**MEMORANDUM OF AGREEMENT**

**FOR MITIGATION OF ADVERSE EFFECTS**

**TO HISTORIC PROPERTY:** Bridge \_\_\_\_\_ on Route \_\_\_ over \_\_\_\_\_ Creek

**UNDERTAKING:** [provide improvement and location description of the project – e.g., “Replacement of the historic bridge on Route 17 with a new structure (A7854) over Saline Creek north of Tuscumbia, Miller County; MoDOT Project J5P0928.”]

**STATE:** Missouri.

**AGENCY:** Federal Highway Administration.

**WHEREAS**, the Federal Highway Administration (FHWA) has determined that the replacement of Bridge H0119will have an adverse effect on the bridge, which has been determined eligible for inclusion to the National Register of Historic Places (National Register), and has consulted with the Missouri State Historic Preservation Office (SHPO) pursuant to the regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

**WHEREAS**, the FHWA has notified the Advisory Council on Historic Preservation (Council) of its adverse effect determination and the Council has chosen to not participate in this Memorandum of Agreement (MOA); and

**WHEREAS**, the [local public agency] (\_\_\_\_) participated in the consultation and been invited to be a signatory to this MOA; and

**Whereas,** to the best of the FHWA’s knowledge and belief, no human remains, associated or unassociated funerary objects or sacred objects, or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001), are expected to be encountered; and

**NOW, THEREFORE**, FHWA and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations.

**STIPULATIONS**

The FHWA will ensure that the following stipulations are carried out:

1. The [local public agency] will develop documentation for Bridge H0119 to the following specifications:
	1. 8X10 inch high-resolution black and white digital images (> 600 dpi) printed on archival paper sufficient to fully document overall views and details of the historic bridge. Photographs will be taken and processed according to standards for photographs accompanying National Register documentation. Digital compact discs with all views will be provided.
	2. A historic narrative and technical descriptions for the historic bridge.
	3. A copy of the original construction plans for the historic bridge.
	4. The final documentation shall be provided to the SHPO along with archival digital discs containing the TIFF images and report PDF. Additional copies shall be provided to appropriate local historical groups. Bound copies and/or CDs of the final documentation also will be available to others upon request.
2. The [local public agency] shall consult with the SHPO to determine the appropriate approach and method for marketing Bridge H0119 as per the Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURAA) Section 123(f). A waiver of advertisement also will be discussed. The [local public agency], the SHPO; and the FHWA shall agree to the approach and method prior to implementation.

If ownership of the bridge, or portion thereof, is transferred to another party, the transfer deed will include preservation covenants that require the new owner to move and maintain the bridge in accordance with the “Secretary of the Interior’s Standards for Rehabilitation and Guidelines for Rehabilitation of Historic Buildings.” The proposed reuse plan and specifications will be forwarded to FHWA for review and approval in consultation with the SHPO; and [local public agency]. If no party is found to take possession of the existing bridge, it may be removed.

1. If modifications to the project activities result in an adverse effect to any National Register eligible archaeological site, the FHWA shall consult with the SHPO and appropriate Indian Tribes to resolve the adverse effects, consistent with guidance provided in 36 CFR § 800.6, through the implementation of an Archaeological Data Recovery Plan(s) developed in accordance with the Council “Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites” (64 FR 27085-87 published in the Federal Register on May 18, 1999), the Council’s Handbook on Treatment of Archaeological Properties, and the Secretary of the Interior’s Standards for Archaeological Documentation; and
2. Within one year after carrying out the terms of the MOA, the FHWA shall provide to all signatories a written report regarding the actions taken to fulfill the terms of the agreement.
3. If any signatory proposes that this agreement be amended, the FHWA shall consult with the other parties of this agreement. Said amendment shall be in writing, governed in accordance with 36 CFR 800.6, and executed by all parties to the Memorandum of Agreement.
4. If any signatory determines the terms of the MOA cannot be carried out, the signatories shall consult to seek amendment. If the MOA is not amended any signatory may terminate it. If the MOA is terminated, the FHWA shall execute a new MOA or request the comments of the Council.
5. A signed copy of this MOA will be provided to each signatory, and one copy will be transmitted to the Council for inclusion in their files.
6. Failure to carry out the terms of this MOA requires that the FHWA again request the comments of the Council in accordance with 36 CFR Part 800. If FHWA cannot carry out the terms of the agreement, it shall not take or sanction any action or make any irreversible commitment that may affect historic properties until such time as the Council has been given the opportunity to comment on the full range of project alternatives which might avoid or mitigate any adverse effects.
7. This agreement shall be null and void if its terms are not carried out within five (5) years from the date of its execution, unless the signatories agree in writing to an extension for carrying out its terms.

Execution of this Memorandum of Agreement, and carrying out its terms, evidences that the FHWA has afforded the Council an opportunity to comment on the replacement of the Saline Creek Bridge (H0119) and its effects on historic properties, and that FHWA has taken into account the effects of the project on historic properties, in accordance with Section 106 of the National Historic Preservation Act.

**Federal Highway Administration:**

**By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**The MISSOURI STATE HISTORIC PRESERVATION OFFICE:**

**By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**[local public agency]:**

**By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**EXAMPLE OF A MODOT INFORMATION TO ACCOMPANY A BRIDGE MOA**

**INFORMATION TO ACCOMPANY**

**THE**

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**UNDERTAKING:** [provide improvement and location description of the project – e.g., “Replacement of the historic bridge on Route 17 with a new structure (A7854) over Saline Creek north of Tuscumbia, Miller County; MoDOT Project J5P0928.”]

**STATE:** Missouri.

**AGENCY:** Federal Highway Administration.

**I. Project Description**

Missouri Department of Transportation (MoDOT) Project No. J5P0928 is designed to improve the safety and efficiency of Route 17 over the Saline Creek 3.2 miles north of Route 52 near Tuscumbia by replacing the existing substandard bridge on existing alignment with a new bridge (A7854). The road will be closed during construction. Bridge H0119 is eligible for the National Register of Historic Places (National Register), and the proposed work will have an “adverse effect” on the historic property. No environmental NEPA classification has been approved. The project’s area of potential effects (APE) is considered to be the project footprint (i.e. existing and new right-of-way, and temporary and permanent easements). The proposed project will use matching Federal funds. (Appendices A and C).

**II Public Involvement**

The proposed replacement of the historic Route 17 Bridge over the Saline Creek near Tuscumbia has generated a considerable amount of public response. An open-house public hearing was held from 4 p.m. to 6:30 p.m. in the cafeteria of the Miller County R-III High School, located at 526 School Road in Tuscumbia, Missouri. Excluding MoDOT personnel, 30 people attended the meeting to review displays, visit with knowledgeable staff, ask questions and submit comments. Those in attendance were invited to share comments that evening, submit comments within two weeks after the meeting, or submit them online. In addition, there was an online virtual meeting from July 12 to July 19. The online meeting had 14 visits during the comment period.

Letters and news releases were sent to local public officials and area newspapers advertising the date and time of the public meeting. All displays and handouts from the meeting were posted online, including the opportunity to submit comments online. Participants who provided their email addresses were added to the project E-Update subscription. (Appendix B).

Letters were also sent to the following agencies:

Federal Highway Administration

Missouri Department of Conservation

Missouri Department of Economic Development – Division of Tourism

U.S. Fish and Wildlife Service

Missouri Historic Preservation Office

U.S. Environmental Protection Agency

Missouri Department of Natural Resources

Missouri Farm Bureau

Missouri Emergency Management Agency

U.S. Post Office

Fort Leonard Wood – Administrative Services Division

Overall nine comments were received from individuals:

* + 1. Four comments were in support of the proposed plan.
		2. Three comments suggested the bridge should be relocated and Route 17 should not be closed during construction, that closing Route 17 during construction placed an unfair burden on local residents, and that the county road detours were inadequate.
		3. One comment suggested scheduling other construction projects in the area so they do not conflict and minimize traffic disruption.
		4. One comment recommended closing Route 17 between June 15 and September 31.

In addition to the continuation of public involvement, and with the review and approval of the Missouri State Historic Preservation Office (SHPO), marketing letters were sent out to regional planning organizations, county commissioners, city mayors, state and federal agencies, and other groups; with information packets containing location maps, photographs, and historic and structural information for the existing Saline Creek Bridge H0119. The letters informed the groups that the bridge has been determined eligible for the National Register of Historic Places and that MoDOT is considering replacing it. (The Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURAA) Section 123(f) states: “prior to the demolition of a historic bridge, the State shall market (sell or donate) the bridge to a State or local government, agency or responsible private entity”). As part of this mitigation process, MoDOT will make Bridge H0119 available for adaptive reuse, to any government or group willing to move, re-erect, maintain, and assume financial responsibility for the structure. (Appendix B).

**III. Previous Work**

In March of 1992 Fraser's Missouri Historic Bridge Inventory survey first evaluated the Saline Creek Bridge (H0119) to be National Register non-eligible as a typical example of 1920s MSHD truss design. The scoping project was advertised for the first time in the Statewide Transportation Improvement Plan (STIP) when Stimulus 2 funding became available in early 2010. The conceptual study report was approved on August 4, 2010; no value engineering study was conducted for the project, and no environmental NEPA classification has been approved. In January of 2010, MoDOT Historic Preservation (HP) staff re-evaluated the bridge as National Register eligible. On March 25, 2010 HP staff requested that MoDOT District 5 staff do an alternatives analysis and initiate public involvement for the project. A Section 106 Memo was submitted to the SHPO on June 16, 2011, and on June 29, 2011 the SHPO concurred with MoDOT’s recommendation that Bridge H0119 is National Register eligible and that the project will have an “adverse effect” on the historic property. A two-party MOA with stipulations for mitigation would be drafted for review by all signatories, and the project would be covered under a nationwide Programmatic Section 4(f) Evaluation. The first MoDOT core team meeting was held for the project on June 21, 2011. A public meeting was held at Tuscumbia on July 12, 2011. From July 21 through September 15, 2011, the historic bridge was advertised for adaptive reuse at a new location. (Appendix B and C).

#### IV. Description of the Historic Property

Built in 1925, it consists of a steel, six-panel, rigid-connected, Pratt through truss with two Warren pony truss approach spans. The main span is 120 feet long, and the total bridge length is 288 feet. It is supported on steel-reinforced concrete abutments, wingwalls, and dumbbell piers. The roadway width is 20 feet curb-to-curb. The 1996 Missouri Historic Bridge Inventory originally listed 90 of this type built in the state prior to 1951. In 2008 their numbers had dwindled to 55, and several more have been replaced since then. H0119 is one of the older surviving members of this truss type in the state with only 12 older currently in existence. It is considered a good example of Missouri State Highway Department truss design in the 1920s, and is considered to be eligible for inclusion to the National Register under Criterion C in the area of Engineering. Replacement of this bridge is considered an "adverse effect" and will require a Memorandum of Agreement (MOA) stipulating mitigation. (Appendices C and E).

**V. Adverse Effect on the Historic Property**

This project proposes to replace the historic Saline Creek Bridge with a new structure on existing alignment. The bridge is eligible for the National Register, and this action constitutes an "adverse effect" to the structure as described in 36 CFR 800.3 (b) (1) (4) of the National Historic Preservation Act.

**VI. Summary of Alternative Courses of Action**

The alternative courses of action considered for this project include a no-build option, and four build options: 2) rehabilitation of the existing structure, 3) complete bridge replacement on the existing alignment and profile, and 4 & 5) new bridge on new alignment and profile to the east or west of the existing alignment. (Appendix D).

The **no-build** alternate would result in continued deterioration of the bridge. Keeping it in service would require periodic repairs, and occasional unplanned load postings in addition to existing postings, and/or bridge closures for extended periods. The frequency of this work would increase as the bridge ages. The concrete bridge deck is another area of concern; it will require complete replacement in the next 3 to 5 years. Based on historical data, the average maintenance repair cost would be about $3,500 per year. This cost would increase each year as the structure continues to deteriorate. Also, the load posting would be lowered as the structure continued to deteriorate. This option does not satisfy the project objectives and would eventually result in permanent bridge closure.

**Rehabilitation** of the existing structure (estimated cost $750,000) would extend the service life by 5 to 7 years but would not eliminate the current regular maintenance closings. The concrete deck would require complete replacement. Rehabilitation would include superstructure and substructure repair and repainting of all structural steel. Extensive rehabilitation of this scale would be impractical in light of the cost for future additional rehabilitations, and the frequency of this work would increase as the structure ages. Current estimates indicate that an extensive rehabilitation would require bridge closure for about 5 months. The estimated cost would likely increase as additional needed repairs are identified during construction. Rehabilitation would partially satisfy the project objectives by temporarily improving the deck and superstructure National Bridge Inventory Condition Rating. However, rehabilitation would not address safety or functional deficiencies since the deck is confined by the bridge truss and cannot be widened to meet current standards, nor can the truss be strengthened to carry current design loads.

**Complete replacement with a new bridge on existing alignment** (estimated cost $ 982,000 + roadway) would provide long-term benefits. The new structure would have a 28-foot-wide roadway and meet current load standards. Rebuilding the bridge in place would require closing Route 17 for approximately 3 months. This option would result in the least environmental impact of any of the replacement options. It also would require the least right-of-way purchases, mitigation expenses, and approach roadway construction.

**Complete replacement with a new bridge on new alignment on** **the east side** (estimated cost $1,857,000) would provide long-term benefits. The new structure would have a 28 foot wide roadway and meet current load standards. Building on the east would minimize the closure of Route 17. However, this option would result in significant environmental impact to adjacent wetlands. This option would require significant right-of-way purchases, mitigation expenses, and approach roadway construction.

**Complete replacement with a new bridge on new alignment on** **the west side** (estimated cost $1,897,000) would provide long-term benefits. The new structure would have a 28 foot wide roadway and meet current load standards. Building on the east would minimize the closure of Route 17. However, this option would result in significant environmental impact to adjacent wetlands. This option would require significant right-of-way purchases, mitigation expenses, and approach roadway construction.

**Conclusions:** The environmental impacts associated with rehabilitation and new construction along the existing alignment would have the least environmental impact. Conversely, the environmental impacts would be quite significant if traffic was maintained on the existing structure while one of the options was built along new alignment.

Rehabilitation would satisfy the project objective of eliminating the structural condition rating deficiencies and associated high maintenances needs. However, it would only gain 5 to 7 years of service life, and over time, this option could be far more expensive than the estimated $750,000. Additionally, rehabilitation would address the structural deficiencies, but not address the safety or functional deficiencies.

Completely replacing the existing bridge with a similar structure on the existing alignment would satisfy the project objectives of eliminating all condition, safety, and functional deficiencies. With an estimated cost of $1,458,000, complete replacement on existing alignment would be the most reasonable and Preferred Option.

Replacing the existing structure with a new bridge on new alignment to the east or west would satisfy the project objectives of eliminating all condition, safety, and functional deficiencies. With an estimated construction cost of $1,857,000 and $1,897,000 respectfully, these are not the most reasonable options. Additional cost from environmental impacts and right of way purchases would make them not financially feasible.

### VII. Proposed Action

The proposed actions for the mitigation of the “adverse effect” to the Saline Creek Bridge H0119, archival documentation and advertisement for reuse, are described in the Stipulations of the Memorandum of Agreement, which this document accompanies.

**VIII. List of Appendices**

1. Location Maps and Plans for the Saline Creek Bridge Project
2. Public Involvement
3. Correspondence
4. Alternatives Analysis
5. Photographs of the Saline Creek Bridge

[Appendices not included here]