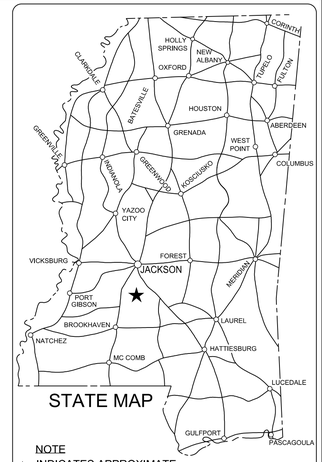
GENERAL INDEX

INCLUDED THIS PROJECT		BEGIN WITH SHEET
[X]	ROADWAY	1
[ ]	PERMANENT SIGNS	1001
[ ]	TRAFFIC SIGNALS	2001
[ ]	ITS COMPONENTS	3001
[ ]	LIGHTING	4001
[ ]	(RESERVED)	5001
[X]	ROADWAY STD. DWGS	6001
[ ]	BOX CULVERT STD. DWGS (LRFD)	7001
[ ]	BOX CULVERT STD. DWGS (STD. SPEC.)	7501
[X]	BRIDGE	8001
[ ]	CROSS SECTIONS	9001

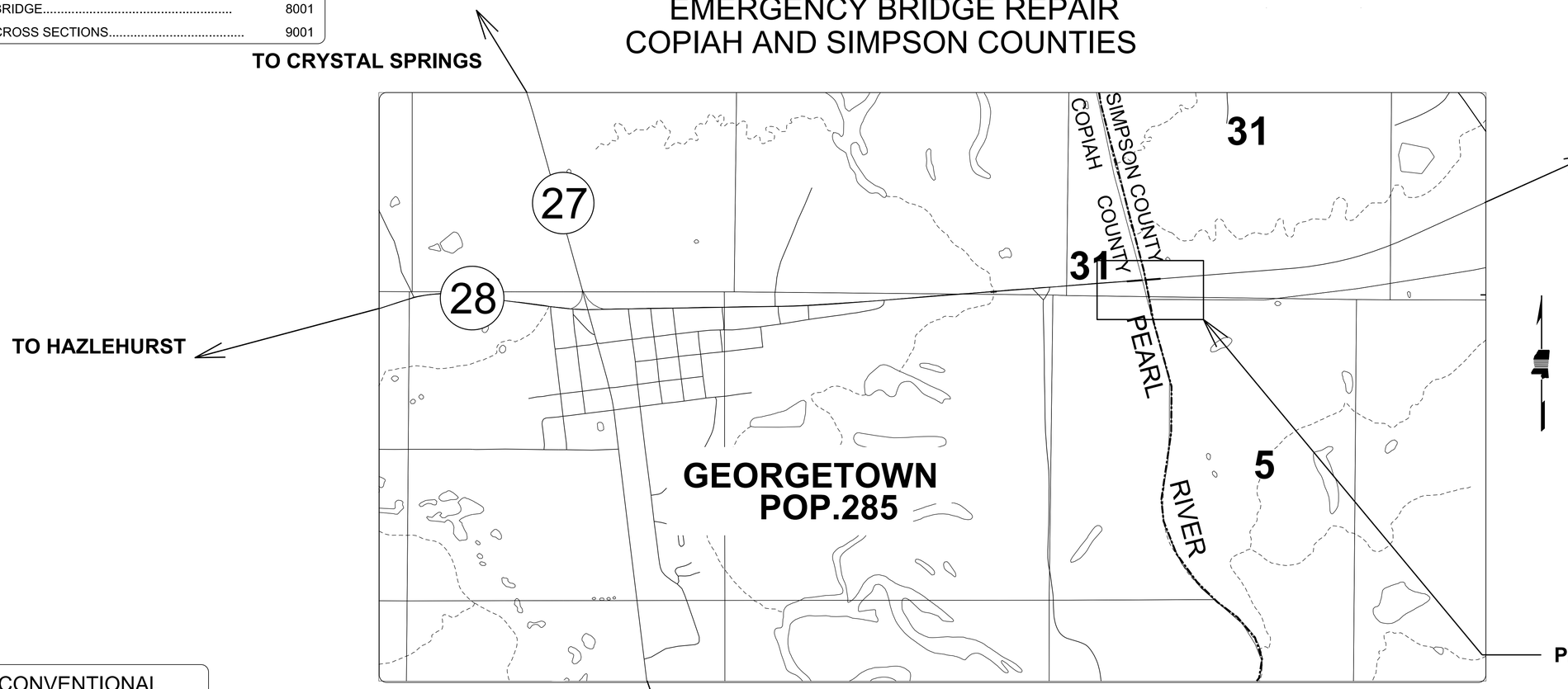
STATE OF MISSISSIPPI
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED STATE HIGHWAY FEDERAL AID PROJECT NO. STBG-0013-02(037)

SR 28 OVER PEARL RIVER EMERGENCY BRIDGE REPAIR COPIAH AND SIMPSON COUNTIES



LAT. 31°52'31.20"N LONG. 90°81'17.45"W
(APPROX. MIDDLE OF PROJECT)



DESIGN CONTROL

_ MPH = V (SPEED DESIGN)

ADT (__) = :___ ADT (__) = ___

DHV = ___: D = __% T = % __

PERMITS ACQUIRED BY MDOT

WETLANDS AND WATERS PERMITS

	WATERS	WETLANDS
NATIONWIDE #14	[N]	[N]
NATIONWIDE (OTHER)*	[Y]	[N]
GENERAL*	[N]	[N]
INDIVIDUAL (404)*	[N]	[N]

STORMWATER PERMIT [N]

Y REQUIRED, CNOI SUBMITTED BY MDOT (DISTURBED AREA=5 ACRES)

S REQUIRED, SCNOI TO BE SUBMITTED BY CONTRACTOR (1 TO 4.99 ACRES)

N NO STORMWATER PERMIT REQUIRED (<1 ACRE)

APPROVED BY: _____

CONVENTIONAL SYMBOLS

COUNTY LINE

TOWN CORP LINE

SECTION LINE

DEED LINE

EXISTING ROADWAY

PROPOSED ROADWAY

RAILROAD

BRIDGES

LENGTH DATA

LENGTH OF ROADWAY	_____	FT. ____	MI.
LENGTH OF BRIDGES	_____	FT. ____	MI.
LENGTH OF PROJECT (NET)	_____	FT. ____	MI.
LENGTH OF EXCEPTIONS	_____	FT. ____	MI.
LENGTH OF PROJECT (GROSS)	_____	FT. ____	MI.

SCALES

PLAN 1 IN.= 100 FT.

PROFILE HOR. 1 IN.= 100 FT. / VERT. 1 IN.= 10 FT.

LAYOUT 1 IN.= FT.

JOSEPH BRIAN JOHNSON
REGISTERED PROFESSIONAL ENGINEER
PE 18727
STATE OF MISSISSIPPI
DATE: 5/03/24

DESIGNED BY: STANTEC

CONSTRUCTION PROJECT DATA

SP-0013-02(037)	STBG-0013-02(037)
109589/101000 109589/102000	109589/301000 109589/302000

P S & E DATE: 5-03-2024

APPROVED:

DEPUTY EXECUTIVE DIRECTOR / CHIEF ENGINEER

EXECUTIVE DIRECTOR

TITLE SHEET

SR28_TITLE_JXN.dgn

PRINT DATE TIME

DESCRIPTION OF SHEET	WORKING NUMBER	SHEET NUMBER
TITLE SHEET		1
DETAILED INDEX	DI-1	2
SUMMARY OF QUANTITIES	50-1	3
BRIDGE AT STA. 93+85.00 - SR28 OVER PEARL RIVER		
BRIDGE ELEVATION & GENERAL NOTES	1 OF 6	8001
PART ELEVATION	2 OF 6	8002
PORTAL L0U1' & SWAY FRAME U2'	3 OF 6	8003
SWAY FRAME U3' & SWAY FRAME U4'	4 OF 6	8004
PORTAL L6'U5' & SWAY FRAME U6'	5 OF 6	8005
PORTAL L6'U7' & SWAY FRAME U8'	6 OF 6	8006

INFORMATION PLANS	WORKING NUMBER	SHEET NUMBER
PROJECT NO. F.A.S. 297B(1) - DATED: 1939		
TRUSS INFLUENCE LINES		8051
BRIDGE ELEVATION	1 OF 8	8052
STRESS DIAGRAM	2 OF 8	8053
PIERS I AND IV	3 OF 8	8054
PIERS II AND III	4 OF 8	8055
TYPICAL DETAILS	5 OF 8	8056
TRUSS DETAILS	6 OF 8	8057
TRUSS DETAILS	7 OF 8	8058
TRUSS DETAILS	8 OF 8	8059
SHOP DRAWINGS FOR PROJECT NO. F.A.S. 297B(1) - DATED: 1940		
BEARING DETAILS	1	8060
BASE PLATES	2	8061
LATERAL HANGERS, FLOORBEAMS, & STRINGERS	3	8062
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LOWER CHORD L0L2	5	8064
LOWER CHORD L2L4	6	8065
LOWER CHORD L4L6	7	8066
LOWER CHORD L6L8	8	8067
LOWER CHORD L8L10	9	8068
LOWER CHORD L10L10	10	8069
UPPER CHORD L0U1	11	8070
UPPER CHORD U1U3	12	8071
UPPER CHORD U3U5	13	8072
UPPER CHORD U5U7	14	8073
UPPER CHORD U7U9	15	8074
UPPER CHORD U9U11	16	8075
VERTICAL MEMBERS	17	8076
VERTICAL MEMBERS	18	8077
DIAGONALS	19	8078
DIAGONALS	20	8079
DIAGONALS	21	8080
PORTAL L0U1	22	8081
TOP LATERALS	23	8082
SWAY FRAMES	24	8083
PORTAL STRUTS	25	8084
PORTAL STRUTS & BRACES	26	8085
RAILING DETAILS	27	8086
EXPANSION DAMS	28	8087
ANCHOR BOLT DIAGRAM	E1	8088
ERECTION DIAGRAM	E2	8089
TRUSS INTERSECTIONS, DEFLECTIONS, & CAMBER	W1	8090

JOSEPH BRIAN JOHNSON
LICENSED PROFESSIONAL ENGINEER
NO. 18127
STATE OF MISSISSIPPI
DATE: 5/03/24

MDOT
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

DESIGNED BY: M. BRODNAX
DETAILED BY: J.TOUPS
CHECKED BY: B. JOHNSON
DATE: 04/19/2024

FMS CON: 109589/3010000 & 302000
PROJECT NO.: STBG-0013-02(037)
COUNTY: COPIAH & SIMPSON

DETAILED INDEX

DIR OF STRUCTURES, STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.
DEP. DIR OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - MICAH DEW, P.E.

WK. NO.
DI - 1

SHEET NO.
2

BRIDGE DIVISION

REVISIONS

DATE	SHEET NO.	BY

5/6/2024 U:\20180306\03 disciplines\bridge\drawings\002_Detailed Index.dgn

SUMMARY OF QUANTITIES

			COPIAH		SIMPSON		PROJECT TOTAL	
			109589-301000	STBG-0013-02(037)	109589-302000	STBG-0013-02(037)		
PAY ITEM NO.	PAY ITEM	UNIT	QUANTITIES		QUANTITIES		QUANTITIES	
	BRIDGE SUMMARY		PRELIMINARY	FINAL	PRELIMINARY	FINAL	PRELIMINARY	FINAL
618-A001	MAINTENANCE OF TRAFFIC	LS	1		1		1	
907-619-E3001	CHANGEABLE MESSAGE SIGN	EA	2		2		4	
620-A001	MOBILIZATION	LS	1		1		1	
907-824-PP004	BRIDGE REPAIR, TEMPORARY SHORING/BRACING	LS			1		1	
907-824-PP004	BRIDGE REPAIR, TRUSS MEMBER REPLACEMENT, PER PLANS	LS	-		1		1	
907-824-PP004	BRIDGE REPAIR, TRUSS MEMBER HEAT STRAIGHTENING, PER PLANS	LS	-		1		1	

JOSEPH BRIAN JOHNSON
LICENSED PROFESSIONAL ENGINEER
NO. 18127
STATE OF MISSISSIPPI

DATE: 5/03/24

MDOT
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

DESIGNED BY: M. BRODNAX
DETAILED BY: J.TOUPS
CHECKED BY: B. JOHNSON
DATE: 04/19/2024

FMS CON: 109589/301000 & 302000
PROJECT NO.: STBG-0013-02(037)
COUNTY: COPIAH & SIMPSON

BRIDGE AT STA. 93+85 - SR 28 OVER PEAR RIVER

SUMMARY OF QUANTITIES

DIR OF STRUCTURES, STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.
DEP. DIR OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - MICAH DEW, P.E.

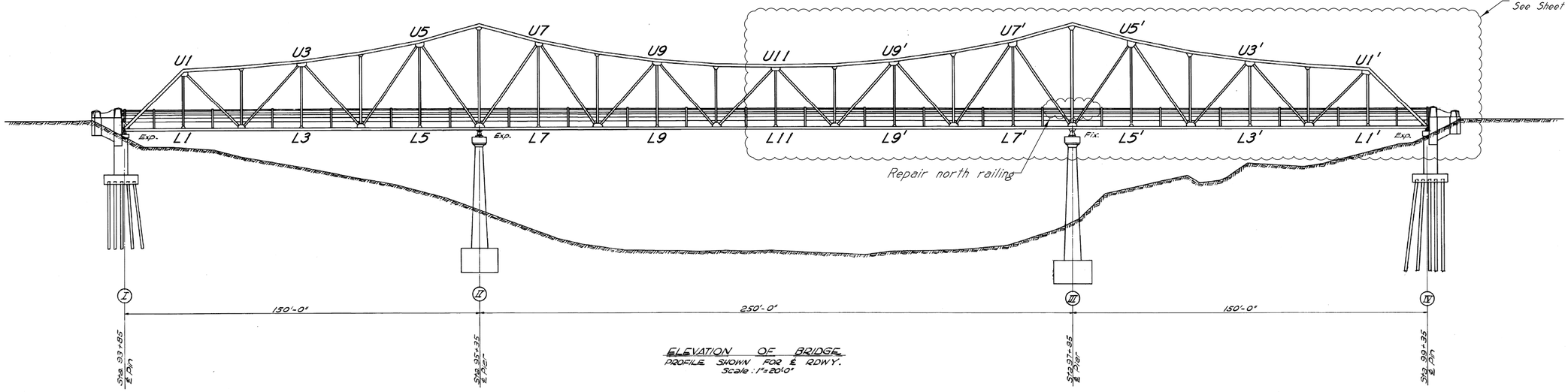
WK. NO.
SQ-1

SHEET NO.
3

5/3/2024 11:57:12 AM U:\20180306\03 disciplines\bridge\drawings\003_Summary of Quantities.dgn

550'-0" Continuous Truss Bridge

Overall Length Of Bridge = 554'-10"



ELEVATION OF BRIDGE
PROFILE SHOWN FOR ℄ RDWY.
Scale : 1"=20'-0"

SCOPE OF WORK:

Repair/replace damaged truss members listed under "Items to be Repaired" in accordance with these plans and applicable portions of standard specifications.
Replace damaged railing on the North truss between L5' and L7'.

GENERAL NOTES:

1. Specifications: Mississippi Standard Specifications for Road and Bridge Construction, 2017.
2. No change of plans will be permitted except by written approval of the Director of Structures, State Bridge Engineer. Minor changes of detail of design or construction procedure may be authorized by the Director of Structures, State Bridge Engineer provided such changes will not cause for contract price adjustment.
3. Prior to construction, dimensions and elevations of the existing structure shall be field verified by the Contractor. The Contractor shall be responsible for adjusting the elements of the new construction to ensure proper fit with existing structure.
4. Any damage that occurs to the existing structure or existing approach roadways during the duration of the project shall be repaired to the satisfaction of the Engineer by the Contractor at no additional cost to the State.
5. Work for which no pay item is provided in the proposal will not be paid for directly and compensation therefore will be included in the prices and payments for bid items.
6. The Contractor should be aware that additional minor items of repair work not specifically listed may be necessary to complete the items to be repaired and that compensation therefore will be included in the prices and payments for bid items.
7. For the duration of the project, care shall be exercised to ensure that no debris fall into the hydraulic crossing below the structure. The debris that is removed from the bridge shall become the property of the Contractor and shall be removed from the construction site.
8. Contractor to maintain traffic control devices installed by MDOT Maintenance prior to NTP throughout the life of the contract. Contractor shall provide replacement changeable message signs.
9. All traffic control devices on this project shall comply with the M.U.T.C.D. (latest edition). The cost of traffic control devices shall be absorbed in the bid items and not paid for separately.
10. Contractor shall remove temporary access or work platforms and the channel shall be returned to its original state at the completion of work. Work or equipment related to temporary access will not be paid for separately.
11. All addenda to these plans will be posted to www.MDOT.MS.GOV under the proposal addenda column. Bidders are advised that hard copies of any addenda for this project will not be mailed. It is the bidder's responsibility to check and see if any addenda have been posted for this project.

ANTICIPATED CONTRACTOR SUBMITTALS:

All submittals shall be provided to the Director of Structures, State Bridge Engineer, for review and approval prior to commencing work.

1. Temporary bracing and truss stability calculations and drawings demonstrating phases during replacement of primary truss members stamped and signed by a registered Professional Engineer in the state of Mississippi.
2. Design calculations and details of new members that differentiate from the provided INFORMATION PLANS, stamped and signed by a registered Professional Engineer in the state of Mississippi.
3. Shop drawings of new truss members including connection plates with corresponding field measurements.
4. Flame straightening experience documentation and repair plans (see FLAME STRAIGHTENING NOTES).
5. Technical data for the proposed encapsulating paint with corresponding containment system design and details.
6. If applicable, welder certifications and a procedure for storage and handling of electrodes.

TRUSS NOTES:

1. New members to be fabricated shall be the same or equivalent size as the member being replaced and must fit with the existing truss. The Contractor has option to design an equivalent net section member in lieu of replacing with the approval of the Director of Structures, State Bridge Engineer. The Contractor should be aware that standard rolling tolerances may cause the new member not to fit. Field measurements should be made so that tolerances may be specified, if required when ordering new members.
2. Any member required to be straightened may be replaced with a new member in lieu of straightening, at the Contractor's option, provided there is no additional cost to the State.
3. Structural steel removed from the truss span shall become the property of the Contractor and its removal from the job site shall be included in the bid price of the repair work.
4. Prior to removing a truss vertical, temporary members of adequate size shall be installed adjacent to the subject member. The temporary members shall be designed and installed in such a manner that the main truss members involved can be moved slightly, if required, for bolt hole alignment. The method of temporary bracing shall be approved by the Director of Structures, State Bridge Engineer, prior to use.
5. To maintain structural integrity at the truss, only one (1) primary member may be replaced at a time. All connection bolts shall be installed and tightened and any damaged rivets or bolts replaced prior to moving to the next location.
6. Care shall be exercised during installation and removal of temporary bracing to prevent damage to adjacent truss members. Any resulting damage shall be repaired to the satisfaction of the Engineer at no cost to the State.
7. Structural steel plate and shapes shall conform to A.S.T.M. A36 and painted in accordance with the Section 814 of the Specifications. Contractor has the option of using A.S.T.M. A709, Gr. 50.
8. All welding shall be performed by the electric arc process and shall conform to the AASHTO/AWS D1.5 BRIDGE WELDING CODE, and as directed herein. Certification for all welders to be used on this project shall be submitted to the Director of Structures, State Bridge Engineer through the Shop Inspector.
9. All field connections shall be made with ¾"ø high strength bolts (A.S.T.M. A325, Type 1), heavy hex nuts (A.S.T.M. A563-DH), and hardened washers (A.S.T.M. F436). Use direct tension indicator (DTI) devices, Type 3, in high strength connections for tension verification.
10. The Contractor shall provide design calculations and details showing how upper chord U7'U8' will be replaced with special consideration of the top cover plate that is continuous from Joint U7' to U9'. At the Contractor's option, the top cover plate can be reused provided the plate is braced and stable while upper chord U7'U8' is removed.
11. When corrosion is encountered on existing members or plates to remain in the areas to be repaired, all pack rust and scale shall be removed by using small hand tools, mechanical process, or needle gun. Existing paint shall be roughened to ensure new paint will adhere to the existing painted surface. All debris and paint removed from the existing structure shall become property of the Contractor and shall be disposed of properly. After repairs, the prepared areas shall be coated in encapsulating paint designed to encapsulate lead based paints, applied according to the manufacturer's specifications. New paint shall be applied by hand, with either a brush or roller.
12. Contractor shall design a containment system to prevent paint from falling into the roadway and waterway below. Work and equipment associated with the containment system shall be included in pay item nos. 907-824-PP004.
13. Pay item no. 907-824-PP004, Bridge Repairs,
    A. Temporary Shoring/Bracing shall include, but not limited to, installing and removing temporary members.
    B. Truss Member Replacement, Per Plans shall include, but not limited to steel plates, shapes and connections, painting and installing new members, and painting existing members to remain, as needed.
    C. Truss Members Heat Straightening, Per Plans shall include, member straightening and painting repaired areas with flame-straightening techniques.

FLAME STRAIGHTENING REPAIR NOTES:

1. Flame-straightening of the damaged steel bridge members shall be performed by a carefully planned and supervised application of a limited amount of localized heat to the damaged members. Mechanical means may be used to straighten the material only in conjunction with the application of heat. The only mechanical devices allowed during flame straightening will be those used to restrain or help direct movement of the member during the cooling process.
2. Prior to construction, the company performing the flame straightening shall provide documentation that shows at least three (3) years of experience in flame straightening repairs of damaged steel highway or railroad bridge members to the Director of Structures, State Bridge Engineer for review. Also, the documentation shall show that the company/person, and the person(s) who will directly supervise the work, have been continuously involved in the business of heat straightening bridge structural steel on a continuous basis for the past three (3) years. At a minimum, the documentation for each project listed should include, the year the heat straightening work was completed, a brief description of the repair made, the name of the heat straightening supervisor on the project and the name and telephone number of the owner of the structure repaired.
3. Prior to construction, flame straightening repair plans shall be submitted through the Engineer to the Director of Structures, State Bridge Engineer for approval.
4. All gas fueled heating equipment (including fuel) necessary to perform the flame straightening work shall be furnished by the Contractor.
5. In general, the methods of repair will rely on the experience of the Contractor and the "National Cooperative Highway Research Program (NCHRP) Report No. 604 which contains broad guidelines to this type of repair.
6. The straightening heat should be applied to small areas, usually triangular in shape. The heating sequence to produce the most efficient results shall be determined by the Contractor. Generally it is not advantageous to heat the same areas more than once.
7. The maximum temperature to which the steel shall be heated is 1150 degrees Fahrenheit (621 degrees C). The Contractor may visually determine that the temperature has been reached when the color of the steel becomes a dull red. The Engineer may periodically monitor the temperature of the steel to verify that the maximum temperature has not been exceeded. The equipment for checking the temperature shall be provided by the Contractor and meet the approval of the Engineer. The Contractor shall furnish a high temperature pyrometer, for measuring the temperature of the heated members, if requested by the Engineer. Temperature indicating crayons may be used if approved by the Engineer.
8. No accelerated or artificial cooling will be permitted.
9. The final acceptable local tolerances for the repaired members shall be as follows:
    A. The straightness of a member shall be within ¼" per 10'-0" of the members length when measured along the members flanges and legs using a tight string line.
    B. Flanges, webs and legs or members shall be within ¼" of the plane of the original milled surface when measured with a straight edge.
10. Flame-straightened members shall be prepared and coated in encapsulating paint (see TRUSS NOTES 11 and 12) to the extents determined by the Engineer.

EXISTING STEEL COATING NOTE:

The existing paint system on the steel members contain lead and/or chromates. The contractor is required to use all mandatory safeguards prescribed by the State and Federal Law for both worker protection and hazardous materials disposal. Before beginning work, the contractor shall submit, for approval by the Bridge Engineer, a proposed plan for worker protection and hazardous materials disposal.

JOSEPH BRIAN JOHNSON
LICENSED PROFESSIONAL ENGINEER
No. 18127
STATE OF MISSISSIPPI
DATE: 5/03/24

MDOT
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

DESIGNED BY: M. BRODNAX
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FMS CON: 109589/301000 & 302000
PROJECT NO.: STBG-0013-02(037)
COUNTY: COPIAH & SIMPSON

BRIDGE AT STA. 93+85 - SR 28 OVER PEAR RIVER
BRIDGE ELEVATION & GENERAL NOTES

DIR OF STRUCTURES, STATE BRIDGE ENGINEER - SCOTT WESTERFIELD, P.E.
DEP. DIR OF STRUCTURES, ASST. STATE BRIDGE ENGINEER - MICAH DEW, P.E.

WK. NO. 1 OF 6
SHEET NO. 8001

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