



**Missouri Department of Transportation
State Bridge Inspection Report**

August 05, 2024
7:23:54AM

COUNTY: SHANNON

DISTRICT: SE

CLASS: STATBR

FED-ID: 5386

BRIDGE: J0420

*****GENERAL STRUCTURE INFORMATION*****

*****BRIDGE INSPECTION INFORMATION*****

ROUTE: MO19S
FEATURE: RND SPRGCAV RD PRK, SP
STATUS: A-OPEN
LOG MILE: 196.478
DETOUR: 55.00 MILES
NHS: NO
BUILT: 1930
REHAB:
LOCATION: S 20 T 30 R 4 W
LATITUDE: 37 16 54.52 (DMS)
LONGITUDE: 91 24 34.46 (DMS)

SPANS: 8
LANES ON: 2
LANES UNDER: 2
COMPASS DIRECTION: NORTH to SOUTH
DIRECTION OF TRAFFIC: 2-WAY TRAF
FUNCTIONAL CLASS: RL-MINOR ARTERIAL
NBI OWNER: MODOT
NBI MAINTAINED: MODOT
MAINTENANCE DISTRICT: SE
MAINTENANCE COUNTY: SHANNON
SUB AREA: 7H52

PLACE CODE: 22294 EMINENCE
LENGTH: 523 FT 0 IN
MAXIMUM SPAN: 155 FT 0 IN
APPROACH ROADWAY: 22 FT 0 IN
CURB TO CURB: 20 FT 0 IN
OUT TO OUT: 23 FT 0 IN
AADT: 416
AADT YEAR: 2023
AADT TRUCK: 18.5%
FUTURE AADT: 624
FUTURE AADT YEAR: 2043

DATE: 12/14/2022 RESPONSIBILITY: DISTRICT
FREQUENCY: 24 CALCULATED INTERVAL**: 24
TEAM LEADER: ED HESS ELEMENT: NO
INSPECTOR 2: INSPECTOR 4:
INSPECTOR 3:
** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

GENERAL INSPECTION COMMENTS

*****FRACTURE CRITICAL INSPECTION INFORMATION*****

*****INDEPTH INSPECTION INFORMATION*****

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

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

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

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

FRACTURE CRITICAL INSPECTION COMMENTS

INDEPTH INSPECTION COMMENTS

*****SPECIAL INSPECTION INFORMATION*****

*****UNDERWATER INSPECTION INFORMATION*****

DATE: 07/10/2014 RESPONSIBILITY: DISTRICT CATEGORY: CHANNEL CROSS SEC'
FREQUENCY: 72 CALCULATED INTERVAL**:
TEAM LEADER: INSPECTOR 3: NBI: NO
INSPECTOR 2: ED HESS INSPECTOR 4: METHOD: WT TAPE

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

DATE: 12/14/2022 RESPONSIBILITY: DISTRICT CATEGORY: DRY
FREQUENCY: 60 CALCULATED INTERVAL**:
TEAM LEADER: ED HESS INSPECTOR 3: NBI: NO
INSPECTOR 2: INSPECTOR 4: METHOD: VISUAL

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

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION COMMENTS

OTHER SPECIAL INSPECTIONS

OTHER UNDERWATER INSPECTIONS

DATE FREQUENCY CATEGORY NBI CALCULATED INTERVAL RESPONSIBILITY METHOD

DATE FREQUENCY CATEGORY NBI CALCULATED INTERVAL RESPONSIBILITY METHOD



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*****STRUCTURE POSTING*****

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

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

*****GENERAL COMMENTS/MAJOR RATED ITEMS*****

GENERAL COMMENTS: (BOWDEJ1, 04/08/2008)--(54'-52'-51') SMP DECK GDR - (151') OPEN SPANDREL CONC ARCH - (51'-52'-52'-54') SMP DECK GDR SPANS

[ITEM 58] DECK: 4-POOR CONDITION COMMENTS: (DENNIB1, 04/23/2018)--LATERAL CRACKING THROUGHOUT ASPHALT OVERLAY
RATING : 12/13/2018 (DENNIB1, 12/13/2018)--APPROXIMATELY 50% SATURATION AND SPALLS THROUGHOUT THE MAIN SPAN. MODERATE TO SEVERE EDGE
DETERIORATION THE MAIN SPAN.

[ITEM 59] SUPER: 4-POOR CONDITION COMMENTS: (MADSEJ, 07/08/2016)--MINOR TO MODERATE SPALLING THROUGHOUT MAIN SPAN ARCHES AND FLOORBEAMS.
RATING : 12/16/2022 (DENNIB1, 04/23/2018)--REBAR EXPOSED IN MOST CASES
(BRAWLK1, 12/16/2022)--SPALL AT BEARING AFFECTING BEARING

[ITEM 60] SUB: 6-SATISFACTORY CONDITION COMMENTS: (DENNIB1, 04/23/2018)--A FEW CRACKS AND SPALLS THROUGHOUT ALL BENT BEAMCAPS AND COLUMNS WITH REBAR EXPOSED IN MOST CASES
RATING : 05/18/2001

[ITEM 61] BANK/CHANNEL: 5-MAJOR DAMAGE COMMENTS: (MADSEJ, 07/08/2016)--VEGETATION AND DEBRIS THROUGHOUT THE CHANNEL IS SLIGHTLY RESTRICTING FLOW.
RATING : 12/16/2022 (BRAWLK1, 12/16/2022)--MODERATE SCOUR AROUND BENT 4

[ITEM 113] SCOUR: 5-FOUNDATION STABLE COMMENTS: (BRAWLK1, 12/16/2022)--MOD SCOUR AROUND BENT 4
RATING : 12/16/2022
EVALUATION TYPE :

[ITEM 71] WATERWAY ADEQUACY: DECK/APPRCH OVERTOP SLIGT COMMENTS:
RATING : 05/18/2001

[ITEM 72] APPRRDWY ALIGNMENT: 6-SATISFACTORY COMMENTS:
RATING : 05/18/2001

*****RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS*****

[ITEM 36A] BRIDGE RAILING RATING: DOESNT MEET CURRNT STND-0 RATING : 12/10/2014 COMMENTS:

<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>
REINFORCED CONCRETE	CURB	BOTH	
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>
DETERIORATION	THROUGHOUT		MODERATE
REBAR EXPOSED	THROUGHOUT		MANY
REINFORCED CONCRETE	BALUSTER	BOTH	

[ITEM 36B] TRANSITION RAILING RATING: NOT PROVIDED-0 RATING : 05/18/2001 COMMENTS:

[ITEM 36C] APPROACH RAILING RATING: NOT PROVIDED-0 RATING : 05/18/2001 COMMENTS:



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[ITEM 36D] RAIL END TREATMENT RATING: NOT PROVIDED-0

RATING : 05/18/2001

COMMENTS:

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

<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>CONDITION*</u>	<u>COMMENTS</u>
ASPHALT	BITUMINOUS MAT	BOTH		

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

DECK PROTECTIVE COMPONENTS:

<u>SERIES TYPE-#</u>	<u>COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>THICKNESS</u>	<u>YEAR APPLIED</u>	<u>MANUFACTURE</u>	<u>OVERALL CONDITION</u>
APPROACH SERIES-1	WEARING SURFACE	ASPHALT	BITUMINOUS MAT	1 IN	2020		GOOD
<u>COMMENT:</u>							
	DECK PROTECTION	NOTAPPLICABLE	NONE				
<u>COMMENT:</u>							
	MEMBRANE	LIQUID SEALANT	BUILT-UP				
<u>COMMENT:</u>							
MAIN SERIES-2	WEARING SURFACE	ASPHALT	BITUMINOUS MAT	1 IN	2020		GOOD
<u>COMMENT:</u>							
	DECK PROTECTION	NOTAPPLICABLE	NONE				
<u>COMMENT:</u>							
	MEMBRANE	LIQUID SEALANT	BUILT-UP				
<u>COMMENT:</u>							

DRAINAGE COMPONENTS:

<u>COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>
DRAINAGE	REINFORCED CONCRETE	CURB OUTLET		

EXPANSION DEVICE COMPONENTS:

<u>SUB UNIT-#</u>	<u>SUB LABEL</u>	<u>COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>GAP</u>	<u>YEAR APPLIED</u>	<u>MANUFACTURE</u>	<u>OVERALL CONDITION</u>
BENT-2		CLOSED EXPANSION JOINT	FELT	FILLED JOINT				
<u>COMMENT:</u>								
BENT-3		CLOSED EXPANSION JOINT	FELT	FILLED JOINT				
<u>COMMENT:</u>								

BANK/SLOPE PROTECTION COMPONENTS:

<u>COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>
BANK PROTECTION	ROCK	BLANKET	BOTH	



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*****DECK COMPONENTS*****

<u>SPAN TYPE-#</u>	<u>COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>COMMENTS</u>		
<i>APPROACH SPANS-1</i>	<i>DECK</i>	<i>REINFORCED CONCRETE</i>	<i>CAST-IN-PLACE</i>			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
DETERIORATION		AT JOINTS		MINOR		
DETERIORATION		AT OUTLETS		MODERATE		
TRANSVERSE CRACKS		THROUGHOUT		FEW		
<i>APPROACH SPANS-2</i>	<i>DECK</i>	<i>REINFORCED CONCRETE</i>	<i>CAST-IN-PLACE</i>			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
DETERIORATION		AT JOINTS		MINOR		
DETERIORATION		AT OUTLETS		MINOR		
TRANSVERSE CRACKS		THROUGHOUT		FEW		
<i>APPROACH SPANS-3</i>	<i>DECK</i>	<i>REINFORCED CONCRETE</i>	<i>CAST-IN-PLACE</i>			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
DETERIORATION		AT JOINTS		MINOR		
DETERIORATION		AT OUTLETS		MODERATE		
TRANSVERSE CRACKS		THROUGHOUT		FEW		
<i>MAIN SPANS-4</i>	<i>DECK</i>	<i>REINFORCED CONCRETE</i>	<i>CAST-IN-PLACE</i>			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
DETERIORATION		AT JOINTS		MINOR		
DETERIORATION		AT OUTLETS		MODERATE		
EFFLORESCENCE		THROUGHOUT		MEDIUM		
SATURATION		THROUGHOUT		MODERATE	50 %	
SPALLS		THROUGHOUT		LARGE		
TRANSVERSE CRACKS		THROUGHOUT		FEW		
<i>APPROACH SPANS-5</i>	<i>DECK</i>	<i>REINFORCED CONCRETE</i>	<i>CAST-IN-PLACE</i>			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
DETERIORATION		AT JOINTS		MINOR		
DETERIORATION		AT OUTLETS		MODERATE		
TRANSVERSE CRACKS		THROUGHOUT		FEW		
<i>APPROACH SPANS-6</i>	<i>DECK</i>	<i>REINFORCED CONCRETE</i>	<i>CAST-IN-PLACE</i>			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
DETERIORATION		AT JOINTS		MINOR		
DETERIORATION		AT OUTLETS		MODERATE		
TRANSVERSE CRACKS		THROUGHOUT		FEW		
<i>APPROACH SPANS-7</i>	<i>DECK</i>	<i>REINFORCED CONCRETE</i>	<i>CAST-IN-PLACE</i>			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
DETERIORATION		AT JOINTS		MINOR		
DETERIORATION		AT OUTLETS		MODERATE		
TRANSVERSE CRACKS		THROUGHOUT		FEW		



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<i>APPROACH SPANS-8</i>	<i>DECK</i>	<i>REINFORCED CONCRETE</i>	<i>CAST-IN-PLACE</i>
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>
DETERIORATION		AT JOINTS	
DETERIORATION		AT OUTLETS	
TRANSVERSE CRACKS		THROUGHOUT	

<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
MINOR		
MINOR		
FEW		

SUPERSTRUCTURE COMPONENTS

<u>SERIES TYPE-#</u>	<u>SPAN TYPE</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>LABEL</u>	<u>COMMENTS</u>
<i>APPROACH SERIES-1</i>	<i>SIMPLE SPAN</i>	<i>REINFORCED CONCRETE</i>	<i>DECK GIR</i>		<i>(REHAGM, 01/29/2007)--ALL SPANS - SUPER SHIFTED 1" - 21/2"</i>

<u>SPAN</u>	<u>COMPOSITE INDICATOR</u>	<u>LENGTH</u>	<u>WEATHERING STEEL</u>	<u>COMMENTS</u>
APPROACH SPANS-1	NON-COMPOSITE	54 FT 1 IN	NO	

<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
SPALLS	DIAPHRAGMS		LARGE		(DENNIB1, 04/23/2018)--REBAR HANGING FREE

<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
SPALLS	DIAPHRAGMS		LARGE		
SPALLS	GIRDER ENDS		MEDIUM		

<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
SPALLS	DIAPHRAGMS		LARGE		

<u>SPAN</u>	<u>COMPOSITE INDICATOR</u>	<u>LENGTH</u>	<u>WEATHERING STEEL</u>	<u>COMMENTS</u>
<i>MAIN SPANS-4</i>	<i>NON-COMPOSITE</i>	<i>155 FT 0 IN</i>	<i>NO</i>	

<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
DETERIORATION	ENDS		MINOR		(MADSEJ, 07/08/2016)--ALL FLOORBEAMS.
REBAR EXPOSED	THROUGHOUT		MODERATE		
SPALLS	BOTTOM		LARGE		(MADSEJ, 07/08/2016)--FLOORBEAMS 2 AND 8.
SPALLS	THROUGHOUT		LARGE		(MADSEJ, 07/08/2016)--ARCH TOP AND BOTTOM EDGES

<u>SPAN</u>	<u>COMPOSITE INDICATOR</u>	<u>LENGTH</u>	<u>WEATHERING STEEL</u>	<u>COMMENTS</u>
APPROACH SPANS-5	NON-COMPOSITE	51 FT 1 IN	NO	

<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
SPALLS	DIAPHRAGMS		LARGE		
SPALLS	THROUGHOUT		MINOR		

<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
SPALLS	DIAPHRAGMS		LARGE		
SPALLS	ENDS		MODERATE		

<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
HIGH STEEL SPALLS	GIRDER ENDS		FEW		
SPALLS	DIAPHRAGMS		LARGE		
SPALLS	ENDS		MODERATE		



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APPROACH SPANS-8 NON-COMPOSITE 54 FT 1 IN NO LOCATION 1 LOCATION 2 SEVERITY MEASUREMENT COMMENT
CONDITION LOCATION 1 LOCATION 2 LARGE

SPALLS

DIAPHRAGMS

SUBSTRUCTURE COMPONENTS

<u>SUBSTRUCTURE</u>	<u>SKEW</u>	<u>LENGTH</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>LABEL</u>	<u>COMMENTS</u>
ABUTMENT-1	RA-45 DEGREES	26 FT 3 IN	REINFORCED CONCRETE	OPEN CONCRETE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>			<u>MATERIAL</u>	<u>CONSTRUCTION</u>		
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
STRAIGHT WINGS			REINFORCED CONCRETE	CAST-IN-PLACE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
	SPALLS		RANDOM		FEW	
FOOTING			REINFORCED CONCRETE	SPREAD		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
BACKWALL			REINFORCED CONCRETE	CAST-IN-PLACE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
	SPALLS		BOTTOM		MODERATE	(DENNIB1, 04/23/2018)--STEEL SHOWING & DETERIORATED
BEAM CAP			REINFORCED CONCRETE	CAST-IN-PLACE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
EXPANSION BEARING			BRONZE	SLIDING CURVED/FLAT PL		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
BENT-2	RA-45 DEGREES	25 FT 10 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>			<u>MATERIAL</u>	<u>CONSTRUCTION</u>		
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
	VERTICAL CRACKS		TOP		FEW	
FOOTING			REINFORCED CONCRETE	SPREAD		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
BEAM CAP			REINFORCED CONCRETE	CAST-IN-PLACE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
	HONEY COMBS		BOTTOM		MINOR	
	SPALLS		BOTTOM		MEDIUM	
TIE BEAM			REINFORCED CONCRETE	CAST-IN-PLACE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
DIAPHRAGM			REINFORCED CONCRETE	CAST-IN-PLACE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
EXPANSION BEARING			BRONZE	SLIDING CURVED/FLAT PL		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
BENT-3	RA-45 DEGREES	25 FT 10 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>			<u>MATERIAL</u>	<u>CONSTRUCTION</u>		
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
	VERTICAL CRACKS		TOP		FEW	



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					<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING	<u>CONDITION</u>		REINFORCED CONCRETE	SPREAD			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
BEAM CAP	<u>CONDITION</u>		REINFORCED CONCRETE	CAST-IN-PLACE			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
	DELAMINATION		THROUGHOUT		FEW		
TIE BEAM	<u>CONDITION</u>		REINFORCED CONCRETE	CAST-IN-PLACE			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
EXPANSION BEARING	<u>CONDITION</u>		BRONZE	SLIDING CURVED/FLAT PL.			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
<i>PIER-4</i>	<i>RA-45 DEGREES</i>	<i>25 FT 0 IN</i>	<i>REINFORCED CONCRETE</i>	<i>MULTIPLE COLUMN</i>			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>			<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
COLUMN	<u>CONDITION</u>		REINFORCED CONCRETE	CAST-IN-PLACE			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
	HONEY COMBS		BOTTOM		MODERATE		
	REBAR EXPOSED		THROUGHOUT		MODERATE		
	SPALLS		BOTTOM		MODERATE		
	VERTICAL CRACKS		TOP		FEW		
FOOTING	<u>CONDITION</u>		REINFORCED CONCRETE	SPREAD			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
BEAM CAP	<u>CONDITION</u>		REINFORCED CONCRETE	CAST-IN-PLACE			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
	DELAMINATION		THROUGHOUT		MODERATE		
	SPALLS		THROUGHOUT		MEDIUM		
	SPALLS		TOP		MEDIUM		
TIE BEAM	<u>CONDITION</u>		REINFORCED CONCRETE	CAST-IN-PLACE			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
EXPANSION BEARING	<u>CONDITION</u>		BRONZE	SLIDING CURVED/FLAT PL.			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
DIAPHRAGM	<u>CONDITION</u>		REINFORCED CONCRETE	CAST-IN-PLACE			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
<i>PIER-5</i>	<i>RA-45 DEGREES</i>	<i>25 FT 0 IN</i>	<i>REINFORCED CONCRETE</i>	<i>MULTIPLE COLUMN</i>			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>			<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
COLUMN	<u>CONDITION</u>		REINFORCED CONCRETE	CAST-IN-PLACE			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
FOOTING	<u>CONDITION</u>		REINFORCED CONCRETE	SPREAD			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
BEAM CAP	<u>CONDITION</u>		REINFORCED CONCRETE	CAST-IN-PLACE			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
	HORIZONTAL CRACKS		RANDOM		FEW		
TIE BEAM	<u>CONDITION</u>		REINFORCED CONCRETE	CAST-IN-PLACE			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
EXPANSION BEARING	<u>CONDITION</u>		BRONZE	SLIDING CURVED/FLAT PL.			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
DIAPHRAGM	<u>CONDITION</u>		REINFORCED CONCRETE	CAST-IN-PLACE			
			<u>LOCATION 1</u>	<u>LOCATION 2</u>			
<i>BENT-6</i>	<i>RA-45 DEGREES</i>	<i>25 FT 10 IN</i>	<i>REINFORCED CONCRETE</i>	<i>MULTIPLE COLUMN</i>			



**Missouri Department of Transportation
State Bridge Inspection Report**

August 05, 2024
7:23:54AM

COUNTY: SHANNON

DISTRICT: SE

CLASS: STATBR

FED-ID: 5386

BRIDGE: J0420

	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<i>BENT-7</i>	<i>RA-45 DEGREES</i>	<i>25 FT 10 IN</i>	<i>REINFORCED CONCRETE</i>	<i>MULTIPLE COLUMN</i>			
<u>ASSOCIATED COMPONENT</u>	<u>CONDITION</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING	SPALLS		THROUGHOUT		MINOR		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BEAM CAP			REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
TIE BEAM			REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING			BRONZE	SLIDING CURVED/FLAT PL			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<i>BENT-7</i>	<i>RA-45 DEGREES</i>	<i>25 FT 10 IN</i>	<i>REINFORCED CONCRETE</i>	<i>MULTIPLE COLUMN</i>			
<u>ASSOCIATED COMPONENT</u>	<u>CONDITION</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING	VERTICAL CRACKS		RANDOM		FEW		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BEAM CAP			REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
TIE BEAM	HONEY COMBS		BOTTOM		MINOR		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING	SPALLS		TOP		FEW		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<i>BENT-8</i>	<i>RA-45 DEGREES</i>	<i>25 FT 10 IN</i>	<i>REINFORCED CONCRETE</i>	<i>MULTIPLE COLUMN</i>			
<u>ASSOCIATED COMPONENT</u>	<u>CONDITION</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING			REINFORCED CONCRETE	SPREAD			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BEAM CAP			REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
TIE BEAM	DETERIORATION HORIZONTAL CRACKS		ENDS BOTTOM		MINOR MEDIUM		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING			BRONZE	SLIDING CURVED/FLAT PL			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<i>ABUTMENT-9</i>	<i>RA-45 DEGREES</i>	<i>26 FT 3 IN</i>	<i>REINFORCED CONCRETE</i>	<i>OPEN CONCRETE</i>			
<u>ASSOCIATED COMPONENT</u>	<u>CONDITION</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE			



COUNTY: SHANNON

DISTRICT: SE

Missouri Department of Transportation
State Bridge Inspection Report

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August 05, 2024
7:23:54AM

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	LOCATION	ITEM	CATEGORY	PRIORITY	DATE	WORK ITEM COMMENT
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UTILITY ATTACHMENTS

UTILITY	OWNER	METHOD	MEASUREMENT TYPE	VALUE	NUMBER	UTILITY ATTACHMENT COMMENT
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PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT
2026	9P3814	0	2026	REPLACE BRIDGE	

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

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

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	4-MEETS MINIMUM TOLERABLE	12/17/2022
[Item 68] Deck Geometry Rating:	3-BASICALLY INTOL CORRECT	3/6/2024
[Item 69] Underclearance:	4-MEETS MINIMUM TOLERABLE	12/10/2014
Sufficiency Rating:	19.4%	3/6/2024
Deficiency:	STRUCTURAL	12/17/2018
Funding Eligibility:	FULL	----
Estimated New Structure Length:	548 FT.	----
Estimated Structure Cost:	\$3,177,852	----
Estimated Total Project Cost:	\$4,766,778	----
Year of Cost Estimate:	2024	----

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

ADVANCED SIGN INFORMATION

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

OUTFALL INSPECTION INFORMATION

# OUTFALLS:	INSPECTOR:
STATUS:	DATE:
NOTES:	



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

August 5, 2024
7:18:02am

COUNTY : SHANNON	BRIDGE : J0420	REVIEW STATUS : APPROVED	NBI STATUS : T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT		RUN DATE : 3/15/2024	SUBMITTAL YEAR : 2024

GENERAL STRUCTURE INFORMATION	ROUTE DESIGNATION INFORMATION
1 State MISSOURI	5A Record Type ROUTE CARRIED 'ON' STRUCT
2 District SE	5B Route Signing Prefix MO
3 County SHANNON	5C Designated Level of Service MAINLINE
8 Federal ID No. 5386	5D Route Number 00019
27 Year Built 1930	5E Directional Suffix NOT APPLICABLE
106 Year Reconstructed 0	7 Facility Carried MO 19 S
42A Type of Service On HIGHWAY	12 Base Hwy. Network YES
21 Structure Maintenance STATE HIGHWAY AGENCY	13A LRS Inventory Route No. 0000000054
22 Structure Owner STATE HIGHWAY AGENCY	13B Subroute No. 00
33 Br. Median Code NO MEDIAN	20 Toll Status ON FREE ROAD
37 Historical Significance POSSIBLY ELIG NR OF HP	26 Functional Classification 06-RURAL MINOR ARTERIAL
101 Parallel Struc Desg NONE EXISTS	28A Lanes on Structure 02
103 Temporary Structure NOT TEMPORARY	100 STRAHNET Designation RTE NOT A DEFENSE HWY
112 NBIS Bridge Length YES	104 National Highway System NOT ON NHS
	105 Federal Lands Highway NOT APPLICABLE
	110 Designated Nat. Network NO

STRUCTURE LOCATION INFORMATION	STRUCTURE TRAFFIC INFORMATION
4 Place EMINENCE	29 AADT 416
Code 22294	30 AADT Year 2023
9 Location S 20 T 30 N R 4 W	102 Direction of Traffic 2-WAY TRAFFIC
11 Milepoint 197.63 miles	109 AADT Truck Percent 19%
16 Latitude 37 D 16 M 55 S	114 Future AADT 624
17 Longitude 91 D 24 M 34 S	115 Future AADT Year 2043

UNDERRECORD INFORMATION	STRUCTURE GEOMETRIC INFORMATION
6 Features Intersected RND SPRGCAV RD PRK, SP	10 Inventory Rte. Vert. Clear 99 Ft. 99 In.
42B Type of Service Under HIGHWAY-WATERWAY	19 By pass Detour Length 55.63 miles
28B Lanes Under Structure 02	32 Approach Roadway Width 21 Ft. 12 In.
54A Vert. Clearance Ref. HIGHWAY	34 Skew 45.00 Degrees
54B Vert. Clearance 20 Ft. 2 In.	35 Struct. Flared NO
55A Rt. Lat Clear Ref. HIGHWAY	47 Total Horiz. Clear 20 Ft. 0 In.
55B Rt. Lat Clearance 4 Ft. 11 In.	48 Maximum Span Length 154 Ft. 10 In.
56 Left Lat Clearance 0 Ft. 0 In.	49 Structure Length 522 Ft. 12 In.
38 Navigation Control PERMIT NOT REQ	50A Left Curb/Sidewalk Width 0 Ft. 0 In.
39 Nav Vertical Clear 0 Ft. 0 In.	50B Right Curb/Sidewalk Width 0 Ft. 0 In.
40 Nav Horizontal Clear 0 Ft. 0 In.	51 Curb to Curb Br. Width 20 Ft. 0 In.
111 Nav. Pier Protection	52 Deck Width (Out-Out) 22 Ft. 12 In.
116 Nav. Cl. Vert. Clear	53 Vert. Clearance Over Deck 99 Ft. 99 In.

Design_No = J0420 and Inventory_Appraisal_Submittal_Year = 2024



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

August 5, 2024
7:18:02am

COUNTY : SHANNON	BRIDGE : J0420	REVIEW STATUS : APPROVED	NBI STATUS : T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT		RUN DATE : 3/15/2024	SUBMITTAL YEAR : 2024

LOAD RATING AND POSTING INFORMATION	MATERIAL/CONSTRUCTION INFORMATION																																																						
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Design_No = J0420 and Inventory_Appraisal_Submittal_Year = 2024



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

August 5, 2024
7:18:02am

COUNTY : SHANNON	BRIDGE : J0420	REVIEW STATUS : APPROVED	NBI STATUS : T
RECORD TYPE : ROUTE 'UNDER' STRUCT		RUN DATE : 3/15/2024	SUBMITTAL YEAR : 2024

GENERAL STRUCTURE INFORMATION	ROUTE DESIGNATION INFORMATION
1 State MISSOURI	5A Record Type ROUTE 'UNDER' STRUCT Code : 2
2 District SE	5B Route Signing Prefix CRD
3 County SHANNON	5C Designated Level of Service MAINLINE
8 Federal ID No. 5386	5D Route Number 00000
27 Year Built 1930	5E Directional Suffix NOT APPLICABLE
106 Year Reconstructed 0	7 Facility Carried MO 19 S
42A Type of Service On HIGHWAY	12 Base Hwy. Network
21 Structure Maintenance	13A LRS Inventory Route No.
22 Structure Owner	13B Subroute No.
33 Br. Median Code	20 Toll Status ON FREE ROAD
37 Historical Significance	26 Functional Classification 09-RURAL LOCAL
101 Parallel Struc Desg NONE EXISTS	28A Lanes on Structure 02
103 Temporary Structure NOT TEMPORARY	100 STRAHNET Designation RTE NOT A DEFENSE HWY
112 NBIS Bridge Length	104 National Highway System NOT ON NHS
	105 Federal Lands Highway
	110 Designated Nat. Network NO

STRUCTURE LOCATION INFORMATION	STRUCTURE TRAFFIC INFORMATION
4 Place EMINENCE	29 AADT 200
Code 22294	30 AADT Year 2022
9 Location S 20 T 30 N R 4 W	102 Direction of Traffic 2-WAY TRAFFIC
11 Milepoint 0.00 miles	109 AADT Truck Percent 10%
16 Latitude 37 D 16 M 55 S	114 Future AADT
17 Longitude 91 D 24 M 34 S	115 Future AADT Year

UNDERRECORD INFORMATION	STRUCTURE GEOMETRIC INFORMATION
6 Features Intersected RND SPRGCAV RD PRK	10 Inventory Rte. Vert. Clear 20 Ft. 2 In.
42B Type of Service Under HIGHWAY-WATERWAY	19 By pass Detour Length 0.00 miles
28B Lanes Under Structure 02	32 Approach Roadway Width
54A Vert. Clearance Ref.	34 Skew
54B Vert. Clearance	35 Struct. Flared
55A Rt. Lat Clear Ref.	47 Total Horiz. Clear 29 Ft. 10 In.
55B Rt. Lat Clearance	48 Maximum Span Length 154 Ft. 10 In.
56 Left Lat Clearance	49 Structure Length 522 Ft. 12 In.
38 Navigation Control	50A Left Curb/Sidewalk Width
39 Nav Vertical Clear	50B Right Curb/Sidewalk Width
40 Nav Horizontal Clear	51 Curb to Curb Br. Width
111 Nav. Pier Protection	52 Deck Width (Out-Out)
116 Nav. Cl. Vert. Clear	53 Vert. Clearance Over Deck

Design_No = J0420 and Inventory_Appraisal_Submittal_Year = 2024



**Missouri Department of Transportation
Bridge Inventory and Inspection System
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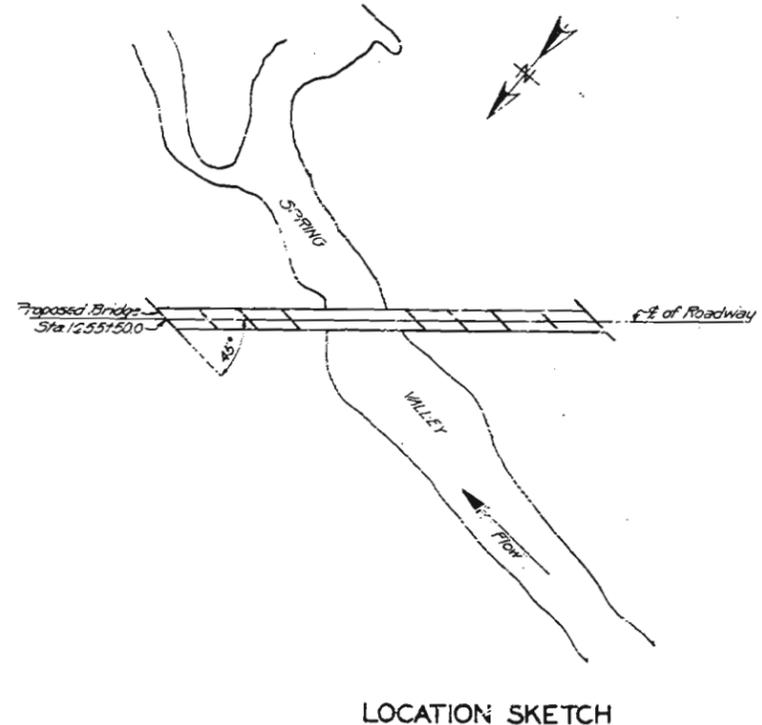
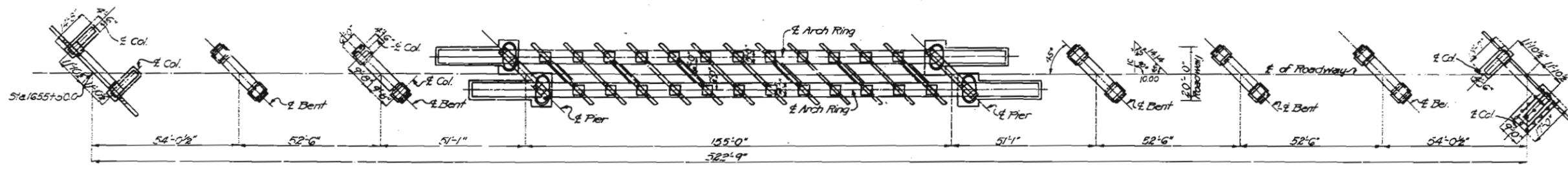
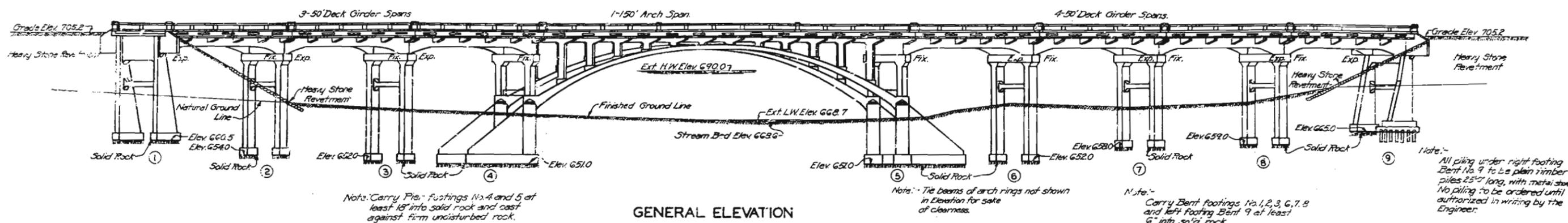
COUNTY : SHANNON	BRIDGE : J0420	REVIEW STATUS : APPROVED	NBI STATUS : T
RECORD TYPE : ROUTE 'UNDER' STRUCT		RUN DATE : 3/15/2024	SUBMITTAL YEAR : 2024

LOAD RATING AND POSTING INFORMATION	MATERIAL/CONSTRUCTION INFORMATION																																												
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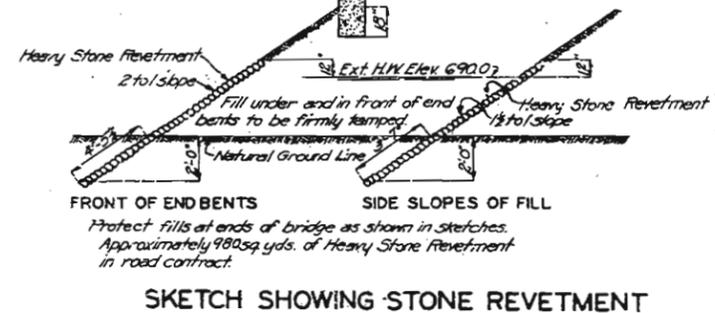
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
2	MO	RA-525	13		



Item	Concrete Cu. Yds.	
	Class 1	Class 2
Highways	498	
Deck Girder Spans 1-2, 2-3, 3-4, 5-6, 6-7, 7-8 & 8-9	636.3	
Slab and Curbs over Arch Span	116.0	
Arch Rings		153.6
Piers above Elev. 679.29		44.6
Piers below Elev. 679.29		497.6
Spandrel Bents		61.0
Girder Bents		440.6
Totals	498	1197.4
Phosphor Bronze Bearing Plates	Lbs.	6260
Excavation Class 1	Cu. Yds.	360
Excavation Class 2	Cu. Yds.	2095
Plain Timber Piles	Lin. Ft.	435
Plain Timber Pile Cut-Offs	Lin. Ft.	45
Reinforcing Steel	Lbs.	244,000

Note: Excavation above Elev. 672.0 is to be paid for as Class 1 excavation.
Excavation below Elev. 672.0 is to be paid for as Class 2 excavation.



GENERAL NOTES:

Concrete in handrail to be Class "A"; all deck girders Class "X"; slab and curbs over arch span Class "X" and all girder bents, piers, spandrel bents and arch rings Class "B". Concrete shall be proportioned by the weight proportioning method. See Specifications.

Exposed surfaces to be rubbed to a smooth and uniform appearance. No plastering permitted.

Arch shall be poured in radial blocks in the order indicated on the detail drawings.

Corresponding sections in both ribs of span shall be poured at the same time.

Columns over arch shall not be cast until after wedges under ring have been released.

Provision must be made in the arch centering to bring loading upon all points of the ring as nearly simultaneously as practical in removing centering.

The centering shall not be removed from the span until the concrete over it has reached the required strength.

No permanent camber desired in finished spans.

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.

Horizontal expansion joints in slab on arch span to consist of 3 layers of roofing felt applied on smoothly finished surfaces.

Two Name Plates, type "A" as shown on Std. S-818 to be furnished and placed by contractor. Cast of name plates to be included in price bid for other items.

Excavation in accordance with Section I of Standard Specifications issued April 1, 1930 except that excavation paid for will be computed from extreme L.W. Elev. 668.7 where existing ground line is below this elevation and will include actual removal of any material lying within such plan limits as shown for Piers No. 4 and 5 on Sheet No. 4 of design plans instead of allowing quantities to only 18" outside of footings. See Special Provisions.

Exposed edges shall be beveled 1/4" where no other bevel is noted.

INDEX OF SHEETS:

Sheet No. 1 General Elevation and Plan.
Sheet No. 2 Bill of Reinforcing Steel & Bents No. 2, 3, 6, 7 & 8.
Sheet No. 3 Details of Bents No. 1 & 9.
Sheet No. 4 Details of Piers No. 4 & 5.
Sheet No. 5 Details of Deck Girder Spans 1-2, 2-3, 6-7, 7-8 & 8-9.
Sheet No. 6 Details of Deck Girder Spans 3-4 & 5-6.
Sheet No. 7 Elevation and Plan of Arch Ring.
Sheet No. 8 Details of Arch Span.

B.M. Elev. 679.39 Head Spike in base of 20" Elm 85' Ry. Sta. 1659+30.

BRIDGE OVER SPRING VALLEY

STATE ROAD FROM SALEM TO EMINENCE
ABOUT 22.5 MILES NORTH OF WINONA
PROJECT NO. R19-S35 STA. 1655+50

SHANNON COUNTY

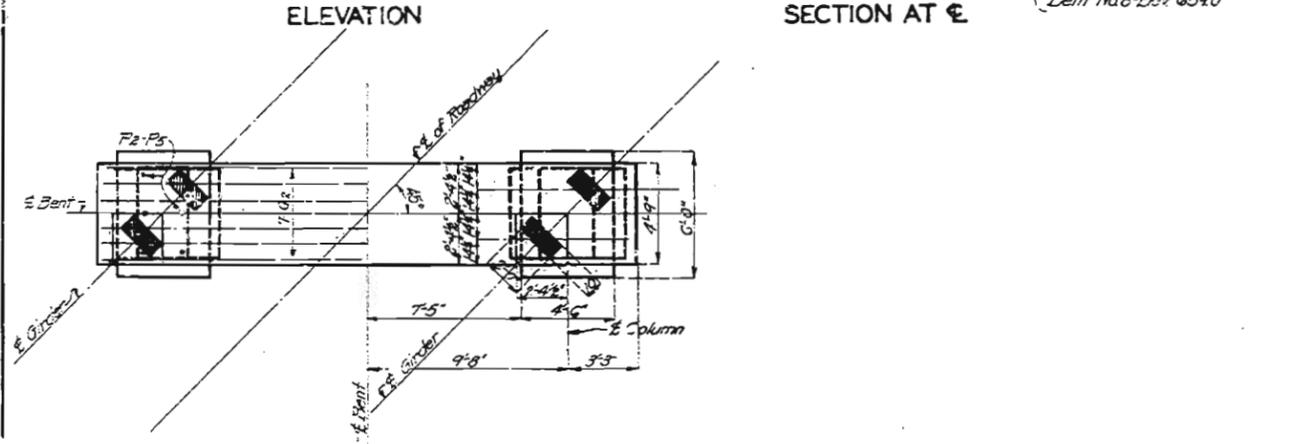
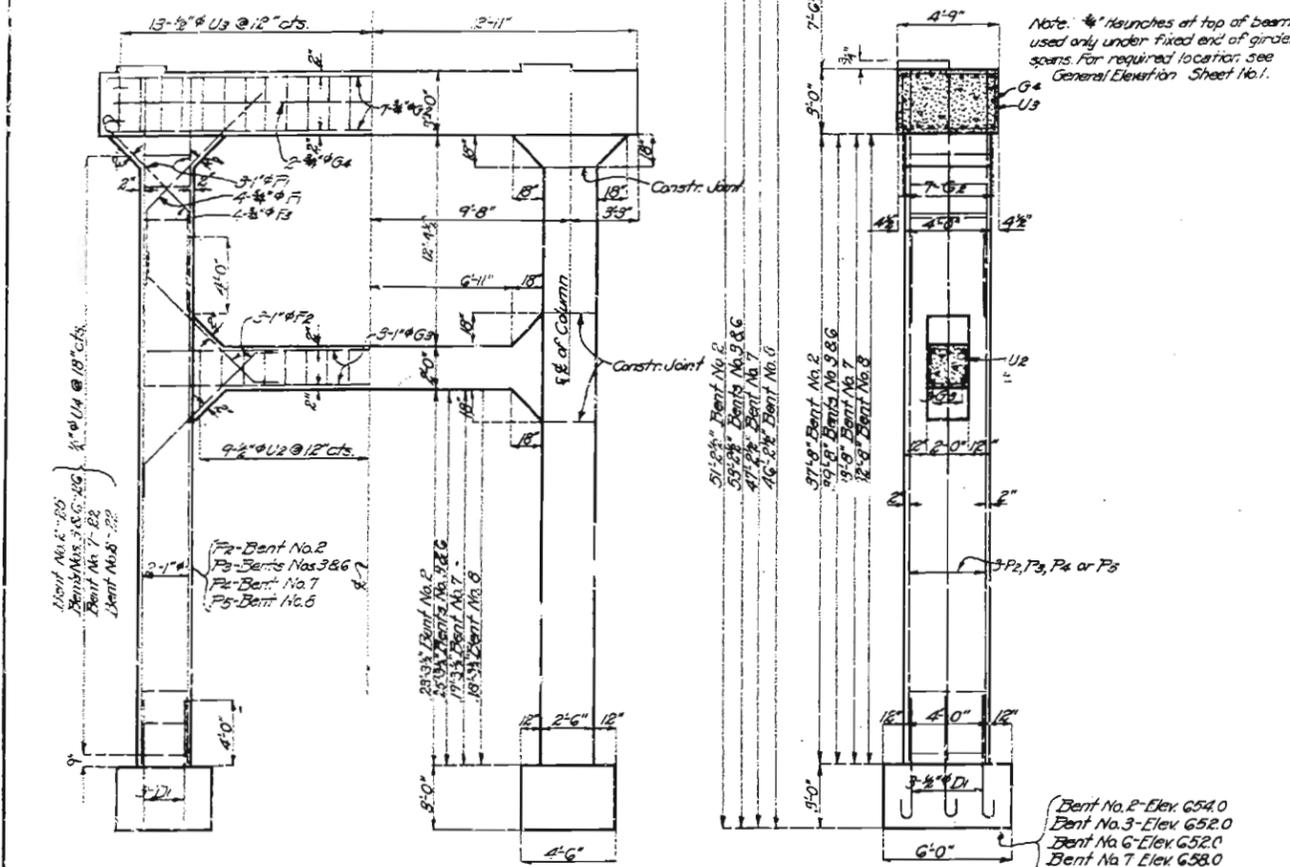
SUBMITTED BY: [Signature] DATE: 4/14/30
APPROVED BY: [Signature] BRIDGE ENGINEER
DATE: [Blank] CHIEF ENGINEER

264

Drawn Mar. 1930 By H.E.C.
Traced Mar. 1930 By H.W.H.
Checked Apr. 1930 By H.M.R.

MISSOURI STATE HIGHWAY DEPARTMENT

ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO	719-535	19		



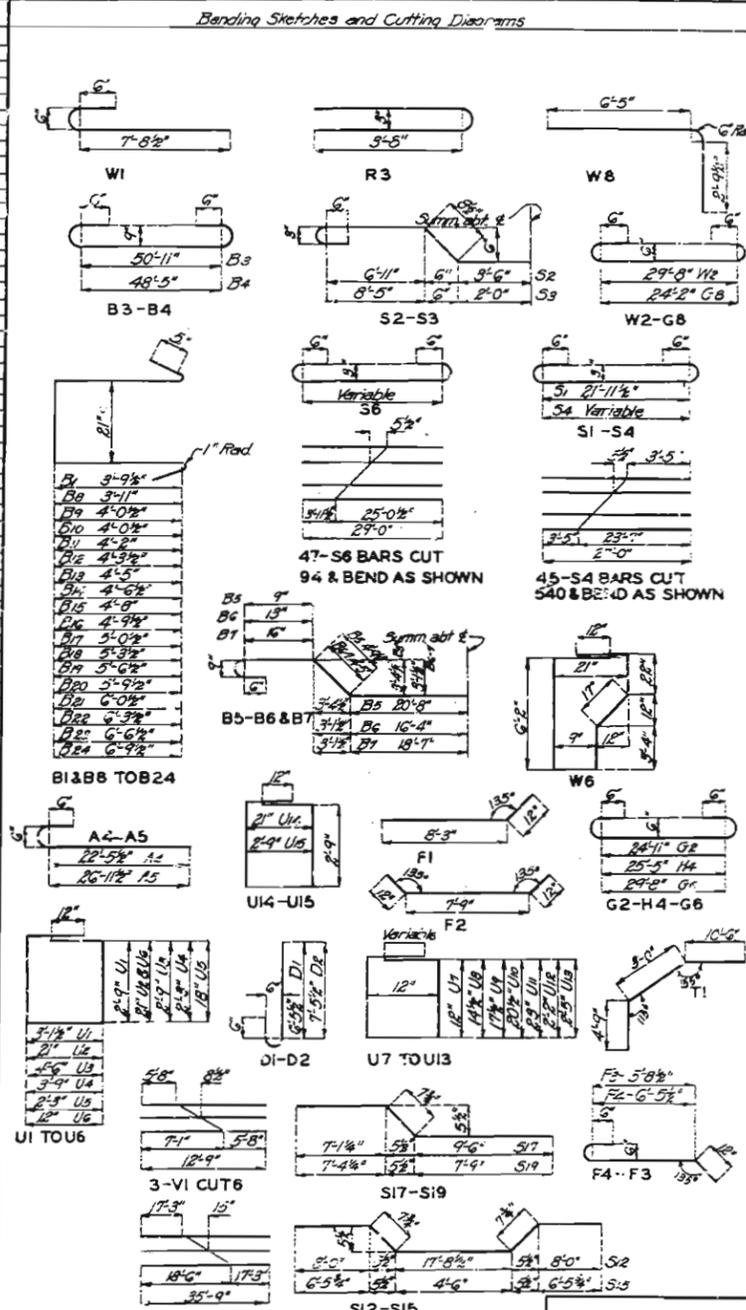
DETAILS OF BENTS NO. 2, 3, 6, 7 & 8.

265

Drawn Mar. 1930 By J.G. & H.E.C.
Traced Mar. 1930 By R.W.H.
Checked Apr. 1930 By R.O.U. - F.C.L. - N.Y.R.

COMPLETE BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Location
Superstructure				
Deck Girder Spans				
350	1/2"	10'-6"	B1	Girders
356	3/8"	27'-0"	B2	"
364	1/4"	54'-3"	B3	"
288	1/4"	31'-9"	B4	"
356	1/4"	35'-9"	B5	"
288	1/4"	47'-0"	B6	"
356	1/4"	32'-0"	B7	"
288	1/4"	70'-9"	B8	"
288	1/4"	11'-0"	B9	"
288	1/4"	11'-3"	B10	"
288	1/4"	11'-3"	B11	"
288	1/4"	11'-6"	B12	"
288	1/4"	11'-9"	B13	"
288	1/4"	12'-0"	B14	"
288	1/4"	12'-3"	B15	"
288	1/4"	12'-6"	B16	"
288	1/4"	13'-0"	B17	"
288	1/4"	13'-6"	B18	"
288	1/4"	14'-0"	B19	"
288	1/4"	14'-6"	B20	"
288	1/4"	15'-0"	B21	"
288	1/4"	15'-6"	B22	"
288	1/4"	16'-0"	B23	"
288	1/4"	16'-6"	B24	"
112	3/4"	16'-6"	B25	"
122	3/4"	23'-9"	S1	Slab
132	3/4"	24'-0"	S2	"
145	3/4"	24'-0"	S3	"
540	3/4"	27'-0"	S4	"
132	3/4"	16'-9"	S5	"
94	3/4"	24'-0"	S6	"
132	3/4"	27'-3"	S7	"
138	3/4"	27'-3"	S8	"
92	3/4"	26'-9"	S9	"
40	3/4"	9'-0"	W1	Brackets
8	3/4"	32'-3"	W2	Web of Arch
168	1/2"	6'-0"	W3	Webs
140	1/2"	20'-9"	W4	End Webs
8	1/2"	21'-5"	W5	Web of Arch
22	1/2"	16'-5"	W6	"
204	3/8"	6'-6"	W7	Web
204	3/8"	10'-0"	W8	"
24	3/8"	21'-9"	W9	"
24	3/8"	28'-6"	C1	Curb
280	3/8"	15'	C2	"
36	3/8"	27'-6"	C3	"
24	3/8"	26'-9"	C4	"
40	1/2"	12'-0"	R1	Rail
350	1/2"	9'	R2	"
232	1/2"	7'-9"	R3	Sub-Pasts
72	1/2"	4'-0"	R4	Pasts
356	1/2"	18'	R5	Balusters
40	1/2"	9'-6"	R6	Rail
28	1/2"	2'-3"	R7	Pasts
120	1/2"	9'-9"	R8	Rail
16	1/2"	11'-9"	R9	"
48	1/2"	9'-3"	R10	"
76	1/2"	12'-9"	R11	Post
Arch Spans				
50	3/4"	35'-0"	S12	Slab
152	3/4"	13'-0"	S13	"
60	3/4"	14'-0"	S14	"
50	3/4"	18'-9"	S15	"
91	1/2"	31'-6"	S16	"
38	3/4"	27'-5"	S17	"
40	3/4"	18'-3"	S18	"
40	3/4"	15'-9"	S19	"
104	3/4"	15'	C5	Curb
16	3/4"	34'-6"	C5	"
12	3/4"	24'-6"	C6	"
100	1/2"	18'	R12	Rail
104	1/2"	11'-3"	R12	"
Arch Ring				
168	1/2"	42'-6"	A1	Ring
48	1/2"	24'-6"	A2	"
244	1/2"	4'-9"	A3	"
48	3/4"	16'-0"	A4	Tie Beams
Spandrel Bents				
48	1/2"	8'-3"	G5	Bracket
48	1/2"	32'-3"	G6	Beam
50	3/8"	18'-9"	G7	"
32	3/8"	24'-6"	F11	Column
16	3/4"	35'-6"	F12	"
32	3/4"	14'-3"	F13	"
Substructure				
End Bents No. 1 & 9				
7	1/2"	17'-9"	D1	Footings
24	1/2"	9'-5"	D2	"
24	1/2"	9'-5"	F7	Haunch
12	1/2"	25'-9"	G1	Beam
16	3/8"	19'-0"	G1	Wing
20	3/8"	19'-0"	G1	"
4	3/8"	35'-0"	H8	"
40	1/2"	28'-0"	H4	Beam
8	3/4"	25'-9"	H5	Backwall
14	3/8"	25'-9"	H6	"
12	3/8"	18'-3"	I1	Wing Wall
6	3/8"	26'-5"	I2	Backwall
50	1/2"	12'-9"	U1	Beam
40	3/8"	8'-0"	U2	Tie Beam
28	3/8"	8'-0"	U3	Backwall Column
6	1/2"	12'-9"	V1	Wing
4	3/8"	7'-9"	V2	"
12	3/8"	6'-3"	V3	"
20	3/8"	9'-3"	V4	Backwall
16	1/2"	18'-0"	V6	Column
12	1/2"	11'-6"	V7	"
14	1/2"	26'-9"	V8	"
7	1/2"	22'-9"	V9	"
7	1/2"	21'-6"	V10	"
Bents No. 2, 3, 6, 7 & 8				
60	1/2"	9'-9"	D1	Footings
40	1/2"	9'-3"	F1	Haunch
60	1/2"	9'-9"	F2	"
40	3/8"	8'-7"	F3	"
70	3/8"	27'-0"	G2	Beam
30	1/2"	21'-6"	G3	Beam
0	3/8"	24'-0"	G4	Tie Beam
60	1/2"	25'-6"	G4	Column
12	1/2"	31'-0"	F5	Column
24	1/2"	35'-0"	F6	"
12	1/2"	27'-0"	F4	"
12	1/2"	26'-0"	F5	"
25	1/2"	35'-0"	U2	Tie Beam
125	1/2"	15'-6"	U3	Beam
242	1/2"	13'-0"	U4	Column
Piers No. 4 & 5				
60	1/2"	21'-9"	A5	Shaft
120	1/2"	23'-9"	A6	"
24	3/8"	28'-3"	A5	"
112	3/8"	25'-0"	D3	Footings
24	3/8"	25'-0"	G8	Beam
32	1/2"	12'-3"	F8	Columns
32	1/2"	19'-6"	F9	Tie Beams
44	1/2"	10'-0"	U4	"
80	1/2"	12'-0"	U6	"
22	1/2"	2'-9"	F2	Haunch

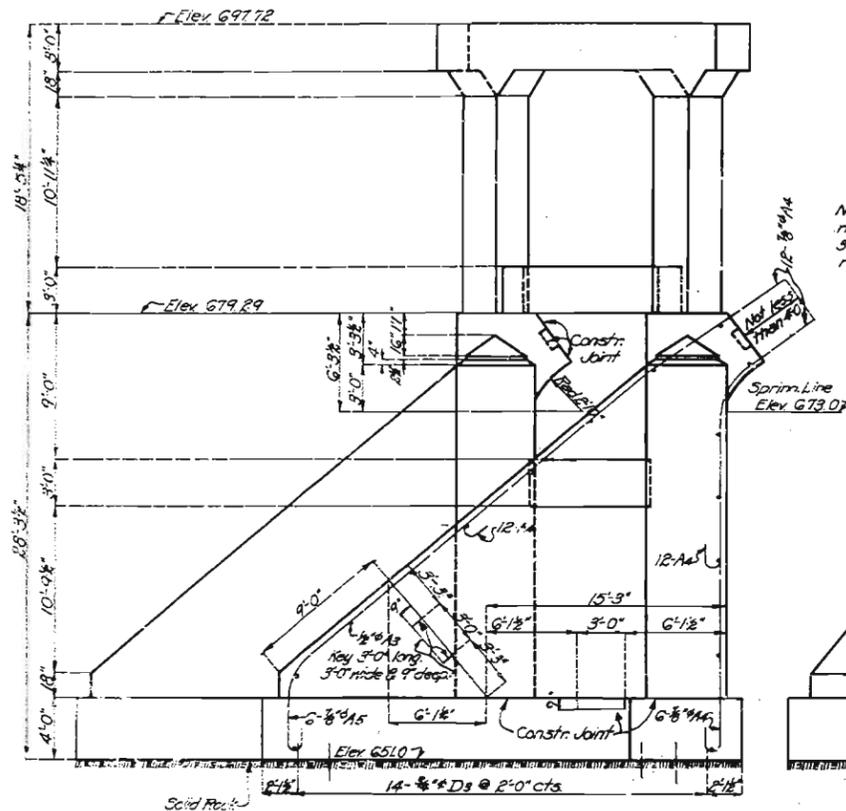


BRIDGE OVER SPRING VALLEY
 STATE ROAD FROM SALEM TO EMINENCE
 ABOUT 22.5 MILES NORTH OF WINONA
 PROJECT NO R19-535 STA. 1655 + 50
 SHANNON COUNTY
 SUBMITTED BY: [Signature] DATE: 4/16/30
 APPROVED BY: [Signature] DATE: [Blank]
 BRIDGE ENGINEER: [Blank]
 CHIEF ENGINEER: [Blank]

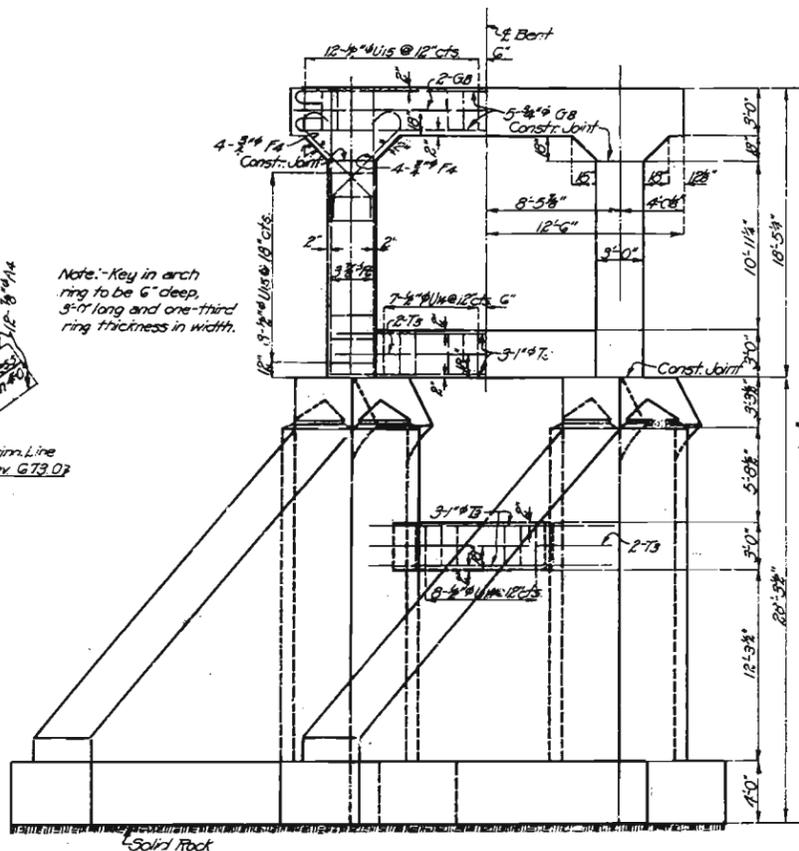
Note: Dimensions are given along & of bars and are for computed lengths. For banding sketches of bars F1 to F16 inclusive see Sheet No. 8.

MISSOURI STATE HIGHWAY DEPARTMENT

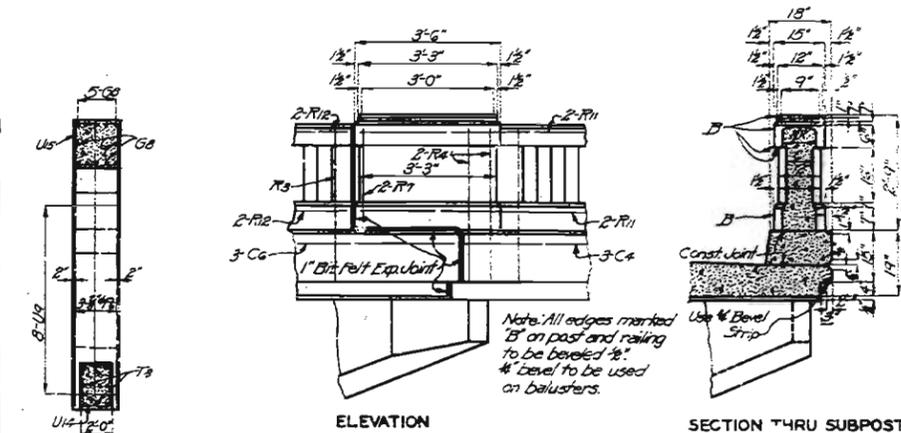
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	199-535	19		



ELEVATION



ELEVATION PARALLEL TO BENT



ELEVATION

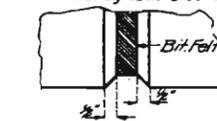
SECTION THRU SUBPOST

SECTION AT E. OF BENT

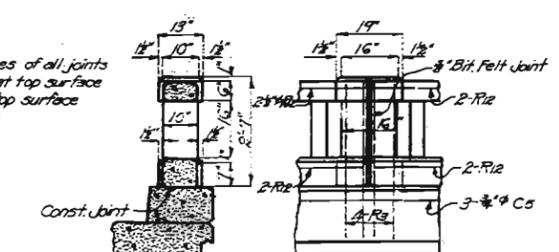
SECTION THRU BEAM

DETAIL OF EXPANSION JOINT OVER PIERS NO. 4 & 5

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 each side of felt joint.



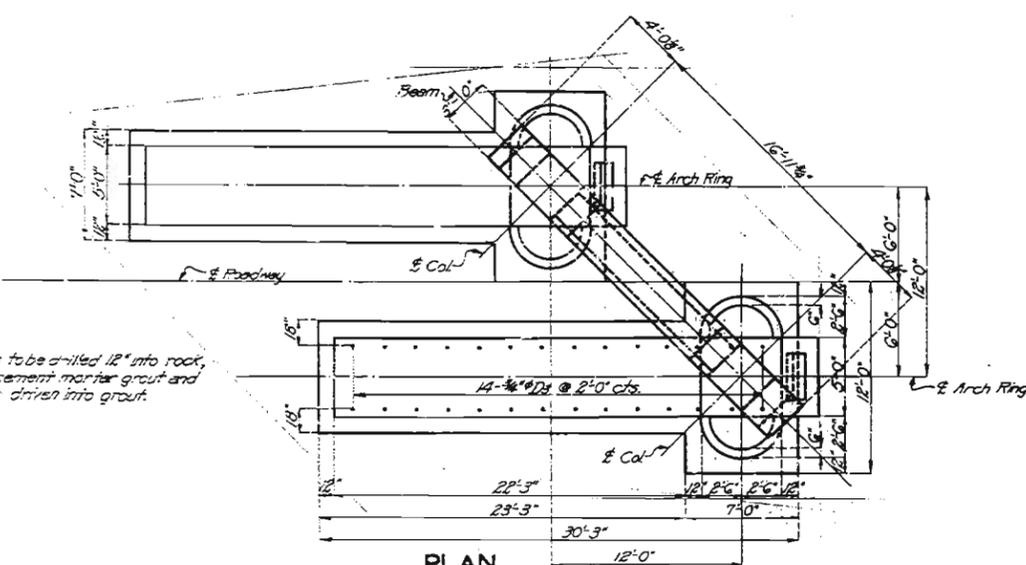
DETAIL OF BEVEL FOR BIT-FELT JOINTS



SECTION THRU RAIL

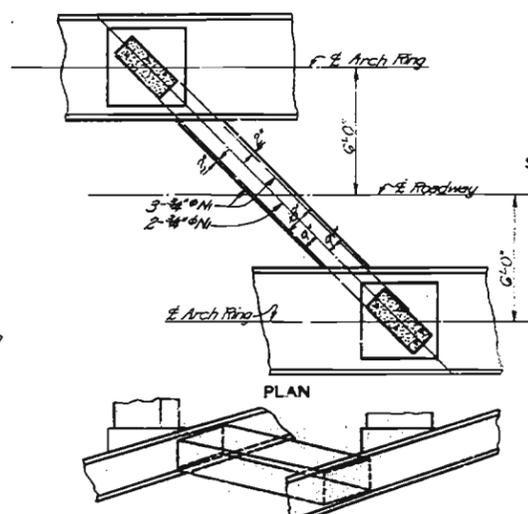
ELEVATION

DETAIL OF POST OVER ARCH SPAN



PLAN

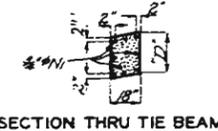
DETAILS OF PIERS NO. 4 & 5



PLAN

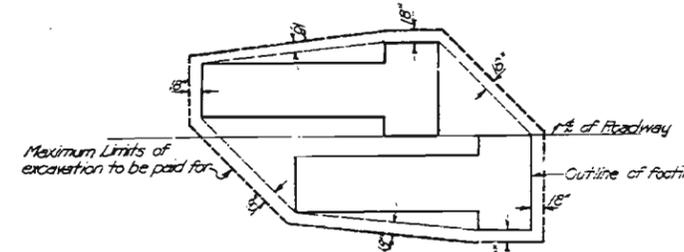
ELEVATION

TYPICAL DETAILS OF TIE BEAM BETWEEN ARCH RINGS



SECTION THRU TIE BEAM

Note: Tie beams to be located at spandrel Bents No. 4, 3 & 5. All beams to be 18" wide as shown in Plan. Depth "D" as shown in Section Thru Beam to be as follows: Bent No. 1, 2'-6"; Bent No. 3, 2'-0" and Bent No. 5, 1'-8". Tie beam to be placed as shown in Elevation and is not to interfere with 3" bevel on edges of rings.



SKETCH SHOWING EXCAVATION LIMITS

BRIDGE OVER SPRING VALLEY

STATE ROAD FROM SALEM TO EMINENCE
ABOUT 22.5 MILES NORTH OF WINONA
PROJECT NO. 19-535 STA. 1655+50

SHANNON COUNTY

SUBMITTED BY *[Signature]* DATE 4/16/30.
APPROVED BY *[Signature]* DATE

Note: Holes to be drilled 12" into rock, filled with cement mortar grout and #4 #6 Ds bars driven into grout.

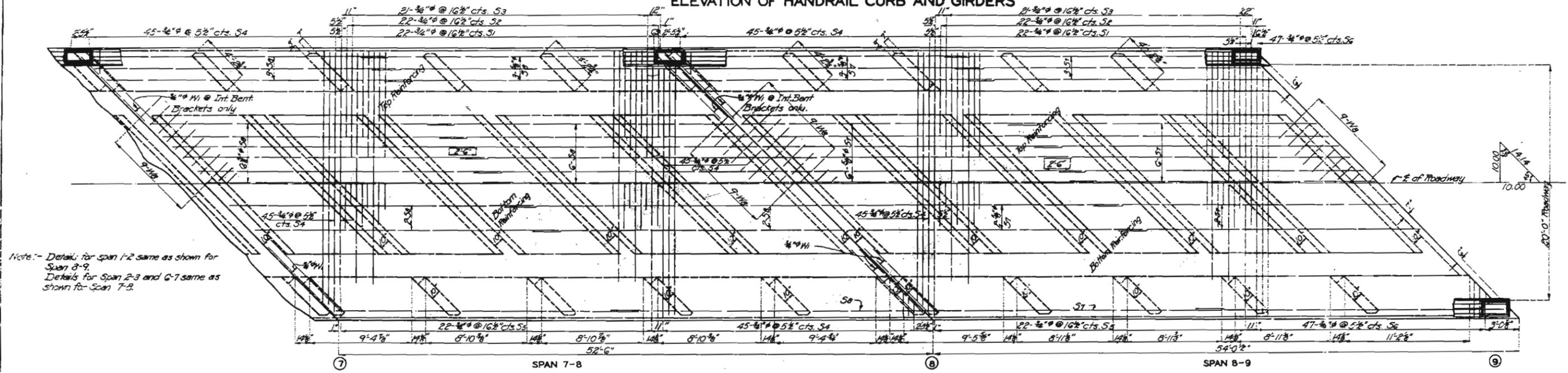
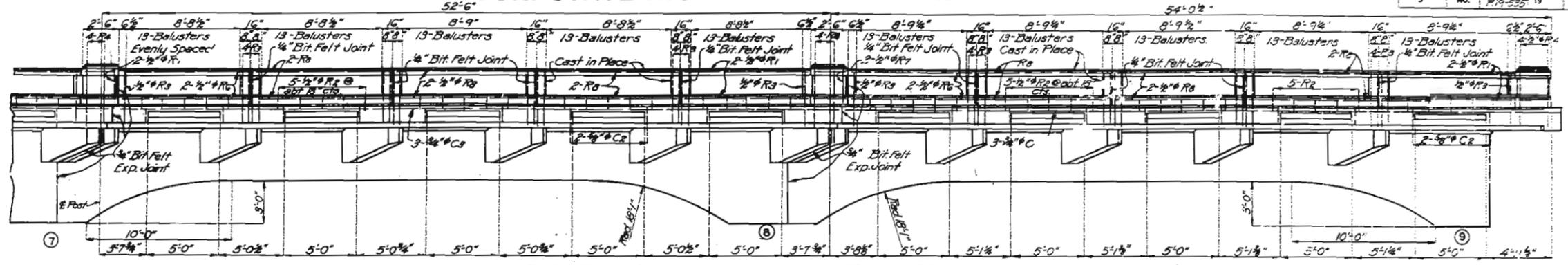
Drawn Mar. 1930 By H.E.C.
Traced April 1930 By H.M.H.
Checked Apr. 1930 By M.W.R.

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MISSOURI STATE HIGHWAY DEPARTMENT

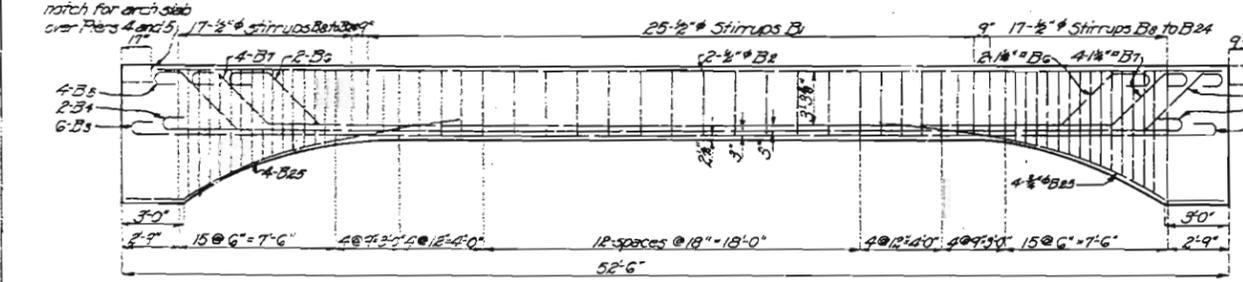
FED. ROAD DIST. NO.	STATE NO.	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5		R19-535	19		

Note: - 4" x 4" Balusters at about 8" cts. 20" long - Pre-cast. Each reinforced with 4-#4 wires 18" long. R.S. Dimensions given are along E of Handrail. Posts, subposts and nails to be cast in place.



Note: - Details for span 1-2 same as shown for Span 8-9. Details for Span 2-3 and 6-7 same as shown for Span 7-8.

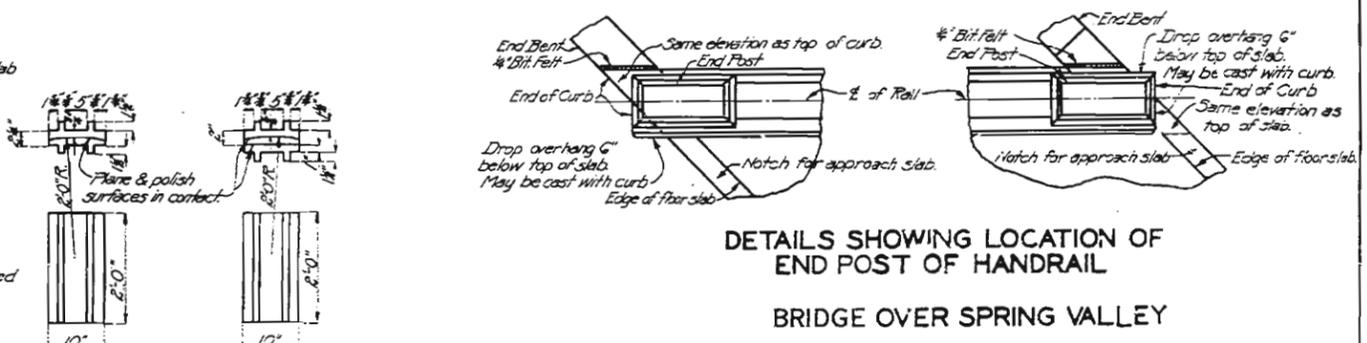
Note: Dotted lines indicate notch for arch slab over Piers 4 and 5. 17-#4 stirrups between 4-B3 and 6-B3.



DIMENSIONS GIVEN ARE ALONG E GIRDER

Note: Dotted lines indicate slab extension at end bents No. 1 and 9.

Note: A mixture of flake graphite and oil to be placed between plates before placing in concrete.



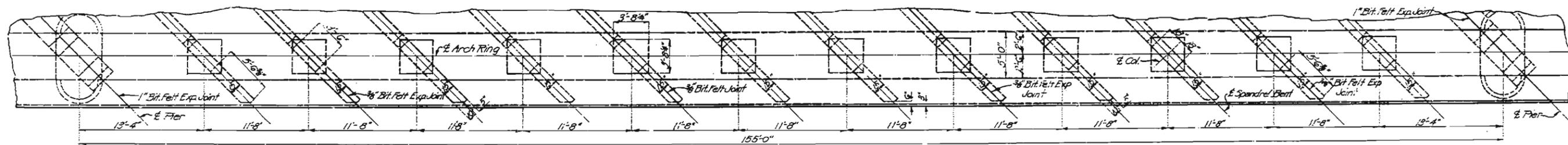
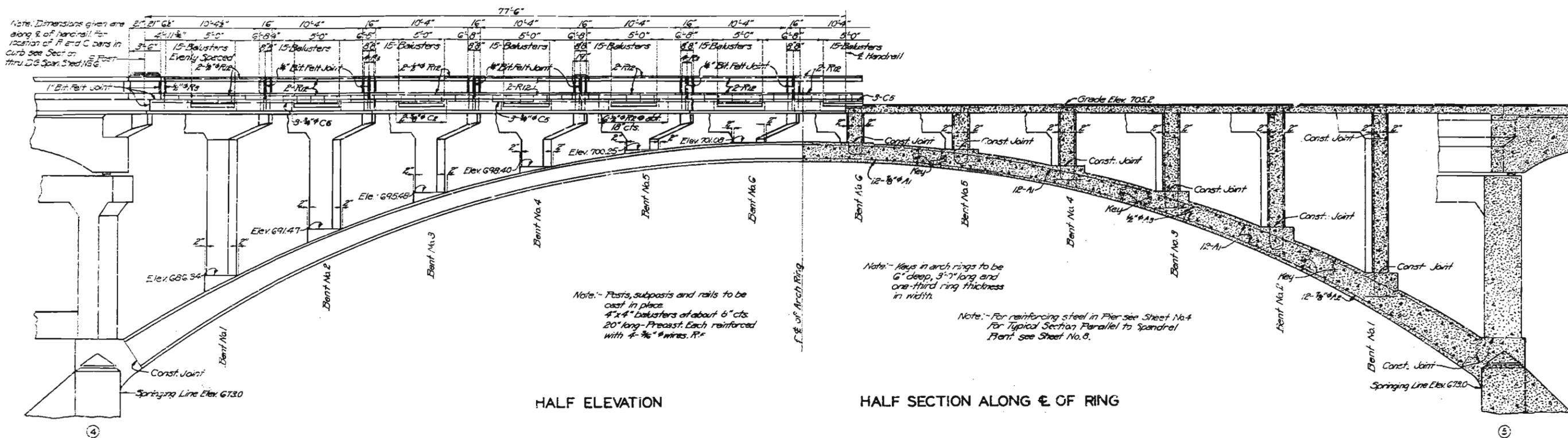
14-SETS REQUIRED FIXED END
14-SETS REQUIRED EXP. END
PHOSPHOR BRONZE BEARING PLATES

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Drawn Mar. 1930 By H.E.C.
Traced Mar. 1930 By H.H.H.
Checked April 1930 By F.C.L.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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Drawn 1/18/30 By H.E.C.
 Traced Mar. 1930 By H.V.H.
 Checked Apr. 1930 By H.M.R.

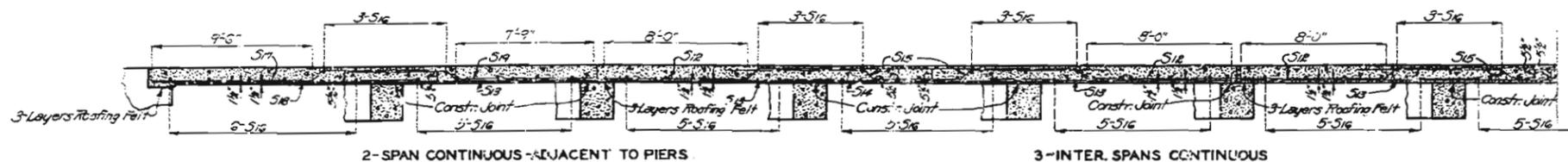
BRIDGE OVER SPRING VALLEY
 STATE ROAD FROM SALEM TO EMINENCE
 ABOUT 22.5 MILES NORTH OF WINONA
 PROJECT NO. RD-535 STA. 1655+50

SHANNON COUNTY

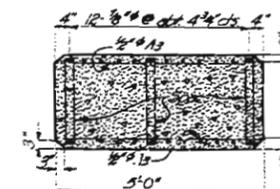
SUBMITTED BY: *[Signature]* DATE: 4/16/30
 APPROVED BY: *[Signature]* DATE: _____
BRIDGE ENGINEER CIVIL ENGINEER

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO	R19-535	19		



SECTION ALONG C OF ROADWAY



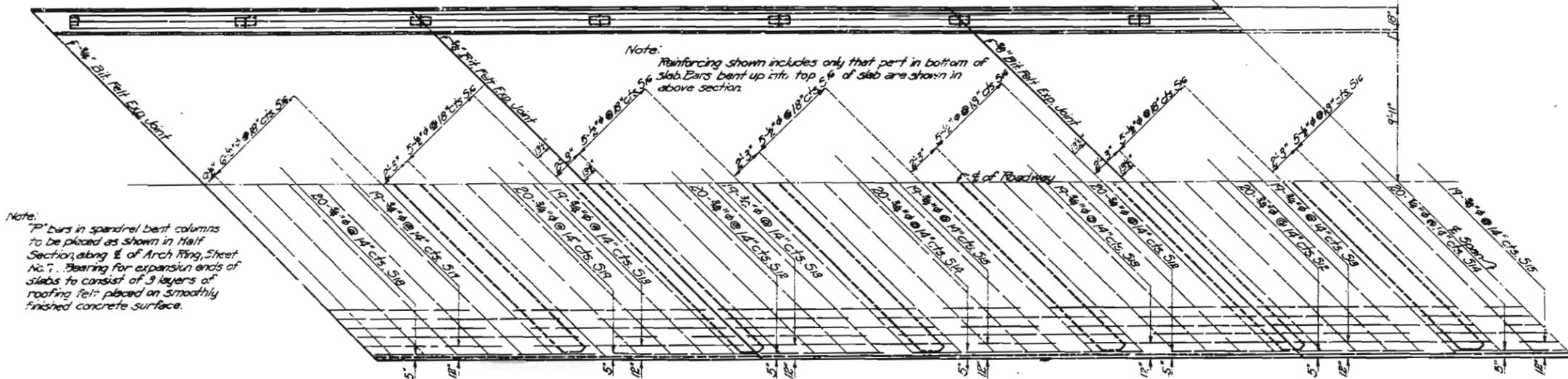
Note: -
 1/2" bars at 2'-6" cts measured horizontally, are to be placed in ring at points where arch ribs are shown in detail, giving "Dimensions of Arch Ring".
 Spacers to be placed as shown in above detail and spaced same as 1/2" tie bars.
 Wire spacers securely to both main and transverse steel.

SECTION THRU ARCH RING SHOWING REINFORCING

BAR SPACERS FOR RINGS

No. of Bar	Dimen. A	No. of Bar	Dimen. A	No. of Bar	Dimen. A
12	3'-6"	12	2'-0"	24	20"
12	3'-3"	12	2'-3"	48	20 1/2"
12	3'-0"	12	2'-6"	48	20 1/2"
12	2'-10"	12	2'-2"		
12	2'-7"	12	2'-2"		
12	2'-5"	12	2'-1 1/2"		
12	2'-3 1/2"	12	2'-1 1/2"		
12	2'-2 1/2"	24	2'-1 1/2"		
12	2'-1 1/2"	24	2'-1"		

Note: - Weight of bar spacers included in weight of arch ring reinforcement.

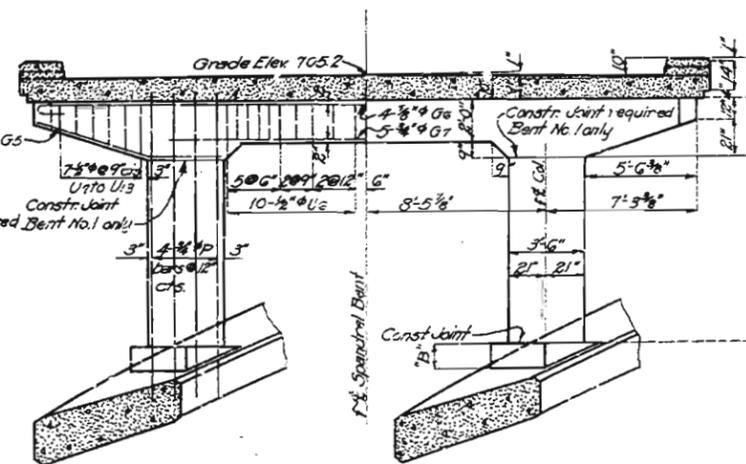


HALF PLAN OF SLAB SPANS OVER ARCH SHOWING REINFORCING

Note: - "P" bars in spandrel bent columns to be placed as shown in Half Section, along C of Arch Ring, Sheet No. 1. Bearing for expansion ends of slabs to consist of 3 layers of roofing felt placed on smoothly finished concrete surface.

Note: - Reinforcing shown includes only that part in bottom of slab. Bars bent up into top of slab are shown in above section.

Note: - Arch ring blocks to be poured in the following order:
 Block I in both ribs, right and left.
 Block II in both ribs.
 Block III in both ribs, right and left.
 Block IV in both ribs, right and left.
 Block V keys.
 No keys shall be poured until all of concrete in adjacent blocks has been in place at least 24 hours.



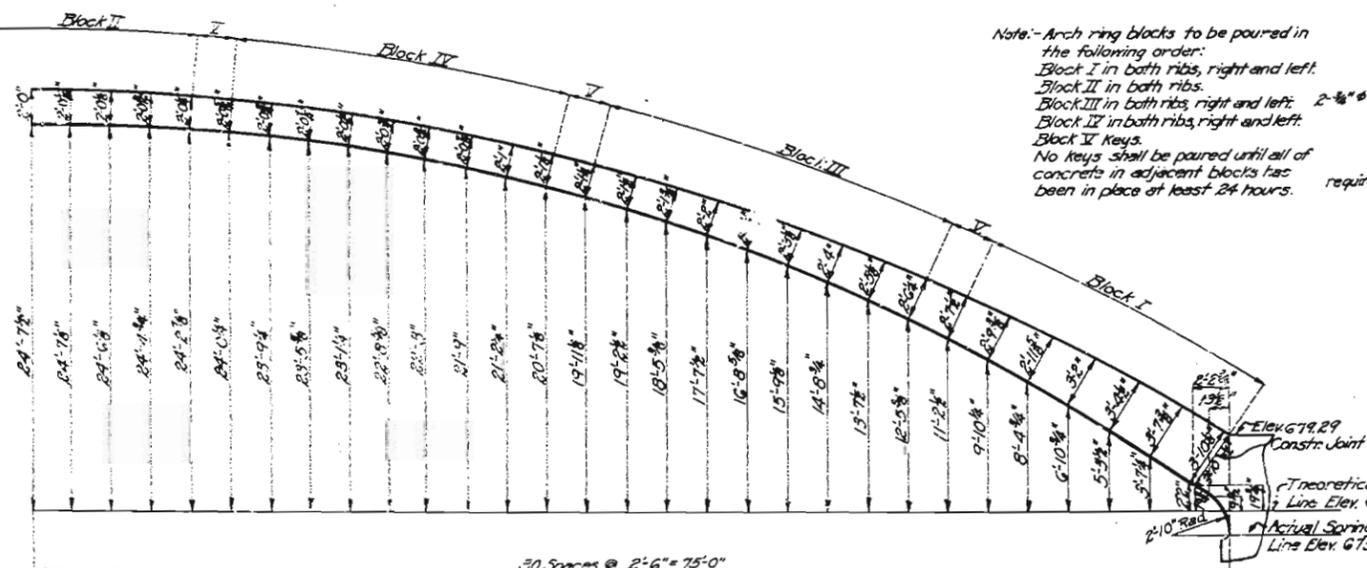
SECTION PARALLEL TO SPANDREL BENT

DIMENSIONS AND BARS FOR SPANDREL BENTS

Bent No.	Dimensions
1	12'-3 1/2" x 15'
2	10'-1 1/2" x 18'
3	6'-1 1/2" x 13 1/2"
4	3'-2 1/2" x 9 1/2"
5	16' x 5 1/2"
6	6' x 8'

Bent No.	No.	Mark	1"	2"
1	32	P1	30"	12"
2	16	P2	14"	
3	32	P3	10'-8"	
4	32	P4	7'-5"	
5	16	P5	5'-0"	
6	32	P6	4'-8"	

Note: - For length of "P" bars see Complete Bill of Reinforcing Steel Sheet No. 2.



DIMENSIONS OF ARCH RING

30 Spacers @ 2'-6" = 75'-0"

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 Checked Apr. 1930 By K.H.R.

BRIDGE OVER SPRING VALLEY

STATE ROAD FROM SALEM TO EMINENCE
 ABOUT 22.5 MILES NORTH OF WINONA
 PROJECT NO. R19-535 STA. 1655 + 50

SHANNON COUNTY

SUBMITTED BY: *W. H. Miller* DATE: 4/1/30.
 APPROVED BY: *H. W. H. H.* DATE: _____
 CIVIL ENGINEER CIVIL ENGINEER

STD. S-818
 J-420

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