



U.S. Department  
of Transportation

**Federal Highway  
Administration**

West Virginia Division

Geary Plaza, Suite 200  
700 Washington Street, East  
Charleston, West Virginia 25301  
Phone (304) 347-5928  
Fax (304) 347-5103

June 19, 2013

**IN REPLY REFER TO:**  
Federal Project BR-0041 (059)E  
State Project S210-41-0.01  
Thomas Buford Pugh Bridge  
Freshwater Mussel Relocation  
Fayette County

David P. Bodnar, P.E.  
Acting Director – Engineering Division  
West Virginia Division of Highways  
Charleston, West Virginia 25305

Dear Mr. Bodnar:

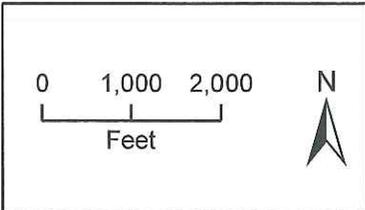
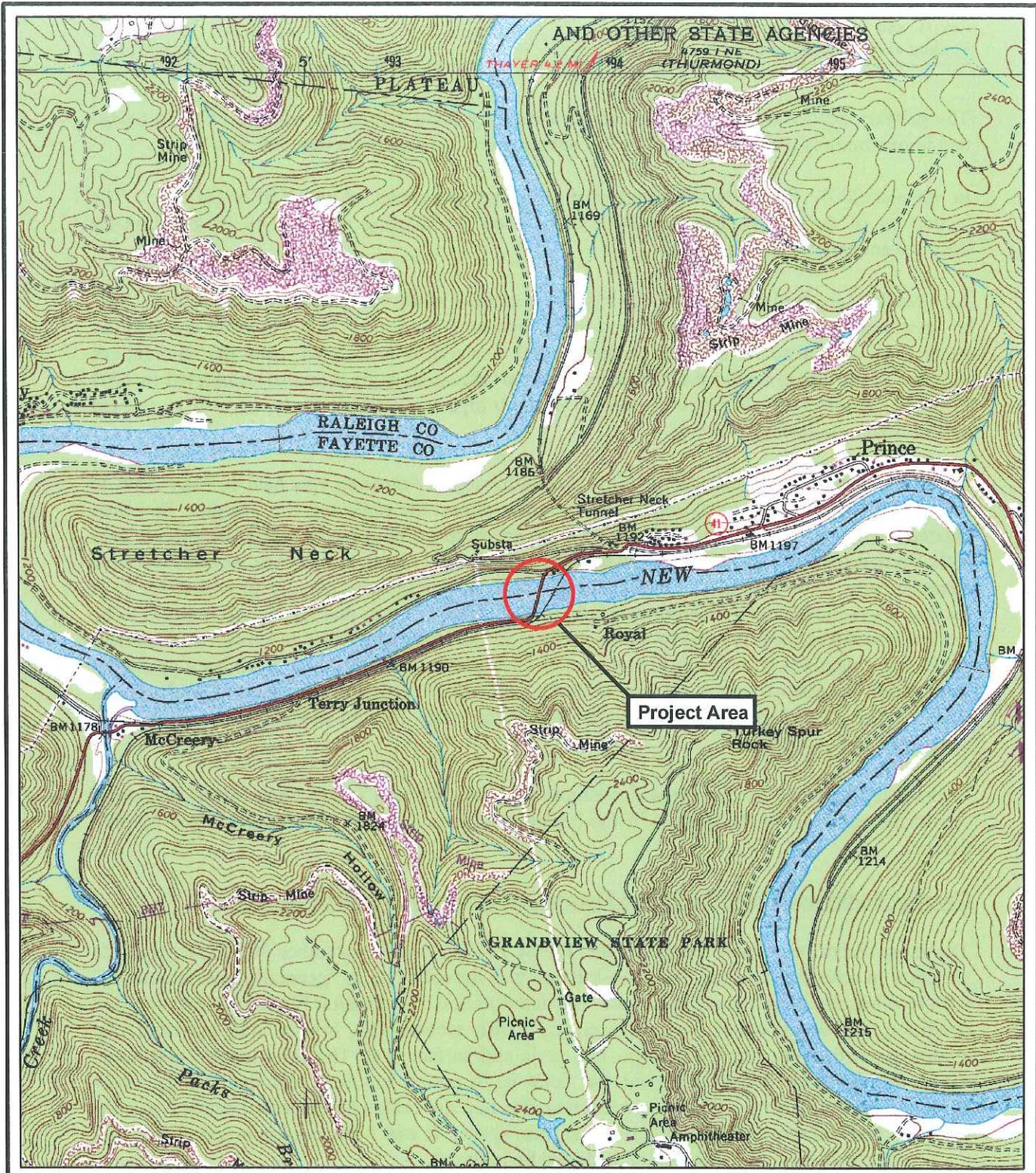
Enclosed please find a copy of the approved Categorical Exclusion (CE) for the above referenced project. Should you have any questions regarding the enclosed information, please contact me at (304) 347-5436 or via email at [alison.rogers@dot.gov](mailto:alison.rogers@dot.gov).

Sincerely yours,

Alison M. Rogers  
Environmental Protection Specialist

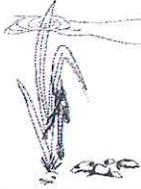
Enclosure





**Figure 2**  
**Project Area Map**  
 Environmental Assessment  
 Thomas Buford Pugh Memorial Bridge Replacement  
 Fayette and Raleigh Counties, West Virginia

Sources: Prince & Thurmond, WV  
 USGS 7.5 Minute Quadrangles



# Ecological Specialists, Inc.

1417 Hoff Industrial Drive • O'Fallon, MO 63366  
Voice: 636.281.1982 • Fax: 636.281.0973  
www.ecologicalspecialists.com



## **Pugh Bridge Mussel Relocation Scope of Work**

This is Ecological Specialists, Inc.'s work plan to conduct a unionid (freshwater mussel) relocation for a proposed bridge construction in the New River near Prince, West Virginia in Lafayette and Raleigh Counties for the West Virginia Department of Highways (WVDOH). The project involves construction of a new bridge and demolition of the old bridge and includes two temporary causeways to be installed within the river. A mussel study conducted in 2010 indicated that unionids are present in the areas within approximately 15 m of the left descending bank (RDB) and 30m of the right descending bank (RDB). No endangered species were observed and only two live species (*Actinonaias ligamentina* and *Cyclonaias tuberculata*) were collected.

Ecological Specialists, Inc. understands that the unionid relocation area includes a buffer of 15 m (50 ft.) upstream of the existing bridge and downstream of the proposed bridge. This area is approximately 64 m (210 ft.) long (upstream to downstream) and 175 m (570 ft) wide (average width of river; see Figure). We understand this area includes all in-stream activity for this project including causeway work platforms.

Since unionids were concentrated along the banks, we propose focusing relocation efforts in these areas. Along both banks, approximately 10 m wide corridors will be established using weighted transects placed upstream to downstream and parallel with the bank. The area of concentration (where unionids were found in the 2010 survey) will be within 30m of the LDB and 50 m of the RDB. The bank and transects will be marked every 10 m creating 10 m X 10 m sections. The substrate in each section will be searched while diving or snorkeling, moving aside cobble and woody debris, clearing silt, sand and/or small detritus, and disturbing/probing the upper 8 cm of substrate to better retrieve all live unionids present. Live unionids collected will be retained in mesh bags in river water until processing and relocation. Several sampling passes will be conducted in each area until < 5% of the number of live unionids collected on the original pass are recovered on the final pass. A different collector will complete a final quality assurance pass. All unionids will be identified to species, counted, and recorded as adult or juvenile. Each species will be photographed. Data will be recorded on standard WVDNR data sheets.

No live unionids were found beyond the banks in 2010 and habitat appears less suitable towards the river center. This area will be searched for unionids, but not as intensively as along the banks. If suitable unionid habitat is observed, more time will be spent searching these areas.

Five-thousand (5,000) of the unionids collected will be marked with unique-numbered flexible polyethylene Hallprint tags and moved to the Monongahela River. The WVDNR will move the unionids after being tagged and may assist in

Ecological Specialists, Inc.

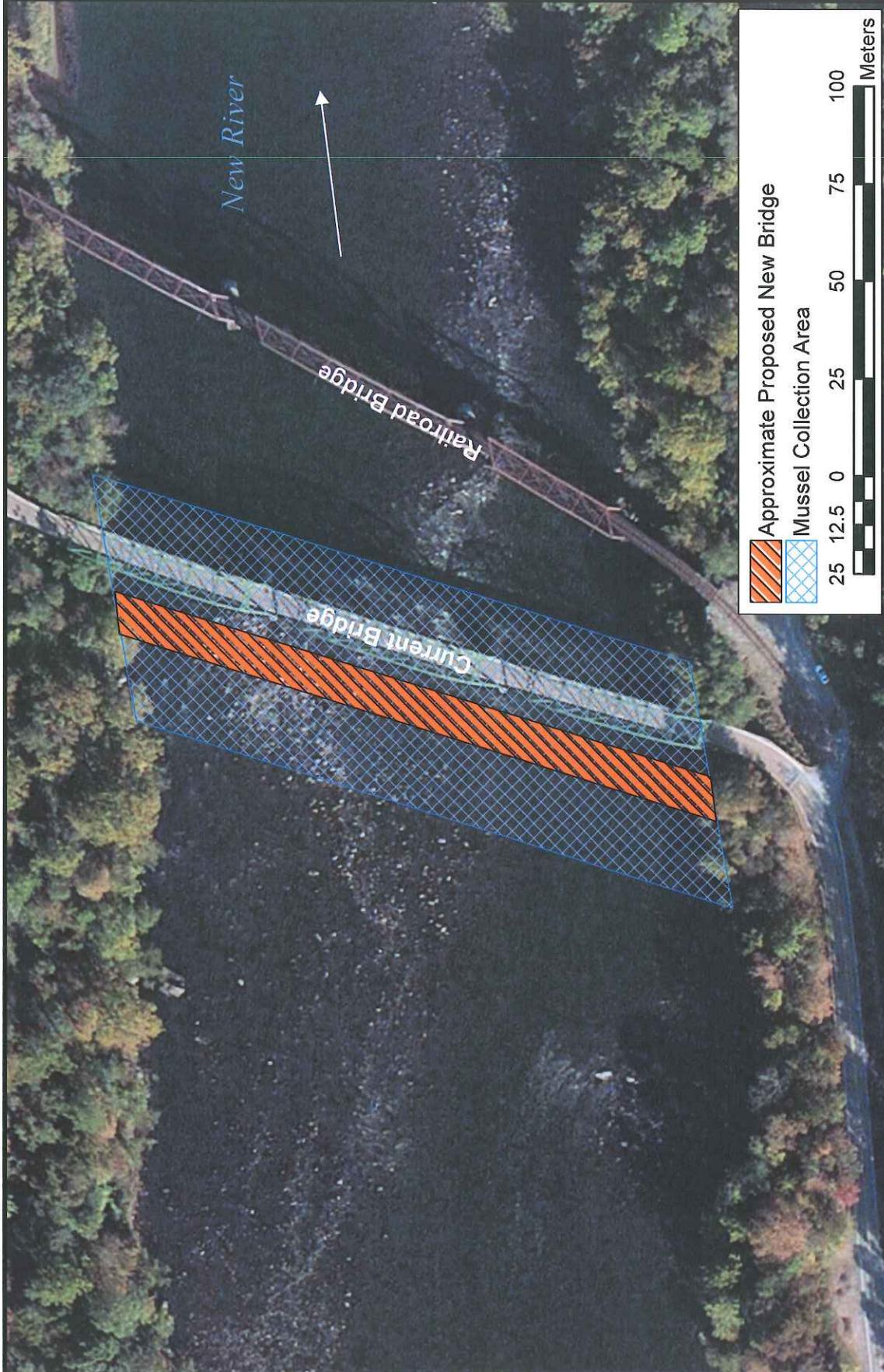
1417 Hoff Industrial Dr. • O'Fallon, MO 63366 • Voice: 636.281.1982 • Fax: 636.281.0973

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tagging. For the remaining unionids, a relocation site will be selected that is upstream of the project area. The unionid habitat within this area will be of equal or better quality to that of the collection area or be an area approved by the WVDNR. The relocation area will be delineated and surveyed to evaluate habitat and estimate unionid density and species abundance. GPS coordinates will also be recorded around the perimeter of the relocation area.

We estimate this effort will require a maximum of 10 field days with an eight-person crew (3 malacologists, 3 divers, and 2 tenders / technicians): one day for locating and surveying the relocation area, five days for the RDB, 3 days for the LDB, and 1 day for the middle section. If two WVDNR personnel are provided to mark unionids, one less tender / technician would be needed. The estimated time is based on two assumptions: 1) spending approximately 1 min per 1 m<sup>2</sup> of relocation area along the banks, which we think is the minimum needed to properly search and retrieve as many unionids as reasonably possible; and 2) processing approximately 1,000 unionids per collection crew (2 crews, 2,000 a day) based on an estimated number of up to 20,000 unionids within the study area. Since the relocation is an extensive effort, and the New River is a smaller stream, precipitation can cause acute increases in flow creating unfavorable and/or unsafe sampling conditions, as can thunderstorms. Therefore, we divided the fieldwork into 2 5-day trips. We attempted to estimate the maximum time needed, so it is possible the work can be completed in one trip and fewer days.

Mussel surveys in West Virginia may not be conducted after October 1 or before May 1. Fieldwork can begin as soon as field conditions are suitable (low flow, water temperature > 40°F. Upon approval from WVDOH, a permit amendment will be needed from WVDNR and a letter of approval will be needed from USFWS. A report detailing findings will be prepared within 120 days of completing the survey and relocation.



**ECOLOGICAL  
SPECIALISTS, INC.**

Approximate freshwater mussel collection area in the New River near Prince, West Virginia.

**ESI**  
ecologicalspecialists.com



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

**Division of Highways**

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin  
Governor

Paul A. Mattox, Jr., P. E.  
Secretary of Transportation/  
Commissioner of Highways

April 30, 2013

MEMORANDUM

Mr. John Schmidt-Acting Supervisor  
US Fish and Wildlife Service  
694 Beverly Pike  
Elkins, West Virginia 26241

Dear Mr. Schmidt:

State Project S310-41-0.01 02  
Federal Project N/A  
Thomas Buford Pugh Bridge  
Fayette and Raleigh County

The WVDOH plans to replace the Thomas Buford Pugh Bridge at Prince, WV. The bridge carries WV-41 over the New River in New River Gorge National River (Resource Category 1). This bridge has structural issues that require immediate replacement to ensure continued use of traffic on WV-41 and to reduce the risk of loss of emergency and other critical services to residents on the either side of the New River.

The project design requires in-stream work that will disturb known mussel habitat and requires the relocation of many mussels. A 2010 survey by Dinkins Biological Consulting found two mussel species, mucket (*Actinonaias ligamentina*) and purple wartyback (*Cyclonaias tuberculata*), at the site. No endangered species were found. This survey indicated about 12,000-13,000 mussels, mostly mucket, will need to be moved.

The initial mitigation plan for this project was to relocate mussels within the New River to equal or better habitat according to West Virginia Division of Natural Resources (WVDNR) protocols. Discussions with WVDNR and the National Park Service (NPS) indicate that the New River mucket population is at or near habitat capacity. The WVDOH and WVDNR began discussing the possibility of moving some of the displaced muckets to restoration sites in other West Virginia streams if genetic testing showed that the New River population was similar to those at the other sites. Amy Welsh with West Virginia University, in cooperation with WVDNR and WVDOH, performed the genetic testing and concluded that the New River population was similar to those in the Ohio River (Belleville Pool) and the Monongalia River.

It is proposed that WVDNR obtain 3,000 muckets from the Pugh Bridge site. The mussels will be individually tagged and relocated equally to three restoration sites: 1,000 to the Ohio River at the Head of Blennerhasset Island or the head of Neal Island, 1,000 to the Monongalia River below Opekiska Lock & Dam, and 1,000 to the Monongalia River below

**Hildebrand. Survivorship of relocated mussels will be monitored by WVDNR as part of the ongoing restoration at these sites.**

**The other muckets, and all of the purple wartyback and any other native mussels displaced at the Pugh Bridge site, will be relocated within the New River. One relocation site will have the mussels tagged and monitored during the 1 year post construction and 4 year post construction surveys. The number and location of relocated mussels will be recorded, and this information will be shared with resource agencies to include at least WVDNR and NPS. The bridge replacement disturbed area will be monitored one year after construction is complete and again four years after construction is complete to determine if native mussels have begun to repopulate the disturbed area. Monitoring of relocated mussels and the area disturbed by construction will be the responsibility of WVDNR, although WVDNR and NPS may conduct additional monitoring.**

**Discussions with WVDNR indicate that they believe mussel relocation to the three sites noted above will significantly accelerate ongoing successful restoration efforts. Discussion with WVDNR and NPS indicates that tagging and monitoring of relocated mussels within New River Gorge National River offers significant benefits in terms of evaluating mussel relocation in the New River, especially given the small but persistent threat of a major kill from a chemical train derailment or other potential disaster.**

**Before native species can be relocated outside of the boundaries of New River Gorge National River, NPS management polices require consultation with the US Fish and Wildlife Service. We request your concurrence that relocating a portion of the muckets from the New River to other watersheds will not have a significant impacts to the New River ecosystem. Should you require additional information, please contact Traci Cummings, of our Environmental Section at (304) 558-9678.**

**Very truly yours,**

**Gregory L. Bailey, P.E.  
Director  
Engineering Division**

**By: *Ben L. Hark***

**Ben L. Hark  
Environmental Section Head**

**GLB: Hr**

**Attachments**

**Bcc: DDE, (TC)**

**cc: Deborah Darden, New River Gorge National River; Danny Bennett, WVDNR**

**US Fish and Wildlife Service Project Review Form**

**Re: Re: State Project S340-41-0.01 02  
Federal Project N/A  
Thomas Buford Pugh  
Fayette County**

**DATE 4/30/2013**

**The USFWS concurs that the above mentioned action, to translocate a portion of the mucket population to be displaced by construction of the Thomas Buford Pugh Bridge, will have no significant impacts to the New River other than those we previously noted.**

\_\_\_\_\_  
**Reviewer's signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Field Supervisor**

\_\_\_\_\_  
**Date**

**DOH Project Manager: Traci Cummings**

**Phone: (304)558-9678**

**Please return this form to the following address:**

**West Virginia Division of Highways  
Engineering Division, Environmental Section  
Building 5, Room 450  
1900 Kanawha Boulevard, East  
Charleston, West Virginia 25305**



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

West Virginia Field Office  
694 Beverly Pike  
Elkins, West Virginia 26241

June 4, 2013



RECEIVED  
JUN 07 2013  
ENGINEERING DIVISION  
WV DOH

Gregory Bailey, P.E.  
West Virginia Department of Transportation  
Division of Highways  
1900 Kanawha Blvd., East, Building Five, Room 110  
Charleston, West Virginia 25305-0430

Re: Thomas Buford Pugh Bridge, Fayette and Raleigh Counties

Dear Mr. Bailey:

The U.S. Fish and Wildlife Service (Service) has received your letter dated April 30, 2013, regarding the proposed relocation of non-endangered native freshwater mussels from the New River in association with plans to replace the Thomas Buford Pugh Bridge located in Fayette and Raleigh Counties, West Virginia. These comments are provided pursuant to the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e).

The Service has no objection to the relocation plans as detailed in your letter. No federally endangered mussels have been found during surveys of this area, and no federally endangered species will be affected by the proposed relocation effort. No biological assessment or further section 7 consultation under the ESA is required with the Service for the relocation effort. Should project plans change or amendments be proposed that we have not considered in your proposed action, or if additional information on listed and proposed species becomes available, or if new species are listed or critical habitat is designated, this determination may be reconsidered.

This letter does not alter or supersede any previous comments provided by the Service regarding the development of alternatives to construct the bridge or minimize impacts to fish and wildlife resources. If you have any questions regarding this letter, please contact Ms. Barbara Douglas of my staff, at (304) 636-6586, Ext. 19, or at the letterhead address.

Sincerely,

John Schmidt  
Acting Field Supervisor



**DIVISION OF NATURAL RESOURCES**  
Wildlife Resources Section  
Operations Center  
P.O. Box 67  
Elkins, West Virginia 26241-3235  
Telephone (304) 637-0245  
Fax (304) 637-0250

Earl Ray Tomblin  
*Governor*

Frank Jezioro  
*Director*

September 19, 2012

Mr. Gregory L. Bailey  
Division of Highways  
1900 Kanawha Boulevard, East  
Building Five, Room 110  
Charleston, WV 25305-0430

Dear Mr. Bailey:

We have reviewed our files for information on rare, threatened and endangered (RTE) species and natural trout streams for the area of the proposed highway project:

State Project S210-41-0.01 02  
Federal Project BR-0041(063)E  
Thomas Buford Pugh Bridge  
Fayette & Raleigh Counties

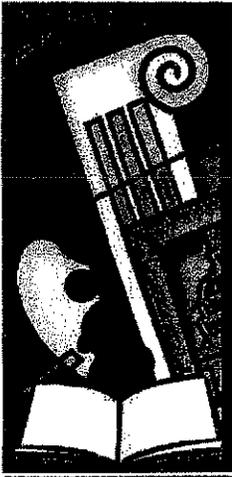
We have no known records of any RTE species or natural trout streams within the project area; however, surveys for freshwater mussels are required prior to any in-stream disturbance. The Wildlife Resources Section knows of no surveys that have been conducted in the area for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the area under review.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, extension 2048.

Sincerely,

A handwritten signature in black ink, appearing to read "Barbara Sargent".

Barbara Sargent  
Environmental Resources Specialist  
Wildlife Diversity Unit



WEST VIRGINIA  
DIVISION OF  
CULTURE & HISTORY

1900 Kanawha Blvd., E.  
Charleston, WV  
25305-0300

Phone 304.558.0220  
Fax 304.558.2779  
TDD 304.558.3562  
www.wvculture.org  
EEO/AA Employer

February 2, 2005

Mr. James E. Sothen  
WV DOH  
Building Five, Room 110  
Capitol Complex  
Charleston, WV 25305

RE: Thomas Buford Pugh Bridge (formerly Prince Bridge)  
State Project S210-41-0.01  
FR#: 04-637-FA-1a

Dear Mr. Sothen

We have reviewed Phase I Archaeological Report for the above mentioned bridge project. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

Archaeological Resources:

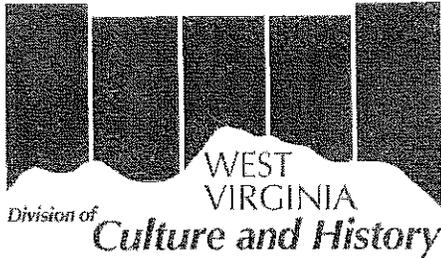
The report addresses our concerns regarding the presence of intact archaeological sites within the proposed project area. Systematic pedestrian and subsurface survey indicated that no intact, alluvial soils with the potential to contain archaeological sites exist within the project area. In addition, no new archaeological sites were identified. Although a recommendation has not been provided, it is our opinion that this project will have no effect to archaeological sites that may be eligible for or included in the National Register of Historic Places. In the future, we ask that you or your consultant provide a recommendation regarding the project's effects to cultural resources.

We appreciate the opportunity to be of service. If you have any questions regarding our comments or the Section 106 process, please contact me at (304) 558-0240

Sincerely,

Lora A. Lamarre  
Senior Archaeologist

RECEIVED  
FEB 04 2005  
ENGINEERING DIVISION  
WV DOH



The Culture Center  
1900 Kanawha Blvd., E.  
Charleston, WV 25305-0300

Randall Reid-Smith, Commissioner

Phone 304.558.0220 • www.wvculture.org  
Fax 304.558.2779 • TDD 304.558.3562

EEQ/AA Employer

August 30, 2012

Mr. Gregory Bailey  
WVDOH  
Building Five, Room 110  
Capitol Complex  
Charleston, WV 25305

RECEIVED  
SEP 05 2012  
ENGINEERING DIVISION  
WV DOH

Re: Thomas Buford Pugh Bridge Replacement  
State Project: S310-41-0.01; Federal Project: BR-0041(059)E  
FR#: 04-637-FA-8

Dear Mr. Bailey:

We have reviewed the above referenced project to determine potential effects to cultural resources. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments:

Architectural Resources

Enclosed please find the signed Memorandum of Agreement (MOA) for the Thomas Buford Pugh Bridge replacement project. Stipulation four has been clarified, as we requested, to ensure that a CD-R of the brochure will be given to the National Park Service and the New River Gorge National River for future use once the initial printing of the brochure has been exhausted. According to Stipulation five, you will continue to consult with this agency and the NPS regarding architectural treatments for the new bridge. We are amenable to this, and again suggest that your agency consider replacing this beautiful, eligible truss bridge that has been a part of this landscape for more than 80 years with a truss bridge. Demolition of this bridge is a significant loss to our transportation history, and it is our opinion that the replacement of this bridge with a truss bridge is reasonable and appropriate. We thank you in advance for giving every consideration to this request. We look forward to continuing consultation and to reviewing the information that will complete the Section 106 process.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Shirley Stewart Burns, Structural Historian, in the Historic Preservation Office at (304) 558-0240.*

Sincerely,

Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/SSB

cc: Richard Segars, New River Gorge National River

Enclosure

**MEMORANDUM OF AGREEMENT  
BY AND AMONG  
THE FEDERAL HIGHWAY ADMINISTRATION,  
THE WEST VIRGINIA STATE HISTORIC PRESERVATION OFFICER, AND THE  
WEST VIRGINIA DIVISION OF HIGHWAYS**

**REGARDING IMPLEMENTATION OF THE THOMAS BUFORD PUGH BRIDGE  
REPLACEMENT PROJECT  
STATE PROJECT #S310-41-0.01  
FEDERAL PROJECT #BR-0041(059)E  
FAYETTE COUNTY, WEST VIRGINIA  
JULY 2012**

**WHEREAS**, the Federal Highway Administration (FHWA), in cooperation with the West Virginia Division of Highways (WVDOH), proposes to replace the Thomas Buford Pugh Bridge, which spans the New River in Fayette County, hereinafter referred to as the Project. The improvements involve the construction of a new bridge; and

**WHEREAS**, the FHWA has determined that the Project will have an adverse effect upon the Thomas Buford Pugh Bridge, a property eligible for the National Register of Historic Places (NRHP); and

**WHEREAS**, the FHWA has consulted with the West Virginia State Historic Preservation Officer (WVSHPO) pursuant to 36 CFR Part 800 Implementing Section 106 of the National Historic Preservation Act; (16 U.S.C., 470f); and

**WHEREAS**, the FHWA has determined that the Project will not effect archaeological properties; and

**WHEREAS**, in accordance with 36 CFR 800.6 (a) (1), the FHWA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination providing the specified documentation, and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR 800.6 (a) (1) (iii);

**NOW, THEREFORE**, the FHWA, the WVSHPO, and the WVDOH, agree that the undertaking will be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

**STIPULATIONS**

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

**Thomas Buford Pugh Bridge**

- I. The Thomas Buford Pugh Bridge will be documented in its present historic setting. The documentation package will include 5"x7" black and white digital prints in

## Thomas Buford Pugh Bridge Replacement

### Memorandum of Agreement

Page 2

accordance with the National Register of Historic Places and National Historic Landmarks Survey Photo Policy Expansion of March 2005. Also, the documentation will be sent to the Fayette County Libraries, National Park Service, and the New River Gorge National River.

- II. A brief history of the structure will be included along with a fully completed West Virginia Historic Property Inventory form and copies of plan sheets and drawings of the bridge from WVDOH bridge files if available.
- III. The WVDOH will provide two historical interpretive markers designed by the National Park Service and placed along the sidewalk of the new bridge. The installation will be made part of the construction contract. The WVSHPO will have an opportunity to review and comment on the historic markers.
- IV. A brochure of the Thomas Buford Pugh Bridge will be developed and distributed to the National Park Service and the New River Gorge National River along with a CD version for future use. The WVSHPO will be given the opportunity to review all educational materials developed for this stipulation.
- V. Architectural treatments such as cut stone facing pattern wingwalls and abutments will be incorporated for the Thomas Buford Pugh Bridge, pending further coordination with the NPS and SHPO.

#### VI. Duration

This MOA will expire if its stipulations are not carried out within five (5) years from the date of its execution. At such time, and prior to work continuing on the undertaking, the FHWA shall either (a) execute a MOA pursuant to 36 CFR 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. Prior to such time, FHWA may consult with other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation X. below. FHWA shall notify the signatories as to the course of action it will pursue.

#### VII. Post-Review Discoveries

If any unanticipated discoveries of historic properties or archaeological sites, including human burial sites and/or skeletal remains, are encountered during the implementation of this undertaking, work shall be suspended in the area of the discovery until the

WVDOH has developed and implemented an appropriate treatment plan in consultation with the WVSHPO pursuant to 800.13 (b).

Thomas Buford Pugh Bridge Replacement

Memorandum of Agreement

Page 3

**VIII. Monitoring and Reporting**

Each year following the execution of this MOA until it expires or is terminated, FHWA shall provide all parties to this MOA a summary report detailing work carried out pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in FHWA's efforts to carry out the terms of this MOA.

**VIV. Dispute Resolution**

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FHWA shall consult with such party to resolve the objection. If FHWA determines that such objection cannot be resolved, FHWA will:

- A. Forward all documentation relevant to the dispute, including the FHWA's proposed resolution, to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- C. FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

**X. Amendments**

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

Thomas Buford Pugh Bridge Replacement

Memorandum of Agreement

Page 4

**XI. Termination**

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation VII, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories. Once the MOA is terminated, and prior to work continuing on the undertaking, FHWA must either (a) execute a MOA pursuant to 36 CFR 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. FHWA shall notify the signatories as to the course of action it will pursue.

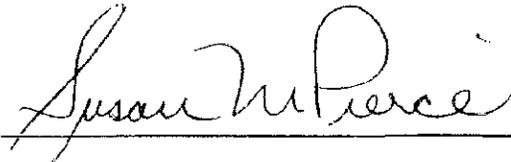
**EXECUTION** of the Memorandum of Agreement by the FHWA, WWSHPO, the WVDOT and the Council, and implementation of its terms evidence that the FHWA has afforded the Council an opportunity to comment on the Thomas Buford Pugh Bridge project and its effects on historic properties, and that the FHWA has taken into account the effects of the undertaking on the historic property.

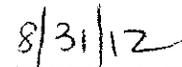
Thomas Buford Pugh Bridge Replacement  
Memorandum of Agreement  
Signatories Page

APPROVED:

\_\_\_\_\_  
Federal Highway Administration

\_\_\_\_\_  
Date

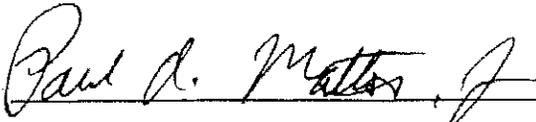


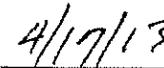


\_\_\_\_\_  
West Virginia Deputy State Historic Preservation Officer

\_\_\_\_\_  
Date

CONCUR:





\_\_\_\_\_  
West Virginia Division of Highways

\_\_\_\_\_  
Date

Thomas Buford Pugh Bridge Replacement  
Memorandum of Agreement  
Signatories Page

CONSULTING PARTY:

*Deborah A. Darden*

\_\_\_\_\_  
National Park Service,  
New River Gorge National River

*7/26/2012*

\_\_\_\_\_  
Date



# Ecological Specialists, Inc.

1417 Hoff Industrial Drive • O'Fallon, MO 63366  
Voice: 636.281.1982 • Fax: 636.281.0973  
www.ecologicalspecialists.com



## **Pugh Bridge Mussel Relocation Scope of Work**

This is Ecological Specialists, Inc.'s work plan to conduct a unionid (freshwater mussel) relocation for a proposed bridge construction in the New River near Prince, West Virginia in Lafayette and Raleigh Counties for the West Virginia Department of Highways (WVDOH). The project involves construction of a new bridge and demolition of the old bridge and includes two temporary causeways to be installed within the river. A mussel study conducted in 2010 indicated that unionids are present in the areas within approximately 15 m of the left descending bank (RDB) and 30m of the right descending bank (RDB). No endangered species were observed and only two live species (*Actinonaias ligamentina* and *Cyclonaias tuberculata*) were collected.

Ecological Specialists, Inc. understands that the unionid relocation area includes a buffer of 15 m (50 ft.) upstream of the existing bridge and downstream of the proposed bridge. This area is approximately 64 m (210 ft.) long (upstream to downstream) and 175 m (570 ft) wide (average width of river; see Figure). We understand this area includes all in-stream activity for this project including causeway work platforms.

Since unionids were concentrated along the banks, we propose focusing relocation efforts in these areas. Along both banks, approximately 10 m wide corridors will be established using weighted transects placed upstream to downstream and parallel with the bank. The area of concentration (where unionids were found in the 2010 survey) will be within 30m of the LDB and 50 m of the RDB. The bank and transects will be marked every 10 m creating 10 m X 10 m sections. The substrate in each section will be searched while diving or snorkeling, moving aside cobble and woody debris, clearing silt, sand and/or small detritus, and disturbing/probing the upper 8 cm of substrate to better retrieve all live unionids present. Live unionids collected will be retained in mesh bags in river water until processing and relocation. Several sampling passes will be conducted in each area until < 5% of the number of live unionids collected on the original pass are recovered on the final pass. A different collector will complete a final quality assurance pass. All unionids will be identified to species, counted, and recorded as adult or juvenile. Each species will be photographed. Data will be recorded on standard WVDNR data sheets.

No live unionids were found beyond the banks in 2010 and habitat appears less suitable towards the river center. This area will be searched for unionids, but not as intensively as along the banks. If suitable unionid habitat is observed, more time will be spent searching these areas.

Three thousand (3,000) of the unionids collected will be marked with unique-numbered flexible polyethylene Hallprint tags, with 1,000 going to the Ohio River and 2,000 going to a restoration site on the Monongahela River. The WVDNR

Ecological Specialists, Inc.

1417 Hoff Industrial Dr. • O'Fallon, MO 63366 • Voice: 636.281.1982 • Fax: 636.281.0973

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will move the unionids after being tagged and may assist in tagging. For the remaining unionids, a relocation site will be selected that is upstream of the project area. The unionid habitat within this area will be of equal or better quality to that of the collection area or be an area approved by the WVDNR. The relocation area will be delineated and surveyed to evaluate habitat and estimate unionid density and species abundance. GPS coordinates will also be recorded around the perimeter of the relocation area.

We estimate this effort will require a maximum of 10 field days with a eight-person crew (3 malacologists, 3 divers, and 2 tenders / technicians): one day for locating and surveying the relocation area, five days for the RDB, 3 days for the LDB, and 1 day for the middle section. If two WVDNR personnel are provided to mark unionids, one less tender / technician would be needed. The estimated time is based on two assumptions: 1) spending approximately 1 min per 1 m<sup>2</sup> of relocation area along the banks, which we think is the minimum needed to properly search and retrieve as many unionids as reasonably possible; and 2) processing approximately 1,000 unionids per collection crew (2 crews, 2,000 a day) based on an estimated number of up to 20,000 unionids within the study area. Since the relocation is an extensive effort, and the New River is a smaller stream, precipitation can cause acute increases in flow creating unfavorable and/or unsafe sampling conditions, as can thunderstorms. Therefore, we divided the fieldwork into 2 5-day trips. We attempted to estimate the maximum time needed, so it is possible the work can be completed in one trip and fewer days.

Mussel surveys in West Virginia may not be conducted after October 1 or before May 1. Fieldwork can begin as soon as field conditions are suitable (low flow, water temperature > 40°F. Upon approval from WVDOH, a permit amendment will be needed from WVDNR and a letter of approval will be needed from USFWS. A report detailing findings will be prepared within 120 days of completing the survey and relocation.





WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

**Division of Highways**

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin  
Governor

Paul A. Mattox, Jr., P. E.  
Secretary of Transportation/  
Commissioner of Highways

April 30, 2013

**MEMORANDUM**

Mr. John Schmidt-Acting Supervisor  
US Fish and Wildlife Service  
694 Beverly Pike  
Elkins, West Virginia 26241

Dear Mr. Schmidt:

State Project S310-41-0.01 02  
Federal Project N/A  
Thomas Buford Pugh Bridge  
Fayette and Raleigh County

The WVDOH plans to replace the Thomas Buford Pugh Bridge at Prince, WV. The bridge carries WV-41 over the New River in New River Gorge National River (Resource Category 1). This bridge has structural issues that require immediate replacement to ensure continued use of traffic on WV-41 and to reduce the risk of loss of emergency and other critical services to residents on the either side of the New River.

The project design requires in-stream work that will disturb known mussel habitat and requires the relocation of many mussels. A 2010 survey by Dinkins Biological Consulting found two mussel species, mucket (*Actinonaias ligamentina*) and purple wartyback (*Cyclonaias tuberculata*), at the site. No endangered species were found. This survey indicated about 12,000-13,000 mussels, mostly mucket, will need to be moved.

The initial mitigation plan for this project was to relocate mussels within the New River to equal or better habitat according to West Virginia Division of Natural Resources (WVDNR) protocols. Discussions with WVDNR and the National Park Service (NPS) indicate that the New River mucket population is at or near habitat capacity. The WVDOH and WVDNR began discussing the possibility of moving some of the displaced muckets to restoration sites in other West Virginia streams if genetic testing showed that the New River population was similar to those at the other sites. Amy Welsh with West Virginia University, in cooperation with WVDNR and WVDOH, performed the genetic testing and concluded that the New River population was similar to those in the Ohio River (Belleville Pool) and the Monongalia River.

It is proposed that WVDNR obtain 3,000 muckets from the Pugh Bridge site. The mussels will be individually tagged and relocated equally to three restoration sites: 1,000 to the Ohio River at the Head of Blennerhasset Island or the head of Neal Island, 1,000 to the Monongalia River below Opekiska Lock & Dam, and 1,000 to the Monongalia River below

Hildebrand. Survivorship of relocated mussels will be monitored by WVDNR as part of the ongoing restoration at these sites.

The other muckets, and all of the purple wartyback and any other native mussels displaced at the Pugh Bridge site, will be relocated within the New River. One relocation site will have the mussels tagged and monitored during the 1 year post construction and 4 year post construction surveys. The number and location of relocated mussels will be recorded, and this information will be shared with resource agencies to include at least WVDNR and NPS. The bridge replacement disturbed area will be monitored one year after construction is complete and again four years after construction is complete to determine if native mussels have begun to repopulate the disturbed area. Monitoring of relocated mussels and the area disturbed by construction will be the responsibility of WVDNR, although WVDNR and NPS may conduct additional monitoring.

Discussions with WVDNR indicate that they believe mussel relocation to the three sites noted above will significantly accelerate ongoing successful restoration efforts. Discussion with WVDNR and NPS indicates that tagging and monitoring of relocated mussels within New River Gorge National River offers significant benefits in terms of evaluating mussel relocation in the New River, especially given the small but persistent threat of a major kill from a chemical train derailment or other potential disaster.

Before native species can be relocated outside of the boundaries of New River Gorge National River, NPS management polices require consultation with the US Fish and Wildlife Service. We request your concurrence that relocating a portion of the muckets from the New River to other watersheds will not have a significant impacts to the New River ecosystem. Should you require additional information, please contact Traci Cummings, of our Environmental Section at (304) 558-9678.

Very truly yours,

Gregory L. Bailey, P.E.  
Director  
Engineering Division

By: *Ben L. Hark*

Ben L. Hark  
Environmental Section Head

GLB: Hr

Attachments

Bcc: DDE, (TC)

cc: Deborah Darden, New River Gorge National River; Danny Bennett, WVDNR

**US Fish and Wildlife Service Project Review Form**

**Re: Re: State Project S340-41-0.01 02  
Federal Project N/A  
Thomas Buford Pugh  
Fayette County**

**DATE 4/30/2013**

**The USFWS concurs that the above mentioned action, to translocate a portion of the mucket population to be displaced by construction of the Thomas Buford Pugh Bridge, will have no significant impacts to the New River other than those we previously noted.**

\_\_\_\_\_  
**Reviewer's signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Field Supervisor**

\_\_\_\_\_  
**Date**

**DOH Project Manager: Traci Cummings**

**Phone: (304)558-9678**

**Please return this form to the following address:**

**West Virginia Division of Highways  
Engineering Division, Environmental Section  
Building 5, Room 450  
1900 Kanawha Boulevard, East  
Charleston, West Virginia 25305**



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

West Virginia Field Office  
694 Beverly Pike  
Elkins, West Virginia 26241

June 4, 2013



RECEIVED

JUN 07 2013

ENGINEERING DIVISION  
WV DOH

Gregory Bailey, P.E.  
West Virginia Department of Transportation  
Division of Highways  
1900 Kanawha Blvd., East, Building Five, Room 110  
Charleston, West Virginia 25305-0430

Re: Thomas Buford Pugh Bridge, Fayette and Raleigh Counties

Dear Mr. Bailey:

The U.S. Fish and Wildlife Service (Service) has received your letter dated April 30, 2013, regarding the proposed relocation of non-endangered native freshwater mussels from the New River in association with plans to replace the Thomas Buford Pugh Bridge located in Fayette and Raleigh Counties, West Virginia. These comments are provided pursuant to the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e).

The Service has no objection to the relocation plans as detailed in your letter. No federally endangered mussels have been found during surveys of this area, and no federally endangered species will be affected by the proposed relocation effort. No biological assessment or further section 7 consultation under the ESA is required with the Service for the relocation effort. Should project plans change or amendments be proposed that we have not considered in your proposed action, or if additional information on listed and proposed species becomes available, or if new species are listed or critical habitat is designated, this determination may be reconsidered.

This letter does not alter or supersede any previous comments provided by the Service regarding the development of alternatives to construct the bridge or minimize impacts to fish and wildlife resources. If you have any questions regarding this letter, please contact Ms. Barbara Douglas of my staff, at (304) 636-6586, Ext. 19, or at the letterhead address.

Sincerely,

John Schmidt  
Acting Field Supervisor



**DIVISION OF NATURAL RESOURCES**

Wildlife Resources Section

Operations Center

P.O. Box 67

Elkins, West Virginia 26241-3235

Telephone (304) 637-0245

Fax (304) 637-0250

Earl Ray Tomblin  
*Governor*

Frank Jezioro  
*Director*

September 19, 2012

Mr. Gregory L. Bailey  
Division of Highways  
1900 Kanawha Boulevard, East  
Building Five, Room 110  
Charleston, WV 25305-0430

Dear Mr. Bailey:

We have reviewed our files for information on rare, threatened and endangered (RTE) species and natural trout streams for the area of the proposed highway project:

State Project S210-41-0.01 02  
Federal Project BR-0041(063)E  
Thomas Buford Pugh Bridge  
Fayette & Raleigh Counties

We have no known records of any RTE species or natural trout streams within the project area; however, surveys for freshwater mussels are required prior to any in-stream disturbance. The Wildlife Resources Section knows of no surveys that have been conducted in the area for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the area under review.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, extension 2048.

Sincerely,

A handwritten signature in black ink, appearing to read "Barbara Sargent".

Barbara Sargent  
Environmental Resources Specialist  
Wildlife Diversity Unit



WEST VIRGINIA  
DIVISION OF  
CULTURE & HISTORY

1900 Kanawha Blvd., E.  
Charleston, WV  
25305-0300

Phone 304.558.0220  
Fax 304.558.2779  
TDD 304.558.3562  
www.wvculture.org  
EEO/AA Employer

February 2, 2005

Mr. James E. Sothen  
WV DOH  
Building Five, Room 110  
Capitol Complex  
Charleston, WV 25305

RE: Thomas Buford Pugh Bridge (formerly Prince Bridge)  
State Project S210-41-0.01  
FR#: 04-637-FA-1a

Dear Mr. Sothen

We have reviewed Phase I Archaeological Report for the above mentioned bridge project. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

Archaeological Resources:

The report addresses our concerns regarding the presence of intact archaeological sites within the proposed project area. Systematic pedestrian and subsurface survey indicated that no intact, alluvial soils with the potential to contain archaeological sites exist within the project area. In addition, no new archaeological sites were identified. Although a recommendation has not been provided, it is our opinion that this project will have no effect to archaeological sites that may be eligible for or included in the National Register of Historic Places. In the future, we ask that you or your consultant provide a recommendation regarding the project's effects to cultural resources.

We appreciate the opportunity to be of service. If you have any questions regarding our comments or the Section 106 process, please contact me at (304) 558-0240

Sincerely,

Lora A. Lamarre  
Senior Archaeologist

**RECEIVED**  
FEB 04 2005  
ENGINEERING DIVISION  
WV DOH



The Culture Center  
1900 Kanawha Blvd., E.  
Charleston, WV 25305-0300

Randall Reid-Smith, Commissioner

Phone 304.558.0220 • www.wvculture.org  
Fax 304.558.2779 • TDD 304.558.3562

EEC/AA Employer

August 30, 2012

Mr. Gregory Bailey  
WVDOH  
Building Five, Room 110  
Capitol Complex  
Charleston, WV 25305

RECEIVED  
SEP 05 2012  
ENGINEERING DIVISION  
WV DOH

Re: Thomas Buford Pugh Bridge Replacement  
State Project: S310-41-0.01; Federal Project: BR-0041(059)E  
FR#: 04-637-FA-8

Dear Mr. Bailey:

We have reviewed the above referenced project to determine potential effects to cultural resources. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments:

Architectural Resources

Enclosed please find the signed Memorandum of Agreement (MOA) for the Thomas Buford Pugh Bridge replacement project. Stipulation four has been clarified, as we requested, to ensure that a CD-R of the brochure will be given to the National Park Service and the New River Gorge National River for future use once the initial printing of the brochure has been exhausted. According to Stipulation five, you will continue to consult with this agency and the NPS regarding architectural treatments for the new bridge. We are amenable to this, and again suggest that your agency consider replacing this beautiful, eligible truss bridge that has been a part of this landscape for more than 80 years with a truss bridge. Demolition of this bridge is a significant loss to our transportation history, and it is our opinion that the replacement of this bridge with a truss bridge is reasonable and appropriate. We thank you in advance for giving every consideration to this request. We look forward to continuing consultation and to reviewing the information that will complete the Section 106 process.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Shirley Stewart Burns, Structural Historian, in the Historic Preservation Office at (304) 558-0240.*

Sincerely,

A handwritten signature in cursive script that reads "Susan M. Pierce".

Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/SSB

cc: Richard Segars, New River Gorge National River

Enclosure

**MEMORANDUM OF AGREEMENT  
BY AND AMONG  
THE FEDERAL HIGHWAY ADMINISTRATION,  
THE WEST VIRGINIA STATE HISTORIC PRESERVATION OFFICER, AND THE  
WEST VIRGINIA DIVISION OF HIGHWAYS**

**REGARDING IMPLEMENTATION OF THE THOMAS BUFORD PUGH BRIDGE  
REPLACEMENT PROJECT  
STATE PROJECT #S310-41-0.01  
FEDERAL PROJECT #BR-0041(059)E  
FAYETTE COUNTY, WEST VIRGINIA  
JULY 2012**

**WHEREAS**, the Federal Highway Administration (FHWA), in cooperation with the West Virginia Division of Highways (WVDOH), proposes to replace the Thomas Buford Pugh Bridge, which spans the New River in Fayette County, hereinafter referred to as the Project. The improvements involve the construction of a new bridge; and

**WHEREAS**, the FHWA has determined that the Project will have an adverse effect upon the Thomas Buford Pugh Bridge, a property eligible for the National Register of Historic Places (NRHP); and

**WHEREAS**, the FHWA has consulted with the West Virginia State Historic Preservation Officer (WVSHPO) pursuant to 36 CFR Part 800 Implementing Section 106 of the National Historic Preservation Act; (16 U.S.C., 470f); and

**WHEREAS**, the FHWA has determined that the Project will not effect archaeological properties; and

**WHEREAS**, in accordance with 36 CFR 800.6 (a) (1), the FHWA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination providing the specified documentation, and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR 800.6 (a) (1) (iii);

**NOW, THEREFORE**, the FHWA, the WVSHPO, and the WVDOH, agree that the undertaking will be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

**STIPULATIONS**

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

**Thomas Buford Pugh Bridge**

- I. The Thomas Buford Pugh Bridge will be documented in its present historic setting. The documentation package will include 5"x7" black and white digital prints in

## Thomas Buford Pugh Bridge Replacement

### Memorandum of Agreement

Page 2

accordance with the National Register of Historic Places and National Historic Landmarks Survey Photo Policy Expansion of March 2005. Also, the documentation will be sent to the Fayette County Libraries, National Park Service, and the New River Gorge National River.

- II. A brief history of the structure will be included along with a fully completed West Virginia Historic Property Inventory form and copies of plan sheets and drawings of the bridge from WVDOH bridge files if available.
- III. The WVDOH will provide two historical interpretive markers designed by the National Park Service and placed along the sidewalk of the new bridge. The installation will be made part of the construction contract. The WVSHPO will have an opportunity to review and comment on the historic markers.
- IV. A brochure of the Thomas Buford Pugh Bridge will be developed and distributed to the National Park Service and the New River Gorge National River along with a CD version for future use. The WVSHPO will be given the opportunity to review all educational materials developed for this stipulation.
- V. Architectural treatments such as cut stone facing pattern wingwalls and abutments will be incorporated for the Thomas Buford Pugh Bridge, pending further coordination with the NPS and SHPO.

#### VI. Duration

This MOA will expire if its stipulations are not carried out within five (5) years from the date of its execution. At such time, and prior to work continuing on the undertaking, the FHWA shall either (a) execute a MOA pursuant to 36 CFR 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. Prior to such time, FHWA may consult with other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation X. below. FHWA shall notify the signatories as to the course of action it will pursue.

#### VII. Post-Review Discoveries

If any unanticipated discoveries of historic properties or archaeological sites, including human burial sites and/or skeletal remains, are encountered during the implementation of this undertaking, work shall be suspended in the area of the discovery until the

WVDOH has developed and implemented an appropriate treatment plan in consultation with the WVSHPO pursuant to 800.13 (b).

Thomas Buford Pugh Bridge Replacement

Memorandum of Agreement

Page 3

**VIII. Monitoring and Reporting**

Each year following the execution of this MOA until it expires or is terminated, FHWA shall provide all parties to this MOA a summary report detailing work carried out pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in FHWA's efforts to carry out the terms of this MOA.

**VIV. Dispute Resolution**

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FHWA shall consult with such party to resolve the objection. If FHWA determines that such objection cannot be resolved, FHWA will:

- A. Forward all documentation relevant to the dispute, including the FHWA's proposed resolution, to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- C. FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

**X. Amendments**

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

Thomas Buford Pugh Bridge Replacement

Memorandum of Agreement

Page 4

**XI. Termination**

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation VII, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories. Once the MOA is terminated, and prior to work continuing on the undertaking, FHWA must either (a) execute a MOA pursuant to 36 CFR 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. FHWA shall notify the signatories as to the course of action it will pursue.

**EXECUTION** of the Memorandum of Agreement by the FHWA, WWSHPO, the WDOH and the Council, and implementation of its terms evidence that the FHWA has afforded the Council an opportunity to comment on the Thomas Buford Pugh Bridge project and its effects on historic properties, and that the FHWA has taken into account the effects of the undertaking on the historic property.

Thomas Buford Pugh Bridge Replacement

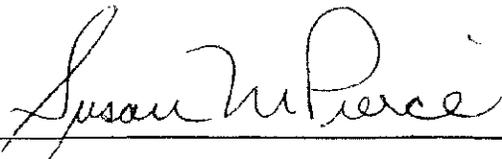
Memorandum of Agreement

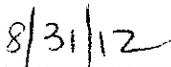
Signatories Page

APPROVED:

\_\_\_\_\_  
Federal Highway Administration

\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Susan M. Pierce

  
\_\_\_\_\_  
8/31/12

West Virginia Deputy State Historic Preservation Officer

Date

CONCUR:

  
\_\_\_\_\_  
Paul D. Mattox, Jr.

  
\_\_\_\_\_  
4/17/13

West Virginia Division of Highways

Date

Thomas Buford Pugh Bridge Replacement  
Memorandum of Agreement  
Signatories Page

CONSULTING PARTY:

*Donna A. Darden*

---

National Park Service,  
New River Gorge National River

*7/26/2012*

---

Date