Bridge Number: A4741

Route/County: 8/Washington

Asbestos-Containing Material Present?

Yes: ☐ No: ☒

If yes, see report for location(s).

Structural Steel Present?

Yes: ☐ No: ☒

If No, then skip the following.

Lead-Based Paint (LBP) Present?

Yes: ☐ No: ☐

Trusses LBP?

Yes: ☐ No: ☐

Girder LBP?

Yes: ☐ No: ☐

Railing LBP?

Yes: ☐ No: ☐

Pile LBP?

Yes: ☐ No: ☐

MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: TMS

FROM: Frank Reichart
Environmental Chemist

DATE: February 7, 2017

SUBJECT: Materials
Asbestos Inspection & Heavy Metal Paint Survey
Route 8
Bridge# A4741
Washington County

We are providing you with the results of the inspection on the above referenced bridge. The inspection report contains an asbestos and a heavy metals survey. The asbestos inspection included identifying suspect asbestos-containing material and NVLAP accredited testing to confirm the presence of asbestos.

Form T746 – This will show if samples were taken, where from, and, if the sample was found to contain asbestos, our estimated quantity of material present. Under the column "Friability Category", this is the meaning for the following:

N-ACM – No asbestos detected.
I NF – Asbestos is present. Material shall be handled carefully by a licensed abatement worker and kept wet if removing as part of a maintenance activity.
II NF – Asbestos is present. If removal is required for the maintenance activity, use an abatement contractor.

In accordance with Missouri Department of Natural Resources' Technical Bulletin "Managing Construction and Demolition Waste" dated January 31, 2003, a heavy metal paint survey has been performed on the above referenced bridge. This survey includes locating concrete which has been painted with something other than traffic paint or graffiti, and testing the painted surface(s) to determine if hazardous heavy metals are present. If the bridge is being removed completely, or the maintenance repairs include removing the painted concrete, then, non-hazardous painted concrete may be used as clean fill materials, if properly handled. You must contact the Central Office Design Division for proper handling of the reported painted surfaces.

Although our survey included observing and sampling all accessible areas, it is possible that potentially hidden asbestos-containing materials may exist within the structure. Should you have any questions regarding these reports, please contact me at (573) 526-4359.

db/fr
http://sp/sites/cm/chemicallab/environmental/shared documents/asbestos/districts/central (cd)/mt/a4741/fr1702072.docx
Attachments

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE:	8	**SURVEYED BY:**	Frank Reichart
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7020102516MOIR11239
DISTRICT:	CD	**SITE ADDRESS:**	Over Bates Creek
COUNTY:	Washington	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF SURVEY:	February 7, 2017		
PARCEL NO.:	Bridge# A4741		

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
17MFJR 118	Asphalt Fiber Board	Over Girder Haunches	N-ACM	
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE:	8	**TESTED BY:**	Frank Reichart
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7020102516MOIR11239
DISTRICT:	CD	**SITE ADDRESS:**	Over Bates Creek
COUNTY:	Washington	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF TESTS:	February 14 & 16, 2017		
PARCEL NO.:	Bridge# A4741		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

All necessary work to handle this material is the contractor's responsibility.

I NF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All materials requiring removal or special handling.

ROUTE:	8	**TESTED BY:**	Frank Reichart
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7020102516MOIR11239
DISTRICT:	CD	**SITE ADDRESS:**	Over Bates Creek
COUNTY:	Washington	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF TESTS:	February 14 & 16, 2017		
PARCEL NO.:	Bridge# A4741		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes

ROUTE: 8
MODOT JOB NO.: N/A
DISTRICT: CD
COUNTY: Washington
SURVEYED BY: Frank Reichart
DATE OF SURVEY: February 7, 2017

TESTED BY: N/A
DATE OF TESTS: N/A
PARCEL NO.: Bridge# A4741
SITE ADDRESS: Over Bates Creek
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471

Expiration Date **10/25/2017**

Certificate Number: 7020102516MOIR11239

Training Date: **10/25/2016**

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Francis J Reichart

has successfully completed the requirements for certification as a INSPECTOR. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

12/2/2016
Date

Kyra L Moore
Director of Air Pollution Control Program

Missouri Department of Transportation
State Bridge Inspection Report

December 14, 2022
7:07:53AM

COUNTY: WASHINGTON **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 3876** **BRIDGE: A4741**

GENERAL STRUCTURE INFORMATION

ROUTE: MO8E	**# SPANS:** 3	**PLACE CODE:** 08254 BRETON	
FEATURE: BATES CR	**LANES ON:** 2	**LENGTH:** 181 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 0	**MAXIMUM SPAN:** 60 FT 8 IN	
LOG MILE: 52.357	**COMPASS DIRECTION:** WEST to EAST	**APPROACH ROADWAY:** 44 FT 0 IN	
DETOUR: 24.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 42 FT 10 IN	
NHS: YES	**FUNCTIONAL CLASS:** RL-PRINCIPAL ARTERIAI	**OUT TO OUT:** 45 FT 6 IN	
BUILT: 1992	**NBI OWNER:** MODOT	**AADT:** 3705	
REHAB:	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2021	
LOCATION: S 430 T 37 R 2 E	**MAINTENANCE DISTRICT:** CD	**AADT TRUCK:** 15.3%	
LATITUDE: 37 56 35.01 (DMS)	**MAINTENANCE COUNTY:** WASHINGTON	**FUTURE AADT:** 7040	
LONGITUDE: 90 48 23.36 (DMS)	**SUB AREA:** 7D43	**FUTURE AADT YEAR:** 2041	

BRIDGE INSPECTION INFORMATION

DATE: 06/30/2022 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 21
TEAM LEADER: MICHAEL MEYERHOFF **ELEMENT:** YES
INSPECTOR 2: JOE GREEN **INSPECTOR 4:**
INSPECTOR 3:

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

GENERAL INSPECTION COMMENTS

(RAITHK, 11/02/2020)--REHAB GRDRS @ BT 2? MAYBE OVERLAY

FRACTURE CRITICAL INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

FRACTURE CRITICAL INSPECTION COMMENTS

INDEPTH INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

INDEPTH INSPECTION COMMENTS

SPECIAL INSPECTION INFORMATION

DATE: 09/07/2016 **RESPONSIBILITY:** DISTRICT **CATEGORY:** CHANNEL CROSS SEC
FREQUENCY: 120 **CALCULATED INTERVAL**:** **NBI:** NO
TEAM LEADER: **INSPECTOR 3:** **METHOD:** WT TAPE
INSPECTOR 2: ADAM ZENTZ **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

DATE: 06/30/2022 **RESPONSIBILITY:** DISTRICT **CATEGORY:** DRY
FREQUENCY: 60 **CALCULATED INTERVAL**:** 21 **NBI:** NO
TEAM LEADER: MICHAEL MEYERHOFF **INSPECTOR 3:** **METHOD:** VISUAL
INSPECTOR 2: JOE GREEN **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

UNDERWATER INSPECTION COMMENTS

OTHER SPECIAL INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

COUNTY: WASHINGTON **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 3876** **BRIDGE: A4741**

STRUCTURE POSTING

APPROVED CATEGORY: S-1 NO POSTING REQUIRED
Ton 1: **Ton 2:** **Ton 3:**
COMMENTS:

FIELD CATEGORY: S-1 NO POSTING REQUIRED
Ton 1: **Ton 2:** **Ton 3:** **PROBLEM:** **PROBLEM DIRECTION:**
COMMENTS:

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 02/09/2007)--(60'-60'-60') P/S CONC I-GDR SPANS

[ITEM 58] DECK: 7-GOOD CONDITION
RATING : 05/18/2001
COMMENTS: (OTTINM, 09/20/2012)--GENERAL CRACKING

[ITEM 59] SUPER: 5-FAIR CONDITION
RATING : 05/18/2001
COMMENTS: (TRAMPA, 11/29/2018)--DIAG & VERT CRACKS IN MANY P/S GRD ENDS; SOME LARGE CRACKS WITH MINOR SPALLS;

[ITEM 60] SUB: 8-VERY GOOD CONDITION
RATING : 05/18/2001
COMMENTS:

[ITEM 61] BANK/CHANNEL: 6-WIDESPREAD MINOR DAMAGE
RATING : 05/18/2001
COMMENTS: (TRAMPA, 11/29/2018)--TREES, AGGRADATION UPSTREAM. WEST BANK CUT DOWN STR.

[ITEM 113] SCOUR: 8-STABLE FOR CALCULATED
RATING : 05/18/2001
EVALUATION TYPE :
COMMENTS:

[ITEM 71] WATERWAY ADEQUACY: DECK ABOVE FLOOD ELEV
RATING : 05/18/2001
COMMENTS:

[ITEM 72] APPRRDWY ALIGNMENT: 8-VERYGOOD
RATING : 05/18/2001
COMMENTS:

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	SAFETY BARRIER CURB	BOTH	

[ITEM 36B] TRANSITION RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	THRIE BEAM TO W-BEAM	ALL	

[ITEM 36C] APPROACH RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	W-BEAM	ALL	

[ITEM 36D] RAIL END TREATMENT RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *11/29/2018* ***COMMENTS:***

Design_No = a4741

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	BREKAWAY SYSTEM	ALL	

APPROACH PAVEMENT: *Overall condition assigned for each approach pavemenet component is shown below.

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
REINFORCED CONCRETE	TIED SLAB	BOTH		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
LONGITUDINAL CRACKS	RANDOM		FEW	
SETTLEMENT	THROUGHOUT		MINOR	(MARTEP, 12/03/2012)--UNDERSEALED WITH POLYURETHANE FOAM IN THE PAST

DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
MAIN SERIES-1	*WEARING SURFACE*	*PLAIN CONCRETE*	*MONOLITHIC*				
COMMENT:							
	DECK PROTECTION	*EPOXY POLYMER*	*COATED REBAR*				
COMMENT:							
	MEMBRANE	*NOTAPPLICABLE*	*NONE*				
COMMENT:							
	SECONDARY DECK PROTECTION	*LIQUID SEALANT*	*INTERNALLY SEALED*		*2022*	*SILANE*	
COMMENT:							

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
DRAINAGE	*GALVANIZED STEEL*	*FLOOR DRAIN*		

EXPANSION DEVICE COMPONENTS:

SUB UNIT-#	SUB LABEL	COMPONENT	MATERIAL	CONSTRUCTION	GAP	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION

COMMENT:

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
BANK PROTECTION	*ROCK*	*BLANKET*	*BOTH*	

DECK COMPONENTS

SPAN TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	COMMENTS
MAIN SPANS-1	*DECK*	*REINFORCED CONCRETE*	*CAST-IN-PLACE-P/C FORMS*	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
LEACHING	PRECAST PANELS		MINOR		
LONGITUDINAL CRACKS	RANDOM		FEW		
TRANSVERSE CRACKS	PRECAST PANELS		FEW		
TRANSVERSE CRACKS	RANDOM		FEW		

MAIN SPANS-2	*DECK*	*REINFORCED CONCRETE*	*CAST-IN-PLACE-P/C FORMS*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DIAGONAL CRACKS	OVER INTERMEDIATE BENT		RANDOM		
LONGITUDINAL CRACKS	RANDOM		FEW		
TRANSVERSE CRACKS	RANDOM		FEW		(MARTEP, 12/03/2012)--FEW PANEL CRACKS

MAIN SPANS-3 DECK REINFORCED CONCRETE CAST-IN-PLACE-P/C FORMS

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DIAGONAL CRACKS	AT ABUTMENTS		RANDOM		
LONGITUDINAL CRACKS	RANDOM		FEW		
TRANSVERSE CRACKS	RANDOM		FEW		(MARTEP, 12/03/2012)--PANEL CRACKS

SUPERSTRUCTURE COMPONENTS

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
MAIN SERIES-1	*CONTINUOUS SPAN*	*PRESTRESSED CONCRETE*	*I-GIRDERS*		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	COMPOSITE	60 FT 8 IN	NO	(STEGEC, 01/31/2017)--DIAG-CRKS THRU 2 PANELS AT ABUT WITH MINOR LEACHING IN 2016

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DIAGONAL CRACKS	EXTERIOR GIRDERS		MODERATE		(MARTEP, 12/03/2012)--AT BENT 2 - 3 CRACKED THRU BOTTOM AND 1 THRU WEB IN GDR 1. ALSO GDRS 2, 3, 4 AND 5 ARE CRACKED.
LEACHING	DIAPHRAGMS		MODERATE		
LEACHING	GIRDER ENCASEMENT		MINOR		
VERTICAL CRACKS	DIAPHRAGMS		FEW		
VERTICAL CRACKS	GDR1		FEW		(GREENA2, 07/14/2022)--BOTTOM FLANGE 4 PLACES

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL
MAIN SPANS-2	COMPOSITE	60 FT 0 IN	NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	DIAPHRAGMS		MINOR		
SPALLS	GDR2		MINOR		(MARTEP, 12/03/2012)--BOTTOM (RAITHK, 11/02/2020)--STRANDS EXPOSED
VERTICAL CRACKS	GDR1		MODERATE		(MARTEP, 12/03/2012)--AT BENT 3 - 2 CRACKS IN WEB AND 3 IN BOTTOM FLANGE (RAITHK, 11/02/2020)--DID NOT SEE 2020
VERTICAL CRACKS	GDR2		FEW		(RAITHK, 11/02/2020)--CRKS OPEN IN THE BOTTOM
VERTICAL CRACKS	GDR3		MODERATE		(MARTEP, 12/03/2012)--CENTER GIRDER AT BENT 3 IN BOTTOM FLANGE (RAITHK, 11/02/2020)--DID NOT SEE 2020
VERTICAL CRACKS	GIRDERS		FEW		(MARTEP, 12/03/2012)--ALL GIRDERS CRACKED AT BT 2. LARGE DIAGONAL CRACK IN WEB AND BOTTOM FLANGE OF GDR 1. GDRS 2, 3, 4 AND 5 ARE ALL CRACKED TOO.

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL
MAIN SPANS-3	COMPOSITE	60 FT 8 IN	NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DIAGONAL CRACKS	THROUGHOUT		MODERATE		(GREENA2, 07/14/2022)--GDRS 3, 4 AND 5 AT BENT 3. AND GDRS 2 AND 3 AT ABUTMENT.
LEACHING	DIAPHRAGMS		MODERATE		(RAITHK, 02/13/2019)--INTO THE GRDRS
VERTICAL CRACKS	DIAPHRAGMS		FEW		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	*LA-30 DEGREES*	*52 FT 7 IN*	*REINFORCED CONCRETE*	*INTEGRAL*		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

PILING	REINFORCED CONCRETE	CAST-IN-PLACE				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
DIAPHRAGM	REINFORCED CONCRETE	CAST-IN-PLACE				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	

BENT-2 LA-30 DEGREES 48 FT 2 IN REINFORCED CONCRETE MULTIPLE COLUMN

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***

BENT-3 LA-30 DEGREES 48 FT 2 IN REINFORCED CONCRETE MULTIPLE COLUMN

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***

ABUTMENT-4 LA-30 DEGREES 52 FT 7 IN REINFORCED CONCRETE INTEGRAL

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
PILING	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
DIAPHRAGM	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

COUNTY: WASHINGTON DISTRICT: CD CLASS: STATBR FED-ID: 3876 BRIDGE: A4741

CLEARANCES UNDER BRIDGE

**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

STRUCTURE PAINT INFORMATION

CONDITION: **RUST AMOUNT :** **STEEL TONS :** 0

ORIGINAL PAINT	CONTRACT REPAINT	DEPARTMENT REPAINT	
PAINT TYPE :	PAINT TYPE :	PAINT TYPE :	MANUFACTURE :
NAME :	NAME :	NAME :	SURFACE PREP :
PAINT COLOR :	PAINT COLOR :	PAINT COLOR :	
PAINT YEAR :	PAINT YEAR :	PAINT YEAR :	
MILS :	MILS :	MILS :	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	LOCATION	ITEM	CATEGORY	PRIORITY	DATE	WORK ITEM COMMENT
DISTRICT SPECIAL	ROADWAY SURFACE	SEAL WITH SILANE	DECK	3	10/06/2028	

UTILITY ATTACHMENTS

UTILITY	OWNER	METHOD	MEASUREMENT TYPE	VALUE	NUMBER	UTILITY ATTACHMENT COMMENT

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

Design_No = a4741

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

NOTE: The items listed in this section are updated whenever computer edits are ran on a structure after the inspection updates have been entered in to TMS.

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	5-BETTER THAN MINIMUM	9/25/2012
[Item 68] Deck Geometry Rating:	6-EQ TO PRESENT MIN CRITR	3/5/2019
[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001
Sufficiency Rating:	81.2%	2/22/2022
Deficiency:	NOT DEFICIENT	5/18/2001
Funding Eligibility:		----
Estimated New Structure Length:		----
Estimated Structure Cost:		----
Estimated Total Project Cost:		----
Year of Cost Estimate:		----

NOTE: The above structure length and cost estimates are computer generated using algorithims in the TMS system. These algorthims are generalized to use NBI items to come up with a new structure length and width to calculate a new area which is taken times a representative cost per square foot. The actual structure size and cost may vary significantly from these numbers once site specific engineering is done.

ADVANCED SIGN INFORMATION

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

OUTFALL INSPECTION INFORMATION

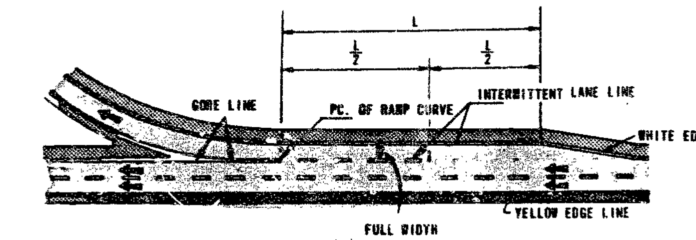
 # OUTFALLS: **INSPECTOR:**

STATUS: **DATE:**

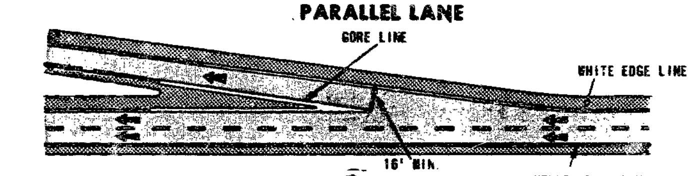
NOTES:

FINAL PLANS

	STATE	JOB NO. J6P0744	
	MO.	PROJ. NO. STP-STPG-BRF-8-(13)	12
9	WASHINGTON	8	

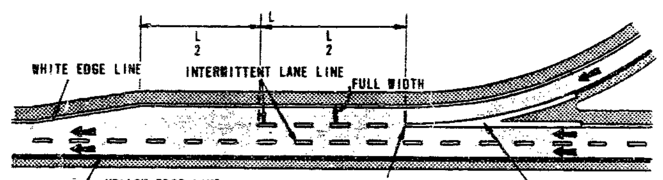


PARALLEL LANE

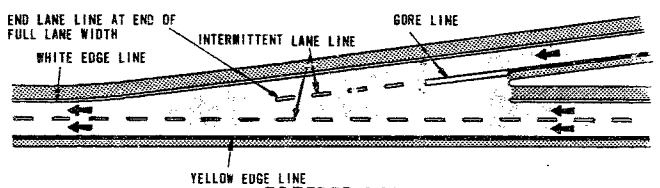


TAPERED LANE

EXIT RAMP MARKING

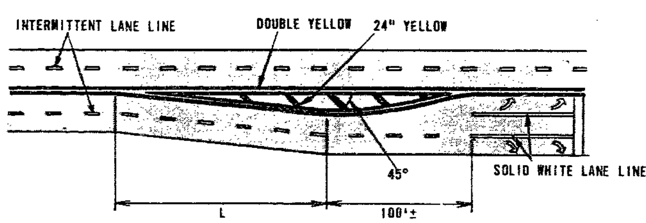


PARALLEL LANE

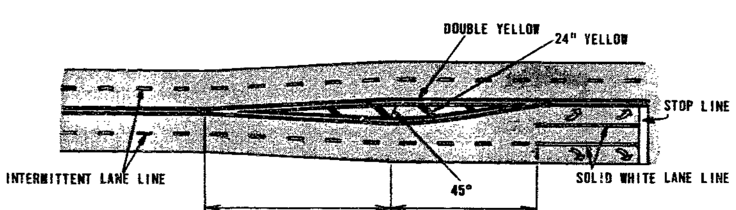


TAPERED LANE

ENTRANCE RAMP MARKING



OFFSET ONE LANE



OFFSET BOTH LANES

L = S×W WHEN POSTED SPEED 45 MPH OR GREATER OR $\frac{WS^2}{60}$ WHEN POSTED SPEED 40 MPH OR LESS.

L = LENGTH OF TAPER IN FEET

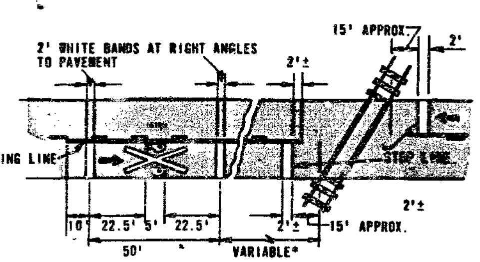
S = OFF PEAK 85 PERCENTILE SPEED IN MPH

W = OFFSET DISTANCE IN FEET

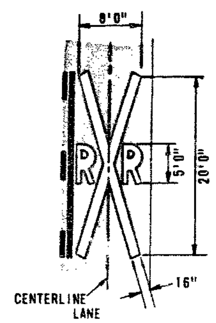
DISTANCE (L) SHOULD BE EXTENDED AS REQUIRED BY SIGHT DISTANCE CONDITIONS

MEDIAN ISLAND LEFT TURN LANE MARKING

1. STOP LINES SHALL BE PLACED 90° TO THE ROADWAY
2. IF RAILROAD GATE IS PRESENT THE STOP LINE SHALL BE 8' FROM GATE



PAVEMENT DETAIL

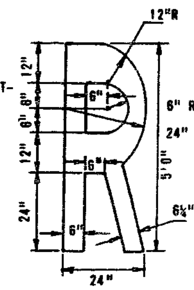


SYMBOL DETAIL

*THE DISTANCE FROM THE RAILROAD CROSSING MARKING TO THE NEAREST TRACK WILL VARY ACCORDING TO THE APPROACH SPEED AND THE SIGHT DISTANCE OF THE VEHICULAR TRAFFIC APPROACHING, BUT SHOULD NOT BE LESS THAN 50 FEET.

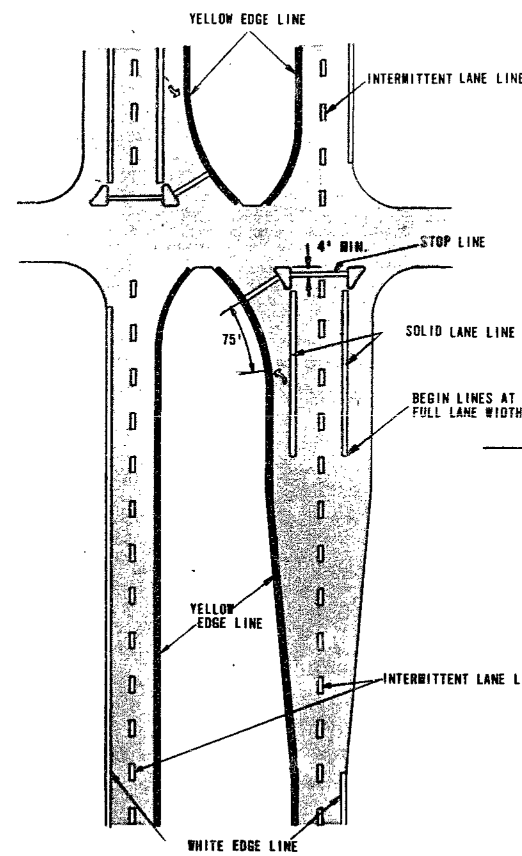
A THREE-LANE ROADWAY SHOULD BE MARKED WITH A CENTERLINE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING.

ON MULIT-LANE ROADWAY THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

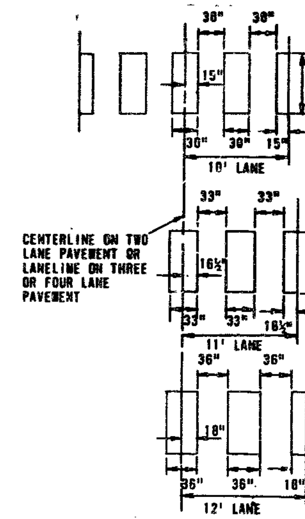


LETTER DETAIL

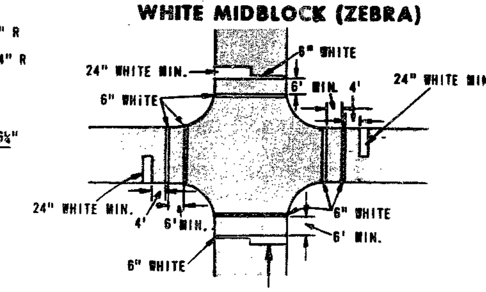
RAILROAD GRADE CROSSING



SIGNALIZED GRADE INTERSECTION MARKING

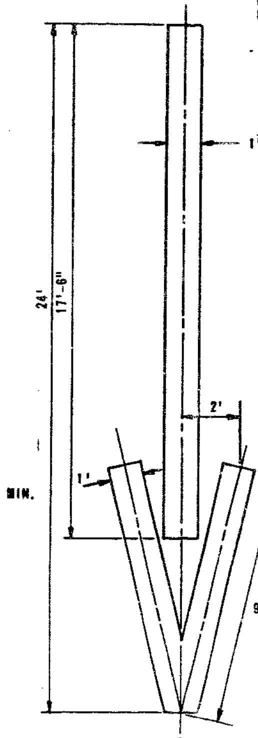


WHITE MIDBLOCK (ZEBRA)



SOLID WHITE

PEDESTRIAN CROSSWALK



OFF RAMP WRONG WAY ARROW

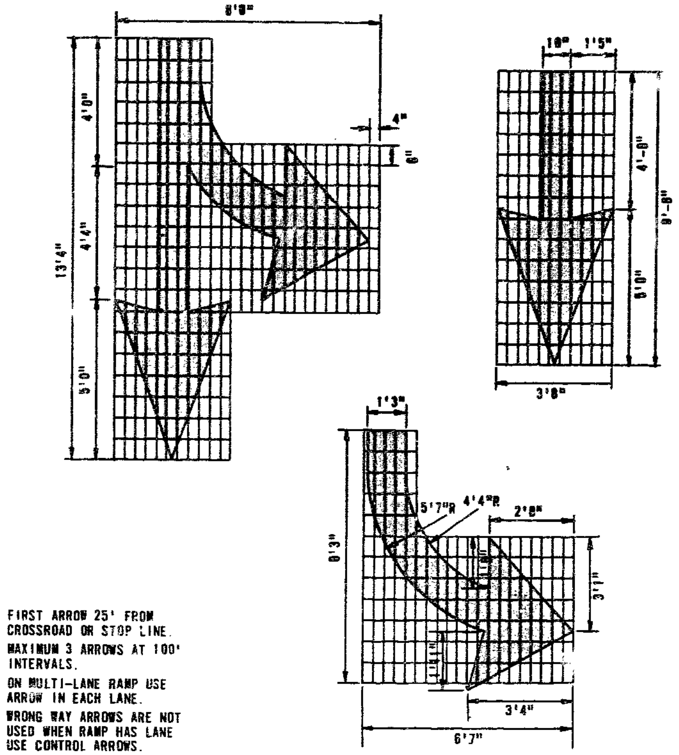
FIRST ARROW 25' FROM CROSSROAD OR STOP LINE.

MAXIMUM 3 ARROWS AT 100' INTERVALS.

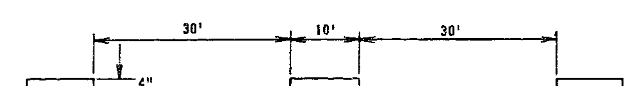
ON MULTI-LANE RAMP USE ARROW IN EACH LANE.

WRONG WAY ARROWS ARE NOT USED WHEN RAMP HAS LANE USE CONTROL ARROWS.

TWO LANE USE CONTROL ARROWS FOR FIRST 200 FEET WITH ONE ADDITIONAL ARROW EVERY 400 FEET OF MANDATORY MOVEMENT LANE. FIRST ARROW 75 FEET FROM STOP LINE.



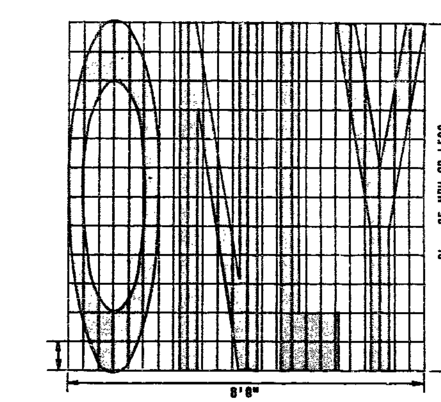
ARROW MARKINGS



INTERMITTENT LINE

DOUBLE LINE

LINE DETAIL



WORD MARKING

ELONGATED WORD & SYMBOL

GENERAL NOTES:

CENTERLINE. THE CENTERLINE ON A TWO-LANE, TWO-WAY HIGHWAY SHALL BE AN INTERMITTENT YELLOW LINE 4 INCHES WIDE. LINES 10 FEET IN LENGTH SEPARATED BY 30 FOOT GAPS SHALL BE USED.

LANE LINE. LANE LINES SHALL BE AN INTERMITTENT OR SOLID WHITE LINE 4 INCHES WIDE. LINES 10 FEET IN LENGTH SEPARATED BY 30 FOOT GAPS SHALL BE USED WHEN INTERMITTENT LANE LINES ARE SPECIFIED.

EDGE LINE. EDGE LINES SHALL BE CONTINUOUS SOLID WHITE OR SOLID YELLOW LINES 4 INCHES WIDE. RIGHT SIDE EDGE LINES ARE NORMALLY SOLID WHITE. MEDIAN OR LEFT SIDE EDGE LINES ON DIVIDED HIGHWAYS AND THE LEFT SIDE OF ON AND OFF RAMPS ARE NORMALLY SOLID YELLOW. EDGE LINES ARE CONTINUOUS ACROSS DRIVEWAYS AND MINOR INTERSECTING ROADS.

NO-PASSING LINE. NO-PASSING LINES SHALL BE CONTINUOUS SOLID YELLOW 4 INCHES WIDE. NO-PASSING LINES SHALL BE PLACED 4 INCHES FROM AN ADJACENT CENTERLINE. NO-PASSING LINES ON A TWO-LANE, TWO-WAY HIGHWAY WHEN PASSING IS PROHIBITED IN EACH DIRECTION SHALL BE PLACED 12 INCHES APART AND THE INTERMITTENT CENTERLINE IS OMITTED.

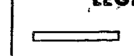
STOP LINE. STOP LINES SHALL BE A SOLID WHITE TRANSVERSE LINE 24 INCHES WIDE. STOP LINES SHALL BE LOCATED NOT LESS THAN 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.

PEDESTRIAN CROSSWALK. CROSSWALK LINES SHALL BE SOLID WHITE TRANSVERSE LINES 6 INCHES WIDE AND NOT LESS THAN 6 FEET APART. CROSSWALK LINES ON THE INTERSECTION SIDE OF THE CROSSWALK SHOULD MEET AT THE CURB.

GORE LINE. GORE LINES SHALL BE A SOLID WHITE LINE 8 INCHES WIDE.

WORD AND SYMBOL MARKINGS. ARROWS AND WORD SYMBOLS SHALL BE SOLID WHITE.

LEGEND



WHITE LINE

YELLOW LINE

SHEET 1 OF 1

REV MAY 16, 88

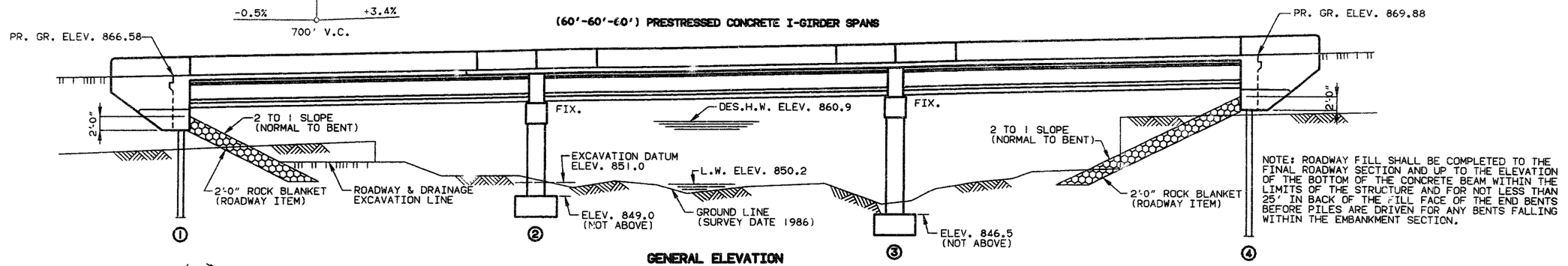
SP-39T

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

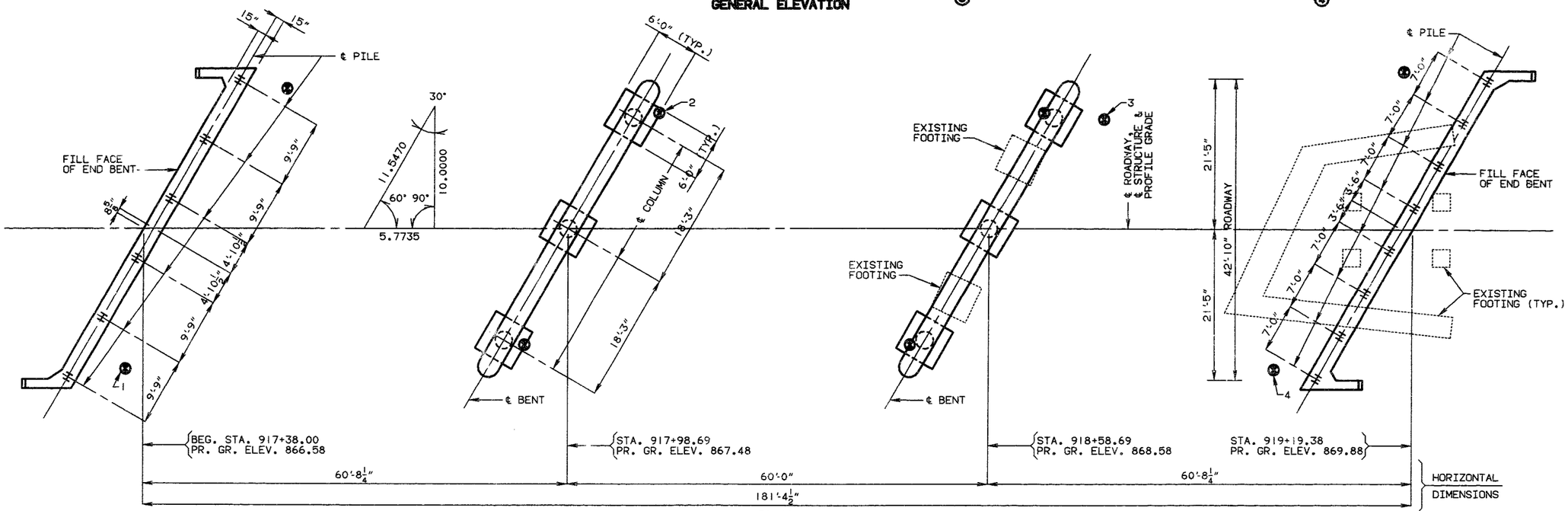
STATE	PROJ. NO.	SHEET NO.
MO.	F·A·F·-8-1(13)	14
SEC./SUR. 430 TWP. 37N RGE. 2E		

P.I. STA. 917+62.0
ELEV. 863.50
-0.5% +3.4%
700' V.C.

(60'-60'-60') PRESTRESSED CONCRETE I-GIRDER SPANS



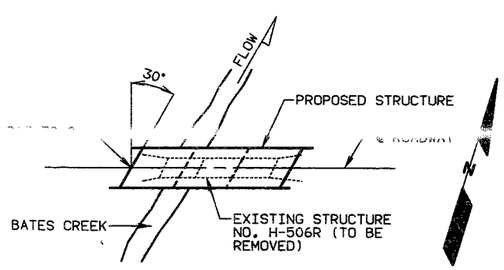
GENERAL ELEVATION



PLAN

NOTE: "⊗" INDICATES LOCATION OF BORINGS. BORING DATA FOR ALL LOCATIONS IS AVAILABLE UPON REQUEST FROM THE DISTRICT OFFICE.
BORING DATA FOR NUMBERED L ATIONS IS DETAILED ON SHEET NO. 2.
FOR GENERAL NOTES, PILE AND FOOTING DATA, ESTIMATED QUANTITIES AND ESTIMATED QUANTITIES FOR ALTERNATE SLABS, SEE SHEET NO. 2.

B.M. AT 95 ELEV. 886 [illegible] CENTER [illegible] DWL.
80'± L. OF (HISTORIC MARKER 172 MI) 600'± E. OF BATES CREEK BRIDGE



LOCATION SKETCH

HYDROLOGIC DATA	
DRAINAGE AREA	= 14.7 SQ. MI. (HILLY)
DES. DISCHARGE	= 7720 CFS. (100 YEARS)
DES. H. W. ELEV.	= 860.9 (100 YEARS)
EST. BACKWATER	= 0.7 FT.

BRIDGE OVER BATES CREEK

STATE ROAD FORM POTOSI TO STEELVILLE
ABOUT 0.6 MILE WEST OF POTOSI
PROJECT NO. F·A·F·-8-1(13) **STA.** 917+38.00
JOB NO. J6P0744 **RTE.** 8

WASHINGTON **COUNTY**

DESIGNED FEB. 1992
DETAILED MAR. 1992
CHECKED APR. 1992

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

SEE FINAL PLANS
SHEET NO. 1 OF 20.

DATE 5/19/92

STD.
STD. 706.35
A-4741

X 402

STATE	PROJ. NO.	SHEET NO.
MD.		15

GENERAL NOTES:

DESIGN SPECIFICATIONS: A.A.S.H.T.O.-1989 AND INTERIM 1990 LOAD FACTOR DESIGN
A.A.S.H.T.O.-1983 GUIDE SPECIFICATIONS FOR
SEISMIC DESIGN
SEISMIC PERFORMANCE CATEGORY A

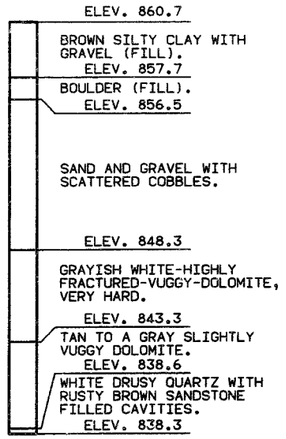
DESIGN LOADING:
HS20 MODIFIED
35#/SQ. FT. FUTURE WEARING SURFACE
EARTH 120#/CU. FT., EQUIVALENT FLUID PRESSURE 45#/CU. FT.
SUPERSTRUCTURE: SIMPLY-SUPPORTED, NON-COMPOSITE FOR DEAD LOAD.
CONTINUOUS COMPOSITE FOR LIVE LOAD.

DESIGN UNIT STRESSES:
CLASS B CONCRETE (SUBSTRUCTURE) F'C=3,000 PSI.
CLASS B1 CONCRETE (SAFETY BARRIER CURB) F'C=4,000 PSI.
CLASS B2 CONCRETE (SUPERSTRUCTURE EXCEPT PRESTRESSED GIRDERS AND SAFETY BARRIER CURB) F'C=4,000 PSI
REINFORCING STEEL (GRADE 60) FY=60,000 PSI.
STEEL PILE FB=9,000 PSI.
FOR PRESTRESSED GIRDER STRESSES, SEE SHEET NO. 10.
FOR PRECAST PRESTRESSED PANEL STRESSES, SEE SHEET NO. 14.

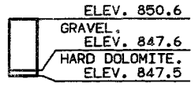
REINFORCING STEEL:
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2", UNLESS OTHERWISE SHOWN.

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

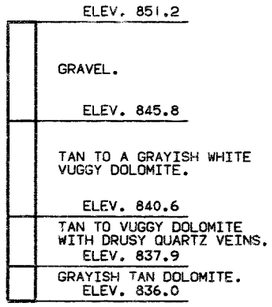
NEOPRENE BEARINGS:
NEOPRENE ELASTOMERIC PADS SHALL BE 60 DUROMETER. THE NEOPRENE PAD SHALL BE BONDED TO THE BEARING SEAT WITH AN EPOXY ADHESIVE AS APPROVED BY THE BEARING MANUFACTURER FOR BONDING NEOPRENE TO CONCRETE.



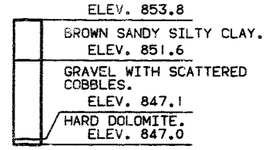
① CORE



②



③ CORE



④

BORING DATA

NOTE: FOR LOCATION OF BORINGS, SEE SHEET NO. 1.
BORING DATA FOR ALL LOCATIONS IS AVAILABLE UPON REQUEST FROM THE DISTRICT OFFICE.

ESTIMATED QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
REMOVAL OF BRIDGES (H-506R)	LUMP SUM			1
CLASS 1 EXCAVATION	CU. YD.	10		10
CLASS 2 EXCAVATION	CU. YD.	77		77
STRUCTURAL STEEL PILES (10")	LIN. FT.	214		214
CLASS B CONCRETE (SUBSTR.)	CU. YD.	107.5		107.5
SLAB ON CONCRETE I-GIRDER	SQ. YD		917	917
**SAFETY BARRIER CURB	LIN. FT.		399	399
LAMINATED NEOPRENE BEARING PADS (TAPERED)	EACH		30	30
PRESTRESSED CONCRETE I-GIRDERS (60')	EACH		15	15
REINFORCING STEEL (BRIDGES)	LB.	13,220		13,220
SLAB DRAINS	EACH		24	24
VERTICAL DRAIN AT END BENTS	EACH			2

NOTE: ALL CONCRETE ABOVE THE CONSTRUCTION JOINT IN THE END BENTS IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER, SEE SPECIAL PROVISIONS.
ALL REINFORCEMENT IN THE END BENTS IS INCLUDED WITH SUPERSTRUCTURE QUANTITIES.
THE COST OF FURNISHING, FABRICATING AND INSTALLING NEOPRENE BEARING PADS, COMPLETE-IN-PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR LAMINATED NEOPRENE BEARING PADS (TAPERED), PER EACH.
** SAFETY BARRIER CURB SHALL BE CAST-IN-PLACE OPTION OR SLIP-FORM OPTION.

ESTIMATED QUANTITIES FOR ALTERNATE SLABS

TYPE OF SLAB	REINF. (LBS.) EPOXY	REINF. (LBS.) PLAIN	CONC. (CU. YD.)
CAST-IN-PLACE CONVENTIONAL FORMS	79,710	7630	302.1
PRECAST PANEL FORMS	55,410	7630	259.6*

NOTE: THE TABLE OF ESTIMATED QUANTITIES FOR ALTERNATE SLABS 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 ALTERNATE SLAB USED.
SEE SPECIAL PROVISIONS FOR ALTERNATE METHODS OF FORMING SLABS.
* BASED ON MINIMUM TOP FLANGE THICKNESS AND MINIMUM JOINT FILLER THICKNESS.
PRECAST PANEL QUANTITIES ARE BASED ON SKEWED END PANELS.
THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR ALTERNATE SLABS.

PILE & FOOTING DATA

	BENT NO.	1	2	3	4
BEARING PILE	PILE TYPE AND SIZE	HP10X42			HP10X42
	NUMBER	6			8
	APPROXIMATE LENGTH FT.	13			17
	DESIGN BEARING TONS	56			42
	HAMMER ENERGY REQUIRED FT.-LBS.	12,600			9500
SPREAD FOOTINGS	FOUNDATION MATERIAL		DOLOMITE	DOLOMITE	
	DESIGN BEARING TONS/SQ. FT.		8	8	

NOTE: MINIMUM ENERGY REQUIREMENT OF HAMMER IS BASED ON PLAN LENGTH AND DESIGN BEARING VALUE OF PILES.
ALL PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL.

SEE FINAL PLANS

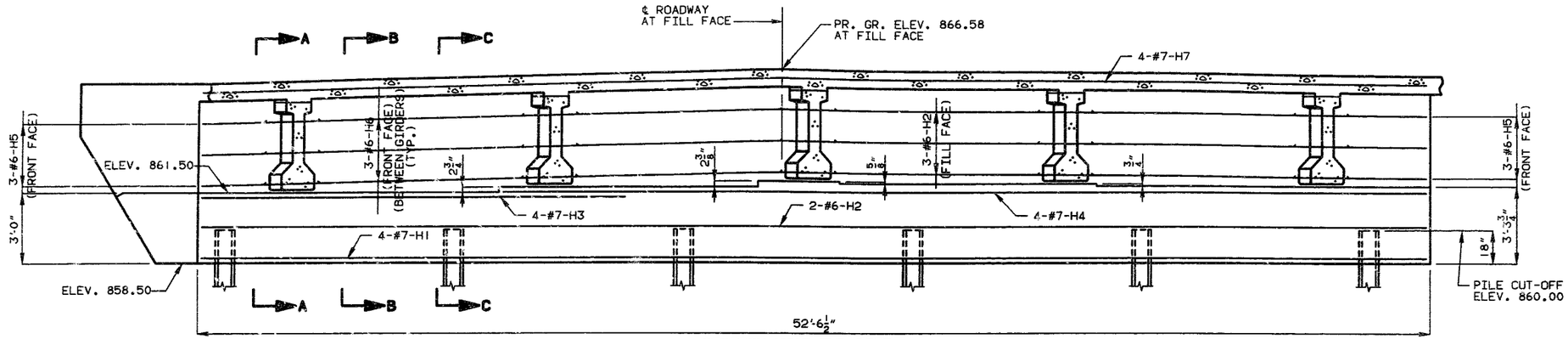
DETAILED MAR. 1992
CHECKED APR. 1992

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

WASHINGTON COUNTY

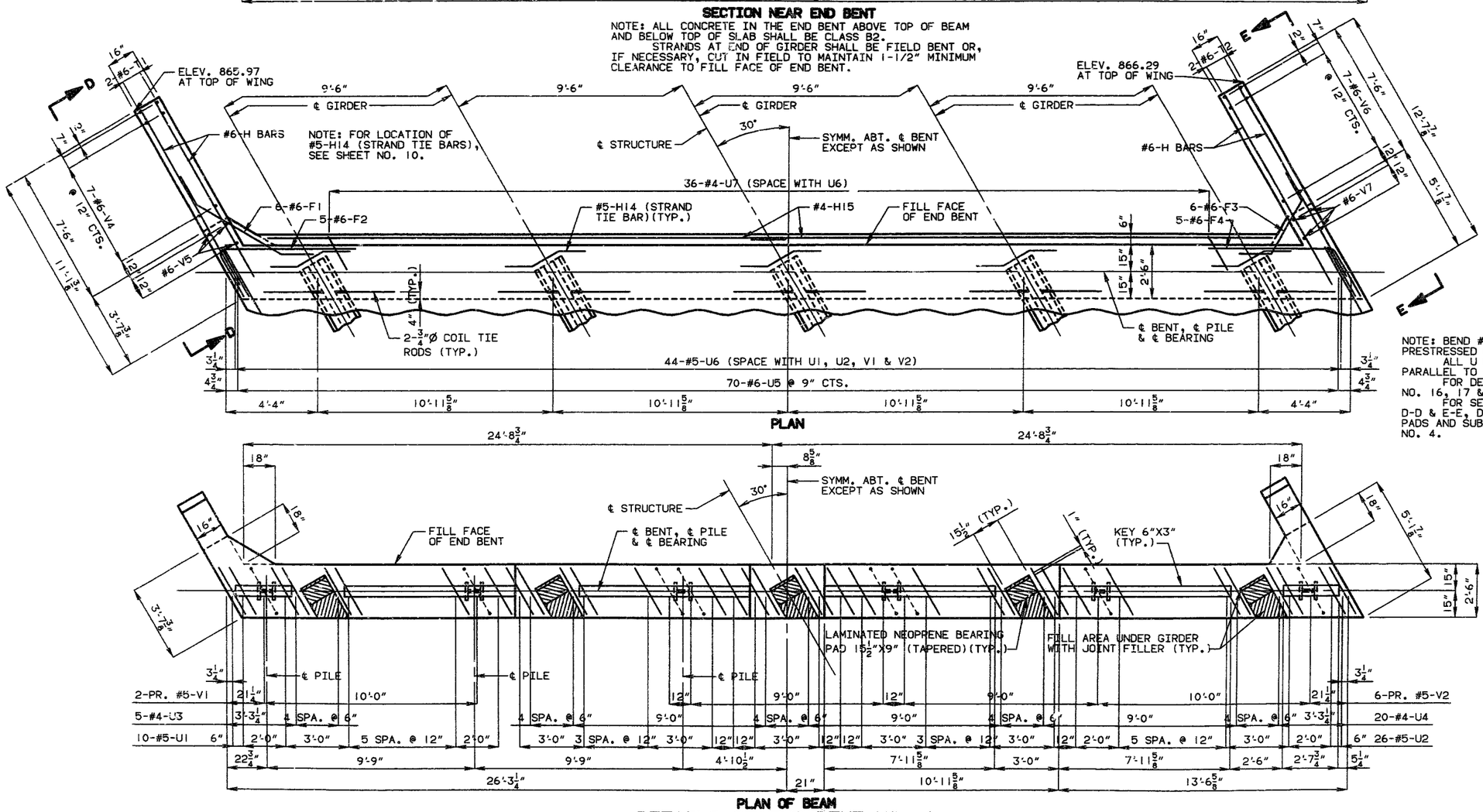
A-4741

STATE	PROJ. NO.	SHEET NO.
MO.		16



SECTION NEAR END BENT

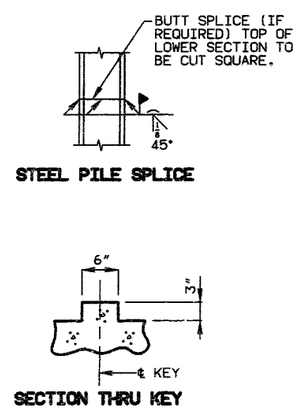
NOTE: ALL CONCRETE IN THE END BENT ABOVE TOP OF BEAM AND BELOW TOP OF SLAB SHALL BE CLASS B2. STRANDS AT END OF GIRDER SHALL BE FIELD BENT OR, IF NECESSARY, CUT IN FIELD TO MAINTAIN 1-1/2" MINIMUM CLEARANCE TO FILL FACE OF END BENT.



PLAN

NOTE: BEND #6-F1 & F3 BARS IN FIELD TO CLEAR PRESTRESSED GIRDER FLANGES.
ALL U BARS IN END BENT ARE TO BE PLACED PARALLEL TO ℄ STRUCTURE.
FOR DETAILS OF BARRIER CURB, SEE SHEETS NO. 16, 17 & 18.
FOR SECTIONS A-A, B-B & C-C, ELEVATIONS D-D & E-E, DETAILS OF LAMINATED NEOPRENE BEARING PADS AND SUBSTRUCTURE QUANTITY TABLE, SEE SHEET NO. 4.

PLAN OF BEAM



DETAILS OF END BENT NO. 1

DETAILED MAR. 1992
CHECKED MAR. 1992

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

SEE FINAL PLANS

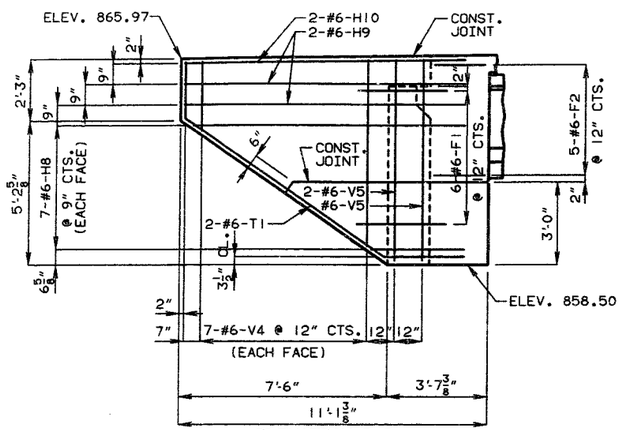
SHEET NO. 3 OF 20.

WASHINGTON COUNTY

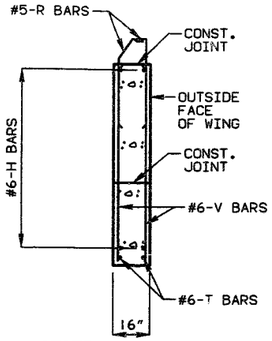
A-4741

24 of 28

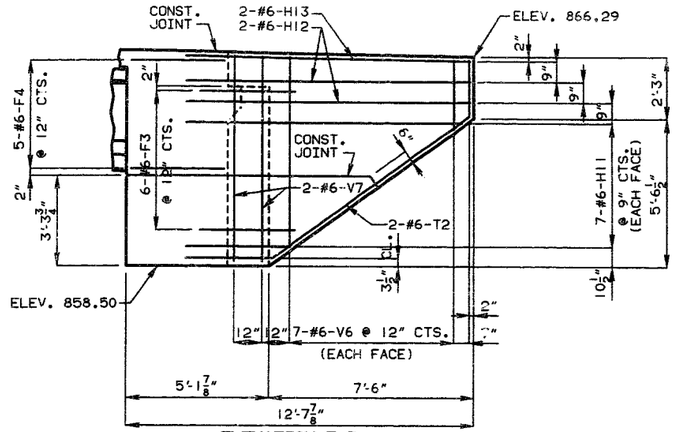
STATE	PROJ. NO.	SHEET NO.
MO.		17



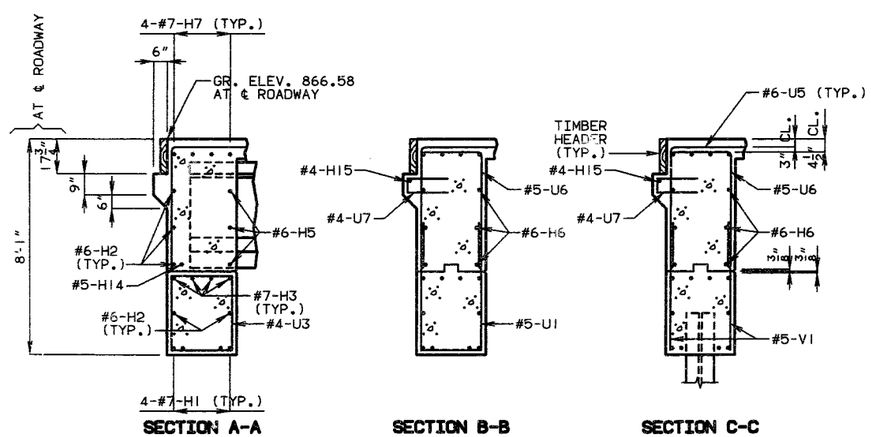
ELEVATION D-D



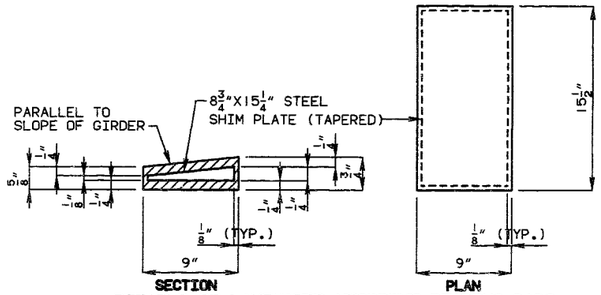
SECTION THRU WING



ELEVATION E-E



SECTION A-A SECTION B-B SECTION C-C



SECTION PLAN

DETAILS OF LAMINATED NEOPRENE BEARING PADS

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 1		
ITEM		QUANTITY
STRUCTURAL STEEL PILES (10")	LIN. FT.	78
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	17.3

NOTE: WORK THIS TABLE WITH ESTIMATED QUANTITIES AS SHOWN ON SHEET NO. 2.

DETAILS OF END BENT NO. 1

SEE FINAL PLANS

DETAILED MAR. 1992
CHECKED MAR. 1992

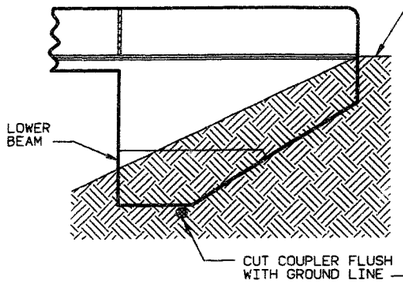
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 4 OF 20.

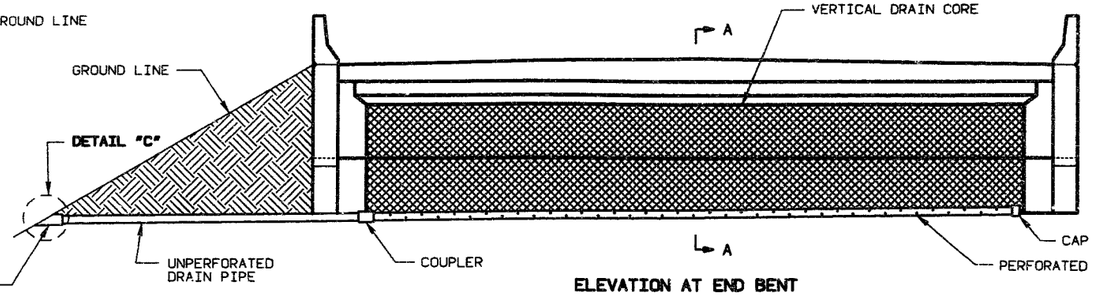
WASHINGTON COUNTY

A-4741

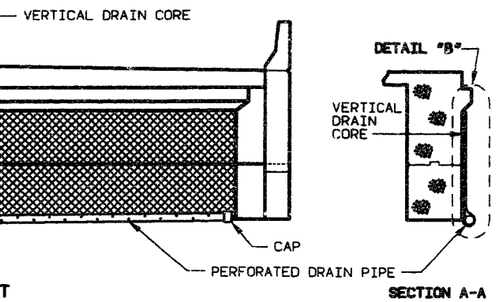
STATE	PROJ. NO.	SHEET NO.
MO.		18



ELEVATION OF WING



ELEVATION AT END BENT



SECTION A-A

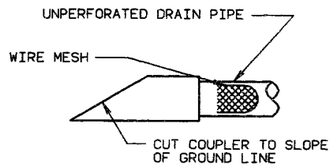
VERTICAL DRAIN AT END BENTS

GENERAL NOTES:

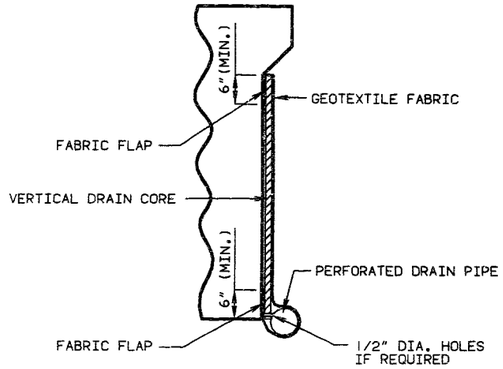
DRAIN PIPE MAY BE EITHER 6" DIAMETER CORRUGATED METALLIC-COATED STEEL PIPE UNDERDRAIN, 4" DIAMETER CORRUGATED POLY VINYL CHLORIDE (PVC) DRAIN PIPE, OR 4" DIAMETER CORRUGATED POLYETHYLENE (PE) DRAIN PIPE.

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.



DETAIL "C"



DETAIL "B"

VERT. DRAIN (INT.)	REVISED:
MARCH 1986	AUG. 1989

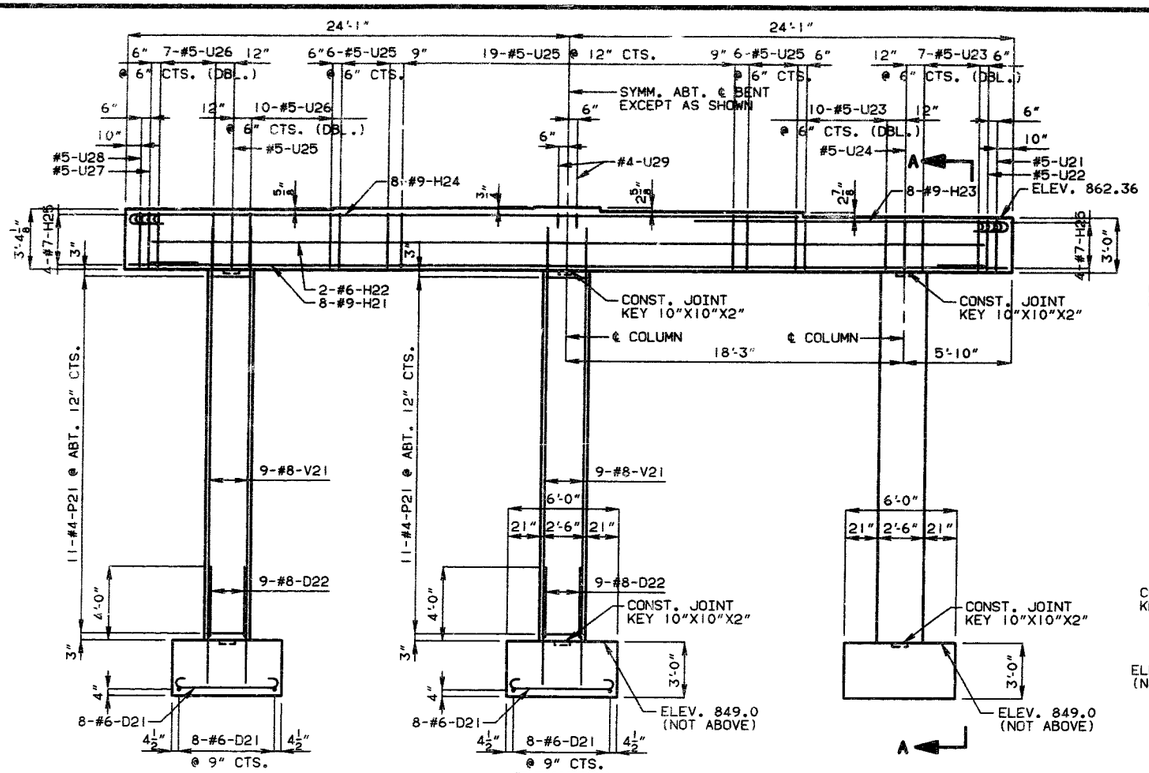
SEE FINAL PLANS

DETAILED MAR. 1992
CHECKED MAR. 1992

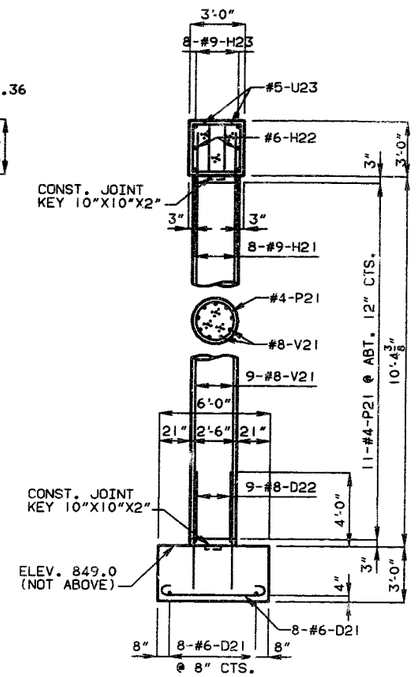
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

WASHINGTON COUNTY A-4741

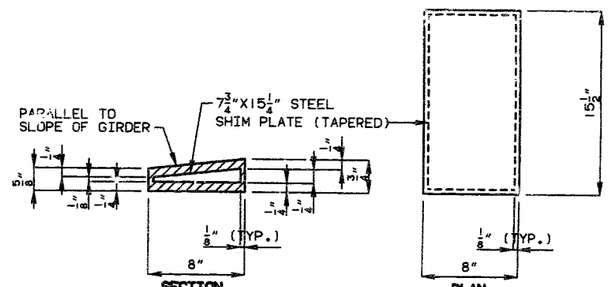
STATE	PROJ. NO.	SHEET NO.
MO.		10



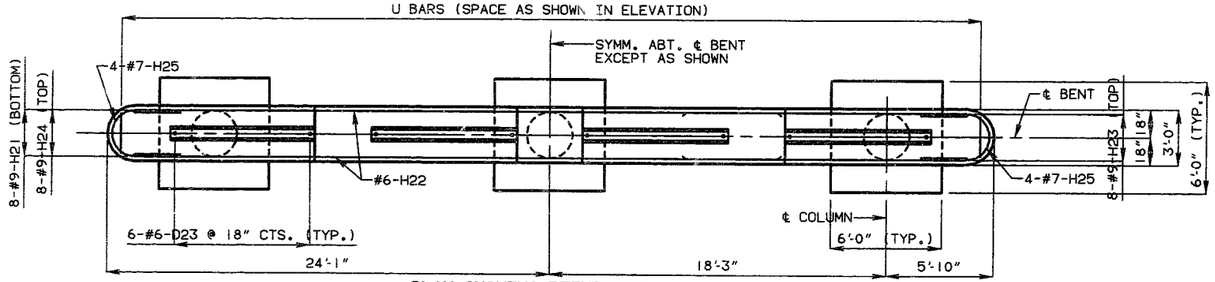
ELEVATION



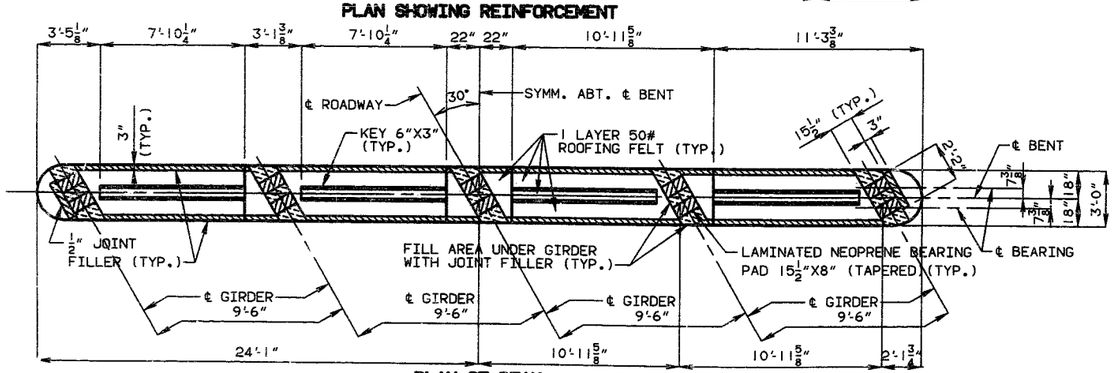
SECTION A-A



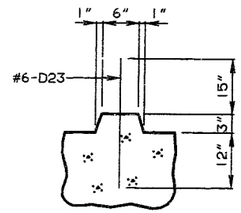
DETAILS OF LAMINATED NEOPRENE BEARING PADS



PLAN SHOWING REINFORCEMENT



PLAN OF BEAM



DETAIL OF KEY

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 2		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YD.	10
CLASS 2 EXCAVATION	CU. YD.	41
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	35.1
REINFORCING STEEL (BRIDGES)	LB.	6450

NOTE: WORK THIS TABLE WITH ESTIMATED QUANTITIES AS SHOWN ON SHEET NO. 2.

24 407

DETAILED MAR. 1992
CHECKED MAR. 1992

DETAILS OF INTERMEDIATE BENT NO. 2

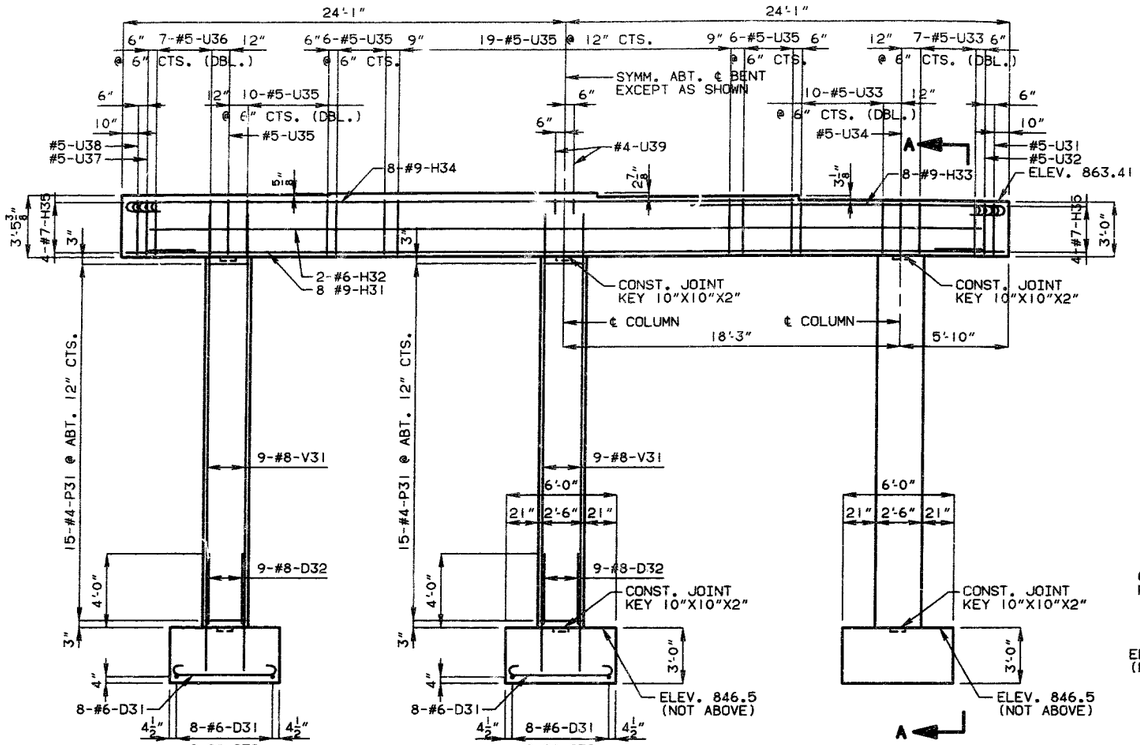
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

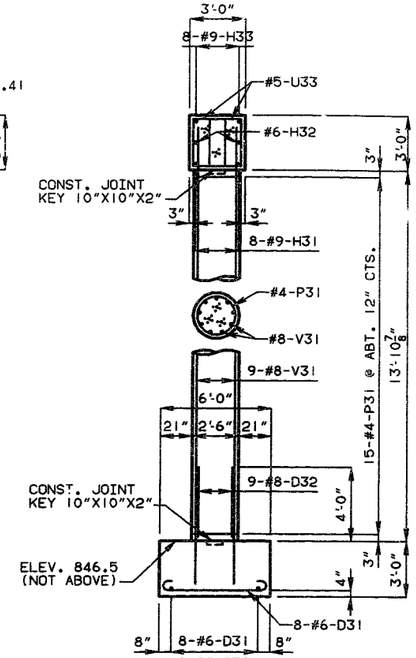
SHEET NO. 6 OF 20.

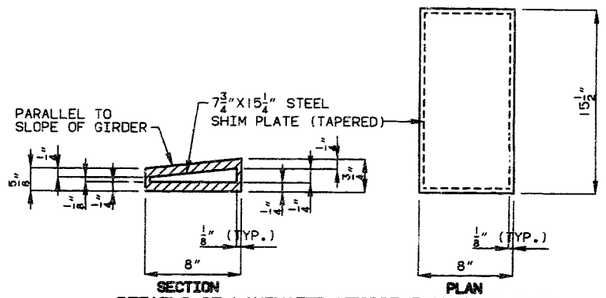
WASHINGTON COUNTY

A-4741

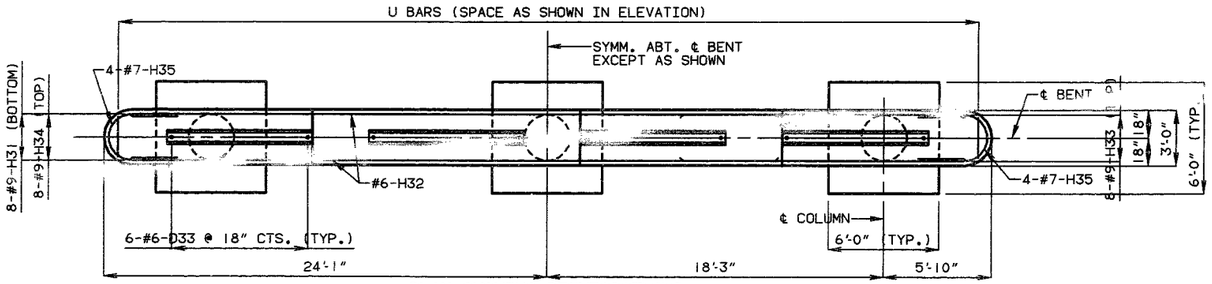
STATE	PROJ. NO.	SHEET NO.
MO.		20



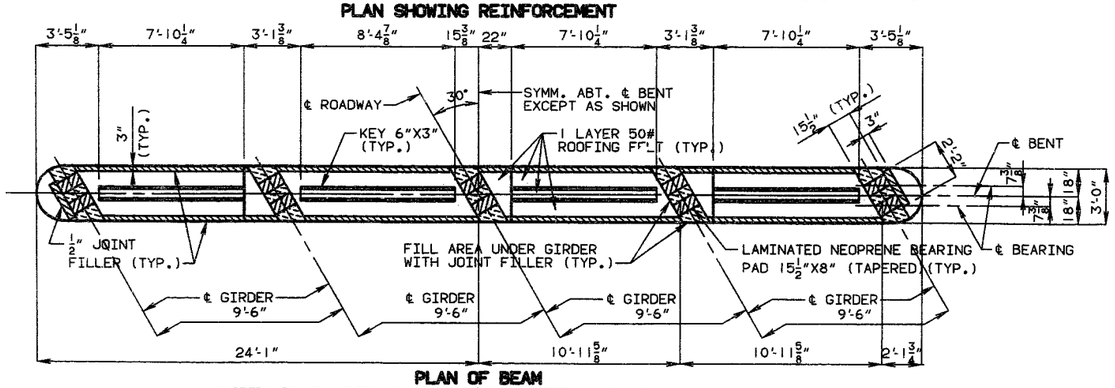




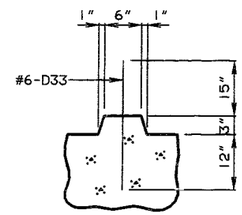
DETAILS OF LAMINATED NEOPRENE BEARING PADS



PLAN SHOWING REINFORCEMENT



PLAN OF BEAM



DETAIL OF KEY

DETAILS OF INTERMEDIATE BENT NO. 3

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 3

ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YD.	0
CLASS 2 EXCAVATION	CU. YD.	36
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	37.3
REINFORCING STEEL (BRIDGES)	LB.	6770

NOTE: WORK THIS TABLE WITH ESTIMATED QUANTITIES AS SHOWN ON SHEET NO. 2.

RS-408

DETAILED MAR. 1992
CHECKED MAR. 1992

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

WASHINGTON COUNTY

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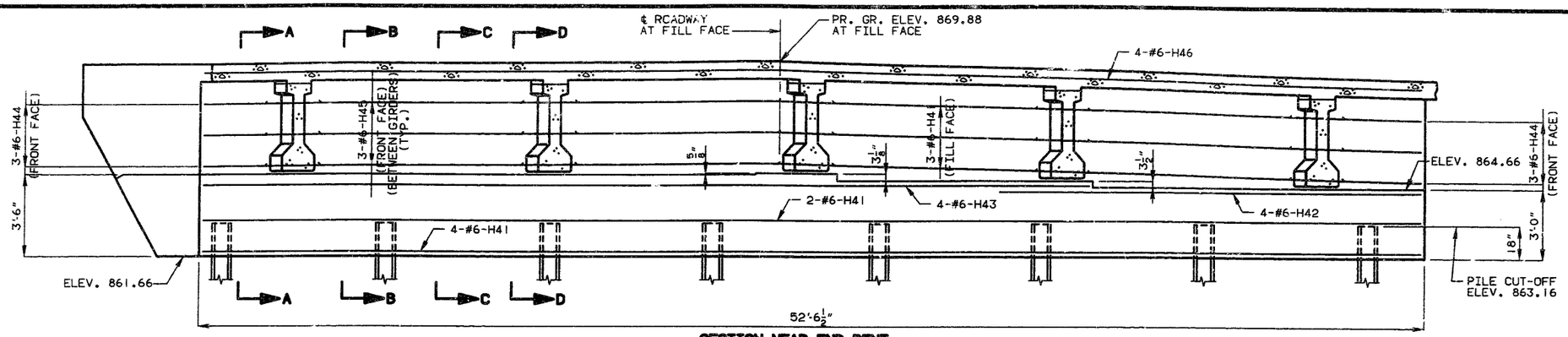
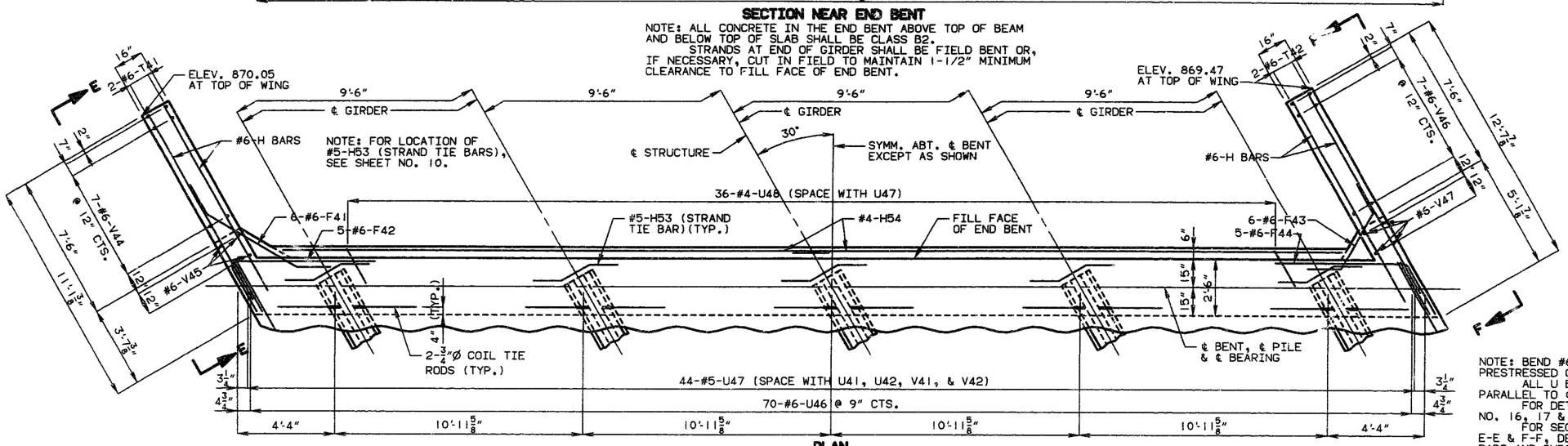
STATE	PROJ. NO.	SHEET NO.
MO.		21



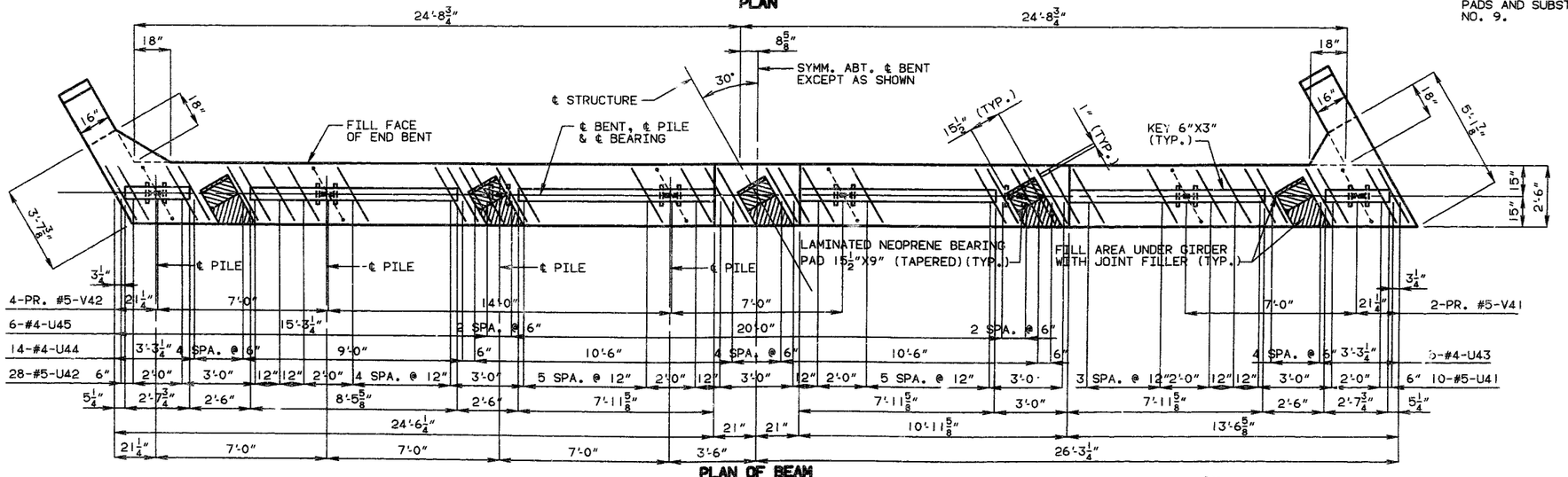
SECTION NEAR END BENT

NOTE: ALL CONCRETE IN THE END BENT ABOVE TOP OF BEAM AND BELOW TOP OF SLAB SHALL BE CLASS B2.
STRANDS AT END OF GIRDER SHALL BE FIELD BENT OR, IF NECESSARY, CUT IN FIELD TO MAINTAIN 1-1/2" MINIMUM CLEARANCE TO FILL FACE OF END BENT.

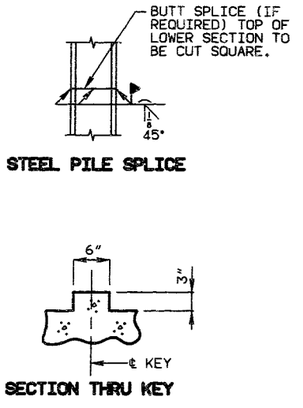


PLAN

NOTE: BEND #6-F41 & F43 BARS IN FIELD TO CLEAR PRESTRESSED GIRDER FLANGES.
ALL U BARS IN END BENT ARE TO BE PLACED PARALLEL TO ℄ STRUCTURE.
FOR DETAILS OF BARRIER CURB, SEE SHEETS NO. 16, 17 & 18.
FOR SECTIONS A-A, B-B, C-C & D-D, ELEVATIONS E-E & F-F, DETAILS OF LAMINATED NEOPRENE BEARING PADS AND SUBSTRUCTURE QUANTITY TABLE, SEE SHEET NO. 9.



PLAN OF BEAM



DETAILS OF END BENT NO. 4

DETAILED MAR. 1992
CHECKED APR. 1992

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

SEE FINAL PLANS

SHEET NO. 8 OF 20.

WASHINGTON COUNTY

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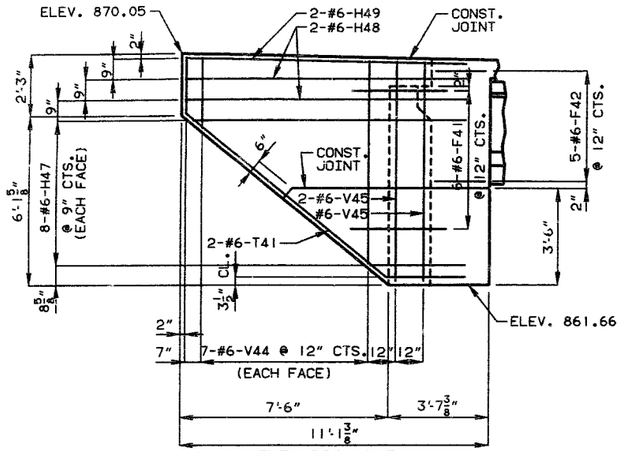
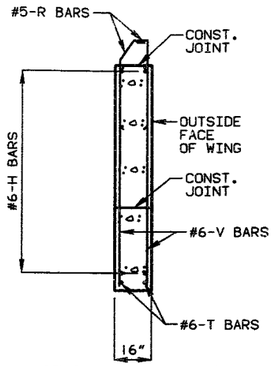
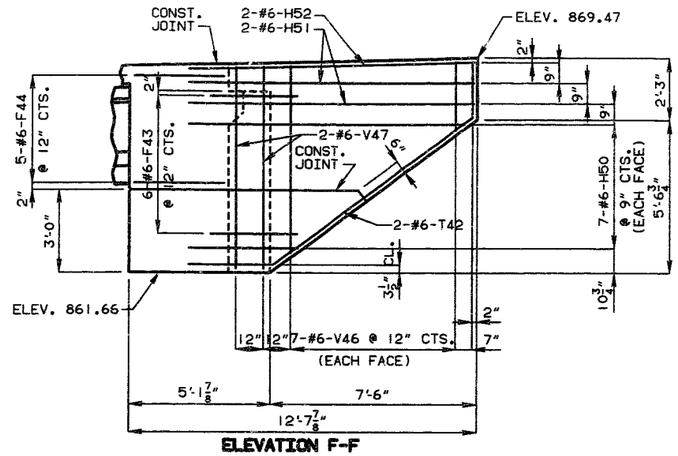
STATE	PROJ. NO.	SHEET NO.
MO.		22



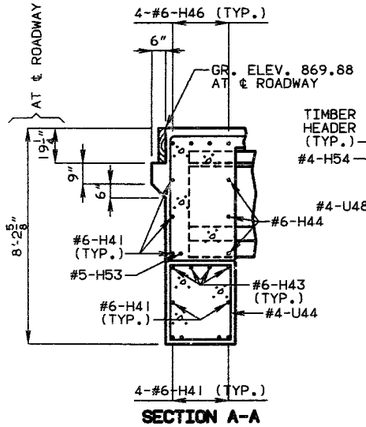
ELEVATION E-E



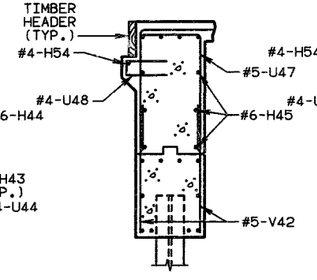
SECTION THRU WING



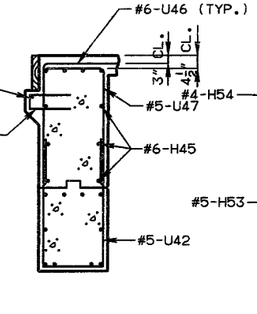
ELEVATION F-F



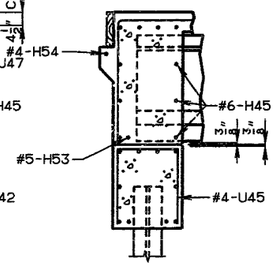
SECTION A-A



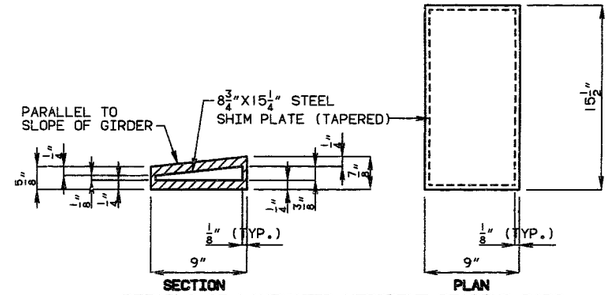
SECTION B-B



SECTION C-C



SECTION D-D



SECTION

PLAN

DETAILS OF LAMINATED NEOPRENE BEARING PADS

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 4

ITEM		QUANTITY
STRUCTURAL STEEL PILES (10")	LIN. FT.	136
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	17.8

NOTE: WORK THIS TABLE WITH ESTIMATED QUANTITIES AS SHOWN ON SHEET NO. 2.

DETAILS OF END BENT NO. 4

DETAILED MAR. 1992
CHECKED APR. 1992

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

WASHINGTON COUNTY

A-4741

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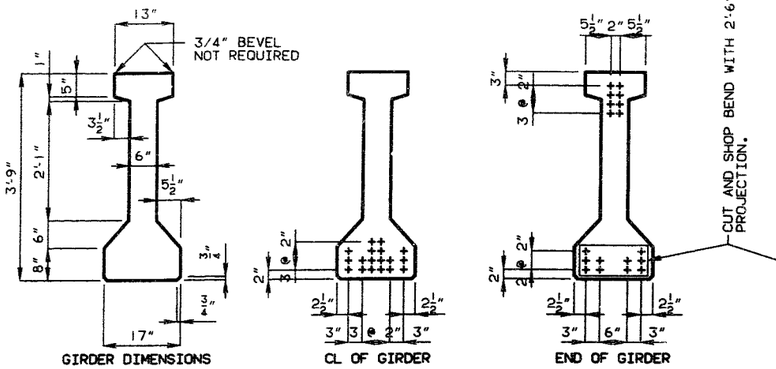
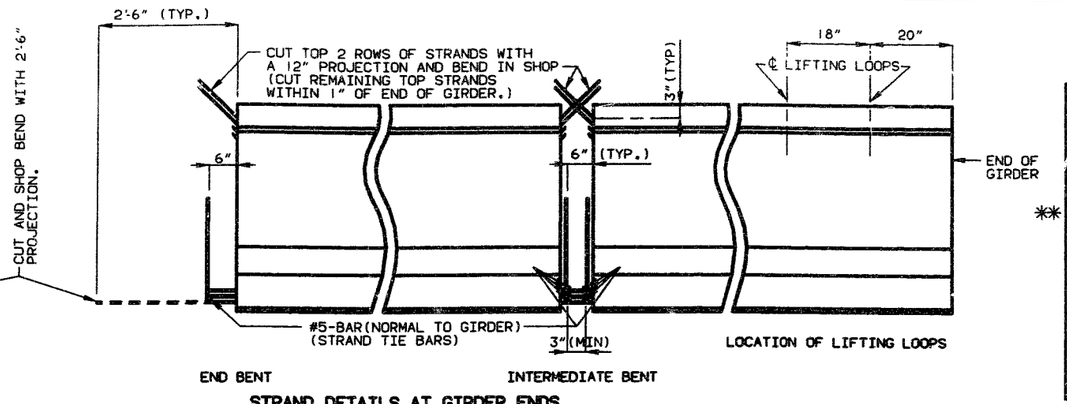
STATE	PROJ. NO.	SHEET NO.
MO.		23



STRAND ARRANGEMENTS



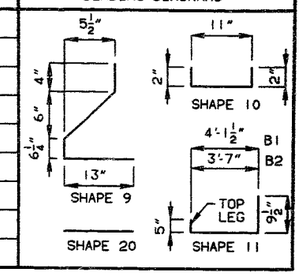
STRAND DETAILS AT GIRDER ENDS

NOTE:

CONCRETE FOR PRESTRESSED GIRDERS SHALL BE CLASS A1 WITH F'C = 5,000 PSI.
(+) INDICATES PRESTRESSED STRAND.
USE 18 STRANDS WITH AN INITIAL PRESTRESS FORCE OF 558 KIPS.
PRESTRESSING TENDONS SHALL BE UNCOATED, SEVEN-WIRE, LOW RELAXATION STRANDS, 1/2 INCH DIAMETER CONFORMING TO A.A.S.H.T.O. M203, GRADE 270.
SEE MO. STD. SPECIFICATIONS 705.4.8

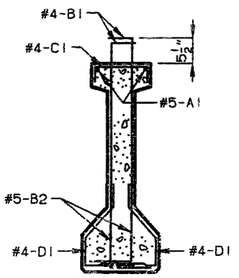
BILL OF REINFORCING STEEL - EACH GIRDER

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
2	5 A1	59'-3"	20	
** 200	4 B1	5'-2"	11	
8	5 B2	4'-7"	11	
100	4 C1	13"	10	
200	4 D1	2'-7"	9	

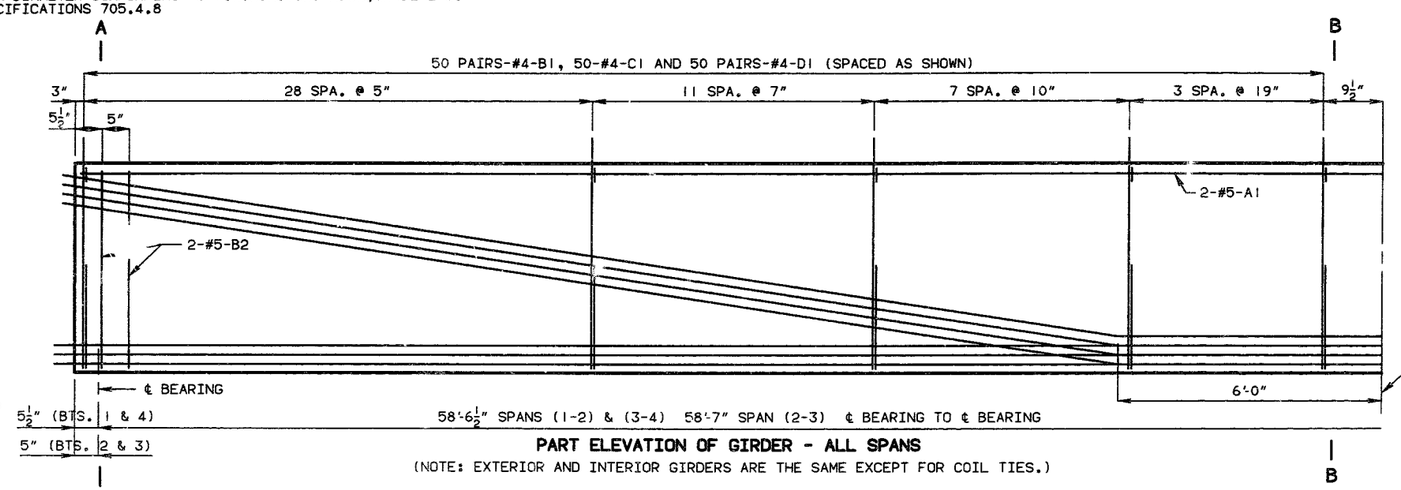


NOTE:

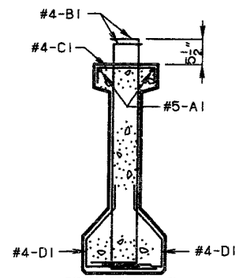
ALL DIMENSIONS IN BENDING DIAGRAM ARE OUT TO OUT.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES STIRRUP AND TIE DIMENSIONS.
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
MINIMUM CLEARANCE TO REINFORCING SHALL BE 1".
ALL REINFORCEMENT SHALL BE GRADE 60.
THE TWO D1 BARS MAY BE FURNISHED AS ONE BAR AT THE FABRICATOR'S OPTION.
** B1 BARS SHALL BE EPOXY COATED.



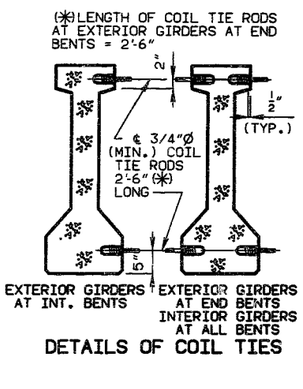
SECTION A-A
(STRANDS NOT SHOWN FOR CLARITY)



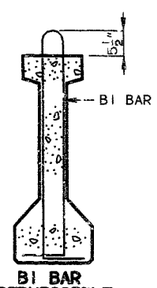
PART ELEVATION OF GIRDER - ALL SPANS
(NOTE: EXTERIOR AND INTERIOR GIRDERS ARE THE SAME EXCEPT FOR COIL TIES.)



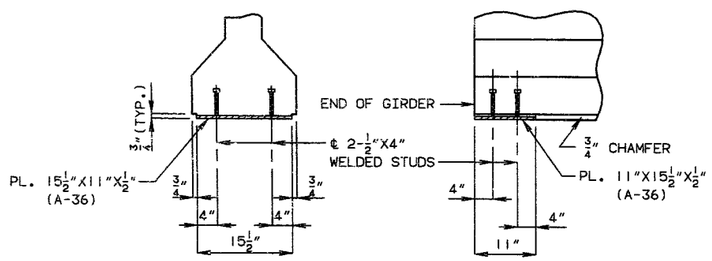
SECTION B-B
(STRANDS NOT SHOWN FOR CLARITY)



DETAILS OF COIL TIES



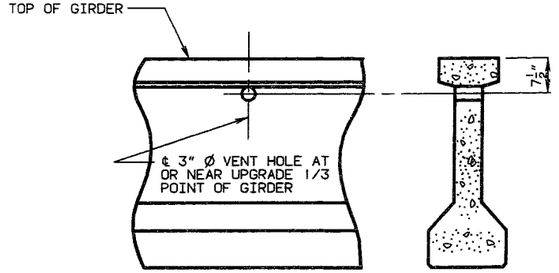
B1 BAR PERMISSIBLE ALTERNATE SHAPE



SOLE PLATE DETAILS

NOTE: PAINT THE 1/2" SOLE PLATE (A-36) WITH 2 COATS OF INORGANIC ZINC (5 MILS MINIMUM) OR GALVANIZE IN ACCORDANCE WITH A.S.T.M. A123.

COST OF FURNISHING, PAINTING AND INSTALLING THE 1/2" SOLE PLATE (A-36) AND WELDED STUDS IN THE PRESTRESSED GIRDER SHALL BE INCLUDED IN THE PRICE BID FOR PRESTRESSED CONCRETE I-GIRDER PER EACH.



NOTE: PLACE VENT HOLES AT OR NEAR UPGRADE 1/3 POINT OF GIRDERS AND CLEAR REINFORCING STEEL OR STRANDS BY 1-1/2" MINIMUM AND STEEL INTERMEDIATE DIAPHRAGMS BOLT CONNECTION BY 6" MINIMUM.

NOTE:

COST OF 3/4"Ø COIL TIE RODS PLACED IN DIAPHRAGMS IS INCLUDED IN CONTRACT UNIT PRICE FOR PRESTRESSED CONCRETE MEMBERS.

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 AND THEN REPLACED BY COIL TIE RODS.

FOR LOCATION OF COIL TIE INSERTS AT SLAB DRAINS SEE SHEET NO. 15.

THE 1-1/2" Ø HOLES SHALL BE CAST IN THE WEB FOR STEEL INTERMEDIATE DIAPHRAGMS. DRILLING IS NOT ALLOWED.

NOTE: FOR DETAIL OF DIAPHRAGMS, SEE SHEET NO. 11.

REVISED	MAY 1991

GDR 6" W, P/S3.55, 3'-9, 4, A

DETAILED MAR. 1992
CHECKED MAR. 1992

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

WASHINGTON COUNTY

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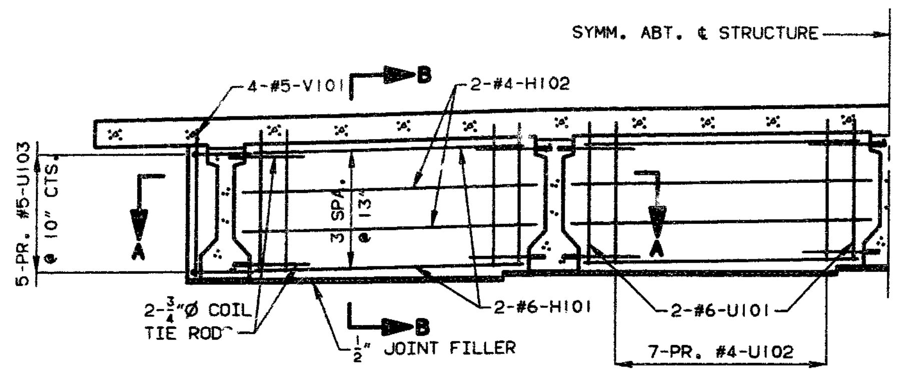
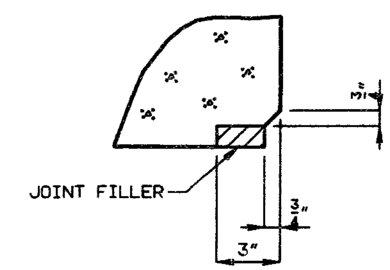
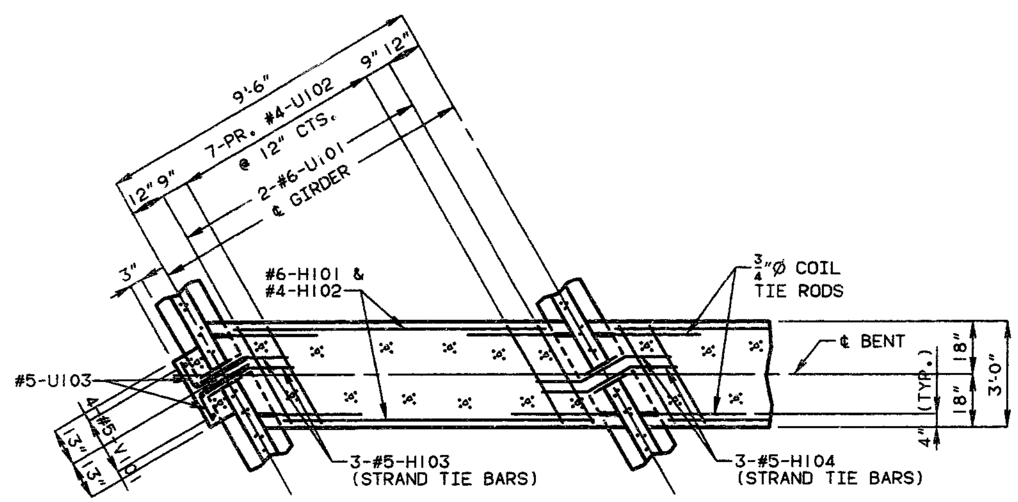
STATE	PROJ. NO.	SHEET NO.
MO.		24



HALF SECTION NEAR INT. BENTS NO. 2 & 3

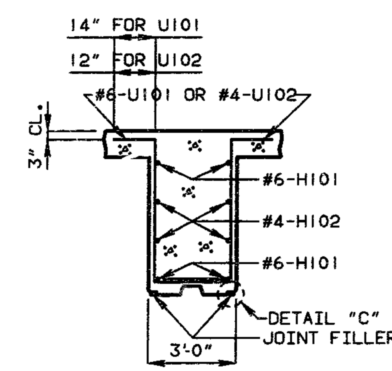


DETAIL "C"

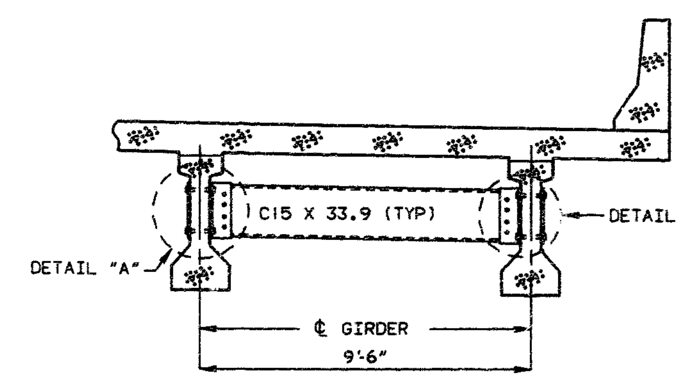


SECTION A-A

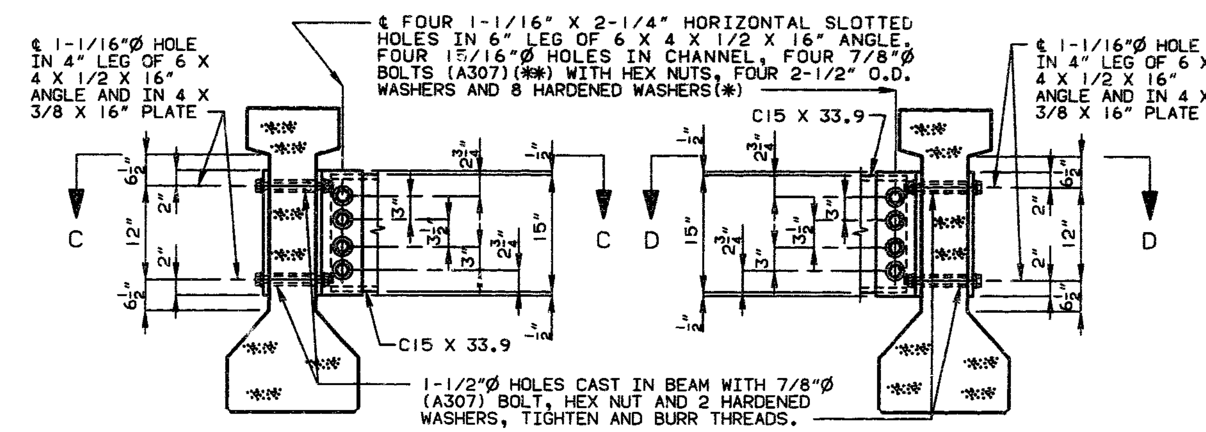
NOTE: DIAPHRAGMS AT INTERMEDIATE BENTS ARE VERTICAL. FOR LOCATION OF #5-H103 & H104 (STRAND TIE BARS), SEE SHEET NO. 10.



SECTION B-B

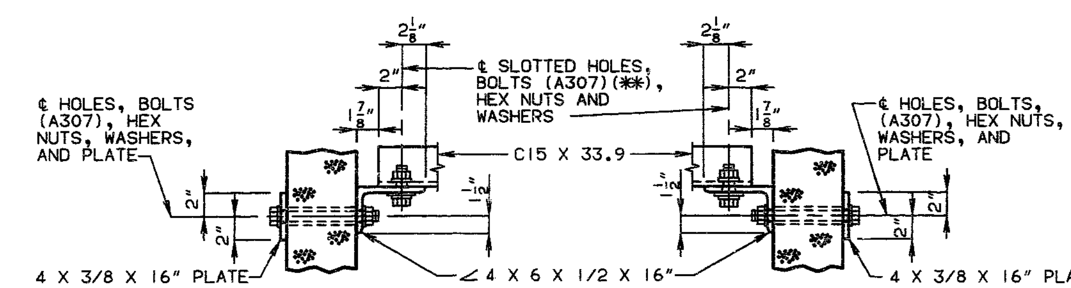


PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS



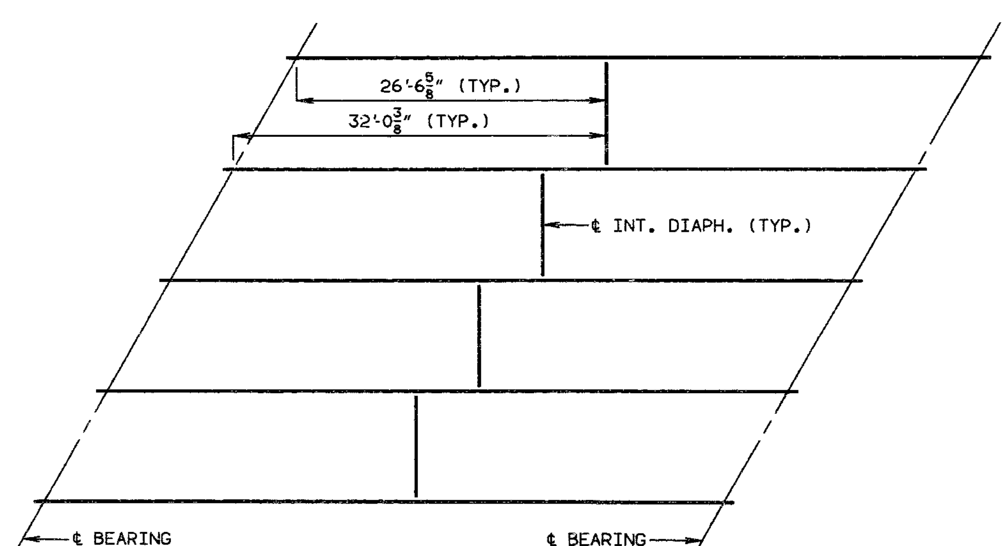
DETAIL "A"

DETAIL "B"



SECTION C-C

SECTION D-D



ALL SPANS

PART PLAN SHOWING LOCATION OF INT. DIAPHRAGMS

STEEL DIAPHRAGM NOTES:

(✱) IN LIEU OF 2-1/2" O.D. WASHERS, CONTRACTOR MAY SUBSTITUTE A 3/16" (MIN. THICKNESS) PLATE WITH FOUR 15/16"Ø 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.

ALL DIAPHRAGM MATERIALS INCLUDING BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

FABRICATED STRUCTURAL STEEL SHALL BE A36 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.

SEE FINAL PLANS

DIAPH SK,P/S3,55,STL | STEEL DIA. (SK) | REVISED: | AUGUST 1983 | OCT 1990

DETAILED MAR. 1992
CHECKED APR. 1992

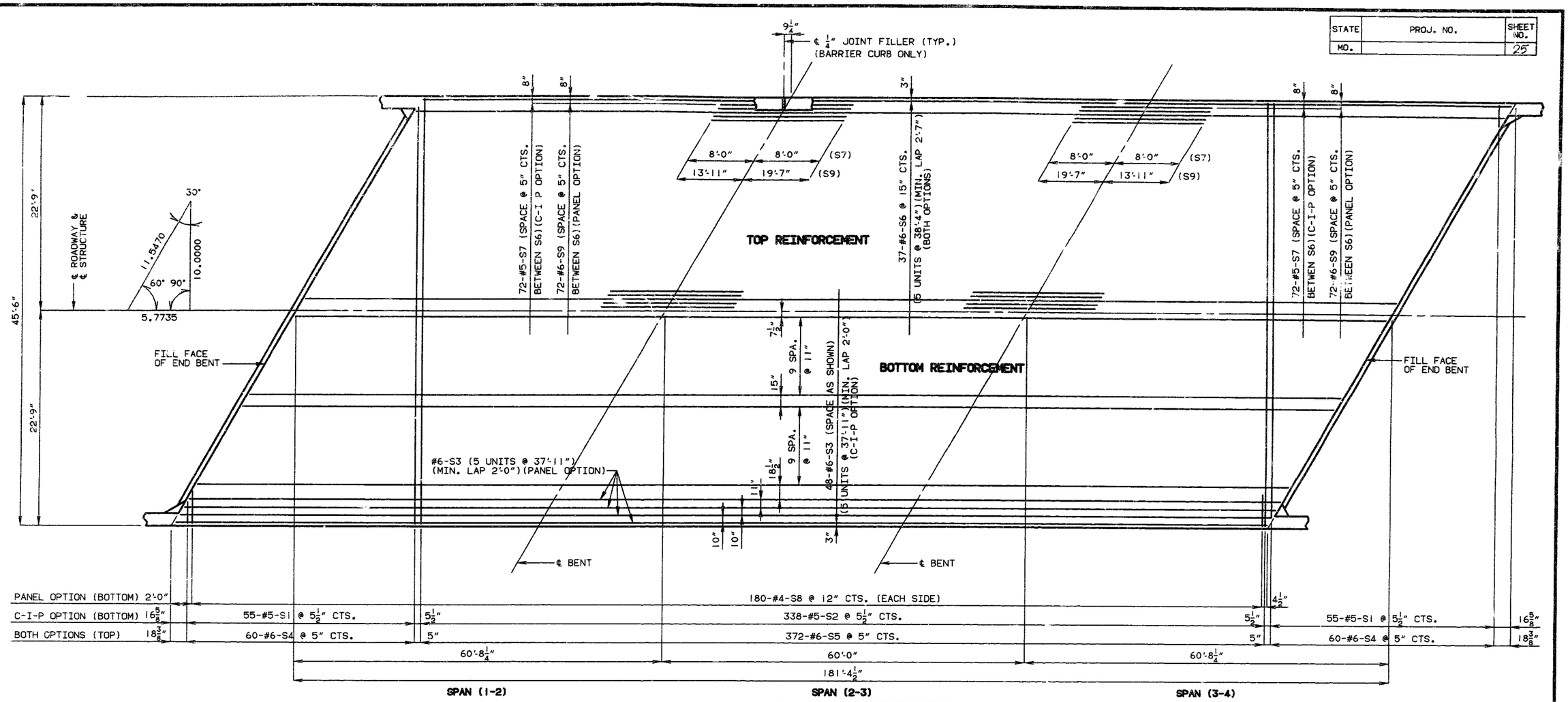
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 11 OF 20.

WASHINGTON COUNTY

A-4741

STATE	PROJ. NO.	SHEET NO.
MO.		25



PLAN OF SLAB SHOWING REINFORCEMENT

NOTE: LONGITUDINAL DIMENSIONS ARE HORIZONTAL.

30 413

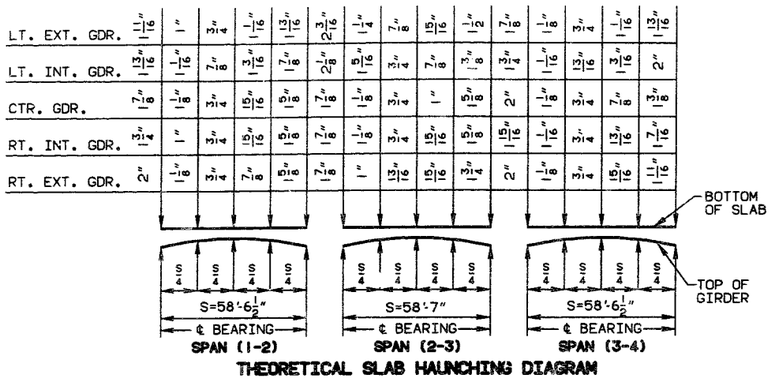
DETAILED MAR. 1992
CHECKED MAR. 1992

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

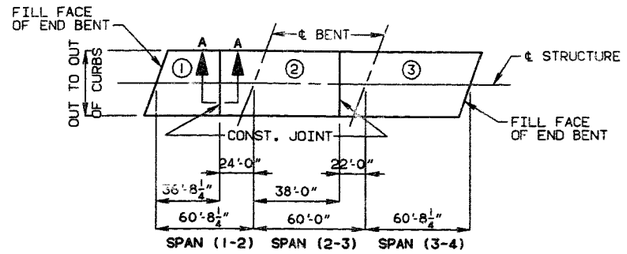
WASHINGTON COUNTY

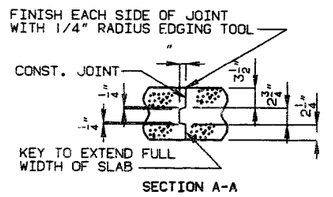
A-4741

STATE	PROJ. NO.	SHEET NO.
MO.		26



THEORETICAL SLAB HAUNCHING DIAGRAM



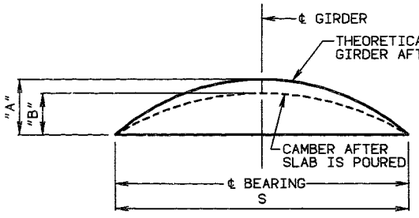


SECTION A-A

	SEQUENCE OF POURS	MIN. RATE OF POUR CU. YDS./HR.
	DIRECTION	WITH RETARDER
BASIC SEQUENCE	1 2 3	25
	EITHER DIRECTION	
ALTERNATE POURS TO THE BASIC 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 + 2 / END TO 3 — 3 / 2 TO END	25
ALTERNATE "B" POURS	1 + 2 + 3 / END TO END	25

NOTE: THE CONTRACTOR SHALL FURNISH AN APPROVED RETARDER TO RETARD THE SET OF THE CONCRETE TO 2.5 HOURS AND SHALL POUR AND SATISFACTORILY FINISH THE SLAB POURS AT THE RATE GIVEN.
THE CONCRETE DIAPHRAGM AT THE INTERMEDIATE BENTS AND INTEGRAL END BENTS SHALL BE POURED A MINIMUM OF 30 MINUTES AND A MAXIMUM OF 2 HOURS BEFORE THE SLAB IS POURED.

SLAB POURING SEQUENCE

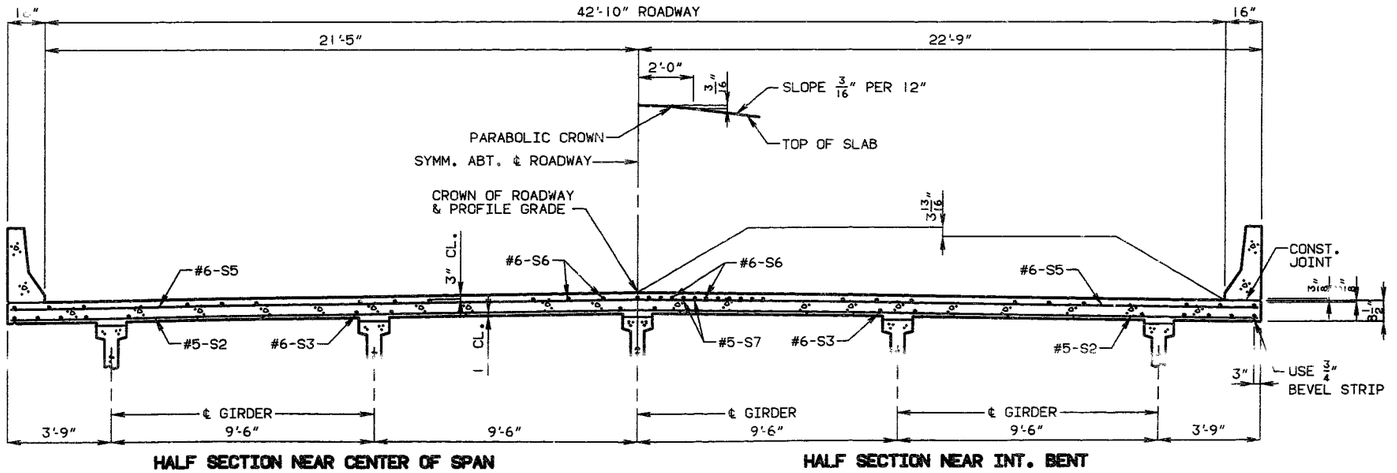


GIRDER	"A"	"B"
LT. EXT.	1 5/16"	3/4"
LT. INT.		11/16"
CTR.		11/16"
RT. INT.		11/16"
RT. EXT.		3/4"

NOTE: CAMBER AT 0.25 POINT OF GIRDER IS EQUAL TO 0.7125 CAMBER AT ℄ GIRDER.

GIRDER CAMBER DIAGRAM

NOTE: IF GIRDER CAMBER IS DIFFERENT FROM THAT SHOWN IN THE CAMBER DIAGRAM, IT SHALL BE NECESSARY TO ADJUST THE SLAB HAUNCHES, INCREASE THE SLAB THICKNESS OR 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 TO BE INCLUDED IN THE ESTIMATED QUANTITIES FOR ALTERNATE SLABS.



HALF SECTION NEAR CENTER OF SPAN

HALF SECTION NEAR INT. BENT

(C-I-P OPTION)

NOTE: FOR DETAILS AND REINFORCEMENT OF SAFETY BARRIER CURB, SEE SHEETS NO. 16, 17 & 18.
FOR DETAILS OF SLAB DRAINS, SEE SHEET NO. 15.
FOR DETAILS OF PANEL OPTION, SEE SHEET NO. 14.

DETAILED MAR. 1992
CHECKED MAR. 1992

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

SHEET NO. 13 OF 20. SEE FINAL PLANS

WASHINGTON COUNTY

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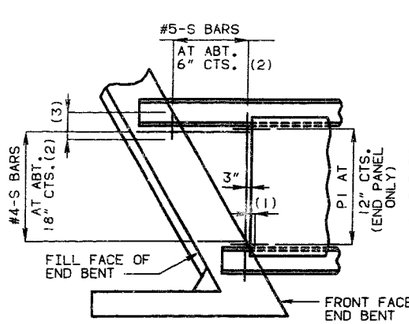
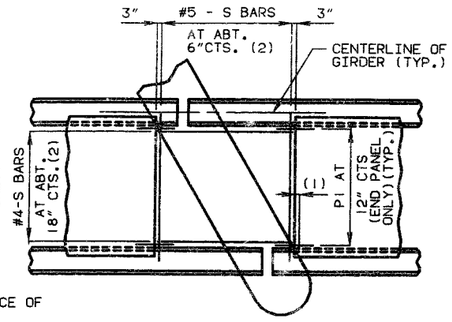
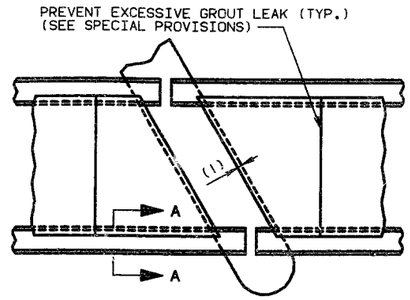
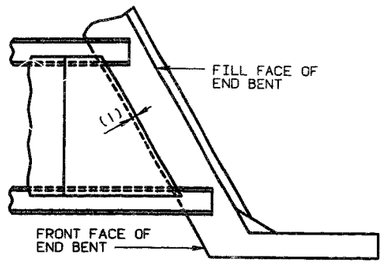
STATE	PROJ. NO.	SHEET NO.
MO.		27



PANELS-SQUARED ENDS

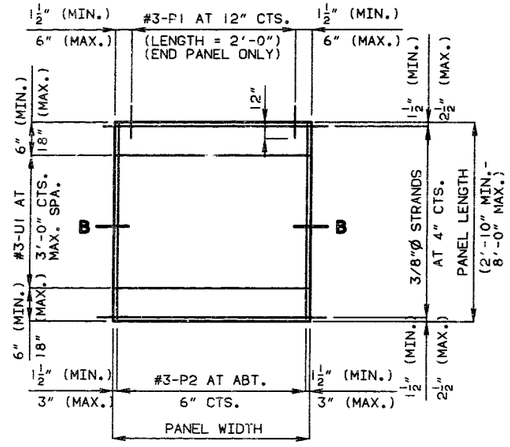




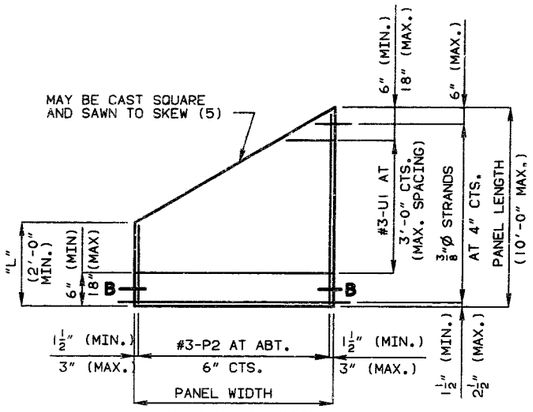


PANELS-SKEWED ENDS

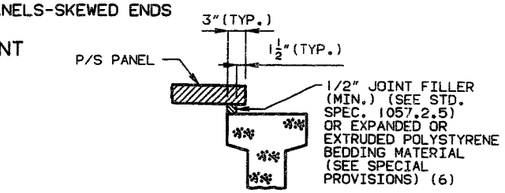
PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT



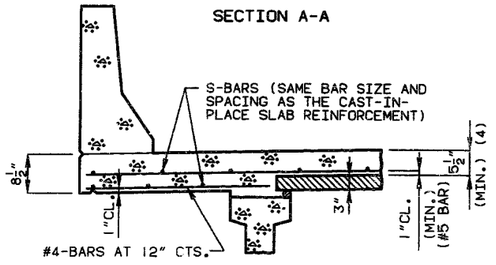
PLAN OF PRECAST PRESTRESSED PANEL



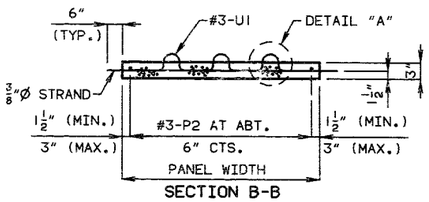
PLAN OF PRECAST PRESTRESSED PANEL (SKEWED END-OPTIONAL)



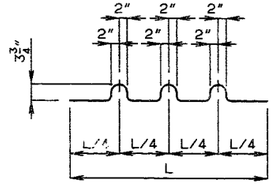
SECTION A-A



SECTION THRU CANTILEVER

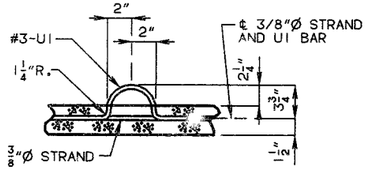


SECTION B-B

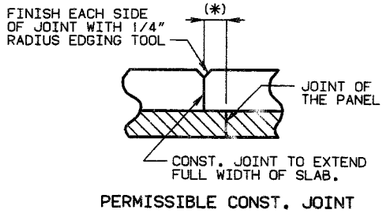


BENDING DIAGRAM FOR U1 BAR

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



DETAIL "A"



PERMISSIBLE CONST. JOINT

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

NOTES:

(1) END PANELS TO BE DIMENSIONED 1-1/2 INCHES FROM THE INSIDE FACE DIAPHRAGM.

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

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

S-BARS ARE NOT LISTED IN BILL OF REINFORCING.

SLAB EXTERIOR GIRDER HAUNCH SHALL BE THE SAME AS CAST-IN-PLACE.

SLAB THICKNESS OVER PRESTRESSED PANELS VARIES DUE TO GIRDER CAMBER.

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

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

(4) IN ORDER TO MAINTAIN MINIMUM SLAB THICKNESS, IT MAY BE NECESSARY TO RAISE THE GRADE UNIFORMILY 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.

NOTE:

USE SLAB HAUNCHING DIAGRAM ON SHEET NO. 13 FOR DETERMINING THICKNESS OF JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL WITHIN THE LIMITS NOTED BELOW.

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 = 21,250 LBS. (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.

MINIMUM JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL THICKNESS SHALL BE 1/2 INCH. THICKER JOINT FILLER OR POLYSTRENE 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 AND THE MAXIMUM CHANGE IN THICKNESS BETWEEN ADJACENT PANELS SHALL BE 1/4 INCH. THE POLYSTRENE BEDDING MATERIAL MAY BE CUT TO MATCH HAUNCH HEIGHT ABOVE TOP OF FLANGE.

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

REINFORCING STEEL:

ALL DIMENSIONS ARE OUT TO OUT.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2", 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 ALTERNATE SLABS.

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

WELDED WIRE FABRIC OR WELDED DEFORMED BAR MATS PROVIDING A MINIMUM AREA OF REINFORCING PERPENDICULAR TO STRANDS OF 0.22 SQ. IN./FT., WITH SPACING PARALLEL TO STRANDS SUFFICIENT TO INSURE PROPER HANDLING, MAY BE USED IN LIEU OF THE #3-P2 BARS SHOWN. WIRE OR BAR DIAMETER SHALL NOT BE LARGER THAN 0.375 INCHES.

THE 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.

DETAILS OF PRECAST PRESTRESSED PANELS

REVISED:	SEPT. 1989
3" PANEL (P/S	
AUG. 1984	

DETAILED MAR. 1992
CHECKED MAR. 1992

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

WASHINGTON COUNTY

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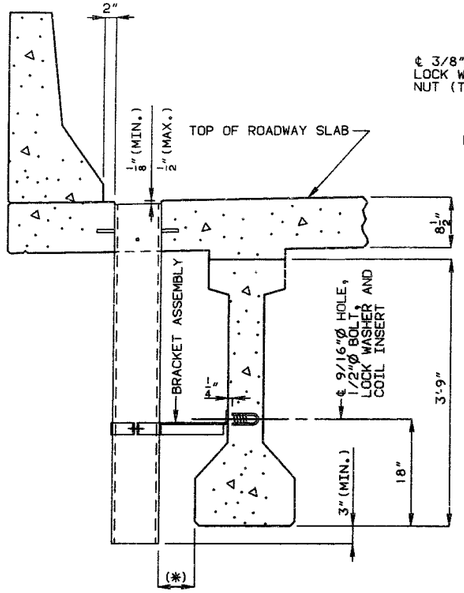
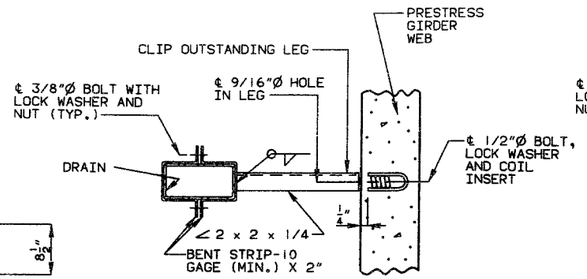
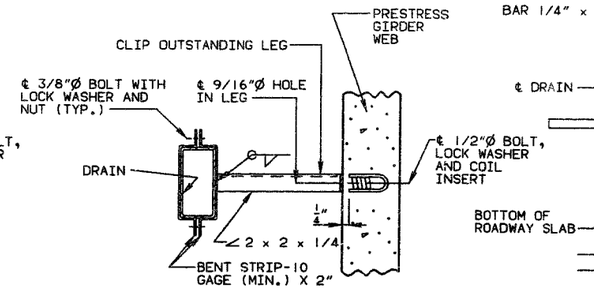


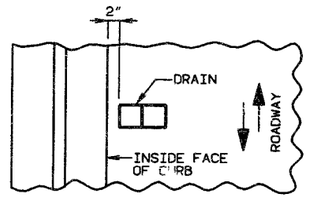
PART ELEVATION OF SLAB AT DRAIN



PART SECTION SHOWING BRACKET ASSEMBLY

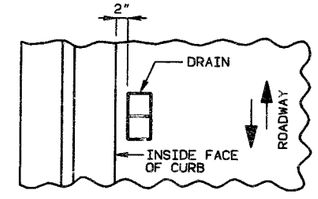


PART SECTION SHOWING BRACKET ASSEMBLY



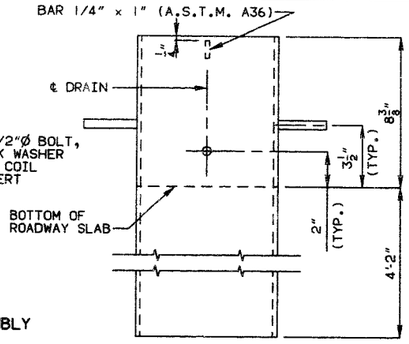
PART PLAN OF SLAB AT DRAIN

DETAILS OF DRAINS TRANSVERSE TO ROADWAY

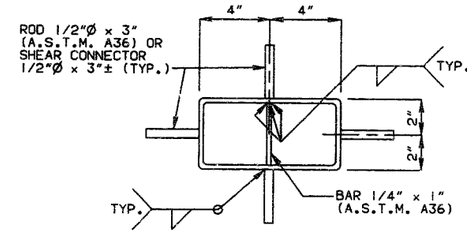


PART PLAN OF SLAB AT DRAIN

DETAILS OF DRAINS PARALLEL TO ROADWAY



ELEVATION OF DRAIN



PLAN OF DRAIN

STATE	PROJ. NO.	SHEET NO.
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GENERAL NOTES:

SLAB DRAINS MAY BE FABRICATED OF EITHER 1/4" WELDED SHEETS OF A.S.T.M. A36 STEEL OR FROM 1/4" STRUCTURAL STEEL TUBING A.S.T.M. A500 OR A501.

OUTSIDE DIMENSIONS OF DRAINS ARE 8" x 4".

LOCATE DRAINS IN THE SLAB BY DIMENSIONS SHOWN IN THE PART ELEVATION.

SHIFT REINFORCING STEEL IN FIELD WHERE NECESSARY TO CLEAR DRAINS.

THE DRAINS AND BRACKET ASSEMBLY SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A123.

ALL BOLTS, LOCK WASHERS AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A153.

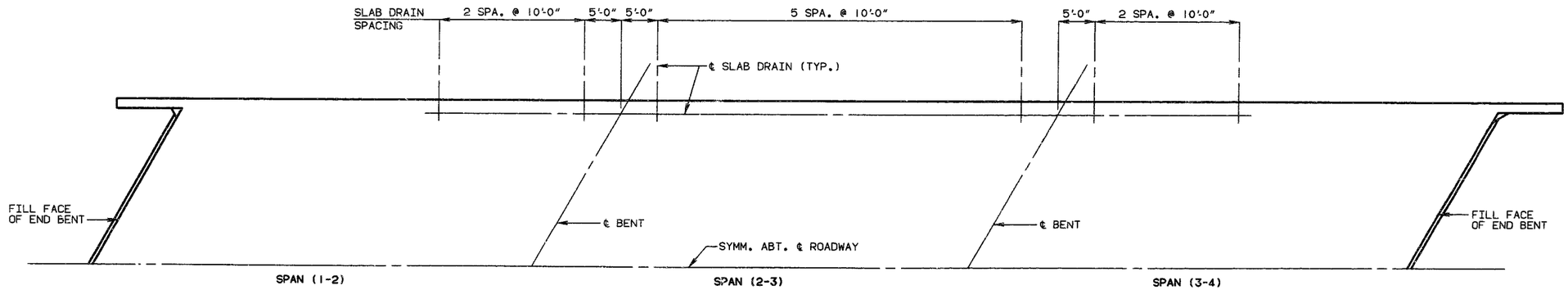
SHOP DRAWINGS WILL NOT BE REQUIRED FOR SLAB DRAINS AND THE BRACKET ASSEMBLY.

COIL INSERTS SHALL HAVE A CONCRETE PULL-OUT STRENGTH (ULTIMATE LOAD) OF AT LEAST 2,500 POUNDS IN 5,000 PSI CONCRETE.

THE BOLT HOLE FOR THE BRACKET ASSEMBLY ATTACHMENT SHALL BE LOCATED ON THE PRESTRESSED I-GIRDER SHOP DRAWINGS.

(*) IF DIMENSION IS LESS THAN 1", DRAINS SHALL BE PLACED PARALLEL TO ROADWAY, OTHERWISE PLACE DRAINS TRANSVERSE TO ROADWAY.

SLAB DRAIN DETAILS



HALF PLAN OF SLAB SHOWING SLAB DRAIN LOCATION

NOTE: LONGITUDINAL DIMENSIONS ARE HORIZONTAL.

4/16

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REVISED	OCT. 1988
P/S GDR. DRAIN	JULY 1982

DETAILED MAR. 1992
CHECKED MAR. 1992

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

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STATE	PROJ. NO.	SHEET NO.
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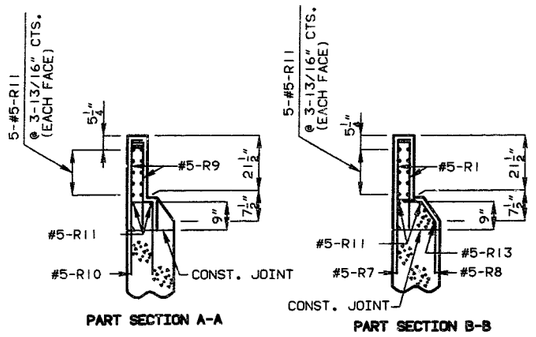
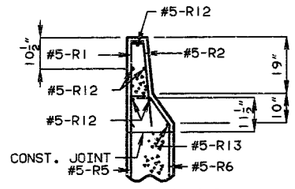
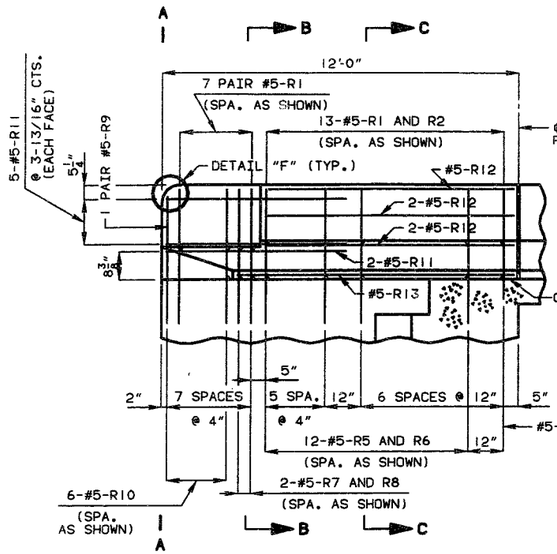


PART SECTION A-A

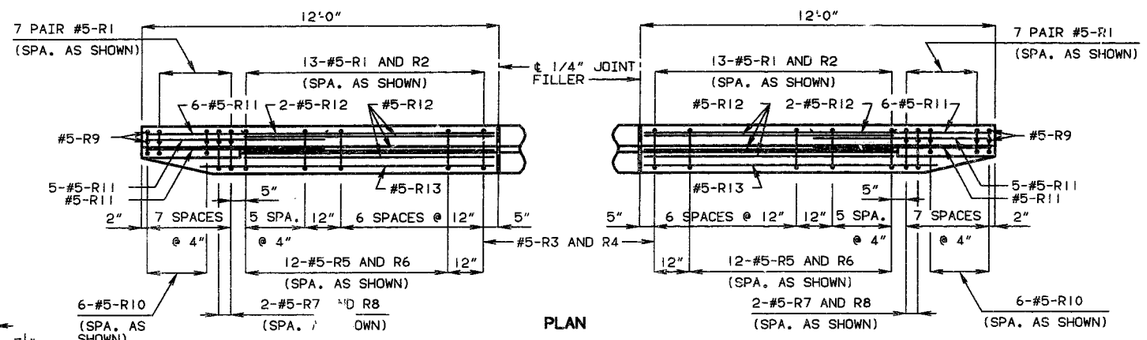
PART SECTION B-B



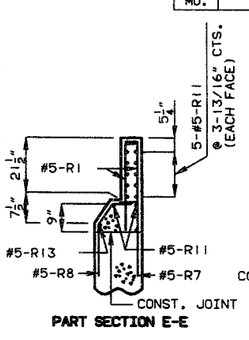
PART SECTION C-C



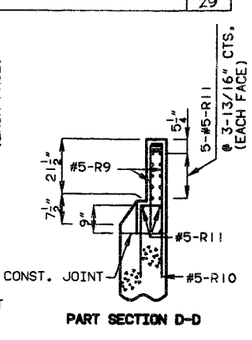
ELEVATION



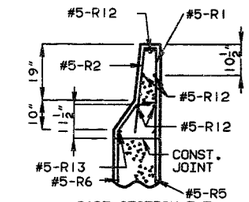
PLAN



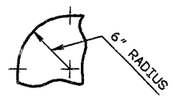
PART SECTION E-E



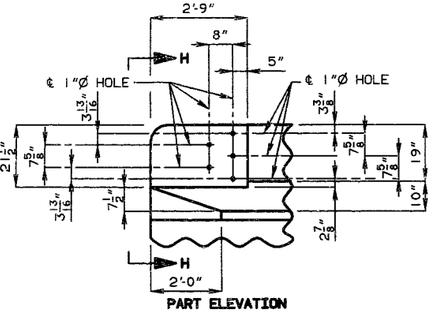
PART SECTION D-D



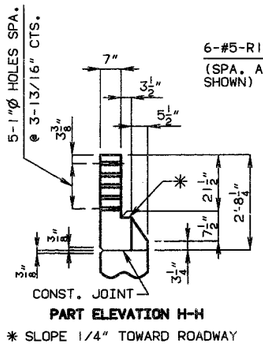
PART SECTION F-F



DETAIL "F" (TYPICAL)

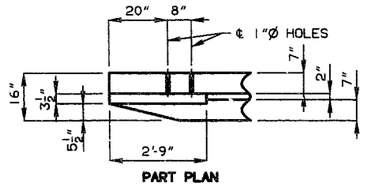


PART ELEVATION



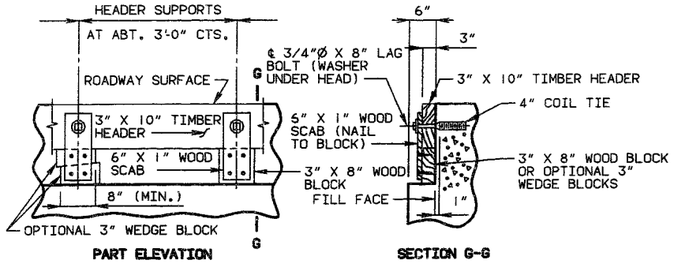
PART ELEVATION H-H

* SLOPE 1/4" TOWARD ROADWAY



PART PLAN

DETAILS OF GUARD RAIL ATTACHMENT



PART ELEVATION

SECTION G-G

NOTE: COST OF TIMBER HEADERS COMPLETE IN PLACE TO BE INCLUDED IN CONTRACT UNIT PRICE FOR CONCRETE.

DETAILS OF TIMBER HEADER AT END BENTS

DETAILS OF SAFETY BARRIER CURB AT END BENTS

B/C EP16,GS 3.30,INT, ,A
INT-END POST (16")
AUG. 1978

REVISED1
FEB. 1992

DETAILED MAR. 1992
CHECKED MAR. 1992

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

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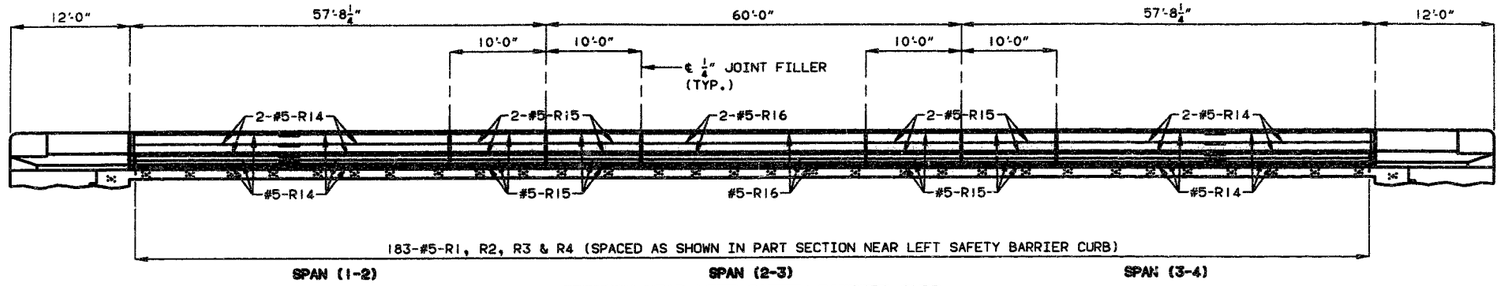
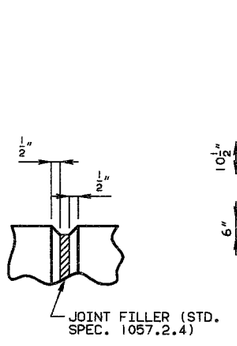
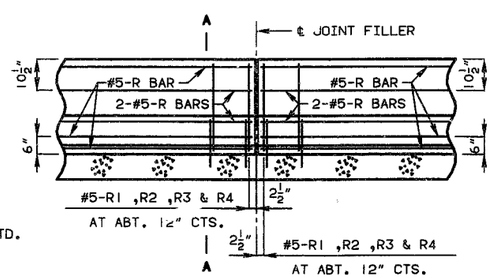


SECTION NEAR LEFT SAFETY BARRIER CURB

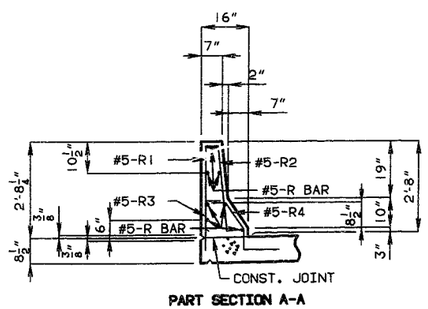
NOTE: LONGITUDINAL DIMENSIONS ARE HORIZONTAL.



FILLED JOINT DETAIL



PART SECTION NEAR LEFT SAFETY BARRIER CURB



PART SECTION A-A

NOTE: USE A MINIMUM LAP OF 17" FOR #5 HORIZONTAL SAFETY BARRIER CURB BARS.
THE CROSS-SECTIONAL AREA ABOVE THE SLAB = 2.27 SQ. FT.

NOTE:

TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS (EXCEPT AT END BENTS) NORMAL TO GRADE.

ALL EXPOSED EDGES OF SAFETY BARRIER CURB SHALL HAVE EITHER A 1/2" RADIUS OR A 3/8" BEVEL, UNLESS OTHERWISE NOTED.

WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE AND REINFORCEMENT, COMPLETE-IN-PLACE.

CONCRETE IN THE SAFETY BARRIER CURB SHALL BE CLASS B1.

MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT FOR EACH STRUCTURE, MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM END OF WING TO END OF WING.

35 48

BARRIER CURB ELEVATION | REVISED1 | JAN. 1990

DETAILED MAR. 1992
CHECKED MAR. 1992

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

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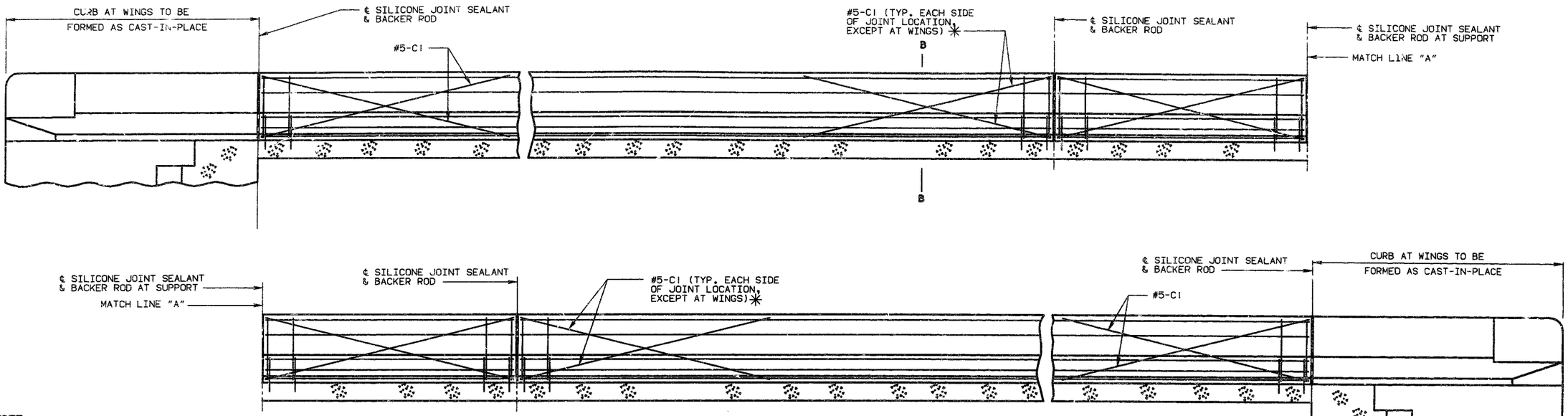


NOTE:

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.

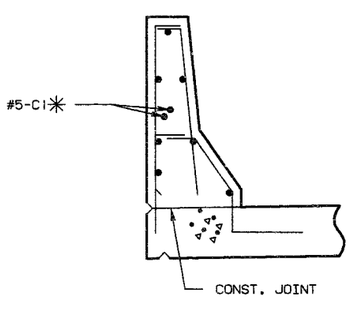
TYPICAL SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS (OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

NOTE:

JOINT SEALANT AND BACKER RODS SHALL BE USED ON ALL SLIP-FORM BRIDGE SAFETY BARRIER CURBS INSTEAD OF JOINT FILLER.

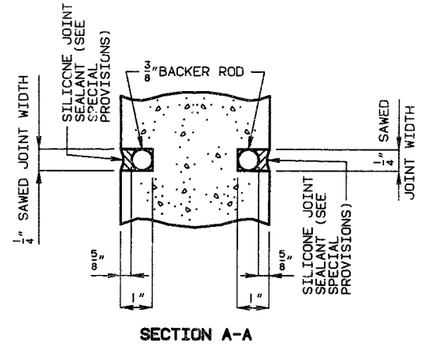
PLASTIC WATERSTOP SHALL NOT BE USED WITH SLIP-FORM OPTION.

C1 BARS (SLIP-FORM OPTION ONLY) SHALL BE USED IN ADDITION TO CAST-IN-PLACE CONVENTIONAL FORMING REINFORCEMENT FOR BRIDGE SAFETY BARRIER CURB.



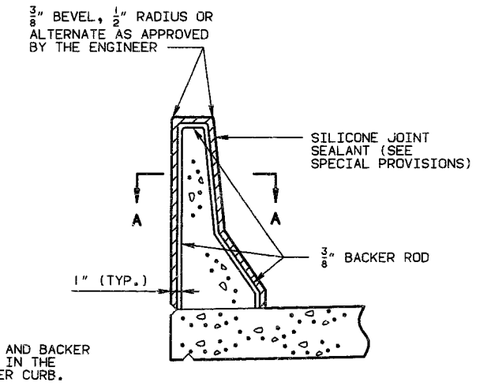
PART SECTION B-B

NOTE: ✳ EACH SIDE OF JOINT LOCATION, EXCEPT SPAN SIDE ONLY AT END BENTS.



SECTION A-A

NOTE: COST OF SILICONE JOINT SEALANT AND BACKER ROD COMPLETE IN PLACE TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.



SECTION THRU JOINT

OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB

36 419

B/C SF16,GS 3.30, , ,A	REVISED:
BARRIER CURB ELEVATION	
FEB. 1991	

DETAILED MAR. 1992
CHECKED MAR. 1992

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

WASHINGTON COUNTY

A-4741

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	(E) EPOXY	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SUBSTRUCTURE																									
			INT BT NO 2																									
48	6D21		FOOTING		18		X		5	8.000														7	0	7	0	505
27	8D22		FOOTING		20		X		6	4.000														6	4	6	4	457
24	6D23		BEAM		20		X		2	6.000														2	6	2	6	90
8	9H21		BEAM		20		X		45	2.000														45	2	45	2	1229
2	6H22		BEAM		20		X		45	2.000														45	2	45	2	136
8	9H23		BEAM		17		X		21	6.000														22	9	22	9	619
8	9H24		BEAM		17		X		35	3.000														36	6	36	6	993
8	7H25		BEAM		7		X		4	0.000		7.750												9	5	9	5	154
33	4P21		COLUMN		16		X		2	3.000														7	11	7	11	175
1	5U21		BEAM		13	S	X		2	4.875	2	9.000	2	4.875	2	9.000								11	3	10	11	11
1	5U22		BEAM		13	S	X		2	8.750	2	9.000	2	8.750	2	9.000								11	11	11	7	12
34	5U23		BEAM		13	S	X			22.000	2	9.000		22.000	2	9.000								10	1	9	9	346
1	5U24		BEAM		13	S	X		2	9.000	2	9.000	2	9.000	2	9.000								11	11	11	7	12
32	5U25		BEAM		13	S	X		2	9.000	2	11.875	2	9.000	2	11.875								12	5	12	1	403
34	5U26		BEAM		13	S	X			22.000	2	11.875		22.000	2	11.875								10	7	10	3	363
1	5U27		BEAM		13	S	X		2	8.750	2	11.875	2	8.750	2	11.875								12	4	12	1	13
1	5U28		BEAM		13	S	X		2	4.875	2	11.875	2	4.875	2	11.875								11	9	11	5	12
2	4U29		BEAM		10	S	X					6.000	2	9.000										3	9	3	7	5
27	8V21		COLUMN		20		X		12	9.000														12	9	12	9	919
			INT BT NO 3																									
48	6D31		FOOTING		18		X		5	8.000														7	0	7	0	505
27	8D32		FOOTING		20		X		6	4.000														6	4	6	4	457
24	6D33		BEAM		20		X		2	6.000														2	6	2	6	90
8	9H31		BEAM		20		X		45	2.000														45	2	45	2	1229
2	6H32		BEAM		20		X		45	2.000														45	2	45	2	136
8	9H33		BEAM		17		X		21	6.000														22	9	22	9	619
8	9H34		BEAM		17		X		35	3.000														36	6	36	6	993
8	7H35		BEAM		7		X		4	0.000	2	7.750												9	5	9	5	154
45	4P31		COLUMN		16		X		2	3.000														7	11	7	11	238
1	5U31		BEAM		13	S	X		2	4.875	2	9.000	2	4.875	2	9.000								11	3	10	11	11
1	5U32		BEAM		13	S	X		2	8.750	2	9.000	2	8.750	2	9.000								11	11	11	7	12
34	5U33		BEAM		13	S	X			22.000	2	9.000		22.000	2	9.000								10	1	9	9	346
1	5U34		BEAM		13	S	X		2	9.000	2	9.000	2	9.000	2	9.000								11	11	11	7	12
32	5U35		BEAM		13	S	X		2	9.000	2	11.875	2	9.000	2	11.875								12	5	12	1	403
34	5U36		BEAM		13	S	X			22.000	2	11.875		22.000	2	11.875								10	7	10	3	363
1	5U37		BEAM		13	S	X		2	8.750	2	11.875	2	8.750	2	11.875								12	4	12	1	13
1	5U38		BEAM		13	S	X		2	4.875	2	11.875	2	4.875	2	11.875								11	9	11	5	12
2	4U39		BEAM		10	S	X					6.000	2	9.000										3	9	3	7	5
27	8V31		COLUMN		20		X		16	3.000														16	3	16	3	1171
			SUPERSTR																									

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	(E) EPOXY	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			END BT NO 1																									
6	6F1		WING BRACE		15					14.000	5	7.875	14.000		7.000		12.125		7.000		12.125			8	0	7	11	71
5	6F2		DIAPH		21				2	6.250	6	0.000							2	2.250	15.125			8	4	8	1	61
6	6F3		WING BRACE		19					14.000	3	5.125	14.000		12.125		7.000		12.125		7.000			5	9	5	8	51
5	6F4		DIAPH		15				2	6.250	6	0.000							2	2.250	15.125			8	6	8	6	64
4	7H1		BEAM		20					52	3.000													52	3	52	3	427
5	6H2		BEAM & DIAPH		20					52	3.000													52	3	52	3	392
4	7H3		BEAM		20					18	0.000													18	0	18	0	147
4	7H4		BEAM		20					38	0.000													38	0	38	0	311
6	6H5		DIAPH		20					3	3.000													3	3	3	3	29
12	6H6		DIAPH		20					9	0.000													9	0	9	0	162
6	7H7		DIAPH	E	20					52	3.000													52	3	52	3	641
14	6H8		WING		20			V	2	3	7.000													3	7	3	7	
			INCREMENT = 13.000 INCH							10	1.000													10	1	10	1	144
4	6H9		WING		20					10	5.000													10	5	10	5	63
2	6H10		WING	E	20					10	5.000													10	5	10	5	31
14	6H11		WING		20			V	2	4	9.000													4	9	4	9	
			INCREMENT = 12.125 INCH							10	10.000													10	10	10	10	164
4	6H12		WING		20					11	2.000													11	2	11	2	67
2	6H13		WING	E	20					11	2.000													11	2	11	2	34
5	5H14		DIAPH		23					15	0.000	17	0.000	15	0.000	7	6.000	13	0.000	7	6.000	13	0.000	3	11	3	11	20
2	4H15		APPR HAUNCH		20					24	7.000													24	7	24	7	33
2	6T1		WING		25					2	1.000	8	8.250	3	2.375					4	11.500	7	1.625	14	0	13	11	42
2	6T2		WING		25					2	1.000	8	10.625	3	11.250					5	3.375	7	1.750	14	11	14	10	45
10	5U1		BEAM		10	S						4	9.000	2	7.125									12	1	11	11	124
26	5U2		BEAM		10	S						5	2.125	2	7.125									12	11	12	9	346
5	4U3		BEAM		13	S				2	7.125	2	9.000	2	7.125	2	9.000							11	5	11	2	37
20	4U4		BEAM		13	S				2	7.125	2	11.750	2	7.125	2	11.750							11	11	11	8	156
70	6U5		DIAPH	E	19	S				4	4.000	3	11.000											8	3	8	1	850
44	5U6		DIAPH	E	10	S						4	2.500	2	7.125									11	0	10	10	497
36	4U7		APPR HAUNCH		10	S						17	7.500		6.000									3	5	3	3	78
4	5V1		BEAM		20					4	9.000													4	9	4	9	20
12	5V2		BEAM		20					5	2.000													5	2	5	2	65
14	6V4		WING		20			V	2	2	6.000													2	6	2	6	
			INCREMENT = 8.500 INCH							6	9.000													6	9	6	9	97
3	6V5		WING		20					7	4.000													7	4	7	4	33
14	6V6		WING		20			V	2	2	6.000													2	6	2	6	
			INCREMENT = 9.125 INCH							7	1.000													7	1	7	1	101
4	6V7		WING		20					7	8.000													7	8	7	8	46
			END BT NO 4																									
6	6F41		WING BRACE		15					14.000	5	7.875	14.000		7.000		12.125		7.000		12.125			8	0	7	11	71
2	6F42		DIAPH		21				2	6.250	6	0.000							2	2.250	15.125			8	4	8	1	61
6	6F43		WING BRACE		15					14.000	3	5.125	14.000		12.125		7.000		12.125		7.000			5	9	5	8	51
5	6F44		DIAPH		15				2	6.250	6	0.000							2	2.250	15.125			8	6	8	6	64

STATE	PROJ. NO.	SHEET NO.
MO.		32

SHAPE 6 · SHAPE 7 · SHAPE 8 · SHAPE 9 · SHAPE 10 · SHAPE 11 · SHAPE 12 · SHAPE 13 · SHAPE 14 · SHAPE 15 · SHAPE 16 · SHAPE 17 · SHAPE 18 · SHAPE 20 · SHAPE 19 · SHAPE 21 · SHAPE 22 · SHAPE 23 · SHAPE 24 · SHAPE 25 · SHAPE 26 · SHAPE 27 · SHAPE 28 · SHAPE 29 · SHAPE 31 · SHAPE 30 · SHAPE 32 · SHAPE 33 · SHAPE 34 · SHAPE 35 · SHAPE 36

SPOT WELD AASHTO M32 SIZE W5 WIRE (TYP.)

BENDING DIAGRAMS

REVISED	DATE
STD 90.8	OCT. 1991
MAY 1974	

6d FOR #4 AND #5, 12d FOR #6

90° STIRRUP · 135° STIRRUP

DETAILED APRIL 1992
CHECKED APRIL 1992

STIRRUP HOOK DIMENSIONS

GRADES 40 - 50 - 60 KSI

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

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

DETAILING DIMENSION · 90° · 180° · 4d OR 2-1/2" MIN.

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

TWO ADDITIONAL #7-H7 ARE INCLUDED IN THE BAR BILL FOR TESTING.

END HOOK DIMENSIONS

BAR SIZE	D (IN.)	ALL GRADES 180 HOOKS A OR G	180 HOOKS J	90 HOOKS A OR G
#3	2-1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	2'-0"
#14	18-1/4"	2'-3"	21-3/4"	2'-7"

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

SHEET NO. 19 OF 20.

WASHINGTON COUNTY A-4741

BILL OF REINFORCING STEEL

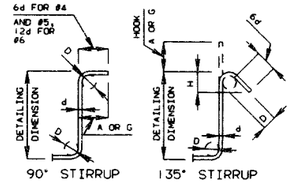
NO. REQ'D.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
9	6M41	BEAM & DIAPH		20					52 3.000							52 3	52 3	709
4	6M42	BEAM		20					17 2.000							17 2	17 2	103
4	6M43	BEAM		20					38 0.000							38 0	38 0	228
6	6M44	DIAPH		20					3 3.000							3 3	3 3	29
12	6M45	DIAPH		20					9 0.000							9 0	9 0	162
4	6M46	DIAPH	E	20					52 3.000							52 3	52 3	314
16	6M47	WING		20			V	2	3 8.000							3 8	3 8	
		INCREMENT =							10 1.000							10 1	10 1	165
		11.000 INCH																
4	6M48	WING		20					10 5.000							10 5	10 5	63
2	6M49	WING	E	20					10 5.000							10 5	10 5	31
14	6M50	WING		20			V	2	4 9.000							4 9	4 9	
		INCREMENT =							10 10.000							10 10	10 10	164
		12.125 INCH																
4	6M51	WING		20					11 2.000							11 2	11 2	67
2	6M52	WING	E	20					11 2.000							11 2	11 2	34
5	5M53	DIAPH		23					15.000	17.000	15.000	7.500	13.000	7.500	13.000	3 11	3 11	20
2	4M54	APPR MAUNCH		20					24 7.000							24 7	24 7	33
2	6T41	WING		25					2 1.000	9 3.250	3 1.875			5 10.375	7 2.125	14 6	14 5	43
2	6T42	WING		25					2 1.000	8 10.750	3 11.250			5 3.625	7 1.750	14 11	14 10	45
10	5U41	BEAM		10	S					4 9.000	2 7.125					12 1	11 11	124
28	5U42	BEAM		10	S					5 4.000	2 7.125					13 3	13 1	382
5	4U43	BEAM		13	S				2 7.125	2 9.000	2 7.125	2 9.000				11 5	11 2	37
14	4U44	BEAM		13	S				2 7.125	3 0.500	2 7.125	3 0.500				12 0	11 9	110
6	4U45	BEAM		10	S					3 0.500	2 7.125					8 8	8 6	34
70	6U46	DIAPH	E	19	S				4 4.000	3 11.000						8 3	8 1	850
44	5U47	DIAPH	E	10	S					4 2.500	2 7.125					11 0	10 10	497
36	4U48	APPR MAUNCH		10	S					17.500	6.000					3 5	3 3	78
4	5V41	BEAM		20					4 9.000							4 9	4 9	20
8	5V42	BEAM		20					5 4.000							5 4	5 4	45
14	6V44	WING		20			V	2	2 7.000							2 7	2 7	
		INCREMENT =							7 4.000							7 6	7 4	104
		9.500 INCH																
3	6V45	WING		20					7 11.000							7 11	7 11	36
14	6V46	WING		20			V	2	2 6.000							2 6	2 6	
		INCREMENT =							6 10.000							6 10	6 10	98
		8.625 INCH																
4	6V47	WING		20					7 4.000							7 4	7 4	44
32	6M101	DIAPH INT BT		20					9 0.000							9 0	9 0	433
32	4M102	DIAPH INT BT		20					10 0.000							10 0	10 0	214
24	5M103	DIAPH INT BT		23					15.000	17.000				7.500	13.000	2 8	2 8	67
36	5M104	DIAPH INT BT		23					15.000	17.000	15.000	7.500	13.000	7.500	13.000	3 11	3 11	147
32	6U101	DIAPH INT BT	E	28	S					2 8.000	4 0.000	14.000				7 10	7 6	360
112	4U102	DIAPH INT BT	E	28	S					2 6.000	4 0.000	12.000				7 6	7 4	549
40	5U103	DIAPH INT BT		19	S				10.000	2 0.000						2 10	2 9	115
16	5V101	DIAPH INT BT		20					4 4.000							4 4	4 4	72
40	9C1	BARRIER CURB	E	10					10 0.000							10 0	10 0	417

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
474	5R1	BARRIER CURB	E	19	S				2 6.000	3.500						2 10	2 6	118
418	5R2	BARRIER CURB	E	15	S				2 6.125	3.500						2 10	2 9	1199
370	5R3	BARRIER CURB	E	19	S				17.000	6.000						23	22	708
370	5R4	BARRIER CURB	E	27	S					6.000	11.125	7.000	12.000	9.125	6.375	3 0	2 10	1094
48	5R5	BARRIER CURB	E	19	S				2 2.500	6.000						2 9	2 7	129
48	5R6	BARRIER CURB	E	27	S					6.000	10.625	17.750		8.750	6.125	2 10	2 10	142
8	5R7	BARRIER CURB	E	19	S				2 0.000	6.000						2 6	2 5	20
8	5R8	BARRIER CURB	E	27	S					6.000	7.750	17.750		6.250	4.625	2 8	2 7	22
8	5R9	BARRIER CURB	E	19	S				2 3.500	3.500						2 7	2 6	21
24	5R10	BARRIER CURB	E	10	S					2 0.000	7.500					4 8	4 5	111
48	5R11	BARRIER CURB	E	20					5 0.000							5 0	5 0	250
20	5R12	BARRIER CURB	E	20					9 0.000							9 0	9 0	188
4	5R13	BARRIER CURB	E	20					10 0.000							10 0	10 0	42
56	5R14	BARRIER CURB	E	20					24 5.000							24 5	24 5	1426
58	5R15	BARRIER CURB	E	20					9 9.000							9 9	9 9	510
14	5R16	BARRIER CURB	E	20					39 9.000							39 9	39 9	580
		CAST-IN-PLACE CONVENTIONAL FORMS																
110	5S1	SLAB	E	20			V	2	2 2.000							2 2	2 2	
		INCREMENT =							44 11.000							44 11	44 11	2701
		9.500 INCH																
338	5S2	SLAB	E	20					45 3.000							45 3	45 3	15952
240	6S3	SLAB	E	20					37 11.000							37 11	37 11	13668
120	6S4	SLAB	E	20			V	2	2 3.000							2 3	2 3	
		INCREMENT =							44 10.000							44 10	44 10	4243
		8.625 INCH																
372	6S5	SLAB	E	20					45 3.000							45 3	45 3	25283
187	6S6	SLAB	E	20					38 4.000							38 4	38 4	10767
144	5S7	SLAB	E	20					16 0.000							16 0	16 0	2403
		PRECAST PANEL FORMS																
40	6S3	SLAB	E	20					37 11.000							37 11	37 11	2278
120	6S4	SLAB	E	20			V	2	2 3.000							2 3	2 3	
		INCREMENT =							44 10.000							44 10	44 10	4243
		8.625 INCH																
372	6S5	SLAB	E	20					45 3.000							45 3	45 3	25283
187	6S6	SLAB	E	20					38 4.000							38 4	38 4	10767
360	4S8	SLAB	E	20					3 9.000							3 9	3 9	902
144	6S9	SLAB	E	20					33 6.000							33 6	33 6	7246
		END OF LIST																

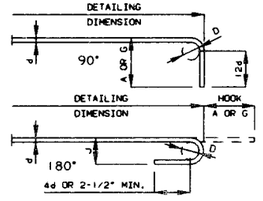
TWO ADDITIONAL #5-R15 & #6-S6 ARE INCLUDED IN THE BAR BILL FOR TESTING.

STD 90.8	REVISED
MAY 1974	OCT. 1991



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

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



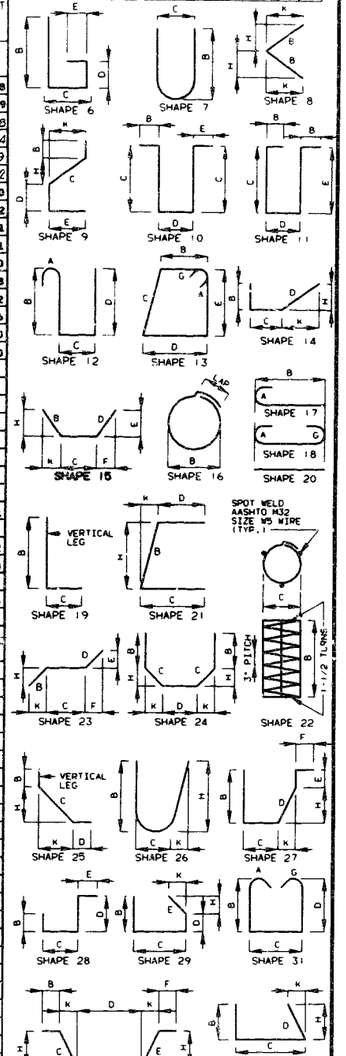
END HOOK DIMENSIONS					
BAR SIZE	D (IN.)	ALL GRADES 180 HOOKS A OR G	180 HOOKS J	90 HOOKS A OR G
#3	2-1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	2'-0"
#14	18-1/4"	2'-3"	21-3/4"	2'-7"

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

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

DETAILED APRIL 1992
CHECKED APRIL 1992

STATE	PROJ. NO.	SHEET NO.
10.		33



BENDING DIAGRAMS

SHEET NO. 20 OF 20.

WASHINGTON COUNTY A-4741

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

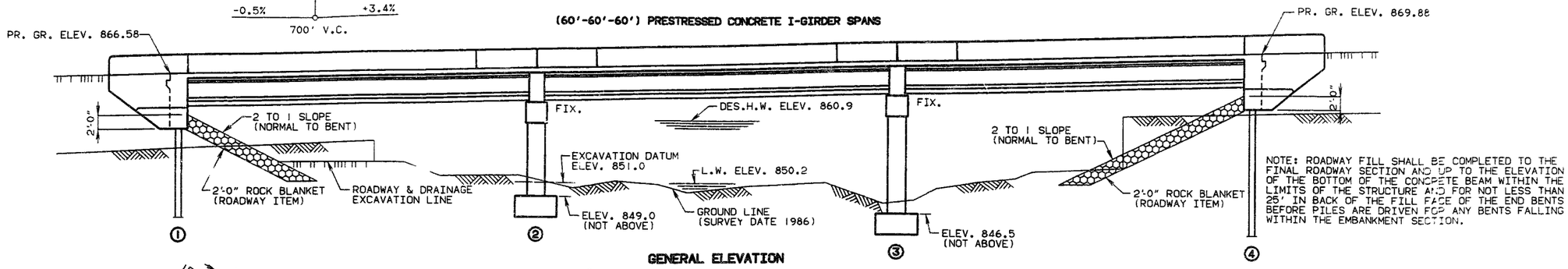
STATE	PROJ. NO.	SHEET NO.
MO.	STP-STPG-BRF-8-1(13)	14
SEC./SUR. 430 TWP. 37N RGE. 2E		

P.I. STA. 917+62.0
ELEV. 863.50

-0.5% +3.4%

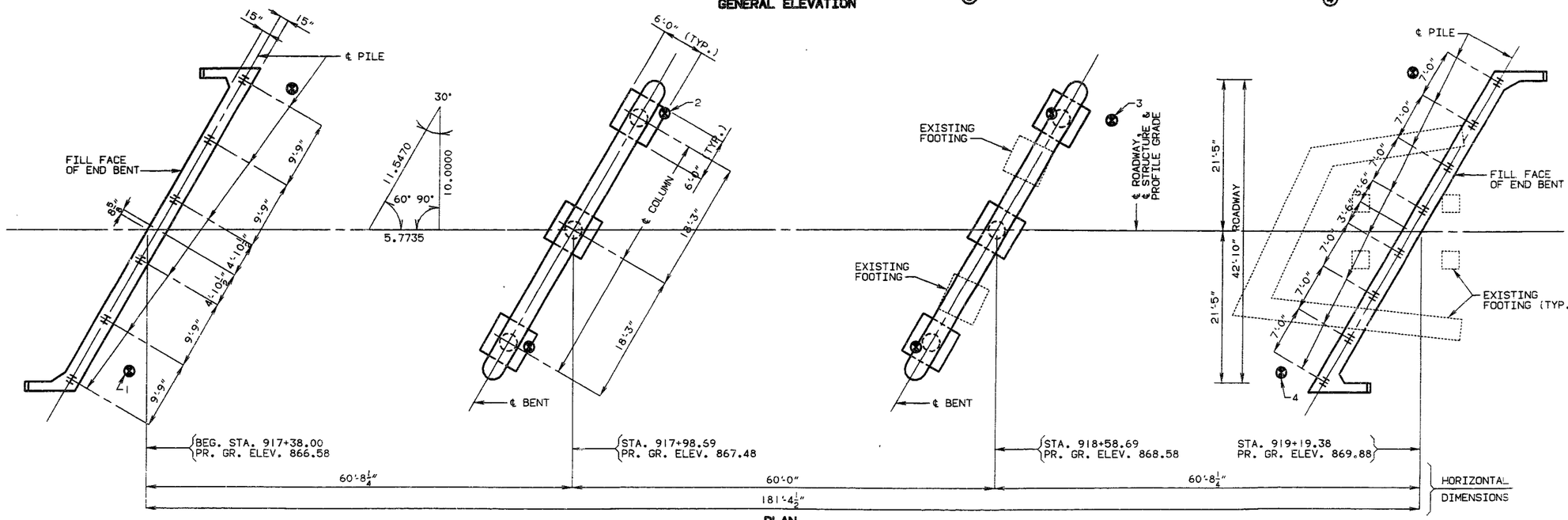
700' V.C.

(60'-60'-60') PRESTRESSED CONCRETE I-GIRDER SPANS



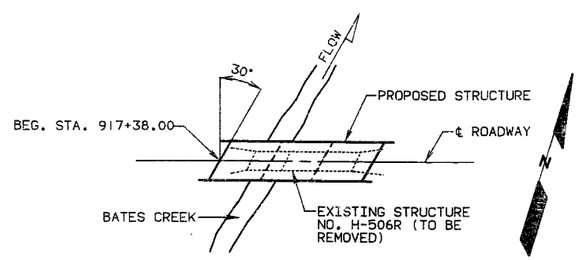
GENERAL ELEVATION

NOTE: ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE BEAM WITHIN THE LIMITS OF THE STRUCTURE AND FOR NOT LESS THAN 25' IN BACK OF THE FILL FACE OF THE END BENTS BEFORE PILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION.



PLAN

NOTE: "⊗" INDICATES LOCATION OF BORINGS. BORING DATA FOR ALL LOCATIONS IS AVAILABLE UPON REQUEST FROM THE DISTRICT OFFICE.
BORING DATA FOR NUMBERED LOCATIONS IS DETAILED ON SHEET NO. 2.
FOR GENERAL NOTES, PILE AND FOOTING DATA, ESTIMATED QUANTITIES AND ESTIMATED QUANTITIES FOR ALTERNATE SLABS, SEE SHEET NO. 2.



LOCATION SKETCH

HYDROLOGIC DATA	
DRAINAGE AREA	= 14.7 SQ. MI. (HILLY)
DES. DISCHARGE	= 7720 CFS. (100 YEARS)
DES. H. W. ELEV.	= 860.9 (100 YEARS)
EST. BACKWATER	= 0.7 FT.

B.M. # 5 ELEV. 872.82 BOLT EMBEDDED IN TOP OF BARRIER CURB, N.E. CORNER OF BRIDGE # A-4741

B.M. #3-85 ELEV. 886.31 CHISLED "□" IN CENTER OF S. CONC. HDWL. 80'± E. OF (HISTORIC MARKER 1/2 MI) 600'± E. OF BATES CREEK BRIDGE

BRIDGE OVER BATES CREEK

STATE ROAD FORM POTOSI TO STEELVILLE

ABOUT 0.6 MILE WEST OF POTOSI

PROJECT NO. STP-STPG-BRF-8-1(13) **STA.** 917+38.00

JOB NO. J6P0744 **RTE.** 8

WASHINGTON COUNTY

DESIGNED FEB. 1992
DETAILED MAR. 1992
CHECKED APR. 1992

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

SHEET NO. 1 OF 21.

DATE 5/19/92

STD.
STD. 706.35
A-4741

H 428

STATE	PROJ. NO.	SHEET NO.
MD.	STP-STPG-BAF-8-1(13)	1F

GENERAL NOTES:

DESIGN SPECIFICATIONS: A.A.S.H.T.O.-1989 AND INTERIM 1990 LOAD FACTOR DESIGN
A.A.S.H.T.O.-1983 GUIDE SPECIFICATIONS FOR
SEISMIC DESIGN
SEISMIC PERFORMANCE CATEGORY A

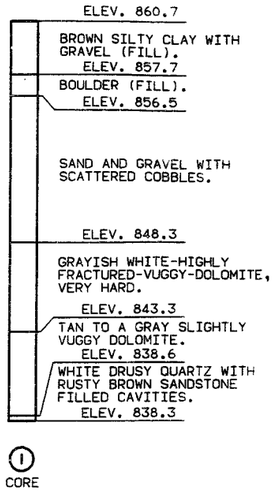
DESIGN LOADING:
HS20 MODIFIED
35#/SQ. FT. FUTURE WEARING SURFACE
EARTH 120#/CU. FT., EQUIVALENT FLUID PRESSURE 45#/CU. FT.
SUPERSTRUCTURE: SIMPLY-SUPPORTED, NON-COMPOSITE FOR DEAD LOAD.
CONTINUOUS COMPOSITE FOR LIVE LOAD.

DESIGN UNIT STRESSES:
CLASS B CONCRETE (SUBSTRUCTURE) F'C=3,000 PSI.
CLASS B1 CONCRETE (SAFETY BARRIER CURB) F'C=4,000 PSI.
CLASS B2 CONCRETE (SUPERSTRUCTURE EXCEPT PRESTRESSED GIRDERS AND SAFETY BARRIER CURB) F'C=4,000 PSI
REINFORCING STEEL (GRADE 60) FY=60,000 PSI.
STEEL PILE FB=9,000 PSI.
FOR PRESTRESSED GIRDER STRESSES, SEE SHEET NO. 10.
FOR PRECAST PRESTRESSED PANEL STRESSES, SEE SHEET NO. 14.

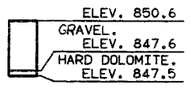
REINFORCING STEEL:
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2", UNLESS OTHERWISE SHOWN.

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

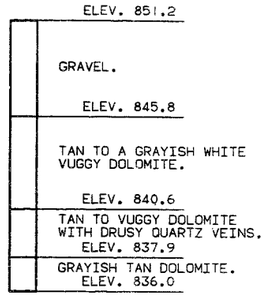
NEOPRENE BEARINGS:
NEOPRENE ELASTOMERIC PADS SHALL BE 60 DUROMETER. THE NEOPRENE PAD SHALL BE BONDED TO THE BEARING SEAT WITH AN EPOXY ADHESIVE AS APPROVED BY THE BEARING MANUFACTURER FOR BONDING NEOPRENE TO CONCRETE.



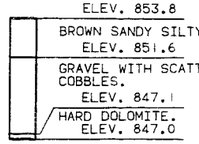
(1) CORE



(2)



(3) CORE



(4)

BORING DATA

NOTE: FOR LOCATION OF BORINGS, SEE SHEET NO. 1.
BORING DATA FOR ALL LOCATIONS IS AVAILABLE UPON REQUEST FROM THE DISTRICT OFFICE.

ESTIMATED QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
REMOVAL OF BRIDGES (H-506R)	LUMP SUM			1
CLASS 1 EXCAVATION	CU. YD.	-0-		-0-
CLASS 2 EXCAVATION	CU. YD.	74.5		74.5
STRUCTURAL STEEL PILES (10")	LIN. FT.	228		228
CLASS B CONCRETE (SUBSTR.)	CU. YD.	107.5		107.5
SLAB ON CONCRETE I-GIRDER	SQ. YD		917	917
**SAFETY BARRIER CURB	LIN. FT.		399	399
LAMINATED NEOPRENE BEARING PADS (TAPERED)	EACH		30	30
PRESTRESSED CONCRETE I-GIRDERS (60')	EACH		15	15
REINFORCING STEEL (BRIDGES)	LB.	13,220		13,220
SLAB DRAINS	EACH		24	24
VERTICAL DRAIN AT END BENTS	EACH			2

NOTE: ALL CONCRETE ABOVE THE CONSTRUCTION JOINT IN THE END BENTS IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER, SEE SPECIAL PROVISIONS.
ALL REINFORCEMENT IN THE END BENTS IS INCLUDED WITH SUPERSTRUCTURE QUANTITIES.
THE COST OF FURNISHING, FABRICATING AND INSTALLING NEOPRENE BEARING PADS, COMPLETE-IN-PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR LAMINATED NEOPRENE BEARING PADS (TAPERED), PER EACH.
** SAFETY BARRIER CURB SHALL BE ~~CAST-IN-PLACE OPTION OR~~ SLIP-FORM OPTION.

ESTIMATED QUANTITIES FOR ALTERNATE SLABS

TYPE OF SLAB	REINF. (LBS.) EPOXY	REINF. (LBS.) PLAIN	CONC. (CU. YD.)
~~CAST IN PLACE CONVENTIONAL FORMS~~	~~79,710~~	~~7630~~	~~302.1~~
PRECAST PANEL FORMS	55,410	7630	259.6*

NOTE: THE TABLE OF ESTIMATED QUANTITIES FOR ALTERNATE SLABS 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 ALTERNATE SLAB USED.
SEE SPECIAL PROVISIONS FOR ALTERNATE METHODS OF FORMING SLABS.
* BASED ON MINIMUM TOP FLANGE THICKNESS AND MINIMUM JOINT FILLER THICKNESS.
PRECAST PANEL QUANTITIES ARE BASED ON SKEWED END PANELS.
THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR ALTERNATE SLABS.

PILE & FOOTING DATA

	BENT NO.	1	2	3	4
BEARING PILE	PILE TYPE AND SIZE	HP10X42			HP10X42
	NUMBER	6			8
	APPROXIMATE LENGTH FT.	13			17
	DESIGN BEARING TONS	56			42
	HAMMER ENERGY REQUIRED FT.-LBS.	12,600			9500
SPREAD FOOTINGS	FOUNDATION MATERIAL		DOLOMITE	DOLOMITE	
	DESIGN BEARING TONS/SQ. FT.		8	8	

NOTE: MINIMUM ENERGY REQUIREMENT OF HAMMER IS BASED ON PLAN LENGTH AND DESIGN BEARING VALUE OF PILES.
ALL PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL.

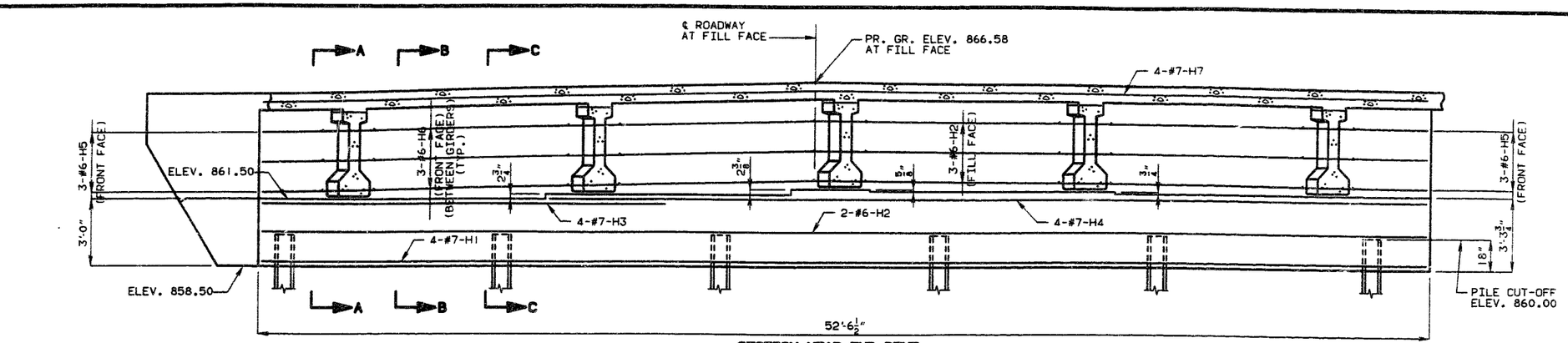
DETAILED MAR. 1992
CHECKED APR. 1992

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

WASHINGTON COUNTY

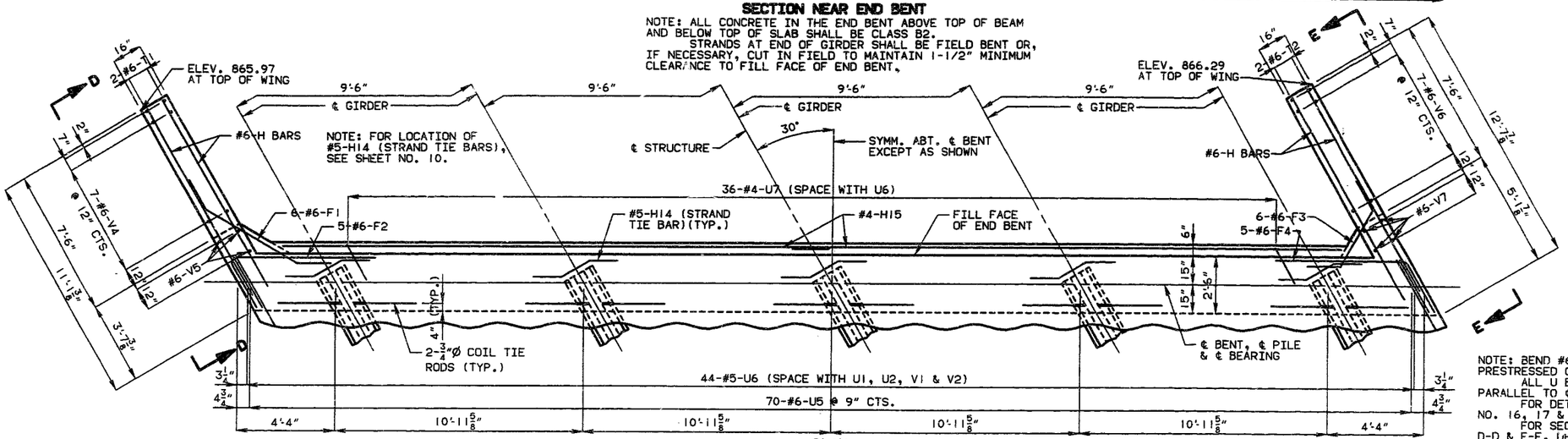
A-4741

STATE	PROJ. NO.	SHEET NO.
MO.	STP-STPG-BRF-8-1(13)	16



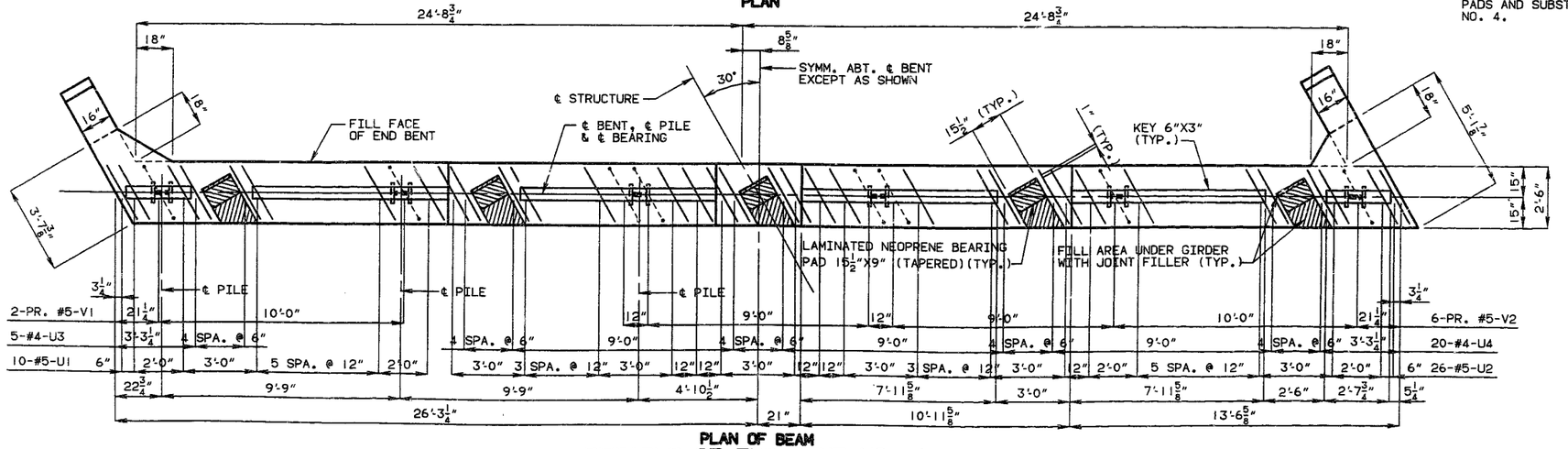
SECTION NEAR END BENT

NOTE: ALL CONCRETE IN THE END BENT ABOVE TOP OF BEAM AND BELOW TOP OF SLAB SHALL BE CLASS B2.
STRANDS AT END OF GIRDER SHALL BE FIELD BENT OR, IF NECESSARY, CUT IN FIELD TO MAINTAIN 1-1/2" MINIMUM CLEARANCE TO FILL FACE OF END BENT.



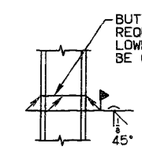
NOTE: BEND #6-F1 & F3 BARS IN FIELD TO CLEAR PRESTRESSED GIRDER FLANGES.
ALL U BARS IN END BENT ARE TO BE PLACED PARALLEL TO ℄ STRUCTURE.
FOR DETAILS OF BARRIER CURB, SEE SHEETS NO. 16, 17 & 18.
FOR SECTIONS A-A, B-B & C-C, ELEVATIONS D-D & E-E, DETAILS OF LAMINATED NEOPRENE BEARING PADS AND SUBSTRUCTURE QUANTITY TABLE, SEE SHEET NO. 4.

PLAN

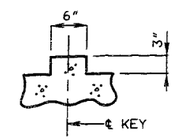


PLAN OF BEAM

BUTT SPLICE (IF REQUIRED) TOP OF LOWER SECTION TO BE CUT SQUARE.



STEEL PILE SPLICE



SECTION THRU KEY

DETAILS OF END BENT NO. 1

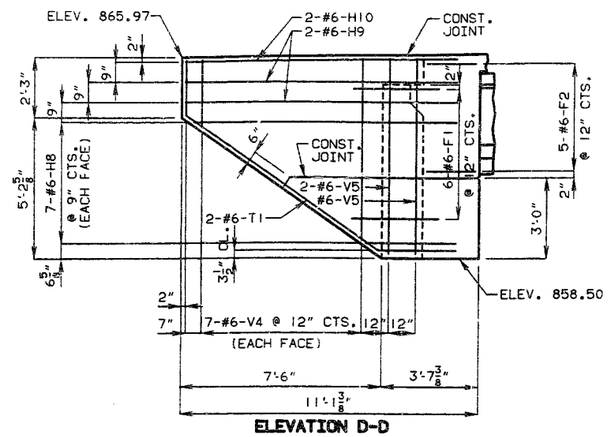
DETAILED MAR. 1992
CHECKED MAR. 1992

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

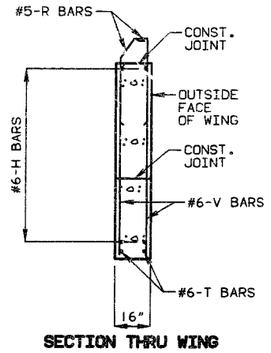
WASHINGTON COUNTY

A-4741

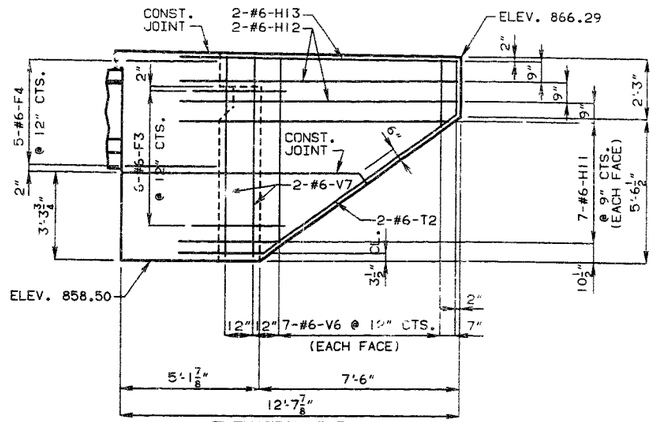
STATE	PROJ. NO.	SHEET NO.
MO.	STP-STPG-BAF-8-1(13)	17



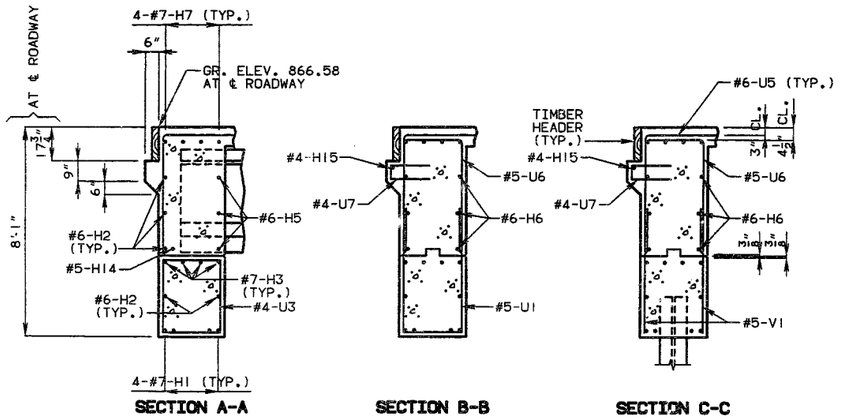
ELEVATION D-D



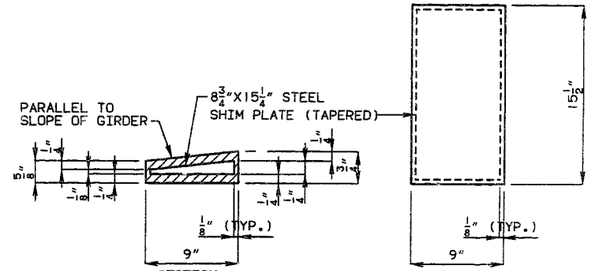
SECTION THRU WING



ELEVATION E-E



SECTION A-A SECTION B-B SECTION C-C



SECTION PLAN

DETAILS OF LAMINATED NEOPRENE BEARING PADS

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 1		
ITEM		QUANTITY
STRUCTURAL STEEL PILES (10")	LIN. FT.	75
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	17.3

NOTE: WORK THIS TABLE WITH ESTIMATED QUANTITIES AS SHOWN ON SHEET NO. 2.

DETAILS OF END BENT NO. 1

DETAILED MAR. 1992
CHECKED MAR. 1992

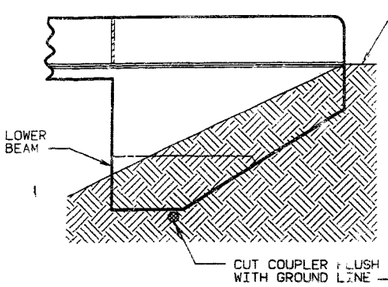
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

WASHINGTON COUNTY

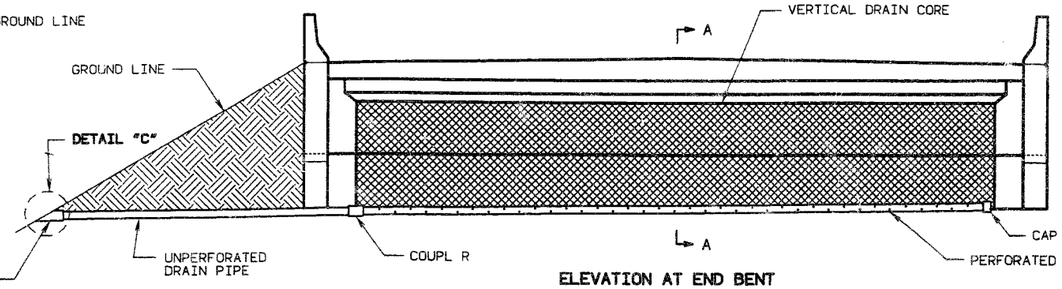
A-4741

BF 425

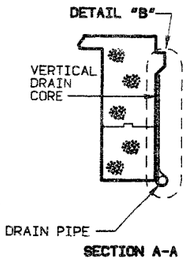
STATE	PROJ. NO.	SHEET NO.
MO.	STP-STPG-BRF-B(1-63)	18



ELEVATION OF WING



ELEVATION AT END BENT



SECTION A-A

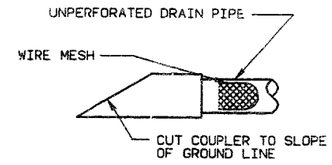
VERTICAL DRAIN AT END BENTS

GENERAL NOTES:

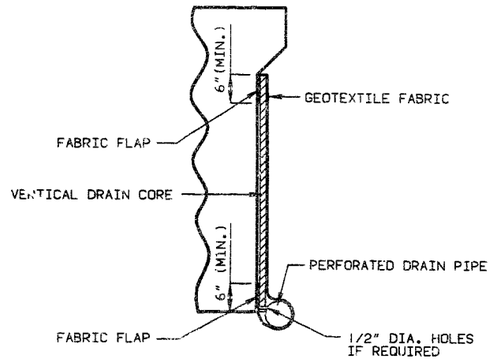
DRAIN PIPE MAY BE EITHER 6" DIAMETER CORRUGATED METALLIC-COATED STEEL PIPE UNDERDRAIN, 4" DIAMETER CORRUGATED POLY VINYL CHLORIDE (PVC) DRAIN PIPE, OR 4" DIAMETER CORRUGATED POLYETHYLENE (PE) DRAIN PIPE.

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.



DETAIL "C"



DETAIL "B"

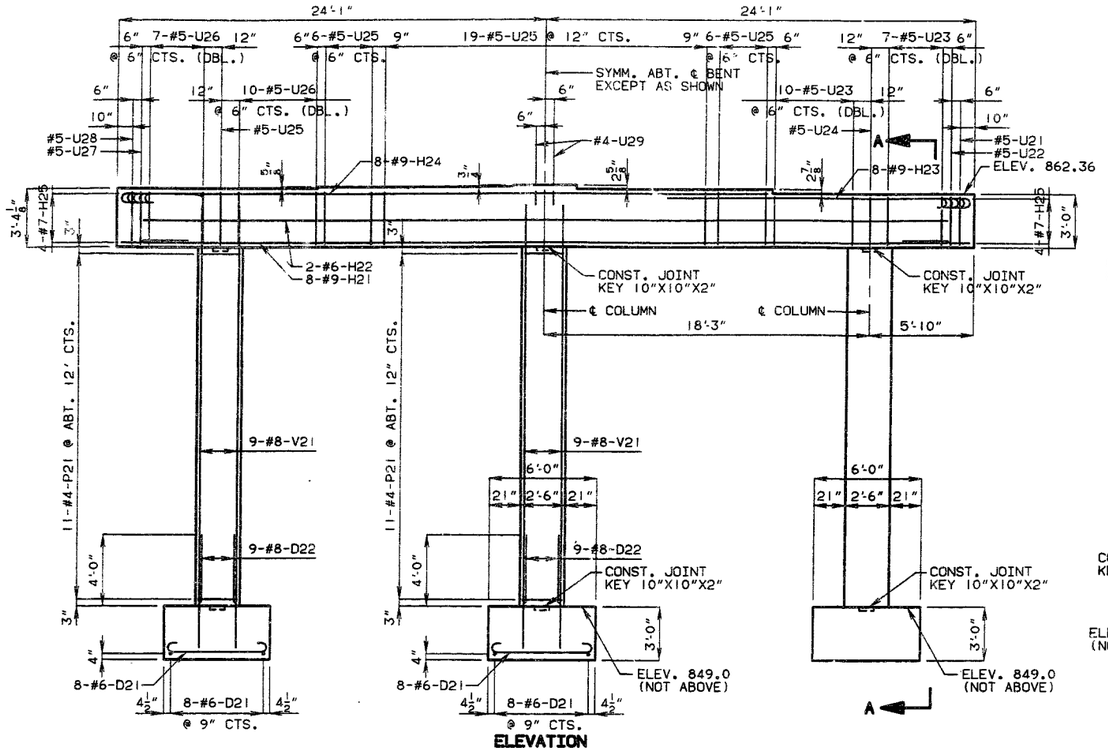
VERT. DRAIN (INT.)	REVISED:
MARCH 1986	AUG. 1989

DETAILED MAR. 1992
CHECKED MAR. 1992

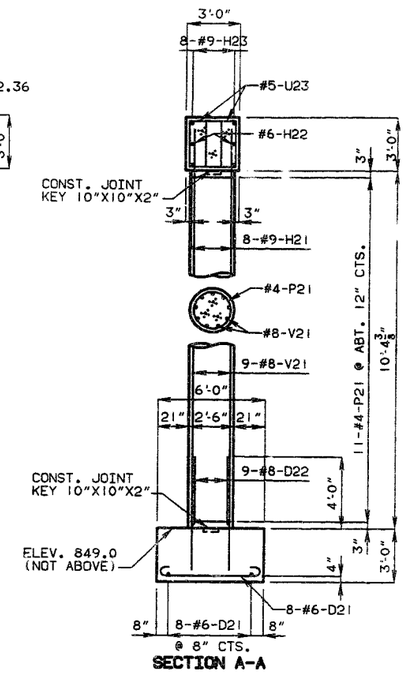
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

WASHINGTON COUNTY A-4741

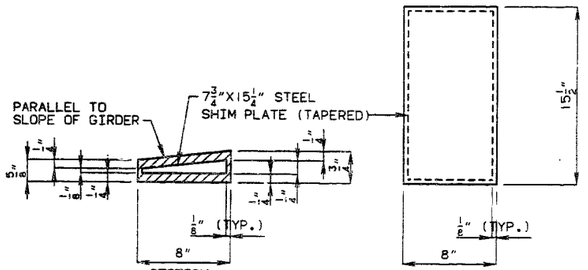
STATE	PROJ. NO.	SHEET NO.
MD.	STP-STPG-BRF-8-1(13)	10



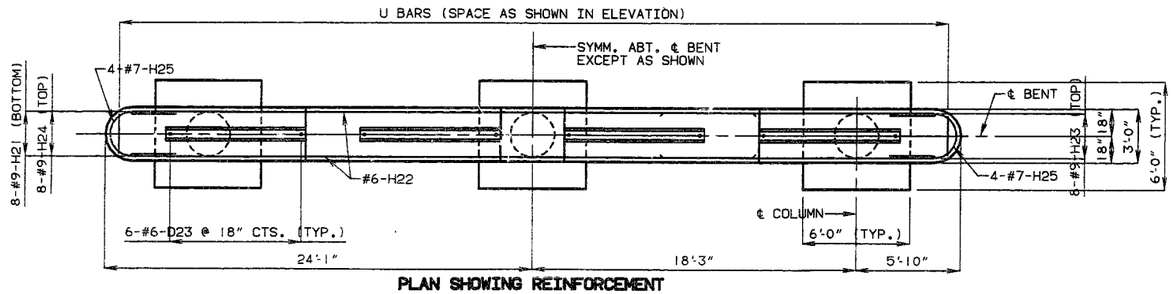
ELEVATION



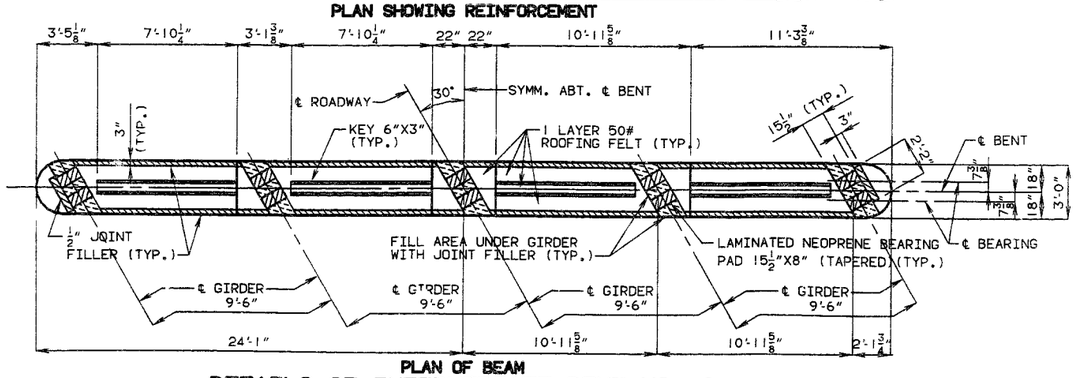
SECTION A-A



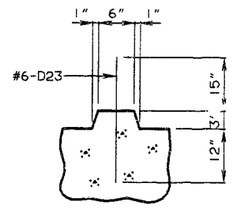
DETAILS OF LAMINATED NEOPRENE BEARING PADS



PLAN SHOWING REINFORCEMENT



PLAN OF BEAM



DETAIL OF KEY

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 2

ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YD.	-0-
CLASS 2 EXCAVATION	CU. YD.	34
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	35.1
REINFORCING STEEL (BRIDGES)	LB.	6450

NOTE: WORK THIS TABLE WITH ESTIMATED QUANTITIES AS SHOWN ON SHEET NO. 2.

DETAILS OF INTERMEDIATE BENT NO. 2

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

DETAILED MAR. 1992
CHECKED MAR. 1992

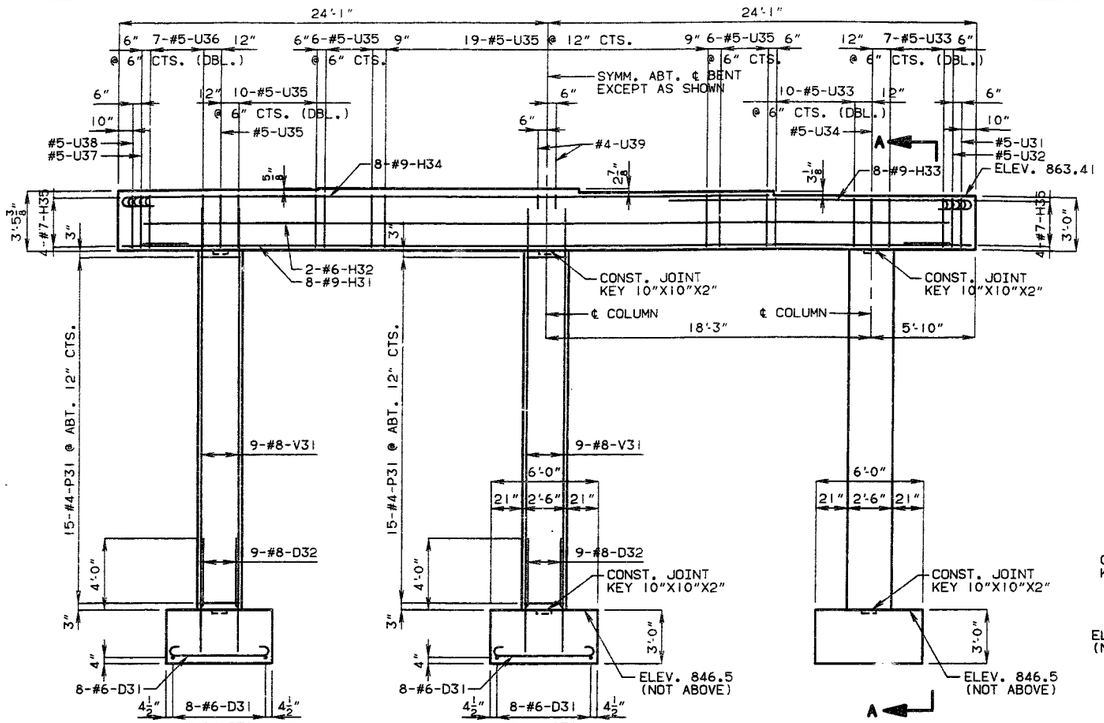
SHEET NO. 6A OF 21.

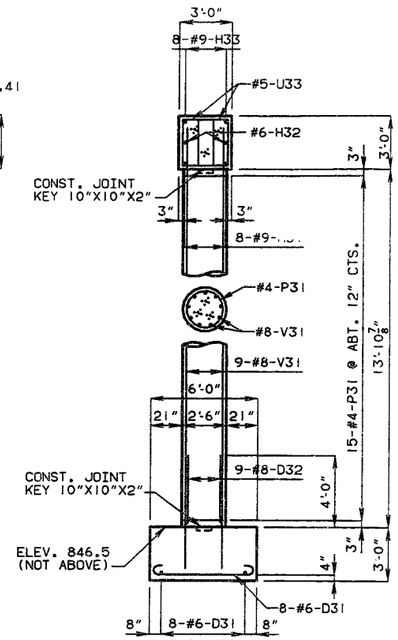
WASHINGTON COUNTY

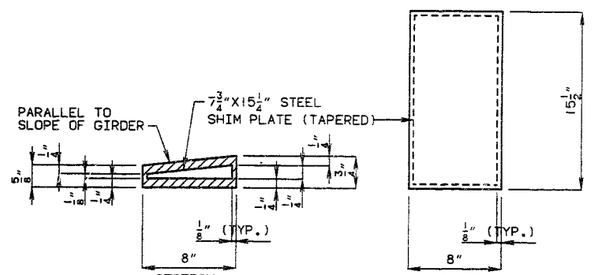
A-4741

34 427

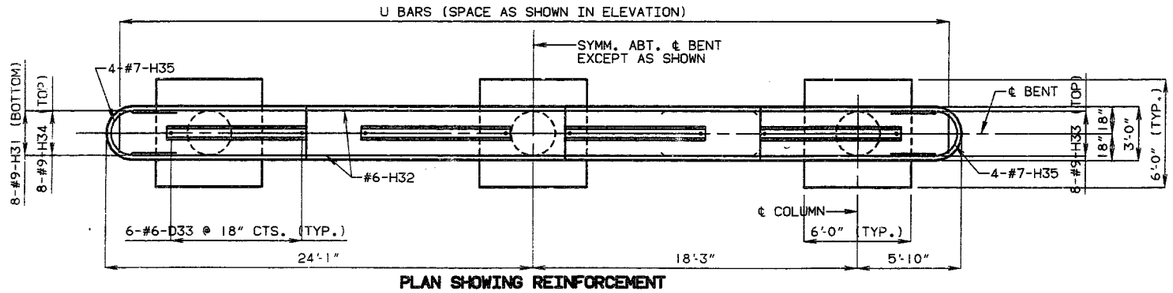
STATE	PROJ. NO.	SHEET NO.
MO.	STP-STP-BRF-E-1(13)	20



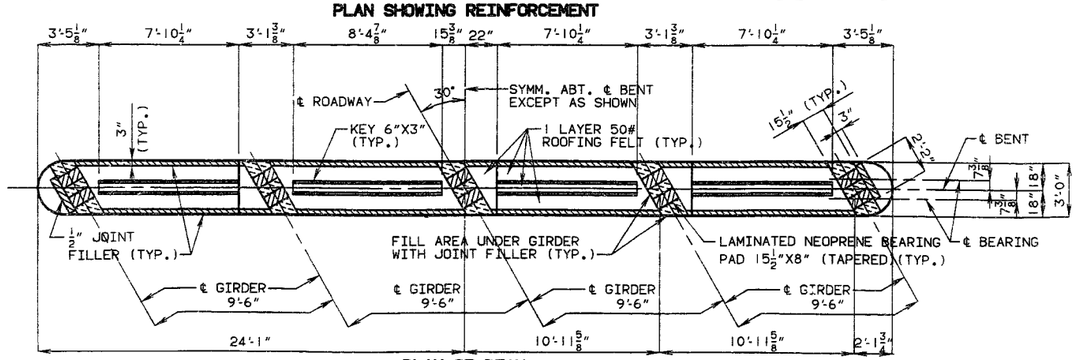




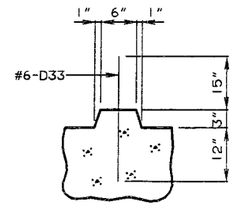
DETAILS OF LAMINATED NEOPRENE BEARING PADS



PLAN SHOWING REINFORCEMENT



PLAN OF BEAM



DETAIL OF KEY

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 3		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YD.	0
CLASS 2 EXCAVATION	CU. YD.	40.6
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	37.3
REINFORCING STEEL (BRIDGES)	LB.	6770

NOTE: WORK THIS TABLE WITH ESTIMATED QUANTITIES AS SHOWN ON SHEET NO. 2.

DETAILED MAR. 1992
CHECKED MAR. 1992

DETAILS OF INTERMEDIATE BENT NO. 3

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

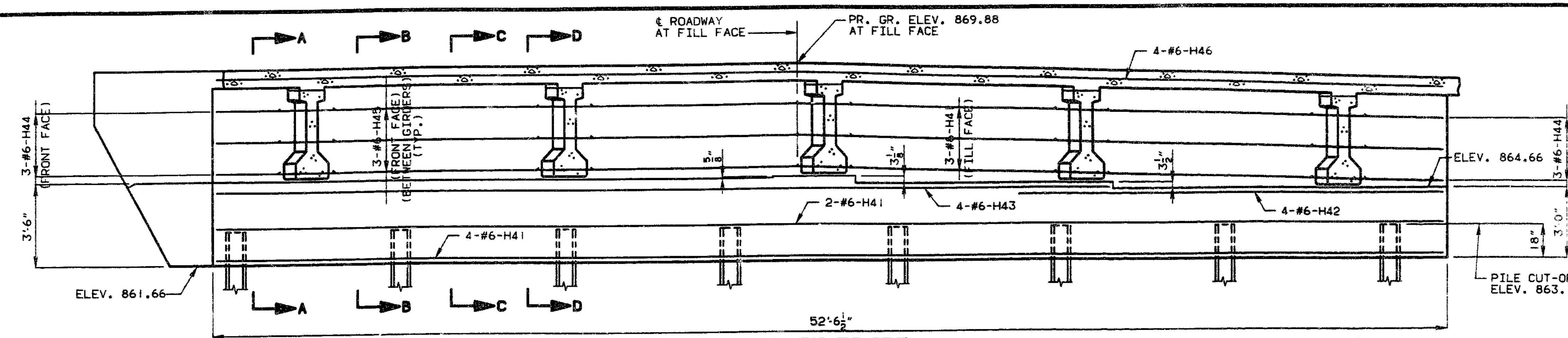
SHEET NO. 7A OF 21.

WASHINGTON COUNTY

A-4741

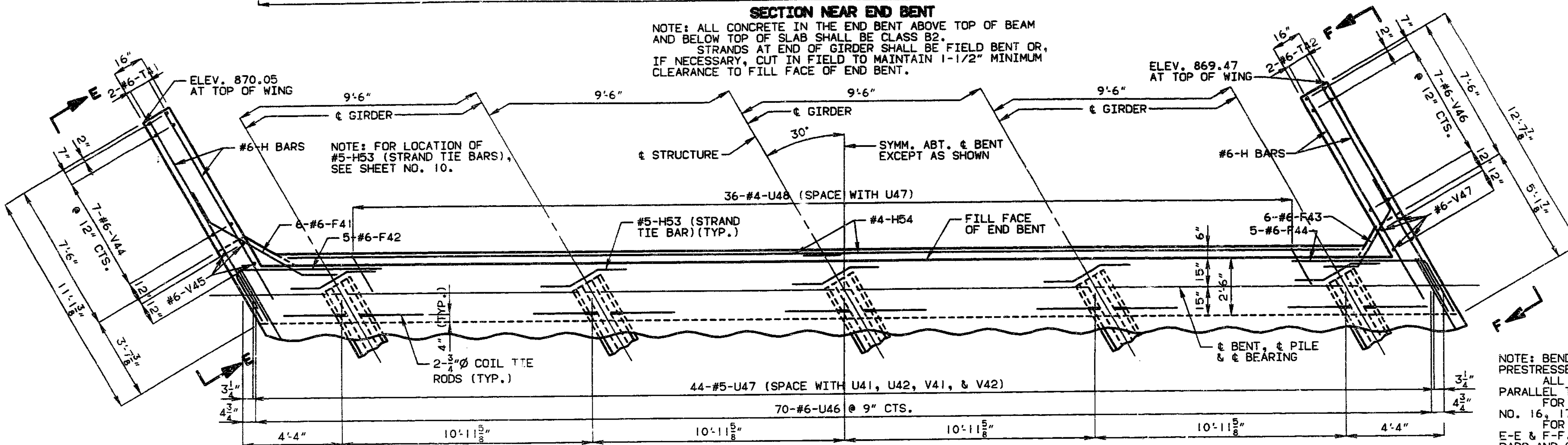
5-28-92

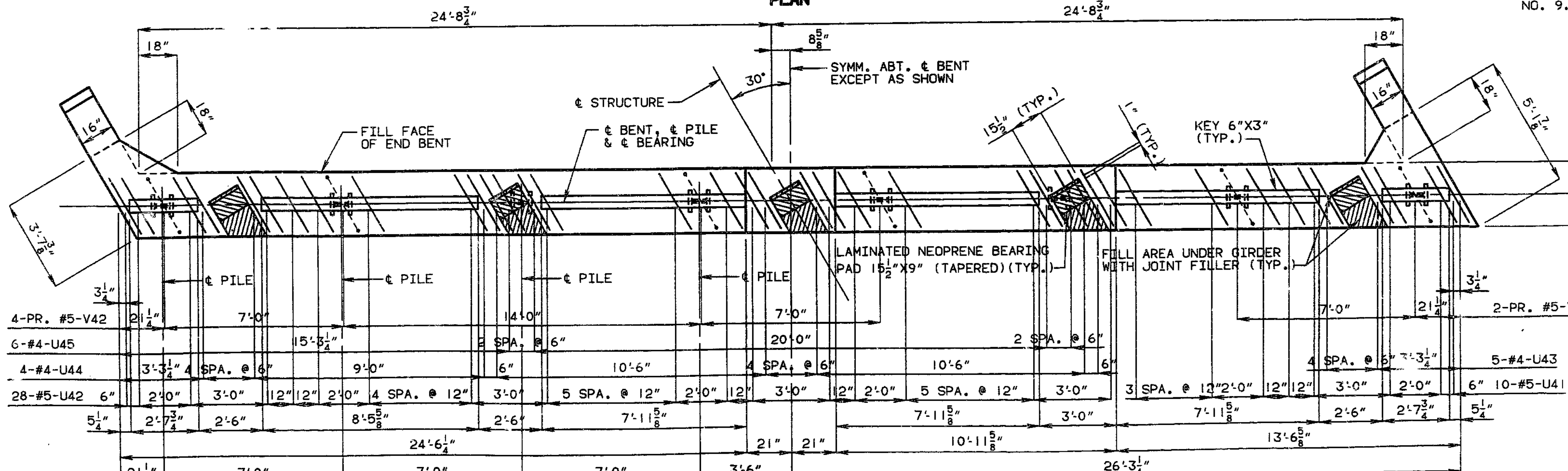
STATE	PROJ. NO.	SHEET NO.
MO.	STP-STPG-BRE-6-1(13)	21



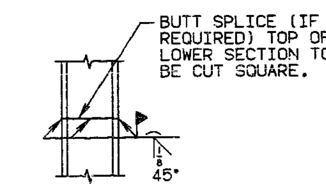
SECTION NEAR END BENT

NOTE: ALL CONCRETE IN THE END BENT ABOVE TOP OF BEAM AND BELOW TOP OF SLAB SHALL BE CLASS B2.
STRANDS AT END OF GIRDER SHALL BE FIELD BENT OR, IF NECESSARY, CUT IN FIELD TO MAINTAIN 1-1/2" MINIMUM CLEARANCE TO FILL FACE OF END BENT.

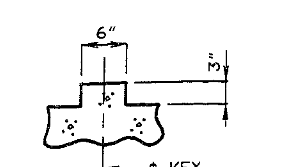




NOTE: BEND #6-F41 & F43 BARS IN FIELD TO CLEAR PRESTRESSED GIRDER FLANGES.
ALL U BARS IN END BENT ARE TO BE PLACED PARALLEL TO ¢ STRUCTURE.
FOR DETAILS OF BARRIER CURB, SEE SHEETS NO. 16, 17 & 18.
FOR SECTIONS A-A, B-B, C-C & D-D, ELEVATIONS E-E & F-F, DETAILS OF LAMINATED NEOPRENE BEARING PADS AND SUBSTRUCTURE QUANTITY TABLE, SEE SHEET NO. 9.



STEEL PILE SPLICE



SECTION THRU KEY

DETAILED MAR. 1992
CHECKED APR. 1992

DETAILS OF END BENT NO. 4

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

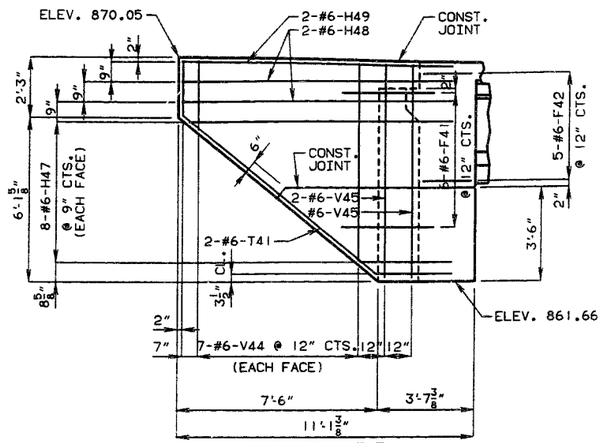
SHEET NO. 8A OF 20.

WASHINGTON COUNTY

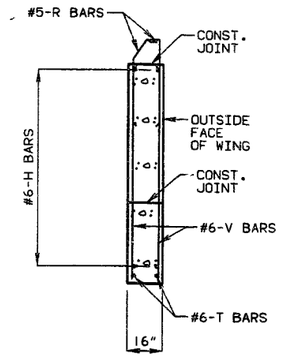
A-4741

26 429

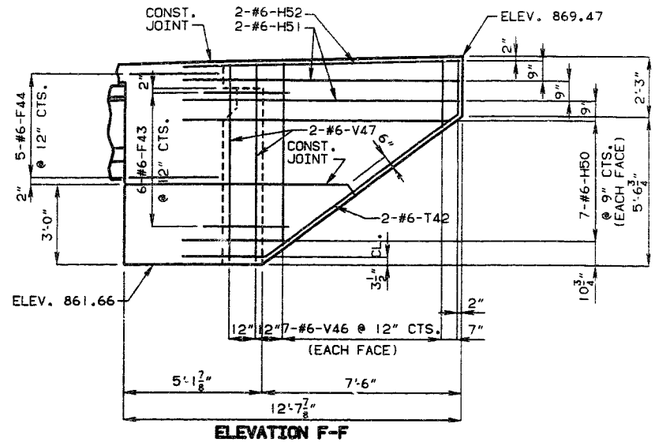
STATE	PROJ. NO.	SHEET NO.
MO.	STP-STPG-BRF-8-1(13)	22



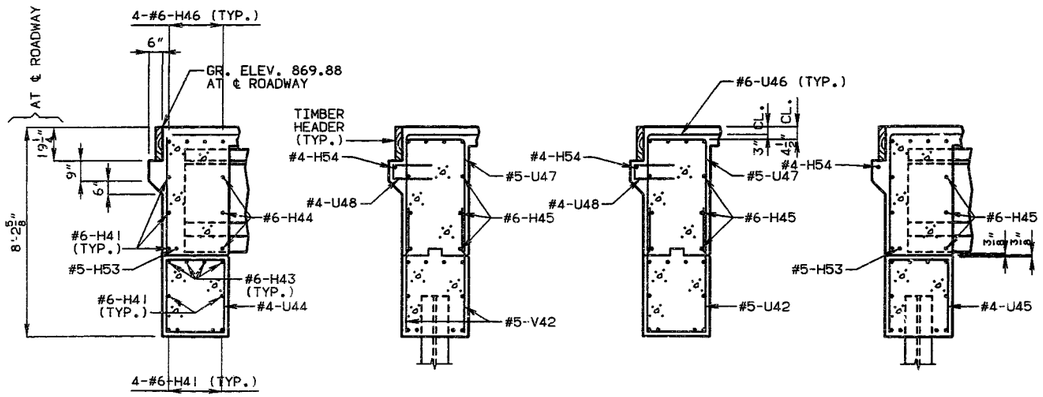
ELEVATION E-E



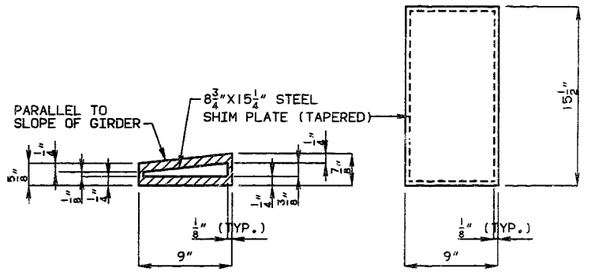
SECTION THRU WING



ELEVATION F-F



SECTION A-A SECTION B-B SECTION C-C SECTION D-D



DETAILS OF LAMINATED NEOPRENE BEARING PADS

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 4		
ITEM		QUANTITY
STRUCTURAL STEEL PILES (10")	LIN. FT.	137
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YD.	17.8

NOTE: WORK THIS TABLE WITH ESTIMATED QUANTITIES AS SHOWN ON SHEET NO. 2.

DETAILS OF END BENT NO. 4

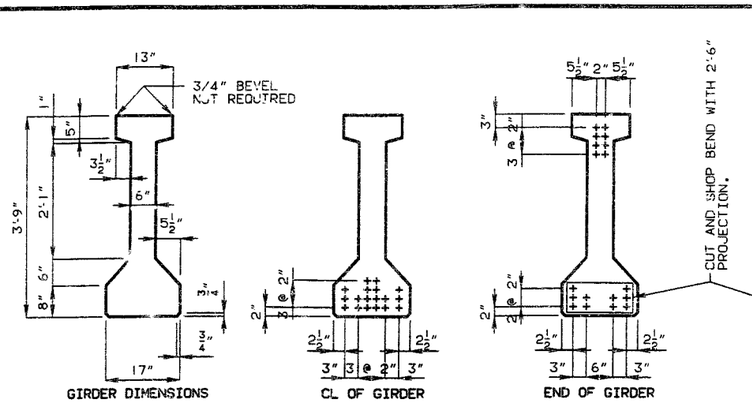
DETAILED MAR. 1992
CHECKED APR. 1992

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

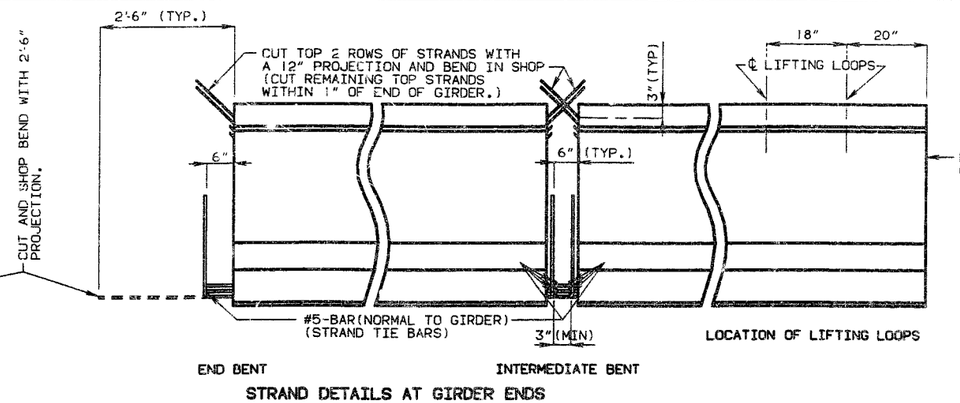
WASHINGTON COUNTY A-4741

27 430

STATE	PROJ. NO.	SHEET NO.
MO.	STP-5176-BRF-8-1(13)	23



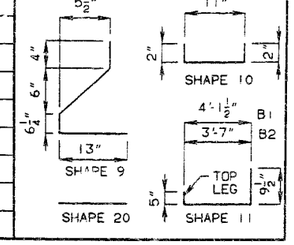
STRAND ARRANGEMENTS



STRAND DETAILS AT GIRDER ENDS

BILL OF REINFORCING STEEL - EACH GIRDER

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
2	5 A1	59'-3"	20	
** 200	4 B1	5'-2"	11	
8	5 B2	4'-7"	11	
100	4 C1	13"	10	
200	4 D1	2'-7"	9	



NOTE:

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 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.

** B1 BARS SHALL BE EPOXY COATED.

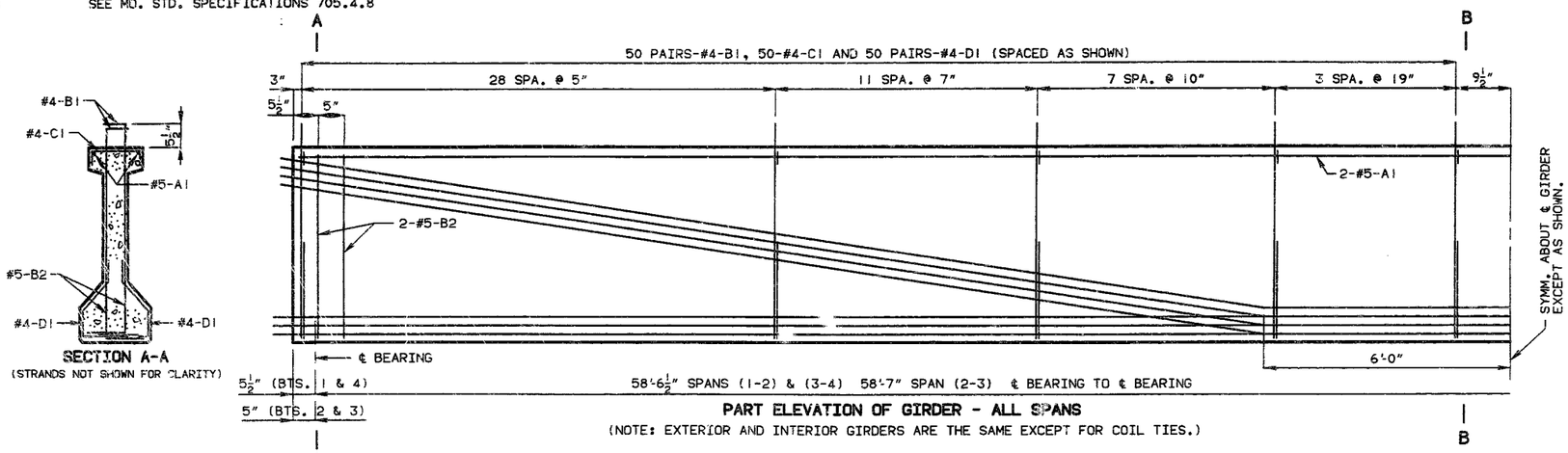
NOTE:

CONCRETE FOR PRESTRESSED GIRDERS SHALL BE CLASS A1 WITH F'C = 5,000 PSI.

(+) INDICATES PRESTRESSED STRAND.

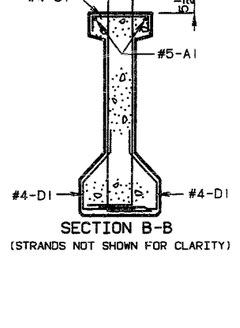
USE 18 STRANDS WITH AN INITIAL PRESTRESS FORCE OF 558 KIPS.

PRESTRESSING TENDONS SHALL BE UNCOATED, SEVEN-WIRE, LOW RELAXATION STRANDS, 1/2 INCH DIAMETER CONFORMING TO A.A.S.H.T.O. M203,GRADE 270. SEE MO. STD. SPECIFICATIONS 705.4.8

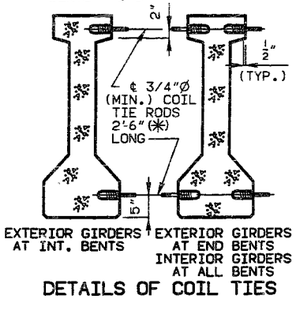


SECTION A-A
(STRANDS NOT SHOWN FOR CLARITY)

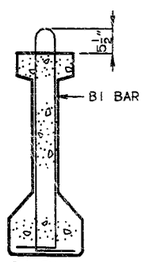
PART ELEVATION OF GIRDER - ALL SPANS
(NOTE: EXTERIOR AND INTERIOR GIRDERS ARE THE SAME EXCEPT FOR COIL TIES.)



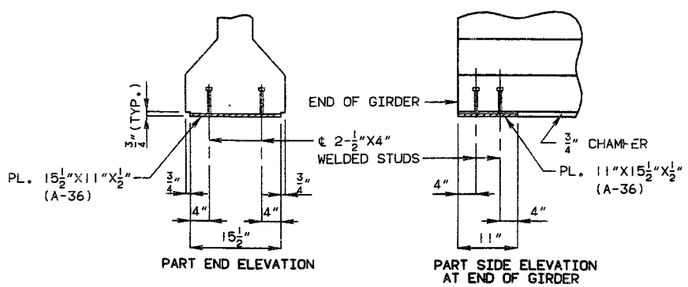
SECTION B-B
(STRANDS NOT SHOWN FOR CLARITY)



DETAILS OF COIL TIES



B1 BAR PERMISSIBLE ALTERNATE SHAPE



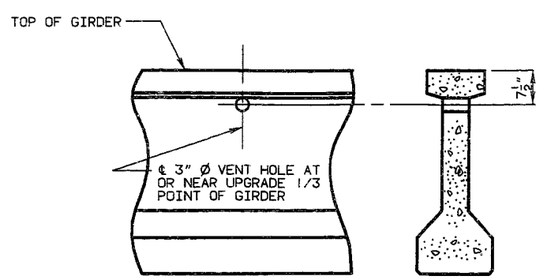
PART END ELEVATION

PART SIDE ELEVATION AT END OF GIRDER

SOLE PLATE DETAILS

NOTE: PAINT THE 1/2" SOLE PLATE (A-36) WITH 2 COATS OF INORGANIC ZINC (5 MILS MINIMUM) OR GALVANIZE IN ACCORDANCE WITH A.S.T.M. A123.

COST OF FURNISHING, PAINTING AND INSTALLING THE 1/2" SOLE PLATE (A-36) AND WELDED STUDS IN THE PRESTRESSED GIRDER SHALL BE INCLUDED IN THE PRICE BID FOR PRESTRESSED CONCRETE I-GIRDER PER EACH.



PART ELEVATION OF GIRDER

PART SECTION NEAR VENT HOLE

NOTE: PLACE VENT HOLES AT OR NEAR UPGRADE 1/3 POINT OF GIRDERS AND CLEAR REINFORCING STEEL OR STRANDS BY 1-1/2" MINIMUM AND STEEL INTERMEDIATE DIAPHRAGMS BOLT CONNECTION BY 6" MINIMUM.

NOTE:

COST OF 3/4"Ø COIL TIE RODS PLACED IN DIAPHRAGMS IS INCLUDED IN CONTRACT UNIT PRICE FOR PRESTRESSED CONCRETE MEMBERS.

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 AND THEN REPLACED BY COIL TIE RODS.

FOR LOCATION OF COIL TIE INSERTS AT SLAB DRAINS SEE SHEET NO. 15.

THE 1-1/2" Ø HOLES SHALL BE CAST IN THE WEB FOR STEEL INTERMEDIATE DIAPHRAGMS. DRILLING IS NOT ALLOWED.

NOTE: FOR DETAIL OF DIAPHRAGMS, SEE SHEET NO. 11.

GDR 6" W.P./33.55,3'-9",4 A

REVISED	MAY 1991

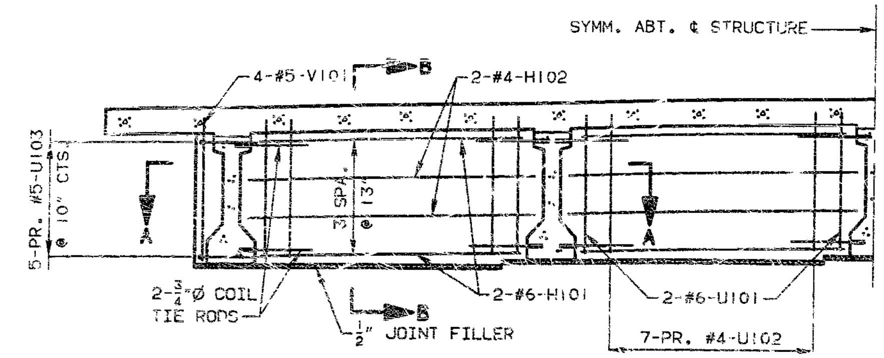
DETAILED MAR. 1992
CHECKED MAR. 1992

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

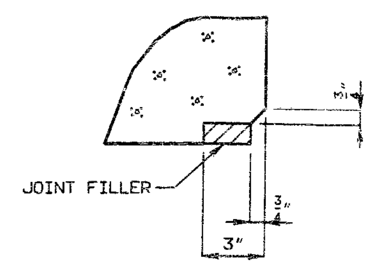
WASHINGTON COUNTY

A-4741

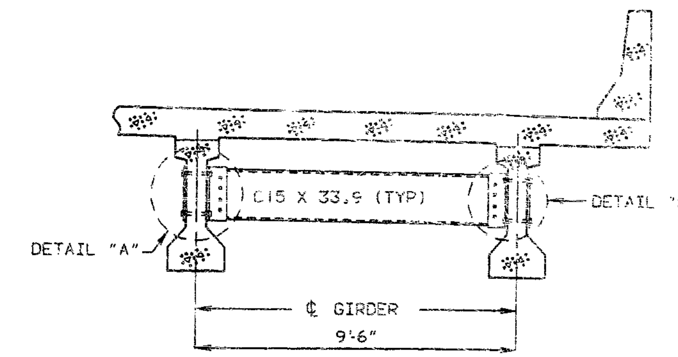
STATE	PROJ. NO.	SHEET NO.
MO.	STP-STPG-BRF-B-1(13)	24



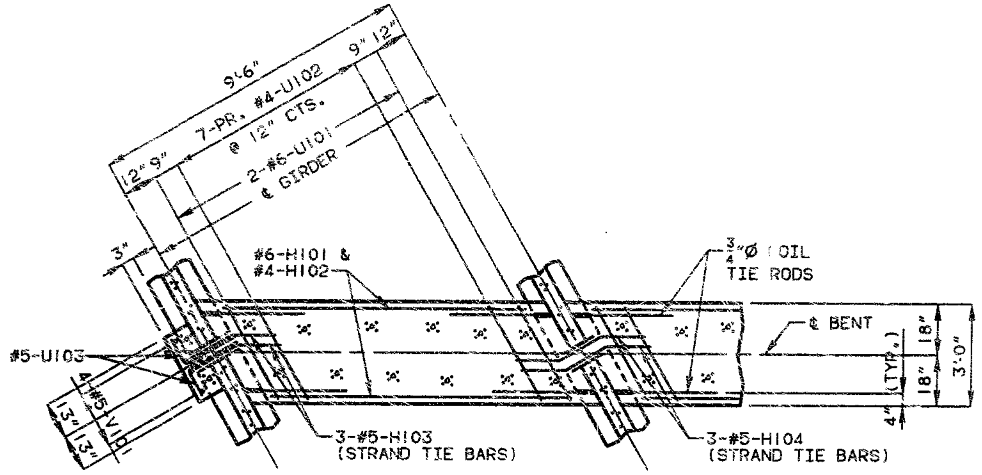
HALF SECTION NEAR INT. BENTS NO. 2 & 3



DETAIL "C"

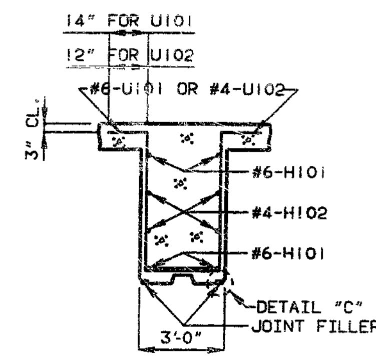


PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS

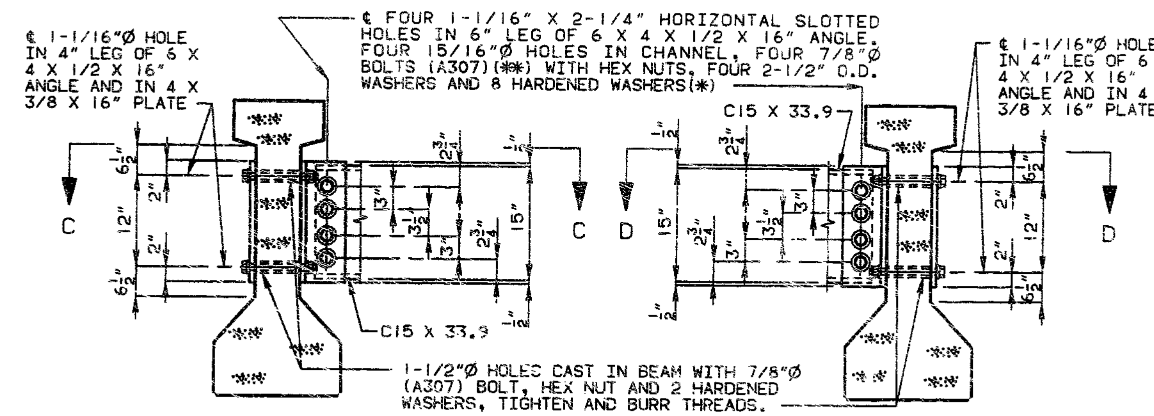


SECTION A-A

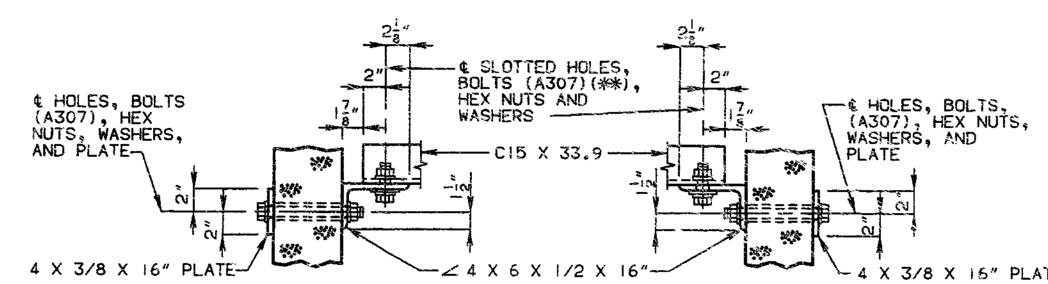
NOTE: DIAPHRAGMS AT INTERMEDIATE BENTS ARE VERTICAL.
FOR LOCATION OF #5-H103 & H104 (STRAND TIE BARS), SEE SHEET NO. 10.



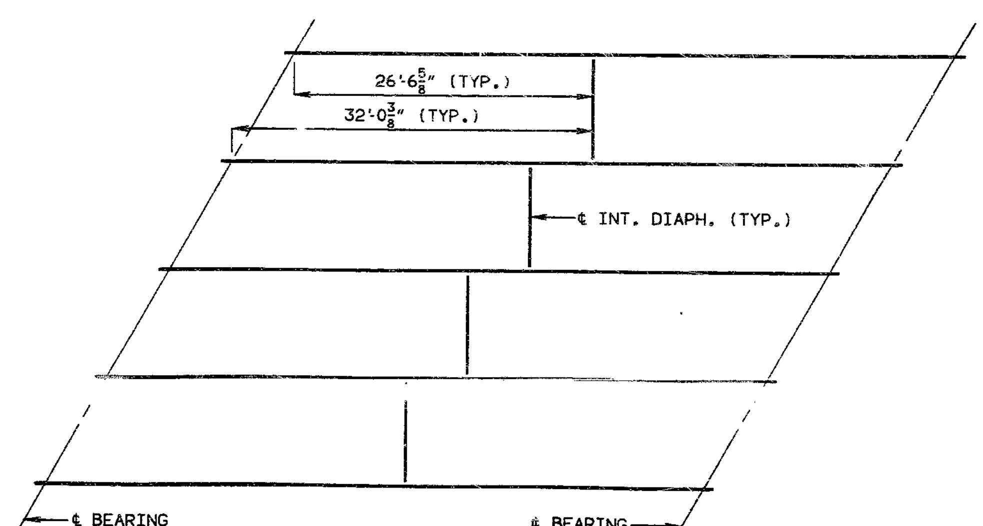
SECTION B-B



DETAIL "A" DETAIL "B"



SECTION C-C SECTION D-D



ALL SPANS

PART PLAN SHOWING LOCATION OF INT. DIAPHRAGMS

STEEL DIAPHRAGM NOTES:

(*) IN LIEU OF 2-1/2" O.D. WASHERS, CONTRACTOR MAY SUBSTITUTE A 3/16" (MIN. THICKNESS) PLATE WITH FOUR 15/16"Ø 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.

ALL DIAPHRAGM MATERIALS INCLUDING BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

FABRICATED STRUCTURAL STEEL SHALL BE A36 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.

DIAPH SK,P/S3.55,STL,1	REVISED:
STEEL DIA. (SK)	OCT 1990
AUGUST 1983	

RF 432

DETAILED MAR. 1992
CHECKED APR. 1992

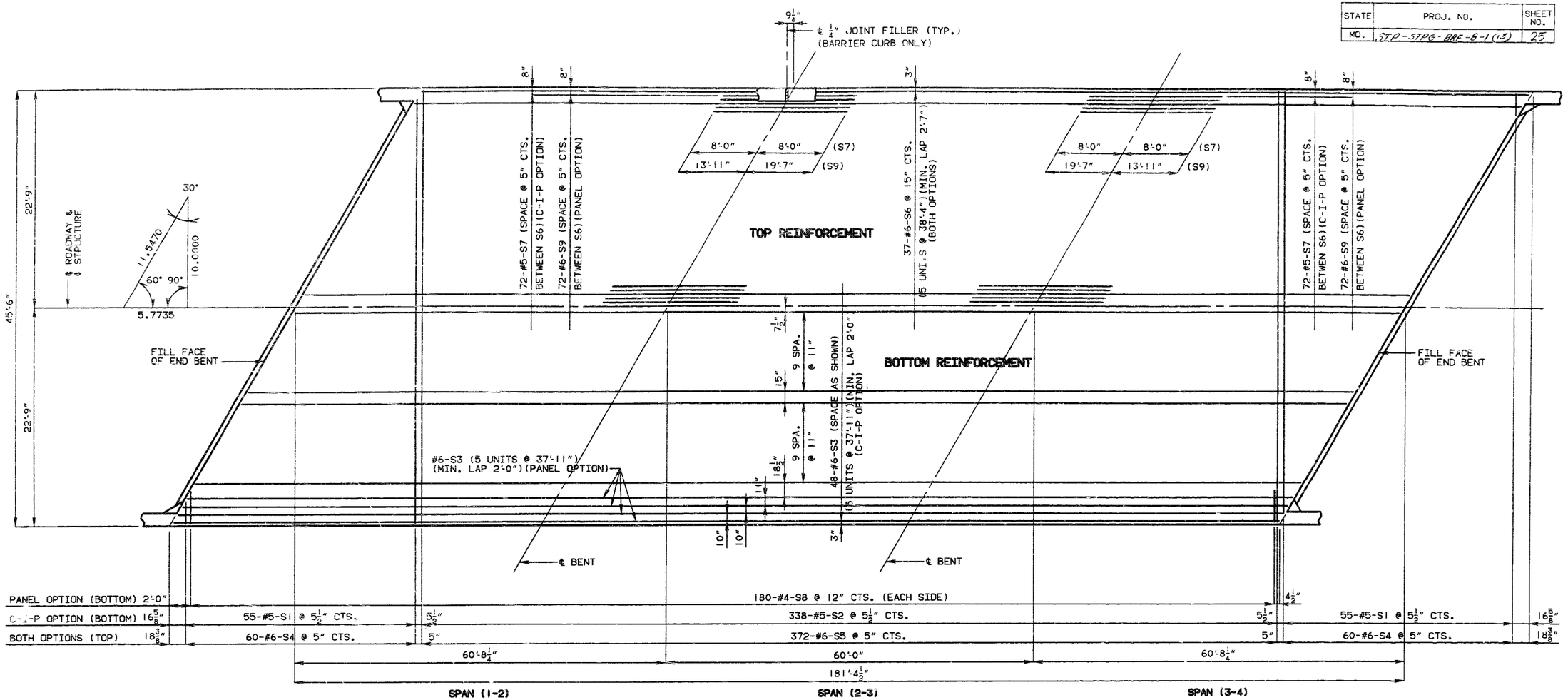
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 11A OF 20.

WASHINGTON COUNTY

A-4741

STATE	PROJ. NO.	SHEET NO.
MD.	STP-STPG-BRF-8-1(13)	25



PLAN OF SLAB SHOWING REINFORCEMENT

NOTE: LONGITUDINAL DIMENSIONS ARE HORIZONTAL.

30433

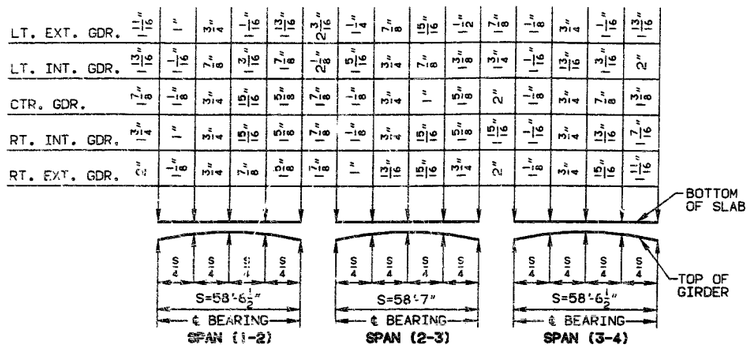
DETAILED MAR. 1992
CHECKED MAR. 1992

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

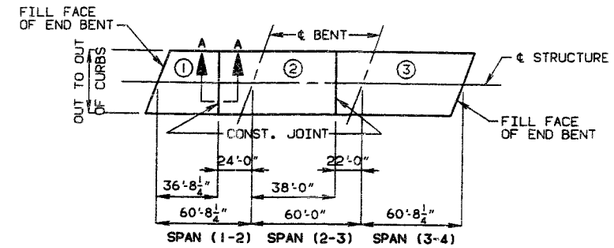
WASHINGTON COUNTY

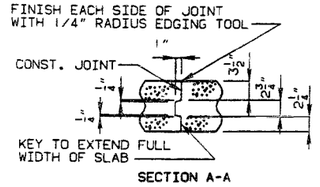
A-4741

STATE	PROJ. NO.	SHEET NO.
MO.	STP-STPG-BRF-B-1(13)	26



THEORETICAL SLAB HAUNCHING DIAGRAM





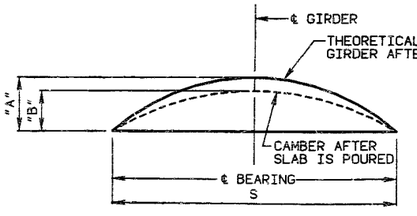
SECTION A-A

	SEQUENCE OF POURS			MIN. RATE OF POUR CU. YDS./HR.
	DIRECTION			WITH RETARDER
BASIC SEQUENCE	1	2	3	25
	EITHER DIRECTION			
ALTERNATE POURS TO THE BASIC 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 + 2		3	25
	END TO 3		2 TO END	
ALTERNATE "B" POURS	1 + 2 + 3			25
	END TO END			

NOTE: THE CONTRACTOR SHALL FURNISH AN APPROVED RETARDER TO RETARD THE SET OF THE CONCRETE TO 2.5 HOURS AND SHALL POUR AND SATISFACTORILY FINISH THE SLAB POURS AT THE RATE GIVEN.

THE CONCRETE DIAPHRAGM AT THE INTERMEDIATE BENTS AND INTEGRAL END BENTS SHALL BE POURED A MINIMUM OF 30 MINUTES AND A MAXIMUM OF 2 HOURS BEFORE THE SLAB IS POURED.

SLAB POURING SEQUENCE



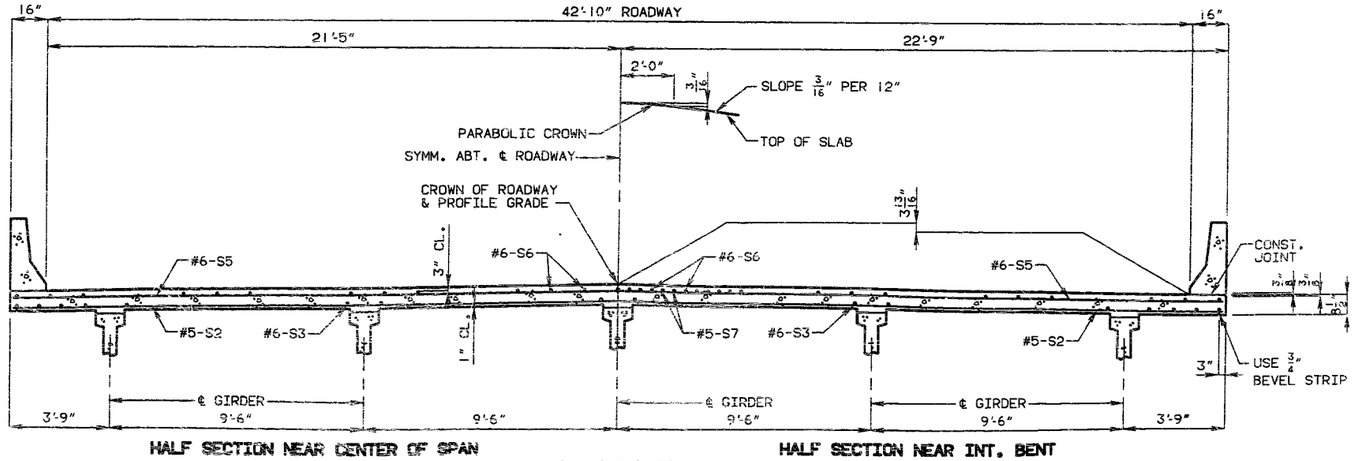
GIRDER	"A"	"B"
LT. EXT.	1 5/16"	3/4"
LT. INT.		11/16"
CTR.		11/16"
RT. INT.		11/16"
RT. EXT.		3/4"

NOTE: CAMBER AT 0.25 POINT OF GIRDER IS EQUAL TO 0.7125 CAMBER AT ℄ GIRDER.

GIRDER CAMBER DIAGRAM

NOTE: IF GIRDER CAMBER IS DIFFERENT FROM THAT SHOWN IN THE CAMBER DIAGRAM, IT SHALL BE NECESSARY TO ADJUST THE SLAB HAUNCHES, INCREASE THE SLAB THICKNESS OR 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 ALTERNATE SLABS.



HALF SECTION NEAR CENTER OF SPAN

HALF SECTION NEAR INT. BENT

(C-I-P OPTION)

NOTE: FOR DETAILS AND REINFORCEMENT OF SAFETY BARRIER CURB, SEE SHEETS NO. 16, 17 & 18.
FOR DETAILS OF SLAB DRAINS, SEE SHEET NO. 15.
FOR DETAILS OF PANEL OPTION, SEE SHEET NO. 14.

34 434

DETAILED MAR. 1992
CHECKED MAR. 1992

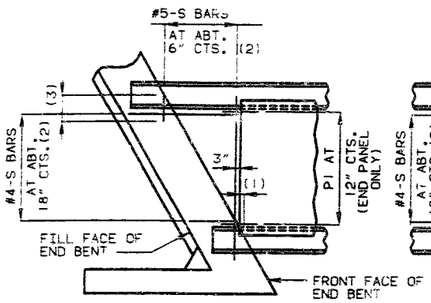
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 13A OF 20.

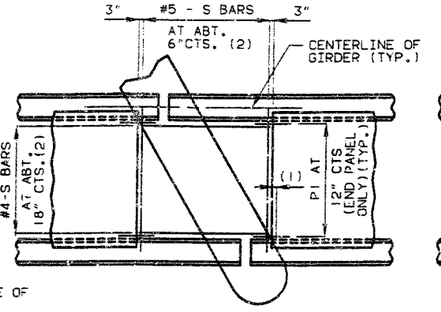
WASHINGTON COUNTY

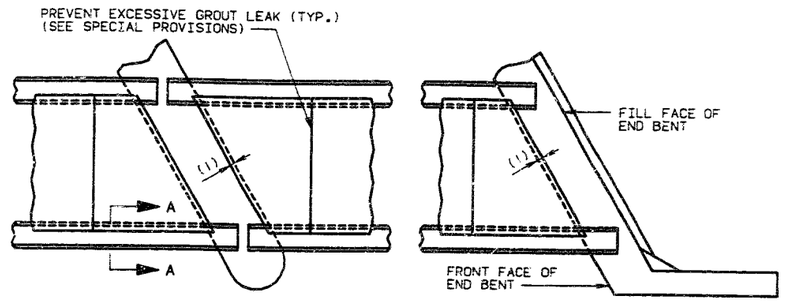
A-4741

STATE	PROJ. NO.	SHEET NO.
MD.	STP-3706-BRF-6-(118)	27



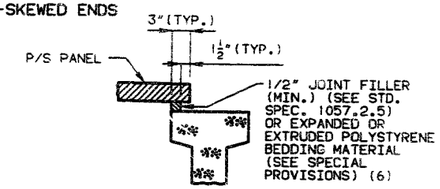
PANELS-SQUARED ENDS



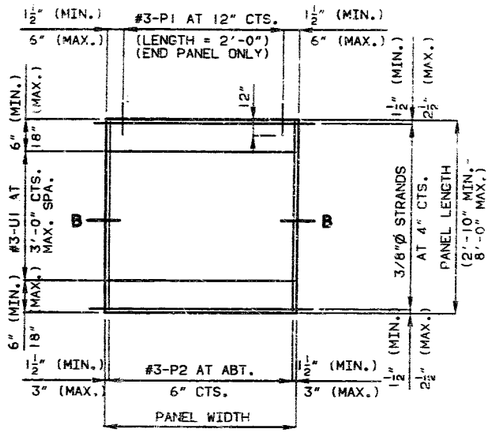


PANELS-SKEWED ENDS

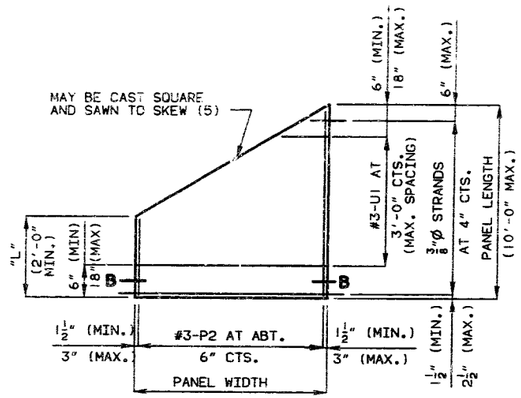
PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT



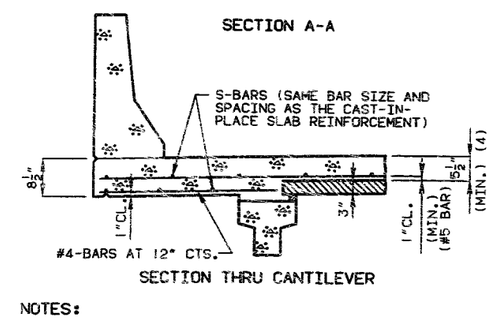
SECTION A-A



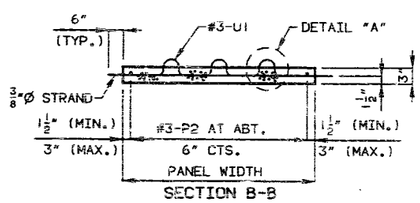
PLAN OF PRECAST PRESTRESSED PANEL



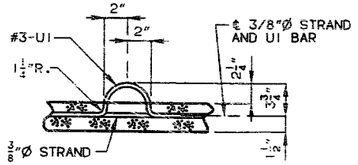
PLAN OF PRECAST PRESTRESSED PANEL (SKEWED END-OPTIONAL)



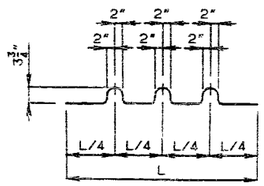
SECTION THRU CANTILEVER



SECTION B-B

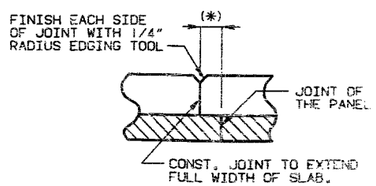


DETAIL "A"



BENDING DIAGRAM FOR U1 BAR

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



PERMISSIBLE CONST. JOINT

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

NOTES:

(1) END PANELS TO BE DIMENSIONED 1-1/2 INCHES FROM THE INSIDE FACE DIAPHRAGM.

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

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

S-BARS ARE NOT LISTED IN BILL OF REINFORCING.

SLAB EXTERIOR GIRDER HAUNCH SHALL BE THE SAME AS CAST-IN-PLACE.

SLAB THICKNESS OVER PRESTRESSED PANELS VARIES DUE TO GIRDER CAMBER.

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

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

(4) IN ORDER TO MAINTAIN MINIMUM SLAB THICKNESS, IT MAY BE NECESSARY TO RAISE THE GRADE UNIFORMILY 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.

NOTE:

USE SLAB HAUNCHING DIAGRAM ON SHEET NO. 13 FOR DETERMINING THICKNESS OF JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL WITHIN THE LIMITS NOTED BELOW.

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 = 21,250 LBS. (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.

MINIMUM JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL THICKNESS SHALL BE 1/2 INCH. THICKER JOINT FILLER OR POLYSTRENE 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 AND THE MAXIMUM CHANGE IN THICKNESS BETWEEN ADJACENT PANELS SHALL BE 1/4 INCH. THE POLYSTRENE BEDDING MATERIAL MAY BE CUT TO MATCH HAUNCH HEIGHT ABOVE TOP OF FLANGE.

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

REINFORCING STEEL:

ALL DIMENSIONS ARE OUT TO OUT.

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2", 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 ALTERNATE SLABS.

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

WELDED WIRE FABRIC OR WELDED DEFORMED BAR MATS PROVIDING A MINIMUM AREA OF REINFORCING PERPENDICULAR TO STRANDS OF 0.22 SQ. IN./FT., WITH SPACING PARALLEL TO STRANDS SUFFICIENT TO INSURE PROPER HANDLING, MAY BE USED IN LIEU OF THE #3-P2 BARS SHOWN. WIRE OR BAR DIAMETER SHALL NOT BE LARGER THAN 0.375 INCHES.

THE 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.

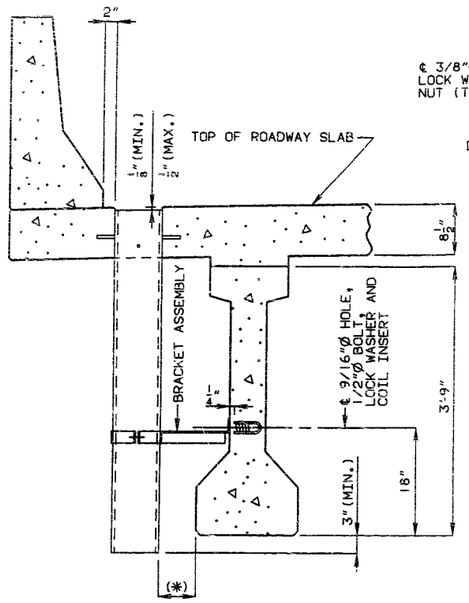
ALL REINFORCEMENT OTHER THAN PRESTRESSING STRANDS SHALL BE EPOXY COATED.

DETAILS OF PRECAST PRESTRESSED PANELS

3" PANEL (P/S)	REVISED:
AUG. 1984	SEPT. 1989

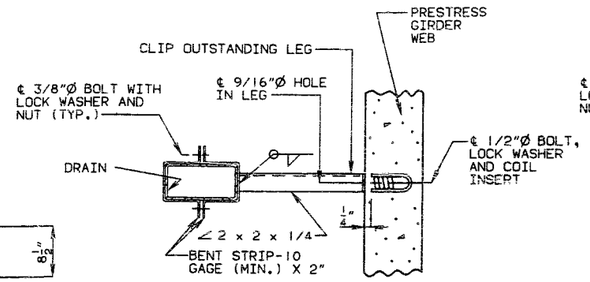
DETAILED MAR. 1992
CHECKED MAR. 1992

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

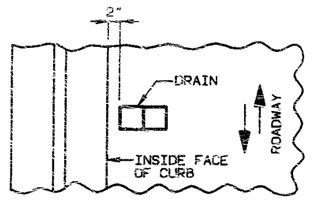


PART ELEVATION OF SLAB AT DRAIN

(*) IF DIMENSION IS LESS THAN 1", DRAINS SHALL BE PLACED PARALLEL TO ROADWAY, OTHERWISE PLACE DRAINS TRANSVERSE TO ROADWAY.

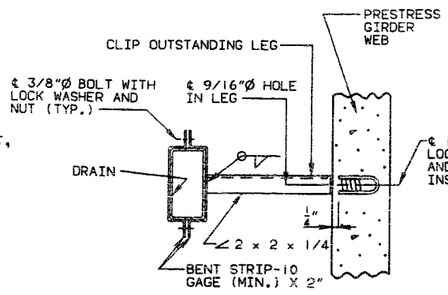


PART SECTION SHOWING BRACKET ASSEMBLY

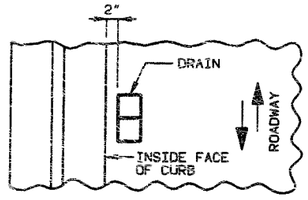


PART PLAN OF SLAB AT DRAIN

DETAILS OF DRAINS TRANSVERSE TO ROADWAY

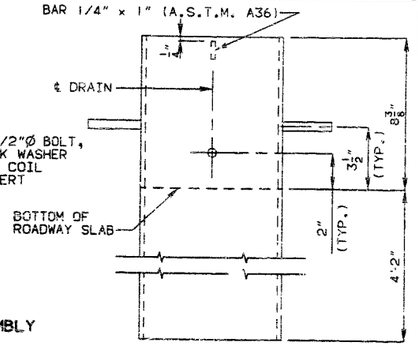


PART SECTION SHOWING BRACKET ASSEMBLY

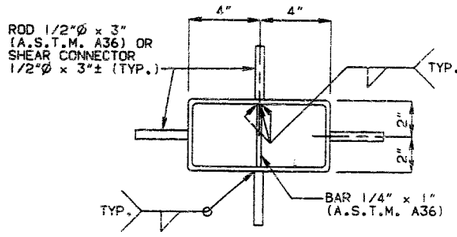


PART PLAN OF SLAB AT DRAIN

DETAILS OF DRAINS PARALLEL TO ROADWAY



ELEVATION OF DRAIN



PLAN OF DRAIN

STATE	PROJ. NO.	SHEET NO.
MO.	STP-51A5-RRF-9-1(13)	28

GENERAL NOTES:

SLAB DRAINS MAY BE FABRICATED OF EITHER 1/4" WELDED SHEETS OF A.S.T.M. A36 STEEL OR FROM 1/4" STRUCTURAL STEEL TUBING A.S.T.M. A500 OR A501.

OUTSIDE DIMENSIONS OF DRAINS ARE 8" x 4".

LOCATE DRAINS IN THE SLAB BY DIMENSIONS SHOWN IN THE PART ELEVATION.

SHIFT REINFORCING STEEL IN FIELD WHERE NECESSARY TO CLEAR DRAINS.

THE DRAINS AND BRACKET ASSEMBLY SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A123.

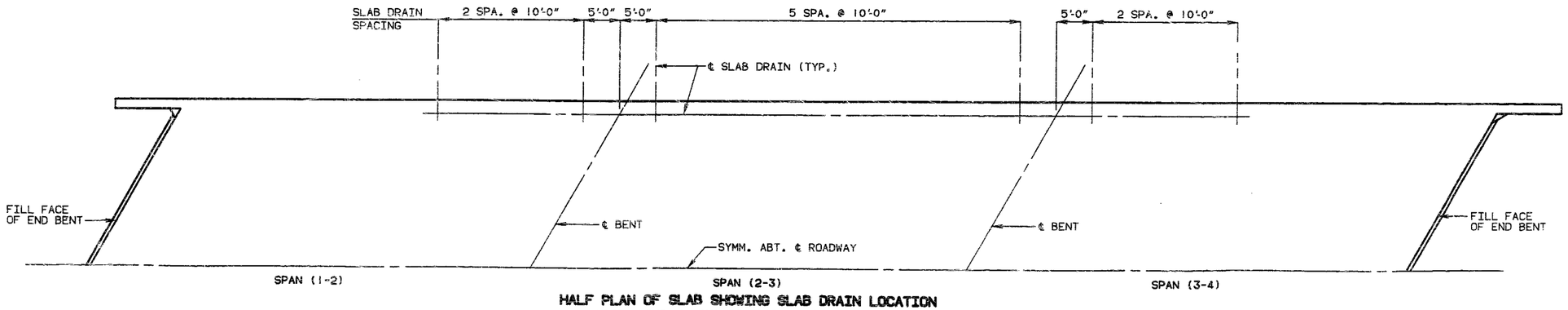
ALL BOLTS, LOCK WASHERS AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A153.

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 BOLT HOLE FOR THE BRACKET ASSEMBLY ATTACHMENT SHALL BE LOCATED ON THE PRESTRESSED I-GIRDER SHOP DRAWINGS.

SLAB DRAIN DETAILS



HALF PLAN OF SLAB SHOWING SLAB DRAIN LOCATION

NOTE: LONGITUDINAL DIMENSIONS ARE HORIZONTAL.

P/S GDR. DRAIN	JULY 1982
REVISED	OCT. 1988

DETAILED MAR. 1992
CHECKED MAR. 1992

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

WASHINGTON COUNTY

A-4741

Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

December 14, 2022
7:07:09am

COUNTY : WASHINGTON **BRIDGE :** A4741 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	WASHINGTON
8	Federal ID No.	3876
27	Year Built	1992
106	Year Reconstructed	0
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	NO MEDIAN
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP
101	Parallel Struc Desg	NONE EXISTS
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	YES

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE CARRIED 'ON' STRUCT
5B	Route Signing Prefix	MO
5C	Designated Level of Service	MAINLINE
5D	Route Number	00008
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 8 E
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000001054
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	02-RU PRINCPL ARTRIAL-OTH
28A	Lanes on Structure	02
100	STRAHNET Designation	RTE NOT A DEFENSE HWY
104	National Highway System	ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	YES

STRUCTURE LOCATION INFORMATION

4	Place	BRETON
	Code	08254
9	Location	S 430 T 37 N R 2 E
11	Milepoint	52.66 miles
16	Latitude	37 D 56 M 35 S
17	Longitude	90 D 48 M 23 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	3705
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	15%
114	Future AADT	7040
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	BATES CR
42B	Type of Service Under	WATERWAY
28B	Lanes Under Structure	00
54A	Vert. Clearance Ref.	N/A
54B	Vert. Clearance	0 Ft. 0 In.
55A	Rt. Lat Clear Ref.	N/A
55B	Rt. Lat Clearance	0 Ft. 0 In.
56	Left Lat Clearance	0 Ft. 0 In.
38	Navigation Control	PERMIT NOT REQ
39	Nav Vertical Clear	0 Ft. 0 In.
40	Nav Horizontal Clear	0 Ft. 0 In.
111	Nav. Pier Protection	
116	Nav. Cl. Vert. Clear	

STRUCTURE GEOMETRIC INFORMATION

10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
19	By pass Detour Length	24.38 miles
32	Approach Roadway Width	43 Ft. 12 In.
34	Skew	30.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	43 Ft. 12 In.
48	Maximum Span Length	60 Ft. 8 In.
49	Structure Length	181 Ft. 1 In.
50A	Left Curb/Sidewalk Width	0 Ft. 8 In.
50B	Right Curb/Sidewalk Width	0 Ft. 8 In.
51	Curb to Curb Br. Width	42 Ft. 8 In.
52	Deck Width (Out-Out)	45 Ft. 7 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = a4741

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RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load	HS 25
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	87 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	54 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	81.2 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	0 Ft. 0 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	MEETS ACCEPTBLE STND
36B	Transition Rail App. Rating	MEETS ACCEPTBLE STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	MEETS ACCEPTBLE STND
67	Struc Eval App. Rating	5
68	Deck Geometry App. Rating	6
69	Underclearance App. Rating	N
71	Waterway Adeq. App. Rating	8
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	8

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	PRESTRSED CONCRETE CONTIN
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	3
44A	Appr Struc. Mat type	000
44B	Appr Struc. Cnstr. type	000
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	1 MONO CONCRETE
108B	Membrane Mat/Constr.	0 NONE
108C	Deck Protect Mat/Constr.	1 EPOXY

CONDITION RATING INFORMATION

58	Deck Cond. Rating	7
59	Superstructure Cond. Rating	5
60	Substructure Cond. Rating	8
61	Channel /Channel Protection Cond. Rating	6
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	6 / 22	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

98	Neighboring State Code
98B	Neighboring State % Respon
99	Neighboring State Struc. No.

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

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Design_No = a4741

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COUNTY : WASHINGTON **BRIDGE :** A4741 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	WASHINGTON
8	Federal ID No.	3876
27	Year Built	1992
106	Year Reconstructed	0
42A	Type of Service On	HIGHWAY
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28A	Lanes on Structure	02
100	STRAHNET Designation	RTE NOT A DEFENSE HWY
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