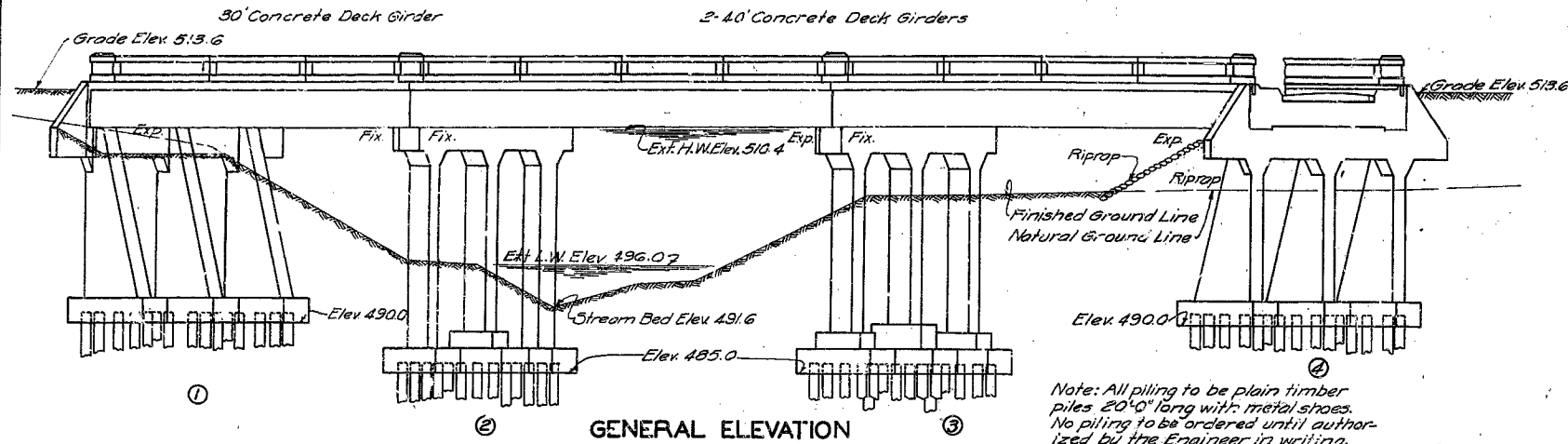


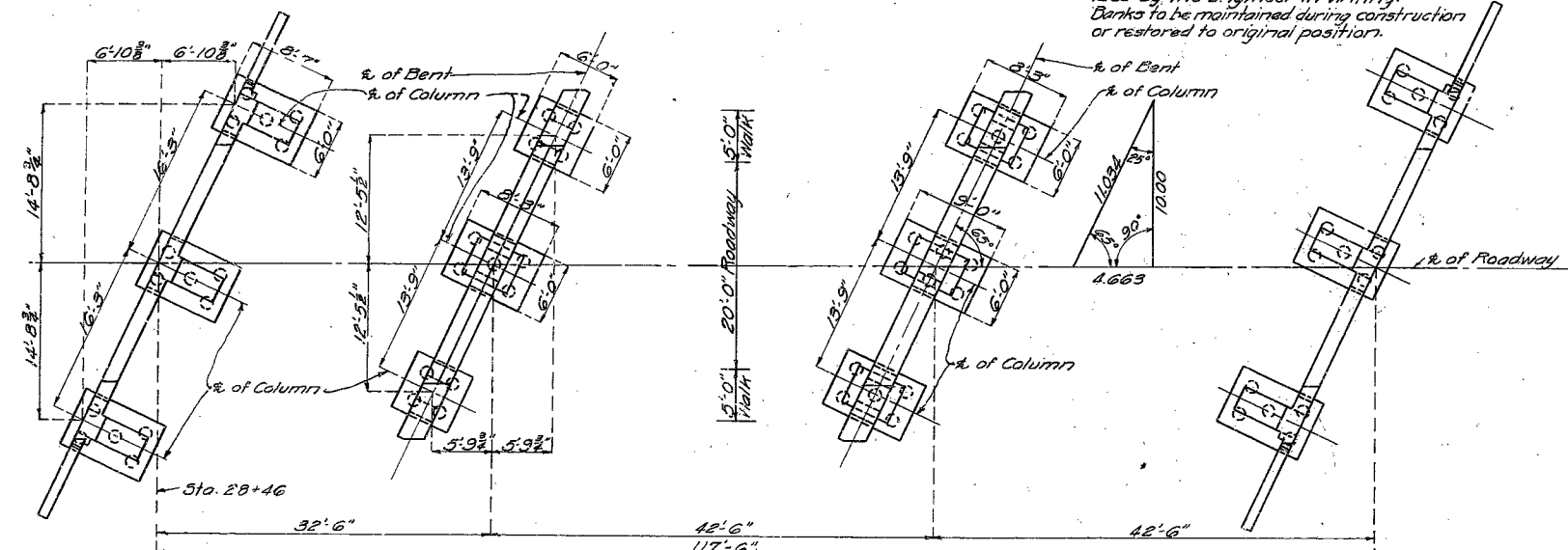
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	R19-58	19		

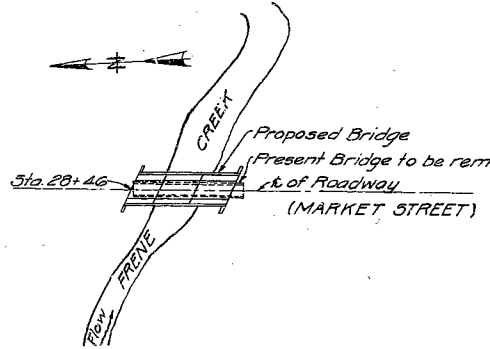


GENERAL ELEVATION

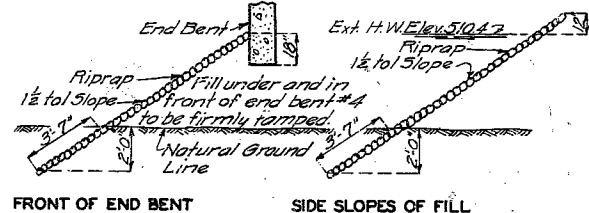
Note: All piling to be plain timber piles 20' long with metal shoes. No piling to be ordered until authorized by the Engineer in writing. Banks to be maintained during construction or restored to original position.



PLAN



LOCATION SKETCH



RIPRAP SKETCHES

Riprap fill at south end of bridge as shown in sketches. Approximately 180 cu. yds. of riprap work included in road contract.

COMPLETE BILL OF REINFORCING STEEL									
No	Size	Length	Mark	Location	No	Size	Length	Mark	Location
Substructure-End Bents No. 1 & 4					Bending Sketches & Cutting Diagrams				
32	3/4"	21'-6"	P7	Girder	16	1 1/2"	44'-6"	B10	13'-4" 7'-5 1/2"
32	3/4"	44'-6"	P7	"	16	1 1/2"	42'-6"	B10	"
36	3/4"	52'-3"	D1	Footing	34	3/8"	34'-0"	B12	"
24	3/4"	9'-5"	F1	Haunch	4	3/8"	37'-3"	T	"
8	3/4"	16'-0"	H1	Wing-Bent	2	3/8"	37'-3"	B14	"
2	3/4"	16'-0"	H2	"	2	3/8"	37'-3"	B15	"
8	3/4"	36'-0"	H3	Beam	2	3/8"	37'-3"	B16	"
2	1"	10'-6"	H4	"	8	1"	47'-3"	B17	"
8	3/4"	10'-0"	H5	"	4	1"	47'-3"	B18	"
19	1"	36'-0"	H6	"	2	3/8"	37'-3"	B14	"
8	3/4"	16'-0"	H7	Wing-Bent	8	1"	47'-3"	B17	"
8	3/4"	16'-0"	H8	"	4	1"	47'-3"	B18	"
4	3/4"	16'-3"	T1	"	24	3/8"	11'-9"	R1	Rail
6	3/4"	14'-6"	T2	"	110	3/8"	12"	R2	"
4	3/4"	14'-6"	T3	"	76	3/8"	9'-3"	R3	Subpost
4	3/4"	16'-3"	T4	"	32	3/8"	4'-0"	R4	Post
5	3/4"	9'-0"	V1	"	100	3/8"	18"	R5	Distaster
5	3/4"	9'-0"	V2	"	32	3/8"	9'-3"	R6	Rail
18	3/4"	17'-3"	V3	Column	8	3/8"	2'-3"	R7	Post
18	3/4"	17'-3"	V4	"	24	3/8"	9'-6"	R8	Rail
44	3/4"	8'-3"	U1	Beam	8	3/8"	12'-0"	R9	"
44	3/4"	9'-6"	U2	"	59	3/8"	24'-3"	S1	Slab
Intermediate Bents No. 2 & 3									
18	3/4"	7'-6"	D2	Footing	12	3/4"	25'-3"	S3	"
18	3/4"	8'-9"	D3	"	12	3/4"	18'-3"	S4	"
32	3/4"	9'-3"	F1	Haunch	22	3/8"	31'-9"	S7	"
16	3/4"	9'-3"	F2	"	33	3/8"	31'-0"	S8	"
28	1 1/4"	39'-0"	G1	Beam	33	3/8"	27'-9"	S9	"
4	3/4"	36'-9"	G2	"	12	3/8"	24'-3"	S10	"
18	3/4"	20'-9"	F1	Col. Bent	24	3/8"	6'-0"	S11	"
74	3/8"	10'-0"	F2	"	88	3/8"	22'-0"	S12	"
18	3/8"	20'-0"	P3	"	27	3/8"	4'-3"	S13	"
40	3/8"	10'-0"	U3	Beam	440	3/8"	6'-3"	S14	"
40	3/8"	10'-6"	U4	"	4	3/8"	22'-3"	W1	Web
Superstructure 1-30' & 2-40' Spans									
156	3/4"	6'-0"	B1	Girder	138	3/8"	9'-3"	C1	Curb
8	3/4"	31'-3"	B2	"	30	3/8"	9'-3"	W4	Beam
16	1 1/2"	34'-6"	B3	"					
8	1 1/2"	34'-9"	B4	"					
8	1 1/2"	34'-9"	B5	"					
344	3/4"	7'-6"	B6	"					

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

GENERAL NOTES:

Concrete in handrail to be 1:2:3 mix. Concrete in curbs, slabs and girders to be 1:2:3 1/2 mix. All other concrete to be 1:2:4 mix. Exposed edges shall be beveled 3/4" where no other bevel is noted. Piles to be driven to sustain a load of 20 tons per pile. 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. SB18 to be furnished and placed by contractor. Cost of name plates to be included in price bid for other items. No permanent camber desired in finished girders. Excavation in accordance with specification XLIX of Standard Specifications issued November 1, 1926, except that quantities paid for will be computed from Ext. L.W. Elev. 496.0 where existing ground line is below this elevation. Construction joints in slab permitted only longitudinally midway between girders. Provide keys.

B.M. Elev. 524.24 - Top of Fire Plug 50' Lt. Sta. 23+67.

BRIDGE OVER FRENE CREEK

STATE ROAD FROM HERMANN TO DRAKE
ABOUT 0.5 MILE SOUTH OF HERMANN
PROJECT NO. R19-S81 STA. 28+46

GASCONADE COUNTY

SUBMITTED BY *M. R. Allen* DATE *July*
BRIDGE ENGINEER
APPROVED BY *J. H. Collier* DATE _____
CHIEF ENGINEER

ESTIMATED QUANTITIES			
Item	Substr.	Superstr.	Total
Excavation	Cu. Yds. 590		590
Plain Timber Piles	Lin. Ft. 1416		1416
Plain Timber Pile Cut-offs	Lin. Ft. 177		177
Concrete 1:2:3 mix	Cu. Yds.	11.8	11.8
Concrete 1:2:3 1/2 mix	Cu. Yds.	201.6	201.6
Concrete 1:2:4 mix	Cu. Yds.	170.3	170.3
Reinforcing Steel	Lbs.	11980	41900
Phosphor Bronze Brg. Rs.	Lbs.		3150
Cast Iron Drains	Lbs.		845

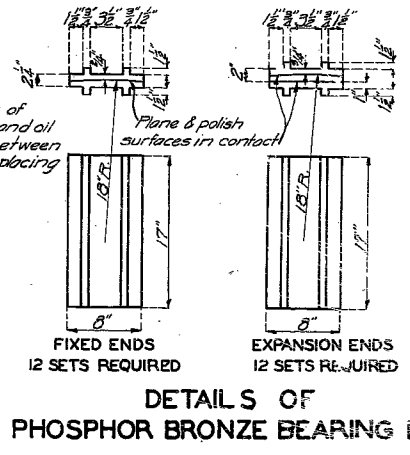
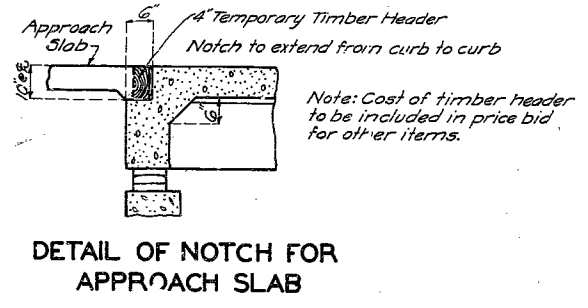
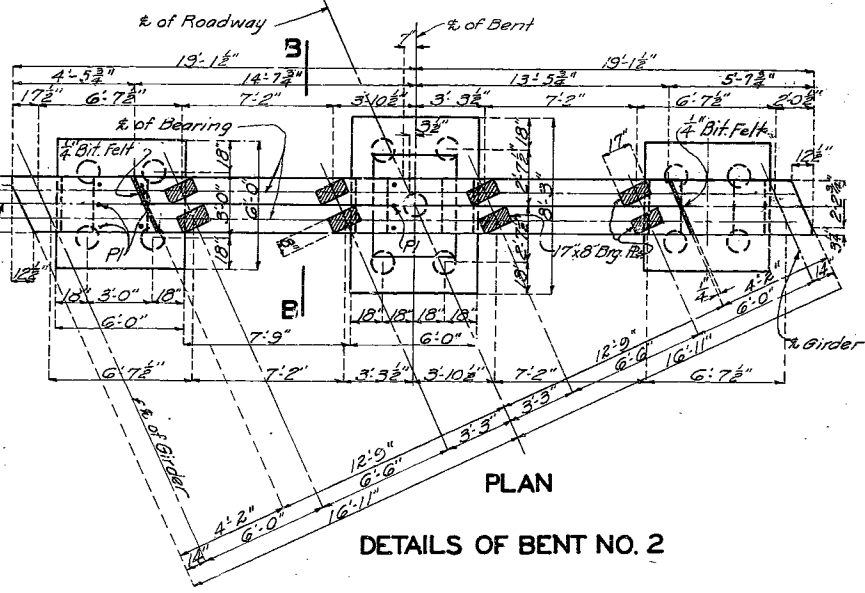
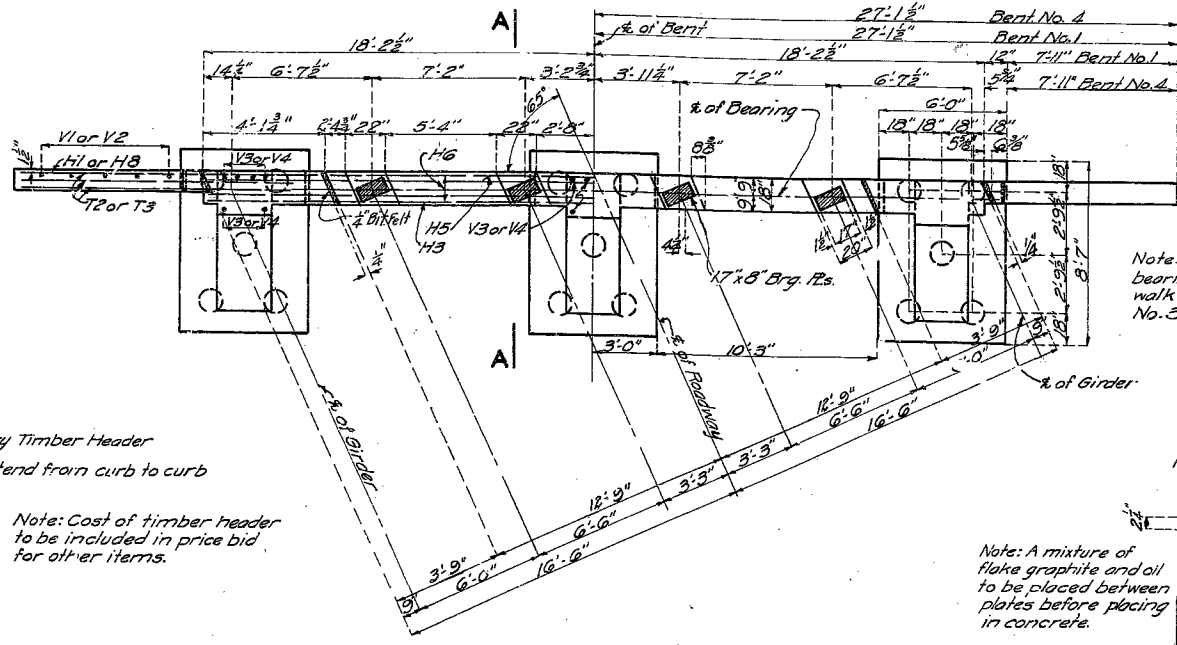
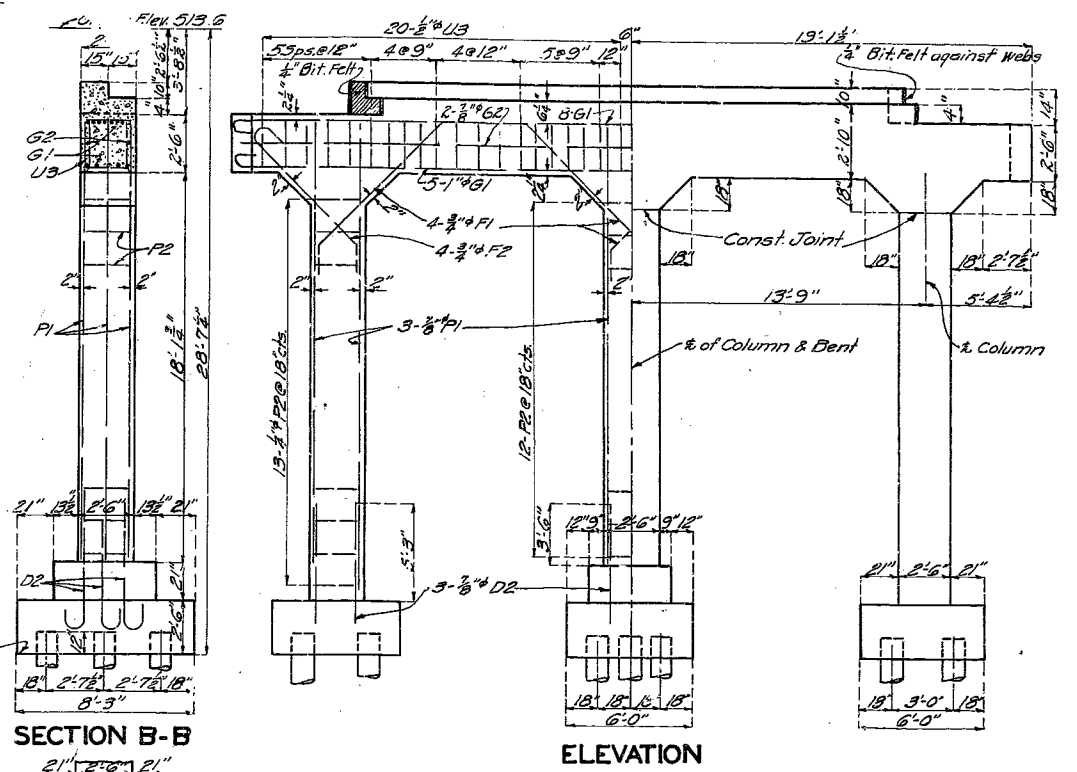
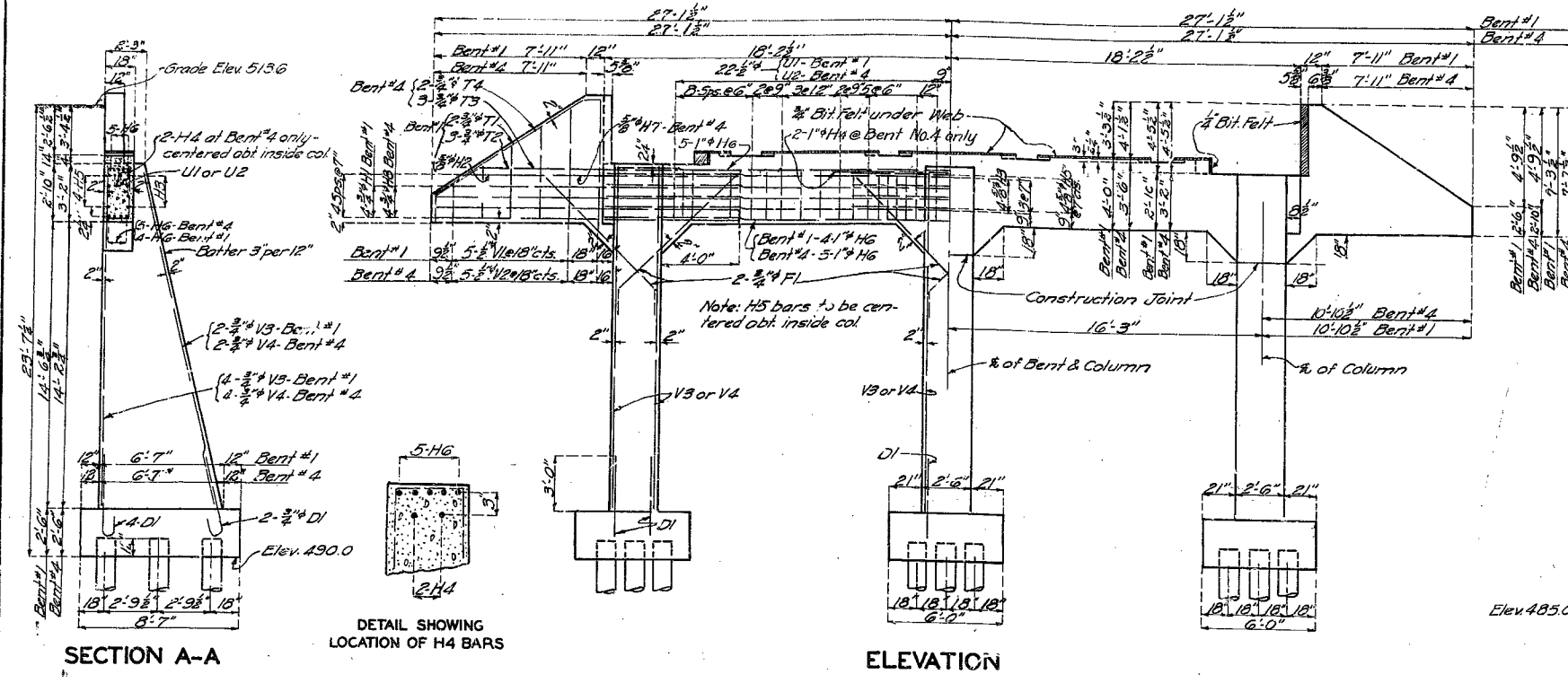
Note: Estimated quantities for plain timber piles include four linear feet per pile as allowance for metal shoes in accordance with specifications.

Drawn Mar. 1930 by I.B.
Traced Apr. 1930 by G.W.
Checked Apr. 1930 by C.F.K.

520

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	719-581	19		



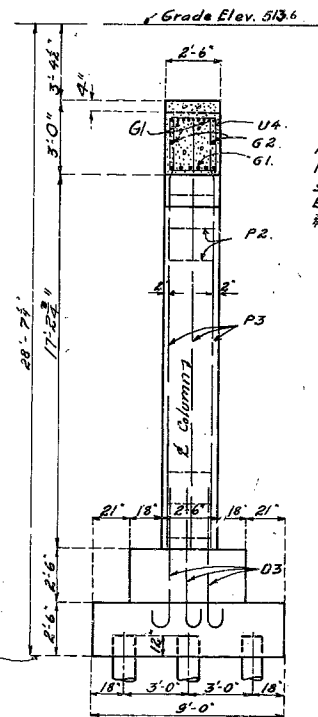
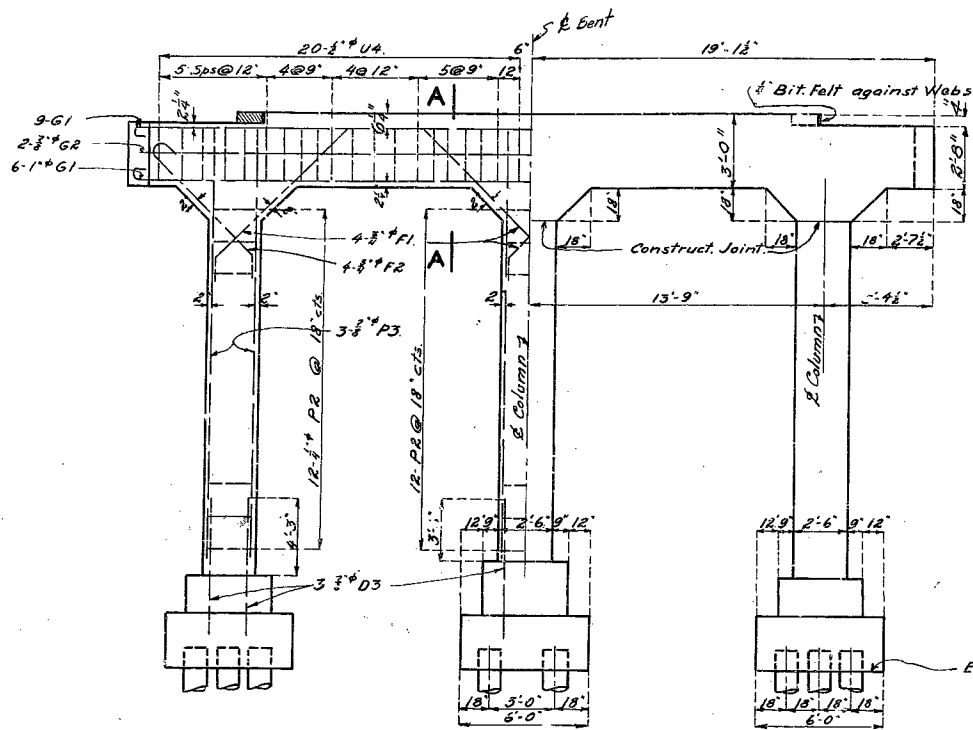
BRIDGE OVER FRENE CREEK
 STATE ROAD FROM HERMANN TO DRAKE
 ABOUT 0.5 MILE SOUTH OF HERMANN
 PROJECT NO R19-581 STA. 28+46
GASCONADE COUNTY
 SUBMITTED BY *M. R. Carr* DATE 5/11/30
 APPROVED BY *T. H. Cullen* DATE
 BRIDGE ENGINEER CHIEF ENGINEER

Drawn Mar. 1930 by I. B.
 Traced Apr. 1930 by G. W.
 Checked Apr. 1930 by C. F. K.

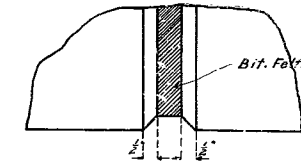
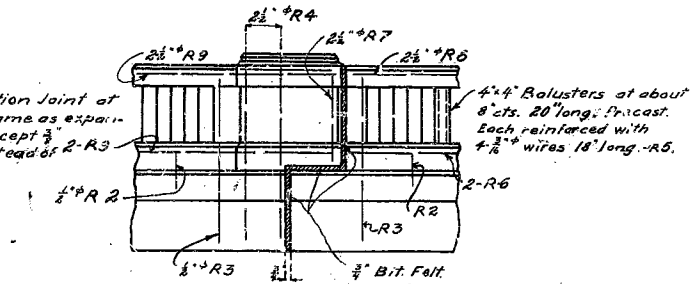
521

MISSOURI STATE HIGHWAY DEPARTMENT

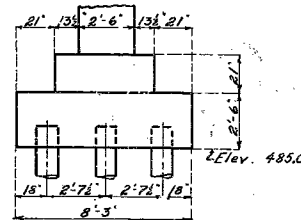
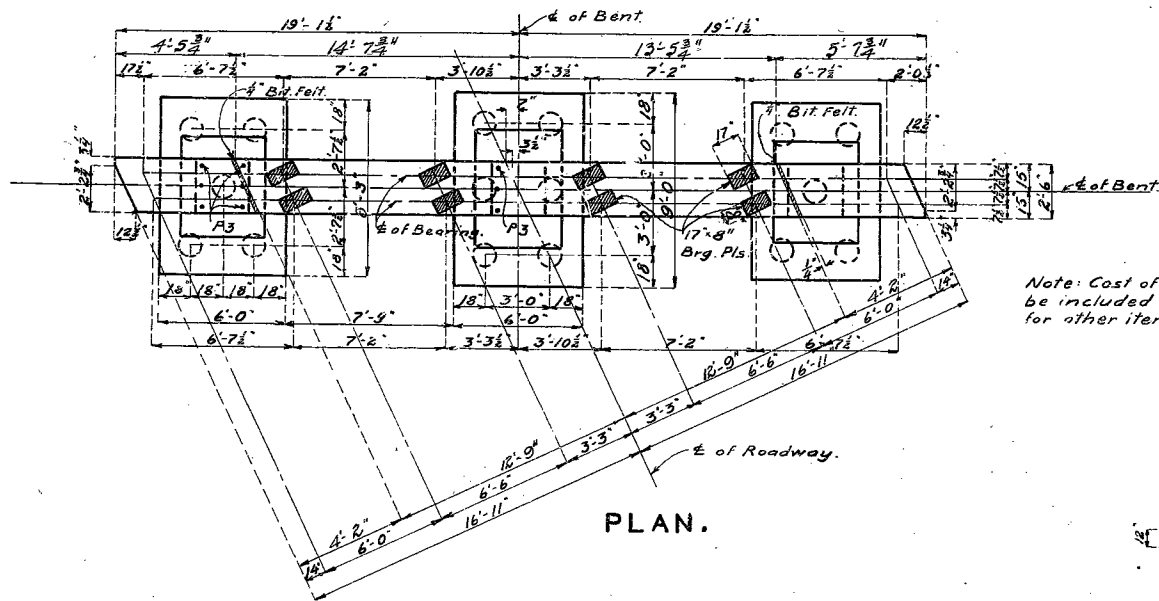
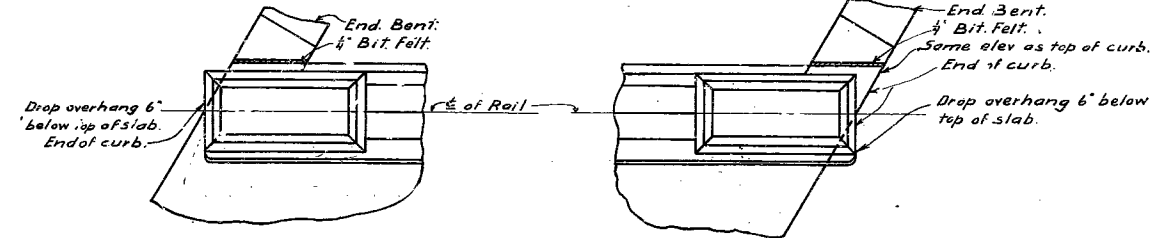
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5	MO.	R/9-581	19		



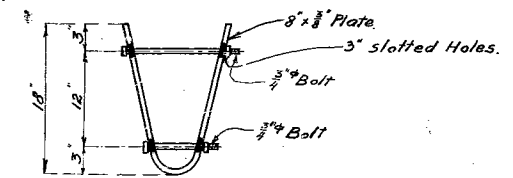
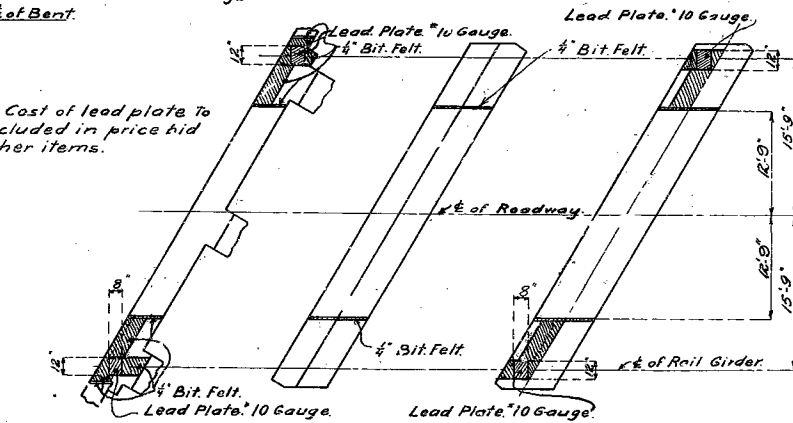
Note: Partition Joint at fixed end same as expansion joint except $\frac{3}{4}$ " Bit Felt in stead of 2-R3 $\frac{3}{4}$ " Bit Felt.



Note: Use bevel as shown for exposed faces of all joints consisting of bituminous felt except at top surface of roadway slab. Use edging tool at top surface of roadway slab each side of felt joint.



Note: Cost of lead plate to be included in price bid for other items.



Payment for 58 shoes to be made in accordance with specifications.

BRIDGE OVER FRENE CREEK.

STATE ROAD FROM HERMANN TO DRAKE
ABOUT 0.5 MILE SOUTH OF HERMANN
PROJECT NO. R/9-581 STA 25 + 46.

GASCONADE COUNTY.

SUBMITTED BY: *[Signature]* DATE: 3/10/30
BRIDGE ENGINEER
APPROVED BY: *[Signature]* DATE:
CHIEF ENGINEER

STD. S 618.
J.9.

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

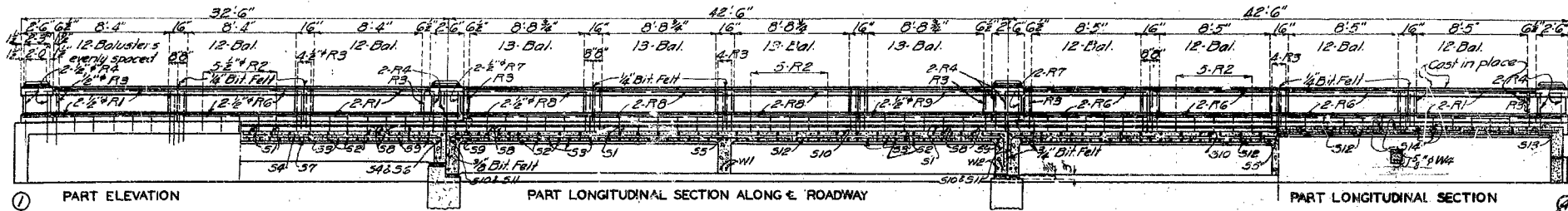
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Drawn March 1930 By J.B.
Traced April 1930 By G.W. and H.E.U.
Checked Apr. 1930 By Q.F.K.

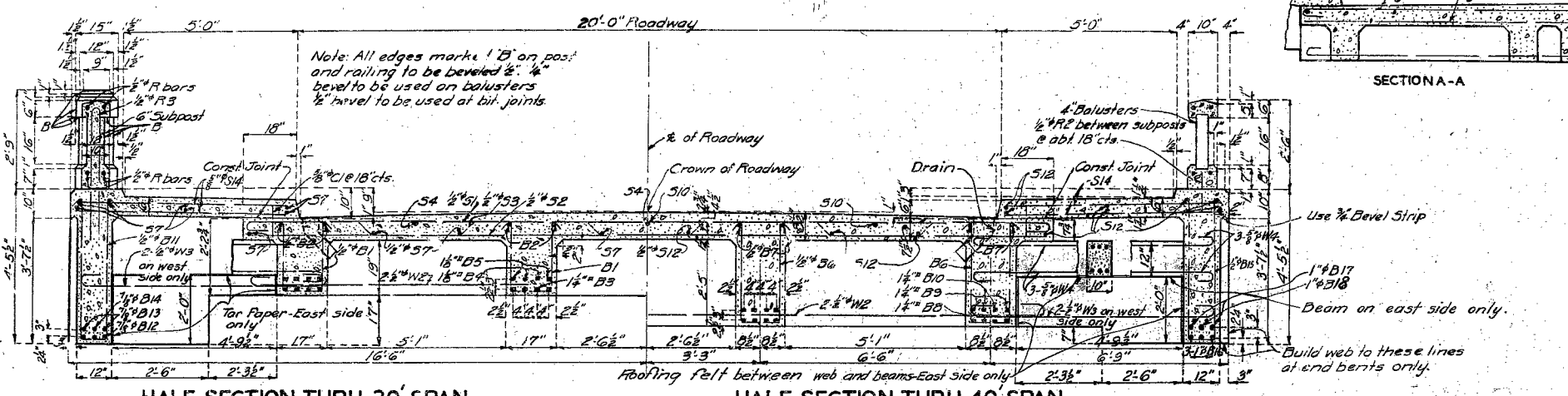
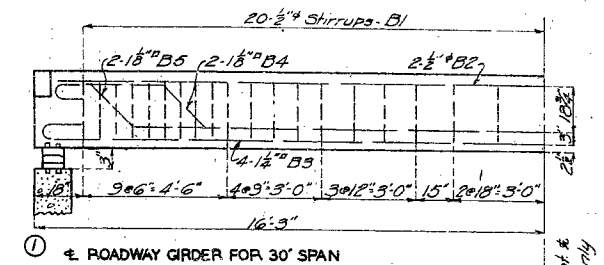
522

MISSOURI STATE HIGHWAY DEPARTMENT

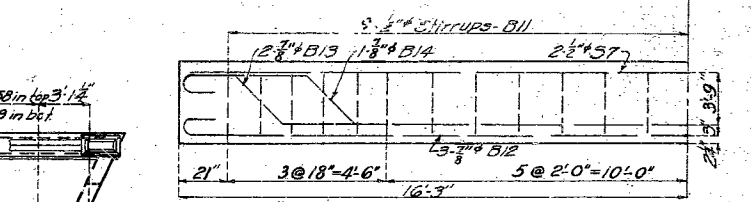
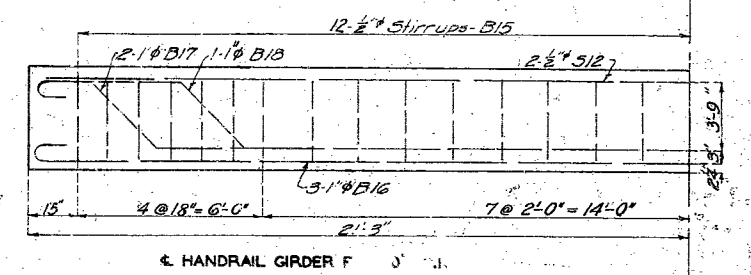
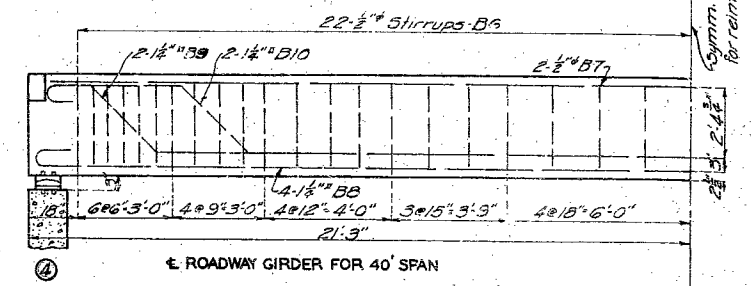
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5	MO.	R19-581	19		



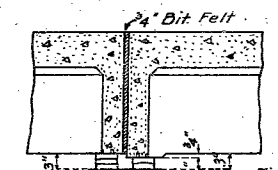
ELEVATION



SECTION A-A



DETAILS SHOWING GIRDER REINFORCEMENT

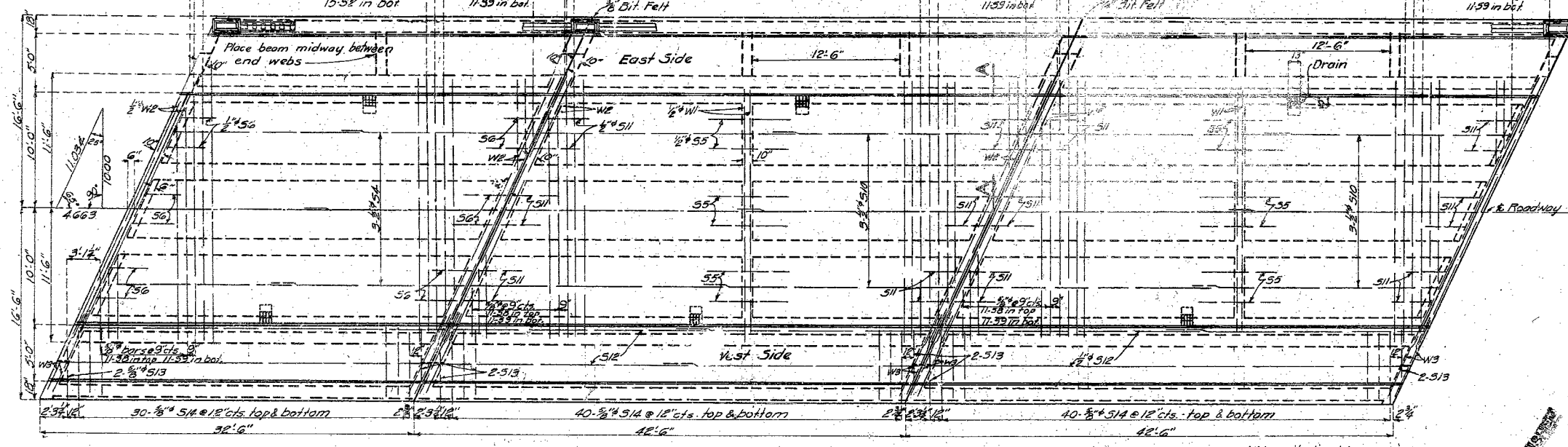


BRIDGE OVER FRENE CREEK

STATE ROAD FROM HERMANN TO DRAKE
 ABOUT 0.5 MILE SOUTH OF HERMANN
 PROJECT NO. R19-581 STA. 28+46

GASCONADE COUNTY

SUBMITTED BY *W. Blain* DATE 5/1/30
 APPROVED BY *W. Blain* DATE 5/1/30
 BRIDGE ENGINEER
 CHIEF ENGINEER



STG-5818
 J-9

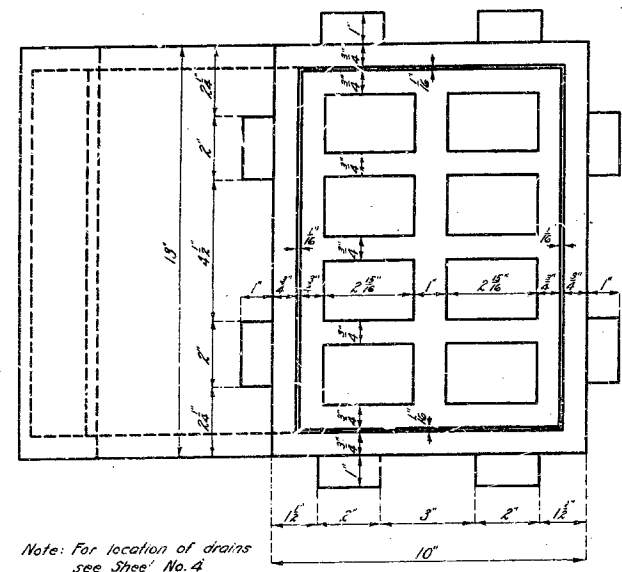
Drawn Mar. 1930 by I.B.
 Traced Mar. 1930 by G.W.
 Checked Apr. 1930 by A.F.K.

All longitudinal bars shown are in top of slab.

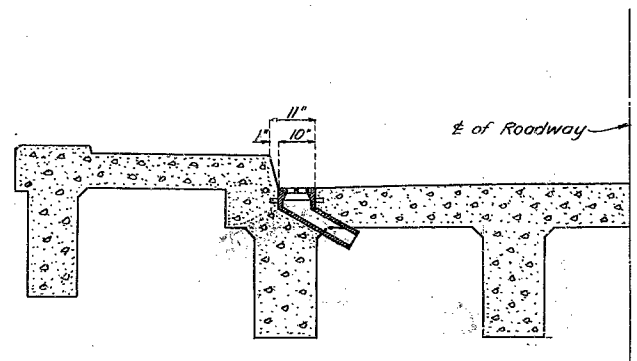
523

MISSOURI STATE HIGHWAY DEPARTMENT

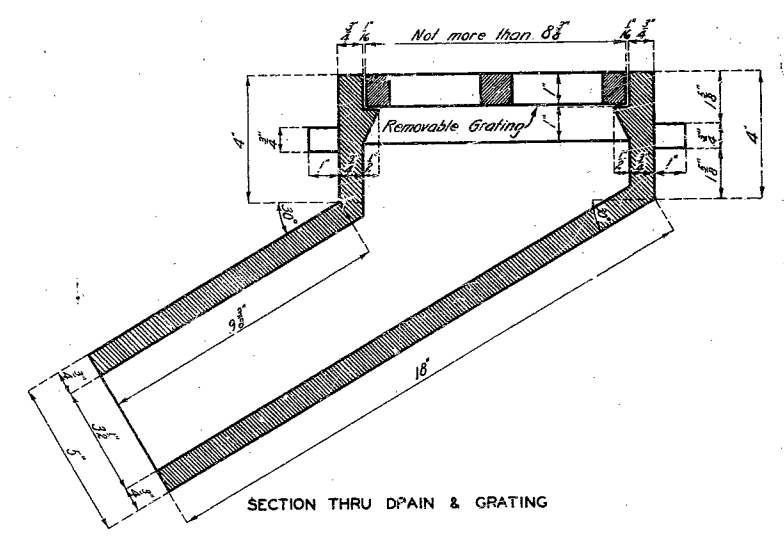
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	R19-581			



PLAN



LOCATION OF DRAIN IN CROSS-SECTION



SECTION THRU DRAIN & GRATING

DETAILS OF DRAIN CASTING & GRATING

(6-Sets required.)

524

Drawn Apr. 1930 By I.B.
 Traced Apr. 1930 By I.B.
 Checked Apr. 1930 By G.F.K.

APPROVED

BRIDGE OVER FRENE CREEK

STATE ROAD FROM HERMANN TO DRAKE
 ABOUT 0.5 MILE SOUTH OF HERMANN
 PROJECT NO. R19-581 STA. 28+46

GASCONADE COUNTY

SUBMITTED BY *M. Klein* DATE *5/1/30*
 BRIDGE ENGINEER
 APPROVED BY *J.H. Cole* DATE
 CHIEF ENGINEER

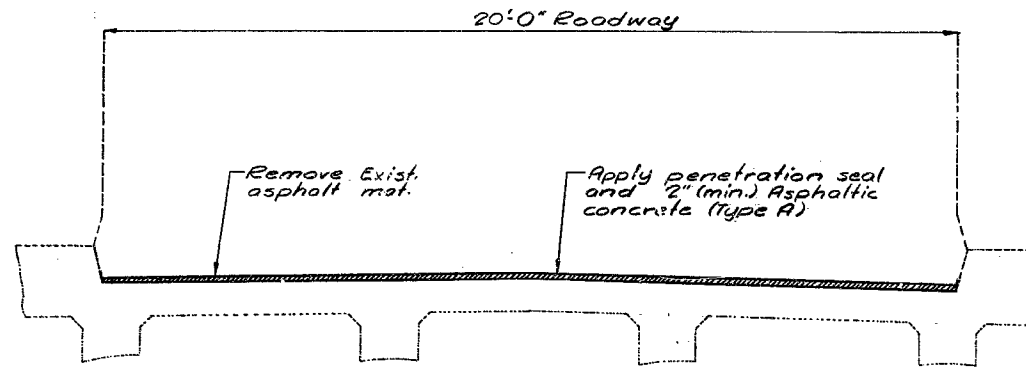
STD. S818
 J-9

Sheet No. 5 of 5

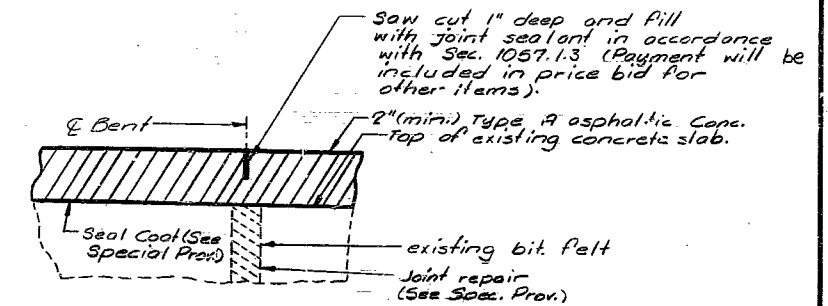
DETAIL OF CAST IRON DRAINS

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.		/A
SEC./SUR.	25 TWP. 46N RGE. 5W	



PART SECTION THRU SLAB



PART SECTION THRU SLAB TRANSVERSE JOINT AT BENT NO. 2 AND NO. 3.

ESTIMATED QUANTITIES		
ITEM	LUMP SUM	TOTAL
ASPHALT REMOVAL (BRIDGES)		1
Asphalt Cement (Asphaltic Concrete) (60-70 or AC-20) Type A Mix	TON	1.5
Mineral Aggregate (Asphaltic Concrete) (Type A Mix)	TON	27
Polymer Modified Asphalt (Seal Coat)	Gal.	90
Cover Aggregate (See Special Provisions)	TON	4
Modified Deck Repair, See spec. Prov.	Sq. Ft.	25

Note: Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.
One lane of traffic to be maintained during construction. (See Road Plans)

Note: Polymer Modified Asphalt Emulsion Grade CES-2 Modified shall be applied at a rate of .35 gal. per square yard.
Cover Aggregate (See Spec. Prov.) shall be applied at a rate of .015 tons per square yard.

27

DESIGNED Sept. 19 85
 DETAILED Sept. 19 85
 CHECKED Sept. 19 85

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

SEE FINAL PLANS
 Sheet No. 1 of 1

REPAIR TO
BRIDGE OVER FRENE CREEK

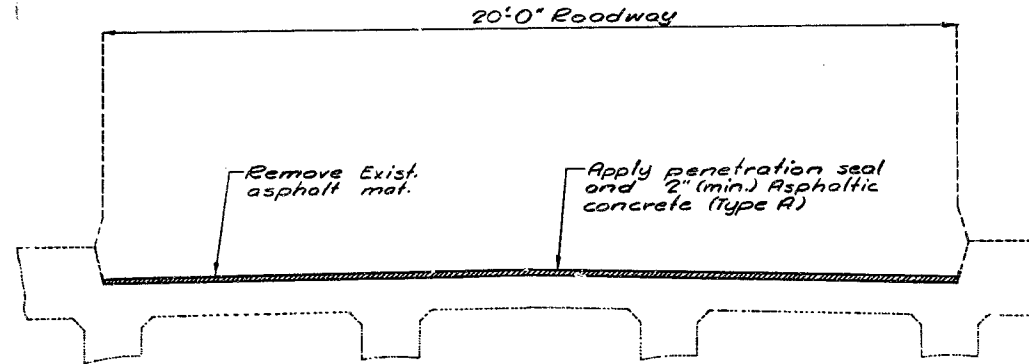
STATE ROAD FROM HERMANN TO DRAKE
 ABOUT 0.5 MILE SOUTH OF HERMANN
 PROJECT NO. F-19-3(5) SEC A STA. 28+46
 JOB NO. 6-P-19-663 RTE. 19
GASCONADE COUNTY

DATE 10/23/85

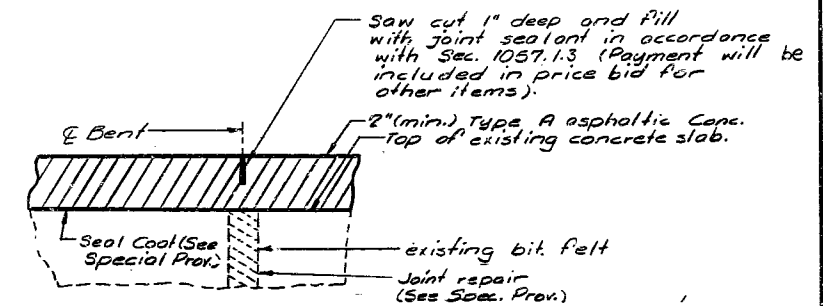
STD.
STD.
J-9R

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO	SHEET NO
MO		1A
SEC / SUR	25 TWP 36N RGE 5W	



PART SECTION THRU SLAB



PART SECTION THRU SLAB TRANSVERSE JOINT AT BENT NO. 2 AND NO.3.

FINAL QUANTITIES		
ITEM	LUMP SUM	TOTAL
ASPHALT REMOVAL (BRIDGES)		1 ✓
Asphalt Cement (Asphaltic Concrete) (60-70 or AC-20) Type A Mix	TON	2.3 ✓
Mineral Aggregate (Asphaltic Concrete) (Type A Mix)	TON	44 ✓
Polymer Modified Asphalt (Seal Coat)	Gal.	140 ✓
Cover Aggregate (See Special Provisions)	Ton	4 ✓
Modified Deck Repair, See Spec. Prov.	Sq. Ft.	0 ✓

Note: Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.
One lane of traffic to be maintained during construction. (See Road Plans)

Note: Polymer Modified Asphalt Emulsion Grade CES-2 Modified shall be applied at a rate of .35 gal. per square yard.
Cover Aggregate (See Spec. Prov.) shall be applied at a rate of .015 tons per square yard.

28

REPAIR TO BRIDGE OVER FRENE CREEK

STATE ROAD FROM HERMANN TO D. LAKE
ABOUT 0.5 MILE SOUTH OF HERMANN
PROJECT NO. F-19-3 (5) SEC A STA. 28+46
JOB NO. 6-P-19-663 RTE. 19
GASCONADE COUNTY

DATE 10/23/85

STD.
STD.
J-9R

DESIGNED Sept. 19 85
DRAFTER Sept. 19 85
CHECKED Sept. 19 85

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

Sheet No. 1A of 1

FINAL PLANS