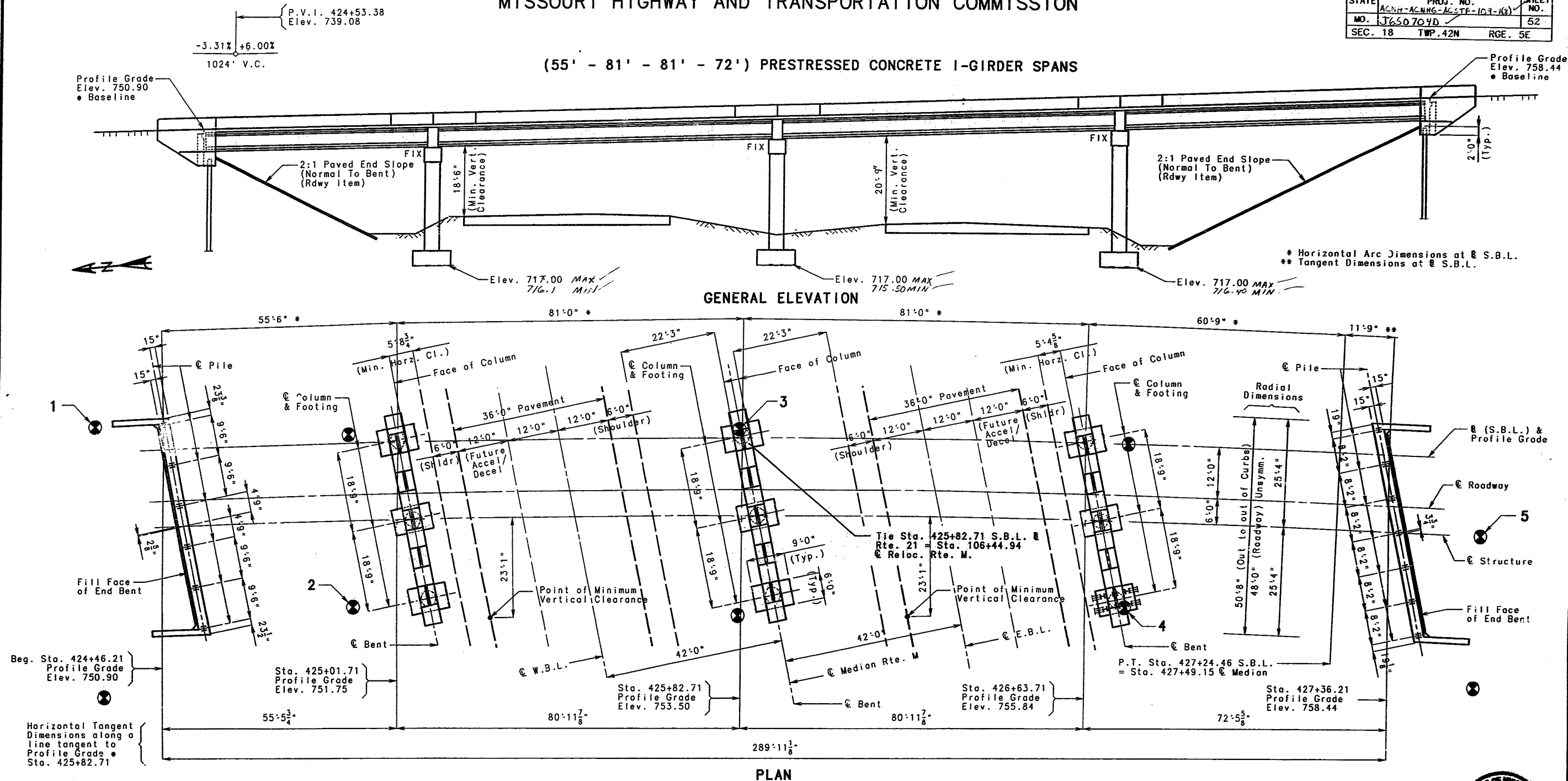


MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	ACNH-ACNHG-ACSTE-109-108	PROJ. NO.	52
MO.	J6S0704D	SHEET NO.	52
SEC. 18	TWP. 42N	RGE. 5E	



Note:
Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25' in back of the fill face of the end bents before piles are driven for any bents falling within the embankment section.

* Indicates location of Borings.

NOTICE AND DISCLAIMER REGARDING BORING LOG DATA

The locations of all subsurface boring for this structure are shown on the bridge plan sheet for this structure. Boring data for the numbered locations is shown on sheet No. 3. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are available from the project contact upon written request as outlined in the project special provisions. No greater significance or weight should be given to the boring data depicted on the plan sheets than to subsurface data available from the district or elsewhere.

The commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the commission.

B.M. ELEV. 757.89 "D" ON BRIDGE DECK NEXT TO WALL S.W. CORNER OF BRIDGE #A-5530.

BRIDGE OVER RELOCATED RTE. M

STATE ROAD FROM ROUTE 21 TO ROUTE I-55

ABOUT 6 MILES WEST OF ROUTE I-55

PROJECT NO.

JOB NO. J6S0704D

JEFFERSON

STA. 106+44.94

RTE. M

COUNTY

DATE: 8/20/97

DESIGNED AUG. 1996
DETAILED SEPT. 1996
CHECKED FEB. 1997

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 1 OF 35.



STD. 504.00
STD. 606.00
STD. 609.00
STD. 611.60
STD. 706.35
A5530

GENERAL NOTES:

DESIGN SPECIFICATIONS:
A.A.S.H.T.O. - 1996
LOAD FACTOR DESIGN SEISMIC PERFORMANCE CATEGORY A

DESIGN LOADING:
HS20 MODIFIED
MILITARY 24,000# TANDEM AXLE
35#/SQ. FT. FUTURE WEARING SURFACE
EARTH 120#/CU. FT., EQUIVALENT FLUID PRESSURE 45#/CU. FT.
SUPERSTRUCTURE: SIMPLY-SUPPORTED, NON-COMPOSITE FOR DEAD LOAD.
CONTINUOUS COMPOSITE FOR LIVE LOAD.

DESIGN UNIT STRESSES:
CLASS B CONCRETE (SUBSTRUCTURE) F'C=3,000 PSI.
CLASS B1 CONCRETE (SAFETY BARRIER CURB) F'C=4,000 PSI.
CLASS B2 CONCRETE (SUPERSTRUCTURE EXCEPT PRESTRESSED GIRDERS AND SAFETY BARRIER CURB) F'C=4,000 PSI.
REINFORCING STEEL (GRADE 60) F_y=60,000 PSI.
STEEL PILE (ASTM A709 GRADE 36) F_y = 9000 PSI F_y = 36,000 PSI.
FOR PRESTRESSED GIRDER STRESSES, SEE SHEETS NO. 16-19.
FOR PRECAST PRESTRESSED PANEL STRESSES, SEE SHEET NO. 26.

REINFORCING STEEL:
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2", UNLESS OTHERWISE SHOWN.

JOINT FILLER:
ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF STD. SPEC. 1057.2.4, EXCEPT AS NOTED.

NEOPRENE BEARINGS:
BEARINGS SHALL BE 60 DUROMETER NEOPRENE PADS.
THE NEOPRENE PAD SHALL BE BONDED TO THE BEARING SEAT WITH AN EPOXY ADHESIVE AS APPROVED BY THE BEARING MANUFACTURER FOR BONDING NEOPRENE TO CONCRETE.

MISCELLANEOUS:
A MINIMUM VERTICAL CLEARANCE OF 16'-0" FROM CROWN OF EXISTING LANES AND MINIMUM LATERAL CLEARANCE OF 40'-0" CENTERED ON EXISTING LANES SHALL BE MAINTAINED DURING CONSTRUCTION (IF APPLICABLE).

FINAL QUANTITIES			
ITEM		SUBSTR.	SUPERSTR.
CLASS 1 EXCAVATION	CU. YD.	360	360
BRIDGE APPROACH SLAB (BRIDGE)	SQ. YD.	273	273
STRUCTURAL STEEL PILES (12")	LIN. FT.	734	734
PRE-BORE FOR PILING	LIN. FT.	410	410
PILE POINT REINFORCEMENT	EACH	19	19
CLASS B CONCRETE (SUBSTR.)	CU. YD.	252.0	252.0
SLAB ON CONCRETE I-GIRDER	SQ. YD.	1633	1633
SAFETY BARRIER CURB	LIN. FT.	0	0
LAMINATED NEOPRENE BEARING PADS (TAPERED)	EACH	48	48
PRESTRESSED CONCRETE I-GIRDERS (55 FT. SPAN)	EACH	6	6
PRESTRESSED CONCRETE I-GIRDERS (81 FT. SPAN)	EACH	12	12
PRESTRESSED CONCRETE I-GIRDERS (72 FT. SPAN)	EACH	6	6
REINFORCING STEEL (BRIDGES)	LB.	32,920	32,920
VERTICAL DRAIN AT END BENTS	EACH	2	2
FOUNDATION TEST HOLES	LIN. FT.	30	30
CLASS 1 EXCAVATION + 25% CREVICE CONCRETE	CU. YD.	18.0	18.0
CREVICE CONCRETE II	EACH	2	2
SAFETY BARRIER CURB	LIN. FT.	2.3	2.3

ALL CONCRETE ABOVE THE CONSTRUCTION JOINT IN THE END BENTS IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER.

ALL REINFORCEMENT IN THE END BENTS IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER.

THE COST OF FURNISHING, FABRICATING AND INSTALLING NEOPRENE BEARING PADS, COMPLETE-IN-PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR LAMINATED NEOPRENE BEARING PADS TAPERED, PER EACH.

(**) SAFETY BARRIER CURB SHALL BE CAST-IN-PLACE OPTION OR SLIP-FORM OPTION.

ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER		
ITEM		TOTAL
REINFORCING STEEL (PLAIN)	LBS.	8481
REINFORCING STEEL (EPOXY COATED)	LBS.	102,811
CONCRETE	CU. YDS.	415.9

THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER REPRESENTS THE QUANTITIES USED BY THE STATE IN PREPARING THE COST ESTIMATE FOR CONCRETE SLABS. VARIATIONS MAY BE ENCOUNTERED IN THESE ESTIMATED QUANTITIES BUT THESE VARIATIONS CANNOT BE USED FOR AN ADJUSTMENT IN THE CONTRACT UNIT PRICE PER SQUARE YARD OF SLAB ON CONCRETE I-GIRDER.

SEE SPECIAL PROVISIONS FOR METHODS OF FORMING SLABS.

THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER ARE BASED ON SKEWED PRECAST PRESTRESSED END PANELS.

(*) BASED ON MINIMUM TOP FLANGE THICKNESS AND MINIMUM JOINT FILLER THICKNESS.

THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER.

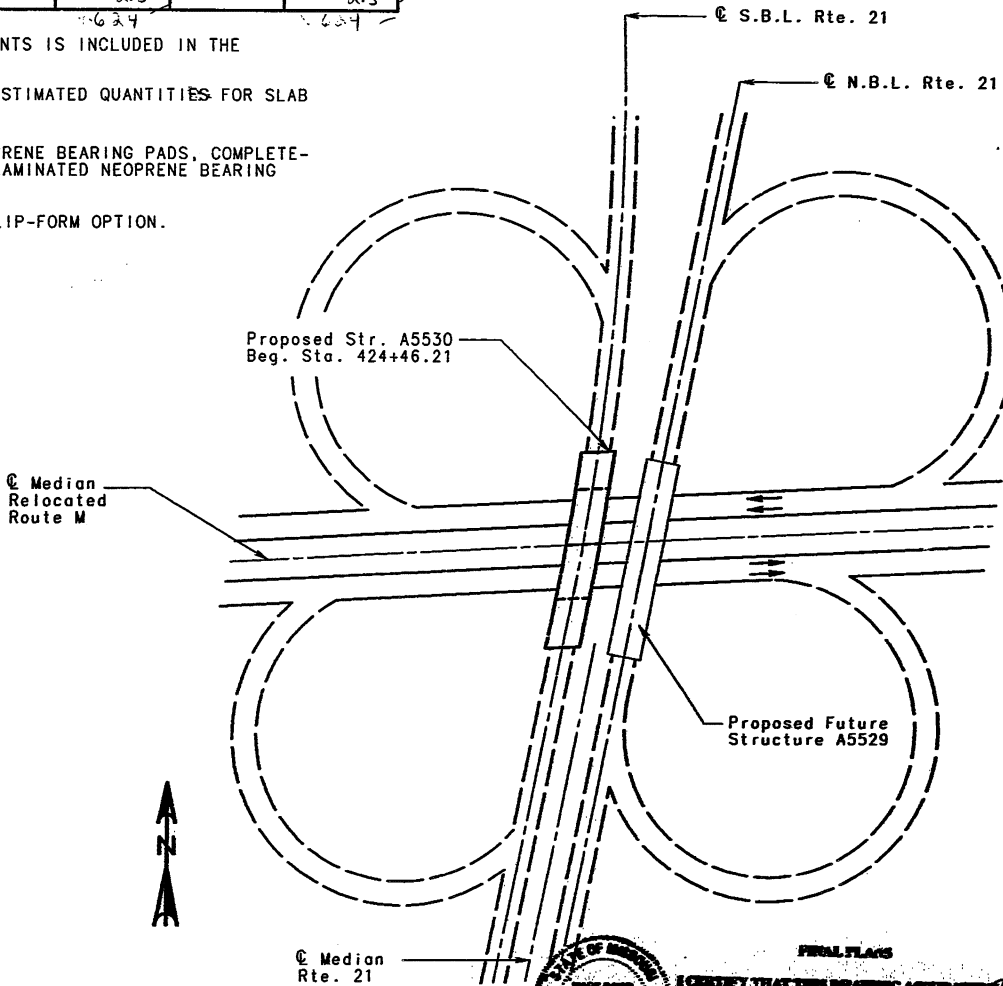
PILE DATA					
BENT NO.	1	2	3	4	5
PILE TYPE AND SIZE	HP12X53				
NUMBER	6			6	7
APPROXIMATE LENGTH FT.	26			12	55
DESIGN BEARING TONS	67			65	66
HAMMER ENERGY REQUIRED FT.-LBS.	15,000			15,300	14,900

MINIMUM ENERGY REQUIREMENT OF HAMMER IS BASED ON PLAN LENGTH AND DESIGN BEARING VALUE OF PILES.

ALL PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL.

PREBORE FOR PILES AT BENTS 1, 2, 3, 4 AND 5 TO ELEVATIONS 711.00, 707.00, 707.00, 702.00 AND 702.00 RESPECTIVELY.

MANUFACTURED PILE POINT REINFORCEMENT SHALL BE USED ON ALL PILES IN THIS STRUCTURE AT BENTS 1, 2, 3, 4 AND 5. SEE SPECIAL PROVISIONS.



LOCATION



FINAL PLANS

I CERTIFY THAT THE DRAWING ACCURATELY REFLECTS THE CONSTRUCTION AND LOCATION OF THE WORK AND APPROVED FOR CONSTRUCTION ON THIS PROJECT.

DATE 8/15/97

DETAILED AUG 1996
CHECKED DEC 1996

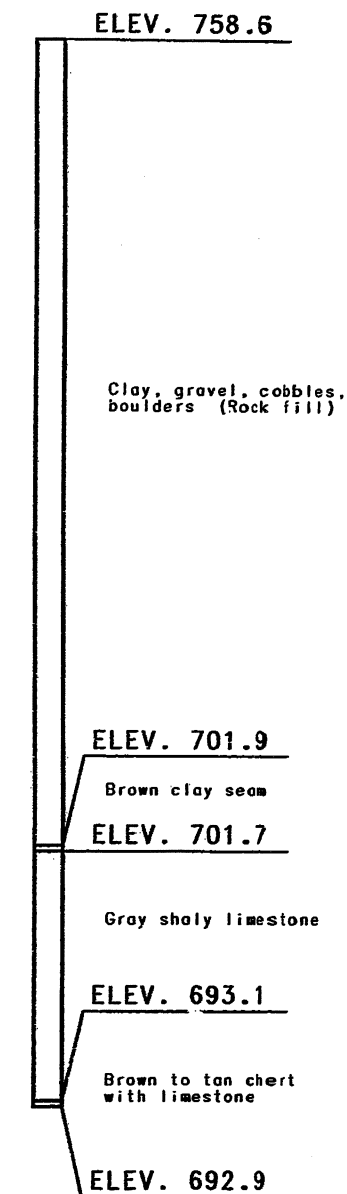
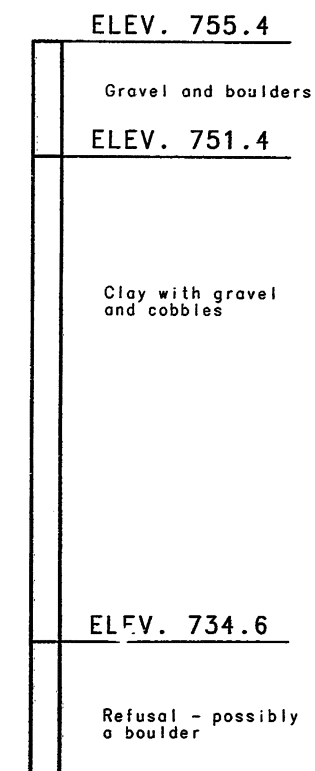
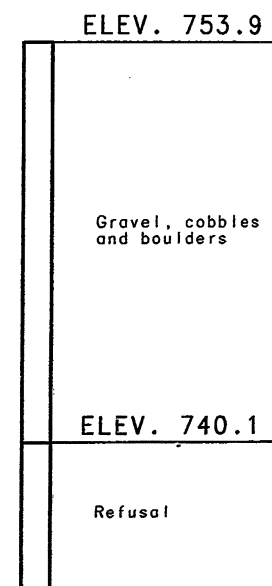
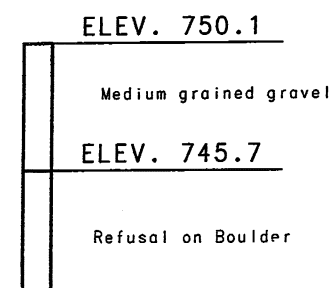
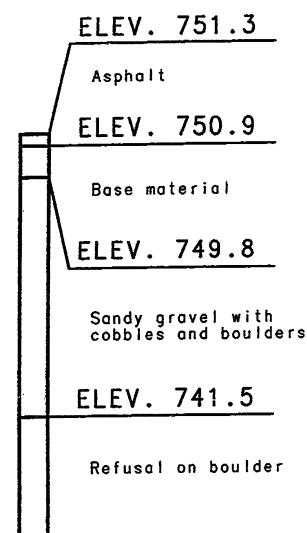
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 2 OF 35.

JEFFERSON

COUNTY

A5530



①

②

③

④

⑤

BORING DATA

NOTE: FOR LOCATION OF BORINGS, SEE SHEET NO. 1.

DETAILED AUG. 1996
 CHECKED DEC. 1996

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 3 OF 35.

JEFFERSON

COUNTY

A5530

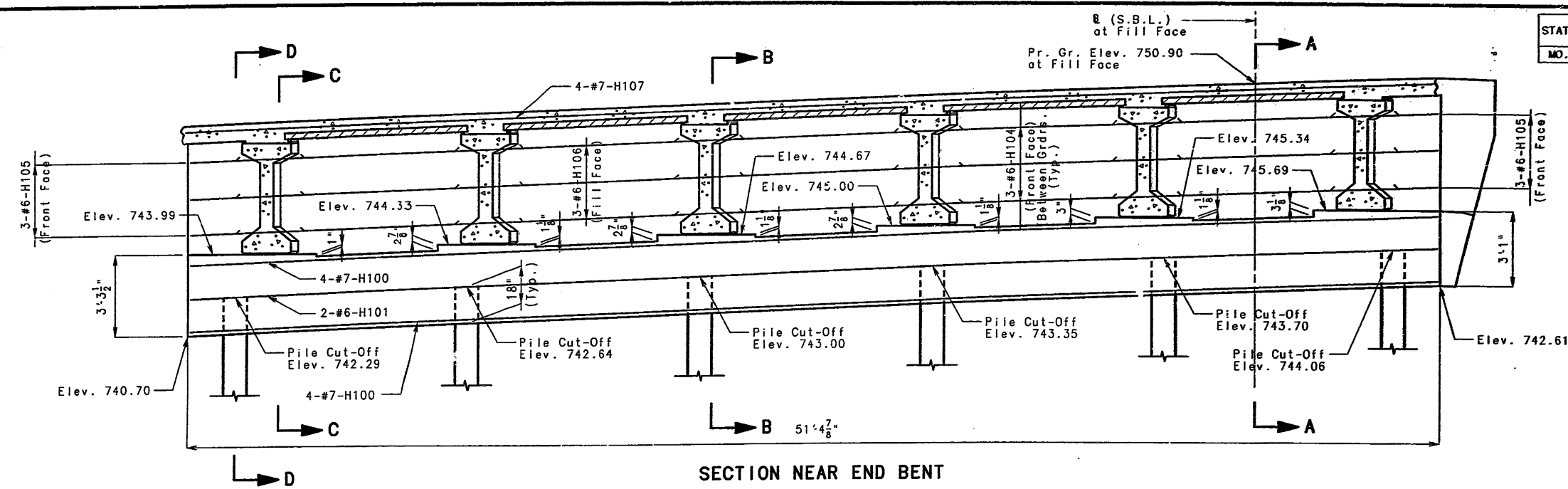


I HEREBY CERTIFY THAT THIS DRAWING ACCURATELY
 REPRESENTS THE CONFIGURATION AND LOCATION
 OF THE ROADWAY AND APPURTENANCES
 SUBMITTED FOR THIS PROJECT.
 DATE 9/15/97
 SIGNATURE



DATE 9/15/97

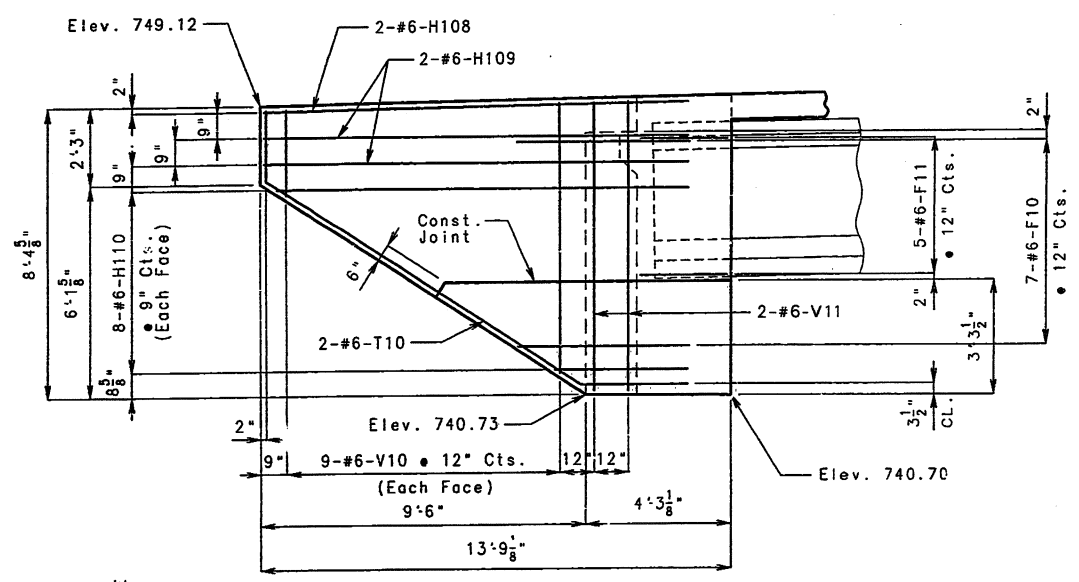
SIGNATURE



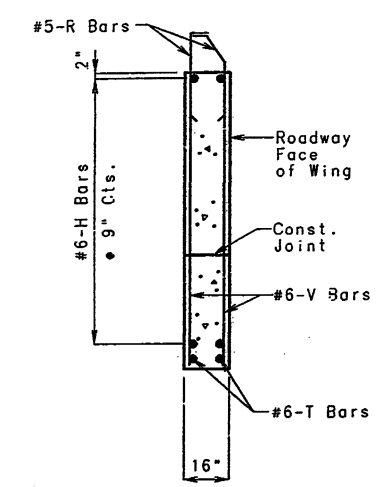
All concrete in the end bent above top of beam and below top of slab shall be class B2.

Strands at end of girder shall be field bent or, if necessary, cut in field to maintain 1 1/2\" minimum clearance to fill face of end bent.

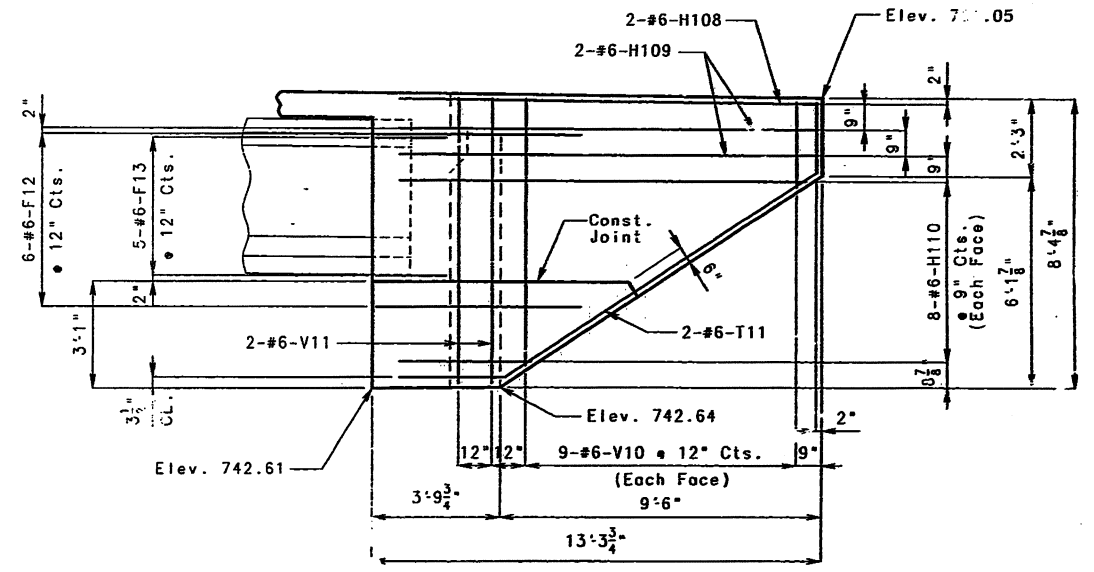
For location of Elevations E-E & F-F, see Sheet No. 5.



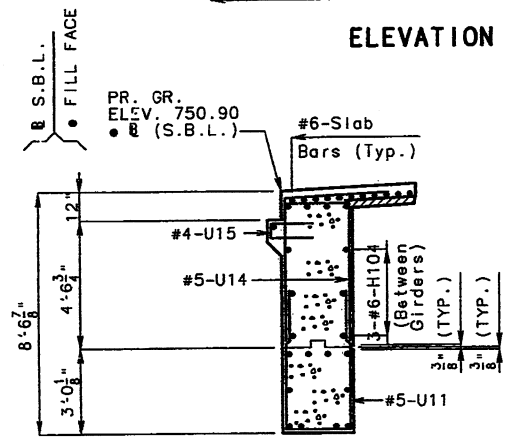
ELEVATION E-E



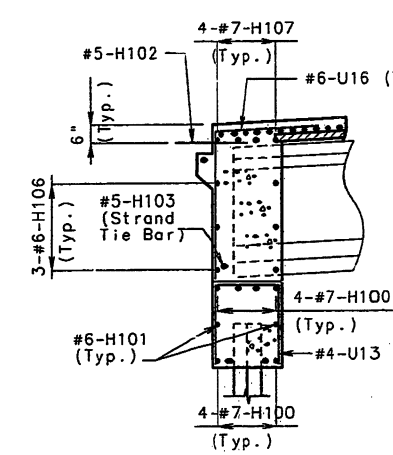
TYPICAL SECTION THRU WING



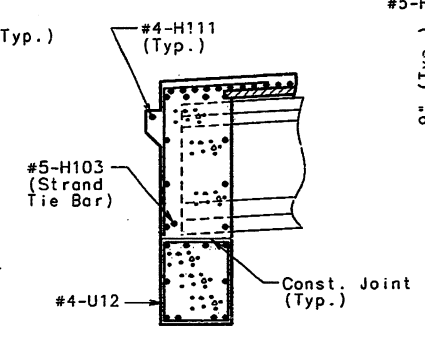
ELEVATION F-F



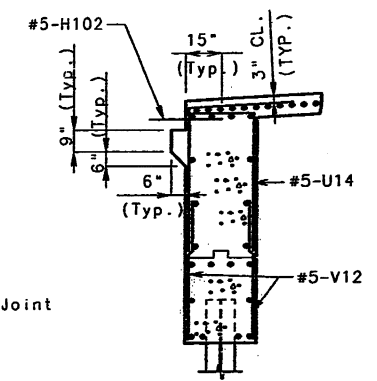
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

DETAILS OF END BENT NO. 1

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 1		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YD.	40
STRUCTURAL STEEL PILES (12")	LIN. FT.	156
PRE-BORE FOR PILING	LIN. FT.	99
PILE POINT REINFORCEMENT	EACH	6
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	16.3

NOTE: These quantities are based on quantities shown on Sheet No. 2.

DETAILED SEPT. 1996
CHECKED DEC. 1996

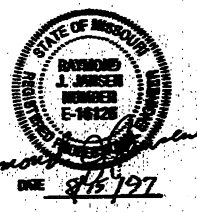
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

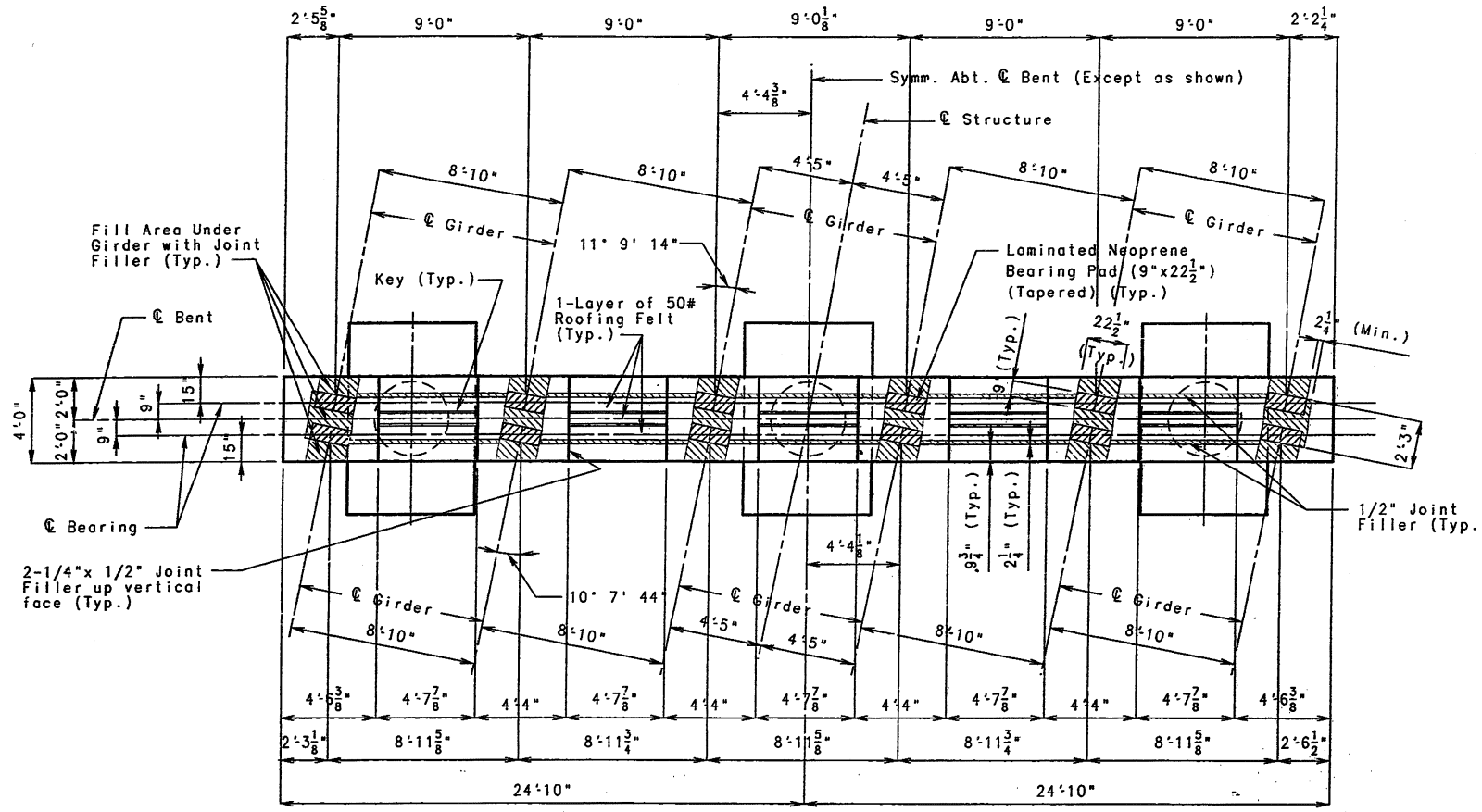
SHEET NO. 6 OF 35.

JEFFERSON

COUNTY

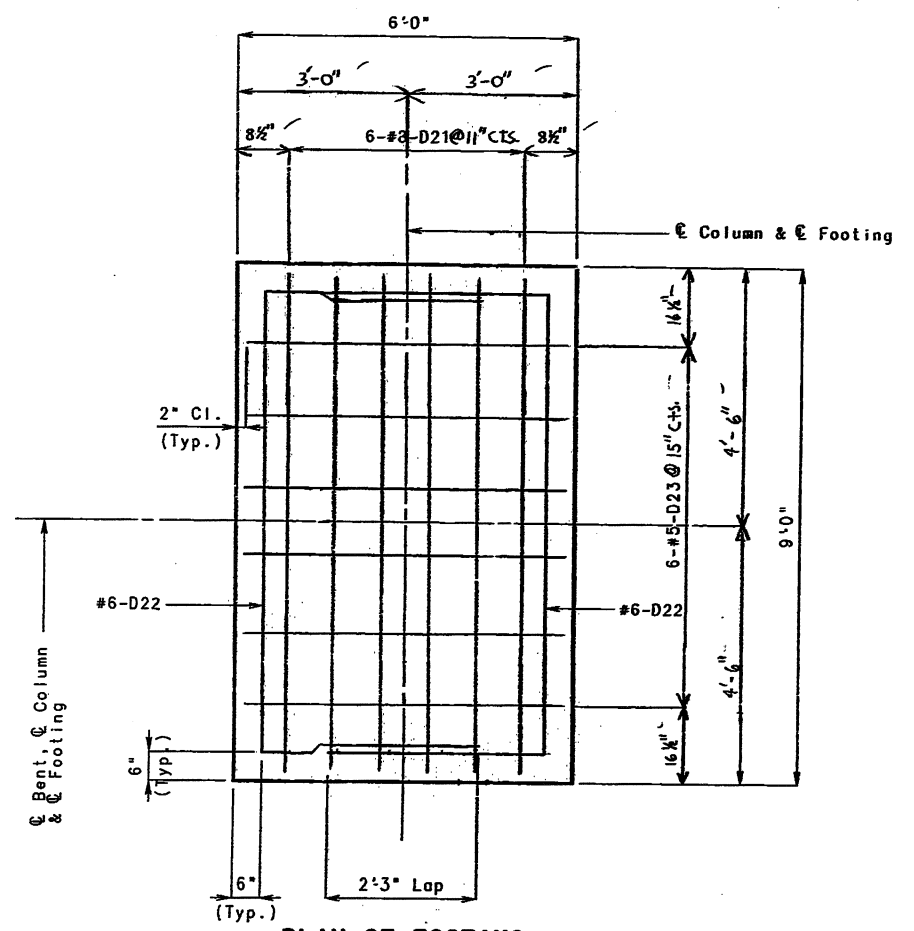
A5530





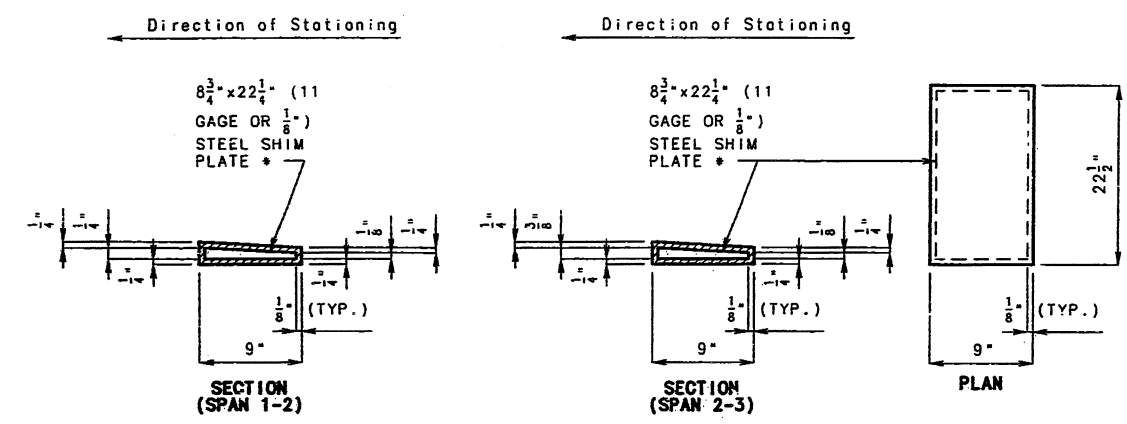
PLAN OF BEAM

NOTE: For steps 2" or more use 2-1/4" x 1/2" joint filler up vertical face.



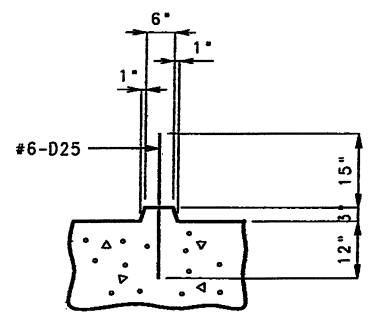
PLAN OF FOOTING

NOTE: For Details of Pile Splice, see sheet No. 5.



DETAILS OF LAMINATED NEOPRENE BEARING PADS

* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.



DETAIL OF KEY

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 2		
ITEM	EACH	QUANTITY
CREVICE CONCRETE	EACH	1
CLASS 1 EXCAVATION	CU. YD.	100
STRUCTURAL STEEL PILE (12")	LIN. FT.	0
PRE-BORE FOR PILING	LIN. FT.	5
PILE POINT REINFORCEMENT	EACH	0
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	70.8
REINFORCING STEEL (BRIDGES)	LB.	10,208
FOUNDATION TEST HOLES	LIN. FT.	12
CLASS 1 EXCAVATION + 25%	CU. YD.	3.6

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE SHOWN ON SHEET NO. 2.

DETAILS OF INTERMEDIATE BENT NO. 2

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 8 OF 35.

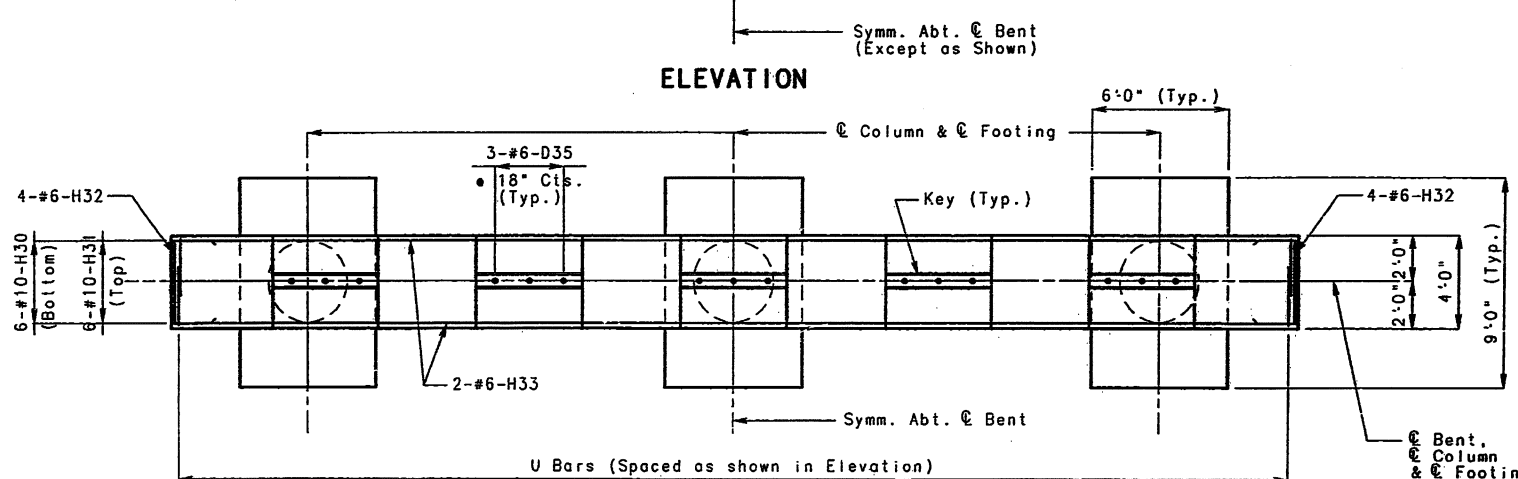
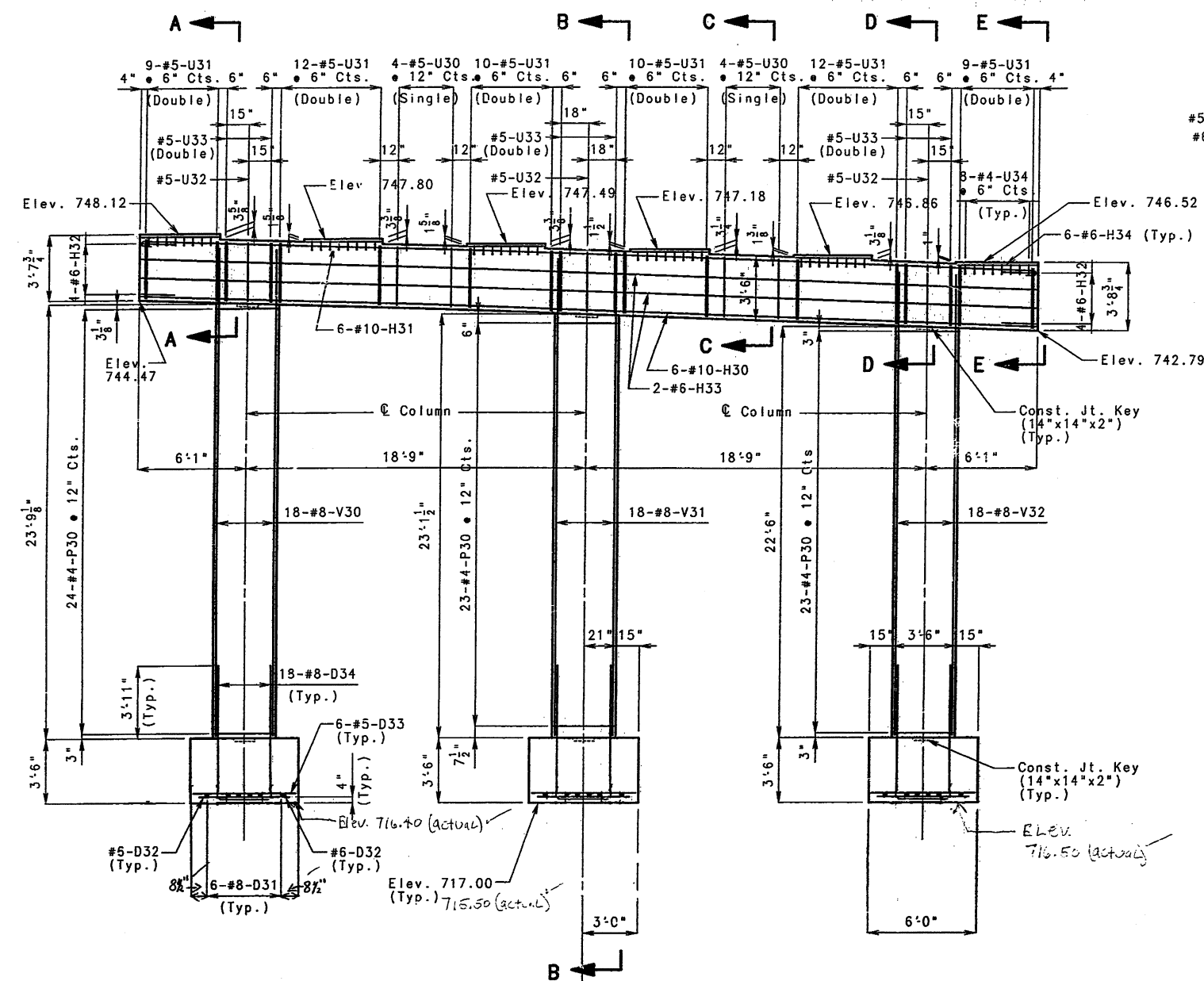
MARK DAVIS
REGISTERED PROFESSIONAL ENGINEER
NO. 10000
STATE OF NEW HAMPSHIRE

JEFFERSON COUNTY

STATE OF NEW HAMPSHIRE
J. JAMES
JAN 1998
E-30120
8/15/97

A5530

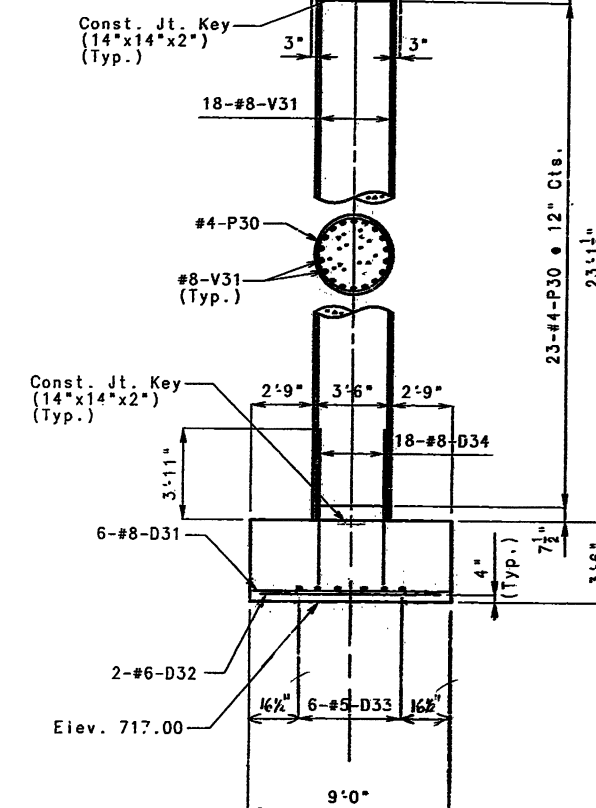
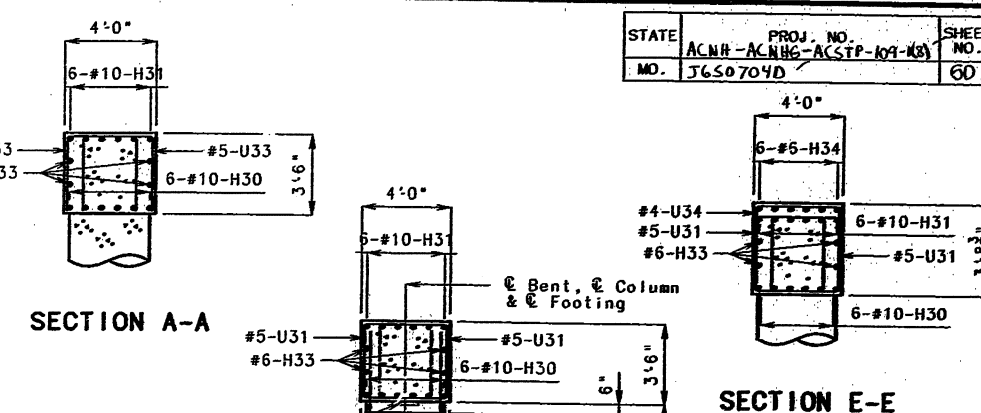
STATE	ACNH-ACNHG-ACSTP-109-108	PROJ. NO.	SHEET NO.
MO.	J650704D		60



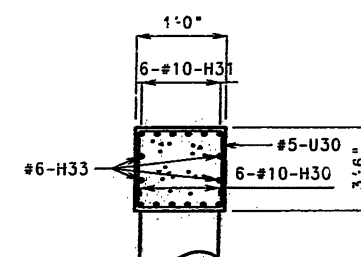
PLAN SHOWING REINFORCEMENT

DETAILS OF INTERMEDIATE BENT NO. 3

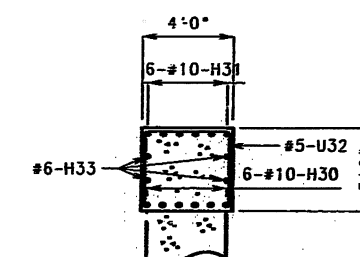
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



SECTION B-B



SECTION C-C



SECTION D-D

DETAILED AUG. 1996
CHECKED DEC. 1996



JEFFERSON

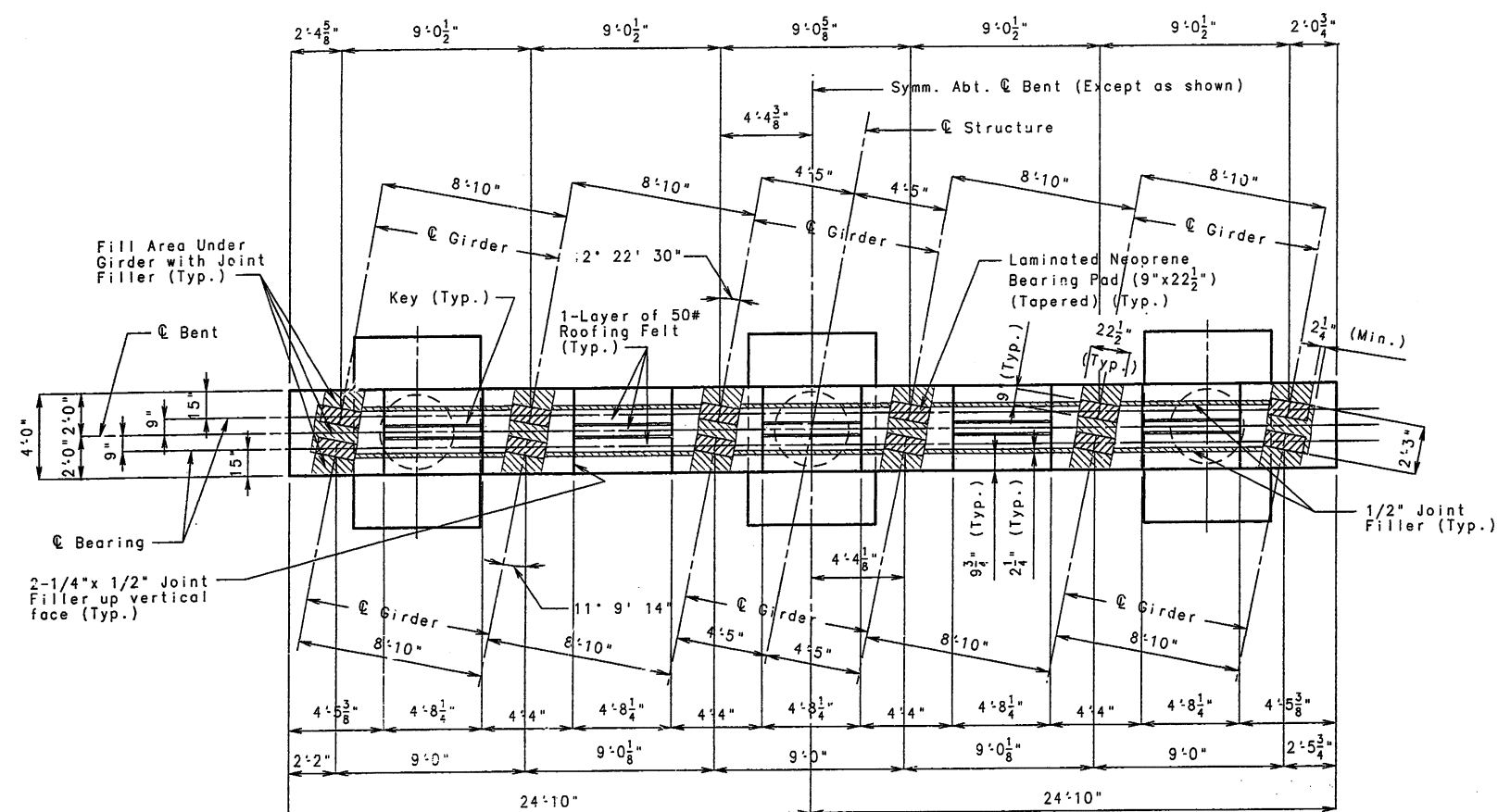
I CERTIFY THAT THIS DRAWING ACCURATELY
REFLECTS THE CONFIGURATION AND LOCATION
OF THE ROADWAY AND APPURTENANCES AS
INDICATED ON THIS PROJECT
DATE 9/10/00
SIGNATURE

COUNTY



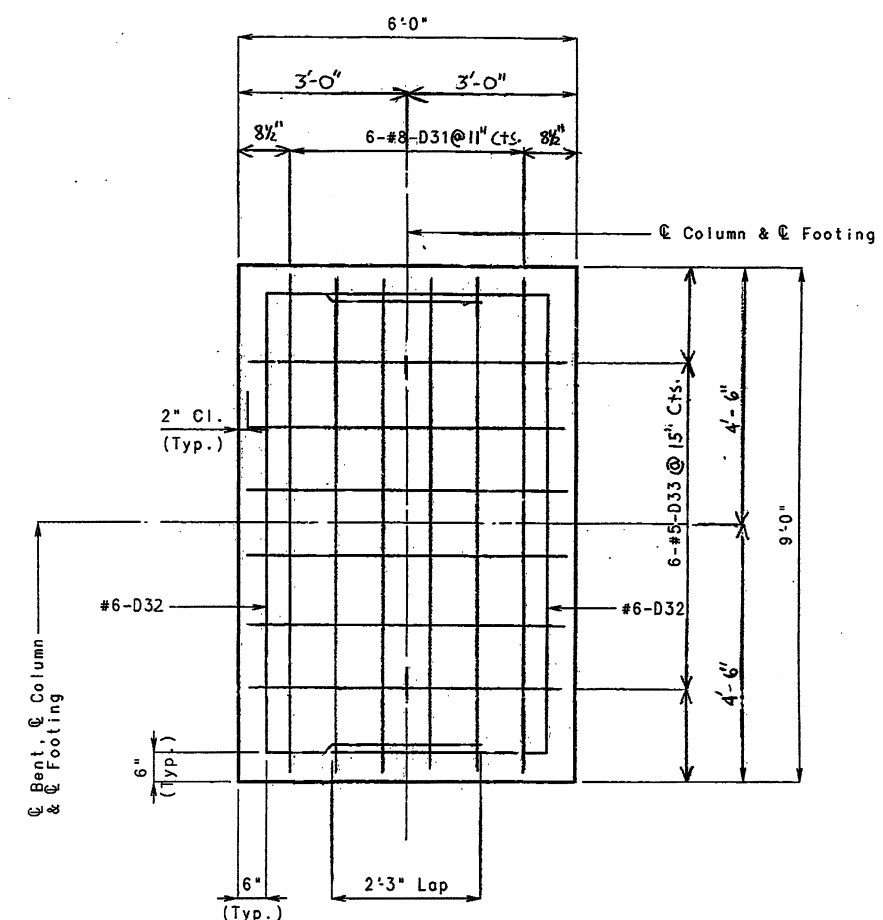
DATE 8/15/97

A5530



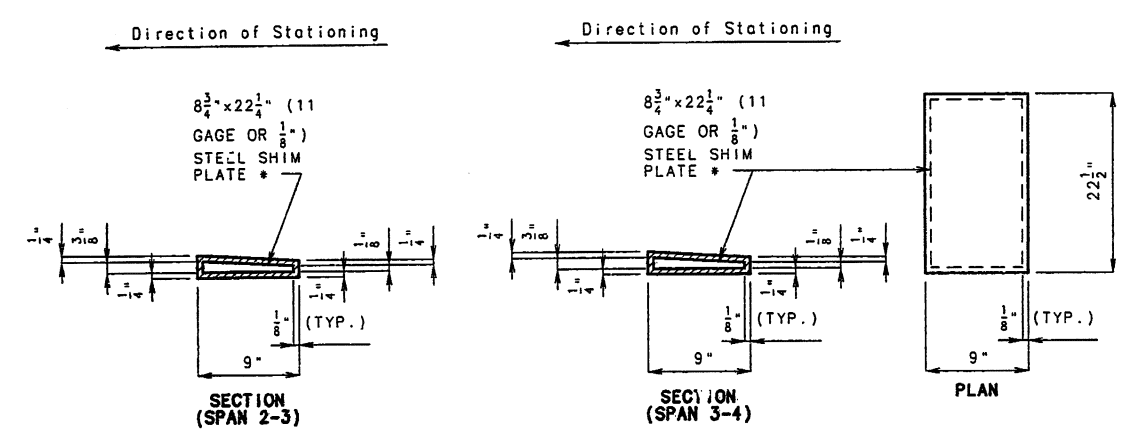
PLAN OF BEAM

NOTE: For steps 2" or more use 2-1/4" x 1/2" joint filler up vertical face.



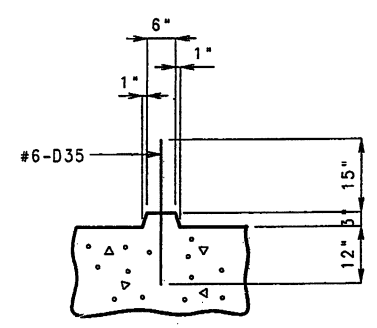
PLAN OF FOOTING

NOTE: For Details of Pile Splice, see sheet No. 5.



DETAILS OF LAMINATED NEOPRENE BEARING PADS

* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.



DETAIL OF KEY

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 3			
ITEM		QUANTITY	
CREVICE CONCRETE (505.03)	EACH	1	
CLASS 1 EXCAVATION	CU. YD.	75	
STRUCTURAL STEEL PILE (12")	LIN. FT.	0	
PRE-BORE FOR PILING	LIN. FT.	8	
PILE POINT REINFORCEMENT	EACH	0	
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	73.3	
REINFORCING STEEL (BRIDGES)	LB.	11,330	
FOUNDATION TEST HOLES (505.01)	LIN. FT.	10	
CLASS 1 EXCAVATION + 25% (505.02)	CU. YD.	10.4	

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE SHOWN ON SHEET NO. 2.

DETAILS OF INTERMEDIATE BENT NO. 3

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 10 OF 35.

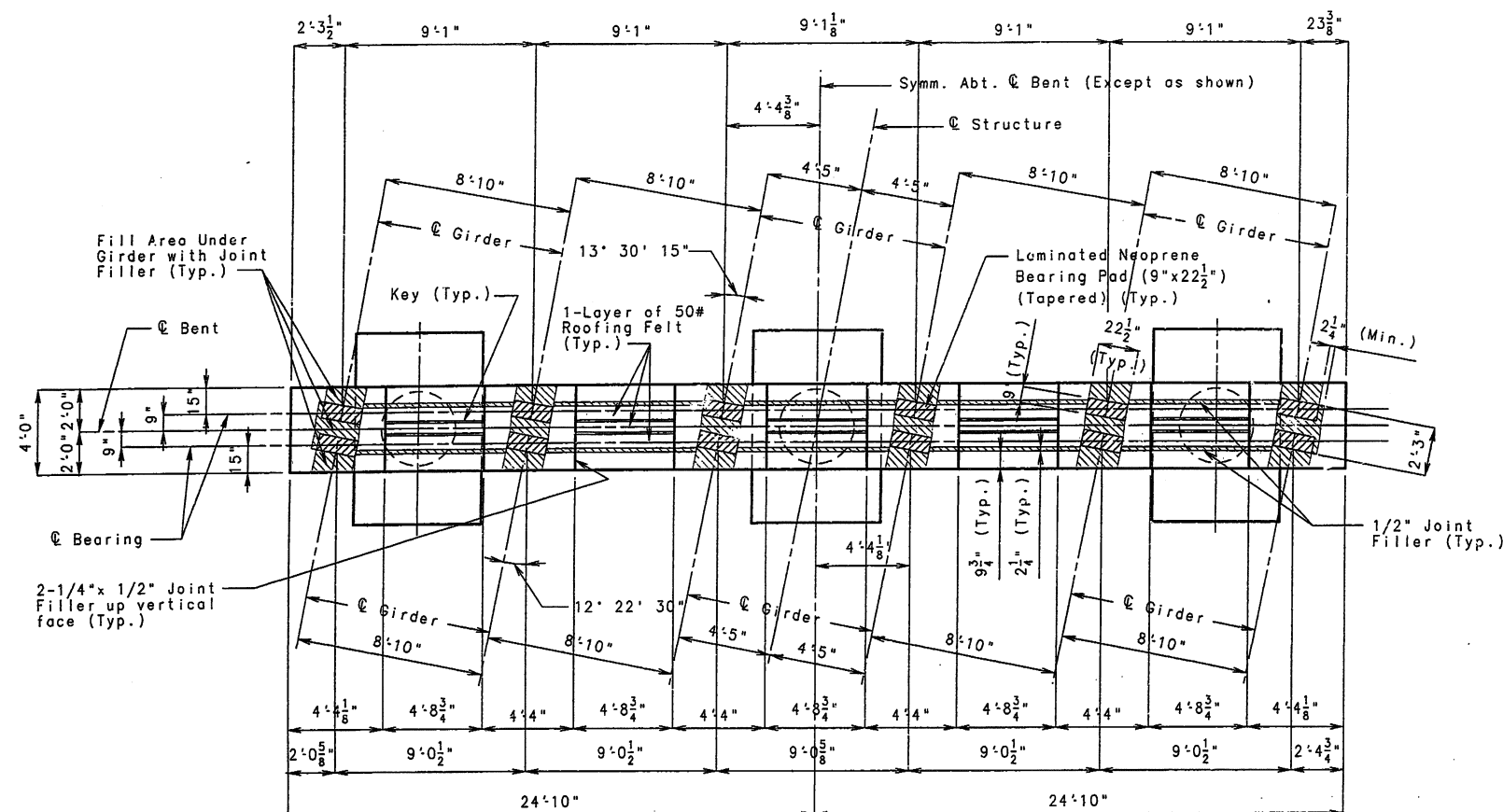


JEFFERSON

COUNTY

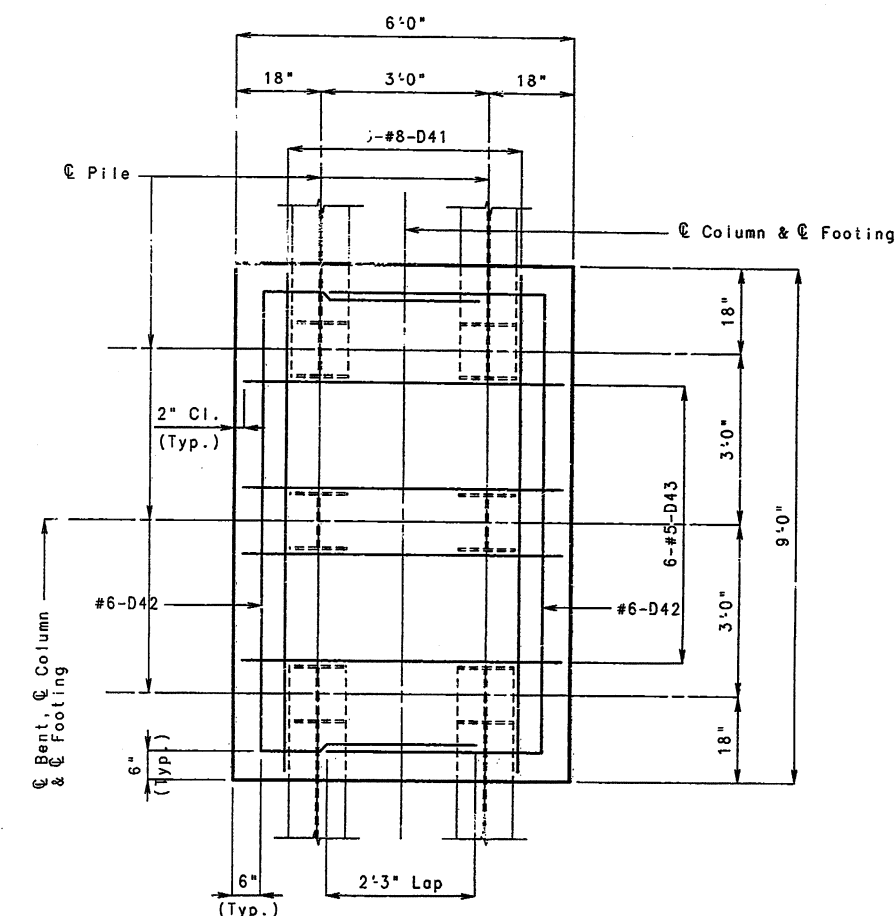
A5530

NOTE: THE LEFT AND CENTER FOOTINGS ARE SPREAD FOOTINGS.
SEE SHEET NO.



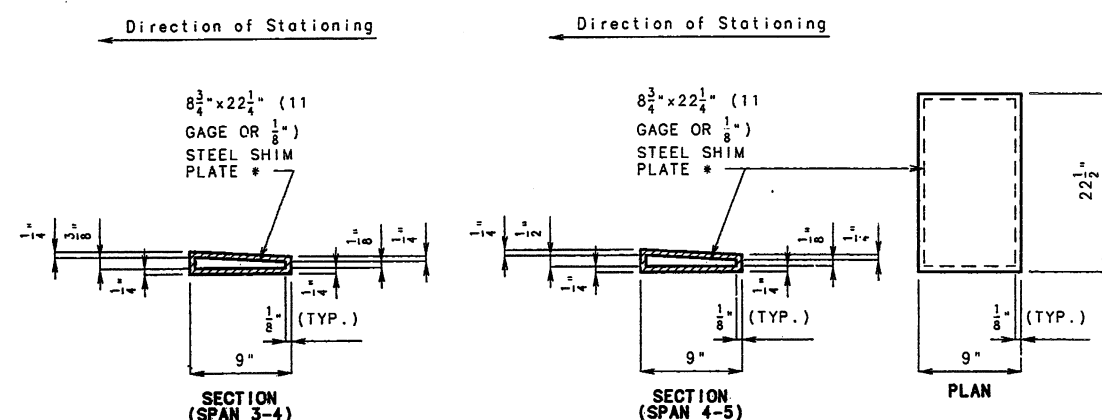
PLAN OF BEAM

NOTE: For steps 2" or more use 2-1/4" x 1/2" joint filler up vertical face.



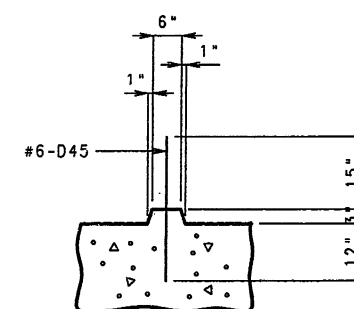
PLAN OF FOOTING
(RIGHT FOOTING ONLY)

NOTE: For Details of Pile Splice, see sheet No. 5.



DETAILS OF LAMINATED NEOPRENE BEARING PADS

* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

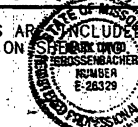


DETAIL OF KEY

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 4

ITEM	QUANTITY
CREVICE CONCRETE II (505.04)	2.3
CLASS 1 EXCAVATION	95
STRUCTURAL STEEL PILE (12")	71
PRE-BORE FOR PILING	90
PILE POINT REINFORCEMENT	6
CLASS B CONCRETE (SUBSTRUCTURE)	75.3
REINFORCING STEEL (BRIDGES)	11,379
FOUNDATION TEST HOLES (505.01)	8
CLASS 1 EXCAVATION + 25% (505.02)	40

NOTE: THESE QUANTITIES ARE IN CEMENTS THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.



SIGNATURE

DATE

Raymond J. Jensen
DATE 8/15/97

DETAILS OF INTERMEDIATE BENT NO. 4

DETAILED AUG. 1996
CHECKED DEC. 1996

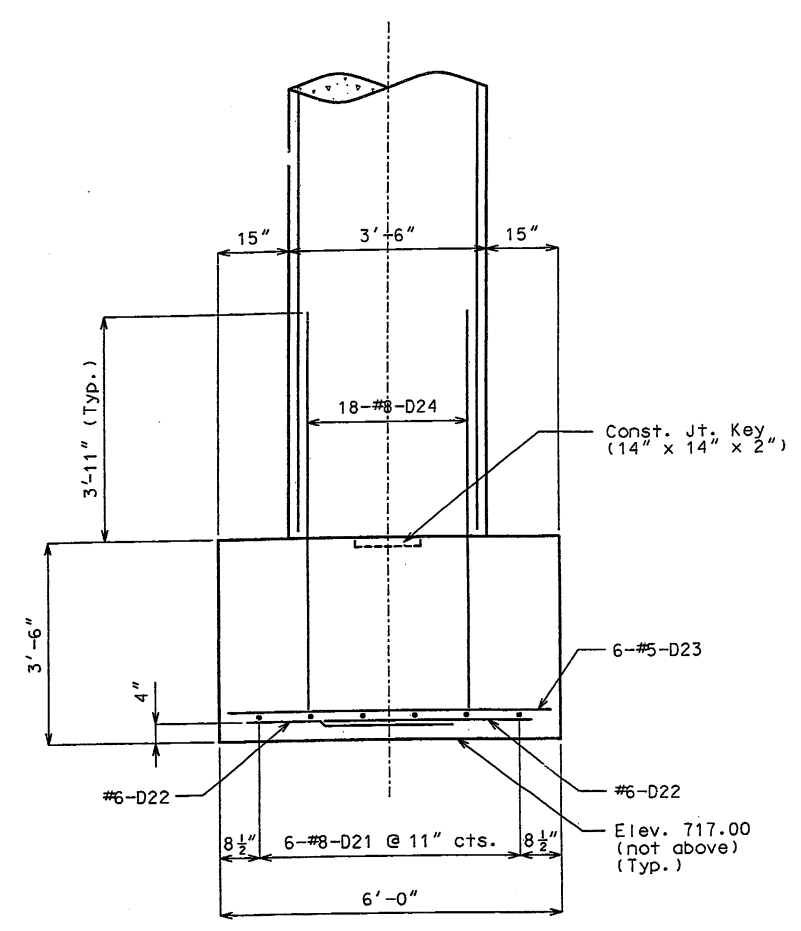
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 12 OF 35.

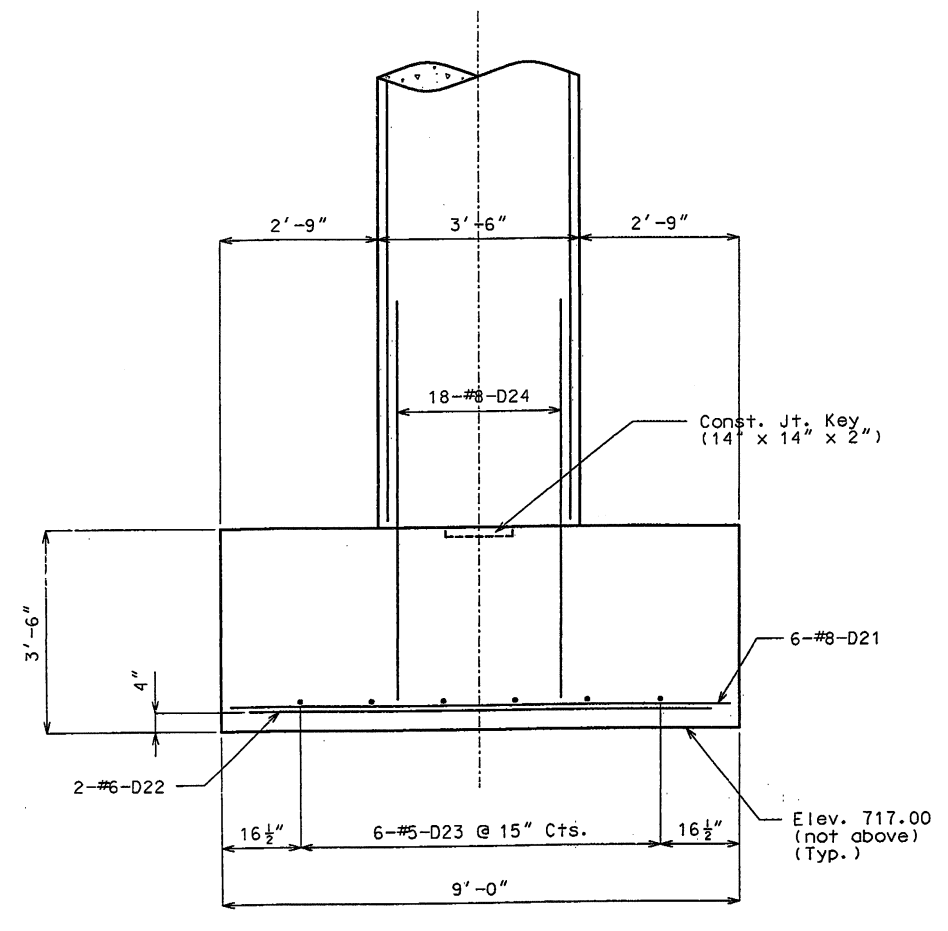
JEFFERSON

COUNTY

A5530

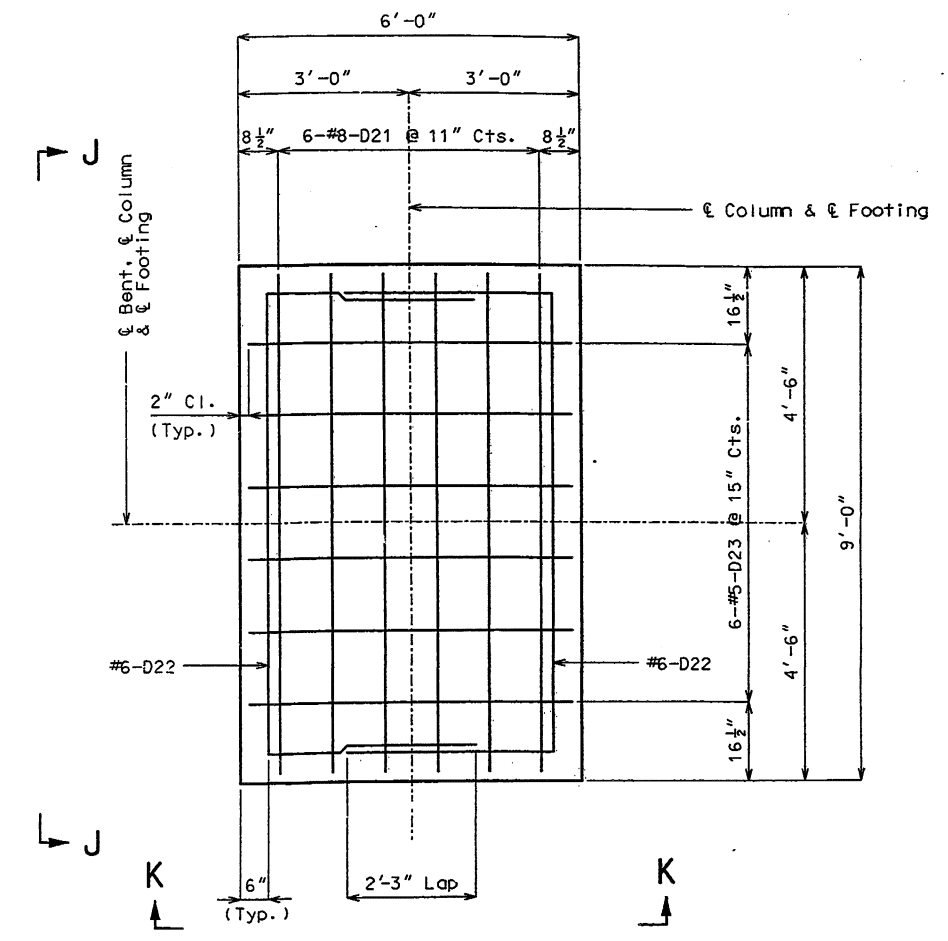


ELEVATION K-K



ELEVATION J-J

NOTE: Bar marks shown are for Bent 2. Bents 3 & 4 are similar.



PLAN OF FOOTING
(USED ON ALL FOOTINGS EXCEPT, BENT #4, RT. FTG.)

Footing Data				
Bent No.		2	3	4
Spread Footings	Foundation Material	Rock	Rock	Rock
	Design Bearing	tons/sq. ft.	10.0	10.0

SUBSTRUCTURE QUANTITY TABLE FOR BENTS 2, 3 & 4				
ITEM		QUANTITY		
		Bent 2	Bent 3	Bent 4
Class 1 Excavation	cu. yd.	100	75	95
Class B Concrete (Substr)	cu. yd.	70.5	72.4	74.9
Reinforcing Steel (Bridges)	pound	10,208	11,330	11,379

Note: These quantities are included in the Estimated Quantities Table shown on sheet No. 2.

DETAILS OF OPTIONAL SPREAD FOOTINGS AT BENT NO.S 2, 3 & 4

ADDED AUGUST 17, 1998

Detailed Aug. 1998
Checked Aug. 1998

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 12A of 35.

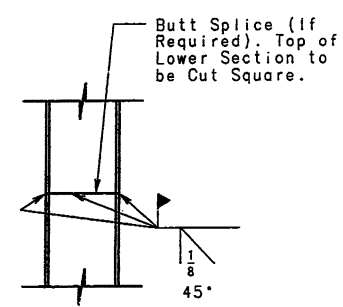


I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS SUBMITTED ON THIS PROJECT.

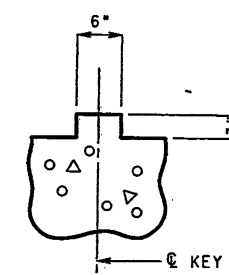
DATE 9/20/00

JEFFERSON COUNTY A5530

t:\br-proj\joegek\j6s0704d\A5530\012a.dgn 13:00:29 17 AUG 1998



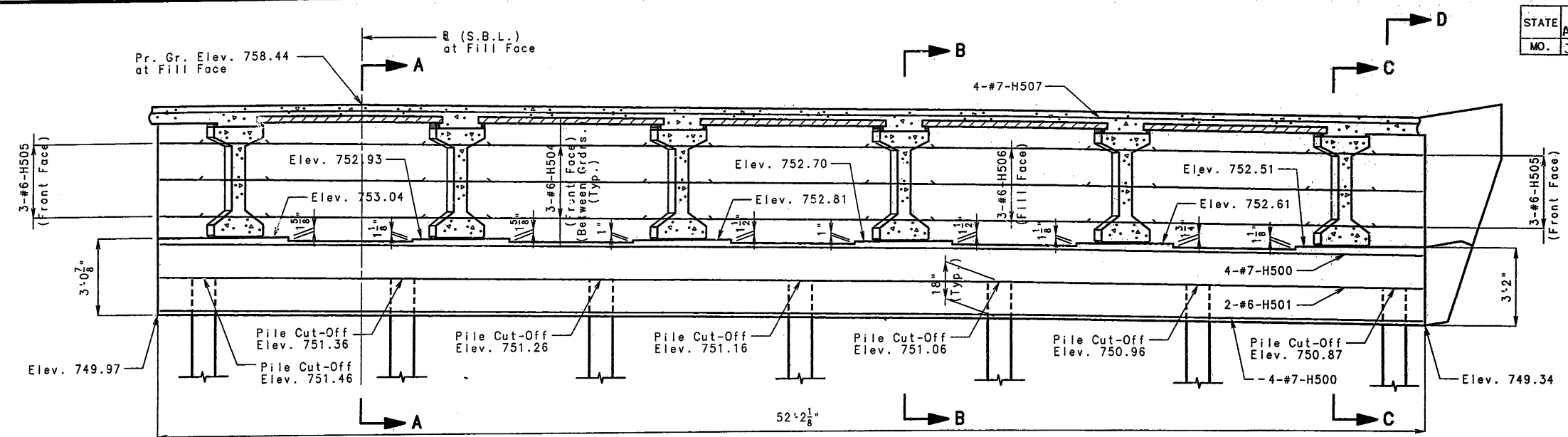
202



④ Bent, ④ Pile
& ④ Bearing

Raymond [Signature]
DATE 8/15/97

A5530

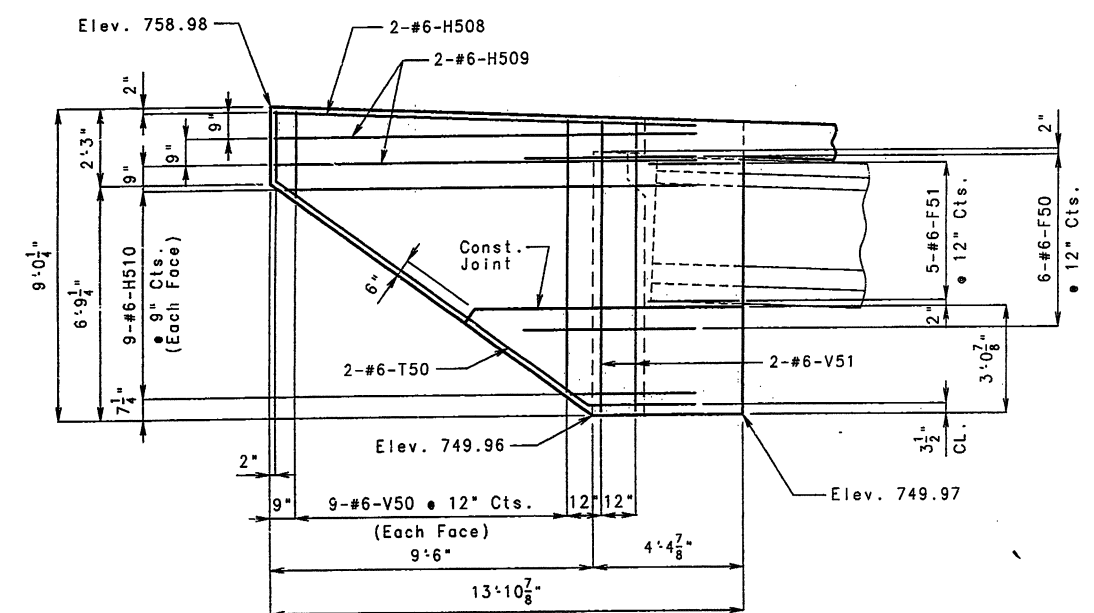


All concrete in the end bent above top of beam and below top of slab shall be class B2.

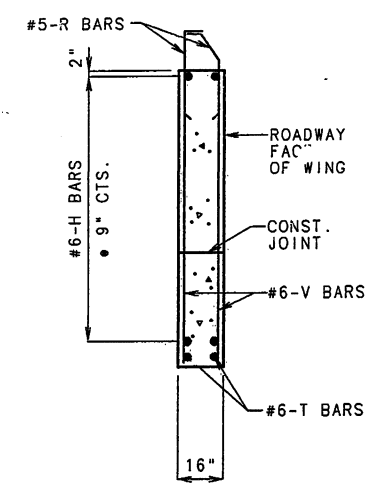
Strands at end of girder shall be field bent or, if necessary, cut in field to maintain 1 1/2" minimum clearance to fill face of end bent.

For location of Elevations G-G & H-H, see Sheet No. 13.

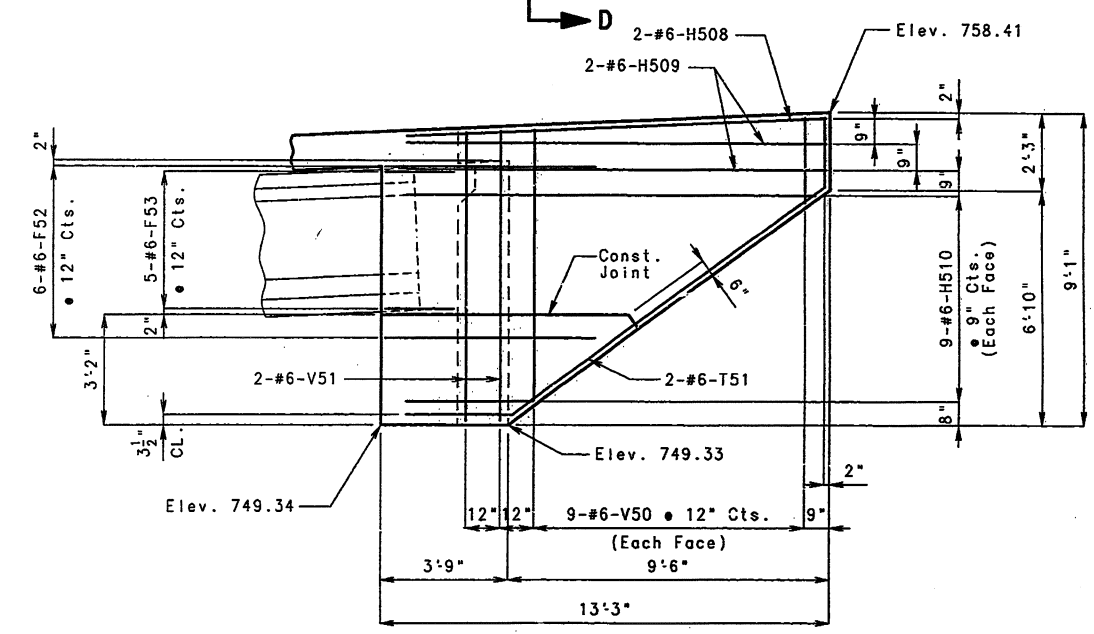
SECTION NEAR END BENT



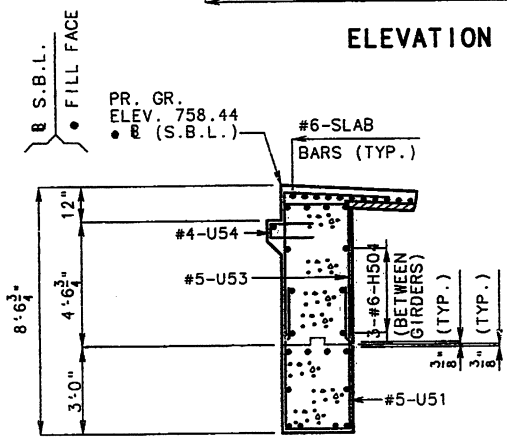
ELEVATION G-G



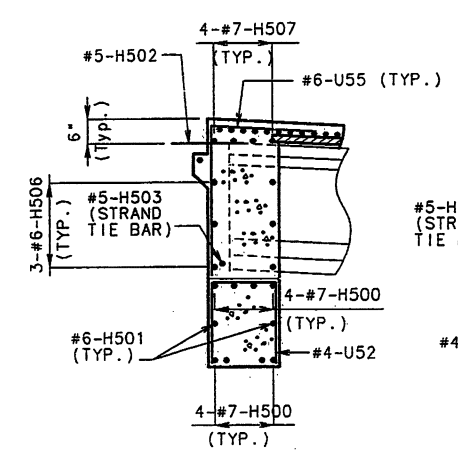
TYPICAL SECTION THRU WING



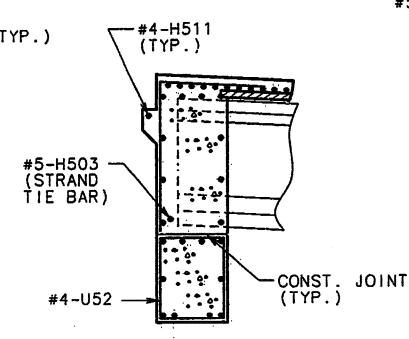
ELEVATION H-H



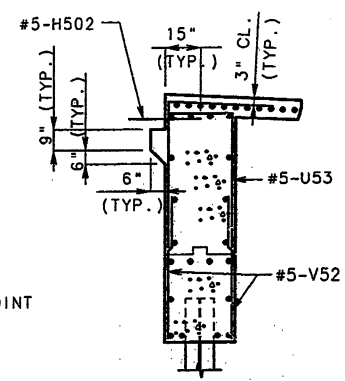
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

DETAILS OF END BENT NO. 5

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 5		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YD.	50
STRUCTURAL STEEL PILES (12")	LIN. FT.	507
PRE-BORE FOR PILING	LIN. FT.	202
PILE POINT REINFORCEMENT	EACH	7
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	16.3

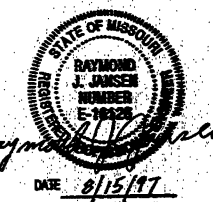
NOTE: These quantities are included in the Estimated Quantities Table shown on Sheet No. 2

FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REPRESENTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

Raymond J. Jansen

DATE 8/15/97



DETAILED SEPT. 1996
CHECKED DEC. 1996

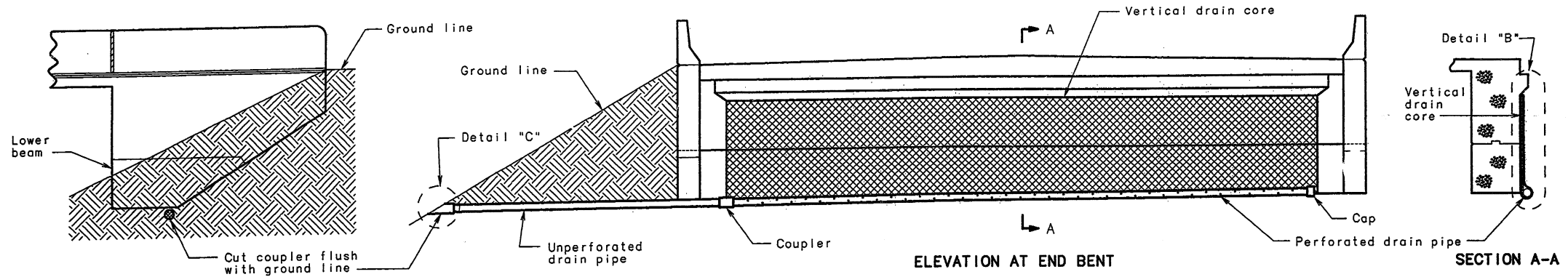
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 14 OF 35.

JEFFERSON

COUNTY

A5530



Drain pipe may be either 6" diameter corrugated metallic-coated steel pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

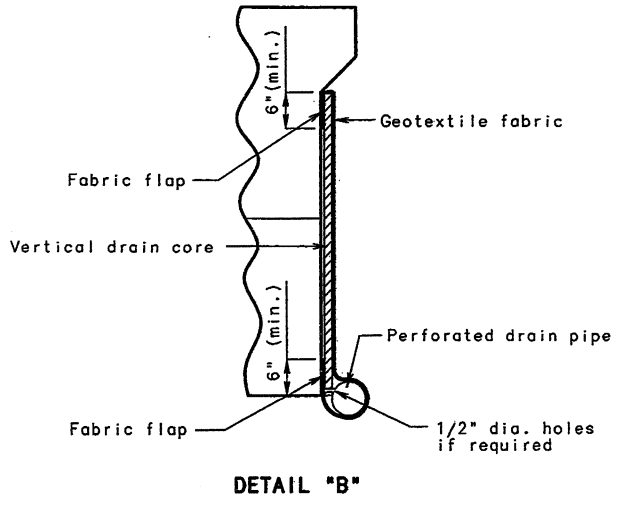
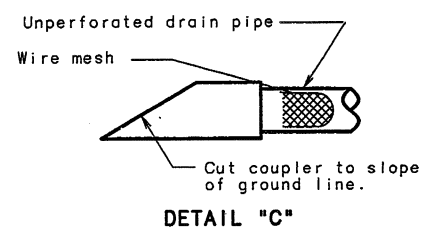
Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1-1/2". (See Elevation At End Bent)

Perforated pipe shall be placed at fill face side at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

ELEVATION OF WING

ELEVATION AT END BENT
VERTICAL DRAIN AT END BENTS

SECTION A-A



210

DRA 1	Vert. Drain (Int.)	Revised:
March 1986		September 1984

DETAILED AUG. 1996
CHECKED DEC. 1996

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 15 OF 35.



CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

Signature: *Raymond J. Jansen*
DATE: 8/15/97



JEFFERSON COUNTY A5530

Concrete for prestressed girders shall be Class A1 with $f'_c = 5000$ psi and $f'_{ci} = 4000$ psi.

(+) indicates prestressing strand.

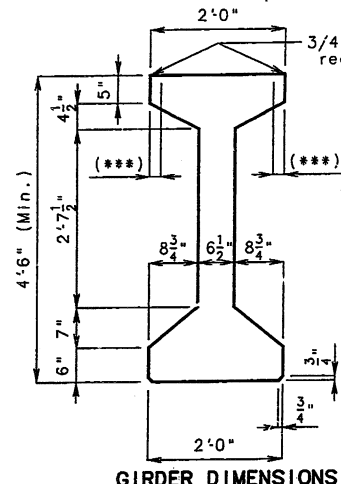
Use 14 strands with an initial prestress force of 434 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, grade 270. See Standard Specifications 705.4.8.

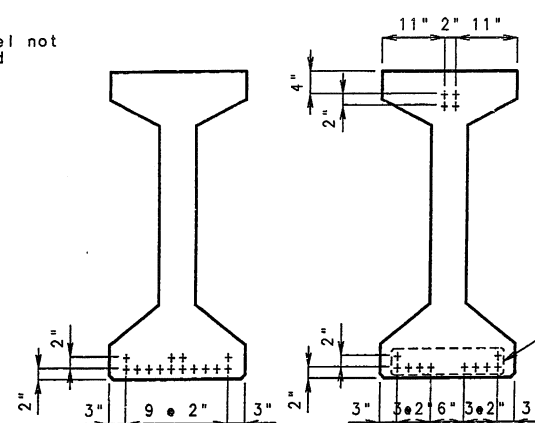
(**) One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

(***) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

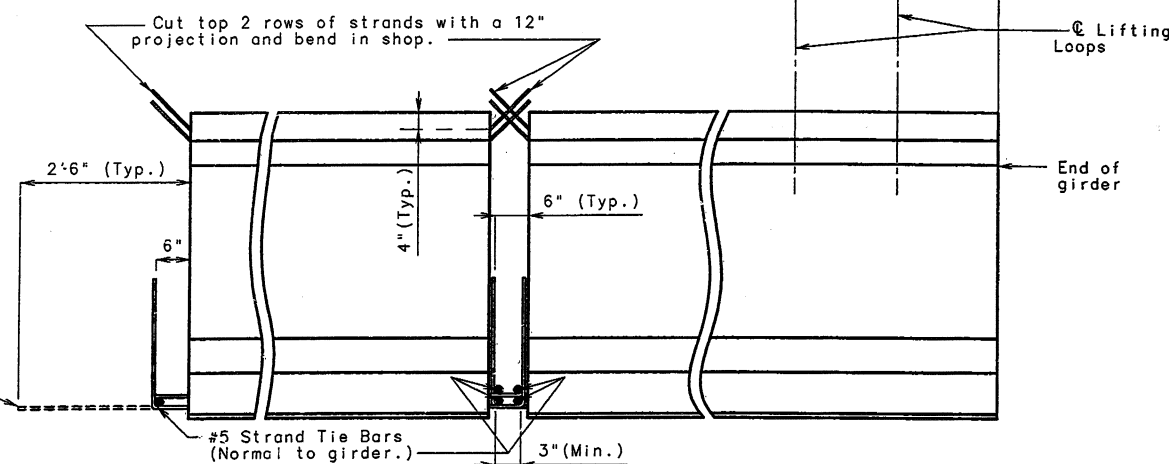
STATE ACNH-ACNHG-ACSTP-101-1(8) SHEET NO. 67
MO. J6507040



GIRDER DIMENSIONS



STRAND ARRANGEMENTS



END BENT INTERMEDIATE BENT LOCATION OF LIFTING LOOPS
STRAND DETAILS AT GIRDER ENDS

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
2	6 A1	54'-2"	20	
126	4 B1	5'-11"	11	
16	6 B2	5'-4"	11	
71	4 C1	2'-2"	10	
142	4 D1	3'-0"	9	

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

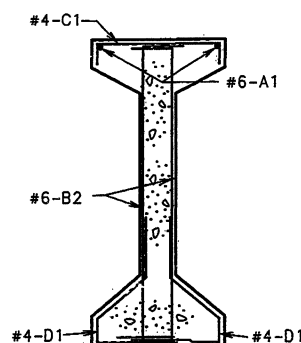
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

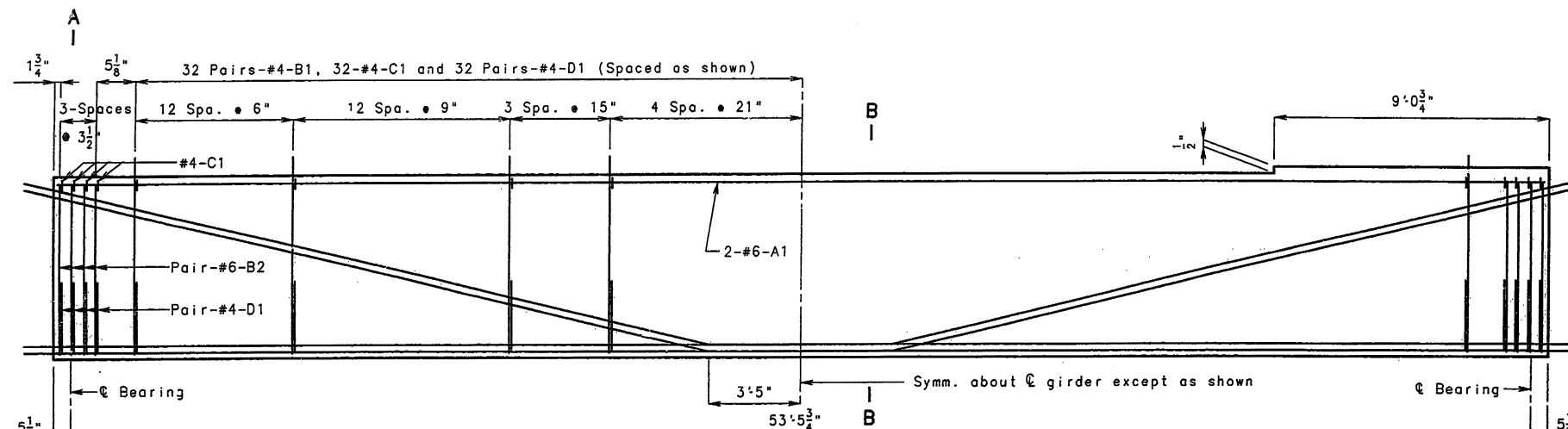
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



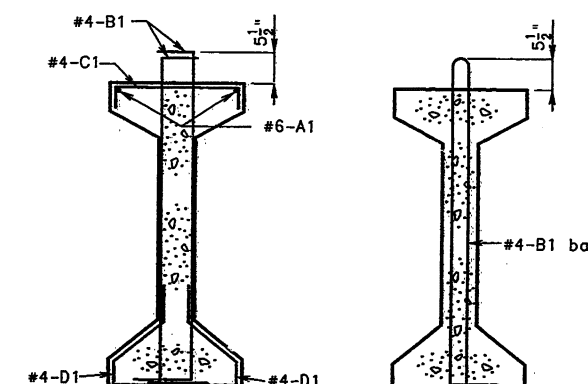
SECTION A-A

Strands not shown for clarity.



PART ELEVATION OF GIRDER SPAN (1-2)

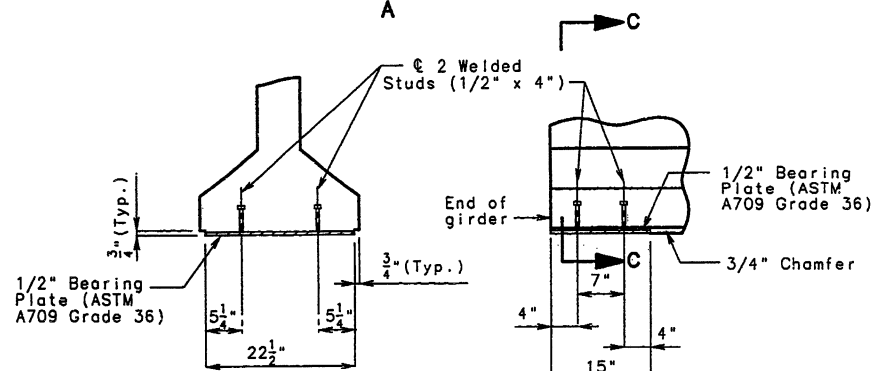
Exterior and interior girders are the same except for coil ties.



SECTION B-B

Strands not shown for clarity.

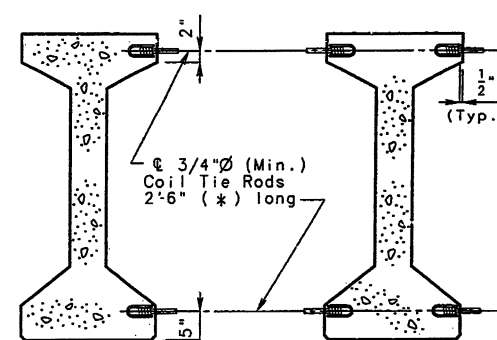
B1 BAR PERMISSIBLE ALTERNATE SHAPE



SECTION C-C PART ELEVATION AT END OF GIRDER
BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder per each.



EXTERIOR GIRDERS AT INT. BENTS

EXTERIOR GIRDERS AT END BENTS
INTERIOR GIRDERS AT ALL BENTS

DETAILS OF COIL TIES

Cost of 3/4" ϕ coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

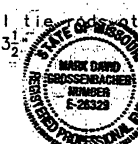
The 1-1/2" ϕ holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of diaphragms see sheets no. 20 & 21.

For Girder Camber Diagram, see sheet no. 23.

For location of coil ties, see sheets no. 5 & 21.

(*) Length of coil tie rods at exterior girders at end bents = 2'-3 1/2"



I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.
DATE 8/15/97



JEFFERSON

COUNTY

A5530

SHEET NO. 16 OF 35.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

Detailed MAY 1996
Checked DEC. 1996

gdr 4, 6.5 web, 4'-6", 1, a
P/S GIRDER 6.5" WEB
MAY 1991
REVISED
Dec. 1995

211

Concrete for prestressed girders shall be Class A1 with $f'c = 5000$ psi and $f'ci = 4000$ psi.

(+) indicates prestressing strand.

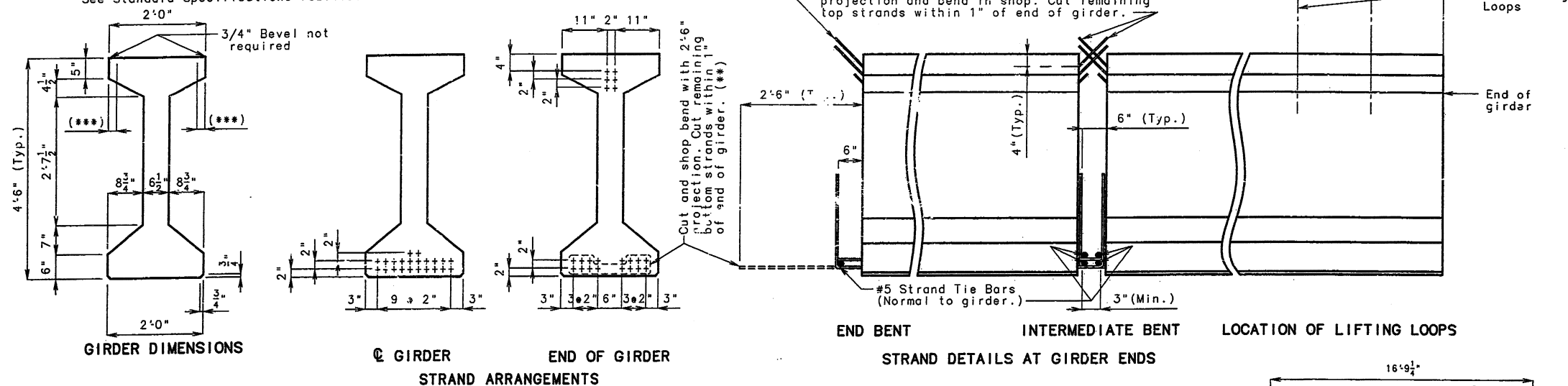
Use 22 strands with an initial prestress force of 682 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, grade 270. See Standard Specifications 705.4.8.

(**) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

(***) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE: ACNH-ACNB6-ACSTP-109-18
MO: J650704D
PROJ. NO.:
SHEET NO.: 08



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	43'-9"	20	
194	4 B1	5'-11"	11	
8	6 B2	5'-4"	11	
8	6 B3	5'-5"	11	
34	4 B4	6'-0"	11	
122	4 C1	2'-2"	10	
244	4 D1	3'-0"	9	

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

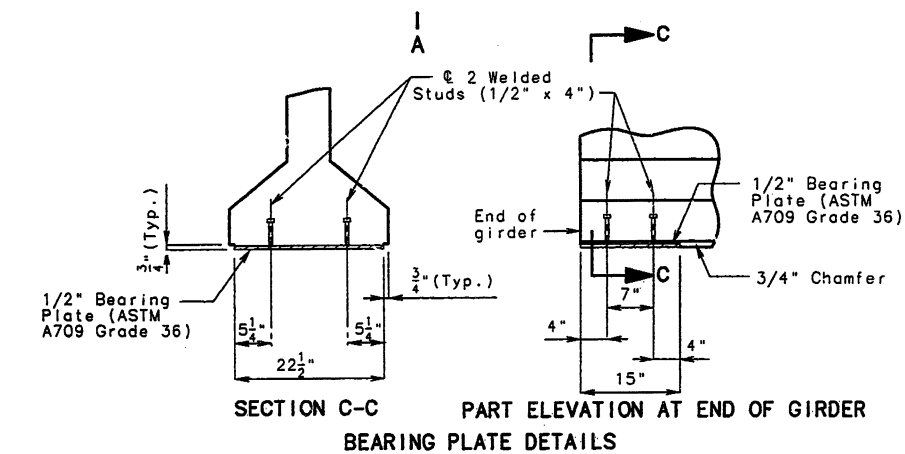
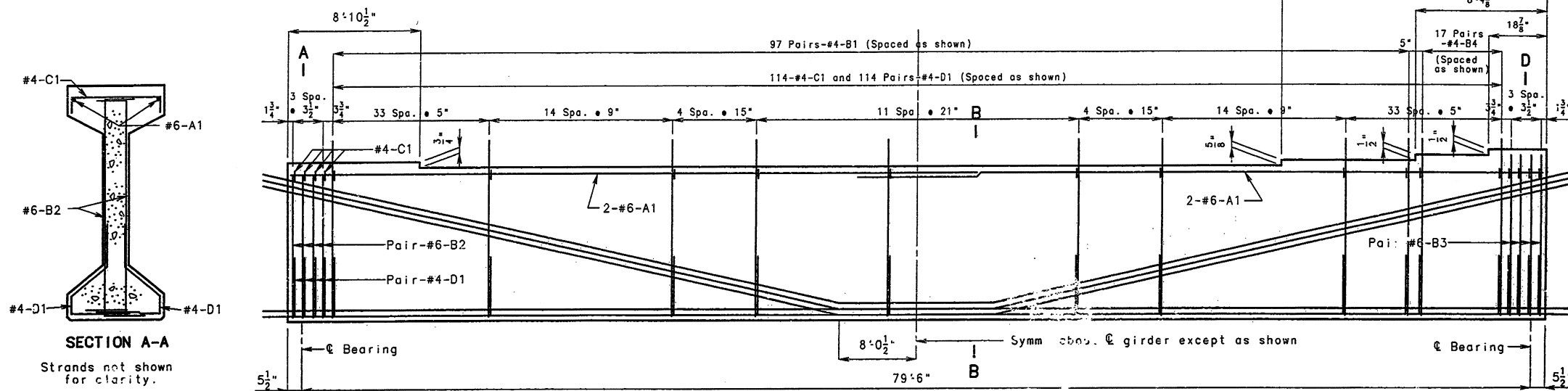
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

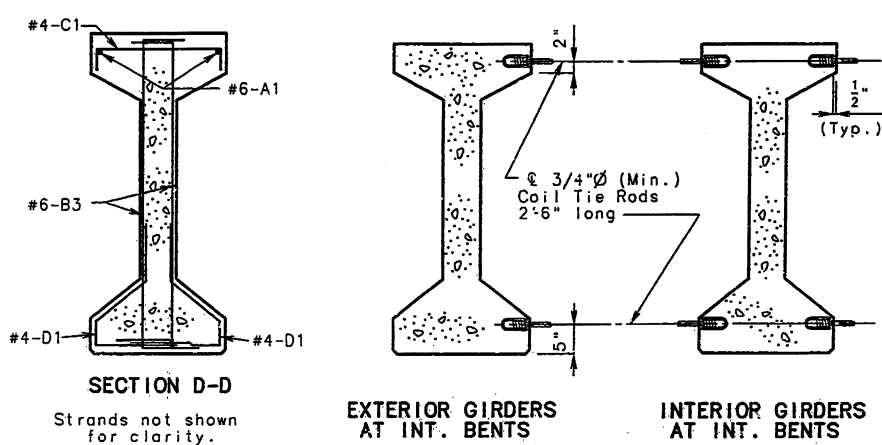
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder per each.



EXTERIOR GIRDERS AT INT. BENTS
INTERIOR GIRDERS AT INT. BENTS

Cost of 3/4" dia coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The 1-1/2" dia holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of diaphragms see sheets no. 20 & 21.

For Girder Camber Diagram, see sheet no. 23.

For location of diaphragms, see sheet no. 21.



I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

DATE: 8/15/97

JEFFERSON COUNTY A5530

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS. SHEET NO. 17 OF 35.

gdr 4, 6.5 web, 4'-6" 1, 1, a
P/S GIRDER 6.5" WEB
REVISED
MAY 1991
DEC. 1995

DETAILED CHECKED
MAY 1996
DEC. 1996

Concrete for prestressed girders shall be Class A1 with $f'_c = 5000$ psi and $f'_{ci} = 4000$ psi.

(+) indicates prestressing strand.

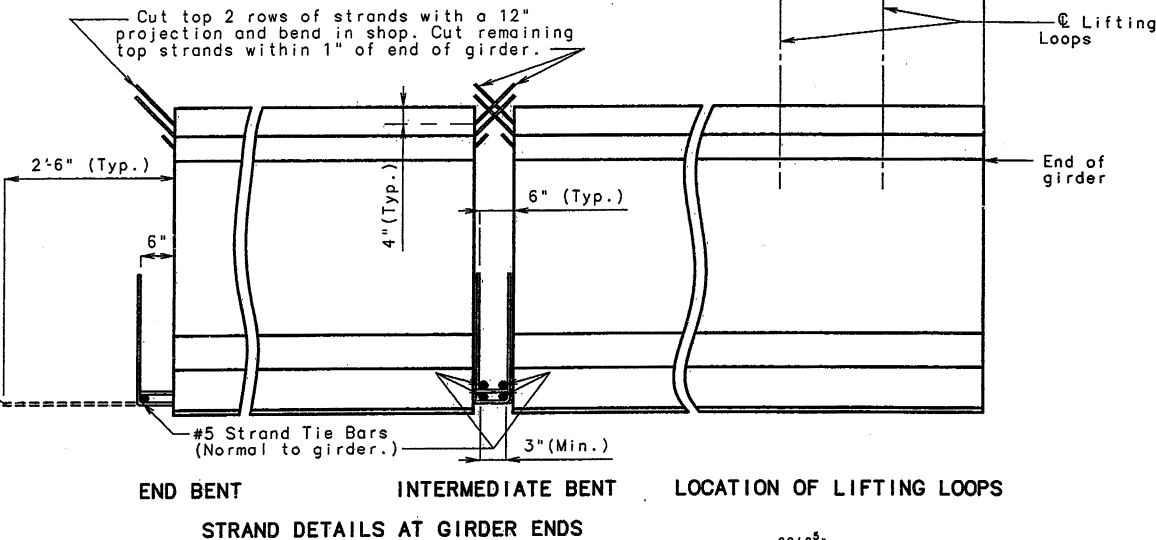
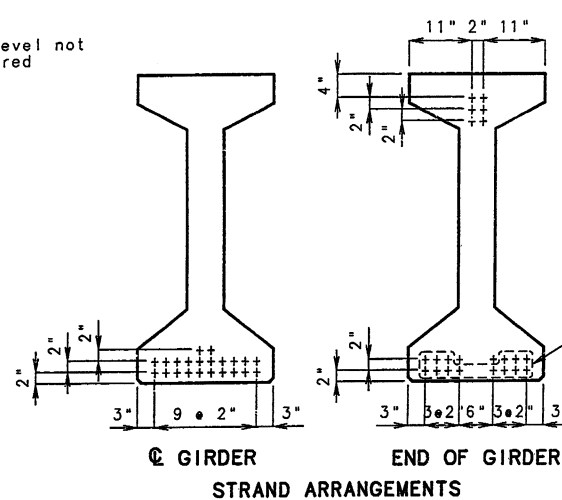
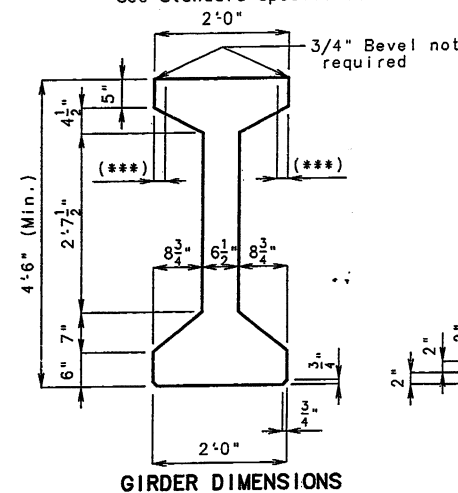
Use 22 strands with an initial prestress force of 682 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, grade 270. See Standard Specifications 705.4.8.

(**) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

(***) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE	PROJ. NO.	SHEET NO.
MO. J450704A	ACNH-ACNHG-ACSTP-104-18	69



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	43'-9"	20	SHAPE 10
2	5 A2	3'-3"	20	
2	5 A3	5'-1"	20	
132	4 B1	5'-11"	11	SHAPE 9
16	6 B2	5'-6"	11	
96	4 B3	6'-1"	11	
99	4 C1	2'-2"	10	SHAPE 20
23	4 C2	2'-6"	10	
244	4 D1	3'-0"	9	

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

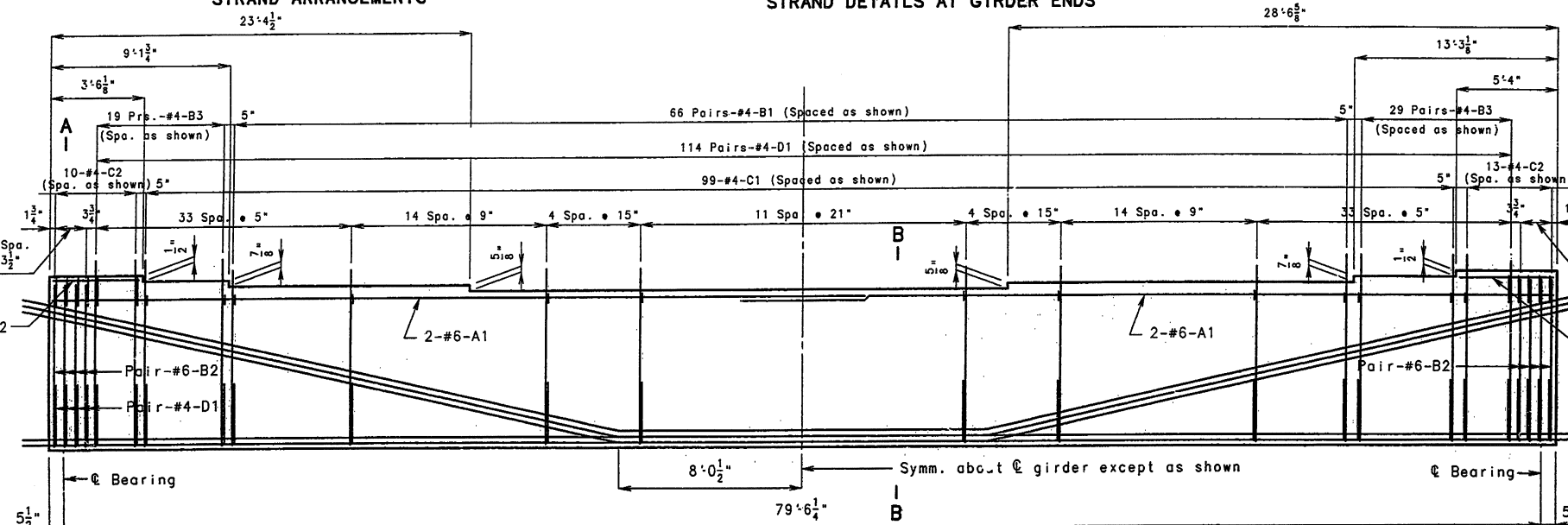
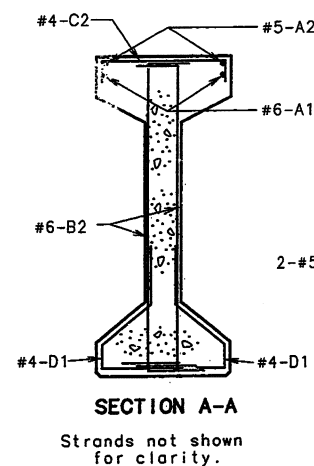
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

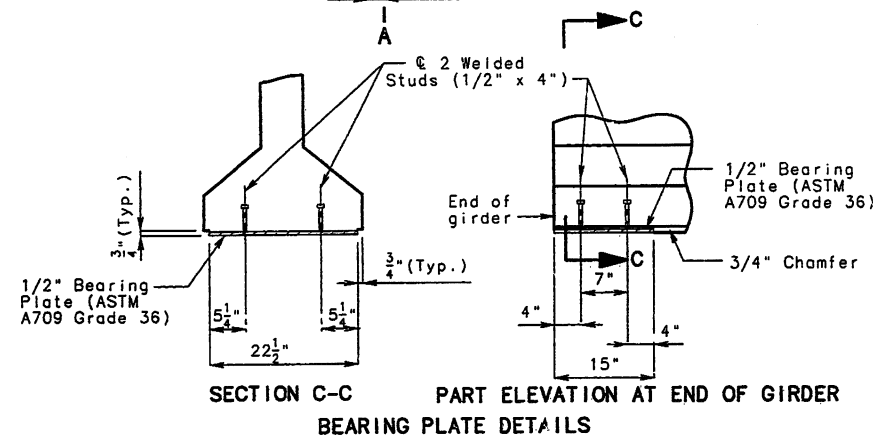
All reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

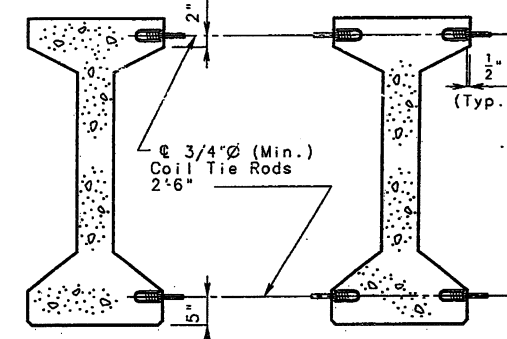


PART ELEVATION OF GIRDER SPAN (3-4)
Exterior and interior girders are the same except for coil ties.



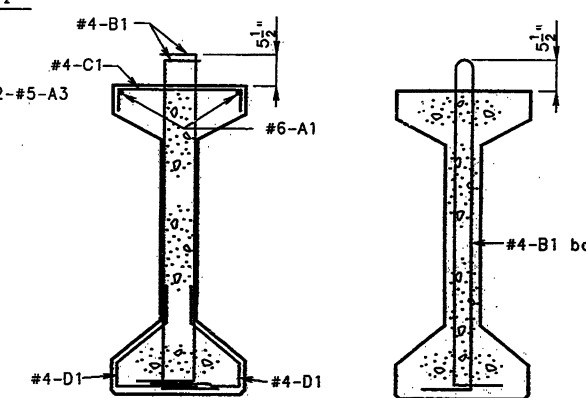
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder per each.



EXTERIOR GIRDERS AT INT. BENTS
INTERIOR GIRDERS AT INT. BENTS

DETAILS OF COIL TIES



SECTION B-B
Strands not shown for clarity.

B1 BAR PERMISSIBLE ALTERNATE SHAPE

Cost of 3/4" ϕ coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.

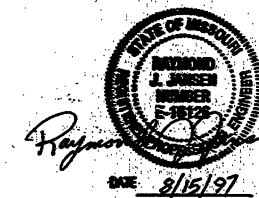
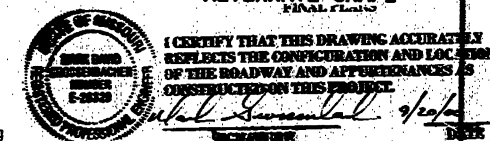
Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The 1-1/2" ϕ holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of diaphragms see sheets no. 20 & 21.

For Girder Camber Diagram, see sheet no. 23.

For location of coil ties, see sheet no. 21.



DETAILED MAY 1996
CHECKED DEC. 1996

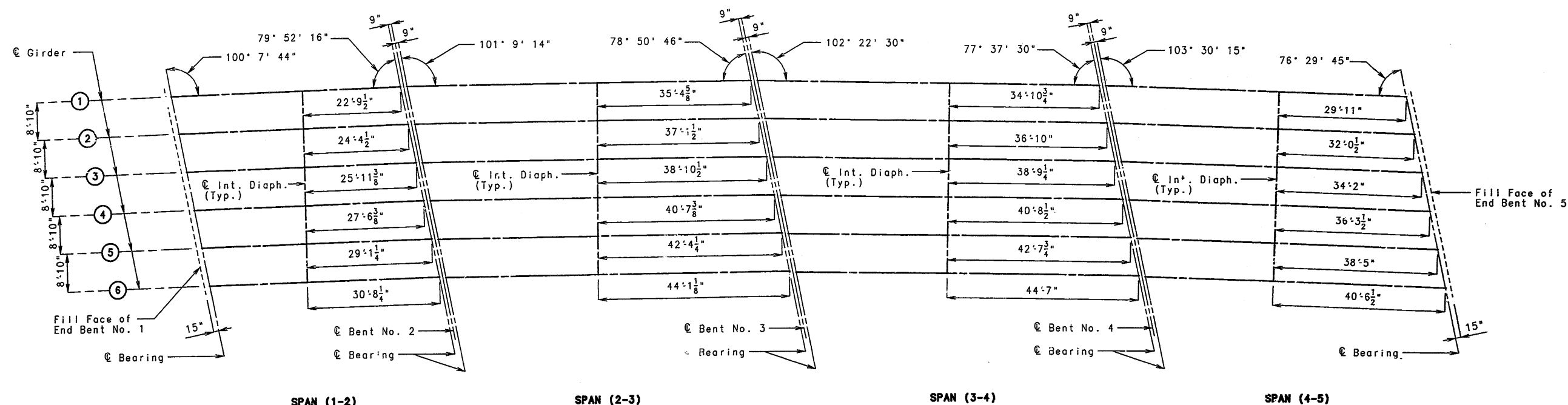
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 18 OF 35.

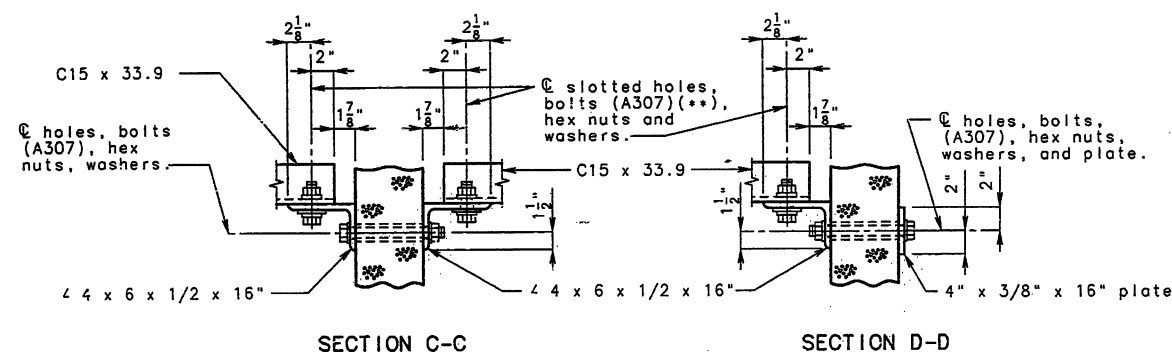
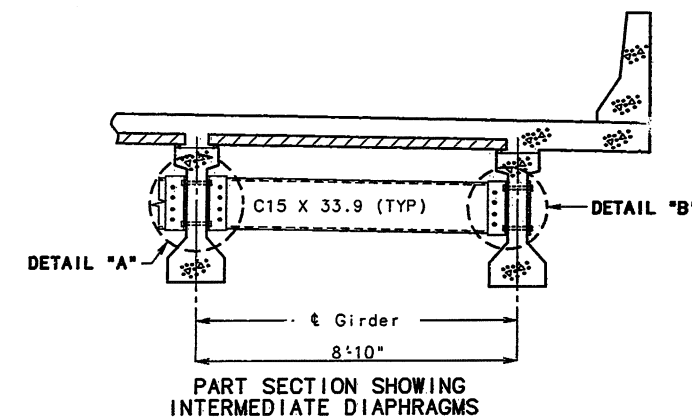
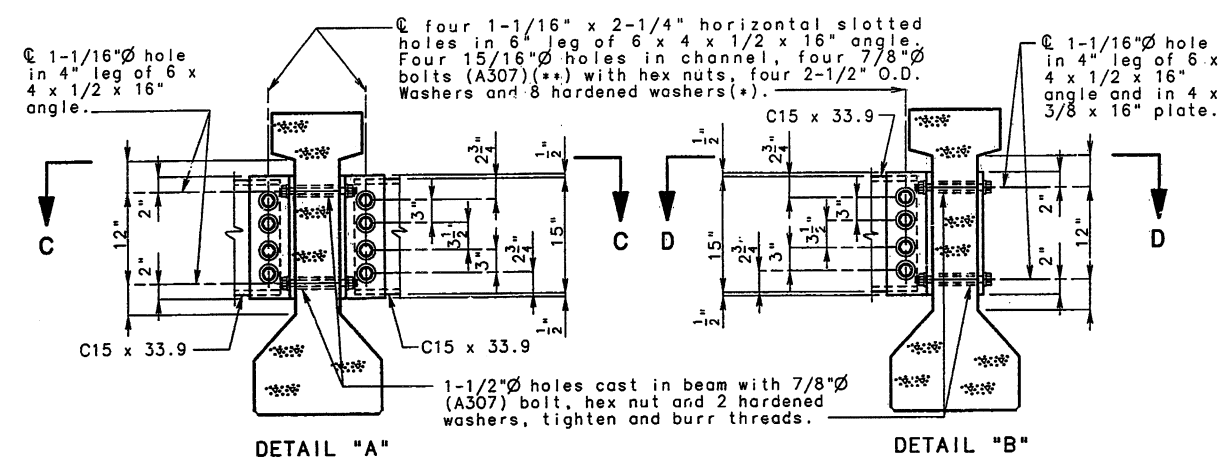
JEFFERSON COUNTY A5530

213

gdr 4, 6.5 web, 4'-6" 1, 1, a
P/S GIRDER 6.5" WEB
MAY 1991
REVISED
DEC. 1995



PLAN OF GIRDERS SHOWING LOCATION OF INTERMEDIATE DIAPHRAGMS



STEEL DIAPHRAGM NOTES:

(*) In lieu of 2-1/2" O.D. washers, contractor may substitute a 3/16" (min. thickness) plate with four 15/16" holes and one hardened washer per bolt.

(**) These bolts shall be tightened to provide a tension of one-half that specified by section 712.10.2 of the Missouri Standard Specifications. A325 bolts may be substituted for and installed in accordance with the requirements for the specified A307 bolts.

All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.

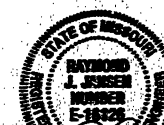
Payment for furnishing and installing steel intermediate diaphragms shall be included in contract unit price for prestressed concrete I-Girders.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.



I CERTIFY THAT THIS DRAWING ACCURATELY REPRESENTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPROPRIATE DRAINAGE AS CONSTRUCTED ON THIS PROJECT.

SIGNATURE



Raymond J. Jensen
DATE 8/15/97

DETAILED MAY 1996
CHECKED DEC. 1996

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 20 OF 35.

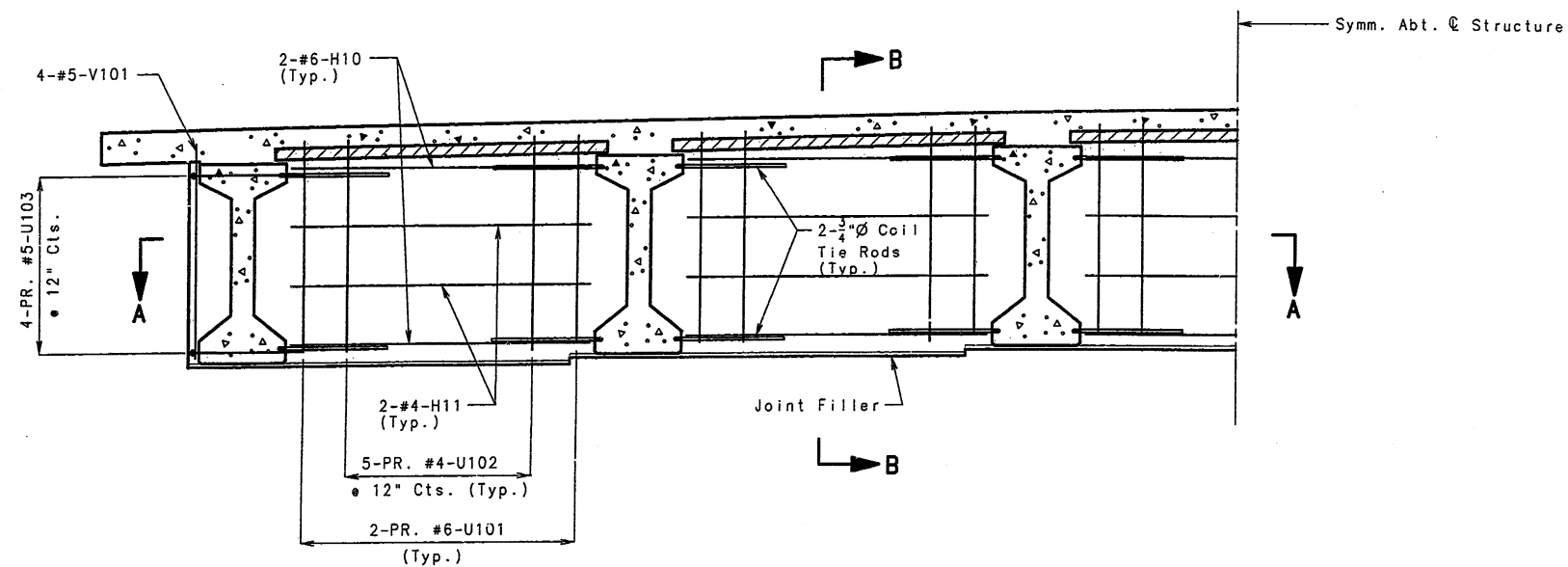
JEFFERSON

COUNTY

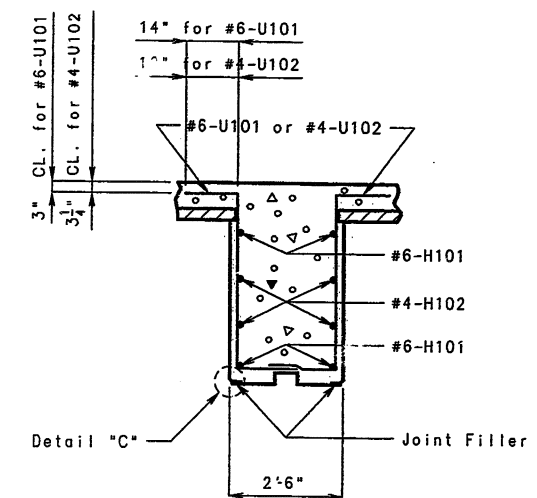
A5530

DATE

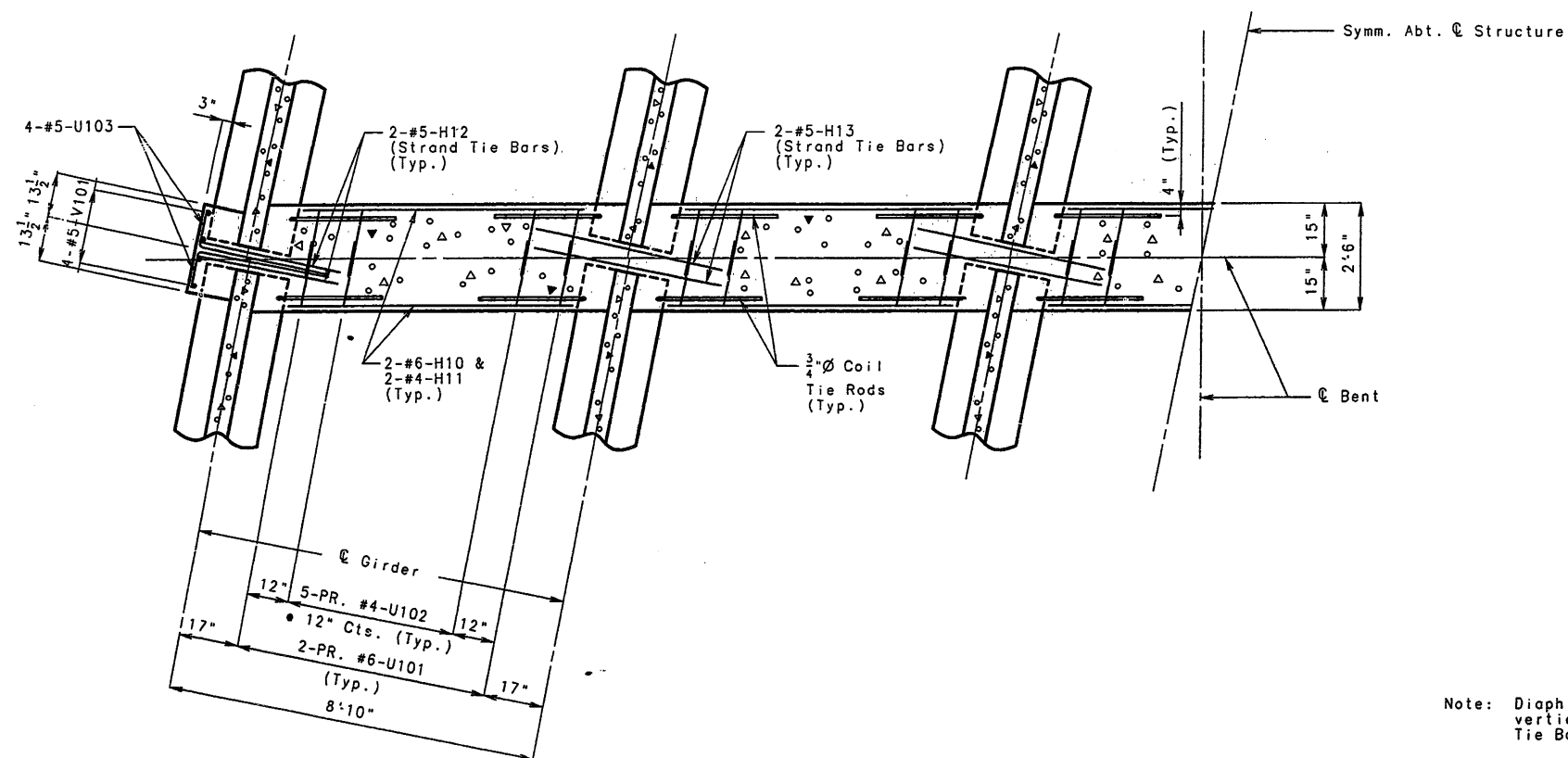
DATE



HALF SECTION NEAR INT. BENTS

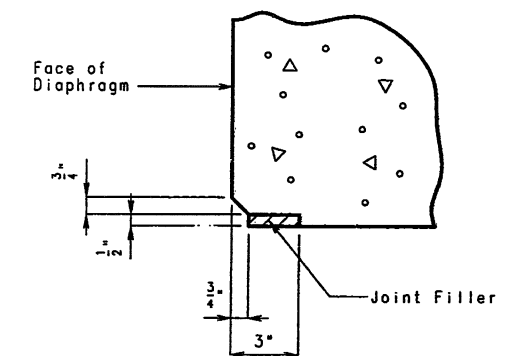


SECTION B-B



SECTION A-A

DIAPHRAGMS AT INTERMEDIATE BENTS 2, 3 & 4.



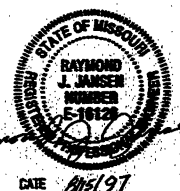
DETAIL "C"

Note: Diaphragms at Intermediate Bents are to be built vertical. For location of #5-H103 & H104 (Strand Tie Bars), see sheet No. 16, 17, 18 & 19.



CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS INSTRUCTED ON THIS PROJECT.

DATE 9/20/97



DATE 9/20/97

DETAILED MAY 1996
CHECKED DEC. 1996

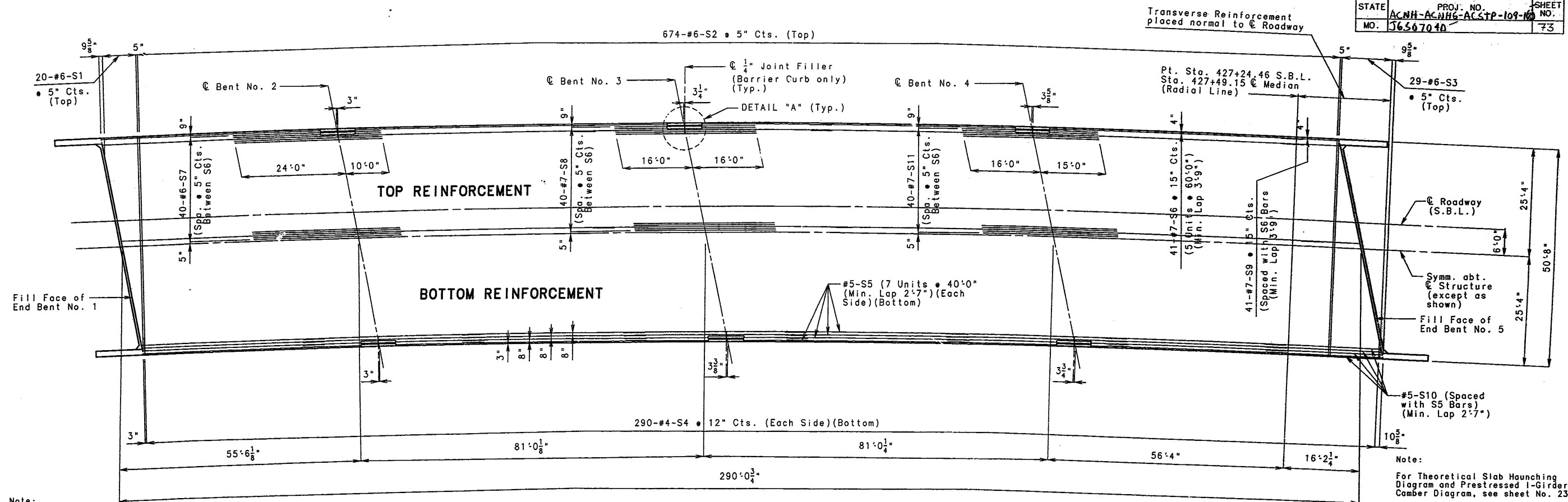
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 21 OF 35.

JEFFERSON

COUNTY

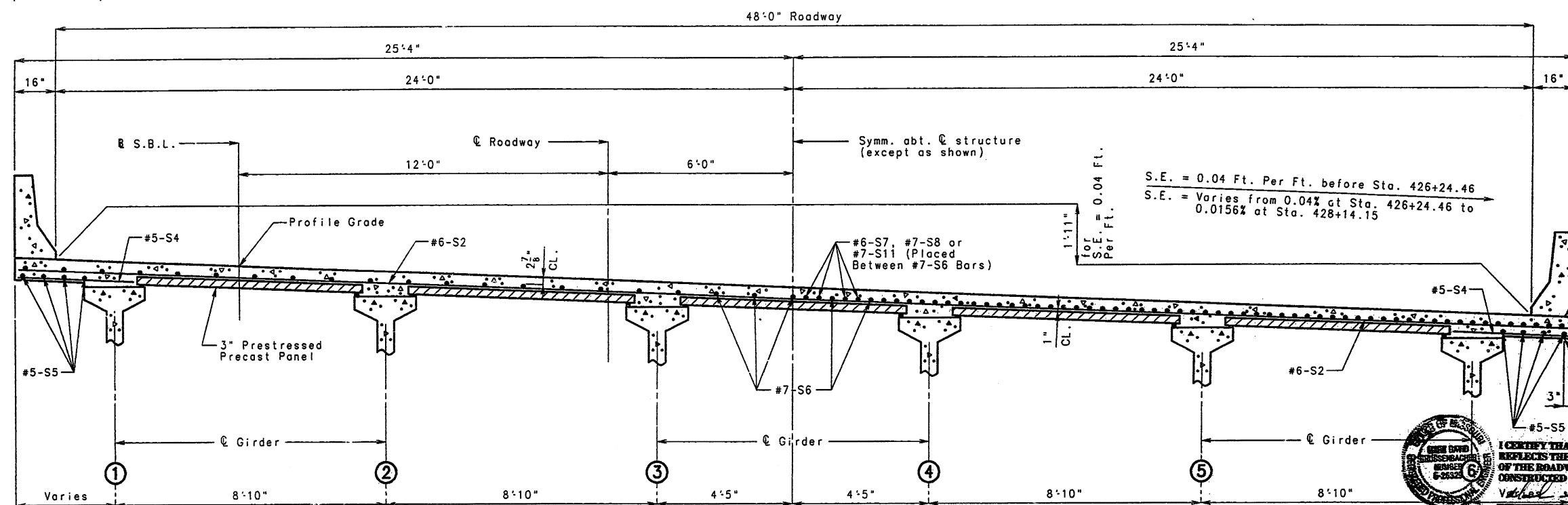
A5530



Note:
All longitudinal dimensions shown are horizontal arc dimensions.
Transverse reinforcement to be placed radially and spaced along left edge of slab, except as shown.
Longitudinal reinforcement to be placed parallel to & roadway and spaced radially.

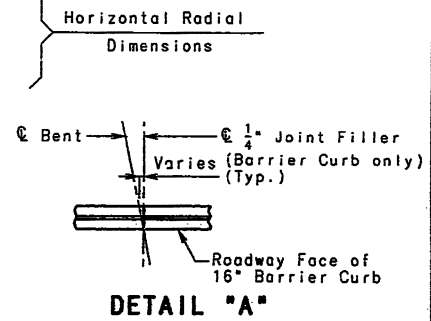
PLAN OF SLAB SHOWING REINFORCEMENT

Note:
For Theoretical Slab Haunching Diagram and Prestressed I-Girder Camber Diagram, see sheet No. 25.
For Slab Pouring Sequence, see sheet No. 25.
For details of Precast Prestressed Panels, see sheet No. 26.
For details and reinforcement of Safety Barrier Curb, see sheets No. 27, 28, 29 & 30.



HALF SECTION NEAR CENTER OF SPANS

HALF SECTION NEAR INT. BENT



DETAILED MAY 1996
CHECKED DEC. 1996

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 22 OF 35.

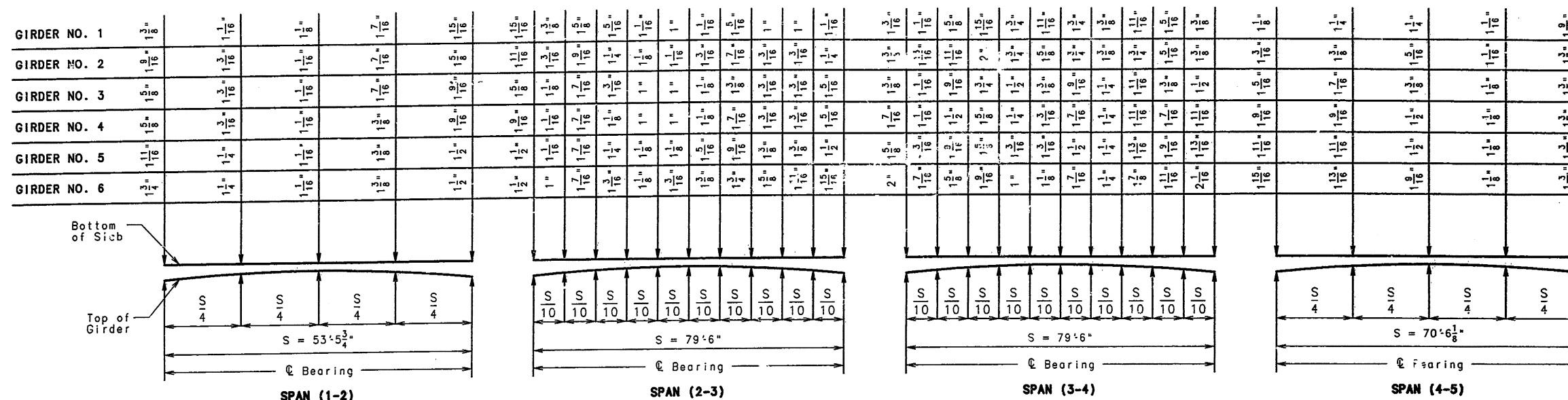
JEFFERSON

COUNTY A5530



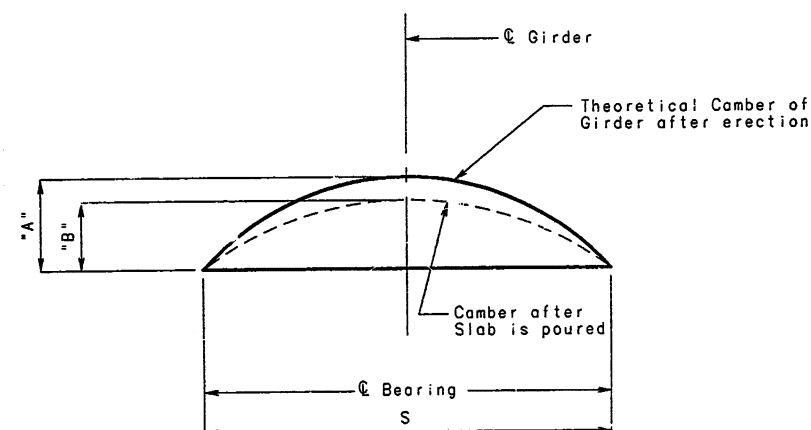
I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.
DATE 9/20/90
DATE 9/15/97

217



THEORETICAL SLAB HAUNCHING DIAGRAM

Note: Longitudinal dimensions shown are horizontal



GIRDER	SPAN (1-2)		SPAN (2-3)		SPAN (3-4)		SPAN (4-5)	
	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"
EXTERIOR	1 1/2"	3 3/8"	1 1/2"	3 3/4"	1 1/2"	3 3/4"	1 3/16"	11 1/16"
INTERIOR	1 1/2"	5 5/16"	1 1/2"	9 9/16"	1 1/2"	9 9/16"	1 3/16"	5 5/8"
CENTER	1 1/2"	3 3/8"	1 1/2"	11 1/16"	1 1/2"	11 1/16"	1 3/16"	5 5/8"

Note: Conversion factor for girder camber

0.10 PT. = 0.3140 x 0.5 PT.
0.20 PT. = 0.5930 x 0.5 PT.
0.25 PT. = 0.7125 x 0.5 PT.
0.30 PT. = 0.8130 x 0.5 PT.
0.40 PT. = 0.9520 x 0.5 PT.

GIRDER CAMBER DIAGRAM

Note: If girder camber is different from that shown in the camber diagram, it shall be necessary to adjust the slab haunches, increase the slab thickness or raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment. Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete I-Girder.



FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONSTRUCTION AND LOCATION OF THE ROADWAY AND ATTENDANCES AS CONSTRUCTED ON THIS PROJECT.

DATE 9/15/97

SIGNATURE

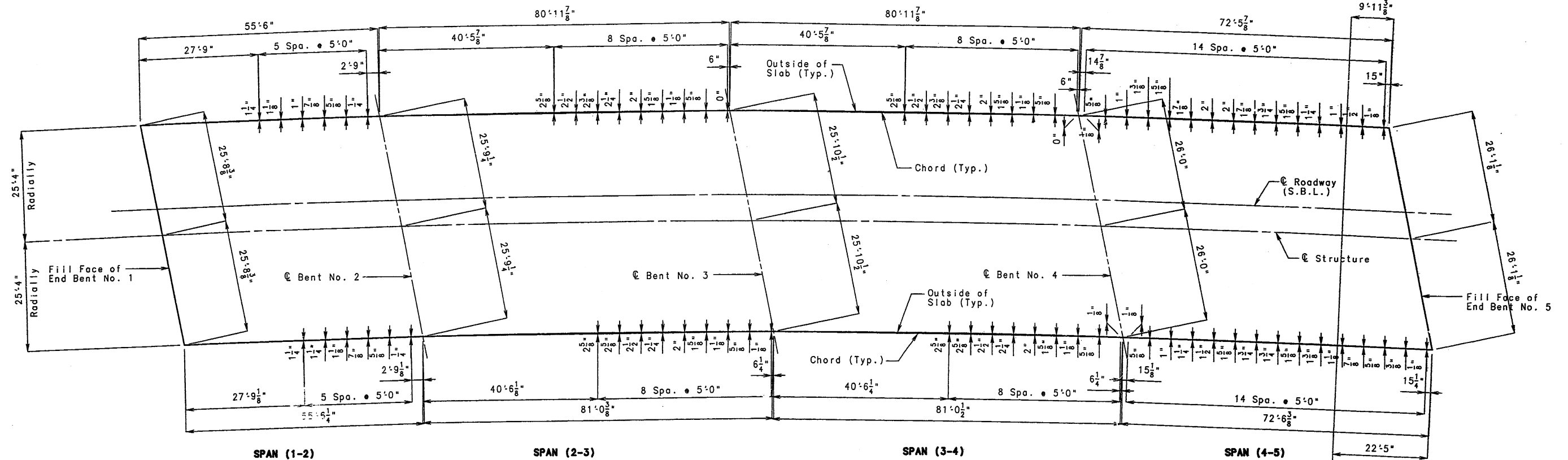
DATE

DETAILED MAY 1996
CHECKED DEC. 1996

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 23 OF 35.

JEFFERSON COUNTY A5530



PLAN OF SLAB SHOWING CURVE ORDINATES

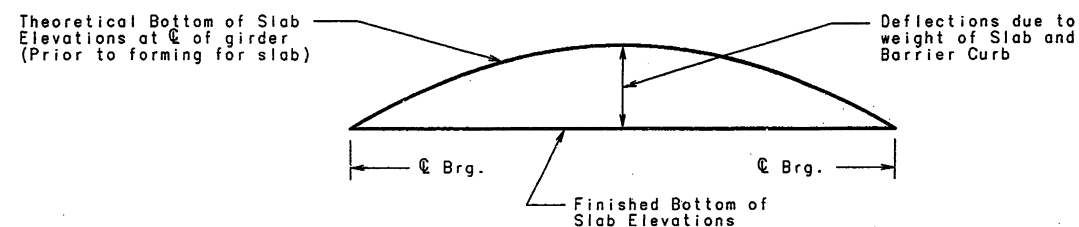
Note: Dimensions shown are horizontal arc dimensions.

P.T. Sta. 427+24.46 S.B.L.
Sta. 427+49.15 @ Median
(Radial line)

**** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)**

	SPAN 1 (53'-5 $\frac{3}{4}$ " @ BRG. - @ BRG.)					SPAN 2 (79'-6" @ BRG. - @ BRG.)											SPAN 3 (79'-6" @ BRG. - @ BRG.)											SPAN 4 (70'-6 $\frac{1}{8}$ " @ BRG. - @ BRG.)				
	@ BRG.	.25	.50	.75	@ BRG.	@ BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	@ BRG.	@ BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	@ BRG.	@ BRG.	.25	.50	.75	@ BRG.
GIRDER NO. 1	750.36	750.55	750.75	750.96	751.18	751.21	751.37	751.53	751.70	751.87	752.04	752.21	752.38	752.55	752.73	752.91	752.95	753.17	753.39	753.62	753.84	754.07	754.30	754.52	754.75	754.98	755.21	755.26	755.86	756.48	757.10	757.74
GIRDER NO. 2	750.03	750.22	750.42	750.63	750.85	750.88	751.05	751.22	751.39	751.56	751.74	751.91	752.08	752.25	752.42	752.60	752.64	752.87	753.10	753.33	753.56	753.79	754.02	754.26	754.50	754.73	754.97	755.03	755.66	756.31	756.95	757.61
GIRDER NO. 3	749.70	749.89	750.09	750.30	750.53	750.56	750.73	750.90	751.07	751.24	751.42	751.59	751.76	751.94	752.11	752.30	752.33	752.56	752.79	753.02	753.25	753.49	753.74	753.99	754.24	754.49	754.74	754.80	755.46	756.13	756.81	757.49
GIRDER NO. 4	749.36	749.56	749.76	749.98	750.21	750.23	750.40	750.57	750.75	750.92	751.10	751.28	751.45	751.63	751.81	751.99	752.03	752.26	752.49	752.72	752.95	753.20	753.46	753.72	753.99	754.25	754.52	754.58	755.26	755.96	756.67	757.38
GIRDER NO. 5	749.03	749.23	749.44	749.65	749.88	749.91	750.08	750.26	750.44	750.61	750.79	750.97	751.15	751.32	751.50	751.68	751.72	751.95	752.19	752.43	752.66	752.93	753.20	753.47	753.75	754.02	754.30	754.36	755.08	755.81	756.54	757.28
GIRDER NO. 6	748.70	748.89	749.10	749.33	749.56	749.59	749.76	749.93	750.11	750.28	750.46	750.64	750.82	751.01	751.19	751.38	751.42	751.65	751.88	752.11	752.35	752.64	752.92	753.21	753.50	753.79	754.09	754.15	754.89	755.64	756.41	757.18

** Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of Slab (including Precast Panel) and Barrier Curb.



TYPICAL SLAB ELEVATIONS DIAGRAM

DETAILED MAY 1996
CHECKED DEC. 1996

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 24 OF 35

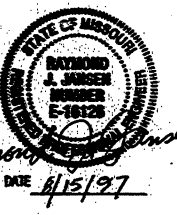
JEFFERSON

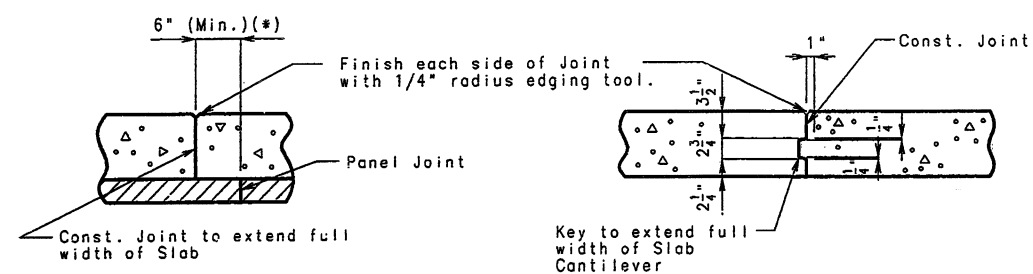
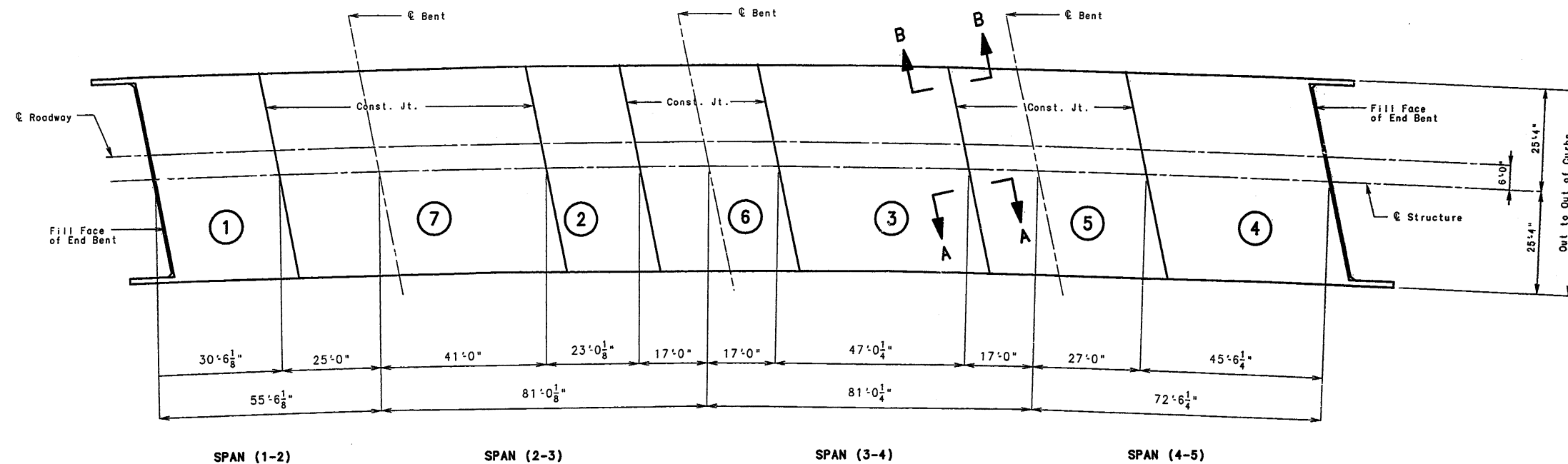
COUNTY

A5530




FINAL PLANS
I CERTIFY THAT THIS DRAWING ACCURATELY
REFLECTS THE CONFIGURATION AND LOCATION
OF THE ROADWAY AND APPURTENANCES AS
CONSTRUCTED ON THIS PROJECT.
DATE 4/15/97
SIGNATURE





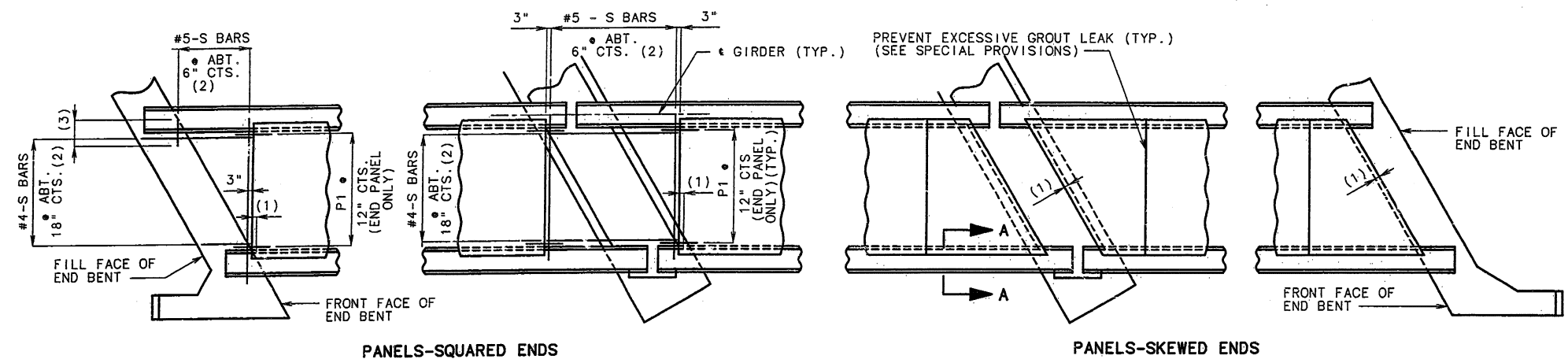
	SEQUENCE OF POURS							MIN. RATE OF POUR CU. YDS./HR.
	DIRECTION							WITH RETARDER
BASIC SEQUENCE	1	2	3	4	5	6	7	25
	EITHER DIRECTION							
ALTERNATE POURS TO THE BASIC SKIP SEQUENCE ARE SUBJECT TO THE APPROVAL OF THE ENGINEER IN ACCORDANCE WITH SECTION 703.3.12.4 OF MISSOURI STANDARD SPECIFICATIONS.								
ALTERNATE "A" POURS	1	7 + 2	6 + 3	5 + 4	33			
	END TO 7	1 TO 6	2 TO 5	3 TO END				
ALTERNATE "B" POURS	1 + 7 + 2	6 + 3	5 + 4	33				
	END TO 6	2 TO 5	3 TO END					
ALTERNATE "C" POURS	1 + 7 + 2	6 + 3 + 5 + 4	33					
	END TO 6	2 TO END						
ALTERNATE "D" POURS	1 + 7 + 2 + 6 + 3 + 5 + 4	33						
	END TO END							



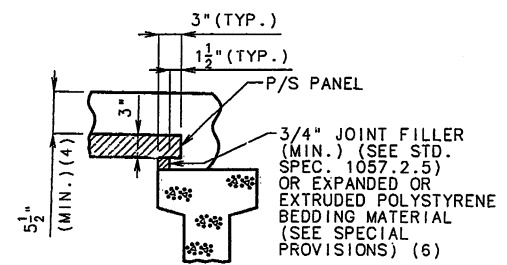
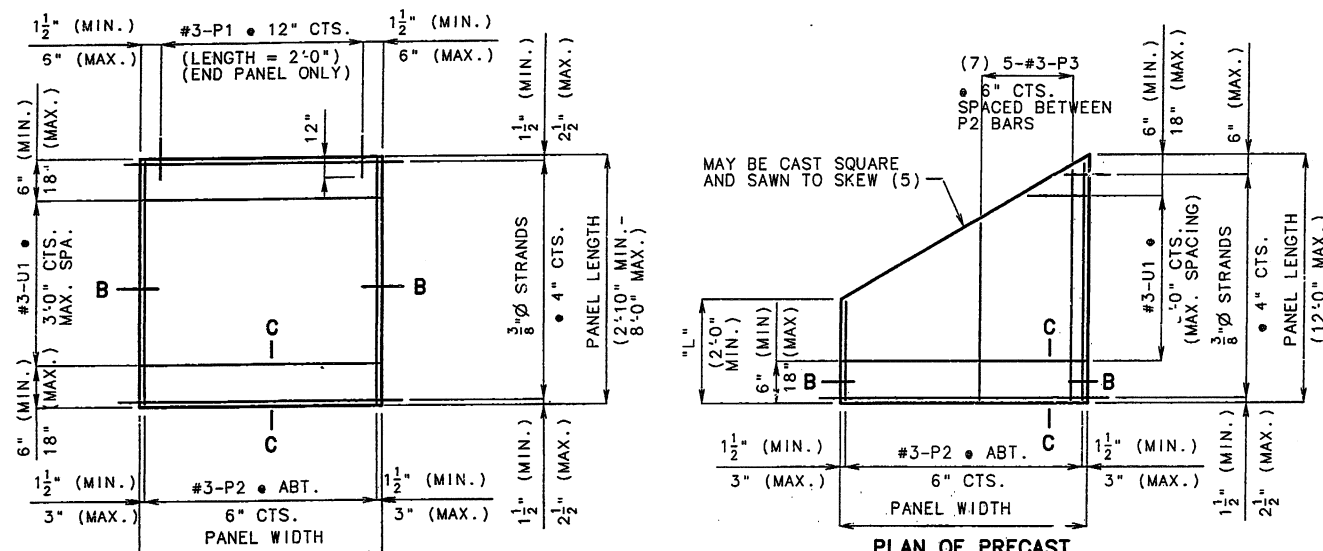
STATE OF MISSOURI
PROFESSIONAL ENGINEER
NO. 6-26989

SLAB POURING SEQUENCE
4-SPAN

Note
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours and shall pour and satisfactorily finish the slab pours at the rate given.
The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

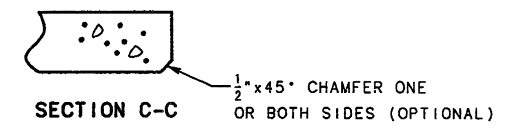
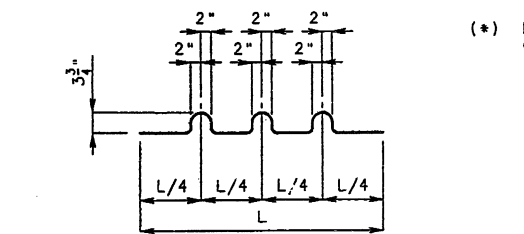
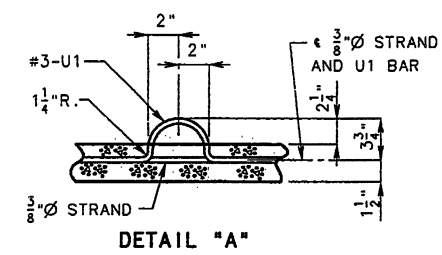
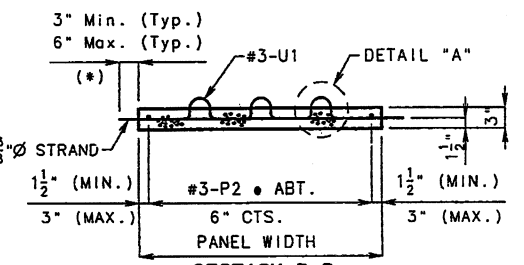


PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT



NOTE: USE SLAB HAUNCHING DIAGRAM ON SHEET NO. 23 FOR DETERMINING THICKNESS OF JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL WITHIN THE LIMITS NOTED IN GENERAL NOTES.

- NOTES:**
- COST OF S-BARS SHALL BE INCLUDED IN PRICE BID FOR SLAB ON CONCRETE 1-GIRDER PER SQUARE YARD.
 - S-BARS ARE NOT LISTED IN BILL OF REINFORCING.
 - END PANELS SHALL BE DIMENSIONED 1" MIN. TO 1-1/2" MAX. FROM THE INSIDE FACE OF DIAPHRAGM.
 - S-BARS SHOWN ARE BOTTOM STEEL IN SLAB BETWEEN PANELS AND USED WITH SQUARED END PANELS ONLY.
 - EXTEND S-BARS 18 INCHES BEYOND THE FRONT FACE OF END BENTS ONLY.
 - IN ORDER TO MAINTAIN MINIMUM SLAB THICKNESS, IT MAY BE NECESSARY TO RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR NECESSARY GRADE ADJUSTMENT.
 - ANY STRAND 2'-0" OR SHORTER SHALL HAVE A #4 REINFORCING BAR ON EACH SIDE OF IT CENTERED BETWEEN STRANDS. STRANDS 2'-0" OR SHORTER MAY THEN BE DEBONDED AT THE FABRICATORS OPTION.
 - ALL PANEL SUPPORT PADS SHALL BE GLUED TO THE GIRDER. WHEN SUPPORT THICKNESS EXCEEDS 1-1/2". THE PADS SHALL BE GLUED TOP AND BOTTOM. THE GLUE USED SHALL BE THE TYPE RECOMMENDED BY THE PANEL SUPPORT PADS MANUFACTURER.
 - USE #3-P3 BARS IF PANEL IS SKEWED 45° OR GREATER.



DETAILS OF PRECAST PRESTRESSED PANELS

GENERAL NOTES:

PRESTRESSED PANELS:

CONCRETE FOR PRESTRESSED PANELS SHALL BE CLASS A1 WITH F'C = 5,000 PSI, F'CI = 3,500 PSI.

THE TOP SURFACE OF ALL PANELS SHALL RECEIVE A SCORED FINISH WITH A DEPTH OF SCORING OF 1/8 INCH PERPENDICULAR TO THE PRESTRESSING STRANDS IN THE PANELS (SEE SPECIAL PROVISIONS).

PRESTRESSING TENDONS SHALL BE HIGH-TENSILE STRENGTH COATED SEVEN WIRE (7), LOW-RELAXATION STRANDS FOR PRESTRESSED CONCRETE CONFORMING TO AASHTO M203, EXCEPT THAT NOMINAL DIAMETER OF STRAND = 3/8 INCH AND NOMINAL AREA = 0.085 SQ. IN. AND MINIMUM ULTIMATE STRENGTH = 21.25 KIPS. (250 KSI). LARGER STRANDS MAY BE USED WITH THE SAME SPACING AND INITIAL TENSION.

INITIAL PRESTRESSING FORCE = 14.9 KIPS/STRAND.

THE METHOD AND SEQUENCE OF RELEASING THE STRANDS SHALL BE SHOWN ON THE SHOP DRAWINGS.

SUITABLE ANCHORAGE DEVICES FOR LIFTING PANELS MAY BE CAST IN PANELS, PROVIDED THEY ARE SHOWN ON THE SHOP DRAWINGS AND APPROVED BY THE ENGINEER. PANEL LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR AND SHOWN ON THE SHOP DRAWINGS.

WHEN SQUARE END PANELS ARE USED AT SKEWED BENTS, IT IS REQUIRED THAT THE SKEWED PORTION BE CAST FULL DEPTH. NO SEPARATE PAYMENT WILL BE MADE FOR THE ADDITIONAL CONCRETE AND REINFORCING REQUIRED.

SUPPORT FROM DIAPHRAGM FORMS IS REQUIRED UNDER THE OPTIONAL SKEWED END UNTIL CAST-IN-PLACE CONCRETE HAS REACHED 3,000 PSI COMPRESSIVE STRENGTH.

MINIMUM JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL THICKNESS SHALL BE 3/4 INCH. THICKER JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL MAY BE USED ON ONE OR BOTH SIDES OF THE GIRDER TO REDUCE CAST-IN-PLACE CONCRETE THICKNESS WITHIN TOLERANCES. NO MORE THAN 2 INCHES TOTAL THICKNESS OF JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL SHALL BE USED.

THE SAME THICKNESS OF JOINT FILLER MATERIAL SHALL BE USED UNDER ANY ONE EDGE OF ANY PANEL EXCEPT AT LOCATIONS WHERE TOP FLANGE THICKNESS MAY BE STEPPED. THE MAXIMUM CHANGE IN THICKNESS BETWEEN ADJACENT PANELS SHALL BE 1/4 INCH. THE POLYSTYRENE BEDDING MATERIALS MAY BE CUT TO MATCH HAUNCH HEIGHT ABOVE TOP OF FLANGE.

SLAB THICKNESS OVER PRESTRESSED PANELS VARIES DUE TO GIRDER CAMBER.

AT THE CONTRACTORS OPTION, THE VARIATION IN SLAB THICKNESS OVER PRESTRESSED PANELS MAY BE ELIMINATED OR REDUCED BY INCREASING AND VARYING THE GIRDER TOP FLANGE THICKNESS. DIMENSIONS SHALL BE SHOWN ON THE SHOP DRAWINGS.

REINFORCING STEEL:

ALL DIMENSIONS ARE OUT TO OUT.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2 INCH, UNLESS OTHERWISE SHOWN.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, STIRRUP AND TIE DIMENSIONS.

ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.

THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE 1-GIRDER.

IF U1 BARS INTERFERE WITH PLACEMENT OF SLAB STEEL, U1 LOOPS MAY BE BENT OVER, AS NECESSARY, TO CLEAR SLAB STEEL.

WELDED WIRE FABRIC OR WELDED DEFORMED BAR MATS PROVIDING A MINIMUM AREA OF REINFORCING PERPENDICULAR TO STRANDS OF 0.22 SQ. IN./FT. WITH SPACING PARALLEL TO STRANDS SUFFICIENT TO INSURE PROPER HANDLING, MAY BE USED IN LIEU OF THE #3-P2 BARS SHOWN. WIRE OR BAR DIAMETER SHALL NOT BE LARGER THAN 0.375 INCHES. THE ABOVE ALTERNATIVE REINFORCEMENT CRITERIA MAY BE USED IN LIEU OF THE #3-P3 BARS, WHEN REQUIRED, AND PLACED OVER A WIDTH OF NOT LESS THAN 2FT.

THE REINFORCING STEEL SHALL BE TIED SECURELY TO THE 3/8" Ø STRANDS WITH THE FOLLOWING MAXIMUM SPACING IN EACH DIRECTION:

#3-P2 BARS AT 16 INCHES.

WELDED WIRE FABRIC OR WELDED DEFORMED BAR MATS AT 24 INCHES.

TIE THE #3-U1 BARS TO THE #3-P2 BARS, TO THE WELDED WIRE FABRIC OR THE WELDED DEFORMED BAR MATS AT ABOUT 36 INCH CENTERS.

ALL REINFORCEMENT OTHER THAN PRESTRESSING STRANDS SHALL BE EPOXY COATED.

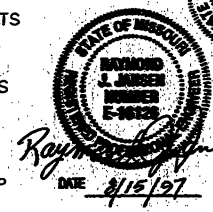
PRECAST PANELS MAY BE IN CONTACT WITH STIRRUP REINFORCING IN DIAPHRAGMS.

STATE	ACNH-ACNHS-ACSTP-104-101	PROJ. NO.		SHEET NO.	77
MO.	3650 704D				

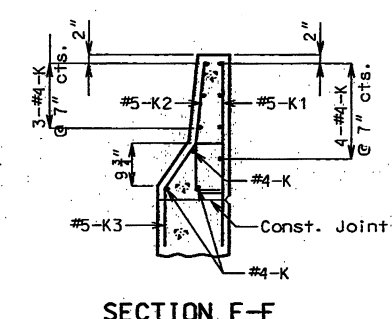
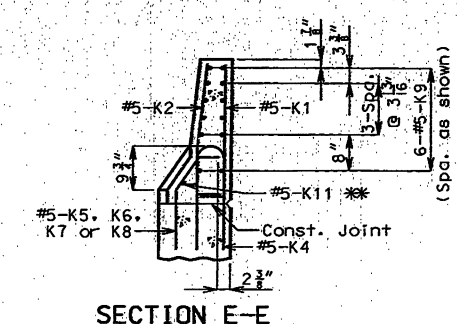
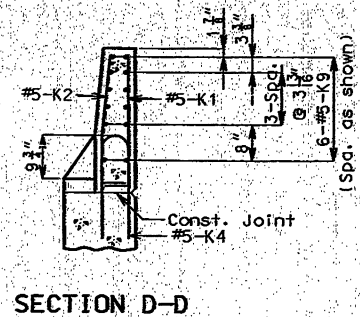
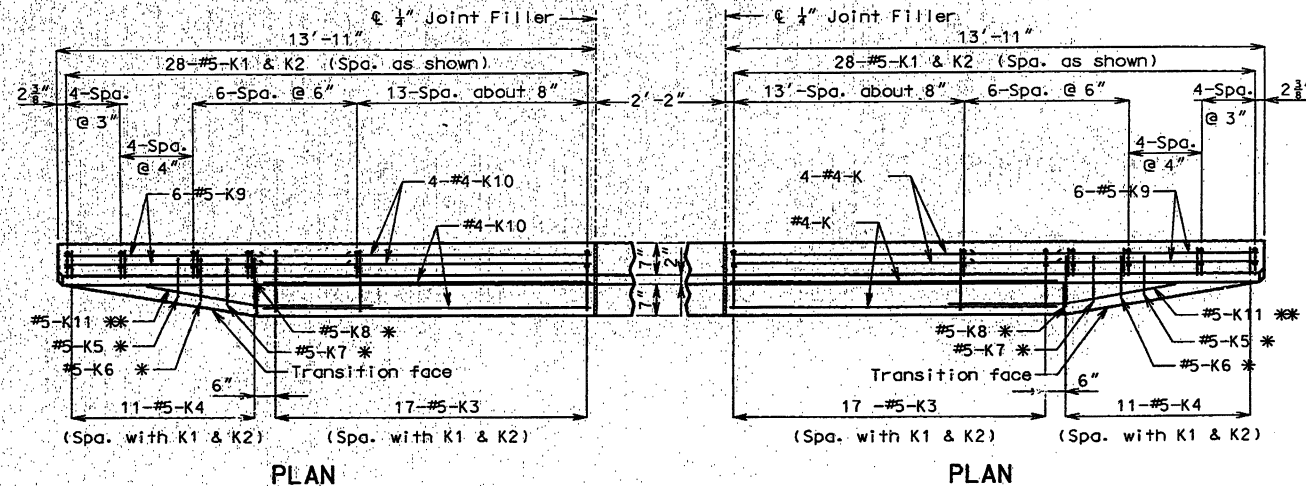
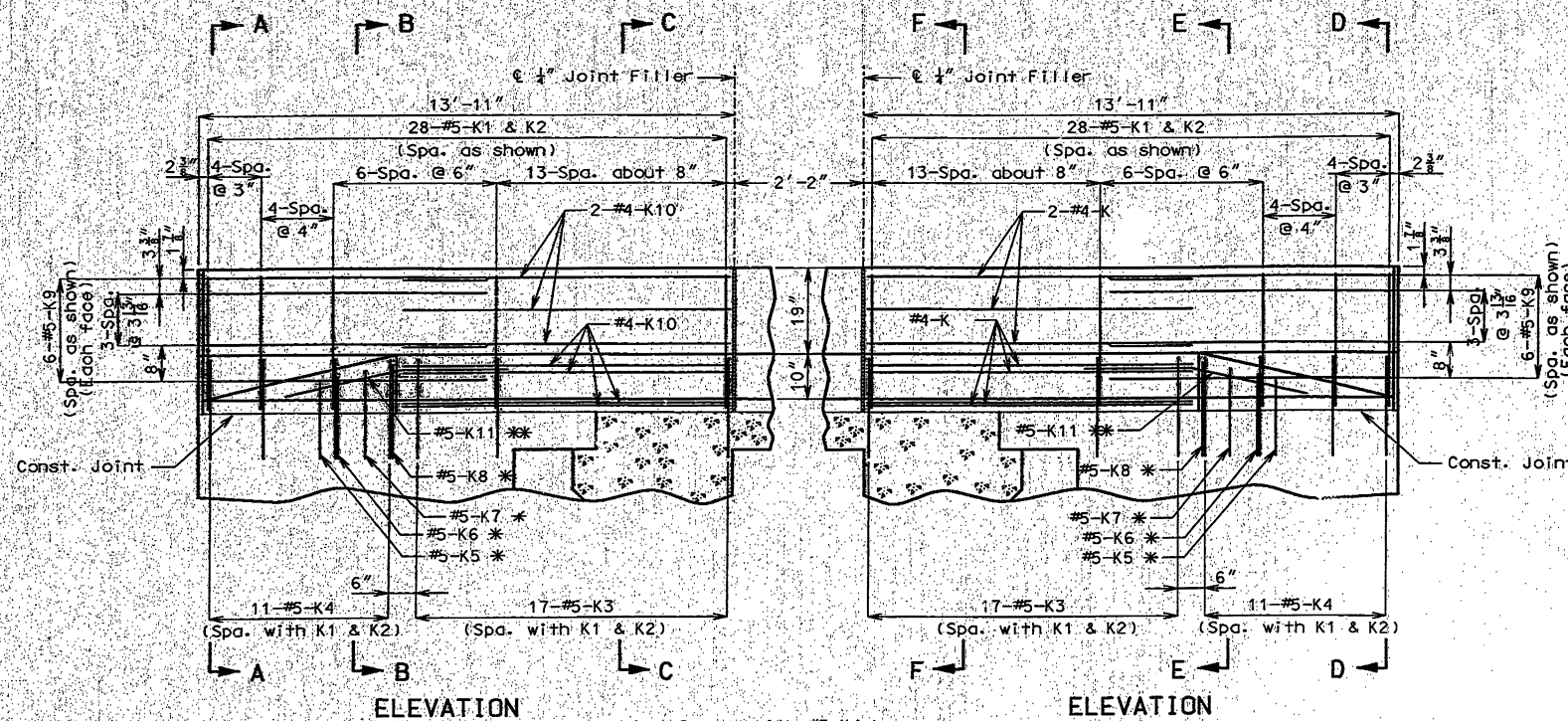
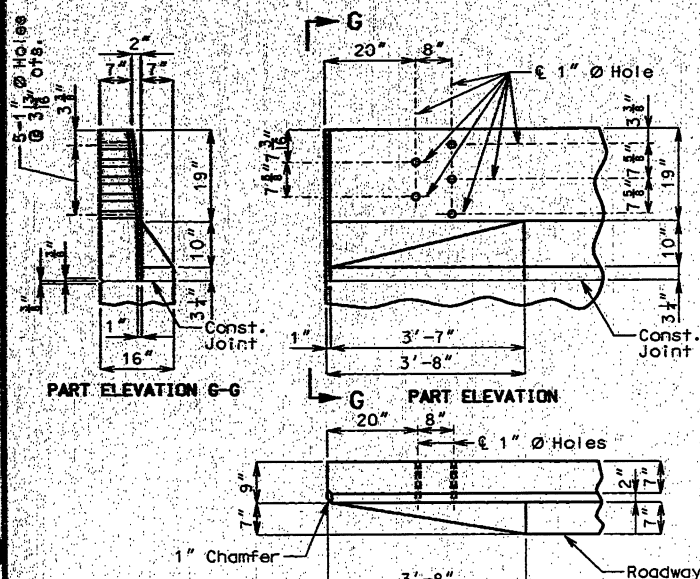
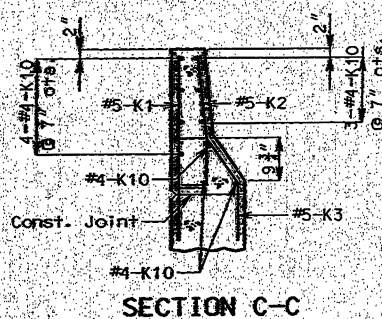
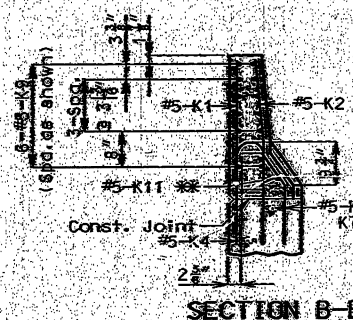
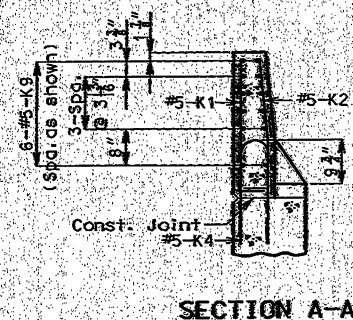
FINAL PLANS

DATE 8/15/97

SIGNATURE



State	Proj. No. ACNH-ACNHG-ACSTP-109-1181	Sheet No.
MO	J6S0704D	78



* Spaced with #5-K4 bars.
* Fit bar to follow transition face of curb.

NOTE: Use a minimum lap of 2'-0" between K9 and K10 bars.

DETAILS OF SAFETY BARRIER CURB AT END BENT NO. 1 (Left barrier curb shown; right barrier curb similar)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

Sheet No. 27 of 35

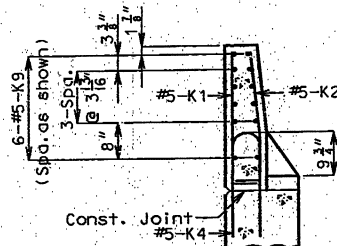
JEFFERSON COUNTY A-5530



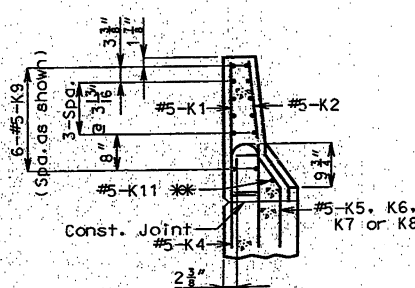
FINAL PLANS
I CERTIFY THAT THIS DRAWING ACCURATELY
REPRESENTS THE CONFIGURATION AND LOCATION
OF THE ROADWAY AND APPURTENANCES AS
CONSTRUCTED ON THIS PROJECT.
DATE 9/20/00
SIGNATURE
DALL

Detailed
Checked

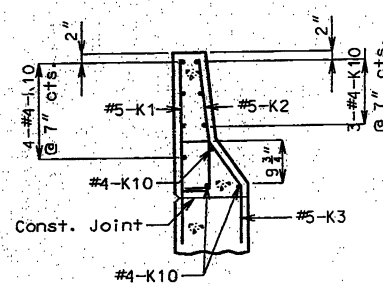
State	Proj. No.	ACNH-ACNHG-ACSTP-109-1(8)	Sheet No.
MO	JOB NO.	J6S0704D	79



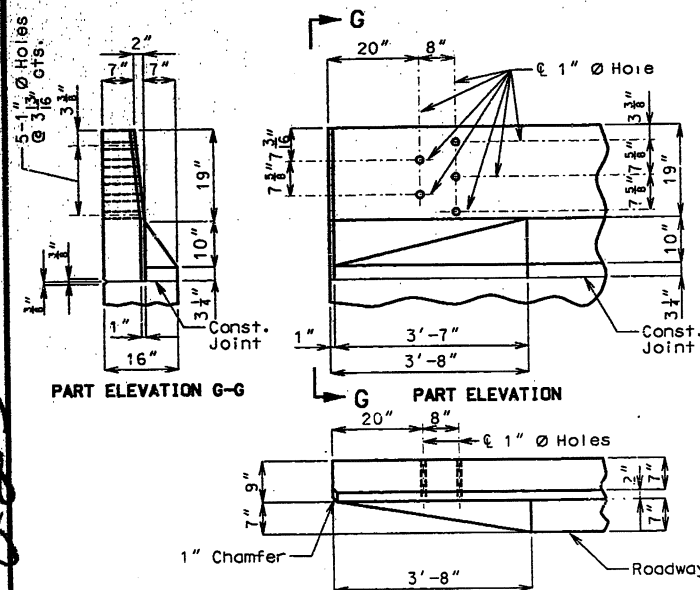
SECTION A-A



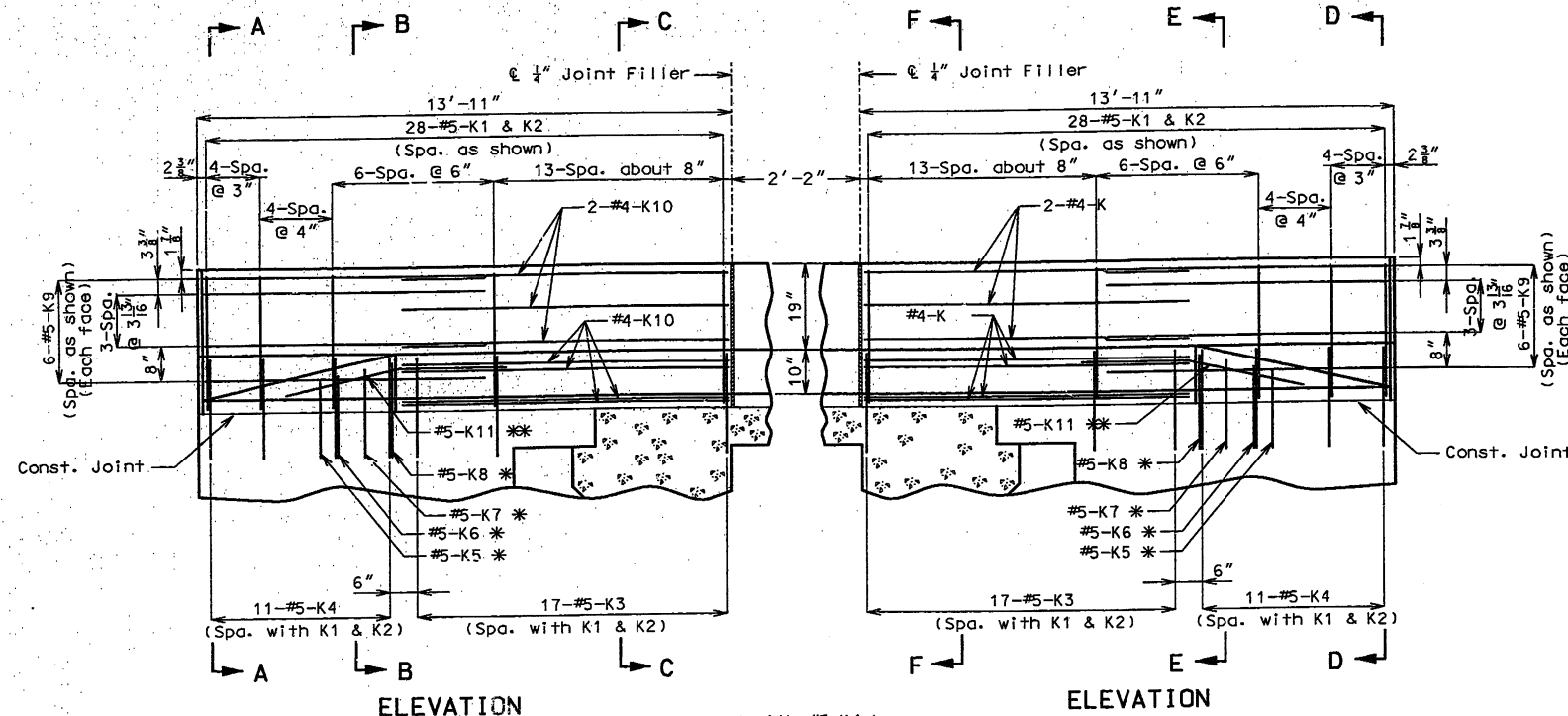
SECTION B-B



SECTION C-C



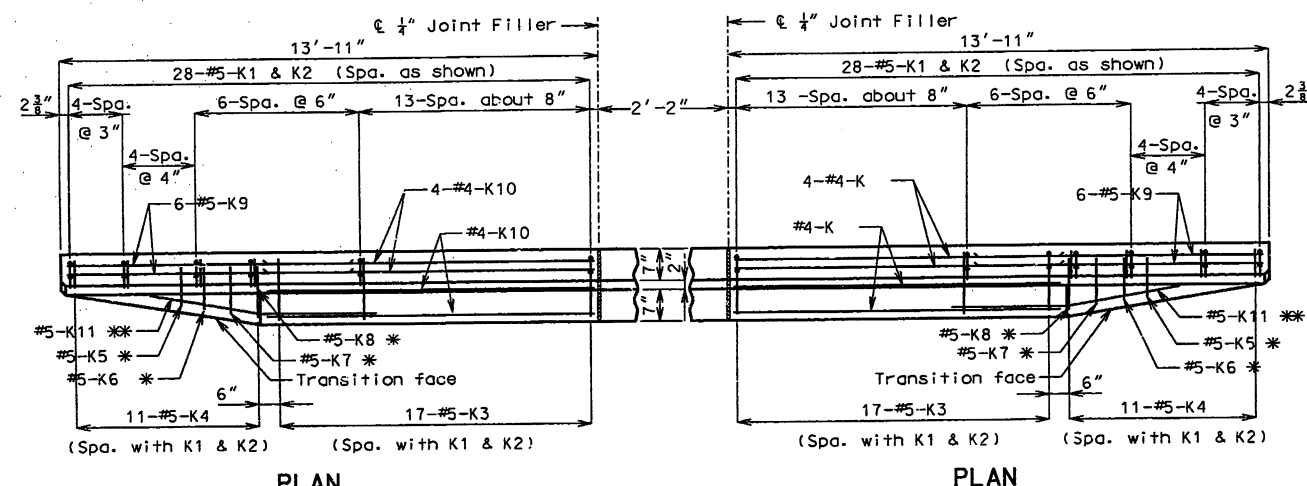
DETAILS OF GUARD RAIL ATTACHMENT



ELEVATION

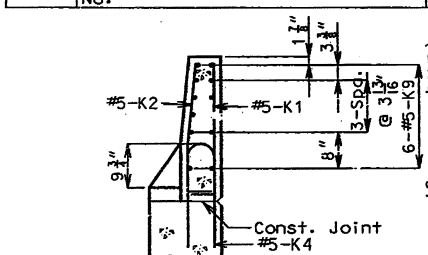
ELEVATION

* Spaced with #5-K4 bars.
** Fit bar to follow transition face of curb.

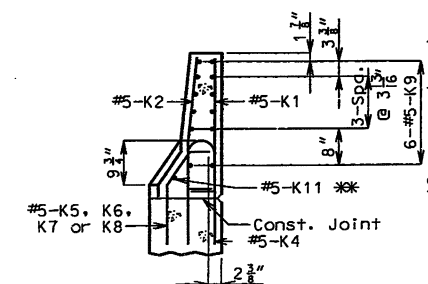


PLAN

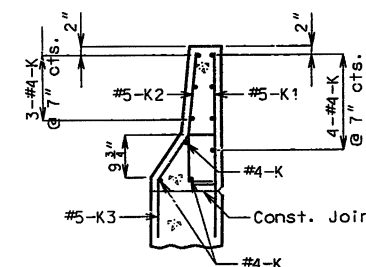
PLAN



SECTION D-D



SECTION E-E



SECTION F-F

NOTE: Use a minimum lap of 2'-0" between K9 and K10 bars.

DETAILS OF SAFETY BARRIER CURB AT END BENT NO. 5

(Left barrier curb shown; right barrier curb similar)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

Sheet No. 28 of 35

JEFFERSON COUNTY

A-5530

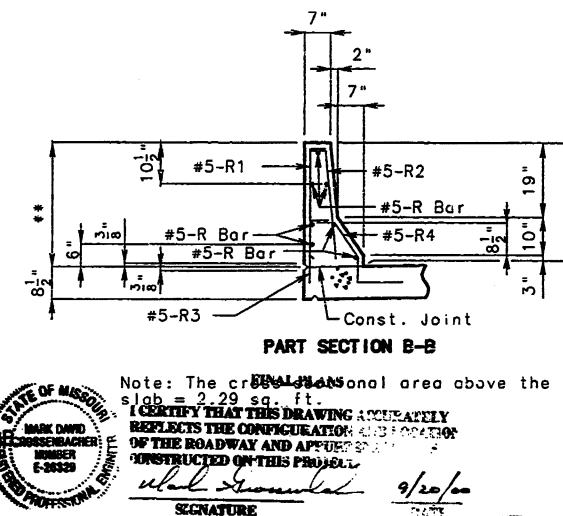
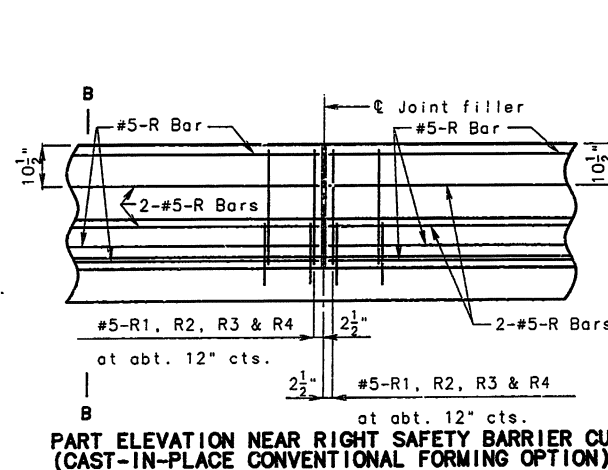
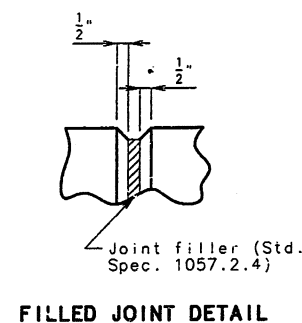
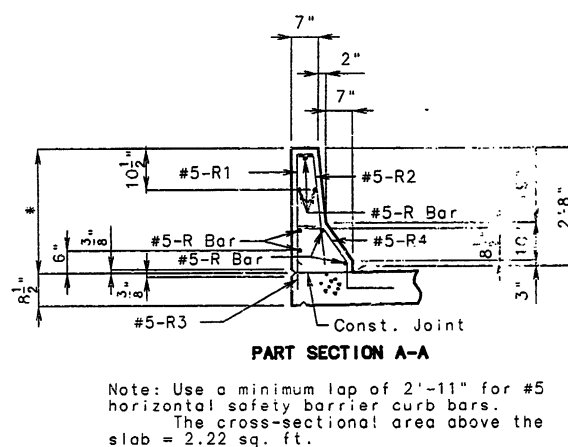
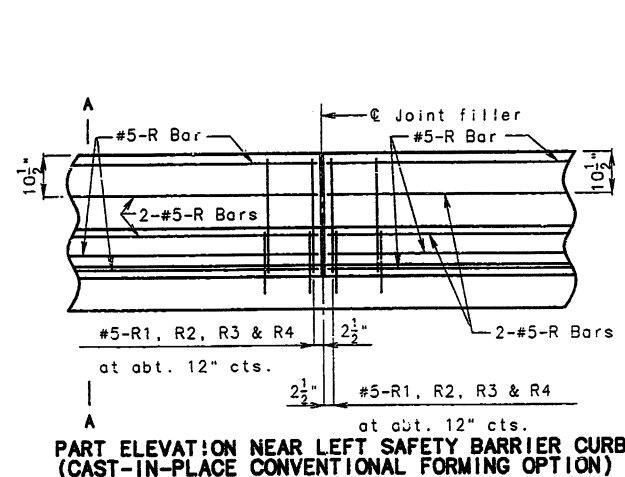
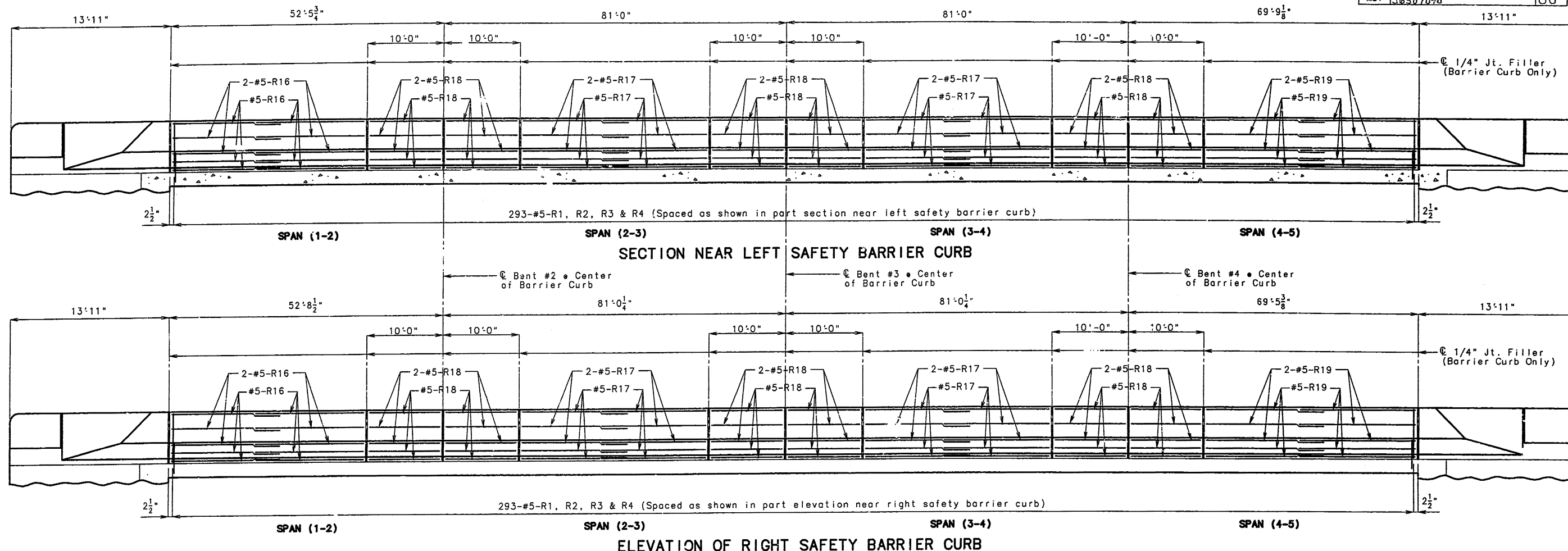


FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REPRESENTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

DATE _____ SIGNATURE _____

DATE _____



Note:

Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints (except at end bents) normal to grade.

All exposed edges of safety barrier curb shall have either a 1/2" radius or a 3/8" bevel, unless otherwise noted.

When the safety barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place.

Concrete in the safety barrier curb shall be Class B1.

Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Longitudinal dimensions shown are Horizontal Arc Dimensions along the outside top of slab.

For details of Plastic Waterstop, see sheet no. 30.



I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES CONSTRUCTED ON THIS PROJECT.

DATE 8/15/97



DETAILED AUG. 1996
CHECKED DEC. 1996

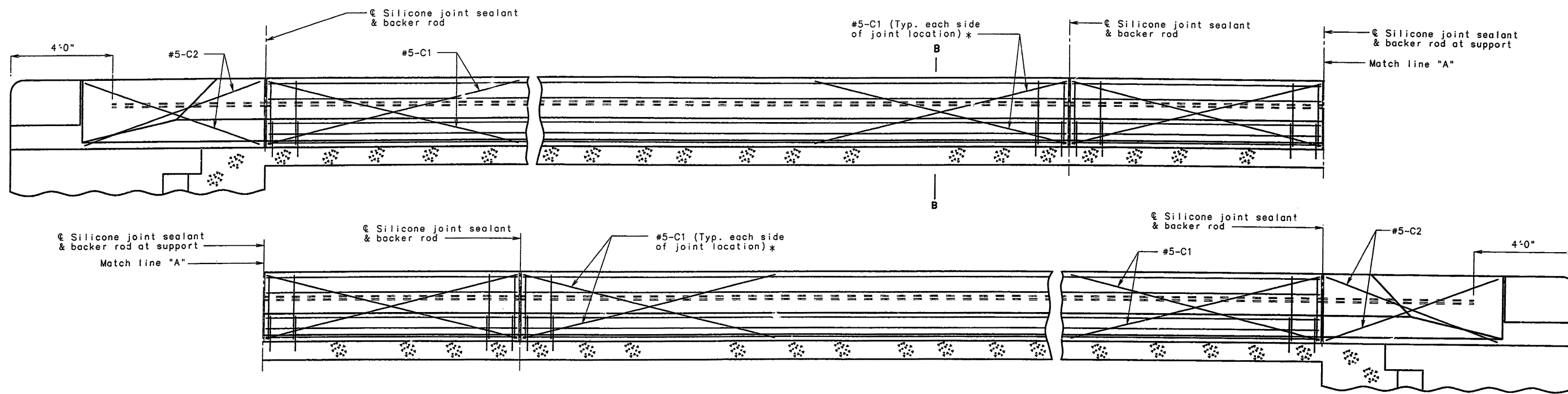
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 29 OF 35.

JEFFERSON

COUNTY

A5530



TYPICAL SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS
(OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

Note:

Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints (except at end bents) normal to grade.

When the safety barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place.

Concrete in the safety barrier curb shall be Class B1.

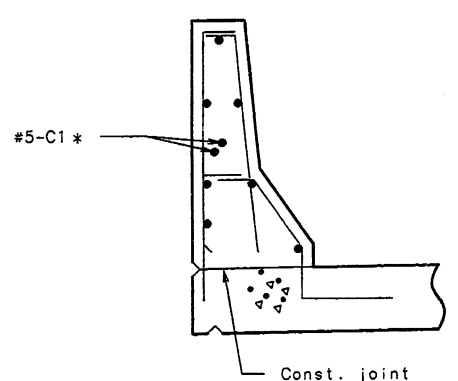
Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Note:

Joint sealant and backer rods shall be used on all slip-form bridge safety barrier curbs instead of joint filler.

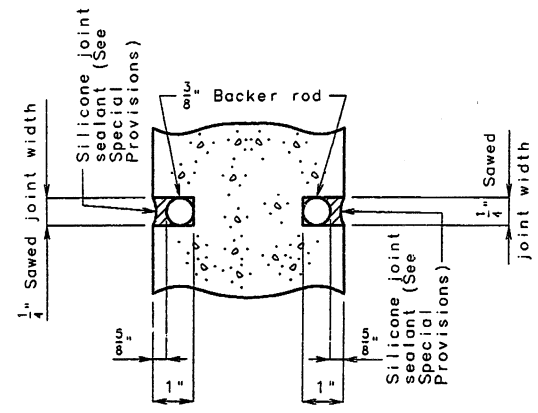
Plastic waterstop shall not be used with slip-form option.

C Bars (Slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.



PART SECTION B-B

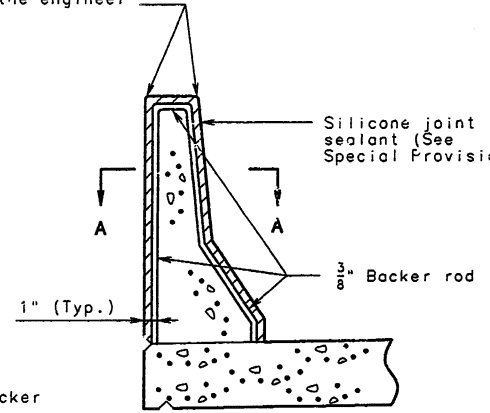
Note: * Each side of joint location.



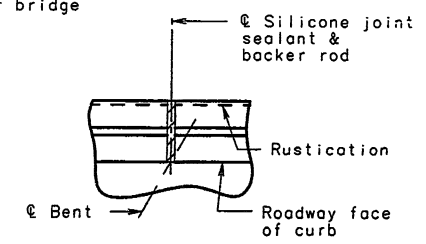
SECTION A-A

Note: Cost of silicone joint sealant and backer rod complete in place to be included on the contract unit price for safety barrier curb.

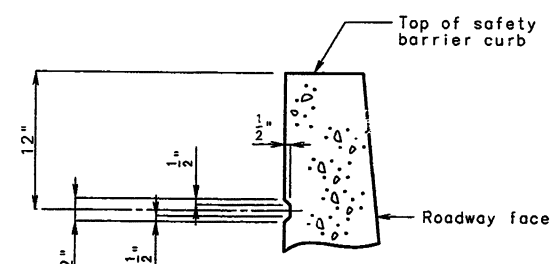
3/8" Bevel, 1/2" Radius or alternate as approved by the engineer



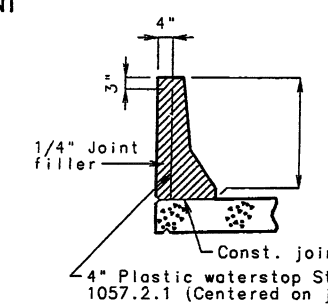
SECTION THRU JOINT



PART PLAN SHOWING SAFETY BARRIER CURB JOINT



PART SECTION SHOWING RUSTICATION DETAILS
(Use on highway grade separation only)



Note: Plastic waterstop shall be placed in all safety barrier curb filled joints. (Except structures with superelevation, use on all lower safety barrier curb joints only).

Cost of plastic waterstop complete in place to be included in contract unit price for Safety Barrier Curb.



I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS SUBMITTED ON THIS PROJECT.

DATE 9/20/00



DATE 9/15/97

DETAILS OF PLASTIC WATERSTOP

OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 30 OF 35.

JEFFERSON COUNTY

A5530

DETAILED AUG. 1996
CHECKED DEC. 1996

BAC8sf16.gs 3.30.
BARRIER CURB ELEVATION
FEB. 1991
SEPT. 1995

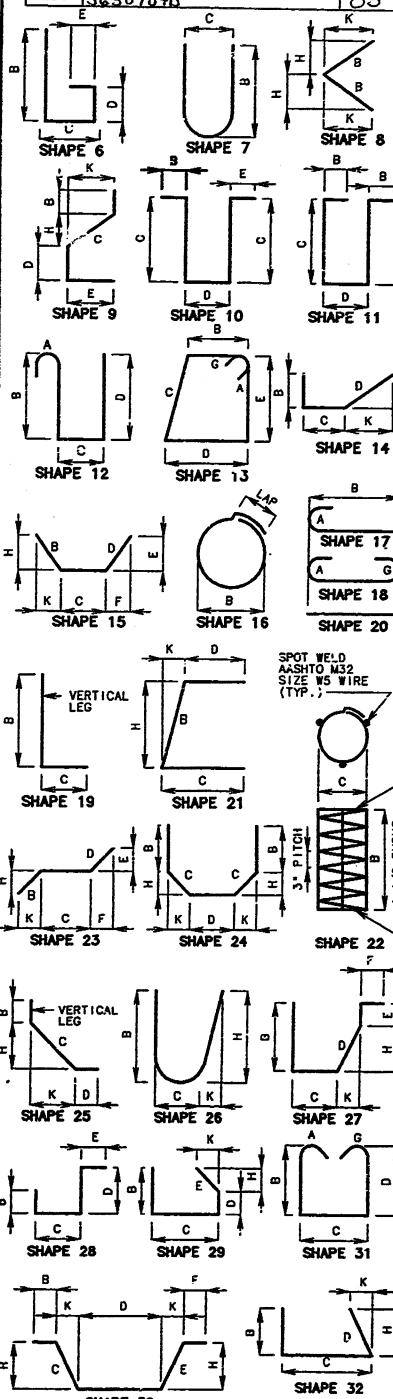
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K				
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	LBS.
		SUBSTRUCTURE																	
		INTERMEDIATE BENT NO. 2																	
18	8 D21	FOOTING		20	X				8	8.000							8	8	417
6	6 D22	FOOTING		10	X					3	7.500	8	0.000				15	3	134
18	5 D23	FOOTING		20	X				5	8.000							5	8	106
54	8 D24	FOOTING		20	X				7	1.000							7	1	1021
15	6 D25	BEAM		20	X				2	6.000							2	6	56
5	10 H20	BEAM		20	X				49	5.000							49	5	1063
5	10 H21	BEAM		18	X				49	5.000							52	3	1124
8	6 H22	BEAM		10	X					22.000	3	9.000					7	5	85
4	6 H23	BEAM		20	X				49	5.000							49	5	297
65	4 P20	COLUMN		16	X				3	3.000							11	1	481
8	5 U20	BEAM		13	S	X			3	9.000	3	3.000	3	9.000	3	3.000	14	11	122
124	5 U21	BEAM		13	S	X			2	10.375	3	3.000	2	10.375	3	3.000	13	2	1703
3	5 U22	BEAM		10	S	X			3	3.000	3	9.000					10	3	32
12	5 U23	BEAM		10	S	X			3	3.000	2	10.375					9	4	115
18	8 V20	COLUMN		20	X				24	11.000							24	11	1197
18	8 V21	COLUMN		20	X				24	3.000							24	3	1165
18	8 V22	COLUMN		20	X				23	7.000							23	7	1133
		INTERMEDIATE BENT NO. 3																	
18	8 D31	FOOTING		20	X				8	8.000							8	8	417
6	6 D32	FOOTING		10	X					3	7.500	8	0.000				15	3	134
18	5 D33	FOOTING		20	X				5	8.000							5	8	106
54	8 D34	FOOTING		20	X				7	1.000							7	1	1021
15	6 D35	BEAM		20	X				2	6.000							2	6	56
6	10 H30	BEAM		20	X				49	5.000							49	5	1276
6	10 H31	BEAM		18	X				49	5.000							52	3	1349
8	6 H32	BEAM		10	X					22.000	3	9.000					7	5	85
4	6 H33	BEAM		20	X				49	5.000							49	5	297
36	6 H34	BEAM		20	X				4	0.000							4	0	216
70	4 P30	COLUMN		16	X				3	3.000							11	1	518
8	5 U30	BEAM		13	S	X			3	9.000	3	3.000	3	9.000	3	3.000	14	11	122
124	5 U31	BEAM		13	S	X			3	0.500	3	3.000	3	0.500	3	3.000	13	6	1703
3	5 U32	BEAM		10	S	X			3	3.000	3	9.000					10	3	32
12	5 U33	BEAM		10	S	X			3	3.000	3	0.500					9	7	117

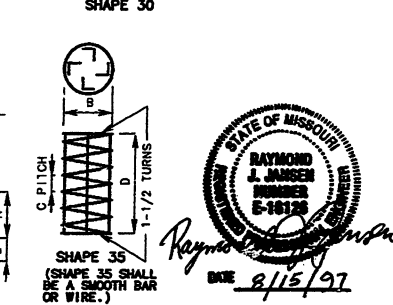
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K				
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	LBS.
48	4 U34	BEAM		10	S	X				6.000	3	9.000					4	9	147
18	8 V30	COLUMN		20	X				26	6.000							26	6	1274
18	8 V31	COLUMN		20	X				25	11.000							25	11	1246
18	8 V32	COLUMN		20	X				25	3.000							25	3	1214
		INTERMEDIATE BENT NO. 4																	
18	8 D41	FOOTING		20	X				8	8.000							8	8	417
6	6 D42	FOOTING		10	X					3	7.500	8	0.000				15	3	134
18	8 D43	FOOTING		20	X				5	8.000							5	8	106
54	8 D44	FOOTING		20	X				7	1.000							7	1	1021
15	6 D45	BEAM		20	X				2	6.000							2	6	56
6	10 H40	BEAM		20	X				49	5.000							49	5	1276
6	10 H41	BEAM		18	X				49	5.000							52	3	1349
8	6 H42	BEAM		10	X					22.000	3	9.000					7	5	85
4	6 H43	BEAM		20	X				49	5.000							49	5	297
77	4 P40	COLUMN		16	X				3	3.000							11	1	570
8	5 U40	BEAM		13	S	X			3	9.000	3	3.000	3	9.000	3	3.000	14	11	122
124	5 U41	BEAM		13	S	X			3	0.500	3	3.000	3	0.500	3	3.000	13	6	1703
3	5 U42	BEAM		10	S	X			3	3.000	3	9.000					10	3	32
12	5 U43	BEAM		10	S	X			3	3.000	3	0.500					9	7	117
18	8 V40	COLUMN		20	X				28	10.000							28	10	1386
18	8 V41	COLUMN		20	X				28	5.000							28	5	1366
18	8 V42	COLUMN		20	X				27	11.000							27	11	1342
		SUPERSTRUCT.																	
		END BENT NO. 1																	
7	6 F10	WING BRACE		23	S				14.000	4	1.625	14.000	10.750	9.000	10.750	9.000	6	6	67
5	6 F11	DIAPHRAGM		23	S				2	2.375	4	9.625					7	0	52
6	6 F12	WING BRACE		23	S				14.000	4	10.375	14.000	9.000	10.750	9.000	10.750	7	2	65
5	6 F13	DIAPHRAGM		21	S				2	2.375	5	1.000					2	2.000	53
8	7 H100	BEAM		20					51	2.000							51	2	837
2	6 H101	BEAM		20					51	2.000							51	2	154
49	5 H102	APPR. SLAB		20					2	6.000							2	6	128
6	5 H103	STRAND TIE		20					4	6.000							4	6	28
15	6 H104	DIAPHRAGM		20					6	8.000							6	8	150

STATE ACNH-ACNH6-ACSTP-104-108
NO. 36507040
PROJ. NO.
SHEET NO. 83

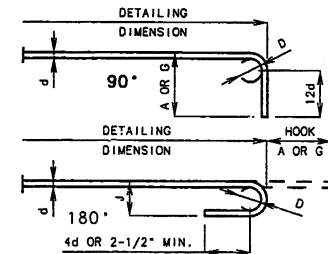


FINAL PLANS
I HEREBY CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONSTRUCTION AND LOCATIONS OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.
DATE 9/20/97
SIGNATURE



BENDING DIAGRAMS
COUNTY A5530

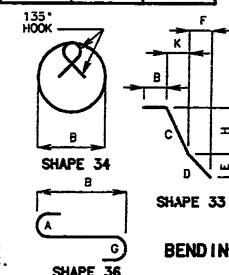
STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"



* TWO ADDITIONAL #6-H108, #4-U102, #7-S9 & #5-R18 ARE INCLUDED IN THE BAR BILL FOR TESTING.

END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS A OR G	90° HOOKS A OR G	
#3	2-1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	18"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	18"	14-3/4"	2'-0"
#14	18-1/4"	2'-3"	21-3/4"	2'-7"

NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
X = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
V = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) = FY 60,000 PSI.



SHEET NO. 32 OF 35. JEFFERSON COUNTY A5530

227

228

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K				
									FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.				
6	H105	DIAPHRAGM		20					2 0.000							2 0	2 0	18	
3	H106	DIAPHRAGM		20					51 2.000							51 2	51 2	231	
4	H107	DIAPHRAGM	E	20					51 2.000							51 2	51 2	418	
6	H108	WING	E	20					12 5.000							12 5	12 5	112	
8	H109	WING		20					12 5.000							12 5	12 5	149	
32	H110	WING		20		V	4		3 11.000							3 11	3 11		
		INCREMENT =							12 1.000							12 1	12 1	385	
		14.000 INCH																	
2	H111	APPR. HAUNCH		20					24 1.000							24 1	24 1	32	
2	T10	WING		25					2 0.500	10 11.250	3 1.750			5 11.250	9 2.250	16 2	16 1	48	
2	T11	WING		25					2 0.375	10 11.375	3 1.750			5 11.500	9 2.250	16 2	16 1	48	
41	U11	BEAM		10	S					5 3.750	2 3.375					12 11	12 8	542	
20	U12	BEAM		13	S				2 3.375	2 9.000	2 3.375	2 9.000				10 10	10 7	141	
10	U13	BEAM		10	S					2 9.000	2 3.375					7 9	7 7	51	
41	U14	DIAPHRAGM	E	10	S					4 7.500	2 3.375					11 6	11 4	485	
35	U15	APPR. HAUNCH		10	S					17.500	6.000					3 5	3 3	76	
66	U16	DIAPHRAGM	E	19	S				5 0.000	4 4.000						9 4	9 2	909	
36	V10	WING		20			V	4	2 5.000							2 5	2 5		
		INCREMENT =							7 8.000							7 8	7 8	273	
		7.875 INCH																	
8	V11	WING		20					8 2.000							8 2	8 2	98	
4	V12	BEAM		20					5 3.000							5 3	5 3	22	
		END BENT																	
		NO. 5																	
6	F50	WING BRACE		23	S				14.000	4 0.000	14.000	11.000	8.625	11.000	8.625	6 4	6 3	56	
5	F51	DIAPHRAGM		23	S				2 2.750	4 16.000				2 2.000	6.375	7 1	7 0	53	
6	F52	WING BRACE		23	S				14.000	5 1.750	14.000	8.625	11.000	8.625	11.000	7 6	7 5	67	
5	F53	DIAPHRAGM		21	S				2 2.750	5 3.000				2 2.000	6.375	7 6	7 3	54	
8	H500	BEAM		20					51 11.000							51 11	51 11	849	
2	H501	BEAM		20					51 11.000							51 11	51 11	156	
49	H502	APPR. SLAB	E	20					2 6.000							2 6	2 6	128	
6	H503	STRAND TIE		20					4 6.000							4 6	4 6	28	
15	H504	DIAPHRAGM		20					6 8.600							6 8	6 8	150	
6	H505	DIAPHRAGM		20					2 1.000							2 1	2 1	19	
3	H506	DIAPHRAGM		20					51 11.000							51 11	51 11	234	
4	H507	DIAPHRAGM	E	20					51 11.000							51 11	51 11	424	
4	H508	WING	E	20					12 5.000							12 5	12 5	75	
8	H509	WING		20					12 5.000							12 5	12 5	149	
36	H510	WING		20			V	4	3 9.000							3 9	3 9		
		INCREMENT =							12 1.000							12 1	12 1	428	
		12.500 INCH																	
2	H511	APPR. HAUNCH		20					24 6.000							24 6	24 6	33	
2	T50	WING		25					2 0.375	11 3.750	3 1.500			6 6.875	9 2.500	16 6	16 5	49	
2	T51	WING		25					2 0.375	11 4.000	3 1.625			6 7.375	9 2.375	16 6	16 5	49	

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K				
									FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.				
30	5 U51	BEAM		10	S					5 3.750	2 3.750				12 11	12 9	399		
30	4 U52	BEAM		13	S				2 3.750	2 9.000	2 3.750	2 9.000			10 11	10 8	214		
41	5 U53	DIAPHRAGM	E	10	S					4 7.500	2 3.750				11 7	11 4	485		
35	4 U54	APPR. HAUNCH		10	S					17.500	6.000				3 5	3 3	76		
66	6 U55	DIAPHRAGM	E	19	S				5 0.000	4 4.000					9 4	9 2	909		
36	6 V50	WING		20			V	4	2 5.000						2 5	2 5			
		INCREMENT =							7 10.000						7 10	7 10	277		
		8.125 INCH																	
8	6 V51	WING		20					8 3.000						8 3	8 3	99		
22	5 V52	WING		20					5 3.000						5 3	5 3	120		
		DIAPH. •																	
		INT. BENTS																	
		2, 3 & 4																	
60	6 H10	DIAPHRAGM		20					6 7.000						6 7	6 7	593		
60	4 H11	DIAPHRAGM		20					6 11.000						6 11	6 11	277		
24	5 H12	DIAPHRAGM		20					3 7.000						3 7	3 7	90		
48	5 H13	DIAPHRAGM		20					4 6.000						4 6	4 6	225		
60	6 U101	DIAPHRAGM	E	28	S					2 2.000	4 9.000	14.000			8 1	7 9	698		
*152	4 U102	DIAPHRAGM	E	28	S					2 3.000	4 8.750	12.000			8 0	7 10	795		
48	5 U103	DIAPHRAGM		19	S				3 7.000	10.000					4 5	4 4	217		
24	5 V101	DIAPHRAGM	E	20					4 11.000						4 11	4 11	123		
		MAIN SLAB																	
20	6 S1	SLAB	E	20			V	1	3 10.000						3 10	3 10			
		INCREMENT =							49 9.000						49 9	49 9	805		
		29.000 INCH																	
674	6 S2	SLAB	E	20					50 5.000						50 5	50 5	51039		
29	6 S3	SLAB	E	20			V	1	2 7.000						2 7	2 7			
		INCREMENT =							49 11.000						49 11	49 11	1143		
		20.250 INCH																	
580	4 S4	SLAB	E	20					3 3.000						3 3	3 3	259		
56	5 S5	SLAB	E	20					40 0.000						40 0	40 0	2336		
205	7 S6	SLAB	E	20					60 0.000						60 0	60 0	25141		
80	6 S7	SLAB	E	20					34 0.000						34 0	34 0	4085		
80	7 S8	SLAB	E	20					32 0.000						32 0	32 0	5233		
*43	7 S9	SLAB	E	20					8 10.000						8 10	8 10	776		
8	5 S10	SLAB	E	20					28 3.000						28 3	28 3	236		
80	7 S11	SLAB	E	20					31 0.000						31 0	31 0	5069		

STATE OF MISSOURI
DAVID
REGISTERED
ENGINEER
NUMBER
E-26323
EXPIRATION
DATE

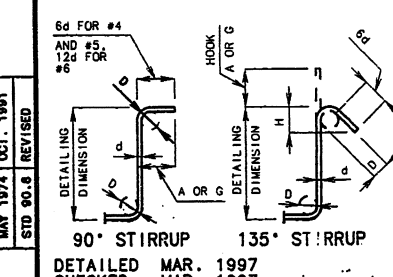
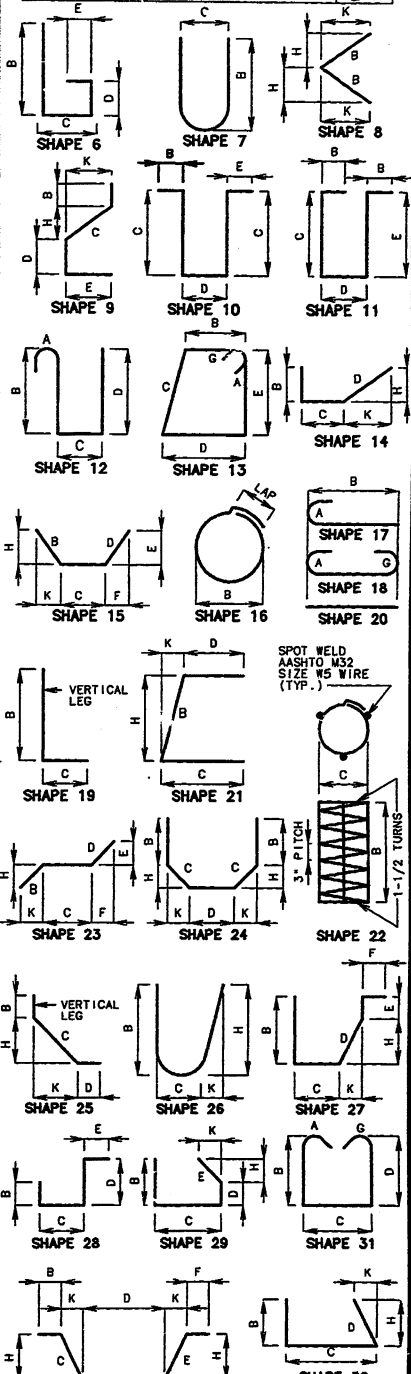
FINAL PLANS
I CERTIFY THAT THIS DRAWING ACCURATELY
REFLECTS THE CONFIGURATION AND LOCATION
OF THE ROADWAY AND APPURTENANCES AS
CONSTRUCTED ON THIS PROJECT.
DATE 9/20/00
SIGNATURE



I CERTIFY THAT THIS DRAWING ACCURATELY REPRESENTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

DATE: 9/20/97

STATE: MO. PROJ. NO.: ACNH-ACNH6-ACSTP-109-105 SHEET NO.: 84



STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	
		HOOK A OR G	HOOK A OR G	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"

229

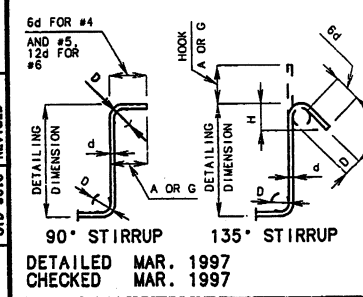
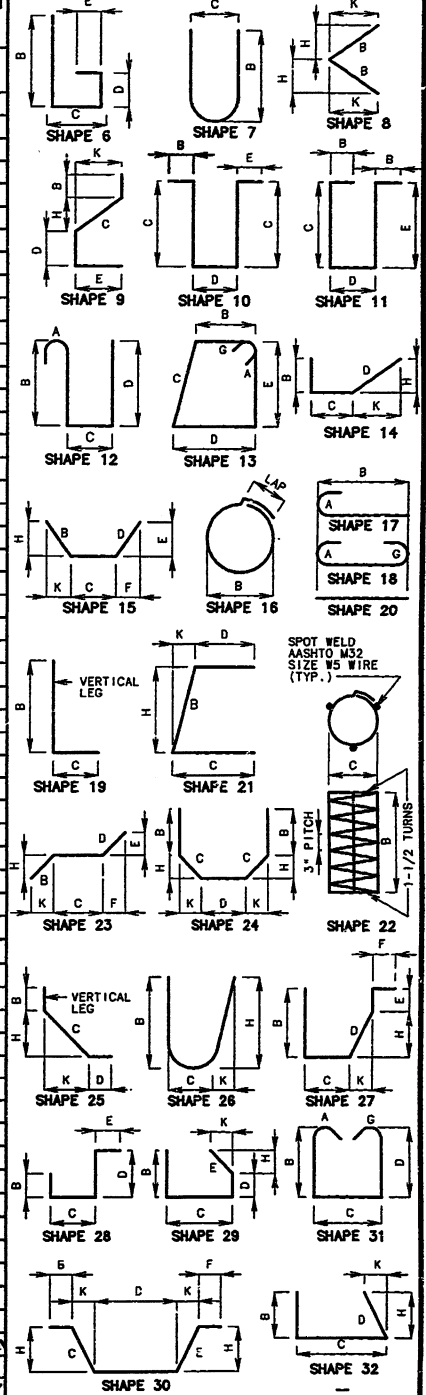
BILL OF REINFORCING STEEL

NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT					
										B	C	D	E	F	H	K								
										FT.	IN.	FT.	IN.	FT.	IN.	FT.				IN.	FT.	IN.	FT.	IN.
			BARRIER CURB																					
650	5 R1		BARRIER CURB	E	19	S				2	5.375	3.500						2	9	2	8	1808		
606	5 R2		BARRIER CURB	E	15	S				2	5.500	3.500					2	5.375	3.000	2	9	2	8	1685
594	5 R3		BARRIER CURB	E	19	S					17.000	6.000								0	23	0	22	1136
594	5 R4		BARRIER CURB	E	27	S					6.000		11.125	7.000	12.000	9.125	6.375			3	0	2	10	1755
56	5 R5		BARRIER CURB	E	19	S				3	0.125	6.000								3	6	3	5	200
56	5 R6		BARRIER CURB	E	27	S					2	3.375	10.625	6.000		6.125	8.750			3	8	3	7	209
24	5 R7		BARRIER CURB	E	19	S				2	5.375	10.500								3	4	3	3	81
4	5 R8		BARRIER CURB	E	10	S					2	5.375	9.250							5	8	5	6	23
28	5 R9		BARRIER CURB	E	10	S						2	3.375	9.250						5	2	5	0	146
32	5 R10		BARRIER CURB	E	10	S					2	8.500	13.000							6	6	6	4	211
24	5 R11		BARRIER CURB	E	20						10	11.000								10	11	10	11	273
44	5 R12		BARRIER CURB	E	20						5	0.000								5	0	5	0	229
4	5 R13		BARRIER CURB	E	20						4	6.000								4	6	4	6	19
4	5 R14		BARRIER CURB	E	20						13	8.000								13	8	13	8	57
20	5 R15		BARRIER CURB	E	19			V	4		2	5.375	10.000							3	3	3	2	62
			INCREMENT =								2	5.375	5.000							2	10	2	9	
			1.250 INCH																					
28	5 R16		BARRIER CURB	E	20						22	9.000								22	9	22	9	664
56	5 R17		BARRIER CURB	E	20						31	11.000								31	11	31	11	1864
86	5 R18		BARRIER CURB	E	20						9	9.000								9	9	9	9	875
28	5 R19		BARRIER CURB	E	20						31	3.000								31	3	31	3	913
																</								

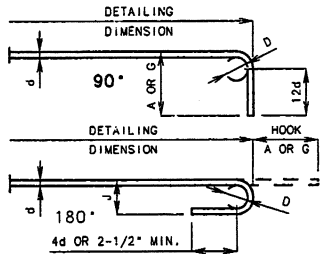
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K				
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.

STATE: ACNH-ACNH6-AC-TP-109-108
NO. 36507040
PROJ. NO. 85
SHEET NO. 35



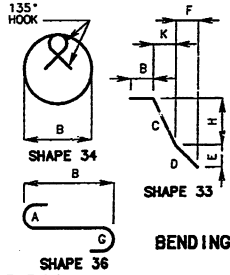
STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"



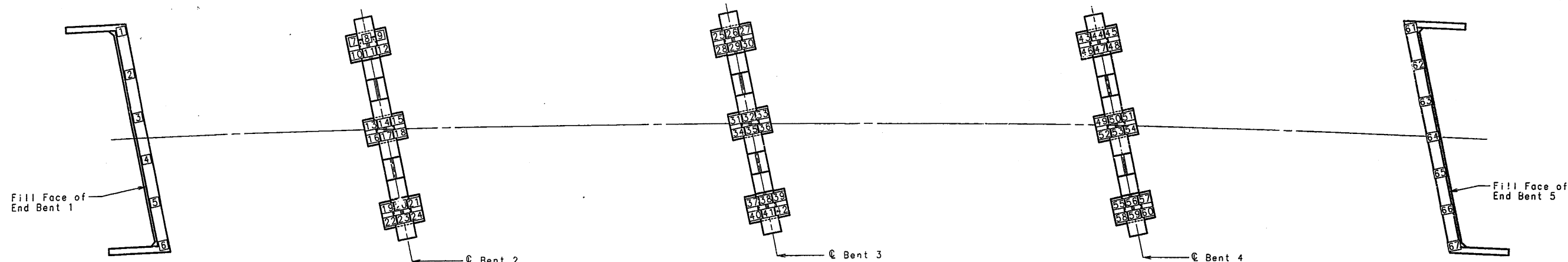
* TWO ADDITIONAL #6-H108, #4-U102, #7-S9 & #5-R18 ARE INCLUDED IN THE BAR BILL FOR TESTING.

END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS	90° HOOKS	
#3	2-1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	24"
#14	18-1/4"	27"	21-3/4"	27"

NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS. HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET. E = EPOXY COATED REINFORCEMENT. S = STIRRUP. X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES. V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE. NO. EA. = NUMBER OF BARS OF EACH LENGTH. NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATOR'S USE. (NEAREST INCH) ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH. PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS. FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS. REINFORCING STEEL (GRADE 60) = PY 60,000 PSI.



STATE OF MISSOURI
RAYMOND J. JANSEN
8-15-97
DATE 8/15/97
BENDING DIAGRAMS
SHAPE 35 (SHAPE 35 SHALL BE A SMOOTH BAR OR WIRE.)



"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
END BENT NO. 1			
1	24 ✓	143 ✓	HP12X53 DRIVEN TO PRACTICAL REFUSAL ✓
2	24 ✓	191 ✓	HP12X53 DRIVEN TO PRACTICAL REFUSAL ✓
3	25 ✓	164 ✓	HP12X53 DRIVEN TO PRACTICAL REFUSAL ✓
4	28 ✓	153 ✓	HP12X53 DRIVEN TO PRACTICAL REFUSAL ✓
5	27 ✓	164 ✓	HP12X53 DRIVEN TO PRACTICAL REFUSAL ✓
6	28 ✓	143 ✓	HP12X53 DRIVEN TO PRACTICAL REFUSAL ✓
INT. BENT NO. 2			
7	156		
8			CHANGED TO
9			SPREAD FOOTINGS ✓
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
INT. BENT NO. 3			
25			CHANGED TO
26			SPREAD FOOTINGS ✓
27			
28			
29			
30			
31			
32			
33			

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
34			CHANGED TO
35			SPREAD FOOTINGS ✓
36			
37			
38			
39			
40			
41			
42			
			↓
			INT. BENT NO. 4
43			CHANGED TO
44			SPREAD FOOTINGS ✓
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			↓
55	12 -		HP12X53 DRIVEN TO ABSOLUTE REFUSAL -
56	12 -		HP12X53 DRIVEN TO ABSOLUTE REFUSAL -
57	11 -		HP12X53 DRIVEN TO ABSOLUTE REFUSAL -
58	12 -		HP12X53 DRIVEN TO ABSOLUTE REFUSAL -
59	12 -		HP12X53 DRIVEN TO ABSOLUTE REFUSAL -
60	12 -		HP12X53 DRIVEN TO ABSOLUTE REFUSAL -
	71		END BENT NO. 5
61	47 -	164 -	HP12X53 DRIVEN TO PRACTICAL REFUSAL -
62	47 -	143 -	HP12X53 DRIVEN TO PRACTICAL REFUSAL -
63	76 -	133 -	HP12X53 DRIVEN TO PRACTICAL REFUSAL - *
64	76 -	140 -	HP12X53 DRIVEN TO PRACTICAL REFUSAL - *
65	78 -	132 -	HP12X53 DRIVEN TO PRACTICAL REFUSAL - *
66	76 -	143 -	HP12X53 DRIVEN TO PRACTICAL REFUSAL - *
67	67 -	141 -	HP12X53 DRIVEN TO PRACTICAL REFUSAL - *

[illegible]

NOTE: THIS SHEET TO BE COMPLETED BY MHTD CONSTRUCTION PERSONNEL.

NOTE: INDICATE IN REMARK COLUMN:
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.
C.) TYPE OF PILING USED.

* REQUIRED SPLICE



FINAL PLANS

I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.

John J. Gussman 9/20/00

SIGNATURE **DATE**

JEFFERSON	COUNTY	A5530
-----------	--------	-------

SHEET NO. 35 OF 35

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

DETAILED	MAY	1996
CHECKED	DEC	1996

MISC. PILES IN ,PLA. ,A	REVISED:
PILES IN PLACE	
MAY 1992	

03