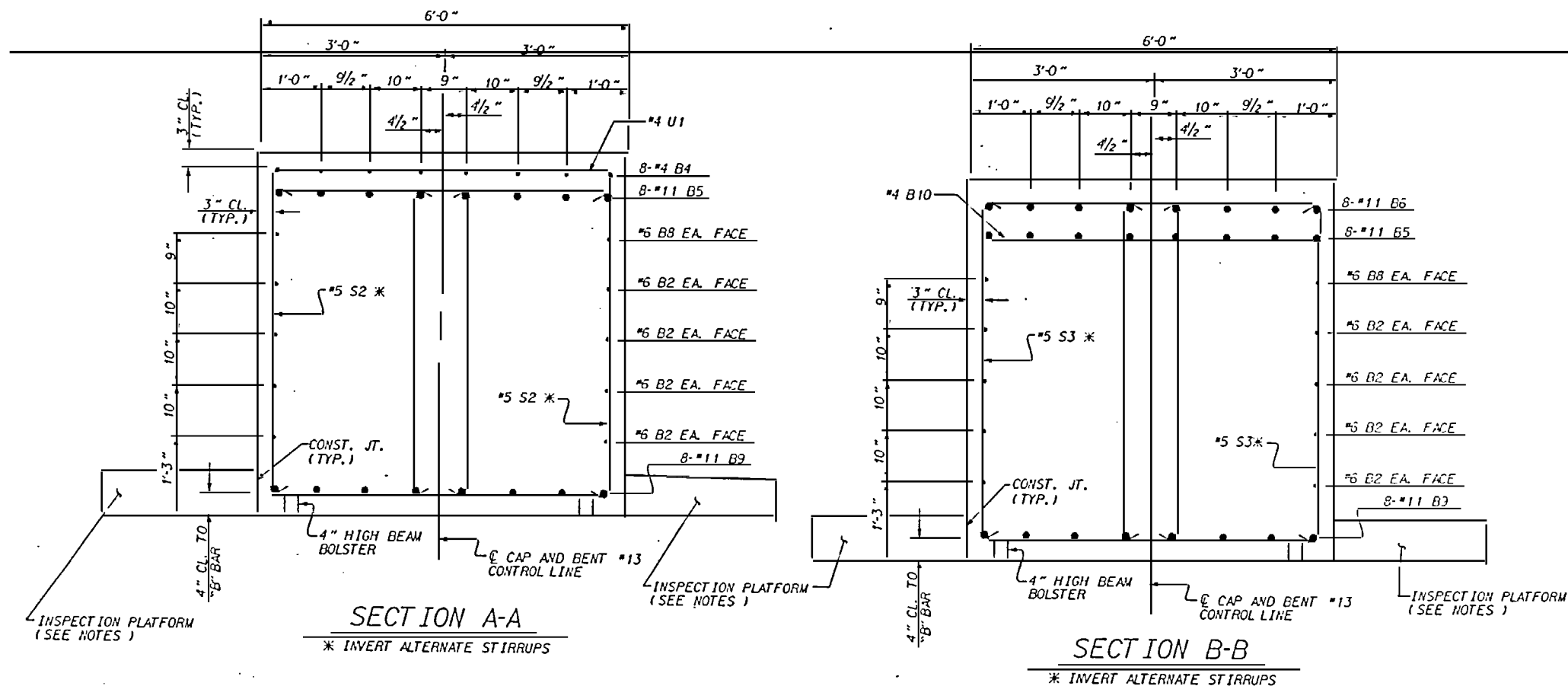
REVISIONS						SHEET # 5-14
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 170
2			4			

1-APR-1937 14:27
 *****DCN*****
 greg

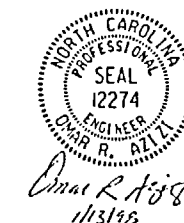
DRAWN BY : G.D. CARROLL DATE : 12/18/96
CHECKED BY : O.R. AZIZI DATE : 1/7/97

CONSTRUCTION JOINT DETAIL

SHEET 1
S-14
TOTAL
SHEETS
170



DRAWN BY: G.D. CARROLL/SBY DATE: 12/18/96
 CHECKED BY: O.R. AZIZI DATE: 1/7/97



PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-
 SHEET 3 OF 3

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-146
2			4			TOTAL SHEETS 170

12-JAN-1999 14:32
 *****DGG*****
 P01

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO
CLEAR ANCHOR BOLTS.

FOR EPOXY COATED SPIRAL COLUMN REINFORCING STEEL,
SEE SPECIAL PROVISIONS.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS .

ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE
PAY ITEMS FOR EPOXY COATED REINFORCING STEEL AND
EPOXY COATED SPIRAL COLUMN REINFORCING STEEL.

THE DRILLED PIERS SHALL BE INSTALLED TO MINIMUM
TIP ELEVATION SHOWN ON PLAN.

FOR PILE INTEGRITY TESTING, SEE SPECIAL PROVISIONS.

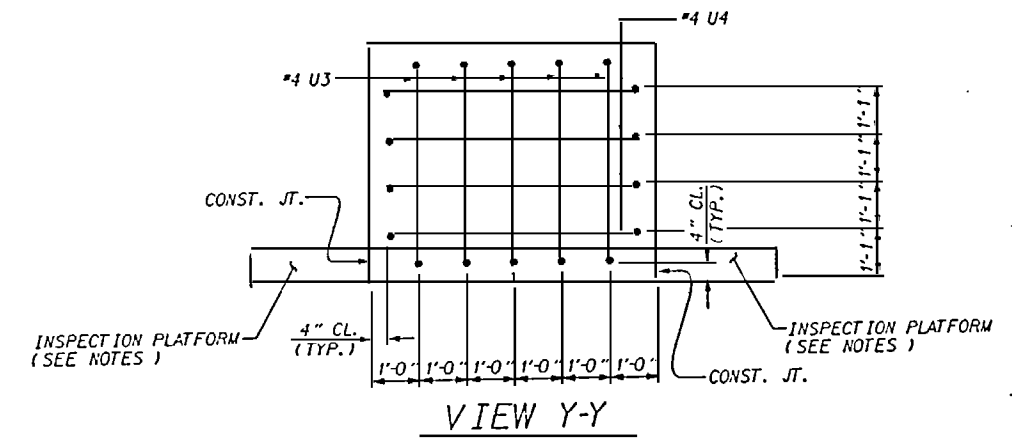
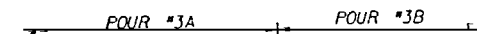
ALL REINFORCING STEEL SHALL BE EPOXY COATED.

ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.

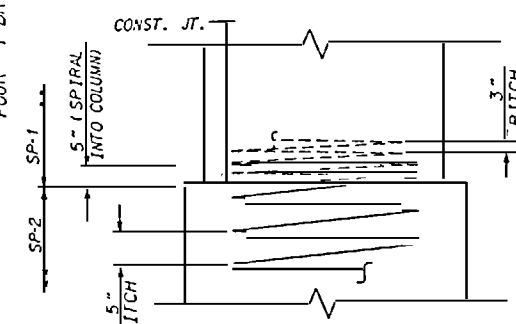
FOR INSPECTION PLATFORM DIMENSIONS, BILL OF MATERIAL, DETAILS, AND GALVANIZED STEEL PIPE RAILING SEE BENT INSPECTION PLATFORM DETAILS SHEET.

FOR OPTIONAL MECHANICAL BUTT SPlicing FOR REINFORCING STEEL, SEE SPECIAL PROVISIONS.

THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIER IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 1'-0" BELOW THE GROUND LINE.



(REINFORCING STEEL SHOWN IS TYPICAL FOR EACH COLUMN & DRILLED PIER)



PROJECT NO. U-2107BA

ON SLOW COUNTY

STATION: 277+50.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT #14

REVISIONS						SHEET 5-
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEET 170
2			4			

1-APR-1997 14:27
#####DCN#####
0000

NOTES

FOR GALVANIZED STEEL PIPE RAIL. SEE STANDARD SPECIFICATIONS.

THE BASE PLATE AND STEEL PIPE RAIL SHALL BE WELDED PRIOR TO GALVANIZATION.

FOR PERMITTED FIELD SPLICE OF THE PIPE RAIL. SEE SHEET 2 OF 2.

FOR ADHESIVE ANCHOR SYSTEM, SEE SPECIAL PROVISION FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOMELS.

TESTING FOR ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

REINFORCING STEEL, CLASS AA CONCRETE AND 2" Ø GALVANIZED STEEL PIPE RAIL QUANTITIES FOR THE INSPECTION PLATFORM ARE TO BE INCLUDED IN THE BILL OF MATERIAL FOR EACH INDIVIDUAL BENT.

ALL RAIL POSTS SHALL BE PLUMB.

REINFORCING BARS R1 & R2 SHALL BE CAST WITH THE BENT CAP AND MAY BE SHIFTED AS NECESSARY TO CLEAR CAP REINFORCING STEEL.

ALL REINFORCING STEEL IN THE INSPECTION PLATFORM SHALL BE EPOXY COATED.

EPOXY PROTECTIVE COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE INSPECTION PLATFORM AT BENTS #3, #7, & #11. FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36.

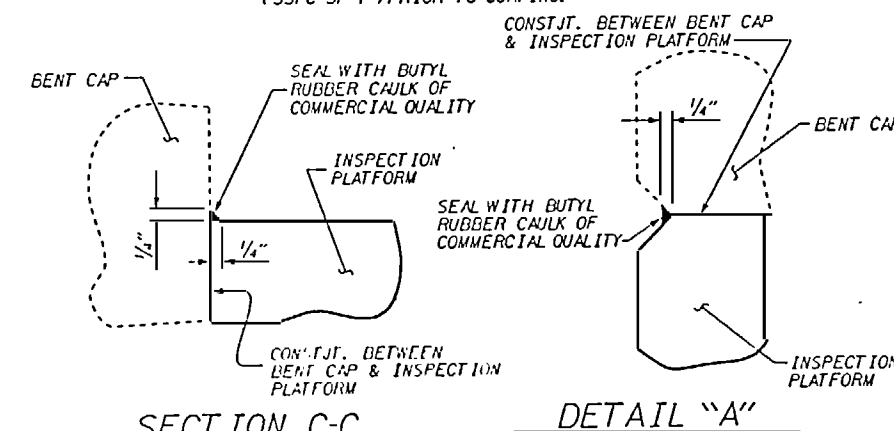
ALL STRUCTURAL STEEL SHALL BE GALVANIZED. SEE STANDARD SPECIFICATIONS.

ALL STRUCTURAL STEEL, ADHESIVE ANCHORS, PREFORMED BEARING PAD, NUTS, WASHERS, AND FIELD SPLICE SHALL BE INCLUDED IN THE LINEAR FOOT PRICE OF 2" Ø GALVANIZED STEEL PIPE RAIL.

ADHESIVE ANCHORS SHALL BE ASTM F593 TYPE 305 STAINLESS STEEL. HEX NUTS SHALL BE STAINLESS STEEL AND MEET THE REQUIREMENTS OF ASTM F594. WASHERS SHALL MEET THE REQUIREMENTS OF ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.

ALL GALVANIZED STRUCTURAL STEEL AND GALVANIZED PIPE RAIL SHALL BE PAINTED WITH A GRAY TOP COAT OF ACRYLIC PAINT 2-4 MILS (DFT) AS PER STANDARD SPECIFICATIONS 1080-13.

THE GALVANIZED SURFACE SHALL BE CLEANED TO (SSPC SP-1) PRIOR TO COATING.



SECTION C-C

DETAIL 'A'

PROJECT NO. U-2107BA

ONslow COUNTY.

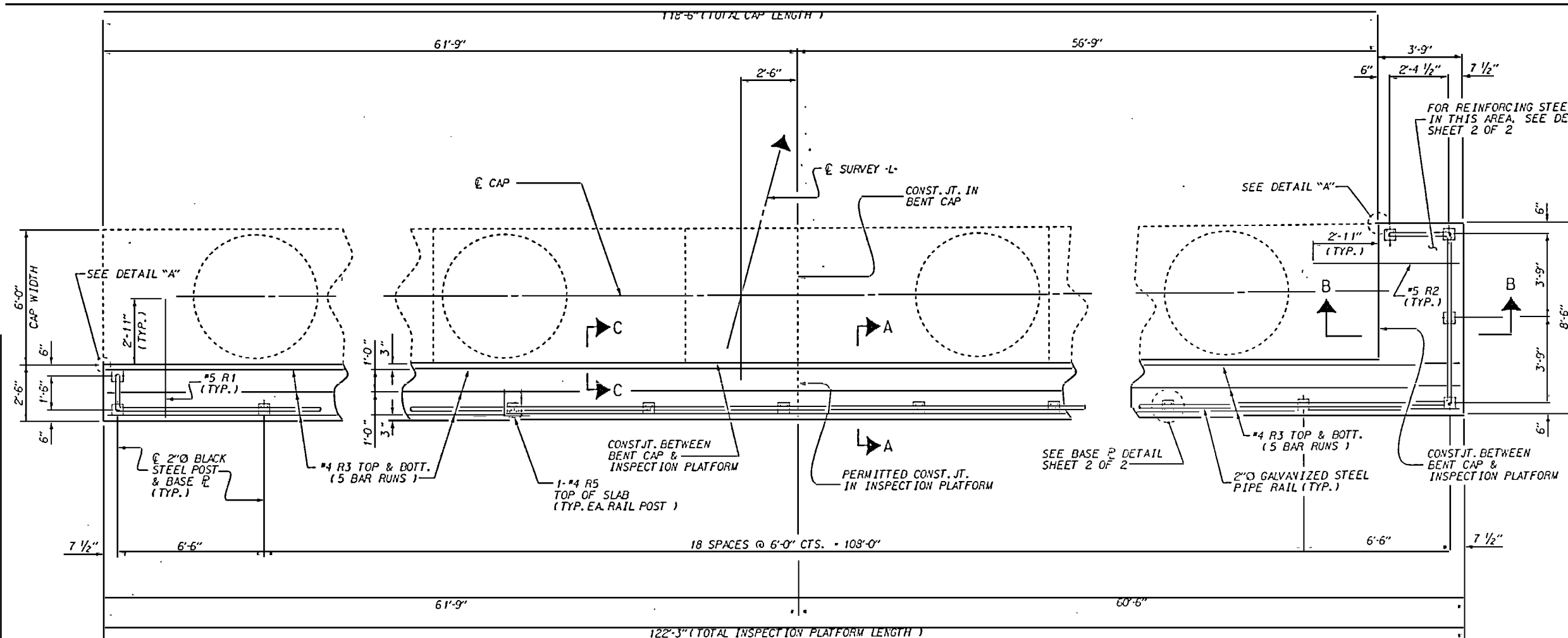
STATION: 277+50.00 -L-

SHEET 1 OF 2



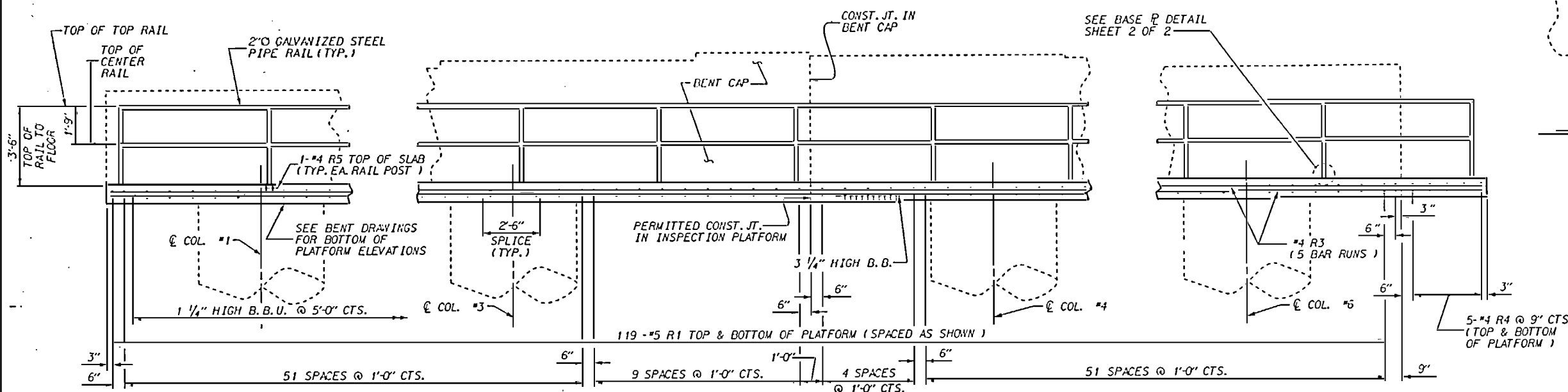
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**BENT
INSPECTION PLATFORM
DETAILS
BENTS #3, #7, AND #1**

REVISIONS						SHEET
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-15C
2			4			
TOTAL SHEET: 170						



PLAN OF INSPECTION PLATFORM

(FOR SECTIONS A-A & B-B. SEE SHEET 2 OF 2)

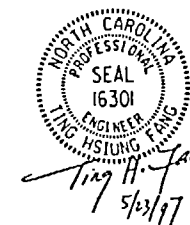
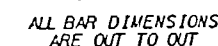


ELEVATION

DRAWN BY: M. R. H. / M. R. H. DATE: 11-27-95
CHECKED BY: T. H. FANG DATE: 12/16/95

BAR	No.	SIZE	TYPE	LENGTH	WEIGHT
R1	240	#5	STR.	5'-3"	1,314
R2	16	#5	STR.	6'-8"	103
R3	30	#4	STR.	26'-5"	529
R4	10	#4	STR.	8'-2"	55
R5	25	#4	1	3'-10"	64

BAR TYPE

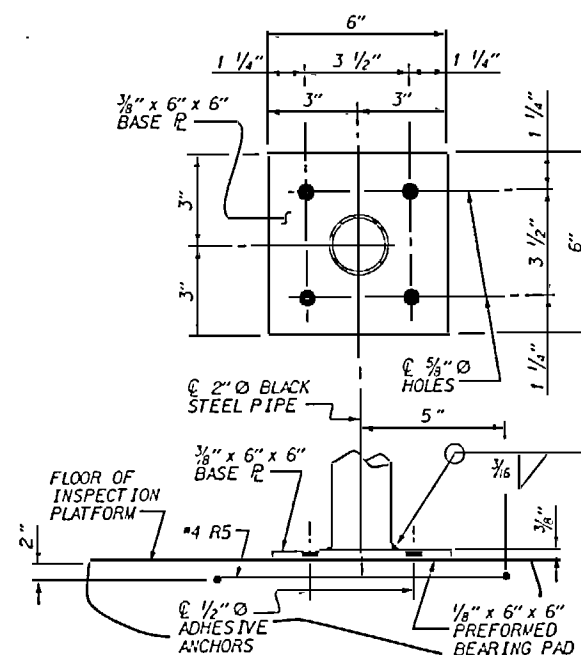
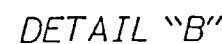


PROJECT NO. U-2107BA
ON SLOW COUNTY
 STATION: 277+50.00 -L-

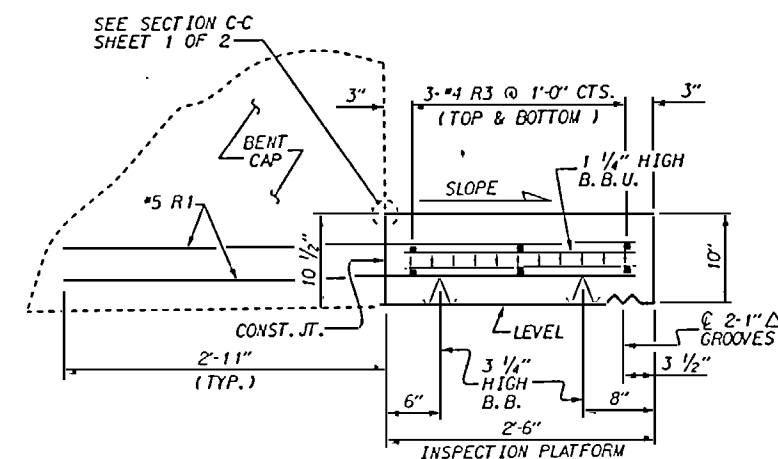
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

*BENT
INSPECTION PLATFORM
DETAILS
BENTS #3, #7, AND #1*

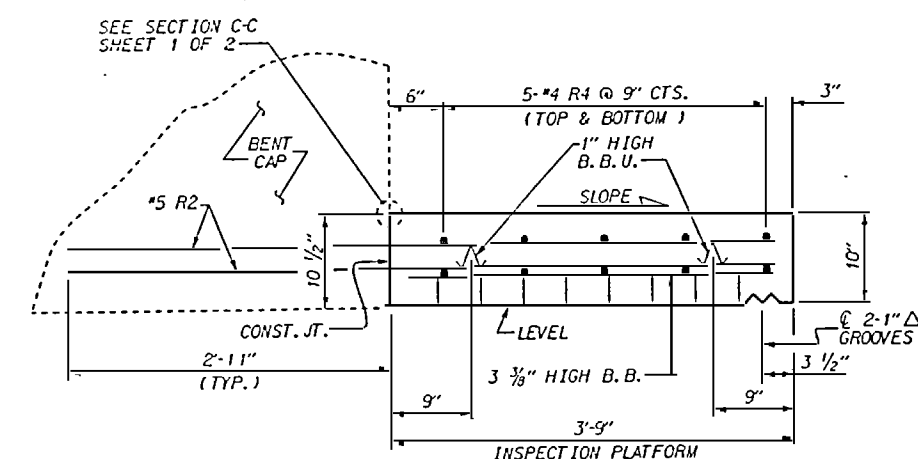
REVISIONS						SHEET NO. S-151
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			



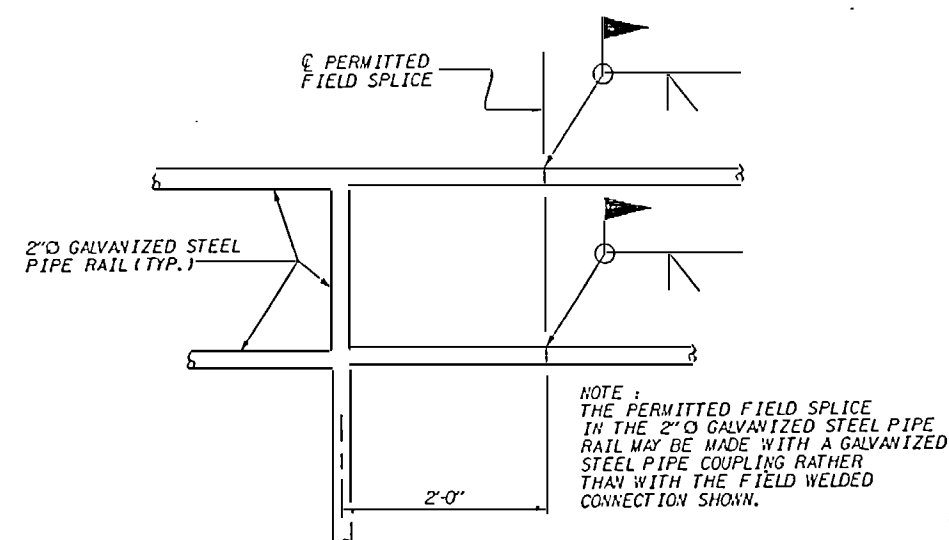
BASE PL DETAILS



SECTION A-A



SECTION B-B



PERMITTED FIELD SPLICE DETAIL

NOTES

FOR GALVANIZED STEEL PIPE RAIL. SEE STANDARD SPECIFICATIONS.

~~THE BASE PLATE AND STEEL PIPE RAIL SHALL BE WELDED
PRIOR TO GALVANIZATION.~~

FOR PERMITTED FIELD SPLICE OF THE PIPE RAIL, SEE
SHEET 2 OF 2.

FOR ADHESIVE ANCHOR SYSTEM. SEE SPECIAL PROVISION
FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS.

TESTING FOR ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

REINFORCING STEEL, CLASS AA CONCRETE AND 2" Ø GALVANIZED STEEL PIPE RAIL QUANTITIES FOR THE INSPECTION PLATFORM ARE TO BE INCLUDED IN THE BILL OF MATERIAL FOR EACH INDIVIDUAL BENT.

ALL RAIL POSTS SHALL BE PLUMB.

REINFORCING BARS R1 & R2 SHALL BE CAST WITH THE BENT CAP AND MAY BE SHIFTED AS NECESSARY TO CLEAR CAP REINFORCING STEEL.

ALL REINFORCING STEEL IN THE INSPECTION PLATFORM SHALL BE EPOXY COATED.

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36.

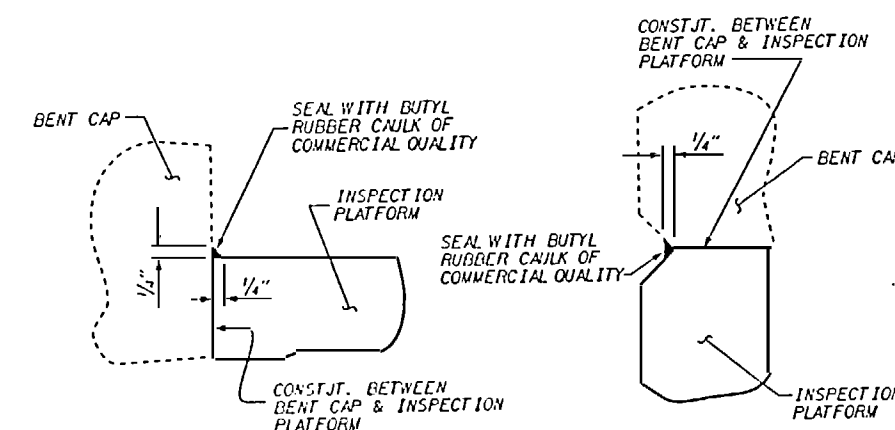
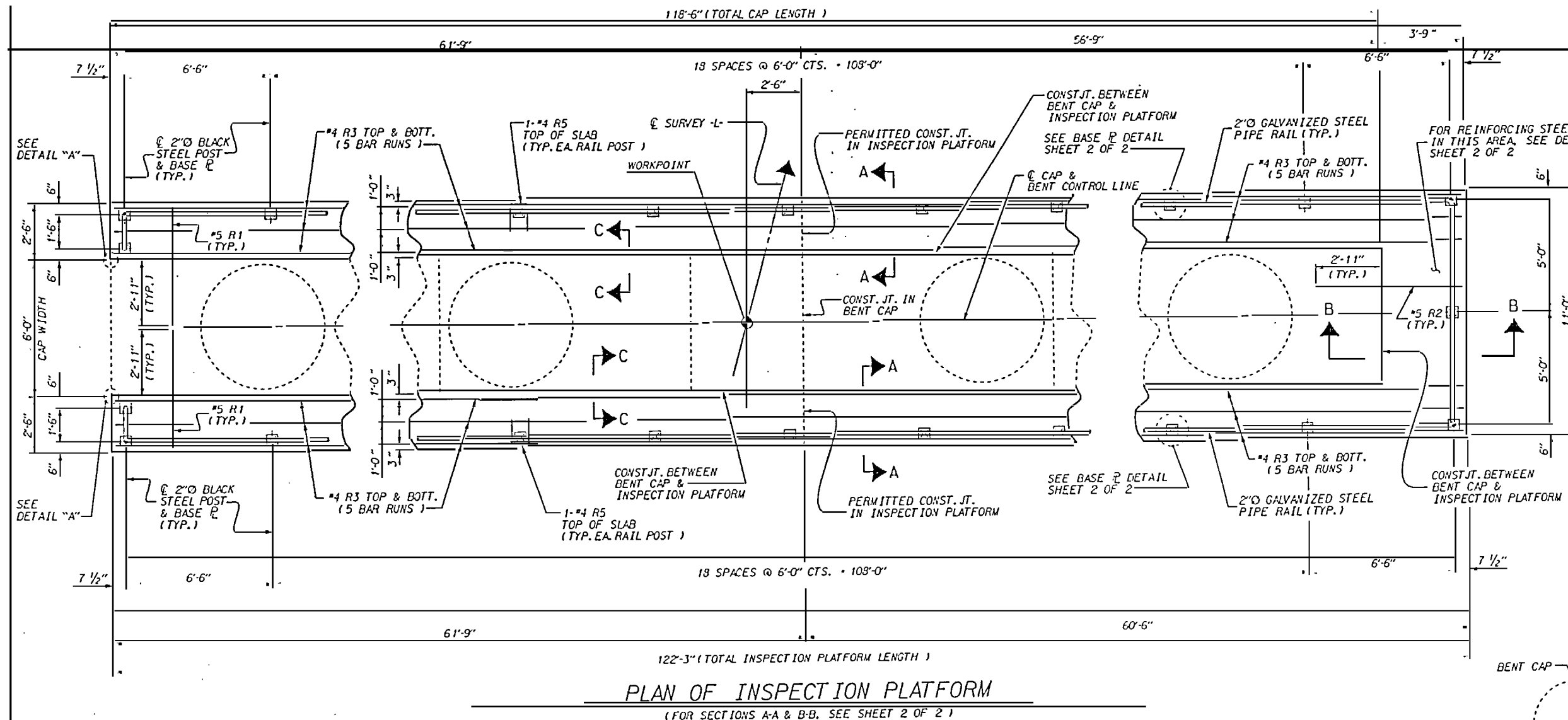
ALL STRUCTURAL STEEL SHALL BE GALVANIZED, SEE STANDARD SPECIFICATIONS.

ALL STRUCTURAL STEEL, ADHESIVE ANCHORS, PREFORMED BEARING PAD, NUTS, WASHERS, AND FIELD SPLICE SHALL BE INCLUDED IN THE LINEAR FOOT PRICE OF 2" Ø GALVANIZED STEEL PIPE RAIL.

ADHESIVE ANCHORS SHALL BE ASTM F593 TYPE 305 STAINLESS STEEL. HEX NUTS SHALL BE STAINLESS STEEL AND MEET THE REQUIREMENTS OF ASTM F594. WASHERS SHALL MEET THE REQUIREMENTS OF ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.

ALL GALVANIZED STRUCTURAL STEEL AND GALVANIZED PIPE RAIL SHALL BE PAINTED WITH A GRAY TOP COAT OF ACRYLIC PAINT 2 - 4 MILS (DFT) AS PER STANDARD SPECIFICATIONS 1080 - 13.

THE GALVANIZED SURFACE SHALL BE CLEAVED TO
(SSPC SP-1) PRIOR TO COATING.



SECTION C-C

DETAIL "A"

PROJECT NO. U-2 107BA

ONSLOW COUNTY

STATION: 277+50.00 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT
INSPECTION PLATFORM
DETAILS

BENTS #1, #2, #4, #5, #6, #8,
#9, #10, #12, #13, AND #14

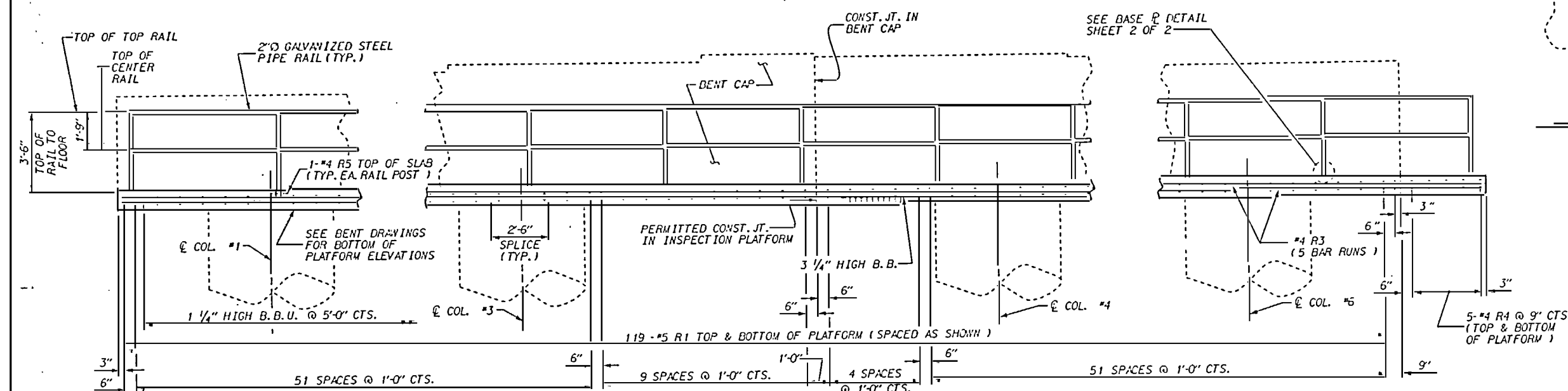
REVISIONS

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

S-15

TOTAL
SHEETS
170

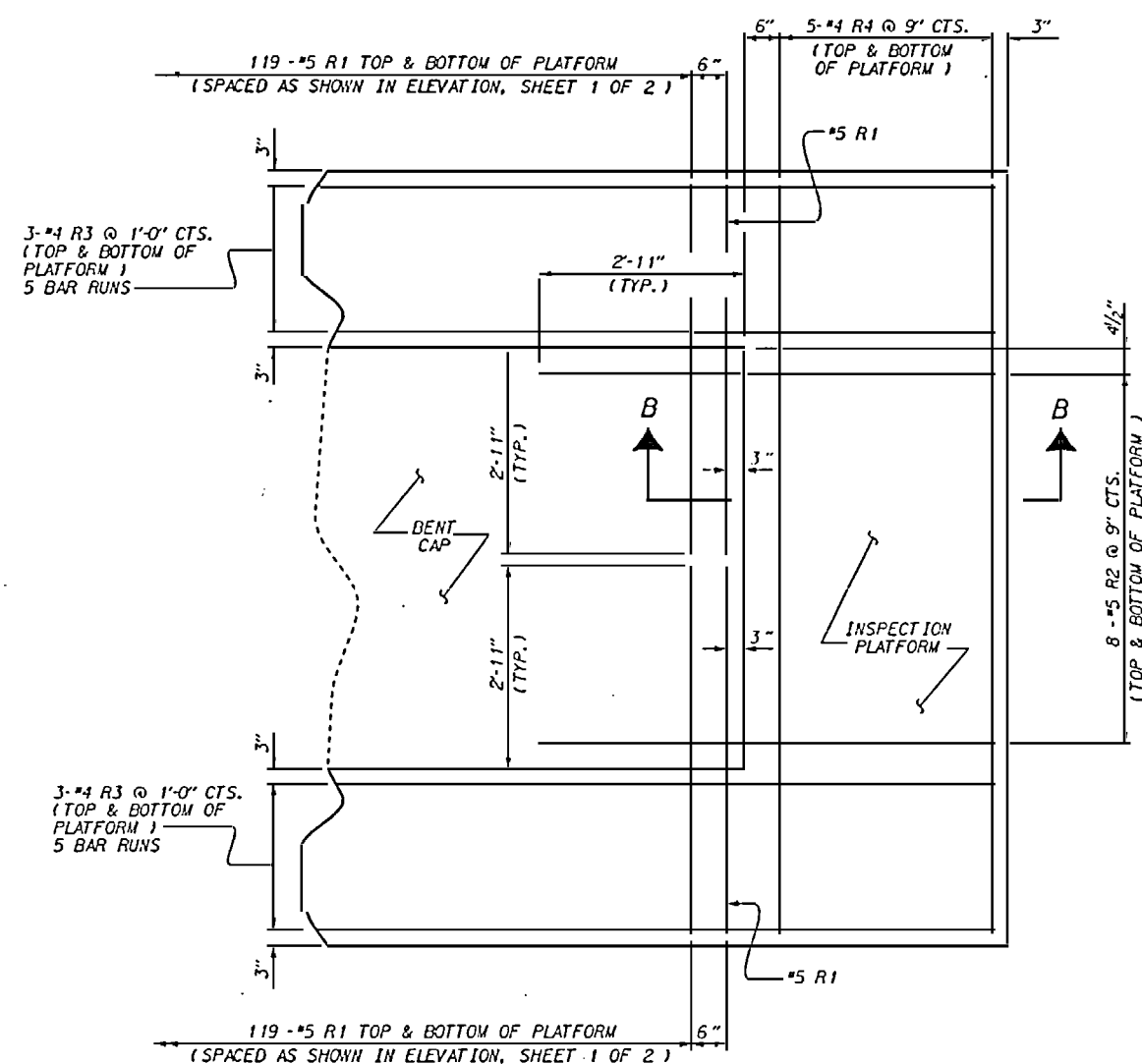
SHEET NO.	S-152
TOTAL SHEETS	170



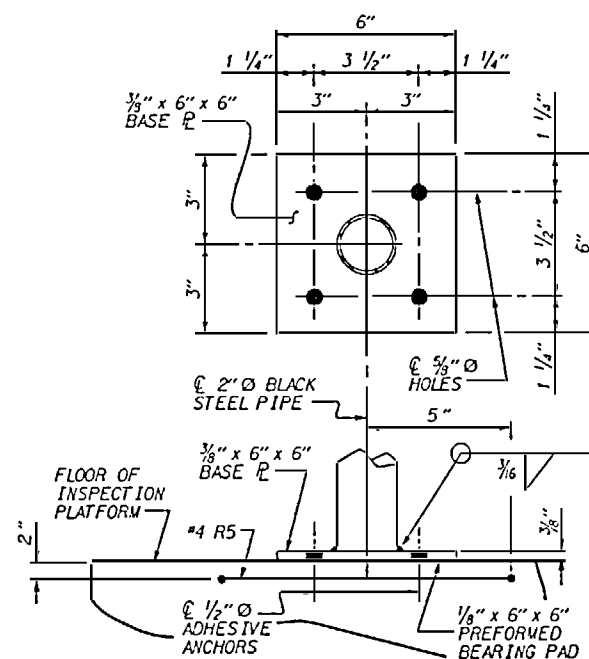
ELEVATION

ONE SIDE SHOWN, OTHER SIDE SIMILAR

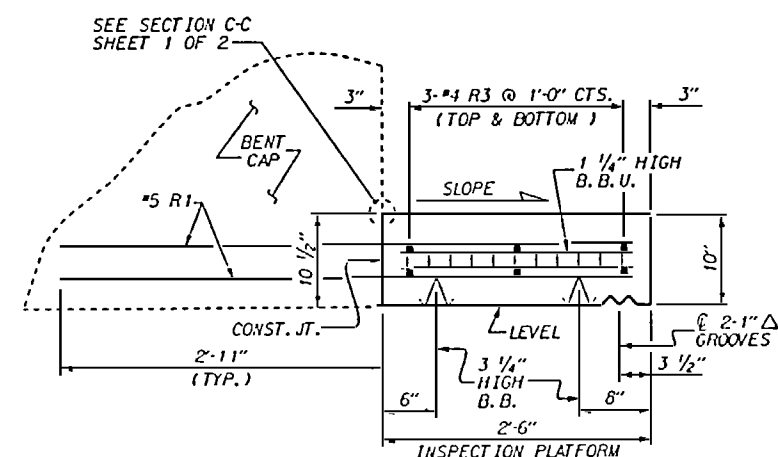
DRAWN BY : M.L.R. / M.L.M.R. DATE : 11-27-96
CHECKED BY : T.H. FANG DATE : 12/16/95



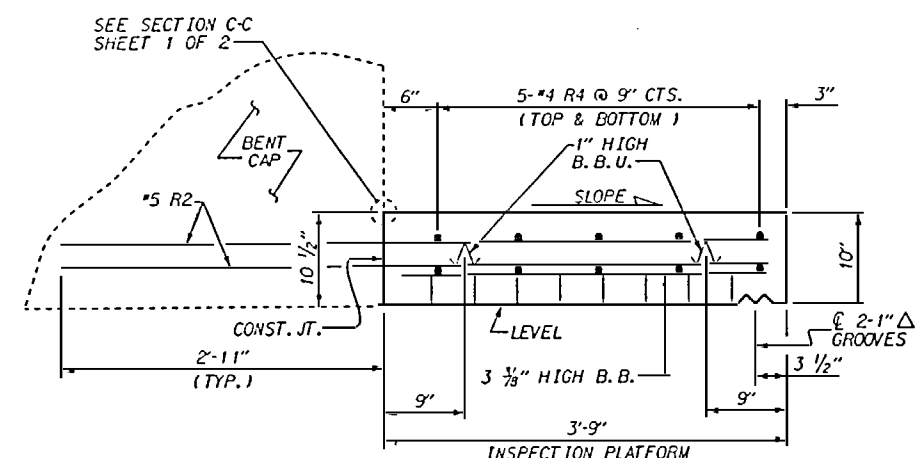
DETAIL "B"



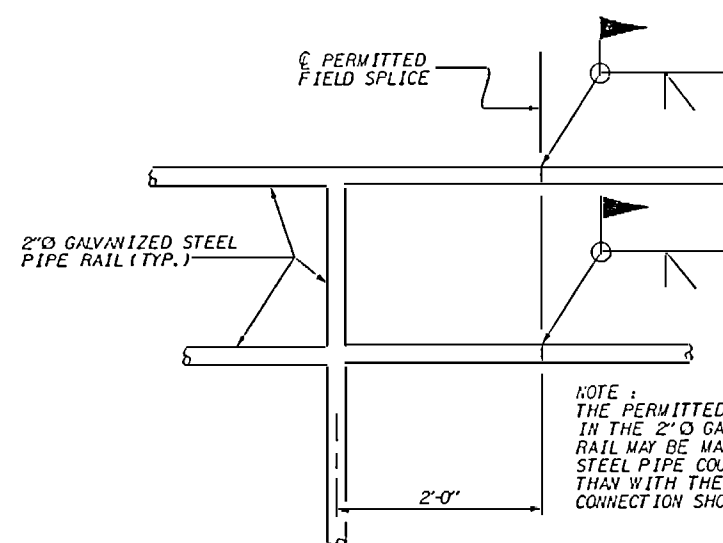
BASE PLATE DETAILS



SECTION A-A



SECTION B-B



PERMITTED FIELD SPLICE DETAIL

BILL OF MATERIAL FOR ONE INSPECTION PLATFORM

QUANTITIES ARE INCLUDED IN
BENT BILL OF MATERIALS

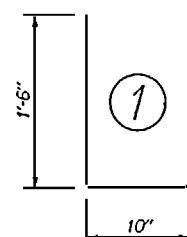
BAR	No.	SIZE	TYPE	LENGTH	WEIGHT
R1	480	#5	STR.	5'-3"	2,628
R2	16	#5	STR.	6'-6"	108
R3	60	#4	STR.	26'-5"	1,059
R4	10	#4	STR.	10'-8"	71
R5	45	#4	1	3'-10"	115

EPOXY COATED
REINFORCING STEEL 3,981 LBS.

CLASS AA CONCRETE 20.1 C.Y.

2" Ø GALVANIZED STEEL PIPE RAIL 255.0 L.F.

BAR TYPE



ALL BAR DIMENSIONS
ARE OUT TO OUT



5/2/17

PROJECT NO. U-2107BA
ONslow COUNTY
STATION: 277+50.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**BENT
INSPECTION PLATFORM
DETAILS**
BENTS #1, #2, #4, #5, #6, #8,
#9, #10, #12, #13, AND #14

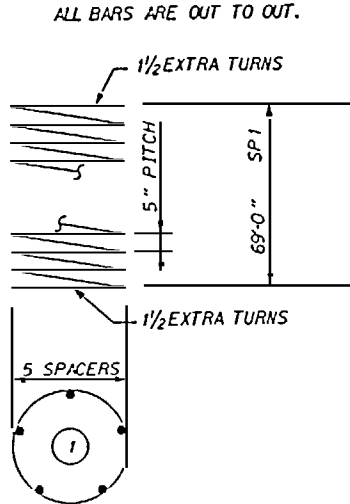
REVISIONS				SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

TOTAL
SHEETS
170

NOTES

ALL REINFORCING STEEL SHALL BE EPOXY COATED.
ALL CONCRETE SHALL BE CLASS "AA" CONCRETE.
FOR AXIAL COMPRESSIVE LOAD TEST OF DRILLED PIER, SEE SPECIAL PROVISIONS.
FOR OPTIONAL MECHANICAL BUTT SPLICE, SEE SPECIAL PROVISION FOR "MECHANICAL BUTT SPLICING FOR REINFORCING STEEL."
FOR DEMONSTRATION DRILLED PIER, SEE SPECIAL PROVISIONS FOR "DRILLED PIERS".

BAR TYPES



BILL OF MATERIAL

DEMO DRILLED PIER

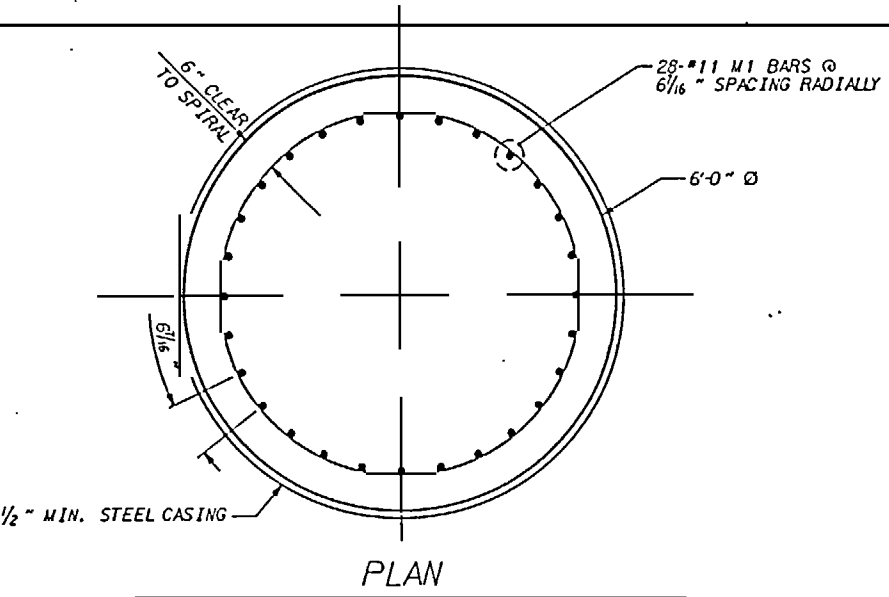
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
M1	56	#11	STR.	41'-8"	12.397

EPOXY REINFORCING STEEL LBS. 12.397

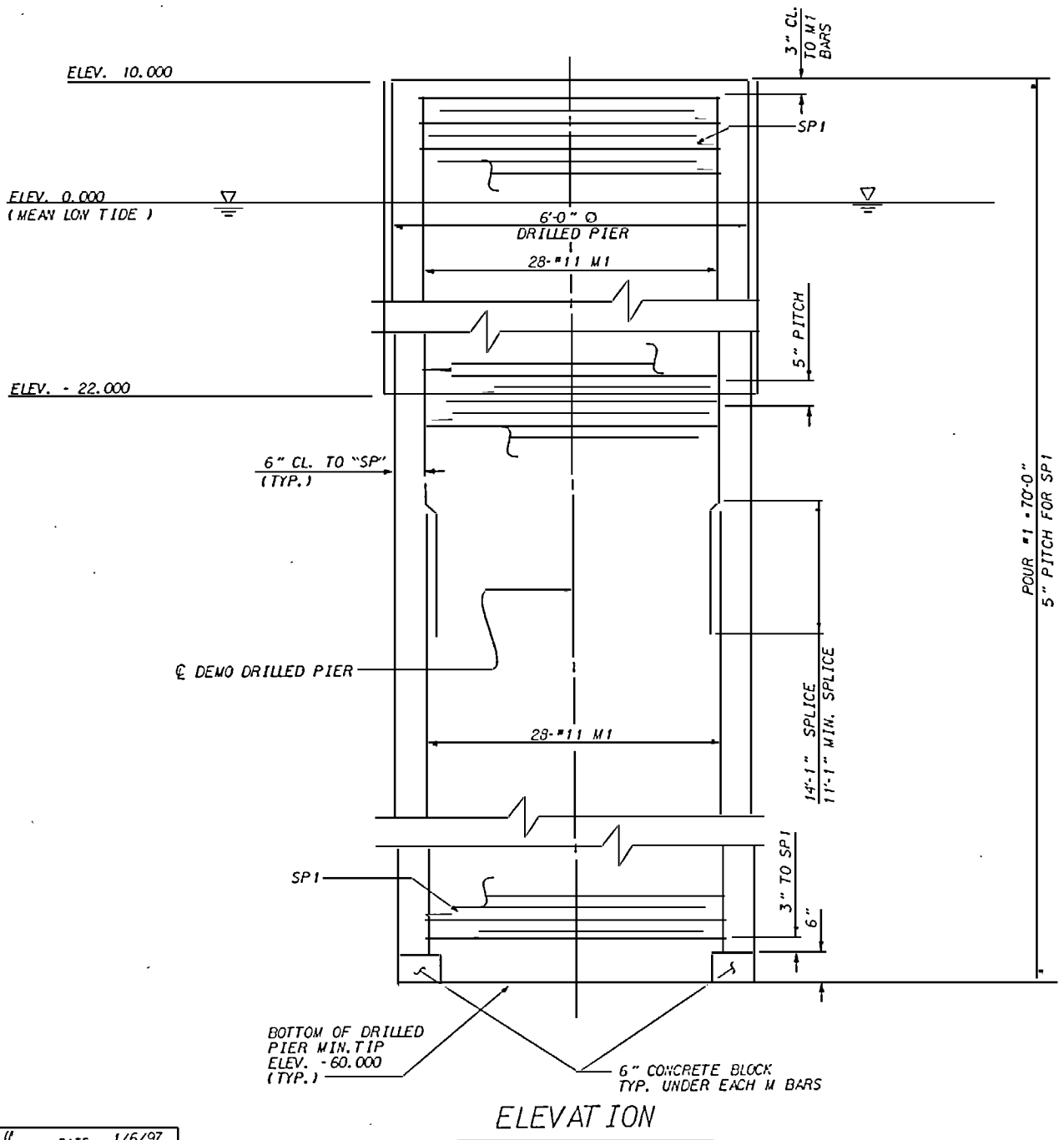
SP1	1		1	2621'-9"	2734

EPOXY COATED SPIRAL COLUMN REINFORCING STEEL LBS. 2.734

DRILLED PIERS
CONCRETE BREAKDOWN
CLASS AA CONCRETE
POUR #1 DRILLED PIERS C.Y. 73.3
6'-0" DIA. DRILLED PIERS 70 L.F.
6'-0" DIA. PERMANENT STEEL CASING 32.00 L.F.



PLAN



DESIGNED BY: W. M. R. H. DATE: 1/6/97
CHECKED BY: O. R. AZIZI, P.E. DATE: 1/7/97



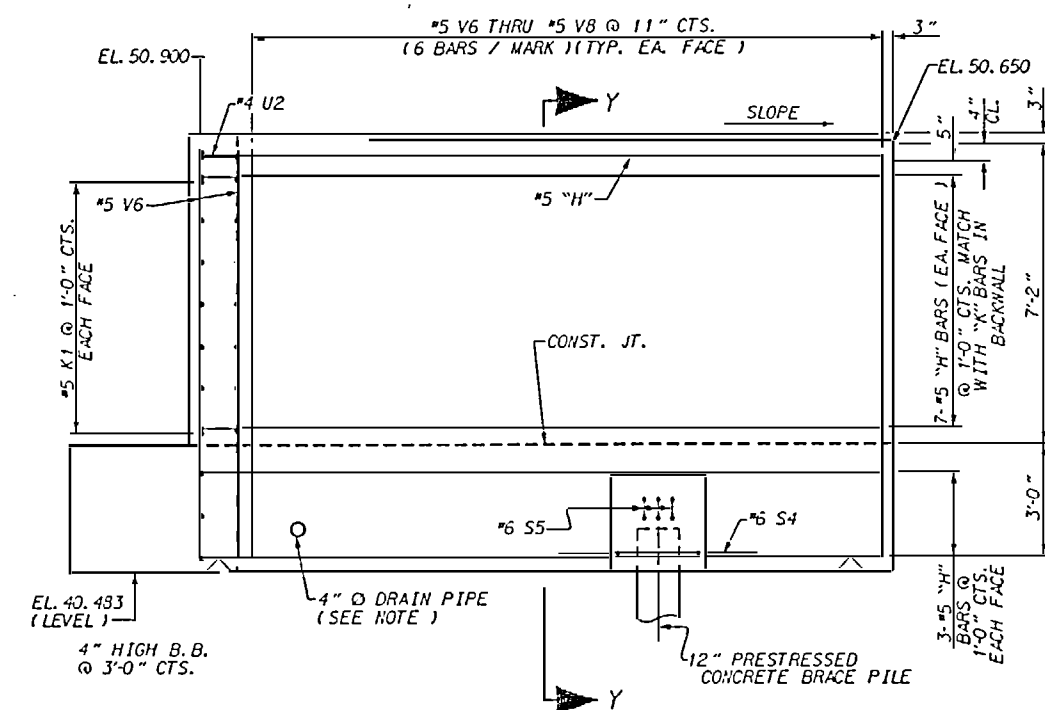
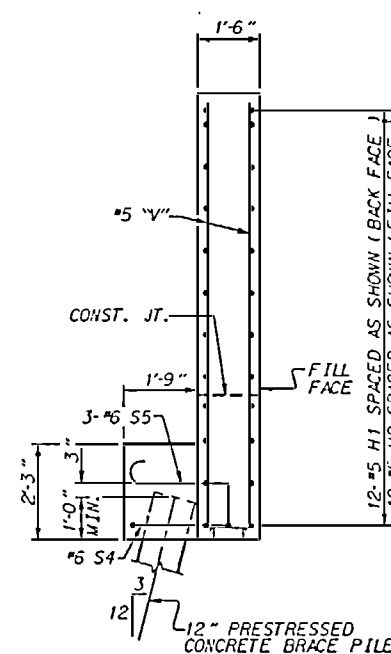
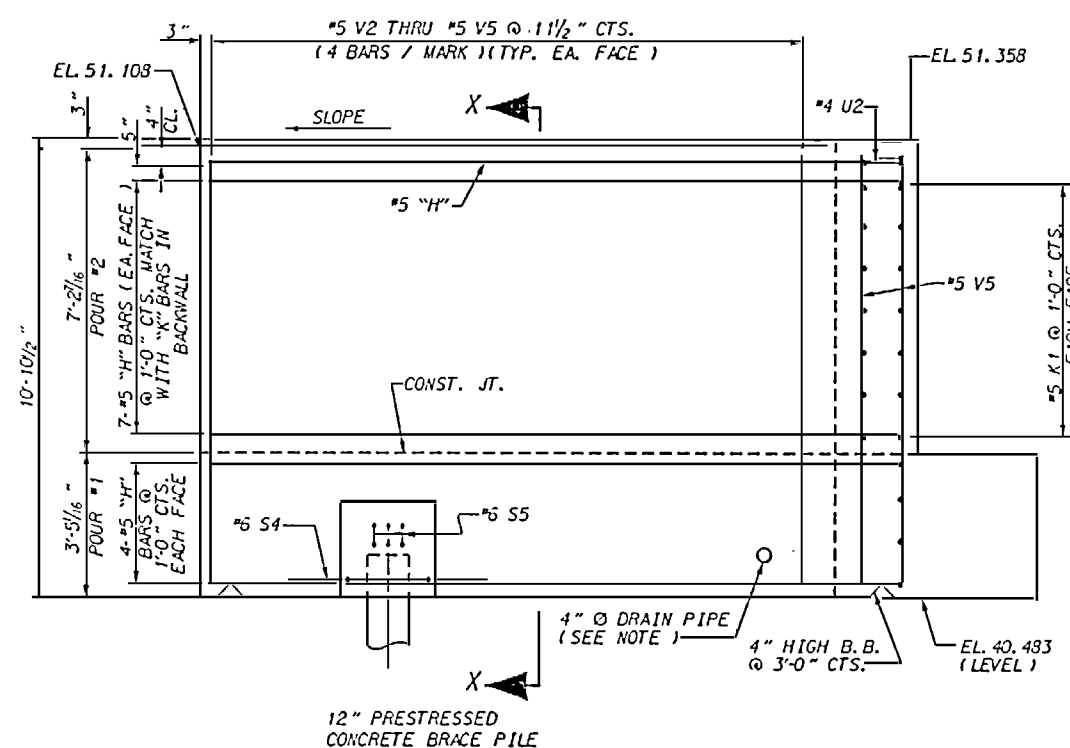
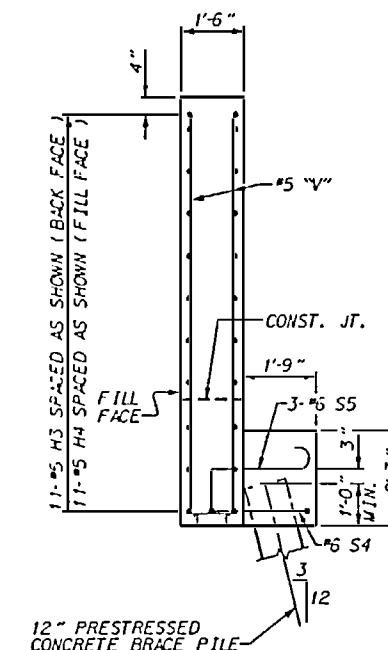
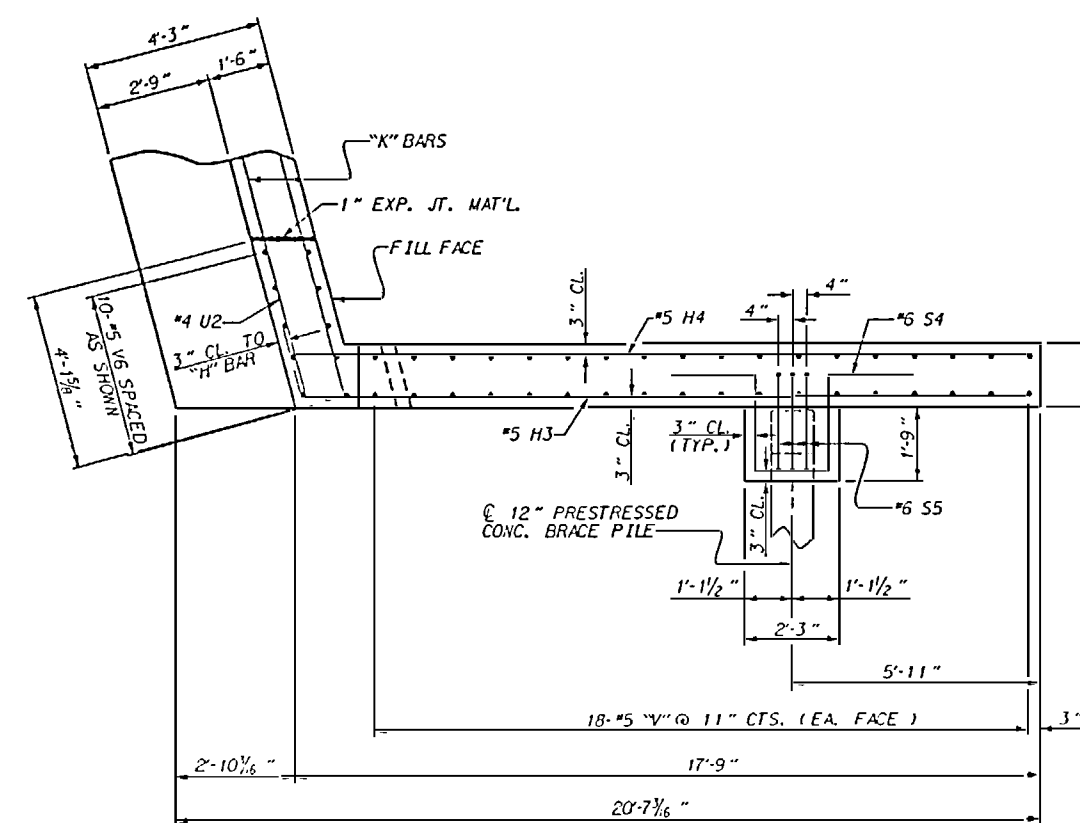
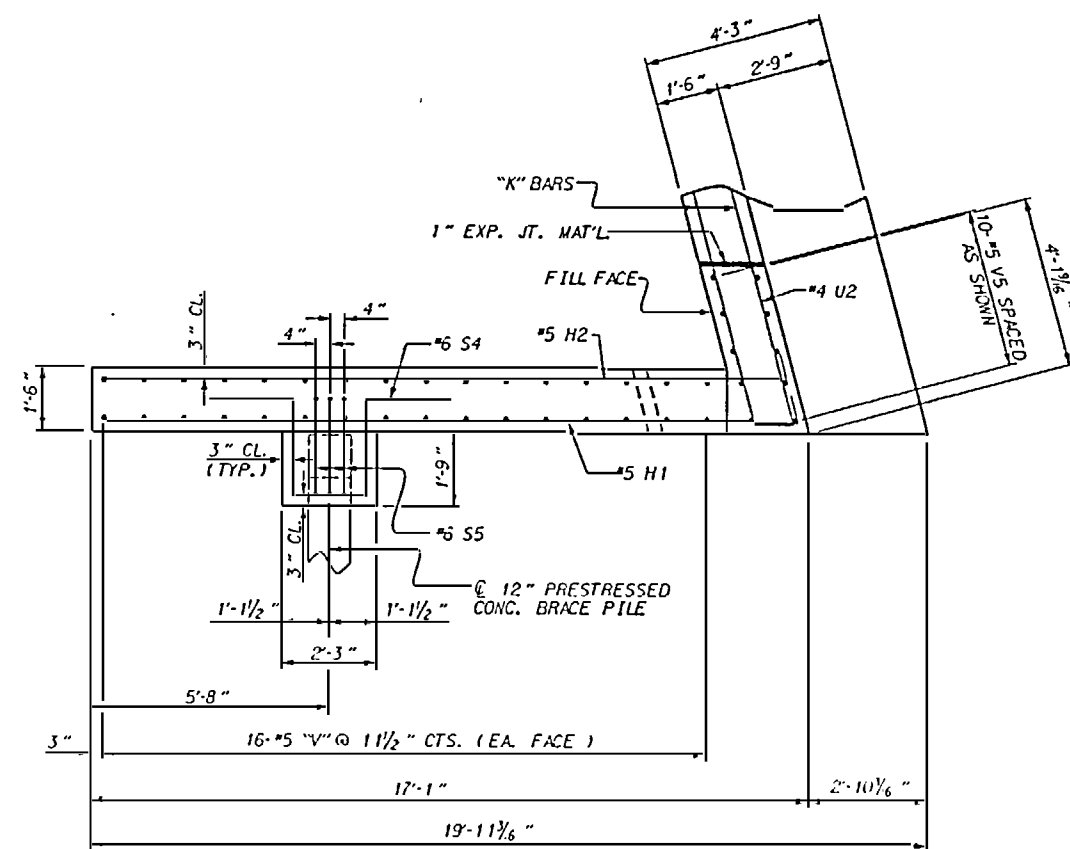
PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DEMONSTRATION DRILLED PIER

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

TOTAL SHEETS 170



SECTION Y-Y



PROJECT NO. U-2107BA
ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 3 OF 4

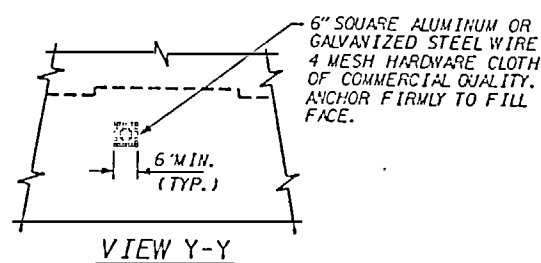
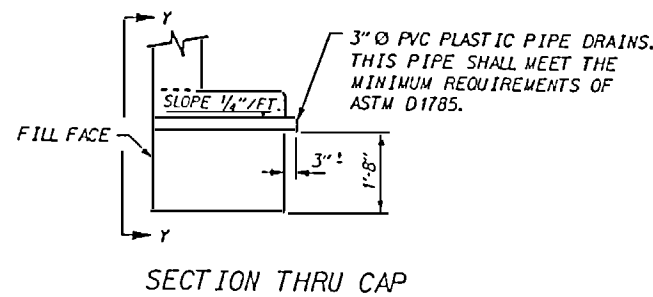
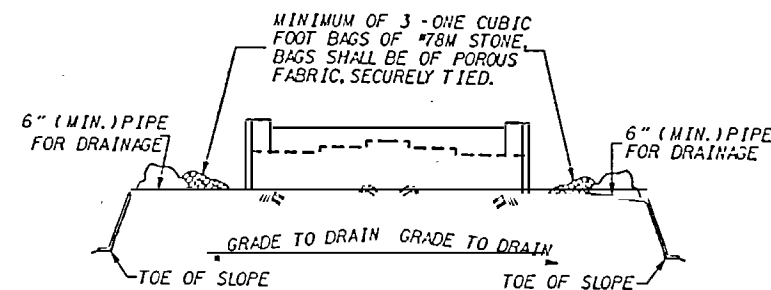
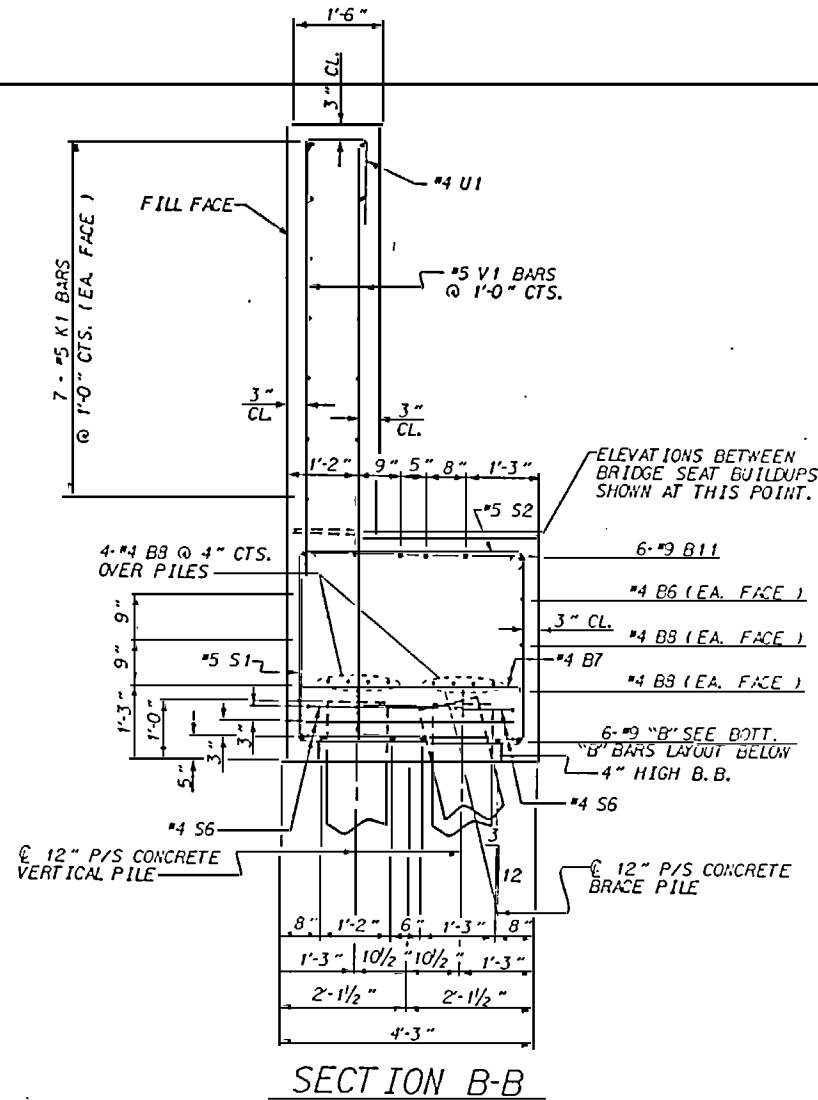
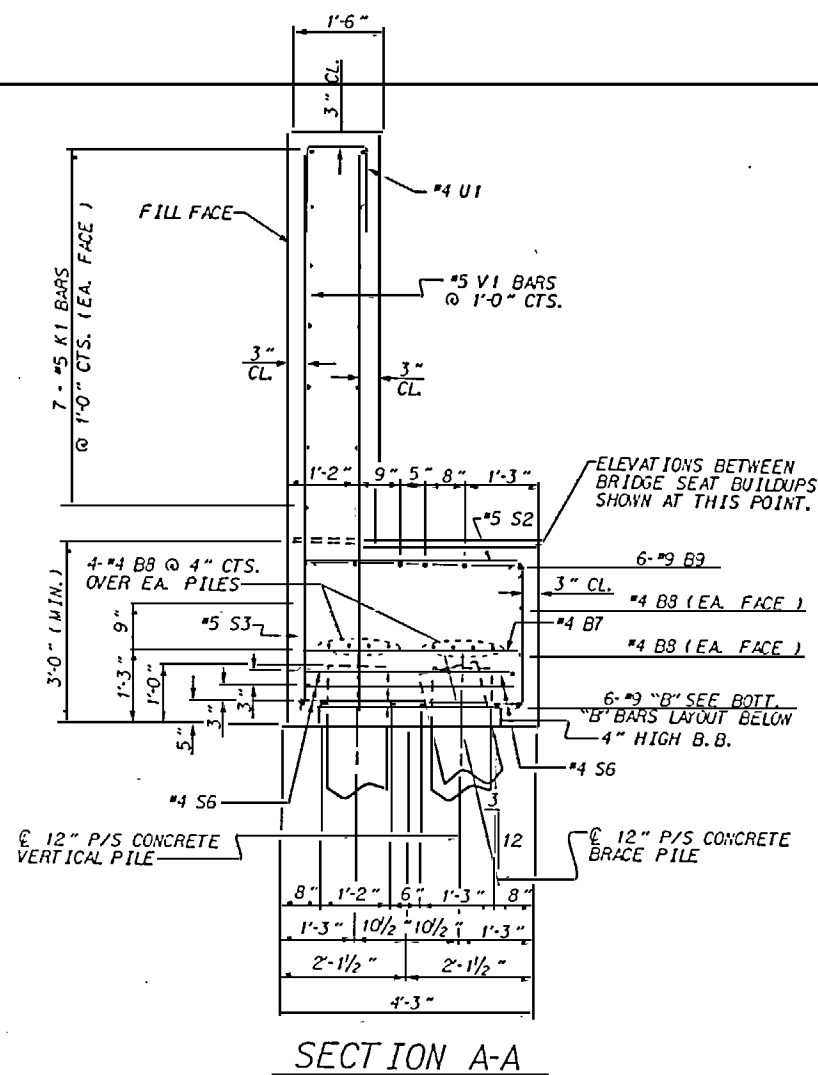
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT #2

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

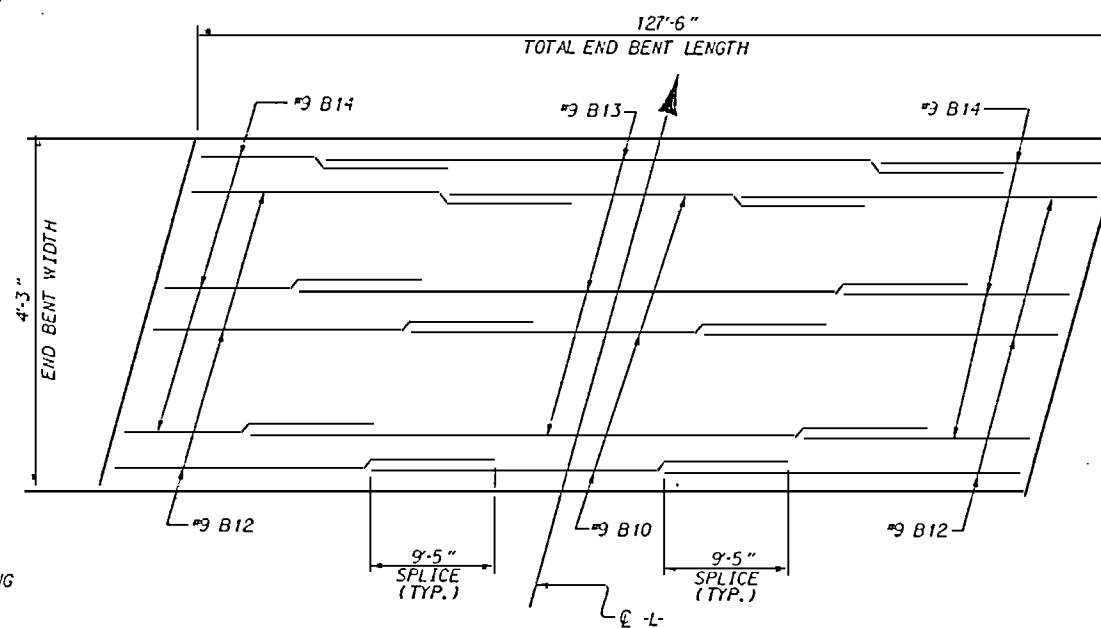
AN BY : G. D. CARROLL DATE : 9/96
 CKED BY : T. N. CARROLL DATE : 9/95

14. ACR-1927 15.20
d:\greg\dgn\english\nsio\w\2107ba01eb2.dg

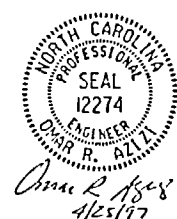


NOTE: NO SEPARATE PAYMENT WILL BE MADE FOR FURNISHING AND INSTALLING THE PVC PLASTIC PIPE DRAINS, HARDWARE CLOTH AND FASTENERS. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

PIPE DRAIN DETAILS



BAR TYPES				BILL OF MATERIAL			
				END BENT #2			
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT		
B1	18	4	STR	3'-2"	38		
B2	6	4	STR	14'-0"	56		
B3	6	4	STR	55'-6"	1132		
B4	18	4	STR	21'-8"	261		
B5	6	4	STR	25'-7"	103		
B6	8	4	STR	24'-10"	133		
B7	32	4	STR	3'-10"	82		
B8	60	4	STR	27'-8"	1109		
B9	6	4	STR	40'-4"	823		
B10	3	4	STR	48'-8"	496		
B11	6	4	STR	56'-0"	1142		
B12	3	4	STR	49'-11"	1018		
B13	57	4	STR	57'-8"	588		
B14	6	4	STR	45'-4"	925		
H1	12	5	2	17'-9"	222		
H2	12	5	2	17'-5"	218		
H3	11	5	3	18'-5"	211		
H4	11	5	3	18'-9"	215		
K1	42	5	STR	44'-8"	1957		
S1	89	5	4	10'-5"	967		
S2	14	5	4	4'-8"	555		
S3	25	5	4	9'-7"	250		
S4	2	6	6	10'-5"	31		
S5	90	4	8	7'-2"	431		
U1	119	4	8	6'-0"	477		
U2	2	4	9	8'-7"	11		
U3	62	4	8	6'-9"	280		
V1	238	5	STR	9'-2"	2275		
V2	8	5	STR	10'-0"	83		
V3	8	5	STR	10'-1"	84		
V4	8	5	STR	10'-2"	85		
V5	18	5	STR	10'-2"	192		
V6	22	5	STR	9'-9"	224		
V7	12	5	STR	9'-8"	121		
V8	12	5	STR	9'-7"	120		
EPOXY COATED REINFORCING STEEL				LBS.	16953		
CLASS AA CONCRETE BREAKDOWN							
POUR #1 (CAP & WING)				C.Y.	78.1		
POUR #2 (BACKWALL & WING)				C.Y.	59.0		
CLASS AA CONCRETE TOTAL				C.Y.	137.1		
12" CONCRETE PILES							
NO. 32				LIN. FT.	2030		
CONCRETE DISPLACED BY 12" P/S CONCRETE PILES HAS BEEN DEDUCTED.							



PROJECT NO. U-2107BA
 ONSLOW COUNTY
 STATION: 277+50.00 -L-

SHEET 4 OF 4

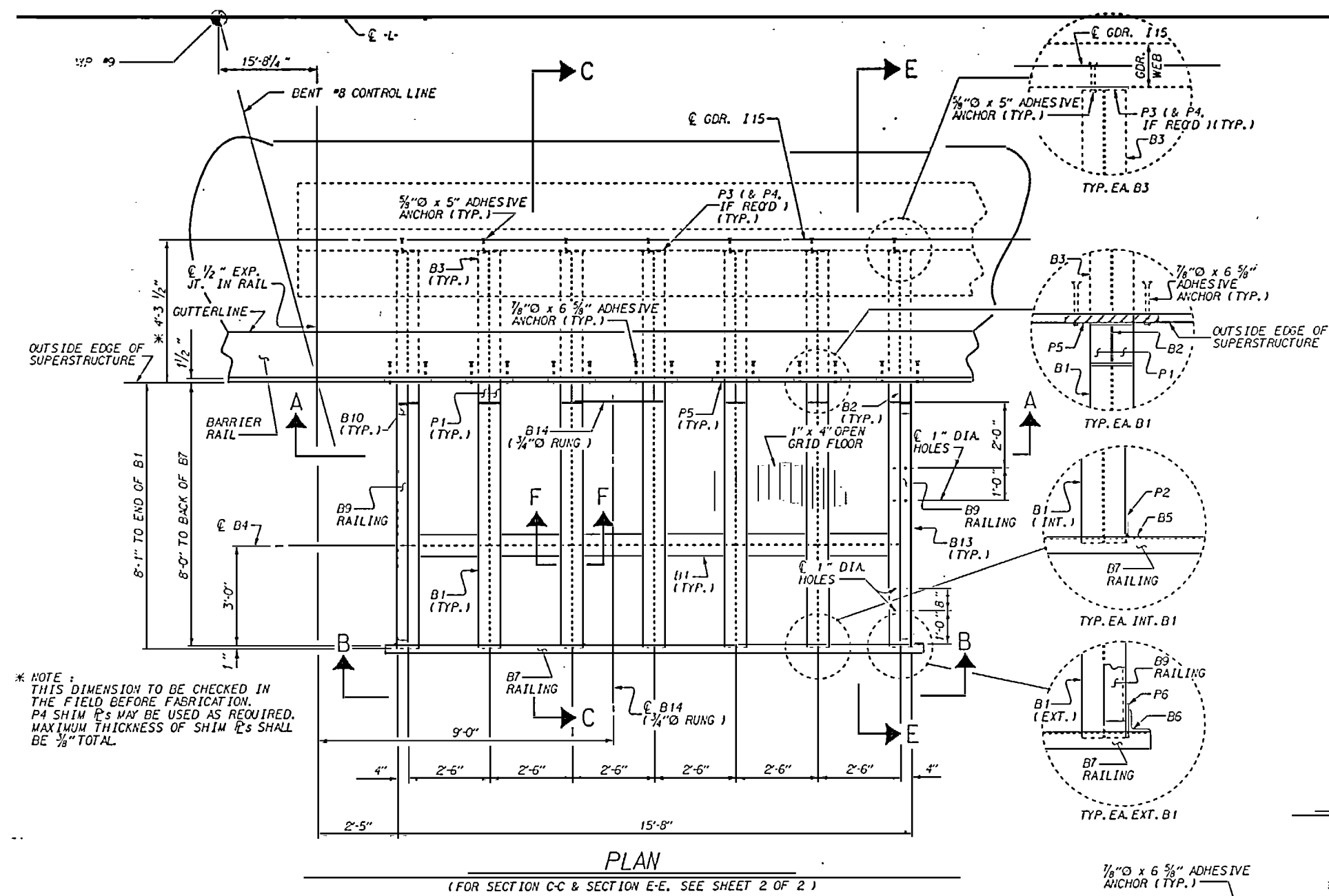
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE END BENT #2

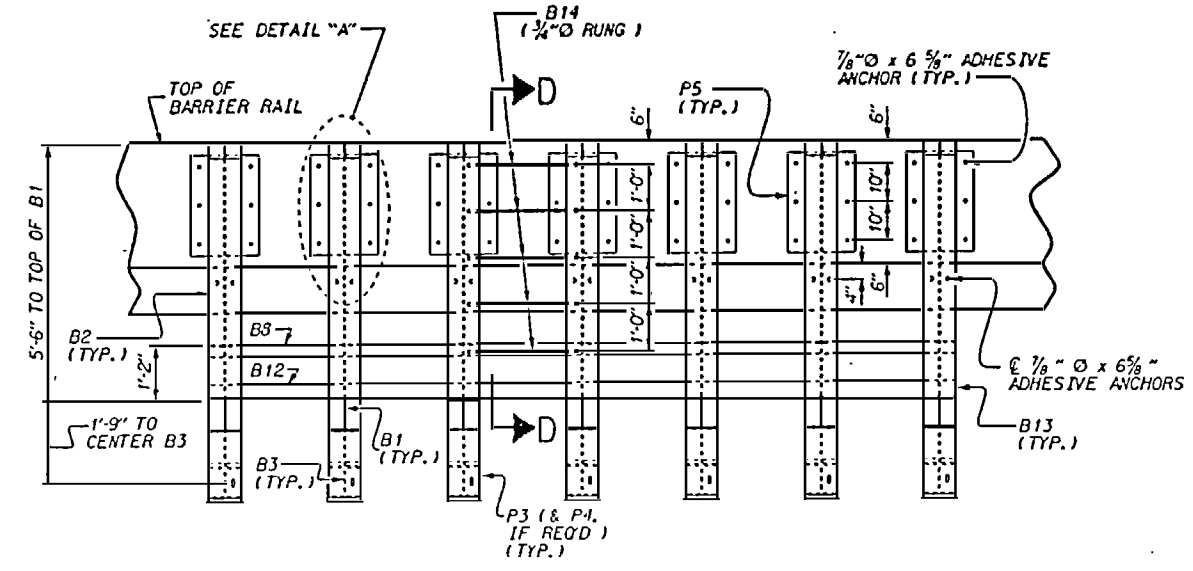
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			158
2			4			170

15-APR-1997 NHC
 *****DGN*****
 org

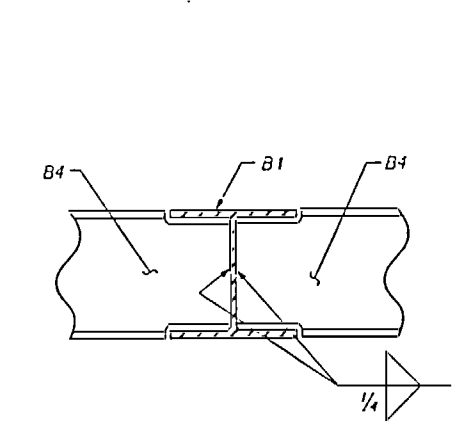
BY: G.D. CARROLL DATE: 9/95
 BY: T.N. CARROLL DATE: 9/95



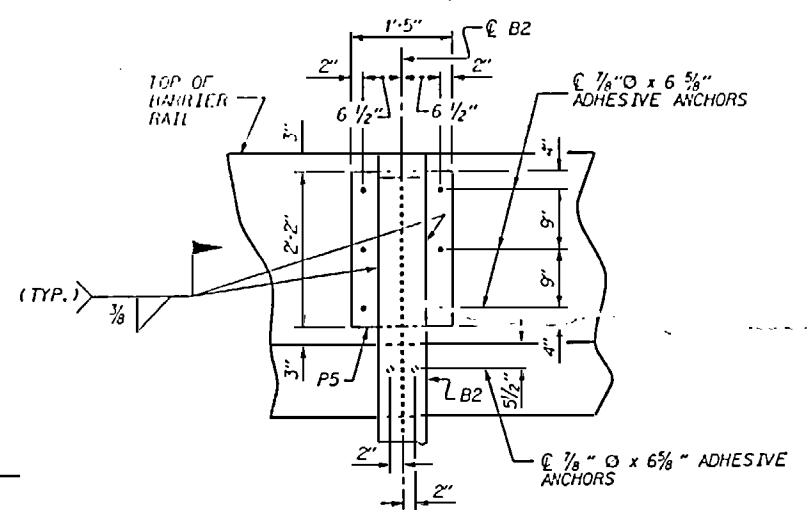
* NOTE :
THIS DIMENSION TO BE CHECKED IN
THE FIELD BEFORE FABRICATION.
P4 SHIM P's MAY BE USED AS REQUIRED.
MAXIMUM THICKNESS OF SHIM P's SHALL
BE 1/8\"/>



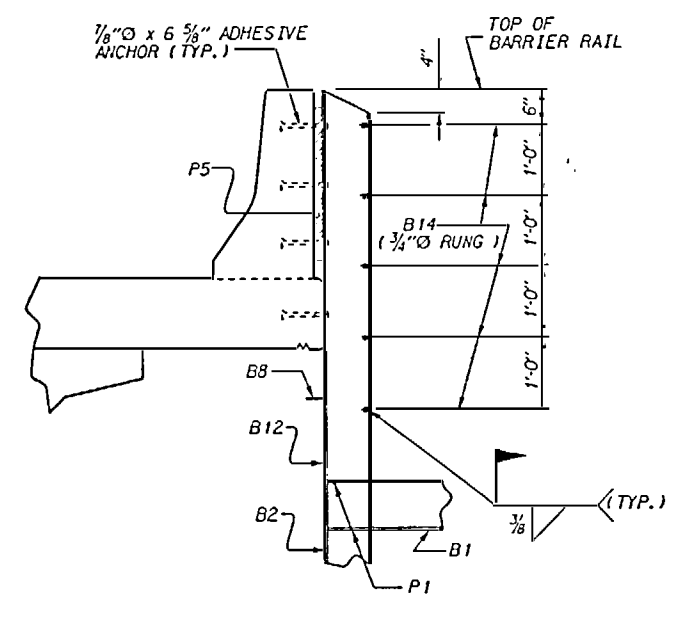
SECTION A-A



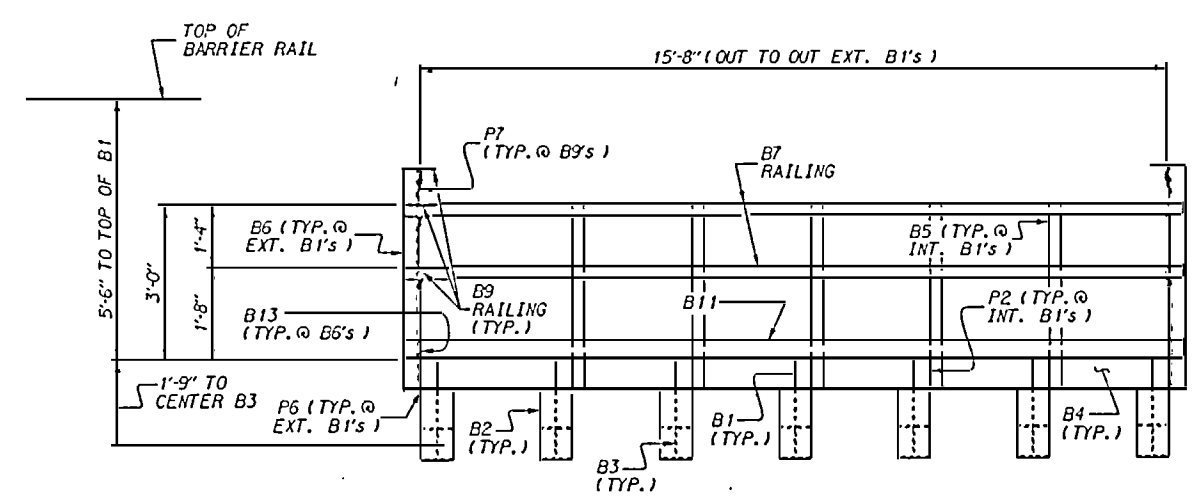
SECTION F-F



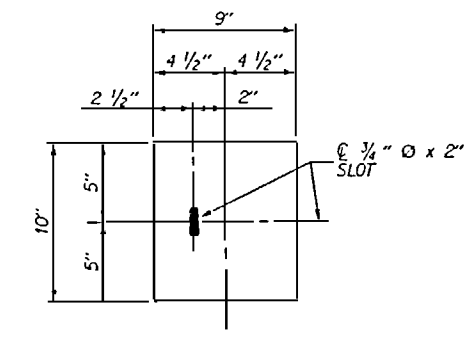
DETAIL 'A'



SECTION D-D

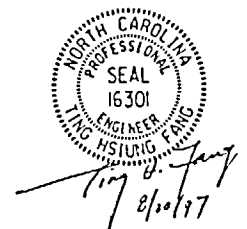


ELEVATION B-B



P3 & P4 DETAIL

DRAWN BY : M. R. M. M. M. M. DATE : 11-19-96
CHECKED BY : T. H. FRAG DATE : 12/16/96



PROJECT NO. U-2107BA
ONslow COUNTY
STATION: 277+50.00 -L-
SHEET 1 OF 2

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-161
2			4			

TOTAL SHEETS 170

BILL OF MATERIAL

ITEM	NUMBER	DESCRIPTION	LENGTH ***
B1	7	W8 x 31	7'-5"
B2	7	W8 x 31	7'-7"
B3	7	W8 x 31	3'-11"
B4	6	W8 x 31	2'-5 5/8"
B5	5	L 3 x 3 x 1/4	3'-8"
B6	2	L 4 x 4 x 1/2	4'-8"
B7	2	L 3 x 3 x 1/4	15'-4"
B8	1	L 3 x 3 x 1/4	15'-8"
B9	6	L 4 x 4 x 1/2	7'-2"
B10	6	L 4 x 4 x 1/2	0'-4"
B11	1	R 1/4 x 4 1/2	16'-4"
B12	1	R 1/4 x 4 1/2	16'-0"
B13	2	R 1/2 x 4 1/2	8'-0"
B14	5	3/4" O RUNG	2'-4"
P1	56	R 7/16 x 3 3/4 x 7	---
P2	5	R 1/4 x 5 x 8	---
P3	7	R 1/2 x 9 x 10	---
P4	AS REQD	R 1/8 x 9 x 10	---
P5	7	R 1 1/2 x 17 x 26	---
P6	2	R 1/2 x 6 x 8	---
P7	6	R 1/2 x 5 1/2 x 5 1/2	---

1" x 4" OPEN GRID FLOOR W/ 3/4" x 3/8" BEARING BARS
 1/8" O x 6 5/8" ADHESIVE ANCHOR (56 REQUIRED)
 5/8" O x 5" ADHESIVE ANCHOR (7 REQUIRED)

*** LENGTHS OF MEMBERS MAY BE ADJUSTED
 IF REQUIRED BY FABRICATOR.

NOTES :

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36.

ALL STRUCTURAL MEMBERS, INCLUDING OPEN GRID FLOOR, SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION PER STANDARD SPECIFICATIONS, AND SHALL BE PAINTED WITH A TOP COAT OF ACRYLIC PAINT 2-4 MILS (DFT) AS PER STANDARD SPECIFICATION 1090-13.

THE GALVANIZED SURFACE SHALL BE CLEAVED TO (SSPC SP - 1) PRIOR TO COATING.

ALL FABRICATION SHALL CONFORM TO THE APPLICABLE SECTION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

OPEN GRID FLOOR SHALL BE WELDED SECURELY TO EACH HORIZONTAL FLOOR MEMBER (B1).

FOR SOLAR ARRAY SUPPORT PLATFORM, SEE SPECIAL PROVISIONS FOR "SOLAR ARRAY SUPPORT PLATFORM/CHAIN LINK FENCE".

FOR ADHESIVE ANCHOR SYSTEM, SEE SPECIAL PROVISION FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS.

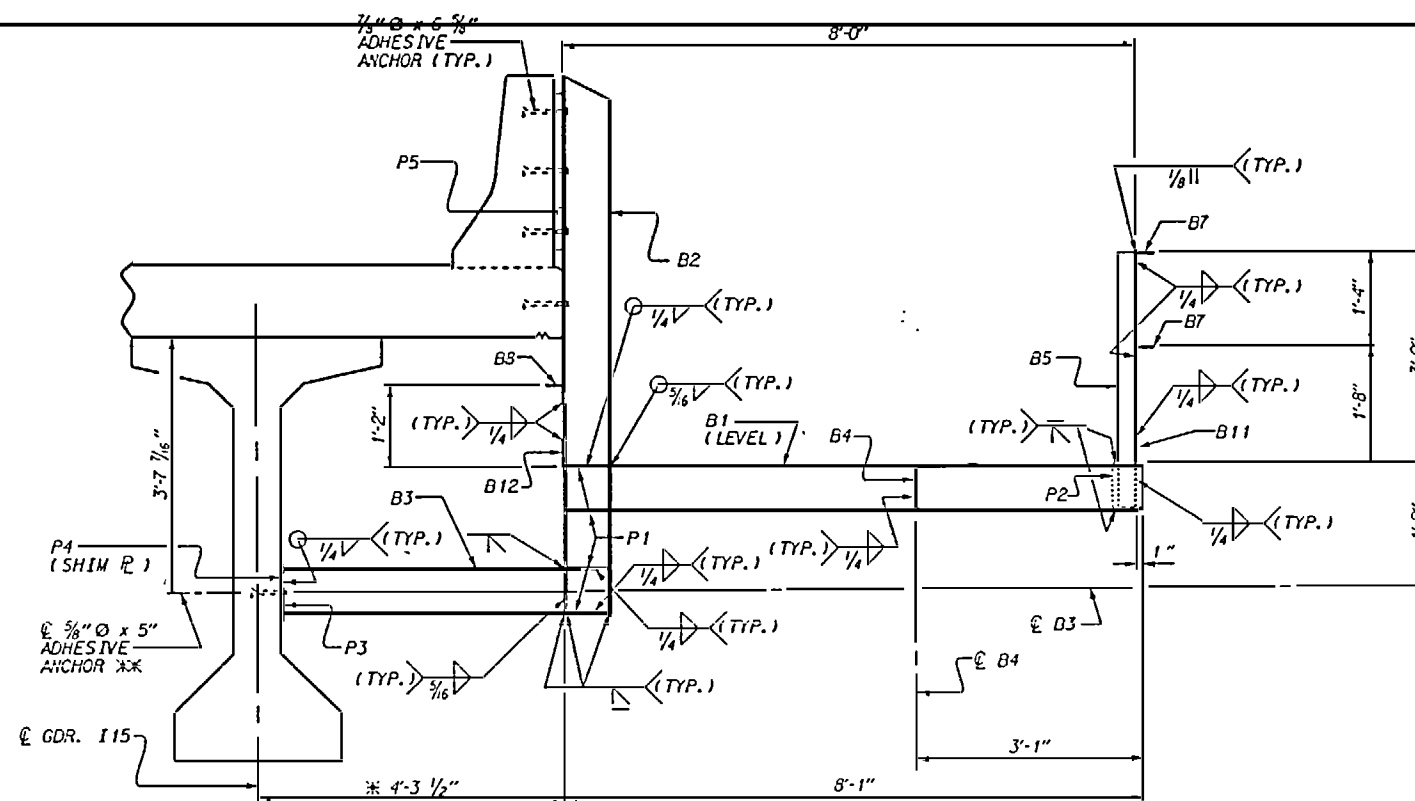
ADHESIVE ANCHOR SYSTEM SHALL HAVE A MINIMUM PULLOUT STRENGTH OF 7.5 KIPS. A MINIMUM OF EIGHT (8) ANCHORS SHALL BE TESTED. IF ANY ANCHOR FAILS THE CONTRACTOR SHALL, AT HIS EXPENSE, TEST ALL ANCHORS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

THE ENTIRE COST FOR THE LABOR AND MATERIALS NECESSARY TO FABRICATE AND INSTALL SOLAR ARRAY SUPPORT PLATFORM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR THE "SOLAR ARRAY SUPPORT PLATFORM/CHAIN LINK FENCE".

ADHESIVE ANCHORS SHALL BE ASTM F593 TYPE 305 STAINLESS STEEL, HEX NUTS SHALL BE STAINLESS STEEL AND MEET THE REQUIREMENTS OF ASTM F594. WASHERS SHALL MEET THE REQUIREMENTS OF ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.

IN LIEU OF GALVANIZING AND PAINTING WITH A TOP COAT, THE CONTRACTOR MAY AT HIS OPTION UPON COMPLETION OF SHOP FABRICATION BLAST CLEAN AND METALLIZE THE STRUCTURAL STEEL (EXCLUDING STAINLESS STEEL NUTS, BOLTS, AND WASHERS) TO A MINIMUM THICKNESS OF 8 MILS. SEE SPECIAL PROVISION FOR THERMAL SPRAYED COATINGS (METALLIZATION).

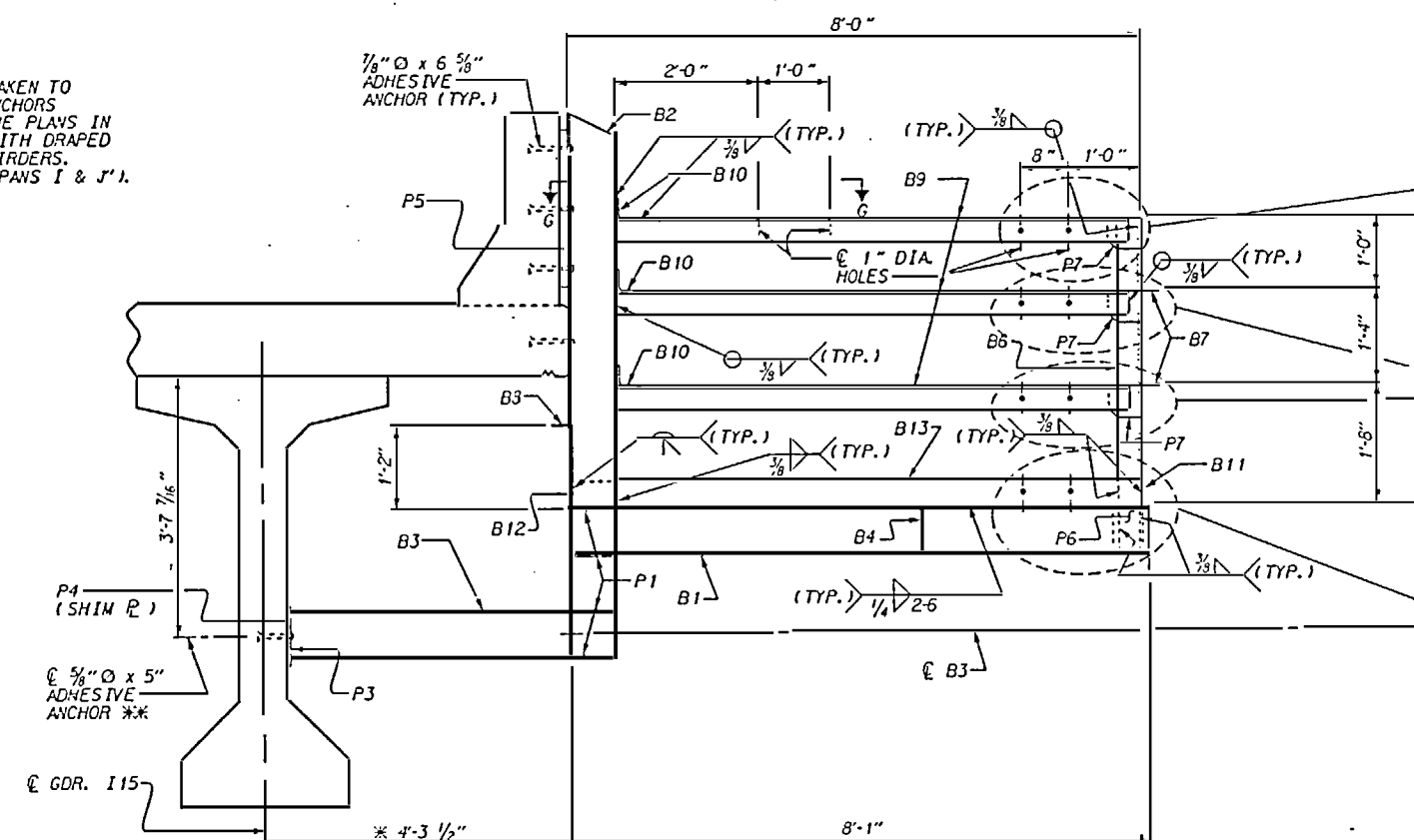
ALL METALLIZED SURFACES SHALL RECEIVE A SEAL COATING AS SPECIFIED IN THE SPECIAL PROVISION. THERMAL SPRAYED COATINGS (METALLIZATION).



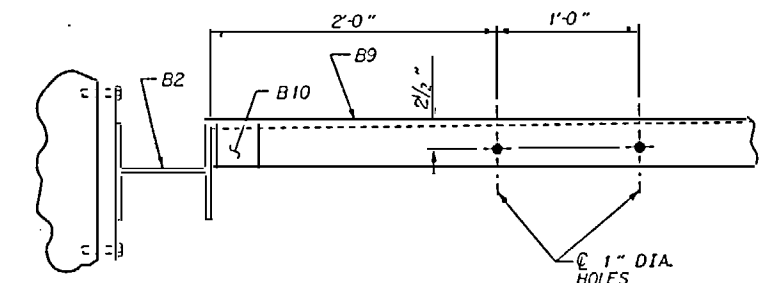
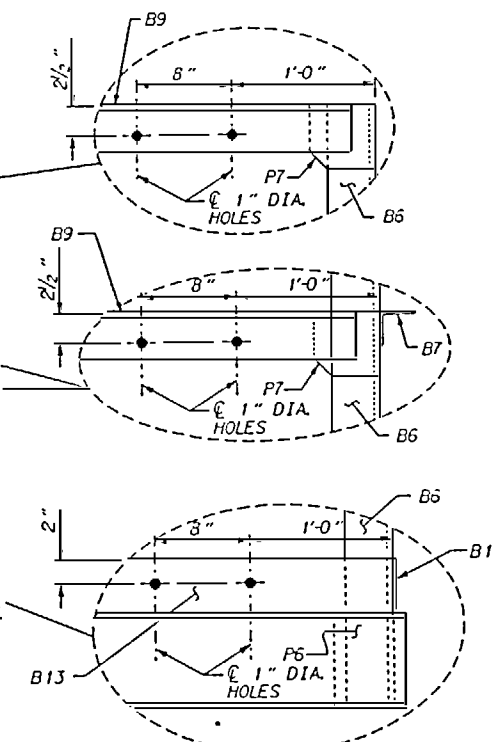
SECTION C-C

* NOTE :
 THIS DIMENSION TO BE CHECKED IN THE FIELD BEFORE FABRICATION.
 P4 SHIM PLATES MAY BE USED AS REQUIRED. MAXIMUM THICKNESS OF SHIM PLATES SHALL BE 3/8" TOTAL.

** NOTE :
 EXTREME CARE SHOULD BE TAKEN TO ACCURATELY LOCATE THESE ANCHORS TO DIMENSIONS SHOWN ON THE PLANS IN ORDER TO AVOID CONFLICT WITH DRAPED STRANDS IN PRESTRESSED GIRDERS. (SEE GIRDER SHEET FOR "SPANS I & J").



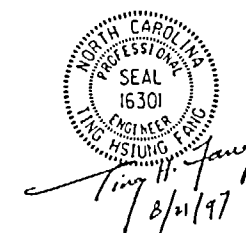
SECTION E-E



VIEW G-G

PROJECT NO. U-2107BA
ONslow COUNTY
 STATION: 277+50.00 -L-

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SOLAR ARRAY
 SUPPORT PLATFORM
 DETAILS

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-162
2			4			TOTAL SHEETS 170

NOTES :

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36.

CHAIN LINK FENCE FABRIC, FENCE POSTS, HARDWARE AND ACCESSORIES SHALL BE GALVANIZED STEEL, SEE STANDARD SPECIFICATIONS.

GATE, HINGES, AND LATCH SHALL BE DESIGNED TO PERMIT THE GATE OUTWARD (AWAY FROM TRAFFIC) ONLY. HINGES AND LATCH SHALL BE REASONABLY TAMPER RESISTANT. MAKE PROVISIONS FOR LATCH TO BE SECURED BY PADLOCK.

ADHESIVE ANCHOR SYSTEM SHALL HAVE A MINIMUM PULLOUT STRENGTH OF 7.5 KIPS. A MINIMUM OF FOUR (4) ANCHORS SHALL BE TESTED. IF ANY ANCHOR FAILS, THE CONTRACTOR SHALL, AT HIS EXPENSE, TEST ALL ANCHORS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

FOR ADHESIVE ANCHOR SYSTEM, SEE SPECIAL PROVISION FOR
ADHESIVELY ANCHORED ANCHOR BOLTS OR DONELS.

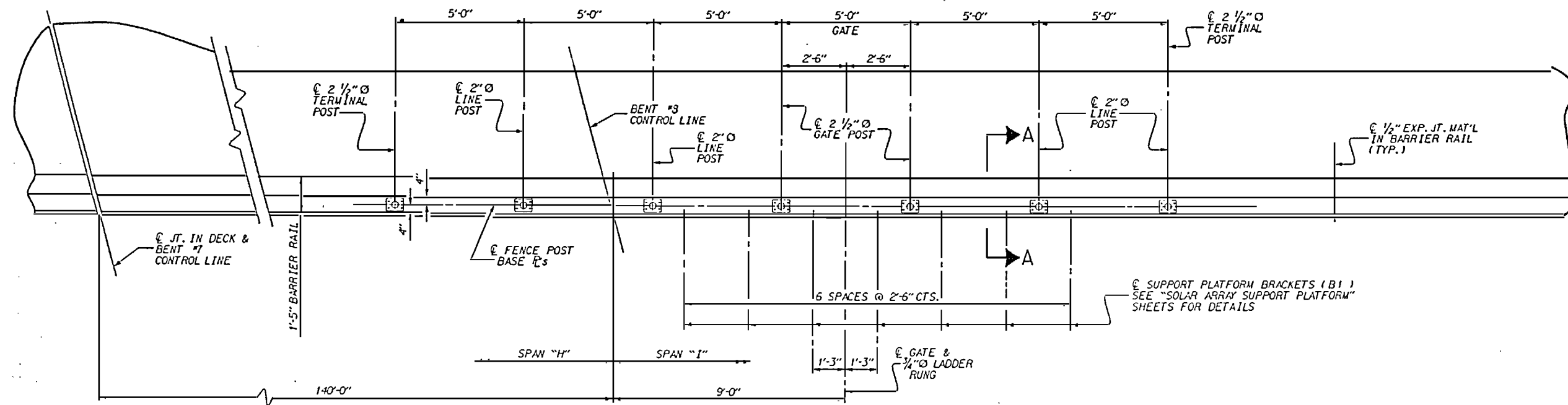
THE ENTIRE COST FOR THE LABOR AND MATERIALS NECESSARY TO INSTALL CHAIN LINK FENCE SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR THE "SOLAR ARRAY SUPPORT PLATFORM/CHAIN LINK FENCE".

LINEAR FEET OF CHAIN LINK FENCE - 30 FEET.

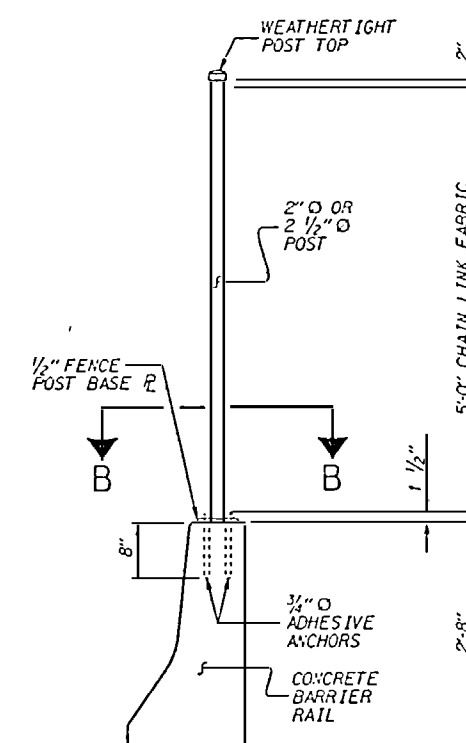
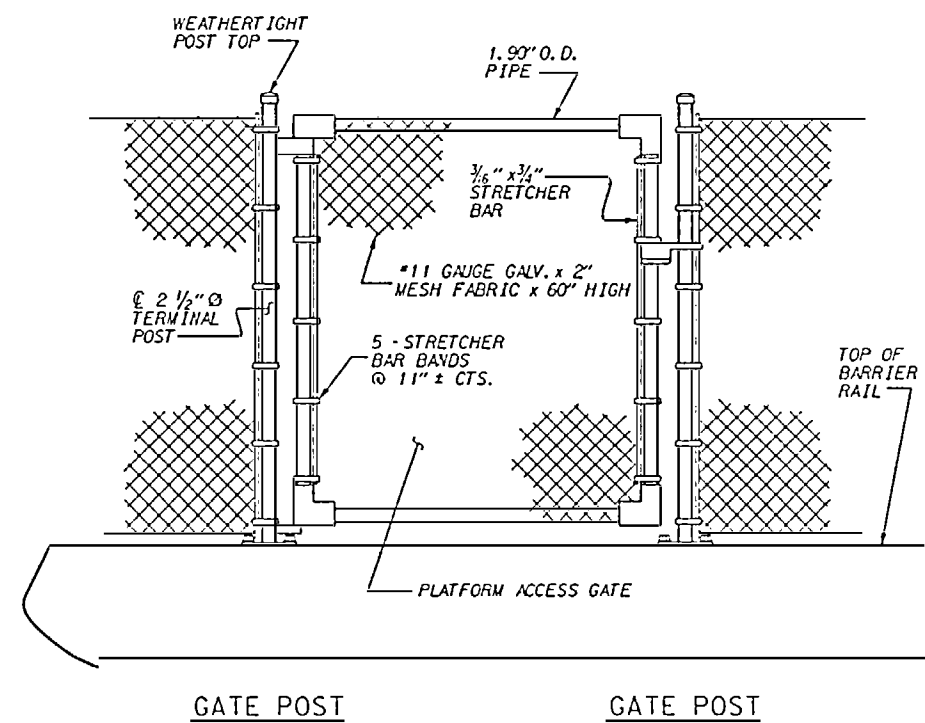
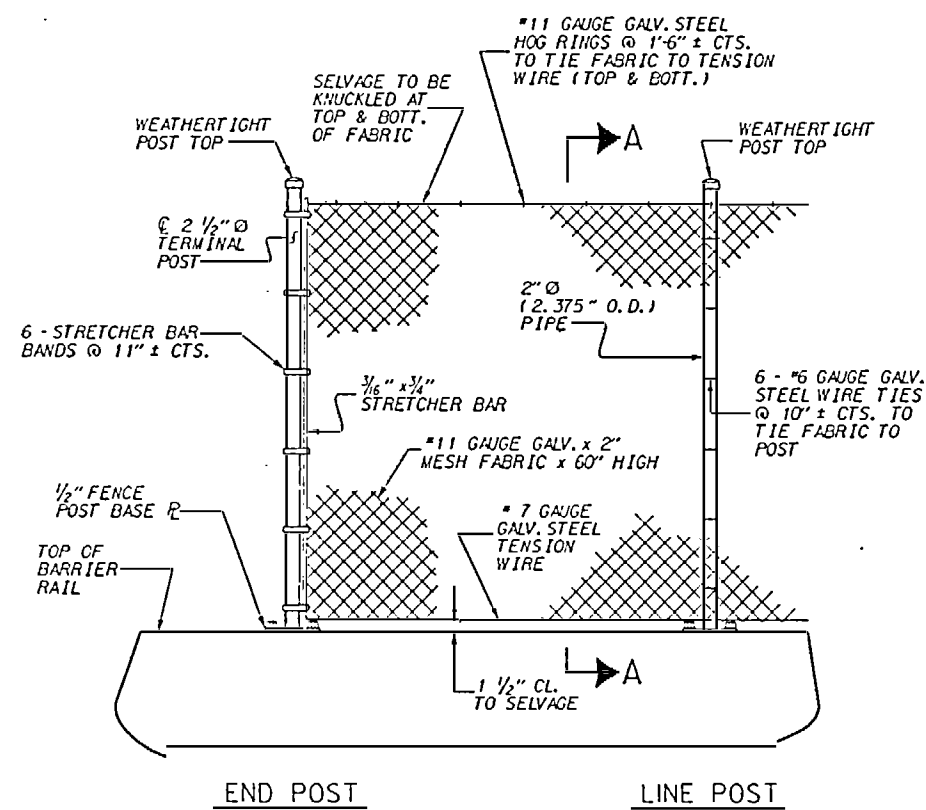
ALL STRUCTURAL STEEL SHALL BE GALVANIZED AFTER FABRICATION PER STANDARD SPECIFICATION.

ADHESIVE ANCHORS SHALL BE ASTM F593 TYPE 305 STAINLESS STEEL. HEX NUTS SHALL BE STAINLESS STEEL AND MEET THE REQUIREMENTS OF ASTM F594. WASHERS SHALL MEET THE REQUIREMENTS OF ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.

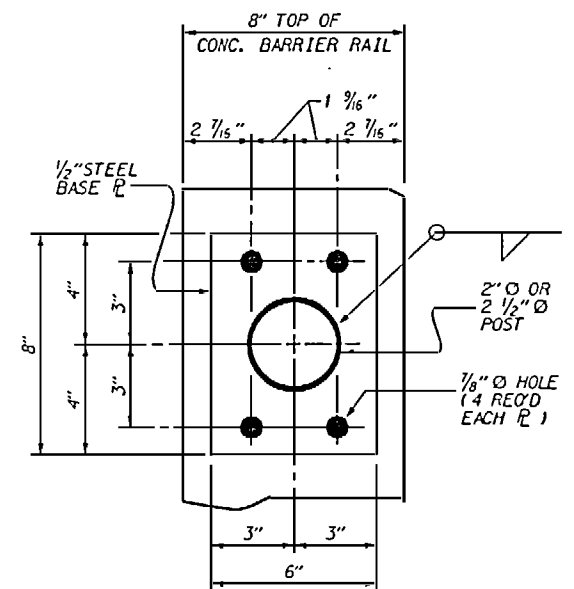
THE BASE PLATE AND FENCE POST SHALL BE WELDED PRIOR TO GALVANIZATION.



PLAN OF FENCE POST SPACING



SECTION A-A

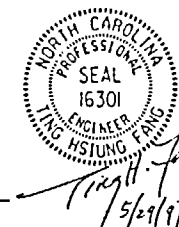


SECTION B-B

BASE PLATE DETAIL

PROJECT NO. U-2107BA

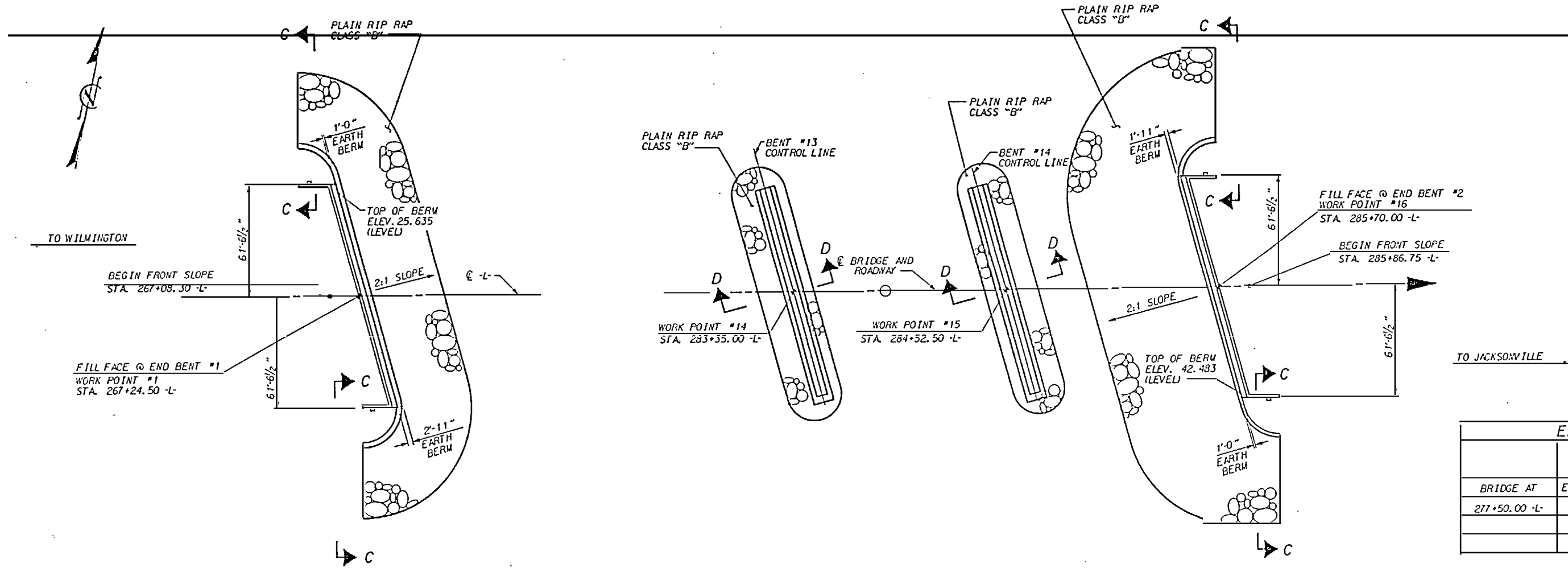
ONSLOW COUNTY

STATION: 277+50.00 -L-

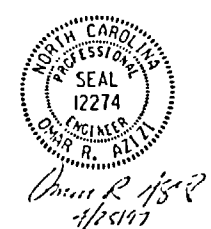
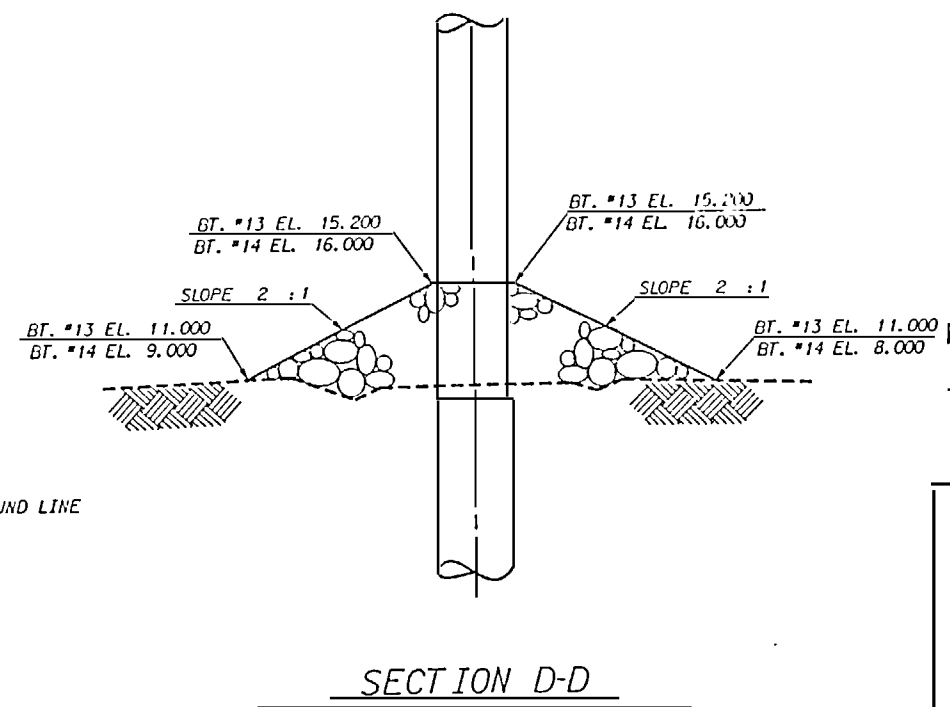
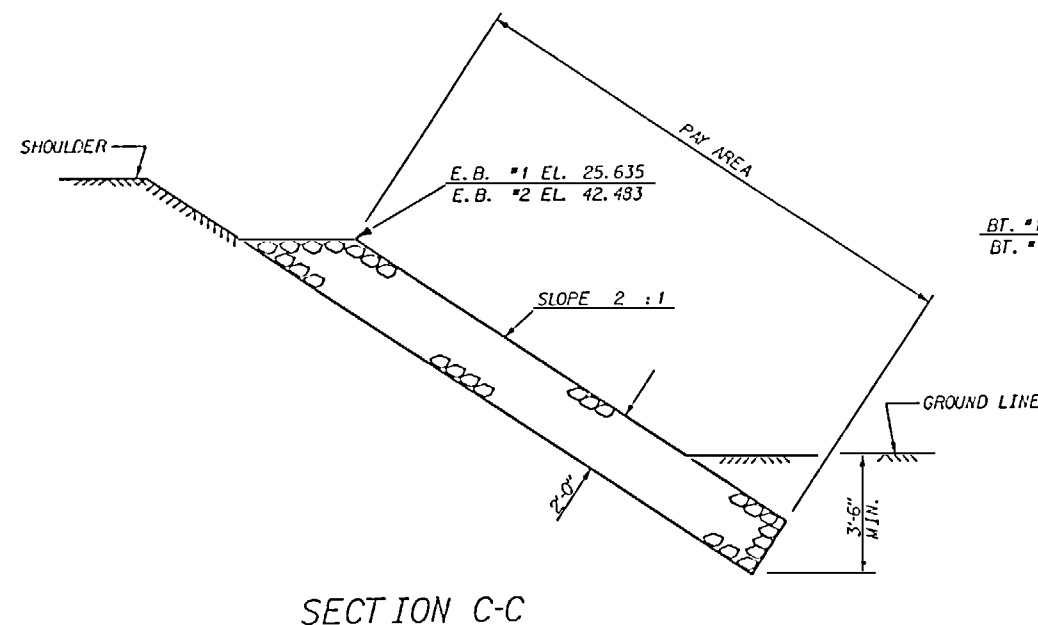
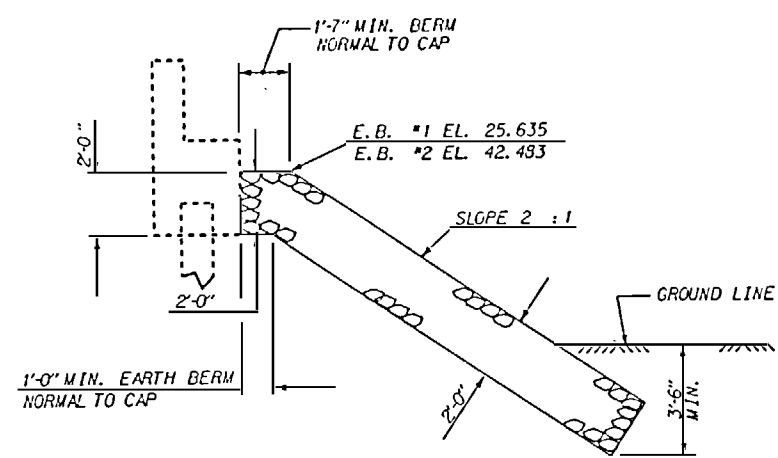
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CHAIN LINK FENCE DETAILS

REVISIONS						SHEET NO. 5-163 TOTAL SHEETS 170
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			



ESTIMATED QUANTITIES				
PLAIN RIP RAP CLASS B TONS				
BRIDGE AT	E. BT. NO. 1	BT. NO. 13	BT. NO. 14	E. BT. NO. 2
277+50.00 -L-	1370	380	1210	2410



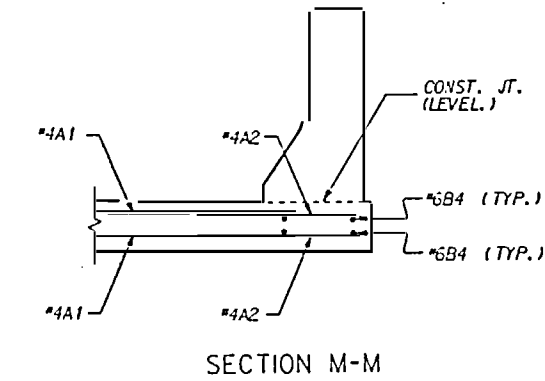
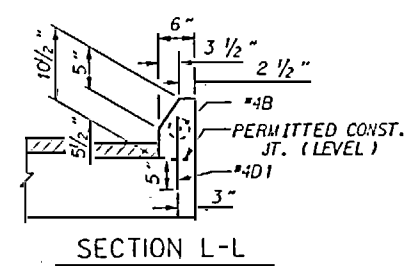
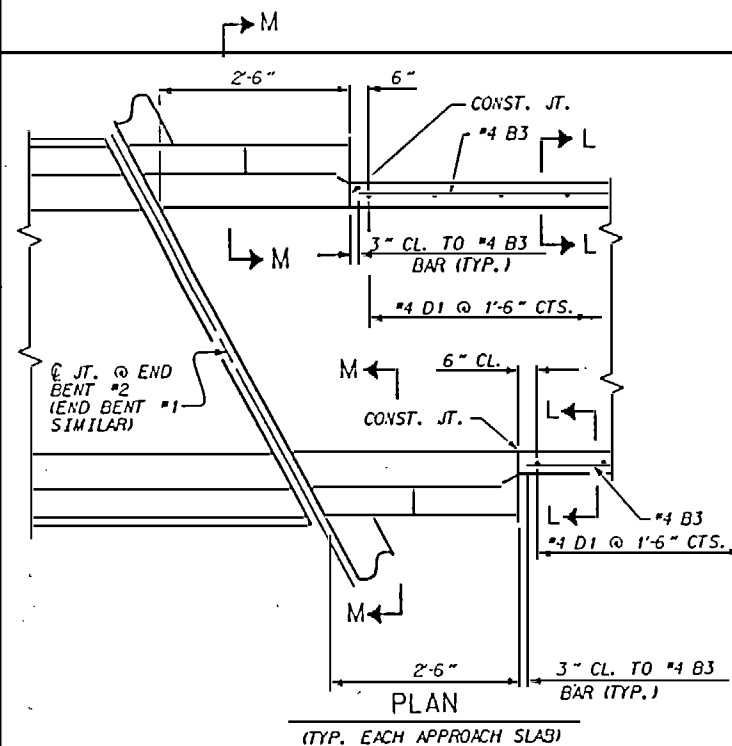
PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

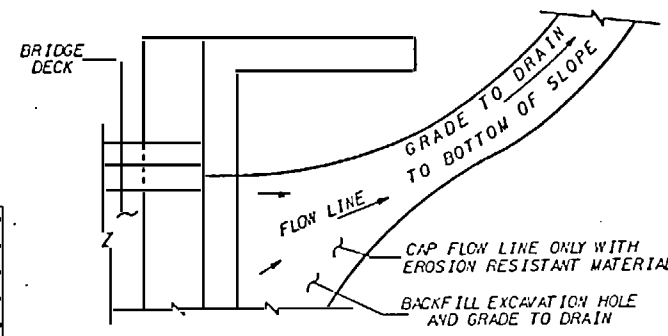
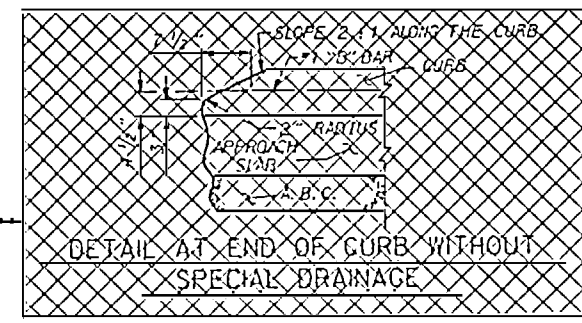
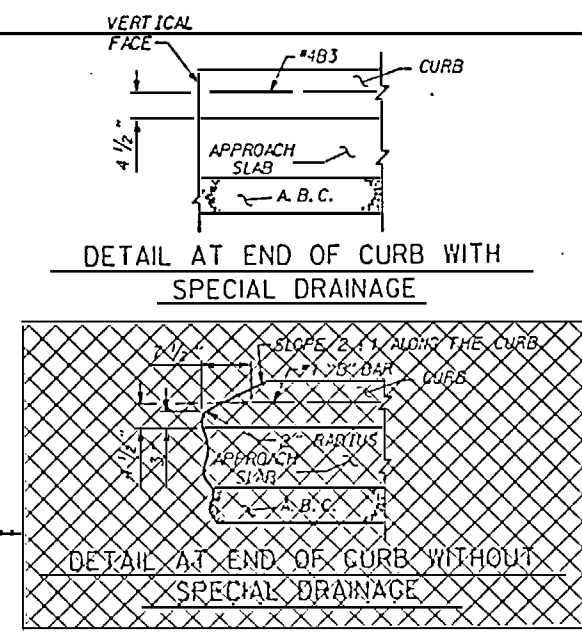
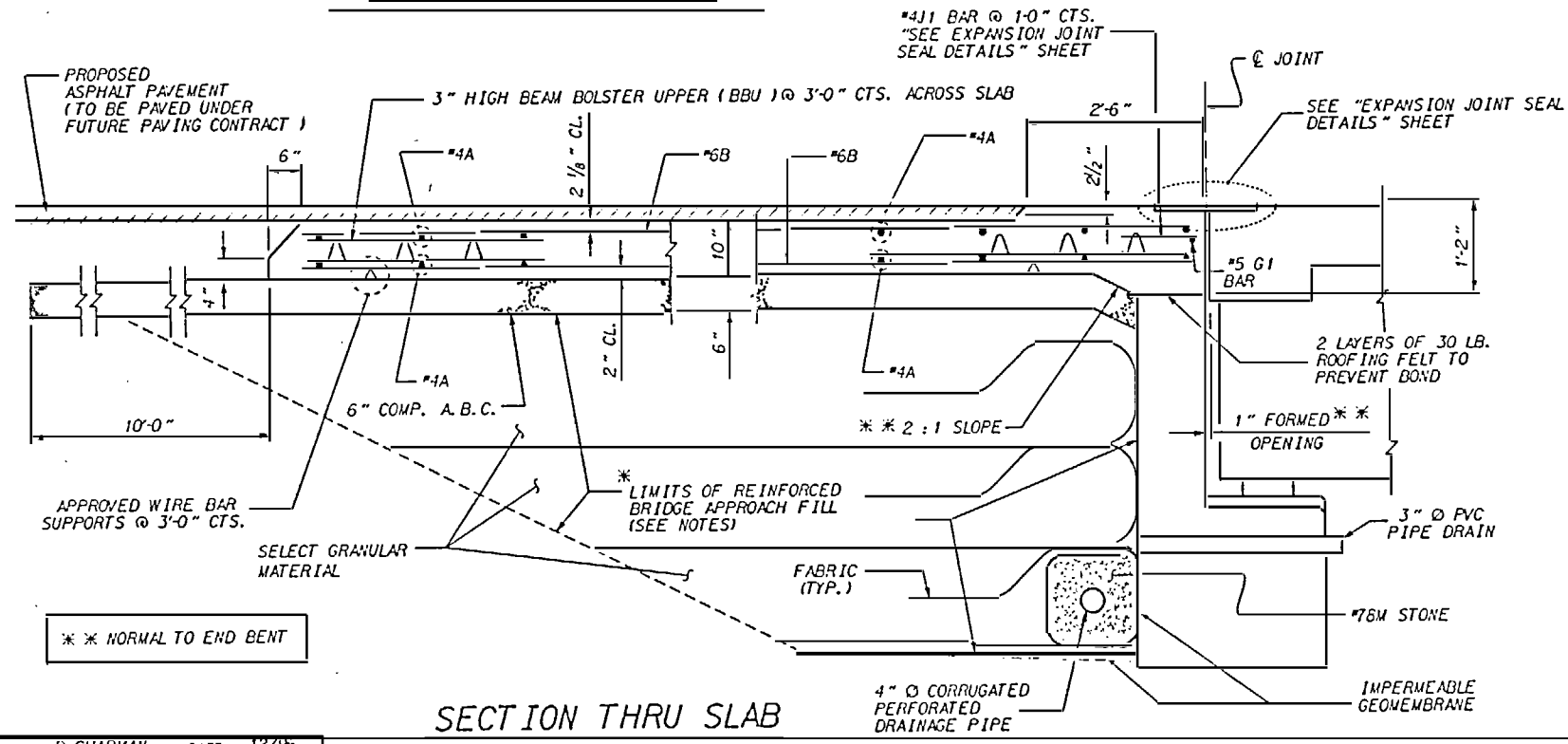
RIP RAP DETAILS

REVISIONS						SHEET NO. 5-164 TOTAL SHEETS 170
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

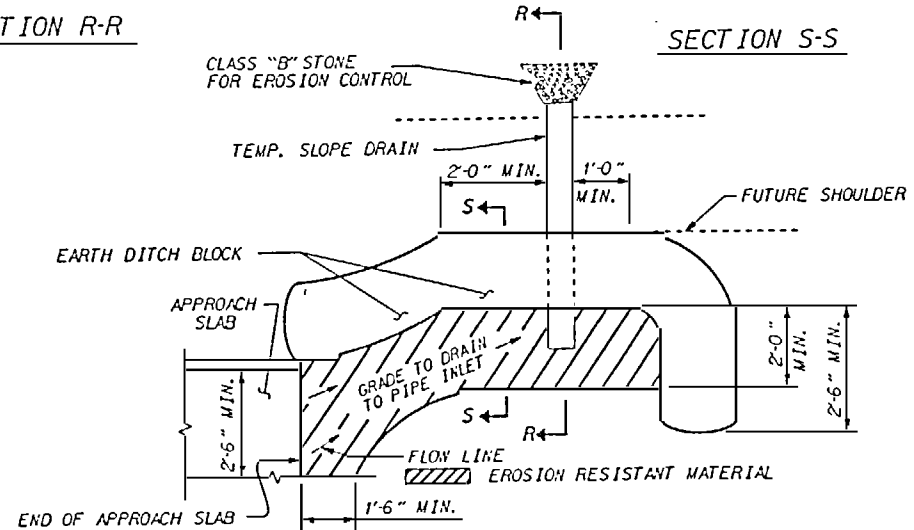
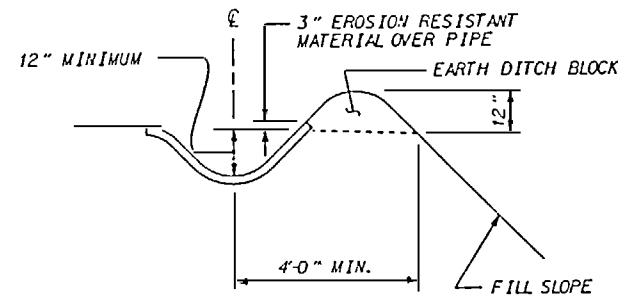
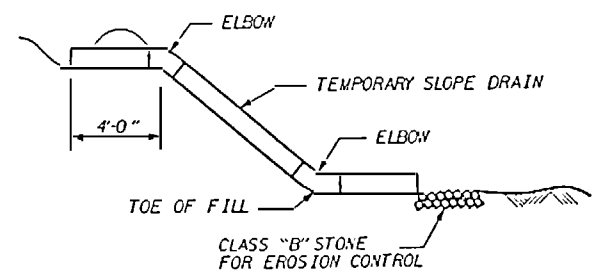
PLAN OF APPROACH SLAB
@ END BENT #2



CURB DETAILS



NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT TO THE STRUCTURE. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THESE MATERIALS PRIOR TO CONSTRUCTION OF THE APPROACH SLAB.



NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.

TEMPORARY BERM AND SLOPE DRAIN DETAILS

NOTES

* FOR REINFORCED BRIDGE APPROACH FILL INCLUDING FABRIC, IMPERMEABLE GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #7M STONE, AND SELECT GRANULAR FILL, SEE SHEET 3 OF 6.

TEMPORARY DRAINAGE AND TEMPORARY BERM AND SLOPE DRAINS WILL BE PAID FOR UNDER THE LUMP SUM PRICE FOR BRIDGE APPROACH SLAB.

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

THE 6" COMP. A.B.C. IS TO EXTEND 10'-0" BEYOND THE SLAB AS SHOWN AND 1'-0" OUTSIDE OF EACH EDGE OF SLAB.

THE CONTRACTOR MAY, AT HIS OPTION, USE EITHER 4" TYPE HB ASPHALT CONCRETE BASE COURSE OR 5" CLASS 'A' CONCRETE IN LIEU OF 6" A.B.C. IF 5" CLASS 'A' CONCRETE IS USED, 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 WIDTH OF THE CONCRETE BASE SHALL BE THE SAME WIDTH AS THE APPROACH SLAB. THE APPROACH SLABS SHALL NOT BE CAST UNTIL THE CONCRETE HAS REACHED AN AGE OF THREE CURING DAYS.

DOWELS MAY BE PUSHED INTO GREEN CONCRETE AFTER THE SLAB HAS BEEN SCREEDED AND FLOAT FINISHED EXCEPT AS NOTED ON THE PLANS.

PAYMENT FOR BARRIER RAIL EXTENSIONS SHALL BE PAID FOR UNDER CONCRETE BARRIER RAIL.

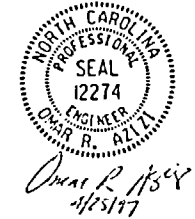
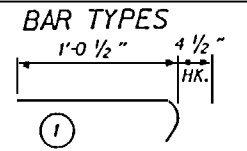
FOR DETAILS OF THE BARRIER RAIL EXTENSION, SEE "STANDARD CONCRETE BARRIER RAIL EXTENSION."

FOR DETAILS OF MEDIAN BARRIER, SEE "CONCRETE MEDIAN BARRIER" SHEET.

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

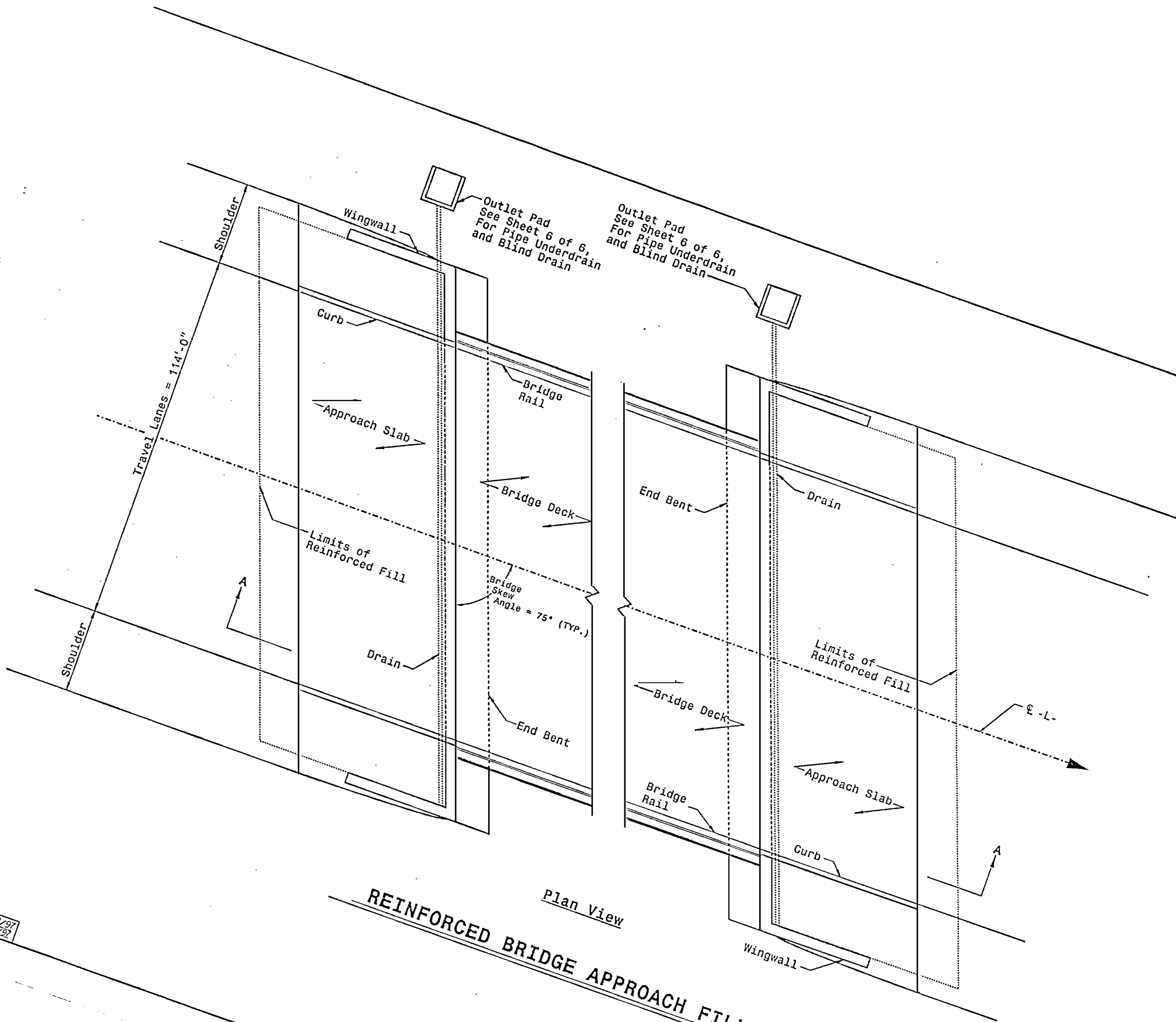
APPROACH GROOVING IS NOT REQUIRED.

BILL OF MATERIAL					
END BENT #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	120	4	STR.	25'-4"	2031
A2	8	4	STR.	2'-9"	15
B1	230	6	STR.	16'-1"	5556
B2	230	6	STR.	16'-7"	5729
B3	2	4	STR.	13'-10"	18
B4	8	6	STR.	2'-3"	27
D1	18	4	STR.	0'-10"	10
D2	6	6	STR.	1'-6"	14
G1	3	5	STR.	42'-3"	132
J1	119	4	1	1'-5"	113
EPOXY COATED				13,645	LBS
REINFORCING STEEL TOTAL					
CLASS AA CONC.				29.4	C.Y.
POUR #1				35.5	C.Y.
POUR #2				64.9	C.Y.
TOTAL					
END BENT #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	120	4	STR.	25'-4"	2031
A2	8	4	STR.	2'-9"	15
B1	230	6	STR.	16'-1"	5556
B2	230	6	STR.	16'-7"	5729
B3	2	4	STR.	13'-10"	18
B4	8	6	STR.	2'-3"	27
D1	18	4	STR.	0'-10"	10
D2	6	6	STR.	1'-6"	14
G1	3	5	STR.	42'-3"	132
J1	119	4	1	1'-5"	113
EPOXY COATED				13,645	LBS
REINFORCING STEEL TOTAL					
CLASS AA CONC.				29.4	C.Y.
POUR #1				35.5	C.Y.
POUR #2				64.9	C.Y.
TOTAL					



PROJECT NO. U-2107BA
ONSLow COUNTY
STATION: 277+50.00 -L-
SHEET 2 OF 6

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE APPROACH SLAB FOR FLEXIBLE PAVEMENT WITH REINFORCED BRIDGE APPROACH FILL					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			2		
2			3		
TOTAL SHEETS					170



Plan View

REINFORCED BRIDGE APPROACH FILLS

DESIGNED BY: W. J. L. & J. L. DATE: 1/28/97
 CHECKED BY: W. J. L. & J. L. DATE: 1/28/97

PROJECT NO. U-2107BA
ONSLAW COUNTY
 STATION: 277+50.00 -L-

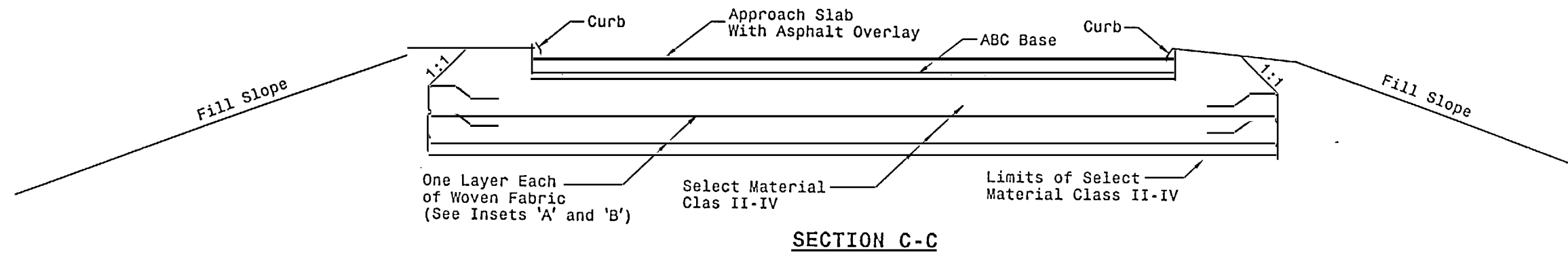
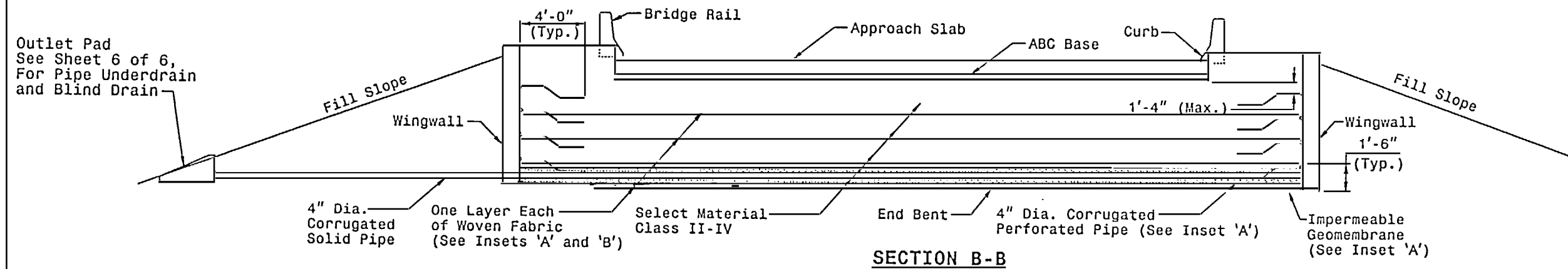
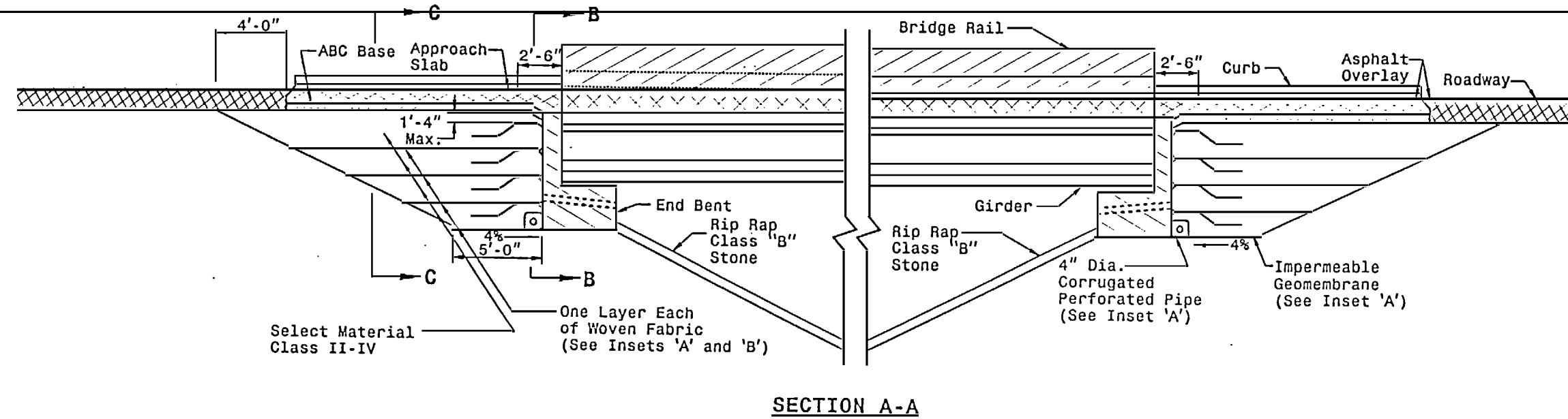
SHEET 3 OF 6

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 BRIDGE APPROACH SLAB
 FOR FLEXIBLE PAVEMENT
 WITH REINFORCED BRIDGE
 APPROACH FILL

NO.	REV.	DATE	BY	DATE	SHEET NO.
1					S-167
2					10/1/97
3					170

NOTE

FOR INSETS 'A' AND 'B', SEE SHEET 5 OF 6.



REINFORCED BRIDGE APPROACH FILLS PRESTRESSED GIRDER BRIDGE

PROJECT NO. U-2107BA

ONslow COUNTY

STATION: 277+50.00 -L-

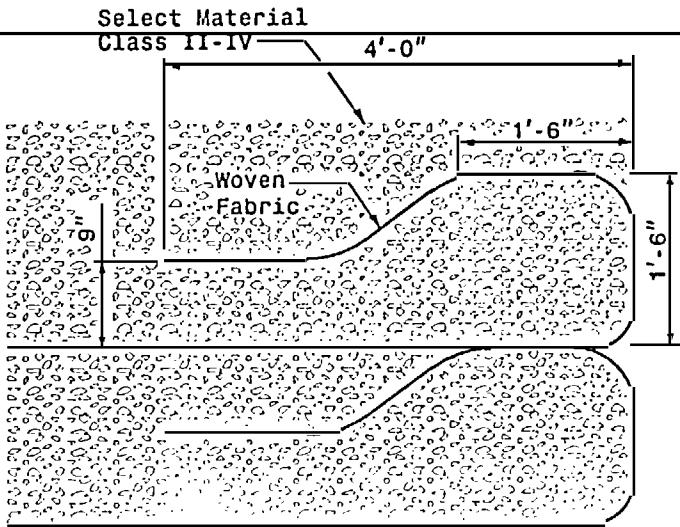
SHEET 4 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE APPROACH SLAB
FOR FLEXIBLE PAVEMENT
WITH REINFORCED BRIDGE
APPROACH FILL

DRAWN BY: 1/1/11 R. J. DATE: 1/28/97
CHECKED BY: O. R. A. 121 DATE: 3/20/97

REVISIONS						SHEET NO
NO.	BY	DATE	NO.	BY	DATE	5-168
1			3			TOTAL SHEETS
2			4			170

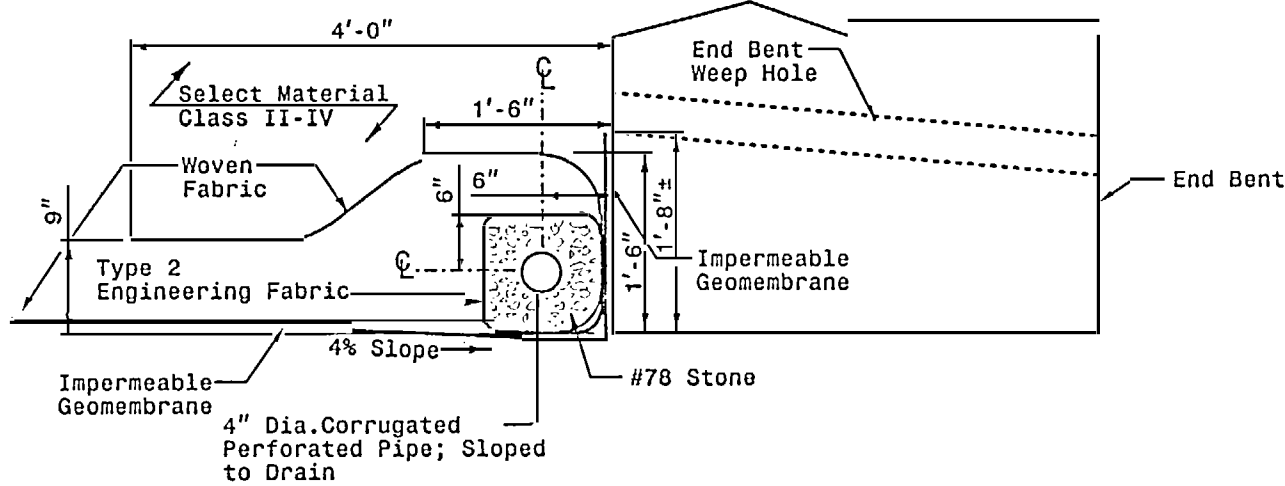


Typical Fabric Lift and Wrap
Showing Second and Above Lifts

Inset 'B'

Height of Backwall	Number of Fabric Layers
4'-6" - 5'-9"	3
5'-10" - 7'-2"	4
7'-3" - 8'-8"	5
8'-9" - 10'-1"	6
10'-2" - 11'-8"	7

Note: Cored Slab Structures
Require 2 Fabric Layers.



Girder Bridge
Showing First Lift and Drains

Inset 'A'

Length of Bridge End Bent Inside Wingwalls	
If Bridge Skew is Less Than or Equal to 90°: $\frac{(\text{Roadway Width} + 7'-0")}{\sin(\text{Bridge Skew Angle})} = \text{Dis. Between Wingwalls}$	
If Bridge Skew is Greater Than 90°: $\frac{(\text{Roadway Width} + 7'-0")}{\cos(\text{Bridge Skew Angle} - 90^\circ)} = \text{Dis. Between Wingwalls}$	

REINFORCED BRIDGE APPROACH FILLS
INSETS AND CHARTS

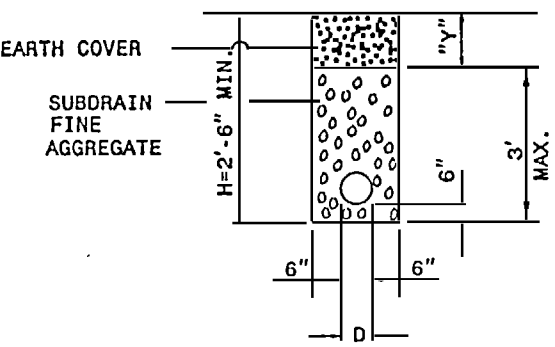
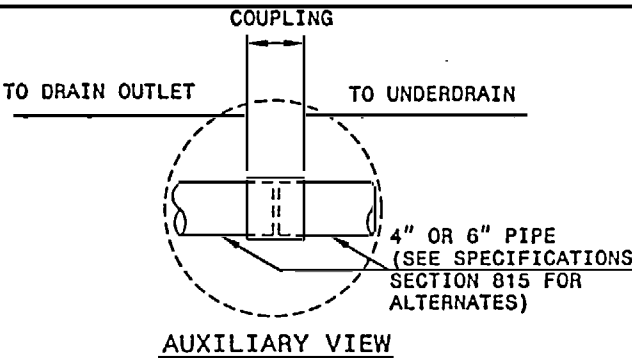
PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

SHEET 5 OF 6

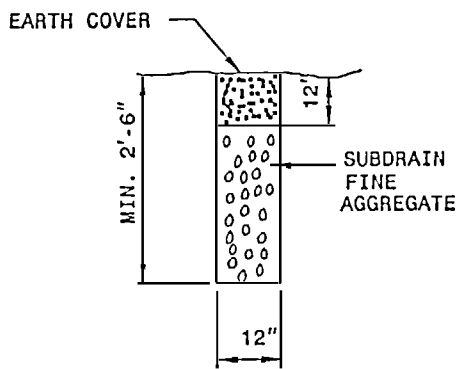
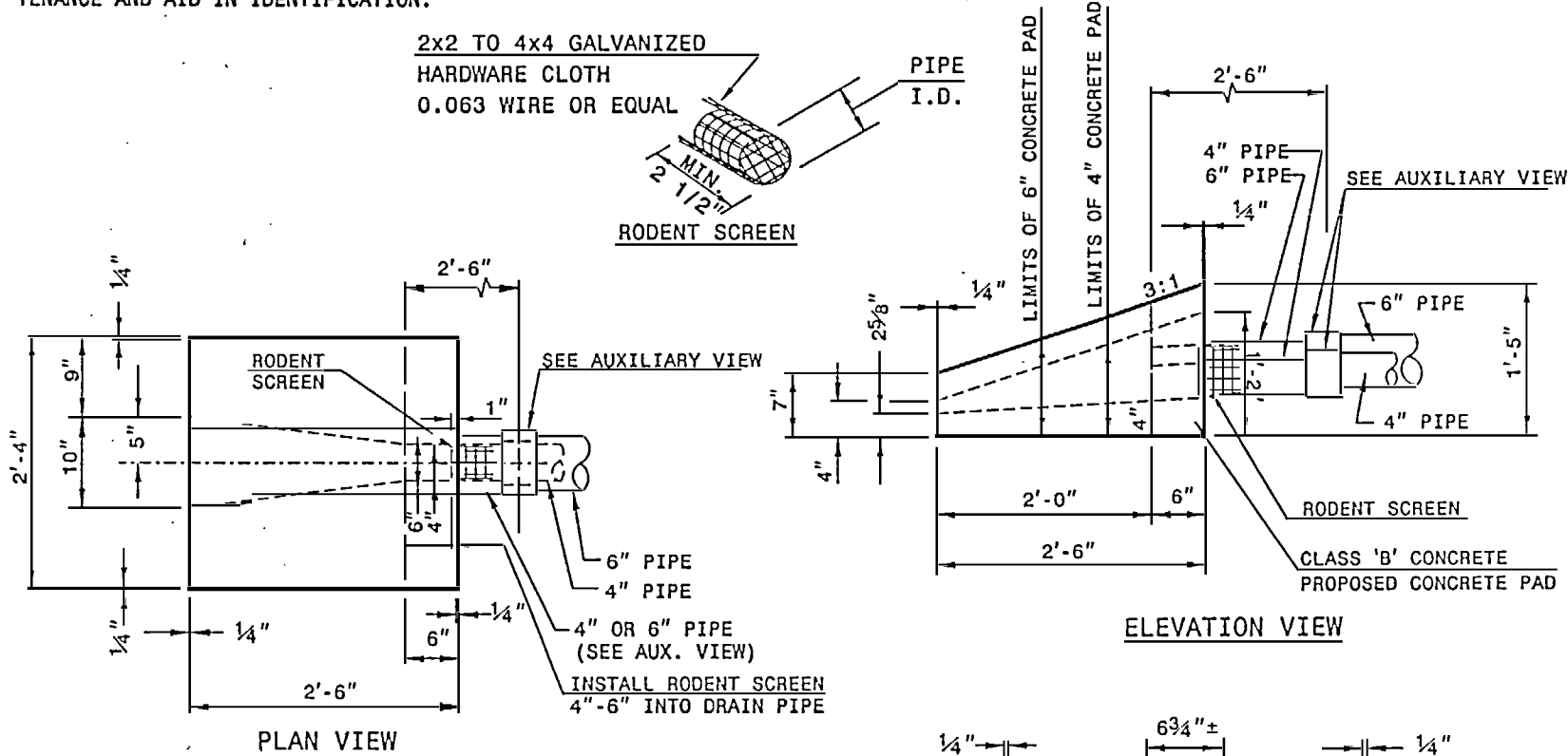
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE APPROACH SLAB FOR FLEXIBLE PAVEMENT WITH REINFORCED BRIDGE APPROACH FILL					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			2		
2			3		
SHEET NO. S-169					TOTAL SHEETS 170

GENERAL NOTES:
WHEN PROOF ROLLING IS REQUIRED, THE
PIPE UNDERDRAINS SHALL BE A MINIMUM OF 6' DEEP.

CONCRETE PAD NOTE:
PIPE OUTLET SHALL BE CONNECTED INTO DRAINAGE
STRUCTURE WHEREVER POSSIBLE. IF NOT CON-
NECTED TO DRAINAGE STRUCTURE, END OF PIPE
SHALL BE PROTECTED BY CONCRETE PAD FOR
OUTLET END OF UNDERDRAIN. PADS ARE NEEDED
AT LOCATIONS WHERE PIPE IS NOT PLACED
IN DRAINAGE STRUCTURE TO FACILITATE MAIN-
TENANCE AND AID IN IDENTIFICATION.



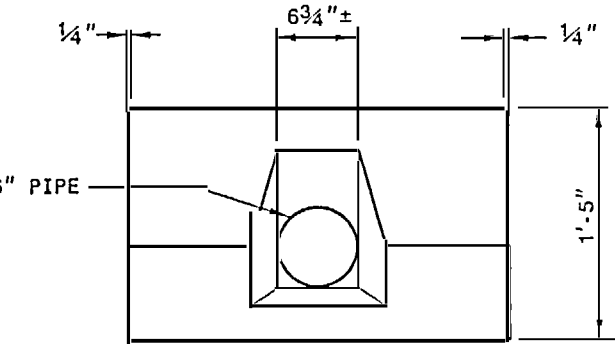
PIPE UNDERDRAIN
Y = 12" WHEN "H" IS 4'-0" OR LESS
Y = VARIABLE WHEN "H" IS OVER 4'-0"



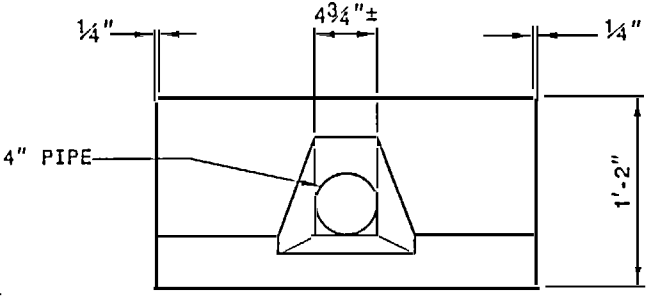
BLIND DRAIN

SUBDRAIN QUANTITIES	
TYPE	EXCAV. OR FINE AGGR. CU. YDS. PER FT. DEPTH/LIN. FT.
UNDER DRAIN	0.056
BLIND DRAIN	0.037

THE CONCRETE PAD CONSISTS OF 4" DRAIN 0.137 CUBIC YARDS,
6" DRAIN 0.177 CUBIC YARDS CLASS "B" CONCRETE.



END ELEVATION VIEW



END ELEVATION VIEW

PIPE UNDERDRAIN AND BLIND DRAIN

PROJECT NO. U-2107BA
ONSLOW COUNTY
STATION: 277+50.00 -L-

SHEET 6 OF 6

REVISIONS						SHEET NO. S-170
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 170
2			4			

DRAWN BY: 11/11/97 DATE: 1/28/97
CHECKED BY: O.R. 121 DATE: 3/20/97

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 250	--	140 MPa
- AASHTO M270 GRADE 345W	--	190 MPa
- AASHTO M270 GRADE 345	--	190 MPa
REINFORCING STEEL IN TENSION		
	GRADE 400	-- 165 MPa
CONCRETE IN COMPRESSION	-----	8 MPa
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	-----	12 MPa
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	-----	2.6 MPa
EQUIVALENT FLUID PRESSURE OF EARTH	-----	480 kg/m ³
		(MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 1995 STANDARD SPECIFICATIONS "FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

CONCRETE:

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

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 19mm WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 30mm RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 6mm FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 6mm RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 300mm INTO THE OLD CONCRETE AND GROUTED INTO PLACE 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. 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 22mm Ø SHEAR STUDS FOR THE 19mm Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 22mm Ø STUDS FOR 4 - 19mm Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 22mm Ø STUDS ALONG THE BEAM AS SHOWN FOR 19mm Ø STUDS BASED ON THE RATIO OF 3 - 22mm Ø STUDS FOR 4 - 19mm Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 610mm.

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 8mm IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 50mm 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-II.

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 2mm 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. FINIS 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.