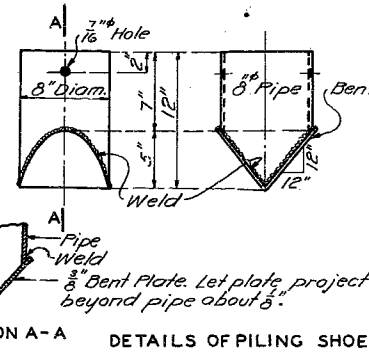
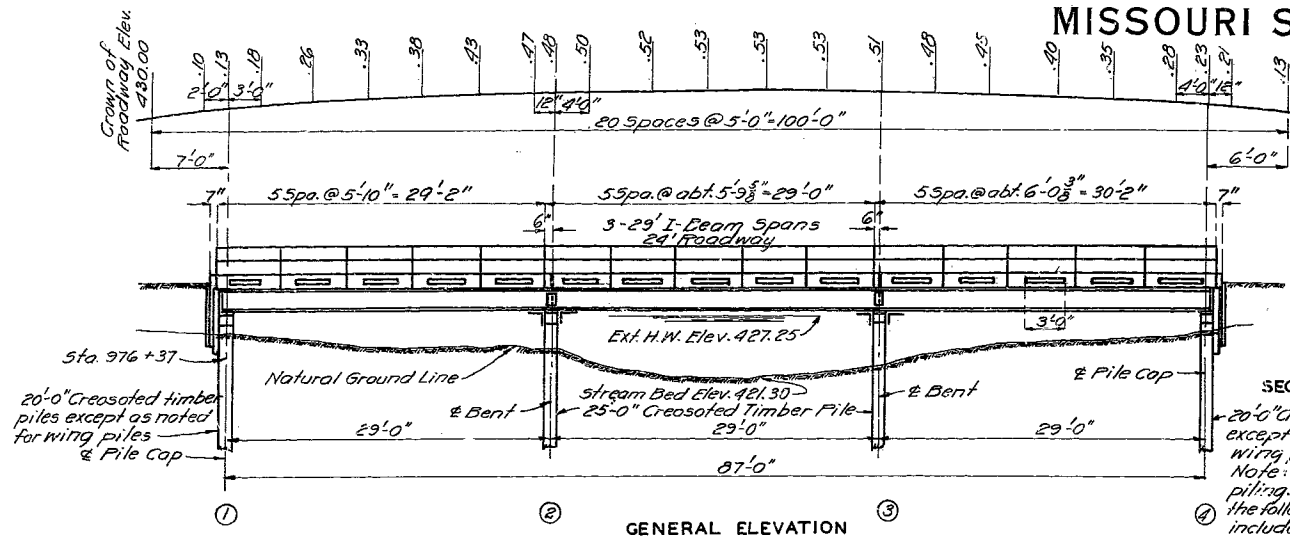
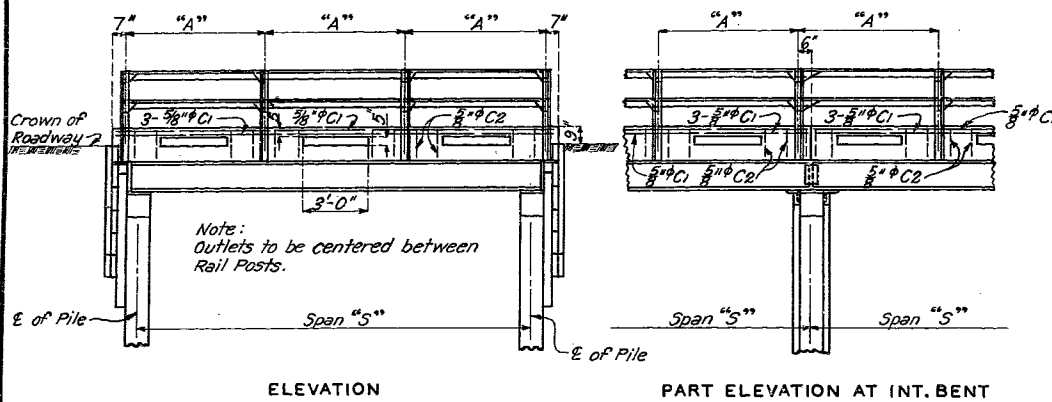
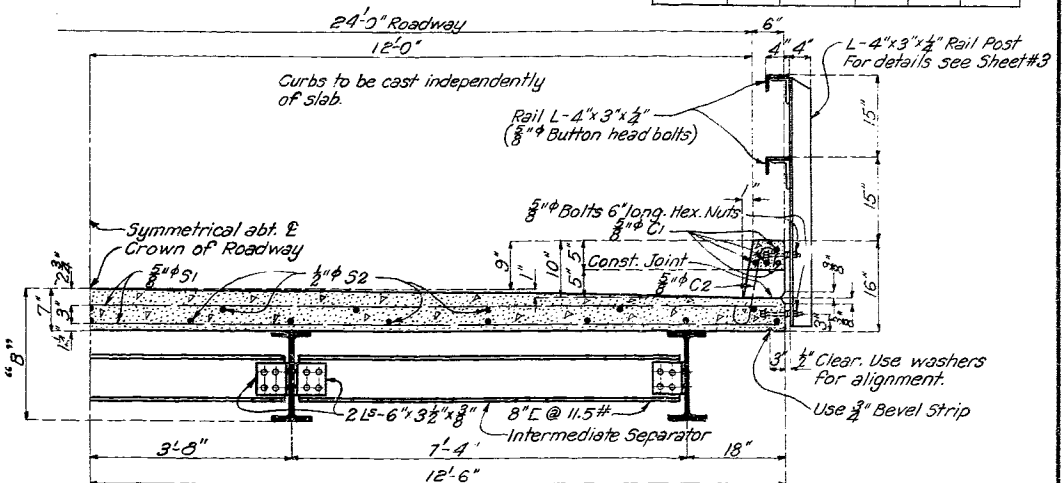


MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	54-55	19		



SPAN "S"	"B"
15'-0"	20'-0"
17'-0"	21'-0"
19'-0"	22'-0"
21'-0"	23'-0"
23'-0"	23'-0"
25'-0"	24'-0"
27'-0"	24'-0"
29'-0"	24'-0"
31'-0"	24'-0"
33'-0"	24'-0"
35'-0"	24'-0"
37'-0"	24'-0"
39'-0"	24'-0"
41'-0"	24'-0"
43'-0"	24'-0"
45'-0"	24'-0"
47'-0"	24'-0"
49'-0"	24'-0"



SPAN "S"	NO. PANELS	HANDRAIL SPACING			
		SINGLE SPAN	1ST END SPAN	ALL INT. SPANS	LAST END SPAN
15'-0"	3	5'-5 1/2" abt.	5'-0 1/2" abt.	5'-4 1/2" abt.	5'-4 1/2" abt.
17'-0"	3	6'-1 1/2" abt.	5'-8 1/2" abt.	5'-8" abt.	6'-0 1/2" abt.
19'-0"	3	6'-9 1/2" abt.	6'-4 1/2" abt.	6'-4" abt.	6'-8 1/2" abt.
21'-0"	4	5'-1" abt.	5'-3 1/2" abt.	5'-3" abt.	5'-6 1/2" abt.
23'-0"	4	6'-1" abt.	5'-9 1/2" abt.	5'-9" abt.	6'-0 1/2" abt.
25'-0"	4	6'-7" abt.	6'-3 1/2" abt.	6'-3" abt.	6'-6 1/2" abt.
27'-0"	5	5'-8" abt.	5'-5 1/2" abt.	5'-4 1/2" abt.	5'-7 1/2" abt.
29'-0"	5	6'-0 1/2" abt.	5'-10" abt.	5'-9 1/2" abt.	6'-0 1/2" abt.
31'-0"	5	6'-5 1/2" abt.	6'-2 1/2" abt.	6'-2 1/2" abt.	6'-5 1/2" abt.
33'-0"	6	5'-8 1/2" abt.	5'-6 1/2" abt.	5'-6" abt.	5'-8 1/2" abt.
35'-0"	6	6'-0 1/2" abt.	5'-10 1/2" abt.	5'-10" abt.	6'-0 1/2" abt.
37'-0"	6	6'-4 1/2" abt.	6'-2 1/2" abt.	6'-2" abt.	6'-4 1/2" abt.
39'-0"	7	5'-9 1/2" abt.	5'-7 1/2" abt.	5'-6 1/2" abt.	5'-8 1/2" abt.
41'-0"	7	6'-0 1/2" abt.	5'-10 1/2" abt.	5'-10" abt.	6'-0 1/2" abt.
43'-0"	7	6'-4" abt.	6'-2" abt.	6'-1 1/2" abt.	6'-3 1/2" abt.
45'-0"	8	5'-9 1/2" abt.	5'-7 1/2" abt.	5'-7 1/2" abt.	5'-9 1/2" abt.
47'-0"	8	6'-0 1/2" abt.	5'-10 1/2" abt.	5'-10 1/2" abt.	6'-0 1/2" abt.
49'-0"	8	6'-3 1/2" abt.	6'-1 1/2" abt.	6'-1 1/2" abt.	6'-3 1/2" abt.

SPAN "S"	TABLE OF STRINGERS					
	PER PLANS		PERMISSIBLE SUBSTITUTIONS			
	CARNEGIE BEAMS	STANDARD I-BEAMS	BETHLEHEM BEAMS			
	Inside	Outside	Inside	Outside	Inside	Outside
15'-0"	14" @ 30#	14" @ 30#	12" @ 40.8#	12" @ 35#	14" @ 30#	14" @ 30#
17'-0"	14" @ 33#	14" @ 33#	15" @ 42.9#	15" @ 42.9#	14" @ 33#	14" @ 33#
19'-0"	16" @ 37#	16" @ 37#	15" @ 42.9#	15" @ 42.9#	16" @ 37#	16" @ 37#
21'-0"	16" @ 40#	16" @ 37#	15" @ 50#	15" @ 45#	16" @ 40#	16" @ 37#
23'-0"	16" @ 45#	16" @ 40#	18" @ 54.7#	18" @ 54.7#	16" @ 45#	16" @ 40#
25'-0"	18" @ 47#	18" @ 47#	18" @ 54.7#	18" @ 54.7#	18" @ 47#	18" @ 47#
27'-0"	18" @ 52#	18" @ 47#	18" @ 60#	18" @ 54.7#	18" @ 52#	18" @ 47#
29'-0"	20" @ 55#	20" @ 55#	20" @ 65.4#	20" @ 65.4#	20" @ 55#	20" @ 55#
31'-0"	21" @ 58#	21" @ 58#	20" @ 70#	20" @ 65.4#	22" @ 58#	22" @ 58#
33'-0"	21" @ 62#	21" @ 58#	20" @ 75#	20" @ 70#	22" @ 62#	22" @ 58#
35'-0"	21" @ 67#	21" @ 62#	20" @ 81.4#	20" @ 75#	22" @ 67#	22" @ 62#
37'-0"	24" @ 70#	24" @ 70#	24" @ 79.9#	24" @ 79.9#	24" @ 70#	24" @ 70#
39'-0"	24" @ 74#	24" @ 70#	24" @ 79.9#	24" @ 79.9#	24" @ 74#	24" @ 70#
41'-0"	24" @ 81#	24" @ 74#	24" @ 85#	24" @ 79.9#	24" @ 81#	24" @ 74#
43'-0"	24" @ 85#	24" @ 81#	24" @ 100#	24" @ 90#	26" @ 85#	26" @ 81#
45'-0"	27" @ 85#	27" @ 85#	24" @ 105.9#	24" @ 100#	26" @ 85#	26" @ 85#
47'-0"	27" @ 91#	27" @ 85#	24" @ 105.9#	24" @ 105.9#	28" @ 91#	28" @ 85#
49'-0"	27" @ 91#	27" @ 91#	24" @ 115#	24" @ 105.9#	28" @ 91#	28" @ 91#

GENERAL NOTES:

Loading: One 10 Ton Truck, 80% of weight on rear axle, 30% impact, 14'-0" wheel base, 6'-0" gage, 10" fire.

All concrete to be 1:2:3 mix "X".

Exposed edges to be beveled 3/4" where no other bevel is noted.

All timber to be creosoted Douglas Fir of the West Coast Region, Close-grained Structural Grade; creosoted Southern Yellow Pine, Dense Structural Square Edge and Sound Grade; or untreated California Redwood, Prime Structural Grade. All timber rough sawn except as noted in timber bill for pile caps. Slight variations in sawing to be in accordance with grading rules. All treated timber to be cut to lengths, shaped and bored as shown before treating. Backing plank are all billed 6' long and are to be fitted and cut in the field.

Field holes for drift pins shall be field bored 3/4". Unless otherwise noted all other field holes in timber shall be field bored 3/4".

When bolts with countersunk heads are indicated on plans, cut washers shall be used under heads. O.G. washers shall be used under heads of all other bolts and under nuts of all bolts.

Number of bolts, drift pins, nails and washers given exact; no allowance made for excess. Cost of substructure hardware to be included in price bid for timber in place.

I-Beams with fastenings, spacers, handrail, handrail posts with fastenings, clips, angles and cap plate on end bent with fastenings, will be paid for as structural steel. Cost of metallic edge moulding will be included in unit bid price for concrete.

Rivets - 3/4" holes 1/2", except in handrail where rivets shall be 5/8", holes 1/2". Turned bolts 3/4", holes subpunched and reamed to driving fit. Field connections, except handrail, shall be turned bolts. Field connections for handrail shall be 3/4" button head bolts, 1/2" holes.

Detail shop drawings shall be submitted to the State Highway Department in duplicate and shall be approved before steel is fabricated. Paint shop, none, field contact surfaces are coat red lead. No other paint to be applied by contractor. All paint required will be furnished by the Missouri State Highway Department.

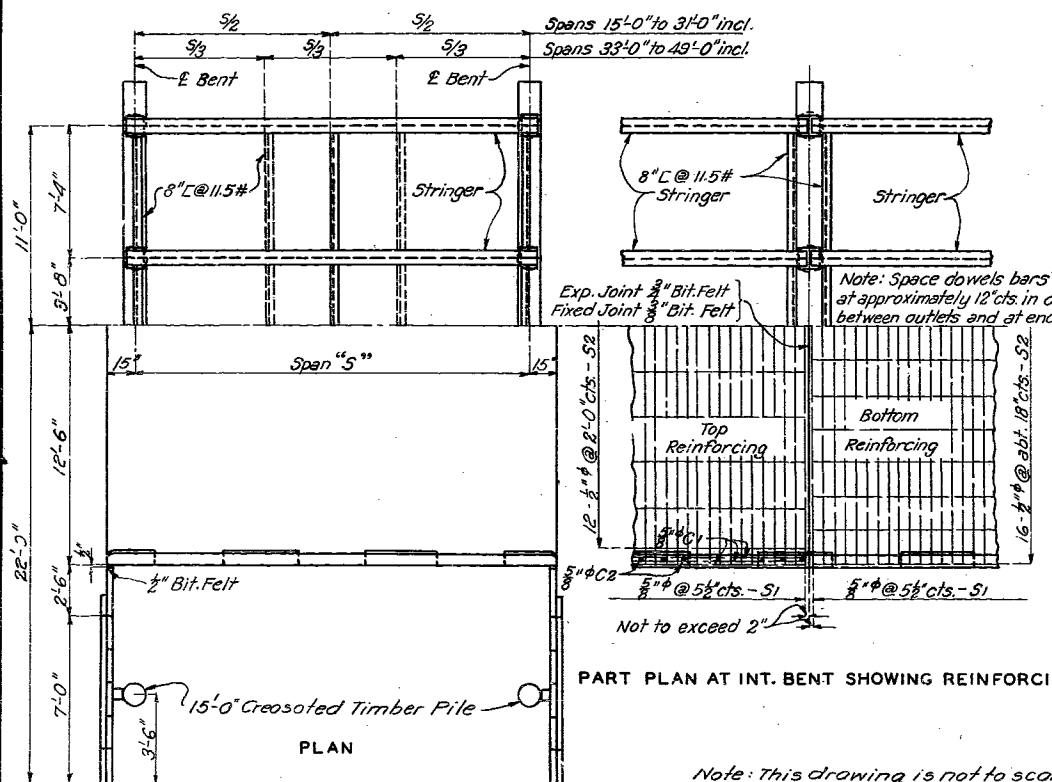
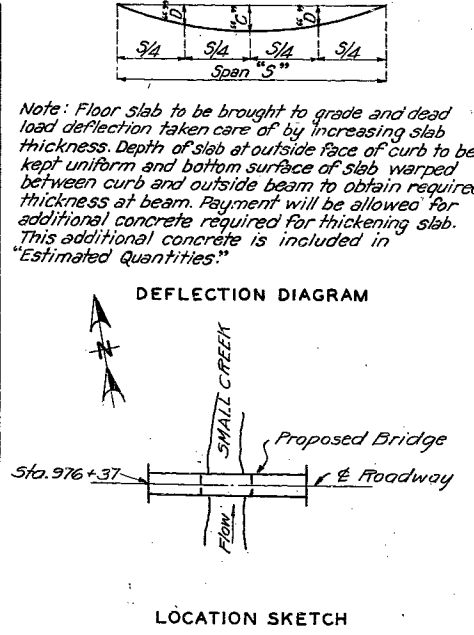
Where bituminous felt is used in expansion or partition joints in concrete stitch felt in vertical joint securely to one face of concrete with copper wire.

See Special Provisions in regard to permissible substitution of beams.

B.M. Elev. 425.93 - Brass Cap on N.E. Wing Wall of Culvert 60' Left of Sta. 972+65.

ESTIMATED QUANTITIES			
ITEM	SUPERSTR.	SUBSTR.	TOTAL
Bridge Excavation Class 1	Cu. Yds.	25	25
Bridge Excavation Class 2	Cu. Yds.		
Concrete 1:2:4 mix "B"	Cu. Yds.		
Concrete 1:2:3 1/2 mix "X"	Cu. Yds.	49.3	49.3
Fabricated Structural Steel	Lbs.	27970	27970
Reinforcing Steel	Lbs.	12710	12710
Creosoted Timber Piles	Lin. Ft.	480	480
Creosoted Timber Pile Cutoffs	Lin. Ft.	20	20
Timber (See Special Provisions) F.B.M.		2803	2803

Note: Bridge excavation will be allowed for end bents within horizontal limits shown and noted on "Half Plan of End Bent" sheet # 2. This excavation will be computed from existing ground line to bottom and of 6"x6" backing supports.



Designed Nov. 1929 By F.W.H.
 Drawn Mar. 1930 By R.J.G.
 Traced Dec. 1931 By R.J.G.
 Checked Dec. 1931 By J.T.M.
 Assembled May 1932 By L.H.-H.E.U.
 Checked May 1932 By J.T.M.

BRIDGE OVER SMALL CREEK

STATE ROAD FROM WILLIAMSVILLE TO GREENVILLE
 ABOUT 9 MILES NORTH OF WILLIAMSVILLE
 PROJECT NO. SA - S5 STA. 976 + 37

WAYNE COUNTY

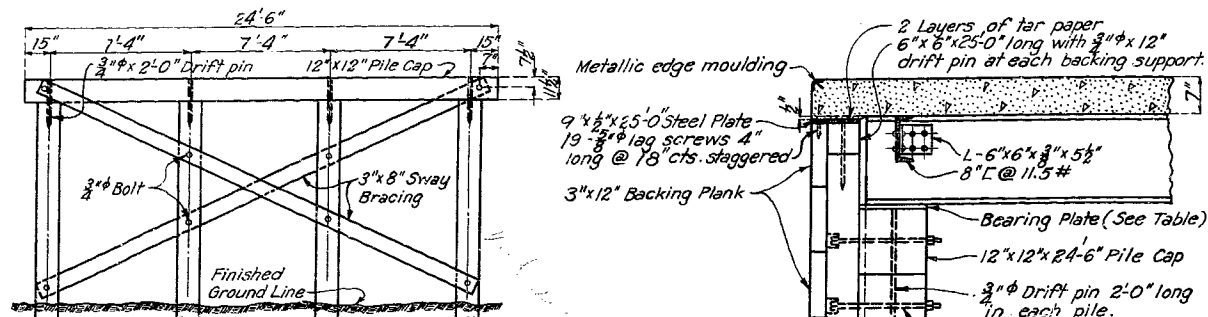
SUBMITTED BY *M.R. Lacy* DATE 5/21/32
 BRIDGE ENGINEER

APPROVED BY *T.H. Cutler* DATE 5/21/32
 CHIEF ENGINEER

FINISHED

MISSOURI STATE HIGHWAY DEPARTMENT

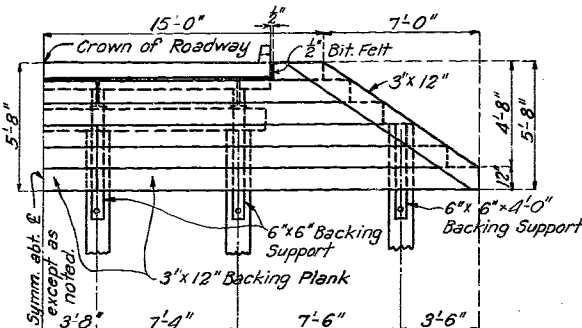
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	SA-55	19		



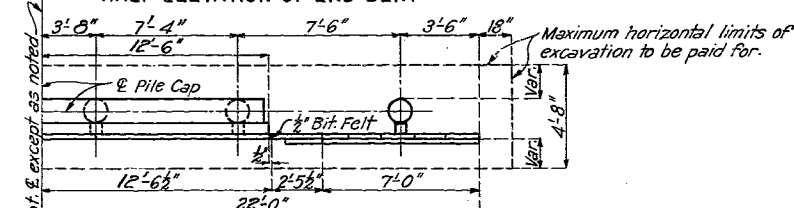
Note: Omit sway bracing when distance from bottom of pile cap to ground is less than 5'-0".

DETAIL OF INTERIOR BENTS

Note: Any irregularity in alignment of piling in end bents to be corrected by facing one surface of the 6" x 6" backing support or by varying the thickness of the backing support such as to place the surface of the backing in a true plane and eliminate any strain on the backing plank. Splice in backing plank to be made at center of 6" x 6" backing support and to be alternated on the two intermediate supports.



HALF ELEVATION OF END BENT



HALF PLAN OF END BENT

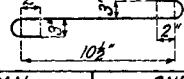
SECTION THRU END BENT AT C

SPAN'S	"G"	"H"
15'-0"	21 1/2"	21 1/2"
17'-0"	21 1/2"	22"
19'-0"	23 1/2"	23 1/2"
21'-0"	23 1/2"	24'-0"
23'-0"	23 1/2"	24'-0"
25'-0"	24'-0"	24'-0"
27'-0"	24'-0"	24'-0"
29'-0"	24'-0"	24'-0"
31'-0"	24'-0"	24'-0"
33'-0"	24'-0"	24'-0"
35'-0"	24'-0"	24'-0"
37'-0"	24'-0"	24'-0"
39'-0"	24'-0"	24'-0"
41'-0"	24'-0"	24'-0"
43'-0"	24'-0"	24'-0"
45'-0"	24'-0"	24'-0"
47'-0"	24'-0"	24'-0"
49'-0"	24'-0"	24'-0"

Note: Omit sway bracing when "E" is less than 5'-0".

NAILING SCHEDULE:

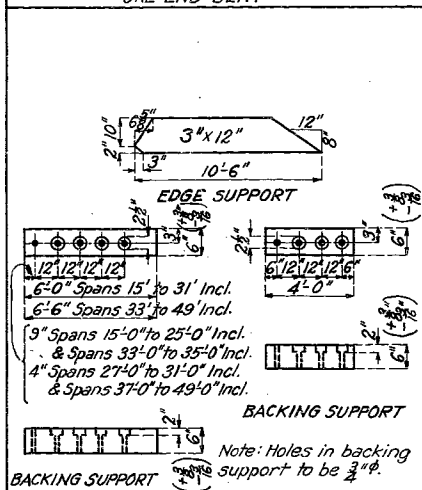
Backing plank to supports; 3-30d at each support at splices, 3-30d each side of splice. Pieces at ends of backwall to backing plank; 4-30d to each backing plank.

BILL OF REINFORCING STEEL																		
NO.	SIZE	LENGTH	MARK	LOCATION	BENDING SKETCH													
"A"	3/4"	"B"	C1	Curb														
"C"	3/4"	2'-0"	C2	"														
"D"	3/4"	24'-9"	S1	Slab														
"E"	3/4"	"F"	S2	"														
SINGLE SPAN																		
SPAN'S	"A"	"B"	"C"	"D"	"E"	"F"	"A"	"B"	"C"	"D"	"E"	"F"	"A"	"B"	"C"	"D"	"E"	"F"
15'-0"	8	16'-9"	24	76	26	16'-9"	8	15'-9"	22	70	26	15'-9"	8	14'-9"	20	64	26	14'-9"
17'-0"	8	18'-9"	28	86	26	18'-9"	8	17'-9"	24	80	26	17'-9"	8	16'-9"	20	74	26	16'-9"
19'-0"	8	20'-9"	28	92	26	20'-9"	8	19'-9"	28	88	26	19'-9"	8	18'-9"	28	84	26	18'-9"
21'-0"	8	22'-9"	30	100	26	22'-9"	8	21'-9"	28	96	26	21'-9"	8	20'-9"	26	92	26	20'-9"
23'-0"	8	24'-9"	36	112	26	24'-9"	8	23'-9"	34	106	26	23'-9"	8	22'-9"	32	100	26	22'-9"
25'-0"	8	26'-9"	36	118	26	26'-9"	8	25'-9"	36	114	26	25'-9"	8	24'-9"	36	110	26	24'-9"
27'-0"	8	28'-9"	36	130	26	28'-9"	8	27'-9"	34	124	26	27'-9"	8	26'-9"	32	118	26	26'-9"
29'-0"	8	30'-9"	44	146	26	30'-9"	8	29'-9"	42	132	28	29'-9"	8	28'-9"	40	126	28	28'-9"
31'-0"	8	32'-9"	44	146	26	32'-9"	8	31'-9"	44	140	26	31'-9"	8	30'-9"	44	134	26	30'-9"
33'-0"	16	18'-6"	52	154	52	18'-6"	16	18'-0"	50	150	52	18'-0"	16	17'-6"	48	146	52	17'-6"
35'-0"	16	19'-6"	52	162	52	19'-6"	16	19'-0"	50	158	52	19'-0"	16	18'-6"	48	154	52	18'-6"
37'-0"	16	20'-6"	52	172	52	20'-6"	16	20'-0"	50	168	52	20'-0"	16	19'-6"	48	164	52	19'-6"
39'-0"	16	21'-6"	60	180	52	21'-6"	16	21'-0"	58	176	52	21'-0"	16	20'-6"	56	172	52	20'-6"
41'-0"	16	22'-6"	60	188	52	22'-6"	16	22'-0"	58	184	52	22'-0"	16	21'-6"	56	180	52	21'-6"
43'-0"	16	23'-6"	60	198	52	23'-6"	16	23'-0"	58	194	52	23'-0"	16	22'-6"	56	190	52	22'-6"
45'-0"	16	24'-6"	68	206	52	24'-6"	16	24'-0"	66	202	52	24'-0"	16	23'-6"	64	198	52	23'-6"
47'-0"	16	25'-6"	68	216	52	25'-6"	16	25'-0"	66	210	52	25'-0"	16	24'-6"	64	204	52	24'-6"
49'-0"	16	26'-6"	68	224	52	26'-6"	16	26'-0"	66	220	52	26'-0"	16	25'-6"	64	216	52	25'-6"

Note: Reinforcing bars in each span to be billed and tagged separately.

TIMBER FRAMING DIAGRAMS

ONE END BENT



Note: Holes in backing support to be 3/4".

SUBSTRUCTURE TIMBER BILLS

PIECE	NO.	SIZE	LENGTH	REMARKS
Backing Plank	1	3' x 12"	26'-2"	Cut to length.
"	1	3' x 12"	18'-10"	"
"	1	3' x 12"	24'-8"	Cut to length.
"	1	3' x 12"	17'-4"	"
"	1	3' x 12"	23'-2"	"
"	1	3' x 12"	15'-10"	"
"	1	3' x 12"	21'-8"	"
"	1	3' x 12"	14'-4"	"
"	1	3' x 12"	20'-2"	"
"	1	3' x 12"	12'-10"	"
Shoulder Plank	2	3' x 8"	2'-5 1/2"	"
Edge Support	2	3' x 12"	10'-6"	Cut to length & shape.
Backing Support	4	6' x 6"	6'-0"	"
Backing Support	4	6' x 6"	6'-6"	"
Backing Support	2	6' x 6"	4'-0"	"
Backing Support Cap	1	6' x 6"	25'-0"	Cut to length.
Pile Cap	1	12' x 12"	24'-6"	"
Pile Cap	2	12' x 12"	24'-6"	Cut to length. **
Bracing	2	3' x 8"	2'-5 1/2"	"
"	2	3' x 8"	2'-5 1/2"	"
"	2	3' x 8"	2'-5 1/2"	"

Note: Pile caps to be classified as beams and stringers. All other timber to be classified as joist and plank.

** S2S to exact depth of 11 1/2".

SUBSTRUCTURE HARDWARE BILL

PIECE	LOCATION	NO. PCS.	SIZE	LENGTH	O.G. WASHERS	CUT WASHERS
Drift Pin	Backing Cap	4	3/4"	12"		
"	Pile Cap	4	3/4"	2'-0"		
Bolts	Backing Support	4	3/4"	22"	4	4
Nails	Backing	141	30d	4 1/2"		
Bolts	Backing Support	24	3/4"	2'-0"	30	18
Drift Pin	Pile Cap	4	3/4"	2'-0"		
Bolts	Bracing	2	3/4"	18"		
Bolts	Bracing	2	3/4"	22"		

§ Omit when "E" is less than 5'-0".

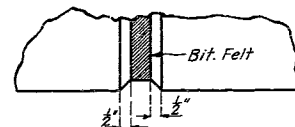
Note: Bolts to be threaded 8" and sawed off 1/4" outside of nut after nut has been tightened.

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

SUPERSTRUCTURE HARDWARE BILL

PIECE	LOCATION	NO. PCS.	SIZE	LENGTH	REMARKS
Cap Plate	Under Slab	2	9' x 4"	25'-0"	See detail.
3/4" Lag Screws	Cap Pl.	38	3/4"	4"	Flat csk. heads.
Spacer Bolts	Spans 15' to 31' Incl.	48	3/4"	Varies	Turn bolts, washer for nut.
Spacer Bolts	Spans 33' to 49' Incl.	64	3/4"	Varies	Turn bolts, washer for nut.
Handrail Bolts	Spans 15'	16	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 19' Incl.	32	3/4"	1 1/2"	Button heads.
"	to 21' Incl.	20	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 25' Incl.	40	3/4"	1 1/2"	Button heads.
"	Spans 27'	24	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 31' Incl.	48	3/4"	1 1/2"	Button heads.
"	Spans 33'	28	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 37' Incl.	56	3/4"	1 1/2"	Button heads.
"	Spans 39'	32	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 43' Incl.	64	3/4"	1 1/2"	Button heads.
"	Spans 45'	36	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 49' Incl.	72	3/4"	1 1/2"	Button heads.
Bolts	Bearing Pls	16	3/4"	12"	Sq. hds., no threads.
Flange Clamp	Bearings	16	See Detail		Detailed on this sheet.
Spacer Bolts	Spans 15' to 31' Incl.	48	3/4"	Varies	Turn bolts, washer for nut.
Spacer Bolts	Spans 33' to 49' Incl.	64	3/4"	Varies	Turn bolts, washer for nut.
Handrail Bolts	Spans 15'	12	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 19' Incl.	32	3/4"	1 1/2"	Button heads.
"	to 21' Incl.	16	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 25' Incl.	40	3/4"	1 1/2"	Button heads.
"	Spans 27'	20	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 31' Incl.	48	3/4"	1 1/2"	Button heads.
"	Spans 33'	24	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 37' Incl.	56	3/4"	1 1/2"	Button heads.
"	Spans 39'	28	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 43' Incl.	64	3/4"	1 1/2"	Button heads.
"	Spans 45'	32	3/4"	6"	Sq. hds., washers, hex. nuts.
"	to 49' Incl.	72	3/4"	1 1/2"	Button heads.
Bolts	Bearing Pls	16	3/4"	12"	Sq. hds., no threads.
Splice Pl. Bolts	Spans 15' to 31'	40	3/4"	2"	Turn bolts, washer for nut.
"	Spans 33' to 49'	48	3/4"	2"	"
Flange Clamp	Bearings	16	See Detail		Detailed on this sheet.
Clip L's	At Bent	8	"	"	" Sheet #3 of 3.
Bolts	Clip L's	16	3/4"	2"	Plain Bolts

* 2 Washers plus washers for fill required for alignment of railposts.



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

DETAILS OF BEVEL FOR BIT FELT JOINTS

BRIDGE OVER SMALL CREEK

STATE ROAD FROM WILLIAMSVILLE TO GREENVILLE
ABOUT 9 MILES NORTH OF WILLIAMSVILLE
PROJECT NO. SA-55 STA. 976 +37

WAYNE COUNTY

SUBMITTED BY *M.R. Lox* DATE 5/21/32
TRACED DEC. 1931 BY R.J.G. ASSEMBLED MAY 1932 BY L.H.-H.E.U.
CHECKED DEC. 1931 BY J.H.M.
APPROVED BY *T.H. Carter* DATE 5/21/32
CHIEF ENGINEER

FINISHED

Sheet No. 2 of 3.

S-498

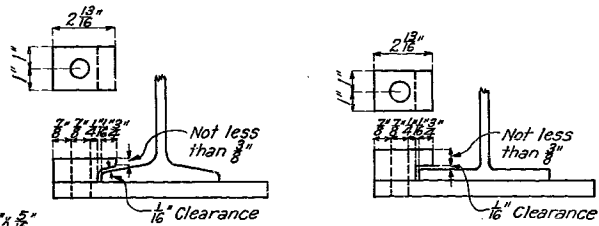
T.5

Designed Nov. 1929 By F.W.H.
Drawn Dec. 1930 By R.J.G. Assembled May 1932 By L.H.-H.E.U.
Traced Dec. 1931 By R.J.G. Checked May 1932 By J.H.M.
Checked Dec. 1931 By J.H.M.

4-21-32

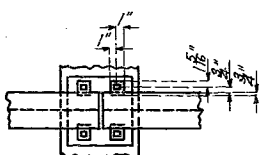
DETAILS OF BEARING ON PILE CAP

Note: Cast iron clamps used on bearing plates to have 1/8" clearance at flange of beam to allow for expansion. All clamps to have 3/8" cored holes. Use two clamps only on each I beam at pile caps on end bents.

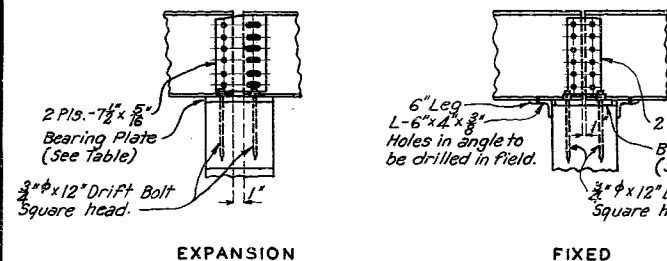


DETAILS OF FLANGE CLAMPS

PLAN OF BEARING PLS.



TYPICAL JOINTS OVER INT. BENT

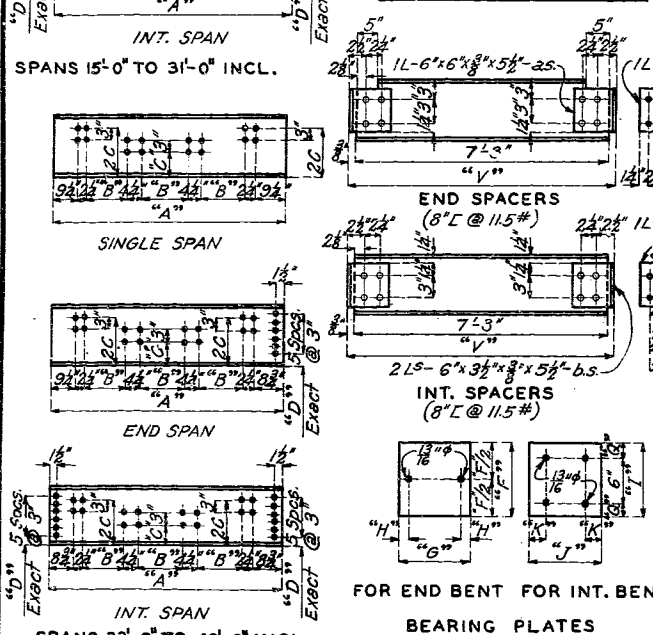
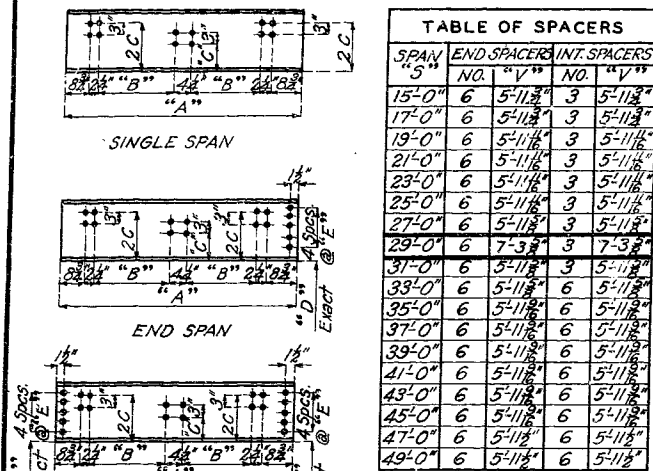


EXPANSION

FIXED

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	54-55	13		

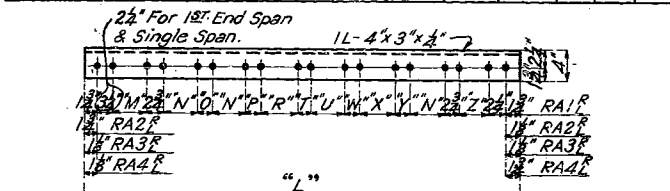


Note: Lower flange of beams to be punched standard gage 8" from end of beams at all Int. Bents except at exp. joints as shown on General Elevation Sheet No. 1.

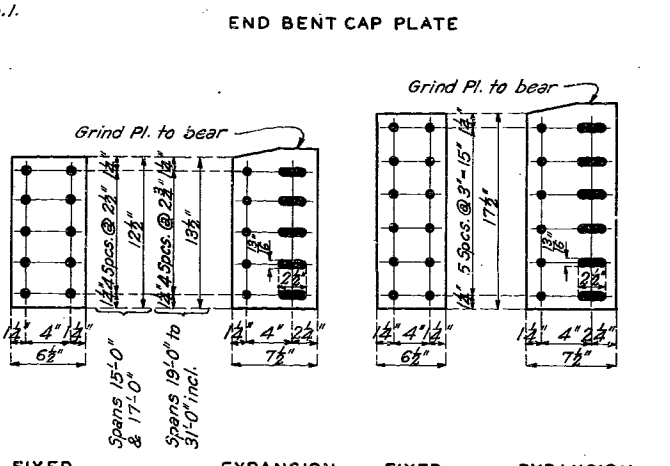
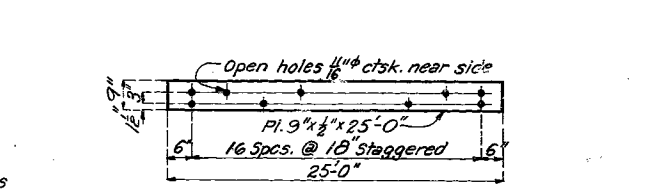
SPAN "S"	NO. PLATES	STRINGER	AT END BENTS				AT INT. BENTS			
			THICK.	"F"	"G"	"H"	THICK.	"I"	"J"	"K"
15'-0"	4	All	3"	10"	11"	13"	3"	10"	11"	13"
17'-0"	4	"	3"	10"	11"	13"	3"	10"	11"	13"
19'-0"	4	"	3"	10"	12"	13"	3"	10"	12"	13"
21'-0"	2	Inside	3"	10"	12"	13"	1"	10"	12"	13"
21'-0"	2	Outside	3"	10"	12"	13"	1"	10"	12"	13"
23'-0"	4	All	3"	10"	12"	13"	1"	11 1/2"	12"	13"
25'-0"	4	"	3"	10"	12"	13"	1"	11 1/2"	12"	13"
27'-0"	4	"	3"	10"	12"	13"	1"	11 1/2"	12"	13"
29'-0"	4	"	3"	10"	13"	13"	1"	11 1/2"	14"	23"
31'-0"	4	"	3"	11"	13"	13"	1"	11 1/2"	14"	23"
33'-0"	4	"	3"	11"	13"	13"	1"	11 1/2"	15"	23"
35'-0"	4	"	3"	11 1/2"	13"	13"	1"	11 1/2"	15"	23"
37'-0"	4	"	3"	11 1/2"	13"	13"	1"	11 1/2"	15"	23"
39'-0"	4	"	3"	11 1/2"	13"	13"	1"	11 1/2"	15"	23"
41'-0"	4	"	3"	11 1/2"	13"	13"	1"	11 1/2"	15"	23"
43'-0"	2	Outside	3"	11 1/2"	14"	13"	1"	11 1/2"	15"	23"
43'-0"	2	Inside	3"	11 1/2"	14"	13"	1"	11 1/2"	15"	23"
45'-0"	4	"	3"	11 1/2"	14"	13"	1"	11 1/2"	16"	23"
47'-0"	4	"	3"	11 1/2"	14"	13"	1"	11 1/2"	16"	23"
49'-0"	4	"	3"	11 1/2"	14"	13"	1"	11 1/2"	16"	23"

Designed Nov. 1929 By F.W.H.
 Drawn Dec. 1930 By R.J.G.
 Traced Dec. 1931 By R.J.G.
 Checked Dec. 1931 By J.H.M.
 Assembled May 1932 By L.H.-H.E.U.
 Checked May 1932 By J.H.M.

SPAN "S"	NO.	SIZE	SINGLE SPAN		END SPAN		INT. SPAN		"C"	"D"	"E"
			"A"	"B"	"A"	"B"	"A"	"B"			
15'-0"	4	14" C.B. @ 30"	15'-8"	6'-8"	15'-3"	6'-6"	14'-11"	6'-4"	5'	2'	2 1/2"
17'-0"	4	14" C.B. @ 33"	17'-8"	7'-8"	17'-3"	7'-6"	15'-11"	7'-4"	5'	2'	2 1/2"
19'-0"	4	16" C.B. @ 37"	19'-8"	8'-8"	19'-3"	8'-6"	18'-11"	8'-4"	6'	2 1/2"	2 1/2"
21'-0"	2	16" C.B. @ 37"	21'-8"	9'-8"	21'-3"	9'-6"	20'-11"	9'-4"	6'	2 1/2"	2 1/2"
21'-0"	2	16" C.B. @ 40"	21'-8"	9'-8"	21'-3"	9'-6"	20'-11"	9'-4"	6'	2 1/2"	2 1/2"
23'-0"	2	16" C.B. @ 40"	23'-8"	10'-8"	23'-3"	10'-6"	22'-11"	10'-4"	6'	2 1/2"	2 1/2"
25'-0"	4	18" C.B. @ 47"	25'-8"	11'-8"	25'-3"	11'-6"	24'-11"	11'-4"	7'	3'	2 1/2"
27'-0"	2	18" C.B. @ 47"	27'-8"	12'-8"	27'-3"	12'-6"	26'-11"	12'-4"	7'	3'	2 1/2"
27'-0"	2	18" C.B. @ 52"	27'-8"	12'-8"	27'-3"	12'-6"	26'-11"	12'-4"	7'	3'	2 1/2"
29'-0"	4	21" C.B. @ 53"	29'-8"	13'-8"	29'-3"	13'-6"	28'-11"	13'-4"	9'	5"	2 1/2"
31'-0"	4	21" C.B. @ 53"	31'-8"	14'-8"	31'-3"	14'-6"	30'-11"	14'-4"	9'	5"	2 1/2"
33'-0"	2	21" C.B. @ 58"	33'-8"	15'-8"	33'-3"	15'-6"	32'-11"	15'-4"	9'	5"	3'
33'-0"	2	21" C.B. @ 62"	33'-8"	15'-8"	33'-3"	15'-6"	32'-11"	15'-4"	9'	5"	3'
35'-0"	2	21" C.B. @ 67"	35'-8"	16'-8"	35'-3"	16'-6"	34'-11"	16'-4"	9'	5"	3'
37'-0"	4	24" C.B. @ 70"	37'-8"	17'-8"	37'-3"	17'-6"	36'-11"	17'-4"	10'	4 1/2"	4 1/2"
39'-0"	2	24" C.B. @ 74"	39'-8"	18'-8"	39'-3"	18'-6"	38'-11"	18'-4"	10'	4 1/2"	4 1/2"
41'-0"	2	24" C.B. @ 74"	41'-8"	19'-8"	41'-3"	19'-6"	40'-11"	19'-4"	10'	4 1/2"	4 1/2"
43'-0"	2	24" C.B. @ 81"	43'-8"	20'-8"	43'-3"	20'-6"	42'-11"	20'-4"	10'	4 1/2"	4 1/2"
45'-0"	4	27" C.B. @ 85"	45'-8"	21'-8"	45'-3"	21'-6"	44'-11"	21'-4"	12'	6"	6"
47'-0"	4	27" C.B. @ 85"	47'-8"	22'-8"	47'-3"	22'-6"	46'-11"	22'-4"	12'	6"	6"
49'-0"	4	27" C.B. @ 91"	49'-8"	23'-8"	49'-3"	23'-6"	48'-11"	23'-4"	12'	6"	6"



DETAIL OF RAIL ANGLES RA1 TO RA4 INCL.



FIXED SPANS 15'-0" TO 31'-0" INCL. EXPANSION SPANS 33'-0" TO 49'-0" INCL.

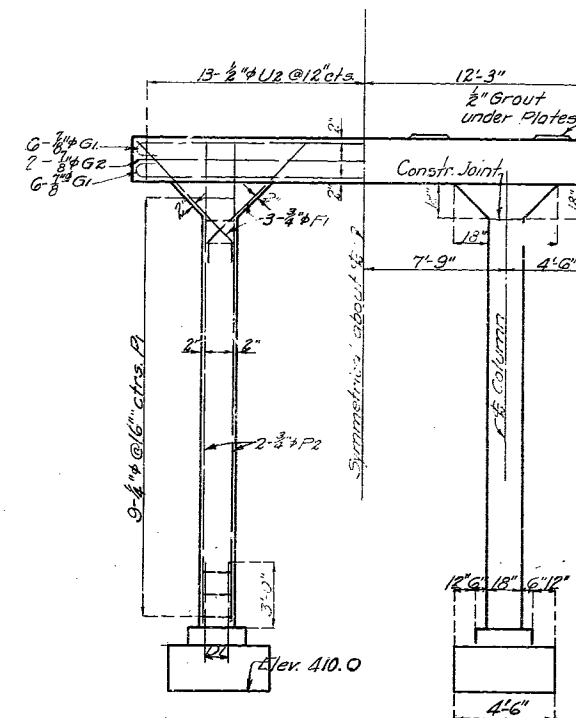
DETAILS OF SPLICE PLATES

TABLE OF RAIL ANGLE DIMENSIONS																	
	SPAN	MARK	"L"	"M"	"N"	"O"	"P"	"Q"	"R"	"S"	"T"	"U"	"V"	"W"	"X"	"Y"	"Z"
SINGLE SPAN	15'-0"	RA1	16'-7 1/2"	5'-0"	0	0	0	0	0	0	5'-5 1/2"	0	0	0	0	5'-0"	0
	17'-0"	"	18'-7 1/2"	5'-0"	0	0	0	0	0	0	6'-1 1/2"	0	0	0	0	5'-0"	0
	19'-0"	"	20'-7 1/2"	5'-0"	0	0	0	0	0	0	6'-9 1/2"	0	0	0	0	6'-4 1/2"	0
	21'-0"	"	22'-7 1/2"	5'-2"	0	0	0	0	5'-4 1/2"	2 3/4"	5'-7"	0	0	0	0	5'-2"	0
	23'-0"	"	24'-7 1/2"	5'-8"	0	0	0	0	5'-10 1/2"	2 3/4"	6'-1"	0	0	0	0	5'-8"	0
	25'-0"	"	26'-7 1/2"	6'-2"	0	0	0	0	6'-4 1/2"	2 3/4"	6'-7"	0	0	0	0	6'-2"	0
	27'-0"	"	28'-7 1/2"	5'-3"	0	0	0	0	5'-5 1/2"	2 3/4"	5'-8"	2 3/4"	5'-5 1/2"	0	0	5'-3"	0
	29'-0"	"	30'-7 1/2"	5'-7 1/2"	0	0	0	0	5'-10 1/2"	2 3/4"	6'-0 1/2"	2 3/4"	5'-10 1/2"	0	0	5'-7 1/2"	0
	31'-0"	"	32'-7 1/2"	6'-0 1/2"	0	0	0	0	6'-2 1/2"	2 3/4"	6'-3 1/2"	0	0	0	0	6'-0 1/2"	0
	33'-0"	"	34'-7 1/2"	5'-3 3/4"	5'-5 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	5'-6 1/2"	2 3/4"	5'-3 3/4"	0
	35'-0"	"	36'-7 1/2"	5'-7 1/2"	5'-9 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	6'-0 1/2"	2 3/4"	5'-7 1/2"	0
	37'-0"	"	38'-7 1/2"	5'-11 1/2"	5'-13 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	6'-4 1/2"	2 3/4"	5'-11 1/2"	0
	39'-0"	"	40'-7 1/2"	5'-4 1/2"	5'-6 1/2"	2 3/4"	0	0	0	2 3/4"	5'-9 1/2"	2 3/4"	5'-6 1/2"	2 3/4"	5'-4 1/2"	5'-10 1/2"	0
	41'-0"	"	42'-7 1/2"	5'-1 1/2"	5'-3 1/2"	2 3/4"	0	0	0	2 3/4"	5'-6 1/2"	2 3/4"	5'-3 1/2"	2 3/4"	5'-1 1/2"	5'-7 1/2"	0
	43'-0"	"	44'-7 1/2"	5'-11"	6'-1 1/2"	2 3/4"	0	0	0	2 3/4"	6'-4"	2 3/4"	6'-1 1/2"	2 3/4"	5'-11"	5'-11"	0
FIRST END SPAN	45'-0"	"	46'-7 1/2"	5'-4 1/2"	5'-6 1/2"	2 3/4"	2 3/4"	5'-6 1/2"	2 3/4"	5'-9 1/2"	2 3/4"	5'-6 1/2"	2 3/4"	5'-4 1/2"	2 3/4"	5'-10 1/2"	0
	47'-0"	"	48'-7 1/2"	5'-7 1/2"	5'-9 1/2"	2 3/4"	2 3/4"	5'-9 1/2"	2 3/4"	6'-0 1/2"	2 3/4"	5'-9 1/2"	2 3/4"	5'-7 1/2"	2 3/4"	5'-7 1/2"	0
	49'-0"	"	50'-7 1/2"	5'-10 1/2"	6'-0 1/2"	2 3/4"	2 3/4"	6'-0 1/2"	2 3/4"	6'-3 1/2"	2 3/4"	6'-0 1/2"	2 3/4"	5'-10 1/2"	2 3/4"	5'-10 1/2"	0
	15'-0"	RA2	15'-4 1/2"	4'-7 1/2"	0	0	0	0	0	0	5'-0"	0	0	0	0	4'-7 1/2"	0
	17'-0"	"	17'-4 1/2"	4'-9 1/2"	0	0	0	0	0	0	5'-8"	0	0	0	0	5'-8"	0
	19'-0"	"	19'-4 1/2"	5'-11 1/2"	0	0	0	0	0	0	6'-4 1/2"	0	0	0	0	5'-11 1/2"	0
	21'-0"	"	21'-4 1/2"	4'-10 1/2"	0	0	0	0	5'-10 1/2"	2 3/4"	5'-9 1/2"	0	0	0	0	4'-10 1/2"	0
	23'-0"	"	23'-4 1/2"	5'-4 1/2"	0	0	0	0	5'-6 1/2"	2 3/4"	5'-3 1/2"	0	0	0	0	5'-4 1/2"	0
	25'-0"	"	25'-4 1/2"	5'-10 1/2"	0	0	0	0	6'-0 1/2"	2 3/4"	6'-3 1/2"	0	0	0	0	5'-10 1/2"	0
	27'-0"	"	27'-4 1/2"	5'-0 1/2"	0	0	0	0	5'-2 1/2"	2 3/4"	5'-5 1/2"	2 3/4"	5'-2 1/2"	0	0	5'-0 1/2"	0
	29'-0"	"	29'-4 1/2"	5'-5"	0	0	0	0	5'-7 1/2"	2 3/4"	5'-10"	2 3/4"	5'-7 1/2"	0	0	5'-5"	0
	31'-0"	"	31'-4 1/2"	5'-9 1/2"	0	0	0	0	6'-0 1/2"	2 3/4"	6'-2 1/2"	2 3/4"	6'-0 1/2"	0	0	5'-9 1/2"	0
	33'-0"	"	33'-4 1/2"	5'-1 1/2"	5'-3 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	5'-6 1/2"	2 3/4"	5'-1 1/2"	0
	35'-0"	"	35'-4 1/2"	5'-5 1/2"	5'-7 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	5'-10 1/2"	2 3/4"	5'-5 1/2"	0
	37'-0"	"	37'-4 1/2"	5'-9 1/2"	5'-11 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	6'-2 1/2"	2 3/4"	5'-9 1/2"	0
ALL INT. SPANS	39'-0"	"	39'-4 1/2"	5'-2 1/2"	5'-4 1/2"	2 3/4"	0	0	2 3/4"	5'-7 1/2"	2 3/4"	5'-4 1/2"	2 3/4"	5'-2 1/2"	2 3/4"	5'-2 1/2"	0
	41'-0"	"	41'-4 1/2"	5'-5 1/2"	5'-7 1/2"	2 3/4"	0	0	2 3/4"	5'-10 1/2"	2 3/4"	5'-7 1/2"	2 3/4"	5'-5 1/2"	2 3/4"	5'-5 1/2"	0
	43'-0"	"	43'-4 1/2"	5'-9"	5'-11 1/2"	2 3/4"	0	0	2 3/4"	6'-2"	2 3/4"	5'-11 1/2"	2 3/4"	5'-9"	2 3/4"	5'-9"	0
	45'-0"	"	45'-4 1/2"	5'-2 1/2"	5'-5"	2 3/4"	2 3/4"	5'-5"	2 3/4"	5'-7 1/2"	2 3/4"	5'-5"	2 3/4"	5'-2 1/2"	2 3/4"	5'-2 1/2"	0
	47'-0"	"	47'-4 1/2"	5'-5 1/2"	5'-8"	2 3/4"	2 3/4"	5'-8"	2 3/4"	5'-10 1/2"	2 3/4"	5'-8"	2 3/4"	5'-5 1/2"	2 3/4"	5'-5 1/2"	0
	49'-0"	"	49'-4 1/2"	5'-8 1/2"	5'-11"	2 3/4"	2 3/4"	5'-11"	2 3/4"	6'-1 1/2"	2 3/4"	5'-11"	2 3/4"	5'-8 1/2"	2 3/4"	5'-8 1/2"	0
	15'-0"	RA3	14'-11"	4'-5 1/2"	0	0	0	0	0	0	4'-9 1/2"	0	0	0	0	4'-7"	0
	17'-0"	"	16'-11"	4'-7 1/2"	0	0	0	0	0	0	5'-3 1/2"	0	0	0	0	5'-3 1/2"	0
	19'-0"	"	18'-11"	5'-9 1/2"	0	0	0	0	0	0	6'-1 1/2"	0	0	0	0	5'-11"	0
	21'-0"	"	20'-11"	4'-8 1/2"	0	0	0	0	0	5'-10 1/2"	2 3/4"	5'-10 1/2"	0	0	0	4'-10"	0
	23'-0"	"	22'-11"	5'-2 1/2"	0	0	0	0	0	5'-6 1/2"	2 3/4"	5'-6 1/2"	0	0	0	5'-4"	0
	25'-0"	"	24'-11"	5'-18"	0	0	0	0	0	6'-0 1/2"	2 3/4"	6'-0 1/2"	0	0	0	5'-10"	0
	27'-0"	"	26'-11"	4'-10 1/2"	0	0	0	0	0	5'-2 1/2"	2 3/4"	5'-2 1/2"	2 3/4"	5'-2 1/2"	0	4'-11 1/2"	0
	29'-0"	"	28'-11"	5'-3 1/2"	0	0	0	0	0	5'-6 1/2"	2 3/4"	5'-6 1/2"	2 3/4"	5'-6 1/2"	0	5'-4 1/2"	0
	31'-0"	"	30'-11"	5'-7 1/2"	0	0	0	0	0	5'-11 1/2"	2 3/4"	5'-11 1/2"	2 3/4"	5'-11 1/2"	0	5'-9 1/2"	0
33'-0"	"	32'-11"	4'-11 1/2"	5'-9 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	5'-3 1/2"	2 3/4"	5'-11"	0	
35'-0"	"	34'-11"	5'-3 1/2"	5'-7 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	5'-7 1/2"	2 3/4"	5'-5 1/2"	0	
37'-0"	"	36'-11"	5'-7 1/2"	5'-11 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	5'-11 1/2"	2 3/4"	5'-9"	0	
LAST END SPAN	39'-0"	"	38'-11"	5'-0 1/2"	5'-4 1/2"	2 3/4"	0	0	2 3/4"	5'-4 1/2"	2 3/4"	5'-4 1/2"	2 3/4"	5'-0 1/2"	2 3/4"	5'-1 1/2"	0
	41'-0"	"	40'-11"	5'-3 1/2"	5'-7 1/2"	2 3/4"	0	0	2 3/4"	5'-7 1/2"	2 3/4"	5'-7 1/2"	2 3/4"	5'-3 1/2"	2 3/4"	5'-5 1/2"	0
	43'-0"	"	42'-11"	5'-7 1/2"	5'-11 1/2"	2 3/4"	0	0	2 3/4"	5'-10 1/2"	2 3/4"	5'-10 1/2"	2 3/4"	5'-7 1/2"	2 3/4"	5'-8 1/2"	0
	45'-0"	"	44'-11"	5'-1"	5'-4 1/2"	2 3/4"	2 3/4"	5'-4 1/2"	2 3/4"	5'-6 1/2"	2 3/4"	5'-4 1/2"	2 3/4"	5'-1"	2 3/4"	5'-5 1/2"	0
	47'-0"	"	46'-11"	5'-4"	5'-7 1/2"	2 3/4"	2 3/4"	5'-7 1/2"	2 3/4"	5'-9 1/2"	2 3/4"	5'-7 1/2"	2 3/4"	5'-4"	2 3/4"	5'-5 1/2"	0
	49'-0"	"	48'-11"	5'-7"	5'-10 1/2"	2 3/4"	2 3/4"	5'-10 1/2"	2 3/4"	5'-10 1/2"	2 3/4"	5'-10 1/2"	2 3/4"	5'-7"	2 3/4"	5'-8 1/2"	0
	15'-0"	RA4	16'-1 1/2"	4'-7 1/2"	0	0	0	0	0	0	5'-4 1/2"	0	0	0	0	4'-11 1/2"	0
	17'-0"	"	18'-1 1/2"	5'-3 1/2"	0	0	0	0	0	0	6'-0 1/2"	0	0	0	0	5'-7 1/2"	0
	19'-0"	"	20'-1 1/2"	5'-11 1/2"	0	0	0	0	0	0	6'-8 1/2"	0	0	0	0	6'-3 1/2"	0
	21'-0"	"	22'-1 1/2"	4'-9 1/2"	0	0	0	0	0	5'-3 1/2"	2 3/4"	5'-6 1/2"	0	0	0	5'-1 1/2"	0
	23'-0"	"	24'-1 1/2"	5'-1 1/2"	0	0	0	0	0	5'-9 1/2"	2 3/4"	6'-0 1/2"	0	0	0	5'-7 1/2"	0
	25'-0"	"	26'-1 1/2"	5'-9 1/2"	0	0	0	0	0	6'-3 1/2"	2 3/4"	6'-6 1/2"	0	0	0	6'-1 1/2"	0
	27'-0"	"	28'-1 1/2"	4'-10 1/2"	0	0	0	0	0	5'-4 1/2"	2 3/4"	5'-7 1/2"	2 3/4"	5'-4 1/2"	0	5'-2 1/2"	0
	29'-0"	"	30'-1 1/2"	5'-7 1/2"	0	0	0	0	0	5'-9 1/2"	2 3/4"	6'-0 1/2"	2 3/4"	5'-9 1/2"	0	5'-7 1/2"	0
	31'-0"	"	32'-1 1/2"	5'-3 1/2"	0	0	0	0	0	6'-2 1/2"	2 3/4"	6'-5 1/2"	2 3/4"	6'-2 1/2"	0	6'-0 1/2"	0
33'-0"	"	34'-1 1/2"	4'-11 1/2"	5'-5 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	5'-3 1/2"	2 3/4"	5'-3 1/2"	0	
35'-0"	"	36'-1 1/2"	5'-3 1/2"	5'-7 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	5'-7 1/2"	2 3/4"	5'-7 1/2"	0	
37'-0"	"	38'-1 1/2"	5'-7 1/2"	6'-1 1/2"	2 3/4"	0	0	0	0	0	0	2 3/4"	6'-0 1/2"	2 3/4"	5'-11 1/2"	0	
39'-0"	"	40'-1 1/2"	4'-11 1/2"	5'-6 1/2"	2 3/4"	0	0	0	2 3/4"	5'-8 1/2"	2 3/4"	5'-6 1/2"	2 3/4"	5'-3 1/2"	2 3/4"	5'-3 1/2"	0
41'-0"	"	42'-1 1/2"	5'-3"	5'-9 1/2"	2 3/4"	0	0	0	2 3/4"	6'-0 1/2"	2 3/4"	5'-9 1/2"	2 3/4"	5'-7 1/2"	2 3/4"	5'-7 1/2"	0
43'-0"	"	44'-1 1/2"	5'-6 1/2"	6'-1 1/2"	2 3/4"	0	0	0	2 3/4"	6'-3 1/2"	2 3/4"	6'-0 1/2"	2 3/4"	5'-10 1/2"	2 3/4"	5'-10 1/2"	0
45'-0"	"	46'-1 1/2"	5'-0"	5'-6 1/2"	2 3/4"	2 3/4"	5'-6 1/2"	2 3/4"	5'-9 1/2"	2 3/4"	5'-6 1/2"	2 3/4"	5'-0"	2 3/4"	5'-4 1/2"	0	
47'-0"	"	48'-1 1/2"	5'-3"	5'-9 1/2"	2 3/4"	2 3/4"	5'-9 1/2"	2 3/4"	6'-0 1/2"	2 3/4"	6'-0 1/2"	2 3/4"	5'-3"	2 3/4"	5'-7 1/2"	0	
49'-0"	"	50'-1 1/2"	5'-6"	6'-0 1/2"	2 3/4"	2 3/4"	6'-0 1/2"	2 3/4"	6'-3 1/2"	2 3/4"	6'-3 1/2"	2 3/4"	6'-0 1/2"	2 3/4"	5'-10 1/2"	0	

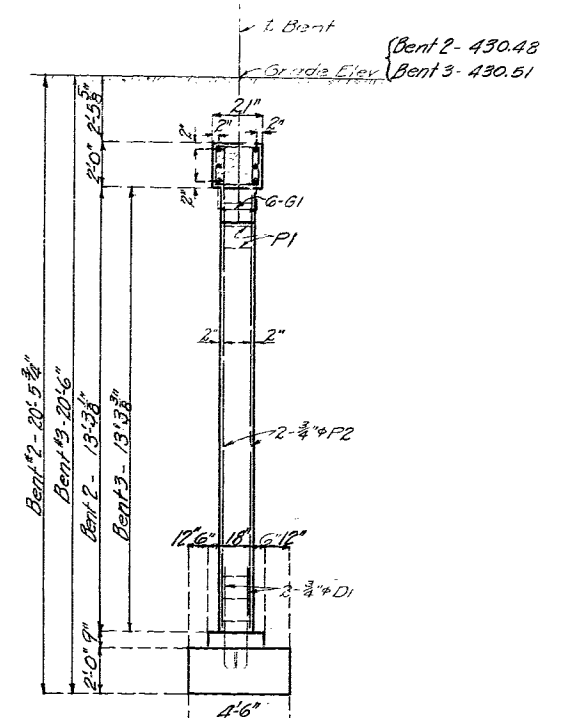
MISSOURI STATE HIGHWAY DEPARTMENT

PROJ. NO. SA-55
STA. 976+37
COUNTY WAYNE
BRIDGE OVER SMALL CREEK

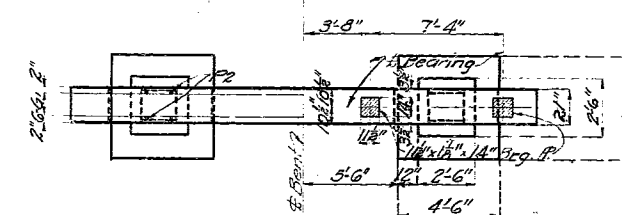
BILL OF REINFORCING STEEL (SUBSTR)				
No.	Size	Length	Mark	Bending Sketches
16	3/4"	6'-6"	D1	
24	3/4"	7'-3"	F1	
24	3/4"	26'-3"	G1	
4	3/4"	24'-3"	G2	
36	1/2"	6'-0"	P1	
16	3/4"	15'-0"	P2	
50	1/2"	7'-6"	U2	



ELEVATION

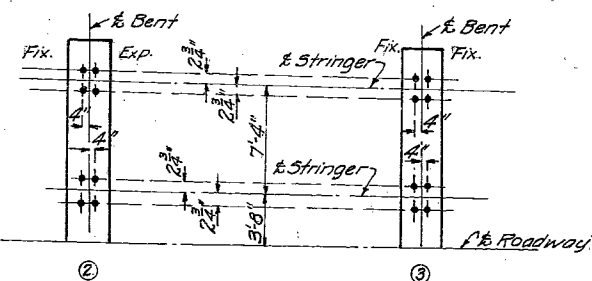


SEC. AT CL



PLAN

DETAILS OF BENTS NO. 2 & 3



HALF ANCHOR BOLT PLAN

Note: 3/8" Anchor bolts - 12" long - Hex. nuts. No heads.

BRIDGE OVER SMALL CREEK

STATE ROAD FROM WILLIAMSVILLE TO GREENVILLE

ABOUT 9 MILES NORTH OF WILLIAMSVILLE

PROJECT NO. SA-55 STA. 976+37

WAYNE

COUNTY

FINISHED

FINISHED

APPROVED BY: [Signature] DATE: [Blank]
CHECKED BY: [Signature] DATE: [Blank]

Sheet No. 1A of 1A

S-498A

Assembled Aug. 1932 by A.O.U.-G.W.
Checked Aug. 1932 by J.M.M.
Drawn Nov. 1930 by C.A.F.
Checked Dec. 1930 by J.M.M.

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