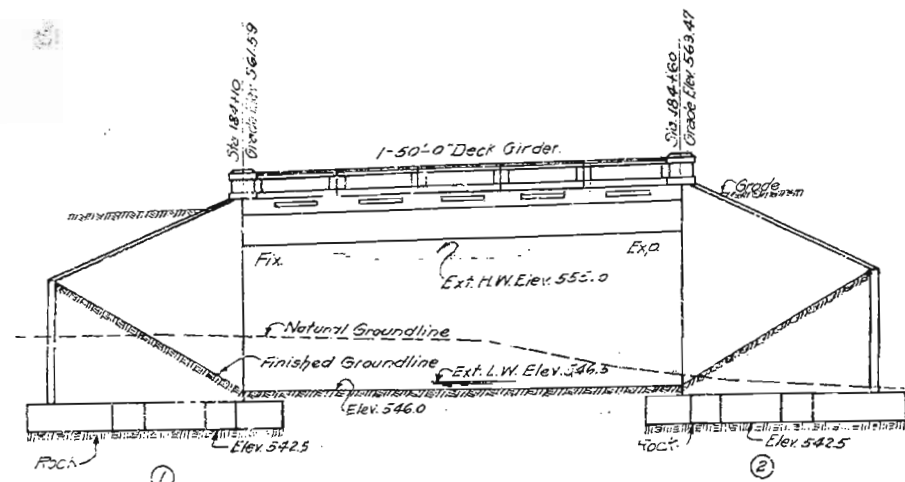


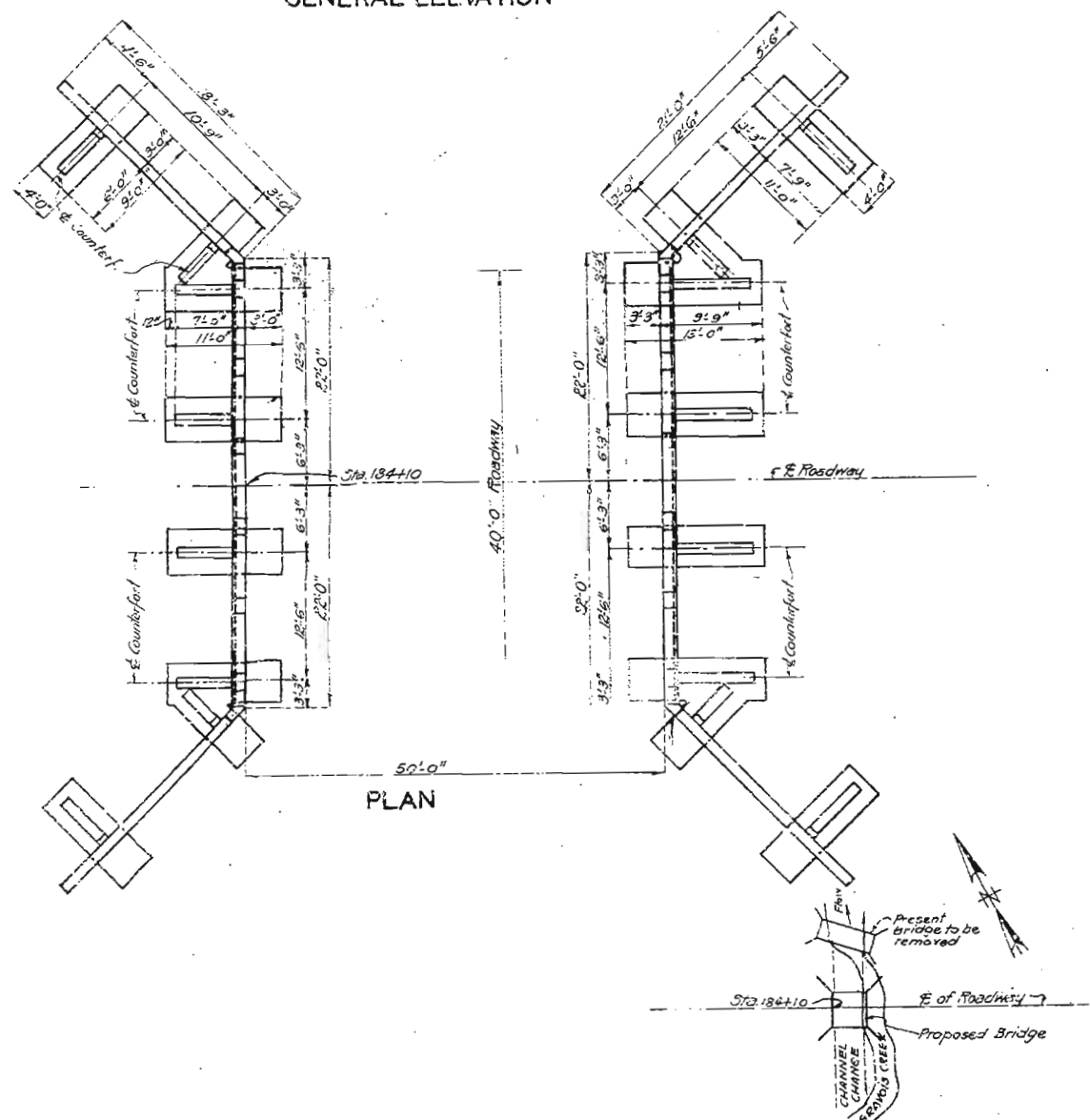
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	17347-E	19		



GENERAL ELEVATION

Note: Carry all footings of least 18" into shale and other soft rock or 6" into solid hard rock.



PLAN

LOCATION SKETCH

Bridge excavation above elev. 547.0 will be paid for as Class 1 Bridge Excavation. Bridge excavation below elev. 547.0 will be paid for as Class 2 Bridge Excavation.

COMPLETE BILL OF REINFORCING STEEL									
No.	Size	Length	Mark	Location	Bending Sketches and Cutting Diagrams				
Superstructure					ABUTMENT NO. 1 (Continued)				
330	1/2"	31.3"	B1	Girder	4				
24	1/2"	26.6"	B2	"	4				
30	1/2"	34.6"	B3	"	4				
12	1/2"	36.0"	B4	"	4				
18	1/2"	36.0"	B5	"	4				
12	1/2"	44.9"	B6	"	4				
12	1/2"	41.9"	B7	"	4				
12	1/2"	27.3"	C1	Curb	24				
70	1/2"	23.4"	S1	Slab	16				
32	1/2"	38.6"	S2	"	11				
76	1/2"	28.3"	S3	"	72				
10	1/2"	24.6"	S4	"	20				
10	1/2"	7.0"	S5	"	16				
20	1/2"	6.0"	S6	"	32				
28	1/2"	57.0"	S7	"	12				
8	1/2"	23.0"	W1	Web	24				
4	1/2"	20.6"	W2	"	24				
40	1/2"	15.0"	C2	Curb	24				
16	1/2"	11.6"	R1	Rail	12				
40	1/2"	9.0"	R2	"	12				
36	1/2"	7.6"	R3	"	12				
16	1/2"	3.6"	H1	Post	2				
480	1/2"	10.0"	H2	Post	4				
24	1/2"	9.3"	H3	Post	4				
ABUTMENT NO. 1					ABUTMENT NO. 2				
20	1/2"	23.6"	H1	Front W.	24				
20	1/2"	25.0"	H2	"	24				
12	1/2"	20.0"	H3	"	24				
10	1/2"	20.6"	H4	"	12				
2	1/2"	18.9"	H5	"	12				
2	1/2"	16.0"	H6	"	12				
4	1/2"	15.6"	H7	"	12				
4	1/2"	19.0"	H8	"	12				
12	1/2"	20.6"	H9	"	12				
2	1/2"	16.0"	H10	"	12				
2	1/2"	8.9"	H11	"	12				
2	1/2"	8.9"	H12	"	12				
ABUTMENT NO. 2					ABUTMENT NO. 3				
42	1/2"	12.3"	V1	Front Wall	88				
4	1/2"	17.0"	V2	"	36				
18	1/2"	15.6"	V3	"	16				
3	1/2"	20.6"	V4	"	16				
10	1/2"	11.9"	V5	"	16				
4	1/2"	10.9"	V6	"	16				
3	1/2"	28.6"	V7	"	16				
4	1/2"	9.9"	V8	"	16				
ABUTMENT NO. 3					ABUTMENT NO. 4				
48	1/2"	11.3"	K1	Counterfort	26				
16	1/2"	13.3"	K2	"	17				
ABUTMENT NO. 4					ABUTMENT NO. 5				
12	1/2"	13.0"	F1	"	12				

Note: Dimensions given are along E. of bars and are for computed lengths.

GENERAL NOTES:

Concrete in handrail to be 1:2:3 mix "A". Concrete in slab, curbs and girders to be 1:2:3 1/2 mix "X".
All other concrete to be 1:2:4 mix "B".
Exposed edges to be beveled 3/4" where no other bevel is noted.
Concrete in wings, counterforts and abutment wall to be kept at same level throughout pouring.
Where bituminous felt is used in expansion or partition joints in concrete, stitch felt in vertical joint securely to one face of concrete with copper wire.
Two name plates, type "A", as shown on Std. S-818 to be furnished and placed by contractor.
Cost of name plates to be included in price bid for other items.
Construction joints in slab permitted only longitudinally midway between girders.
Provide keys.
Bridge excavation in accordance with Section I of Standard Specifications issued April 1, 1930, except that quantities paid for will be computed from extreme low water Elev. 546.5 where existing ground line is below this elevation, and except that excavation will be allowed within such horizontal limits as shown on noted on sheets No. 3 and 4.

ESTIMATED QUANTITIES

ITEM	SHIPSTR.	SUBSTR.	TOTAL
Excavation Class 1	Cu. Yds.	122	122
Excavation Class 2	Cu. Yds.	253	253
Concrete 1:2:3 mix "A"	Cu. Yds.	5.3	5.3
Concrete 1:2:3 1/2 mix "X"	Cu. Yds.	131.2	131.2
Concrete 1:2:4 mix "B"	Cu. Yds.	176.5	176.5
Reinforcing Steel	Lbs.	33430	49940
Phosphor Bronze Bearing Plates	Lbs.	390	390
Steel Castings	Lbs.	725	1725

BRIDGE OVER GRAVOIS CREEK

STATE ROAD FROM ST. LOUIS CITY LIMITS TO DENNY ROAD
ABOUT 2 MILES S.W. OF WEBSTER GROVES
PROJECT NO. U.S. 66 T.R. 314 STA. 184+10

ST. LOUIS COUNTY

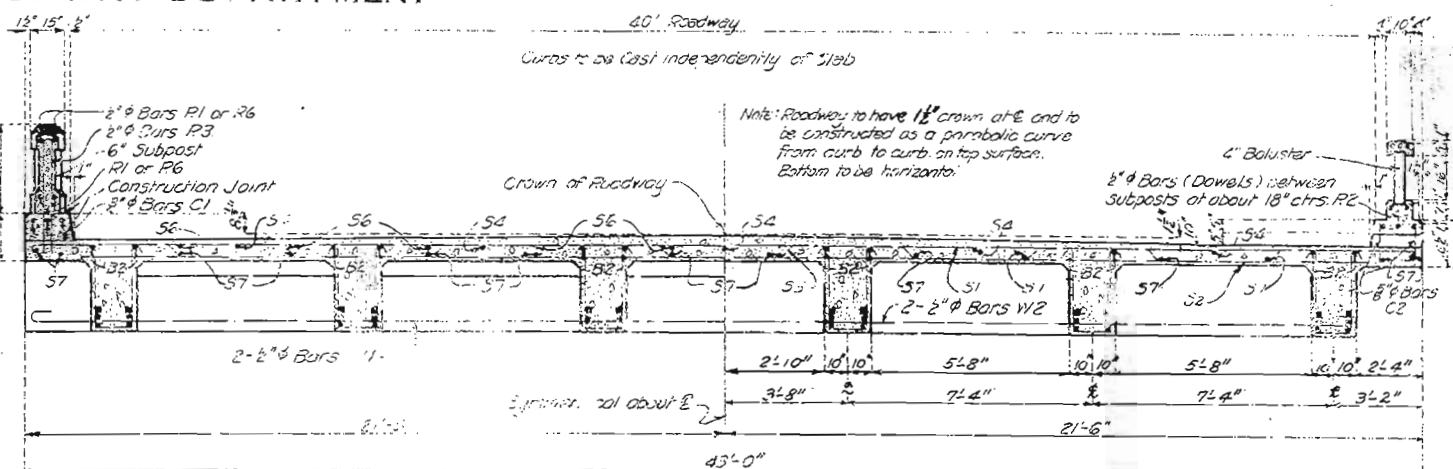
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APPROVED BY: [Signature]
DATE: 4/4/31
BRIDGE ENGINEER: [Signature]
DATE: 4/4/31
CHIEF ENGINEER: [Signature]

STC-5-813
J-228

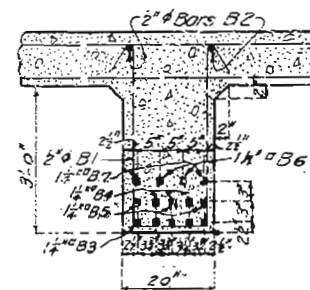
Drawn, Dec. 1929 By J.G.
Traced, Dec. 1929 By H.W.H.
Checked, Jan. 1931 By N.W.R.

Sheet No. 1 of 4

Fed. Road Dist. No.	State	Fed. Aid Proj. No.	Fiscal Year	Sheet No.	Total Sheets
5	MO.	6.5647 SID			



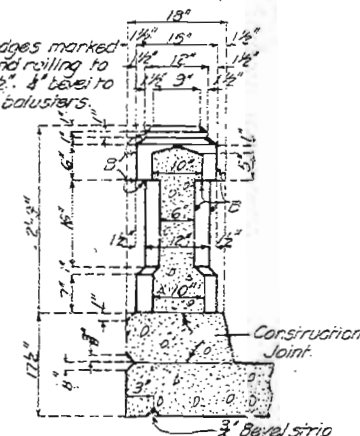
SECTION THRU SPAN



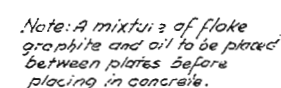
4" temporary timber header

Cost of timber header to be included in price bid for other items.

DETAILS OF NOTCH FOR APPROACH SLAB



SECTION THRU RAIL
AT SUBPOST

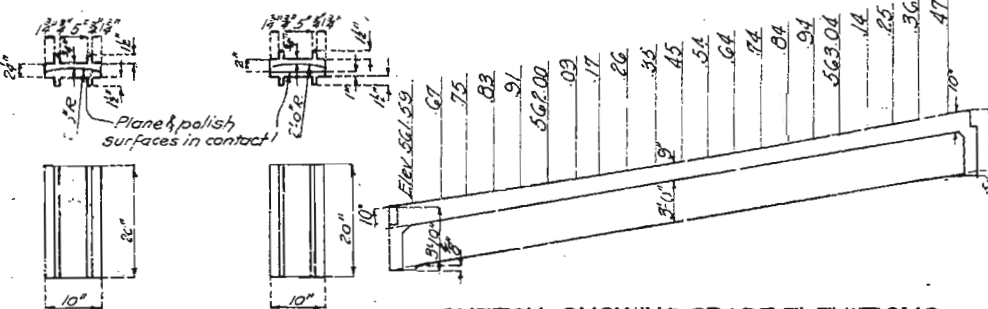


6 SETS REQD.
FIXED END

6 SETS REQD.
EXP. END

BEARING PLATES

(See Special Provisions)



SKETCH SHOWING GRADE ELEVATIONS

Note:
Rail and top of posts to be built parallel to grade.
Posts, subposts and bolsters to be built vertical.
Bottom of slab and girders to be built on chord.
Bearings to be horizontal. Space back and
be left open to depth of plates. plates in



DETAIL OF BEVEL FOR BIT
FELT JOINTS

Note:-
Like basal as shown for exposed face of all joints
consisting of bituminous felt.

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

Sheet 2 of 4

Assembled Nov. 1930 by J.G.-GW
Checked Jan. 1931 by N.W.R.

BRIDGE OVER GRAVOIS CREEK

STATE ROAD FROM ST. LOUIS CITY LIMITS TO DENNY ROAD
ABOUT 2 MILES S.W. OF WEBSTER GROVES

PROJECT NO. U.S. 66 T.R-514 STA. 184+10

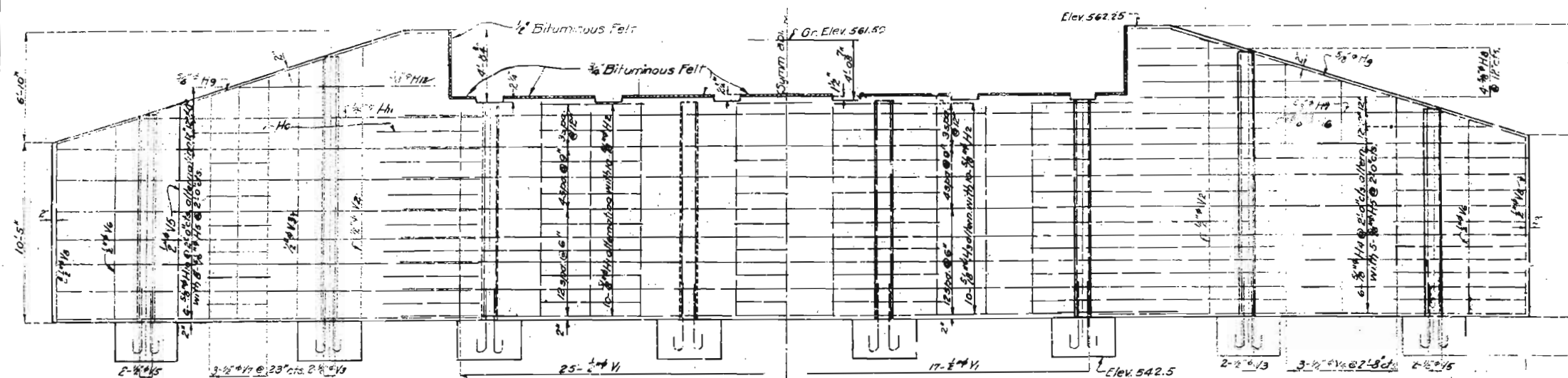
ST. LOUIS COUNTY

SUBMITTED BY V. J. Jones DATE 2/4/31
 APPROVED BY H. J. Jones DATE 2/4/31

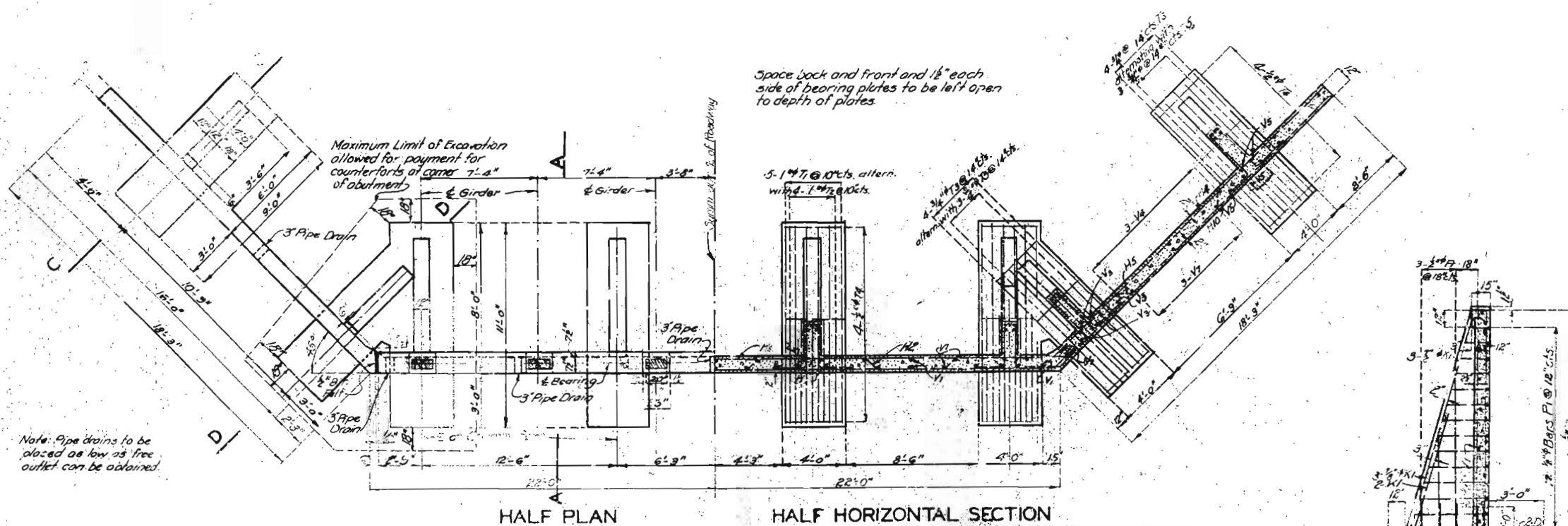
J-228

MISSOURI STATE HIGHWAY DEPARTMENT

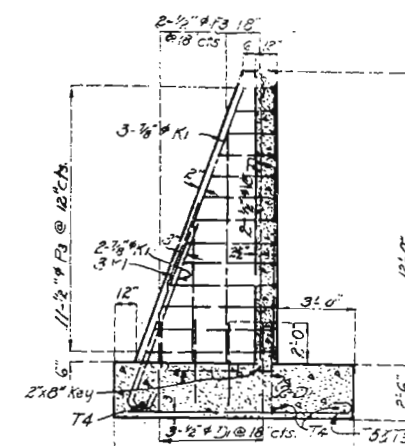
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	MO.	U.S. 66 T.R. 514	19		



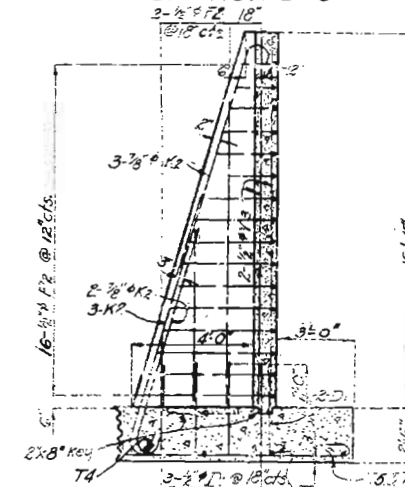
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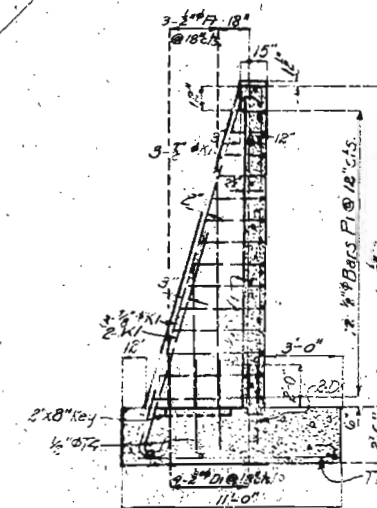
DETAILS OF ABUTMENT NO. 1



SECTION C-C



SECTION D-D



SECTION A-A

BRIDGE OVER GRAVOIS CREEK

STATE ROAD FROM ST. LOUIS CITY LIMITS TO DENNY ROAD
ABOUT 2 MILES S.W. OF WEBSTER GROVES
PROJECT NO. U.S. 66 T.R. 514 STA. 184+10

ST. LOUIS COUNTY

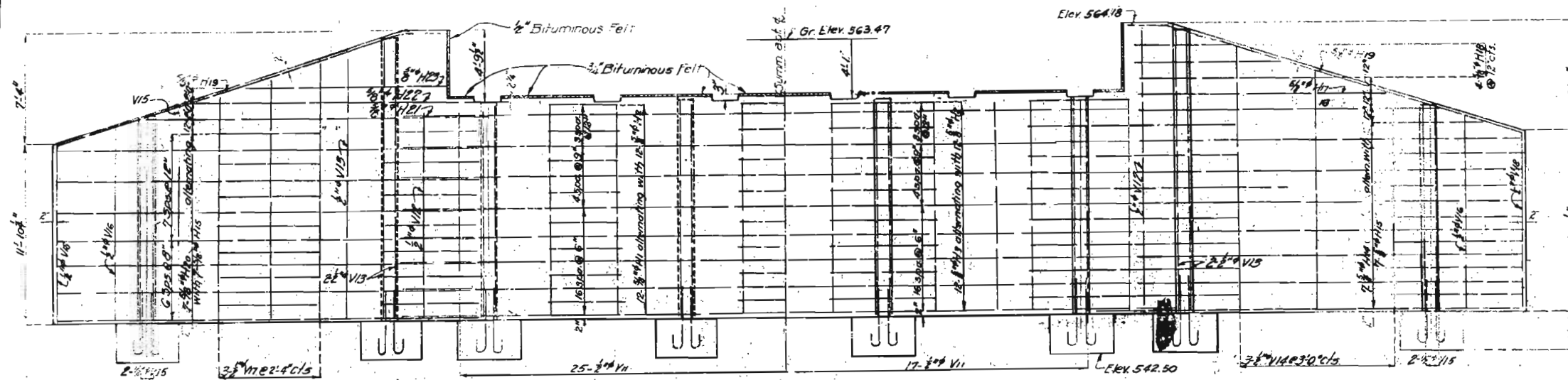
SUBMITTED BY: *[Signature]* DATE: 3/4/31
APPROVED BY: *[Signature]* DATE: 3/4/31
J-228
STD
J

Assembled Dec. 1930 by J.G.-G.W.
Checked Jan. 1931 by K.M.R.
Drawn Dec. 1929 by J.G.
Traced Dec. 1929 by H.M.H.
Checked Feb. 1930 by K.M.R.

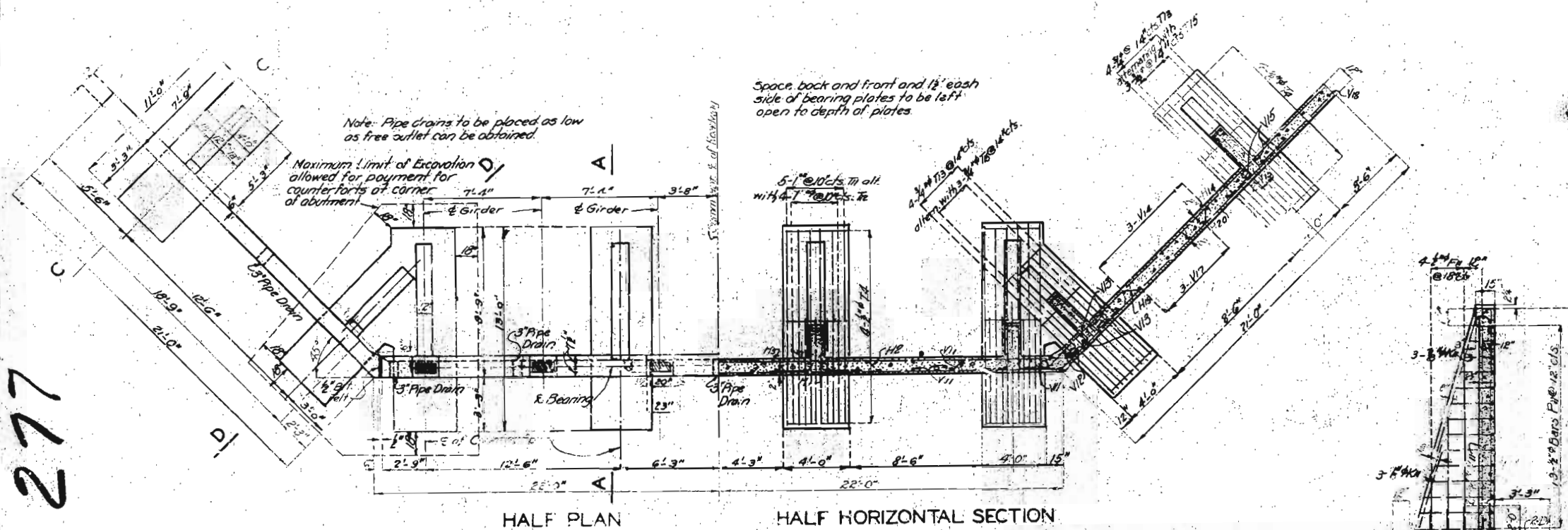
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MISSOURI STATE HIGHWAY DEPARTMENT

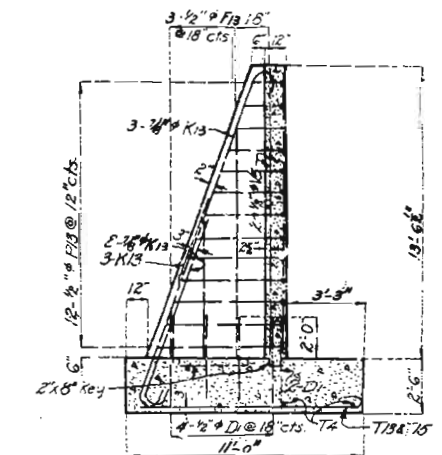
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO	U.S. 66 T.R. 514	1931	15	15



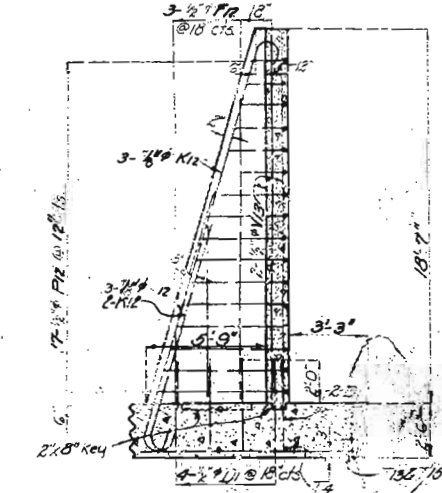
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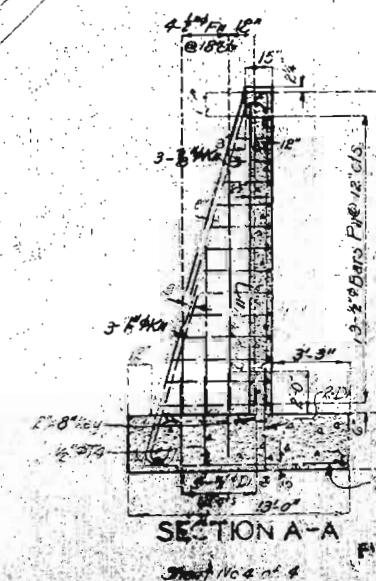
DETAILS OF ABUTMENT NO. 2.



SECTION C-C



SECTION D-D



SECTION A-A

BRIDGE OVER GRAVOIS CREEK

STATE ROAD FROM ST. LOUIS CITY LIMITS TO DENNY ROAD
ABOUT 2 MILES S.W. OF WEBSTER GROVES
PROJECT NO. U.S. 66 T.R. 514 STA. 184+10

ST. LOUIS COUNTY

SUBMITTED BY: *[Signature]* DATE: 2/4/31
APPROVED BY: *[Signature]* DATE: 2/4/31

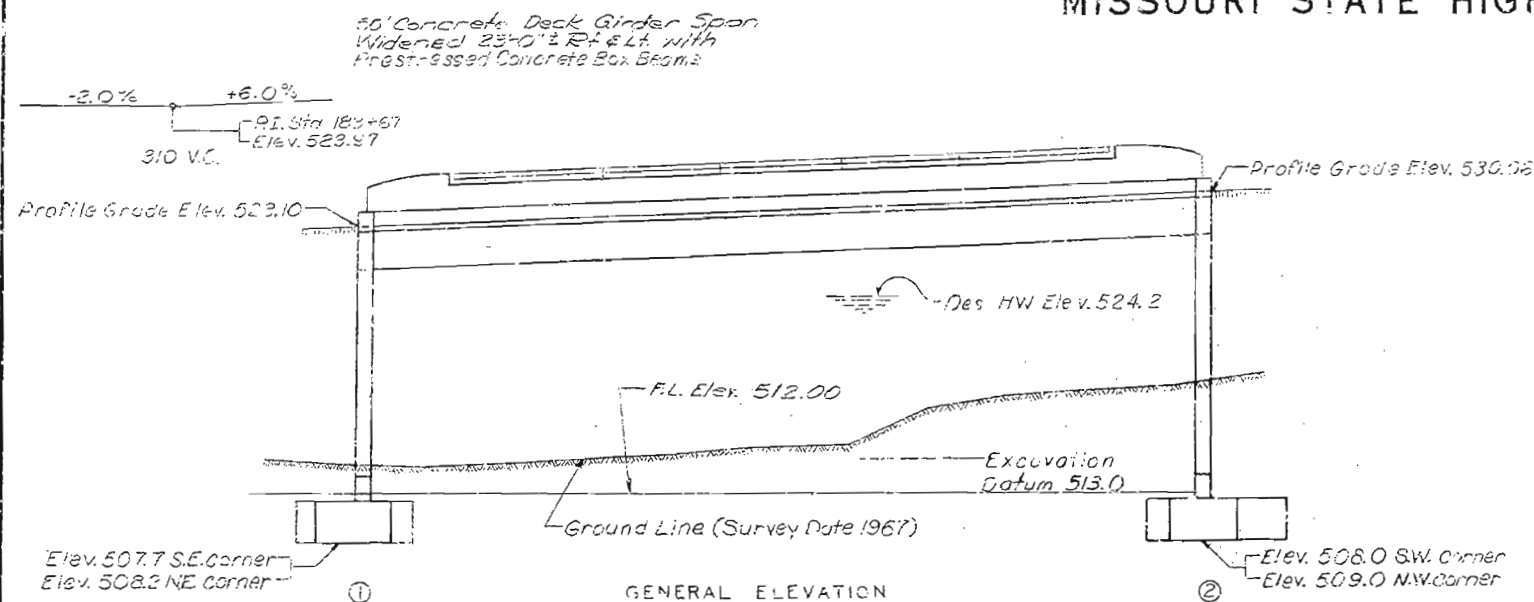
ST. S. 318
J-228

Assembled Jan. 1931 by J.G.G.W.
Checked Jan. 1931 by N.W.R.
Drawn Dec. 1929 by J.O.
Traced Dec. 1929 by N.W.R.
Checked Feb. 1930 by N.W.R.

277

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	6-U-66-2	19	47	



GENERAL NOTES:

Design Specifications: A.A.S.H.O. - 1969

Design Loading:

HS 20-44 15" / sq. ft. Future Wearing Surface
Earth 120' Equivalent Fluid Pressure 30'

Design Unit Stresses:

Class B Concrete (substructure) $f_c = 4200$ psi
Class B1 Concrete (superstructure) $f_c = 4600$ psi
Reinforcing Steel $f_s = 20,000$ psi

Structural Steel (A.S.T.M. A-66-68) $f_s = 27,000$

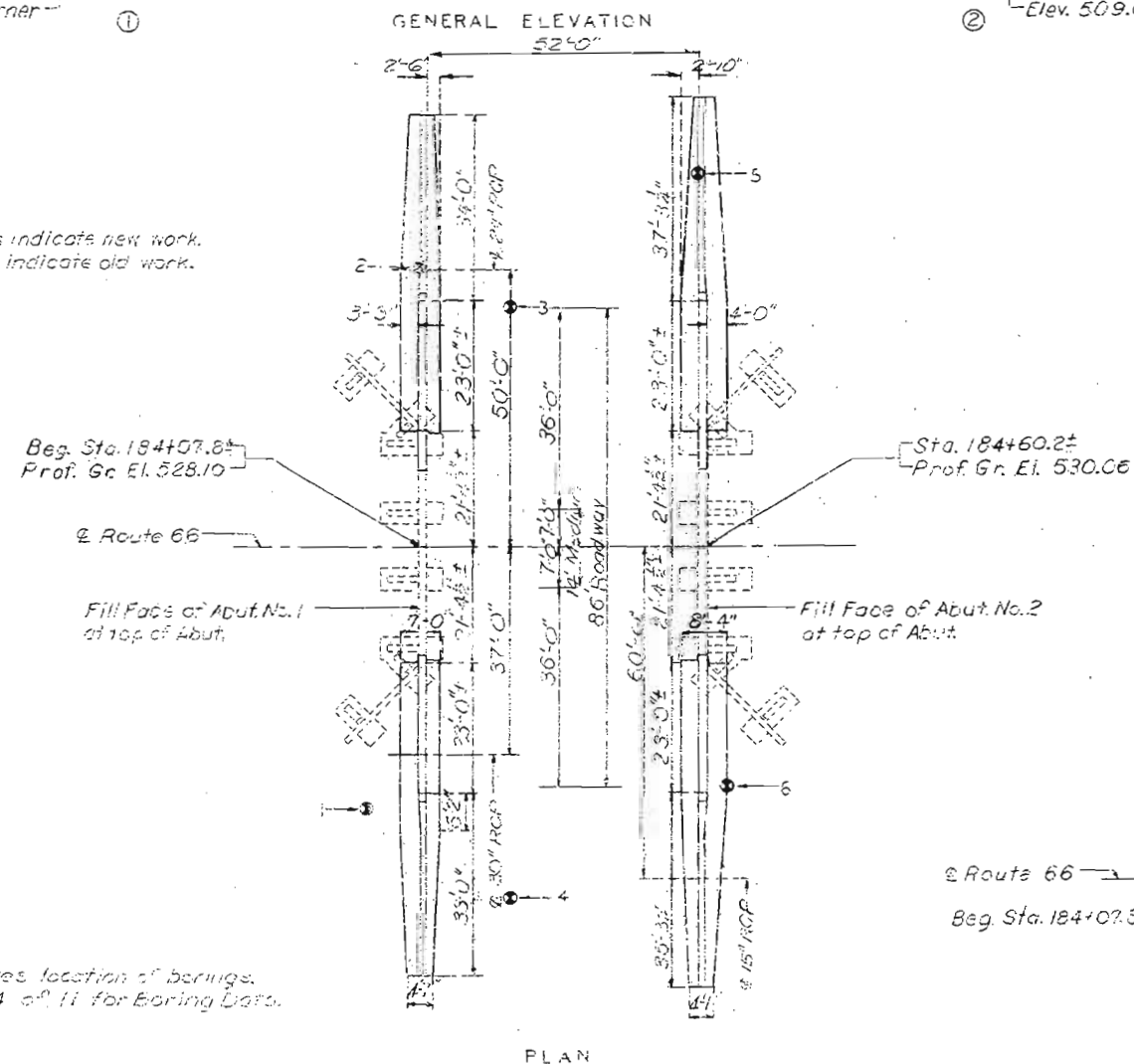
Traffic Maintenance:

Traffic over bridge to be maintained during construction.
(See Special Provisions)

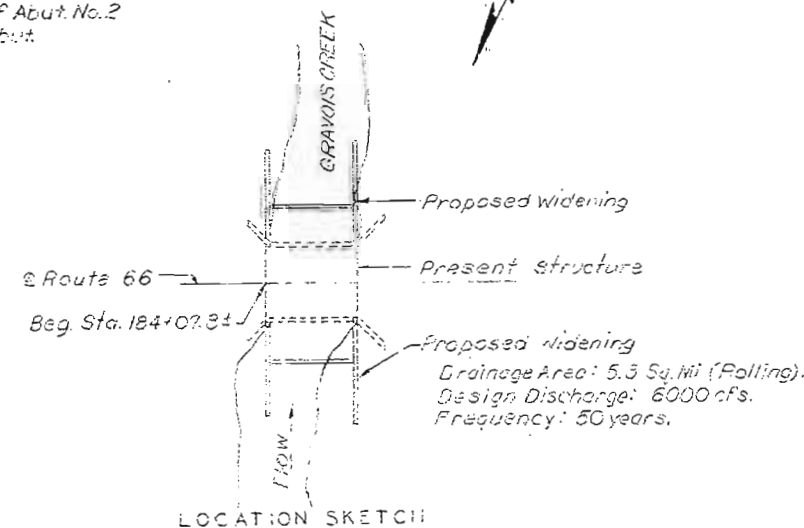
Note: See Sheet No. 8 of 11 for General Notes for Prestressed Box Girders.

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

Note: Heavy lines indicate new work.
Light dotted lines indicate old work.



Note: 1 Indicates location of bearings.
See Sheet No. 4 of 11 for Bearing Data.



ESTIMATED QUANTITIES			
ITEM	SUBSTR.	SUPERSTR.	TOTAL
Class B Concrete	Cu. Yd.	260.0	260.0
Class B1 Concrete	Cu. Yd.	61.3	61.3
50' Prestressed Concrete Members (48") Each		13	13
50' Prestressed Concrete Members (36") Each		1	1
Reinforcing Steel (except Prestressed Members) Lbs.	22760	4910	27670
Class 1 Excavation	Cu. Yd.	265	265
Class 2 Excavation	Cu. Yd.	367	367
Bridge Pile (One Tube)	Unit	82	82
Plain Neoprene Bearing Pads (48") Each		26	26
Plain Neoprene Bearing Pads (36") Each		2	2
Special Work (See Special Provisions) Lump Sum			1
Fabricated Structural Steel	Lbs.	5310	5310
Polyurethane Interlayer Seal	Sq. Yds.	293	293

Note: 3000 lbs. Welded Wire Fabric is included in Reinforcing Steel quantities.

Note: Payment for furnishing and placing structural steel for longitudinal joint shall be made under price bid for Fabricated Structural Steel.

FOOTING DATA		
ABUTMENT NO.	1	2
Foundation Material	Rock	Rock
Des. Brg. Tons/Sq. Ft.	5.2	4.0

B.M. #3 Elev. 523.23 "d" on top of N.E. Wing Wall of Bridge
22' Ft. of Sta. 184+08 (U.S.G.S. Datum)

BRIDGE OVER GRAVOIS CREEK

STATE ROAD FROM RTE. 61 TO RTE. 67

IN CRESTWOOD

PROJECT NO. 6-U-66-2

RTE. 66 STA. 194 + 07.8 ±

ST. LOUIS

COUNTY

SUBMITTED BY: W. A. Conroy 6-22-72
BRIDGE ENGINEER

APPROVED BY: R. A. Hunter 8-22-72
CHIEF ENGINEER

DESIGNED OCT. 1970 BY IMHOFF
DETAILED NOV. 1970 BY SCHMID
CHECKED FEB. 1971 BY WOODS & MARELLI

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

Sheet 24 of 25

STD. 703.60A
STD. 703.60
J-228R

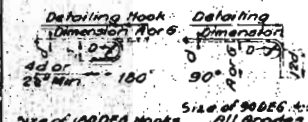
153

MISSOURI STATE HIGHWAY DEPARTMENT

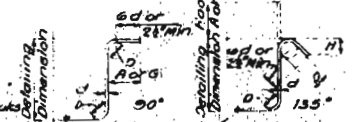
48

NO. REQ.	MARK NO.	LOCATION	SHAPE NO.	STIRRUP	SUBSTR. VARIATION	NO. EA.	DIMENSIONS						NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT	NO. REQ.	MARK NO.	LOCATION	SHAPE NO.	STIRRUP	SUBSTR. VARIATION	NO. EA.	DIMENSIONS						NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.

STANDARD HOOKS



STIRRUP HOOKS



Size of 180 DEG Hooks: 10D for 180 DEG, 6D for 90 DEG, 8D for 135 DEG.

Size of 90 DEG Hooks: 6D for 90 DEG, 8D for 135 DEG.

END HOOK DIMENSIONS			
BAR SIZE	180° HOOKS		90° HOOKS
	GRADE 40	ALL GRADES	A or C
#3	5"	2 1/2"	6"
#4	6"	3 1/2"	8"
#5	7"	4 1/2"	10"
#6	8"	5 1/2"	12"
#7	9"	6 1/2"	14"
#8	10"	7 1/2"	16"
#9	12"	9"	18"
#10	13"	9 1/2"	20"
#11	14"	10 1/2"	22"
#14	2 1/2"	2 1/2"	2 1/2"
#13	2 1/2"	2 1/2"	2 1/2"

STIRRUP HOOK DIMENSIONS			
BAR SIZE	90° HOOK		135° HOOK
	GRADE 40	ALL GRADES	A or C
#3	5"	2 1/2"	6"
#4	6"	3 1/2"	8"
#5	7"	4 1/2"	10"
#6	8"	5 1/2"	12"
#7	9"	6 1/2"	14"
#8	10"	7 1/2"	16"
#9	12"	9"	18"
#10	13"	9 1/2"	20"
#11	14"	10 1/2"	22"
#14	2 1/2"	2 1/2"	2 1/2"
#13	2 1/2"	2 1/2"	2 1/2"

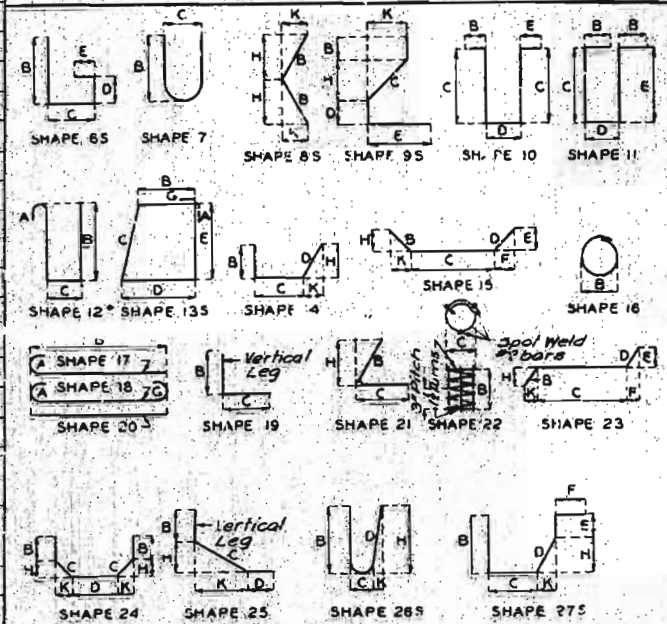
Note: Unless otherwise noted diameter D is the same for all bends and hooks on a bar.

Note: Hooks and bends shall be in accordance with the procedures as shown on this sheet. Nominal lengths are based on, out to out dimensions shown in bending diagrams and are listed for fabricators use. Payweights are based on Actual Lengths.

5~ stirrup.
X~ bar is included in substructure quantities.
Length~ Total lengths are measured along centerline bar to the nearest inch.
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.

* All hooks and bends for shape No. 12 (only) are used on D-5d.

BENDING DIAGRAMS



REVISIONS
JULY 1980
DETAILED FEB. 1971 BY SCHMID
CHECKED FEB. 1971 BY WOODS

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

Sheet No. 2 of 11

ST. LOUIS COUNTY

J-228R

FIG. NO. (DIST. NO.)	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
2	MO	66-100	79	49	

BENDING DIAGRAMS

SHAPE 6S

SHAPE 7

SHAPE 8S

SHAPE 9S

SHAPE 10

SHAPE 11

SHAPE 12

SHAPE 13S

SHAPE 14

SHAPE 15

SHAPE 16

SHAPE 17

SHAPE 18

SHAPE 20S

SHAPE 19

SHAPE 21

SHAPE 22

SHAPE 23

SHAPE 24

SHAPE 25

SHAPE 26S

SHAPE 27S

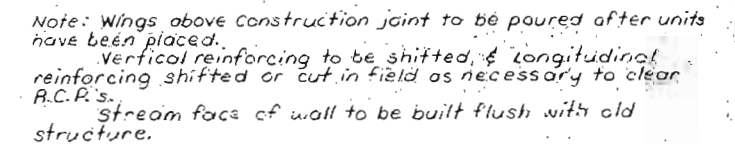
Vertical Leg

Vertical Leg

Spool Welded Bars

ST. LOUIS COUNTY J-228R

FED. ROAD DIST. NO.	STATE	PROJECT PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	6-5-62	19	51	

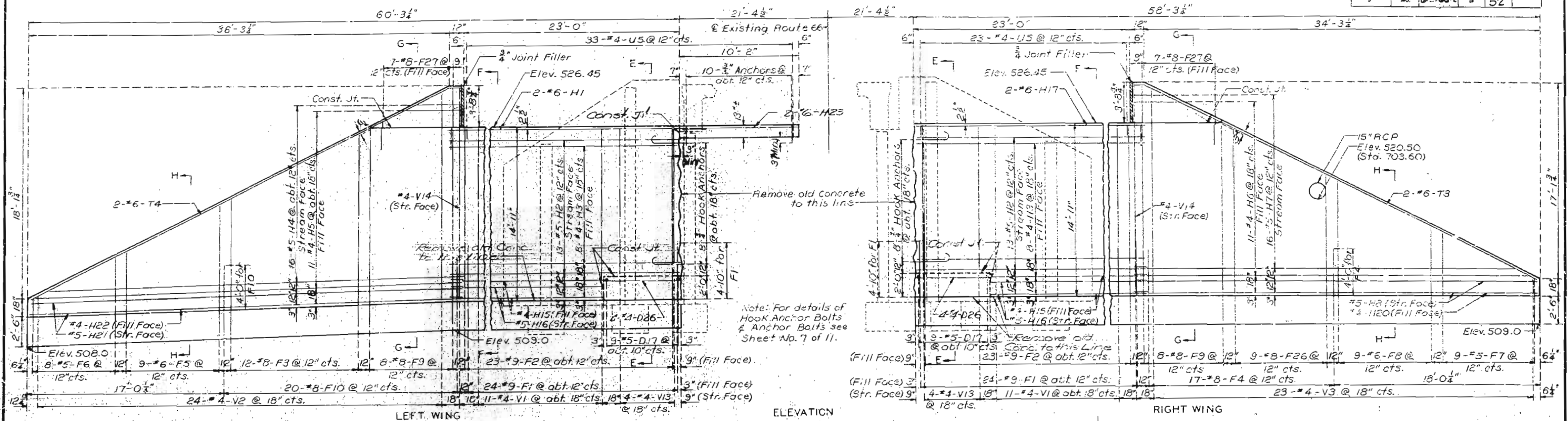


Sheet No. 2 of 2

J-228R

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	6-13-64-2	18	52	

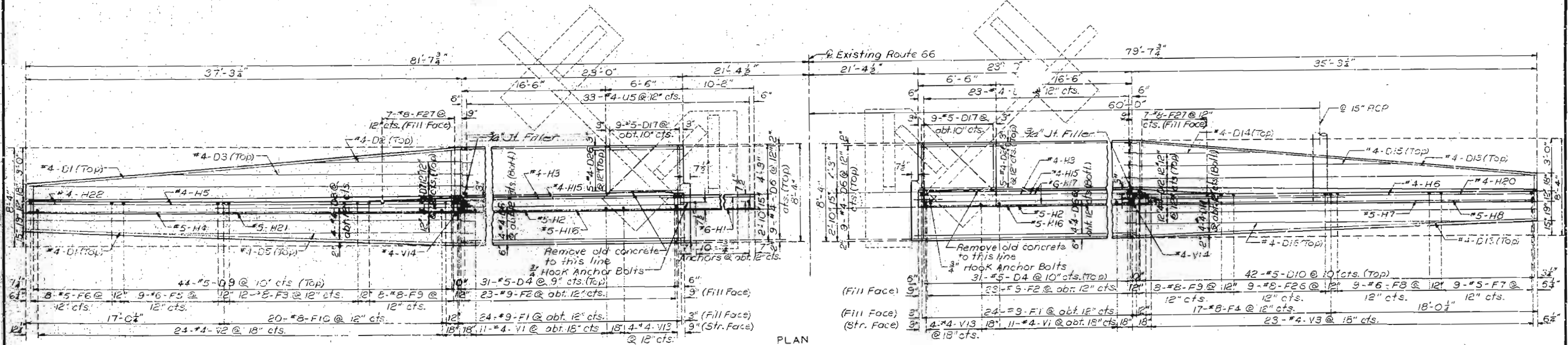


Note: Light dotted lines indicate old work. Heavy lines indicate new work.

Note: For details of Sections E-E, F-F, G-G, & H-H, see Sheet No. 7 of 11.

Note: Bars bonded in old concrete not removed shall be cleanly stripped and bent into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters.

Note: Wings above construction joint to be poured after units have been placed. Vertical reinforcing to be shifted, & longitudinal reinforcing shifted or cut in field as necessary to clear A.C.P. Stream face of wall to be built flush with old structure.



DETAILS OF ABUTMENT NO. 2

DETAILED FEB. 1971 BY SCHMID
CHECKED Feb. 1971 BY WOODS

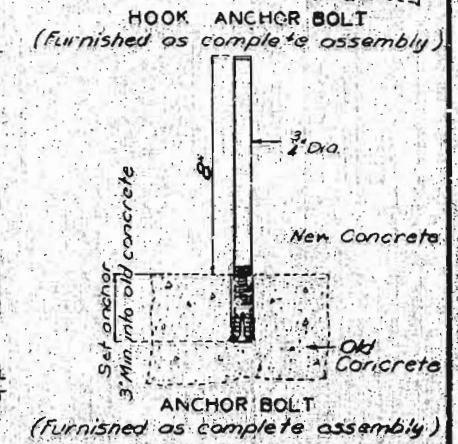
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 6 of 11

ST. LOUIS COUNTY

J-228R

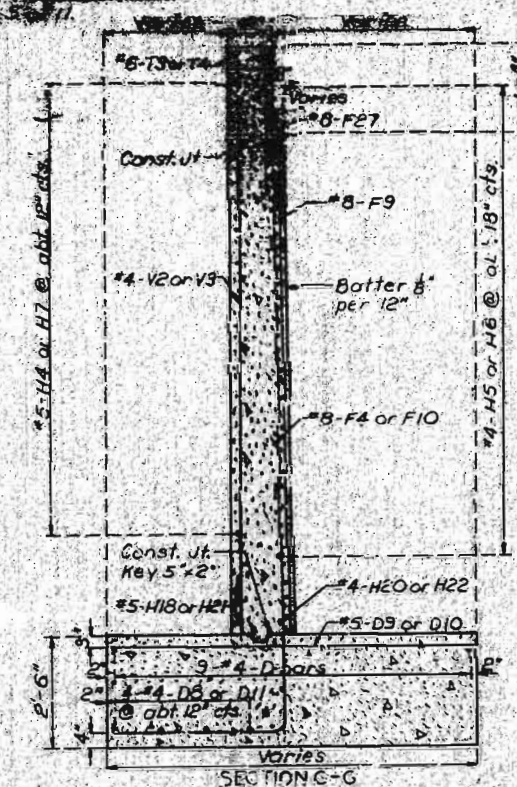
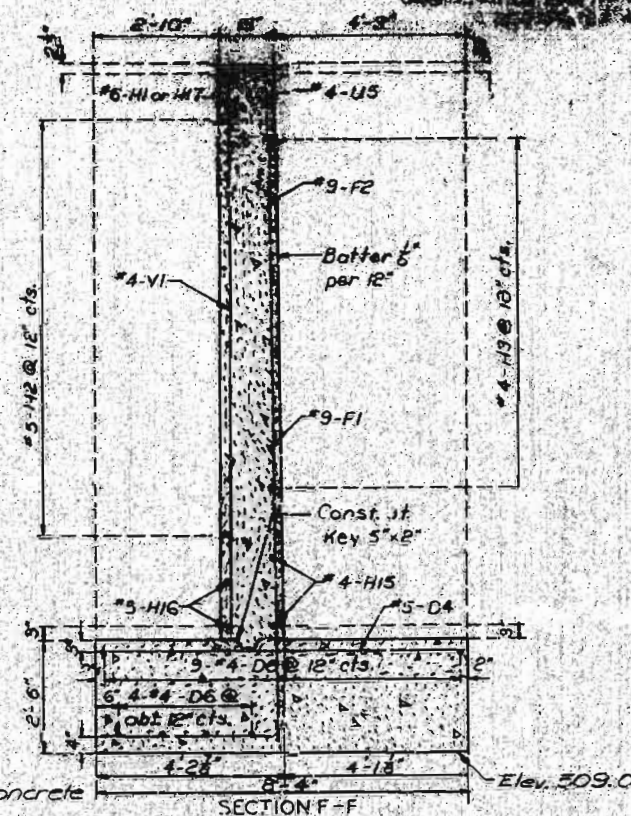
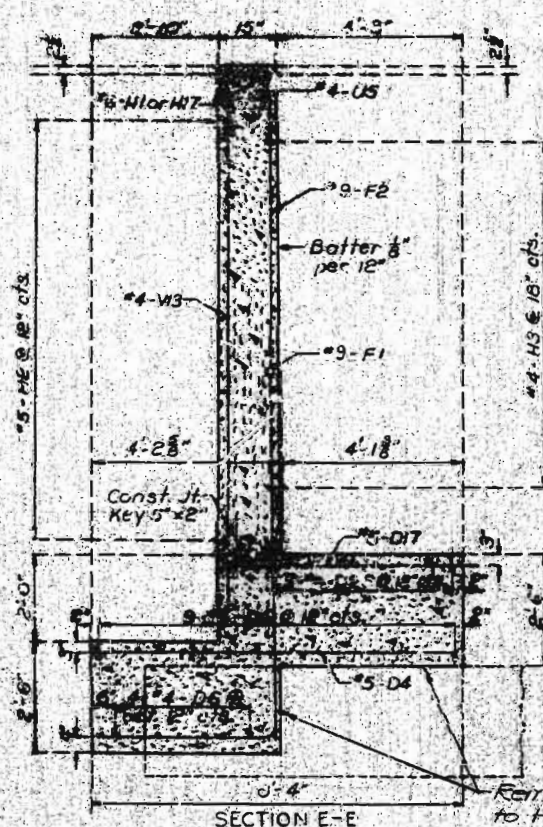
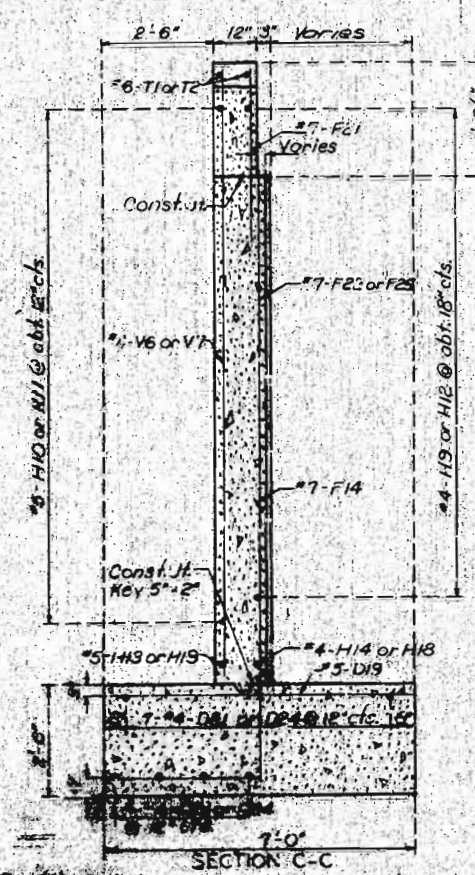
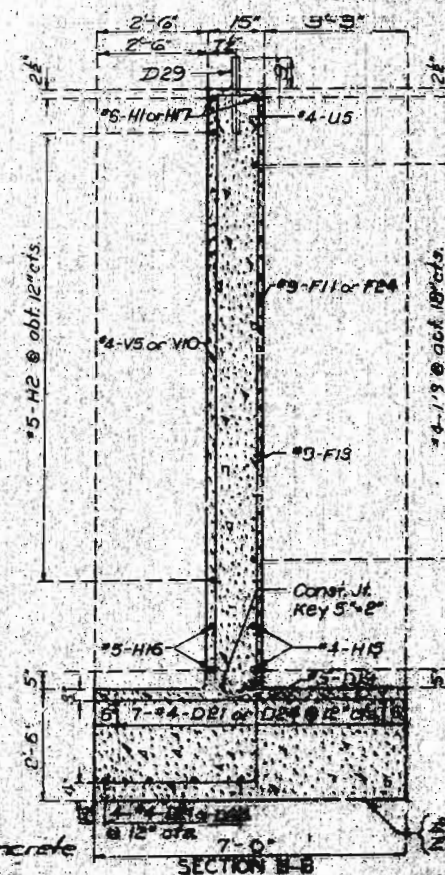
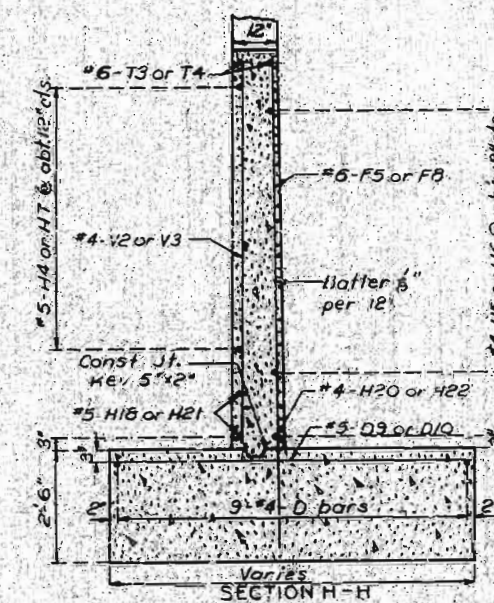
04

[illegible]

Note: Anchors shall be of the self-drilling expansion type, made of case-hardened and drawn carburized steel, with self-cutting annular broaching grooves.

Cost of furnishing and installing all anchor bolts and anchor bolt assemblies shall be included in price bid for concrete.

Note: For location of Sections E-E,
F-F, G-G, H-H, Hook Anchor Bolts
and Anchor Bolts for Abutment No. 2
see Sheet No. 6 of 11.



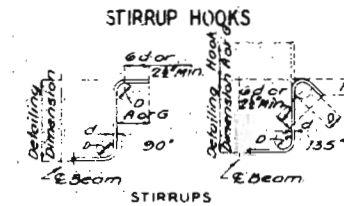
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	PAGE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	6-11-2	19	54	

NO. REQ.	MARK NO.	LOCATION	SHAPE NO.	STIRRUP	SUBSTR.	VARIES	NO. EA.	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT			
								B	C	D	E	F	H	K						
	SIZE	MARK						FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	LBS.
8	451	36 INCH BOX	20					13	8.000								13	8.13	8	134
4	452	36 INCH BOX	20					27	8.000								27	8.27	4	73
2	453	36 INCH BOX	20					26	18.000								26	18.10	2	34
8	553	36 INCH BOX	20					2	9.000								2	9.2	8	17
53	457	36 INCH BOX	20					2	9.000								2	9.2	53	219
14	458	36 INCH BOX	20					2	9.000								2	9.2	14	26
8	459	36 INCH BOX	20					2	9.000								2	9.2	8	11
4	6510	36 INCH BOX	7					3.750	6.000								4	2.5	4	25
53	553	36 INCH BOX	19					15.000	6.000								21	20	53	92
25	554	36 INCH BOX	20					23.000									23	23	25	108
53	459	36 INCH BOX	10							23.000	2	8.000					6	5.5	53	224
53	459	36 INCH BOX	10							15.000	2	5.000					5	1	53	171
100	451	48 INCH BOX	20					13	8.000								13	8.13	8	2138
27	452	48 INCH BOX	20					27	8.000								27	8.27	4	940
26	453	48 INCH BOX	20					26	18.000								26	18.10	26	466
600	454	48 INCH BOX	20					3	9.000								3	9.2	6	3081
103	455	48 INCH BOX	20					3	9.000								3	9.2	3	506
100	457	48 INCH BOX	20					2	9.000								2	9.2	8	200
53	459	48 INCH BOX	7					23.750	6.000								4	2.5	53	325
100	451	48 INCH BOX	20					2	9.000								2	9.2	3	391
8	553	48 INCH BOX	19					15.000	6.000								21	20	8	92
8	554	48 INCH BOX	20					23.000									23	23	8	108
1	555	48 INCH BOX	20					100.000									102	102	1	108
8	556	48 INCH BOX	19					23.000	3	8.000							7	8.7	8	3249
200	457	48 INCH BOX	10					15.000	2	5.000							5	9	200	2605
		END OF BAR LIST																		

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

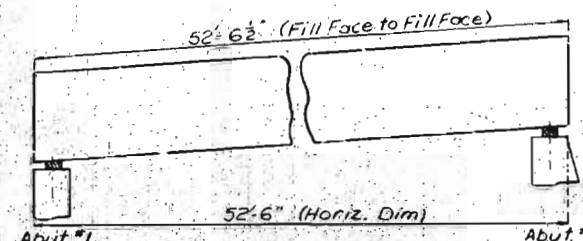
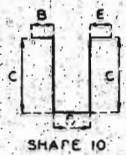
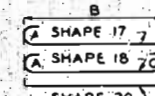
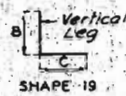
Note: Unless otherwise noted diameter D is the same for all bends and hooks on a bar.



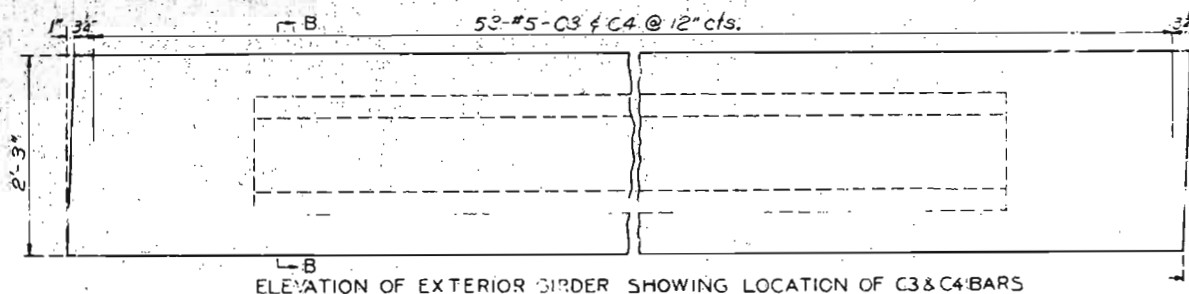
BENDING DIAGRAMS

Nominal Lengths are based on out to out dimensions shown in bending diagrams and are listed for fabricators use.

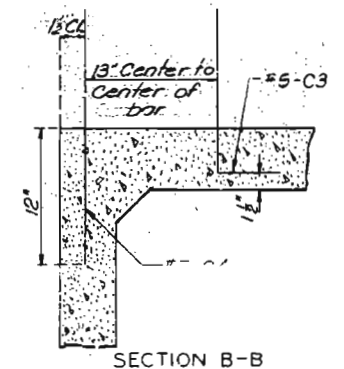
Length - Total lengths are measured along centerline bar to the nearest inch.



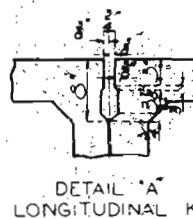
METHOD OF PLACING PRESTRESSED UNITS



ELEVATION OF EXTERIOR GIRDER SHOWING LOCATION OF C3 & C4 BARS



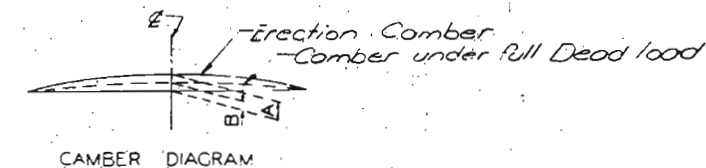
SECTION B-B



DETAIL A' LONGITUDINAL KEY

Note: Alterations in shape of longitudinal key, approved by the Engineer, may be used in lieu of key details shown.

For location of Detail A' see sheet No. 9 of 11



CAMBER DIAGRAM

Note: Thickness of Portland Cement Concrete shall be adjusted for any variation in girder camber from that shown in camber diagram.

GENERAL NOTES FOR PRESTRESSED BOX GIRDERS:

Design Specifications: A.A.S.H.O. - 1969.

Loading: HS 20-44.

Non prestressed Reinforcing Steel $f_s = 20,000$ psi.

Ultimate Compressive stress 5,000 psi (A-1)
Minimum Compressive strength at transfer = 4,000 psi.
After final erection, 510 bars shall be cut off flush with top surface of box. Alternate types may be substituted with the approval of the engineer.

Transverse tensioning rods shall be Structural Carbon Steel, $f_s = 20,000$ psi. Threads shall extend 5" on each end and shall fit American Standard Heavy Hex Nuts (Free Fit Class 2).

Lateral tensioning: When deck units are in place, prior to grouting longitudinal keys, the transverse rods shall be given preliminary tightening to pull the deck units together. Final tightening shall be done by loosening the nut, then giving the nut 2 turns from a hand tight position to develop a stress of about 1050 ft. lbs. The tensioning rods shall not be grouted.

Prestressing tendons shall be high tensile strength uncoated seven-wire stress-relieved strands for prestressed concrete conforming to ASTM A-416 except that nominal diameter of strand = 1/2" and nominal area = 0.153 sq. in. and minimum ultimate strength = 41,300 lbs. (= 270 Ksi).

Paint: (Tensioning Rods, Nuts & Washers) Shop, three coat red lead, in accordance with Std. Spec. 712.12 and 1045.4 or 1045.5. End one inch of threads no shop paint.

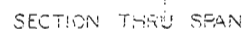
Field, Exposed surfaces after assembly, two coats by contractor, first coat brown, second coat aluminum in accordance with Std. Spec. 712.12.

Cost of painting to be included in price bid for other items.

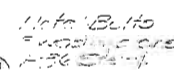
The method and sequence of releasing the strands shall be shown on the shop drawings.

DIMENSION	A	B
48" BOX GIRDER	7"	1"
36" BOX GIRDER	1"	0"

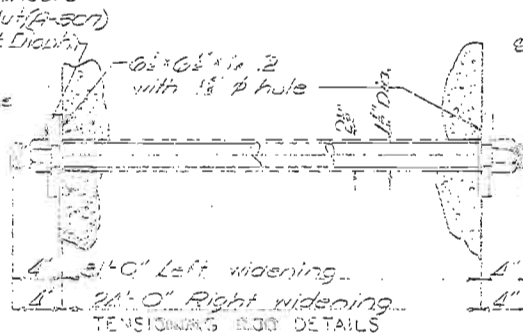
There is a lot of work to be done
and it is a big job.



American Standard
Heavy Hex Nut (A-507)
(Eq. End & Int. Diameter)



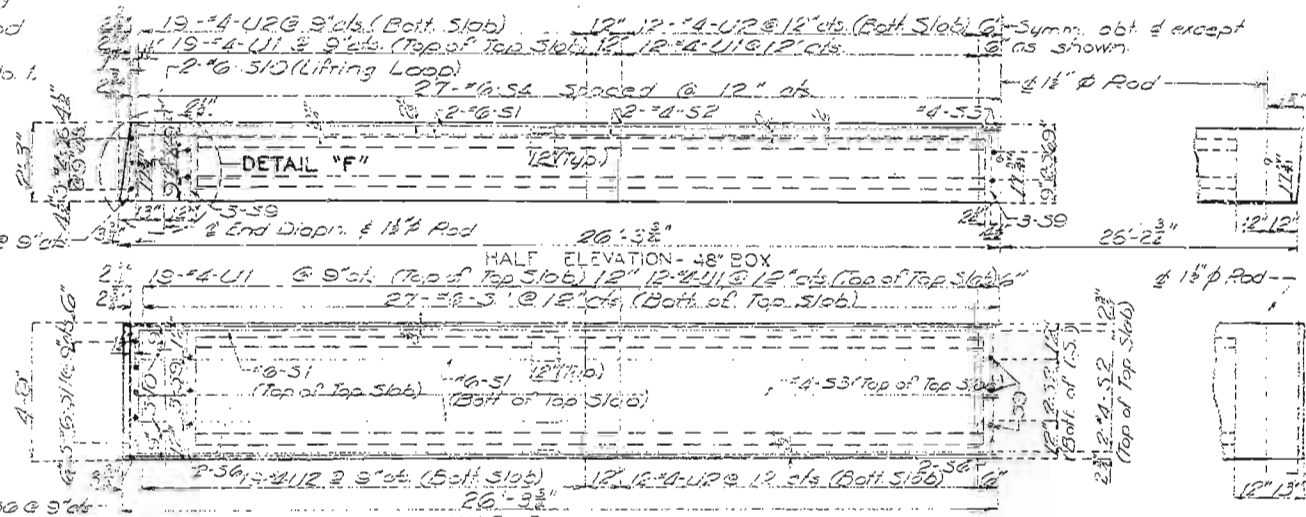
Note: Use 31-1" Wire Strands.
 Initial prestress force 826 Kips.
 TYPICAL SECTION THRU 48" BOX GIRDER



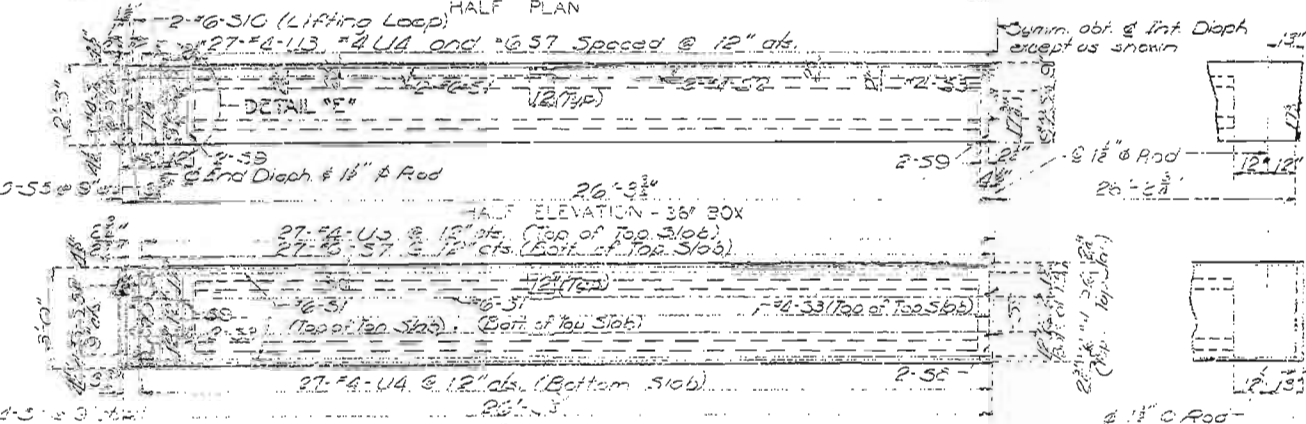
Note: Cost of tensioning rod assemblies is included in price bid for other items.



DETAIL "F"



Synon. obr. & Int. Dioph
exceptus shown



- A_F PLAN

conclusion / keys not shown for clarity

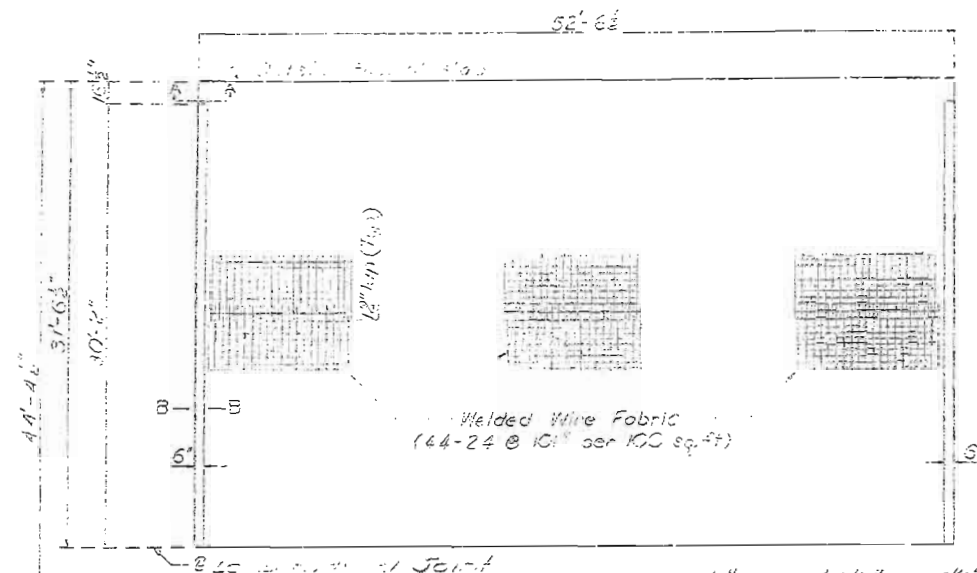
Sharon A. ...

COUNTY

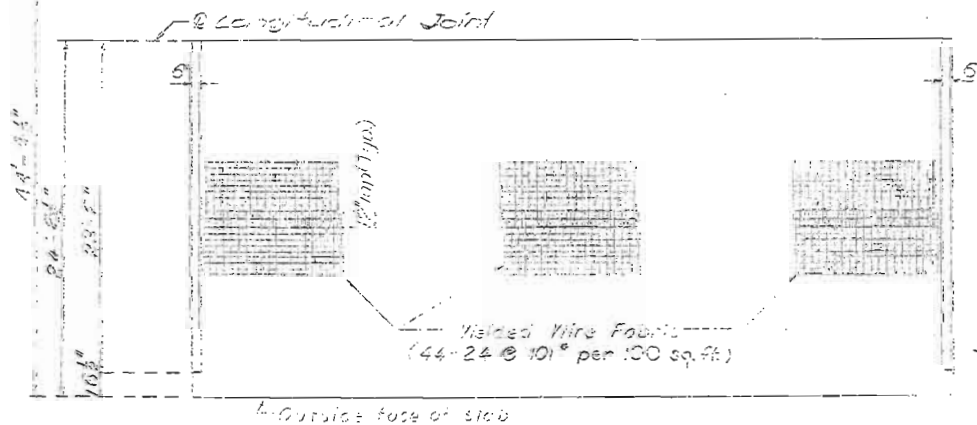
Note: This drawing is not to scale. Follow dimensions.

MISSOURI STATE HIGHWAY DEPARTMENT

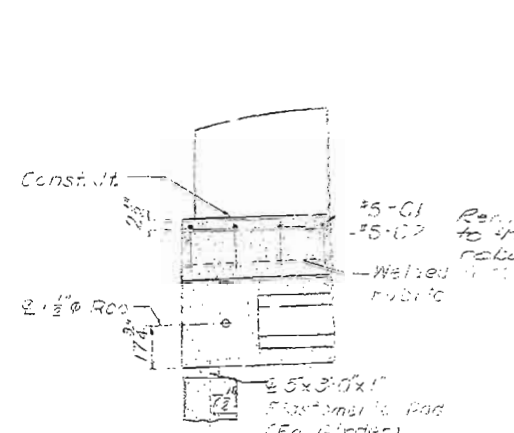
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	2-1-2-2	19	56	



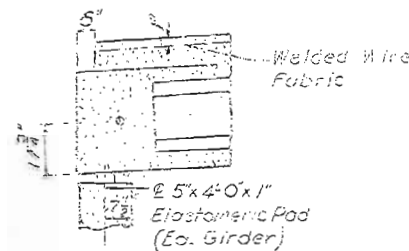
PLAN OF BRG. PAD AT ABUT. NO. 1



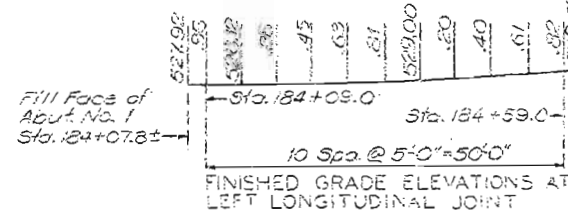
PLAN OF SLAB



PART SECTION A-A



PART SECTION S-B



FED ROAD DIST. NO.	STATE	PROJECT PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	6-13-66-2	19	57	

*All bridge rail posts shall be set normal to grade.
Aluminum tube bridge rail shall be bent to
conform to vertical and horizontal alignment of
parapet.*

Aluminum washer shims between top of parapet and post base may be used for adjusting bridge rail alignment. Maximum thickness of shims to be 6". Where more tilting of post is required for proper alignment, concrete bearing areas shall be ground down.

All parts of bridge rail, except anchor bolts, nuts, washers, and set screws are to be of aluminum material.

All fillets $\frac{1}{4}"$ except as noted.
All drafts 3° except as noted.

Omit set screw in side of rail posts adjacent to filled joints in curb and parapet of rail expansion points. Omit set screw in each side of rail post on end bents except where a gap is shown in rail over an expansion device.

Top of curbs and parapet to be built parallel to grade with curb and parapet joints (except at end bents) normal to grade.

Concrete end posts to be vertical.

All exposed edges of end posts shall have $\frac{1}{2}$ " bevel. All exposed edges of curbs and parapets shall have $\frac{1}{2}$ " radius or $\frac{1}{2}$ " bevel unless otherwise noted.

Technical drawings of a mechanical bracket, showing front, side, and top views with dimensions and annotations.

Front View:

- Angle: 40°
- Post: $\frac{1}{2}$ " Post
- Set screw: Drill and tap for $\frac{3}{8}$ " set screw
- Dimensions: $4\frac{1}{2}$ " (height), $6\frac{1}{2}$ " (width), $2\frac{1}{2}$ " (width), $4\frac{1}{2}$ " (width), $4\frac{1}{2}$ " (width), $9\frac{1}{2}$ " (width)

Side View:

- Post: $\frac{1}{2}$ " Post
- Radius: $\frac{1}{8}$ " Rad
- Draft: 1° Draft
- Dimensions: $1\frac{1}{2}$ " (height), $4\frac{1}{2}$ " (height), $1\frac{1}{2}$ " (width), $3\frac{1}{2}$ " (width), $3\frac{1}{2}$ " (width), $8\frac{1}{2}$ " (width)

Top View:

- Radius: $\frac{1}{8}$ " Rad
- Holes: $\frac{1}{2}$ " ϕ Holes for $\frac{3}{4}$ " Anchor Bolts
- Dimensions: $3\frac{1}{2}$ " (width), $3\frac{1}{2}$ " (width), $1\frac{1}{2}$ " (width), $1\frac{1}{2}$ " (width), $2\frac{1}{2}$ " (width), $2\frac{1}{2}$ " (width)

[illegible]

3	MC	G-U-66-2	19	57
---	----	----------	----	----

3" Min

1/2" Closure R
(See alternate CAST END CAP)

1/2" x 1/2" Drain Hole

1/2" Clearance between rails

E Post

Face of End Post

Top of parapet

CAST END CAP
(Drive Fit Type)

Top of Rdwy. Slab only
Joint Seal
Joint Filler
(Std. Spec. 1057.2.4)

FILLED JOINT DETAILS

41'-6 1/2"

16 3/4"

5-spaces @ 7'-9" = 38'-9"

2 Rail Post

42-#5-R11 @ 12" cts.

2-#5-R12

3 1/4"

53-#5-C1, C3 & C4 @ 12" cts.

2-#5-C2

16 3/4"

2 Rail Post

3 1/4"

Note: Longitudinal dimension shown is taken parallel to grade at top of parapet.

SECTION C-C

ELEVATION OF END POSTS

9 #5-R bars
Spa. as Shown

2" 3-5-11 @ 12" c/c's
@ 8" @ 4" @ 9"

2" 5-R12

4-5-R10

15"

5'-0"

6"

12"

4'-0"

20"

ELEVATION OF CURB & PARAPET

Note: For horizontal curb and parapet bars use a minimum lap of 15" for #5 and 18" for #6.

SECTION D-D

Sheet No. 11 of 11.

ST. LOUIS

COUNTY

J-228R

STD. 15.2	REVISED
MAR. 1964	OCT. 1968

DETAILED NOV. 1970 BY SCHMID
CHECKED Feb 1971 BY WOODS

554 RUSSELL

GENERAL NOTES:

Design Loading:
HS 20-44 15#/sq. ft. Future Wearing Surface
Earth 120# Equivalent Fluid Pressure 30#

Class B Concrete (substructure) $f_c = 1200 \text{ psi}$
Class BI Concrete (superstructure) $f_c = 1600 \text{ psi}$
Reinforcing Steel $f_s = 20,000 \text{ psi}$

Traffic over bridge was maintained during construction.
(See Special Provisions)

Minimum clearance to reinforcing steel
unless otherwise shown.

Note: 3,008 lbs Welded Wire Fabric is included in Reinforcing Steel quantities.

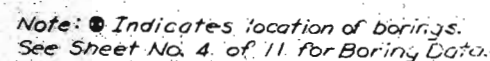
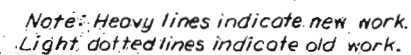
Note: Payment for furnishing and placing structural steel for longitudinal joint made under price bid for Fabricated Structural Steel.

B.M. 3-b Elev. 528.21 □ On N.E. Corner abut. #1 Rt.
of Sta. 184+08[±]
B.M. 3-d Elev. 530.22 □ On S.W. corner abut. #2 Lt.
of Sta. 184+60[±]

COUNTY

APPROVED BY Robert D. Hunter DATE 8-22-72

15-2238



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

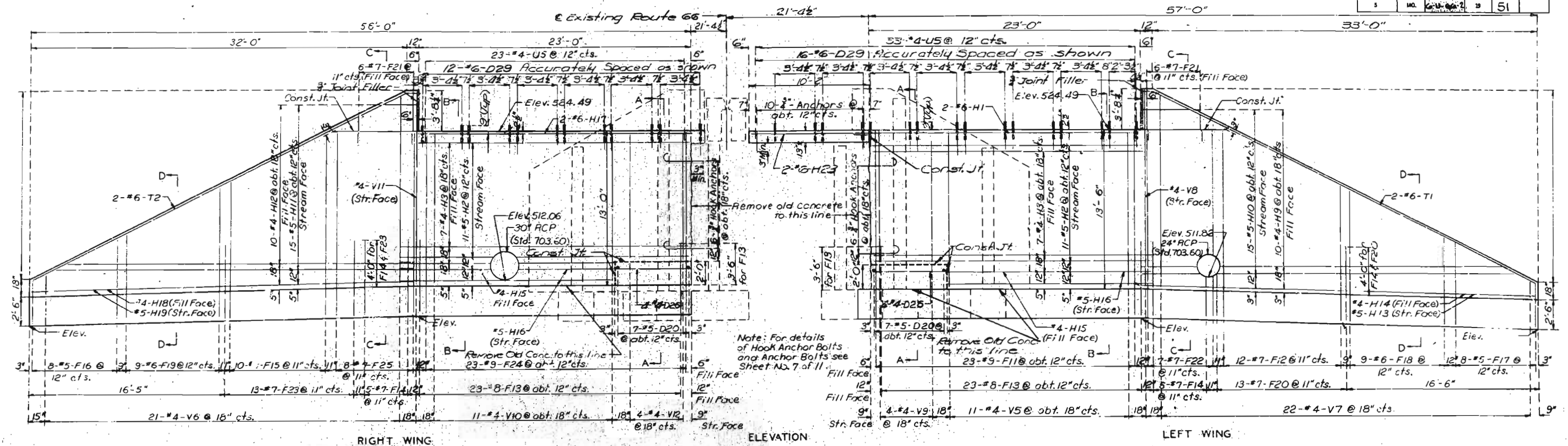
DESIGNED 6/6 1970 BY SAMHOFF
 DETAILED NOV. 1970 BY SCHMID
 CHECKED 1/6 1971 BY J. B. GOSCH / MURPHY

Sheet No. 16 of 17 **FINAL PLAN**

MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	1971	51	

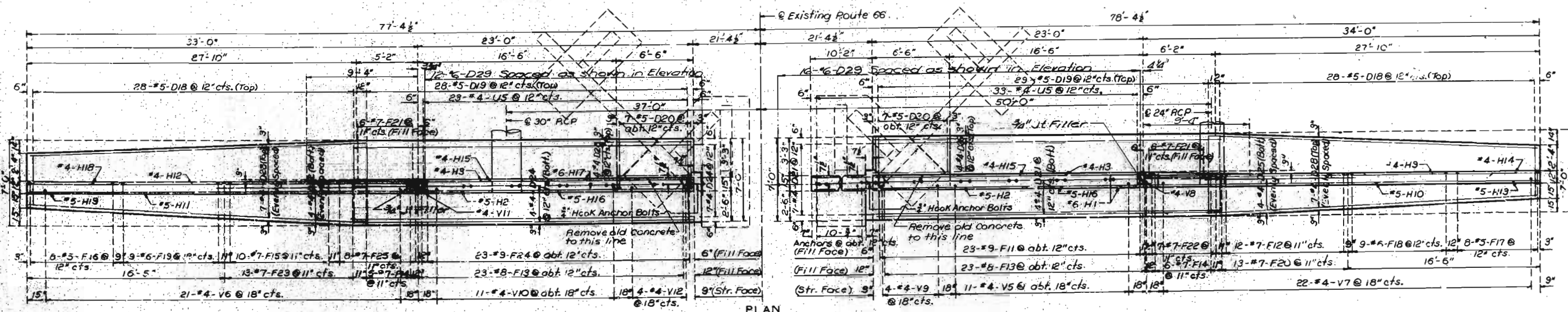


Note: Light dotted lines indicate old work. Heavy lines indicate new work.

Note: For details of Sections A-A, B-B, C-C, & D-D see Sheet No. 7 of 11.

Note: Bars banded in old concrete not removed were cleanly stripped and bent into new concrete where possible. If length is available, old bars extend into new concrete at least 40 diameters.

Note: Wings above construction joint were poured after units were placed. Vertical reinforcing was shifted, & longitudinal reinforcing shifted or cut in field as necessary to clear R.C.P.'s. Stream face of wall built flush with old structure.



PLAN
DETAILS OF ABUTMENT NO. 1

DETAILED JAN. 1971 BY SCHMID
CHECKED FEB. 1971 BY WOODS

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

Sheet No. 51 of 11

FINAL PLAN:

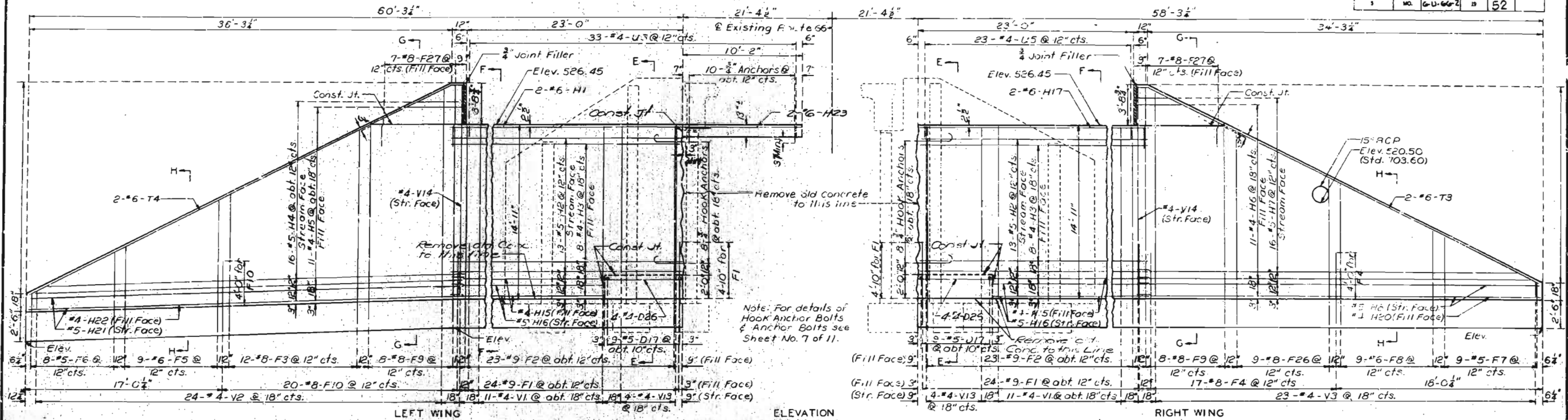
ST. LOUIS COUNTY

J-228R

MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

FEED. ROAD DIST. NO.	STATE	PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MO.	6-11-66-2	19	52	

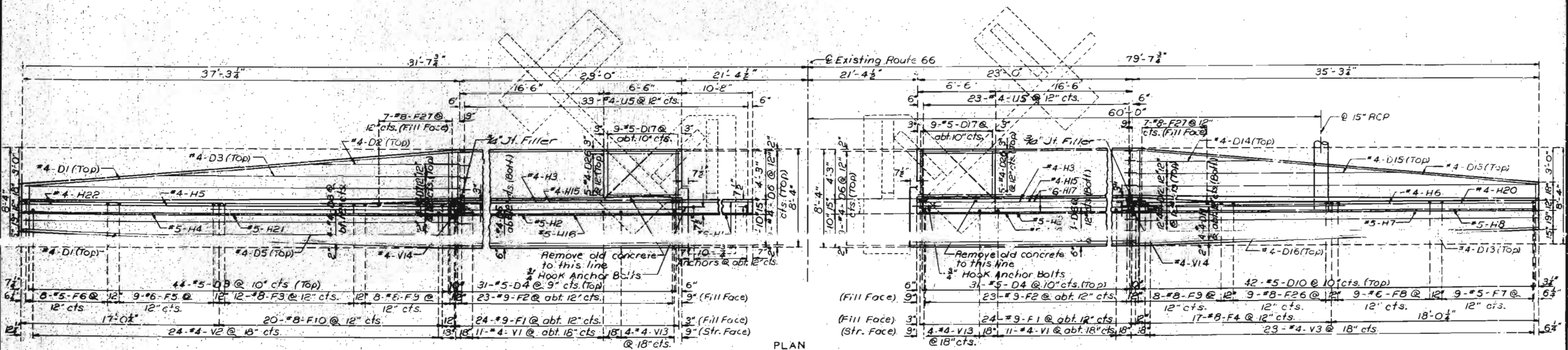


Note: Light dotted lines indicate old work. Heavy lines indicate new work.

Note: For details of Sections E-E, F-F, G-G, & H-H, see Sheet No. 7 of 11.

Note: Bars bonded in old concrete not removed were cleanly stripped and bent into new concrete where possible. If length is available, old bars extend into new concrete at least 40 diameters.

Note: Wings above construction joint were poured after units were placed. Vertical reinforcing shifted, & longitudinal reinforcing shifted or cut in field as necessary to clear R.C.P. Stream face or wall built flush with old structure.



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

Sheet No. 6A of 11

FINAL PLAN

ST. LOUIS

COUNTY

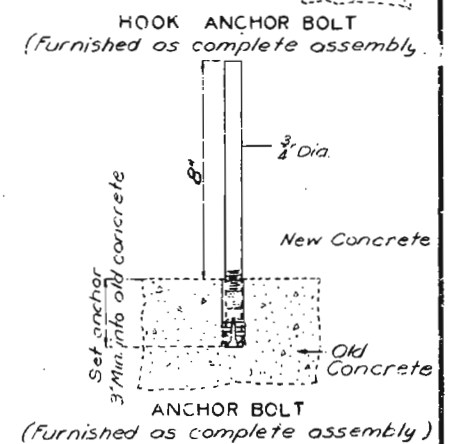
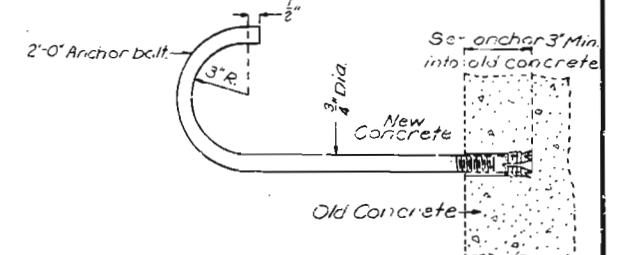
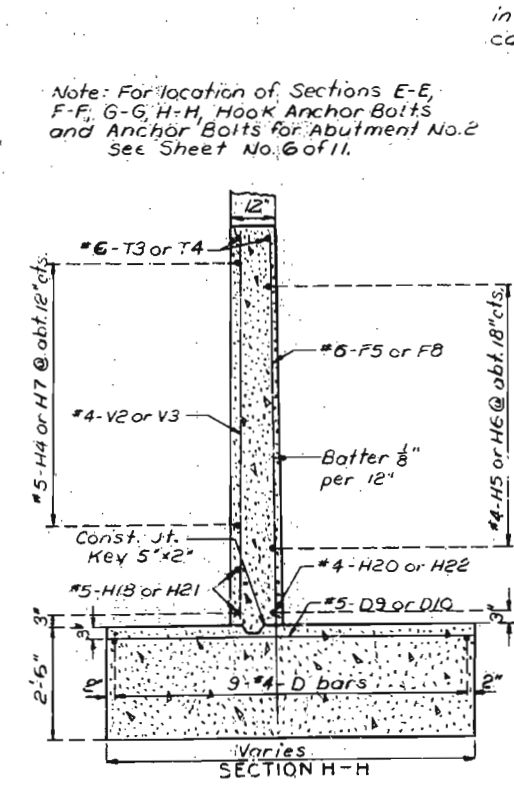
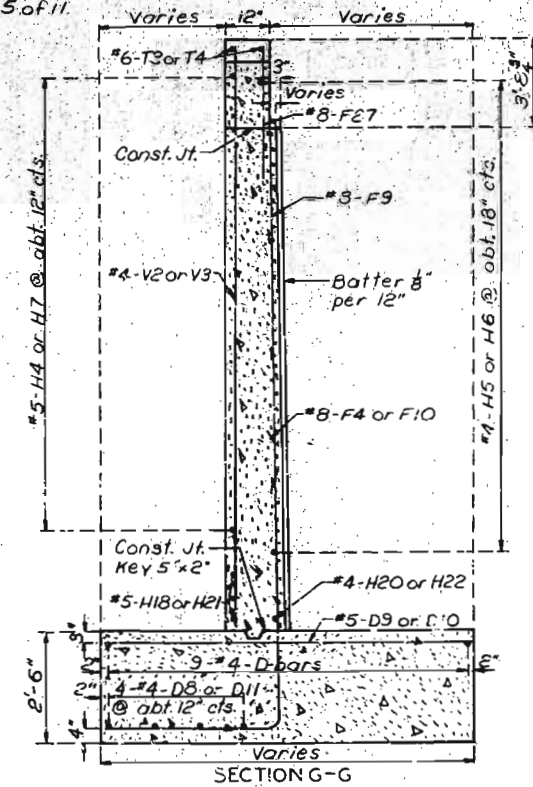
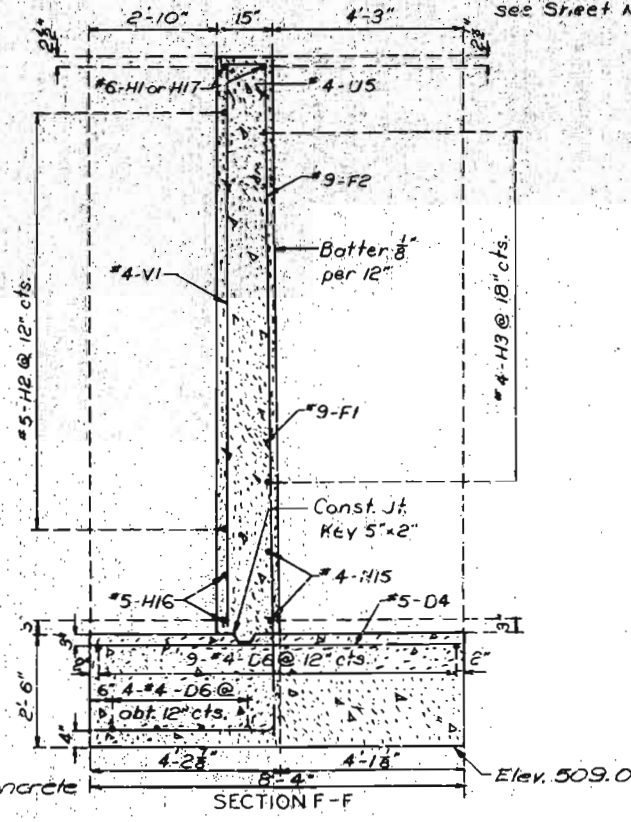
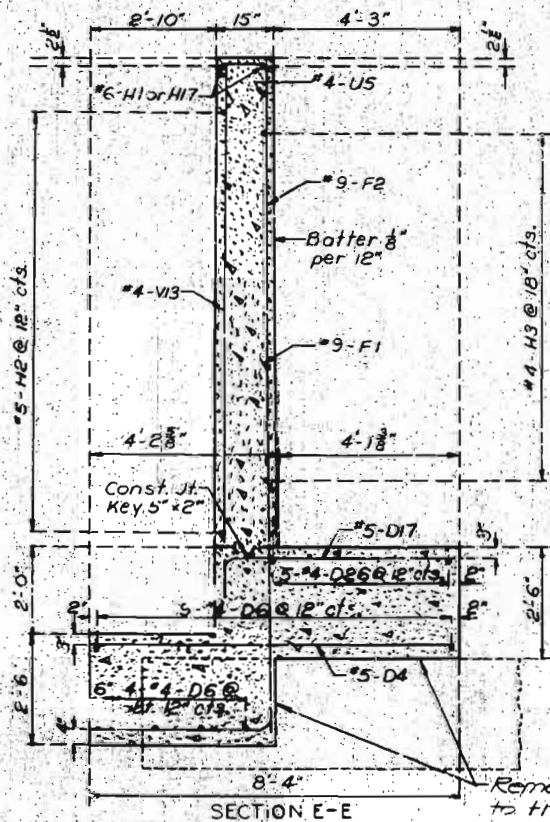
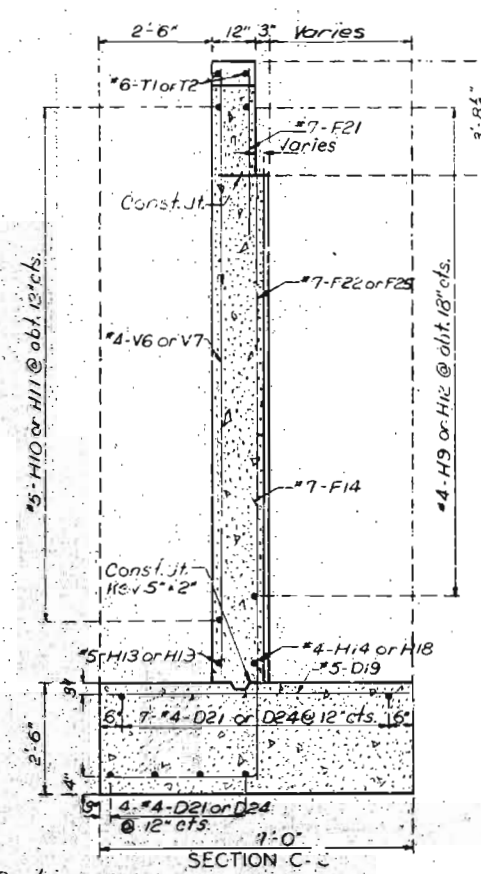
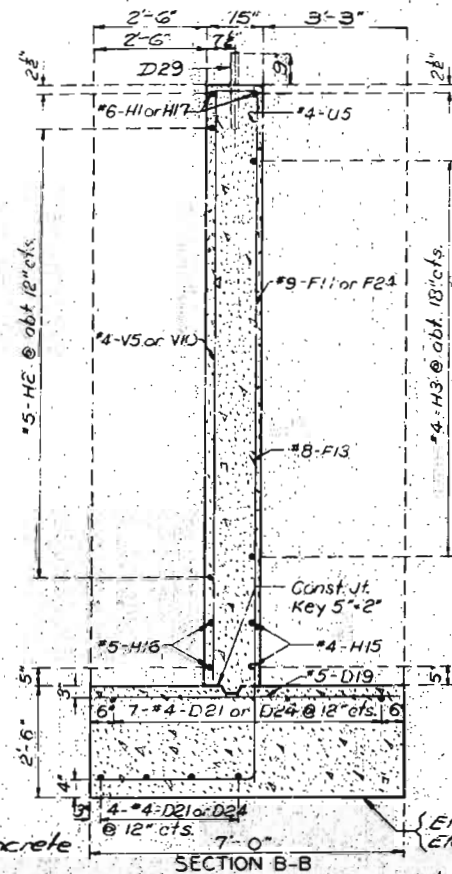
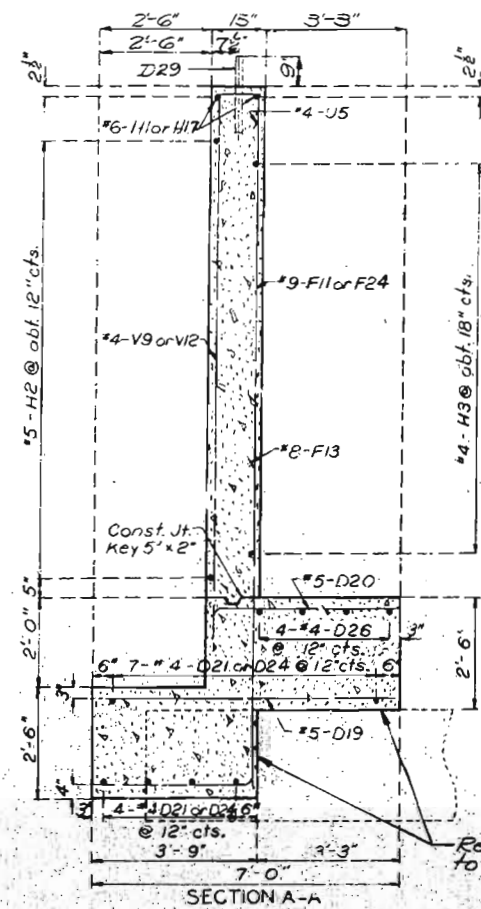
J-228R

DETAILED FEB. 1971 BY SCHMID
CHECKED FEB. 1971 BY WOODS

MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

FED. ROAD DIST. NO.	ST/CT	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	6-U-66-2	3	53	



Note: Anchors were of the self-drilling expansion type, made of casehardened and drawn carburized steel, with self-cutting annular broaching grooves. Cost of furnishing and installing all anchor bolts and anchor bolt assemblies were included in price bid for concrete.

Note: For location of Sections E-E, F-F, G-G, H-H, Hook Anchor Bolts and Anchor Bolts for Abutment No. 2 See Sheet No. 6 of 11.

DETAILED FEB. 1971 BY SCHMID
CHECKED FEB. 1971 BY WOODS

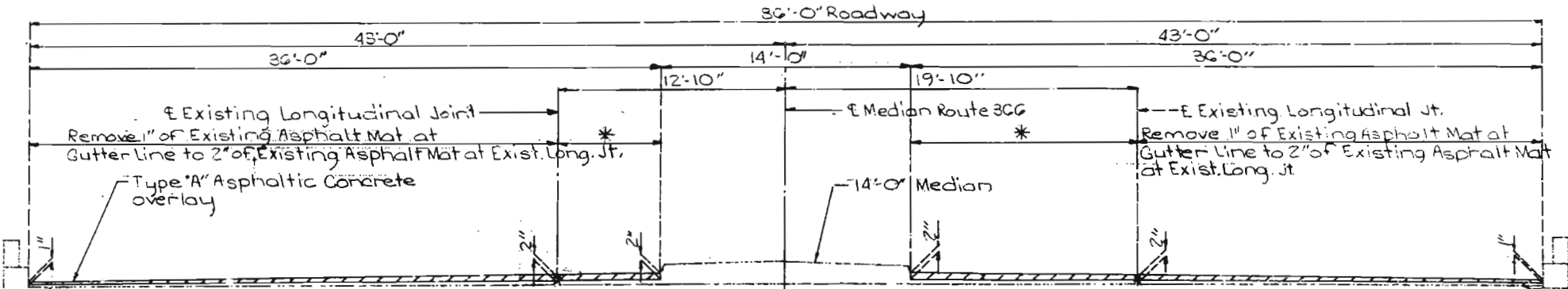
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 7A of 11 FINAL PLAN

ST. LOUIS COUNTY J-228R

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO	SHEET NO
MO		
SEC / SUR 58	1WP 44N	RGE GE



GENERAL NOTES:
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.
Handle one lane of traffic in each direction during construction.

* Remove 2" of existing asphalt mat
Note: Match existing grade of asphalt with new asphaltic concrete overlay.

SECTION THRU SLAB

ESTIMATED QUANTITIES	
ITEM	TOTAL
Removal of Existing Bituminous Pavement (Cold Milling)	Sq. Yd. 411
Asphalt Cement (Asphaltic Concrete 60-40 or AC-20 Type 'A' Mix)	Ton 1.9
Mineral Aggregate (Asphaltic Concrete) (Type 'A' Mix)	Ton 35
Modified Deck Repair	Sq. Ft. 37

Note: See Special Provisions for Modified Deck Repairs.

SHEET 52A OF 52

152

SEE FINAL PLANS

DESIGNED Oct. 1986
DETAILED Oct. 1986
CHECKED Oct. 1986

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

Sheet No. 1 of 1

REPAIRS TO
BRIDGE OVER GRAVOIS CREEK

STATE ROAD FROM RTE. 61 TO RTE. 67
IN CRESTWOOD

PROJECT NO. HES-4936 (603)
JOB NO. 6-X366-401
ST. LOUIS

STA. 184+07.8 (MATCH EXISTING)
RTE. 366
COUNTY

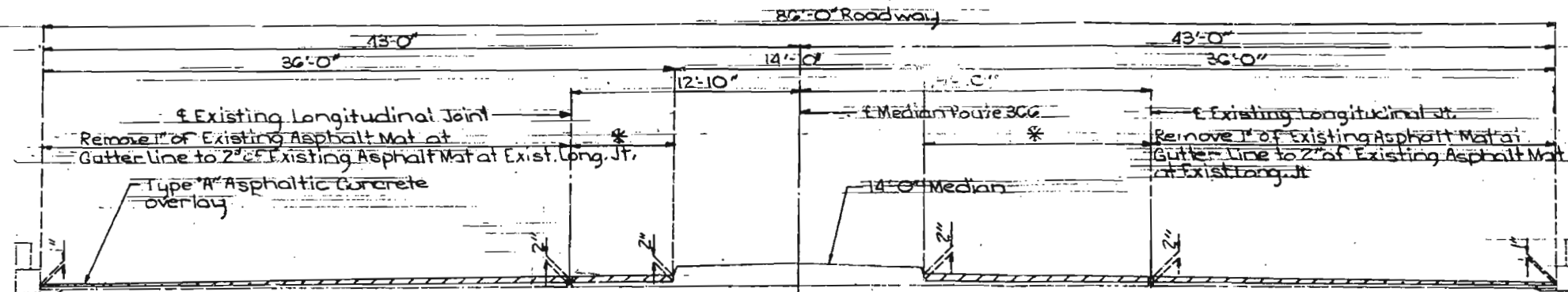
DATE 11/7/86

STD.
STD.
J-228RI

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.		
SEC./SUB E8	TWP. 44N	RGE. E

FINAL PLANS



GENERAL NOTES:

- Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.
- Handle one lane of traffic in each direction during construction.

* Remove 2" of existing asphalt mat

Note: Match existing grade of asphalt with new asphaltic concrete overlay.

SECTION THRU SLAB

ESTIMATED QUANTITIES	
ITEM	TOTAL
Removal of Existing Bituminous Pavement (Cold Milling) Sq. Yd.	411
Asphalt Cement (Asphaltic Concrete 60-40 or AC-20 Type 'A' Mix) Ton	22.0
Mineral Aggregate (Asphaltic Concrete) (Type 'A' Mix) Ton	55
Modified Deck Repair	Sq. Ft. 55

Note: See Special Provisions for Modified Deck Repairs.

SHEET 52A of 52

152

135

DESIGNED Oct. 1986
DETAILED Oct. 1986
CHECKED Oct. 1986

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

Sheet No. 1A of 1

REPAIRS TO BRIDGE OVER GRAVOIS CREEK

STATE ROAD FROM RTE. 61 TO RTE. 67

IN CRESTWOOD

PROJECT NO. HES-4936 (603)

JOB NO. 6-X366-401

ST. LOUIS

STA. 184+07.8± (MATCH EXISTING)

RTE. 366

COUNTY

STD.

STD.

J-228RI

DATE 11/7/86