

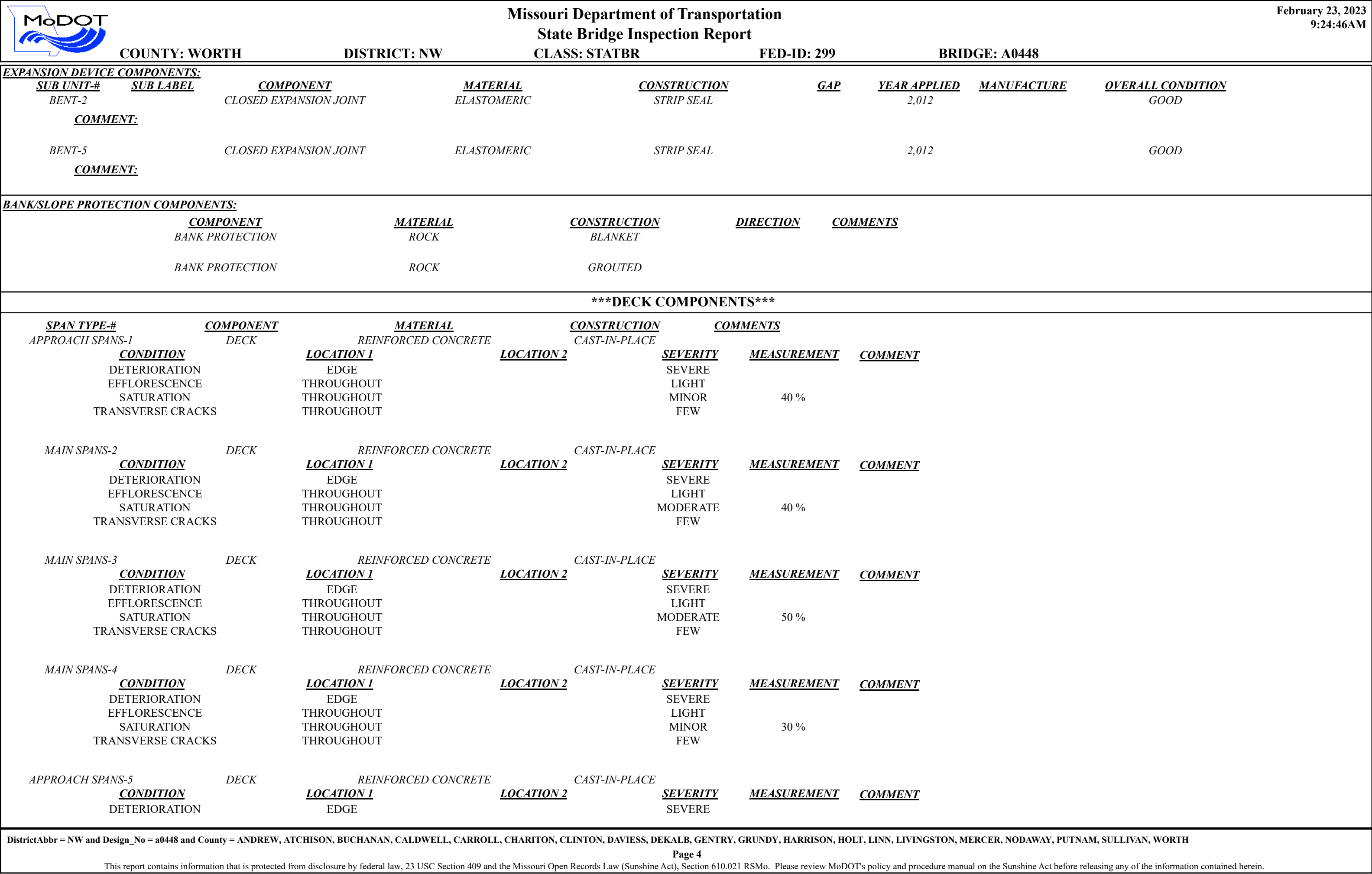
		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>February 23, 2023</div> <div>9:24:46AM</div>			
COUNTY: WORTH		DISTRICT: NW		CLASS: STATBR		FED-ID: 299		BRIDGE: A0448	
GENERAL STRUCTURE INFORMATION							***BRIDGE INSPECTION INFORMATION***		
<div>ROUTE: US169S</div> <div>FEATURE: MID FK GRAND RVR</div> <div>STATUS: A-OPEN</div> <div>LOG MILE: 8.102</div> <div>DETOUR: 16.00 MILES</div> <div>NHS: NO</div> <div>BUILT: 1960</div> <div>REHAB: 1975</div> <div>LOCATION: S 9 T 65 R 31 W</div> <div>LATITUDE: 40 27 15.54 (DMS)</div> <div>LONGITUDE: 94 24 13.60 (DMS)</div>		<div># SPANS: 5</div> <div>LANES ON: 2</div> <div>LANES UNDER: 0</div> <div>COMPASS DIRECTION: NORTH to SOUTH</div> <div>DIRECTION OF TRAFFIC: 2-WAY TRAF</div> <div>FUNCTIONAL CLASS: RL-MINOR ARTERIAL</div> <div>NBI OWNER: MODOT</div> <div>NBI MAINTAINED: MODOT</div> <div>MAINTENANCE DISTRICT: NW</div> <div>MAINTENANCE COUNTY: WORTH</div> <div>SUB AREA: 7A12</div>		<div>PLACE CODE: 47828 MIDDLEFORK</div> <div>LENGTH: 364 FT 0 IN</div> <div>MAXIMUM SPAN: 100 FT 0 IN</div> <div>APPROACH ROADWAY: 36 FT 0 IN</div> <div>CURB TO CURB: 28 FT 0 IN</div> <div>OUT TO OUT: 31 FT 6 IN</div> <div>AADT: 871</div> <div>AADT YEAR: 2022</div> <div>AADT TRUCK: 17.4%</div> <div>FUTURE AADT: 1176</div> <div>FUTURE AADT YEAR: 2042</div>		<div>DATE: 09/16/2021</div> <div>RESPONSIBILITY: DISTRICT</div> <div>FREQUENCY: 24</div> <div>CALCULATED INTERVAL**: 24</div> <div>TEAM LEADER: SCOTT STEPHENS</div> <div>ELEMENT: NO</div> <div>INSPECTOR 2:</div> <div>INSPECTOR 4:</div> <div>INSPECTOR 3:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>			
						<div>GENERAL INSPECTION COMMENTS</div>			
						<div>(HAZLET1, 09/16/2019)--HANDED OVER TO DISTRICT AND WAS PUT ON CYCLE WITH OTHER BRIDGES IN WORTH COUNTY</div>			
FRACTURE CRITICAL INSPECTION INFORMATION					***INDEPTH INSPECTION INFORMATION***				
<div>DATE:</div> <div>FREQUENCY:</div> <div>TEAM LEADER:</div> <div>INSPECTOR 2:</div> <div>RESPONSIBILITY:</div> <div>CALCULATED INTERVAL**:</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY:</div> <div>NBI:</div> <div>METHOD:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>					<div>DATE:</div> <div>FREQUENCY:</div> <div>TEAM LEADER:</div> <div>INSPECTOR 2:</div> <div>RESPONSIBILITY:</div> <div>CALCULATED INTERVAL**:</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY:</div> <div>NBI:</div> <div>METHOD:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				
FRACTURE CRITICAL INSPECTION COMMENTS					INDEPTH INSPECTION COMMENTS				
SPECIAL INSPECTION INFORMATION					***UNDERWATER INSPECTION INFORMATION***				
<div>DATE: 03/11/2014</div> <div>FREQUENCY: 999</div> <div>TEAM LEADER:</div> <div>INSPECTOR 2: TERRY WILSON</div> <div>RESPONSIBILITY: BRIDGEDIV</div> <div>CALCULATED INTERVAL**:</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY: QUALITY ASSURANCE</div> <div>NBI: NO</div> <div>METHOD:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>					<div>DATE: 09/16/2021</div> <div>FREQUENCY: 60</div> <div>TEAM LEADER: SCOTT STEPHENS</div> <div>INSPECTOR 2:</div> <div>RESPONSIBILITY: DISTRICT</div> <div>CALCULATED INTERVAL**: 24</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY: DRY</div> <div>NBI: NO</div> <div>METHOD: VISUAL</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				
SPECIAL INSPECTION COMMENTS					UNDERWATER INSPECTION COMMENTS				
<div>(MARTEP, 07/03/2014)--DATA REVIEW ONLY</div>									
OTHER SPECIAL INSPECTIONS					OTHER UNDERWATER INSPECTIONS				
<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div> <div>07/16/2013</div> <div>120</div> <div>CHANNEL CROSS SECTIONS</div> <div>NO</div> <div>DISTRICT</div> <div>WT TAPE</div>					<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div>				
<div>DistrictAbbr = NW and Design_No = a0448 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH</div> <div>Page 1</div> <div>This report contains information that is protected from disclosure by federal law, 23 USC Section 409 and the Missouri Open Records Law (Sunshine Act), Section 610.021 RSMo. Please review MoDOT's policy and procedure manual on the Sunshine Act before releasing any of the information contained herein.</div>									

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COUNTY: WORTH		DISTRICT: NW		CLASS: STATBR		FED-ID: 299	
				BRIDGE: A0448			
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:	
COMMENTS:						PROBLEM DIRECTION:	
GENERAL COMMENTS/MAJOR RATED ITEMS							
GENERAL COMMENTS: (BOWDEJ1, 10/19/2009)--UIP (51') SMP WF - (80'-100'-80') CONT PL GDR - (51') SMP WF GDR SPANS							
[ITEM 58] DECK: 4-POOR CONDITION				COMMENTS: (MADSEJ, 07/14/2017)--APPROXIMATELY 30% SATURATION THROUGHOUT THE MAIN SPANS.			
RATING : 09/16/2021							
[ITEM 59] SUPER: 5-FAIR CONDITION				COMMENTS: (MADSEJ, 07/14/2017)--MINOR TO ADVANCED SECTION LOSS ON THE BOTTOM OF THE WEB, BOTTOM FLANGES, AND BOTTOM OF THE BEARING			
RATING : 07/14/2017				STIFFENERS AT THE BENT 2 AND 5 BEARING AREAS.			
[ITEM 60] SUB: 6-SATISFACTORY CONDITION				COMMENTS: (MADSEJ, 07/14/2017)--MODERATE SEALED SPALLS THROUGHOUT THE BENT 2 AND 5 STEPCAPS.			
RATING : 07/14/2017							
[ITEM 61] BANK/CHANNEL: 6-WIDESPREAD MINOR DAMAGE				COMMENTS: (MADSEJ, 07/14/2017)--STEEP ERODING AND SLOUGHING BANKS THROUGHOUT THE CHANNEL. THE UPSTREAM CHANNEL ALIGNMENT COULD BE			
RATING : 01/29/2014				BETTER.			
[ITEM 113] SCOUR: 8-STABLE FOR CALCULATED				COMMENTS: (MADSEJ, 07/14/2017)--MINOR BANK EROSION/SCOUR AROUND THE PIER 3 COLUMNS.			
RATING : 05/18/2001							
EVALUATION TYPE :							
[ITEM 71] WATERWAY ADEQUACY: DECK ABOVE FLOOD ELEV				COMMENTS:			
RATING : 05/18/2001							
[ITEM 72] APPRRDWY ALIGNMENT: 8-VERYGOOD				COMMENTS:			
RATING : 05/18/2001							
RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS							
[ITEM 36A] BRIDGE RAILING RATING: DOESNT MEET CURRNT STND-0				RATING : 10/19/2009		COMMENTS:	
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>COMMENTS</u>	
REINFORCED CONCRETE		CURB		BOTH			
STEEL		CHANNEL-12"		BOTH			
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	
OTHER		THROUGHOUT				NOT APPLICABLE	
						(STEPHS2, 09/16/2021)--PAINTER 2020	
[ITEM 36B] TRANSITION RAILING RATING: DOESNT MEET CURRNT STND-0				RATING : 07/14/2017		COMMENTS:	
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>COMMENTS</u>	
GALVANIZED STEEL		W-BEAM		ALL			
[ITEM 36C] APPROACH RAILING RATING: MEETS CURRENT STANDARDS-1				RATING : 05/18/2001		COMMENTS:	
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COUNTY: WORTH		DISTRICT: NW		CLASS: STATBR	FED-ID: 299	BRIDGE: A0448
<u>MATERIAL</u> GALVANIZED STEEL		<u>CONSTRUCTION</u> W-BEAM		<u>DIRECTION</u> ALL	<u>COMMENTS</u>	
<i>[ITEM 36D] RAIL END TREATMENT RATING: MEETS CURRENT STANDARDS-1</i>				<i>RATING : 07/14/2017</i>	<i>COMMENTS:</i>	
<u>MATERIAL</u> GALVANIZED STEEL		<u>CONSTRUCTION</u> ENERGY ABSORBING		<u>DIRECTION</u> ALL	<u>COMMENTS</u>	
APPROACH PAVEMENT: *Overall condition assigned for each approach pavemenet component is shown below.						
<u>MATERIAL</u> ASPHALT		<u>CONSTRUCTION</u> BITUMINOUS MAT		<u>DIRECTION</u> BOTH	<u>CONDITION*</u> GOOD	<u>COMMENTS</u>
DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS						
<u>DECK PROTECTIVE COMPONENTS:</u>						
<u>SERIES TYPE-#</u> APPROACH SERIES-1	<u>COMPONENT</u> WEARING SURFACE	<u>MATERIAL</u> ASPHALT	<u>CONSTRUCTION</u> BITUMINOUS MAT	<u>THICKNESS</u> 2 IN	<u>YEAR APPLIED</u> 2012	<u>MANUFACTURE</u> <u>OVERALL CONDITION</u> FAIR
<u>COMMENT:</u>						
	DECK PROTECTION	NOTAPPLICABLE	NONE	2 IN		
<u>COMMENT:</u>						
	MEMBRANE	NOTAPPLICABLE	NONE		NOTAPPLIC	
<u>COMMENT:</u>						
MAIN SERIES-2	WEARING SURFACE	ASPHALT	BITUMINOUS MAT	2 IN	2012	FAIR
<u>COMMENT:</u>						
	DECK PROTECTION	NOTAPPLICABLE	NONE			
<u>COMMENT:</u>						
	MEMBRANE	NOTAPPLICABLE	NONE		NOTAPPLIC	
<u>COMMENT:</u>						
APPROACH SERIES-3	WEARING SURFACE	ASPHALT	BITUMINOUS MAT	2 IN	2012	FAIR
<u>COMMENT:</u>						
	DECK PROTECTION	NOTAPPLICABLE	NONE		NOTAPPLIC	
<u>COMMENT:</u>						
	MEMBRANE	NOTAPPLICABLE	NONE		NOTAPPLIC	
<u>COMMENT:</u>						
<u>DRAINAGE COMPONENTS:</u>						
	<u>COMPONENT</u> DRAINAGE	<u>MATERIAL</u> REINFORCED CONCRETE	<u>CONSTRUCTION</u> CURB OUTLET	<u>DIRECTION</u>	<u>COMMENTS</u>	
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State Bridge Inspection Report

February 23, 2023
9:24:46AM

COUNTY: WORTH

DISTRICT: NW

CLASS: STATBR

FED-ID: 299

BRIDGE: A0448

EFFLORESCENCE	THROUGHOUT	LIGHT	60 %
SATURATION	THROUGHOUT	MINOR	
TRANSVERSE CRACKS	THROUGHOUT	FEW	

SUPERSTRUCTURE COMPONENTS


<u>SERIES TYPE-#</u>	<u>SPAN TYPE</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>LABEL</u>	<u>COMMENTS</u>
APPROACH SERIES-1	SIMPLE SPAN	STEEL	WIDE FLANGE GIRDERS		
<u>SPAN</u>	<u>COMPOSITE INDICATOR</u>	<u>LENGTH</u>	<u>WEATHERING STEEL</u>	<u>COMMENTS</u>	
APPROACH SPANS-1	NON-COMPOSITE	51 FT 8 IN	NO		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
SECTION LOSS	AT BEARING		MINOR		
MAIN SERIES-2	SIMPLE SPAN	STEEL	PLATE GIRDERS		
<u>SPAN</u>	<u>COMPOSITE INDICATOR</u>	<u>LENGTH</u>	<u>WEATHERING STEEL</u>	<u>COMMENTS</u>	
MAIN SPANS-2	NON-COMPOSITE	80 FT 4 IN	NO		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
PACK RUST	EXTERIOR GIRDERS	TOP FLANGE	MEDIUM		
SECTION LOSS	AT BEARING		MINOR		
MAIN SPANS-3	NON-COMPOSITE	100 FT 0 IN	NO		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
PACK RUST	EXTERIOR GIRDERS	TOP FLANGE	MEDIUM		
MAIN SPANS-4	NON-COMPOSITE	80 FT 4 IN	NO		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
PACK RUST	EXTERIOR GIRDERS	TOP FLANGE	MEDIUM		
SECTION LOSS	AT BEARING		MINOR		
APPROACH SERIES-3	SIMPLE SPAN	STEEL	WIDE FLANGE GIRDERS		
<u>SPAN</u>	<u>COMPOSITE INDICATOR</u>	<u>LENGTH</u>	<u>WEATHERING STEEL</u>	<u>COMMENTS</u>	
APPROACH SPANS-5	NON-COMPOSITE	51 FT 8 IN	NO		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
SECTION LOSS	AT BEARING		MINOR		
SECTION LOSS	GDR1		ADVANCED		(HAZLET1, 09/16/2019)--ADVANCED SECTION LOSS AT THE TOP AND BOTTOM OF THE WEB AND AT THE BOTTOM OF THE EAST BEARING STIFFENER AT BENT 2 WITH A SMALL HOLE RUSTED THROUGH THE STIFFENER.

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-48 DEGREES	56 FT 2 IN	REINFORCED CONCRETE	NON-INTEGRAL		
	<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>		
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>
	SEALED		THROUGHOUT		ASPHALTICBASE	
PILING			STEEL	H-SHAPE		
	<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>

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COUNTY: WORTH		DISTRICT: NW		CLASS: STATBR		FED-ID: 299		BRIDGE: A0448
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>
SEALED		THROUGHOUT				ASPHALTICBASE		
SHOVING		THROUGHOUT				MINOR		
EXPANSION BEARING		STEEL		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-48 DEGREES	42 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>				
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>
PATCHES		STEEPCAP				LARGE		
SEALED		THROUGHOUT				ASPHALTICBASE		
SPALLS		STEEPCAP				FEW		
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		H-PILE				
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		STEEL		ROCKER				
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
SECTION LOSS		AT BEAM CAP				INITIAL		
FIXED BEARING		STEEL		CURVED PLATE(ROTATING				
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
PACK RUST		THROUGHOUT				MODERATE		(MADSEJ, 07/14/2017)--LIFTING 1/4"
PIER-3		RA-48 DEGREES	42 FT 8 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>				
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>
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>
HIGH STEEL SPALLS		THROUGHOUT				FEW		
FOOTING		REINFORCED CONCRETE		H-PILE				
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
WEB 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>
FIXED BEARING		STEEL		PEDESTAL(ROTATING)				
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
PIER-4		RA-48 DEGREES	42 FT 8 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>				
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>
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		H-PILE				
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
WEB BEAM		REINFORCED CONCRETE		CAST-IN-PLACE				



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COUNTY: WORTH

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EXPANSION BEARING			STEEL	ROCKER		
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
<u>COMMENT</u>						
BENT-5	RA-48 DEGREES	42 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>ASSOCIATED COMPONENT</u>			<u>MATERIAL</u>	<u>CONSTRUCTION</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>
SEALED			THROUGHOUT	ASPHALTICBASE		
SPALLS			STPCAP	LARGE		
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE		
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
FOOTING			REINFORCED CONCRETE	H-PILE		
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
EXPANSION BEARING			STEEL	ROCKER		
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
FIXED BEARING			STEEL	CURVED PLATE(ROTATING		
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
PACK RUST			THROUGHOUT	MEDIUM		(MADSEJ, 07/14/2017)--LIFTING 1/4"
ABUTMENT-6	RA-48 DEGREES	56 FT 2 IN	REINFORCED CONCRETE	NON-INTEGRAL		
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
<u>ASSOCIATED COMPONENT</u>			<u>MATERIAL</u>	<u>CONSTRUCTION</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>
EROSION			GROUND LINE	6 INCH +		
HORIZONTAL CRACKS			TOP	LARGE		
SEALED			THROUGHOUT	ASPHALTICBASE		
VERTICAL CRACKS			THROUGHOUT	FEW		
PILING			STEEL	H-SHAPE		
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</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>
BACKWALL			REINFORCED CONCRETE	CAST-IN-PLACE		
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
SEALED			THROUGHOUT	ASPHALTICBASE		
SHOVING			THROUGHOUT	MINOR		
VERTICAL CRACKS			THROUGHOUT	FEW		
EXPANSION BEARING			STEEL	SLIDING CURVED/FLAT PL		
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
PACK RUST			THROUGHOUT	LIGHT		

OVER/UNDER ROUTES CLEARANCE INFORMATION

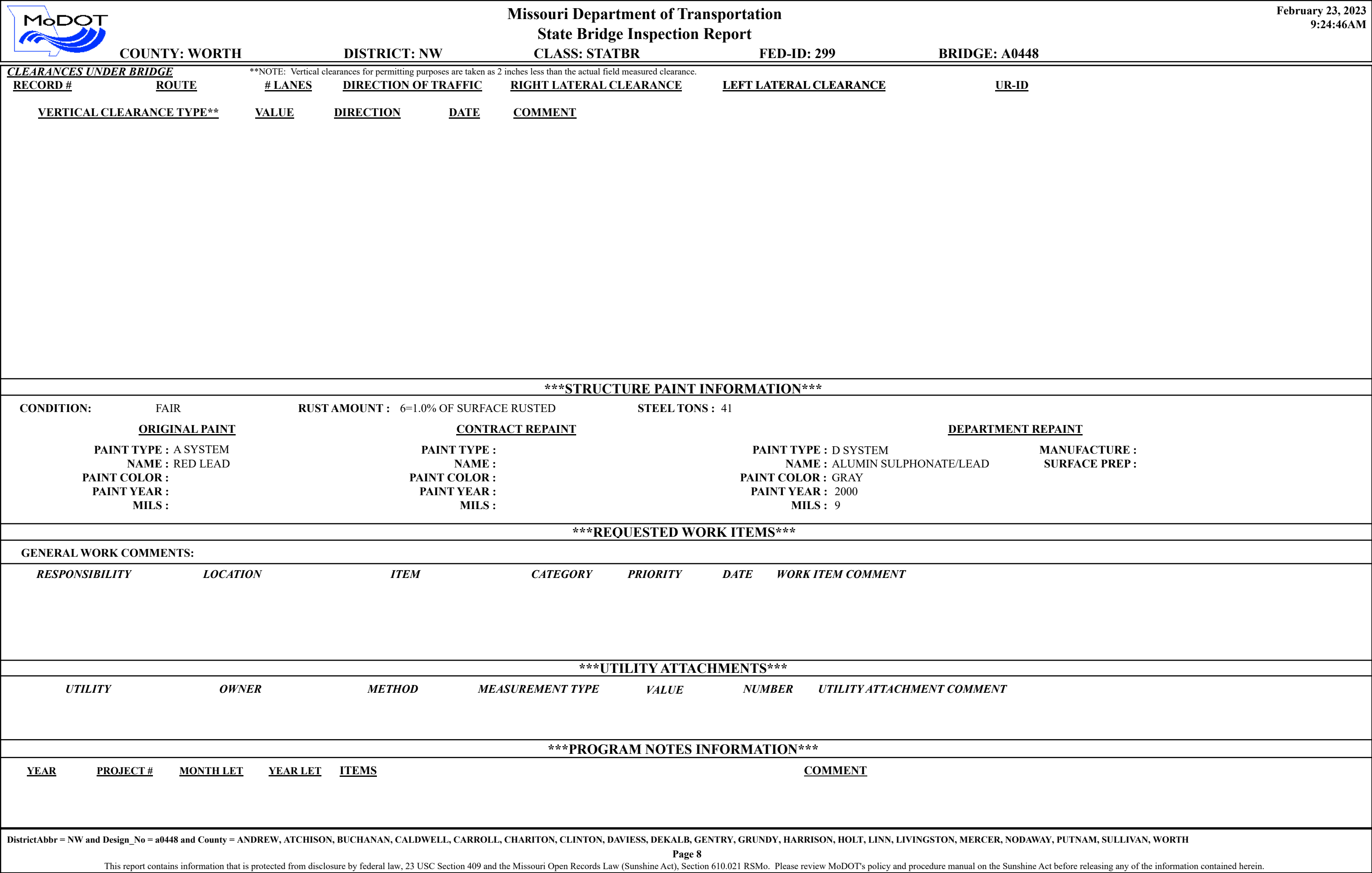
CLEARANCES OVER DECK


****NOTE:** Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.


<u>VERTICAL CLEARANCE TYPE**</u>	<u>VALUE</u>	<u>DIRECTION</u>	<u>DATE</u>	<u>COMMENT</u>
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DistrictAbbr = NW and Design_No = a0448 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH

This report contains information that is protected from disclosure by federal law, 25 USC Section 409 and the Missouri Open Records Law (Sunshine Act), Section 610.021 RSMo. Please review MoDOT's policy and procedure manual on the Sunshine Act before releasing any of the information contained herein.




			Missouri Department of Transportation		February 23, 2023	
			State Bridge Inspection Report		9:24:46AM	
COUNTY: WORTH			DISTRICT: NW		CLASS: STATBR	
			FED-ID: 299		BRIDGE: A0448	
COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS					***ADVANCED SIGN INFORMATION***	
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.					SIGN #	
					SIGN TYPE	
					PROBLEM	
					PROBLEM DIRECTION	
<u>Rated Item</u>						
<u>Rating</u>						
<u>Rating Date</u>						
[Item 67] Structure Evaluation Rating:					5-BETTER THAN MINIMUM	
[Item 68] Deck Geometry Rating:					5-BETTER THAN MINIMUM	
[Item 69] Underclearance:					N-NOT APPLICABLE	
Sufficiency Rating:					59.4%	
Deficiency:					STRUCTURAL	
Funding Eligibility:					PARTIAL	
Estimated New Structure Length:					394 FT.	
Estimated Structure Cost:					\$1,553,668	
Estimated Total Project Cost:					\$2,330,502	
Year of Cost Estimate:					2023	
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.						
					OUTFALL INSPECTION INFORMATION	
					# OUTFALLS:	
					INSPECTOR:	
					STATUS:	
					DATE:	
					NOTES:	

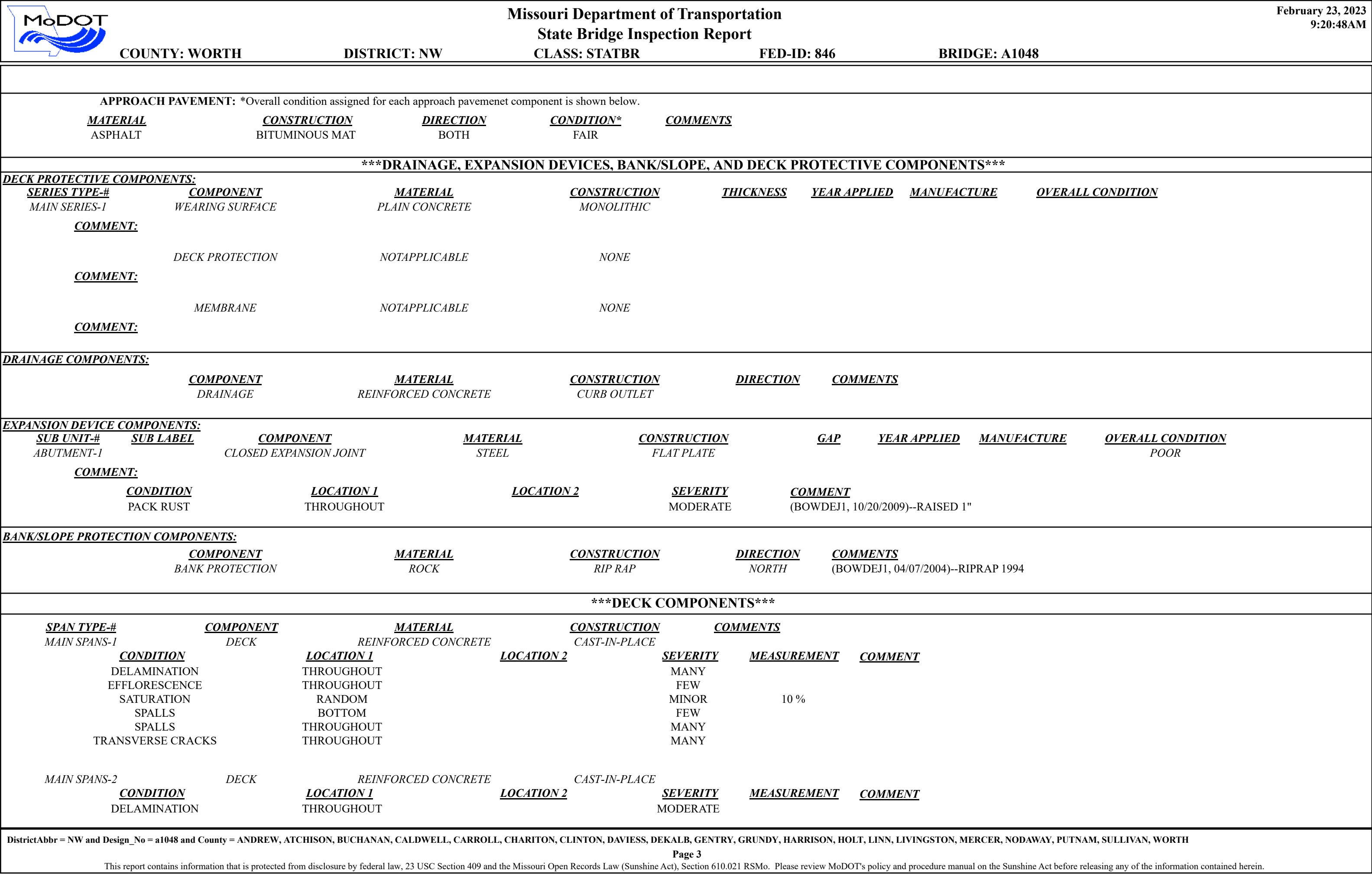
		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>February 23, 2023</div> <div>9:20:48AM</div>			
COUNTY: WORTH		DISTRICT: NW		CLASS: STATBR		FED-ID: 846		BRIDGE: A1048	
GENERAL STRUCTURE INFORMATION							***BRIDGE INSPECTION INFORMATION***		
<div>ROUTE: RTME</div> <div>FEATURE: E FK GRAND RVR</div> <div>STATUS: A-OPEN</div> <div>LOG MILE: 5.593</div> <div>DETOUR: 25.00 MILES</div> <div>NHS: NO</div> <div>BUILT: 1962</div> <div>REHAB:</div> <div>LOCATION: S 31 T 65 R 30 W</div> <div>LATITUDE: 40 23 51.73 (DMS)</div> <div>LONGITUDE: 94 19 37.45 (DMS)</div>		<div># SPANS: 3</div> <div>LANES ON: 2</div> <div>LANES UNDER: 0</div> <div>COMPASS DIRECTION: WEST to EAST</div> <div>DIRECTION OF TRAFFIC: 2-WAY TRAF</div> <div>FUNCTIONAL CLASS: RL-MAJOR COLLECTOR</div> <div>NBI OWNER: MODOT</div> <div>NBI MAINTAINED: MODOT</div> <div>MAINTENANCE DISTRICT: NW</div> <div>MAINTENANCE COUNTY: WORTH</div> <div>SUB AREA: 7A01</div>		<div>PLACE CODE: 19162 DENVER VILLAGE</div> <div>LENGTH: 233 FT 0 IN</div> <div>MAXIMUM SPAN: 99 FT 0 IN</div> <div>APPROACH ROADWAY: 20 FT 0 IN</div> <div>CURB TO CURB: 24 FT 0 IN</div> <div>OUT TO OUT: 26 FT 7 IN</div> <div>AADT: 272</div> <div>AADT YEAR: 2022</div> <div>AADT TRUCK: 11.3%</div> <div>FUTURE AADT: 354</div> <div>FUTURE AADT YEAR: 2042</div>		<div>DATE: 09/16/2021</div> <div>RESPONSIBILITY: DISTRICT</div> <div>FREQUENCY: 24</div> <div>CALCULATED INTERVAL**: 24</div> <div>TEAM LEADER: SCOTT STEPHENS</div> <div>ELEMENT: NO</div> <div>INSPECTOR 2:</div> <div>INSPECTOR 4:</div> <div>INSPECTOR 3:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>			
						<div>GENERAL INSPECTION COMMENTS</div>			
FRACTURE CRITICAL INSPECTION INFORMATION					***INDEPTH INSPECTION INFORMATION***				
<div>DATE:</div> <div>FREQUENCY:</div> <div>TEAM LEADER:</div> <div>INSPECTOR 2:</div> <div>RESPONSIBILITY:</div> <div>CALCULATED INTERVAL**:</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY:</div> <div>NBI:</div> <div>METHOD:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>					<div>DATE:</div> <div>FREQUENCY:</div> <div>TEAM LEADER:</div> <div>INSPECTOR 2:</div> <div>RESPONSIBILITY:</div> <div>CALCULATED INTERVAL**:</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY:</div> <div>NBI:</div> <div>METHOD:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				
<div>FRACTURE CRITICAL INSPECTION COMMENTS</div>					<div>INDEPTH INSPECTION COMMENTS</div>				
SPECIAL INSPECTION INFORMATION					***UNDERWATER INSPECTION INFORMATION***				
<div>DATE: 09/16/2021</div> <div>FREQUENCY: 72</div> <div>TEAM LEADER: SCOTT STEPHENS</div> <div>INSPECTOR 2:</div> <div>RESPONSIBILITY: DISTRICT</div> <div>CALCULATED INTERVAL**: 87</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY: CHANNEL CROSS SEC</div> <div>NBI: NO</div> <div>METHOD:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>					<div>DATE: 09/16/2021</div> <div>FREQUENCY: 60</div> <div>TEAM LEADER: SCOTT STEPHENS</div> <div>INSPECTOR 2:</div> <div>RESPONSIBILITY: DISTRICT</div> <div>CALCULATED INTERVAL**: 48</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY: DRY</div> <div>NBI: NO</div> <div>METHOD: VISUAL</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				
<div>SPECIAL INSPECTION COMMENTS</div>					<div>UNDERWATER INSPECTION COMMENTS</div>				
					<div>(HAZLET1, 09/16/2019)--3'-4' UNDER WATER IN 2019</div>				
OTHER SPECIAL INSPECTIONS					OTHER UNDERWATER INSPECTIONS				
<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div>					<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div>				

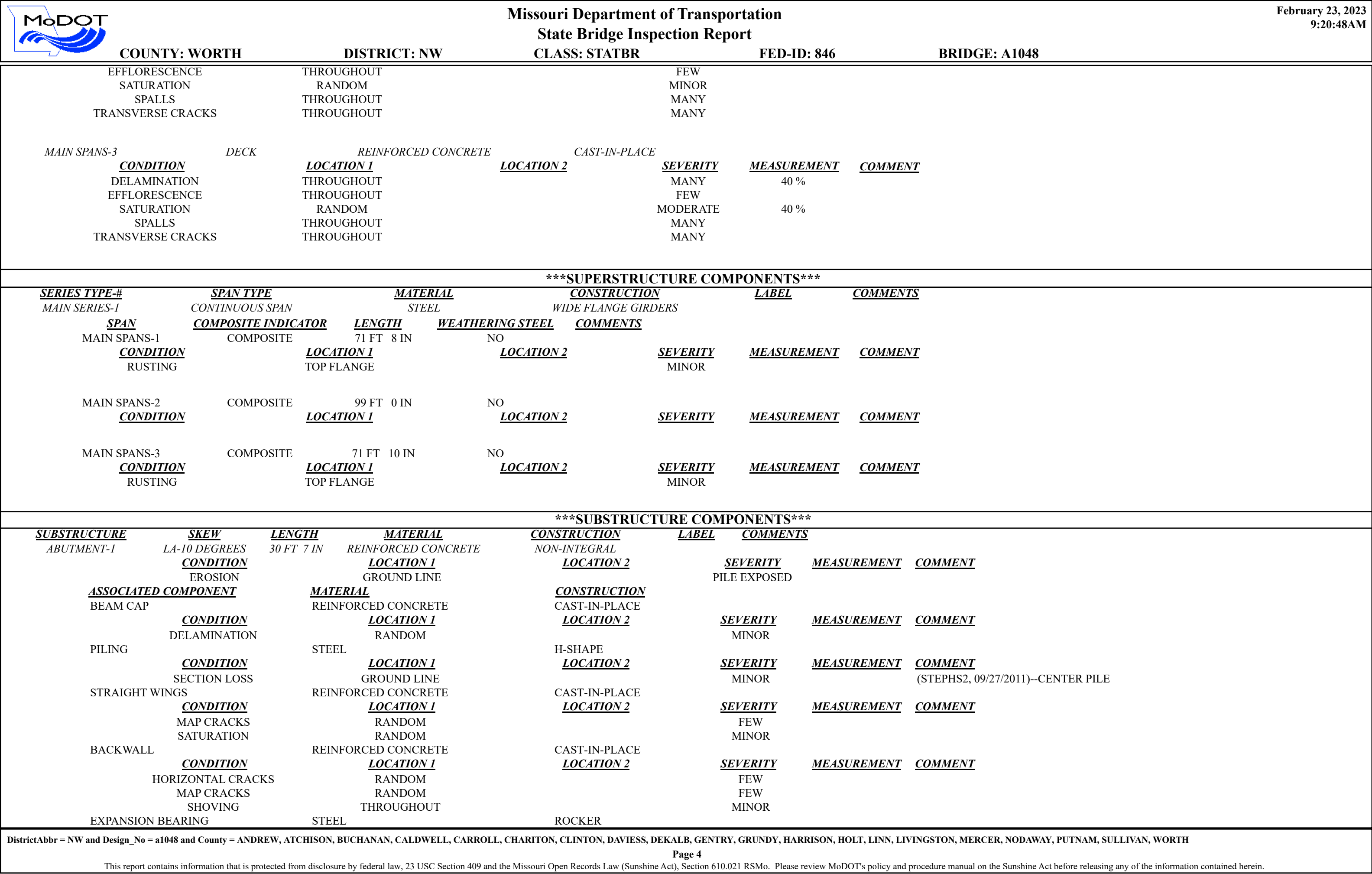
DistrictAbbr = NW and Design_No = a1048 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH

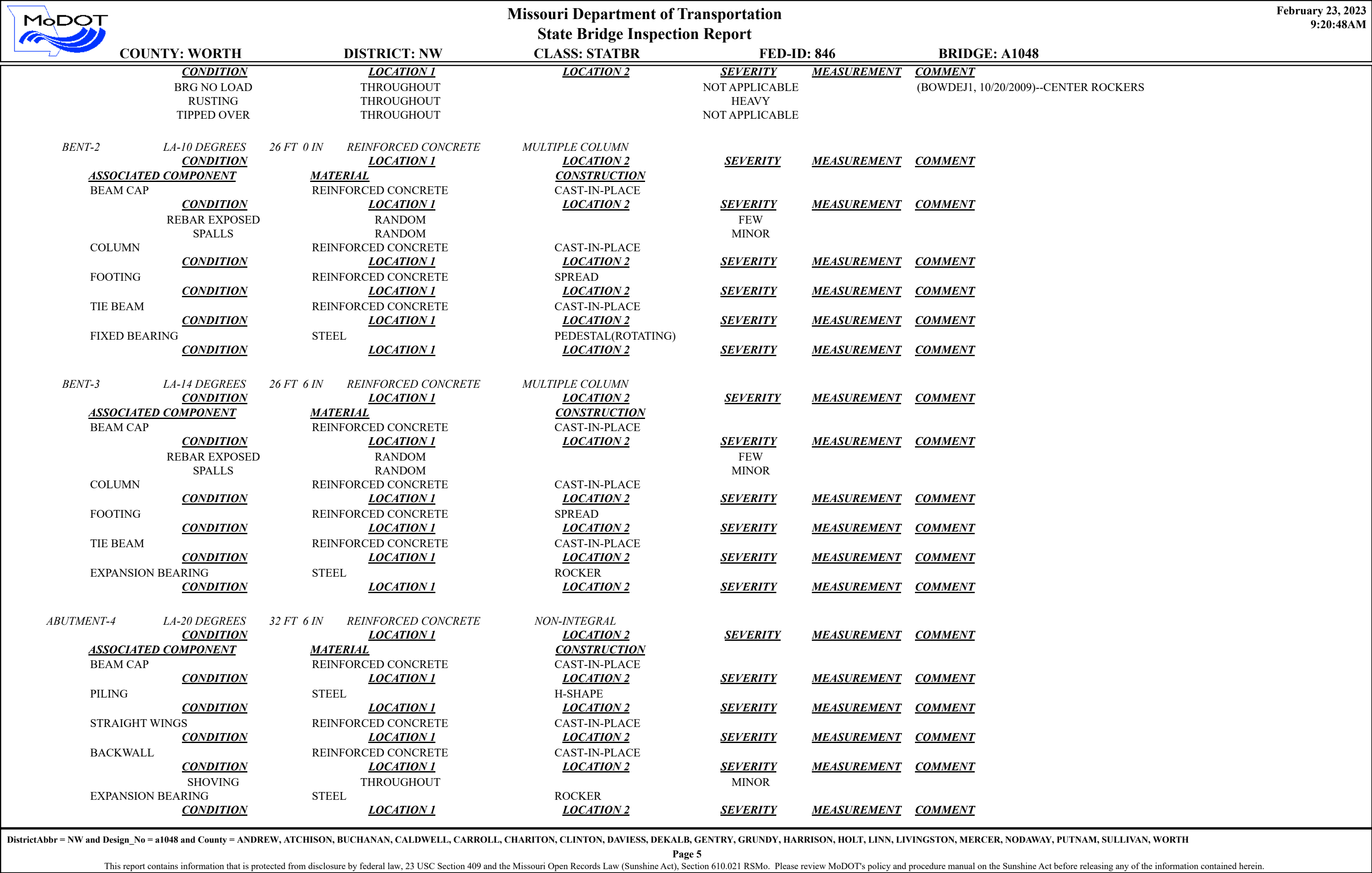
Page 1

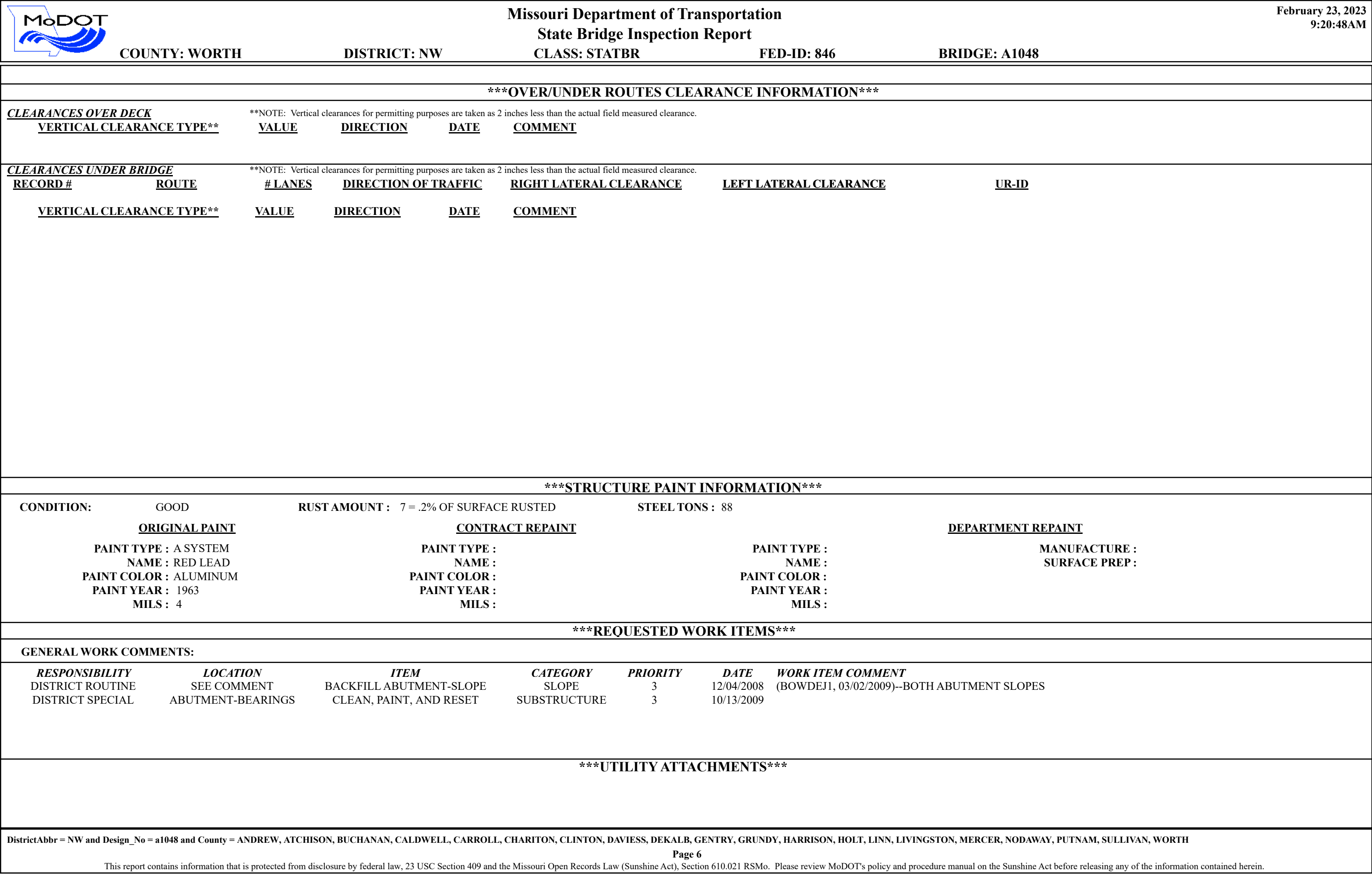
This report contains information that is protected from disclosure by federal law, 23 USC Section 409 and the Missouri Open Records Law (Sunshine Act), Section 610.021 RSMo. Please review MoDOT's policy and procedure manual on the Sunshine Act before releasing any of the information contained herein.


		Missouri Department of Transportation		February 23, 2023	
		State Bridge Inspection Report		9:20:48AM	
COUNTY: WORTH		DISTRICT: NW		CLASS: STATBR	
		FED-ID: 846		BRIDGE: A1048	
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:	
COMMENTS:		PROBLEM:		PROBLEM DIRECTION:	
GENERAL COMMENTS/MAJOR RATED ITEMS					
GENERAL COMMENTS: (BOWDEJ1, 03/05/2008)--(70'-90'-70') CONT COMP I-BMS SPANS					
[ITEM 58] DECK: 4-POOR CONDITION		COMMENTS: (STEPHS2, 09/12/2013)--MANY DELAMS AND SATURATION			
RATING : 12/26/2007					
[ITEM 59] SUPER: 7-GOOD CONDITION		COMMENTS: (HAZLET1, 09/16/2019)--RUST GIRDER ENDS			
RATING : 09/21/2017					
[ITEM 60] SUB: 6-SATISFACTORY CONDITION		COMMENTS: (STEPHS2, 09/12/2013)--UNDERMINING AT BEAM CAPS AND TILTED ROCKERS			
RATING : 05/18/2001					
[ITEM 61] BANK/CHANNEL: 5-MAJOR DAMAGE		COMMENTS: (BOWDEJ1, 04/07/2004)--DEEPENING & WIDENING			
RATING : 05/18/2001					
[ITEM 113] SCOUR: 8-STABLE FOR CALCULATED		COMMENTS:			
RATING : 05/18/2001					
EVALUATION TYPE :					
[ITEM 71] WATERWAY ADEQUACY: DECK ABOVE FLOOD ELEV		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 : 10/19/2009		COMMENTS:	
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>	
REINFORCED CONCRETE		CURB		BOTH	
STEEL		CHANNEL-12"		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:	
[ITEM 36D] RAIL END TREATMENT RATING: NOT PROVIDED-0		RATING : 05/18/2001		COMMENTS:	
DistrictAbbr = NW and Design_No = a1048 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH					
Page 2					
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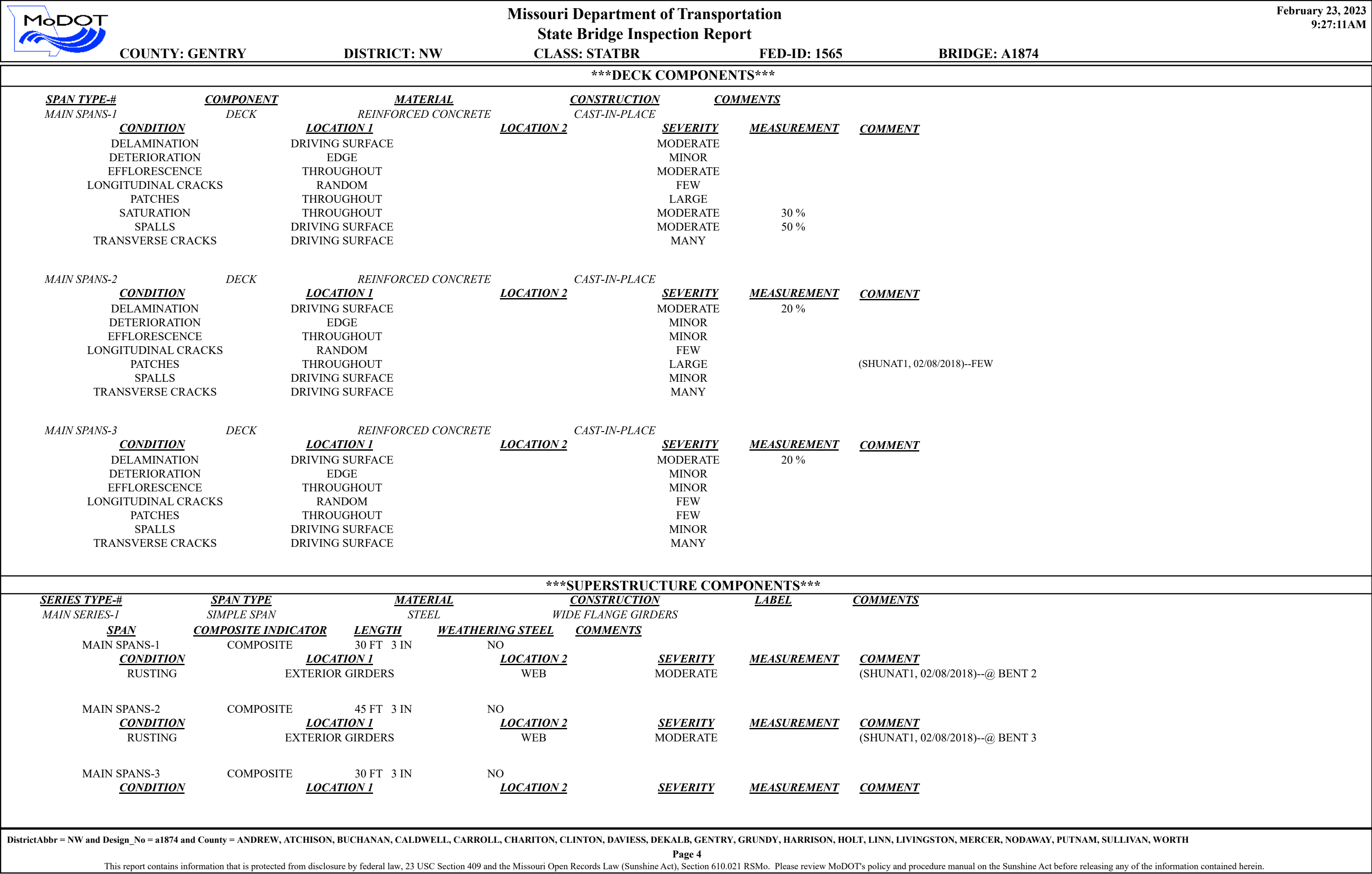


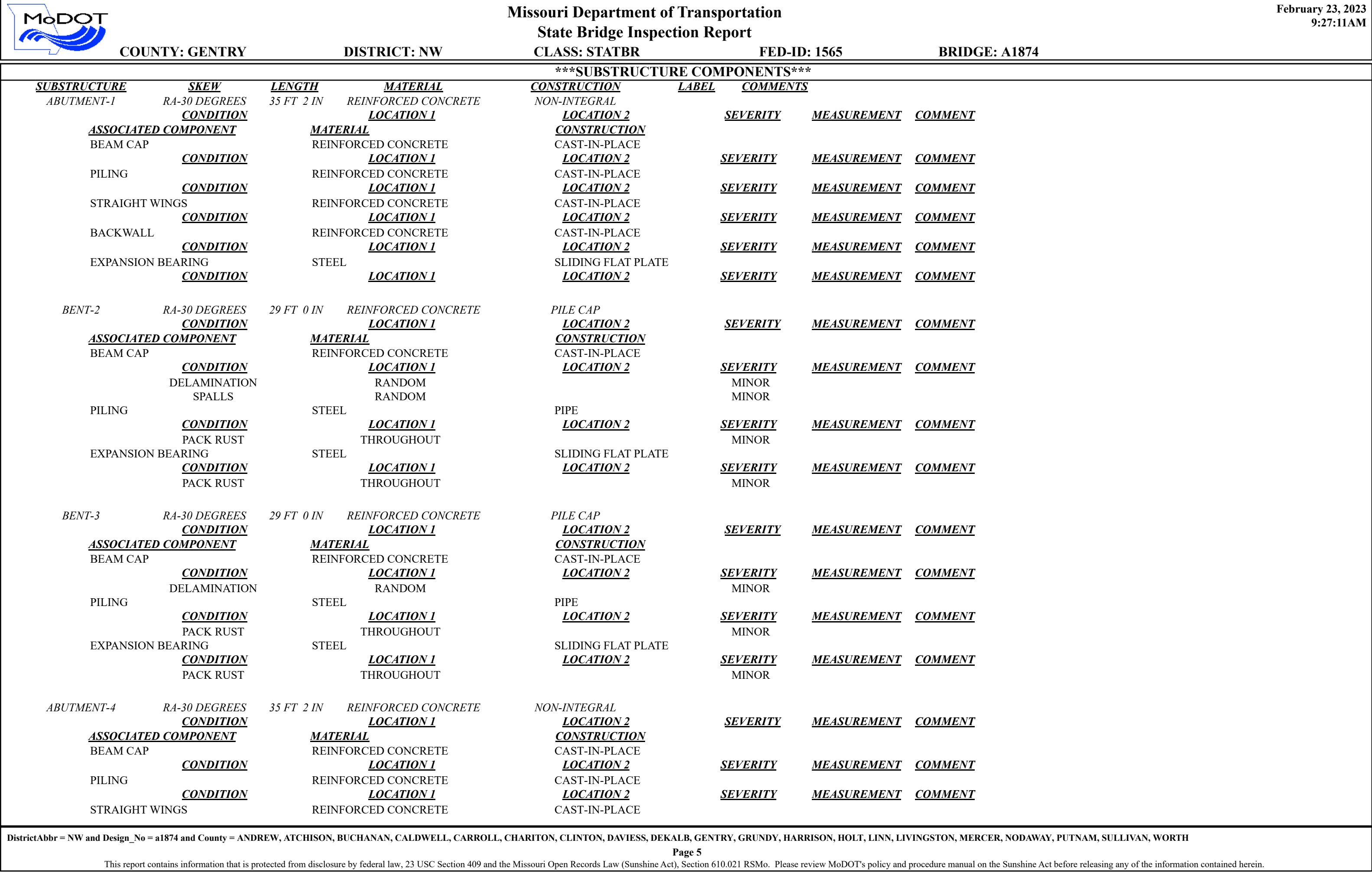
		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>February 23, 2023</div> <div>9:20:48AM</div>																																																		
COUNTY: WORTH		DISTRICT: NW		CLASS: STATBR		FED-ID: 846		BRIDGE: A1048																																																
UTILITY		OWNER		METHOD		MEASUREMENT TYPE		VALUE		NUMBER		UTILITY ATTACHMENT		COMMENT																																										
PROGRAM NOTES INFORMATION																																																								
YEAR		PROJECT #		MONTH LET		YEAR LET		ITEMS		COMMENT																																														
COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS										***ADVANCED SIGN INFORMATION***																																														
<div>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.</div> <table><tr><td>Rated Item</td><td>Rating</td><td>Rating Date</td></tr><tr><td>[Item 67] Structure Evaluation Rating:</td><td>5-BETTER THAN MINIMUM</td><td>5/18/2001</td></tr><tr><td>[Item 68] Deck Geometry Rating:</td><td>5-BETTER THAN MINIMUM</td><td>4/14/2017</td></tr><tr><td>[Item 69] Underclearance:</td><td>N-NOT APPLICABLE</td><td>5/18/2001</td></tr><tr><td>Sufficiency Rating:</td><td>66.1%</td><td>3/8/2022</td></tr><tr><td>Deficiency:</td><td>STRUCTURAL</td><td>1/4/2008</td></tr><tr><td>Funding Eligibility:</td><td>PARTIAL</td><td>----</td></tr><tr><td>Estimated New Structure Length:</td><td>266 FT.</td><td>----</td></tr><tr><td>Estimated Structure Cost:</td><td>\$940,395</td><td>----</td></tr><tr><td>Estimated Total Project Cost:</td><td>\$1,410,593</td><td>----</td></tr><tr><td>Year of Cost Estimate:</td><td>2023</td><td>----</td></tr></table> <div>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.</div>										Rated Item	Rating	Rating Date	[Item 67] Structure Evaluation Rating:	5-BETTER THAN MINIMUM	5/18/2001	[Item 68] Deck Geometry Rating:	5-BETTER THAN MINIMUM	4/14/2017	[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001	Sufficiency Rating:	66.1%	3/8/2022	Deficiency:	STRUCTURAL	1/4/2008	Funding Eligibility:	PARTIAL	----	Estimated New Structure Length:	266 FT.	----	Estimated Structure Cost:	\$940,395	----	Estimated Total Project Cost:	\$1,410,593	----	Year of Cost Estimate:	2023	----	<table><tr><td>SIGN #</td><td>SIGN TYPE</td><td>PROBLEM</td><td>PROBLEM DIRECTION</td></tr><tr><td>1</td><td></td><td></td><td></td></tr></table>						SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION	1			
Rated Item	Rating	Rating Date																																																						
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										<table><tr><td># OUTFALLS:</td><td>INSPECTOR:</td></tr><tr><td>STATUS:</td><td>DATE:</td></tr><tr><td>NOTES:</td><td></td></tr></table>						# OUTFALLS:	INSPECTOR:	STATUS:	DATE:	NOTES:																																				
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STATUS:	DATE:																																																							
NOTES:																																																								


		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>			<div>February 23, 2023</div> <div>9:27:11AM</div>		
COUNTY: GENTRY		DISTRICT: NW	CLASS: STATBR	FED-ID: 1565	BRIDGE: A1874		
GENERAL STRUCTURE INFORMATION					***BRIDGE INSPECTION INFORMATION***		
<div>ROUTE: RTBS</div> <div>FEATURE: ZOUNDS CR</div> <div>STATUS: A-OPEN</div> <div>LOG MILE: 5.120</div> <div>DETOUR: 20.00 MILES</div> <div>NHS: NO</div> <div>BUILT: 1967</div> <div>REHAB:</div> <div>LOCATION: S 31 T 64 R 32 W</div> <div>LATITUDE: 40 18 46.50 (DMS)</div> <div>LONGITUDE: 94 32 50.22 (DMS)</div>		<div># SPANS: 3</div> <div>LANES ON: 2</div> <div>LANES UNDER: 0</div> <div>COMPASS DIRECTION: NORTH to SOUTH</div> <div>DIRECTION OF TRAFFIC: 2-WAY TRAF</div> <div>FUNCTIONAL CLASS: RL-MAJOR COLLECTOR</div> <div>NBI OWNER: MODOT</div> <div>NBI MAINTAINED: MODOT</div> <div>MAINTENANCE DISTRICT: NW</div> <div>MAINTENANCE COUNTY: GENTRY</div> <div>SUB AREA: 7A01</div>		<div>PLACE CODE: 80188 WILSON</div> <div>LENGTH: 106 FT 0 IN</div> <div>MAXIMUM SPAN: 45 FT 3 IN</div> <div>APPROACH ROADWAY: 20 FT 0 IN</div> <div>CURB TO CURB: 26 FT 0 IN</div> <div>OUT TO OUT: 28 FT 10 IN</div> <div>AADT: 446</div> <div>AADT YEAR: 2022</div> <div>AADT TRUCK: 11.2%</div> <div>FUTURE AADT: 580</div> <div>FUTURE AADT YEAR: 2042</div>		<div>DATE: 11/04/2021</div> <div>RESPONSIBILITY: DISTRICT</div> <div>FREQUENCY: 24</div> <div>CALCULATED INTERVAL**: 24</div> <div>TEAM LEADER: SCOTT STEPHENS</div> <div>ELEMENT: NO</div> <div>INSPECTOR 2:</div> <div>INSPECTOR 4:</div> <div>INSPECTOR 3:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>	
						GENERAL INSPECTION COMMENTS	
FRACTURE CRITICAL INSPECTION INFORMATION				***INDEPTH INSPECTION INFORMATION***			
<div>DATE:</div> <div>FREQUENCY:</div> <div>TEAM LEADER:</div> <div>INSPECTOR 2:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				<div>RESPONSIBILITY:</div> <div>CALCULATED INTERVAL**:</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY:</div> <div>NBI:</div> <div>METHOD:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>			
FRACTURE CRITICAL INSPECTION COMMENTS				INDEPTH INSPECTION COMMENTS			
SPECIAL INSPECTION INFORMATION				***UNDERWATER INSPECTION INFORMATION***			
<div>DATE: 11/09/2022</div> <div>FREQUENCY: 12</div> <div>TEAM LEADER: BRYCE ACTON</div> <div>INSPECTOR 2:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				<div>RESPONSIBILITY: DISTRICT</div> <div>CALCULATED INTERVAL**: 12</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY: DRY</div> <div>NBI: NO</div> <div>METHOD: VISUAL</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>			
SPECIAL INSPECTION COMMENTS				UNDERWATER INSPECTION COMMENTS			
OTHER SPECIAL INSPECTIONS				OTHER UNDERWATER INSPECTIONS			
<div>DistrictAbbr = NW and Design_No = a1874 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH</div> <div>Page 1</div> <div>This report contains information that is protected from disclosure by federal law, 23 USC Section 409 and the Missouri Open Records Law (Sunshine Act), Section 610.021 RSMo. Please review MoDOT's policy and procedure manual on the Sunshine Act before releasing any of the information contained herein.</div>							


<div><div></div><div><div>Missouri Department of Transportation</div><div>State Bridge Inspection Report</div></div><div>February 23, 2023 9:27:11AM</div></div>														
COUNTY: GENTRY				DISTRICT: NW			CLASS: STATBR		FED-ID: 1565		BRIDGE: A1874			
<u>DATE</u>	<u>FREQUENCY</u>	<u>CATEGORY</u>	<u>NBI</u>	<u>CALCULATED INTERVAL</u>	<u>RESPONSIBILITY</u>	<u>METHOD</u>		<u>DATE</u>	<u>FREQUENCY</u>	<u>CATEGORY</u>	<u>NBI</u>	<u>CALCULATED INTERVAL</u>	<u>RESPONSIBILITY</u>	<u>METHOD</u>
11/04/2021	24	CHANNEL CROSS SECTIONS	NO	28	DISTRICT	WT TAPE								
01/31/2018	999	QUALITY ASSURANCE	NO		BRIDGEDIV									
01/01/1	999	SCOUR ACTION PLAN	NO											
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, 11/16/2009)--(30'-45'-30') SMP WF GDR SPANS														
[ITEM 58] DECK: 4-POOR CONDITION					COMMENTS: (STEPHS2, 11/27/2013)--DECK SATURATION									
RATING : 11/16/2009					(SHUNAT1, 02/08/2018)--MANY PATCHES THROUGHOUT									
[ITEM 59] SUPER: 7-GOOD CONDITION					COMMENTS: (SHUNAT1, 02/08/2018)--MOD RUSTING WEBS EXT GRDRS @ JOINT AREAS									
RATING : 05/18/2001														
[ITEM 60] SUB: 7-GOOD CONDITION					COMMENTS: (SHUNAT1, 02/08/2018)--PILING RUSTING. MINOR SPALL AND DELAM ON CAPS @ INTERMEDIATE BENTS									
RATING : 02/08/2018														
[ITEM 61] BANK/CHANNEL: 6-WIDESPREAD MINOR DAMAGE					COMMENTS: (MENDER1, 11/21/2017)--REPAIRS COMPLETED 2017									
RATING : 02/08/2018					(SHUNAT1, 02/08/2018)--MINOR EROSION OF STREAM BANK									
[ITEM 113] SCOUR: 3-SCOUR CRITICAL-UNSTABLE					COMMENTS: (CALLAC, 01/16/2003)--ITEM 113 = 3, SCOUR CAT. = C, BASED ON USGS CALCULATIONS, MODERATE PILE EXPOSURE DUE TO CONTRACTION SCOUR,									
RATING : 01/16/2003														
EVALUATION TYPE :														
[ITEM 71] WATERWAY ADEQUACY: DECK/APPRCH OVERTOP SLIGHT					COMMENTS:									
RATING : 05/18/2001														
[ITEM 72] APPRRDWY ALIGNMENT: 8-VERYGOOD					COMMENTS:									
RATING : 05/18/2001														
RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS														
[ITEM 36A] BRIDGE RAILING RATING: NOT PROVIDED-0					RATING : 05/18/2001		COMMENTS:							
DistrictAbbr = NW and Design_No = a1874 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH														
Page 2														
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		Missouri Department of Transportation				February 23, 2023	
		State Bridge Inspection Report				9:27:11AM	
COUNTY: GENTRY		DISTRICT: NW		CLASS: STATBR		FED-ID: 1565	
				BRIDGE: A1874			
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>COMMENTS</u>	
REINFORCED CONCRETE		PARAPET		BOTH			
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	
VERTICAL CRACKS		THROUGHOUT				MINOR	
REINFORCED CONCRETE		CURB		BOTH			
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	
MAP CRACKS		THROUGHOUT				MINOR	
ALUMINUM		CIRCULAR TUBE		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:	
[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>	
ASPHALT		BITUMINOUS MAT		BOTH		FAIR	
DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS							
<u>DECK PROTECTIVE COMPONENTS:</u>							
<u>SERIES TYPE-#</u>		<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>	
MAIN SERIES-1		WEARING SURFACE		PLAIN CONCRETE		MONOLITHIC	
<u>COMMENT:</u>							
		DECK PROTECTION		NOTAPPLICABLE		NONE	
<u>COMMENT:</u>							
		MEMBRANE		NOTAPPLICABLE		NONE	
<u>COMMENT:</u>							
<u>DRAINAGE COMPONENTS:</u>							
<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>	
DRAINAGE		REINFORCED CONCRETE		CURB OUTLET			
<u>EXPANSION DEVICE COMPONENTS:</u>							
<u>SUB UNIT-#</u>		<u>SUB LABEL</u>		<u>COMPONENT</u>		<u>MATERIAL</u>	
						<u>CONSTRUCTION</u>	
<u>COMMENT:</u>						<u>GAP</u>	
						<u>YEAR APPLIED</u>	
						<u>MANUFACTURE</u>	
						<u>OVERALL CONDITION</u>	
<u>BANK/SLOPE PROTECTION COMPONENTS:</u>							
<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>	
BANK PROTECTION		ROCK		BLANKET		BOTH	
DistrictAbbr = NW and Design_No = a1874 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH							
Page 3							
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		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>February 23, 2023</div> <div>9:27:11AM</div>															
COUNTY: GENTRY		DISTRICT: NW		CLASS: STATBR		FED-ID: 1565		BRIDGE: A1874													
BACKWALL		REINFORCED CONCRETE		CAST-IN-PLACE																	
EXPANSION BEARING		STEEL		SLIDING FLAT PLATE																	
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>		<u>MEASUREMENT</u>													
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>		<u>MEASUREMENT</u>													
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>		<u>MEASUREMENT</u>													
OVER/UNDER ROUTES CLEARANCE INFORMATION																					
<div><u>CLEARANCES OVER DECK</u><div>**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.</div><table><tr><td><u>VERTICAL CLEARANCE TYPE**</u></td><td><u>VALUE</u></td><td><u>DIRECTION</u></td><td><u>DATE</u></td><td><u>COMMENT</u></td></tr></table></div>										<u>VERTICAL CLEARANCE TYPE**</u>	<u>VALUE</u>	<u>DIRECTION</u>	<u>DATE</u>	<u>COMMENT</u>							
<u>VERTICAL CLEARANCE TYPE**</u>	<u>VALUE</u>	<u>DIRECTION</u>	<u>DATE</u>	<u>COMMENT</u>																	
<div><u>CLEARANCES UNDER BRIDGE</u><div>**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.</div><table><tr><td><u>RECORD #</u></td><td><u>ROUTE</u></td><td><u># LANES</u></td><td><u>DIRECTION OF TRAFFIC</u></td><td><u>RIGHT LATERAL CLEARANCE</u></td><td><u>LEFT LATERAL CLEARANCE</u></td><td><u>UR-ID</u></td></tr><tr><td><u>VERTICAL CLEARANCE TYPE**</u></td><td><u>VALUE</u></td><td><u>DIRECTION</u></td><td><u>DATE</u></td><td><u>COMMENT</u></td></tr></table></div>										<u>RECORD #</u>	<u>ROUTE</u>	<u># LANES</u>	<u>DIRECTION OF TRAFFIC</u>	<u>RIGHT LATERAL CLEARANCE</u>	<u>LEFT LATERAL CLEARANCE</u>	<u>UR-ID</u>	<u>VERTICAL CLEARANCE TYPE**</u>	<u>VALUE</u>	<u>DIRECTION</u>	<u>DATE</u>	<u>COMMENT</u>
<u>RECORD #</u>	<u>ROUTE</u>	<u># LANES</u>	<u>DIRECTION OF TRAFFIC</u>	<u>RIGHT LATERAL CLEARANCE</u>	<u>LEFT LATERAL CLEARANCE</u>	<u>UR-ID</u>															
<u>VERTICAL CLEARANCE TYPE**</u>	<u>VALUE</u>	<u>DIRECTION</u>	<u>DATE</u>	<u>COMMENT</u>																	
STRUCTURE PAINT INFORMATION																					
CONDITION: GOOD		RUST AMOUNT : 9=.03% OF SURFACE RUSTED			STEEL TONS : 19																
<u>ORIGINAL PAINT</u>		<u>CONTRACT REPAINT</u>			<u>DEPARTMENT REPAINT</u>																
PAINT TYPE : A SYSTEM		PAINT TYPE :			PAINT TYPE : S SYSTEM		MANUFACTURE :CARBOLINE														
NAME : RED LEAD		NAME :			NAME : CAL SULPH/LEAD PAINT		SURFACE PREP :HAND CLEANED														
PAINT COLOR : ALUMINUM		PAINT COLOR :			PAINT COLOR : RED																
PAINT YEAR : 1969		PAINT YEAR :			PAINT YEAR : 2005																
MILS : 5		MILS :			MILS : 10																
REQUESTED WORK ITEMS																					
GENERAL WORK COMMENTS:																					
DistrictAbbr = NW and Design_No = a1874 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH																					
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COUNTY: GENTRY		DISTRICT: NW		CLASS: STATBR		FED-ID: 1565																																		
						BRIDGE: A1874																																		
<div>RESPONSIBILITYLOCATIONITEMCATEGORYPRIORITYDATEWORK ITEM COMMENT</div>																																								
UTILITY ATTACHMENTS																																								
<div>UTILITYOWNERMETHODMEASUREMENT TYPEVALUENUMBERUTILITY ATTACHMENT COMMENT</div>																																								
PROGRAM NOTES INFORMATION																																								
<div>YEARPROJECT #MONTH LETYEAR LETITEMSCOMMENT</div>																																								
COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS						***ADVANCED SIGN INFORMATION***																																		
<div>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.</div> <table><tr><td>Rated Item</td><td>Rating</td><td>Rating Date</td></tr><tr><td>[Item 67] Structure Evaluation Rating:</td><td>5-BETTER THAN MINIMUM</td><td>5/18/2001</td></tr><tr><td>[Item 68] Deck Geometry Rating:</td><td>5-BETTER THAN MINIMUM</td><td>5/18/2001</td></tr><tr><td>[Item 69] Underclearance:</td><td>N-NOT APPLICABLE</td><td>5/18/2001</td></tr><tr><td>Sufficiency Rating:</td><td>70.4%</td><td>3/8/2022</td></tr><tr><td>Deficiency:</td><td>STRUCTURAL</td><td>12/15/2009</td></tr><tr><td>Funding Eligibility:</td><td>PARTIAL</td><td>----</td></tr><tr><td>Estimated New Structure Length:</td><td>135 FT.</td><td>----</td></tr><tr><td>Estimated Structure Cost:</td><td>\$532,348</td><td>----</td></tr><tr><td>Estimated Total Project Cost:</td><td>\$798,522</td><td>----</td></tr><tr><td>Year of Cost Estimate:</td><td>2023</td><td>----</td></tr></table> <div>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.</div>						Rated Item	Rating	Rating Date	[Item 67] Structure Evaluation Rating:	5-BETTER THAN MINIMUM	5/18/2001	[Item 68] Deck Geometry Rating:	5-BETTER THAN MINIMUM	5/18/2001	[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001	Sufficiency Rating:	70.4%	3/8/2022	Deficiency:	STRUCTURAL	12/15/2009	Funding Eligibility:	PARTIAL	----	Estimated New Structure Length:	135 FT.	----	Estimated Structure Cost:	\$532,348	----	Estimated Total Project Cost:	\$798,522	----	Year of Cost Estimate:	2023	----	<div>SIGN #SIGN TYPEPROBLEMPROBLEM DIRECTION</div> <div>1</div>	
Rated Item	Rating	Rating Date																																						
[Item 67] Structure Evaluation Rating:	5-BETTER THAN MINIMUM	5/18/2001																																						
[Item 68] Deck Geometry Rating:	5-BETTER THAN MINIMUM	5/18/2001																																						
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Deficiency:	STRUCTURAL	12/15/2009																																						
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Estimated New Structure Length:	135 FT.	----																																						
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Estimated Total Project Cost:	\$798,522	----																																						
Year of Cost Estimate:	2023	----																																						
						OUTFALL INSPECTION INFORMATION																																		
						<div># OUTFALLS:INSPECTOR:</div> <div>STATUS:DATE:</div> <div>NOTES:</div>																																		



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

February 23, 2023
10:18:06am

COUNTY : WORTH BRIDGE : A0448 2 REVIEW STATUS : APPROVED NBI STATUS : T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

GENERAL STRUCTURE INFORMATION			ROUTE DESIGNATION INFORMATION		
1	State	MISSOURI	5A	Record Type	ROUTE CARRIED 'ON' STRUCT
2	District	NW	5B	Route Signing Prefix	US
3	County	WORTH	5C	Designated Level of Service	MAINLINE
8	Federal ID No.	299	5D	Route Number	00169
27	Year Built	1960	5E	Directional Suffix	NOT APPLICABLE
106	Year Reconstructed	1975	7	Facility Carried	US 169 S
42A	Type of Service On	HIGHWAY	12	Base Hwy. Network	YES
21	Structure Maintenance	STATE HIGHWAY AGENCY	13A	LRS Inventory Route No.	0000005862
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	NOT ELIGIBLE FOR 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	YES
STRUCTURE LOCATION INFORMATION			STRUCTURE TRAFFIC INFORMATION		
4	Place	MIDDLEFORK	29	AADT	883
	Code	47828	30	AADT Year	2021
9	Location	S 9 T 65 N R 31 W	102	Direction of Traffic	2-WAY TRAFFIC
11	Milepoint	8.15 miles	109	AADT Truck Percent	17%
16	Latitude	40 D 27 M 16 S	114	Future AADT	1192
17	Longitude	94 D 24 M 14 S	115	Future AADT Year	2041
UNDERRECORD INFORMATION			STRUCTURE GEOMETRIC INFORMATION		
6	Features Intersected	MID FK GRAND RVR	10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
42B	Type of Service Under	WATERWAY	19	By pass Detour Length	16.25 miles
28B	Lanes Under Structure	00	32	Approach Roadway Width	36 Ft. 1 In.
54A	Vert. Clearance Ref.	N/A	34	Skew	48.00 Degrees
54B	Vert. Clearance	0 Ft. 0 In.	35	Struct. Flared	NO
55A	Rt. Lat Clear Ref.	N/A	47	Total Horiz. Clear	30 Ft. 10 In.
55B	Rt. Lat Clearance	0 Ft. 0 In.	48	Maximum Span Length	100 Ft. 1 In.
56	Left Lat Clearance	0 Ft. 0 In.	49	Structure Length	363 Ft. 10 In.
38	Navigation Control	PERMIT NOT REQ	50A	Left Curb/Sidewalk Width	1 Ft. 4 In.
39	Nav Vertical Clear	0 Ft. 0 In.	50B	Right Curb/Sidewalk Width	1 Ft. 4 In.
40	Nav Horizontal Clear	0 Ft. 0 In.	51	Curb to Curb Br. Width	27 Ft. 11 In.
111	Nav. Pier Protection		52	Deck Width (Out-Out)	31 Ft. 6 In.
116	Nav. Cl. Vert. Clear		53	Vert. Clearance Over Deck	99 Ft. 99 In.



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

February 23, 2023
10:18:06am

COUNTY : WORTH BRIDGE : A0448 2 REVIEW STATUS : APPROVED NBI STATUS : T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

LOAD RATING AND POSTING INFORMATION			MATERIAL/CONSTRUCTION INFORMATION		
31	Design Load	H 20	43A	Main Struc. Mat type	STEEL
41	Structure Status	OPEN NO RESTRICTIONS	43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
63	Oper. Rating Meth.	LOAD FACTOR	45	# of Main Spans	3
64	Operating Rating	42 Tons.	44A	Appr Struc. Mat type	STEEL
65	Inventory Rating Meth	LOAD FACTOR	44B	Appr Struc. Cnstr. type	STRINGER/MULTIBEAM - GRD
66	Inventory Rating	25 Tons.	46	# of Approach Span	2
70	Bridge Posting Code	=>LEGAL LOADS	107	Deck Mat/Constr.	1 CONCRETE CIP
PROPOSED IMPROVEMENT INFORMATION			108A	Wear Surf Mat/Constr.	6 BITUMINOUS
Sufficiency Rating 59.4 Percent			108B	Membrane Mat/Constr.	0 NONE
Deficiency Rating STRUCTURAL			108C	Deck Protect Mat/Constr.	0 NONE
Funding Eligibility PARTIAL			CONDITION RATING INFORMATION		
75A	Proposed Work	REHAB-GENERAL DETERIORAT	58	Deck Cond. Rating	4
75B	Work Done By	Contract	59	Superstructure Cond. Rating	5
76	New Struc Length	393 Ft. 8 In.	60	Substructure Cond. Rating	6
94	Struc Improve Cost	\$ 1,554,000	61	Channel /Channel Protection Cond. Rating	6
95	Roadway Improve Cost	\$ 155,000	62	Culvert Cond. Rating	N
96	Total Project Cost	\$ 2,331,000	INSPECTION INFORMATION		
97	Year of Cost Estimates	2023	90	Gen. Insp Date	9 / 21
APPRAISAL RATING INFORMATION			91	Gen. Insp. Frequency	24 Months
36A	Br. Rail App. Rating	DOES NOT MEET ACCEPT STND	92A	Frac. Critical Inspection	N Months
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND	93A	Frac. Critical Insp. Date	
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND	92B	Underwater Inspection	N Months
36D	Rail End Treat. App. Rating	MEETS ACCEPTBLE STND	93B	Underwater Insp. Date	
67	Struc Eval App. Rating	5	92C	Special Inspection	N Months
68	Deck Geometry App. Rating	5	93C	Special Inspection Date	
69	Underclearance App. Rating	N	BORDER BRIDGE INFORMATION		
71	Waterway Adeq. App. Rating	8	98	Neighboring State Code	
72	Approach Road App. Rating	8	98B	Neighboring State % Respon	
113	Scour Assess App. Rating	8	99	Neighboring State Struc. No.	
APPROVED POSTING INFORMATION			FIELD POSTING INFORMATION		
Approved Posting Category S-1			Field Posting Category S-1		
Ton1 Ton2 Ton3			Ton1 Ton2 Ton3		
Tonnage Values for Posting Sign			Tonnage Values for Posting Sign		
General Text for Posting Sign			General Text for Posting Sign		
NO POSTING REQUIRED			NO POSTING REQUIRED		



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

February 23, 2023
10:18:23am

COUNTY : WORTH BRIDGE : A1048 REVIEW STATUS : APPROVED NBI STATUS : T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

GENERAL STRUCTURE INFORMATION			ROUTE DESIGNATION INFORMATION		
1	State	MISSOURI	5A	Record Type	ROUTE CARRIED 'ON' STRUCT
2	District	NW	5B	Route Signing Prefix	MO
3	County	WORTH	5C	Designated Level of Service	MAINLINE
8	Federal ID No.	846	5D	Route Number	0000M
27	Year Built	1962	5E	Directional Suffix	NOT APPLICABLE
106	Year Reconstructed	0	7	Facility Carried	RT M E
42A	Type of Service On	HIGHWAY	12	Base Hwy. Network	NO
21	Structure Maintenance	STATE HIGHWAY AGENCY	13A	LRS Inventory Route No.	
22	Structure Owner	STATE HIGHWAY AGENCY	13B	Subroute No.	
33	Br. Median Code	NO MEDIAN	20	Toll Status	ON FREE ROAD
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP	26	Functional Classification	07-RURAL MAJOR COLLECTOR
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	DENVER VILLAGE	29	AADT	268
	Code	19162	30	AADT Year	2021
9	Location	S 31 T 65 N R 30 W	102	Direction of Traffic	2-WAY TRAFFIC
11	Milepoint	5.63 miles	109	AADT Truck Percent	11%
16	Latitude	40 D 23 M 52 S	114	Future AADT	348
17	Longitude	94 D 19 M 37 S	115	Future AADT Year	2041
UNDERRECORD INFORMATION			STRUCTURE GEOMETRIC INFORMATION		
6	Features Intersected	E FK GRAND RVR	10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
42B	Type of Service Under	WATERWAY	19	By pass Detour Length	25.00 miles
28B	Lanes Under Structure	00	32	Approach Roadway Width	20 Ft. 0 In.
54A	Vert. Clearance Ref.	N/A	34	Skew	14.00 Degrees
54B	Vert. Clearance	0 Ft. 0 In.	35	Struct. Flared	NO
55A	Rt. Lat Clear Ref.	N/A	47	Total Horiz. Clear	23 Ft. 11 In.
55B	Rt. Lat Clearance	0 Ft. 0 In.	48	Maximum Span Length	99 Ft. 1 In.
56	Left Lat Clearance	0 Ft. 0 In.	49	Structure Length	232 Ft. 11 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	23 Ft. 11 In.
111	Nav. Pier Protection		52	Deck Width (Out-Out)	26 Ft. 7 In.
116	Nav. Cl. Vert. Clear		53	Vert. Clearance Over Deck	99 Ft. 99 In.



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

February 23, 2023
10:18:23am

COUNTY : WORTH BRIDGE : A1048 REVIEW STATUS : APPROVED NBI STATUS : T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

LOAD RATING AND POSTING INFORMATION			MATERIAL/CONSTRUCTION INFORMATION		
31	Design Load	H 15	43A	Main Struc. Mat type	STEEL CONTINUOUS
41	Structure Status	OPEN NO RESTRICTIONS	43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
63	Oper. Rating Meth.	ALLOWABLE STRESS	45	# of Main Spans	3
64	Operating Rating	34 Tons.	44A	Appr Struc. Mat type	000
65	Inventory Rating Meth	ALLOWABLE STRESS	44B	Appr Struc. Cnstr. type	000
66	Inventory Rating	21 Tons.	46	# of Approach Span	0
70	Bridge Posting Code	=>LEGAL LOADS	107	Deck Mat/Constr.	1 CONCRETE CIP
PROPOSED IMPROVEMENT INFORMATION			108A	Wear Surf Mat/Constr.	1 MONO CONCRETE
Sufficiency Rating 66.1 Percent			108B	Membrane Mat/Constr.	0 NONE
Deficiency Rating STRUCTURAL			108C	Deck Protect Mat/Constr.	0 NONE
Funding Eligibility PARTIAL			CONDITION RATING INFORMATION		
75A	Proposed Work	REHAB-GENERAL DETERIORAT	58	Deck Cond. Rating	4
75B	Work Done By	Contract	59	Superstructure Cond. Rating	7
76	New Struc Length	265 Ft. 9 In.	60	Substructure Cond. Rating	6
94	Struc Improve Cost	\$ 940,000	61	Channel /Channel Protection Cond. Rating	5
95	Roadway Improve Cost	\$ 94,000	62	Culvert Cond. Rating	N
96	Total Project Cost	\$ 1,411,000	INSPECTION INFORMATION		
97	Year of Cost Estimates	2023	90	Gen. Insp Date	9 / 21
APPRAISAL RATING INFORMATION			91	Gen. Insp. Frequency	24 Months
36A	Br. Rail App. Rating	DOES NOT MEET ACCEPT STND	92A	Frac. Critical Inspection	N Months
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND	93A	Frac. Critical Insp. Date	
36C	Approach Rail App. Rating	DOES NOT MEET ACCEPT STND	92B	Underwater Inspection	N Months
36D	Rail End Treat. App. Rating	DOES NOT MEET ACCEPT STND	93B	Underwater Insp. Date	
67	Struc Eval App. Rating	5	92C	Special Inspection	N Months
68	Deck Geometry App. Rating	5	93C	Special Inspection Date	
69	Underclearance App. Rating	N	BORDER BRIDGE INFORMATION		
71	Waterway Adeq. App. Rating	8	98	Neighboring State Code	
72	Approach Road App. Rating	6	98B	Neighboring State % Respon	
113	Scour Assess App. Rating	8	99	Neighboring State Struc. No.	
APPROVED POSTING INFORMATION			FIELD POSTING INFORMATION		
Approved Posting Category S-1			Field Posting Category S-1		
Ton1 Ton2 Ton3			Ton1 Ton2 Ton3		
Tonnage Values for Posting Sign			Tonnage Values for Posting Sign		
General Text for Posting Sign			General Text for Posting Sign		
NO POSTING REQUIRED			NO POSTING REQUIRED		

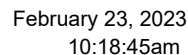


Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

February 23, 2023
10:18:45am

COUNTY : GENTRY BRIDGE : A1874 REVIEW STATUS : APPROVED NBI STATUS : T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

GENERAL STRUCTURE INFORMATION			ROUTE DESIGNATION INFORMATION		
1	State	MISSOURI	5A	Record Type	ROUTE CARRIED 'ON' STRUCT
2	District	NW	5B	Route Signing Prefix	MO
3	County	GENTRY	5C	Designated Level of Service	MAINLINE
8	Federal ID No.	1565	5D	Route Number	0000B
27	Year Built	1967	5E	Directional Suffix	NOT APPLICABLE
106	Year Reconstructed	0	7	Facility Carried	RT B S
42A	Type of Service On	HIGHWAY	12	Base Hwy. Network	NO
21	Structure Maintenance	STATE HIGHWAY AGENCY	13A	LRS Inventory Route No.	
22	Structure Owner	STATE HIGHWAY AGENCY	13B	Subroute No.	
33	Br. Median Code	NO MEDIAN	20	Toll Status	ON FREE ROAD
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP	26	Functional Classification	07-RURAL MAJOR COLLECTOR
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	WILSON	29	AADT	440
	Code	80188	30	AADT Year	2021
9	Location	S 31 T 64 N R 32 W	102	Direction of Traffic	2-WAY TRAFFIC
11	Milepoint	5.15 miles	109	AADT Truck Percent	11%
16	Latitude	40 D 18 M 47 S	114	Future AADT	572
17	Longitude	94 D 32 M 50 S	115	Future AADT Year	2041
UNDERRECORD INFORMATION			STRUCTURE GEOMETRIC INFORMATION		
6	Features Intersected	ZOUNDS CR	10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
42B	Type of Service Under	WATERWAY	19	By pass Detour Length	20.00 miles
28B	Lanes Under Structure	00	32	Approach Roadway Width	20 Ft. 0 In.
54A	Vert. Clearance Ref.	N/A	34	Skew	30.00 Degrees
54B	Vert. Clearance	0 Ft. 0 In.	35	Struct. Flared	NO
55A	Rt. Lat Clear Ref.	N/A	47	Total Horiz. Clear	25 Ft. 11 In.
55B	Rt. Lat Clearance	0 Ft. 0 In.	48	Maximum Span Length	45 Ft. 3 In.
56	Left Lat Clearance	0 Ft. 0 In.	49	Structure Length	105 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	25 Ft. 11 In.
111	Nav. Pier Protection		52	Deck Width (Out-Out)	28 Ft. 10 In.
116	Nav. Cl. Vert. Clear		53	Vert. Clearance Over Deck	99 Ft. 99 In.



MISSOURI STATE HIGHWAY DEPARTMENT

(70'-90'-70') Cont. I-Beam Spans (Composite)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	7	

FOOTING AND PILE DATA					
Bent No.	1	2	3	4	
SPREAD	Foundation Material	Shale	Shale		
FOOTINGS	Design Bearing Ton/sq. Ft.	5.6	5.8		
	See Standard Specifications 50.4.2				
BEARING PILE	Pile Type & Size	10 BP42		10 BP42	
	Number	5		5	
	Approx. Length Ft.	50'		25'	
	Design Load Ton/Pile	37		37	
	Hammer	Power		Power	
	See Standard Specifications 52.2.6				

Note: In no case shall footings of Bent No. 3 be higher than elevation shown.
All piles shall be driven to or into solid rock, boulders, shale or cemented gravel or to not less than full length authorized and to sustain at least the above load.

GENERAL NOTES:

Design Specifications A.A.S.H.O. 1961
Loading H15-44
Structural Steel Stress (A.S.T.M. A7) 18,000 psi.
Structural Steel Stress (A.S.T.M. A36) 20,000 psi.
Reinforcing Steel Stress 20,000 psi.
Concrete, Class B Stress 1,200 psi.
Concrete, Class B1 Stress 1,600 psi.
Superstructure concrete shall be Class B1.
Substructure concrete shall be Class B or Class B1 except payment will be on the basis of Class B.
Fabricated structural steel for wide flange beams and flange plates shall be A.S.T.M. A36 and all other steel shall be A.S.T.M. A7 except as noted for bearings. Payment will be made as Fabricated Structural Carbon Steel.
See Standard Specification 55.3.13 for qualification of welding operators.
Field connections, High Strength Bolts $\frac{3}{4}$ " holes $\frac{1}{16}$ " except as otherwise noted.
Paint: shop, none; Field, none by contractor except as noted in Standard Specification 55.4.10.2.
Where joint filler is specified on plans it shall conform to Standard Specification 157.2.5.

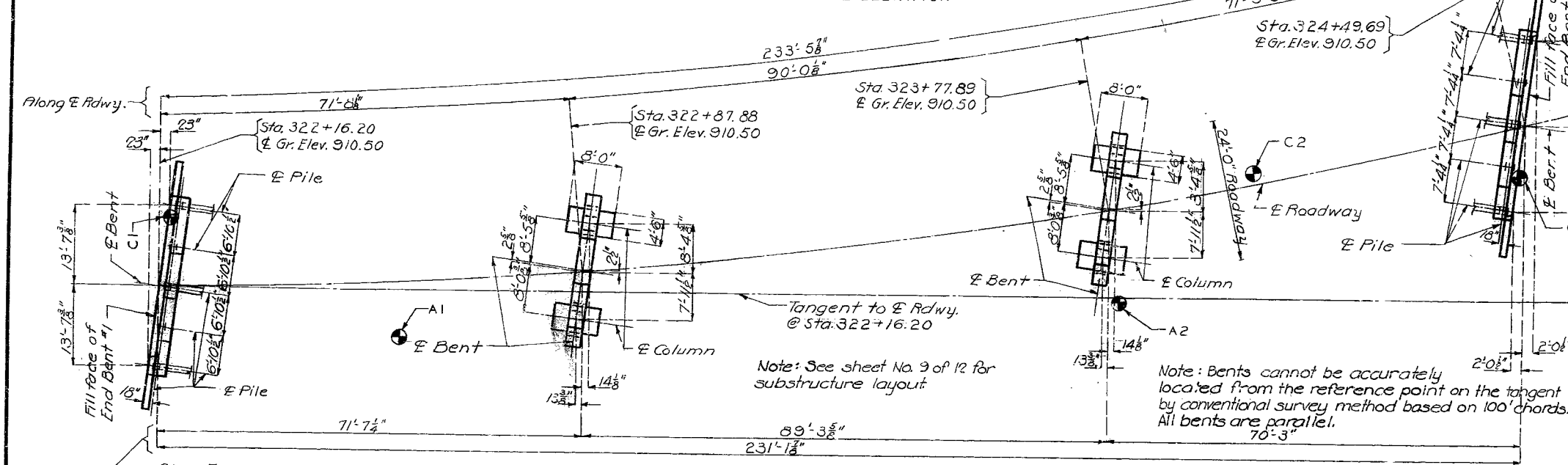
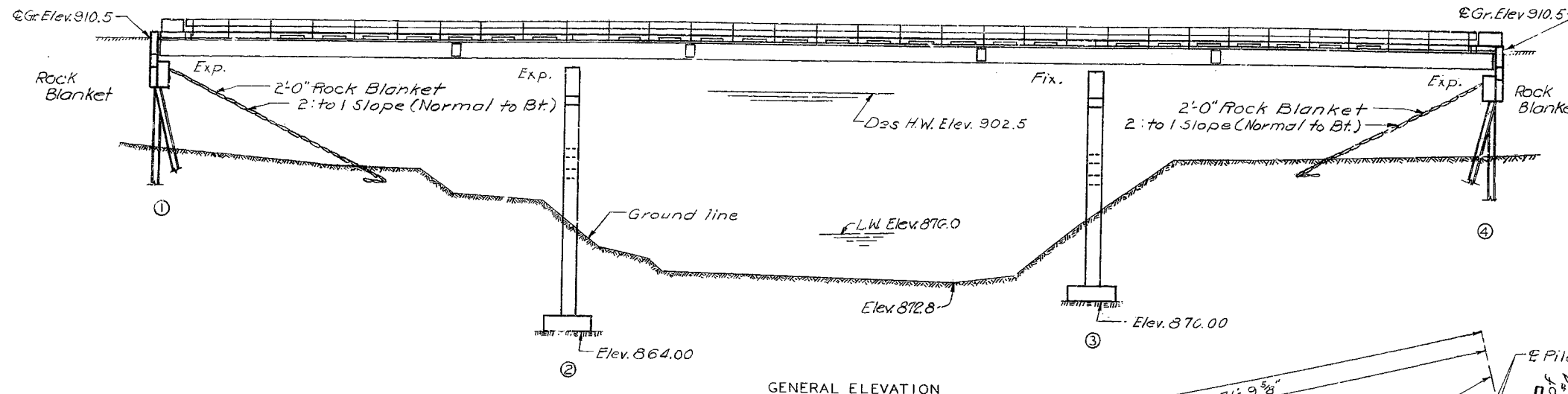
B.M. Elev. 898.96 Spike in power pole 125' ft. Sta. 324+80 (USGS Datum)

BRIDGE OVER EAST FORK OF GRAND RIVER

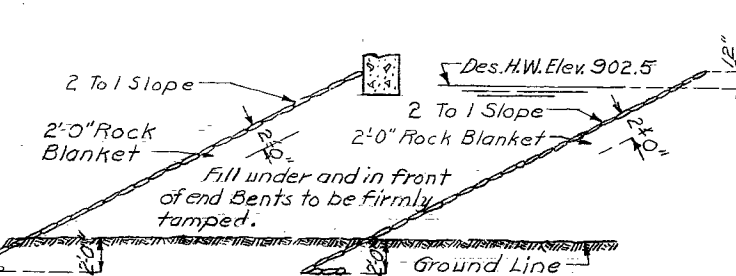
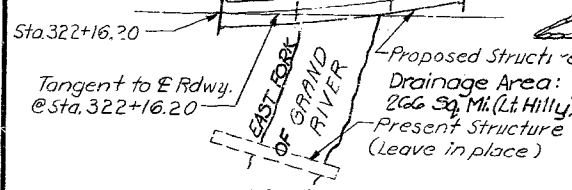
STATE ROAD THRU DENVER
ABOUT 6.3 MILES EAST OF WORTH
PROJECT NO. S-1290 (4) (SM) STA. 322+16.20
WORTH COUNTY

SUBMITTED BY *D.B. Jenkins* DATE 5/15/62
APPROVED BY *J. J. Carst* DATE 5/15/62
BRIDGE ENGINEER
CHIEF ENGINEER

STD 5400
A-1048



Curve Data
P.I. 324+29.4
 $\Delta = 52^\circ 53' 17''$
 $D = 6^\circ 00'$
 $T = 475.1'$
 $L = 881.4'$
 $R = 955.37'$
 $S = 0.061/\text{ft}$
 $L_s = 150'$



Note: 2'-0" Rock Blanket shall be placed on fills at ends of bridge as shown in sketches, See Road Plans for Quantities.

ESTIMATED QUANTITIES			
Item	Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu. Yd.	65	65
Class 2 Excavation for Structures	Cu. Yd.	122	122
Steel Pile in Place (10')	Lin Ft.	345	345
Steel Pile Cut-offs (10')	Lin Ft.	30	30
Class B Concrete	Cu. Yd.	104.9	104.9
Class B1 Concrete	Cu. Yd.	1475	1475
Reinforcing Steel	Lbs.	14,460	42,880
Fabricated Structural Carbon Steel	Lbs.	154,830	57,340

Note: Excavation for Structures made above Elev. 877.0 will be paid for as Class 1. Excavation for Structures made below Elev. 877.0 will be paid for as Class 2. No payment for excavation will be allowed on End Bents No. 1 & 4. Weight of bolts (Steel to Steel) is included in weight of Fabricated Structural Steel on the basis of the following weights per 100 bolts: $\frac{3}{4}$ " 40", $\frac{1}{2}$ " 65", $\frac{3}{8}$ " 95", $\frac{1}{4}$ " 135".

Drawn Apr. 1962 by C.J.S.
Checked May 1962 by C.S.A.

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

Note: For Log of Soundings See Sheet No. 2 of 12.

Sheet No. 1 of 12.

SEE FINAL PLANS FOR ALL LINES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
5	MO.		19	8	

Left Column:

- Elev. 894.00
- Black Soil-Silt
- Elev. 882.00
- Sand & Blue Clay or Silt
- Elev. 877.00
- Sand
- Elev. 866.00
- Weathered Limestone or Boulders
- Elev. 865.60
- Silty Weathered Shaley (Bonner Springs) Shale
- Elev. 855.00
- Shale
- Elev. 854.50
- Shale, Dark Gray
- Elev. 844.50

Bottom on Shale
C1

Middle Column:

- Elev. 894.00
- Top Soil (Elev. 892.50)
- Black Silt (Elev. 885.50)
- Limestone, Weathered (Elev. 885.00)
- Limestone, Light Gray (Elev. 882.90)
- Shale, Soft, Mud Stained (Elev. 882.50)
- Limestone, Dark Gray (Elev. 882.00)
- Mud Seam (Elev. 881.70)
- Dark Gray Shaly Limestone (Elev. 879.60)
- Black Fissile Shale (Elev. 878.60)
- Dark Gray Shaly Stone (Elev. 876.00)
- Dark Gray Shale (Elev. 871.50)

Bottom on Shale
C2

Right Column:

- Elev. 893.0
- Top Soil (Elev. 891.50)
- Black Silt (Elev. 889.00)
- Light Brown Sandy Clay (Elev. 886.00)
- Sand & Till or Weal Limestone (Elev. 884.20)
- Limestone, White (Elev. 881.20)
- Shale Black (Elev. 880.80)
- Limestone (Elev. 879.20)

Bottom on Limestone
C3

Bottom Section:

- Elev. 891.50
- Brown Colluvium
- Elev. 877.50
- Sandy Clay, Free Water
- Elev. 868.50
- Sand
- Elev. 867.50
- Boulders
- Elev. 865.20
- Shale
- Elev. 863.40

Bottom on Limestone
A1

- Elev. 894.00
- Black Colluvium
- Elev. 884.00
- Boulders
- Elev. 883.10
- Limestone
- Elev. 882.70
- Shale
- Elev. 882.20

Bottom on Limestone
A2

LOG OF SOUNDINGS

Note: Soundings C1, C2 and C3 taken with
3 core drill. Soundings A1 and A2 taken
with an auger.

BRIDGE OVER EAST FORK OF GRAND RIVER
STATE ROAD THRU DENVER
ABOUT 6.3 MILES EAST OF WORTH
PROJECT NO. 5-1290 (4) (5M) **STA.** 322+16.20 **FINISHED**
WORTH **COUNTY**

No. 90.3	Revised
June 1961	

Drawn Apr. 1962 by O.J.S.
Checked May 1962 by C.S.A.

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

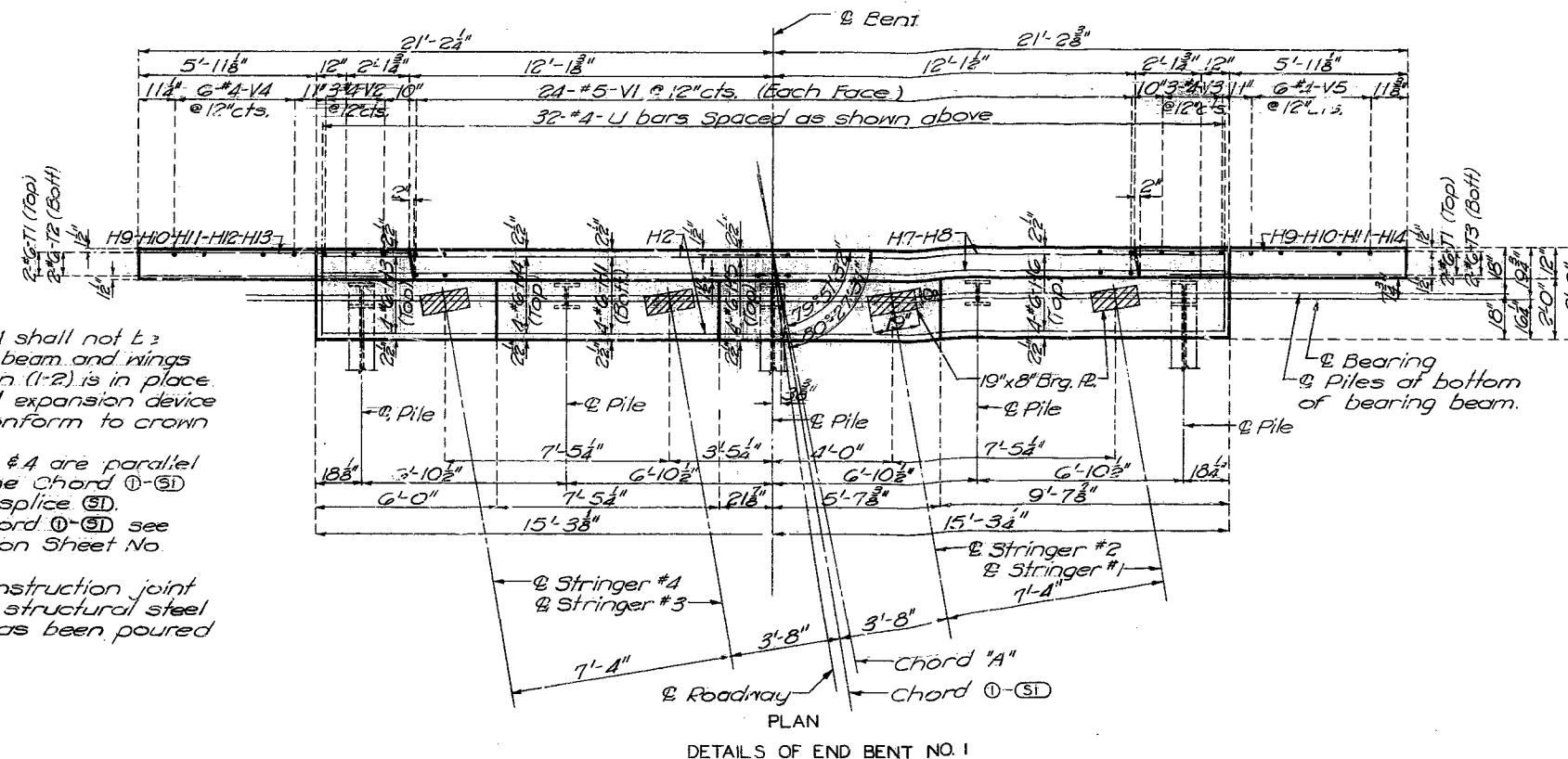
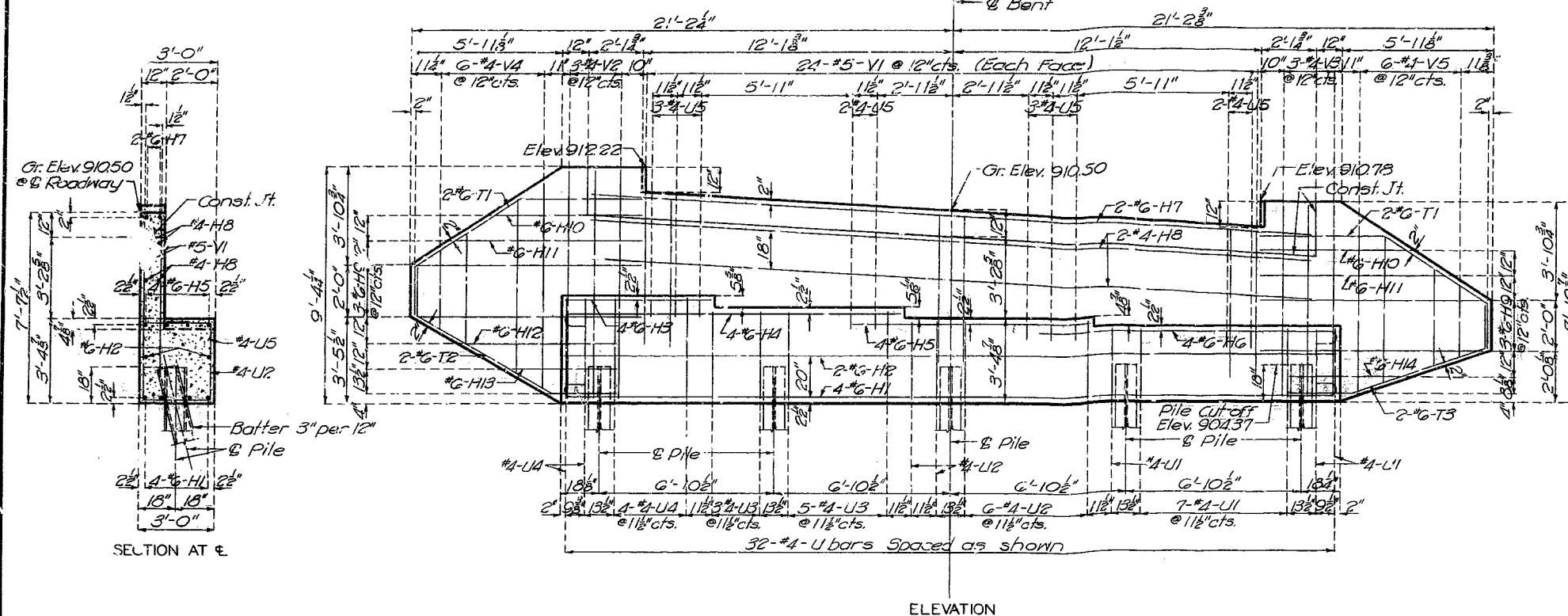
Sheet No. 3 of 12.

R-1048

NO CONSTRUCTION CHARGES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	9	

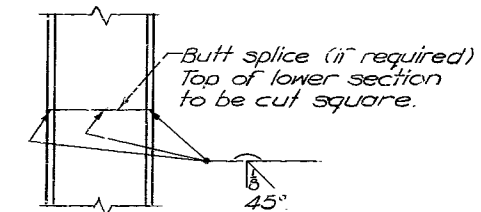


Note: Fill at end bent No. 1 shall not be carried above bottom of beam and wings until superstructure span (1-2) is in place. Top of backwall and expansion device for end bent No. 1 to conform to crown of roadway slab.

Stringers No. 1, 2, 3 & 4 are parallel to each other and to the Chord ①-⑤ from end bent No. 1 to splice ⑤.

For location of Chord ①-⑤ see Structural Steel layout on Sheet No. 7 of 12.

Backwall above construction joint not to be poured until structural steel is in place and slab has been poured in adjacent span.



DETAIL OF STEEL PILE SPLICE

BRIDGE OVER EAST FORK OF GRAND RIVER
STATE ROAD THRU DENVER
ABOUT 6.3 MILES EAST OF WORTH
PROJECT NO. S-1290(4) (SM) STA. 322+16.20
WORTH COUNTY

Drawn APR. 1962 by C.D.W.
Checked MAY. 1962 by C.S.A.

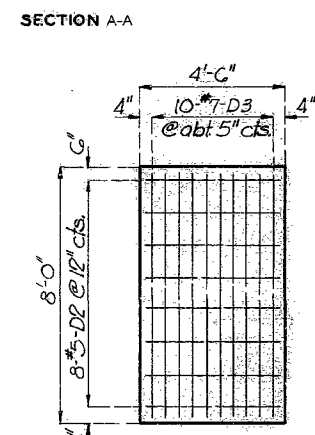
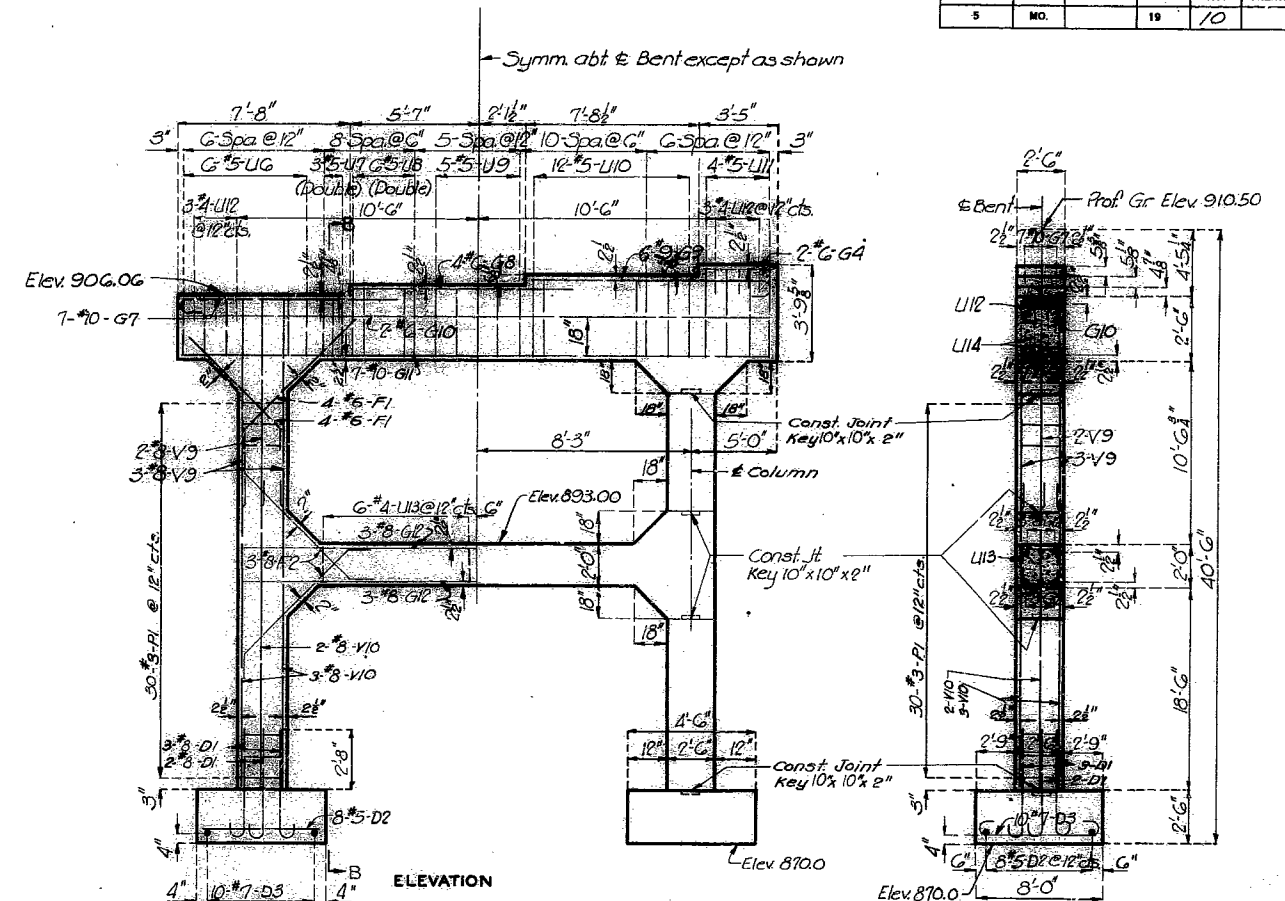
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 9 of 12.

NO CONSTRUCTION CHANGES

A-1048

18.2 SEPT. 1961



TYPICAL PLAN OF
FOOTINGS SHOWING REINFORCEMENT



BRIDGE OVER EAST FORK OF GRAND RIVER

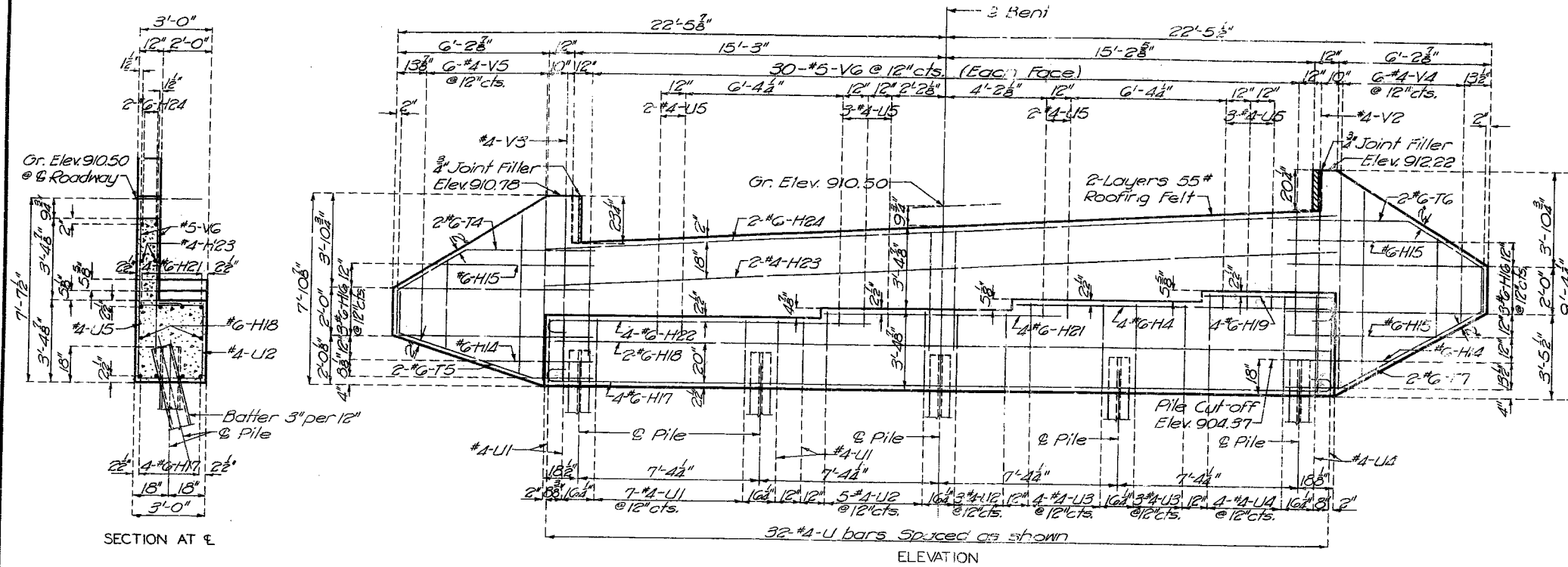
WORTH COUNTY

SEE FINAL PLANS BROWN-LINES.

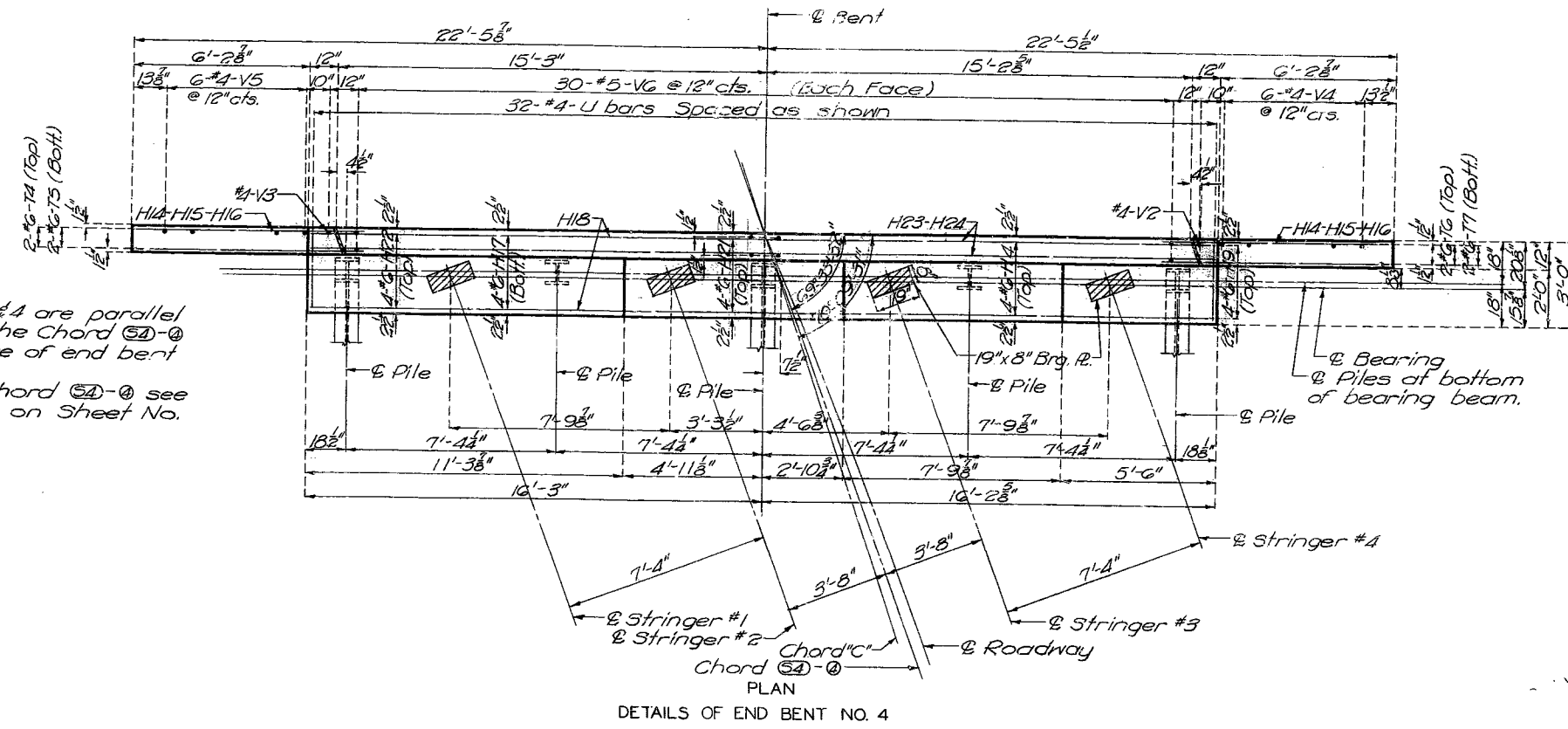
A-1048

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	11	



Note: Fill at end bent No. 4 shall not be carried above bottom of beam and wings until superstructure span (3-4) is in place.



Note: Stringers No. 1, 2, 3 & 4 are parallel to each other and to the Chord C-1 from splice (S-1) to fill face of end bent No. 4.

For location of Chord C-1 see Structural Steel layout on Sheet No. 7 of 12.

Drawn APR. 1962 by C.D.W.
Checked May 1962 by C.S.A.

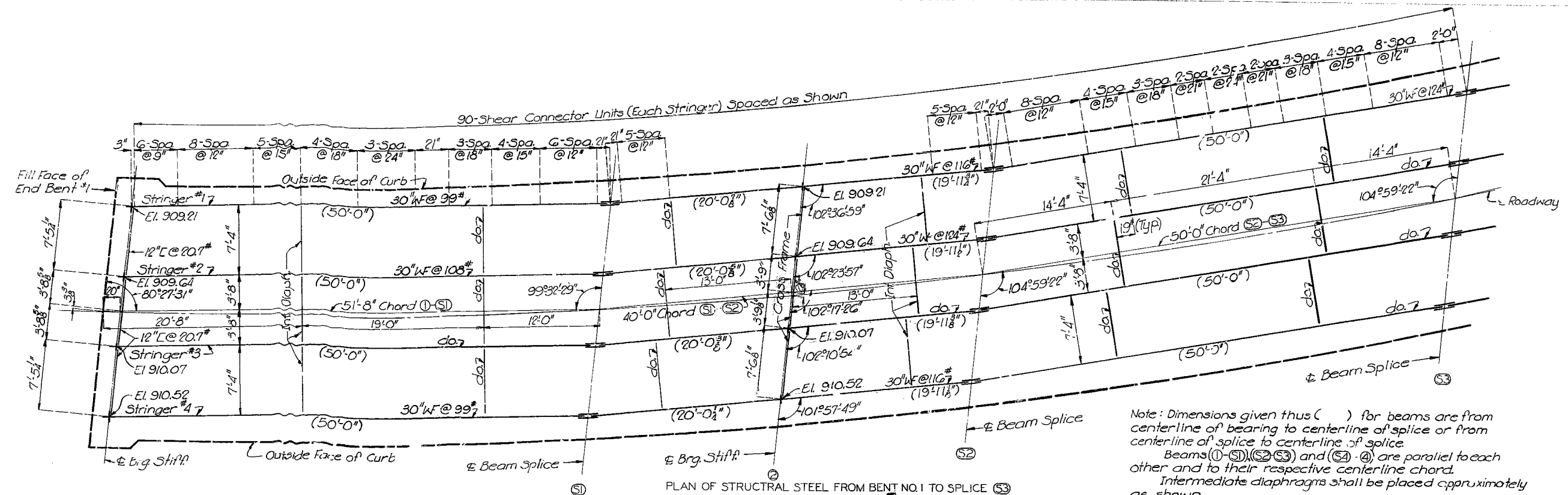
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 12

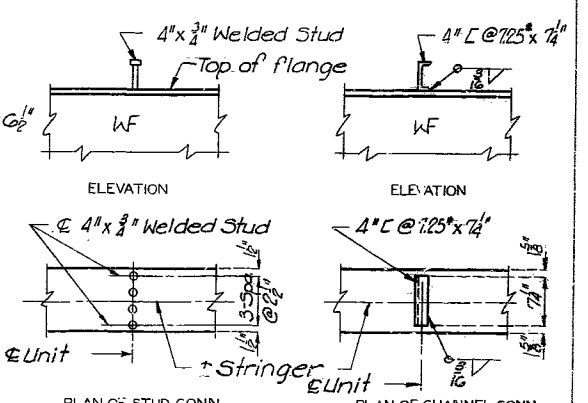
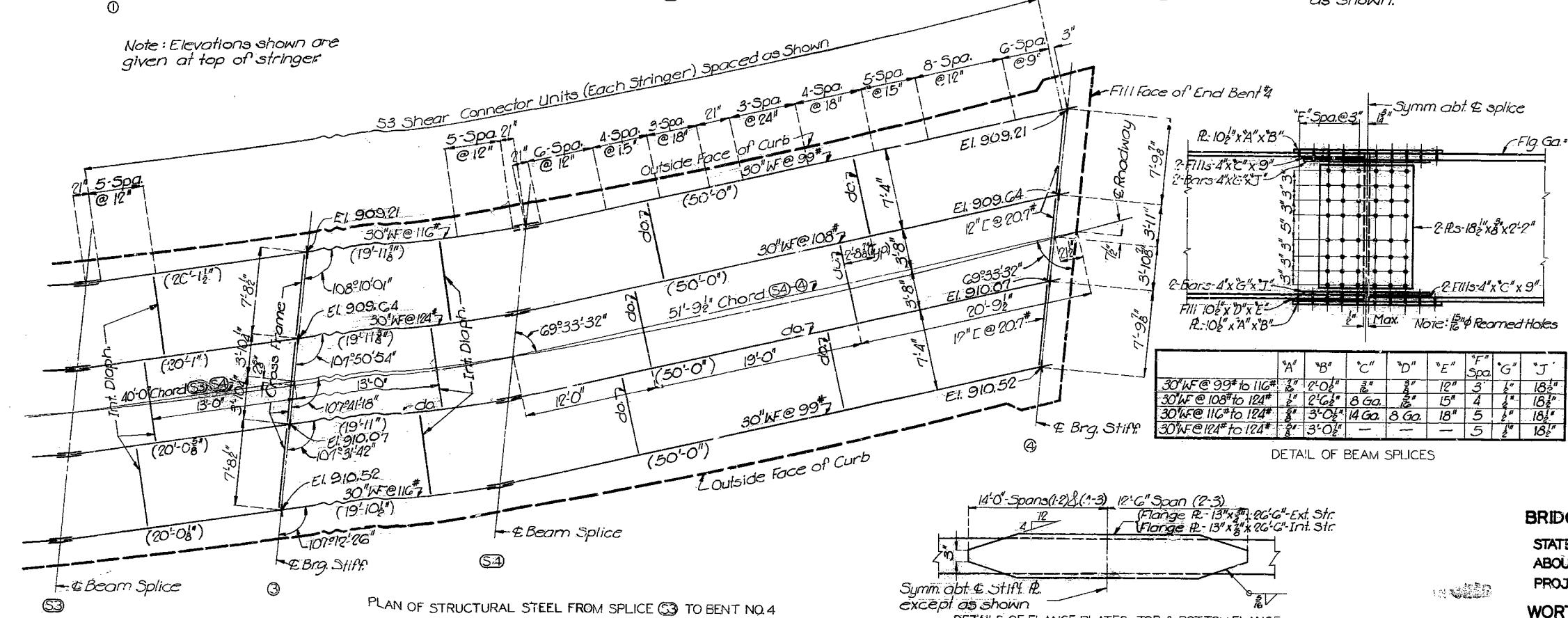
NO CONSTRUCTION CHANGES

BRIDGE OVER EAST FORK OF GRAND RIVER
STATE ROAD THRU DENVER
ABOUT 6.3 MILES EAST OF WORTH
PROJECT NO. S-1290(4) (SM) STA. 322+16.20
WORTH COUNTY

A-1048

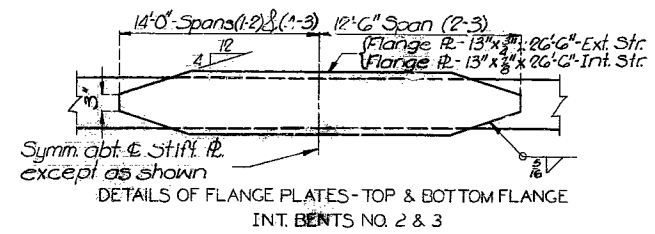


Note: Elevations shown are given at top of stringer



PLAN OF STUD CONN.
PLAN OF CHANNEL CONN.
Note: Locate channel connectors with backs to ends of spans.
Weight of 1407 # of shear connectors (based on studs) is included in weight of Fabricated Structural Carbon Steel.
Payweight for shear connectors will be based on weight of type furnished.
See Special Provisions for shear connectors.

	A'	B'	C'	D'	E'	F'	G'	J'
30" WF @ 99# to 116#	2'	2'	2'	2'	2'	2'	2'	2'
30" WF @ 108# to 124#	2'	2'	2'	2'	2'	2'	2'	2'
30" WF @ 116# to 124#	2'	2'	2'	2'	2'	2'	2'	2'
30" WF @ 124# to 124#	2'	2'	2'	2'	2'	2'	2'	2'



BRIDGE OVER EAST FORK OF GRAND RIVER
STATE ROAD THRU DENVER
ABOUT 6.3 MILES EAST OF WORTH
PROJECT NO. S-1290(4) (SM) STA. 322 +16.20
WORTH COUNTY

DRAWN APR. 1962 BY BEG
CHECKED MAY 1962 BY C.S.A.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

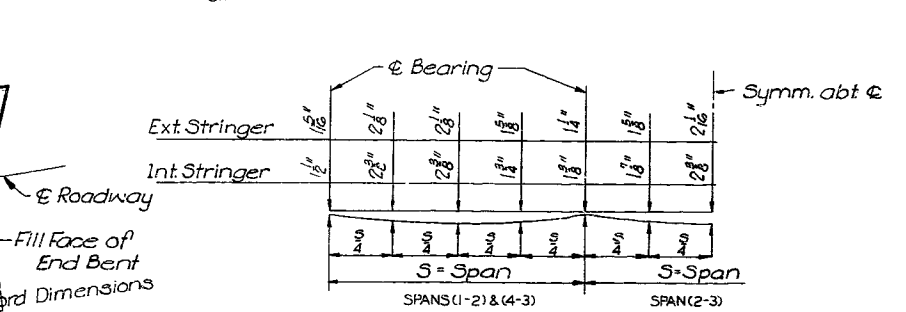
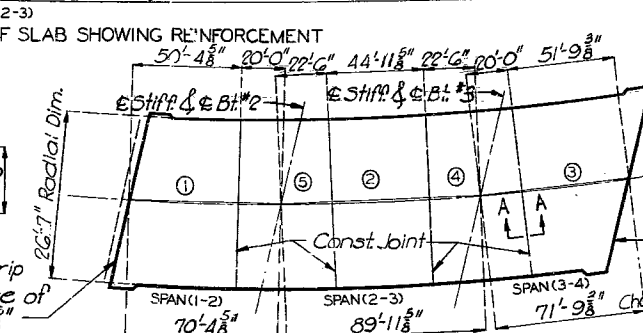
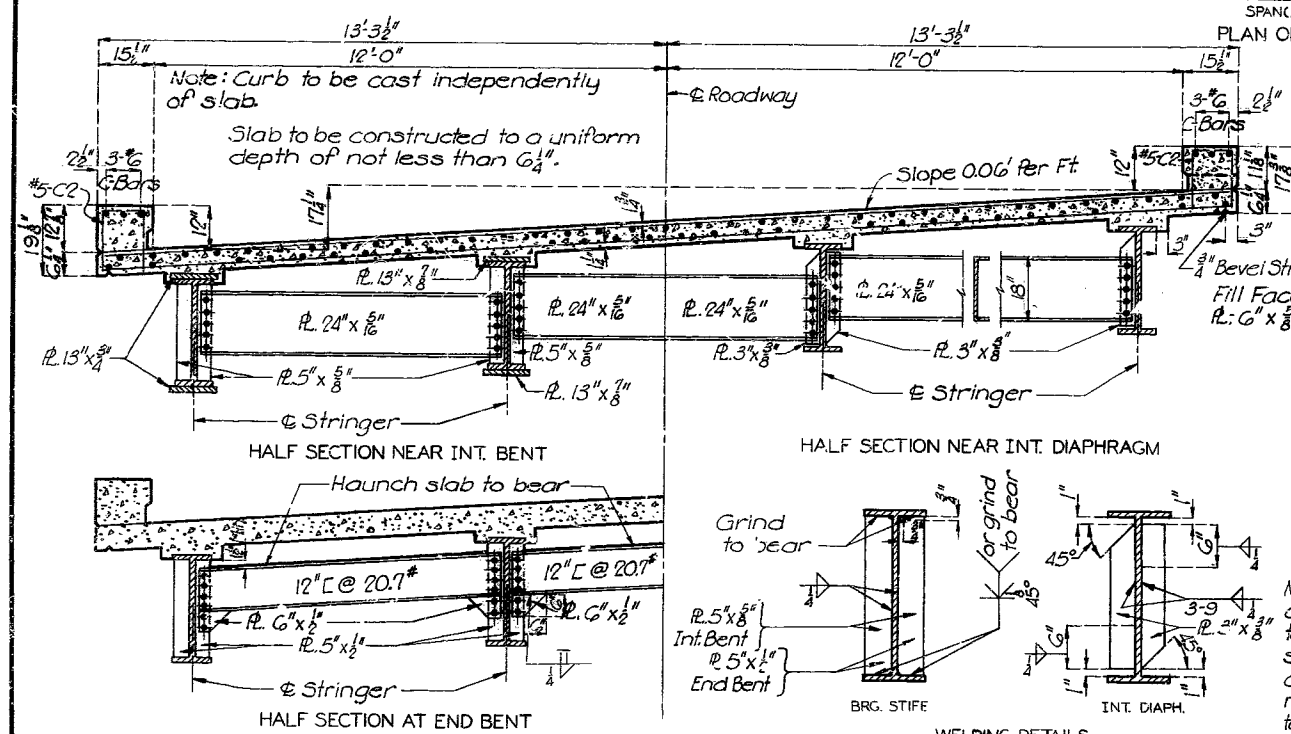
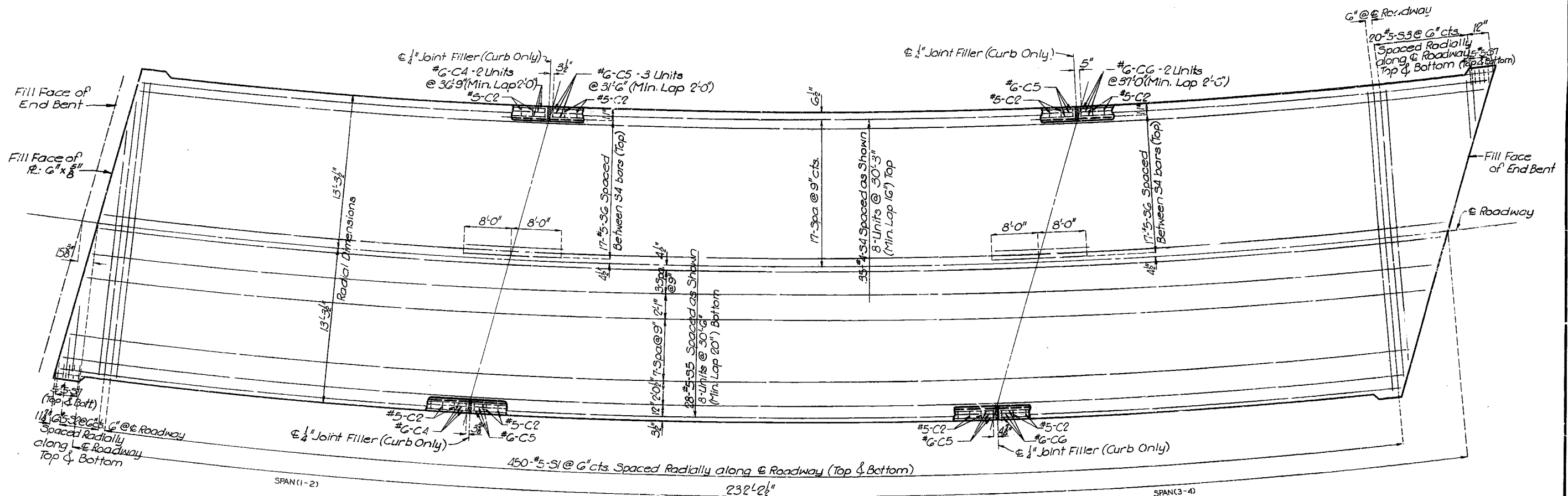
SHEET NO. 6 OF 12

NO CONSTRUCTION CHANGES

A-1048

MISSOURI STATE HIGHWAY DEPARTMENT

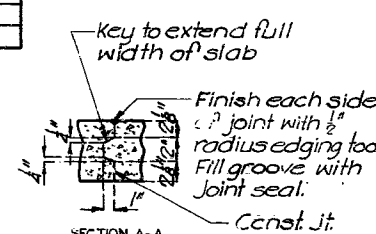
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	13	



Note: The slab shall be built parallel to grade and to a minimum thickness of 6 1/4". Dead load deflection (20% due to weight of structural steel), difference in depth of stringer and superelevation shall be taken care of by haunching to tops of the stringers by the amounts shown above. This additional concrete (flange, flange plates, splice plates, etc. excluded) is included in Estimated Quantities.

Basic Sequence	Sequence of Pours				
	1	2	3	4	5
Alternate "A"	1	2 + 5	3 + 4		
Pours	Either Dir.	4 to 1	End Bt. to 2		
Alternate "B"	1 + 5 + 2		3 + 4		
Pours	End Bent to 4		End Bent to 2		
Alternate "C"	1 + 2 + 3 + 4 + 5				
Pours	End Bent to End Bent				

Note: The above "Basic" pouring sequence shall be observed unless the contractor can demonstrate to the Engineer that he is equipped to pour and satisfactorily finish the bridge slabs at a rate of not less than 30 Cu. Yds. per hour and can maintain this rate throughout the pour he elects to use.



BRIDGE OVER EAST FORK OF GRAND RIVER
STATE ROAD THRU DENVER
ABOUT 6.3 MILES EAST OF WORTH
PROJECT NO. S-1290(4) (SM) STA. 322 + 16.20
WORTH COUNTY

Drawn Mar 1962 by B.E.G.
 Checked May 1962 by C.S.A.

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

SLAB POURING SEQUENCE

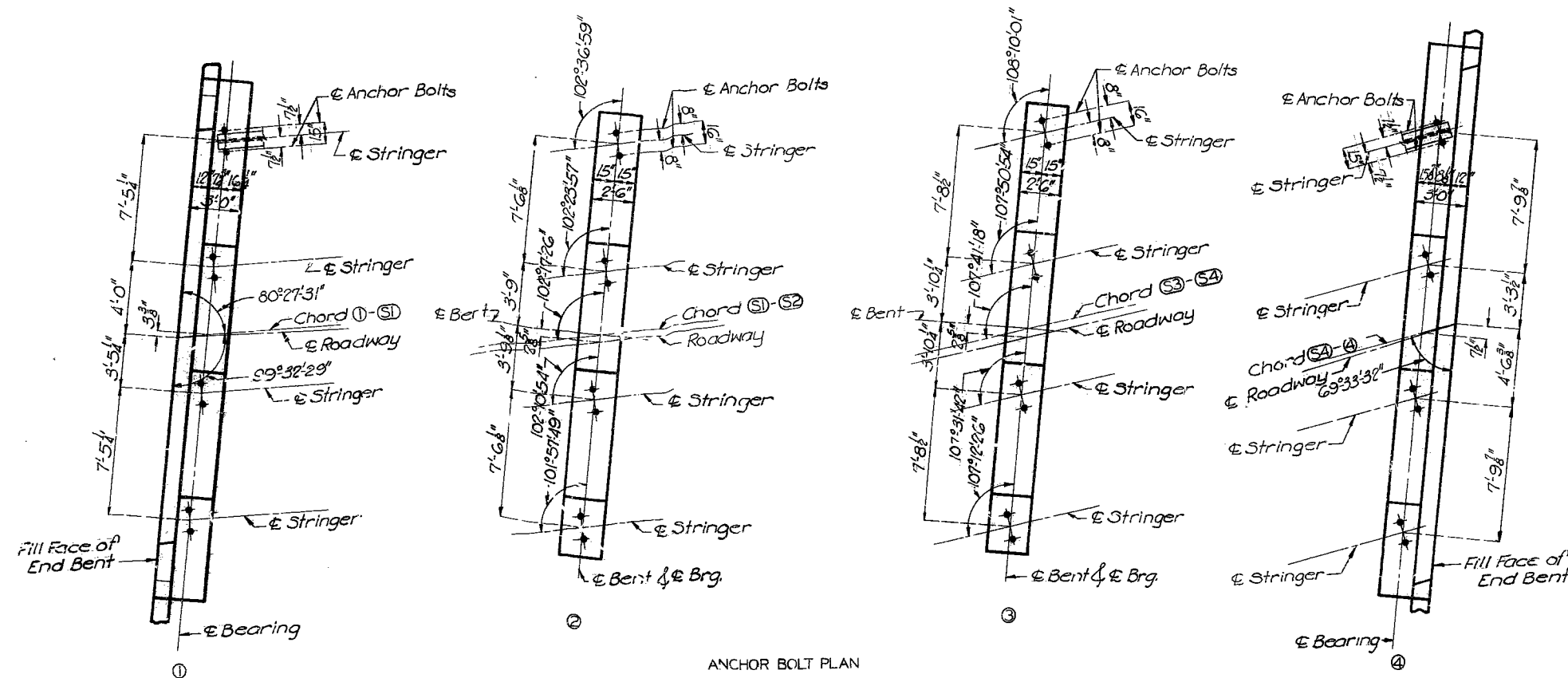
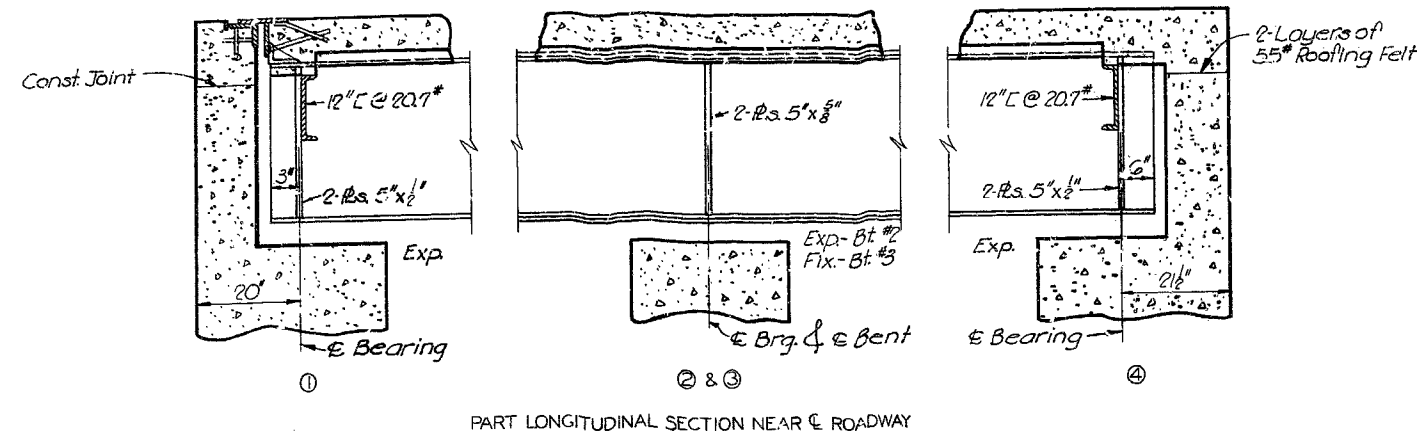
Sheet No. 7 of 12.

A-1048

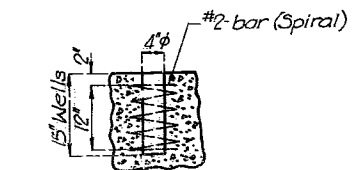
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	14	



Note: Anchor bolt spacings are shown for Type "D" bearings. If alternate Type "D" castings are used spacing must be modified accordingly.



Note: Anchor bolts may be set in wells as shown or in holes drilled into concrete substructure. See Special Provisions for setting Anchor Bolts.

DETAIL OF SPIRAL AROUND ANCHOR BOLTS

BRIDGE OVER EAST FORK OF GRAND RIVER

STATE ROAD THRU DENVER

ABOUT 6.3 MILES EAST OF WORTH

PROJECT NO. S-1290(4) (SM) STA. 322+16.20

WORTH

COUNTY

Drawn Apr. 1962 by B.E.G.
Checked Apr. 1962 by C.S.A.

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

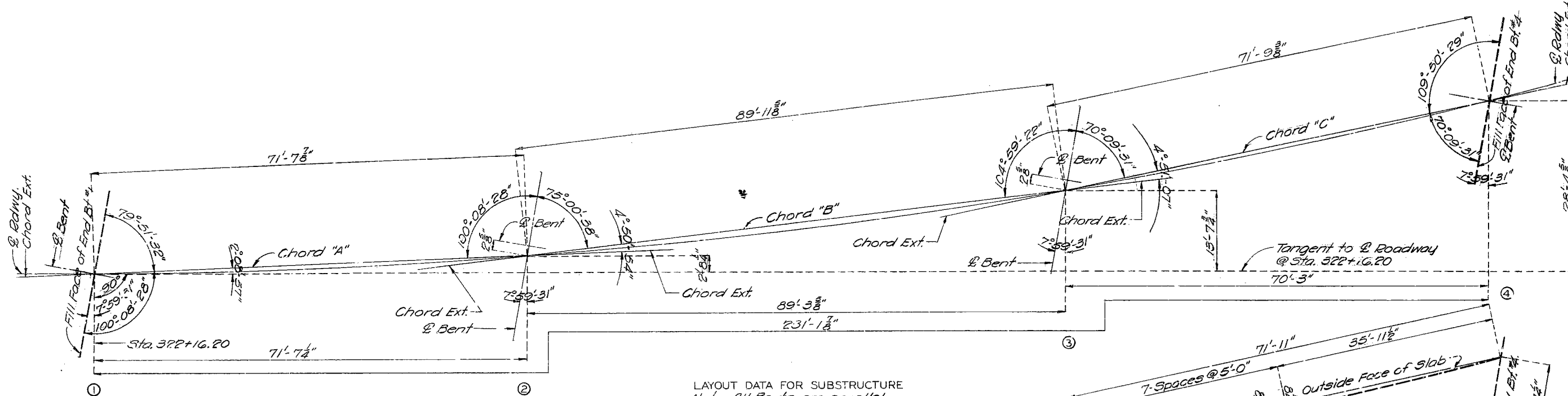
Sheet No. 8 of 12.

NO CONSTRUCTION CHANGES

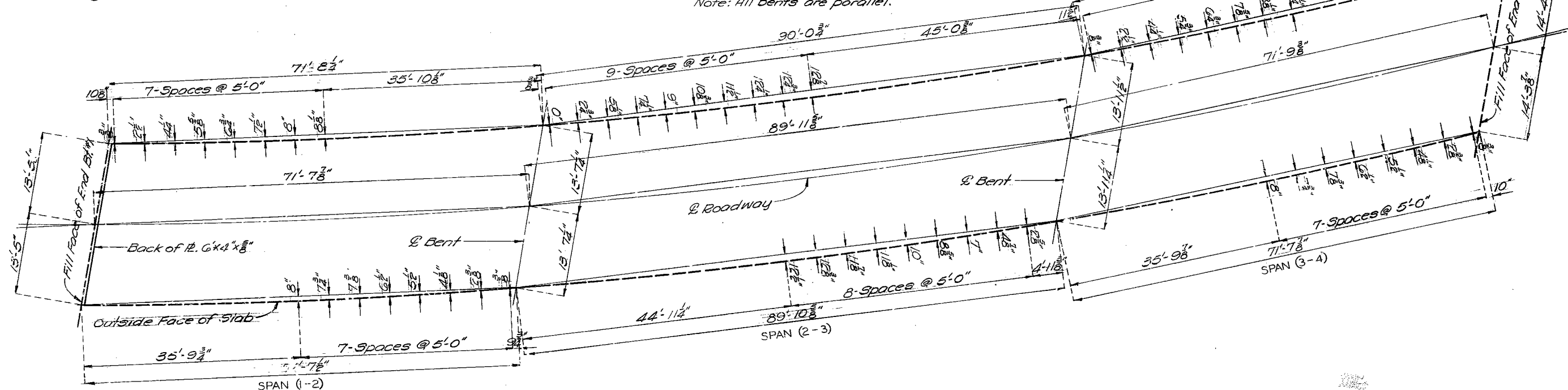
A-1048

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	15	



LAYOUT DATA FOR SUBSTRUCTURE
Note: All Bents are parallel.



PLAN OF SLAB SHOWING CURVE ORDINATES

BRIDGE OVER EAST FORK OF GRAND RIVER
STATE ROAD THRU DENVER
ABOUT 6.3 MILES EAST OF WORTH
PROJECT NO. S-1290 (4) (SM) STA. 322+16.20
WORTH COUNTY

Drawn APR. 1962 by H.M.
Checked Apr. 1962 by C.S.A.

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

Sheet No. 9 of 12.

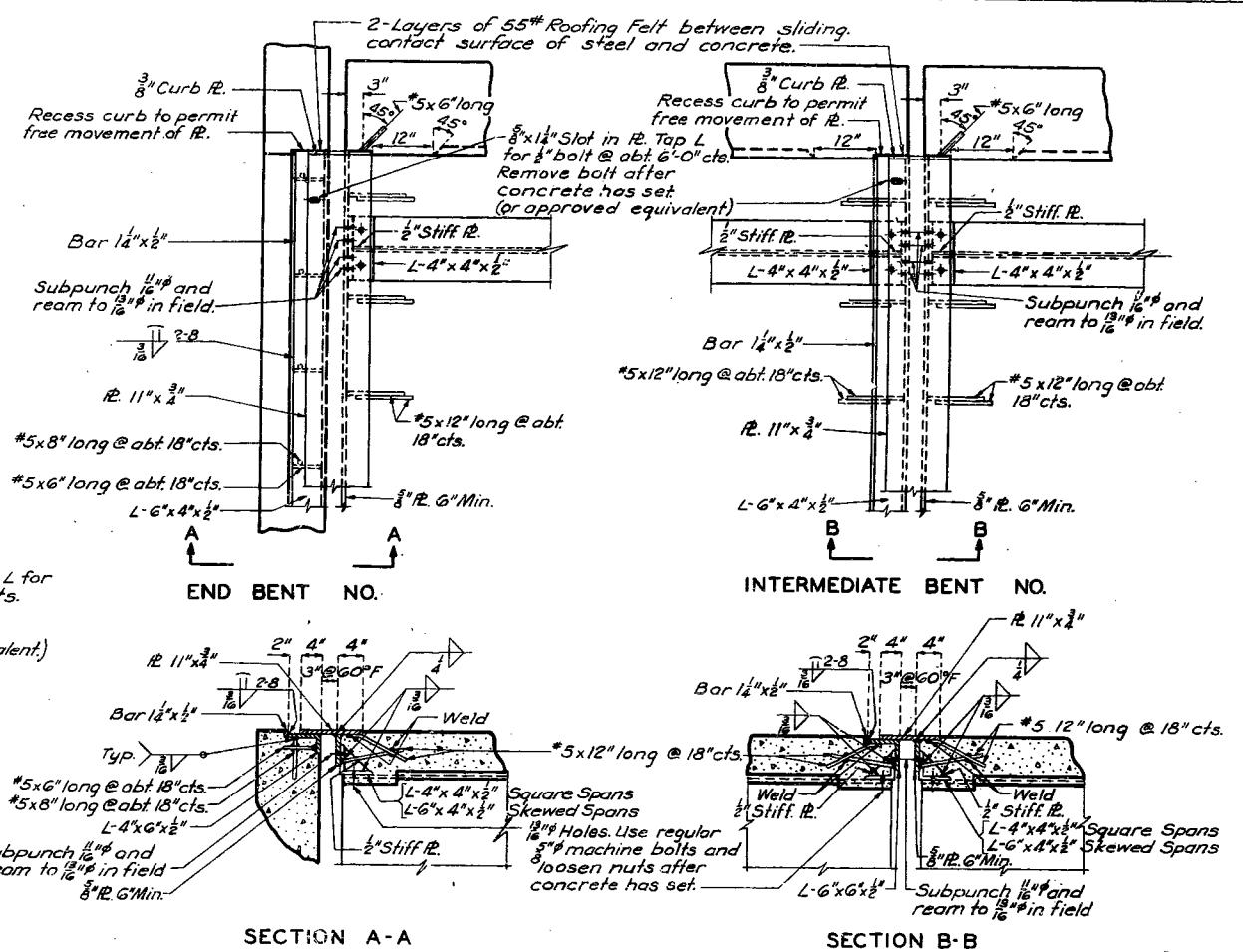
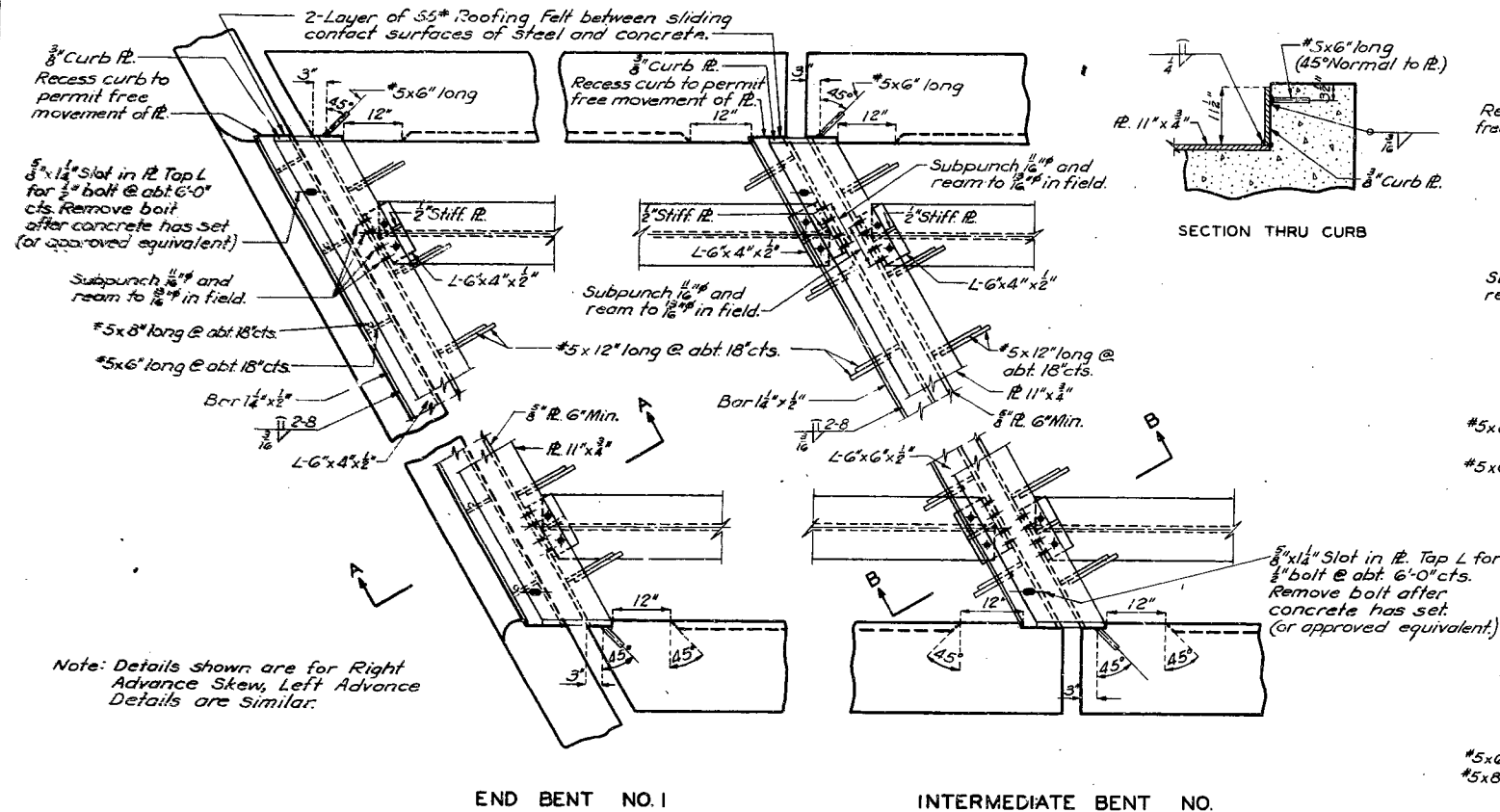
NO CONSTRUCTION CHANGES

A-1048

23

MISSOURI STATE HIGHWAY DEPARTMENT

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

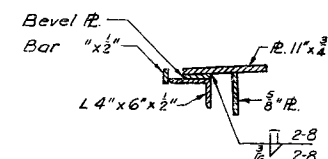


GENERAL NOTES:

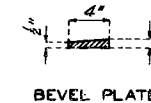
Expansion Device shall be fabricated in one section except that when the length is over 40 foot splicing is permissible. The expansion device shall be bent to conform to crown and grade of roadway.

*5 Bars shall be structural grade. Approved stud welded anchors may be used in lieu of *5 bars shown.

Bevel plates shall be used at end bents when the grade of the slab of the expansion device is 3.0% or more.



SECTION THRU EXPANSION DEVICE



BEVEL PLATE

DETAILS OF BEVEL PLATE AT BENT NO.

BRIDGE OVER EAST FORK OF GRAND RIVER

STATE ROAD THRU DENVER

ABOUT 6.3 MILES EAST OF WORTH

PROJECT NO. S-1290 (4) (SM) STA. 322+16.20

WORTH

COUNTY

PERMISSIBLE FIELD SPLICE AT INT. BENT
(End Bent Similar)

DETAILS OF PLATE EXPANSION DEVICE

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

Sheet No. 10 of 12.

NO CONSTRUCTION CHANGES

FINISHED

FINISHED

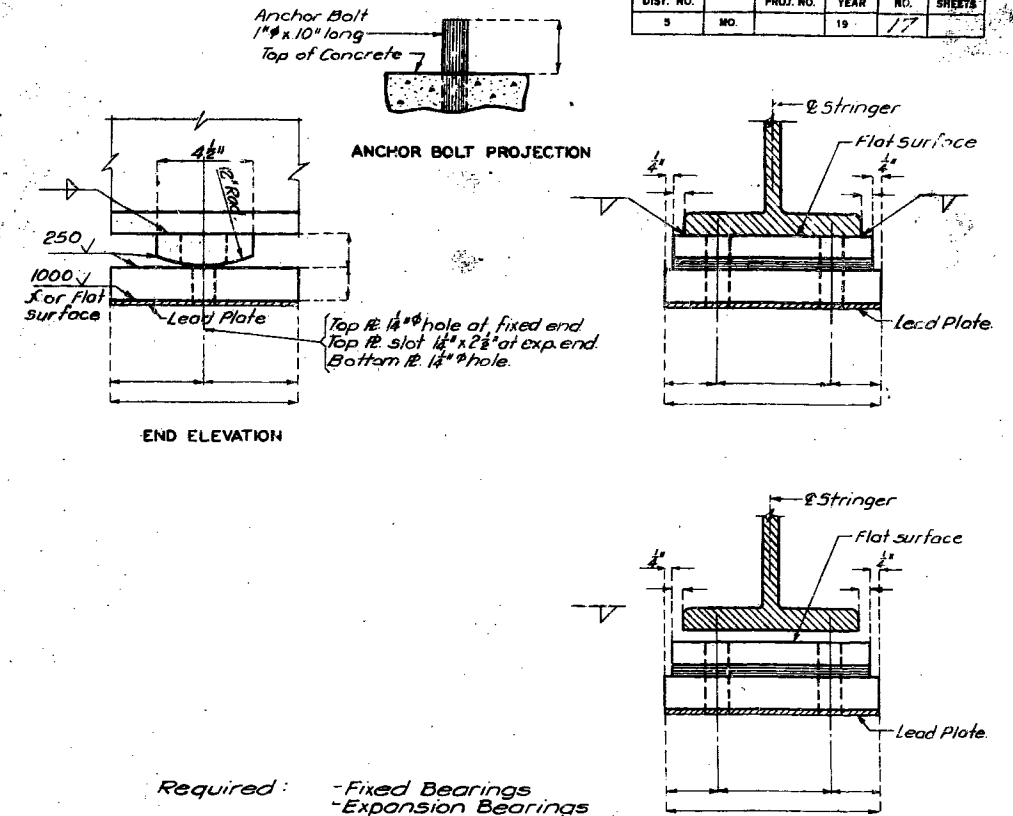
FINISHED

A-1048

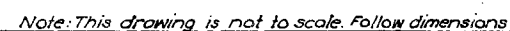
Less than 200' of Exp.
No. 4.4 Revised
Jnn 1962

Drawn Feb. 1962 by B.E.G.
Checked Apr. 1962 by C.S.A.

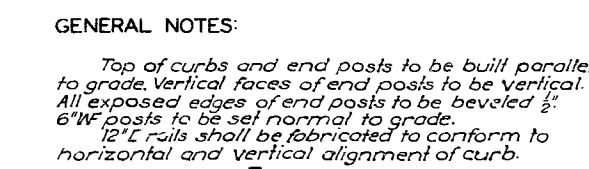
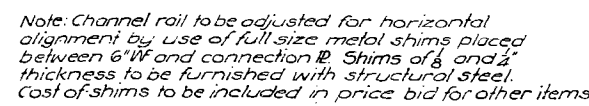
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	17	



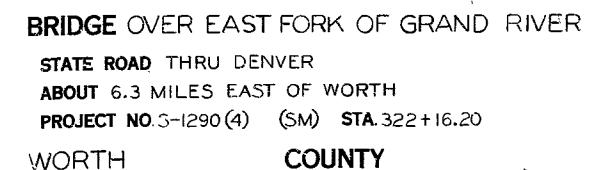
Structural Carbon Steel. Alternate type L basis of weight shown for Type D.



20



PART SECTION C-C FIXED RAIL CONNECTION PART SECTION D-D PART SECTION E-E RAIL SPLICE - RAIL EXP



A-1048

MISSOURI STATE HIGHWAY DEPARTMENT

(70'-90'-70') Cont. I-Beam Spans (Composite)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	7	

Final Plans

FOOTING AND PILE DATA				
Bent No.	1	2	3	4
SPREAD FOOTINGS	Foundation Material Shale Shale			
	Design Bearing Ton / sq. Ft. 5.6 5.8			
	See Standard Specifications 50.4.2			
BEARING PILE	Pile Type & Size 10BP42			
	Number 5			
	Approx. Length Ft. 50'			
	Design Load Ton / Pile 37			
	Hammer Power			
	See Standard Specifications 52.2.6			

Note: In no case were footings of Bent No. 3 higher than elevation shown.
All piles were driven to or into solid rock, boulders, shale or cemented gravel or to not less than full length authorized and to sustain at least the above load.

GENERAL NOTES:

Design Specifications A.A.S.H.O. 1961
Loading H15-44
Structural Steel Stress (A.S.T.M. A7) 18,000 psi.
Structural Steel Stress (A.S.T.M. A36) 20,000 psi.
Reinforcing Steel Stress 20,000 psi.
Concrete, Class B Stress 1,200 psi.
Concrete, Class B1 Stress 1,620 psi.
Superstructure concrete was Class B1.
Substructure concrete was Class B or Class B1 except payment was on the basis of Class B.
Fabricated structural steel for wide flange beams and flange plates was A.S.T.M. A36 and all other steel was A.S.T.M. A7 except as noted for bearings. Payment was made as fabricated Structural Carbon Steel.
See Standard Specification 55.13 for qualification of welding operators.
Field connections, High Strength Bolts $\frac{3}{4}$ " holes $\frac{1}{16}$ " except as otherwise noted.
Paint: shop, none; Field, none by contractor except as noted in Standard Specification 55.4.10.2.
Where joint filler is specified on plans it did conform to Standard Specification 157.2.5.

B.M. 322+16.2 15.3' Lt Top S.E. Cor. wing wall Elev. 910.77
(U.S.G.S. Data)

BRIDGE OVER EAST FORK OF GRAND RIVER
STATE ROAD THRU DENVER
ABOUT 6.3 MILES EAST OF WORTH
PROJECT NO. S-1290 (4) (SM) STA. 322+16.20

WORTH COUNTY

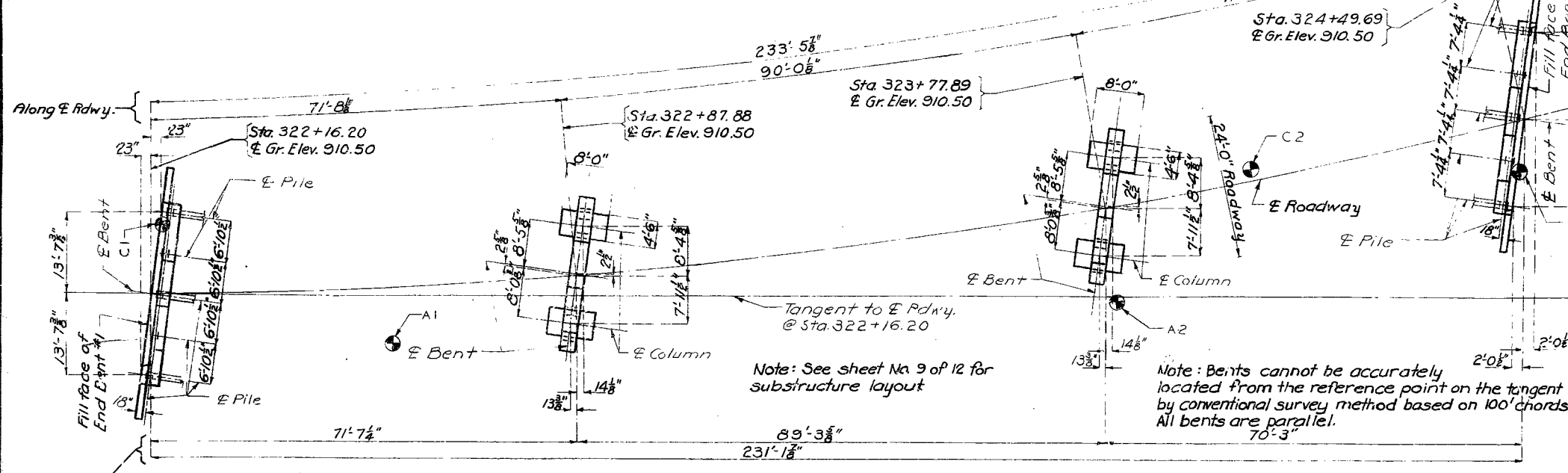
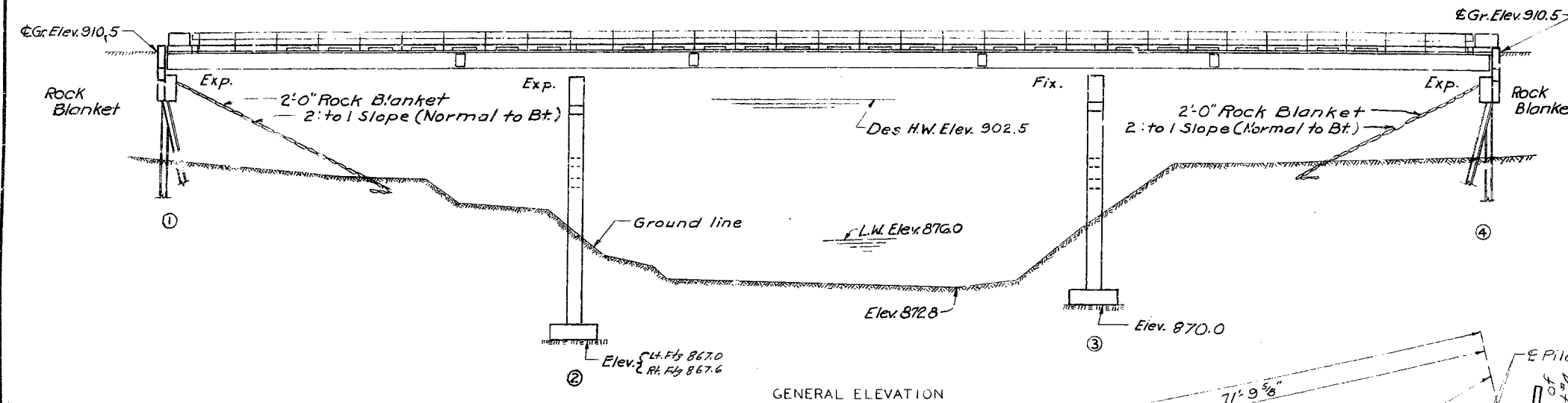
FINISHED
SUBMITTED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____
BRIDGE ENGINEER
CHIEF ENGINEER

STD 5400

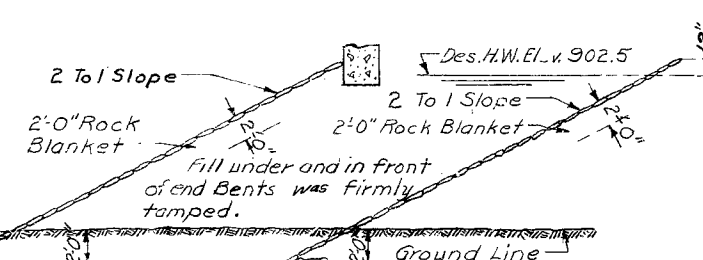
A-1048

Sheet No. 1A of 2

FINAL PLANS



Curve Data
P.I.=324+29.4
 $\Delta=52^{\circ}53'Lt$
 $D=6^{\circ}00'$
 $T=475.1'$
 $L=881.4'$
 $R=955.37'$
 $S=0.06/ft$
 $Ls=150'$



Note: 2' to 1 Slope was placed on fills at ends of bridge as shown in sketches. See Road Plans for Quantities.

Item	FINAL	QUANTITIES	Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu. Yd.	60.0			60.0
Class 2 Excavation for Structures	Cu. Yd.	85.0			85.0
Steel Pile in Place (10")	Lin Ft.	38.5			38.5
Steel Pile Cut-offs (10")	Lin Ft.	17			17
Class B Concrete	Cu. Yd.	103.4			103.4
Class B1 Concrete	Cu. Yd.		147.5		147.5
Reinforcing Steel	Lbs.	14,460	42,880		57,340
Fabricated Structural Carbon Steel	Lbs.		156,130		156,130
Foundation Test Holes (cont.)	Ft.	16			16

Note: Excavation for Structures made above Elev. 877.0 was paid for as Class 1. Excavation for Structures made below Elev. 877.0 was paid for as Class 2. No payment for excavation was allowed at End Bents No. 1 & 4. Weight of bolts (Steel to Steel) is included in weight of Fabricated Structural Steel on the basis of the following weights per 100 bolts: $\frac{3}{8}$ " 40#, $\frac{1}{2}$ " 65#, $\frac{3}{4}$ " 95#, 1" 135#.

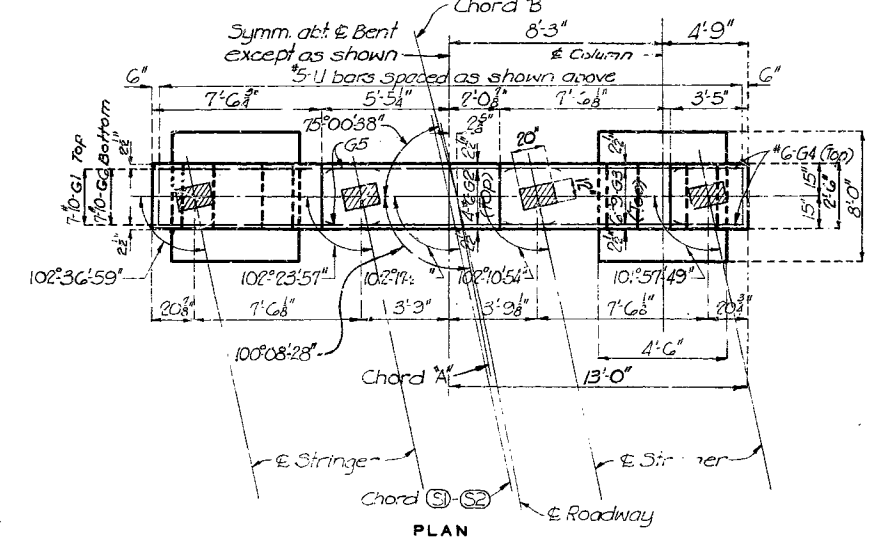
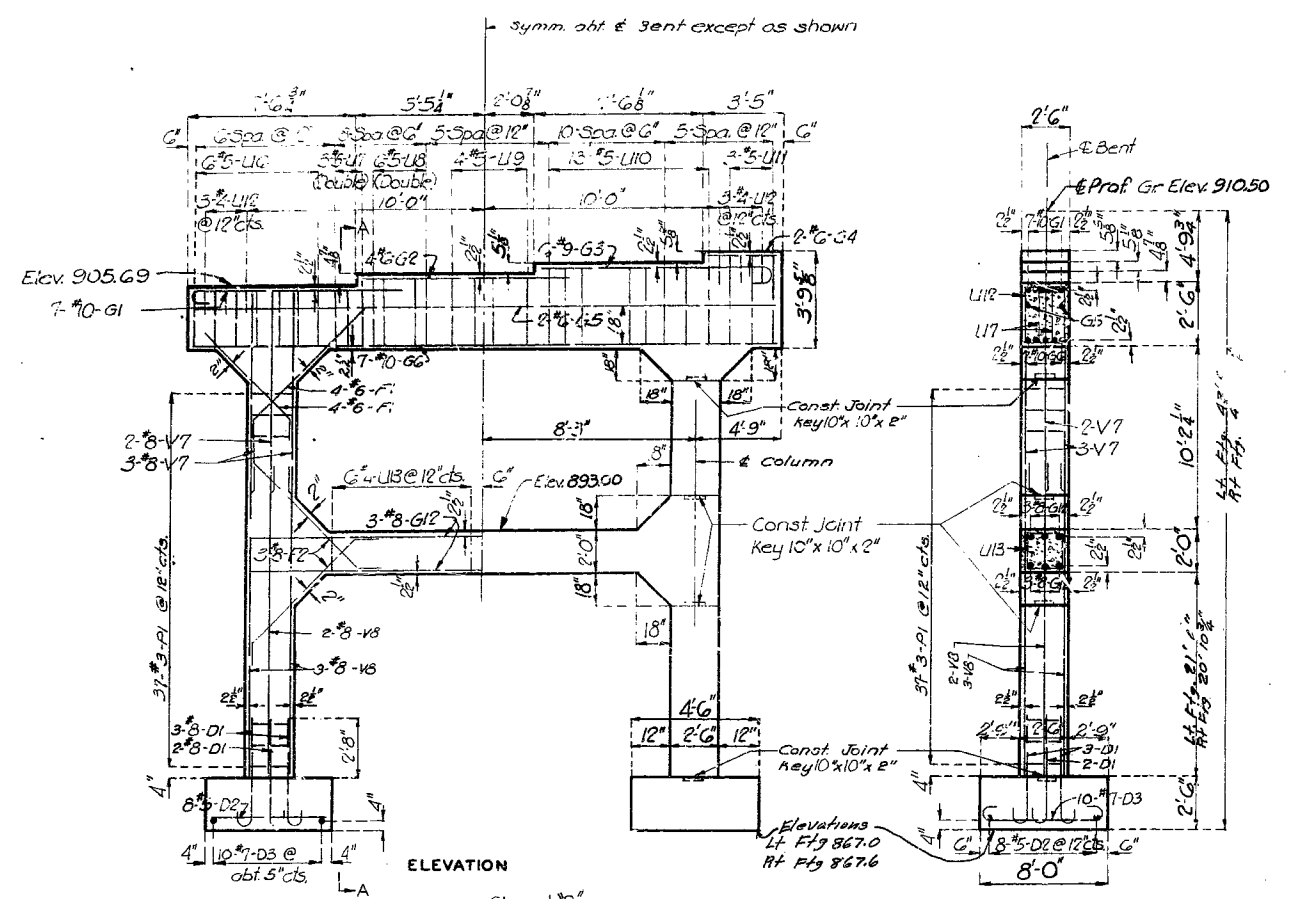
Drawn Apr. 1962 by O.J.S.
Checked May 1962 by C.S.A.

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

MISSOURI STATE HIGHWAY DEPARTMENT

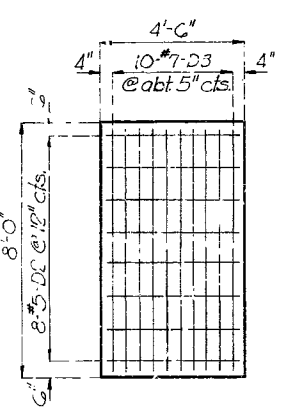
FED. ROAD LIST NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	10	

Final Plans

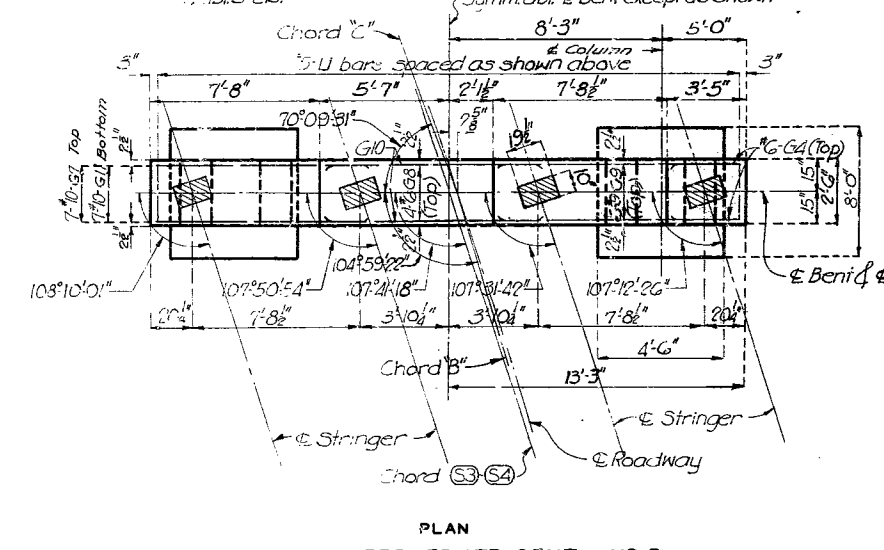
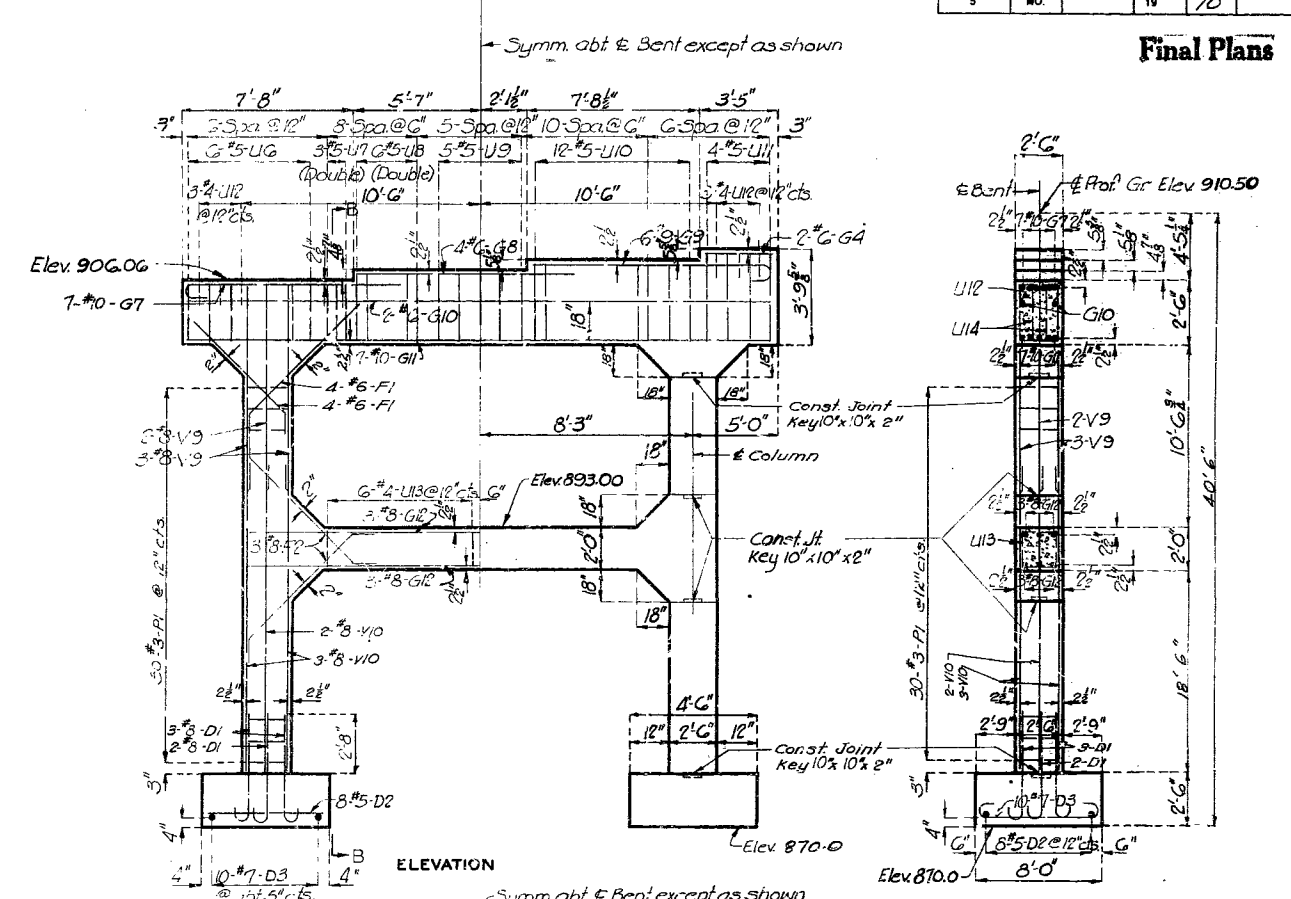


DETAILS OF INTERMEDIATE BENT NO. 2

SECTION A-A



TYPICAL PLAN OF FOOTINGS SHOWING REINFORCEMENT



DETAILS OF INTERMEDIATE BENT NO. 3

PLAN

SECTION B-B

BRIDGE OVER EAST FORK OF GRAND RIVER

STATE ROAD THRU DENVER
ABOUT 6.3 MILES EAST OF WORTH
PROJECT NO. S-1290(4) (SM) STA. 322 + 16.2

WORTH COUNTY

Sheet No. 44 of 2

FINAL PLANS

A-1048

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

Assembled Apr. 1962 by B.E.G.
Checked May 1962 by C.S.P.

28

182 SEP-1961

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	MO.		19	23	

GENERAL NOTES:

Design Specifications: A.A.S.H.O. - 1961

Design Loading:

H15-44 15 #/sq. ft. Future Wearing Surface
Earth 120# Equivalent Fluid Pressure 30#

Design Unit Stresses:

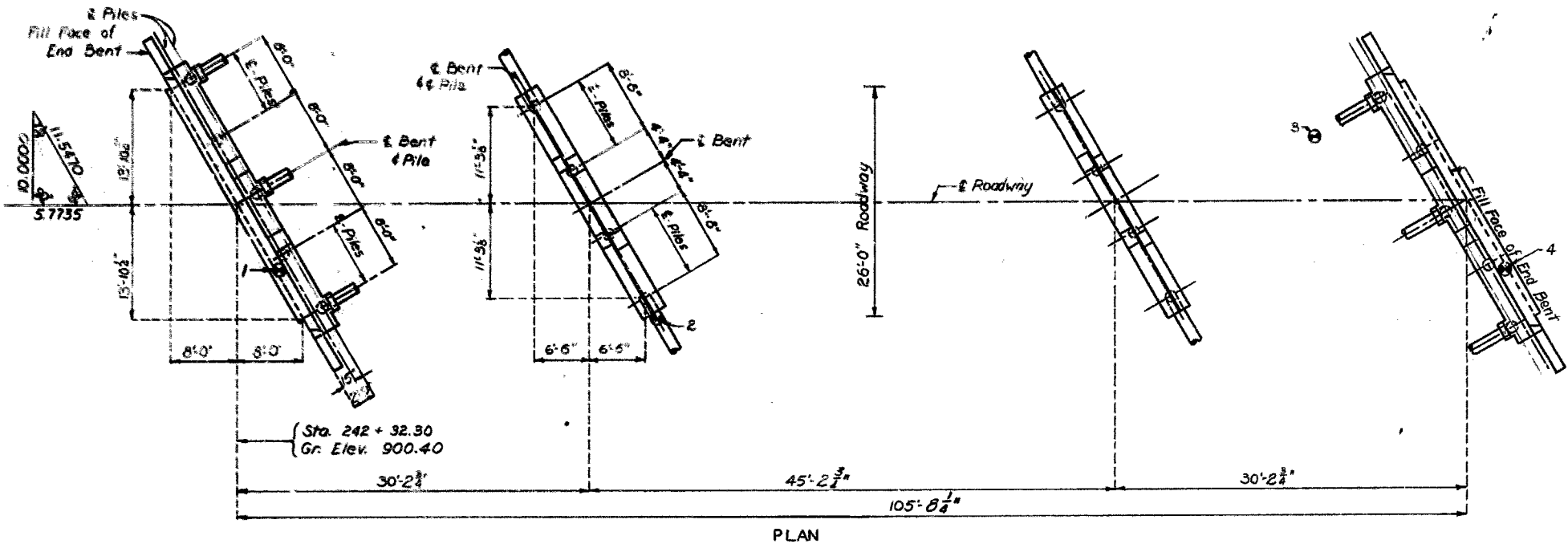
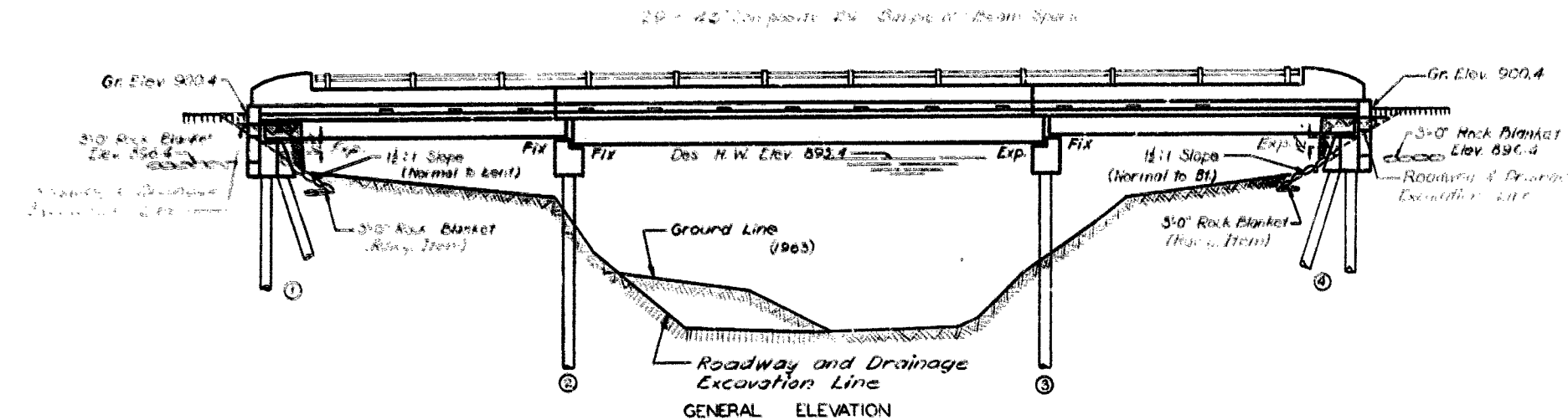
Class B Concrete (substructure) $f_c = 1,200$ psi
Class B1 Concrete (superstructure) $f_c = 1,600$ psi
Reinforcing Steel $f_s = 20,000$ psi
Structural Steel (A.S.T.M. A36-63T) $f_s = 20,000$ psi

Surface Seal:

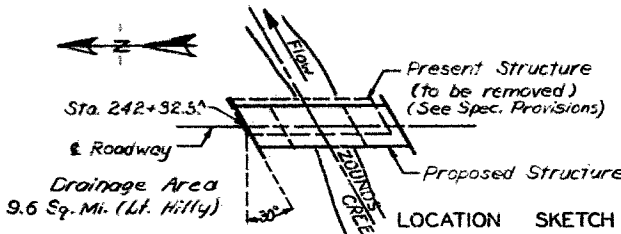
Superstructure deck to be surface sealed.

Fabricated Steel:

Field connections, High Strength Bolts $\frac{3}{4}$ " ϕ ,
holes $\frac{13}{16}$ " ϕ except as noted.



Note: For Boring Data see
Sheet No. 2 of 6.
⊙ Indicates location of boring.



ESTIMATED QUANTITIES			
ITEM		SUBSTR.	SUPERSTR. TOTAL
Class I Excavation for Structures	Cu. Yds.	30	30
Cast-In Place Concrete Piles	Lin. Ft.	810	810
Class B Concrete	Cu. Yds.	45.6	45.6
Class B1 Concrete	Cu. Yds.		84.6
Reinforcing Steel	Lbs.	1580	21680
Fabricated Structural Carbon Steel	Lbs.		58280
Bridge Rail (Single tube type)	Lin. Ft.		190

PILE DATA				
BENT NO.	1	2	3	4
Pile Type	Trestle	Trestle	Trestle	Trestle
Kind	CIP	CIP	CIP	CIP
Number	5	4	4	5
Approximate Length	45	45	45	45
Design Bearing	50	30	30	50
Min. Tip Penetration Elev.	855.0	860.0	860.0	855.0
Pile Standard	52.02	52.02	52.02	52.02
Hammer Energy Req'd Ft. Lbs.	8000	8000	8000	8000

Minimum Energy Requirement of hammer based
on plan length of piles.
All pile shall be driven to the minimum penetrations
and to not less than the design bearings noted.

B.M. Elev. 900.41 \square on S. End of E.
Br. Curb. 14' Lt. Sta. 243+26
(U.S.C. & G.S. Datum)

BRIDGE OVER ZOUNDS CREEK

STATE ROAD FROM ROUTE 0 SOUTH TO ROUTE 136

ABOUT 7.2 MILES N. OF STANBERRY

PROJECT NO. S-416(6) SB STA. 242 + 32.3

GENTRY COUNTY

SUBMITTED BY: *D. B. Jenkins* DATE: 11/16/66
APPROVED BY: *M. J. [Signature]* DATE: 11/16/66

STD. 54.00
STD. 52.02
A-1874

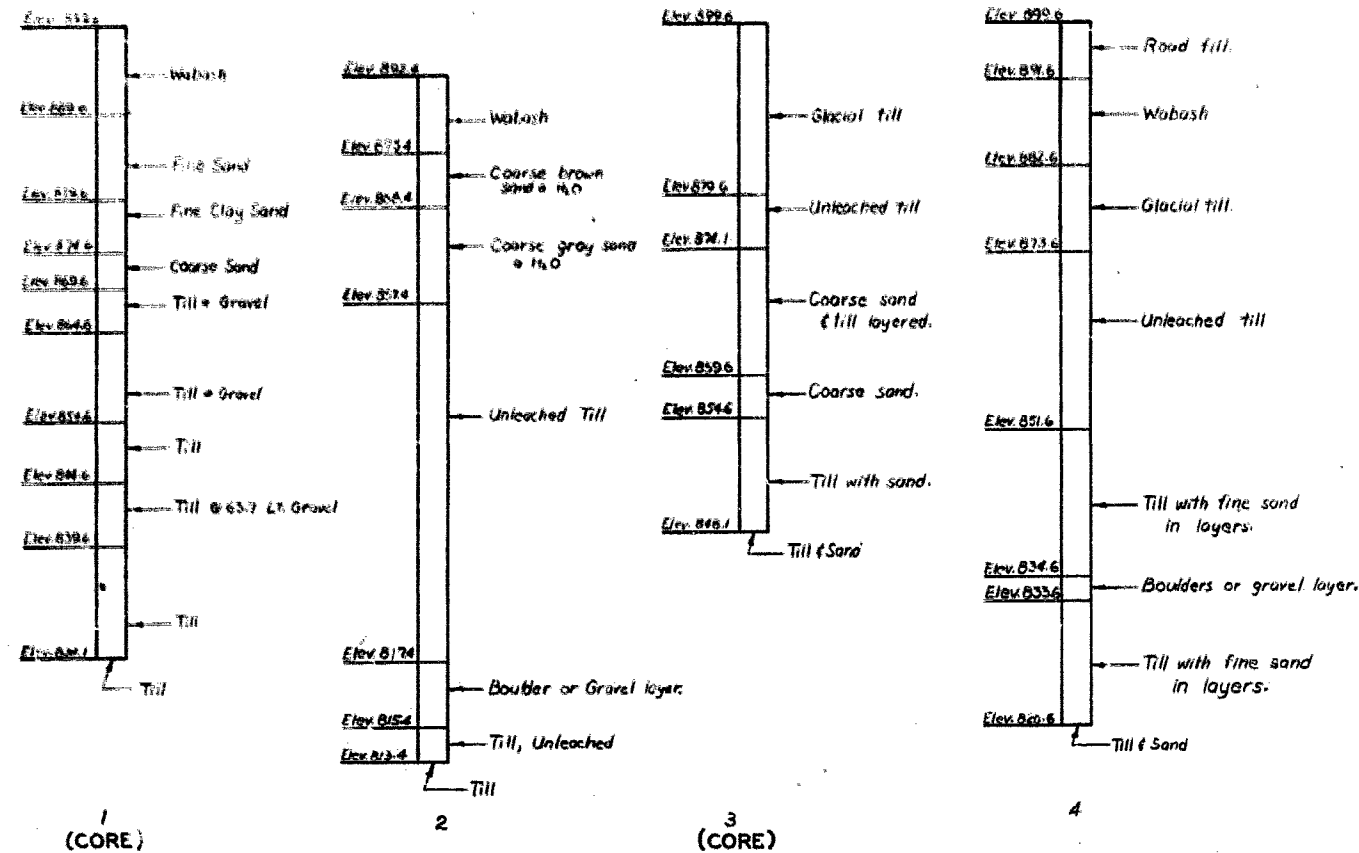
DESIGNED OCT. 1965 BY CERN
DETAILED NOV. 1965 BY UNDERWOOD
CHECKED FEB. 1966 BY LINDSEY

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

Sheet No. 1 of 6.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MO.		19	25	



BORING DATA

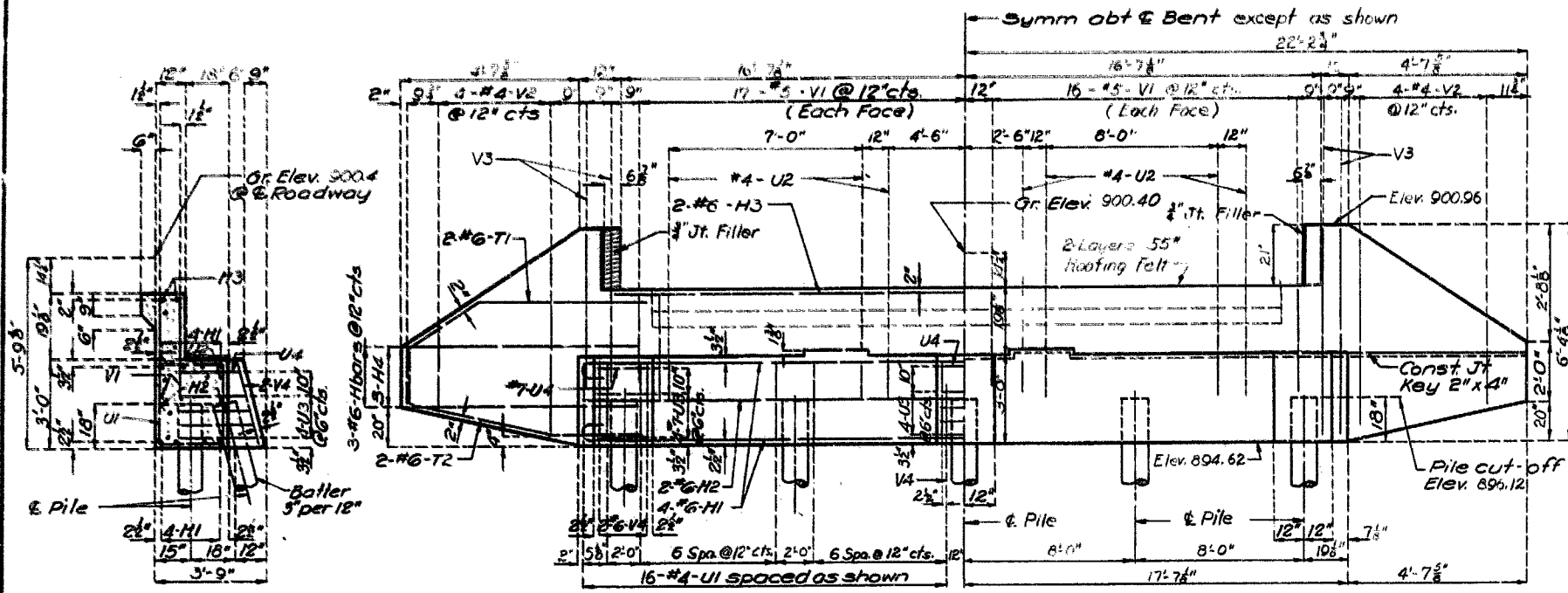
Note: See sheet No. 1 of 6 for locations of borings.

COMPLETE BILL OF REINFORCING STEEL												
NO.	SIZE	LENGTH	MARK	LOCATION	BENDING SKETCHES & CUTTING DIAGRAMS		NO.	SIZE	LENGTH	MARK	LOCATION	
Superstructure												
222	#3	3'-6"	C1	Curb	22 1/2" 10 1/2"	2'3" 10 1/2"						
4	#6	28'-3"	C2	"	28 1/2" 20 1/2"	26'-0" 2'-3"						
8	#6	23'-3"	C3	"	30'-0"	20'-0"						
4	#6	30'-0"	C4	"	31-52 Cut 62	29-53 Cut 116						
8	#3	4'-9"	R1	End Post		6'-0" 3'						
4	#5	5'-6"	R2	"		7'-6" 6'-9"						
4	#5	6'-9"	R3	"		14'-3"						
4	#5	6'-9"	R4	"		4-US Cut 12						
4	#5	7'-0"	R5	"		(and Bend as Shown)						
8	#5	7'-3"	R6	"								
198	#3	5'-3"	R7	Parapet								
8	#5	30'-0"	R8	"								
18	#5	23'-0"	R9	"								
8	#5	29'-0"	R10	"								
26	#5	4'-9"	R11	"								
236	#5	28'-6"	S1	Slab	2'-6 1/2" 11 1/2"							
62	#5	30'-0"	S2	"	5'-5 1/2" 2'-6 1/2"							
116	#5	29'-0"	S3	"	8'-0"							
					4-V2 Cut 8							
58	#4	29'-3"	S5	"								
60	#5	29'-3"	S6	"								
58	#4	22'-9"	S7	"								
60	#5	28'-0"	S8	"								
6	#4	32'-9"	S9	"								
End Bents No. 1 & 4												
16	#6	37'-0"	H1	Beam	34'-5" H1							
4	#6	34'-9"	H2	"	28'-2" H6							
4	#6	33'-0"	H3	Bkwall								
12	#6	6'-0"	H4	Wing								
8	#6	9'-3"	T1	Wing								
8	#6	8'-0"	T2	"								
64	#4	10'-6"	U1	Beam								
14	#4	3'-3"	U2	"								
12	#7	14'-3"	U3	"								
6	#7	6'-6"	U4	"								
132	#5	2'-0"	V1	Bkwall								
8	#4	8'-0"	V2	Wing								
8	#4	6'-0"	V3	"								
12	#6	2'-9"	V4	Bulldress								
Int. Bents No. 2 & 3												
4	#6	28'-9"	H5	Beam								
16	#6	30'-9"	H6	"								
4	#4	28'-9"	H7	"								
70	#4	2'-9"	U5	Beam								
56	#4	10'-6"	U6	"								
20	#4	3'-9"	U7	"								

BRIDGE OVER ZOUNDS CREEK
 STATE ROAD FROM ROUTE O SOUTH TO ROUTE 136
 ABOUT 7.2 MILES N. OF STANBERRY
 PROJECT NO. S-416(6) SB STA. 242 + 32.3
 GENTRY COUNTY

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	30	

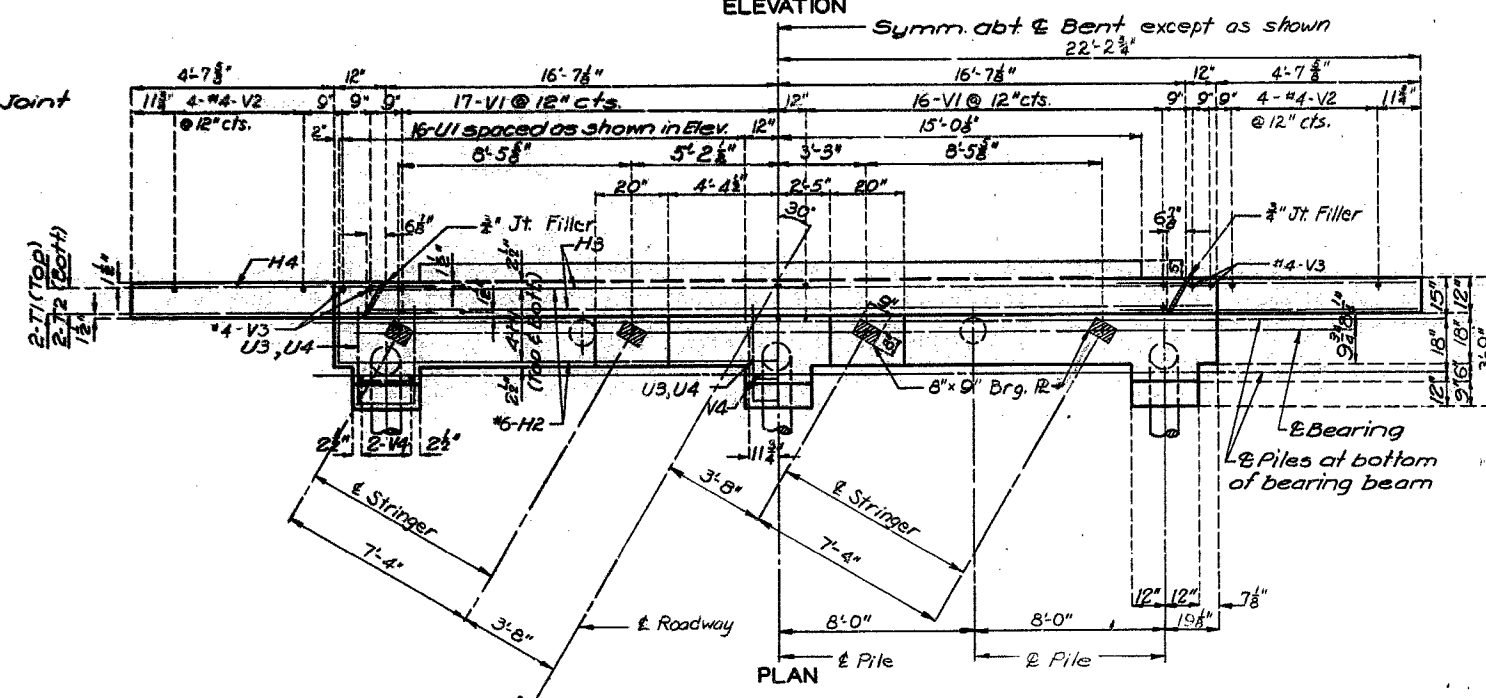
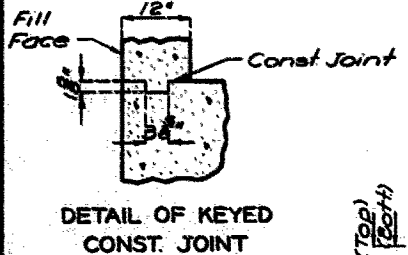
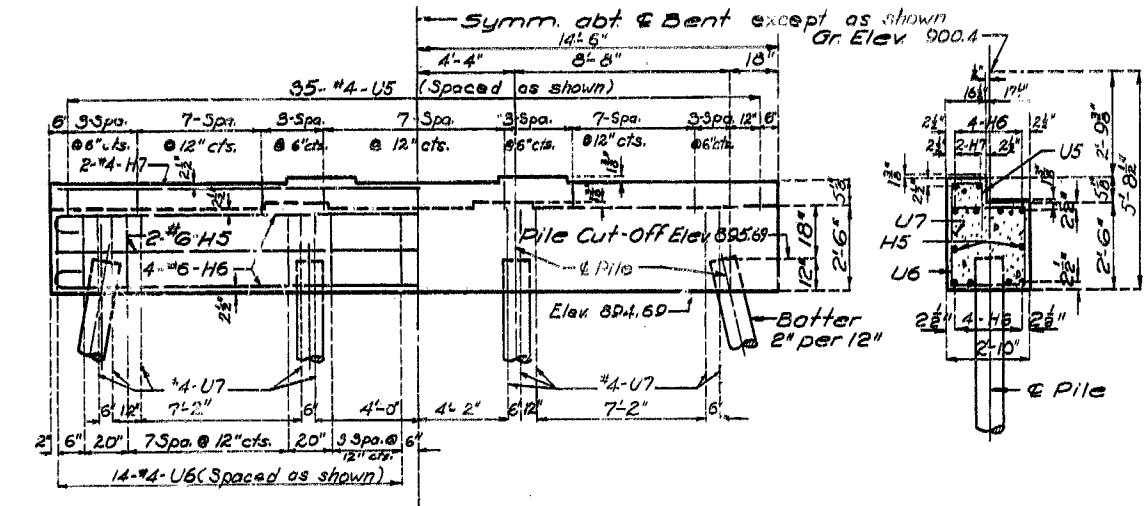


SECTION AT A

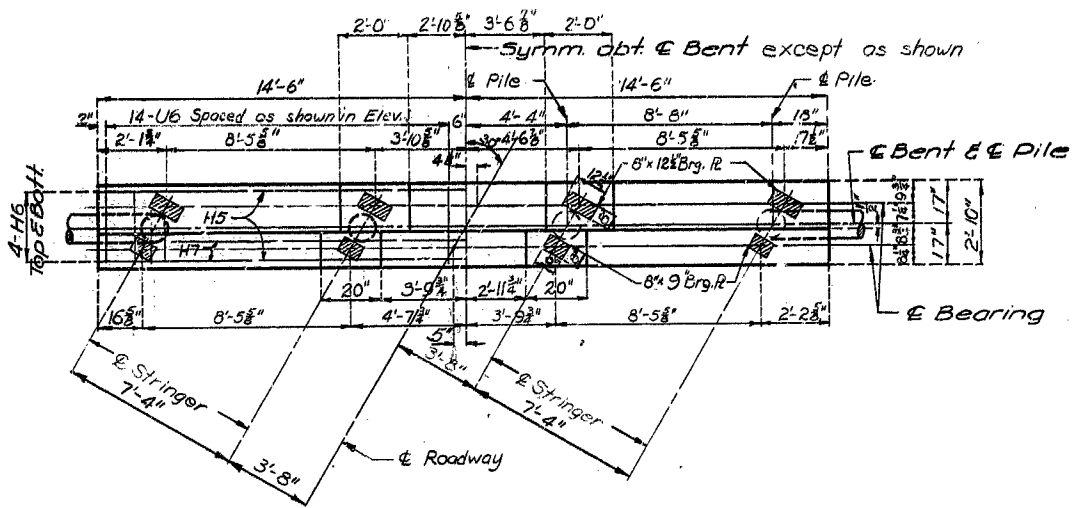
ELEVATION

ELEVATION

SECTION AT C



DETAILS OF END BENTS NO. 1 & 4



PLAN
DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

Note: Fill at end bent No. 1 & 4 shall not be carried above bottom of beam and wings until adjacent superstructure span is in place.

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

BRIDGE OVER ZOUNDS CREEK
STATE ROAD FROM ROUTE O SOUTH TO ROUTE 136
ABOUT 7.2 MILES N. OF STANBERRY
PROJECT NO. 9416 (6) (SB) STA. 242 + 32.3
GENTRY COUNTY

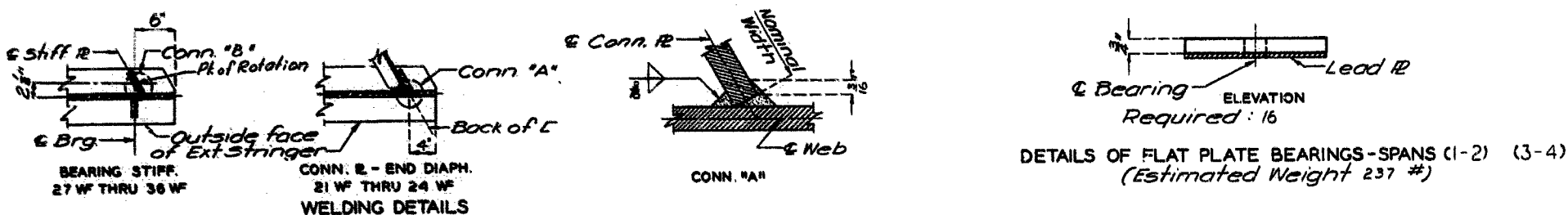
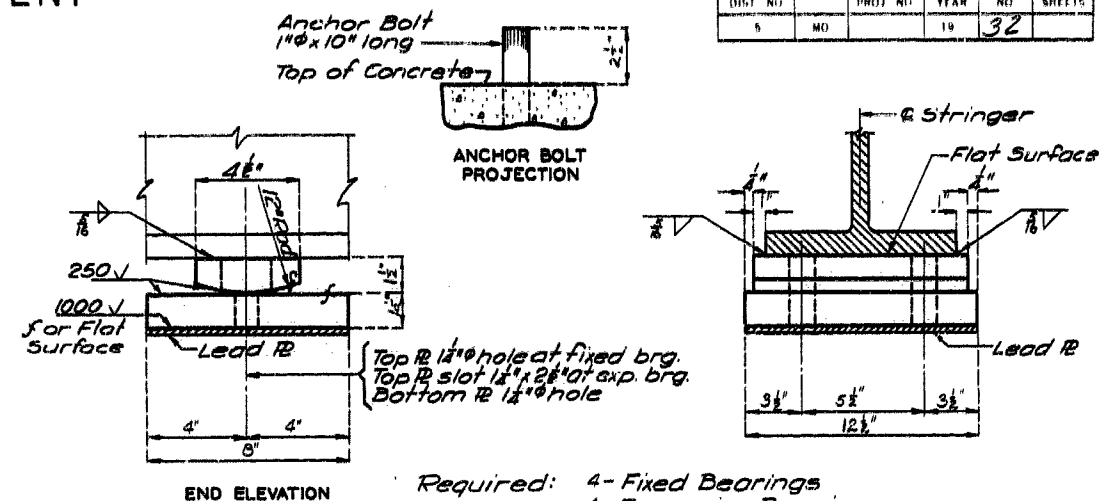
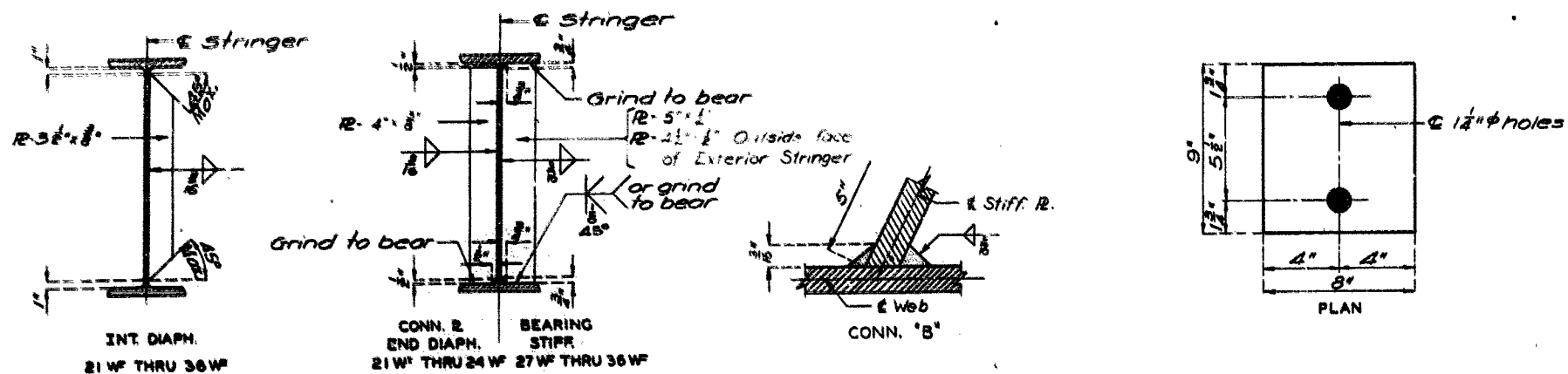
Sheet No. 3 of 6.

A-1874

Revised
July 1965
No. 9.1
DETAILED DEC. 1965 BY UNDERWOOD
CHECKED FEB. 1966 BY LINDSEY.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19	32	



DETAILS OF FLAT PLATE BEARINGS-SPANS (1-2) (3-4)
(Estimated Weight 237 #)

Required: 4- Fixed Bearings
4- Expansion Bearings
TYPE "C" BEARINGS-SPAN (2-3)
(Estimated Weight 403 #)

GENERAL NOTES:

Lead Plates under bearings shall be approximately 8" thickness and weigh 8#/sq. ft. Cost of lead plates shall be included in price bid for other items.
'Estimated Weight' does not include weight of anchor bolts.

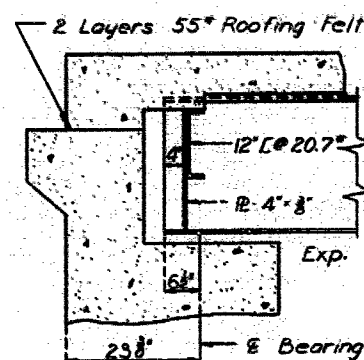
Where flat surface is indicated, tolerance shall be .003 in/in in any direction.

NOTES: TYPE "C" BEARINGS

Anchor Bolts for Type "C" Bearings shall be 1" ϕ swaged bolts, 10" long with no heads or nuts. Top of Anchor Bolts shall be set approximately 1/4" below top of bearing.

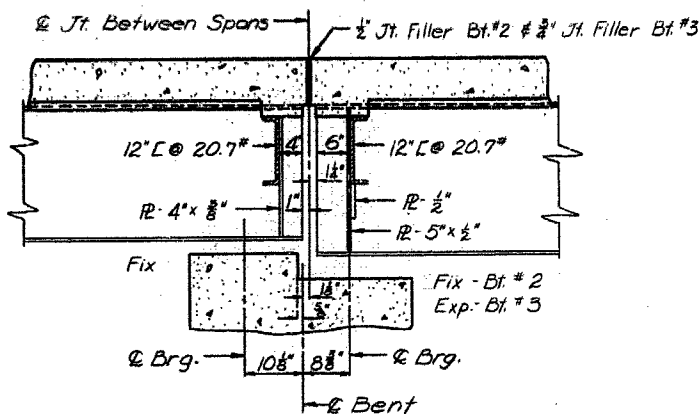
NOTES: FLAT PLATE BEARINGS

Flat plate bearing shall be Fabricated Structural Carbon Steel and straightened to plane surfaces.
Anchor bolts shall be 1" ϕ swaged bolts, 10" long with no heads or nuts. Top of anchor bolts shall be set approximately 1/2" above top of bottom flange.
Bottom flange of beam to have 1/2" ϕ holes at fixed end and 1/2" x 2 1/2" slots at expansion end.

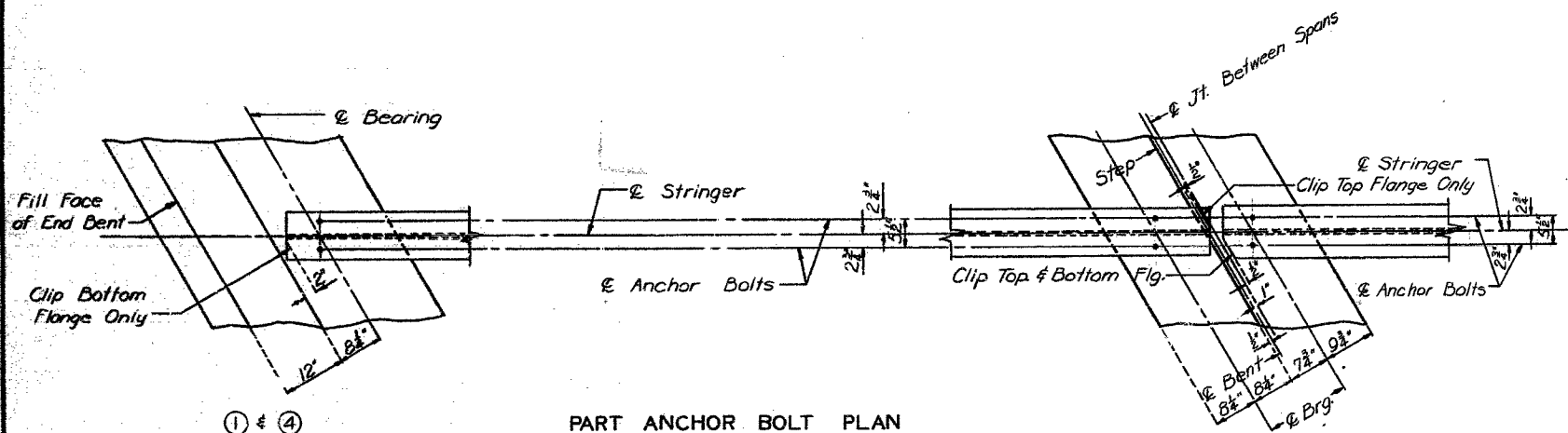


① & ④

PART LONGITUDINAL SECTION

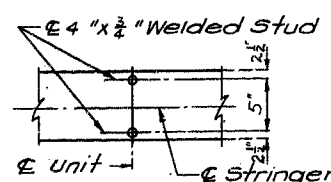
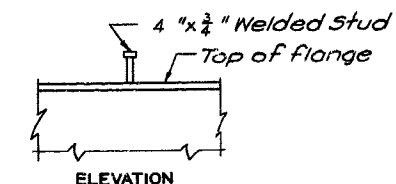


② (Bt. #2 Shown, Bt. #3 Similar)



① & ④

PART ANCHOR BOLT PLAN



PLAN OF STUD CONN. 27" WF (only)
DETAILS OF SHEAR CONNECTORS

② (Bt. #2 Shown, Bt. #3 Similar)

Sheet No. 5 of 6

BRIDGE OVER ZOUNDS CREEK

STATE ROAD FROM ROUTE 0 SOUTH TO ROUTE 136
ABOUT 7.2 MILES N. OF STANBERRY
PROJECT NO. S-418(6) (SB) STA. 242 + 32.3

GENTRY COUNTY

A-1874

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

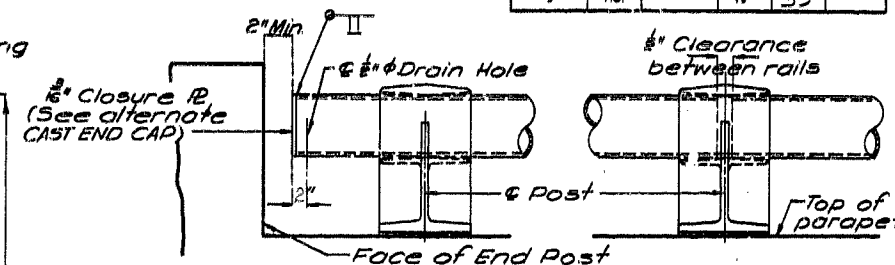
DETAILED NOV. 1965 BY Underwood
CHECKED FEB. 1966 BY LINDSEY

Revised
Aug. 1965
Feb. 1966

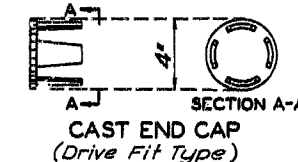
523

FED ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	33	

Rail Post Spacing: $19\frac{1}{2}"$ $3 \text{ Spacing} @ 8'4" = 25'-0"$



POST RAIL SPLICE OR EXP.
TYPICAL HANDRAIL DETAILS

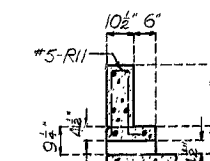


Top of Rdwy. Slab only

Joint Seal

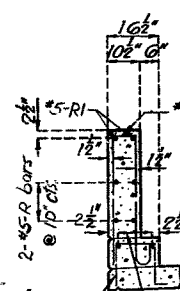
Joint Filler

(Std. Spec. 157.2.4)

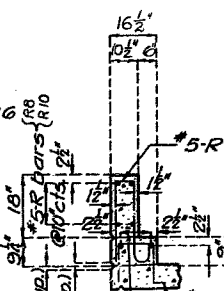


SECTION E-E

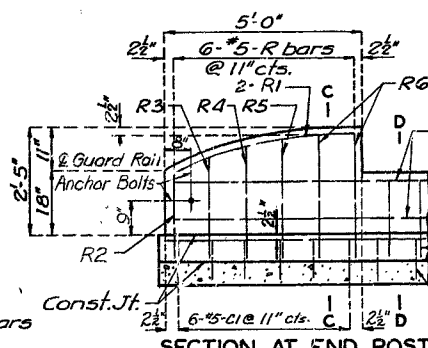
ELEVATION OF RIGHT CURB AND PARAPET



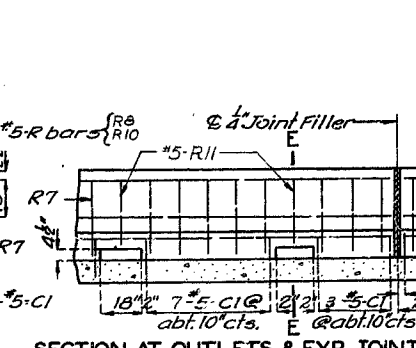
SECTION C-C



SECTION D-D

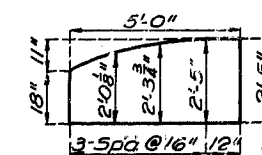


SECTION AT END POST



SECTION AT OUTLETS & EXP. JOINT
Note: Where there are no outlets
use #5-C1 @ abt. 12" cts.

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



END POST ORDINATES

COUNTY

Sheet No. 6 of 6

A-1874

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	MO.		19	28	

GENERAL NOTES:

Design Specifications: A.A.S.H.O. - 1961 FINAL PLANS

Design Loading:

H15-44 15 #/sq. ft. Future Wearing Surface
Earth 120# Equivalent Fluid Pressure 30#

Design Unit Stresses:

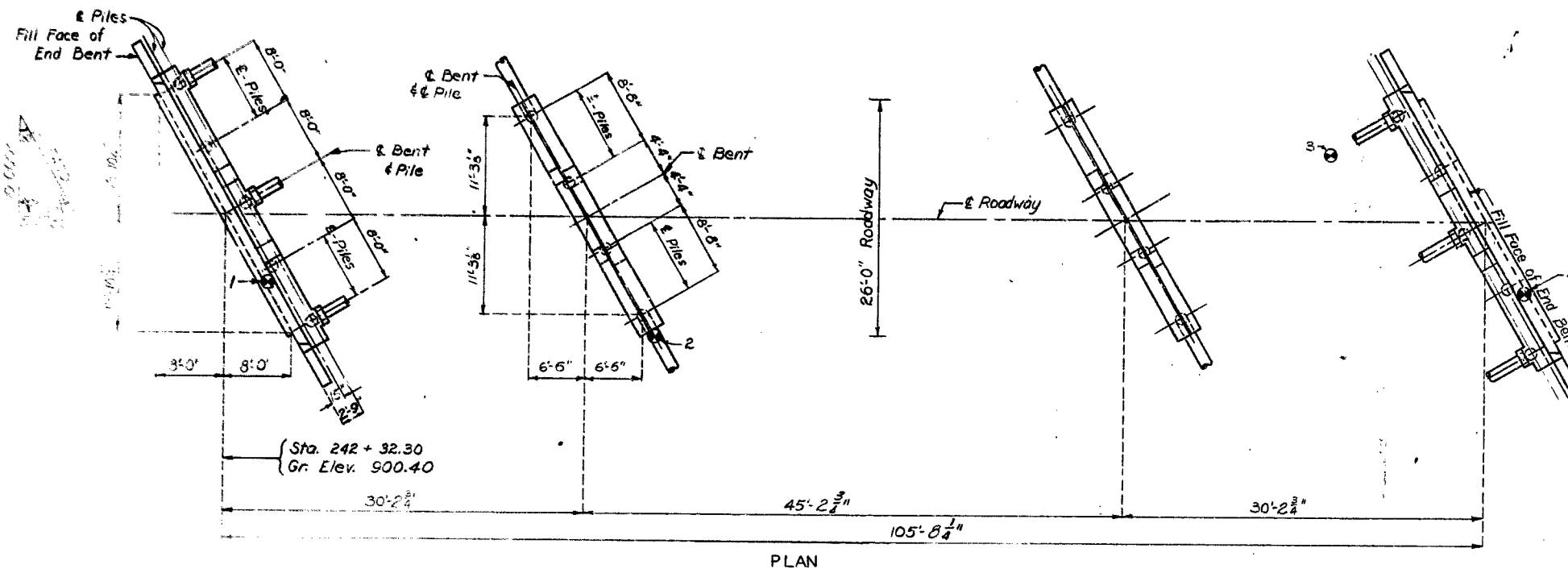
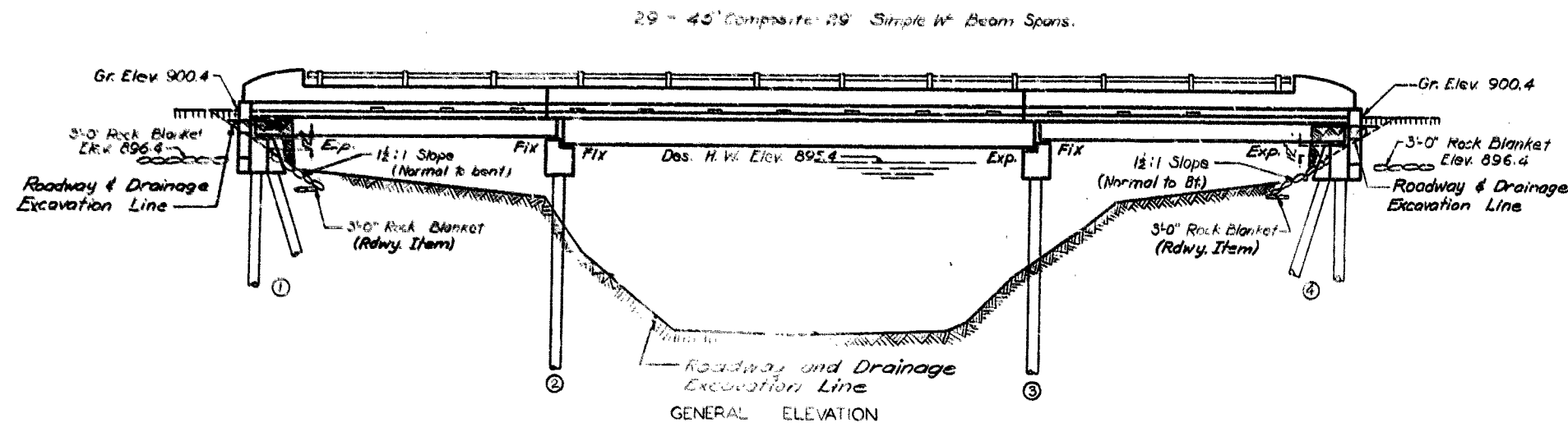
Class B Concrete (substructure) $f_c = 1,200$ psi
Class B1 Concrete (superstructure) $f_c = 1,600$ psi
Reinforcing Steel $f_s = 20,000$ psi
Structural Steel (A.S.T.M. A36-63T) $f_s = 20,000$ psi

Surface Seal:

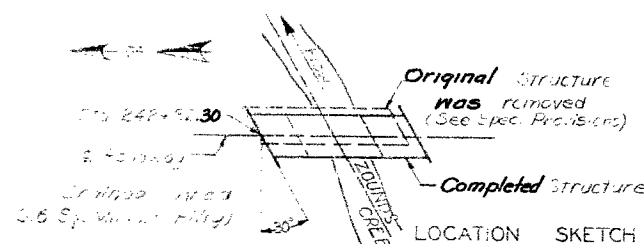
Superstructure deck was surface sealed.

Fabricated Steel:

Field connections, High Strength Bolts $\frac{3}{4}" \phi$,
holes $\frac{1}{16}" \phi$ except as noted.



Note: For Boring Data see
Sheet No. 2 of 6.
"X" Indicates location of boring.



FINAL QUANTITIES			
ITEM		SUBSTR.	SUPERSTR. TOTAL
Class I Excavation for Structures	Cu. Yds.	52.5	52.5
Cast-In-Place Concrete Piles	Lin. Ft.	948	948
Class B Concrete	Cu. Yds.	45.6	45.6
Class B1 Concrete	Cu. Yds.		84.6
Reinforcing Steel	Lbs.	4580	21680
Fabricated Structural Carbon Steel	Lbs.		33840
Bridge Rail (Single tube type)	Lin. Ft.		190

PILE DATA				
BENT NO.	1	2	3	4
Pile Type	Trestle	Trestle	Trestle	Trestle
Kind	CIP	CIP	CIP	CIP
Number	5	4	4	5
Furnished Length Avg. Ft.	59	53	51	47
Design Bearing Tons	30	30	30	30
Min. Tip Penetration Elev.	865.0	860.0	850.0	865.0
Pile Standard	52.02	52.02	52.02	52.02
Hammer Energy Req'd. Ft. Lbs.	8000	8000	8000	8000

Minimum Energy Requirement of hammer based
on plan length of piles.
All pile were driven to the minimum penetrations
and to not less than the design bearings noted.

B.M. Elev. 900.36 Sta. 242 + 35 - 17' R/L
in top of wing, north abut.

BRIDGE OVER ZOUNDS CREEK
STATE ROAD FROM ROUTE 0 SOUTH TO ROUTE 136
ABOUT 7.2 MILES N. OF STANBERRY
PROJECT NO. S-416(6) SB STA. 242 + 32.3
GENTRY COUNTY

SUBMITTED BY: *D. J. Jenkins* DATE: 11/16/66
APPROVED BY: *M. J. Miller* DATE: 11/16/66

STD. 54.00
STD. 52.02
A-1874

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