Introduction

During Phase II of the Local Historic Bridge Study, completed in 2014, Local Historic Bridge Reports were prepared for all known locally-owned historic bridges in the State, and included both “full reports” and “abridged reports. The bridge reports detailed the following items: historic background of the structures and description of the character defining features; detailed planned/ recently completed work (abridged reports); existing conditions, recommended stabilization and recommended preservation efforts (full reports); and recommended maintenance activities (full reports and most abridged reports). The Local Historic Bridge Report can be found at [http://www.dot.state.mn.us/historicbridges/browse.html](http://www.dot.state.mn.us/historicbridges/browse.html) along with other historic reports for this bridge.

This addendum to the original Local Historic Bridge Report for Bridge 1461 describes the preservation work completed since preparation of the original report, provides a description and photographs of the current condition, and details recommended maintenance, stabilization and preservation activities as well as their associated costs.

Bridge 1461, a single-span steel, pin-connected Pratt camelback through-truss, was erected in 1901. It spans the Blue Earth River at County Road 147 in rural Shelby Township, Minnesota and is owned by Blue Earth County. The bridge is a significant example of the work of engineer Lawrence Henry Johnson and is one of few extant Camelback trusses in the state. It is also significant for its association with transportation development in Blue Earth County during the Progressive Era.

Rehabilitation of Bridge 1461 (re-assigned as R0753), completed in 2016, replaced the substructures and altered the function of the superstructure to be supported by four steel beams. To the extent feasible, the work was planned and completed in accordance with the Secretary of the Interior’s Standards; however the addition of steel beams and railing resulted in a finding of adverse effect to the visual character of the bridge. This adverse effect was determined to not be enough to cause the bridge to become ineligible for the National Register, therefore the bridge’s National Register Listing and historic status remains. Any future work on Bridge R0753 should proceed according to the 2014 Local Historic Bridge Report, this Addendum, and the Secretary of the Interior’s Standards for the Treatment of Historic Properties (Standards) [36 CFR part 67] and *The Secretary’s Standards with Regard to Repair, Rehabilitation, and Replacement Situations*, as adapted by the Virginia Transportation Research Council (Guidelines).
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Background

Bridge 1461, or the Dodd Ford Bridge, a single-span steel, pin-connected Pratt camelback through-truss, was erected in 1901. It spans the Blue Earth River at County Road 147 in rural Shelby Township, Minnesota and is owned by Blue Earth County. The bridge is a significant example of the work of Lawrence Henry Johnson, an engineer important to the history of bridge building in Minnesota, and for its design and construction as one of few extant Camelback trusses in the state. It is also significant for its association with transportation development as an example of the unprecedented government funding of public works projects in Blue Earth County that occurred during the Progressive Era. It represents the culmination of Blue Earth County’s effort to provide a vital transportation link between the growing city of Amboy and the farming community it served.

The timber-decked truss had been posted to 3-tons since 1980. Due to the diminished load carrying capacity and deteriorating condition of the stone masonry abutments, the structure was slated for demolition and replacement. It was eventually closed in May of 2009 to all traffic due to continual deterioration and public safety concerns. The bridge was listed on the National Register of Historic Places in October of 2009. Through a joint effort between local residents, preservation groups and Blue Earth County, a solution was eventually reached which allowed the Bridge to remain in its original location as well as carry modern traffic loads.

This solution included replacement of the stone masonry abutments with reinforced concrete abutments and altering the function of the superstructure with a reinforced concrete deck (original deck was timber) supported by four steel beams rather than the original steel truss. A vehicular railing that also accommodates pedestrian use of the bridge replaced the existing steel angle railing. To the extent feasible, the work was planned and completed in accordance with the Secretary of the Interior’s Standards; however the addition of steel beams and railing resulted in a finding of adverse effect to the visual characteristic of the bridge. This adverse effect was determined to not be enough to cause the bridge to become ineligible for the National Register.

Due to the finding of adverse effect, a Memorandum of Agreement (MOA) was signed by the State Historic Preservation Office (SHPO) and Blue Earth County. The MOA outlines agreed-upon measures that the agency will take to avoid, minimize, or mitigate the adverse effect. The terms of the project-specific MOA required the County to produce and provide for approval Level II MHPR photographs of the bridge and site prior to proceeding with any rehabilitation work. The County was required to consult with the Dodd Ford Bridge Preservation Society and the Historic Bridge Foundation to develop an Interpretive Amenities Plan which could potentially provide a recreational boat landing and use stone masonry and timber from the original bridge abutments and deck. Additionally, the County was required to prepare a bridge maintenance plan to be reviewed for approval by US Army Corps of Engineers (USACE) and SHPO.

Work Completed

A rehabilitation of Bridge 1461 (now R0753) was funded with a combination of State Bridge Bond Funds and Local Funds. The project was completed in 2016. Plans for the rehabilitation were prepared by SEH Inc. for Blue Earth County. All work was coordinated with the MnDOT Cultural Resources Unit, the
I - Work Completed  Bridge Number: R0753 (1461)

MnDOT State Aid Bridge Unit, the US Army Corps of Engineers (USACE) and the State Historic Preservation Office (SHPO). Correspondence with SHPO regarding the compliance of the planned work with SOI Standards can be found in Appendix A of this report.

Construction began in 2015 and was completed in 2016 (MnDOT S.A.P. 007-598-024). The general contractor was Kraemer North America of Burnsville, Minnesota. Following construction, the bridge was assigned a new bridge number due to its change in structure type from a steel high truss to a continuous steel beam span. The rehabilitation included the following:

- The truss was lifted from the abutments and stored/rehabilitated onsite.
  - The steel bearings, floorbeams, stringers and other miscellaneous floor system members were removed.
  - Two diagonal members of the east truss were straightened.
  - Iron wire tie wraps were secured at each intersection of diagonal members in the center three bays of the trusses (8 locations per truss) to prevent them from slapping together.
  - Missing or damaged rivets were replaced with dome (or button) headed bolts (24 fasteners indicated on plan).
  - The pins at L0, L1, L8 and L9 of each truss were to be examined and replaced if deemed necessary after removal of existing bearings. Similarly, the eyebars between the above listed sets of pins were to be examined thoroughly and considered for replacement.
    - During the rehabilitation work, it was determined by the engineer that the pins did not need to be replaced.
    - The ends of the eyebars at the bearing pins in the northwest, southwest and southeast corners were repaired by removing the existing end and welding a new 1-inch-diameter rod to the remaining eyebar.
      - The northeast eyebar had been previously repaired and was not modified with this rehabilitation.

- The existing stone masonry abutments were removed and replaced with new pile-supported, reinforced-concrete abutments.
  - A form liner was used to create a stone pattern on the concrete abutment to resemble stone masonry. The textured concrete surface was also painted to resemble local limestone stones and grouted mortared stone masonry joints.
  - Class V (2-foot-6-inch diameter) riprap was added to the bridge slopes.

- New I-beams were placed on the reinforced-concrete abutments.
  - The use of four closely spaced beams allowed for the shallowest depth of beam possible to minimize their visual impact.
  - These beams replaced the truss as the load carrying system for the structure and removed the fracture critical designation of the bridge.
  - Due to the higher load-carrying capacity of the beams, the rehabilitation allowed for most cars, trucks, and tractors to use the bridge. Vertical clearance remains restricted by the truss portals.
  - Beams were specified as unpainted weathering steel intended to, in time, take on a similar color as the truss. Except for faying surfaces (surfaces in contact with other steel elements)
of new steel at connections and the end 7 feet of the beams and diaphragms at the abutments (excluding the fascia surface), no other painting was performed on existing or new steel elements.

- The truss was placed on the new reinforced-concrete abutments.
  - New bearings were installed and the truss lower chord was braced to the facia of the new I-beams at each panel point.
  - The truss continues to support its own weight but does not support the concrete deck or bridge pedestrian and vehicular live loads.

- A reinforced-concrete deck was placed on the new I-beams.
  - For durability and strength, the deck was provided as reinforced concrete in lieu of timber.
  - The scale of the deck was designed to not overwhelm or otherwise detract from the visual appearance of the steel truss.

- The original two-line steel angle railing, which was attached to the truss, was replaced with a steel railing anchored to the concrete deck and set inside of the truss.
  - The new vehicular railing meets TL-2 crash testing requirements and is 3 feet 6 inches high to accommodate pedestrians.
Minnesota Department of Transportation (MnDOT)
Local Historic Bridge Report - Addendum after Rehabilitation

II - Rehabilitated Conditions  Bridge Number: R0753 (1461)

Existing Conditions

Available information concerning Bridge R0753 (formerly 1461), including bridge rehabilitation plans and bridge inspection reports, were reviewed prior to visiting the bridge site. The current MnDOT Bridge Inspection report and Structure Inventory Report can be found in Appendix B of this addendum. A site visit was conducted by LHB, Inc. on October 12, 2017. The site visit was conducted to establish the following:

1. General condition of structure
2. Conformation to available rehabilitation plans
3. Bridge geometry, clearances and notable site issues

General Description

Bridge R0753 (formerly 1461) carries County Road 147 over the Blue Earth River and is owned by Blue Earth County. The bridge is a 148-foot-6-inch single span steel beam structure with a reinforced concrete deck. The original truss and the new 4 steel beam superstructure bear on new concrete abutments. The truss carries only its self-weight and is braced to the new fascia beams of the steel beam superstructure at each truss panel point. There is a 3-foot-6-inch-high structural tube railing anchored to the deck, which lies between the original trusses, resulting in a single-lane bridge with a clear deck width of 13 feet 6 inches. The abutments are reinforced concrete faced with a stone-patterned form liner.

General Condition

Bridge R0753 is in good condition and appears to adequately serve its purpose of carrying vehicular and pedestrian traffic. The bridge is currently open with no apparent load posting restrictions from legal loads. The vertical clearance on the bridge deck is restricted to 15 feet 6 inches, which is the height of the bottom of the end portal from the top of the concrete deck.

Rehabilitated Condition by Element

Reinforced-Concrete Abutments

The new concrete abutments are in good condition. There were no visible areas of concrete deterioration (cracking, spalling, etc.), scour, or undermining observed. The abutments were placed new in 2016.

Bridge Slopes

The bridge slopes are stable. During the 2016 rehabilitation work, all disturbed slopes received class V riprap. The riprap along the north abutment appears to be placed below water level and was not visible. This location was not accessed or probed due to water levels. The riprap along the south abutment appears to be settled and/or silted in. Here, the slope/streambank appears stable with some vegetation growing on the silted area and no signs of scour.
II - Rehabilitated Conditions

Steel Beams & Bearings
The steel beams were placed new in 2016 and are in good condition. The beam bearings were not visible during the inspection due to access limitations, but are assumed to also be in good condition.

Steel Truss & Bearings
The steel truss is in fair condition. Minor section loss was observed as well as some warped or bent bottom chord and diagonal members. The previous member encasement repairs to the east truss remain in place. The paint system on the truss is completely failed and was not replaced with the 2016 rehabilitation. The rehabilitation straightened select truss members, but several members remain bent. Also, some members were tied together to reduce the movement and slack in the tension members due to the lessened load on the truss. The original truss bearings were removed and replaced. The new bearings are in good condition.

Reinforced Concrete Deck
The reinforced concrete deck was placed in 2016 and is in good condition. Full width hairline cracks were observed on the deck surface that were spaced approximately 10 feet apart. No other cracking, spalling or delamination of the concrete was observed. There are expansion joints on both ends of the deck containing rubber glands. Gravel and debris has accumulated and filled the glands of the joints.

Structural Tube Railing and Chain Link Fence
The structural tube railing and chain link fence were placed in 2016 and are in good condition. No defects were observed. The structural tube railing is located on the bridge deck and the chain link fence is installed along the top of the wingwalls.

Bituminous Approach Roadway
New bituminous approaches were placed in 2016. The bituminous surface is in good condition with no cracking, settlement or other signs of deterioration observed. The roadway transitions from bituminous to gravel 100 feet beyond the south end of the bridge.
II - Rehabilitated Conditions  Bridge Number: R0753 (1461)

Photo 3: North Abutment and Slopes

Photo 4: Northeast Wingwall and Slope
Photo 5: South Abutment and Slopes

Photo 6: South Abutment
Minnesota Department of Transportation (MnDOT)
Local Historic Bridge Report - Addendum after Rehabilitation

II - Rehabilitated Conditions

Bridge Number: R0753 (1461)

Photo 7: Bridge Beams (looking north)

Photo 8: Bridge Beams (at south abutment)
II - Rehabilitated Conditions

Bridge Number: R0753 (1461)

Photo 9: Truss Pin connection

Photo 10: Truss Lower Chord Eyebars
II - Rehabilitated Conditions  

Bridge Number: R0753 (1461)

Photo 11: Southeast Truss Bearing (typical)

Photo 12: Southeast Truss Bearing (typical)
Photo 13: Bridge Deck (typical condition)

Photo 14: Typical Crack in Deck
Minneapolis Department of Transportation (MnDOT)
Local Historic Bridge Report - Addendum after Rehabilitation

II - Rehabilitated Conditions  Bridge Number: R0753 (1461)

Photo 15: Debris in Deck Joint (north shown, south similar)

Photo 16: Bridge Railing
Minnesota Department of Transportation (MnDOT)
Local Historic Bridge Report - Addendum after Rehabilitation

II - Rehabilitated Conditions

Bridge Number: R0753 (1461)

Photo 17: North Approach (looking north)

Photo 18: South Approach (looking south)
Overall Recommendations

This bridge report addendum assesses the maintenance, stabilization and preservation needs of this structure. The maintenance activities, along with regular structural inspections and anticipated bridge component replacements, are routine practices directed toward continued structure serviceability and asset preservation. Stabilization activities address immediate needs identified as necessary to maintain a bridge’s structural and historic integrity and serviceability and should be performed as soon as possible. Preservation activities are near-term or long-term steps that need to be taken to preserve, and in some cases, restore a bridge’s structural and historic integrity and serviceability. In assessing preservation activities, a design life of 20 years or longer is typically considered.

Bridge R0753 (1461) is currently open to vehicular and pedestrian traffic. The recommendations that follow assume the structure’s use will remain the same.

Recommended Inspections

The rehabilitation of Bridge R0753 (1461) was completed in the fall of 2016. In addition to standard inspection protocol and procedures which should be undertaken for a bridge of this type, the following inspections should be performed to more acutely monitor the condition of the bridge’s historic elements. Inspections should be performed in accordance with recommendations found in this Local Historic Bridge Report Addendum and current MnDOT requirements in the most recent version of MnDOT’s Bridge Inspection Field Manual.

Prior to conducting the inspection, the Bridge Inspection Team Leader (BITL) should review the Local Historic Bridge Report and this Addendum to become familiar with the significance of the bridge, its character-defining features, and details of the recent rehabilitation. Specific elements of the historic bridge to pay close attention to are described below.

After completing the inspection, the inspector should note any condition issues that pertain to the bridge’s historic features within the inspection report. If repairs are recommended to the bridge’s character-defining features or historic fabric, the BITL should consult with the MnDOT Cultural Resources Unit (CRU) for advice on repair methods that meet the Secretary of the Interior’s (SOI) Standards by emailing CulturalResources.dot@state.mn.us.

Steel Truss Condition

The steel truss condition should be reviewed during the routine bridge inspection to track its condition. The current inspection form does not have an element to track the condition of the truss. It is recommended to update the inspection form to accommodate monitoring of this element.

The truss no longer supports the load for which it was designed; therefore some of the lighter tension members (lower chord and diagonal members) now have some slack (or less tension) in them. Ties have been added in select locations to mitigate the tendency for the diagonal members to slap together under wind loading or other events. Existing bent members should be inventoried, and the truss should be monitored each year for changes in these conditions. Should additional deformations or abrasions from
vibrations occur to the truss members they should be mitigated with additional bracing or securing of members.

The truss currently does not have a protective paint system. Corrosion of the steel truss members should be monitored to ensure the level of corrosion remains as minor surface corrosion. Should advanced or severe corrosion be observed, further investigation to determine cause and potential corrective action would be warranted.

Additionally, fasteners of the truss should be monitored. The 2016 rehabilitation replaced all missing rivets and bolts. Should additional fasteners be found missing, the cause should be investigated. Any fastener replacement should be made with button head bolts, with the nut facing the least visible surface.

**Recommended Annual Maintenance Activities**

1. Due to the presence of minor cracks in the deck surface, it is recommended to seal the surface of the deck on a consistent interval. Many silane sealer products will seal surfaces with cracks up to 0.012 inches (12 mils) in width so at this time application of a silane sealer is recommended. The silane sealer product should contain a minimum of 40% solids. This activity is assumed to be performed on an approximate 5-year cycle.

   Should routine inspections find that the cracks are opening to a width where the selected product will no longer be effective, maintenance activities should be revised to a more appropriate means of crack sealing such as use of epoxy crack sealers.

2. Clean the abutment sills, bearings and steel truss members of accumulated debris. Remove any debris that can hold moisture against the steel or concrete.

**Recommended Stabilization Activities**

There are no stabilization items recommended for this bridge at this time.

**Recommended Preservation Activities**

There are no preservation items recommended for this bridge at this time.
Summarized Maintenance, Stabilization and Preservation Construction Cost Estimate
It is important to recognize that the work scope and cost estimates presented herein are based on a limited level assessment of the existing structure. In moving forward with future project planning, it will be essential to undertake a detailed structure assessment addressing the proposed work for the structure. It is also important that any future preservation work follow applicable preservation standards, prioritizing rehabilitation and repair of in-place structure elements in lieu of replacement. This includes any elements which may be preliminarily estimated for replacement within the work scope of this report. Only through a thorough review of rehabilitation and repair options and comprehensive structural and historic assessment can a definitive conclusion for replacement of historic fabric be formed.

The opinions of probable construction and administrative costs provided below are presented in 2017 dollars. These costs were developed without benefit of a detailed, thorough bridge inspection, bridge survey or completion of preliminary design for the estimated improvements. The estimated costs represent an opinion based on background knowledge of historic unit prices and comparable work performed on other structures. The opinions of cost are intended to provide a programming level of estimated cost. These costs will require refinement and may require significant adjustments as further analysis is completed in determining the course of action for future structure improvements. A 20 percent contingency allowance has been included in the annual maintenance cost estimate. A 20 percent contingency and 7 percent mobilization allowance have been included in the construction cost estimates.

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<td>Opinion of Construction Cost- Preservation Activities</td>
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## Maintenance, Stabilization & Preservation Cost Estimate (2017 Dollars)

### Bridge No. R0753 (1461)

December 7, 2017

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**Estimated Maintenance Costs:** $1,176.00

**Estimated Stabilization Costs:** $0.00

**Estimated Preservation Costs:** $0.00
Appendix A.  SOI Standards Compliance Correspondence
Operations
Regulatory (2009-00205-DAS)
State Aid Project 07-598-24
SHPO No. 2012-1121

Ms. Sarah Beimers
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Boulevard West
St. Paul, Minnesota 55102-1906

Dear Ms Beimers:

We are evaluating a revision to a permit application submitted by the Blue Earth County Highway Department for rehabilitation of Bridge 1461, the Dodd Ford Bridge. The bridge carries County Road 147 over the Blue Earth River, Township 105 North, Range 28 West, Section 27, Blue Earth County, Minnesota.

Bridge 1461 is listed in the National Register of Historic Places. It is significant in the areas of transportation and engineering and it has been documented in the Historic American Engineering Record (HAER No. MN-73). Bridge 1461 was constructed in 1901 and is a single-span steel, pin-connected, Pratt through-truss in a camelback configuration. It is located in rural Shelby Township in Blue Earth County.

In February of 2012, the Corps, in consultation with SHPO, reviewed proposed plans for the Dodd Ford Bridge to be rehabilitated as a pedestrian bridge. At that time, the Corps and SHPO concurred that the proposed plans would have no adverse effect on Bridge 1461. Since that time, the County has developed a different approach that will rehabilitate the Bridge so that it can accommodate vehicular traffic. This revised approach has been developed in consultation with the public and is especially well liked by the residents who will be able to use the bridge again.

Bridge 1461 was not designed to carry the weight of twenty-first century vehicles. In order to increase the load rating to accommodate modern vehicular traffic and at the same time keep the design and structure of the historic truss, the County proposes to alter the substructure. The County proposes to place four metal I-beams, set into the abutments and spanning the Blue Earth River, to support the truss. The MnDOT Bridge Office required the four beam design to prevent the bridge from being classified as fracture critical. The County further proposes to
provide crashworthy railings that are appropriate for pedestrian use of the Bridge. The railings will be set inside the frame of the truss.

The County proposes to repair components of the truss and preserve it as a one lane bridge. The project will have minimal repairs to the truss and it will continue to operate as a truss in that it will support its own weight and carry loads it was designed to carry. When the truss needs to carry heavier loads, additional supports will compress and those loads will be transferred to the I-beams. Sheet B1 of the plans addresses the repairs identified in notes 1 and 2 including straightening two diagonal rods in the east truss and tying the intersection of cross diagonals with several wraps of iron wire to prevent them from slapping together. Sheet B2 identifies the repair rather than replacement of an existing portal knee brace angle member. There is also an allowance to replace up to 24 missing bolts with button head bolts. The proposed plans also call for replacement of the deck and the existing safety railing; however neither of those is original to the bridge. Enclosed, please find a set of the current proposed plans.

The proposed I-beams and railings represent impacts to the appearance of the Dodd Ford Bridge. The Secretary of the Interior's Standards provide guidance for analyzing the impact of a rehabilitation project on a property's integrity through seven aspects or qualities: location, setting, association, materials, workmanship, design, and feeling.

The proposed I-beams and railings will not affect the bridge’s integrity of location, setting, or association. The bridge will remain on a rural Blue Earth County road in the same location and alignment as when it was built. Bridge 1461 is significant for its engineering and the design of the camelback truss will not be altered. The components of the truss structure, including the bearings, will be repaired or replaced, in kind, before the truss is set back in place so the integrity of materials as well as workmanship of the truss will remain intact.

With the aspects of location, setting, association, materials, workmanship, and design intact, the feeling, or the historic sense of a past period of time, of the Dodd Ford Bridge will also remain intact.

According to the Historic Iron and Steel Bridges in Minnesota, 1873-1945, Multiple Property Documentation Form (MPDF): The superstructure is the most important feature of iron and steel bridges and neither an original substructure nor an original deck and guardrail system are necessary for the bridge to be eligible. The MPDF goes on to say that replacement substructure or deck components must be of such scale and composition that they do not overwhelm or otherwise detract from a clear visual impression of the iron or steel frame of the superstructure and its function. The County made several design decisions and secured variances from the state in order to minimize the visual impact of the I-beams and railing and preserve the visual impression of the truss. These include a reduction in required beam depth and choosing a metal railing rather than concrete crash barriers.

The decision to use four beams closely spaced permitted the shallowest depth steel beams possible to minimize the visual impact. The beam depth selected, with the proposed four beam configuration, is below the minimum depth required by AASHTO for live load deflection control.
on a span of this size. The size variance was allowed by the state in this case, because the bridge is in a low traffic volume area and will remain a single lane bridge. In addition to reducing the beam depth, the design calls for the beams to be placed under the deck slab as far in as possible to keep them in the shadow of the deck to further reduce their visual impact. The beams are also partially obscured from sight by the existing truss bottom chord which is lower than the top of the beams. Although the beams look large when viewed on the plans, only approximately 34 inches of the 45 inch deep beams will show below the bottom chord of the truss. The beams will also be unpainted weathering steel that will, over time, take on a similar color as the truss.

Regarding the railings, the County is well aware that even though this is a one lane vehicular bridge, pedestrians will continue to use the bridge as they have for several generations. The four rail option was selected to provide a pedestrian safe railing height. A two rail option would have been less visually intrusive, but would not have been high enough for safe pedestrian use. The open metal railing was selected over a solid concrete parapet type barrier to best align with the horizontal members of the truss and to meet minimum safety standards.

The addition of the I-beams and crashworthy railing will impact the appearance of the historic Dodd Ford Bridge. We have determined that the proposed plans will result in an adverse effect to the visual characteristics of the Dodd Ford Bridge. However, this adverse effect to the substructure is not enough to cause the bridge to become ineligible for the National Register.

In elevation, the beams and the railing appear substantially heavier than the members of the historic truss. The proposed plan represents a compromise between closing the bridge to preserve it in place and strengthening the substructure to allow the bridge to continue to function. The strengthened substructure and safety system will allow for continued use of the bridge and were designed to not overwhelm or otherwise detract from a clear visual impression of the steel truss superstructure.

Please review the enclosed documentation and provide us with your comments within 30 days of receipt of this letter. We have also enclosed a first draft of an MOA for your review. If you have any questions about this determination, please contact Linda Pate at (651) 290-5970. If you have questions concerning the project, contact Eric Hanson at (651) 290-5386. In any correspondence or inquiries, please refer to the Regulatory number shown above.

Sincerely,

Tamara E. Cameron
Chief, Regulatory Branch

Enclosures
Operations Regulatory (2009-00205-DA5)
December 31, 2014

Tamara Cameron, Regulatory Branch Chief
US Army Corps of Engineers - St. Paul District
180 5th Street East, Suite 700
St. Paul MN 55101

RE: 2009-00205-DAS, SAP 07-598-24
Rehabilitation of Bridge 1461, Dodd Ford Bridge
T105 R28 S27, Blue Earth County
SHPO Number: 2012-1121

Dear Ms. Cameron:

Thank you for continuing consultation on the above project. Information received on 2 December 2014 has been reviewed pursuant to the responsibilities given by the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the Advisory Council on Historic Preservation (36CFR800).

The Dodd Ford Bridge (Bridge 1461) is listed in the National Register of Historic Places (NRHP) under Criterion A (transportation) and Criterion C (engineering). In early 2012, we reviewed and concluded consultation with your agency regarding the rehabilitation project of the Dodd Ford Bridge for pedestrian use. At that time, we determined that the project had been designed in conformance to the Secretary of the Interior’s Standards for Rehabilitation (Standards) and therefore would not adversely affect the historic property.

You have now indicated that the project plans have changed and the bridge is proposed to be rehabilitated for both vehicular and pedestrian use. Based upon our review of the engineering plans and description of work, we concur with your determination that the project, as currently proposed, has not been designed in conformance with the Standards and will therefore have an adverse effect on the historic property. We agree with your agency’s determination that the reasons for this adverse effect determination is that the proposed rehabilitation for vehicular use will require installation of a new substructure comprised of four (4) massive I-beams with rebuilt bridge abutments and wing walls. The proposed use will also require the existing wooden deck to be replaced with a concrete deck, and for continued safe utilization as a pedestrian bridge, a significant crash railing is proposed to be installed.

While both of these alterations will adversely affect the historic property, we agree with your determination that all engineering options for avoiding the adverse effect have been considered and that there is no practicable alternative for the specific proposed bridge use. While we believe that the adverse effect has been somewhat minimized through careful engineering of the remaining rehabilitation scope of work items, which include in-kind repairs and selective in-kind replacement of damaged truss elements and preservation of the bridge crossing in its original location and setting, we
agree with your agency’s determination for continuing consultation regarding resolution of the adverse effects and development of a Memorandum of Agreement which will outline stipulations for mitigation.

Pursuant to 36 CFR 800.6, your agency should now notify the Advisory Council on Historic Preservation (ACHP) regarding this adverse effect determination and invite their participation in consultation. Also, as we move into consultation to resolve adverse effects, you will need to reengage consulting parties identified previously and invite other interested individuals or organizations to become consulting parties. We suggest that your agency seek to engage the following organizations which have been actively involved in the preservation of this historic bridge: the Historic Bridge Foundation, the Amboy Area Community Club, and the Blue Earth County Historical Society.

Although you have indicated that this alternative bridge rehabilitation plan has been "developed in consultation with the public", we have not been provided specific information regarding public involvement in project development thus far. Also, the regulations clearly indicate the importance of notifying the public upon determination of adverse effects and the importance of offering a level of public involvement in the resolution of adverse effects. Please provide specific information regarding your agency’s efforts in regards to public involvement through design development, and plans to involve the public from this point forward.

We look forward to continuing consultation on this project. Please feel free to contact me if you have any questions or concerns regarding our comment letter. I can be reached at 651-259-3456 or sarah.beimers@mnhs.org.

Sincerely,

Sarah J. Beimers, Manager
Government Programs and Compliance

cc: Brad Johnson, U.S. Army Corps of Engineers
    Linda Pate, U.S. Army Corps of Engineers
Appendix B. Current MnDOT Inspection Report & Structure
Inventory Report
## MINNESOTA BRIDGE INSPECTION REPORT

**BRIDGE R0753 OR 147 OVER BLUE EARTH RIVER**

**INSP. DATE: 10-03-2016**

**County:** BLUE EARTH  
**City:**  
**Township:** SHELBY  
**Section:** 27 Township: 105N Range: 28W

**Span Type:** CSTL BEAM SPAN  
**NBI Deck:** 9  
**Super:** 9  
**Sub:** 9  
**Chan:** 9  
**Culv:** N  
**Open, Posted, Closed:** OPEN

### Appraisal Ratings - Approach: 6  
**Waterway:** 9  
**MN Sour Code:** L-STBL-LOW RISK  
**Def. Stat:** F.O.  
**Suff. Rate:** 81.0  
**Required Bridge Signs - Load Posting:** NOT REQUIRED  
**Traffic:** NOT REQUIRED  
**Horizontal:** NOT REQUIRED  
**Vertical:** NOT APPLICABLE

### ELEM NBR  ELEM NAME  INSP. DATE  QUANTITY  QTY CS 1  QTY CS 2  QTY CS 3  QTY CS 4

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</table>

**Notes: 2015 - No presence of protected species living on this structure was observed.**

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General: The January 1st, "dummy" inspection was created by the MnDOT Bridge Office --- THIS IS NOT AN ACTUAL FIELD INSPECTION.

Bridge 1461 was closed in 2008. New footings, substructures, and superstructure built in 2018 with the majority of the truss
for Bridge 1461 placed on this new bridge. A new bridge number (R0753) was assigned on 09/12/2016. The record for Bridge 1461 will be archived and Bridge R0753 will be added to the bridge inventory.
## MINNESOTA STRUCTURE INVENTORY REPORT

**Bridge ID:** R0753  
**CR 147 over BLUE EARTH RIVER**  
**Date:** 12/08/2017

### General
- **Agency Br. No.:** 37  
- **District:** 7  
- **County:** 07 - BLUE EARTH  
- **City:**  
- **Township:** SHELBY  
- **Desc. Loc.:** 0.7 MI NE OF JCT CSAH 40  
- **Sect., Twp., Range:** 27 - 105N - 28W  
- **Latitude:** 43d 52m 34.72s  
- **Longitude:** 94d 11m 16.13s  
- **Custodian:** COUNTY  
- **Owner:** COUNTY  
- **Inspection By:** BLUE EARTH COUNTY  
- **Year Built:** 2016  
- **MN Year Remodeled:**  
- **FHWA Year Reconstructed:**  
- **Bridge Plan Location:** COUNTY  
- **Potential ABC:** N.A.

### Structure
- **Service On:** HIGHWAY  
- **Service Under:** STREAM  
- **Main Span Type:** CSTL BEAM SPAN  
- **Main Span Length:** 148.5 ft  
- **Structure Length:** 153.0 ft  
- **Deck Width:** 17.0 ft  
- **Deck Material:** C-P CONCRETE  
- **Wear Surf Type:** MONOLITHIC CONC  
- **Wear Surf Install Year:** 2016  
- **Wear Course/Fill Depth:** 0.16 ft  
- **Deck Membrane:** NONE  
- **Deck Rails:** EPOXY COATED REBAR  
- **Main Span Length:** 148.5 ft  
- **Structure Length:** 153.0 ft  
- **Number of Spans:** MAIN: 1  
- **APPR: 0**  
- **TOTAL: 1**

### Roadway
- **Bridge Match ID (TIS):** 1  
- **Roadway O/D Key:** 1-ON  
- **Route Sys/No:** CNTY 147  
- **Road Name:** CNTY 147  
- **National Highway System:** N  
- **Roadway Function:** MAINLINE  
- **Roadway Type:** 1 LN;2 WAY  
- **Control Section (TH Only):**  
- **Ref. Point:**  
- **Date Opened to Traffic:** 07-05-2016  
- **Detour Length:** 4 mi.  
- **Lanes:** 1 Lane ON Bridge  
- **ADT (YEAR):** 115 (2005)  
- **HCADT:**  
- **Functional Class:** RURAL LOCAL  
- **If Divided:** NB-EB SB-WB  
- **Roadway Width:** 13.5 ft  
- **Vertical Clearance:**  
- **Max. Vert. Clear.:**  
- **Horizontal Clear.:** 13.4 ft  
- **Lateral Clr. - L/R:**  
- **Appr. Surface Width:** 13.5 ft  
- **Bridge Roadway Width:** 13.5 ft  
- **Median Width on Bridge:**  

### Bridge Data +
- **Structure Flared:** NO  
- **Parallel Structure:** NONE  
- **Field Conn. ID:**  

### Safety Features
- **Bridge Railing:** 1-MEETS STANDARDS  
- **GR Transition:** N-NOT REQUIRED  
- **Appr. Guardrail:** N-NOT REQUIRED  
- **GR Terminol:** N-NOT REQUIRED  

### Inspection
- **Deficient Status:** F.O.  
- **Sufficiency Rating:** 81.0  
- **Last Inspection Date:** 10-03-2018  
- **Inspection Frequency:** 24  
- **Inspector Name:** BLUE EARTH COUNTY  
- **Status:** A-OPEN  

### NBI Condition Ratings
- **Deck:** 9  
- **Superstructure:** 9  
- **Substructure:** 9  
- **Channel:** 9  
- **Culvert:** N

### NBI Appraisal Ratings
- **Structure Evaluation:** 9  
- **Deck Geometry:** 2  
- **Underclearances:** N  
- **Waterway Adequacy:** 9  
- **Approach Alignment:** 6

### In Depth Inspect.
- **Frac. Critical:** N  
- **Underwater:** N  
- **Pinned Asby.:** N

### Waterway
- **Drainage Area:** 1,330.9 sq mi  
- **Waterway Opening:** 2238 sq ft  
- **Navigation Control:** NO PRMT REGD  
- **Pier Protection:**  
- **Nav. Vert./Horz. Clr.:**  
- **Nav. Vert. Lift Bridge Clear:**  
- **MN Scour Code:** L-STBL:LOW RISK  
- **Scour Evaluation Year:** 2013

### Capacity Ratings
- **Design Load:** HL 93  
- **Operating Rating:** RF 2.66 (HL-93)  
- **Inventory Rating:** RF 1.96 (HL-93)  
- **Posting:**  
- **Posting Date:** 10-03-2016  
- **Overweight Permit Codes:** A.1 B.1 C.1

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*Image*