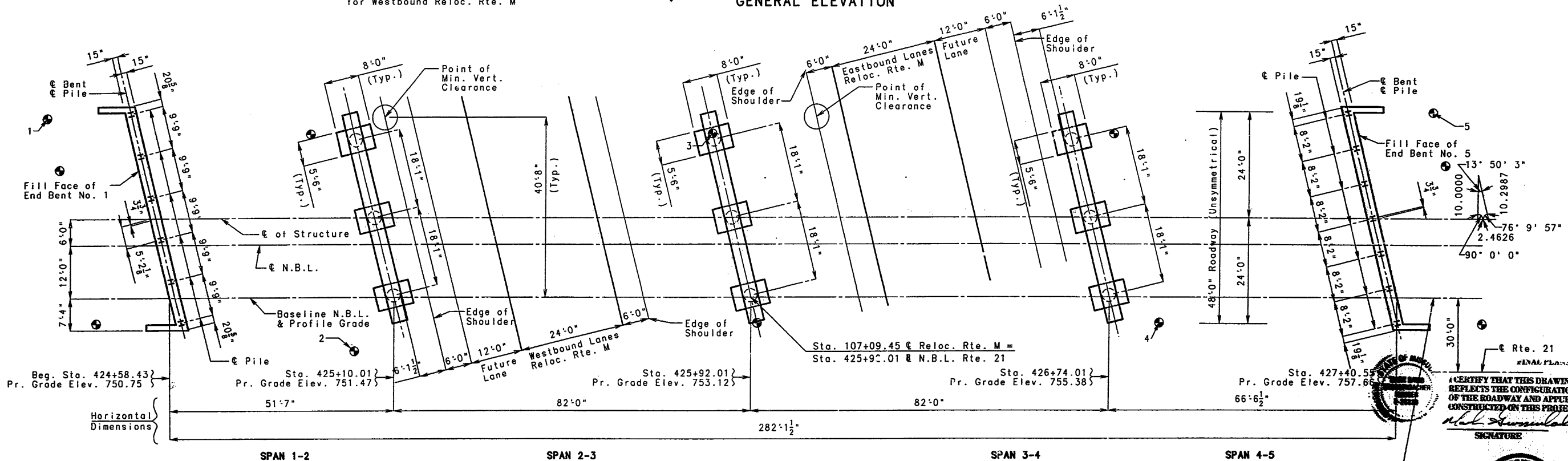
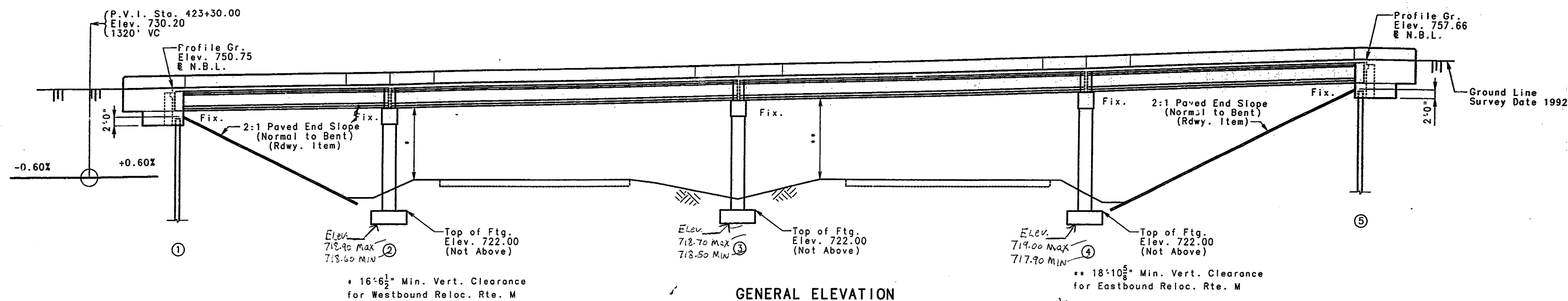


(51'-82'-82'-66') P/S Concrete I-Girder Spans

STATE	PROJ. NO.	SHE
	ACNH-ACNH6-ALGP-109-1(S)	NO
MO.	JG507040	87
SEC./SUR.	18 TWP. 42N RGE.	53



Notice and disclaimer regarding Boring Log Data

The locations of all subsurface boring for this structure are shown on the bridge plan sheet(s) 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, is available from the district materials engineer or 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 is 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 the project. The 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. 757.60 "□" ON BRIDGE DECK NEXT
TO BARRIER WALL S.W. CORNER OF BRIDGE A 5529

COUNTY

DESIGNED	AUG	1996
DETAILED	MAR	1997
CHECKED	AUG	1997

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

SHEET 1 OF 35

DATE 8/20/97

STD.	504.00
STD.	606.00
STD.	609.00
STD.	611.60
STD.	706.35
A5529	



DATE 8/18/97

9/20/01
DATE

1

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

& SAFETY BARRIER CURB) $f'c=4,000$ PSI

REINFORCING STEEL (GRADE 60) $f_y=60,000$ PSI

STEEL PILE $f_b=9,000$ PSI

FOR PRESTRESSED GIRDER STRESSES, SEE SHEETS NO. 15, 16, 17 & 18.

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 REQUIREMENT 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.

CONSTRUCTION CLEARANCE:

A MINIMUM VERTICAL CLEARANCE OF 16'-0" FROM CROWN OF EXISTING LANES AND A MINIMUM LATERAL CLEARANCE OF 4'-0" CENTERED ON EXISTING LANES SHALL BE MAINTAINED DURING CONSTRUCTION.

FINAL QUANTITIES			
ITEM		SUBSTR.	SUPERSTR. TOTAL
CLASS 1 EXCAVATION	CU. YD.	330 ✓	330
BRIDGE APPROACH SLAB (BRIDGE)	SQ. YD.	275 ✓	275
STRUCTURAL STEEL PILES (12")	LIN.FT.	372 ✓	372
PILE POINT REINFORCEMENT	EACH	13 ✓	13
PRE-BORE FOR PILING	LIN FT.	283 ✓	283
CLASS B CONCRETE (SUBSTRUCTURE)	CU.YD.	210.5 ✓	210.5
()SLAB ON CONCRETE I-GIRDER (9")	SQ.YD.	1588 ✓	1588
* SAFETY BARRIER CURB	LIN.FT.	0 ✓	0
LAMINATED NEOPRENE BEARING PADS (Tapered)	EACH	40 ✓	40
HIGH PERFORMANCE PRESTRESSED CONCRETE I-GIRDER (51'SPAN)	EACH	5 ✓	5
HIGH PERFORMANCE PRESTRESSED CONCRETE I-GIRDER (82'SPAN)	EACH	10 ✓	10
HIGH PERFORMANCE PRESTRESSED CONCRETE I-GIRDER (66'SPAN)	EACH	5 ✓	5
REINFORCING STEEL (BRIDGES)	LB.	30,040 ✓	30,040
SLAB DRAINS	EACH	18 ✓	18
VERTICAL DRAIN AT END BENTS	EACH	2 ✓	2
FOUNDATION TEST HOLES (506.01) ✓	LIN. Ft. ✓	36 ✓	36
CLAS 1 EXCAVATION + 25 b (506.02) ✓	CU. YD. ✓	12.0 ✓	12.0
SAFETY BARRIER CURB (506.03) ✓	LIN. Ft. ✓	608 ✓	608

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

NOTE: ALL REINFORCEMENT IN THE END BENTS IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER (9").

ALL CONCRETE ABOVE THE CONSTRUCTION JOINT IN END BENTS IS INCLUDED IN THE ESTIMATED SUPERSTRUCTURE QUANTITIES FOR SLAB ON CONCRETE I-GIRDER (9").

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.

ALL REINFORCEMENT IN THE INTERMEDIATE BENT CONCRETE DIAPHRAGMS EXCEPT REINFORCEMENT EMBEDDED IN THE BEAM CAP IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER (9").

ALL CONCRETE ABOVE THE INTERMEDIATE BENT CAP IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER (9").

ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER (9")			
ITEM		CIP	R/C Panel
REINFORCING STEEL (PLAIN)	LBS.	9,210	9,210
REINFORCING STEEL (EPOXY COATED)	LBS.	138,260	103,980
CONCRETE	CU. YDS.	524.2	438.3 ***

NOTE:THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER (9") 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 (9").

THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER (9") ARE BASED ON SKEWED END PANELS.

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

*** BASED ON MINIMUM TOP FLANG THICKNESS AND MINIMUM JOINT FILLER THICKNESS.

SEE SPECIFICATIONS FOR ALTERNATE METHODS OF FORMING SLAB.

DETAILED FEB 1997
CHECKED AUG 1997

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

SHEET 2 OF 35

JEFFERSON

COUNTY

A5529

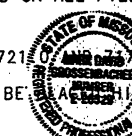
Pile & Footing Data					
Bent No.		1	2	3	4 5
Bearing Pile	Pile type and size	HP 12X53			HP 12X53
	Number	6			7
	Approximate length ft.	33.30			33.30
	Design bearing tons	65.3			63.9
	Hammer energy required ft.-lbs.	14,700			14,400
Spread Footings	Foundation material		Rock	Rock	Rock
	Design bearing tons/sq. ft.		8.7	9.2	9.2

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

ALL PILE SHALL BE DRIVEN TO PRACTICAL REFUSAL. MANUFACTURED PILE POINT REINFORCEMENT SHALL BE USED ON ALL PILES IN THIS STRUCTURE (SEE SPECIAL PROVISIONS).

PRE-BORE FOR PILES AT BENTS 1 AND 5 TO ELEVATIONS 721.0 AND 722.0.

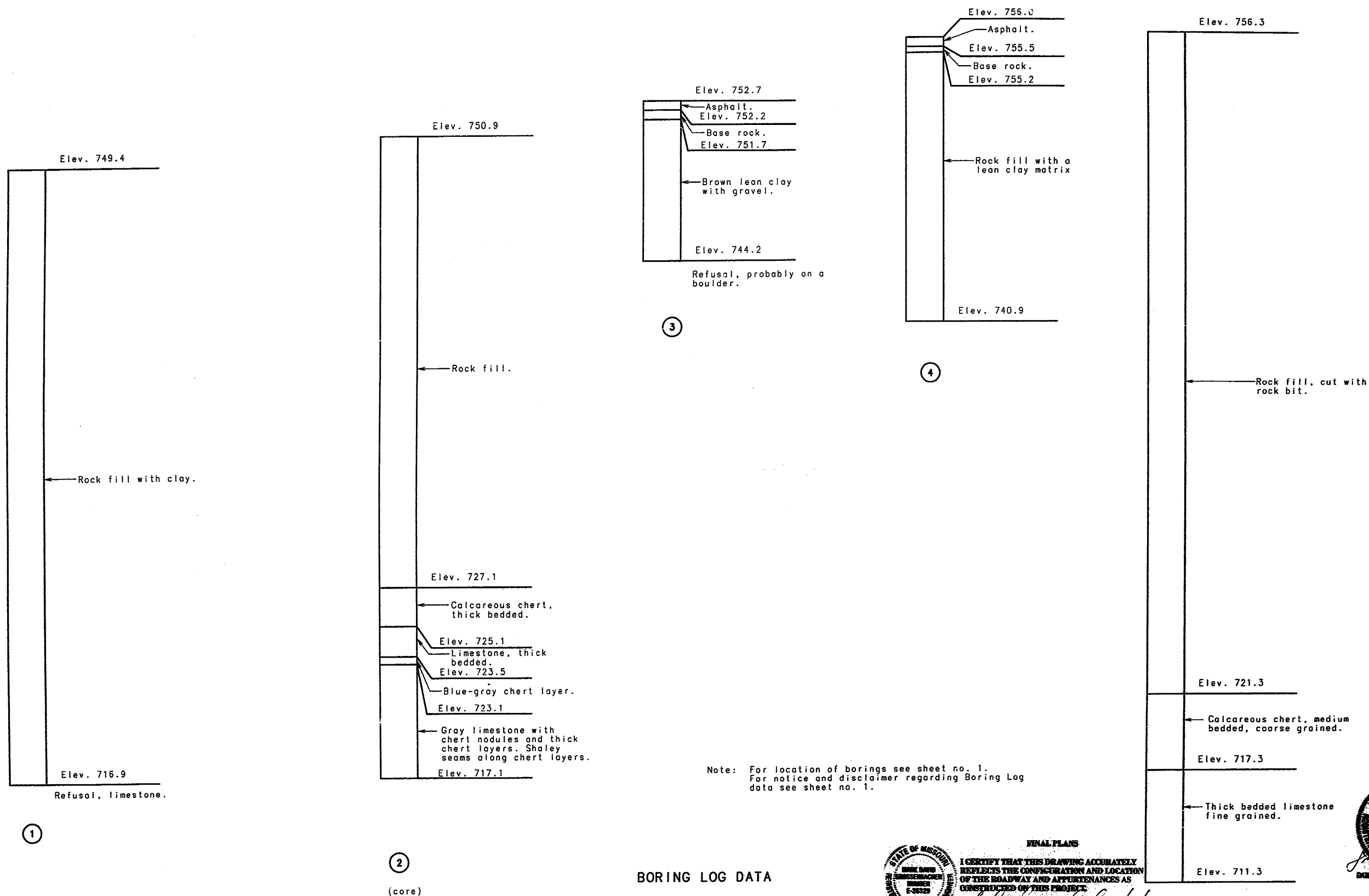
IN NO CASE SHALL FOOTINGS OF BENTS NO. 2, 3, AND 4 BE DEEPER THAN ELEV. 722.0.



FINAL PLANS
I CERTIFY THAT THIS DRAWING ACCURATELY REPRESENTS THE CONSTRUCTION AND LOCATION OF THE ROADWAY AND ANY UTILITIES AS CONSTRUCTED ON THIS PROJECT.
DATE 8-18-97
SIGNATURE
DATE



233

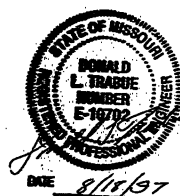


Note: For location of borings see sheet no. 1.
For notice and disclaimer regarding Boring Log data see sheet no. 1.

BORING LOG DATA



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



DETAILED FEB 1997
CHECKED AUG 1997

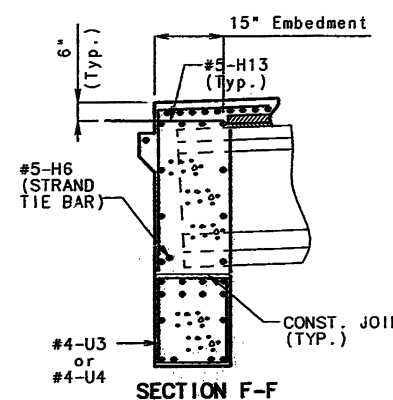
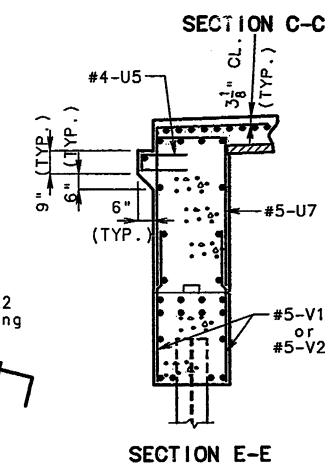
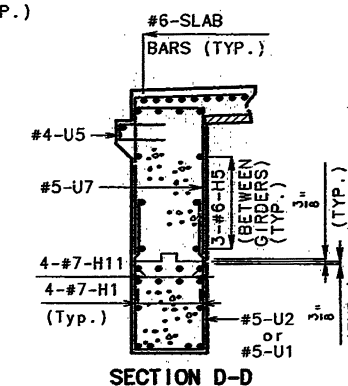
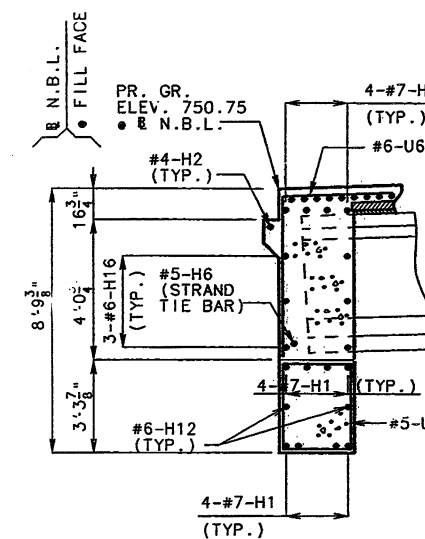
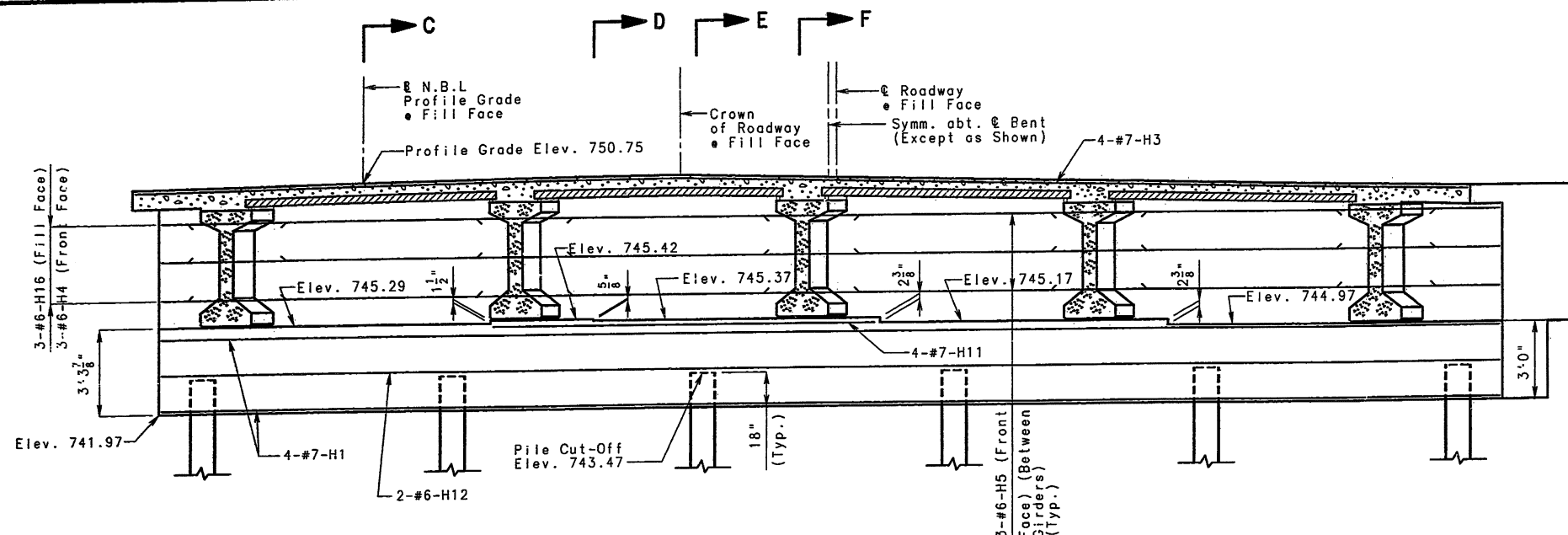
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET 3 OF 35

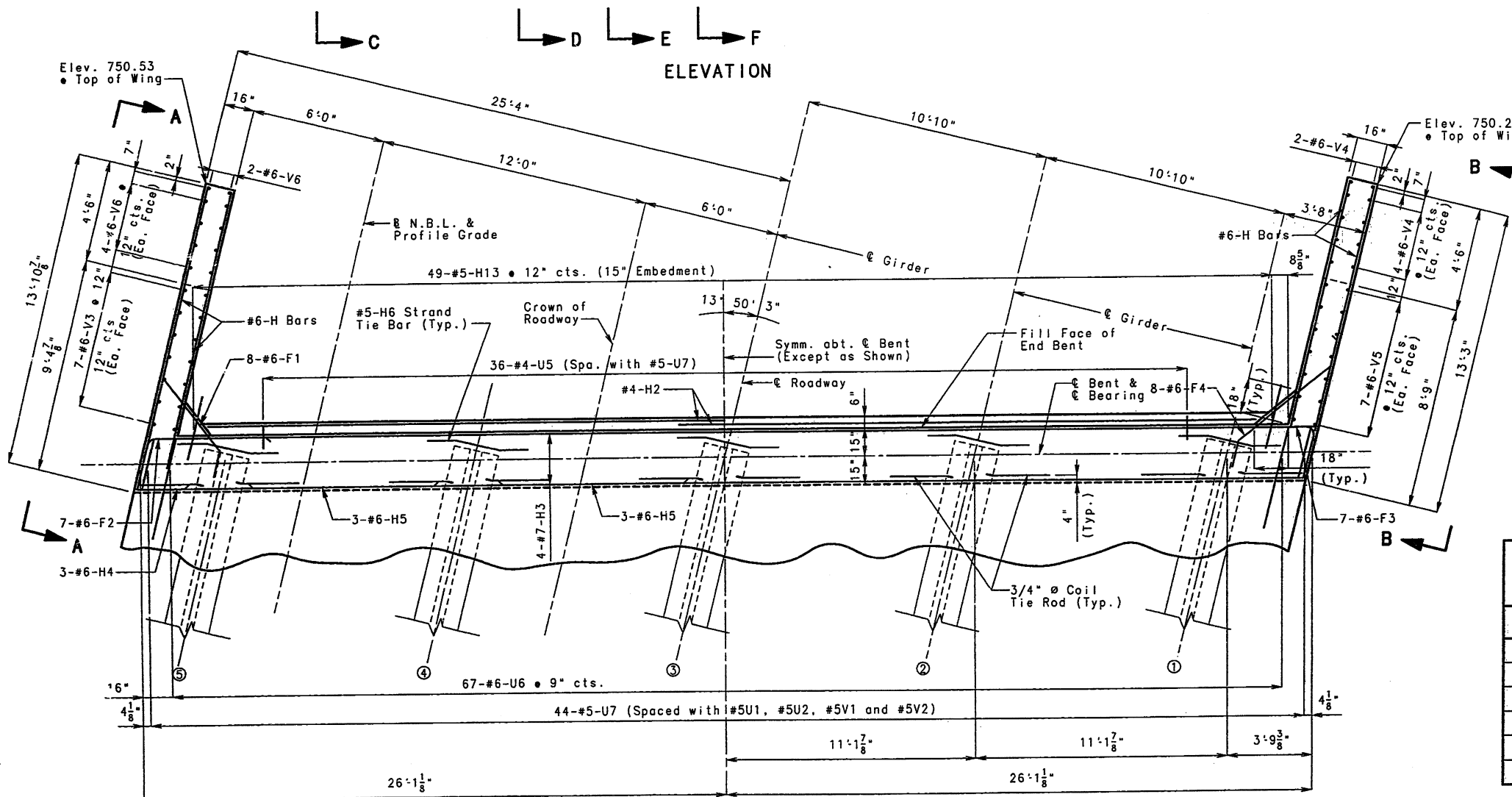
JEFFERSON

COUNTY

A5529



NOTE: For Elevations A-A & B-B and Section Thru Wing see sheet no. 5.
 For Detail of Key and Detail of Steel Pile Splice see sheet no. 5.
 For location of #5-H6 (Strand Tie Bar) see sheet no. 15.
 For details and reinforcement of Safety Barrier Curb see sheets no. 28, 29, & 30.
 Bend #6-F1 & F4 bars in field to clear Prestressed Girder. All U bars in End Bent are to be placed parallel to Roadway.
 Strands at end of girder shall be field bent or, if necessary, cut in field to maintain 1 1/2" min. clearance to fill face of End Bent.
 For location of Coil Tie Rods see sheet no. 15.
 For Plan of Beam see sheet no. 5.



PART PLAN

DETAILS OF END BENT NO. 1

SUBSTRUCTURE QUANTITIES FOR END BENT NO. 1		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YD.	65
STRUCT. STEEL PILE (12")	LIN. FT.	175
CLASS B CONC. (SUBSTRUCTURE)	CU. YD.	18.6
PILE POINT REINFORCEMENT	EACH	6
PRE-BORE FOR PILING	LIN. FT.	126

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

JEFFERSON

COUNTY

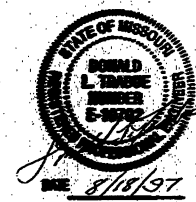
A5529

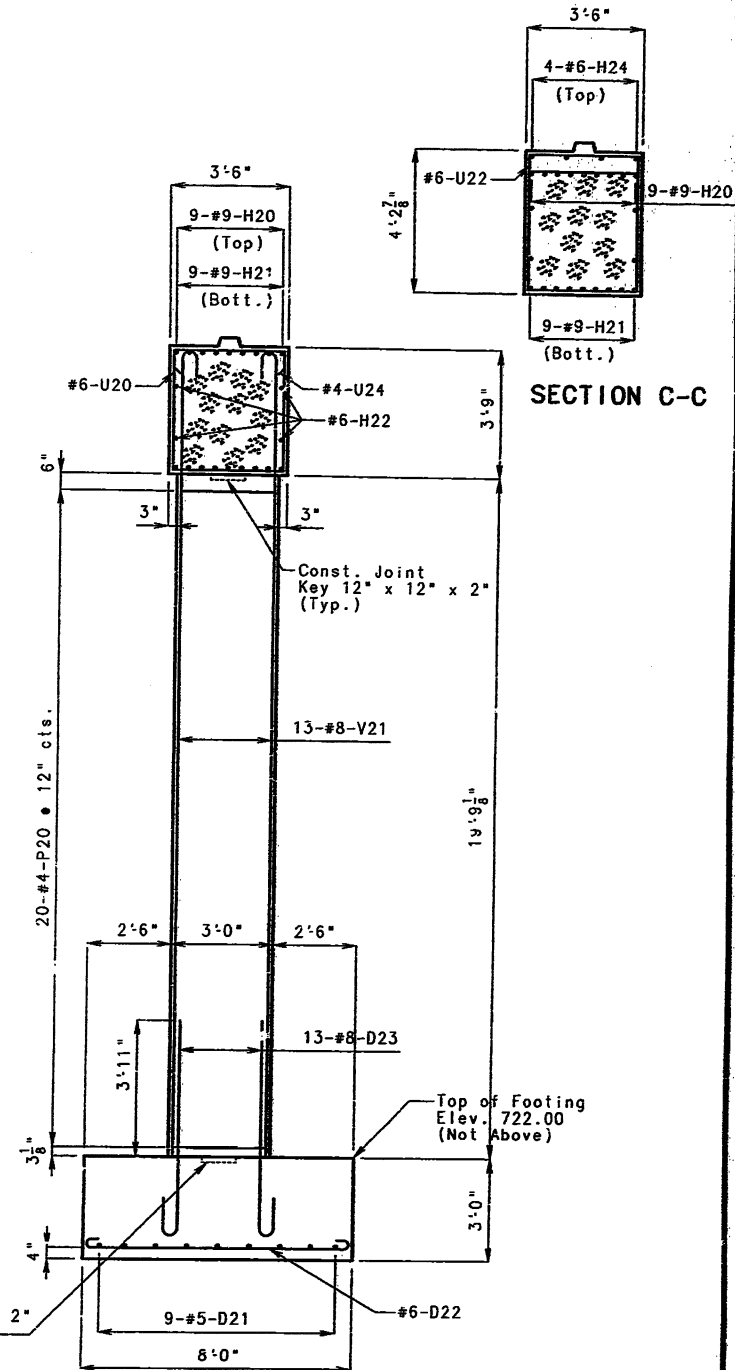
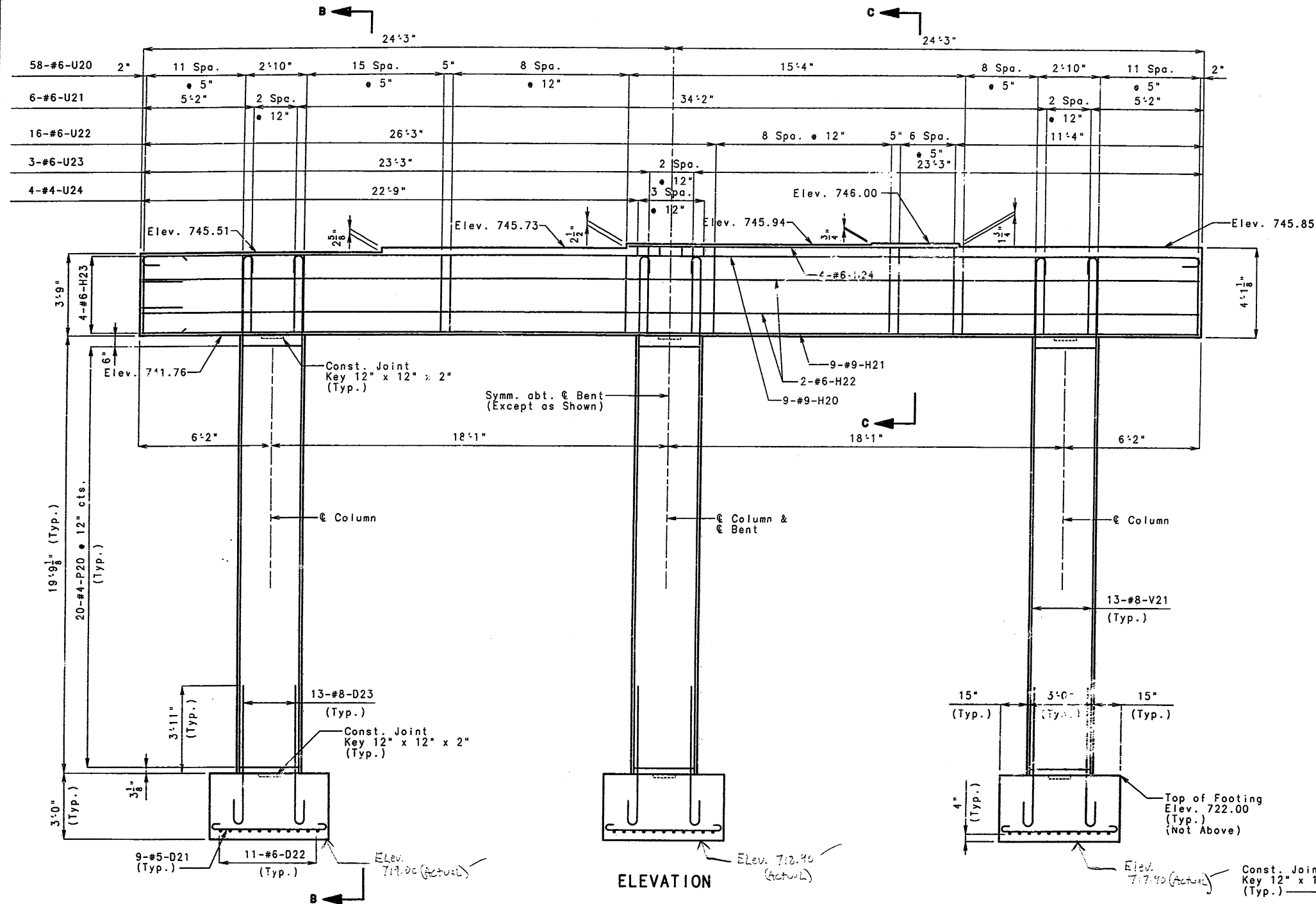
DETAILED JUL 1997
 CHECKED AUG 1997

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

SHEET 4 OF 35

FINAL PLANS
 I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.
 SIGNATURE: *Donald L. Trace* DATE: 9/20/00
 STATE OF MISSOURI
 DONALD L. TRACE
 ENGINEER
 NO. 818197





Note:
 Key Not Shown in Elevation for Clarity.
 For Detail of Key see sheet no. 7.
 For Typical Section Thru Column see sheet no. 7.
 For Plan of Footing see sheet no. 7.
 For Plan of Beam see sheet no. 7.

DETAILS OF INTERMEDIATE BENT NO. 2

DETAILED APR 1997
 CHECKED AUG 1997

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

SHEET 6 OF 35

JEFFERSON

COUNTY

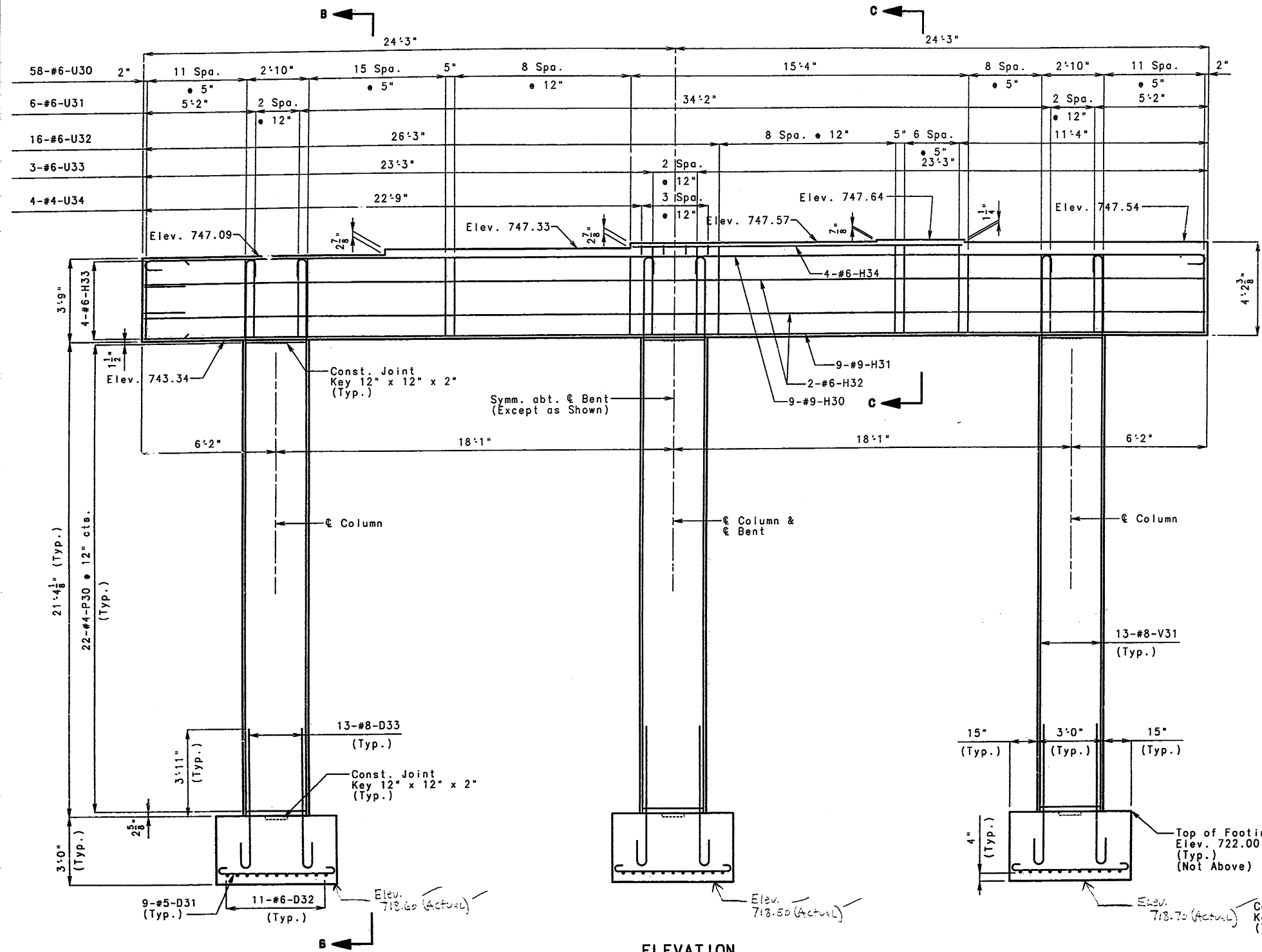
A5529



I CERTIFY THAT THE DRAWING AND SPECIFICATIONS
 REFLECTS THE CONSTRUCTION AND
 OF THE ROADWAY AND APPROXIMATELY AS
 CONSTRUCTED BY THE ENGINEER
 9/20/97

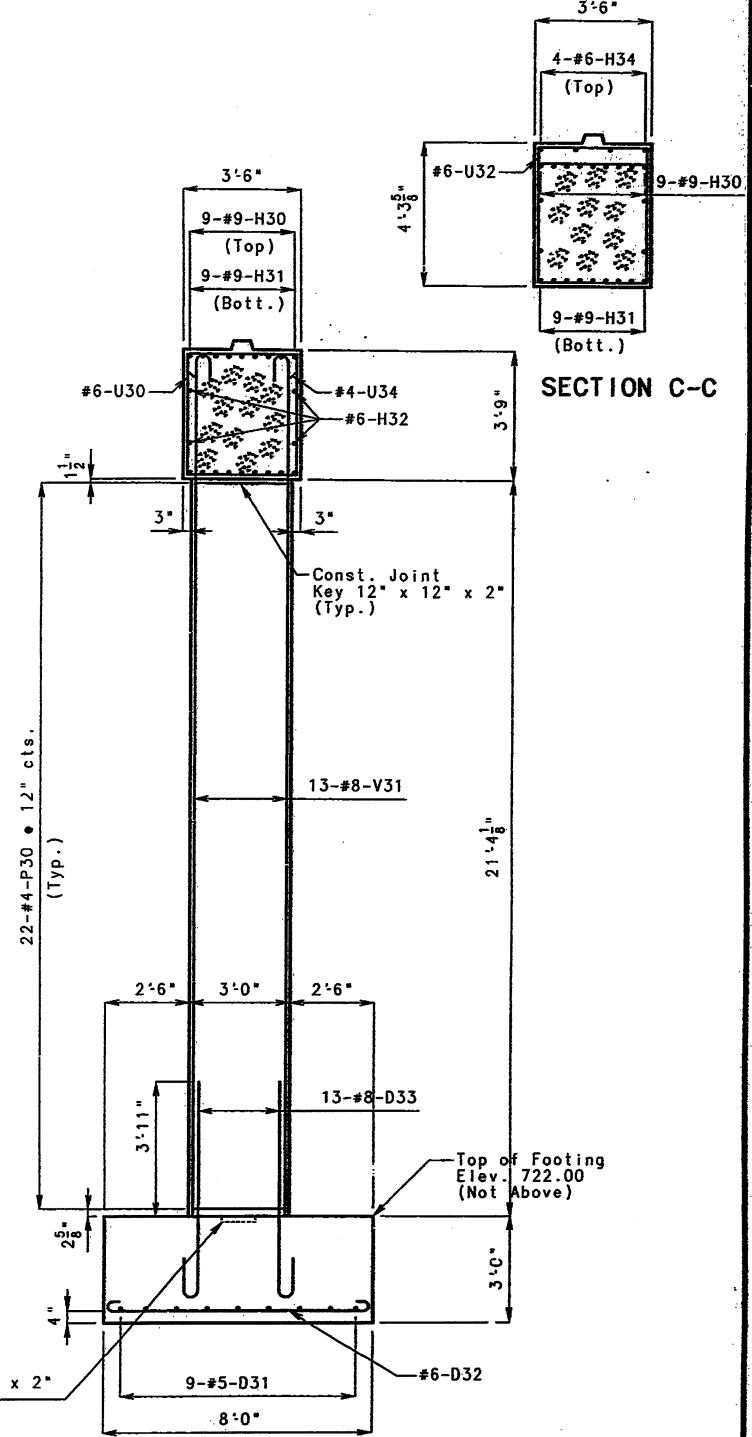
238

STATE	PROJ. NO.	SHEET NO.
MO. 36507040	ACNH-ACNH6-ACGIP-109-113	94



ELEVATION

Note:
Key Not Shown in Elevation for Clarity.
For Detail of Key see sheet no. 9.
For Typical Section Thru Column see sheet no. 9.
For Plan of Footing see sheet no. 9.
For Plan of Beam see sheet no. 9.



SECTION B-B

SECTION C-C

DETAILS OF INTERMEDIATE BENT NO. 3

DETAILED APR 1997
CHECKED AUG 1997

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

SHEET 8 OF 35

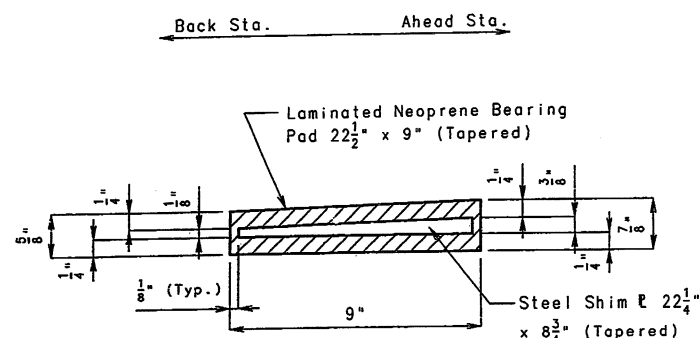


FINAL PLANS
I CERTIFY THAT THIS DRAWING ACCURATELY
REPRESENTS THE CONSTRUCTION AND LOCATION
OF THE ROADWAY AND APPURTENANCES AS
CONSTRUCTED OR TO BE CONSTRUCTED.
DATE 8/10/97
SIGNATURE [Signature]

JEFFERSON

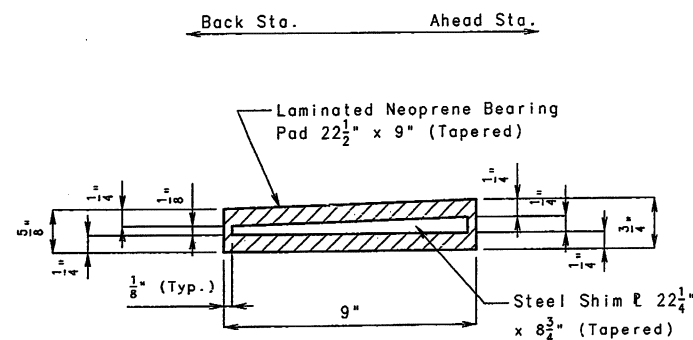
COUNTY

A5529



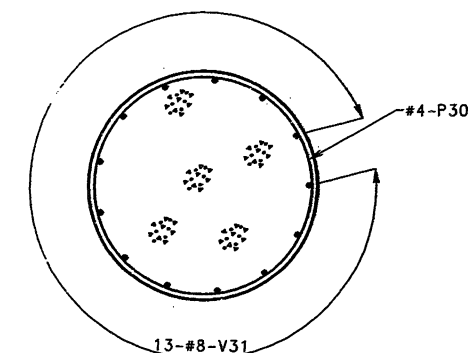
TYP. SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED) AT BENT 3 Span (3-4)

Note: Required Shim Plate Shall Be Placed Between Layers Of Elastomer And Molded Together To Form An Integral Unit.

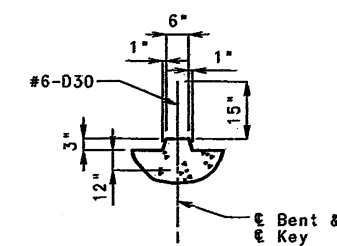


TYP. SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED) AT BENT 3 Span (2-3)

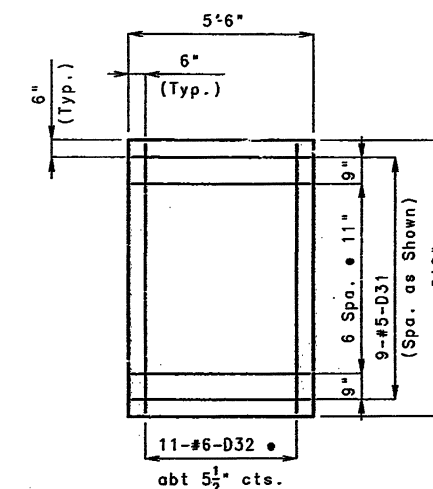
Note: Required Shim Plate Shall Be Placed Between Layers Of Elastomer And Molded Together To Form An Integral Unit.



TYPICAL SECTION THRU COLUMN

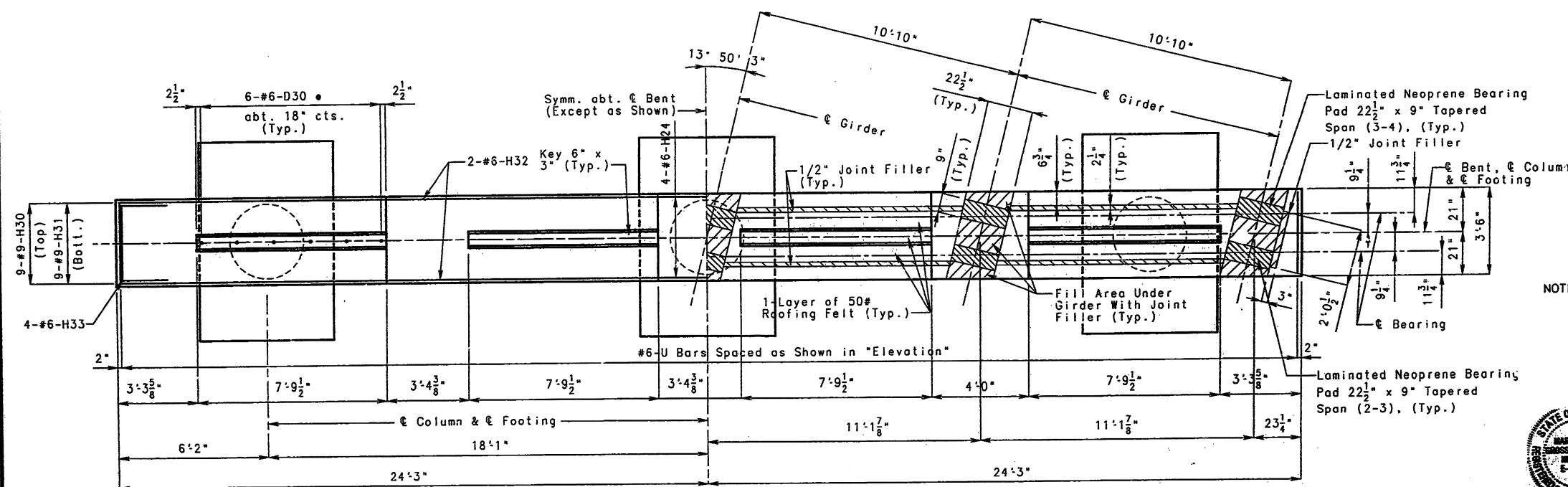


DETAIL OF KEY



PLAN OF FOOTING

Note: Use 2-1/4"x1/2" Joint Filler on Vertical faces of Steps Which are 2" or more in Height.



PLAN OF BEAM

DETAILS OF INTERMEDIATE BENT NO. 3

SUBSTRUCTURE QUANTITIES FOR INTERMEDIATE BENT NO. 3

ITEM	QUANTITY
CLASS 1 EXCAVATION	CU. YD. 55
CLASS B CONC. (SUBSTRUCTURE)	CU. YD. 57.4
REINFORCING STEEL (BRIDGES)	LBS. 9,830
FOUNDATION TEST HOLES (506.01)	LIN. FT. 12
CLASS 1 EXCAVATION + 25% (506.02)	CU. YD. 4.1

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



FINAL PLANS
I CERTIFY THAT THIS DRAWING ACCURATELY
REFLECTS THE CONSTRUCTION AND LOCATION
OF THE ROADWAY AND APPURTENANCES AS
CONSTRUCTED ON THIS PROJECT.
DATE 8/18/97
SIGNATURE

DETAILED JUL 1997
CHECKED AUG 1997

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

SHEET 9 OF 35

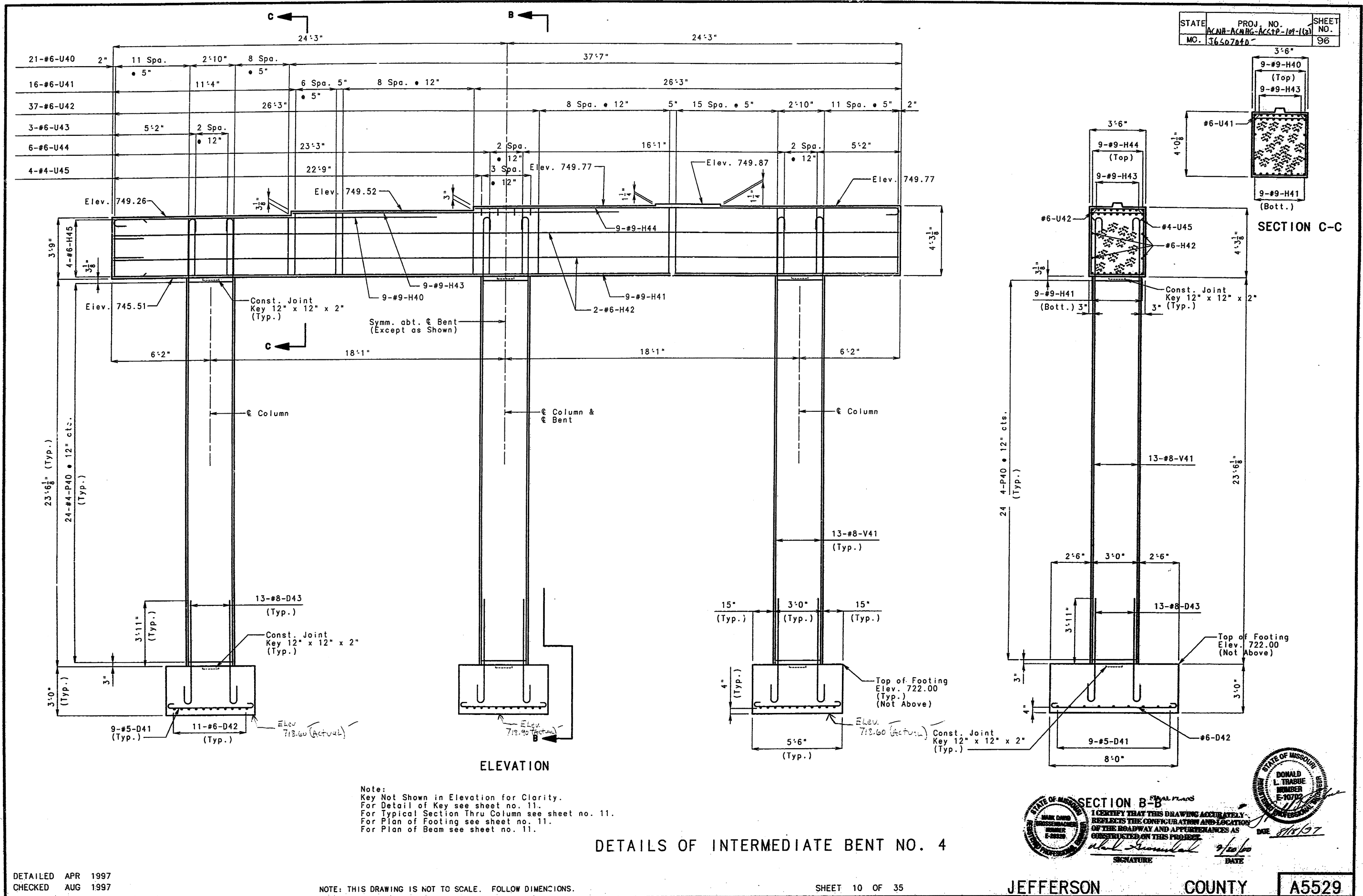
JEFFERSON

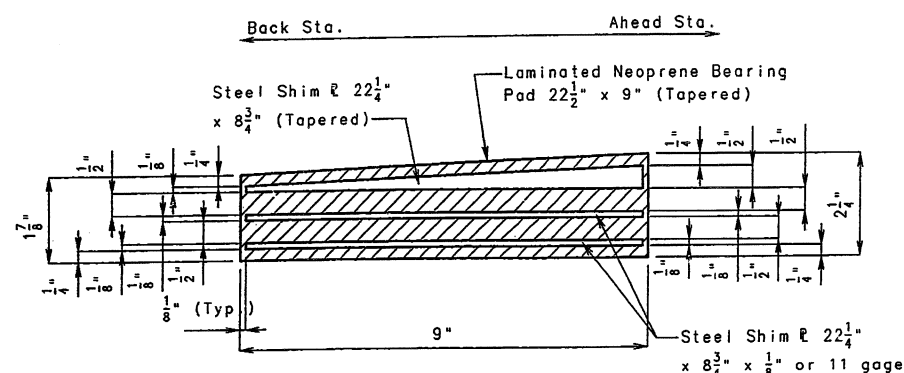
COUNTY

A5529

239

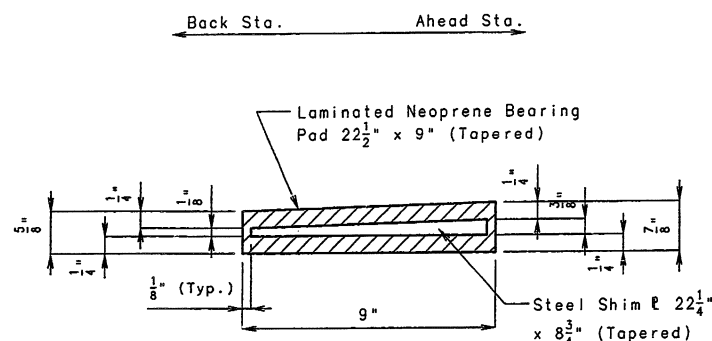
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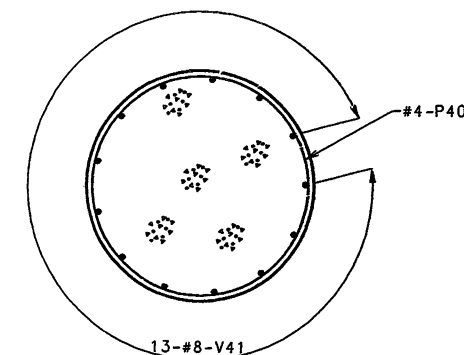
TYP. SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED) AT BENT 4
Span (4-5)

Note: Required Shim Plate Shall Be Placed Between Layers Of Elastomer And Molded Together To Form An Integral Unit.

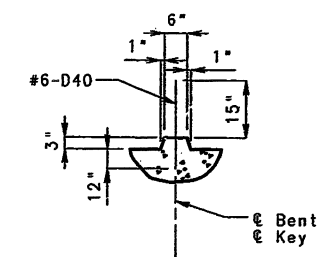


TYP. SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED) AT BENT 4
Span (3-4)

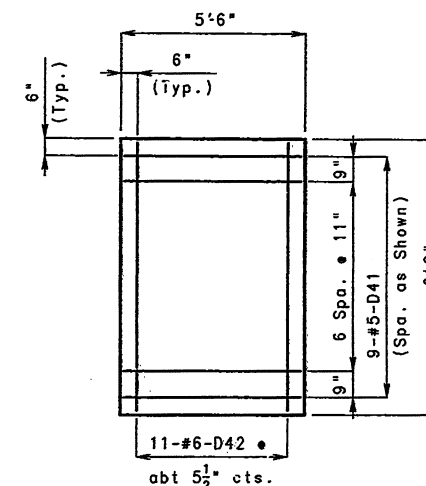
Note: Required Shim Plate Shall Be Placed Between Layers Of Elastomer And Molded Together To Form An Integral Unit.



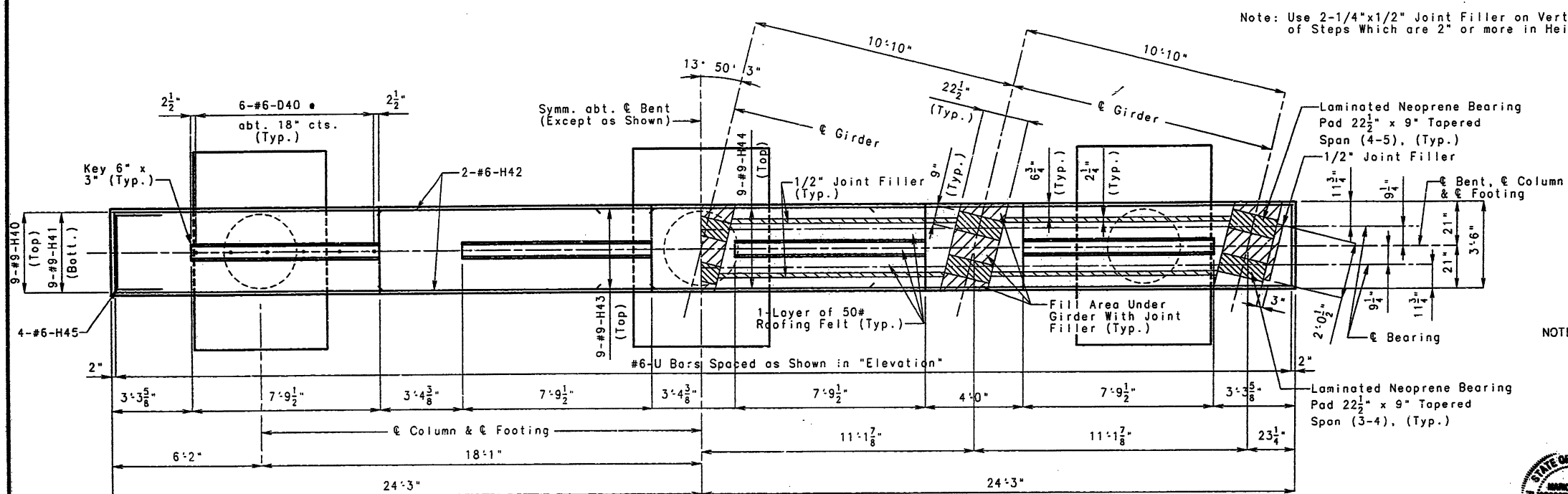
TYPICAL SECTION THRU COLUMN



DETAIL OF KEY



PLAN OF FOOTING



Note: Use 2-1/4"x1/2" Joint Filler on Vertical faces of Steps Which are 2" or more in Height.

SUBSTRUCTURE QUANTITIES FOR INTERMEDIATE BENT NO. 4

ITEM	QUANTITY
CLASS 1 EXCAVATION	CU.YD. 70
CLASS B CONC. (SUBSTRUCTURE)	CU.YD. 59.2
REINFORCING STEEL (BRIDGES)	LBS. 10,590
FOUNDATION TEST HOLES (506.01)	LIN. FT. 12
CLASS 1 EXCAVATION + 25% (506.02)	CU.YD. 3.1

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

DETAILS OF INTERMEDIATE BENT NO. 4

DETAILED JUL 1997
CHECKED AUG 1997

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

SHEET 11 OF 35

JEFFERSON

COUNTY

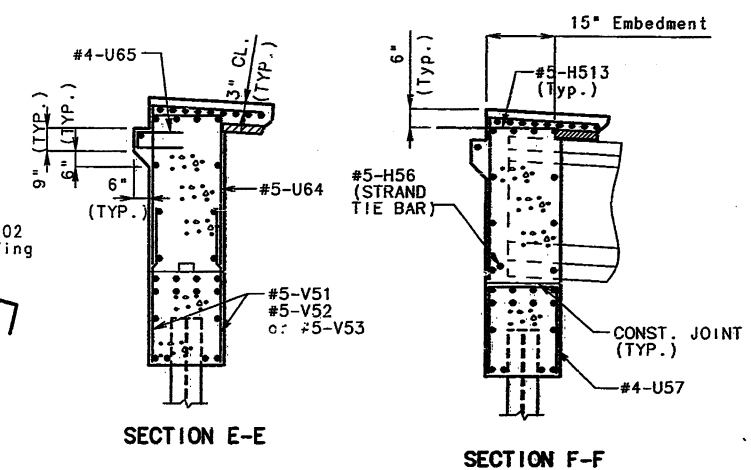
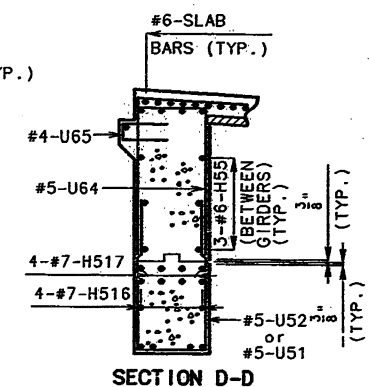
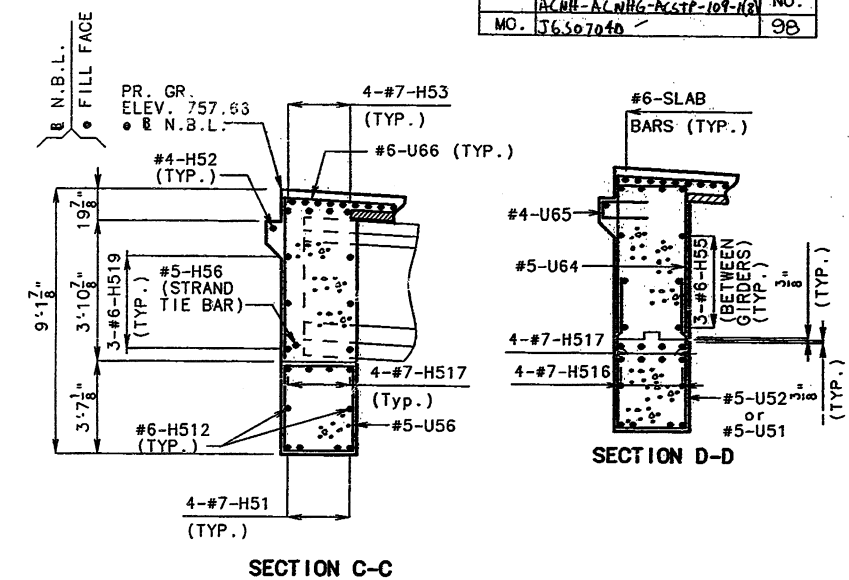
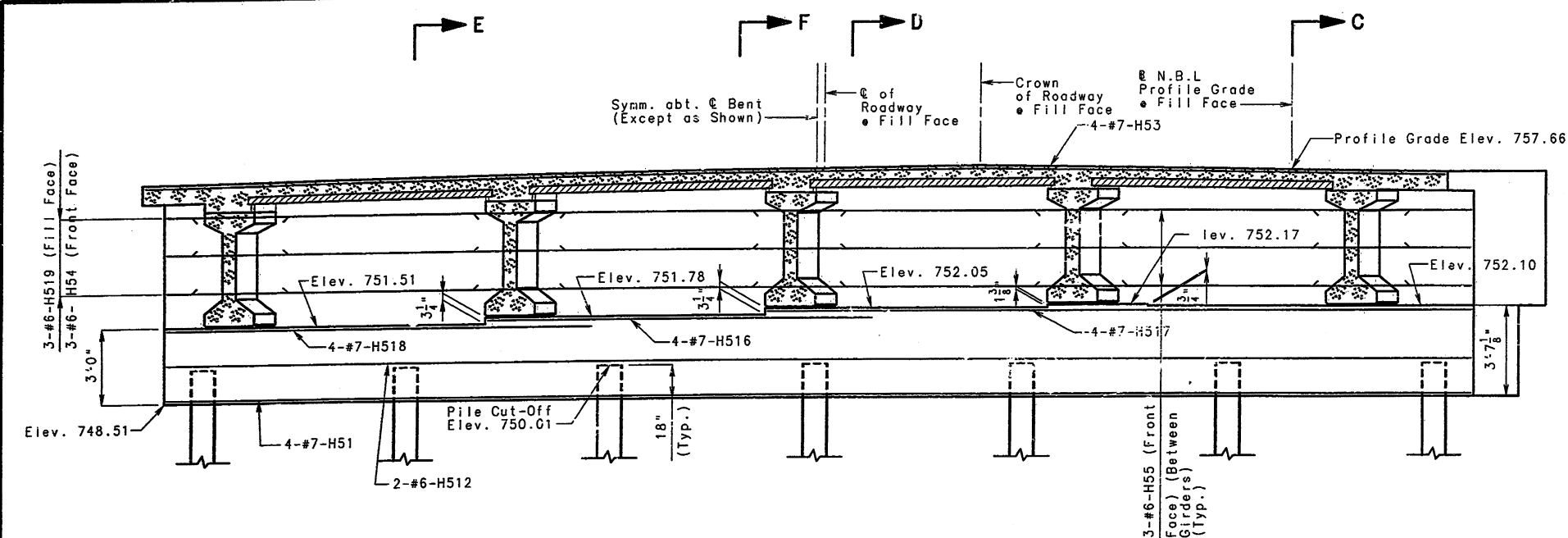
A5529



STATE OF MISSOURI
I CERTIFY THAT THIS DRAWING
REFLECTS THE CONTENTS OF THE
OF THE ROADWAY
CONSTRUCTION
DATE 8/18/97
SIGNATURE



241



NOTE: For Elevations A-A & B-B and Section Thru Wing see sheet no. 13.

For Detail of Key and Detail of Steel Pile Splice see sheet no. 13.

For location of #5-H6 (Strand Tie Bar) see sheet no. 18.

For details and reinforcement of Safety Barrier Curb see sheets no. 28, 29, & 30.

Bend #6-F51 & F54 bars in field to clear Prestressed Girder. All U bars in End Bent are to be placed parallel to the Roadway.

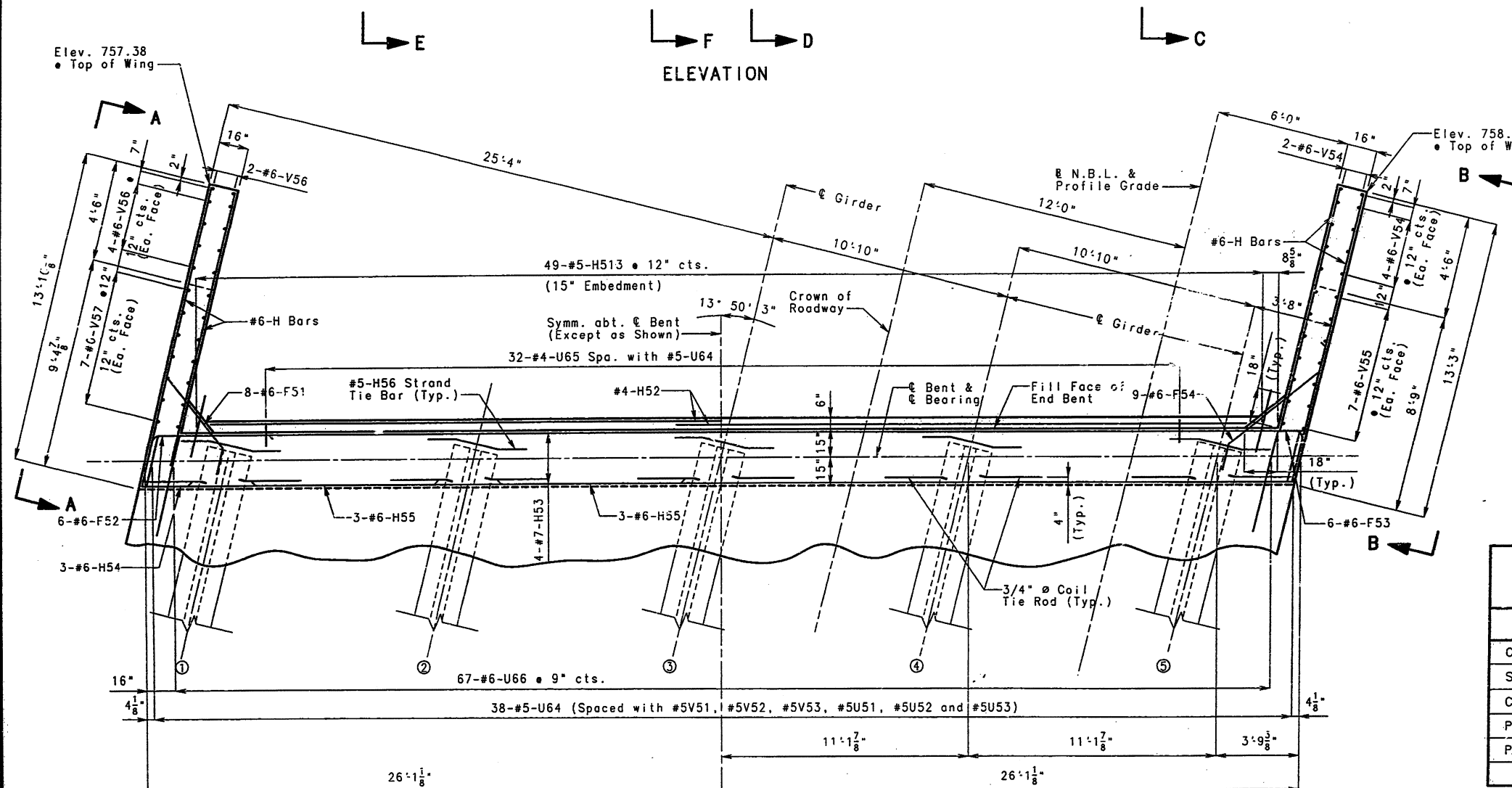
Strands at end of girder shall be field bent or, if necessary, cut in field to maintain 1 1/2" min. clearance to fill face of End Bent.

For location of Coil Tie Rods see sheet no. 18.

For Plan of Beam see sheet no. 13.

DATE 10/1/50
BY J. H. HANCOCK

FINAL PLAN



SUBSTRUCTURE QUANTITIES		UNIT
FOR END BENT NO. 5		
ITEM	QUANTITY	
CLASS 1 EXCAVATION	CU. YD.	65
STRUCT. STEEL PILE (12")	LIN. FT.	189
CLASS B CONC. (SUBSTRUCTURE)	CU. YD.	19.3
PILE POINT REINFORCEMENT	EACH	7
PRE-BORE FOR PILING	LIN. FT.	157

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

JEFFERSON

COUNTY

A5529

DETAILED	JUL	1997
CHECKED	AUG	1997

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

SHEET 12 OF 35

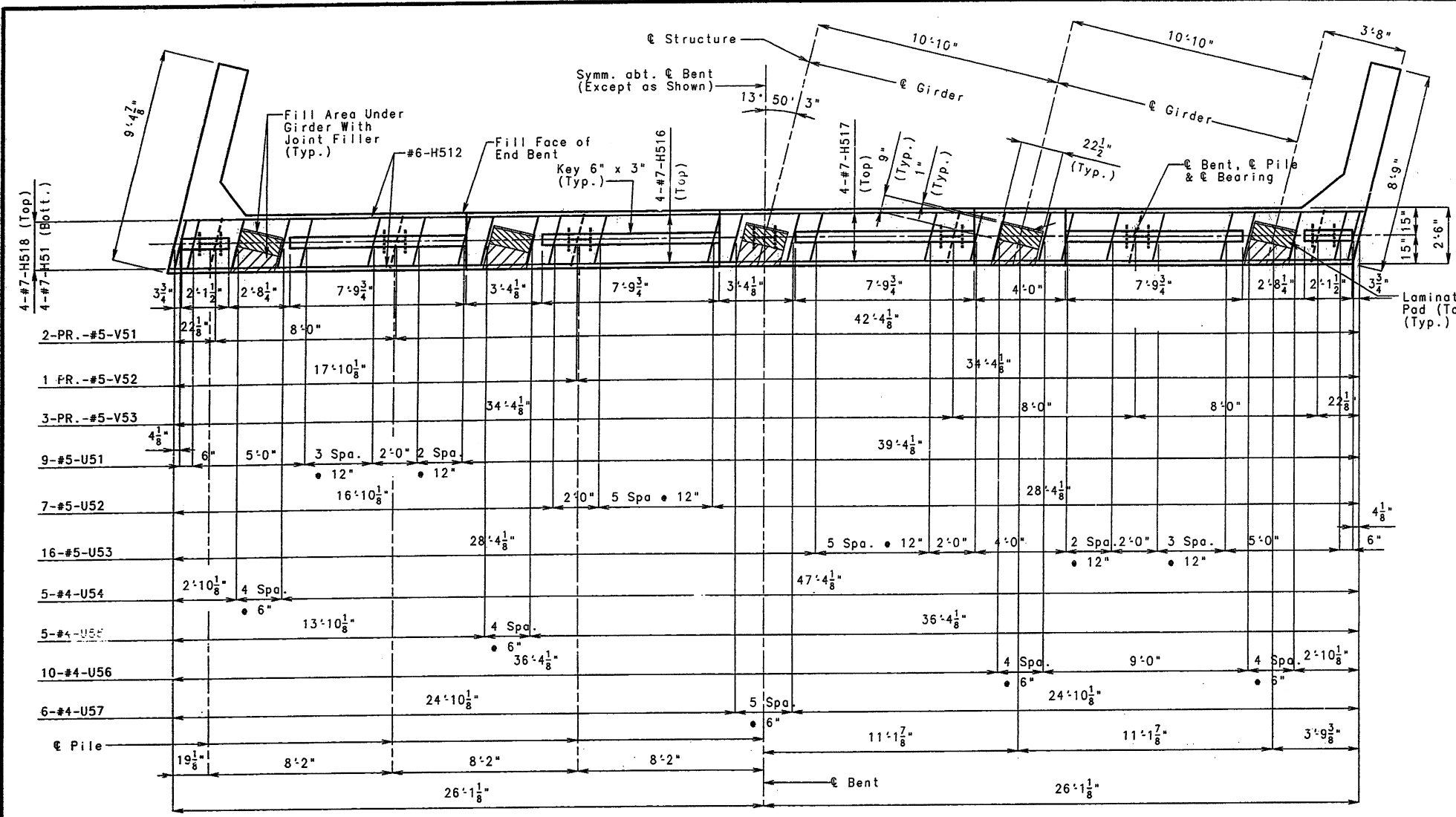
I CERTIFY THAT THIS DRAWING ACCURATELY
REFLECTS THE CONFIGURATION AND LOCATION
OF THE ROADWAY AND APPURTENANCES AS
CONSTRUCTED ON THIS PROJECT.

Handwritten signature 9/20/00

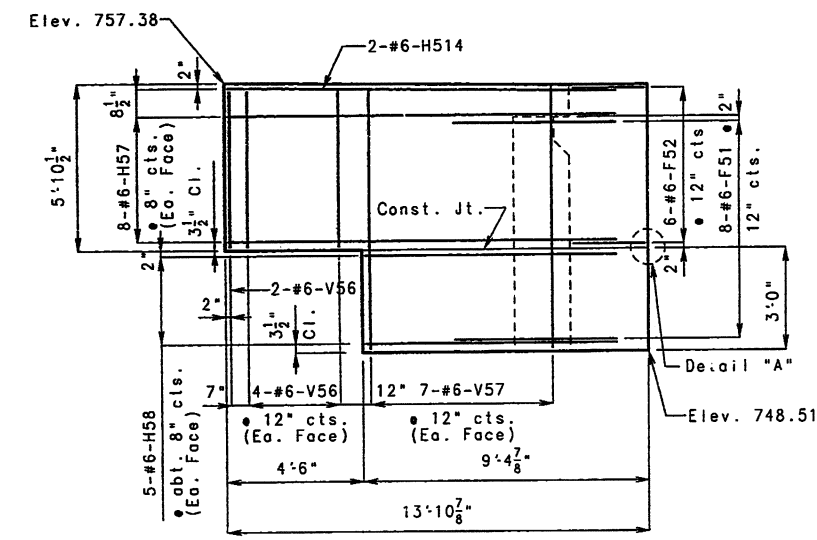
SIGNATURE _____ DATE _____

1. The first group of variables, *demographics*, includes age, sex, and marital status. The second group, *education*, includes years of schooling, high school graduation, and college graduation. The third group, *employment*, includes employment status, occupation, and industry. The fourth group, *income*, includes household income and personal income. The fifth group, *housing*, includes home ownership, home value, and home age. The sixth group, *transportation*, includes car ownership and car age. The seventh group, *leisure*, includes leisure time and leisure activities. The eighth group, *health*, includes health status and health insurance. The ninth group, *social*, includes social network and social support. The tenth group, *psychological*, includes psychological well-being and psychological distress. The eleventh group, *environmental*, includes environmental quality and environmental concern. The twelfth group, *community*, includes community involvement and community satisfaction. The thirteenth group, *quality of life*, includes quality of life and life satisfaction. The fourteenth group, *well-being*, includes well-being and happiness. The fifteenth group, *life satisfaction*, includes life satisfaction and life fulfillment. The sixteenth group, *happiness*, includes happiness and life satisfaction. The seventeenth group, *life fulfillment*, includes life fulfillment and life satisfaction. The eighteenth group, *life satisfaction*, includes life satisfaction and life fulfillment. The nineteenth group, *happiness*, includes happiness and life satisfaction. The twentieth group, *life fulfillment*, includes life fulfillment and life satisfaction.

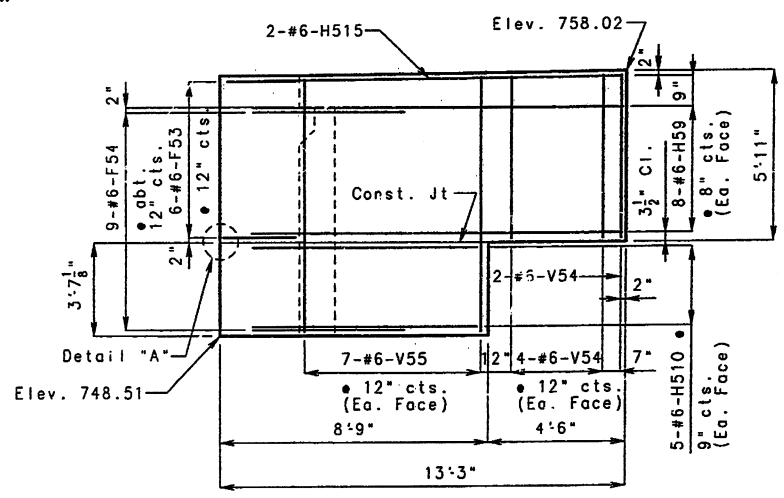
243



PLAN OF BEAM



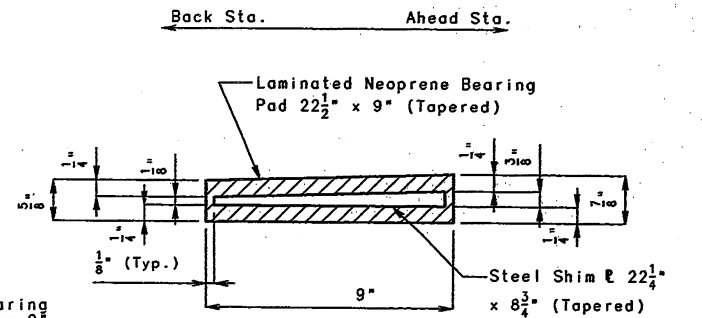
ELEVATION A-A



ELEVATION B-B

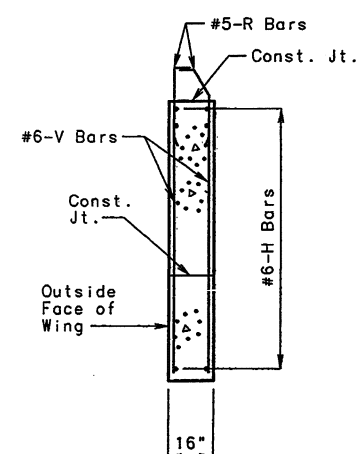
DETAILS OF END BENT NO. 5

STATE	PROJ. NO.	SHEET NO.
MO. 176507040	ACNH-ACNH6-ACNH6-109-103	99

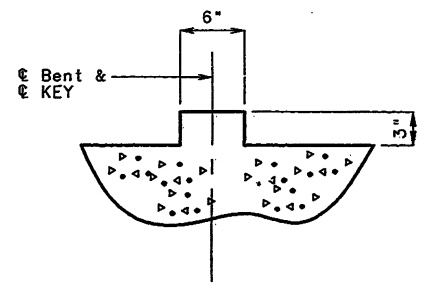


TYP. SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED) AT BENT 5

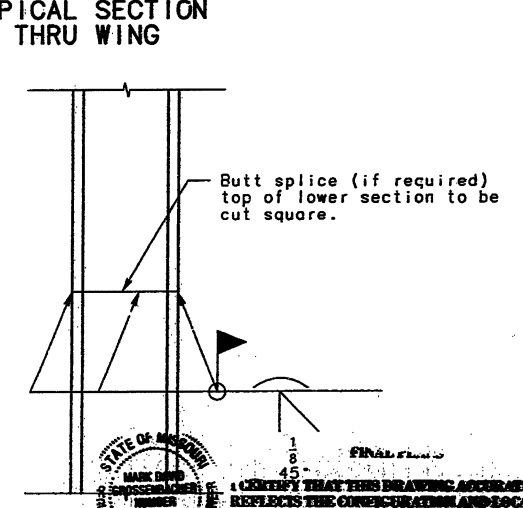
Note: Required Shim Plate Shall Be Placed Between Layers Of Elastomer And Molded Together To Form An Integral Unit.

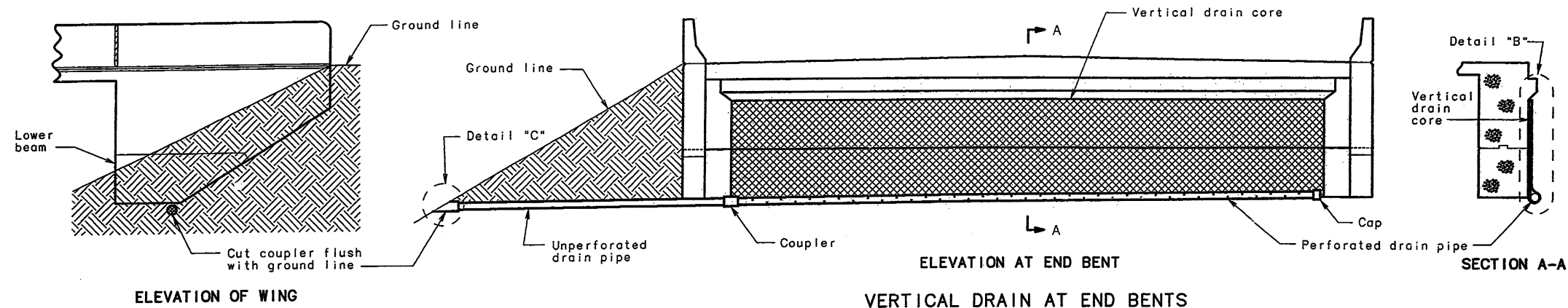


TYPICAL SECTION THRU WING



DETAIL OF KEY

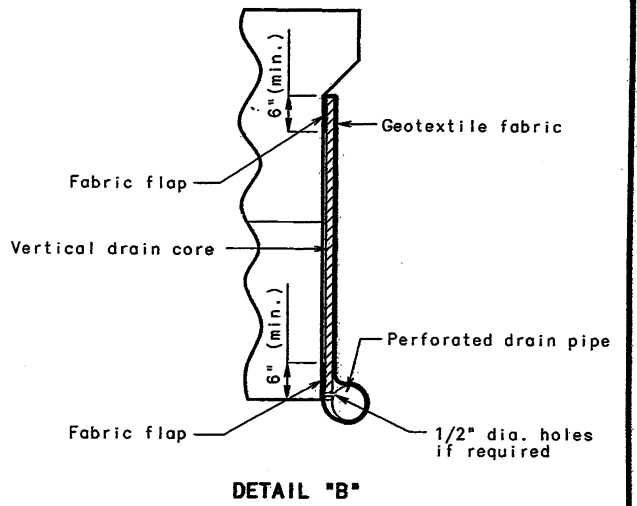
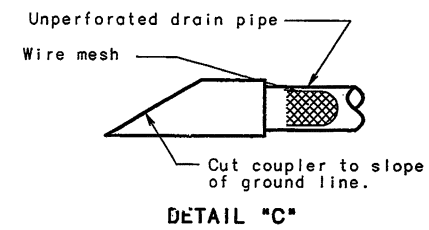




Drain pipe may be either 6" diameter corrugated metallic-coated steel pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

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.



DETAILED FEB 1997
CHECKED AUG 1997

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

SHEET 14 OF 35

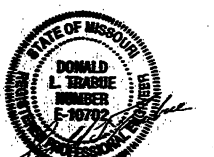
JEFFERSON

COUNTY

A5529



FINAL PLANS
I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONSTRUCTION AND LOCATION OF THE ROADWAY AND STRUCTURES AS CONSTRUCTED ON THE PROJECT.
DATE 8/18/07
SIGNATURE [Signature]
DATE 9/20/00



244

Concrete for prestressed girders shall be High Performance Concrete (See Special Provisions) with $f'_c = 10,000$ psi and $f'_{ci} = 5,500$ psi.

(+) indicates prestressing strand.

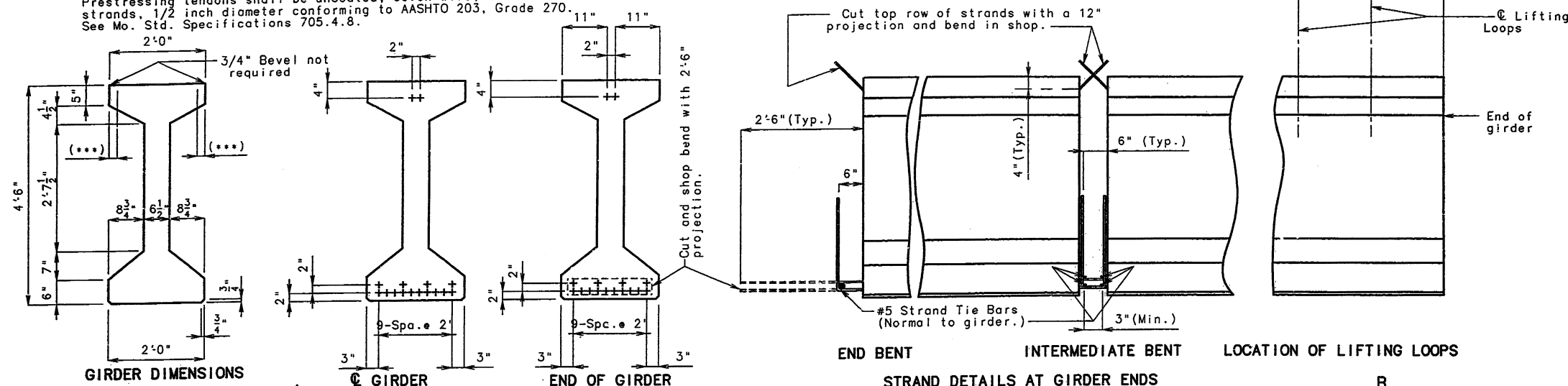
Use 16 strands with an initial prestress force of 496 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO 203, Grade 270. See Mo. Std. Specifications 705.4.8.

Note:
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 finished strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE	PROJ. NO.	SHEET NO.
MO.	ACNH-ACNHG-ACSTP-109-101	101



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
2	6 A1	50'-1"	20	
96	5 B1	5'-11"	11	
16	6 B2	5'-4"	11	
56	4 C1	2'-2"	10	
112	4 D1	3'-0"	9	

All dimensions in bending diagram are cut 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.

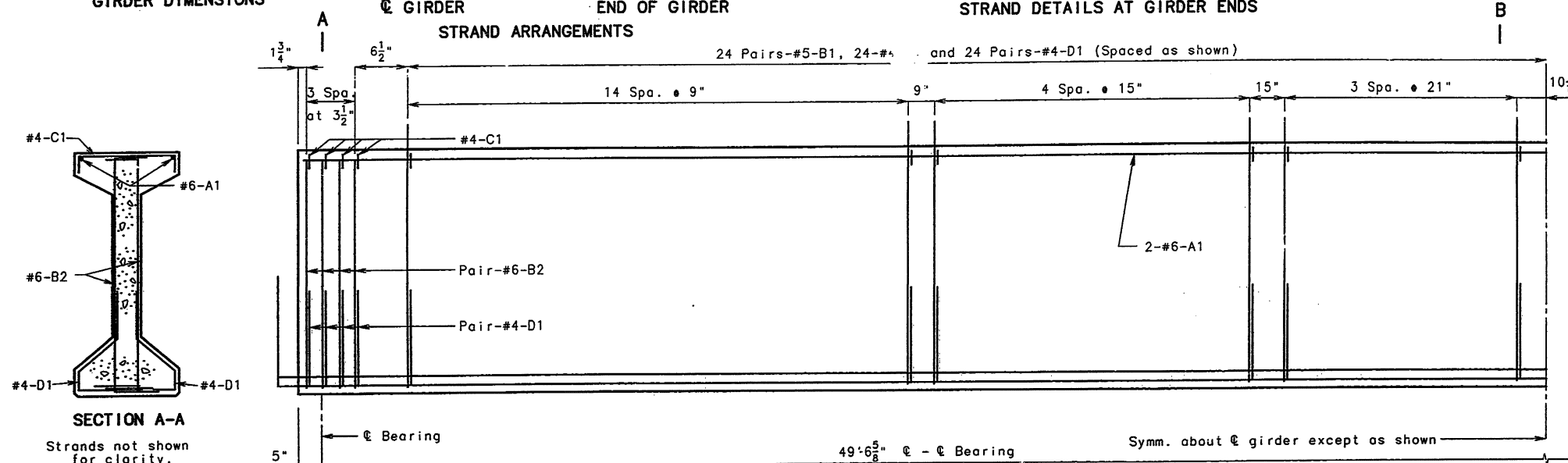
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

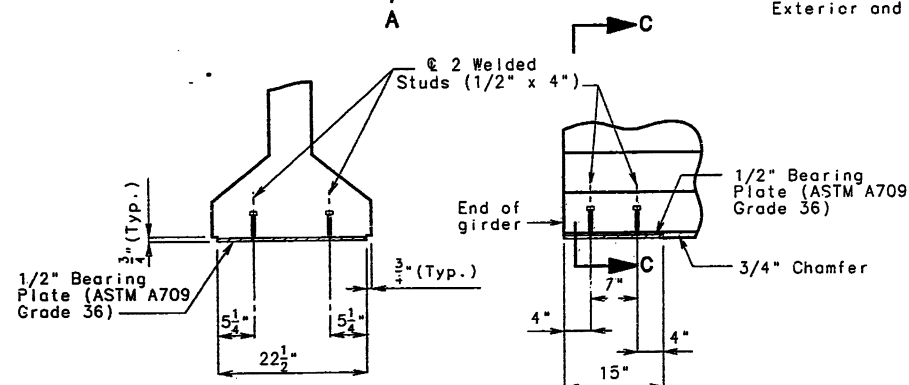
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



PART ELEVATION OF GIRDER SPAN (1-2)

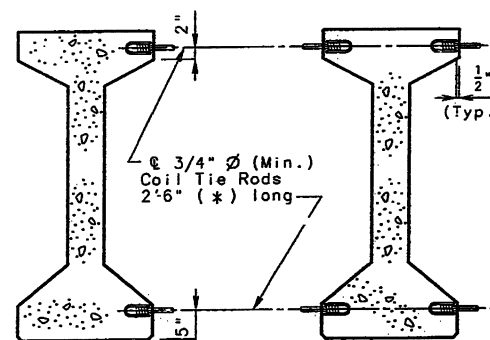
Exterior and interior girders are the same except for coil ties.



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

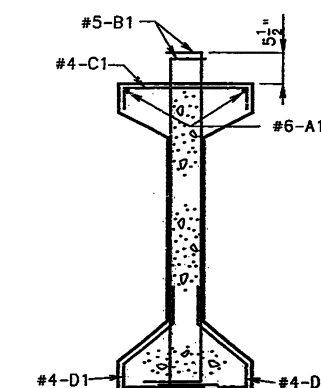
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

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.



EXTERIOR GIRDERS AT INT. BENTS EXTERIOR GIRDERS AT END BENTS INTERIOR GIRDERS AT ALL BENTS

DETAILS OF COIL TIES



SECTION B-B Strands not shown for clarity.

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. 19 & 20.

For location of coil inserts at slab drains, see sheet no. 27.

For Girder Camber Diagram, see sheet no. 23.

For location of coil ties, see sheets no. 4, 19, & 20.

(*) Length of coil tie rods $\frac{1}{2}$ length of girders, or bent bents = 2'-6".

STATE OF MISSOURI
JEFFERSON COUNTY
9/20/00
DATE



JEFFERSON COUNTY

A5529

gdr 4, 6.5 web, 4'-6", 1.1a
P/S GIRDER 6.5" WEB
MAY 1991
REVISED
August 1996

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

SHEET NO. 15 OF 35.

Concrete for prestressed girders shall be High Performance Concrete (See Special Provisions) with $f'_c = 10,000$ psi and $f'_ci = 5,500$ psi.

(+) indicates prestressing strand.

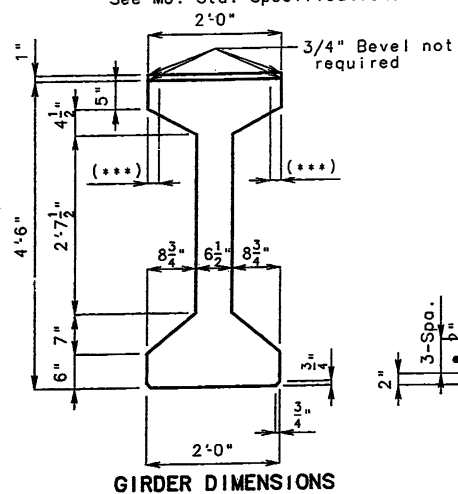
Use 28 strands with an initial prestress force of 868 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO 203, Grade 270. See Mo. Std. Specifications 705.4.8.

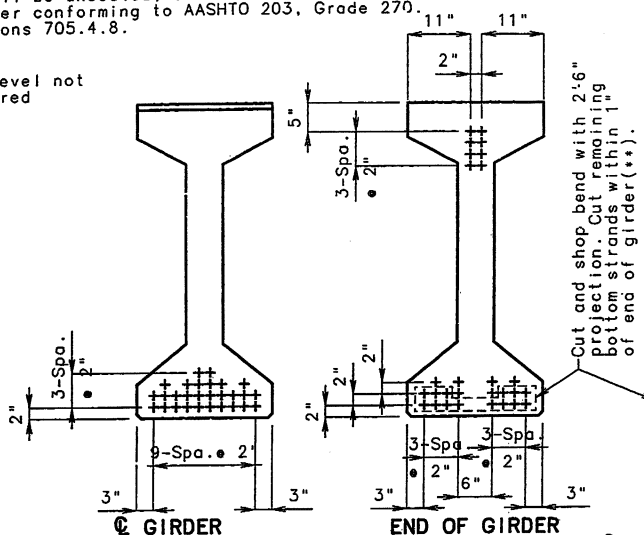
(**) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No 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 finished strip is permitted to facilitate placement of joint filler for prestressed panels.

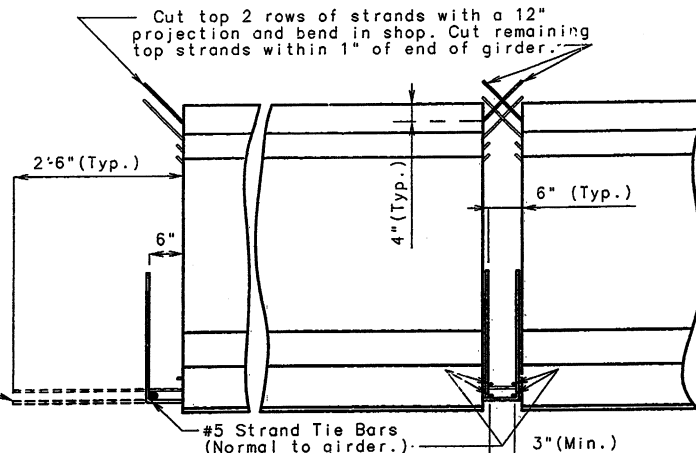
STATE	PROJ. NO.	SHEET NO.
MO.	ACNH-KNHE-ACSTP-104-K(8)	102



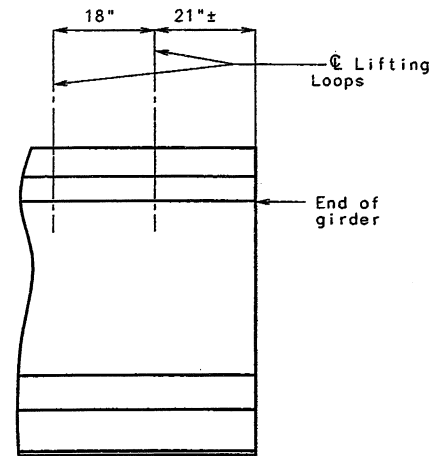
GIRDER DIMENSIONS



STRAND ARRANGEMENTS



END BENT INTERMEDIATE BENT LOCATION OF LIFTING LOOPS



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	42'-1"	20	
106	5 B1	5'-11"	11	
16	6 B2	5'-4"	11	
74	5 B3	6'-0"	11	
98	4 C1	2'-2"	10	
196	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.

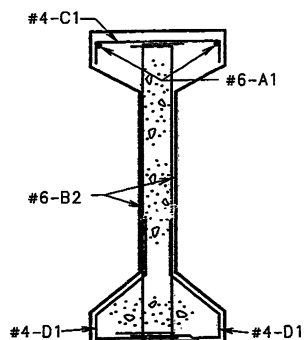
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

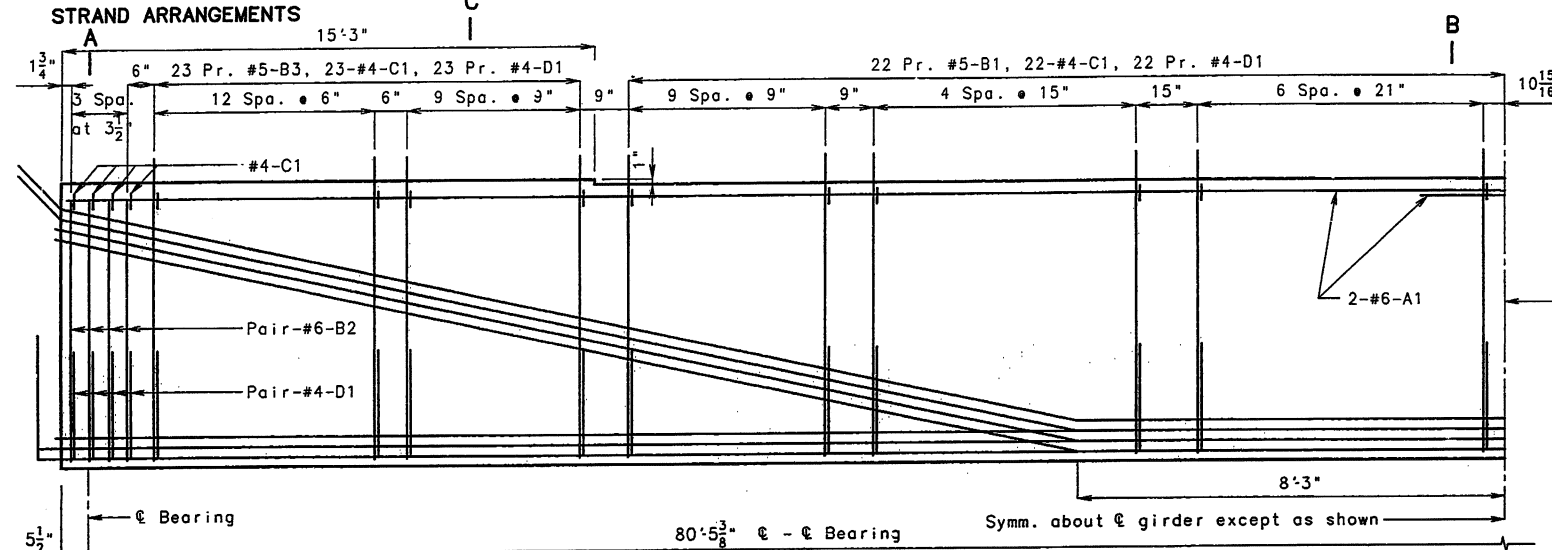
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

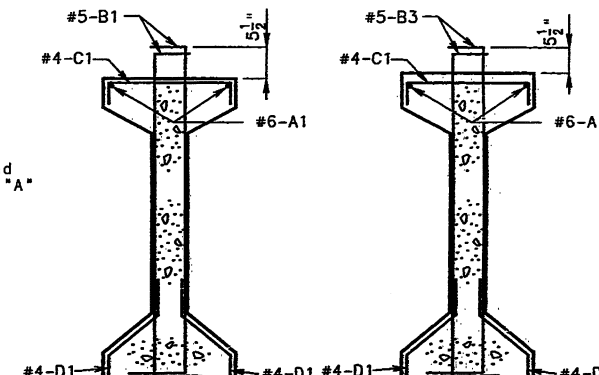


SECTION A-A

Strands not shown for clarity.



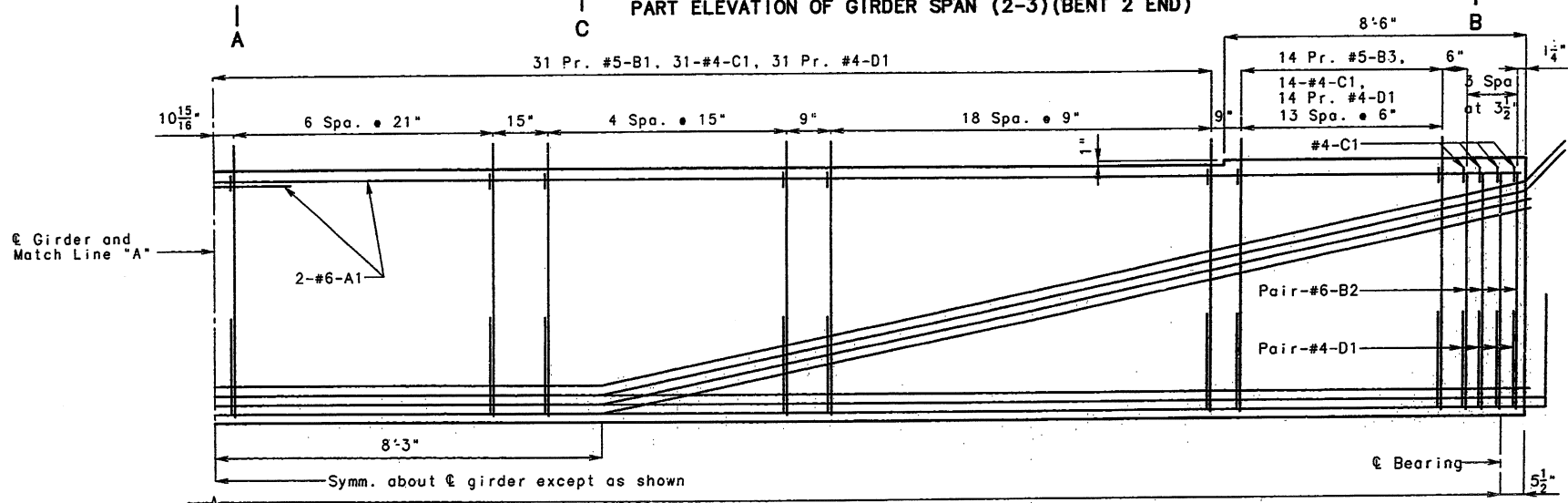
PART ELEVATION OF GIRDER SPAN (2-3) (BENT 2 END)



SECTION B-B

SECTION C-C

Strands not shown for clarity.



PART ELEVATION OF GIRDER SPAN (2-3) (BENT 3 END)

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

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

SHEET NO. 16 OF 35.

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. 19 & 20.

For location of coil inserts at slab drains, see sheet no. 27.

For Girder Camber Diagram, see sheet no. 23.

For location of coil ties, see sheets no. 19 & 20.

For Details of Coil ties, see sheet no. 14.

For Bearing Plate Details see sheet no. 14.



DATE 8/18/97

JEFFERSON COUNTY

DATE 9/24/00

A5529

2460

gdr 4 .6.5 web, 4'-6", 1,1,a
P/S GIRDER 6.5" WEB
MAY 1991
REVIS
August 1996

DETAILED FEB 1997
CHECKED AUG 1997

Concrete for prestressed girders shall be High Performance Concrete (See Special Provisions) with $f'_c = 10,000$ psi and $f'_{ci} = 5,500$ psi.

(+) indicates prestressing strand.

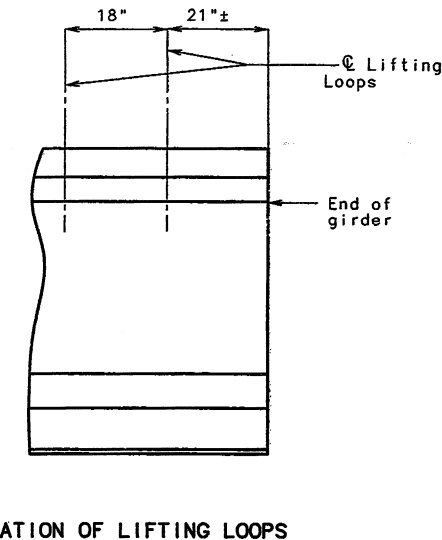
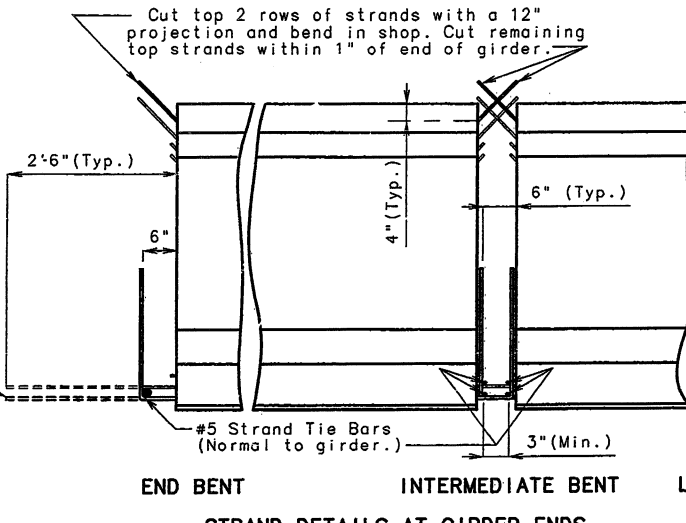
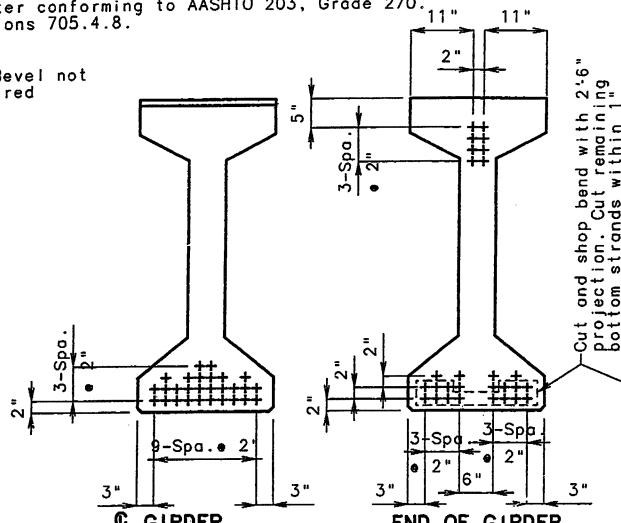
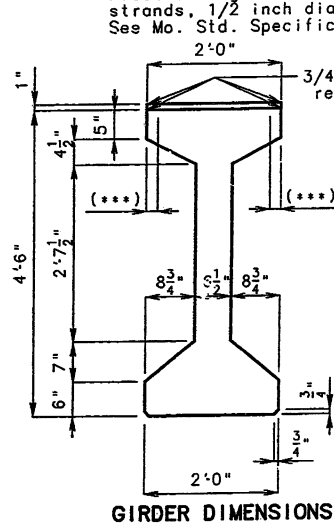
Use 28 strands with an initial prestress force of 868 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO 203, Grade 270. See Mo. Std. 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 finished strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE	PROJ. NO.	SHEET NO.
MO. 36607040	ACNR-ACNR6-ACSTP-109-112	103



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	42'-1"	20	
104	5 B1	5'-11"	11	
16	6 B2	5'-4"	11	
76	5 B3	6'-0"	11	
98	4 C1	2'-2"	10	
196	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.

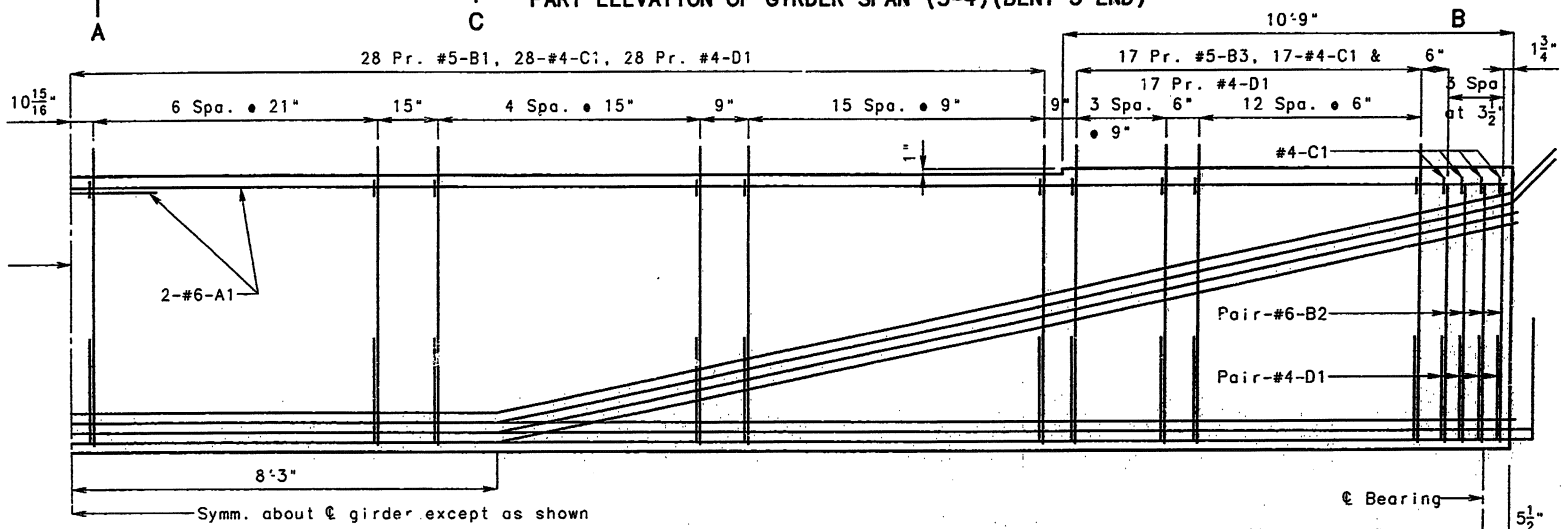
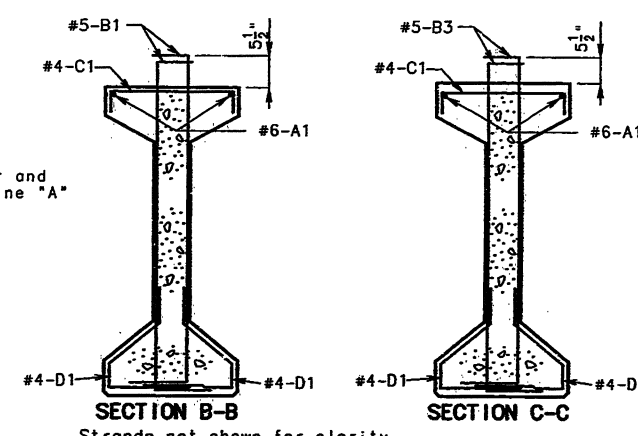
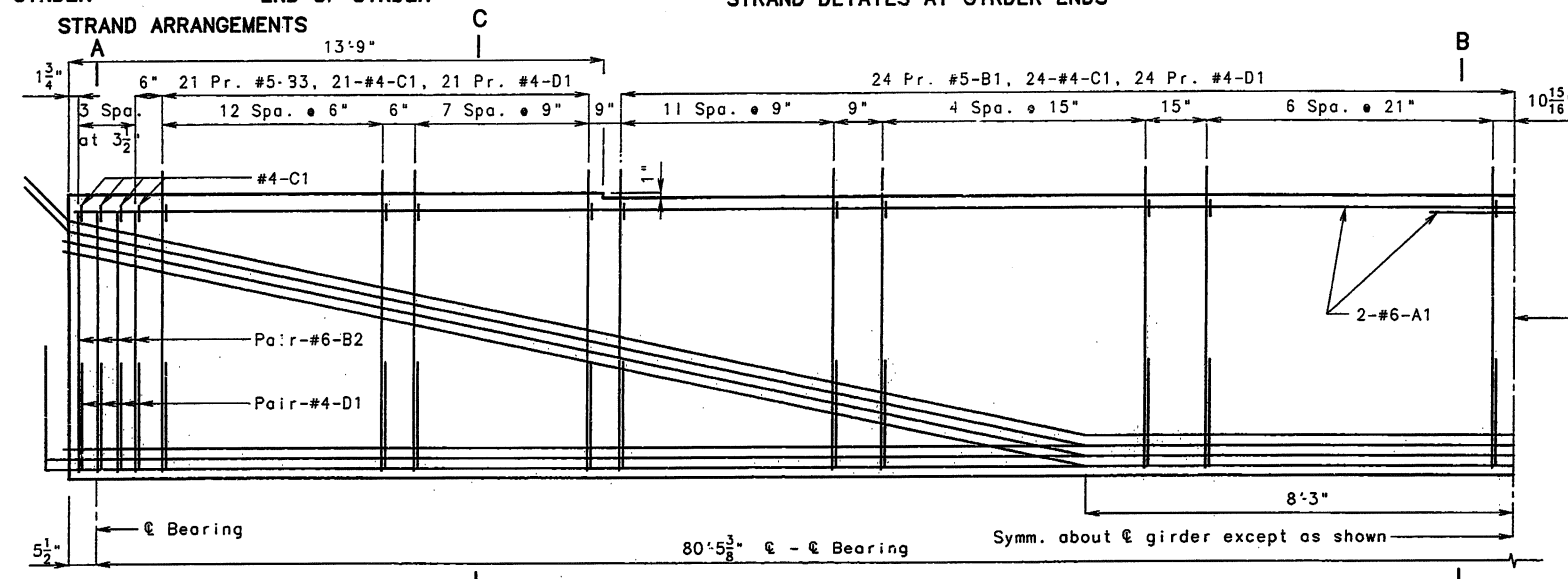
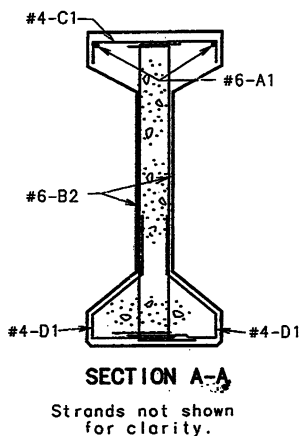
Actual lengths are measured along centerline of bar to the nearest inch.

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.



Cost of 3/4" Ø 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" Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of diaphragms, see sheets no. 19 & 20.

For location of coil inserts at slab drains, see sheet no. 27.

For Girder Camber Diagram, see sheet no. 23.

For location of coil ties, see sheets no. 19 & 20.

For Detail of Coil ties, see sheet no. 14.

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For Detail of Coil ties, see sheet no. 14.

For Detail of Coil ties, see sheet no

Concrete for prestressed girders shall be High Performance Concrete (See Special Provisions) with $f'_c = 10,000$ psi and $f'_{ci} = 5,500$ psi.

(+) indicates prestressing strand.

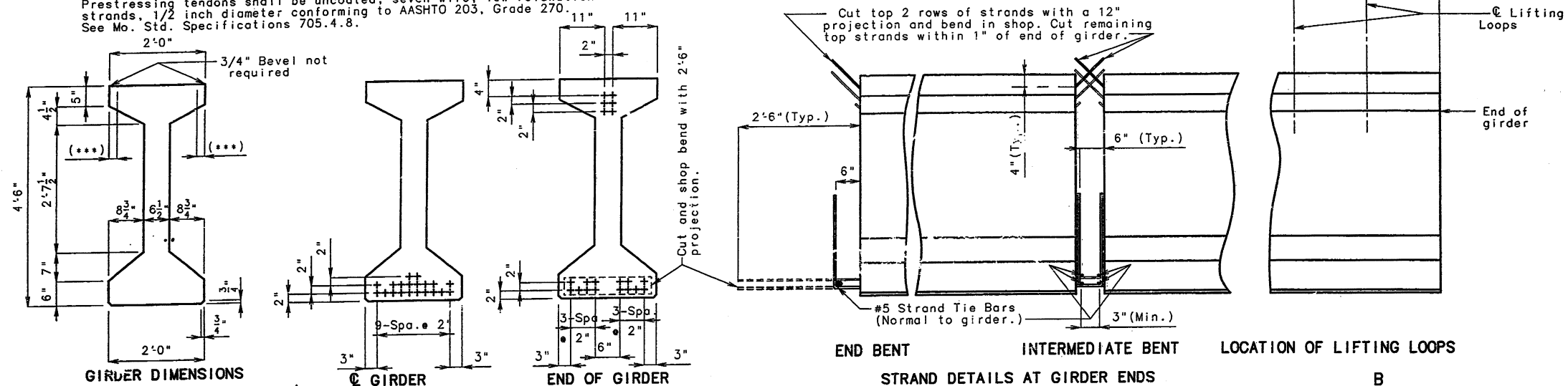
Use 20 strands with an initial prestress force of 620 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO 203, Grade 270. See Mo. Std. Specifications 705.4.8.

Note: 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 finished strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE	PROJ. NO.	SHEET NO.
MO.	ACNH-KCMRG-ACCTP-109-1(3)	104



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	34'-2"	20	
140	5 B1	5'-11"	11	
16	6 B2	5'-4"	11	
78	4 C1	2'-2"	10	
156	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.

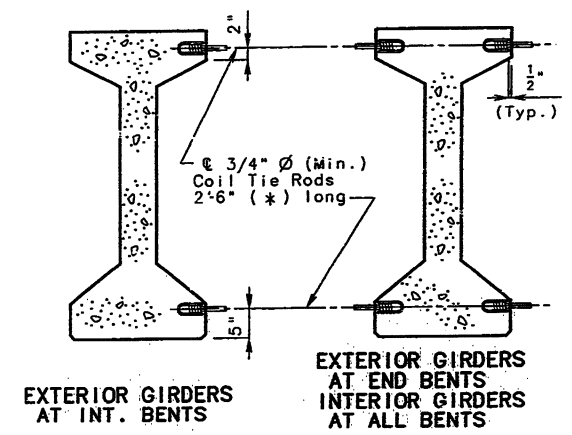
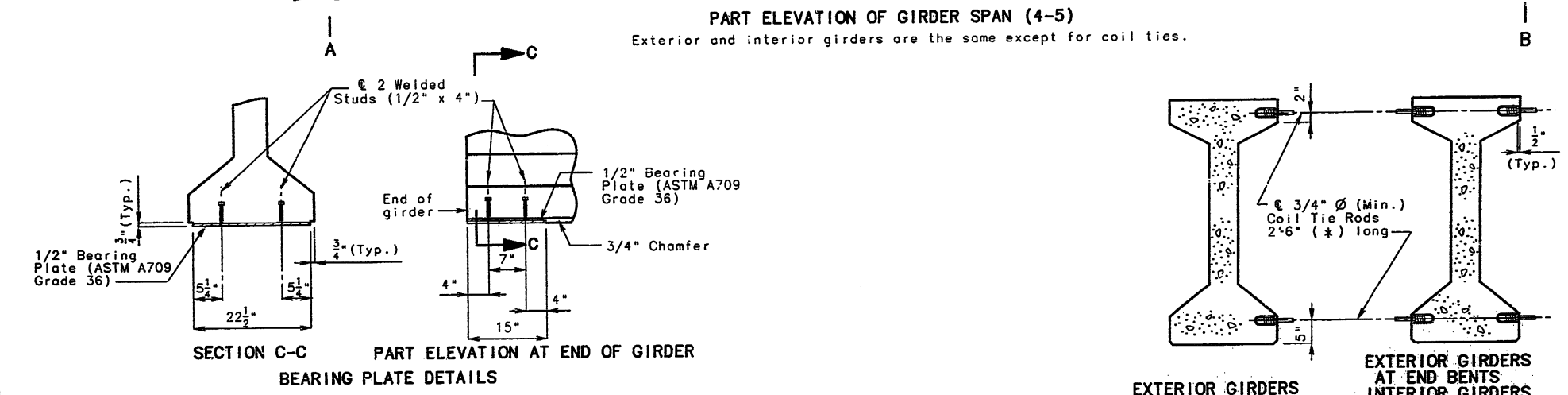
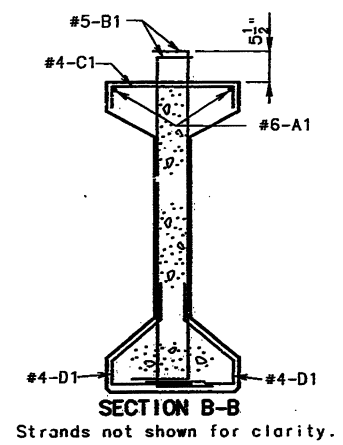
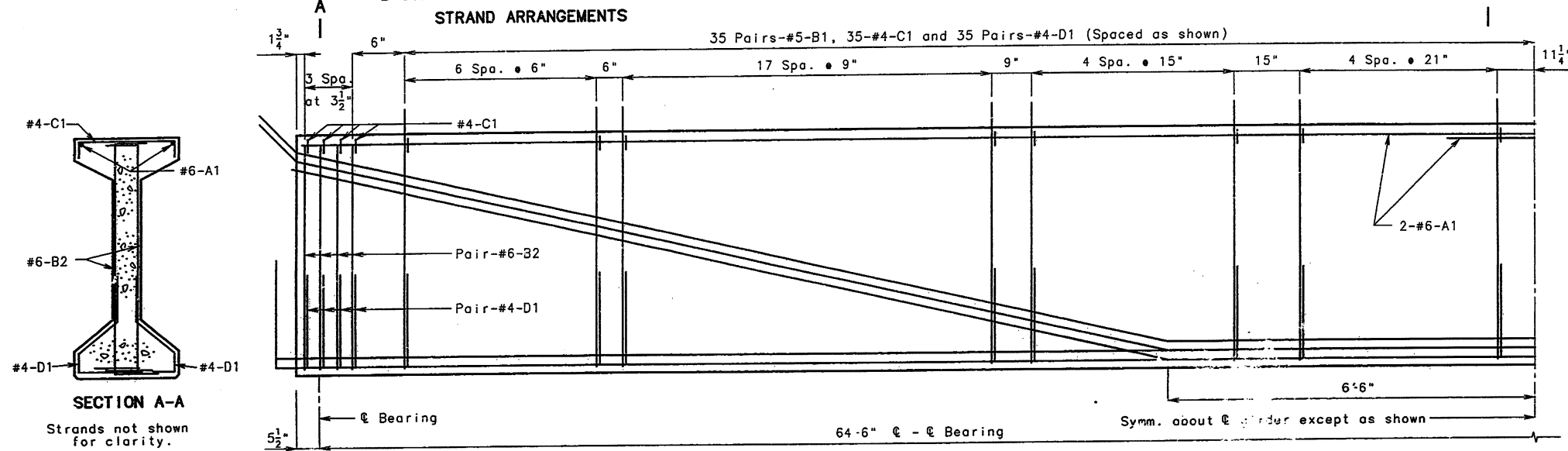
Actual lengths are measured along centerline of bar to the nearest inch.

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.



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. 19 & 20.

For location of coil inserts at slab drains, see sheet no. 27.

For Girder Camber Diagram, see sheet no. 23.

For location of coil ties, see sheets no. 12, 19, & 20.

(*) Length of coil tie rods at exterior girders shall be 2'-6" (typical).

REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE REINFORCING STEEL AND LOCATION OF THE ROADWAY AND ADJACENT STRUCTURES AS SHOWN ON THIS PROJECT.

DATE: 8/15/97

gdr 4, 6.5 web, 4'-6", 1, a
P/S GIRDER 6.5" WEB
MAY 1991
REVISED
August 1996

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.

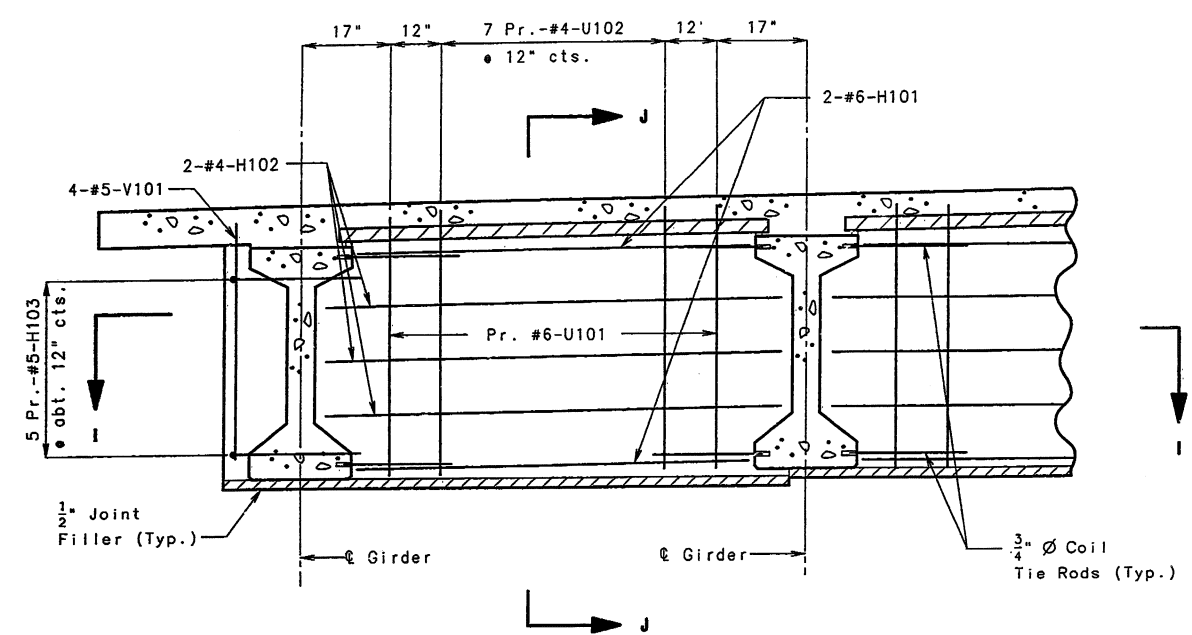
DETAILED FEB 1997
CHECKED AUG 1997

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

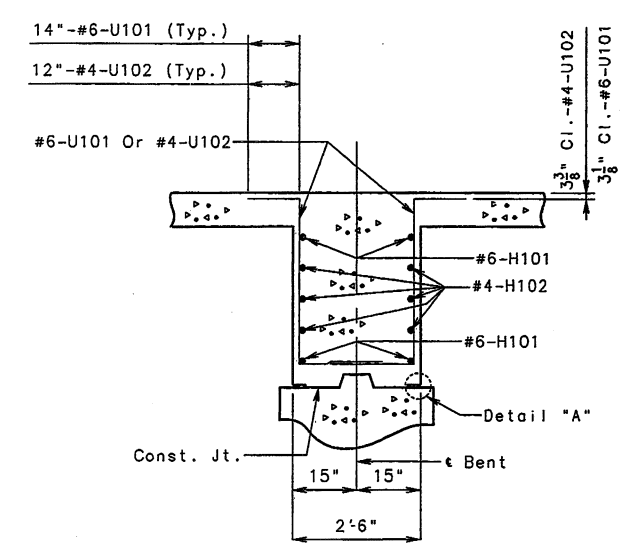
DETAILS OF COIL TIES

SHEET NO. 18 OF 35.

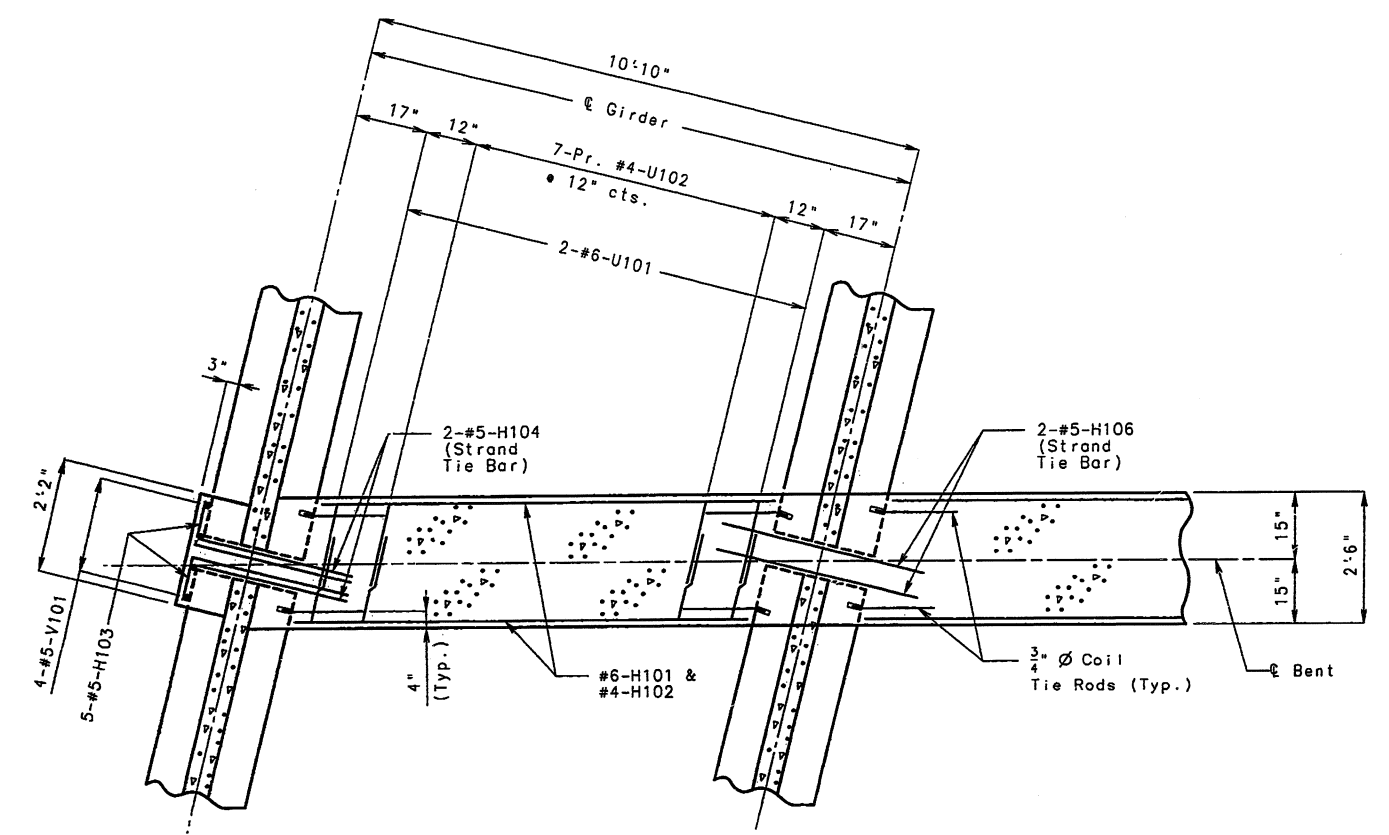
JEFFERSON COUNTY A5529



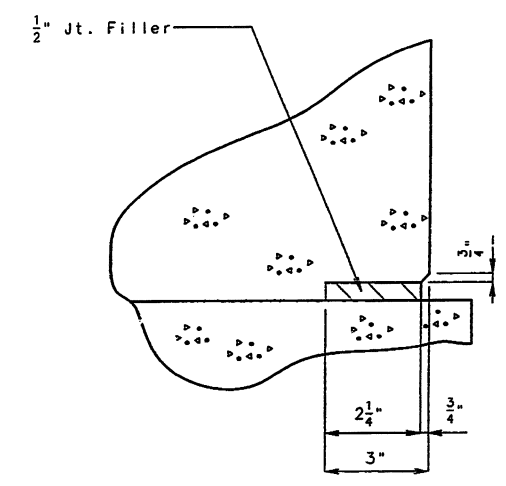
PART SECTION NEAR INT. BENT
(Normal to Girders)



SECTION J-J



SECTION I-I



Detail "A"

DETAILS OF DIAPHRAGMS AT INTERMEDIATE BENTS

DETAILED JUL 1997
CHECKED AUG 1997

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

SHEET 19 OF 35

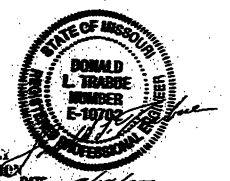
JEFFERSON

COUNTY

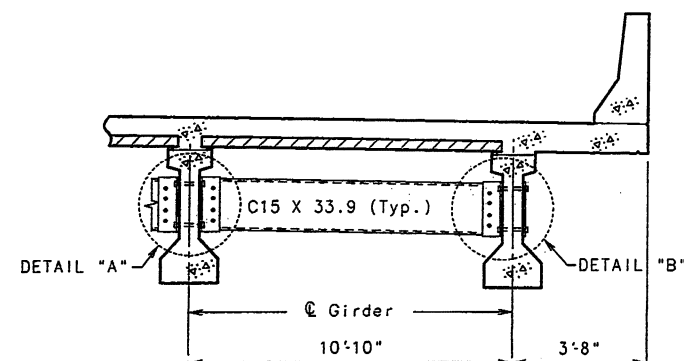
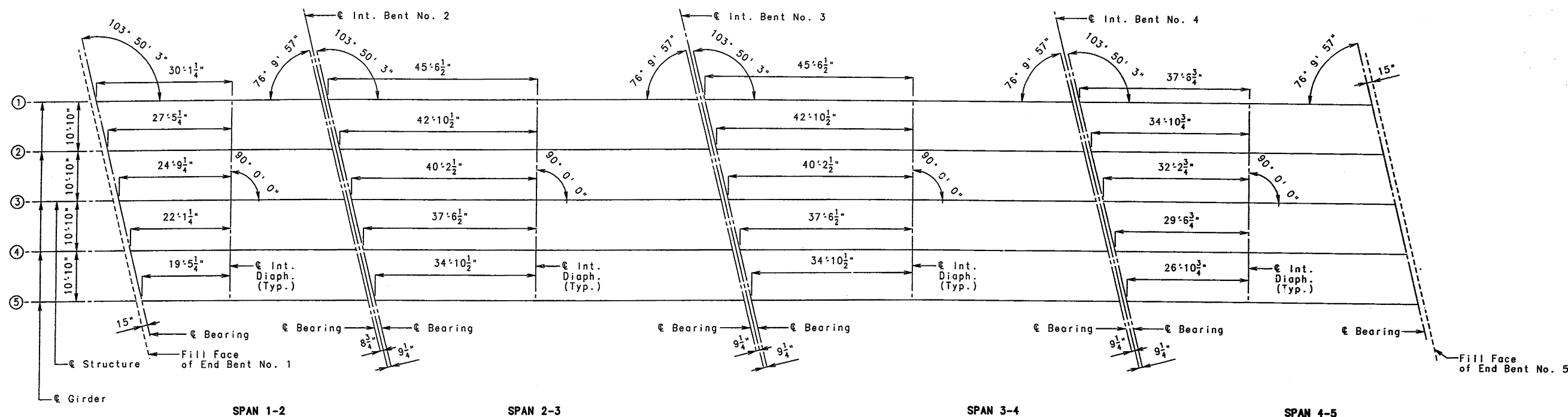
A5529



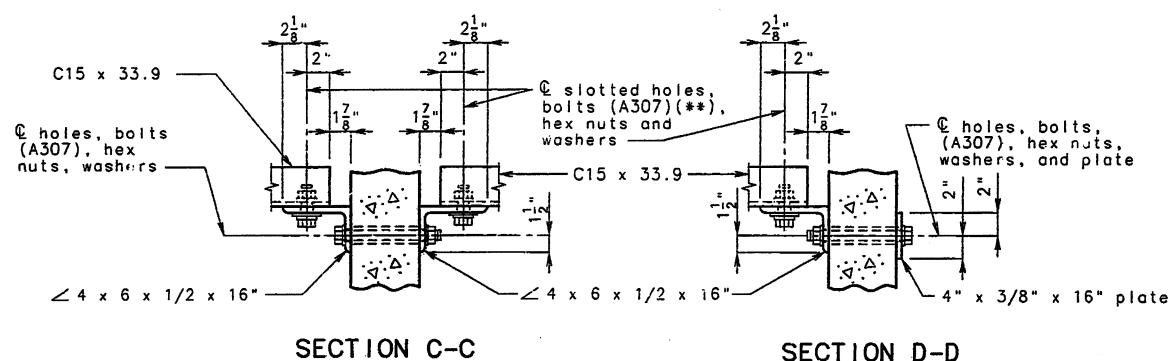
I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.
DATE 8/18/97
SIGNATURE
DATE 9/20/00



249



PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS

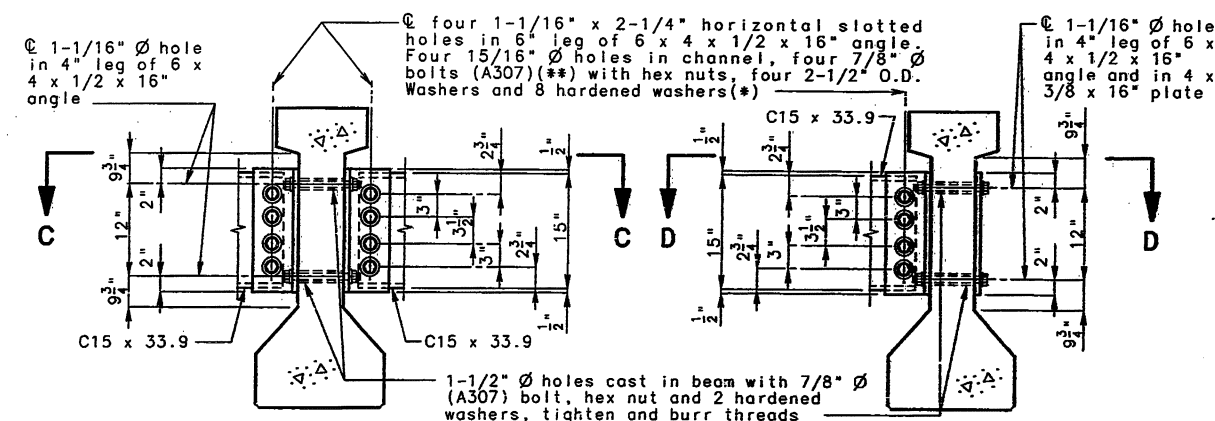


SECTION C-C

SECTION D-D

STEEL INTERMEDIATE DIAPHRAGM DETAILS

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

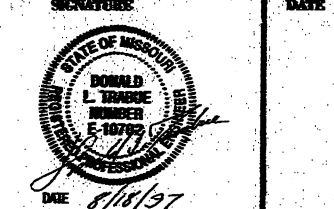


DETAIL "A"

DETAIL "B"

STEEL DIAPHRAGM NOTES:

- * In lieu of 2-1/2" O.D. washers, contractor may substitute a 3/16" (thickness) plate with four 15/16" ϕ 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.



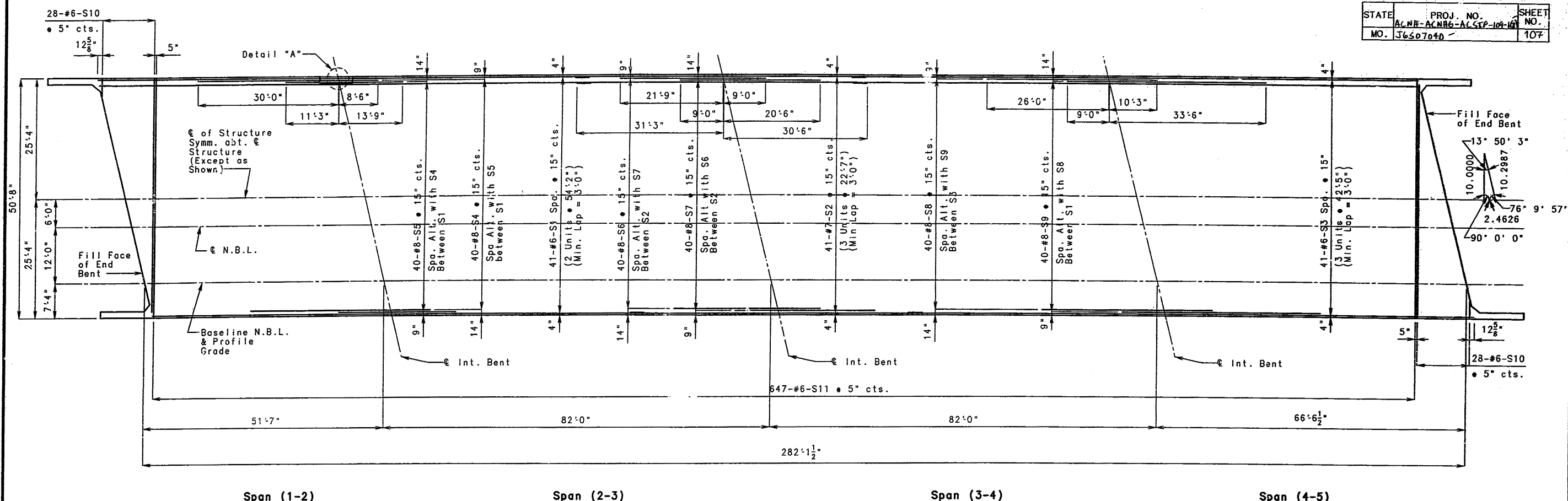
DIA 6, SQ PSI, STL, B
STEEL DIA. (SQ)
REVISED: MARCH 1997
CHECKED: JUL 1997
DATE: 8/16/97

SHEET NO. 20 OF 35

JEFFERSON

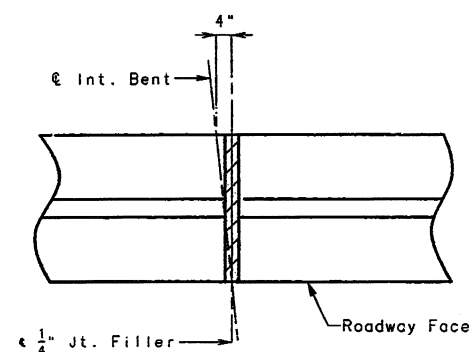
COUNTY

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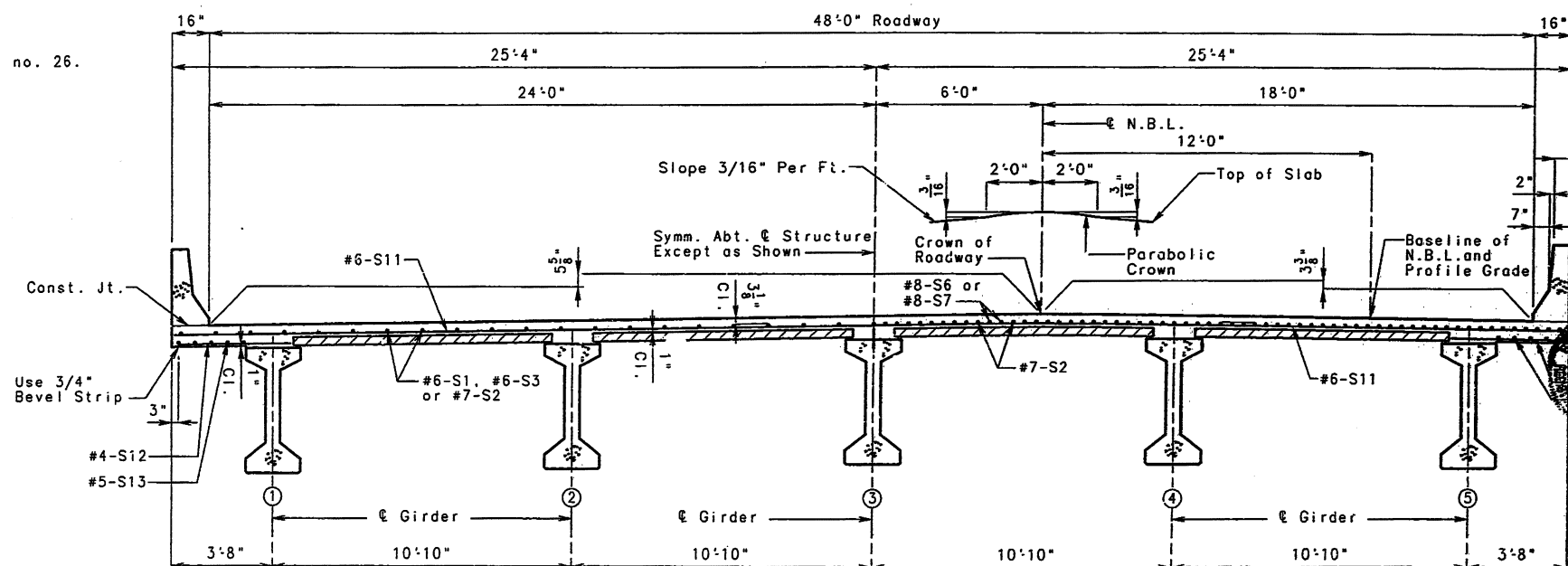


PLAN OF SLAB SHOWING TOP REINFORCEMENT

Note: Longitudinal Dimensions are Horizontal.
 For Details of Precast Prestressed Panels see sheet no. 26.
 For Location of Slab Drains see sheet no. 27.
 For Details and Reinforcement of Safety Barrier Curb see sheets no. 28, 29, 30.
 For Theoretical Slab Haunching Diagram see sheet no. 23.
 For Plan of Slab Showing Bottom Reinforcement see sheet no. 22.
 For Slab Pouring Sequence see sheet no. 22.



DETAIL "A"
(Barrier Curb Offsets)



HALF SECTION NEAR CENTER OF SPAN

HALF SECTION NEAR INT. BENT NO. 3
(Bents No. 2 and No. 4 Similar)

DETAILS OF PRECAST PRESTRESSED PANEL SLAB OPTION

FINAL PLANS
 CERTIFY THAT THIS DRAWING ACCURATELY
 REFLECTS THE CONFIGURATION AND LOCATION
 OF THE ROADWAY AND APPURTENANCES AS
 DICTATED BY THIS PROJECT.
 SIGNATURE: *Donald L. Hargis*
 DATE: 8/20/97
 STATE OF MISSOURI
 DONALD L. HARGIS
 E-1000

DETAILED APR 1997
 CHECKED AUG 1997

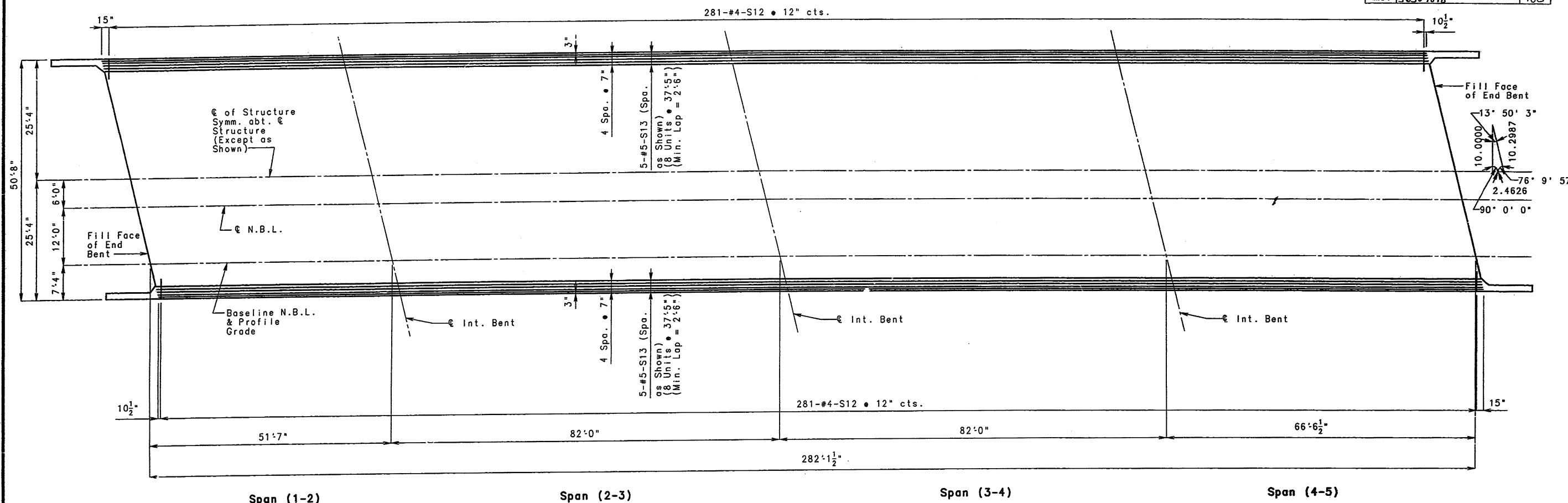
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET 21 OF 35

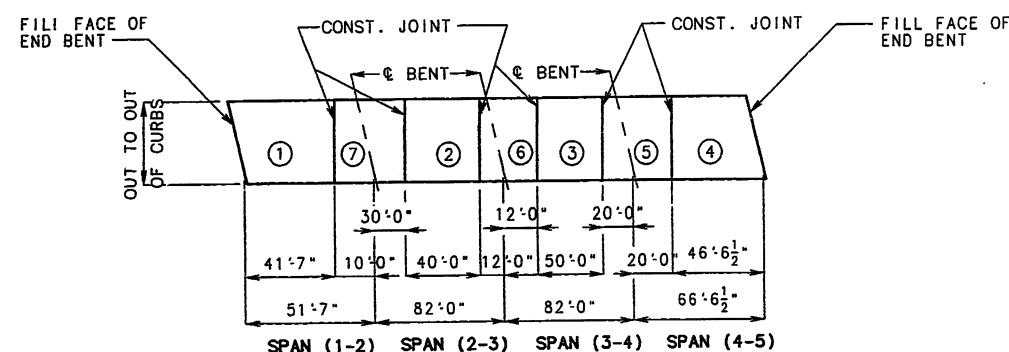
JEFFERSON

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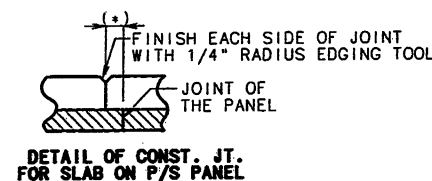
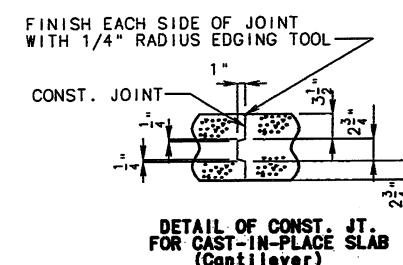


PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT



BASIC SEQUENCE	SEQUENCE OF POURS							MIN. RATE OF POUR CU. YDS./HR.	
	DIRECTION							WITH RETARDER	
	1	2	3	4	5	6	7	26	
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					26
	END TO 7	1 TO 6	2 TO 5	3 TO END					
ALTERNATE "B" POURS	1 + 7 + 2	6 + 3	5 + 4						26
	END TO 6	2 TO 5	3 TO END						
ALTERNATE "C" POURS	1 + 7 + 2	6 + 3 + 5 + 4							26
	END TO 6	2 TO END							
ALTERNATE "D" POURS	1 + 7 + 2 + 6 + 3 + 5 + 4								26
	END TO END								

SLAB POURING SEQUENCE



(*) ADJUST THE PERMISSIBLE CONSTRUCTION JOINT TO A CLEARANCE OF 6 INCHES MINIMUM FROM THE JOINTS OF THE PANELS.

DETAILS OF PRECAST PRESTRESSED PANEL SLAB OPTION

Note: Longitudinal Dimensions are Horizontal.
For Details of Precast Prestressed Panels see sheet no. 26.
For Location of Slab Drains see sheet no. 27.
For Details and Reinforcement of Safety Barrier Curb see sheets no. 28, 29, & 30.
For Theoretical Slab Haunching Diagram see sheet no. 23.
For Plan of Slab Showing Top Reinforcement see sheet no. 21.
For Half Section Near Center of Span see sheet no. 21.
For Half Section Near Int. Bent see sheet no. 21.

DETAILED APR 1997
CHECKED AUG 1997

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

SHEET 22 OF 35

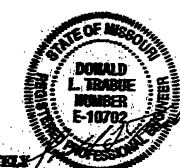
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REFLECTS THE CONFIGURATION AND LOCATION
OF THE ROADWAY AND APPURTENANCES AS
DIRECTED ON THIS PROJECT.
DATE 9/20/97
SIGNATURE

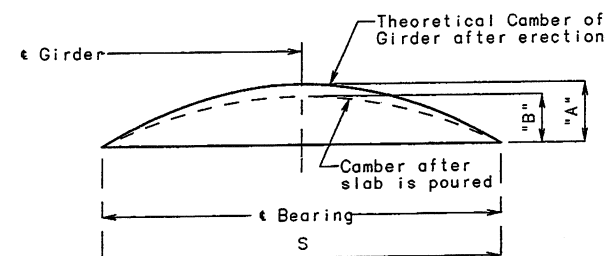


** Theoretical Bottom of Slab Elevations at ϵ of Girder (Prior to forming for Slab)																						
	Span 1 (49'6 1/2" ϵ Brg.- ϵ Brg.)											Span 2 (80'5" ϵ Brg.- ϵ Brg.)										
	ϵ brg.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	ϵ brg.	ϵ brg.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	ϵ brg.
Girder No. 1	749.66	749.72	749.77	749.84	749.90	749.97	750.03	750.10	750.17	750.24	750.31	750.33	750.48	750.62	750.78	750.94	751.09	751.24	751.40	751.55	751.72	751.88
Girder No. 2	749.86	749.92	749.98	750.04	750.11	750.17	750.24	750.31	750.38	750.45	750.52	750.55	750.70	750.84	751.01	751.16	751.32	751.48	751.63	751.78	751.95	752.11
Girder No. 3	750.06	750.12	750.18	750.24	750.31	750.38	750.45	750.51	750.58	750.66	750.73	750.76	750.91	751.06	751.23	751.38	751.54	751.70	751.86	752.01	752.18	752.34
Girder No. 4	750.11	750.17	750.23	750.30	750.36	750.43	750.50	750.57	750.64	750.72	750.79	750.82	750.97	751.12	751.29	751.45	751.61	751.77	751.93	752.09	752.26	752.42
Girder No. 5	749.97	750.03	750.09	750.16	750.23	750.30	750.37	750.44	750.51	750.59	750.67	750.69	750.85	751.00	751.16	751.33	751.49	751.65	751.81	751.97	752.14	752.32

** Theoretical Bottom of Slab Elevations at ϵ of Girder (Prior to forming for Slab)																							
		Span 3 (80'5" ϵ Brg.- ϵ Brg.)										Span 4 (64'5 1/2" ϵ Brg.- ϵ Brg.)											
		ϵ brg.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	ϵ brg.	ϵ brg.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	ϵ brg.
Girder	No. 1	751.92	752.12	752.32	752.54	752.76	752.97	753.18	753.40	753.61	753.84	754.06	754.11	754.31	754.52	754.73	754.95	755.16	755.38	755.59	755.81	756.03	756.26
Girder	No. 2	752.15	752.36	752.56	752.79	753.00	753.22	753.44	753.65	753.86	754.09	754.31	754.36	754.57	754.77	754.99	755.21	755.42	755.64	755.86	756.07	756.30	756.53
Girder	No. 3	752.38	752.59	752.80	753.03	753.24	753.46	753.68	753.90	754.11	754.34	754.56	754.61	754.82	755.03	755.25	755.46	755.68	755.90	756.12	756.34	756.57	756.79
Girder	No. 4	752.46	752.67	752.88	753.11	753.33	753.55	753.77	753.99	754.21	754.44	754.66	754.71	754.92	755.13	755.35	755.57	755.79	756.01	756.23	756.45	756.68	756.91
Girder	No. 5	752.35	752.57	752.78	753.00	753.23	753.45	753.67	753.89	754.11	754.34	754.58	754.63	754.84	755.05	755.27	755.49	755.71	755.93	756.15	756.38	756.61	756.84

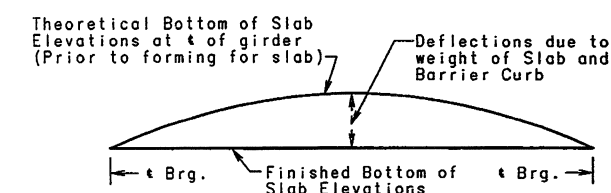
** Elevations are based on a constant slab thickness of 9" and include allowance for theoretical dead load deflections due to weight of Slab (including Precast Panel) and Barrier Curb.

GIRDER	SPAN (1-2)		SPAN (2-3)		SPAN (3-4)		SPAN (4-5)	
	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"
1 & 5	3/8"	5/16"	1 11/16"	1 1/16"	1 11/16"	1 1/16"	7/8"	9/16"
2, 3, & 4	3/8"	1/4"	1 11/16"	7/8"	1 11/16"	15/16"	7/8"	9/16"

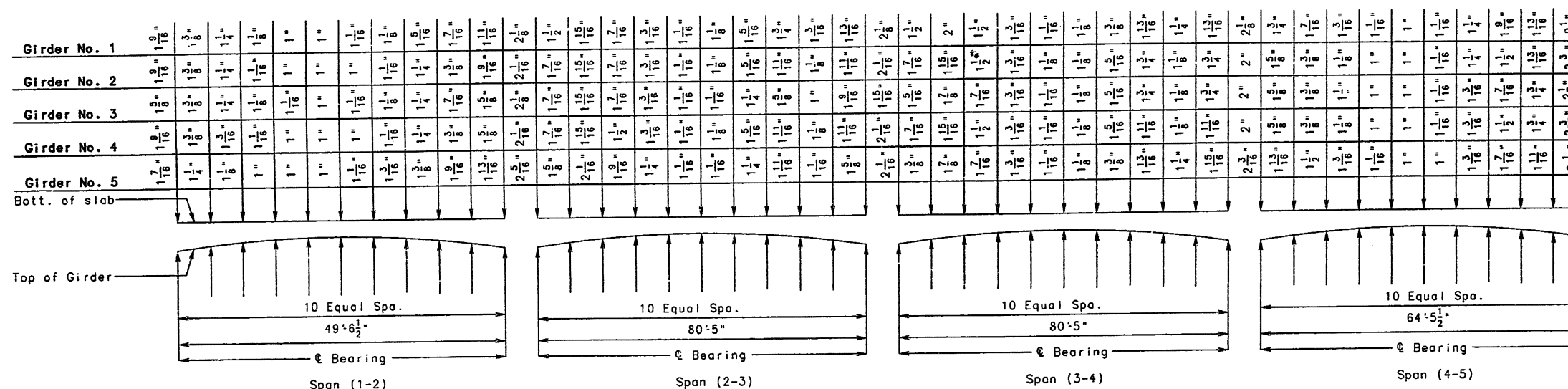


GIRDER CAMBER DIAGRAM

CONVERSION FACTORS FOR GIRDER CAMBER
 0.1 pt. = 0.314 x 0.5 pt.
 0.2 pt. = 0.593 x 0.5 pt.
 0.3 pt. = 0.813 x 0.5 pt.
 0.4 pt. = 0.952 x 0.5 pt.



TYPICAL SLAB ELEVATIONS 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 to 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.

DETAILED APR 1997
 CHECKED AUG 1997

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

SHEET 23 OF 35

JEFFERSON

COUNTY

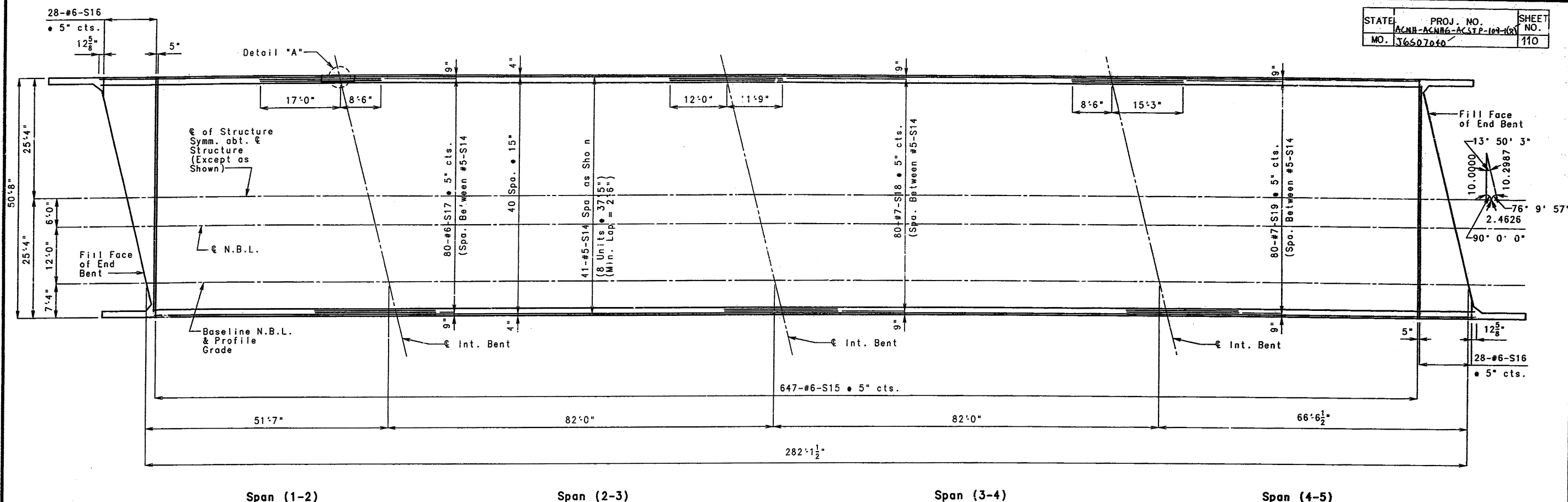
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FINAL PLANS
 CERTIFY THAT THIS DRAWING ACCURATELY
 REFLECTS THE CONFIGURATION AND LOCATION
 OF THE ROADWAY AND APPURTENANCES AS
 CONSTRUCTED ON THIS PROJECT
 DATE 8/18/97
 SIGNATURE

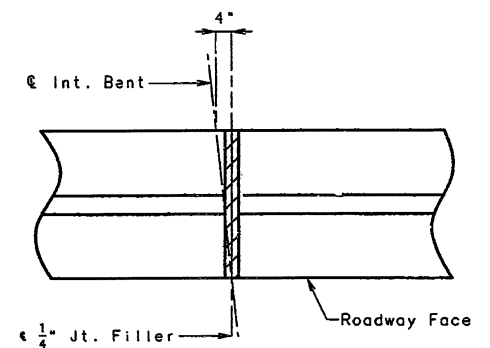


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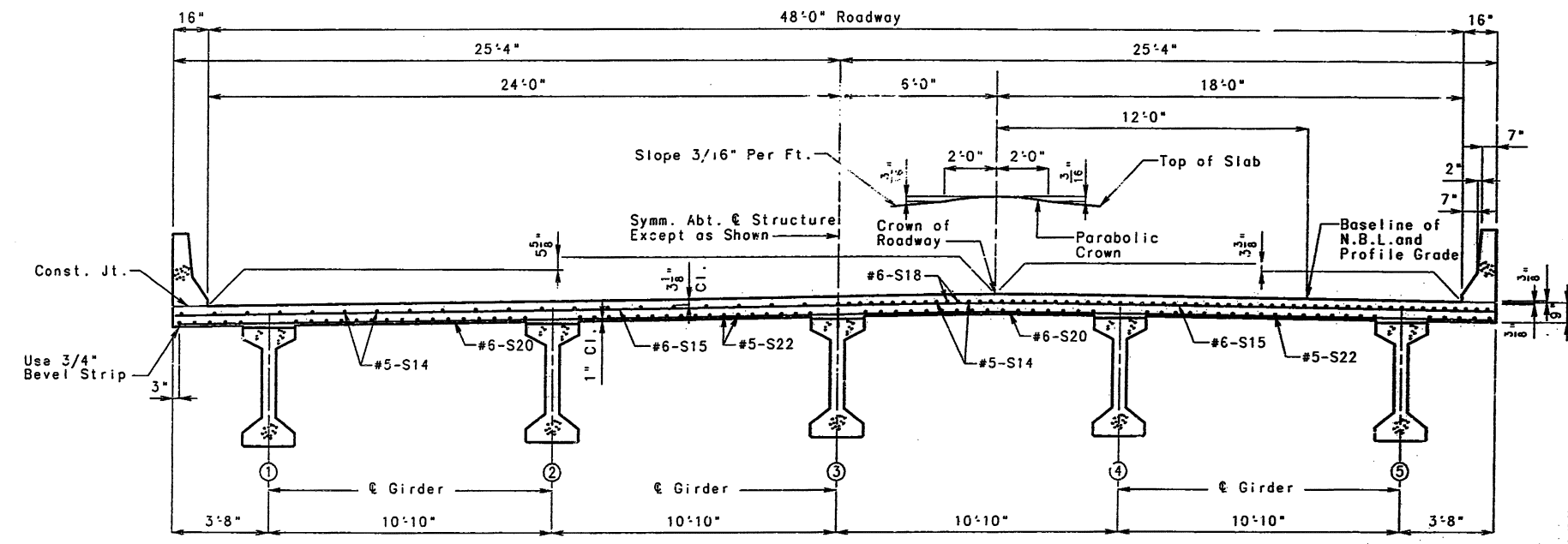


PLAN OF SLAB SHOWING TOP REINFORCEMENT

Note: Longitudinal Dimensions are Horizontal.
 For Location of Slab Drains See Sheet No. 27.
 For Details and Reinforcement of Safety Barrier Curb See Sheets No. 28, 29, & 30.
 For Theoretical Slab Haunching Diagram see sheet no. 23.
 For Plan of Slab Showing Bottom Reinforcement see sheet no. 25.
 For Slab Pouring Sequence see sheet no. 25.



DETAIL "A"
(Barrier Curb Offsets)



HALF SECTION NEAR CENTER OF SPAN

HALF SECTION NEAR INT. BENT NO. 2

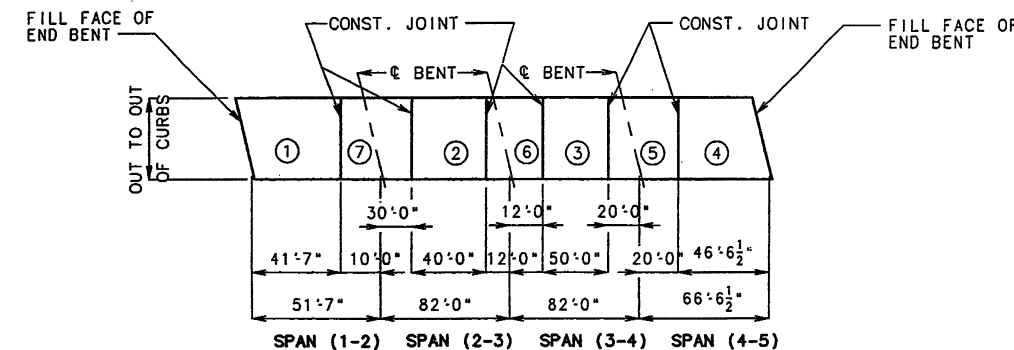
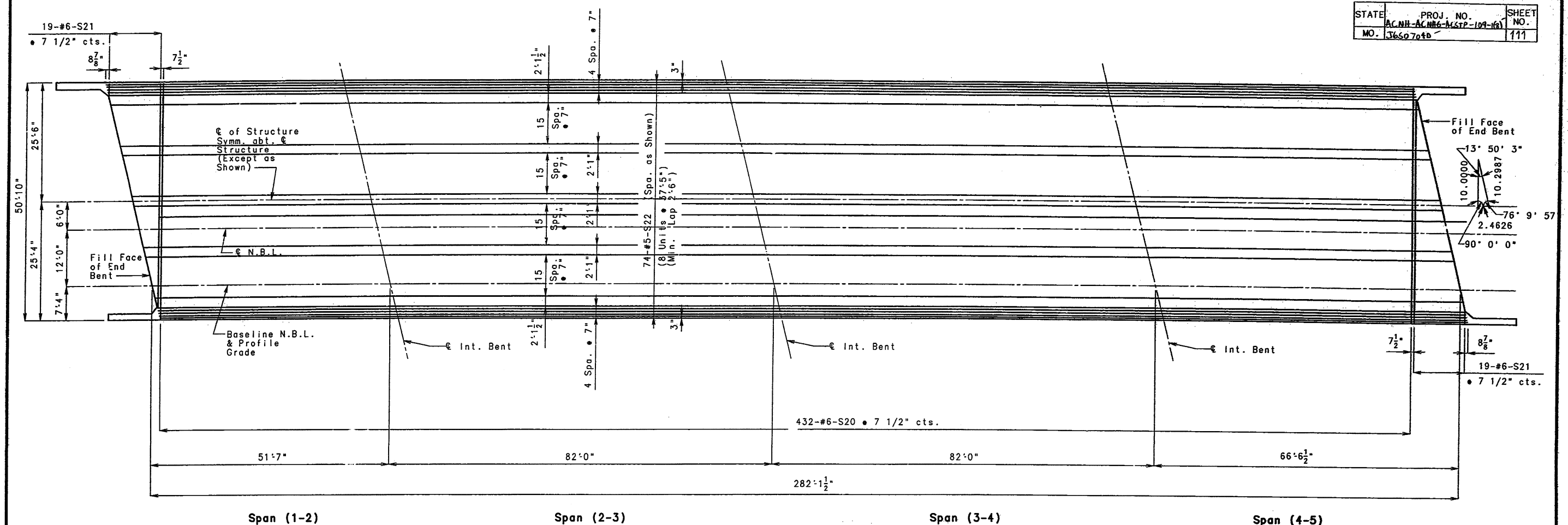
DETAILS OF CAST IN PLACE SLAB OPTION

DETAILED APR 1997
 CHECKED AUG 1997

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

SHEET 24 OF 35

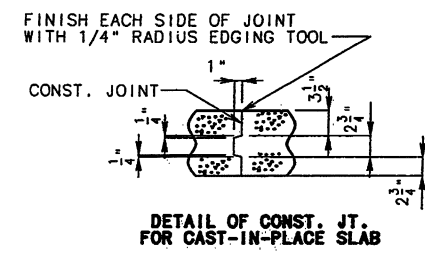
JEFFERSON COUNTY A5529
 DATE 8/18/97
 SIGNATURE [Signature]
 TITLE [Title]



Note: Longitudinal Dimensions are Horizontal.
 For Location of Slab Drains see sheet no. 27.
 For Details and Reinforcement of Safety Barrier Curb see sheets no. 28, 29, & 30.
 For Theoretical Slab Haunching Diagram see sheet no. 23.
 For Plan of Slab Showing Top Reinforcement see sheet no. 24.
 For Half Section Near Center of Span see sheet no. 24.
 For Half Section Near Int. Bent see sheet no. 24.

BASIC SEQUENCE	SEQUENCE OF POURS							MIN. RATE OF POUR CU. YDS./HR.
	DIRECTION							
	1	2	3	4	5	6	7	WITH RETARDER
	EITHER DIRECTION							35
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		35
	END TO 7		1 TO 6		2 TO 5		3 TO END	
ALTERNATE "B" POURS	1 + 7 + 2		6 + 3		5 + 4			35
	END TO 6		2 TO 5		3 TO END			
ALTERNATE "C" POURS	1 + 7 + 2			6 + 3 + 5 + 4				35
	END TO 6			2 TO END				
ALTERNATE "D" POURS	1 + 7 + 2 + 6 + 3 + 5 + 4							35
	END TO END							

SLAB POURING SEQUENCE



DETAILS OF CAST IN PLACE SLAB

DETAILED APR 1987
 CHECKED AUG 1997

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

SHEET 25 OF 35

JEFFERSON COUNTY A5529

DATE 8/18/97

SIGNATURE

DATE

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 UNCOATED 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 CONTRACTOR'S 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 C.R.S.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, STIRRUP AND TIE DIMENSIONS.

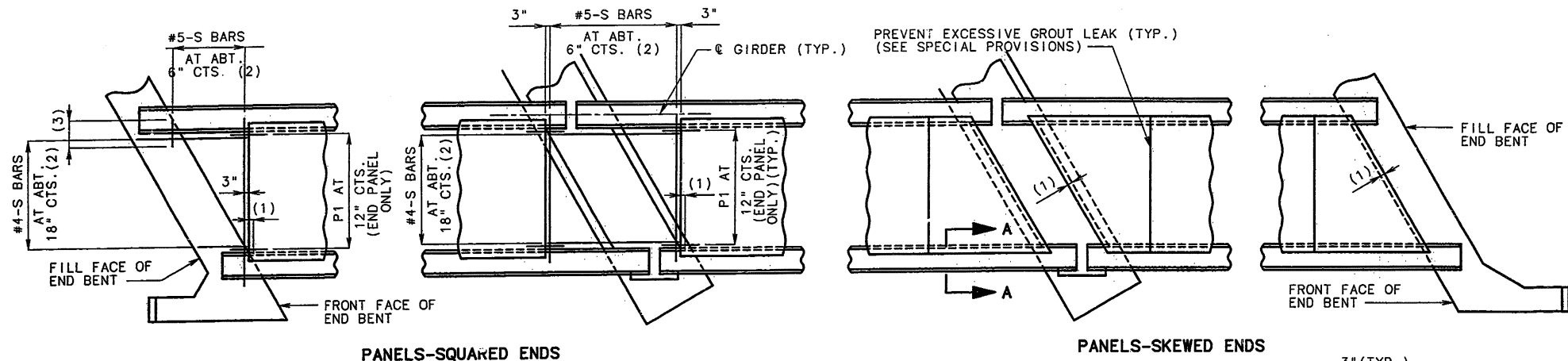
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.

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

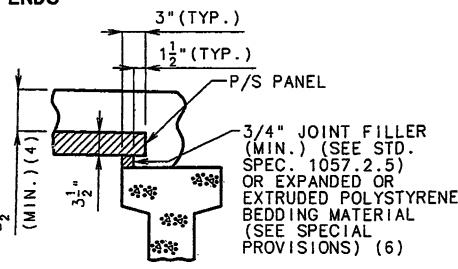
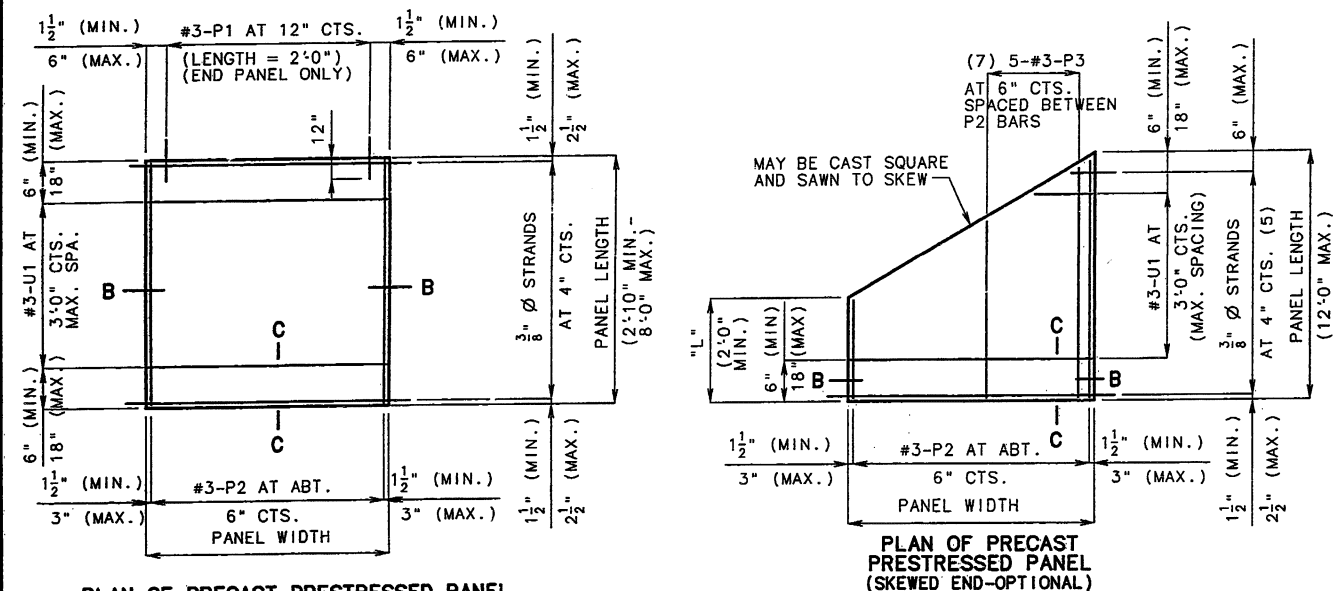
IF U1 BARS INTERFERE WITH PLACEMENT OF SLAB STEEL, U1 LOOPS MAY BE BENT OVER, AS NECESSARY, TO CLEAR SLAB STEEL.

SPECIAL NOTE:

THIS STRUCTURE UTILIZES 3 1/2" PRECAST PRESTRESSED PANELS.



PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT



NOTES:

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.

COST OF S-BARS SHALL BE INCLUDED IN PRICE BID FOR SLAB ON CONCRETE I-GIRDER PER SQUARE YARD.

S-BARS ARE NOT LISTED IN BILL OF REINFORCING.

(1) END PANELS SHALL BE DIMENSIONED 1" MIN. TO 1-1/2" MAX. FROM THE INSIDE FACE OF DIAPHRAGM.

(2) S-BARS SHOWN ARE BOTTOM STEEL IN SLAB BETWEEN PANELS AND USED WITH SQUARED END PANELS ONLY.

(3) EXTEND S-BARS 18 INCHES BEYOND THE FRONT FACE OF END BENTS ONLY.

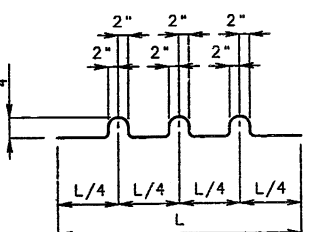
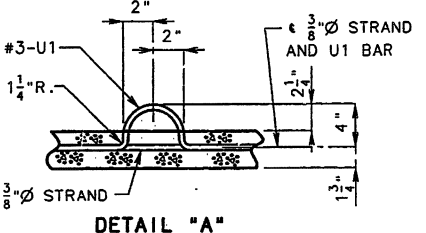
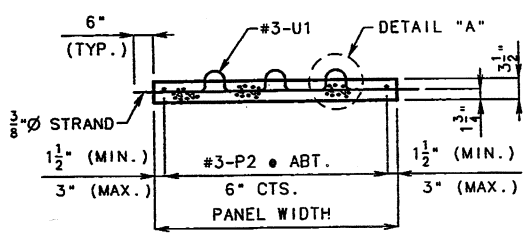
(4) IN ORDER TO MAINTAIN MINIMUM SLAB THICKNESS, IT MAY BE NECESSARY TO RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR NECESSARY GRADE ADJUSTMENT.

(5) 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.

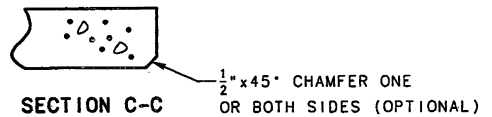
(6) ALL PANEL SUPPORT PADS SHALL BE GLUED TO THE GIRDER. WHEN SUPPORT THICKNESS EXCEEDS 1-1/2", THE PADS SHALL BE GLUED TOP AND BOTTOM. THE GLUE USED SHALL BE THE TYPE RECOMMENDED BY THE PANEL SUPPORT PADS MANUFACTURER.

(7) USE #3-P3 BARS IF PANEL IS SKEWED 45° OR GREATER.

DETAILS OF PRECAST PRESTRESSED PANELS (3 1/2")

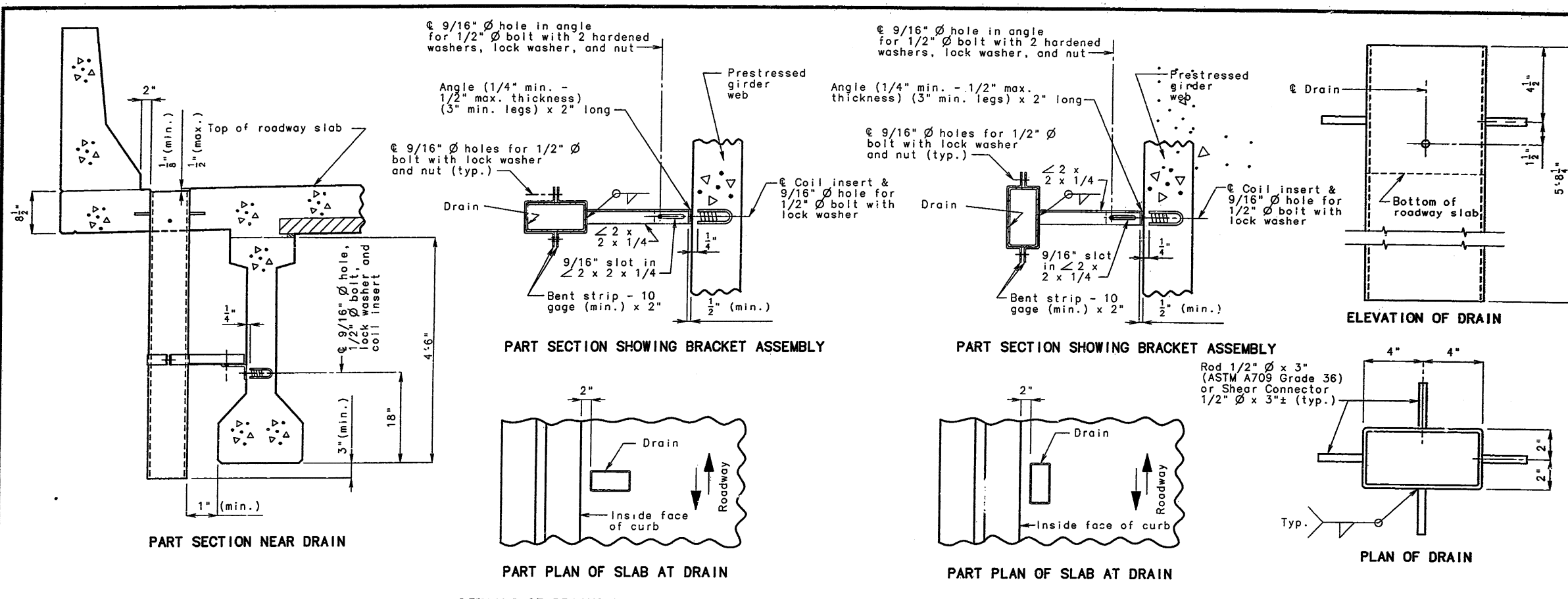


(U1 BARS MAY BE ORIENTED AT RIGHT ANGLES TO LOCATION AND SPACING SHOWN. U1 BARS SHALL BE PLACED BETWEEN P1 BARS)



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

STATE OF MISSOURI
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DESIGNED BY
CHECKED BY
DATE 8/18/97
SIGNATURE
DATE



STATE	PROJ. NO.	SHEET NO.
MO.	365074D	113

NOTE:
Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

Locate drains in the slab by dimensions shown in the Part Section Near Drain.

Shift reinforcing in field where necessary to clear drains.

The drains, coil inserts, and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

Shop drawings will not be required for slab drains and the bracket assembly.

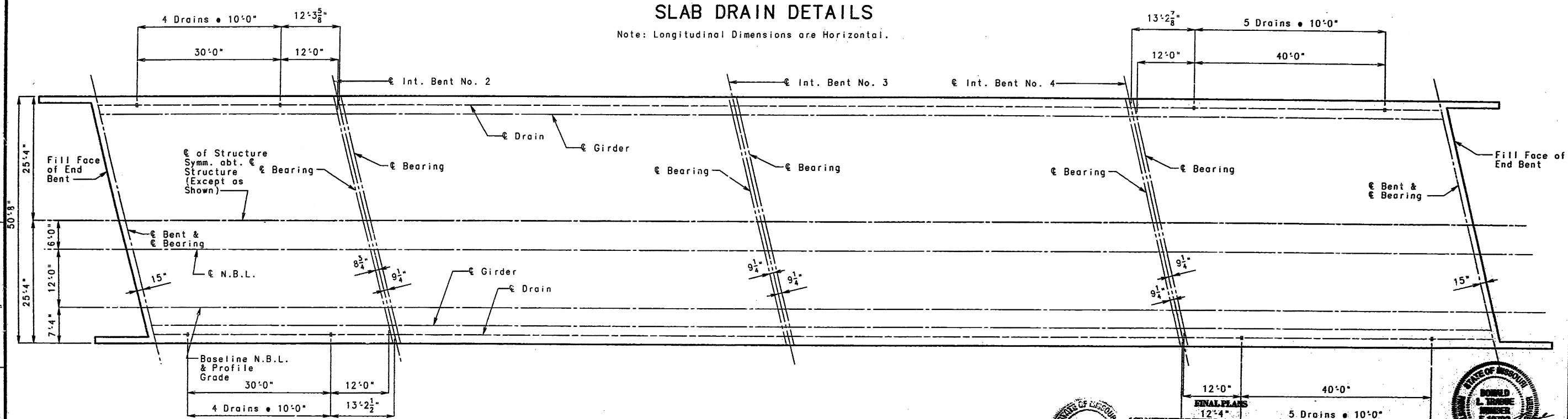
Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The coil insert required for the bracket assembly attachment shall be located on the prestressed I-girder shop drawings.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed I-girder fabricator.

SLAB DRAIN DETAILS

Note: Longitudinal Dimensions are Horizontal.



PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



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



DRA 3 GS 3.30.P/S.I.A
P/S I-Girder Drain
Revised
July 1982
Aug. 1996

DETAILED MAY 1997
CHECKED AUG 1997

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

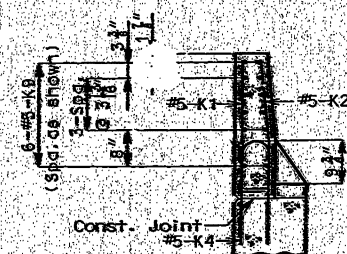
SHEET NO. 27 OF 35

JEFFERSON COUNTY

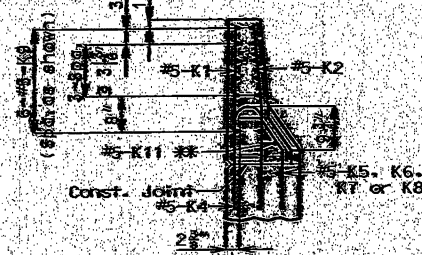
A5529

257

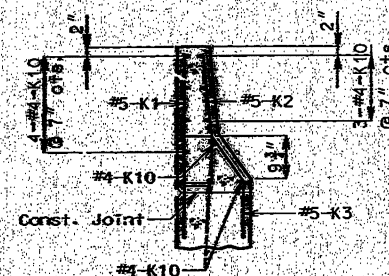
State	Proj. No.	ACNH-ACNHG-ACSTP-109-1(8)	Sheet No.
MO	JOB NO.	J6S0704D	114



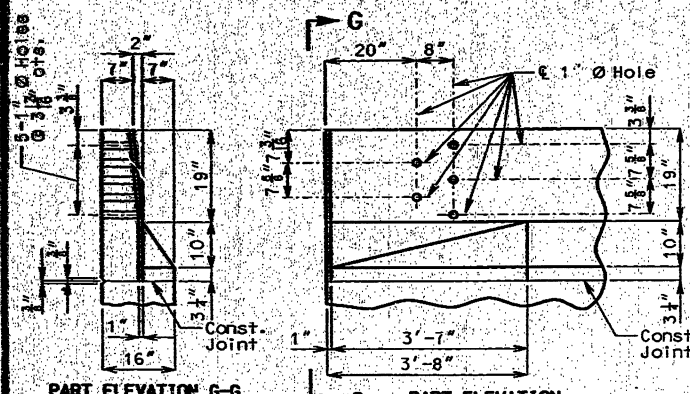
SECTION A-A



SECTION B-B

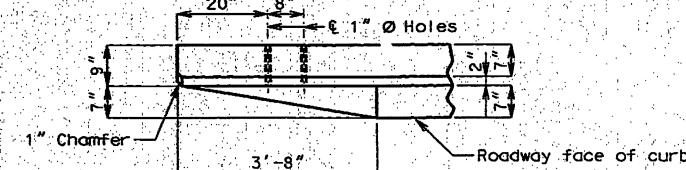


SECTION C-C



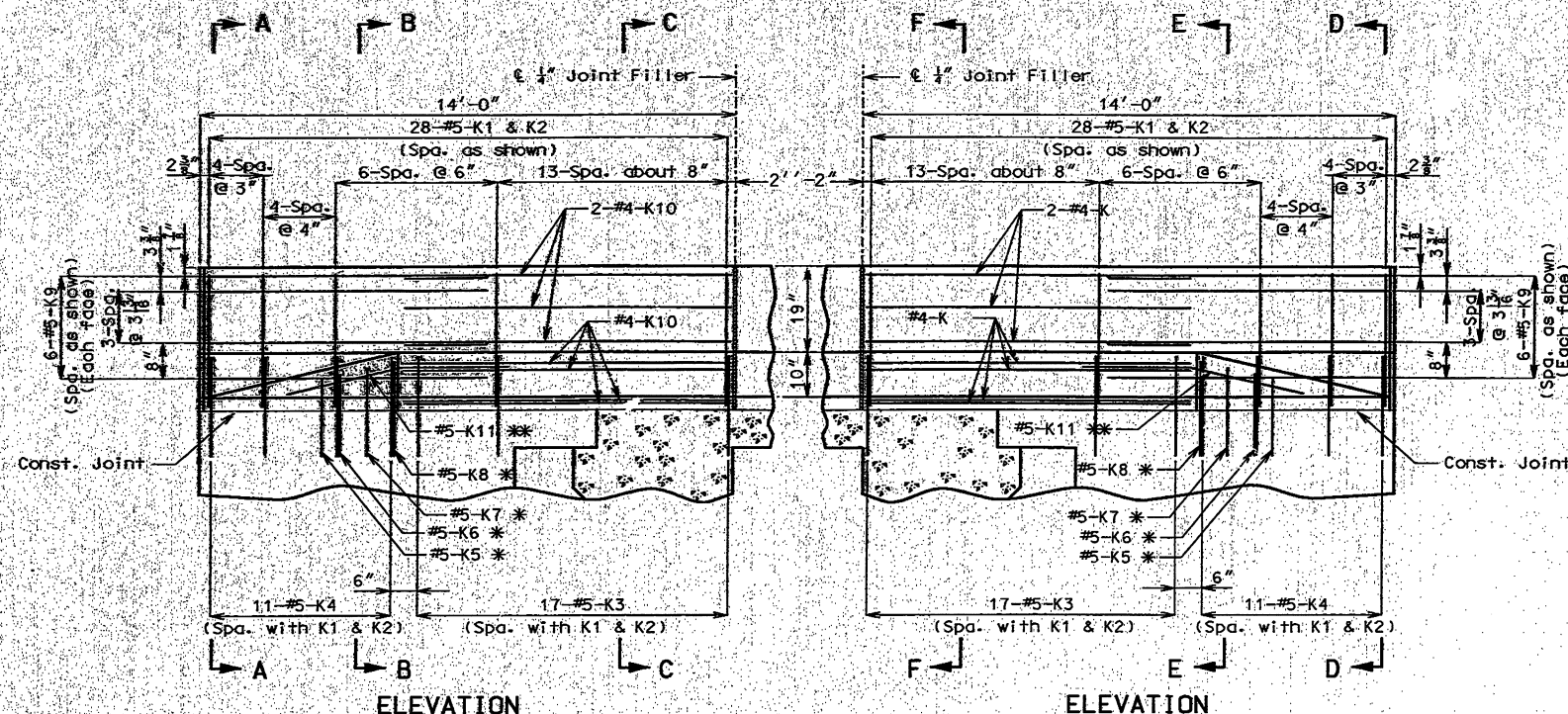
PART ELEVATION G-G

PART ELEVATION



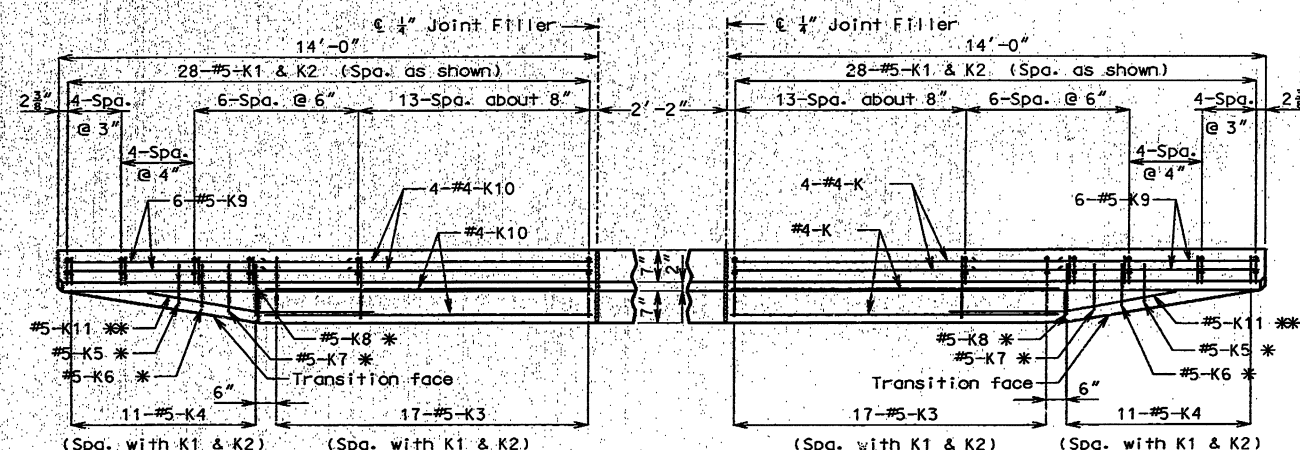
PART PLAN

DETAILS OF GUARD RAIL ATTACHMENT



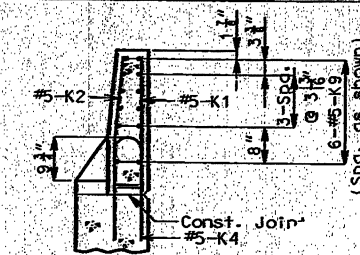
ELEVATION

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

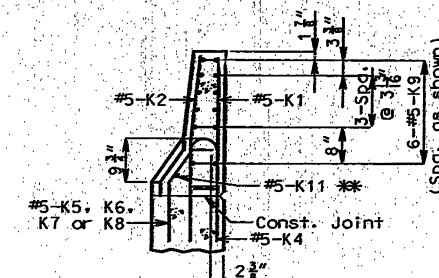


PLAN

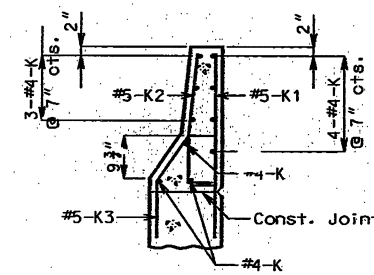
PLAN



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 BENTS

(Left barrier curb shown; right barrier curb similar)

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

Sheet No. 28 of 35

JEFFERSON COUNTY

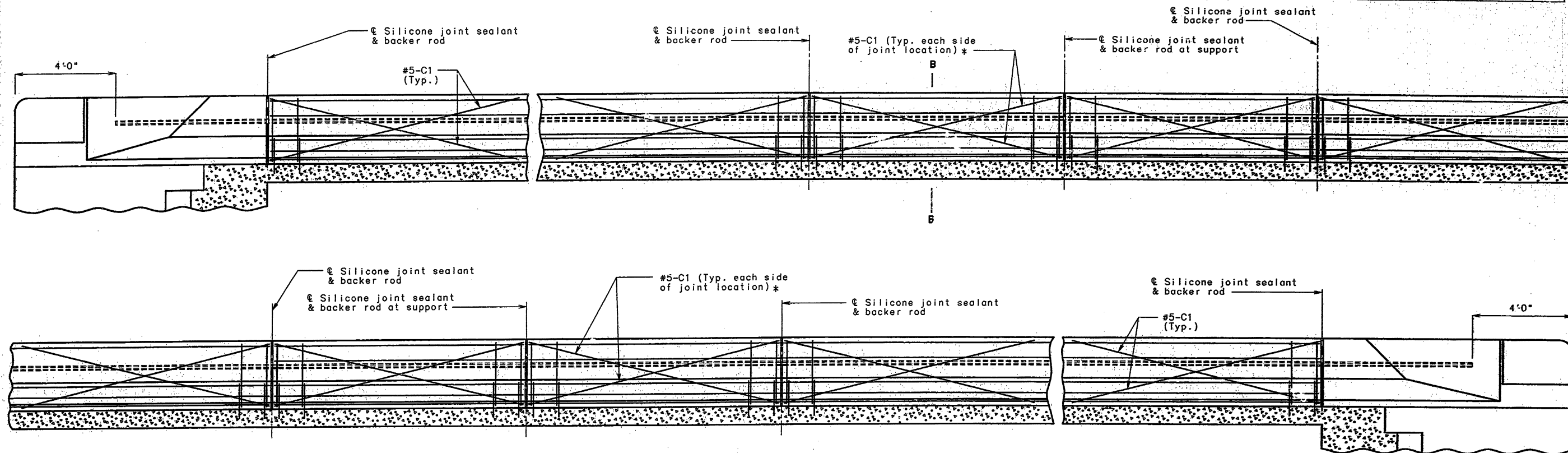
A-5529



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: [Signature]

FINAL PLANS



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.

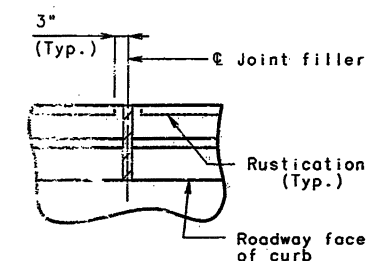
TYPICAL SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS (OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

Note:

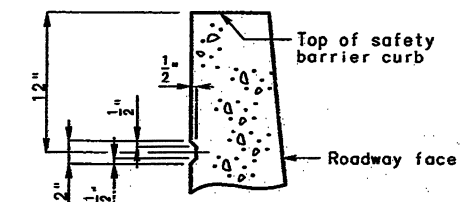
Joint sealant and backer rods shall be used on all slip-form bridge safety barrier curbs instead of joint filler.

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.

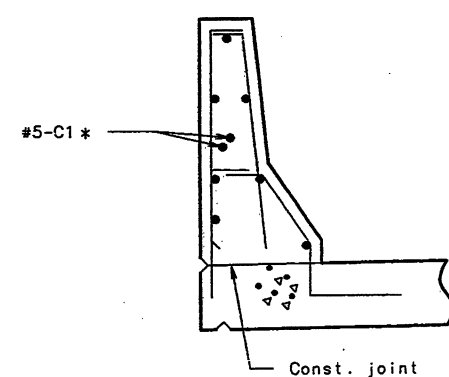


PART PLAN SHOWING SAFETY BARRIER CURB JOINT



PART SECTION SHOWING RUSTICATION DETAILS

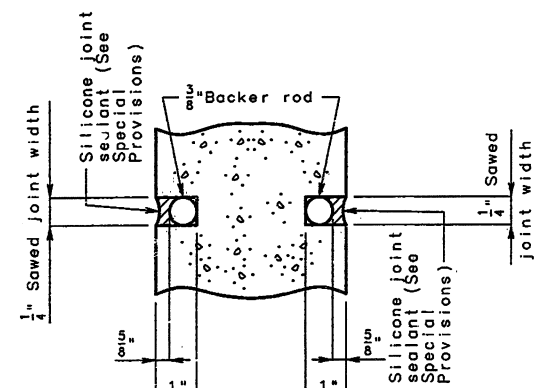
RUSTICATION DETAIL
(Use on highway grade separation only)



PART SECTION B-B

Note: * Each side of joint location.

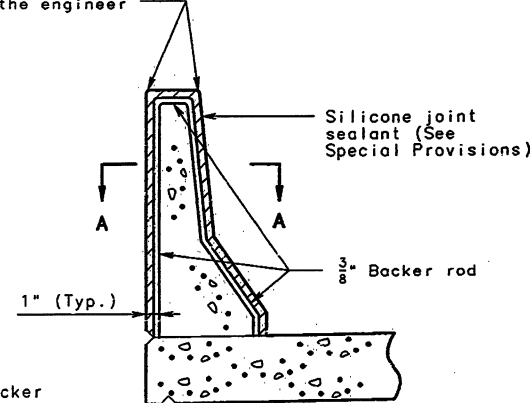
NOTE: Slip-form option is not allowed for barrier curb at end bents.



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

OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB

DETAILED MAY 1997
CHECKED AUG 1997

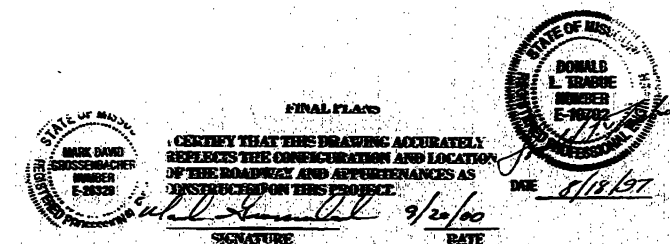
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 30 OF 35

JEFFERSON

COUNTY

A5529



STATE	PROJ. NO.	SHEET
MO.	ACNB-ACNB-ACSTP-104-KA	NO.
166764b		117

GENERAL NOTES:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Section 503 (f'c = 4,000 psi).

All joint filler shall meet the requirements of Section 1057.2.5, except as noted.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with Fy = 60,000 psi.

Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 & #6 bars 27" and 40" respectively.

Mechanical bar splices will be permitted and shall develop at least 125 percent of the specified yield strength of the reinforcing bars being spliced. The contractor shall furnish the Engineer the manufacturer's certification that this requirement is met and is required to follow the manufacturer's recommendation for installation.

Mechanical bar splices shall be epoxy coated in accordance with Mo. Std. Spec. 710.

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

The contractor shall pour and satisfactorily finish the bridge slab before pouring the bridge approach slabs.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

Payment for furnishing all material, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, base, and all other appurtenances and incidental work as shown on this sheet, complete in place, shall be considered as completely covered under the contract unit price for Bridge Approach Slab (Bridge), per sq. yd.

At the contractors option, Grade 40 reinforcement may be substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment. No additional payment will be made for this substitution.

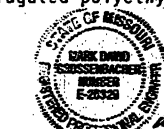
See Missouri Standard Plans Drawing 504.00 for details of Concrete Approach Pavement.

See Missouri Standard Plans Drawing 609.00 or 606.00 for details of Type A Barrier Curb.

When a lap splice is required for the use of a mechanical bar splice, the minimum lap length shall be 40" for transverse approach slab bar splices.

When Grade 40 reinforcement is substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90 degrees with a 2' minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired according to Mo. Std. Spec. 710.3.3.

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



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

DATE 9/20/00

SIGNATURE

DATE 11/1/01

STATE OF MISSOURI

DONALD L. THORNE

ENGINEER

E-10992

DATE 11/1/01

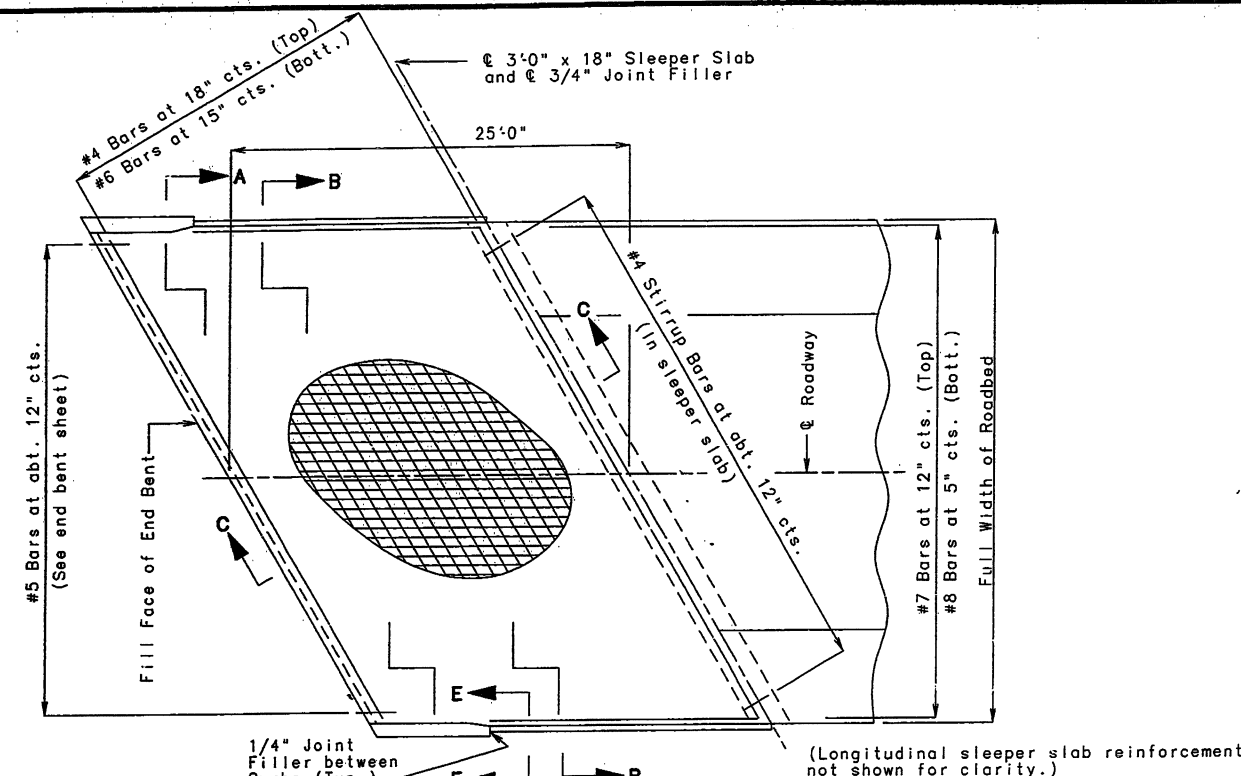
STATE OF MISSOURI

DONALD L. THORNE

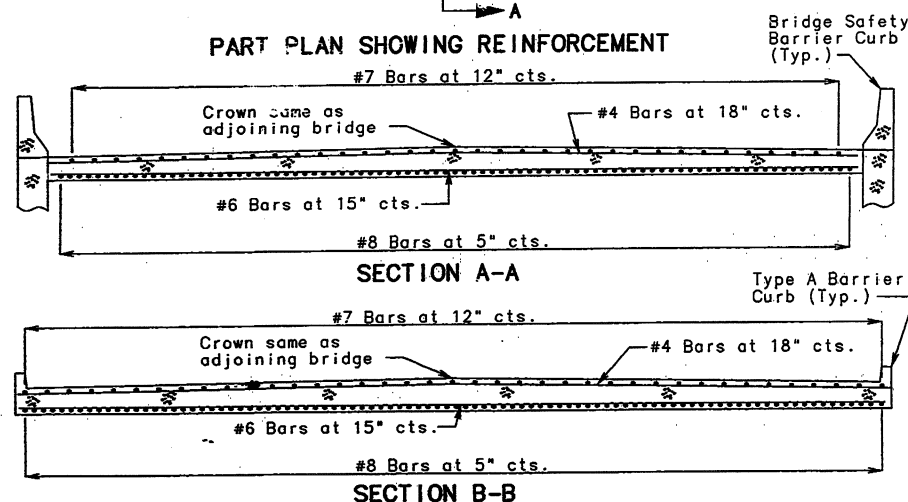
ENGINEER

E-10992

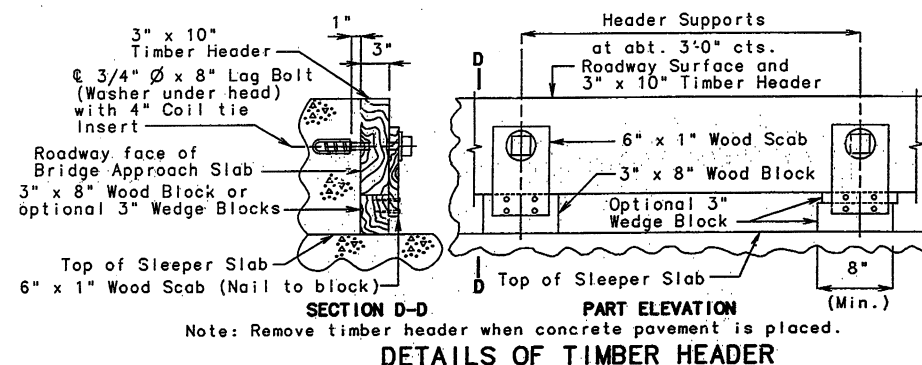
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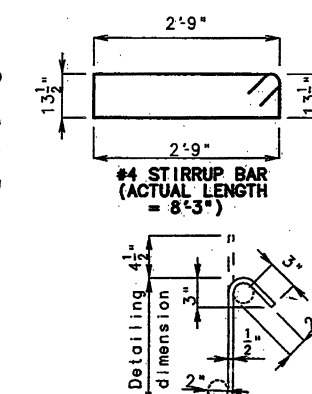
PART PLAN SHOWING REINFORCEMENT



Note: With the approval of the Engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

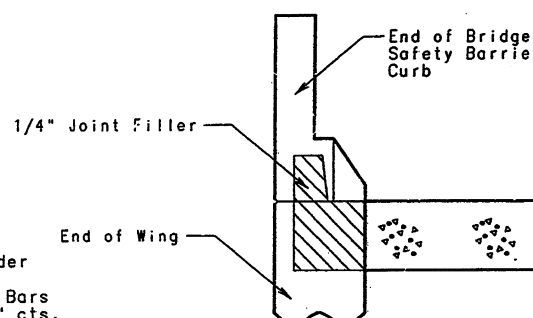


DETAILS OF TIMBER HEADER

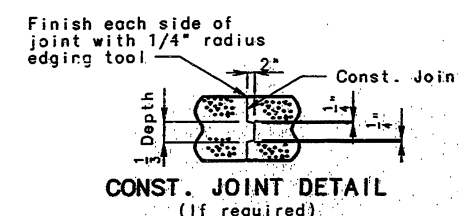


TYPICAL 135° STIRRUP BAR BENDING DIAGRAM

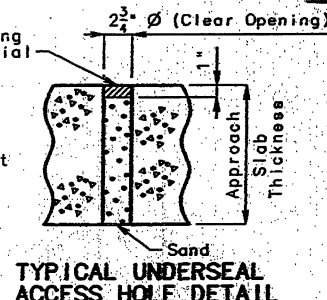
Note: Nominal lengths are based on out to out dimensions shown in bending diagram and are listed for fabricators use. (nearest inch)



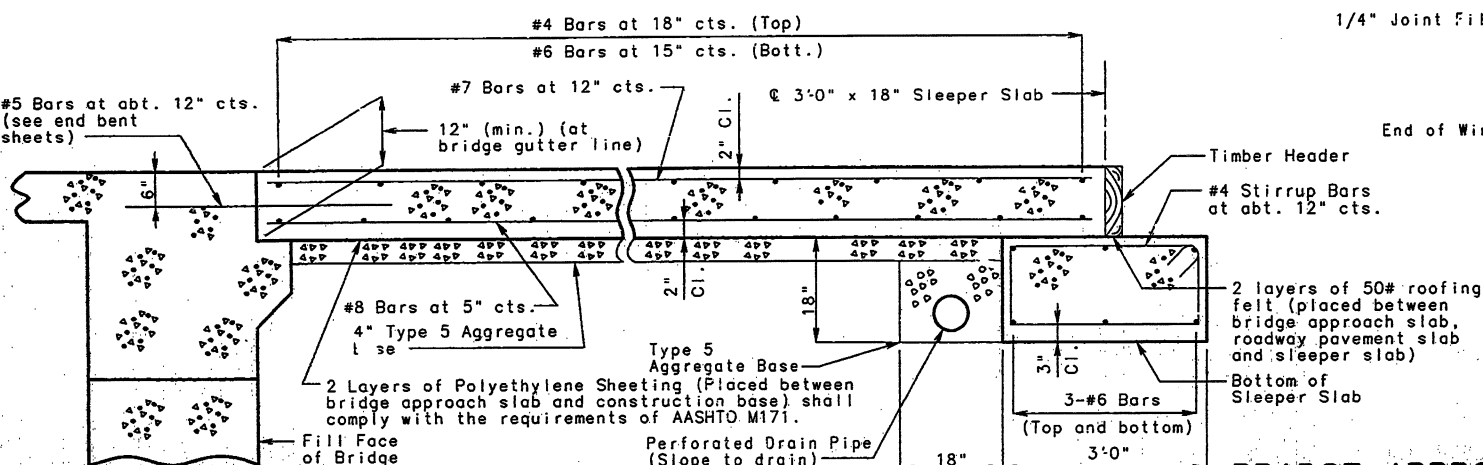
SECTION E-E (Between Curbs)



CONST. JOINT DETAIL (If required)



TYPICAL UNDERSEAL ACCESS HOLE DETAIL



SECTION C-C

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

BRIDGE APPROACH SLAB

SHEET NO. 31 OF 35.

JEFFERSON COUNTY

A5529

APP SLAB, GS 3.30, RA, I, G
December 1992
Revised February 1997

DETAILED JUL 1997
CHECKED AUG 1997

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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	LBS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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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.		
4	6	H42	BEAM		20	X				48	3.000							48	3	48	3	290				
9	9	H43	BEAM		20	X				19	10.000							19	10	19	10	607				
9	9	H44	BEAM		17	X				26	0.000							27	3	27	3	834				
8	6	H45	BEAM		10	S	X					22.000	3	1.500				6	10	6	6	78				
72	4	P40	COLUMN		16	X				2	9.000							9	6	9	6	457				
21	6	U40	BEAM		13	S	X			3	3.000	3	6.000	3	3.000	3	6.000		14	10	14	4	452			
16	6	U41	BEAM		13	S	X			3	3.000	3	9.125	3	3.000	3	9.125		15	4	14	11	358			
37	6	U42	BEAM		13	S	X			3	3.000	4	0.125	3	3.000	4	0.125		15	10	15	5	857			
3	6	U43	BEAM		10	S	X					3	6.000	3	3.000				10	3	9	11	45			
6	6	U44	BEAM		10	S	X					4	0.125	3	3.000				11	3	11	0	99			
4	4	U45	BEAM		10	S	X					6.000	3	3.000					4	3	4	1	11			
39	8	V41	COLUMN		17	X				26	9.000							27	8	27	8	2881				
			SUPERSTRUCT.																							
			END BENT 1																							
8	6	F1	WING BRACE		23	S					14.000	4	1.125		14.000		11.000	8.625		11.000	8.625	6	5	6	4	76
7	6	F2	DIAPHRAGM	E	23	S					2	3.750	5	3.000				2	3.000	6.625	7	7	7	6	79	
7	6	F3	DIAPHRAGM	E	21	S					2	3.750	5	7.000				2	3.000	6.625	7	11	7	8	81	
8	6	F4	WING BRACE		23	S					14.000	5	1.750		14.000		8.625	11.000	8.625	11.000	7	6	7	5	89	
8	7	H1	BEAM		20						51	11.000									51	11	51	11	849	
2	4	H2	CORBEL		20						24	0.000									24	0	24	0	32	
4	7	H3	DIAPHRAGM	E	20						51	11.000									51	11	51	11	424	
6	6	H4	DIAPHRAGM		20						2	5.000									2	5	2	5	22	
12	6	H5	DIAPHRAGM		20						8	10.000									8	10	8	10	159	
5	5	H6	STRAND TIE		23						15.125	2	0.000		15.125		3.625	14.625	3.625	14.625	4	6	4	6	23	
14	6	H7	WING		20						12	9.000									12	9	12	9	268	
10	6	H8	WING		20						8	3.000									8	3	8	3	124	
14	6	H9	WING		20						12	9.000									12	9	12	9	268	
10	6	H10	WING		20						8	3.000									8	3	8	3	124	
2	6	H12	BEAM		20						51	11.000									51	11	51	11	156	
49	5	H13	SLAB	E	20						2	6.000									2	6	2	6	128	
4	6	H14	WING	E	20						12	9.000									12	9	12	9	77	
2	6	H15	WING	E	20						12	9.000									12	9	12	9	38	
3	6	H16	DIAPHRAGM		20						51	11.000									51	11	51	11	234	
26	5	U1	BEAM		10	S						5	1.000	2	3.750						12	6	12	3	332	
10	5	U2	BEAM		10	S						5	4.000	2	3.750						13	0	12	9	133	
15	4	U3	BEAM		13	S					2	3.750	2	9.000	2	3.750	2	9.000			10	11	10	8	107	
11	4	U4	BEAM		13	S					2	3.750	3	1.750	2	3.750	3	1.750			11	8	11	5	84	
36	4	U5	CORBEL		10	S						17.500	6.000								3	5	3	3	78	
67	6	U6	DIAPHRAGM	E	19	S					5	0.000	4	0.000							9	0	8	10	889	
44	5	U7	DIAPHRAGM	E	10	S						4	10.000	2	3.750						12	0	11	9	539	
14	5	V1	BEAM		20						5	1.000									5	1	5	1	74	
2	5	V2	BEAM		20						5	4.000									5	4	5	4	11	
14	6	V3	WING		20						8	3.000									8	3	8	3	173	
10	6	V4	WING		20						5	0.000									5	0	5	0	75	
14	6	V5	WING		20						8	0.000									8	0	8	0	168	
10	6	V6	WING		20						4	11.000									4	11	4	11	74	
			END BENT 5																							
8	6	F51	WING BRACE		23	S					14.000	4	1.125		14.000		11.000	8.625		11.000	8.625	6	5	6	4	76
6	6	F52	DIAPHRAGM	E	23	S					2	3.750	5	3.000				2	3.000	6.625	7	7	7	6	68	

263

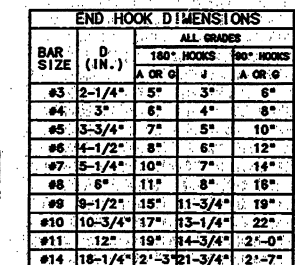
BILL OF REINFORCING STEEL

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.	FT.	IN.	LBS.
6	F53	DIAPHRAGM	E	21	S					2	3.750	5	7.000					2	3.000	6.625	7	11	7	8	69	
9	F54	WING BRACE		23	S						14.000	5	1.750		14.000		8.625	11.000		8.625	11.000	7	6	7	5	100
4	H51	BEAM		20							51	11.000										51	11	51	11	424
2	H52	CORBEL		20							24	0.000										24	0	24	0	32
4	H53	SLAB	E	20							51	11.000										51	11	51	11	424
6	H54	DIAPHRAGM		20							2	5.000										2	5	2	5	22
12	H55	DIAPHRAGM		20							8	10.000										8	10	8	10	159
5	H56	STRAND TIE		23							15.125	2	0.000		15.125		3.625	14.625		3.625	14.625	4	6	4	6	23
16	H57	WING		20							12	9.000										12	9	12	9	306
10	H58	WING		20							8	3.000										8	3	8	3	124
16	H59	WING		20							12	9.000										12	9	12	9	306
10	H510	WING		20							8	3.000										8	3	8	3	124
2	H512	BEAM		20							51	11.000										51	11	51	11	156
49	H513	SLAB	E	20							2	6.000										2	6	2	6	184
2	H514	WING	E	20							12	9.000										12	9	12	9	38
2	H515	WING	E	20							12	9.000										12	9	12	9	38
4	H516	BEAM		20							15	5.000										15	5	15	5	126
4	H517	BEAM		20							27	10.000										27	10	27	10	228
4	H518	BEAM		20							17	3.000										17	3	17	3	141
3	H519	DIAPHRAGM		20							51	11.000										51	11	51	11	234
9	U51	BEAM		10	S							5	1.000	2	3.750							12	6	12	3	115
7	U52	BEAM		10	S							5	4.000	2	3.750							13	0	12	9	93
16	U53	BEAM		10	S							5	9.000	2	3.750							13	10	13	7	227
5	U54	BEAM		13	S						2	3.750	2	9.000	2	3.750	2	9.000				10	11	10	8	36
5	U55	BEAM		13	S						2	3.750	3	0.250	2	3.750	3	0.250				11	5	11	2	37
10	U56	BEAM		13	S						2	3.750	3	3.500	2	3.750	3	3.500				12	0	11	9	78
6	U57	BEAM		10	S							3	3.500	2	3.750							8	11	8	9	35
38	U64	DIAPHRAGM	E	10	S							4	11.000	2	3.750							12	2	11	11	472
32	U65	CORBEL		10	S							17.500	6.000									3	5	3	3	69
67	U66	DIAPHRAGM	E	19	S						5	1.000	4	0.000								9	1	8	11	897
4	V51	BEAM		20							5	1.000										5	1	5	1	21
2	V52	BEAM		20							5	4.000										5	4	5	4	11
6	V53	BEAM		20							5	9.000										5	9	5	9	36
10	V54	WING		20							5	6.000										5	6	5	6	83
14	V55	WING		20				V	2		9	0.000										9	0	9	0	
		INCREMENT =									8	9.000										8	9	8	9	187
		0.500 INCH																								
10	V56	WING		20							5	5.000										5	5	5	5	81
14	V57	WING		20				V	2		8	5.000										8	5	8	5	
		INCREMENT =									8	2.000										8	2	8	2	174
		0.500 INCH																								
		DIAPHRAGMS																								
		AT INT. BENTS																								
		2, 3, AND 4																								
48	H101	DIAPHRAGM		20							8	10.000										8	10	8	10	637
72	H102	DIAPHRAGM		20							10	0.000										10	0	10	0	481
60	H103	DIAPHRAGM		19	S						3	2.000	9.000									3	11	3	10	240
24	H104	STRAND TIE		20							3	5.000										3	5	3	5	86
36	H106	STRAND TIE		20							4	6.000										4	6	4	6	169
48	U101	DIAPHRAGM	E	28	S						2	3.000	5	0.000	14.000							8	5	8	1	583
170	U102	DIAPHRAGM	E	28	S						2	3.000	5	0.000	12.000							8	3	8	1	918
24	V101	DIAPHRAGM	E	20							5	0.000										5	0	5	0	125

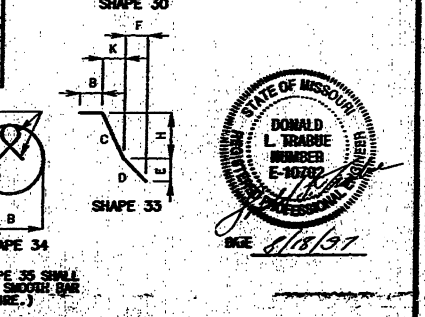
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	LOCATION	EPOXY	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.
		PANEL SLAB																	
		OPTION																	
82	6 S1	SLAB	E	20					54	2.000						54	2	6671	
125	7 S2	SLAB	E	20					22	7.000						22	7	5770	
123	6 S3	SLAB	E	20					42	5.000						42	5	7836	
40	8 S4	SLAB	E	20					38	6.000						38	6	4112	
42	8 S5	SLAB	E	20					25	0.000						25	0	2804	
40	8 S6	SLAB	E	20					30	9.000						30	9	3284	
40	8 S7	SLAB	E	20					29	6.000						29	6	3151	
40	8 S8	SLAB	E	20					36	3.000						36	3	3872	
40	8 S9	SLAB	E	20					42	6.000						42	6	4539	
56	6 S10	SLAB	E	20			V	2	49	2.000						49	2	2215	
		INCREMENT =							3	6.000						3	6	2215	
		20.250 INCH																	
647	6 S11	SLAB	E	20					50	5.000						50	5	48995	
562	4 S12	SLAB	E	20					4	1.000						4	1	1533	
80	5 S13	SLAB	E	20					37	5.000						37	5	3122	
		C.I.P. SLAB																	
		OPTION																	
328	5 S14	SLAB	E	20					37	5.000						37	5	12800	
647	6 S15	SLAB	E	20					50	5.000						50	5	48995	
56	6 S16	SLAB	E	20			V	2	49	2.000						49	2	2215	
		INCREMENT =							3	6.000						3	6	2215	
		20.250 INCH																	
80	6 S17	SLAB	E	20					25	6.000						25	6	3064	
82	7 S18	SLAB	E	20					23	9.000						23	9	3981	
80	7 S19	SLAB	E	20					23	9.000						23	9	3884	
432	6 S20	SLAB	E	20					50	5.000						50	5	32714	
38	6 S21	SLAB	E	20			V	2	47	11.000						47	11	1432	
		INCREMENT =							2	3.000						2	3	1432	
		30.500 INCH																	
592	5 S22	SLAB	E	20					37	5.000						37	5	23103	
		BARRIER CURB																	
636	5 R1	BARRIER CURB	E	19					2	6.000	3.500					2	10	1769	
592	5 R2	BARRIER CURB	E	15					2	6.125	3.500			2	6.000	3.000	2	10	1647
576	5 R3	BARRIER CURB	E	19					17.000	6.000						0	23	1101	
576	5 R4	BARRIER CURB	E	27					6.000	11.125	7.000	12.000	9.125	6.375		3	0	1702	
60	5 R5	END POST	E	19					2	2.500	6.000					2	9	162	
60	5 R6	END POST	E	27					6.000	10.625	17.750		8.750	6.125		2	10	177	
24	5 R7	END POST	E	19					2	6.000	6.000					3	0	73	
4	5 R8	END POST	E	10					2	2.375	9.250					5	2	21	
28	5 R9	END POST	E	10					5	1.125	9.250					5	8	158	
32	5 R10	END POST	E	10					2	0.000	13.000					5	1	161	
26	5 R11	END POST	E	20					10	11.000						10	11	296	
44	5 R12	END POST	E	20					5	1.000						5	1	233	
4	5 R13	END POST	E	20					2	6.000						2	6	10	
4	5 R14	END POST	E	20					13	9.000						13	9	57	
20	5 R15	END POST	E	19			V	4	2	5.000	10.000					3	3	2	
		INCREMENT =							2	5.000	5.000					2	10	2	
		1.250 INCH																	
84	5 R20	BARRIER CURB	E	20					9	9.000						9	9	854	
14	5 R21	BARRIER CURB	E	20					38	4.000						38	4	560	
28	5 R22	BARRIER CURB	E	20					32	5.000						32	5	947	
28	5 R23	BARRIER CURB	E	20					32	5.000						32	5	947	
28	5 R24	BARRIER CURB	E	20					28	2.000						28	2	822	

BILL OF REINFORCING STEEL

[illegible]

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.
X = STIRRUP.
Y = 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 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.
MINIMUM STANDARD TOP AND BOTTOM BAR



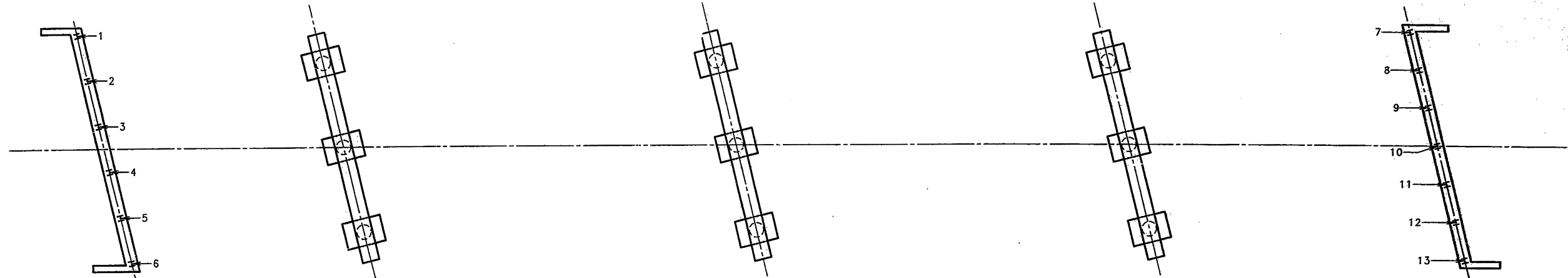
BENDING DIAGRAMS

STATE OF MISSOURI
DONALD L. TRAUBE
NUMBER
E-10772
PROFESSIONAL ENGINEER

DKE 8/18/97

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

STATE	PROJ. NO.	SHEET NO.
MO. 16507040	ACNH-MNHG-ACSTP-104-113	121



"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
END BENT NO. 1			
1	26	209	HP12X53 DRIVEN TO PRACTICAL REFUSAL
2	35	143	HP12X53 DRIVEN TO PRACTICAL REFUSAL
3	41	135	HP12X53 DRIVEN TO PRACTICAL REFUSAL *
4	21	143	HP12X53 DRIVEN TO PRACTICAL REFUSAL
5	28	153	HP12X53 DRIVEN TO PRACTICAL REFUSAL
6	24	143	HP12X53 DRIVEN TO PRACTICAL REFUSAL

PART PLAN SHOWING PILE NUMBERING FOR RECORDING "AS BUILT PILE" DATA

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
END BENT NO. 5			
7	21	127	HP12X53 DRIVEN TO PRACTICAL REFUSAL
8	23	135	HP12X53 DRIVEN TO PRACTICAL REFUSAL
9	24	143	HP12X53 DRIVEN TO PRACTICAL REFUSAL
10	27	143	HP12X53 DRIVEN TO PRACTICAL REFUSAL
11	28	143	HP12X53 DRIVEN TO PRACTICAL REFUSAL
12	32	135	HP12X53 DRIVEN TO PRACTICAL REFUSAL
13	34	135	HP12X53 DRIVEN TO PRACTICAL REFUSAL
	364		TOTAL BENTS 165
	8		+ 1 SPICE
	372		PAY TOTAL

265

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 SPICE

DETAILED JUL 1997
CHECKED AUG 1997

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

SHEET NO. 35 OF 35

JEFFERSON COUNTY A5529



I CERTIFY THAT THIS DRAWING ACCURATELY REFLECTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND APPURTENANCES AS CONSTRUCTED ON THIS PROJECT.
DATE 8/18/97
SIGNATURE [Signature]
DATE 9/20/97

