


J9S3671

Bridge survey location request in process

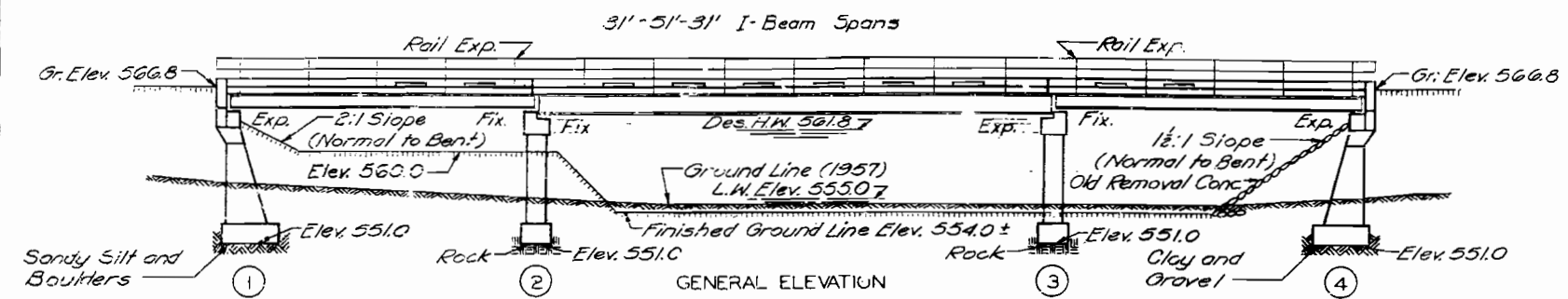
Legend

 Mapping Limit J9S3671

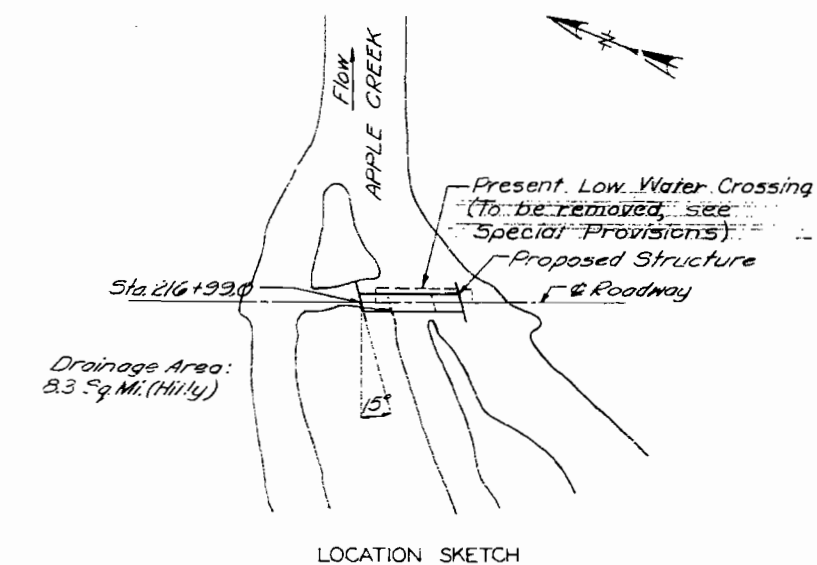
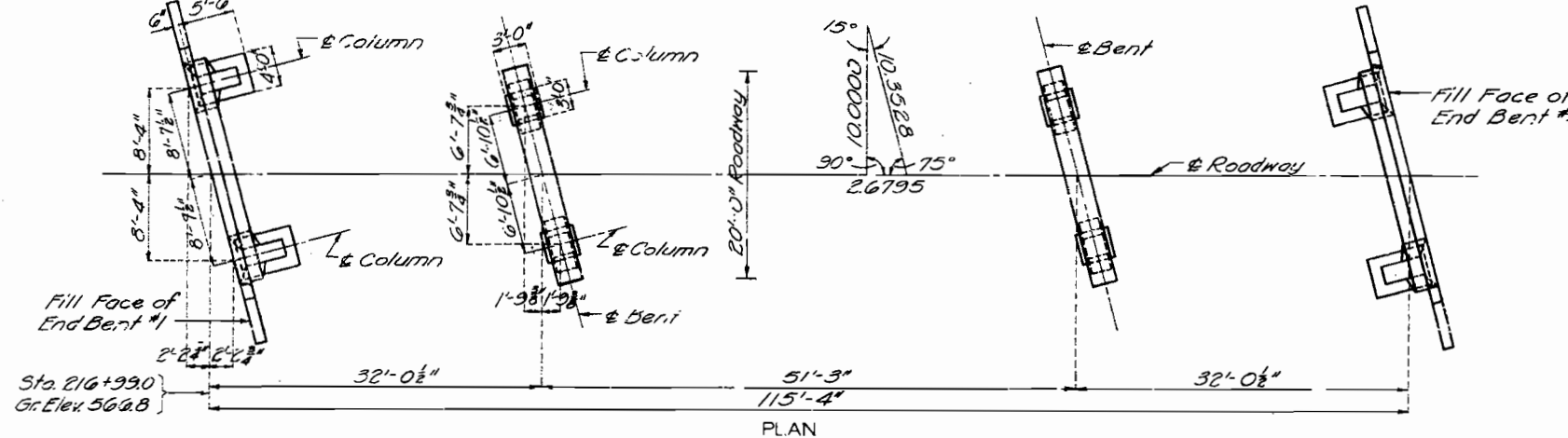


MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	12	



Note: The footings for Bents No. 1 and 4 shall be placed on clay and gravel or sandy silt and boulders satisfactory to the Engineer.
 Bearing of 4 ton/sq.ft. used in design for Bents No. 1 and 4.
 All loose, shelly or disintegrated rock shall be removed and the footings for Bents No. 2 and 3 placed on or into hard, solid, undisturbed rock.
 Bearing of 6 ton/sq.ft. used in design for Bents No. 2 and 3.
 In no case shall footings of Bents No. 2 and 3 be placed higher than elevations shown.



GENERAL NOTES:
 Design Specifications A.A.S.H.O. 1957
 Loading: H15-44 (One Lane)
 Structural Steel Stress: 18,000 #/sq.in.
 Reinforcing Steel Stress: 20,000 #/sq.in.
 Class "B" Concrete Stress: 1,200 #/sq.in.
 All concrete shall be Class "B".
 Rivets 3/4", holes 1/2" except as noted.
 Field connections shall be riveted except as noted in handrail details or, if the Contractor desires to eliminate all field riveting on this project, he may use machine bolts for field connections. Heads and nuts of machine bolts shall be American Standard Regular.
 Paint: Shop, none; Field, contact surfaces of bolted field connections, one coat of red lead and surfaces inaccessible after erection, three coats of red lead. No other paint to be applied by Contractor. Red lead required shall be furnished by Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for Fabricated Structural Steel.
 Where joint filler is specified on the plans it shall conform with the requirements for Premoulded Material for Filler as given in Section 59-22D of the Standard Specifications.

COMPLETE BILL OF REINFORCING STEEL			Bending Sketches & Cutting Diagrams						
End Bents No. 1 & 4			Superstructure						
No.	Size	Length	Mark	Location	No.	Size	Length	Mark	Location
6	#6	23'-0"	H1	Beam	176	#5	2'-3"	C1	Curb
10	#3	21'-9"	H2	"	6	#6	31'-9"	C2	"
4	#6	21'-9"	H3	"	6	#6	31'-9"	C3	"
4	#6	23'-0"	H4	Sk Wall	12	#5	20'-8"	C4	"
16	#5	7'-9"	H5	Wing	330	#5	22'-0"	S1	Slab
4	#5	7'-3"	H6	"	152	#4	10'-9"	S2	"
8	#4	7'-6"	V1	"	18	#5	24'-9"	S3	"
50	#4	3'-9"	V2	Sk Wall	36	#5	21'-9"	S4	"
4	#4	5'-0"	V3	"	76	#4	26'-3"	S5	"
12	#6	11'-6"	V4	Column					
16	#6	11'-0"	V5	"					
8	#4	9'-9"	V6	"					
32	#3	9'-2"	V7	"					
12	#6	7'-0"	F1	Col. Fch.					
8	#6	7'-0"	F2	"					
8	#6	10'-3"	T1	Wing					
28	#6	4'-9"	D1	Footing					
44	#4	10'-6"	U1	Beam					
14	#4	3'-0"	U2	"					
4	#5	6'-6"	H7	Hing					
Int. Bents No. 2 & 3									
32	#6	4'-0"	D2	Footing					
16	#6	7'-9"	F3	Col. Fch.					
16	#6	7'-6"	F4	"					
8	#8	23'-3"	B1	Beam					
12	#8	21'-3"	G2	"					
4	#6	21'-3"	G3	"					
4	#4	21'-3"	G4	"					
28	#3	7'-9"	P1	Column					
32	#6	10'-3"	P2	"					
44	#4	9'-3"	U3	Beam					
14	#4	3'-3"	U4	"					
58	#4	3'-0"	U5	"					

ESTIMATED QUANTITIES			
Item	Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu. Yds.	10	10
Class 2 Excavation for Structures	Cu. Yds.	66	66
Class "B" Concrete	Cu. Yds.	46.8	55.1
Fabricated Structural Steel	Lbs.	48,280	48,280
Gray Iron Alloy Castings	Lbs.	430	430
Reinforcing Steel	Lbs.	6,050	13,720

Note: Excavation for Bridge made above Elev. 5560 will be paid for as Class 1 Excavation for Structure.
 Excavation for Bridge made below Elev. 5560 will be paid for as Class 2 Excavation for Structures.
 * Final pay weight for Fabricated Structural Steel will be based on using field rivets except for bolted connections specified for handrail.

B.M.#6 - Elev. 557.90 Nail in side 30" Sycamore 55' Lt. Sta. 217+90 (U.S.G.S. DATUM).
BRIDGE OVER APPLE CREEK
 STATE ROAD FROM HIGHLAND TO MILLHEIM
 ABOUT 24.5 MILES W. OF WITTENBERG
 PROJECT NO. S-9932 SK STA. 216+99.0
PERRY COUNTY

SUBMITTED BY J. A. Williams DATE 7-21-1958
 APPROVED BY Ray M. Witter DATE 7-21-1958

Drawn JULY 1959 by C.D.W.
 Checked July 1959 by W.F.D.

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

Sheet No. 1 of 6.

SEE FINAL PLANS BROWN LINES

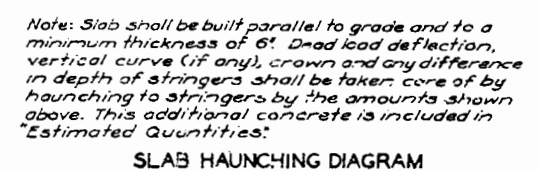
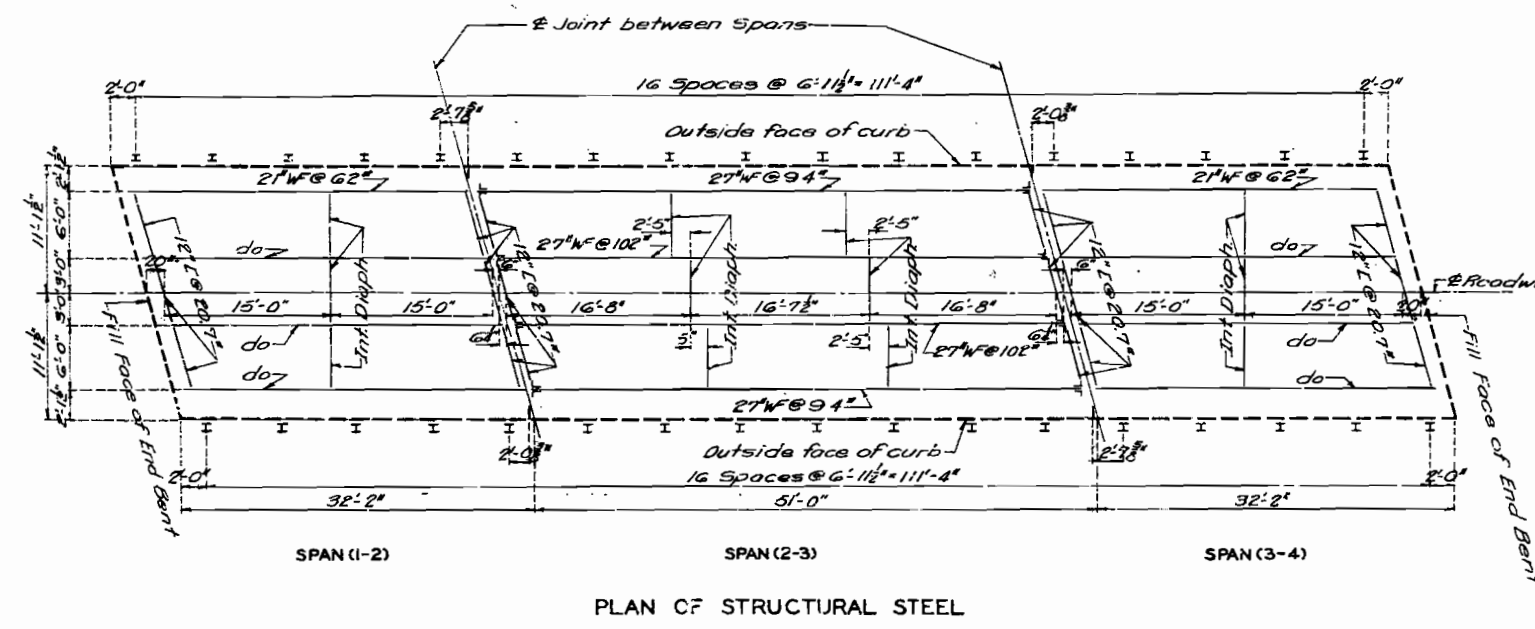
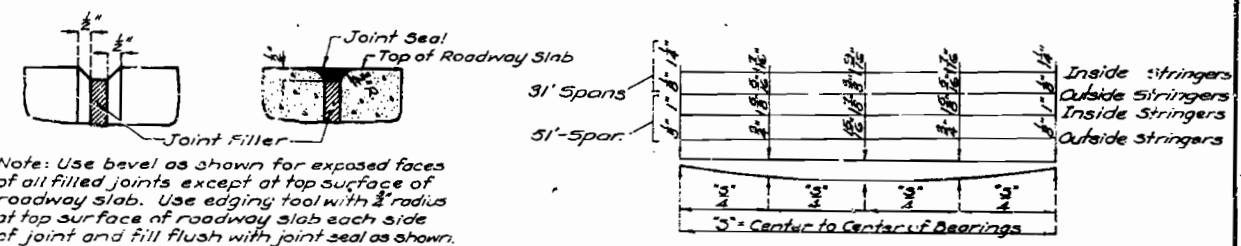
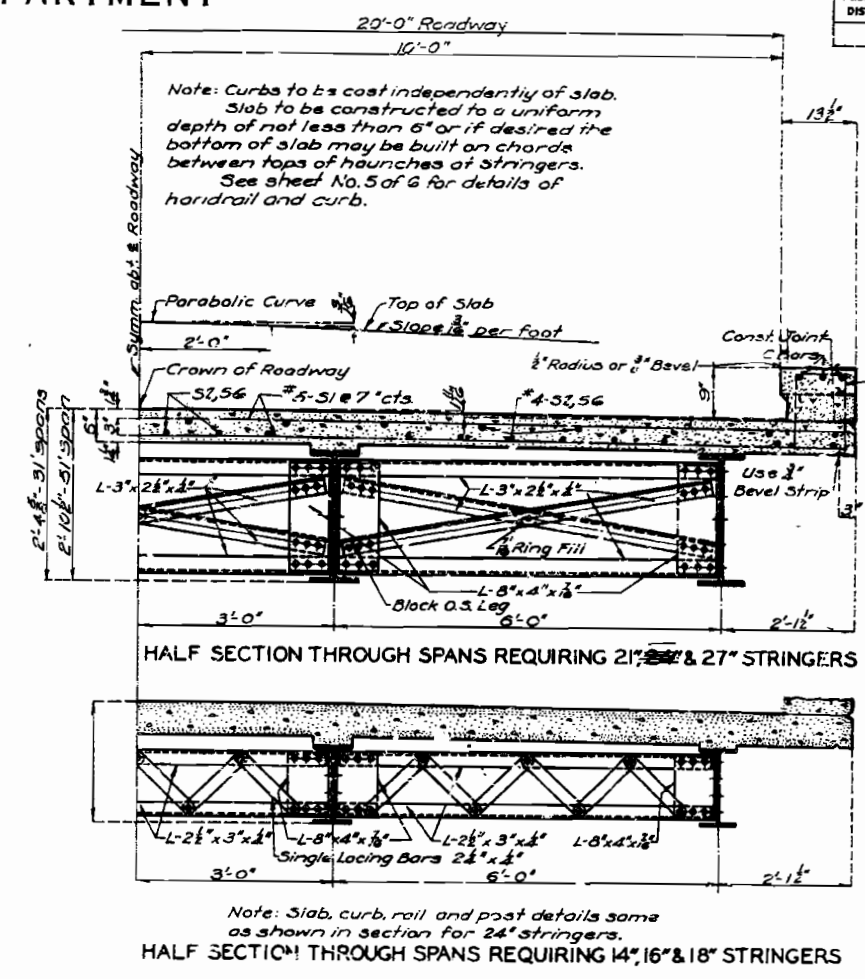
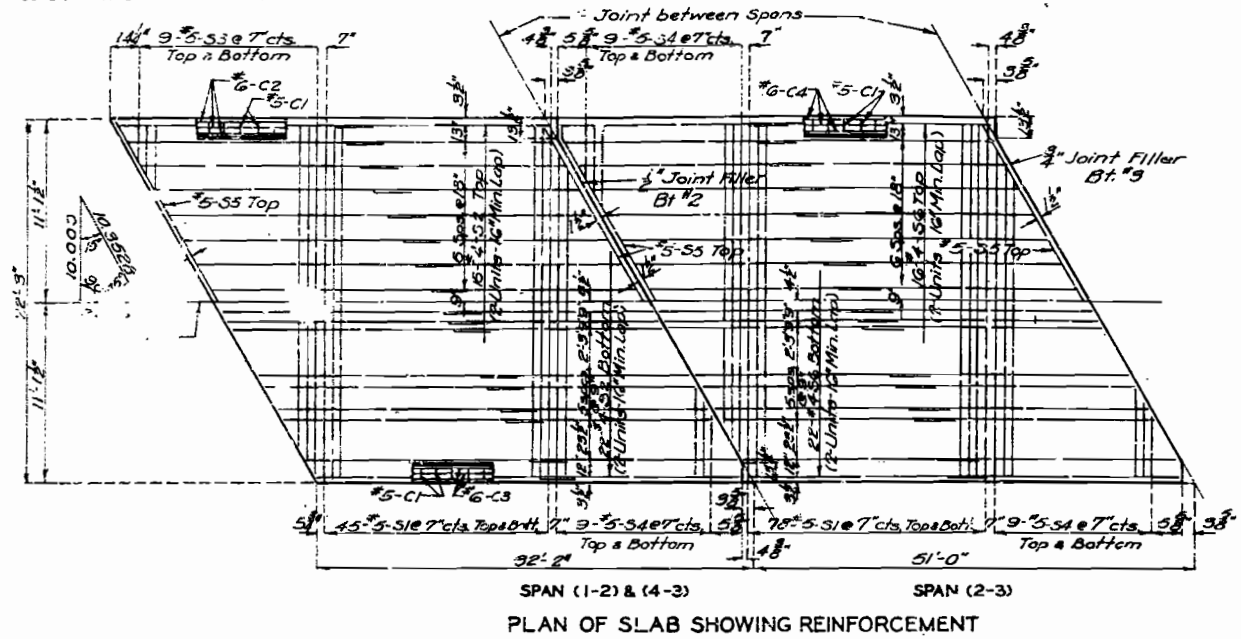
STDG-10R7
 N-877

64

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	16	

Note: Space dowel bars C1 L1 approximately 12" centers in curbs between outlets and at ends.



BRIDGE OVER APPLE CREEK

STATE ROAD FROM HIGHLAND TO MILLHEIM
ABOUT 24.5 MILES W. OF WITTENBERG
PROJECT NO. S-993(2) (SK) STA. 216+99.0

PERRY COUNTY

N-877

Assembled June 1959 by R.C.L. & J.C.F.
Checked July 1959 by W.F.D.

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

Sheet No. 3 of 6.

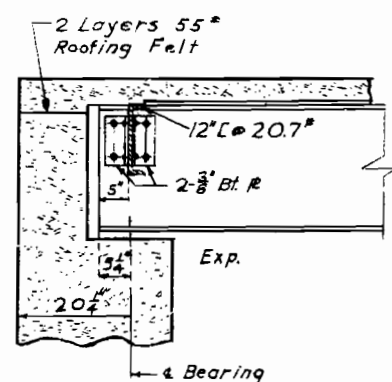
NO CONSTRUCTION CHANGES

Rev. Feb. 1955

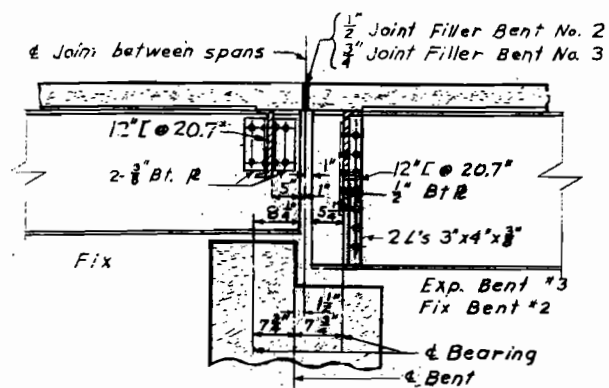
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MISSOURI STATE HIGHWAY DEPARTMENT

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5	MO.		19	15	

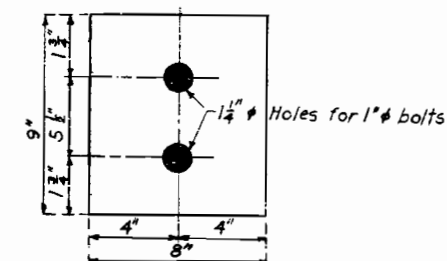


END SPANS NO. 1 & 4

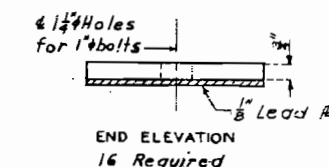


INT. BENTS NO. 2 & 3

PART LONGITUDINAL SECTION



PLAN



DETAILS OF STRUCTURAL STEEL PLATES

Spans (1-2) & (3-4)

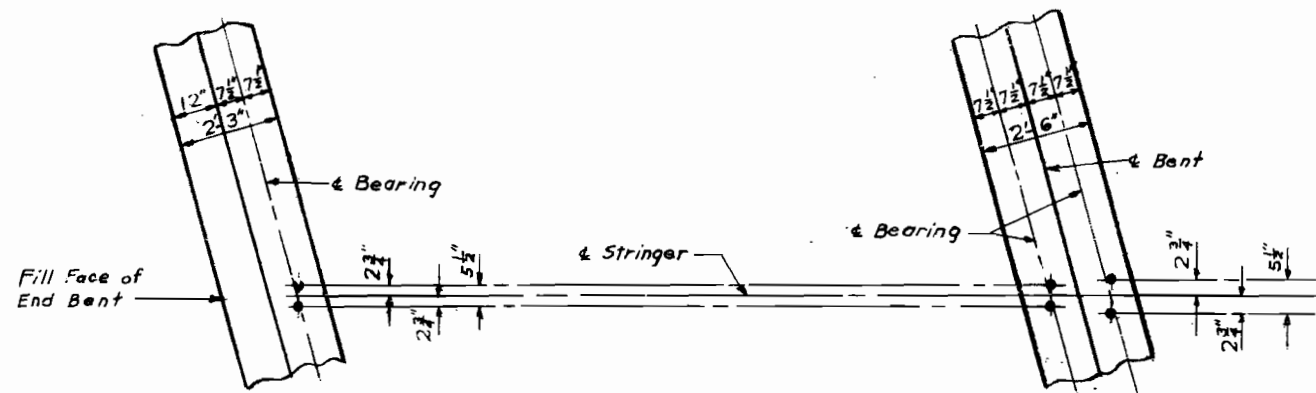
Note: Material for 8"x9" plates to be Structural Steel.

Anchor bolts shall be 1" swaged bolts, no head, Hex. nuts and shall extend 10" into concrete.

Lead plates under bearings shall be approximately 1/8" in thickness and weigh 8 1/2#. Cost of lead plates shall be included in price bid for other items.

Bearing plates to be straightened to plane surfaces.

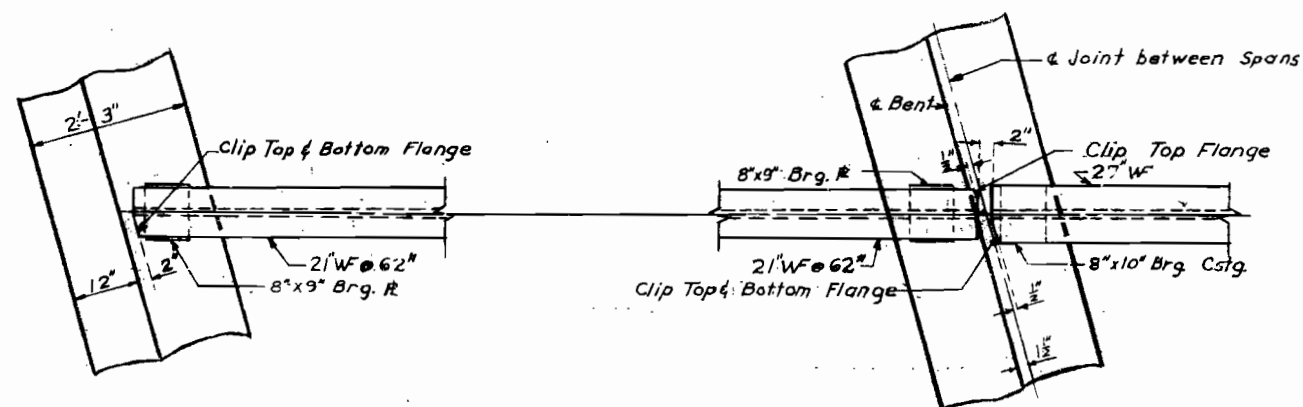
Bottom flange of beam shall have 1 1/4" holes at fixed end and 1 1/4" x 2 1/2" slots at expansion end.



END BENTS NO. 1 & 4

INT. BENTS NO. 2 & 3

PART ANCHOR BOLT PLAN



END BENTS NO. 1 & 4

INT. BENTS NO. 2 & 3

PART PLAN OF STRINGERS AT BENTS

BRIDGE OVER APPLE CREEK

STATE ROAD FROM HIGHLAND TO MILLHEIM

ABOUT 24.5 MILES W. OF WITTENBERG

PROJECT NO. S-993(2) (SK) STA. 216 - 99.0

PERRY

COUNTY

67

Drawn July 1959 by RCL
Checked July 1959 by W.F.D.

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

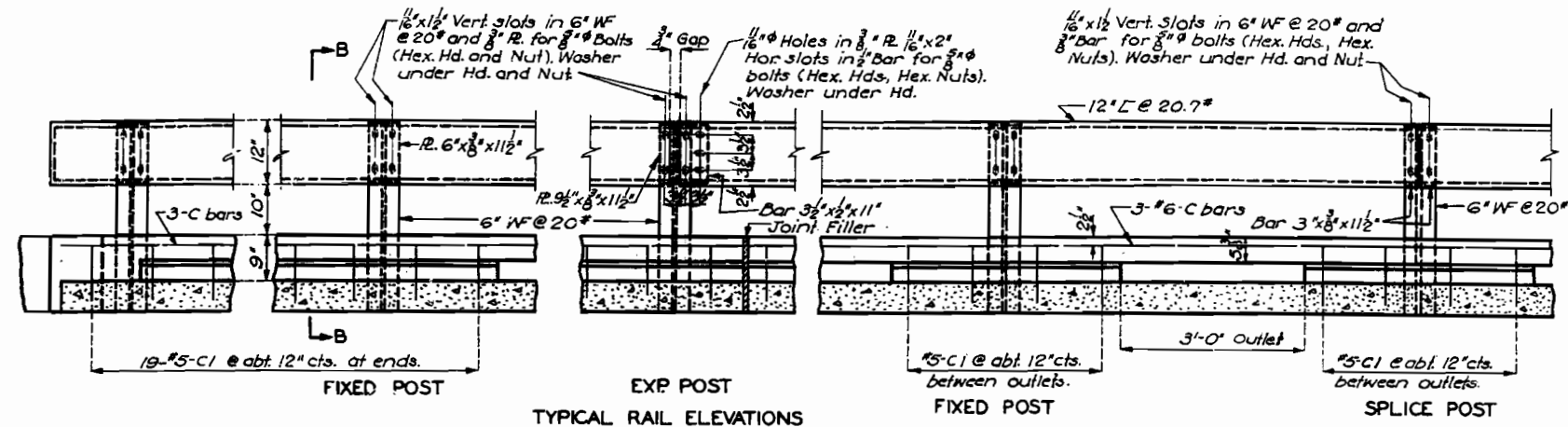
Sheet No. 4 of 6

NO CONSTRUCTION CHANGES

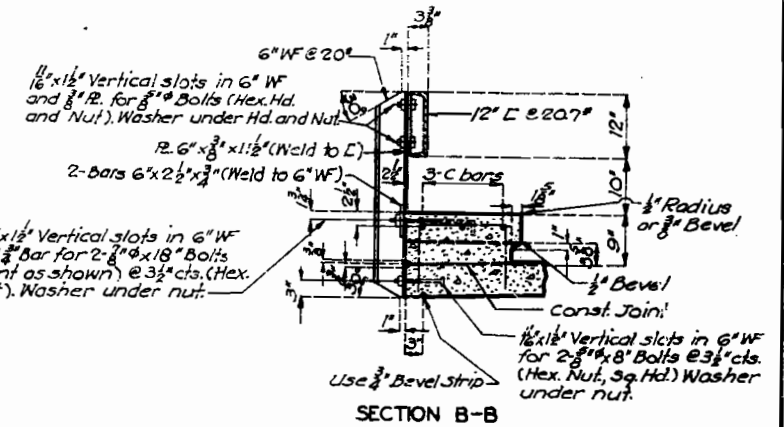
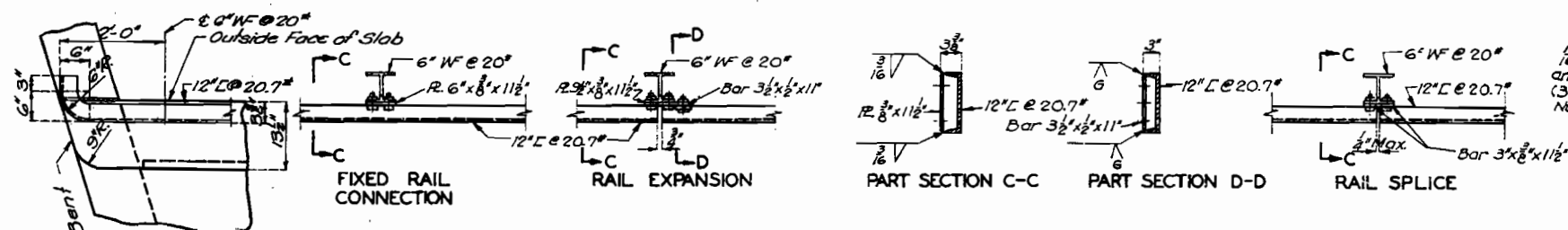
N-877

MISSOURI STATE HIGHWAY DEPARTMENT

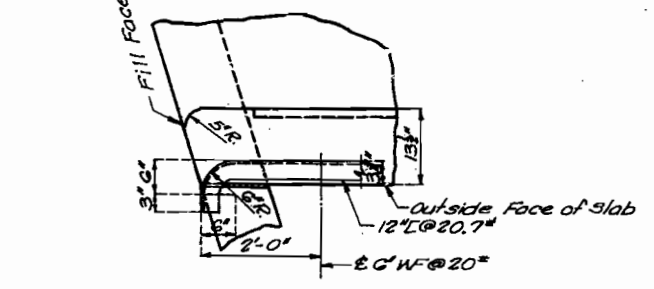
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	16	



Note: Outlets to be centered between railposts. For location of outlets see sheet No. 1 of G.



Note: Channel rail to be adjusted for horizontal alignment by use of full size metal shims placed between 6" WF and connection R. shims of 1/2" thickness to be furnished with structural steel. Cost of shims to be included in price bid for other items.



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FINISHED

BRIDGE OVER APPLE CREEK
 STATE ROAD FROM HIGHLAND TO MILLHEIM
 ABOUT 24.5 MILES W. OF WITTENBERG
 PROJECT NO. S-993(2) (SK) STA. 216+99.0
 PERRY COUNTY

FINISHED

FINISHED

Assembled June 1959 by LEGNRS
 Checked July 1959 by WFD.

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

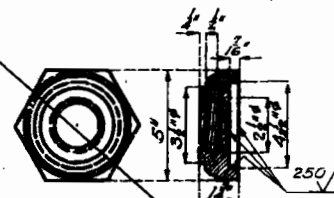
Sheet No. 5 of 6.

NO CONSTRUCTION CHANGES

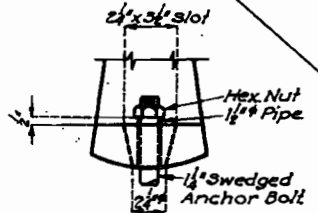
N-877

MISSOURI STATE HIGHWAY DEPARTMENT

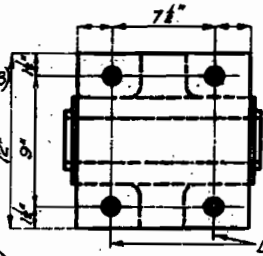
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3	MO.		19	17	



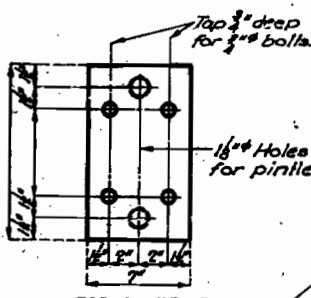
CAST STEEL NUT
- Required
- 3 # Rolled steel pins required (AISI C1018)



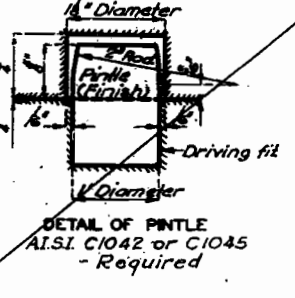
Hex Nut
1/2" Pipe
1/4" Swaged Anchor Bolt



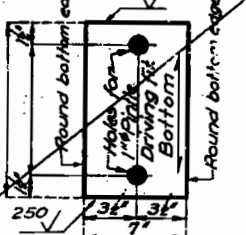
Drill 1/2" holes for 1" turned bolts or high tensile bolts.



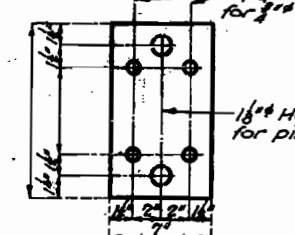
TOP PLATE - EXP



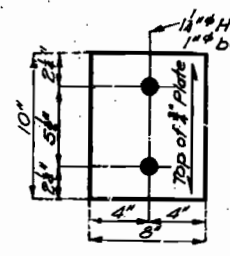
DETAIL OF PIN
AISI C1042 or C1045 - Required



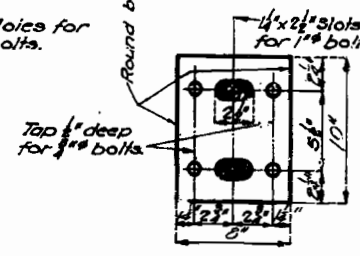
FLOATER PLATE - EXP



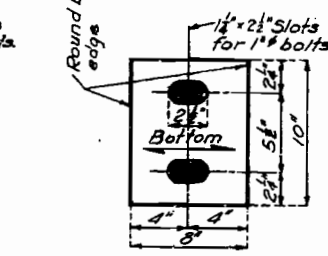
TOP PLATE - FIX



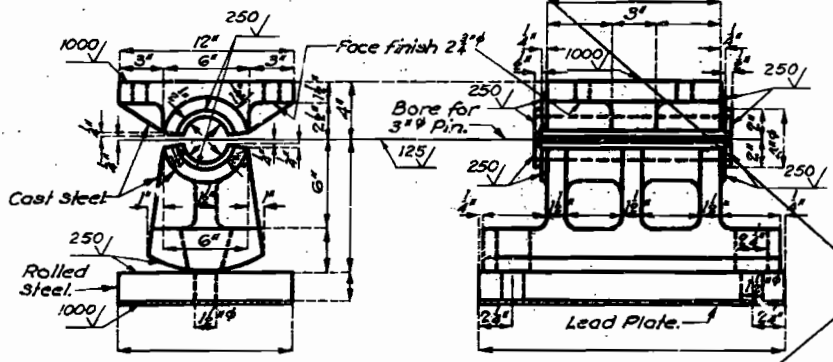
BOTTOM PLATES



TOP PLATES

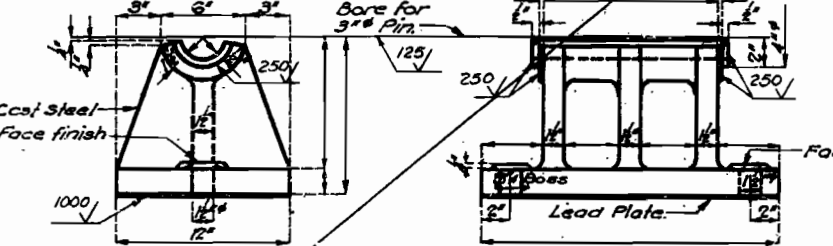


FLOATER PLATES



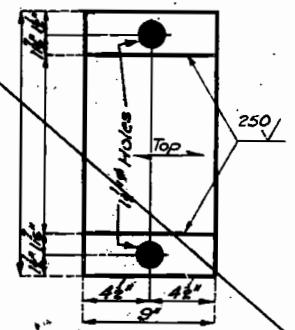
EXPANSION ROCKER

Note: Cast steel cap same as shown above.

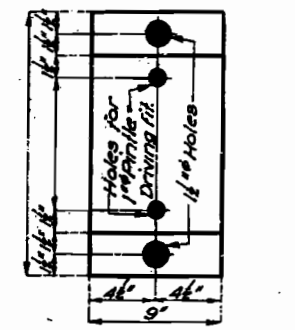


FIXED PEDESTAL

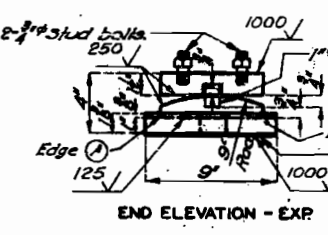
TYPE 'A'



BOTTOM PLATE - EXP

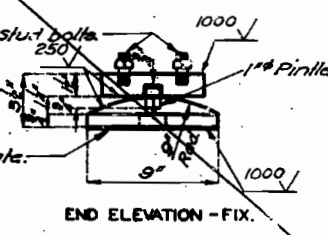


BOTTOM PLATE - FIX

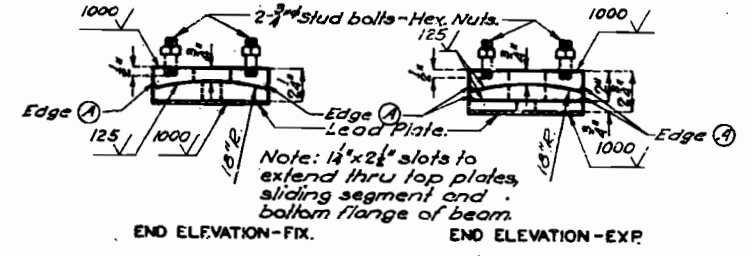


END ELEVATION - EXP

TYPE 'B'



END ELEVATION - FIX



END ELEVATION - EXP **END ELEVATION - FIX**

Required: 4 sets 8" x 10" Each set consists of 5 plates each.
For 51' Span

TYPE 'C'

GENERAL NOTES:

- Finish all surfaces as indicated.
- All fillets for Type 'A' castings shall have 3/4" radius.
- Material for Type 'A' castings shall be Cast steel, except as noted. Material for Type 'B' and Type 'C' castings shall be either gray iron alloy or cast steel but payment will be made as Gray Iron Alloy.
- All pins, bolts, nuts, pipe sleeves, rolled steel and pintles shall be paid for as Structural Steel.
- Anchor bolts for Type 'A' and Type 'B' castings shall be 1 1/2" swaged bolts with Hex. nuts and shall extend 12" into concrete.
- Anchor bolts for Type 'C' castings shall be 1" swaged bolts, no heads or nuts and shall extend 10" into concrete. Top ends of anchor bolts shall be above the top of castings but not higher than 1/2" below the top surface of the bottom flange of beam.
- Lead Plates under bearings shall be approximately 1/2" thickness and weigh 8 1/2 lbs. Cost of lead plates shall be included in price bid for other items.
- Edge (A) to be rounded (1/4" to 3/8" Radius).

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FINISHED

BRIDGE OVER APPLE CREEK
STATE ROAD FROM HIGHLAND TO MILLHEIM
ABOUT 24.5 MILES W. OF WITTENBERG
PROJECT NO. S-993(2) (SK) STA. 216+99.0
PERRY COUNTY

DETAILS OF BEARING CASTINGS

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

Sheet No. 6 of 6.

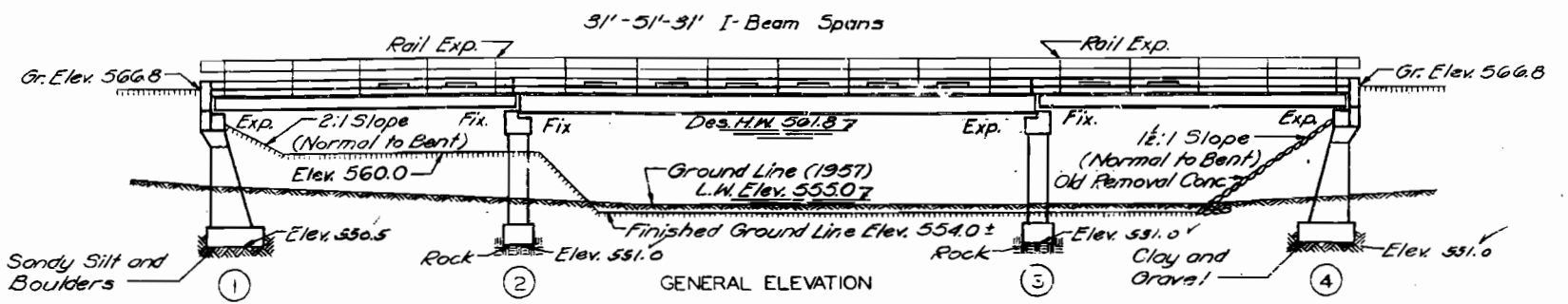
NO CONSTRUCTION CHANGES

Assembled June 1959 by R.C.L. & C.D.W.
Checked July 1959 by W.F.D.

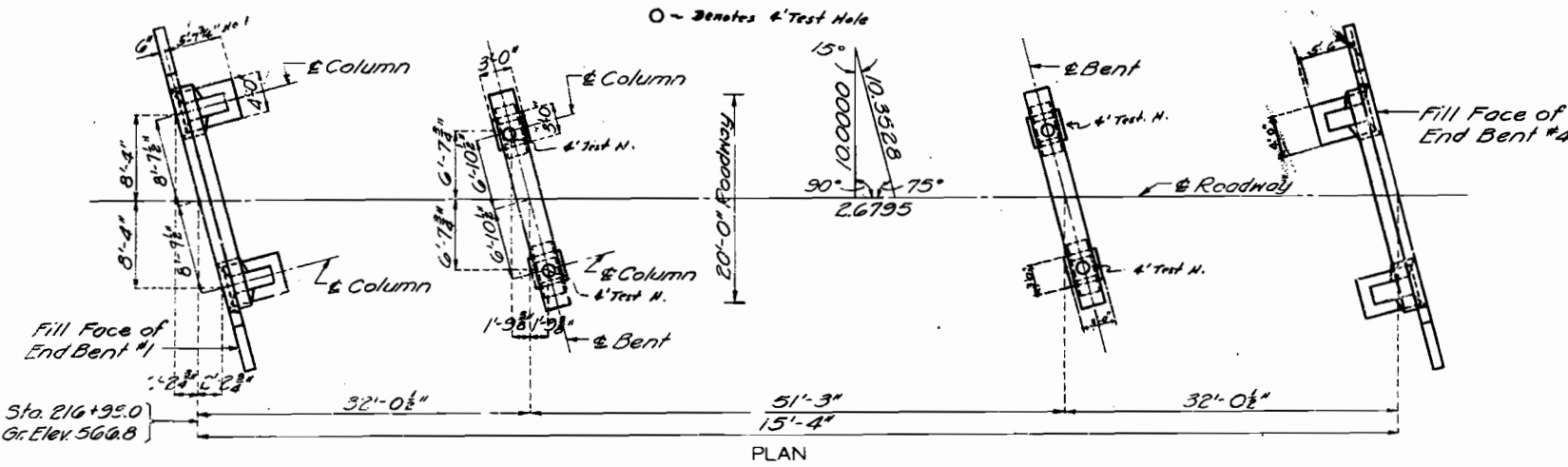
N-877

MISSOURI STATE HIGHWAY DEPARTMENT

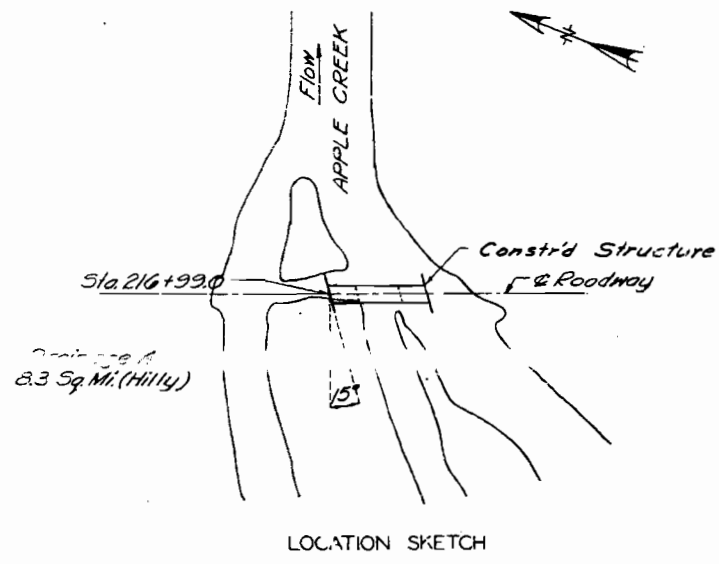
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-993(2)	19	11	26



Note: The footings for Bents No. 1 and 4 were placed on clay and gravel satisfactory to the Engineer.
 Bearing of 4 tons/sq. ft. used in design for Bents No. 1 and 4.
 All loose, shelly or disintegrated rock was removed and the footings for Bents No. 2 and 3 were placed into hard, solid, undisturbed rock.
 Bearing of 6 tons/sq. ft. used in design for Bents No. 2 and 3.



GENERAL NOTES:
 Design Specifications A.A.S.H.O. 1957
 Loading: H15-44 (One Lane)
 Structural Steel Stress: 18,000 #/sq. in.
 Reinforcing Steel Stress: 20,000 #/sq. in.
 Class B Concrete Stress: 1,200 #/sq. in.
 All concrete was Class B.
 Rivets 3/4", holes 1/2" except as noted
 Field connections riveted except as noted in handrail details or, if the Contractor desires to eliminate all field riveting on this project, he may use machine bolts for field connections. Heads and nuts of machine bolts are American Standard Regular.
 Paint: Shop, none; Field, contact surfaces of bolted field connections, one coat of red lead and surfaces inaccessible after erection, three coats of red lead. No other paint was applied by Contractor. Red lead required was furnished by Contractor. Paint for cleaning and painting such surfaces was included in unit price bid for riveted Structural Steel.
 Where joint filler was specified on the plans it conformed with the requirements for Premoulded Material for Filler as given in Section 59-22D of the Standard Specifications.



COMPLETE BILL OF REINFORCING STEEL				Bending Sketches & Cutting Diagrams								
No.	Size	Length	Mark/Location	Bending Sketches & Cutting Diagrams				No.	Size	Length	Mark/Location	
End Bents No. 1 & 4				Superstructure				Superstructure				
6	#6	23'-0"	H1 Beam	2'-2 1/2" 3'-8"	2'-2 1/2" 2'-2"	176	#5	2'-9"	C1	Curb		
10	#9	21'-9"	H2 "	3'-8" 21'-4"	2'-2" 19'-7"	6	#6	31'-5"	C2	"		
4	#6	21'-9"	H3 "	24'-9"	21'-9"	12	#6	26'-0"	C4	"		
4	#6	23'-0"	H4 Bk. Wall	9-53 CUT 'S	9-54 CUT 36	336	#5	22'-0"	S1	Slab		
16	#5	7'-9"	H5 Wing	7'-6"	7'-6"	152	#4	16'-9"	S2	"		
4	#5	7'-3"	H6 "	4-53 CUT 'S	4-54 CUT 36	18	#5	24'-9"	S3	"		
8	#4	7'-6"	V1 "	7'-6"	7'-6"	36	#5	21'-9"	S4	"		
50	#4	3'-9"	V2 Bk. Wall	7'-6"	7'-6"	6	#5	22'-9"	S5	"		
4	#4	5'-0"	V3 Wing	7'-6"	7'-6"	76	#4	26'-3"	S6	"		
12	#6	11'-6"	V4 Column	7'-6"	7'-6"							
16	#6	11'-0"	V5 "									
8	#4	9'-9"	V6 "									
32	#3	9'-9"	V7 "									
12	#6	7'-0"	F1 Col. Hch.									
12	#6	7'-0"	F2 "									
8	#6	10'-5"	T1 Wing									
28	#6	4'-9"	D1 Footing									
44	#4	10'-6"	U1 B-3m									
14	#4	3'-0"	U2 "									
4	#5	6'-6"	H7 Wing									
Int. Bents No. 2 & 3												
32	#6	4'-0"	D2 Footing									
16	#6	7'-9"	F3 Col. Hch.									
16	#6	7'-9"	F4 "									
8	#8	23'-9"	G1 Beam									
12	#8	21'-3"	G2 "									
4	#6	21'-3"	G3 "									
4	#4	21'-3"	G4 "									
28	#3	7'-9"	P1 Column									
32	#6	10'-3"	P2 "									
44	#4	9'-3"	U3 Beam									
14	#4	3'-3"	U4 "									
58	#4	3'-0"	U5 "									

Item	Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu. Yds.	12.5	12.5
Class 2 Excavation for Structures	Cu. Yds.	52.0	52.0
Class B Concrete	Cu. Yds.	47.1	102.2
Fabricated Structural Steel	Lbs.	42,580	42,580
Gray Iron Alloy Castings	Lbs.	430	430
Reinforcing Steel	Lbs.	6,050	13,770
Class B Exc. ± 50%	Cu. Yds.	2.0	2.0
Test Holes	Lbs. Ft.	14	14

Note: Excavation for Bridge made above Elev. 556.0 was paid for as Class 1 Excavation for Structures.
 Excavation for Bridge made below Elev. 556.0 was paid for as Class 2 Excavation for Structures.
 * Final pay weight for Fabricated Structural Steel was based on using field rivets except for bolted connections specified for handrail.

B.M. #6 - Elev. - 561.40 "B" on Top Lt. Ear on End Bent No. 2
 BRIDGE OVER APPLE CREEK
 STATE ROAD FROM HIGHLAND TO MILLHEIM
 ABOUT 24.5 MILES W. OF WITTENBERG
 PROJECT NO. S-993(2) (SK) STA. 216+99.0
 PERRY COUNTY FINISHED

SUBMITTED BY: J.A. Williams DATE: 7-21-1959
 APPROVED BY: Geo. M. Wittman DATE: 7-21-1959

Drawn JULY 1959 by C.D.W.
 Checked July 1959 by W.F.D.

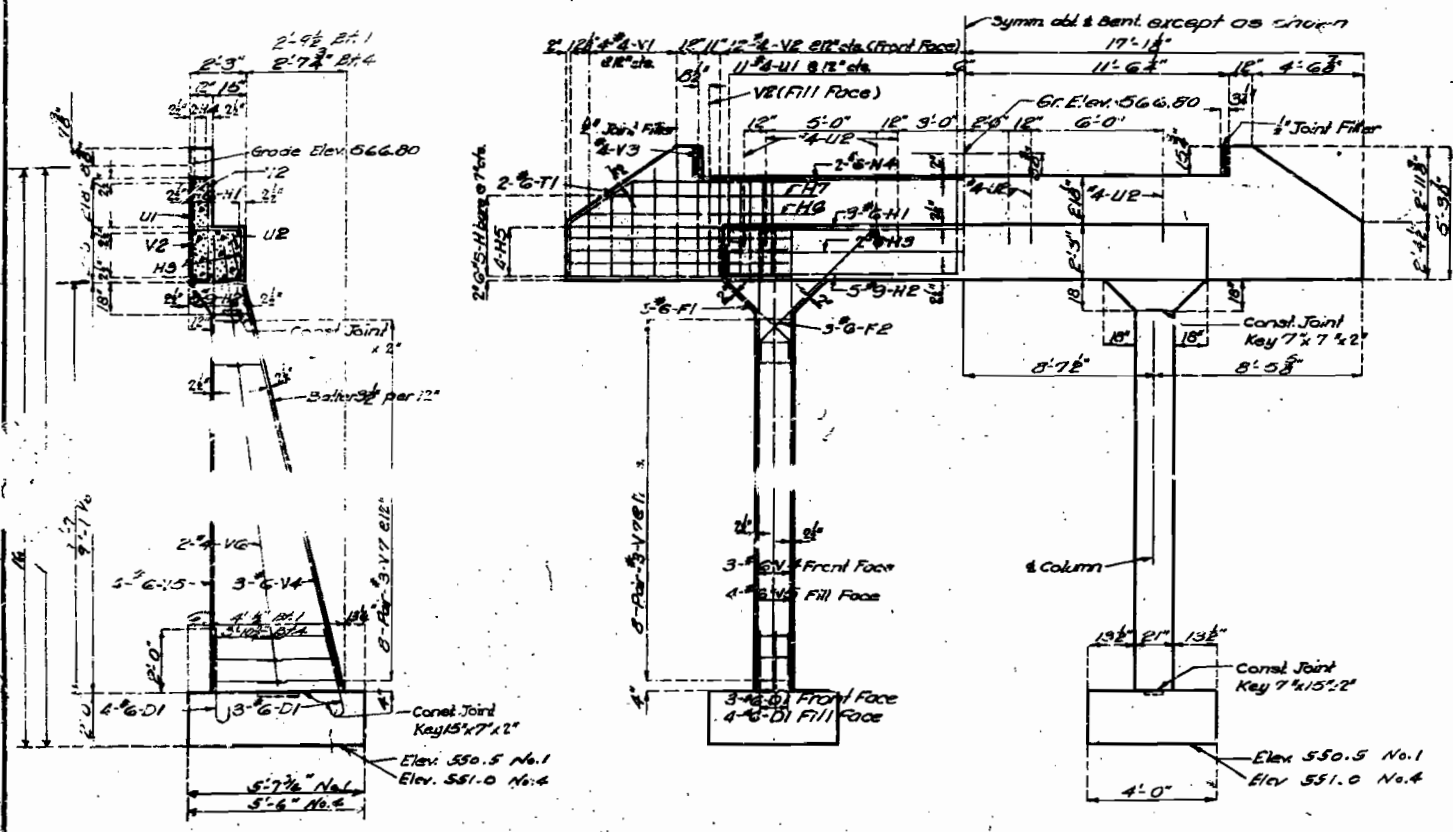
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1A of 2

STDCIOR7
 N-377

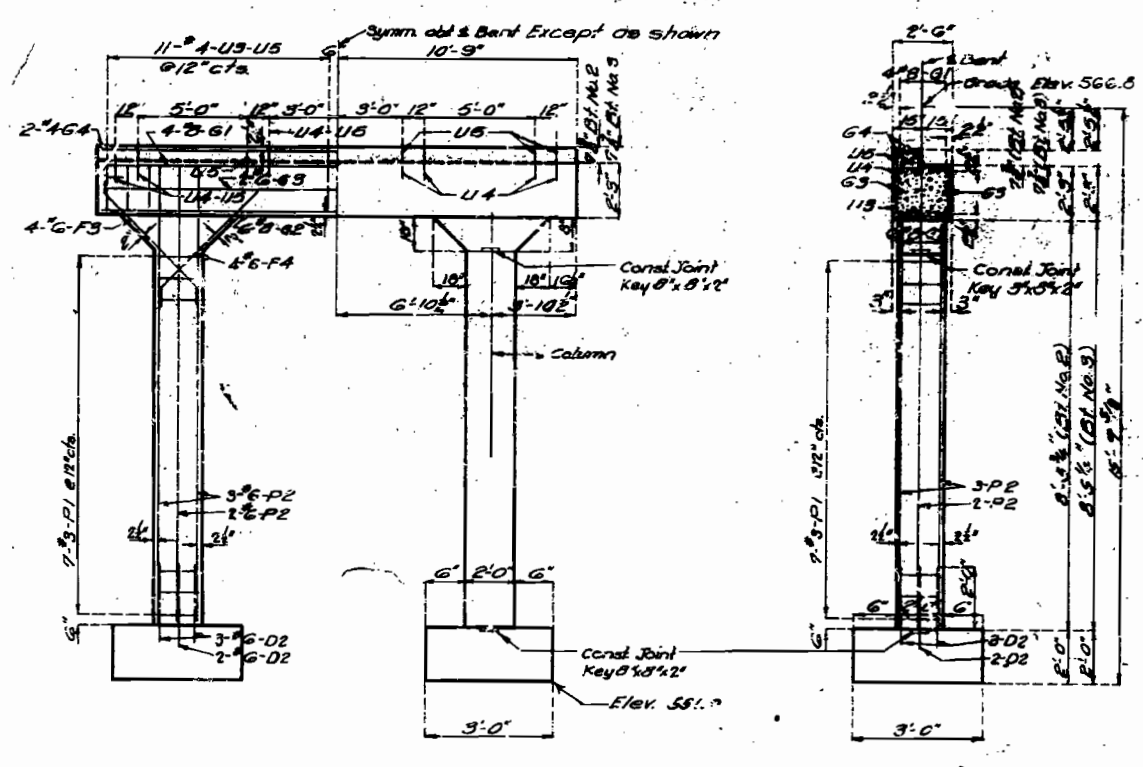
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	F.C. AND PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	MO.	S-993(2)	19	72	26



SECTION AT E

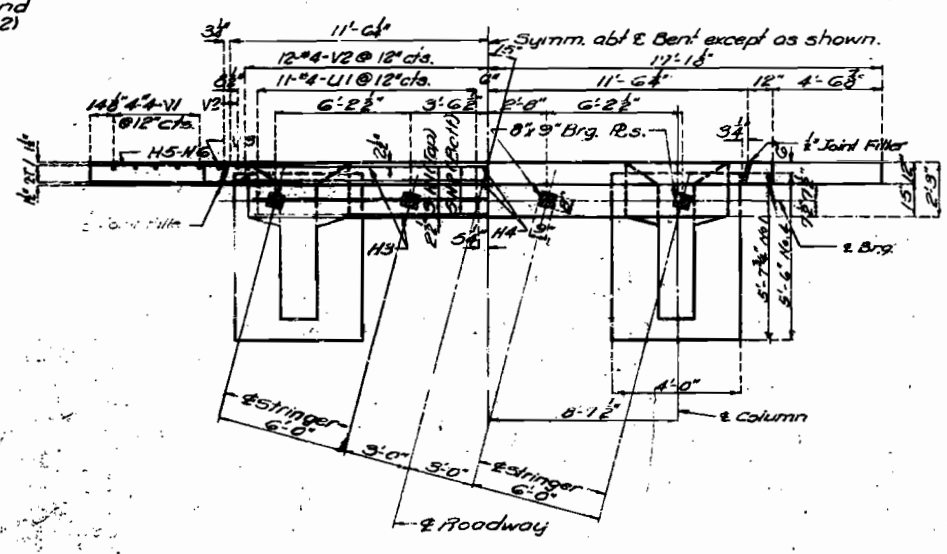
ELEVATION



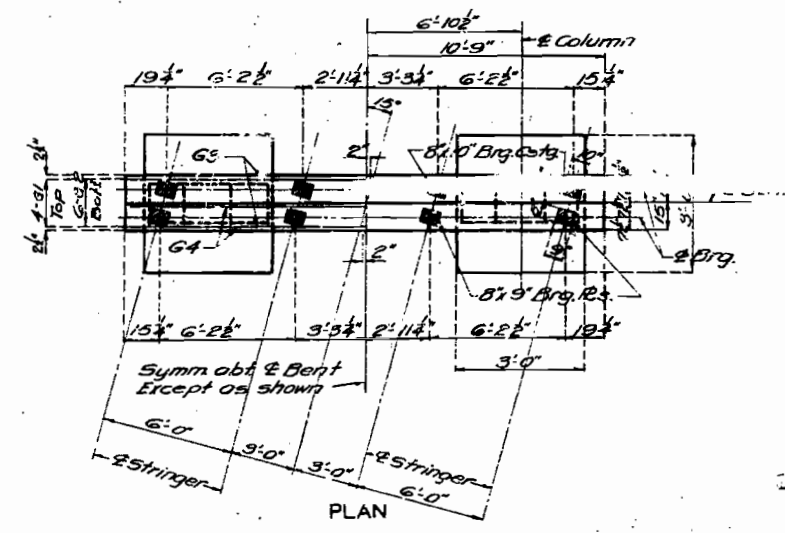
ELEVATION

SECTION AT E

Note: Fill of End Bents No. 1 & 4 was not carried above bottom of beam and wings until superstructure spans (1-2) and (3-4) were in place.



PLAN
DETAILS OF END BENTS NO. 1 & 4



PLAN
DETAILS OF INT. BENTS NO. 2 & 3

BRIDGE OVER APPLE CREEK
STATE ROAD FROM HIGHLAND TO WILHEM
ABOUT 24.5 MILES W. OF WITTENBERG
PROJECT NO. S-993(2) (SK) STA. 216+09.0
PERRY COUNTY

Assembled July 1959 by W.K. & J.C.F.
Checked July 1959 by W.F.D.

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

Sheet No. 2A of 2

FINAL PLANS N-877

FINAL PLANS

20' x 28" Drawing
Squares & Stencils

