



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

87 Deacon Road
Fredericksburg, VA 22405

Charles A. Kilpatrick, P.E.
COMMISSIONER

March 25, 2016

Ms. Julie V. Langan, Director
ATTN: Mr. Marc Holma, Office of Review and Compliance
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

Action Required: Determination of Effect
VDOT Project: 0673-053-082; UPC 105898 (Featherbed Lane Bridge)
VDHR File: 2015-0356
County: Loudoun County
Funding: Federal

Dear Mr. Holma:

As you are aware, the Virginia Department of Transportation (VDOT) is proposing to rehabilitate the Rte 673 (John G. Lewis) bridge (No. 6051) over Catoctin Creek in Loudoun County. The VDOT anticipates federal funding and the potential for a Corps of Engineers (COE) permit for this project, and on behalf of the Federal Highway Administration (FHWA), is coordinating this undertaking with your department and other consulting parties in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800. In July 2015, we coordinated the results of VDOT's efforts to identify historic properties within the project's area of potential effects (APE). This letter constitutes a formal request for concurrence with our determination of effect for this project.

Description of the Area of Potential Effects

The APE is defined as the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36 CFR 800.16(d)). Specifically, the APE for direct effects to archaeological resources was based on a conceptual understanding of the possible limits of construction, ground disturbance, and ROW acquisition that would enclose the area of direct effects, extending 200-ft on either side of the existing roadway and for a distance of 500-ft from either end of the bridge.

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The APE for indirect effects to architectural resources was defined as the area capturing any architectural resources whose setting or feeling might be affected by changes to their viewshed resulting from the project. A graphic depiction of the APE for archaeological and architectural resources can be found in the Phase I cultural resources report (July 2015: Figures 1 and 8) previously submitted to the Virginia Department of Historic Resources (DHR) and consulting parties.

Consulting Parties

In accordance with 36 CFR 800.2(a)(4) and 800.2(c), the FHWA and the VDOT have involved the following consulting parties in the findings made under the Section 106 process:

- Loudoun County
- John Caron, Featherbed Lane resident
- Jenn Blose, Featherbed Lane resident
- Nancy J. Doane, Featherbed Lane resident
- Martha A. Clagett, Featherbed Lane resident
- David Gottesman, Featherbed Lane Resident
- Gareth and Shauna Spurlock, Featherbed Lane residents
- Barbara J. and William A. Zenner, Featherbed Lane residents
- Patrick Ryan, Featherbed Lane Resident
- David Nelson, Taylorstown Resident
- JoEllen Keating, Waterford Citizens Association
- Lori Kimball, Loudoun Preservation Society
- Patti Psaris, Catoclin Scenic River Advisory Committee
- Joan Linhardt, Taylorstown Community Association
- Alfred VanHuyck, Loudoun County Preservation and Conservation Coalition
- Dan Holmes/Julie Bolthouse, Piedmont Environmental Council
- Rich Gillespie, Mosby Heritage Area Association
- Margaret K. Good, The Waterford Foundation
- Mitch Diamond, Loudoun County Heritage Commission
- Nathan Holth, www.HistoricBridges.com administrator
- Kitty Henderson, Historic Bridge Foundation
- MaryAnn Naber, Advisory Council on Historic Preservation

The FHWA and VDOT held meetings with consulting parties on the project on March 26, 2015; July 23, 2015; September 16, 2015; and February 23, 2016. The focus of the **March 2015 meeting** was to: introduce the undertaking to the consulting parties, discuss the current condition of the structure (including number and location of identified cracking that may have resulted from the prior metallization of the structure), discuss VDOT's anticipated efforts to identify historic properties within the project's APE, discuss several preliminary proposed options for bridge rehabilitation/replacement, and identify issues of concern about the proposed bridge rehabilitation among the consulting parties. The presentation materials were previously distributed to your office.

During the **July 2015 meeting**, the VDOT presented an update on the efforts to identify cultural resources in the APE, presented information/revisions to Options 1, 2, 3, and 5, and introduced Option 2A. Revisions made to the proposed options were in response to comments received from consulting parties during and following the March 2015 meeting. The VDOT also introduced Option 7, presented a cost comparison of replacement vs.

refurbishment/strengthening of the existing bridge, and a summary of findings from previous bridge inspections since 2003. The VDOT also reviewed the existing bridge conditions, addressed questions pertaining to structural issues, and discussed potential actions to avoid or minimize harmful impacts to the historic truss. The VDOT explained the metallization and embrittlement processes and explained that the bridge cannot be restored because of the numerous cracks throughout the structure and that additional cracking in non-replacement members is likely. The consulting parties requested that VDOT eliminate from consideration Options 4, 5, 6, and 7. A copy of the minutes of this consulting party meeting has been previously distributed to your office.

At the **September 2015 meeting**, the VDOT distributed revised descriptions for Options 1, 2, 2A, 3 and 5 that maintain or incorporate the existing truss. Revisions made to the proposed project options were in response to comments received from consulting parties during and following the July 2015 meeting. The VDOT generally reviewed existing bridge conditions and addressed questions pertaining to structural issues. In response to the consulting parties' desire to implement the Option that preserved the NRHP eligibility of the bridge, the VDHR agreed to provide a preliminary opinion to the VDOT and consulting parties concerning which Option (1, 2, 2A, or 3) would preserve enough of its design and materials to retain its NRHP eligibility.

At the **February 2016 meeting**, the VDOT reviewed with the group that the VDHR responded that, in their opinion, Option 2A was the only option forwarded to them that preserved adequate design and materials of the bridge to retain its NRHP eligibility. The VDOT explained that a full restoration/rehabilitation of the structure could expand the cost of the project to approximately \$10 million and that potential fracture critical members would still remain in use, thereby not addressing the safety need for the project. A discussion of utilizing 1-pier vs. 2-piers was conducted, and VDOT agreed to explore the use of 2 piers in order to minimize the visual impacts of any new steel beams beneath the bridge. The VDOT indicated that it may be possible to connect the truss to the new floor beams for the truss to carry a portion of the live load. VDOT described the anticipated schedule for the remaining Section 106 process. The VDOT anticipated submitting an effects recommendation within the next 30 days which will be transmitted to the VDHR and consulting parties for review and comment. The consulting parties are concerned about five issues that the VDOT should address: 1) Accumulation of debris in the river near any proposed piers; 2) Deteriorating road conditions on approaches; 3) Condition of any construction staging areas; 4) Restoration of any adjacent environment after construction; and 5) Current roadway drainage. The VDOT addressed these concerns during the discussion. A copy of the minutes of this consulting party meeting has been distributed to your office.

Identification of Historic Properties

The DHR has concurred with the VDOT that one historic property is located within the project APE. The John G. Lewis Bridge (**053-0131**) is a single span, iron Pratt truss bridge constructed in 1889 by Variety Iron Works. It was relocated to its current location in 1932 and placed in the National Register of Historic Places in 1974 due to its state level significance in the areas of engineering (Criterion C) and transportation (Criterion A) during the twentieth century. Its period of significance is 1889-1932. Incidentally, Historic American Engineering Record (HAER) level documentation was prepared for the bridge in 1994.

Effects on Historic Properties

In accordance with 36 CFR 800.5(a), the VDOT has applied the criteria of adverse effect to historic properties within the project's APE. The regulations implementing Section 106 of the National Historic Preservation Act define an effect as an "alteration to the characteristics of a historic property qualifying it for inclusion in or eligible for the National Register" [36CFR800.16(i)]. The effect is adverse when the alteration of a qualifying characteristic occurs in a "manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" [36CFR800.5(a)].

John G. Lewis Bridge (Structure 6051/DHR No. 053-0131)

The John G. Lewis Bridge carries Featherbed Lane over the Catoctin Creek and is oriented roughly east-west. This bridge is a single-span, through Pratt truss bridge, measuring 157-ft long and 12-ft wide, carrying a single lane of traffic. The trusses are composed of nine panels each. Ashlar stone and poured concrete characterize the abutments. This bridge was originally built ca. 1889 and carried the Leesburg and Alexandria Turnpike over Goose Creek. In 1932 the bridge was moved from that location and relocated to its present site. This bridge is a representative example of a well-known late nineteenth century bridge type that was once popular across Virginia. The bridge was listed in the NRHP in 1974 in relation to Criterion A (Transportation) and Criterion C (Engineering). The period of significance is 1889-1932. The limits of the historic property encompass the bridge itself.

The bridge is not without a number of alterations over time. In addition to the bridge being dismantled and moved to its present location in 1932, the stringers were replaced in 1967. A major rehabilitation of the structure was performed in 2003 and included the following improvements: truss joints were retrofitted; several truss bracings were replaced; both portals were repaired at U1 and U8; a continuous guardrail was added across the bridge; the bridge was metalized; two eye-bar members were replaced; the bridge decking was replaced; knee braces were replaced; the top strut at U7 was replaced; diagonal members at U4L5 and U5L4 were replaced; several lacing bars were replaced; several upper lateral bracing members were replaced; missing bolts and rivets were replaced; stone masonry abutments were capped and pointed; and Roller-type bearings were replaced.

The undertaking proposes to meet the purpose and need of the project by restoring the bridge to a minimum 15-ton load capacity by installing new 2-span continuous (80'-80') steel beams underneath the existing floor system (Option 2A). A new glulam timber deck and new abutments are proposed as well. The existing truss members will be retained, and the truss will carry its own self-weight (dead load). The present bridge width will be retained and the existing top transverse truss members will be maintained. The bridge is anticipated to be underpinned by 1 or 2 new concrete piers. The bridge will not be moved from its present alignment. The undertaking also proposes to further strengthen the structure and replace only the replaceable cracked truss components. Mr. Gary Runco, VDOT District Bridge Engineer, indicates that there may be up to 15-21 cracks in existing truss components.

As discussed in the preceding section a significant number of alterations to the structure have been made since its construction. Some of the most notable are the removal from

its original location along Rte 7 in eastern Loudoun County to the western portion of the county along Featherbed Lane, the metallization of the structure (which may have contributed to its current cracking), and the replacement of stringers, a number of bracing members, decking and railing, and several truss members (including lateral bracing, top strut, and diagonals). There has been prior diminishment of the bridge's integrity of materials and workmanship with prior rehabilitation actions. When considering previous and proposed alterations, the bridge will still maintain a majority of its original components. The VDOT believes that the undertaking may alter but not diminish integrity of materials and workmanship that have already been diminished. Integrity of historic setting, location, and association have also been previously diminished to the point of not being able to convey the bridge's significance with the moving of the structure in 1932. Additionally, the NRHP nomination form mentions its current rural setting prominently; however, it is not likely that the bridge's significance is conveyed by its current setting as the structure was moved in 1932 from its original turnpike location. The VDOT believes that the undertaking will somewhat alter the design of the bridge by disconnecting the trusses from the floor system, but the form, scale, plan, structure, and style of the design will remain intact and will still be conveyed to the casual observer on the bridge. The VDOT also believes that there will be no alteration or diminishment of integrity of feeling as the bridge's aesthetic and historic character will remain intact. Overall, the VDOT believes that the proposed undertaking will alter aspects of the bridge (design, materials, workmanship), but not diminish those aspects due to existing conditions that have already resulted in the diminishment of historic integrity. Important characteristics of the bridge will be maintained such as; trusses, structure style, form, and a majority of its original materials.

The VDOT believes that it has been responsive to comments received from consulting parties in identifying means to minimize the potential impacts of the undertaking, and the VDOT recognizes that the historical nature of the bridge is of concern to the local community. The VDOT agrees to voluntarily commit to fulfilling conditions on this finding of No Adverse Effect in order to ensure that adverse effects continue to be avoided for the project. The VDOT commits to stipulating that the 1974 NRHP nomination form be updated to reflect the existing condition of the bridge. The VDOT recognizes that the appearance of any new piers and abutments should be sensitive to the surrounding landscape. Any new piers and abutments are anticipated to be characterized by faux-stone architectural treatment with a color scheme that matches the existing bridge abutments, and the pattern of the faux-stone treatment will be similar to Virginia Drystack. The VDOT commits to minimizing as much as possible the design depth of any new continuous-span steel beams placed under the deck in order to reduce visual impacts to the bridge. The VDOT will also replace only the replaceable cracked truss components in order to strengthen the existing truss. The VDOT will provide 60% and 90% bridge design plans to the DHR and consulting parties for review and comment for the purpose of verifying VDOT's fulfillment of these commitments. Given these commitments, the VDOT has determined that there will be an effect by this project on the John G. Lewis Bridge (Structure 6051/DHR No. 053-0131), but that effect will not be adverse.

The VDOT invites you to review the enclosed information and concur with our recommendation by signing the signature block below and returning the original signature to my attention within 30 days. This letter is also being provided to the consulting parties copied below to allow them the opportunity to comment on VDOT's recommendation within 30 days of receipt. If you or any of the consulting parties have any questions about

this project, please do not hesitate to contact me at (540) 654-1737
or Raymond.Ezell@vdot.virginia.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Raymond Ezell". The signature is fluid and cursive, with the first name "Raymond" written in a larger, more prominent script than the last name "Ezell".

Raymond Ezell, RPA
District Archaeologist

Enclosure

cc: Heidi Siebentritt, Loudoun County Department of Planning
Julie Pastor, Loudoun County Department of Planning
Sup. Geary Higgins, Loudoun County Board of Supervisors
Lori Kimball, Loudoun Preservation Society
Patti Psaris, Catoclin Scenic River Advisory Committee
Joan Linhardt, Taylorstown Community Association
Alfred VanHuyck, Loudoun County Preservation and Conservation Coalition
Dan Holmes, Piedmont Environmental Council
Rich Gillespie, Mosby Heritage Area Association
David Nelson, Taylorstown Resident
Margaret K. Good, The Waterford Foundation
Nancy J. Doane, Featherbed Lane resident
Jenn Blose, Featherbed Lane resident
Martha A. Clagett, Featherbed Lane resident
John Caron, Featherbed Lane resident
Gareth and Shauna Spurlock, Spurlock Equine Associates
Barbara J. and William A. Zenner, Featherbed Lane residents
Mitch Diamond, Loudoun County Heritage Commission
Nathan Holth, www.HistoricBridges.com administrator
Kitty Henderson, Historic Bridge Foundation
MaryAnn Naber, Advisory Council on Historic Preservation
John Simkins, Federal Highways Administration

cc:/file105898

CONCURRENCE

VDOT Project No.: 0673-053-082; UPC 105898 (Featherbed Lane Bridge); VDHR File: **2015-0356**.

The Virginia Department of Historic Resources (DHR) concurs with the Virginia Department of Transportation's (VDOT) determination that:

the John G Lewis Bridge (Featherbed Lane) project will have **No Adverse Effect** upon the John G. Lewis Bridge (Structure No. 6051/DHR No. 053-0131), provided that VDOT fulfills its commitments, described above, to: reduce the depth of design, to the extent possible, of any new continuous steel beams beneath the deck in order to minimize any visual impacts to the bridge; replace the replaceable cracked truss components to strengthen the structure; update the 1974 NRHP nomination form to reflect the existing condition of the bridge; and design any new bridge piers and abutments to be characterized by faux-stone architectural treatment with a color scheme that matches the existing bridge abutments, and the pattern of the faux-stone treatment will be similar to Virginia Drystack. The VDOT shall provide 60% and 90% bridge design plans to the VDHR and consulting parties for review and comment for the purpose of verifying VDOT's fulfillment of these commitments.

Ms. Julie V. Langan
Director, Virginia Department of Historic Resources
Virginia State Historic Preservation Officer

Date