



FINDING OF NO SIGNIFICANT IMPACT

US 340 ROCKSLIDE REPAIR PROJECT ENVIRONMENTAL ASSESSMENT HARPERS FERRY NATIONAL HISTORICAL PARK Harpers Ferry, West Virginia

The West Virginia Department of Transportation, Division of Highways (WVDOH), in cooperation with the Federal Highway Administration (FHWA), and the National Park Service (NPS) prepared an environmental assessment (EA) to evaluate the impacts to repair and remediate a rockslide area along US 340 within Harpers Ferry National Historical Park (Park) in Jefferson County, West Virginia and Loudoun County, Virginia. US 340 is a high-volume (approximately 24,500 vehicles per day), two-lane principal arterial roadway that traverses the water gap through the Blue Ridge Mountains created by the Shenandoah and Potomac Rivers, between Harpers Ferry, West Virginia, and the West Virginia/Virginia state line. The natural rock slopes adjacent to US 340 range in height from 150 feet to 600 feet above the US 340 roadway grade. These slopes exhibit varying degrees of rockfall activity and present concerns to the traveling public. Ongoing maintenance activities by the WVDOH are required to maintain the road for safe travel by the public through this area.

The proposed remediation options have been developed based on the design study completed on the slopes in three identified slide areas within the existing WVDOH right-of-way and adjacent NPS property. The following options were proposed in the initial design:

- **Maintenance Scaling** - Maintenance scaling is the process of manually or mechanically removing loose rock from a slope.
- **Rock Slope Drape** - A rock slope drape system consists of woven wire and/or rolled cable fabric drape suspended over a slope and secured with rock anchors typically located at the top of the slope. The system is designed to allow rockfall to roll or fall along the slope behind the drape to the base of the slope.
- **Attenuator Barrier with Drape** - An attenuator barrier, with drape, is similar to a rock slope drape system. However, rather than attaching the drape to the slope rock with rock anchors, it is attached to the back of attenuator posts designed to control rock from rockfall generators above the attenuator.
- **Flexible Rockfall Barrier** - A flexible rockfall barrier is typically a flexible fence whereby a net is secured by posts and cables, which are supported with ground or rock anchors. Posts are typically anchored to foundations or competent bedrock. The netting or panels typically consists of wire mesh and/or spiral rope nets, cable nets, or ring nets. A traffic detour and roadway closure would be required to facilitate construction of the rockfall barrier.

Because a portion of the protective structures is to be located outside the WVDOH right-of-way and on NPS property, a Special Use Permit (SUP-Construction) is required from the NPS to authorize short-term access and construction on NPS property, while a Highway Easement Deed (HED), granted through a Title 23 federal land transfer, will be necessary to authorize long-term operation and maintenance of the

facility. Following the NPS's receiving a Letter of Consent from FHWA and concurrence on the transfer, the FHWA will prepare a Highway Easement Deed to transfer a non-exclusive easement over approximately 0.5 acres of parkland to WVDOH for highway purposes. The FHWA will officially request use of the lands for the highway via a Request for a Letter of Consent. The execution of a highway deed easement will be done in compliance with 23 U.S.C. 317, which authorizes the FHWA to arrange with Federal agencies to provide rights-of-way to State DOTs whenever such rights-of-way are required for projects constructed on a Federal-aid highway, 36 C.F.R. Part 14, and NPS Director's Order #87D: Non-NPS Roads, which sets forth NPS operational policies and procedures for responding to requests for use of national parks for non-NPS highway projects under this authority.

The EA was prepared in accordance with FHWA's implementing regulations for NEPA (23 CFR 771), U.S. Department of Transportation (USDOT) Federal Highway Administration (FHWA) guidelines (Technical Advisory T 6640.8A, October 30, 1987 – Guidance for Preparing and Processing Environmental and Section 4(f) Documents), the Fixing America's Surface Transportation Act (FAST) (Public Law 114-94, December 4, 2015, 129 Stat. 1312), regulations of the Council on Environmental Quality for implementing the provisions of NEPA (40 CFR Parts 1500-1508). The statements and conclusion reached in this finding of no significant impact (FONSI) are based on the documentation and analysis provided in the EA, associated FHWA decision file, and NPS site-specific analysis. The NPS has reached this FONSI in accordance with the Department of the Interior NEPA regulations (43 CFR Part 46.320) and the NPS Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-making (2011) and its accompanying handbook (2015).

PUBLIC AND AGENCY INVOLVEMENT

Public Scoping - On February 6, 2020, an informational public workshop meeting was held at the Stephen T. Mather Training Center in Harpers Ferry, West Virginia, to present the project including the proposed remediation activities and detour. One hundred and twenty-five (125) members of the public, representatives from the NPS, and the Hagerstown/Eastern Panhandle Metropolitan Planning Organization attended the meeting. During the meeting, most of the attendees understood the need for the project, but also expressed concern about the detour. After the meeting WVDOH received thirteen (13) formal comments, all of which expressed concern over the detour.

EA Public Review – The WVDOH released the Draft EA on November 9, 2021, and accepted comments through December 9, 2021. They hosted a virtual public meeting on November 9, 2021, to describe the contents of the EA. The meeting covered the entirety of the project from the potential remediation actions to describing possible road closures and detours. Meeting materials can be viewed here: <https://transportation.wv.gov/highways/engineering/comment/US340RockSlide/Documents/boards2021.pdf>. The key issue raised in the thirteen comments received was the possible detour. Concerns were expressed about both the duration and length of a detour.

National Historic Preservation Act, Section 106 Consultation – Pursuant to Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations (36 CFR Part 800), the FHWA determined that no archeological sites were present within the study area, no additional archeological investigations were warranted, and that the proposed project would not have an adverse effect on historic properties. The FHWA also assessed potential viewshed impacts on historic properties and determined there would be a minor impact, but the effect was not adverse. The West Virginia Division of Culture and History (WVDCH), the Virginia State Historic Preservation Office (VA SHPO), and the Maryland Historic Trust (MHT) concurred with these determinations on January 21, 2020, September 21, 2020, and November 17, 2021, respectively. Appendix A

Tribal Consultation –The WVDOH did not conduct tribal consultation as part of their consultation work. Referencing Executive Order 13175 (2000), WVDOH determined that the action did not have direct substantial effects on one or more Indian Tribes, on the relationship between the Federal Government and Indian Tribes, or on the distribution of power and responsibilities between the Federal

Government and Indian Tribes (65 FR 67249). The WVDOH's archeological investigation, conducted in accordance with 36 CFR 800.4, "Identification of historic properties," did not identify any archeological sites eligible or potentially eligible for listing in the National Register of Historic Places. The WVDOH therefore did not seek to gather information from Indian tribes about properties located off tribal lands of cultural or religious significance to them (36 CFR § 800.4(a)(4)). NEPA implementing regulations 40 CFR § 1501.5(e) instruct agencies to involve Tribal governments to the extent practical in preparing environmental assessments. NPS notified the FHWA on August 22, 2023, that an Executive Order cannot relieve a federal agency of its statutory and regulatory responsibilities to consult. Appendix A

Endangered Species Act, Section 7 Consultation – In accordance with Section 7 of the Endangered Species Act, on August 17, 2023, the NPS reinitiated Section 7 informal consultation seeking concurrence for their determination that the proposed activity may affect, but is not likely to adversely affect, two species of bat that may be present in the Park, including the federally endangered Indiana Bat (*Myotis sodalis*) and the endangered Northern Long-eared Bat (*Myotis septentrionalis*) in the Loudoun Heights area of the park. The park is also considering impacts to the proposed-as-endangered tricolored bat (*Perimyotis subflavus*) because it is likely to be listed before this project ends. The U.S. Fish and Wildlife Service concurred with this finding via email dated August 23, 2023. Appendix A

ALTERNATIVES CONSIDERED AND SELECTED

The alternatives considered for this project include the Action Alternative (WVDOH's preferred alternative) and the No Action Alternative (which are the current conditions). Based on the analysis presented in the EA, the NPS supports the project goals of promoting public safety through the implementation of rockfall protection and stabilization measures and concurs with the WVDOH in selecting the Action Alternative for implementation. The NPS will work closely with the WVDOH in acquiring the required SUP for the access and construction of the remediation structures on NPS parkland. The NPS will also collaborate with the FHWA in their issuance of a HED to allow the WVDOH facilities to be located on NPS parkland and for their long-term maintenance.

The Action Alternative, which is described in detail in Chapter 2 of the EA, consists of the repair of three slides areas, designated as Slope 1, Slope 2, and Slope 3. NPS property is immediately contiguous to the WVDOH right-of-way in each of the three Slope Areas. A total of approximately 0.5 acres of NPS property is required for remediation activities. A variety of remediation techniques are available with many used in combination to alleviate the potential for rockslides in along these areas within the US 340 project area.

- **Slope 1 Remediation** - Remediation for Slope 1 consists of localized rock bolting, maintenance scaling, rockfall barrier, attenuator drape and an attenuator barrier.
- **Slope 2 Remediation** - Remediation for Slope 2 consists of localized rock bolting, rock slope drape, maintenance scaling, and rockfall barrier.
- **Slope 3 Remediation** - Remediation for Slope 3 consists of localized rock bolting, localized pinned mesh, attenuator barrier, maintenance scaling, and attenuator drape.

To complete the remediation activities, closure of US 340 would be required, and a 23-mile detour is the only viable option while US 340 is closed. The EA looked at two traffic control options: Option A, a full detour during a 90-day closure, and Option B, staged traffic patterns to permit vehicular traffic during construction for a period of 170 days.

Traffic Control Plan – The Traffic Control Plan consists of a full detour for the duration of the project. The detour consists of an approximately 23-mile route around the site from near Charles Town, WV, south into Virginia via WV Rt. 9, then north on VA Route 671 to near the eastern terminus of the project area in Virginia near the intersection of US 340 and VA Rt. 671. This method permits the contractor to

work in multiple areas along the corridor, as well as avoid installation of temporary traffic treatments. Duration of the project, road closure, and detour would be approximately 90 days.

RATIONALE FOR DECISION

The NPS concurs with the WVDOH in their selection of the Action Alternative for implementation because it will provide much needed rockfall protection and stabilization measures associated with the existing slopes along the narrow, heavily traveled US 340 corridor and meets the project purpose and need while fulfilling the NPS statutory mission and responsibilities, considering economic, environmental, technical, and other factors.

MITIGATION MEASURES

The NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse impacts to affected resources, whether under the jurisdiction of the NPS or as a result of an NPS decision. To help ensure the protection of cultural and natural resources and the quality of the visitor experience, the NPS will require mitigation measures to avoid and/or minimize impacts. Mitigation measures of the selected alternative are provided in Appendix B. These mitigation measures will allow the NPS to meet its conservation mandates as required by the NPS Organic Act (54 USC 100101 et seq.) and minimize impacts to the park visitors.

WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT IMPACT

After considering the environmental consequences described in the EA, the NPS has determined that the selected alternative and its associated actions will not have a significant effect on the quality of the human environment considering the potentially affected environment and degree of effects of the action (40 CFR 1501.3(b)(7)). Thus, an Environmental Impact Statement will not be prepared. This finding is based on analysis of the short and long-term effects; beneficial and adverse effects; effects to public health or safety; and effects that would violate Federal, State, or local laws or requirements for the protection of the environment.

Vegetation - The Selected Alternative will result in the removal of trees and vegetation within the Study Area to conduct removal of loose rock and remediate the slide areas adjacent to US 340. The tree trimming areas encompass 1.02 acres of the total project, of which approximately 0.5 acres are under the jurisdiction of the NPS. Areas where vegetation will be removed are primarily areas where vegetation is growing out of crevices in the rock where freeze/thaw activity has occurred, and enough soil is present in the crevice to allow rooted vegetation. This vegetation can contribute to the existing slide problem. Revegetation of these areas will likely not be possible.

Wildlife and Wildlife Habitat - Construction impacts to terrestrial wildlife species in the study area are expected to temporarily displace wildlife, but they will likely return after construction or find alternative habitat in the surrounding undeveloped areas. In addition, construction activities will occur within a discrete area and will affect a limited number of trees. A total of approximately 1.02 acres (approximately 0.5 acres of NPS property) will be affected by tree trimming. Maintenance activities such as herbicide application in the study area are not expected to significantly affect wildlife. Noise associated with project-related construction activities could temporarily affect migratory bird species located in the vicinity of Action Alternative. Standard construction best management practices will be implemented to address the temporary effects.

Visitor Use and Experience - The project is located within the viewshed of the Lower Town and Maryland Heights areas of the Park. The Park is a highly visited tourist area, enjoyed for its nearby community of the Town of Harpers Ferry consisting of historic structures, and its protected, natural environment used by hikers. The Selected Alternative will be slightly visible from five popular areas within the Park, including Maryland Heights, Shenandoah Shoreline, St. Peter's Roman Catholic Church, and Jefferson Rock, and from the Chesapeake and Ohio Canal National Historical Park Towpath. These

sites are popular locations for tourists to view the scenery and landscape and take photographs. These locations also have some of the broadest views of the project area. To minimize the impacts to the viewshed, the treatments used to remediate the rockslide areas will be powder coated in a color that is similar to the existing rock that will allow the treatments to blend into the existing rock face. During the period that rockslide repairs and mitigation are occurring, portions of the Loudoun Heights Trail, several climbing and bouldering routes, and parkland directly downslope of the construction zone will be closed. These closures are temporary in nature and will not affect the overall use of the park. Additional, periodic, and short-term closures may be needed due to changes in construction operations. A flagging operation, signage, or other means of closure notification will be used to prevent visitors from accessing areas that may be unsafe.

Cultural Resources - While the selected alternative will be visible from the Park, and the five historic viewsheds listed above, it will have no adverse effects on historic properties within the area of potential effect (APE). The proposed remediation efforts would have no effect on archeological resources. Treatments would be confined to the rock slope that abuts US 340 and will not extend into the more heavily wooded terrain that contributes to the historic significance and rural character of the historic districts in the APE, including the town site of Harpers Ferry. Due to the location of the project at a steep descent on the hillside, the proposed project components will be minimally or not at all visible from contributing resources to the historic properties in the APE. The proposed remediation treatments consist of steel components whose colors and materials are visually compatible with the existing rockface along US 340 and would therefore have minimal or no visual impact on the surrounding environment. The WVDOH, the VA SHPO, and the MHT concurred with these determinations on January 21, 2022, September 21, 2020, and November 17, 2021, respectively.

CONCLUSION

As described above, the selected alternative does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement (EIS). The selected alternative will not have a significant effect on the human environment in accordance with Section 102(2)(c) of NEPA.

Based on the foregoing, it has been determined that an EIS is not required for this project and, thus, will not be prepared.

Recommended:	TANYA GOSSETT	Digitally signed by TANYA GOSSETT Date: 2023.08.30 13:34:41 -04'00'	
	Tanya M. Gossett Acting Superintendent Harpers Ferry National Historical Park National Capital Region		Date
Approved:	KIMBERLY HALL	Digitally signed by KIMBERLY HALL Date: 2023.08.30 14:26:16 -04'00'	
	Kym A. Hall Regional Director National Capital Region		Date

Appendix A: Agency Consultation Documentation

Appendix B: Mitigation Measures

Appendix C: Non-Impairment Determination

APPENDIX A: AGENCY CONSULTATION DOCUMENTATION



West Virginia Department of
**ARTS, CULTURE
AND HISTORY**

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

Randall Reid-Smith, Curator
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304.558.2779 • TDD 304.558.3562

January 21, 2021

Mr. Ben L. Hark
Environmental Section Head, Engineering Division
West Virginia Division of Highways
1900 Kanawha Boulevard East, Building 5, Room 110
Charleston, WV 25305-0430

RE: US 340 Rockslide Repair Project, Jefferson County
State Project S319-340-15/78.00; Federal Project NHPP-0340(063)D US
FR#: 20-764-JF-1

Dear Mr. Hark:

We have reviewed the above-mentioned project to determine its effects to cultural resources. 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.

According to the submitted information, West Virginia Division of Highways (WVDOT) proposes to repair a rockslide along US 340 in Harpers Ferry, Jefferson County. The project is located along the northbound and southbound lanes of US 340 in the Loudoun Heights region of the Harpers Ferry National Historical Park (NHNHP). Because there is a high potential for rockfalls in the area resulting in threats to public safety, rockfall protections and stabilization measures will be used to remediate the dangers on the priority slopes. It is our understanding that the archaeological portion of the project was addressed in an earlier submittal.

Architectural Resources:

We have reviewed the submitted documentation, and the Area of Potential Effects (APE) for architectural resources generally consists of a 0.25-mile buffer that extends from the proposed project improvements on the west, north and east sides, while following the ridge along the northern slope of the Loudoun Heights on the south side of the APE. While the majority of the work will take place within West Virginia, a portion of the APE extends into Loudoun County, Virginia. A viewshed analysis was completed with the use of LiDAR data and a GIS model to establish the potential viewshed areas within the proposed project area. Seven architectural historic properties were identified within the APE during the viewshed analysis. These resources include the NHNHP (NR# 66000041); the Harpers Ferry Historic District (NR# 79002584); the B&O Railroad Potomac River Crossing (NR# 78001484); the Chesapeake and Ohio Canal National Historic Park (NR# 66000036); Bollman Bridge (NR# 02000287); St. Peter's Roman Catholic Church (NR# 73001915); and Niswarner Tract/Sherwood Property (NR# 01000785). The proposed project will not directly impact any of these resources, and based on the included mapping and photographs, we concur that the proposed rock fall mitigation measures will not substantially alter the viewshed of the region. Therefore, we agree that no architectural properties or historic districts eligible for or included in National Register will be adversely affected by the proposed rock slide repair project. No further consultation is necessary regarding architectural resources; however, we ask that you contact our office if your project should change.


January 21, 2021
Mr. Hark
FR#: 20-764-JF-1
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Consulting Parties/Public Comments:

We note that the Virginia SHPO concurred with the established APE and that there would be no adverse effect from the proposed rock fall project on historic resources located within the state of Virginia in a letter dated September 21, 2020. A kick-off meeting with the NPS and staff from HFNHP on April 23, 2019, and a follow-up meeting with WVDOT and HFNHP staff to identify areas of visual concerns within the park and to develop a methodology for assessing the effects of the proposed project was completed in January 2020. A public meeting held on February 6, 2020 at HFNHP was attended by over 130 people from the local community, local government and the NPS. No comments were received regarding the proposed projects potential to affect historic properties, and most of the received comments were concerned with the proposed detour to be used during the construction. We appreciate that the NPS, HFNHP, Virginia SHPO, local government officials, and members of the community were provided opportunities to comment on the APE and potential affects to the cultural resources in the area. We understand that any further comments regarding cultural resources will be forwarded to our office.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Benjamin. M. Riggle, Architectural Historian, at (304) 558-0220.*

Sincerely,



Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/BMR



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EEO/AA Employer

April 28, 2020

Mr. Ben L. Hark
Environmental Section Head
West Virginia Division of Highways, Engineering Division
1334 Smith Street
Charleston, West Virginia 25305

RE: US 340 Rockslide Investigation
State Project S319-340-15.78 00; Federal Project NHPP-0340(063)D
FR# 20-764-JF

Dear Mr. Hark:

We have reviewed the above referenced project to determine potential effects on 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.

According to the submitted information, the West Virginia Division of Highways proposes to stabilize a section of existing rock slope located along the southern edge of US 340 to the east of Harpers Ferry in Jefferson County, West Virginia and Loudoun County, Virginia. The area of potential effect (APE), which totals 11.3 acres, is defined as all areas that may be affected by the proposed stabilization. It consists of three non-contiguous areas, most of which is located within Harpers Ferry National Historical Park. The West Virginia portion of the APE totals 10.5 acres. Our comments pertain only to that portion of the proposed project located within West Virginia. We understand that potential effects to architectural resources will be addressed separately.

Archaeological Resources:

Archaeological investigations of the proposed APE, Study Areas A, B, and C, included systematic pedestrian reconnaissance, which confirmed the extremely steep nature of the terrain. Exposed rock outcrops were observed throughout the area. No cultural resources, including rockshelters, archaeological sites, or aboveground resources, were identified within the APE. As a result, we concur that the proposed project will have no effect on archaeological historic properties within West Virginia.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Lora A. Lamarre-DeMott, Senior Archaeologist, at (304) 558-0240.*

Sincerely,

Susan M. Pierce signed electronically 5:23pm 4/28/2020

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/LLD

Figure 1. Previously recorded cultural resources and archaeological surveys within 1-mile (1.6 m) radius of the APE in Virginia (from VCRIS, accessed June 2020).

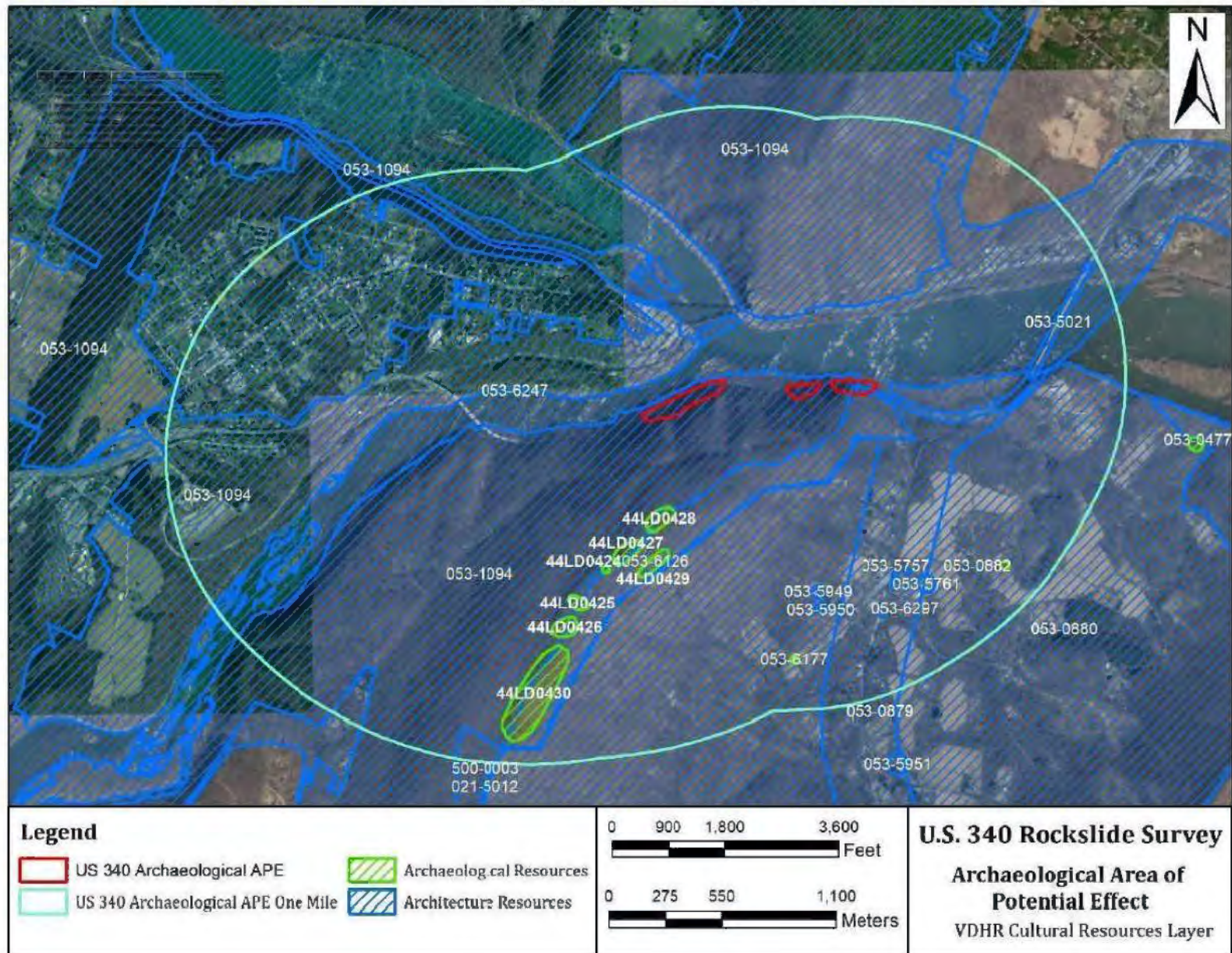


Figure 2. USGS Map with Area of Potential Effect (Harpers Ferry Quad)

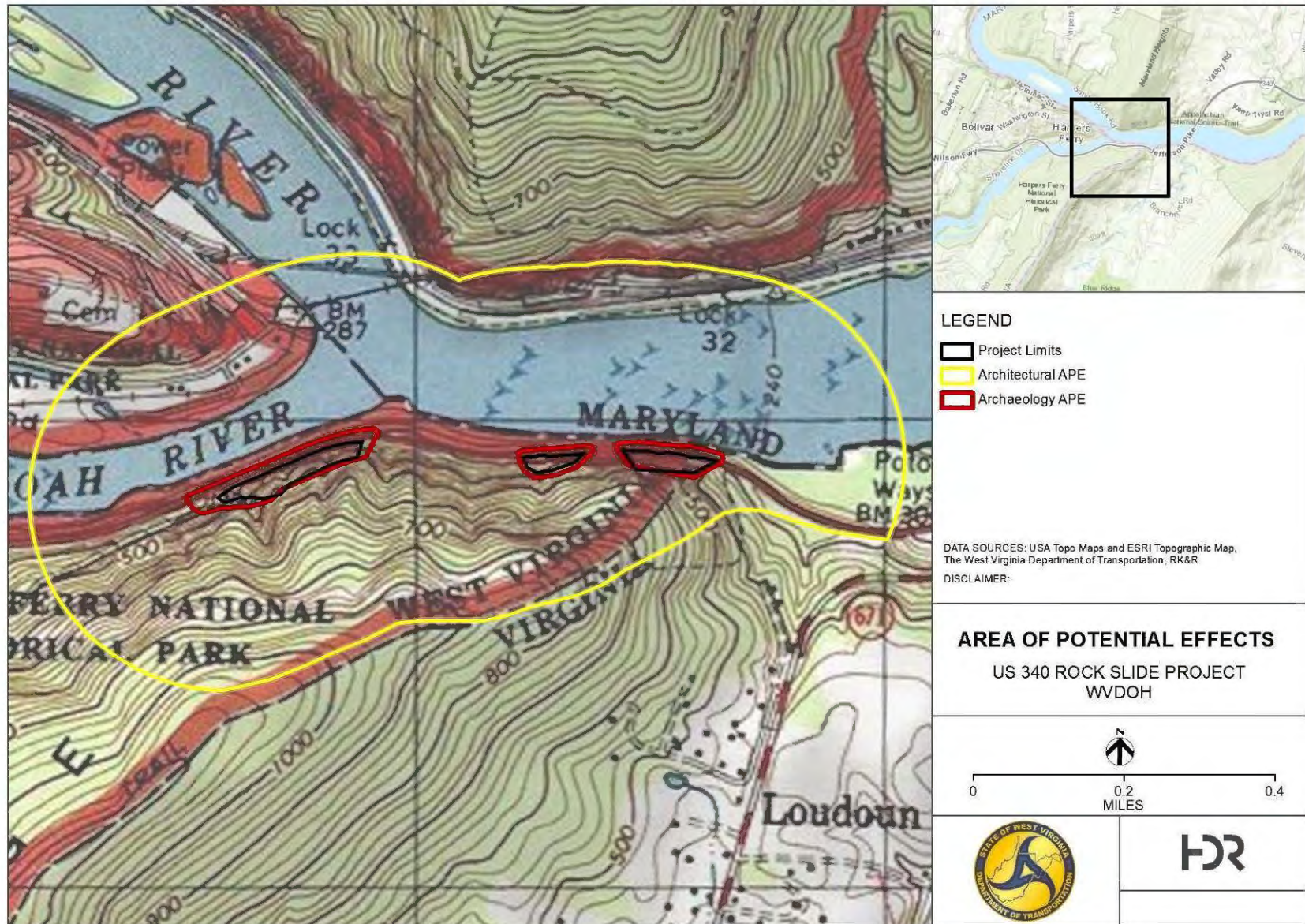
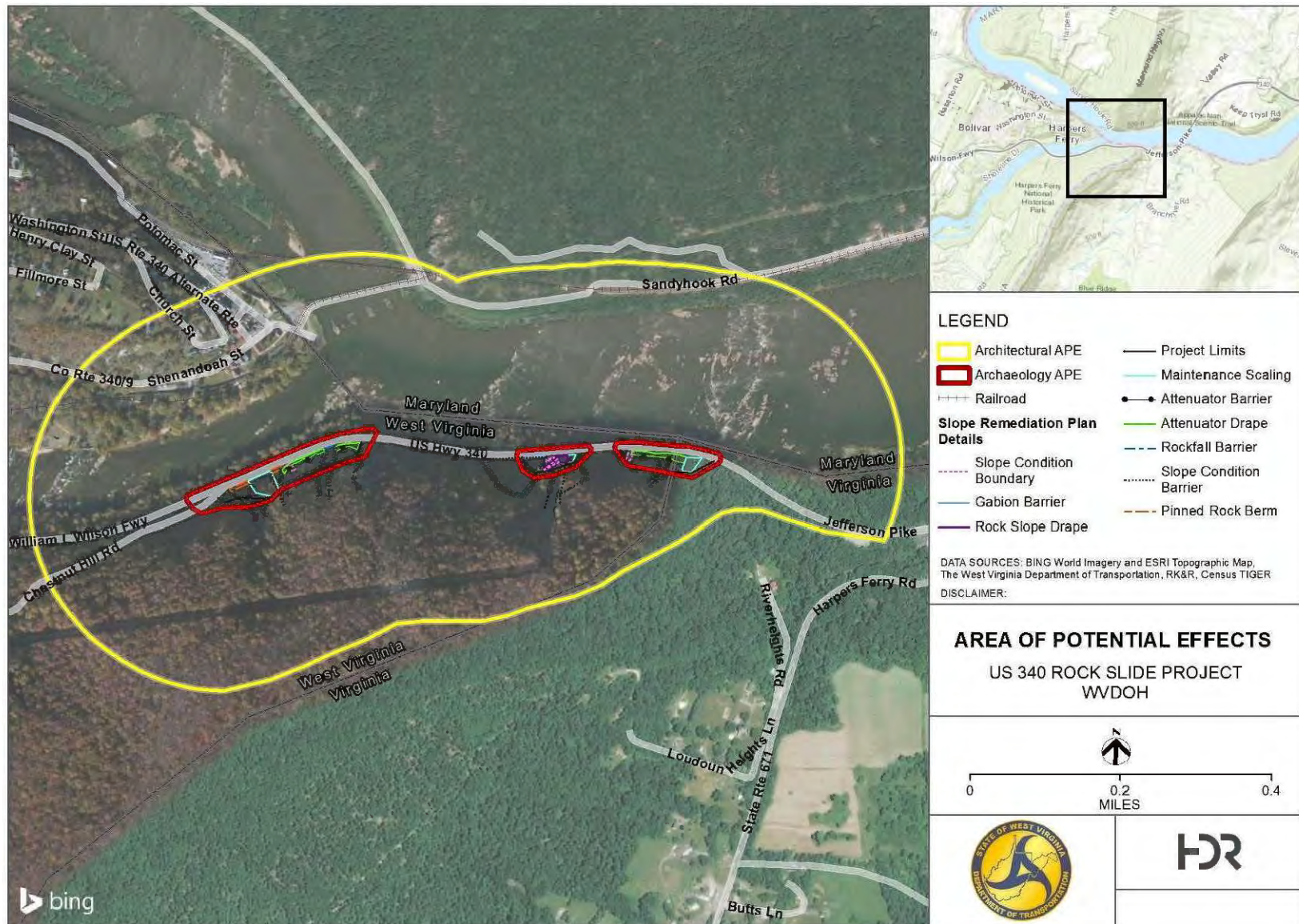


Figure 3. Project APE Map with Project Details



Project Description

The Project entails the repair of a rock slide along US 340 in Harpers Ferry, Jefferson County, West Virginia and Purcellville, Loudoun County, Virginia. The project is located along the northbound (NB) and southbound (SB) lanes of US 340 in the Loudoun Heights region of the Harpers Ferry National Historical Park (HFNHP) and just west of the West Virginia/Virginia border on the southern bank of the Shenandoah and Potomac Rivers. US 340 is a high-traffic volume corridor serving local, commuter, and truck traffic from West Virginia, Virginia, and Maryland. This corridor also experiences high traffic volume from seasonal tourism due to its recreational and historical significance in the region. The existing cut slopes in the project study area are a product of US 340 construction in the mid-1950s and natural erosion along the Shenandoah River. The cut slopes and the exposed rock of natural slopes vary in height from 150 feet to greater than 300 feet above the roadway (**Figure 4-Figure 5**). The cut slopes in the project area exhibit varying degrees of rockfall activity that present potential hazards to the traveling public.

The purpose of the project is to implement rockfall protection and stabilization measures associated with the existing slopes along US 340 NB, while considering local traffic impacts and future development of the US 340 corridor. Due to the high volume of traffic, and that US 340 is the main route through this area, rockfalls pose a threat to public safety. The threat to safety exists not only from a rockfall itself, but from road closures that result from rockfalls, and the potential impact to emergency vehicle response times should there be a rockfall.

A Phase I Design Study (Preliminary Design Phase) was performed by HDR Engineering, Inc. (HDR) between December 2015 and April 2018. This work included a geologic evaluation and preliminary rockfall remediation design for three slope areas adjacent to US-340 between Chestnut Hill Road (CR-32) and Harpers Ferry Road (VA-671). The purpose of the study was to provide a preliminary assessment of the potential rockfall hazards within the study area and estimated probable construction costs for feasible rockfall remediation options. Slope investigation methods implemented to complete the assessment included roadway-level and upper-slope geologic evaluations (on-slope rappelling requiring a roadway closure and detour), as well as mobile and aerial LiDAR mapping. Rockfall mitigation treatments were evaluated and considered key factors such as: Construction Cost; Effectiveness to provide rockfall protection (within and above project limits); Construction Complexity; Traffic Impacts; Aesthetics; Rockfall Maintenance; and System Maintenance. A relative risk assessment was completed using the aforementioned key factors aided in development of a “short-list” of remediation options to best fit the geologic and slope conditions in each slope area (**Figure 6-Figure 9**).

Based on the analysis in the Phase I Design Study (HDR 2018), there is a high potential for rockfall in the area and an established public safety need to implement rockfall protection and stabilization mitigation measures for the priority slopes. The proposed remediation options have been developed based on the design study completed on slopes within the existing WVDOH right-of-way (ROW) and NPS property. Seven remediation options were proposed in the three key slope-area types identified at the site and include:

- Natural Rock Slopes and Roadway Cuts
 1. Maintenance and Scaling;
 2. Rock Slope Drape;

3. Attenuator Barrier and Drape; and
4. Localized Roadway Shift
- Debris Channels and Boulder Fields
5. Pinned Rock Berm;
6. Flexible Rockfall Barrier; and
7. Gabion Barrier.

See **Figure 6** for visual details of proposed remediation options. Within the project area in Virginia, the work is limited to localized safety scaling and localized rock bolting to secure an attenuator barrier and drape (see **Figure 7-Figure 9**).

Photos and Plans

Figure 4. View southeast along US 340 towards rock cropping where localized scaling will occur and attenuator drape will be placed (July 2020). View is also within the boundaries of Harpers Ferry National Historic Park (053-1094), Between the Hills/Harpers Ferry Rural Historic District (053-6297), and Study Area for the Battle of Harpers Ferry (053-6247).



Figure 5. View west along US 340 towards West Virginia (July 2020). View is also within the boundaries of Harpers Ferry National Historic Park (053-1094), Between the Hills/Harpers Ferry Rural Historic District (053-6297), and Study Area for the Battle of Harpers Ferry (053-6247).



Figure 6. Proposed Remediation Options in Project Area



Figure 7. Preliminary Slope Remediation Plan (Virginia work only)

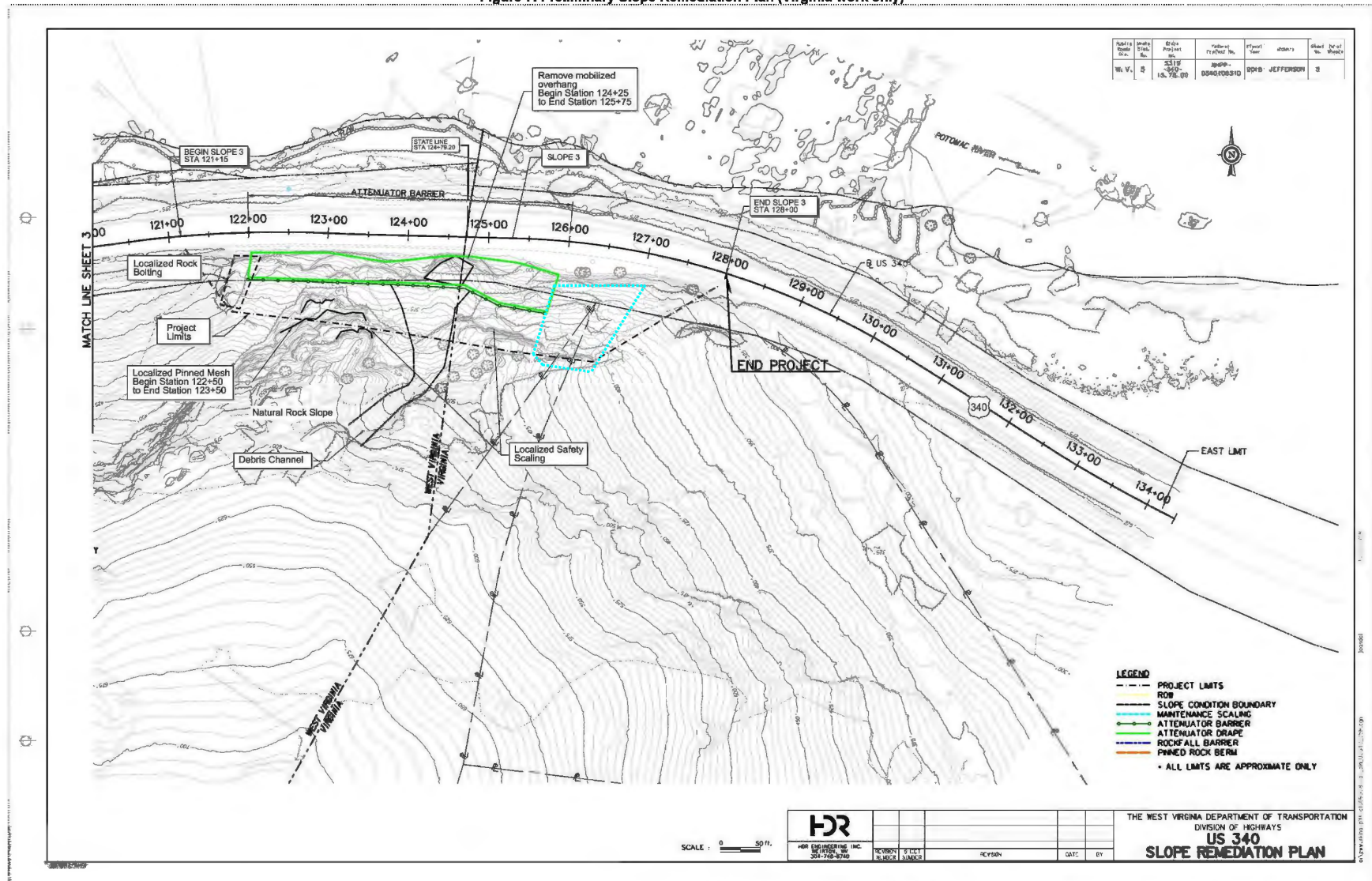


Figure 8. Preliminary Slope Remediation Plan (Virginia work only)

Notes:

1. Scaled Orthophotographs dated January 2016
2. Project baseline and DOH ROW are approximate only.
3. Remediation limits illustrated on photos are approximate only.
4. Photos were taken at different angles to the slope surface creating a skew relative to the baseline. Therefore station ranges may vary from the remediation plan.

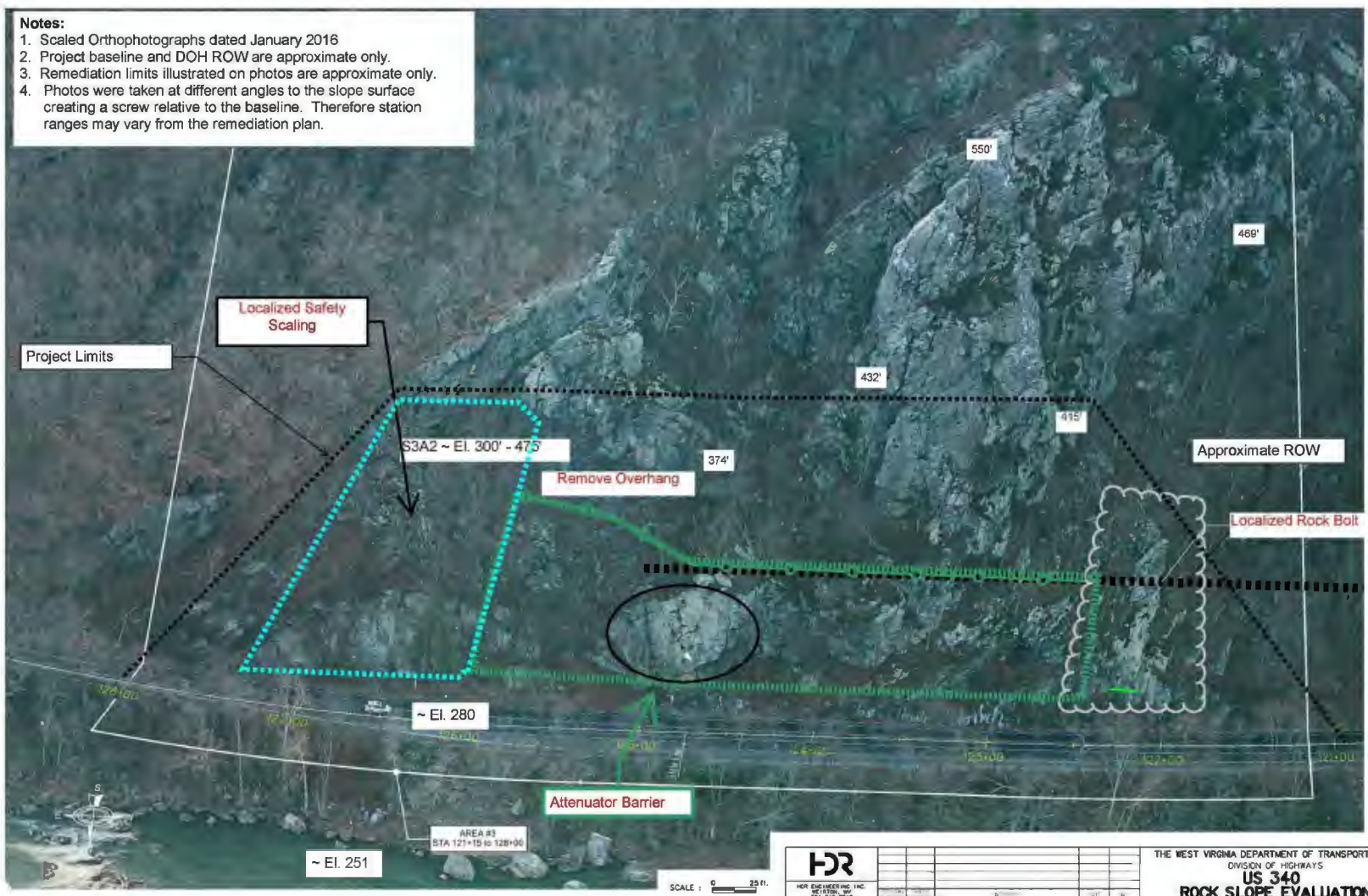
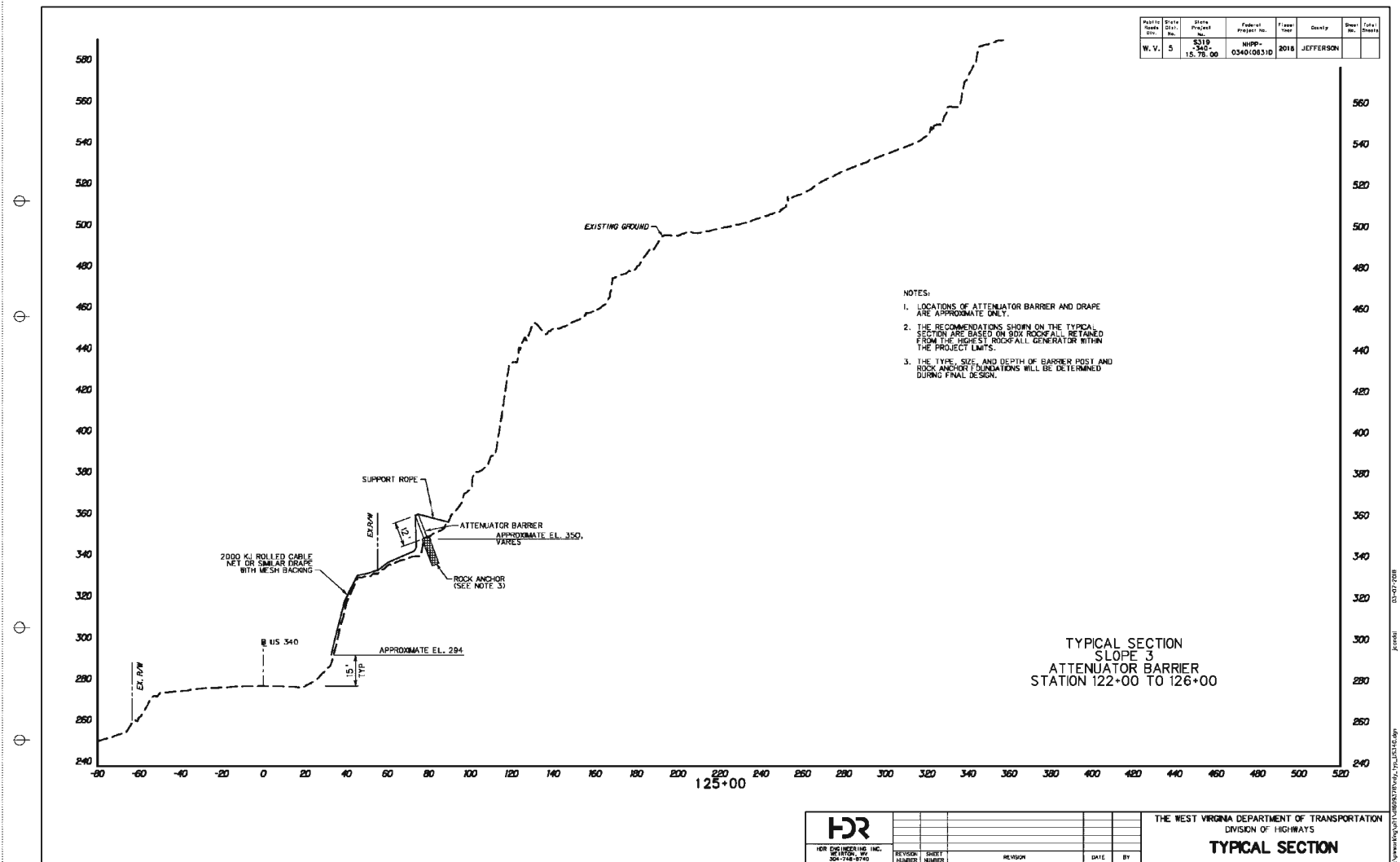


Figure 9. Typical Section, Slope 3 (Virginia work only)





WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

**Byrd E. White, III
Secretary of Transportation**

September 8, 2020

**Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner**

Ms. Julie Langan
State Historic Preservation Officer
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

State Project No.: S319-340-15.78.00
Federal Project No. NHPP-0340(063)D US
US 340 Rock Slide Repair Project
Jefferson County, WV and Loudoun County, VA

Dear Ms. Langan,

The West Virginia Division of Highways (WVDOH) proposes to complete the US 340 Rock Slide Repair (Project) in Harpers Ferry, Jefferson County, West Virginia and Loudoun County, Virginia. As the WVDOH administers Federal-aid projects on behalf of the Federal Highway Administration throughout the State of West Virginia as authorized by Title 23 U.S.C 302, this project is subject to Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations at 36 Code of Federal Regulations (CFR) § 800. This letter initiates Section 106 consultation with your office and seeks your concurrence on the Area of Potential Effect, the identification of historic properties, and the finding that the project will result in No Adverse Effect to historic properties in Virginia.

Project Background

The Project entails the repair of a rock slide along US 340 in Harpers Ferry, West Virginia. US 340 is a high-volume (approximately 35,000 vehicles per day), two-lane roadway that traverses the water gap through the Blue Ridge Mountains created by the Shenandoah and Potomac Rivers, between Harpers Ferry, West Virginia and the West Virginia-Virginia state line. The project is located along the northbound (NB) and southbound (SB) lanes of US 340 in the Loudoun Heights region of the Harpers Ferry National Historical Park (HFNHP). The natural rock slopes adjacent to US 340 range in height from 150 feet to 600 feet above the US 340 roadway grade. These slopes exhibit varying degrees of rockfall activity and present concerns to the traveling public. Ongoing maintenance activities by the WVDOH is required to maintain the road for safe travel by the public through this area.

The Phase I Design Study (Preliminary Design Phase) was completed by HDR Engineering, Inc. (HDR) between December 2015 and April 2018. This work included a geologic evaluation and preliminary rockfall remediation design for three slope areas adjacent to US 340 between Chestnut Hill Road (CR-32) and Harpers Ferry Road (VA-671). The purpose of the study was to provide a preliminary assessment of the potential rockfall within the study area and estimated probable construction costs for feasible rockfall remediation options.

Slope investigation methods implemented to complete the assessment included roadway-level and upper-slope geologic evaluations (on-slope rappelling requiring a roadway closure and detour), as well as mobile and aerial LiDAR mapping. Investigation efforts included coordination between WVDOH, Virginia Department of Transportation (VDOT) Maryland State Highway Administration (MDSHA), the National Park Service (NPS), local politicians, civic groups, and law enforcement.

Rockfall assessments included evaluation of potential rockfall generators on the slopes and the potential for rockfall from these sources to reach the roadway. This work focused primarily on the slope areas within WVDOH right-of-way, and immediately contiguous areas on NPS property that affected potential rockfall concerns in the slope areas studied (note that evaluation of much of the NPS property outside of the project study limit was not completed as it was outside of the scope of HDR's work). Preliminary analyses and design of the remediation options were completed to satisfy WVDOH's 90% rockfall retained design criteria for rockfall generators within the project limits.

Rockfall mitigation treatments were evaluated and considered key factors such as: Construction Cost; Effectiveness to provide rockfall protection (within and above project limits); Construction Complexity; Traffic Impacts; Aesthetics; Rockfall Maintenance; and System Maintenance. A relative risk assessment was completed using the aforementioned key factors aided in development of a "short-list" of remediation options to best fit the geologic and slope conditions in each slope area.

Description of the Undertaking

The purpose of the project is to implement rockfall protection and stabilization measures associated with the existing slopes along US 340 NB, while considering local traffic impacts and future development of the US 340 corridor. Due to the high volume of traffic, and that US 340 is the main route through this area, rockfalls pose a concern for public safety. The concern for safety exists not only from a rockfall itself, but from road closures that result from rockfalls, and the potential impact to emergency vehicle response times should there be a rockfall. Based on the analysis in the Phase I Design Study prepared in April 2018, there is a high potential for rockfall in the area and an established public safety need to implement rockfall protection and stabilization mitigation measures for the priority slopes. The proposed remediation options have been developed based on the design study completed on slopes within the existing WVDOH right-of-way (ROW) and NPS property (see Preliminary Slope Remediation Plan Figures in Enclosure 1: Project Review Form). Seven remediation options were proposed in the three key slope-area types identified at the site and include:

- Natural rock slopes and roadway cuts
 1. Maintenance and scaling;
 2. Rock slope drape;
 3. Attenuator barrier and drape; and
 4. Localized roadway shift

- Debris channels and boulder fields
 5. Pinned rock berm;
 6. Flexible rockfall barrier; and
 7. Gabion barrier.

Within the project area in Virginia, the work is limited to localized safety scaling and localized rock bolting to secure the attenuator barrier and drape. For more project details, please see the enclosed Project Review Form.

Proposed Area of Potential Effects

WVDOH has developed a proposed Area of Potential Effects (APE) for your review and concurrence (Enclosure 2). The APE extends across state lines, with the vast majority of the work being conducted in West Virginia. WVDOH is consulting separately with the West Virginia State Historic Preservation Officer on the identification of historic properties and assessment of effect for the APE in West Virginia. The project APE is composed of an archaeological APE and an architectural APE. The APE takes into account direct and indirect effects of the Project, as well as temporary and permanent effects resulting from construction activities. The APE for the project in Virginia is very limited and extends approximately 1,000 feet east from the West Virginia state line into Virginia along US 340.

The archaeological APE includes all areas that may be affected by ground disturbance or stabilization of the existing US 340 ROW and northern slope of Loudoun Heights. The APE comprises the existing US 340 ROW along the narrow floodplain between the base of the Loudoun Heights slope and the Shenandoah and Potomac Rivers, as well as the northern slope of Loudoun Heights in Virginia. The project APE consists of three non-contiguous areas that collectively measure approximately 11.3 acres, while the portion of the archaeological APE in Virginia measures 0.8 acres in size and is located outside of the Harpers Ferry National Historical Park (HFNHP). The West Virginia portion of the APE encompasses 10.5 acres and is located almost entirely within the HFNHP, with the exception of the easternmost 1.2 acres.

The architectural APE for the project generally consists of a 0.25-mile buffer that extends from the project improvements on the west, north, and east sides, and follows the ridge of the northern slope of Loudoun Heights on the south side. The architectural APE extends approximately 1,000 feet into Virginia from the West Virginia/Virginia border. The overall architectural APE encompasses portions of West Virginia, Virginia, and Maryland, with the vast majority of the APE located in West Virginia. Using LiDAR data and a GIS model, HDR conducted a viewshed analysis to determine where the project might be visible. Those areas where the project will be most likely to be visible were included within the architectural APE.

Identification of Historic Properties

A review of the Virginia Cultural Resource Information System (VCRIS) identified three historic properties in the Virginia APE, all of which are historic districts (**Error! Reference source not found.**). No archaeological resources or individual buildings or structures are located within the APE in Virginia.

Table 1. Historic Properties in the Virginia APE

DHR No.	Name/Resource	Location	NRHP Eligibility	Date of Evaluation
053-1094	Harpers Ferry National Historic Park	Loudoun County, VA	NRHP-listed under Criteria A, C, and D	1966 (rev. 1980; 1999; 2016)
053-6297	Between the Hills/Harpers Ferry Rural Historic District	Loudoun County, VA	Potentially (Recommended) NRHP Eligible under A and C	June 2011
053-6247	Study Area for the Battle of Harpers Ferry	Loudoun County, VA	Potentially Eligible as a site and as contributing to 053-6297 under A and C	June 2011

Archaeological Resources

Rummel, Klepper, and Kahl, LLP (RK&K) conducted a *Phase I Archaeological Identification Survey for the US 340 Rockslide Investigation Loudoun County, Virginia*, which is enclosed for your review and concurrence (Enclosure 2). The goal of the Phase I survey was to assign archaeological potential and identify archaeological resources within the APE and, to the extent possible, evaluate whether any archaeological resources satisfy the criteria for listing in the National Register of Historic Places (NRHP). As the APE is located within both West Virginia and Virginia, much of the report addresses the APE in both states in order to provide all consulting parties with the appropriate level of information regarding the project area. However, the results and recommendations sections address only the portion of the APE located within Virginia.

In summary, the archaeological field investigation included a pedestrian survey of the APE to assign archaeological potential, identify any aboveground resources, and determine appropriate areas for subsurface shovel testing. The US 340 ROW within the APE has been heavily disturbed through cutting and filling events designed to raise the elevation of the existing roadway. The portions of the APE south of the existing ROW consist almost entirely of deeply dissected stone outcrop cliffs, ledges, and boulder fields. Outside of the existing ROW, slopes within the APE were typically a minimum of 45 to 60 percent, with most areas of the APE exceeding these angles of slope. No evidence of prehistoric or historic archaeological resources were identified within APE.

Architectural Resources

There are no aboveground buildings or structures located within the architectural APE in Virginia. However, three historic districts overlap with the Virginia APE: Harpers Ferry National Historical Park (053-1094); Between the Hills/Harper's Ferry Rural Historic District (053-6297); and Study Area for the Battle of Harper's Ferry (053-6247). Both the Between the Hills/Harper's Ferry Rural Historic District (053-6297) and the Study Area for the Battle of Harper's Ferry (053-6247) are considered "potentially eligible" for listing in the NRHP by DHR and are considered eligible for the NRHP for the purpose of Section 106 consultation for this project. All three historic properties are significant under Criteria A and C; additionally, HFNHP is significant under Criterion D. There are no standing structures associated with these three historic properties present within the Virginia APE.

HFNHP (053-1094) is listed in the NRHP for its significance in association with military maneuvers and operations during the Civil War, including its inclusion of the U.S. Armory. Due to its presence at

the confluence of the Shenandoah and Potomac Rivers, the town was an important manufacturing and commercial center during the eighteenth and nineteenth centuries. It was the site of the famous John Brown raid in 1859, and became significant again as the site of a major Confederate victory over Union forces in 1862. The town, which lies entirely within West Virginia, is significant under Criterion C as an intact collection of nineteenth century homes, businesses, and military structures. Additionally, the historic district is significant under Criterion D for its archaeological potential.

Between the Hills/Harper's Ferry Rural Historic District (053-6297) was recommended eligible for listing in the NRHP in 2011 for significance associated with the federal arsenal, port, and trading center at Harper's Ferry and the historic Hillsboro-Harper's Ferry Turnpike (Route 671) that passes through the center of the district (south and east of the APE) (Criterion A). The recommended historic district is also significant under Criterion C as an example of a relatively unaltered nineteenth-century rural landscape, including farmsteads that lie outside of the APE. The district is also characterized by the mountainous landscape that encircles it.

The Study Area for the Battle of Harper's Ferry (053-6247) was previously recommended eligible for its significance in association with the Battle of Harper's Ferry (1862), during which it supplied a road (Route 671) for advancing troops and supplies (Criterion A). The area is additionally recommended to be a contributing resource to the Hills/Harper's Ferry Rural Historic District (053-6297) for associated significance under Criteria A and C.

Consultation Efforts

WVDOH understands the importance of early and frequent consultation and has conducted several meetings with the NPS, local government officials, and the public. WVDOH is consulting separately with the West Virginia State Historic Preservation Officer regarding the project and its effects in West Virginia. A kick-off meeting was held with NPS staff from the HFNHP on April 23, 2019 to discuss the project, provide preliminary engineering design work, and a discussion of the cultural studies and a National Environmental Policy Act Environmental Assessment that will be completed for the project and approved by the Federal Highway Administration. In January 2020, an architectural historian from WVDOH's contractor met with HFNHP staff to identify areas of visual concern within the park and discuss methodology for assessing effects. A public meeting was held on February 6, 2020 at the HFNHP to provide information and updates regarding the project. Over 130 people from the community, local government, and NPS attended the meeting. No comments were made regarding the project's potential for impacts on historic properties. The vast majority of comments concerned the traffic impacts of the proposed detour during construction. Further, a coordination meeting was held with environmental and cultural staff of the Virginia Department of Transportation on May 7, 2020 to discuss the project, the identification of historic properties in the APE, the consultation efforts to date, and the assessment of effect.

Assessment of Effect

The proposed Project will have no adverse effect on historic properties in Virginia. There are no archaeological resources in the APE in Virginia and the portions of the three historic properties (053-1094; 053-6297; 053-6247) that overlap with the APE in Virginia consist entirely of undeveloped mountainous, wooded terrain. No built structures such as roads (other than US 340) or farmsteads are present within the APE in Virginia. The proposed remediation efforts will be confined to the rock slope

that abuts US 340, and will not extend into the more level, heavily wooded terrain that contributes to the historic significance and rural character of the three historic properties. Due to the location of the Project at a steep descent on the hillside, the proposed Project components will be minimally or not at all visible from contributing resources to DHR Nos. 053-1094, 053-6297, and 053-6247. Furthermore, the proposed work in Virginia consists of potential attenuator barrier, rock bolting, and netting made of rock and steel components whose colors and materials are visually compatible with the existing rockface along US 340, and will therefore have minimal or no visual impact on the surrounding environment. These remediation components will be further screened from view due to the vegetation that exists and will partially obscure the improvements. Remediation efforts are intended to stabilize the rockface and will therefore prevent further deterioration of the rock formations and tree coverage that help to characterize the historic setting of the districts. The proposed remediation efforts will not affect the historic integrity of the three historic districts and will have minimal or no effect, temporal or permanent, on historic properties. It is therefore recommended that the Project will have No Adverse Effect on historic properties in Virginia.

Pursuant to 36 CFR § 800, WVDOH seeks your concurrence on the APE, identification of historic properties, and our finding of No Adverse Effect on historic properties in Virginia for the US 340 Rockslide Repair Project. Should you require additional information, please contact Sondra Mullins of our Environmental Section by calling (304) 414-6468 or via email at Sondra.L.Mullins@wv.gov.

Sincerely,

Ben L.Hark

Digitally signed by Ben L.Hark
DN: cn=US, email=Sondra.L.Mullins@wv.gov,
o=WVDOH - Engineering Division,
ou=Environmental, cn=Ben L.Hark
Date: 2023.08.08 10:14:24-0400

Ben L. Hark
Environmental Section Head
Engineering Division

cc:

Sondra Mullins, WVDOH
Helen Ross, VDOT
Deborah Henson, HDR
Jeanne Barnes, HDR

Enclosures:

1. Project Review Form
2. *Phase I Archaeological Identification Survey for the US 340 Rockslide Investigation Loudoun County, Virginia* (RK&K 2020)



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

**Byrd E. White, III
Secretary of Transportation/
Commissioner of Highways**

April 27, 2020

**Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner**

**Ms. Susan Pierce, Deputy State
Historic Preservation Office
Department of Arts, Culture and History
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305-0430**

Dear Ms. Pierce:

**Phase I Archaeological Survey
US 340 Rockslide Investigation
Jefferson County, WV
State Project: S319-340-15.78 00
Federal Project: NHPP-0340(063)D**

Please find located in the Shared Cultural Resources Document File on Drop Box one digital copy of The Phase I Archaeological Survey for The US 340 Rockslide Investigation and one set of GIS files. The West Virginia project area consists of approximately 4.3 hectares on the south side of US340 near Harpers Ferry, West Virginia. An additional 0.3 hectares of project area located in the state of Virginia was also surveyed but is not included in this document. As a result of the survey no significant archaeological resources were encountered and no further archaeological investigations are recommended.

We ask for your concurrence with these findings.

Should you require additional information, please contact Rodney DeMott of our Environmental Section at (304) 414-6435.

Yours very truly,

**Ben L. Hark
Section Head
Environmental Section
Engineering Division**

H:k

Attachments

Bcc: DDE(RCD)



COMMONWEALTH of VIRGINIA

Department of Historic Resources

Matt Strickler
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
www.dhr.virginia.gov

MEMORANDUM

DATE: 21 September 2020 **DHR File #** 2020-0475

TO: Ms Sondra Mullins
WVDOH

FROM:  Marc E. Holma, Architectural Historian (804) 482-6090
Review and Compliance Division

PROJECT: US 340 rock slide repair project
Loudoun County, Virginia

- ☒ This project will have an effect on historic resources. Based on the information provided, the effect will not be adverse.
- ☐ This project will have an adverse effect on historic properties. Further consultation with DHR is needed under Section 106 of the NHPA.
- ☐ Additional information is needed before we will be able to determine the effect of the project on historic resources. **Please see below.**
- ☐ No further identification efforts are warranted. No historic properties will be affected by the project. Should unidentified historic properties be discovered during implementation of the project, please notify DHR.
- ☐ We have previously reviewed this project. Attached is a copy of our correspondence.
- ☐ Other (Please see comments below)

COMMENTS: **The archaeology report meets DHR survey guidelines and we concur with the recommendation that no further archaeological investigation is warranted. We further agree that the undertaking will have NAE on historic properties 053-1094, 053-6247, and 053-6297.**

Administrative Services
10 Courthouse Ave.
Petersburg, VA 23803
Tel: (804) 862-6408
Fax: (804) 862-6196

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

Project Review Application Form

This application must be completed for all projects that will be federally funded, licensed, or permitted, or that are subject to state review. Please allow 30 days from receipt for the review of a project. All information must be completed before review of a project can begin and incomplete forms will be returned for completion.

I. GENERAL PROJECT INFORMATION

1. Has this project been previously reviewed by DHR? YES ☐ NO ☒ DHR File # _____

2. Project Name US 340 Rock Slide Repair

3. Project Location Purcellville Loudoun
City Town County

4. Specify Federal and State agencies involved in project (providing funding, assistance, license or permit). Refer to the list of agencies and abbreviations in the instructions.

Lead Federal Agency FHWA

Other Federal Agency _____

State Agency West Virginia Division of Highways (WVDOH)

5. Lead Agency Contact Information

Contact Person Jason Workman

Mailing Address 154 Court Street Charleston, WV 25301

Phone Number (304) 347-5271 Fax Number _____

Email Address Jason.Workman@dot.gov

6. Applicant Contact Information

Contact Person Sondra Mullins, Cultural Resources Unit Lead

Mailing Address 1900 Kanawha Boulevard East

Phone Number 304-414-6468 Fax Number _____

Email Address Sondra.L.Mullins@wv.gov

II. PROJECT LOCATION AND DESCRIPTION

7. USGS Quadrangle Name Harpers Ferry

8. Number of acres included in the project 11.3 total, 0.8 acres in Virginia

9. Have any architectural or archaeological surveys of the area been conducted?

YES X
NO

If yes, list author, title, and date of report here. Indicate if a copy is on file at DHR.

See attached archives search.

10. Are any structures 50 years old or older within or adjacent to the project area?

YES
NO X

If yes, give date(s) of construction and provide photographs.

11. Does the project involve the rehabilitation, alteration, removal, or demolition of any structure, building, designed site (e.g. park, cemetery), or district that is 50 years or older? If yes, this must be explained fully in the project description.

YES X
NO

12. Does the project involve any ground disturbance (e.g. excavating for footings, installing sewer or water lines or utilities, grading roads, etc.)? If yes, this must be explained fully in the project description.

YES X
NO

13. DESCRIPTION: Attach a complete description of the project. Refer to the instructions for the required information.

To the best of my knowledge, I have accurately described the proposed project and its likely impacts.

Signature of Applicant/Agent

Date

The following information must be attached to this form:

X Completed DHR Archives search
X USGS map with APE shown
X Complete project description
X Any required photographs and plans

 No historic properties affected No adverse effect

 Additional information is needed in order to complete our review.

 We have previously reviewed this project. A copy of our correspondence is attached.

Comments:

Signature _____ Date _____

Phone number _____ DHR File # _____

This Space For Department Of Historic Resources Use Only

MAIL COMPLETED FORM AND ATTACHMENTS TO:

Virginia Department of Historic Resources

Attention: Project Review

2801 Kensington Avenue, Richmond, VA 23221

www.dhr.virginia.gov

DHR Archives Search

Background research was completed to identify any archaeological surveys or previously identified archaeological sites, cemeteries, or NRHP properties within a one-mile (1.6-kilometer) radius of the APE (**Table 1, Figure 1**). Although the archaeological APE is entirely within West Virginia and Virginia, the background research radius includes parts of Maryland as well.

Background research and the records review for the project were conducted using the Virginia Department of Historic Resources (VDHR) Virginia Cultural Resource Information System (VCRIS), the WV State Historic Preservation Office's (SHPO) GIS Map Viewer, and the Maryland Historical Trust's (MHT) Medusa program, the states' cultural resource information systems. The records reviews identified eight previous archaeological surveys, 78 archaeological sites, 15 NRHP-listed properties, 14 Civil War-era resources, and two cemeteries within the 1-mile (1.6 kilometer) search radius of the APE. Of these, only 7 resources are located in Virginia and none of them are located within the APE (**Figure 1**). For further information on the file search conducted in West Virginia and Maryland, please see the enclosed Phase 1 Survey Report prepared by RK&K (2020).

Table 1. Previously identified archaeological sites in Virginia within a 1-mile (1.6 km) radius of the APE

Site No.	Temporal Period	Site Type	Recorder and Date	Notes
46JF70 / 44LD424	1861-1865	Civil War encampment	Susan W. Frye, 1988	Loudoun Heights Campground Area No. 1
46JF71 / 44LD425	1861-1865	Civil War encampment	Susan W. Frye, 1988	Loudoun Heights Campground Area No. 2
46JF72 / 44LD426	1861-1865	Civil War encampment	Susan W. Frye, 1988	Loudoun Heights Campground Area No. 3
46JF73 / 44LD427	1861-1865	Civil War encampment	Susan W. Frye, 1988	Loudoun Heights Campground Area No. 4
46JF74 / 44LD428	1861-1865	Civil War encampment	Susan W. Frye, 1988	Loudoun Heights Campground Area No. 5
46JF75 / 44LD429	1861-1865	Civil War encampment	Cari Ravenhorst, 1989	Loudoun Heights Campground Area No. 7
46JF76 / 44LD430	1861-1865	Civil War encampment	Cari Ravenhorst, 1989	Loudoun Heights Campground Area No. 8

The APE was defined for the entire project and includes both direct and indirect effects (**Figure 2-Figure 3**). The APE was divided into an archaeological APE and an architectural APE. Only 0.8 acres of the archaeological APE is located within Virginia

Figure 1. Previously recorded cultural resources and archaeological surveys within 1-mile (1.6 m) radius of the APE in Virginia (from VCRIS, accessed June 2020).

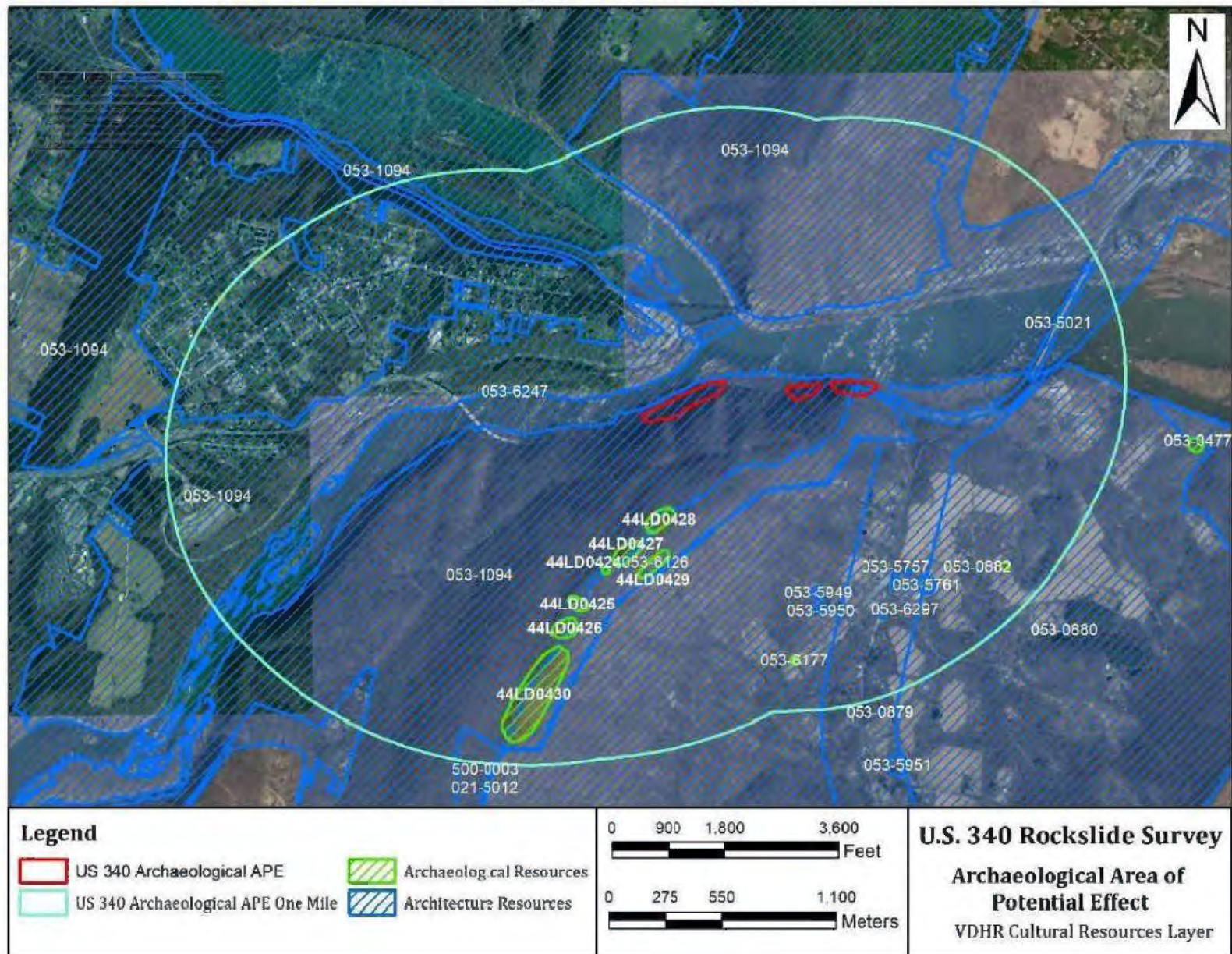


Figure 2. USGS Map with Area of Potential Effect (Harpers Ferry Quad)

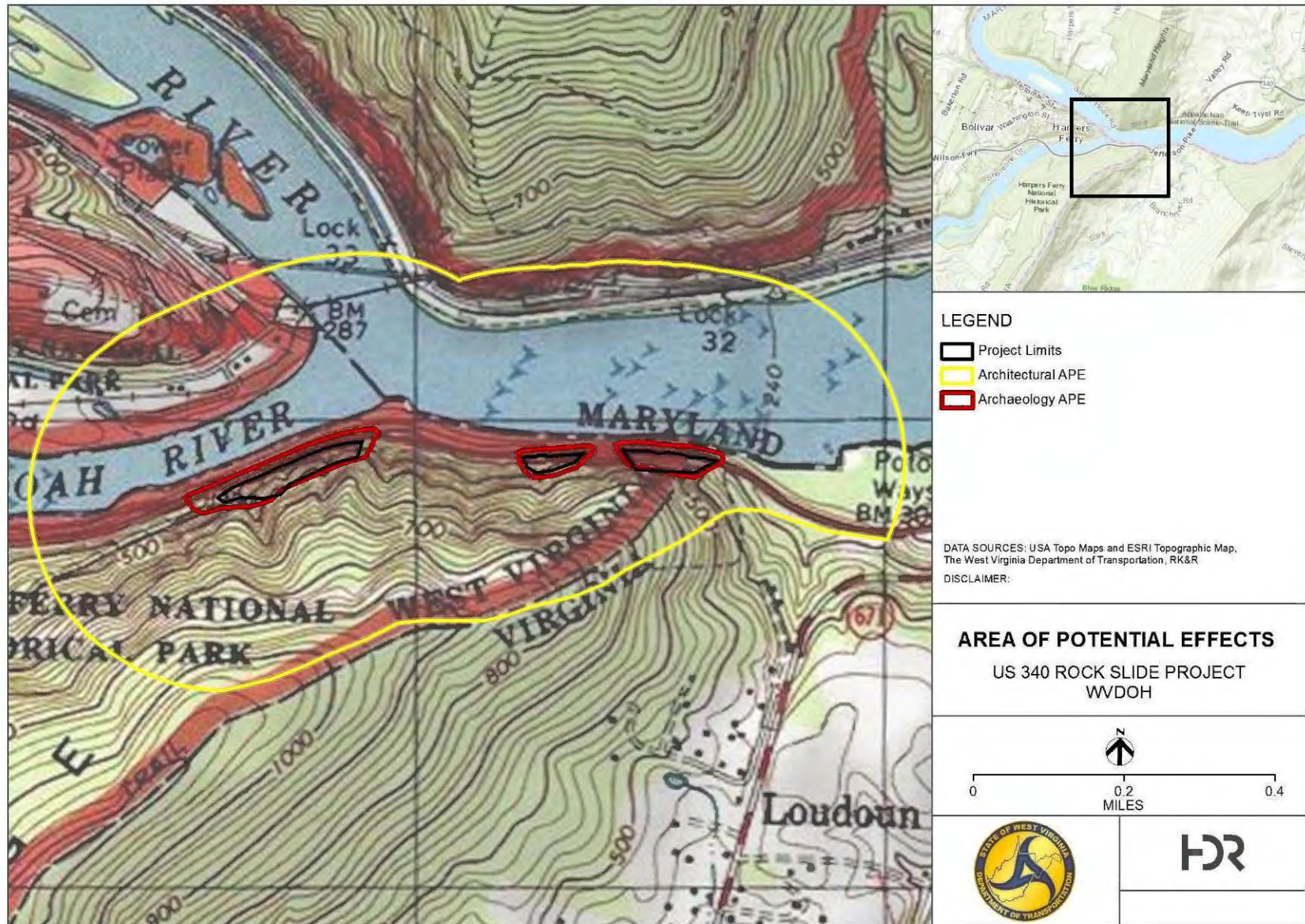
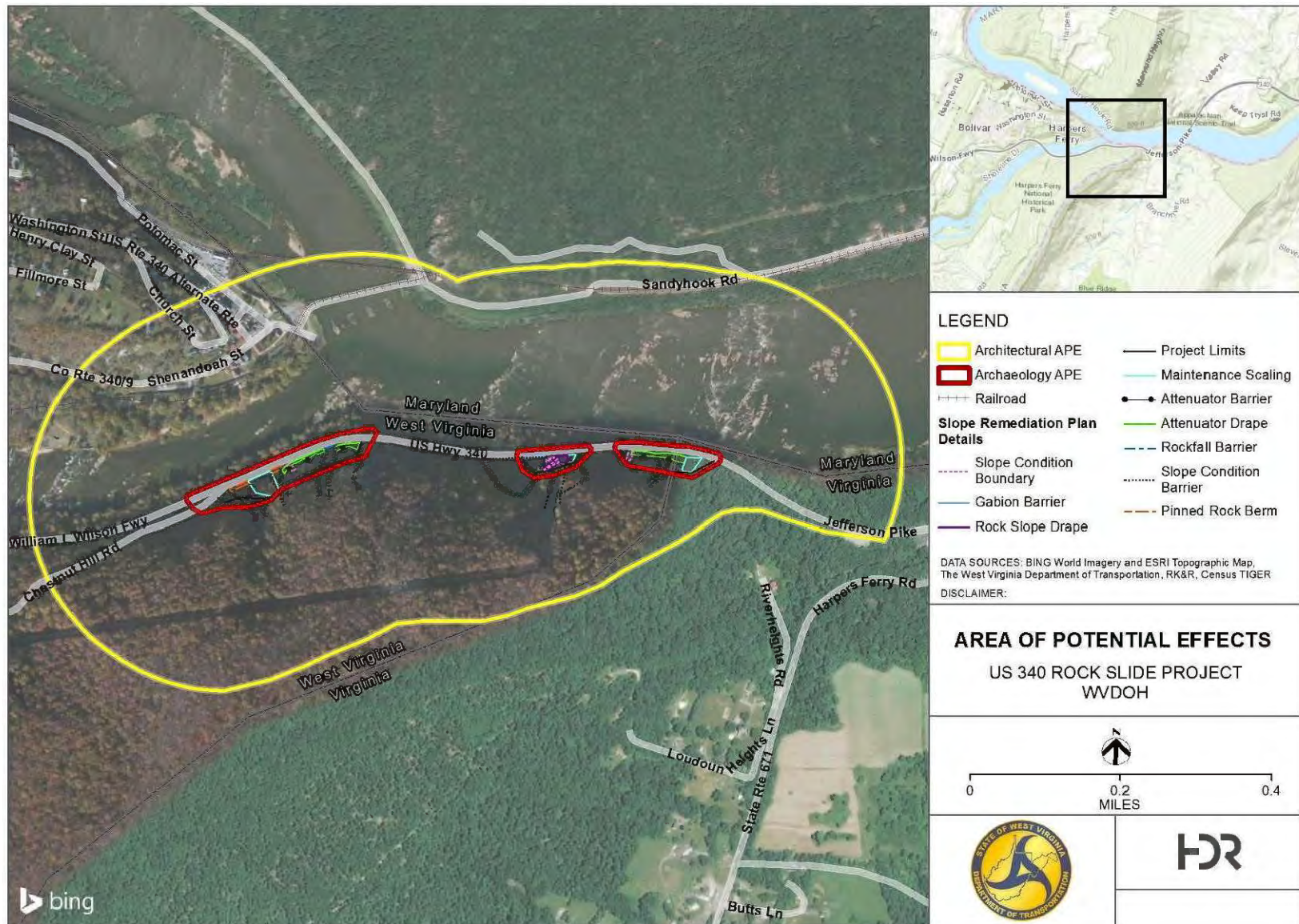


Figure 3. Project APE Map with Project Details



PATH: J:\2017\17-092-US_340-ROCK_SLIDE_BARNES\17-2-WORK-IN-PROGRESS\MAP_DOC\SDRAFT\US_340-ROCKSLIDE_APE_AERIAL_DETAIL.S\MXD - USER: KLOFGREN - DATE: 4/9/2020

Project Description

The Project entails the repair of a rock slide along US 340 in Harpers Ferry, Jefferson County, West Virginia and Purcellville, Loudoun County, Virginia. The project is located along the northbound (NB) and southbound (SB) lanes of US 340 in the Loudoun Heights region of the Harpers Ferry National Historical Park (HFNHP) and just west of the West Virginia/Virginia border on the southern bank of the Shenandoah and Potomac Rivers. US 340 is a high-traffic volume corridor serving local, commuter, and truck traffic from West Virginia, Virginia, and Maryland. This corridor also experiences high traffic volume from seasonal tourism due to its recreational and historical significance in the region. The existing cut slopes in the project study area are a product of US 340 construction in the mid-1950s and natural erosion along the Shenandoah River. The cut slopes and the exposed rock of natural slopes vary in height from 150 feet to greater than 300 feet above the roadway (**Figure 4-Figure 5**). The cut slopes in the project area exhibit varying degrees of rockfall activity that present potential hazards to the traveling public.

The purpose of the project is to implement rockfall protection and stabilization measures associated with the existing slopes along US 340 NB, while considering local traffic impacts and future development of the US 340 corridor. Due to the high volume of traffic, and that US 340 is the main route through this area, rockfalls pose a threat to public safety. The threat to safety exists not only from a rockfall itself, but from road closures that result from rockfalls, and the potential impact to emergency vehicle response times should there be a rockfall.

A Phase I Design Study (Preliminary Design Phase) was performed by HDR Engineering, Inc. (HDR) between December 2015 and April 2018. This work included a geologic evaluation and preliminary rockfall remediation design for three slope areas adjacent to US-340 between Chestnut Hill Road (CR-32) and Harpers Ferry Road (VA-671). The purpose of the study was to provide a preliminary assessment of the potential rockfall hazards within the study area and estimated probable construction costs for feasible rockfall remediation options. Slope investigation methods implemented to complete the assessment included roadway-level and upper-slope geologic evaluations (on-slope rappelling requiring a roadway closure and detour), as well as mobile and aerial LiDAR mapping. Rockfall mitigation treatments were evaluated and considered key factors such as: Construction Cost; Effectiveness to provide rockfall protection (within and above project limits); Construction Complexity; Traffic Impacts; Aesthetics; Rockfall Maintenance; and System Maintenance. A relative risk assessment was completed using the aforementioned key factors aided in development of a “short-list” of remediation options to best fit the geologic and slope conditions in each slope area (**Figure 6-Figure 9**).

Based on the analysis in the Phase I Design Study (HDR 2018), there is a high potential for rockfall in the area and an established public safety need to implement rockfall protection and stabilization mitigation measures for the priority slopes. The proposed remediation options have been developed based on the design study completed on slopes within the existing WVDOH right-of-way (ROW) and NPS property. Seven remediation options were proposed in the three key slope-area types identified at the site and include:

- Natural Rock Slopes and Roadway Cuts
 1. Maintenance and Scaling;
 2. Rock Slope Drape;

3. Attenuator Barrier and Drape; and
4. Localized Roadway Shift
- Debris Channels and Boulder Fields
5. Pinned Rock Berm;
6. Flexible Rockfall Barrier; and
7. Gabion Barrier.

See **Figure 6** for visual details of proposed remediation options. Within the project area in Virginia, the work is limited to localized safety scaling and localized rock bolting to secure an attenuator barrier and drape (see **Figure 7-Figure 9**).

Photos and Plans

Figure 4. View southeast along US 340 towards rock cropping where localized scaling will occur and attenuator drape will be placed (July 2020). View is also within the boundaries of Harpers Ferry National Historic Park (053-1094), Between the Hills/Harpers Ferry Rural Historic District (053-6297), and Study Area for the Battle of Harpers Ferry (053-6247).



Figure 5. View west along US 340 towards West Virginia (July 2020). View is also within the boundaries of Harpers Ferry National Historic Park (053-1094), Between the Hills/Harpers Ferry Rural Historic District (053-6297), and Study Area for the Battle of Harpers Ferry (053-6247).



Figure 6. Proposed Remediation Options in Project Area



Figure 7. Preliminary Slope Remediation Plan (Virginia work only)

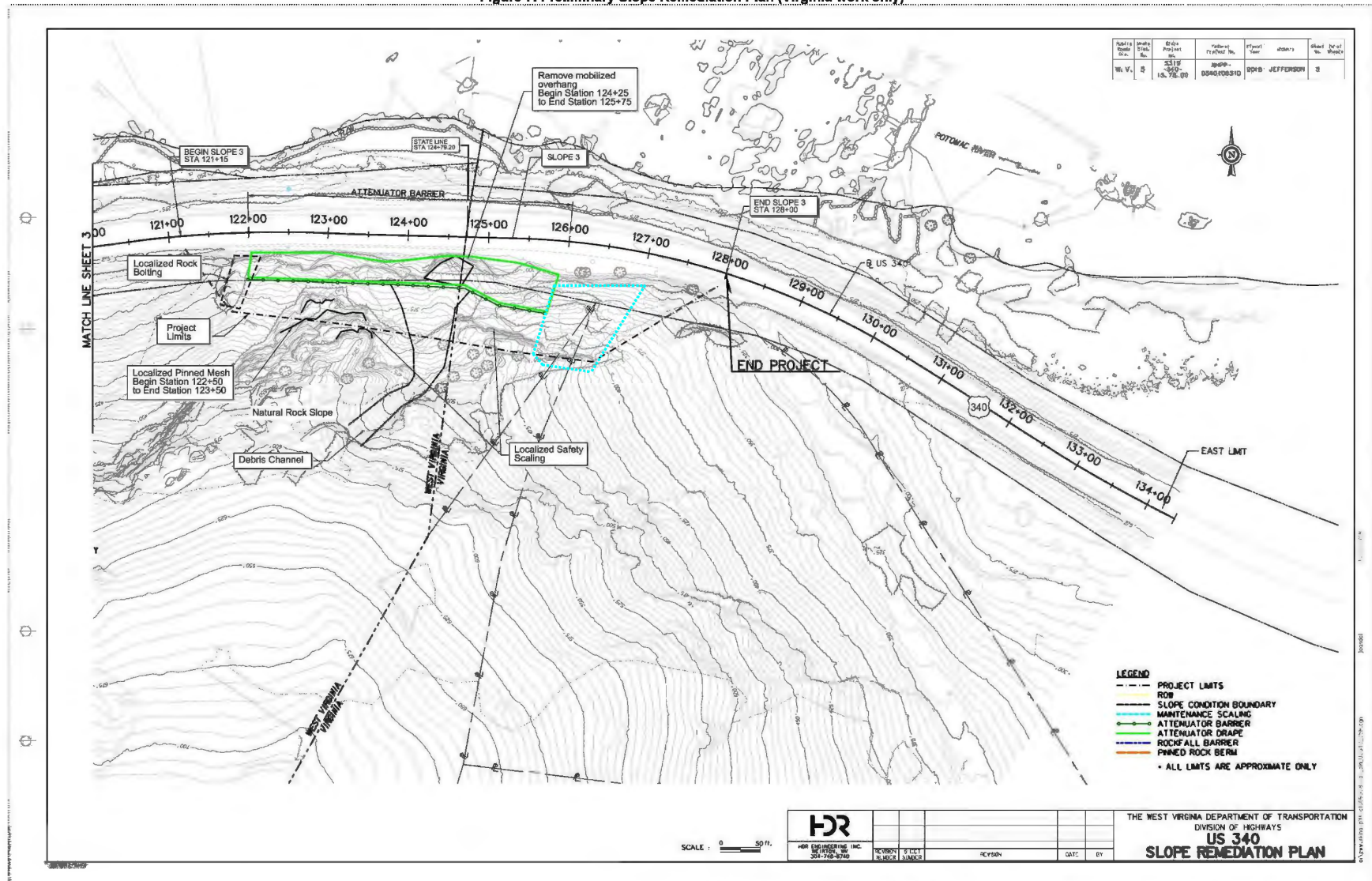


Figure 8. Preliminary Slope Remediation Plan (Virginia work only)

Notes:

1. Scaled Orthophotographs dated January 2016
2. Project baseline and DOH ROW are approximate only.
3. Remediation limits illustrated on photos are approximate only.
4. Photos were taken at different angles to the slope surface creating a skew relative to the baseline. Therefore station ranges may vary from the remediation plan.

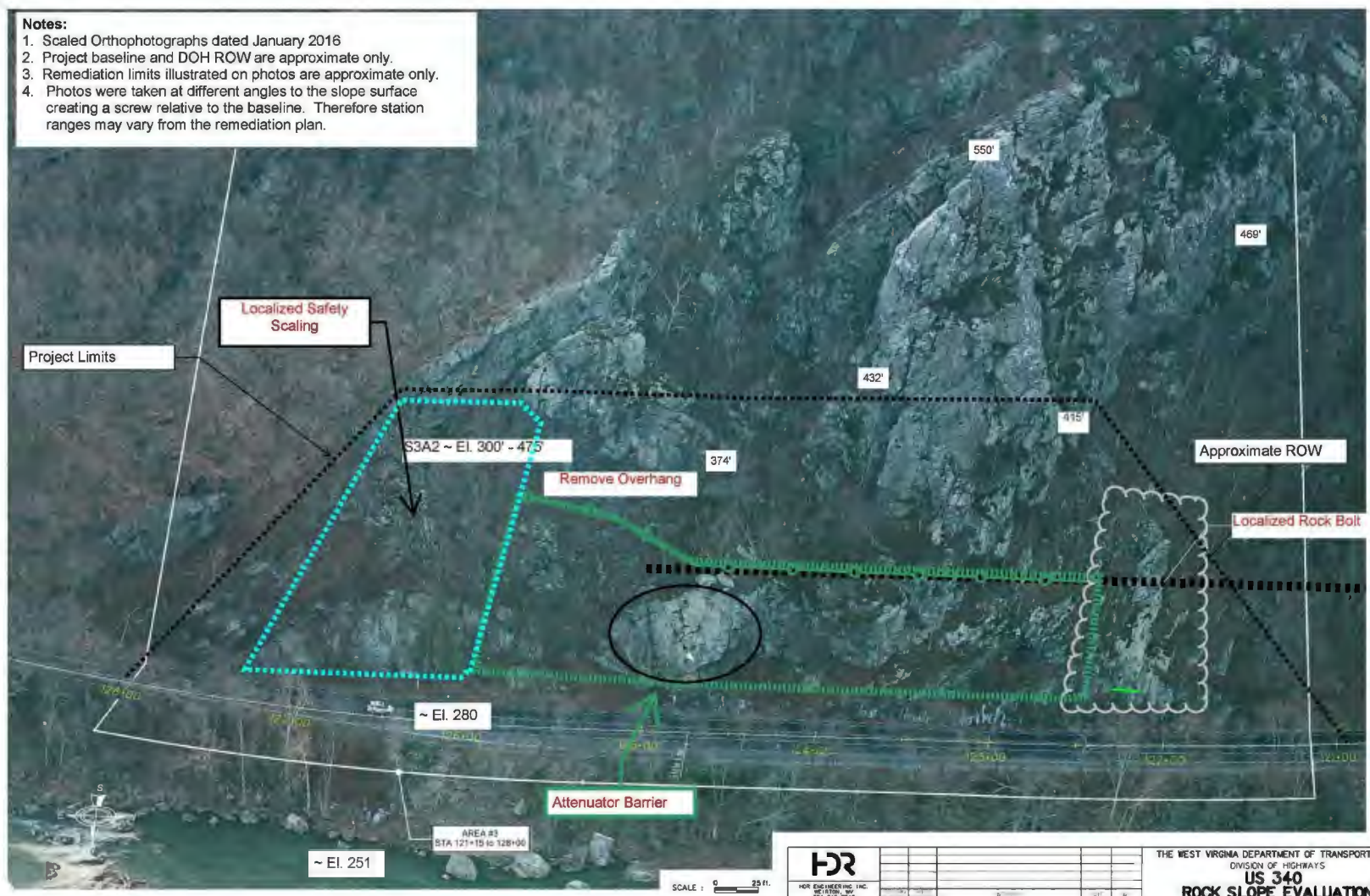
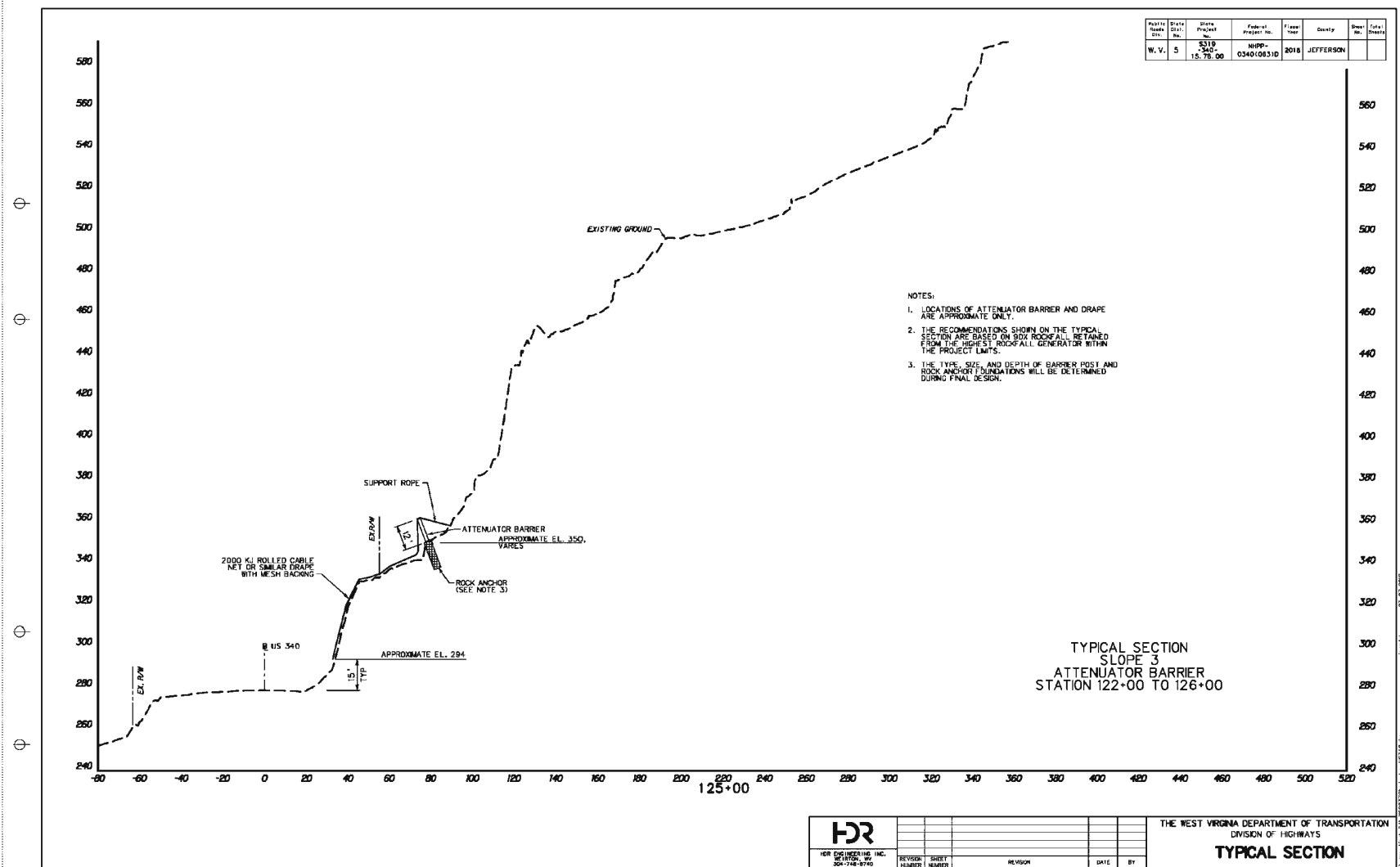


Figure 9. Typical Section, Slope 3 (Virginia work only)





WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

**Byrd E. White, III
Secretary of Transportation**

January 20, 2021

**Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner**

Ms. Susan Pierce
Deputy State Historic Preservation Officer
WV Division of Culture and History
1900 Kanawha Boulevard East
Charleston, WV 25305

State Project No.: S319-340-15.78.00
Federal Project No. NHPP-0340(063)D US
US 340 Rock Slide Repair Project
Jefferson County, WV and Loudoun County, VA

Dear Ms. Pierce,

The West Virginia Division of Highways (WVDOH) proposes to complete the US 340 Rock Slide Repair (Project) in Harpers Ferry, Jefferson County, West Virginia and Loudoun County, Virginia. As the WVDOH administers Federal-aid projects on behalf of the Federal Highway Administration throughout the State of West Virginia as authorized by Title 23 U.S.C 302, this project is an undertaking subject to Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations at 36 Code of Federal Regulations (CFR) § 800. This letter initiates Section 106 consultation with your office and seeks your concurrence on the Area of Potential Effects, the identification of historic properties, and the finding that the project will result in No Adverse Effect to historic properties in West Virginia.

We previously consulted with your office regarding the archaeological investigation for this Project. RK&K completed a *Phase 1 Archaeological Identification Survey for the US 340 Rockslide Investigation* in March 2020. The study found no evidence of prehistoric or historic archaeological resources within the Area of Potential Effects (APE) in West Virginia and recommended no further work and that the Project would have no effect on archaeological historic properties. Your office concurred with these recommendations on April 28, 2020 (FR# 20-764-JF).

Project Background

The Project entails the repair of a rock slide along US 340 in Harpers Ferry, West Virginia. US 340 is a high-volume (approximately 35,000 vehicles per day), two-lane roadway that traverses the water gap through the Blue Ridge Mountains created by the Shenandoah and Potomac Rivers, between

Harpers Ferry, West Virginia and the West Virginia-Virginia state line. The project is located along the northbound (NB) and southbound (SB) lanes of US 340 in the Loudoun Heights region of the Harpers Ferry National Historical Park (HFNHP). The natural rock slopes adjacent to US 340 range in height from 150 feet to 600 feet above the US 340 roadway grade. These slopes exhibit varying degrees of rockfall activity and present concerns to the traveling public. Ongoing maintenance activities by the WVDOH is required to maintain the road for safe travel by the public through this area.

A Phase I Design Study (Preliminary Design Phase) was completed in April 2018. This work included a geologic evaluation and preliminary rockfall remediation design for three slope areas adjacent to US 340 between Chestnut Hill Road (CR-32) and Harpers Ferry Road (VA-671). Rockfall mitigation treatments were evaluated and considered key factors such as: Construction Cost; Effectiveness to provide rockfall protection (within and above project limits); Construction Complexity; Traffic Impacts; Aesthetics; Rockfall Maintenance; and System Maintenance. Based on the analysis, there is a high potential for rockfall in the area and an established public safety need to implement rockfall protection and stabilization mitigation measures for the priority slopes. The proposed remediation options have been developed based on the design study for slopes within the existing WVDOH right-of-way (ROW) and National Park Service (NPS) property. Please see the attached Assessment of Effects for a more detailed project description (Enclosure 1).

Area of Potential Effects

WVDOH has developed an APE for your review and concurrence (Enclosure 2). The APE extends across state lines, with the vast majority of the work being conducted in West Virginia. WVDOH has consulted separately with the Virginia State Historic Preservation Officer (SHPO) on the identification of historic properties and assessment of effects for the APE in Virginia.¹ The project APE is composed of an archaeological APE and an architectural APE. The APE takes into account direct and indirect effects of the Project, as well as temporary and permanent effects resulting from construction activities.

The architectural APE for the project generally consists of a 0.25-mile buffer that extends from the project improvements on the west, north, and east sides, and follows the ridge of the northern slope of Loudoun Heights on the south side. The architectural APE extends approximately 1,000 feet into Virginia from the West Virginia/Virginia border. The overall architectural APE encompasses portions of West Virginia, Virginia, and Maryland, with the vast majority of the APE located in West Virginia. Using LiDAR data and a GIS model, HDR conducted a viewshed analysis to determine where the project might be visible. Those areas where the project would be most likely to be visible were included within the architectural APE.

Identification of Historic Properties

A review of the West Virginia SHPO Map Viewer identified seven architectural historic properties in the APE, including the Harpers Ferry National Historical Park (66000041), the Harpers Ferry Historic District (79002584), and their contributing resources (Table 1). Due to the unique nature and size of some of the resources, boundaries of some historic properties extend across state lines. Because all architectural resources within the APE had been previously surveyed and evaluated for listing in the

¹ The Virginia SHPO concurred with the APE and the finding that the Project would have no adverse effect on historic properties in Virginia (Marc E. Holma, Virginia Department of Historic Resources to Sondra Mullins, WVDOH, Memorandum, US 340 Rock Slide Repair Project, Loudoun County, Virginia, DHR File # 2020-0475, 21 September 2020).

National Register of Historic Places (NRHP), resources within the APE were revisited and photographed but no survey was completed. Please see the attached Assessment of Effects for more information on historic properties in the APE.

Table 1. Historic Properties in the APE

ID Number	Name	Address	State	NRHP Status	NRHP Criteria
NR-460/ WA-III-027 (MD)/ 78001484 (WV)	B&O Railroad Potomac River Crossing (Bridge, Potomac River & Tunnel)	Confluence of Shenandoah and Potomac Rivers	MD/WV	Listed 1979	N/A
66000041 (NPS/WV)/ WA-III-072 (MD)/ 053-1094 (VA)	Harpers Ferry National Historical Park	Harpers Ferry Road	MD/VA/WV	Listed 1966, revised 1980, 1999, 2016 (boundary expansion)	A, B, C, D
79002584 (NPS/WV)	Harpers Ferry Historic District	Harpers Ferry	WV	Listed 1979, revised 2010	A, C
66000036 (NPS/WV)/ WA-VI-048 (MD)	Chesapeake and Ohio Canal National Historic Park (C&O Canal)	Potomac River, from Georgetown, DC to Cumberland, MD	DC/MD/WV	Listed 1966, revised 1980, boundary increase 2015	A, C
02000287 (WV)	Bollman Bridge, Wemwag or Latrobe Bridge (B&O Railroad Potomac River Bridge)	Confluence of Potomac and Shenandoah Rivers	WV/MD	Listed 2002	A, under MPDF Historic Properties of the Harpers Ferry National Historical Park (2001)
73001915 (WV)	St. Peter's Roman Catholic Church	Church Street and Jefferson Rock Trail	WV	Listed 1973	C (Criteria Consideration A).
01000785 (WV)	Niswarner Tract/Sherwood Property (Ruins)	West side of Chestnut Hill Road	WV	Listed 2001	A, under MPDF Historic Properties of the Harpers Ferry National Historical Park (2001)

Consultation Efforts

WVDOH understands the importance of early and frequent consultation and has conducted several meetings with the NPS, local government officials, and the public. WVDOH consulted separately with the Virginia SHPO regarding the project and its effects in Virginia. A kick-off meeting was held with NPS staff from the HFNHP on April 23, 2019 to discuss the project, provide preliminary engineering design work, and a discussion of the cultural studies and a National Environmental Policy Act Environmental Assessment that will be completed for the project and approved by the Federal Highway Administration. In January 2020, an architectural historian from WVDOH's contractor met with HFNHP staff to identify areas of visual concern within the park and discuss the methodology for

assessing effects. A public meeting was held on February 6, 2020 at the HFNHP to provide information and updates regarding the project. Over 130 people from the community, local government, and NPS attended the meeting. No comments were made regarding the project's potential for impacts on historic properties. The vast majority of comments concerned the traffic impacts of the proposed detour during construction. Further, a coordination meeting was held with environmental and cultural staff of the Virginia Department of Transportation on May 7, 2020 to discuss the project, the identification of historic properties in the APE, the consultation efforts to date, and the assessment of effects.

Assessment of Effects

The proposed Project will have no adverse effect on historic properties. There are no archaeological resources in the APE. The proposed remediation efforts will be confined to the rock slope that abuts US 340. Due to the location of the Project at a steep descent on the hillside, the proposed Project components will be minimally or not at all visible from the historic properties in the APE with the exception of the HFNHP. However, the proposed work within the Park along US 340 consists of potential attenuator barriers, rock bolting, and draping/netting made of rock and steel components whose colors and materials are visually compatible with the existing rockface along US 340, and will therefore have minimal or no visual impact on the surrounding environment. These remediation components will be further screened from view from the heart of the district in Harpers Ferry due to distance and the vegetation that exists along the banks of the Potomac River that will partially or fully obscure the improvements. Remediation efforts are intended to stabilize the rockface and will therefore prevent further deterioration of the rock formations and tree coverage that help to characterize the historic setting of the HFNHP. The proposed remediation efforts will not affect the historic integrity of the Park and will have minimal or no effect, temporal or permanent, on historic properties. It is therefore recommended that the Project will have No Adverse Effect on historic properties in West Virginia. Please see the enclosed Assessment of Effects for a more detailed assessment.

Pursuant to 36 CFR § 800, WVDOH seeks your concurrence on the APE, identification of historic properties, and our finding of No Adverse Effect on historic properties in West Virginia for the US 340 Rockslide Repair Project. Should you require additional information, please contact Sondra Mullins of our Environmental Section by calling (304) 414-6468 or via email at Sondra.L.Mullins@wv.gov.

Sincerely,

Ben L. Hark
Environmental Section Head
Engineering Division

cc:

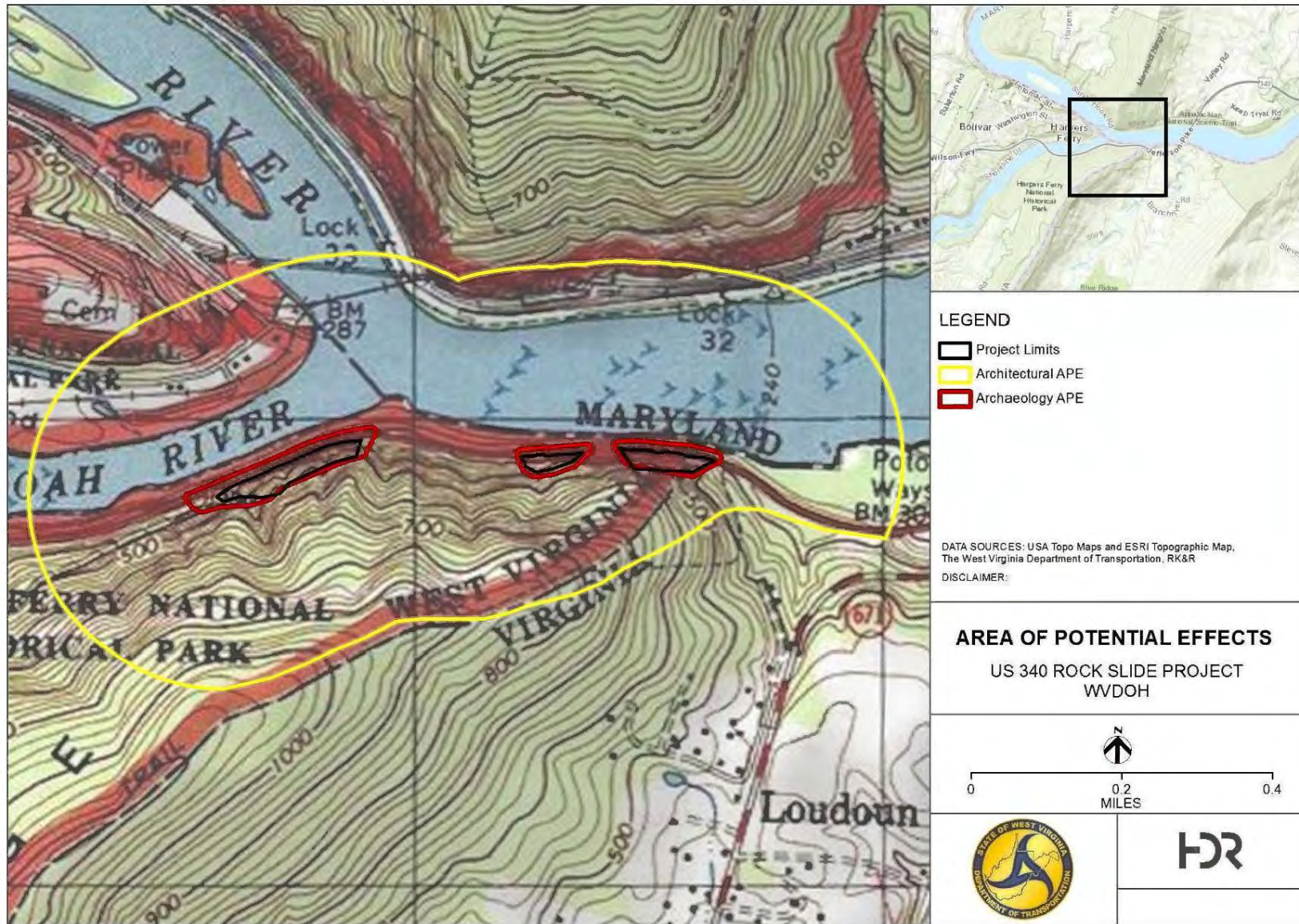
Sondra Mullins, WVDOH
Deborah Henson, HDR

Enclosures:

1. US 340 Rock Slide Repair Project Assessment of Effects
2. Area of Potential Effects Maps

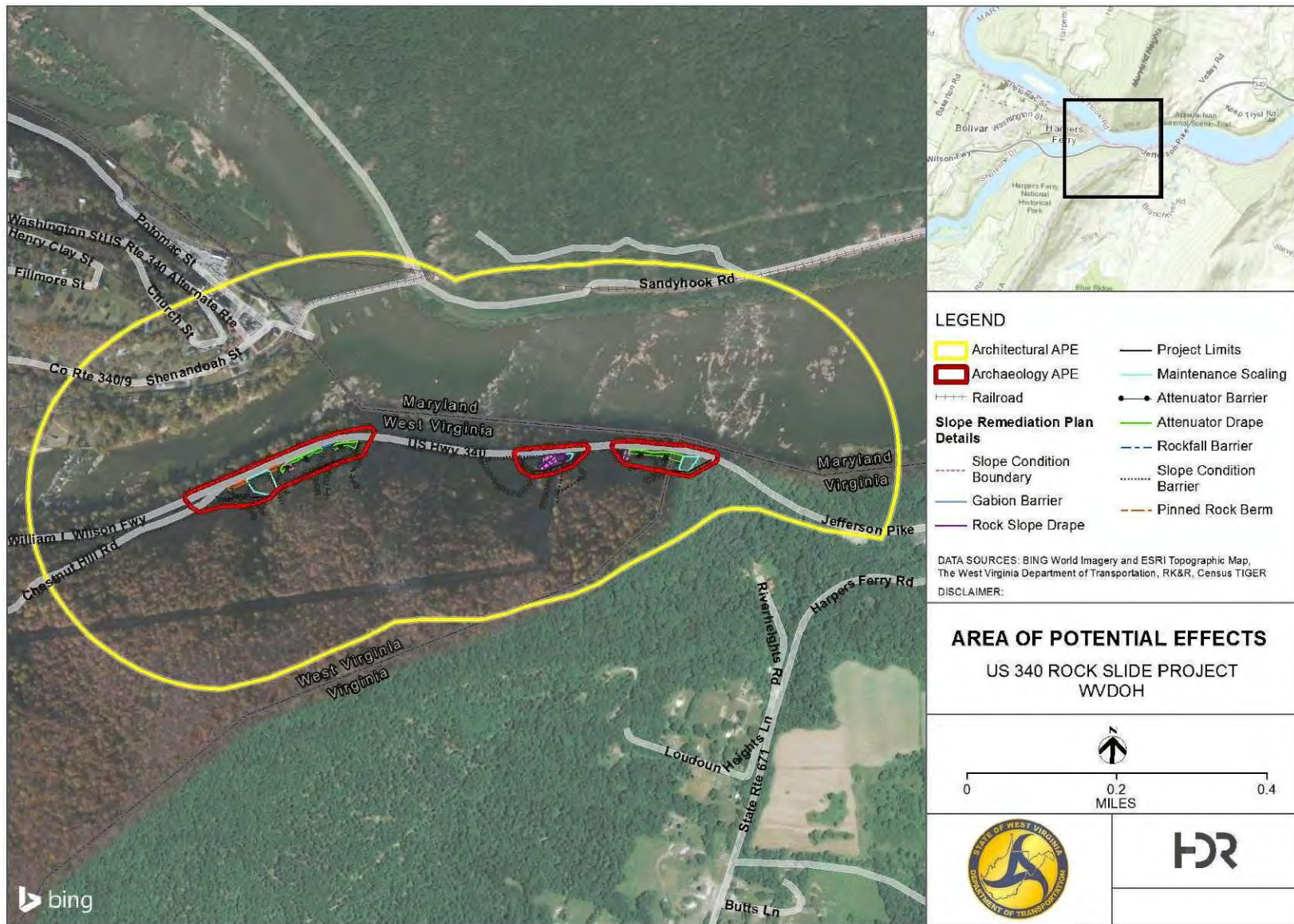
Enclosure 2. Area of Potential Effects Maps

Figure 1. USGS Map with Area of Potential Effects (Harpers Ferry Quad)



PATH: J:\2017\17-082_US_340_ROCK_SLIDE\BARNES\2-WORK_IN_PROGRESS\MAP_DOCS\RAFT\US_340_ROCKSLIDE_APE_TOPO_PROJECTAREA.MXD - USER: KLOFGREN - DATE: 4/9/2020

Figure 2. Project APE Map with Project Details





PROJECT REVIEW FORM

Request for Comments from the Maryland Historical Trust/
MDSHPO on State and Federal Undertakings

MHT USE ONLY

Date Received:

10/25/2021

Log Number:

202104258

Project Name US 340 Rock Slide Repair

County Washington

Primary Contact:

Contact Name Sondra Mullins

Company/Agency WV Division of Highways

Mailing Address 1900 Kanawha Blvd E

City Charleston

State West Virginia

Zip 25305

Email sondra.l.mullins@wv.gov

Phone Number +1 (304) 414-6468

Ext.

Project Location:

Address US 340

City/Vicinity Harpers Ferry

Coordinates (if known): Latitude 39.320976

Longitude -77.7226

Waterway Shenandoah River; Potomac F

Project Description:

List federal and state sources of funding, permits, or other assistance (e.g. Bond Bill Loan of 2013, Chapter #; HUD/CDBG; MDE/COE permit; etc.).	Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)
	Federal	Federal Highway Administration	NHPP-0340(063)D US
	State	West Virginia Department of Highways	S319-340-15.78.00

This project includes (check all applicable): ☐ New Construction ☐ Demolition ☐ Remodeling/Rehabilitation

☐ State or Federal Rehabilitation Tax Credits ☒ Excavation/Ground Disturbance ☐ Shoreline/Waterways/Wetlands

Other\Additional Description:

Known Historic Properties:

This project involves properties (check all applicable): ☒ Listed in the National Register ☐ Subject to an easement held by MHT

☒ Included in the Maryland Inventory of Historic Properties ☐ Designated historic by a local government

☐ Previously subject to archeological investigations

Property\District\Report Name

See attached report, Assessment of Effects for the US 340 Rock Slide Repair Project

Attachments:

All attachments are required. Incomplete submittals may result in delays or be returned without comment.

☒ Aerial photograph or USGS Quad Map section with location and boundaries of project clearly marked.

☒ Project Description, Scope of Work, Site Plan, and/or Construction Drawings.

☒ Photographs (print or digital) showing the project site including images of all buildings and structures.

☒ Description of past and present land uses in project area (wooded, mined, developed, agricultural uses, etc).

MHT Determination:

☐ There are NO HISTORIC PROPERTIES in the area of potential effect ☐ The project will have NO ADVERSE EFFECT WITH CONDITIONS

☐ The project will have NO EFFECT on historic properties

☐ The project will have ADVERSE EFFECTS on historic properties

☒ The project will have NO ADVERSE EFFECT on historic properties ☐ MHT REQUESTS ADDITIONAL INFORMATION

MHT Reviewer: *Ann J. [Signature]*

Date: 11/17/2021

Submit printed copy of form and all attachments by mail to: Beth Cole, MHT, 100 Community Place, Crownsville, MD 21032

2NA JT / 1A ETC 11/17/2021



United States Department of the Interior

NATIONAL PARK SERVICE
Harpers Ferry National Historical Park
P.O. Box 65
485 Fillmore Street
Harpers Ferry, West Virginia 25425

IN REPLY REFER TO:
1.A (HAFE)

August 17, 2023

West Virginia Ecological Services Field Office
Endangered Species Branch
US Fish & Wildlife Service
6263 Appalachian Highway
Davis, WV 26260

PROJECT CODE: 2023-0040639

RE: Reinitiation Section 7 Consultation for Northern Long-eared Bat and Indiana Bat in
Harpers Ferry National Historical Park for the Rockslide Prevention Project [State
Project No. S319-340-15.78.00; Federal Project No. NHPP-0340(063)D]

Dear West Virginia Field Office:

The National Park Service (NPS) is reinitiating Endangered Species Act, as amended 1973, Section 7 informal consultation for two species of bat that may be present in Harpers Ferry National Historical Park (HAFE), including the federally endangered Indiana Bat (*Myotis sodalis*, Ibat) and the endangered Northern Long-eared Bat (*Myotis septentrionalis*, NLEB) in the Loudoun Heights area of the park. The park is also considering impacts to the proposed-as-endangered tricolored bat (*Perimyotis subflavus*) because it is likely to be listed before this project ends. The park will reinitiate consultation about the tricolored bat after listing. The proposed federal action is NPS issuing a Special Use Permit that will allow the West Virginia Division of Highways (WVDOH) to place a rockfall prevention system for public safety purposes on the slopes above the northbound lane of U.S. Route 340 in Jefferson County, West Virginia, and Loudoun County, Virginia.

The NLEB are found throughout the park in forest and other park areas adjacent to the project action area as identified in Information for Planning and Consultation system (IPaC). To date, the U.S. Fish and Wildlife Service has not designated critical habitat for these species in the park.

We have made the determination that the proposed activity may affect, but is not likely to adversely affect, species listed as endangered under the ESA of 1973, as amended in 1982. Our supporting analysis is provided below.

INTERIOR REGION 1 • NORTH ATLANTIC-APPALACHIAN

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS,
NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, VERMONT,
VIRGINIA, WEST VIRGINIA

Action Area

HAFE proposes to issue a special use permit to the WVDOH to implement rockfall protection and stabilization measures in a project area measuring approximately 14 acres. The area consists of sweet birch (*Betula lenta*) and chestnut oak (*Quercus montana*) talus woodland covering natural rock slopes (cliffs and rock spires), boulder fields and debris channels, along with roadway rock cuts associated with the original construction of the roadway in the 1940s. The cut slopes and the exposed rock of natural slopes vary in height from 150 feet to greater than 600 feet above the roadway (Attachment 1).

Proposed Project

Slope remediation techniques include manual removal of loose rock, installation of slope and attenuator drapes, and localized rock bolting. Prior to installation, vegetation and trees need to be trimmed or removed from approximately 1 acre of the project area, which is made up of less than 0.5-acre NPS controlled land and less than 0.5-acre WV state Right-of-Way controlled land.

WVDOH proposes to implement the project during a 100-day period between 12 September to 21 December 2023.

NPS will work with WVDOH and its contractors to minimize to the extent reasonably practicable, construction-related noise and dust disturbances to terrestrial wildlife and migratory birds. Permit provisions may include erection of noise abatement shields or physical barriers, or limiting work hours, among other measures. Adherence to dust control measures in the West Virginia Department of Transportation Standard Specifications, Roads and Bridges, will help minimize the effects of construction on air quality.

Listed Species

According to IPaC, the federally listed endangered NLEB and Ibat are present in the action area. The federally endangered Ibat and NLEB have been previously documented at HAFE (Deeley et al. 2021). Though the project area is not within a known-use area for either species, potentially occupied habitat may exist. The listed bats may use the project area for foraging and roosting between 1 April and 14 November, the active period. Trees of sizes greater than 3 inches diameter at breast height (DBH) and in various conditions may be used by both species. Both species typically migrate to hibernacula on or about 15 November, and do not return before April 1. There are no known hibernacula in the park.

Endangered NLEB and Ibat

NLEBs and Ibats are nocturnal foragers and catch insects in flight or glean them from surfaces in conjunction with passive acoustic cues (IPaC definitions). The park's forests contain potential roosts –live trees and/or snags ≥ 3 inches DBH that have exfoliating bark, cracks, crevices, and/or cavities. Researchers have determined that NLEB and Ibat are primarily an interior forest species (Lausen, 2009). NLEB roosts and forages within the understory of forested areas during the summer season. Surveys from 2016 to 2018 for NLEB and Ibat indicated that the species is

found in the park (Deeley et al. 2021). Further bat surveys are planned for 2025-2027 (D. Pavsek personal communication 2023). There is no designated critical habitat for the Ibat in the project action area or the park.

Proposed Endangered Tricolored Bat

The conservation measures proposed for the northern long-eared bat will protect the tricolored bat. NPS will reinitiate consultation when the tricolored bat listing is effective during fall 2023.

Anticipated Threats and Stressors to NLEB—Existing Environmental Baseline

We used the Interim Guidelines and Northeast Rangewide Determination Key to consider impacts to the NLEB. These impacts may affect the Ibat, too.

The park entered project data into the IPaC system's NLEB determination key, a requirement given that (1) U.S. Fish and Wildlife Service identified the species as present in the project action area, and (2) surveys have determined the presence of northern long-eared bat (and the Ibat).

In answering the key's questions, NPS considered all effects of the proposed project in the project action area. This included all consequences to listed species (there is no critical habitat) that are caused by the proposed action, including the consequences of other activities caused by the proposed action. (Per 50 CFR § 402.17(b), a consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.)

As documented in the resulting Consistency Letter, issued on 10 August 2023 by the U.S. Fish and Wildlife Service, the determination of "May Affect" for the northern long-eared bat was reached. Therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required.

Development of Conservation Measures to Protect the Endangered Bats

The park has developed conservation measures for this project that correspond to and address concerns identified in the determination key primarily through observing or requesting a short time waiver for the time-of-year restrictions to tree removals and construction. NPS would implement the following conservation measures:

- The NPS requests a waiver for a time of year restrictions on tree removal suitable for roosting from 12 September to 14 November 2023.
- The NPS intends to limit tree removal to the extent possible and not exceed 0.5 acres removed total on NPS-controlled lands.
- NPS expects native trees to reseed and revegetate the project action area after the project ends 31 December 2023.
- The park contains 990 acres of mature forested land surrounding the project

action area to provide alternative roosts and forage trees to the endangered bats.

In addition, the NPS is providing funding for Dr. Ford, Unit Leader, USGS Cooperative Ecosystems Studies Unit, Virginia Polytechnic Institute and State University to survey all NCR parks for all bat species, including the Harpers Ferry National Historical Park, from 2025 through 2027. As part of these planned studies, the researchers will:

1. Operate acoustics to fully characterize bat (all species) seasonal ecology, and begin to provide park-level, long-term trends in relative abundance, changes in community composition, and habitat associations;
2. Conduct targeted mist-net survey effort to capture and radio-tag NLEB to document day-roost type, forest stand composition and characteristics;
3. Collect tissue for genetic and stable-isotope to refine population structure assessments and connectedness to the presumed mid-Atlantic coastal population; and
4. Continue to incorporate the park data points in USFWS and U.S. Geological Survey ESA monitoring protocol development and recommendations and NABAT monitoring.

These proposed studies will help better understand the phenology of NLEB and other bat species present in the park, not just in relation to the impacts this project and from other natural and anthropogenic events as well. Acoustic devices provide park-specific habitat use association data. Also, mist-net capture and radio-tracking sessions in early to mid-spring arrival, mid-June maternity season, and fall exit will provide high resolution day-roost data and insights on movement/migration patterns. In addition, tissue collection for genetics and stable-isotope analysis will provide a better understanding of the landscape role of the park to mid-Atlantic NLEB populations.

Effects Determination

We expect that bats will begin to migrate to the hibernacula by leaving the park during mid- to late-August, which is near the end of the bats' active period. The endangered bats' behaviors may be temporarily affected but are not likely to be adversely affected by the removal of approximately 0.5 acres of trees in the long term. Any bat occupying these trees will likely move to 990 acres of forested habitat immediately adjacent to the action area. The project may cause a temporary change in bat behavior; it may startle the bats and interrupt feeding, but these impacts will not cause reductions in habitat quality.

There are no known roost trees in the project action area.

If bats are in the vicinity of the project action area during construction, we assume that the volant bats will not be at risk. The project activities may result in temporary displacement of these species; however, the effects would be insignificant and discountable because the project action area is small relative to the rest of the available forest. Bats will not be prevented from using the project action area as a migratory pathway to adjacent, surrounding, and readily available forested areas for purposes of foraging and roosting.

There are no anticipated effects from the proposed action later in time or outside the action area.

Effects of the Action—Indiana Bat or Northern Long-eared Bat Critical Habitat

There is no critical habitat listed for either bat species within the park or the vicinity.

Cumulative Effects

WVDOH plans to remove an additional 0.5 acres of trees/vegetation within the state right-of-way for US340 in the project action area. No additional private actions will occur or are planned for the action area. Short term impacts due to noise levels by state WVDOH construction in the project action area. Once the activity ceases, the noise will return to ambient.

Conclusion

Based on the impact analysis and implementing the proposed conservation measures to minimize impacts, the National Park Service determined that the proposed action may affect but is not likely to adversely affect the NLEB or the Ibat. We certify that we have used the best scientific and commercial data available to complete this analysis. We request your concurrence with this determination.

Sincerely,



TANYA
GOSSETT

Tanya M. Gossett
Acting Superintendent

Enclosures

Literature Cited

Deeley S, Freeze S, Rohrbaugh L. 2021. Post-white-nose syndrome bat communities in the National Capital Region: Part 1—final report. Natural Resource Report. NPS/NCRO/NRR—2021/2319. National Park Service. Fort Collins, Colorado.

Lausen, C. 2009. Status of the Northern Myotis (*Myotis septentrionalis*) in Alberta, Alberta, Wildlife Status Report No. 3 (Update 2009).

Attachment 1- Project Action Area

PROJECT CODE: 2023-0040639

PROJECT NAME: Issue Special Use Permit for Rockslide Prevention Project in Harpers Ferry National Historical Park.

Special Use Permit is issued to remove 0.5 acre of trees within the park to install rockfall prevention measures above the northbound lane of U.S. Route 340 in Jefferson County, West Virginia, and Loudoun County, Virginia.



From: [Stout, Elizabeth](#)
To: [Pavek, Diane](#)
Cc: [Campbell, Patrick](#); [Lee, Andrew](#); [Gossett, Tanya](#)
Subject: Re: Expedited PROJECT REVIEW REQUEST--Project Code 2023-0040639
Date: Wednesday, August 23, 2023 3:08:24 PM

The U.S. Fish and Wildlife Service (Service) received your recent correspondence requesting information about the subject project. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse effects to threatened and endangered species, and their designated critical habitats, pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species

The Information for Planning and Consultation (IPaC) system results indicated the following species are potentially present in your project area and may be affected:

Species

Listing Status

Northern Long-Eared Bat (<i>Myotis septentrionalis</i>)	Endangered
---	------------

For more information on northern long-eared bat biology and/or habitat needs, please refer to the Service's ECOS page at <https://ecos.fws.gov/ecp/species/9045>.

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

When the Service evaluates potential consequences to federally listed bats, we consider the biological requirements for the species, the location of the project, and the timing and extent of impacts. Based upon best available information, including coordination with state agency experts, the local geographic area where this project is proposed is likely to contain habitat for the northern long-eared bat. However, due to the project location, timing, extent of impacts, and proposed conservation measures, we do not anticipate adverse effects to federally listed bats.

This concurrence should be reevaluated if any of the following occur:

- Project plans change or amendments to the project are proposed that we have not considered as part of your proposed action.
- Additional information on the listed species in the affected area becomes available.
- Additional species that may be present in the affected area are listed – or proposed for listing – as threatened or endangered.
- Critical habitat is proposed or designated in the affected area.

Please Note: If the action may impact bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as

amended, 16 U.S.C. 668a-d) by the prospective permittee may be required. Please contact the Migratory Birds Permit Office, (413) 253-8643, or PermitsR5MB@fws.gov, with any questions regarding potential impacts to Eagles.

If you have any questions regarding this response or need further assistance, please contact me.

Liz Stout (she/her)

Fish and Wildlife Biologist

U.S. Fish and Wildlife Service | West Virginia Field Office

6263 Appalachian Highway | Davis, West Virginia 26260

304-866-3858 (Office)

<https://www.fws.gov/office/west-virginia-ecological-services>

From: Pavék, Diane <Diane_Pavek@nps.gov>

Sent: Wednesday, August 23, 2023 12:29 PM

To: Stout, Elizabeth <Elizabeth_Stout@fws.gov>

Cc: Campbell, Patrick <J_Patrick_Campbell@nps.gov>; Lee, Andrew <Andrew_Lee@nps.gov>;

Gossett, Tanya <Tanya_Gossett@nps.gov>

Subject: Expedited PROJECT REVIEW REQUEST--Project Code 2023-0040639

Hi,

The HAFE Superintendent, Tanya Gossett, would like to know when we might have the review from your office on the Section 7 informal consultation package Code: 2023-0040639?

Please confirm that issuing the Special Use Permit is a MA NLAA in a meaningful biological way because

- Cutting trees is outside of maternity season (from 12 Sept through 11 December 2023)
- The project is cutting less than 1 acre
- The project is to address human health and safety.

Please let me know if you have questions. I reattached the original HAFE Section 7 letter to FWS.

Thank you.

bye...Diane

Diane S. Pavék, PhD

Research and T&E Coordinator, Botanist

Natural Resources & Science, National Capital Region

4598 MacArthur Blvd, NW, Washington, DC 20007
Office: 202-339-8309, Mobile: 202-431-7943

From: Pavék, Diane <Diane_Pavek@nps.gov>
Sent: Monday, August 21, 2023 2:45 PM
To: Stout, Elizabeth <Elizabeth_Stout@fws.gov>
Subject: Re: Question--Term decreased by 10 days--Is a New Letter from the Park Needed? PROJECT REVIEW REQUEST Project Code 2023-0040639

Hi,

Very good! Thank you for letting me know and for your speedy response.

bye...Diane

Diane S. Pavék, PhD
Research and T&E Coordinator, Botanist
Natural Resources & Science, National Capital Region
4598 MacArthur Blvd, NW, Washington, DC 20007
Office: 202-339-8309, Mobile: 202-431-7943

From: Stout, Elizabeth <Elizabeth_Stout@fws.gov>
Sent: Monday, August 21, 2023 2:19 PM
To: Pavék, Diane <Diane_Pavek@nps.gov>
Subject: Re: Question--Term decreased by 10 days--Is a New Letter from the Park Needed? PROJECT REVIEW REQUEST Project Code 2023-0040639

Diane,

As this change will not alter the effect analysis to the species, an updated letter isn't necessary for this.

Thanks for checking!

Liz

Liz Stout (she/her)
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service | West Virginia Field Office

Cc: Gossett, Tanya <Tanya_Gossett@nps.gov>; Campbell, Patrick <J_Patrick_Campbell@nps.gov>;
Pavek, Diane <Diane_Pavek@nps.gov>

Subject: PROJECT REVIEW REQUEST Project Code 2023-0040639

Dear WVFO:

Following a Memo to File dated February 9, 2023, the National Park Service is reinitiating Endangered Species Act, Section 7 informal consultation for two species of bats, including the federally endangered Indiana Bat (*Myotis sodalis*, Ibat) and the endangered Northern Long-eared Bat (*Myotis septentrionalis*, NLEB) that may be present in the Loudoun Heights area of Harpers Ferry National Historical Park. We have made the determination that the proposed activity may affect, but is not likely to adversely affect, and are seeking your concurrence.

Please find our consultation letter and supporting documentation attached.

Sincerely,
Andrew

Andrew S. Lee, Resource Management Specialist
Harpers Ferry National Historical Park

office: (304) 535-6038 mobile: (304) 671-7871

6263 Appalachian Highway | Davis, West Virginia 26260
304-866-3858 (Office)
<https://www.fws.gov/office/west-virginia-ecological-services>

From: Pavék, Diane <Diane_Pavek@nps.gov>
Sent: Monday, August 21, 2023 2:11 PM
To: Stout, Elizabeth <Elizabeth_Stout@fws.gov>
Subject: Question--Term decreased by 10 days--Is a New Letter from the Park Needed? PROJECT REVIEW REQUEST Project Code 2023-0040639

Hi,

I wanted to check with you with a quick question on this Section 7 informal consultation for Harpers Ferry NHP (HAFE). In the park's letter (HAFE Section 7 Informal Consultation Letter--Project Code 2023-0040639), the Project was decreased from 100 days to 90 days, now ending on 11 December 2023.

Page 2: WVDOH proposes to implement the project during a 100-day period between 12 September to 21 December 2023.

This means it still ends during the bat Inactive Season (i.e., after 15 November). I thought that HAFE didn't need to send FWS a new letter with this change, even though it is a change to the project duration. The Superintendent wasn't sure that was correct.

So, I'm checking with you. Would you like the Letter revised to say 90 days instead of the 100 days?

Thank you.
bye...Diane

Diane S. Pavék, PhD
Research and T&E Coordinator, Botanist
Natural Resources & Science, National Capital Region
4598 MacArthur Blvd, NW, Washington, DC 20007
Office: 202-339-8309, Mobile: 202-431-7943

From: Lee, Andrew <Andrew_Lee@nps.gov>
Sent: Thursday, August 17, 2023 10:23 AM
To: West Virginia FO, FW5 <FW5_WVFO@fws.gov>



United States Department of the Interior

NATIONAL PARK SERVICE
Harpers Ferry National Historical Park
P.O. Box 65
485 Fillmore Street
Harpers Ferry, West Virginia 25425

IN REPLY REFER TO:
I.A (HAFE)

August 22, 2023

Mr. Jeff Blanton
Administrator
West Virginia Division
Federal Highway Administration
300 Virginia Street East
Suite 7400
Charleston WV 25301

Mr. Jason Foster, P.E.
Deputy State Highway Engineer
Division of Highways
West Virginia Department of Transportation
1900 Kanawha Blvd East
Charleston, WV 25305

Subject: National Park Service Permitting Action and Required Compliance for US 340 Rock Slide Repair Project (FEDERAL PROJECT: NHPP-0340(063)D, STATE PROJECT: S319-340-15.78.00)

Dear Mr. Blanton and Mr. Foster:

Harpers Ferry National Historical Park's issuance of a Special Use Permit for temporary construction and access on Federal property to the West Virginia Division of Highways requires the National Park Service (NPS) to comply with federal laws, regulations, and policies when considering the impacts of its permitting action on the natural and human environment. Our permitting action is a connected action to FHWA/WVDOH's construction project. For the purposes of complying with the National Environmental Policy Act (NEPA), the NPS will adopt FHWA/WVDOH's Finding of No Significant Impact (FONSI) of March 28, 2022, prior to issuing our permit in the coming weeks.

We find, however, that FHWA and WVDOH did not notify nor initiate consultation with any Federally Recognized Tribes prior to finalizing their own NEPA and National Historic Preservation Act (NHPA) compliance processes. Based on the absence of identified archeological resources in the project's Area of Potential Effects and citing only Executive Order 13175 (2000), FHWA/WVDOH's FONSI determined unilaterally that the project would not "have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes" (E.O. 13175, Section 1(a)), and that therefore consultation with Indian tribes was not needed.

NPS notes that an Executive Order cannot relieve a federal agency of its statutory and regulatory responsibilities to consult. The FHWA/WVDOH determination not to invite Indian tribes to be

consulting parties on the above project, as required by 36 CFR §800.3(f)(2), nor inform Indian tribes of FHWA/WVDOH's historic property identification efforts conducted pursuant to 36 CFR §800.4, is unfortunate and troubling.

The NHPA itself requires federal agency officials to consult throughout the Section 106 process with any Indian tribe that attaches religious and cultural significance to historic properties that may be affected by an undertaking (54 U.S.C. §302706(b)). Federal regulations provide additional direction to agencies.

- 36 CFR §800.2(c)(2)(ii)(D) reminds agencies that often, “historic properties of religious and cultural significance are located on ancestral, aboriginal, or ceded lands of Indian tribes” and, therefore, Indian tribes participate in Section 106 reviews both on and off tribal lands.
- 36 CFR §800.4(a)(4) requires Federal agencies to consult with Indian tribes and gather information “to assist in identifying properties, including those located off tribal lands, which may be of religious and cultural significance to them and may be eligible for the National Register....”

In addition to the regulations, FHWA and WVDOH's decision to only consider archeological sites as the threshold for consultation with Indian tribes runs counter to long-standing guidance from the National Register of Historic Places that historic properties of religious and cultural significance to Indian tribes are not limited to archeological resources (*How to Apply the National Register Criteria for Evaluation*, page 5, definition of “Site”). The existence of National Register-eligible traditional cultural properties should be identified, or ruled out, by Indian tribes themselves. The guidance is also clear that these properties may be natural features, such as geological formations.

The NPS takes seriously its responsibilities to consult with Indian tribes and to build positive government-to-government relationships with them. Harpers Ferry National Historical Park urges FHWA and WVDOH to conduct early tribal consultation in future road projects located within or adjacent to the park. We further ask you to recognize that where more than one federal agency has a role in a FHWA/WVDOH project, all federal government-to-government relationships with Indian tribes be acknowledged and considered.

Sincerely,



Tanya M. Gossett
Acting Superintendent

Cc: Mr. Jason Workman, Director, Program Development, FHWA
Mr. Travis Long, Director, Technical Support Division, WVDOH

APPENDIX B: MITIGATION MEASURES

The National Park Service (NPS) places a strong emphasis on avoidance, minimization, and mitigation of impacts. To help ensure that the construction and operational activities protect natural, cultural, and social resources and the quality of the visitor experience within Harpers Ferry National Historical Park, resource protection measures have been developed. The following measures were listed in the EA prepared by FHWA/DOH and will be implemented by WVDOH prior to, during, and after construction of the proposed action. Additional mitigations may be required by the NPS under the conditions of the SUP.

- **Environmental Justice** - Announcements will be placed in the local newspaper, at bus stations, train stations, and provided to The Eastern Panhandle Transit Authority to post on their website. Additionally, Changeable Message Signs will be used to make the traveling public aware of the pending detour. These activities will be initiated 2 months in advance of the start of the project. Advance notice of the temporary road closure and subsequent detour will allow all members of the traveling public the ability to plan for the temporary disruption in day-to-day travel through the project area, including additional travel times. Project contact information will be provided in the announcement to solicit comments and concerns related to potential hardship costs associated with the 90-day detour. Comments and concerns will be evaluated on a case-by-case basis to determine whether additional measures to reduce the impacts of the detour are warranted. This continued outreach will ensure that potential impacts to low-income and minority travelers are fully evaluated and addressed.
- **Community Facilities and Services** - Representatives of WVDOH will meet with the Eastern Panhandle Transit Authority prior to the beginning of the road closure and detour to discuss posting of notices for Maryland Area Regional Commuter riders who utilize a 5:45 p.m. and 8 p.m. bus.
- **Changes In Travel Patterns** - Temporary detours will be established all through traffic. WVDOH will provide advance notice of the temporary road closure and subsequent detour will allow all members of the traveling public the ability to plan for the temporary disruption in day-to-day travel through the project area, including additional travel times.
- **Visual Resources** - To the greatest extent practical, colorization treatments will be applied to the attenuator barrier, rock slope drape, rockfall barrier, and pinned mesh to better match them to the existing natural color palette of the rock and vegetation present on the existing slopes with the goal of minimizing the visual impacts of the treatments and obscuring their visibility for the public.
- **Publicly Owned Land/Section 4(f) Properties** – FHWA will execute a Highway Easement Deed that will provide for the future maintenance of infrastructure located on NPS property.
- **Vegetation** - Any disturbed areas will be re-vegetated using a native seed mixture. WVDOH will take all appropriate measures to control invasive plants within the limit of disturbance for at least a three-year period.
- **Federally Listed Endangered and Threatened Species** – To minimize affecting the endangered Indiana Bat and the endangered Northern Long-eared Bat, Time-of-Year restrictions on tree removal suitable for roosting from run from September 12 through November 14, 2023. In addition, tree removal will be limited to the extent possible and not exceed 0.5 acres removed total on NPS-controlled lands.

- **Air Quality** - WVDOH will adhere to the “West Virginia Department of Transportation Standard Specifications Roads and Bridges” to minimize the effects of construction on air quality.
- **Noise** - Contract documents will specify noise limits for construction equipment. During pre-construction, the WVDOH Engineering Division will: identify land uses or activities that may be affected by noise from construction; determine appropriate noise criteria limits for the identified receptors; and document any measures required during construction to minimize or eliminate adverse construction noise impacts to the surrounding area. In addition, the project special provisions will document any restrictions or noise abatement measures required of the contractor. These could include shields or physical barriers, or limiting work hours, among others.
- **Archeology/Paleontology** - If previously unknown archeological/paleontological resources are discovered on NPS property during project implementation, the NPS will suspend operations at the site and WVDOH will immediately contact the appropriate cultural resource specialist, who will arrange for a determination of eligibility in consultation with the appropriate State Historic Preservation Office (SHPO) and, if necessary, develop a recovery plan.

APPENDIX C: NON-IMPAIRMENT DETERMINATION

By enacting the National Park Service (NPS) Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of Interior and the NPS to manage units “to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations” (54 USC 100101). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (54 USC 100101).

The NPS has discretion to allow impacts on Park resources and values when necessary and appropriate to fulfill the purposes of a Park (NPS 2006, Section 1.4.3). However, the NPS cannot allow an adverse impact that would constitute an impairment of the affected resources and value (NPS 2006, Section 1.4.3). An action constitutes an impairment when its impacts “harm the integrity of Park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (NPS 2006, Section 1.4.5). To determine impairment, the NPS must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts” (NPS 2006, Section 1.4.5). This ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

This determination on impairment has been prepared for the selected alternative described in this Finding of No Significant Impact. An impairment determination is made for the resource topics of vegetation and wildlife, and cultural resources. An impairment determination is not made for visitor use and experience because impairment findings relate back to park resources and values, and these impact areas are not generally considered to be park resources or values according to the Organic Act and cannot be impaired in the same way that an action can impair park resources and values.

VEGETATION AND WILDLIFE

Implementation of the selected alternative will result in the loss of approximately 0.5 acres of vegetation located within the boundaries of the Park, and it is assumed that all other existing vegetation and wildlife habitat will be removed within the limits of disturbance on non-NPS property. Following construction, those areas needed for temporary construction purposes will not actively be revegetated using native vegetation this vegetation can contribute to the existing slide problem. While native vegetation may return within the project area, the area will remain without trees. Wildlife species that require mature forests will not find suitable habitat directly within the project area; however, similar habitats exist directly adjacent. Overall, while the Park will lose approximately 0.5 acres of vegetation and forest, vegetation communities within the park will continue to exist in a condition similar to their current state. The loss of vegetation and wildlife habitat is small in comparison the totality of the Park. Implementation of the project will not affect the overall values and purposes for which these Harpers Ferry National Historical Park was established. Therefore, implementation of the selected action will not result in impairment to vegetation and wildlife.

CULTURAL RESOURCES

While the selected alternative will be visible from the Park, and the five historic viewsheds (Maryland Heights, Shenandoah Shoreline, St. Peter’s Roman Catholic Church, C&O Canal Towpath, and Jefferson Rock), it will have no adverse effects on historic properties within the area of potential effect (APE). The proposed remediation efforts would have no effect on archaeological resources. Treatments would be confined to the rock slope that abuts US 340 and will not extend into the more heavily wooded terrain that

contributes to the historic significance and rural character of the historic districts in the APE, including the town site of Harpers Ferry. Overall, the selected alternative will not diminish the integrity of the Park's cultural resources, therefore, there will be no impairment.

CONCLUSION

The NPS has determined that the implementation of the NPS selected alternative will not constitute an impairment of the resources or values of the Harpers Ferry National Historical Park. As described above, implementing the selected alternative is not anticipated to impair resources or values that are essential to the purposes identified in the establishing legislation of the park, key to the natural or cultural integrity of the park, or identified as significant in the park's relevant planning documents. This conclusion is based on consideration of the park's purpose and significance, a thorough analysis of the environmental impacts described in the EA, the comments provided by the public and others, and the professional judgment of the decision-maker guided by the direction of the NPS Management Policies 2006.