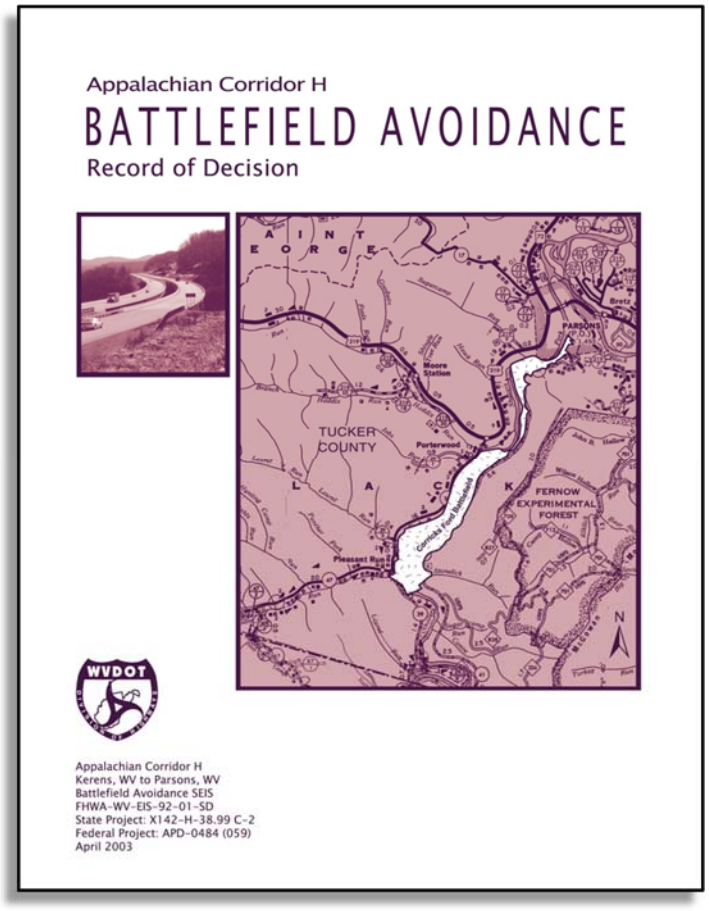
APPALACHIAN HIGHWAY CORRIDOR H

KERENS TO PARSONS PROJECT

State Project Number X142-H-38.99 C-2

Federal Project Number APD-484 (59)



RE-EVALUATION

OF THE SUPPLEMENTAL FINAL ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION

Originally Approved October 29, 2002 and May 12, 2003

November 5, 2015

Federal Highway Administration and

West Virginia Department of Transportation, Division of Highways

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FEDERAL HIGHWAY ADMINISTRATION **DATE**

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List of Acronyms

ADHS - Appalachian Development Highway System
ADT – Average Daily Traffic
APE – Area of Potential Effect
ARC – Appalachian Regional Commission
ARDA - Appalachian Regional Development Act
AROD – Amended Record of Decision
BA – Biological Assessment
CEQ – Council on Environmental Quality
CFR – Code of Federal Regulations
EIS – Environmental Impact Statement
ESA – Endangered Species Act
FHWA – Federal Highway Administration
LR-NRD – Local Resolution - National Hydrography Dataset
MNF – Monongahela National Forest
MOU – Memorandum of Understanding
MPA – Management Prescription Area (designations by the U.S. Forest Service)
NEPA – National Environmental Policy Act
NLEB – Northern long-eared bat (*Myotis septentrionalis*)
NRD – National Hydrography Dataset
NRHP – National Register of Historic Places
PA - Programmatic Agreement
RFSS – Regional Forester's Sensitive Species
ROD – Record of Decision
ROW – Right of Way
SAMB – Statewide Addressing and Mapping Board
SFEIS – Supplemental Final Environmental Impact Statement
SWP – Small whorled pogonia (*Isotria medeoloides*)
SWPPP – Stormwater Pollution Prevention Plan
USFWS – United Stated Fish and Wildlife Service
USGS – United States Geological Survey
VDOT – Virginia Department of Transportation
WVDNR – West Virginia Division of Natural Resources
WVDOH – West Virginia Division of Highways
WVDOT – West Virginia Department of Transportation
WVGIS TC – West Virginia Geographic Information System Technical Center

1.0 Re-evaluation Background & Approach

1.1 Introduction

This document has been prepared pursuant to Title 23 Code of Federal Regulations (CFR) Part 771 and related Federal Highway Administration (FHWA) procedures which require a written re-evaluation prior to the request for FHWA action (e.g., final design or construction) when a time lag or changes related to the project have occurred between the previous National Environmental Policy Act (NEPA) approval and the request for action. The purpose of a re-evaluation is to assess whether any changes that may have occurred in project design, scope, affected environment or proposed mitigation will require supplemental environmental documentation.

The Supplemental Final Environmental Impact Statement (SFEIS) for the Kerens to Parsons Project was circulated by the West Virginia Department of Transportation, Division of Highways (WVDOH) in the fall of 2002, and the Amended Record of Decision (AROD) was approved by FHWA on May 12, 2003. Since that time, the Selected Alternative has undergone adjustments, primarily to minimize impacts to the Monongahela National Forest (MNF) and a newly discovered population of a federally listed threatened species, the small whorled pogonia (*Isotria medeoloides*). Therefore, a written re-evaluation is required to assess the validity of the 2003 decision because:

1) approximately 12 years have passed since the Kerens to Parsons Project AROD was issued,
2) construction on the project has not begun, and
3) alignment shifts not previously assessed in the NEPA documentation have been developed.

This document presents a re-evaluation of the Kerens to Parsons Project AROD of 2003 and the associated analyses presented in the 2002 SFEIS. The alternative selected with the signing of the AROD is referred to as the "Selected Alternative," and the present day version of that alignment which is being re-evaluated with this document is referred to as the "Refined Selected Alternative." Exhibit 1 shows the project area and Selected Alternative along with the adjustments incorporated to the Refined Selected Alternative. At the scale shown in Exhibit 1, it is difficult to decipher differences between the Selected Alternative and the Refined Selected Alternative. Detailed differences are addressed in Section 2.0.

FHWA guidance (Technical Advisory T.A. 6640.8A) states that, "There is no required format for the written evaluation. It should focus on the changes in the project, its surroundings and impacts, and any new issues identified since the final EIS was approved. Field reviews, additional environmental studies (as necessary), and coordination with other agencies should be undertaken (as appropriate to address any new impacts or issues) and the results included in the written evaluation."

Details of changes and the results of the re-evaluation are presented in Section 2.0 of this document. Below, Sections 1.2 through 1.5 provide a summary of the information presented in the SFEIS/ROD for the Kerens to Parsons Project.

1.1.1 Summary of Proposed Action

The Kerens to Parsons Project involves the construction of an approximately 15.3-mile, new location, four-lane divided highway, with partial control of access, between the West Virginia localities of Kerens and Parsons (Exhibit 2). The project begins where previous Corridor H construction ended - in Kerens, 0.2 miles north of the intersection of US 219 and Randolph County Route 7 (Clifton Run Road). The project ends east of the City of Parsons, 0.2 miles

south of the northernmost point at which Tucker County Route 219/4 (Mackeyville Road) intersects US 219 (Exhibit 1).

1.1.2 Kerens to Parsons Project Re-evaluation Approach

The Kerens to Parsons Project has been divided into three sections to facilitate the engineering, funding, and construction contracting processes. The three sections are defined as follows and are shown in Figure 1:

- Section 1 (Kerens to US 219 Connector, just west of Parsons), 7.5 miles;
- Section 2 (US 219 Connector to WV 72 north of Parsons), 3.1 miles; and,
- Section 3 (WV 72 to US 219 near Mackeyville), 4.6 miles.

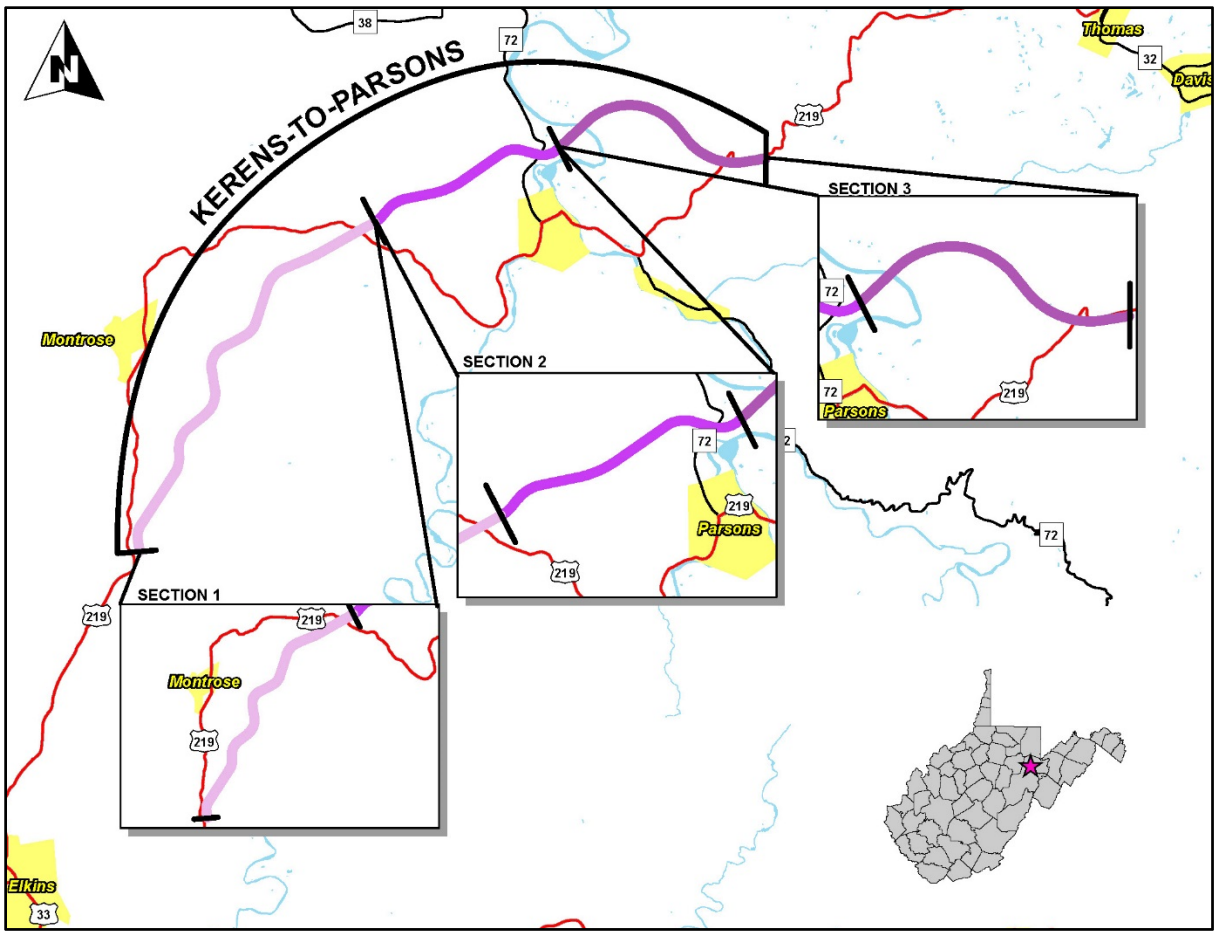

Figure 1. The three Sections used for construction phasing of the Kerens to Parsons Project

After the signing of the AROD, WVDOH undertook detailed engineering of the Selected Alternative to design waste sites and minor drainage and to generate 50-scale mapping. As a result, and as is typical on highway projects, minor shifts occurred along the full length of the Kerens to Parsons Project to adjust for more detailed understanding of local topography, geology, hydrology, etc. The entire Selected Alternative with the refinements developed since the signing of the AROD was shown to the public in an Open House Public Meeting in June of 2015 (see Section 2.1.2.2 for more discussion of the public coordination). However, only Section 1 is currently proposed for ***final*** design and construction, and accordingly Section 1 has undergone more detailed environmental analyses and design than Sections 2 or 3.

While WVDOH and FHWA are re-evaluating the approved NEPA documents for the entire Kerens to Parsons Project consistent with FHWA re-evaluation regulation 23 CFR 771.129, Section 1 has been the subject of more intense examination. Particular resources are being analyzed and evaluated beyond Section 1 when such analyses and evaluations are reasonable. For example, the presence of a species that is protected under the Endangered Species Act (ESA), as discovered in Section 1, could affect the entire Kerens to Parsons Project; therefore, field surveys for all species protected by the ESA have been conducted for the entire Kerens to Parsons Project. However, detailed hydraulic modeling has been conducted to identify and focus on potential impacts to sensitive resources known to exist specifically in the Panther Run watershed (in Section 1).

For Sections 2 and 3, more detailed environmental analyses and design are ongoing, and the precise footprint of Sections 2 and 3 are likely to undergo minor adjustments compared to the footprint shown at the June 2015 Public Meeting (see Section 2.1.2.2). Environmental surveys for plant and animal species are complete in Sections 2 and 3; however, surveys for archaeology and stream and wetland studies are still ongoing. It is anticipated that all studies will be complete be the end of 2015. Changes in Sections 2 and 3 will be assessed in a Re-evaluation after that additional information is available.

1.2 History of the Proposed Action

1.2.1 Corridor H

In 1965, Congress enacted the Appalachian Regional Development Act (ARDA), which established the Appalachian Regional Commission (ARC). ARC was given responsibility for coordinating development of the Appalachian Development Highway System (ADHS). As authorized by ARDA, the ARC designated 28 corridors as part of the ADHS, including Corridor H, an approximately 160-mile east-west route connecting I-79 at Weston, West Virginia to I-81 at Strasburg, Virginia. The route designated for Corridor H in West Virginia extends from I-79 Milepost 99 near Weston, WV to the West Virginia/Virginia state line. During the 1980's and 1990's, Corridor H was completed from I-79 to Aggregates, WV, a small community immediately to the west of Elkins.

In 1990, the West Virginia Department of Transportation (WVDOT), the Virginia Department of Transportation (VDOT) and FHWA began to conduct supplemental environmental studies for the remainder of Corridor H, from Elkins, WV to Strasburg, VA. In 1992, because of lack of funding, VDOT withdrew from the project. A Preferred Alternative was identified for the project in the 1996 Corridor H Final Environmental Impact Statement (FEIS). In August of 1996, FHWA issued a ROD approving the approximately 100-mile alignment between Elkins and the West Virginia/Virginia state line.

In late 1996, legal challenges to the project's ROD were presented in the U.S. District and Appellate Courts in the Washington, D.C. Circuit. Among other issues, each of the lawsuits challenged the Corridor H alignment's crossing of the Battlefield at Corricks Ford, south of Parsons, West Virginia and its potential impact on the Historic and Archaeological District located in the valley.

The U.S. Court of Appeals held that the procedures established in the August 1996 ROD for completing the review of historic resources did not comply with Section 4(f). Because of that ruling, the U.S. Court of Appeals ordered FHWA and WVDOT not to proceed further with construction of Corridor H until the Section 106 process had been completed. In 1999, construction was allowed to proceed on the western-most portion of the corridor, called "the Northern Elkins Bypass. For the remainder of the project, the case was referred back to the District Court for supervised mediation proceedings, which resulted in a Settlement Agreement (filed February 7, 2000, Corridor H

Alternatives v. Slater, 96-CV-2622 [TFH], U.S. District Court for the District of Columbia). The terms of the Settlement Agreement are legally binding.

Under the Settlement Agreement, the remainder of Corridor H in West Virginia was divided into nine separate projects:

1. Elkins to Kerens
2. Kerens to Parsons
3. Parsons to Davis
4. Davis to Bismarck
5. Bismarck to Forman
6. Forman to Moorefield
7. Moorefield to Baker
8. Baker to Wardensville
9. Wardensville to Virginia state line.

The Settlement Agreement required that FHWA issue a separate Amended ROD for each project, once the required studies for that project were completed. These project areas are shown in Exhibit 2.

1.2.2 Settlement Agreement Requirements for the Kerens to Parsons Project

Among other requirements, the Settlement Agreement required the FHWA and WVDOT to prepare a Supplemental Environmental Impact Statement (SEIS) for the Kerens to Parsons Project. The primary purpose of the SEIS process was to develop and evaluate alternatives for avoiding the Corricks Ford Battlefield area. Note: this purpose is the reason the Kerens to Parsons Project has also been called "Battlefield Avoidance."

The Settlement Agreement contained several important stipulations specific to this SEIS, as summarized below:

- Required that the SEIS evaluate a reasonable range of alternatives for completing the Kerens to Parsons Project, including the original Battlefield Alignment and one or more Battlefield Avoidance Alignments, as defined in the Settlement Agreement.
- Required that the SEIS evaluate the alternatives to determine whether there was any alternative that (1) was "feasible" and "prudent" and (2) did not "use" any land protected by Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C § 303(c).
- If a Battlefield Avoidance Alignment was determined to be "prudent" and "feasible" and did not "use" any Section 4(f) resources, the Final SEIS would include this determination together with the supporting rationale, and FHWA may approve such an alternative for the project.
- If none of the Battlefield Avoidance Alignments was determined to be both "prudent" and "feasible," the Final SEIS would include this determination together with the supporting rationale, and FHWA may approve the selection of the Battlefield Alignment.
- If none of the "prudent" and "feasible" Battlefield Avoidance Alignments avoided the "use" of Section 4(f) lands, FHWA and WVDOT would reconsider "prudence" and "feasibility" and "use" of 4(f) resources by the Battlefield Alignment.

These final two stipulations were not a factor when the SEIS for the Kerens to Parsons Project was produced because a Battlefield Avoidance Alternative that was both "feasible" and "prudent" and did not "use" any land protected by Section 4(f) was found. The "Battlefield Avoidance" alternatives analysis is summarized in Section 1.5.

1.3 1998 Memorandum of Understanding: Requirements for Projects Involving U.S. Forest Service Land

The Forest Service and FHWA recognized the need for streamlined, nationally consistent procedures by which the FHWA may appropriate National Forest System lands for the use of Interstate and certain other highways (e.g., Appalachian Highways). These highways are owned, planned, developed, constructed, operated and maintained by State and local governments; the FHWA's responsibilities consist of transferring rights-of-way, providing funds for the construction of the facility, and ensuring compliance with Federal requirements such as NEPA.

In 1998, the two agencies signed a Memorandum of Understanding (MOU) for the procedures by which the Secretary of Transportation, acting through the FHWA, may appropriate and transfer to States National Forest System lands for highway rights-of-way. The appropriation is subject to conditions the Secretary of Agriculture, acting through the Forest Service authorized officer, may deem necessary for adequate protection and utilization of National Forest System lands and protection of the public interest. Forest Service requirements imposed by this MOU on the States will be 1) negotiated by the Forest Service with the State; and 2) implemented pursuant to contractual requirements and guidance between the FHWA and the State.

As discussed in Section 2.1.2 ("Changes in the Project: Commitments"), the Forest Service and FHWA along with WVDOH developed and signed another MOU. The agencies agreed to additional enhanced coordination requirements specifically for the Corridor H project after the signing of the Kerens to Parsons AROD in 2003. The ensuing coordination, such as with the selection of sites for the placement of excess excavation, impacted the design of the alignment and, therefore, impacts, as detailed in this Re-evaluation.

1.4 Project Purpose and Need

The Kerens to Parsons Project is a component of the Appalachian Corridor H Project. As a separate project identified in the 2000 Settlement Agreement, it will address the overall needs identified in the 1996 Corridor H FEIS for the entire Corridor H project. These were:

- Improving east-west transportation through northeastern West Virginia.
- Promoting economic development in the region and preserving or improving the quality of life in the region.

Completion of the Kerens to Parsons Project will further advance WVDOT's objective of completing Corridor H as a continuous four-lane highway from I-79 to the West Virginia/Virginia state line.

Additionally, at the local level, the Kerens to Parsons Project will address more local transportation needs on its own, and can be approved as a separate project consistent with the principles in 23 CFR Part 771.111(f). The completion of this Project will not limit the consideration of alternatives for the remaining sections of Corridor H that do not have an approved Amended ROD, or for other reasonably foreseeable transportation improvements. The local Kerens to Parsons Project needs were detailed in the 2002 SFEIS. They were: improve system linkage, improve safety of through and local traffic, improve traffic level of service, and promote economic development. These project needs have not changed (see Section 2.1.1).

1.5 Identification of the Selected Alternative

1.5.1 Analysis Process

The Kerens to Parsons Project study area was developed in accordance with terms prescribed in the Settlement Agreement, and known environmental constraints. Overall, the study area consists of an approximately 2000-foot wide corridor beginning at the eastern terminus of Corridor H at Kerens, WV, continuing west of Leading Creek, turning north of Clover Run (Randolph Co. 23/21) with an eastern terminus just north of Mackeyville Road (Tucker Co. 219/4). The western and eastern termini of the Kerens to Parsons Project were prescribed by the Settlement Agreement. The southern boundary of the study area is prescribed by the southern limits of the Battlefield Area, continuing northeast near Mackeyville Road. The northern limits of the study area were constrained by floodplains and high-quality wetlands associated with Clover Run. Moving the northern boundary of the study area to the north of Clover Run would have shifted any Avoidance Alternative too far from population centers and thus would not serve a meaningful transportation function. The limits of the study area were presented at the June 14, 2000 agency scoping meeting and public information workshop.

Environmental resource "inventories" were compiled in a Geographic Information System (GIS) and laid over US Geological Survey (USGS) Digital Topographic Quadrangle mapping (1''=2,000'), used as base-mapping for the development of Avoidance Alternatives and preliminary environmental analysis. Additional information was obtained during agency coordination and public involvement activities.

Following development of environmental constraint mapping, preliminary engineering was conducted in sufficient detail to estimate earthwork quantities (borrow and/or waste material) and preliminary construction cost estimates. In addition to required design standards for the ADHS, such as a maximum allowable grade (or steepness) for the roadway, four (4) conditions controlled the location of Avoidance Alternatives. They were:

- Connection of the western terminus of Corridor H at Kerens with the eastern terminus of Corridor H, northeast of Parsons, without involvement of the Battlefield Area;
- Avoidance or minimization, where practicable, of adverse effects to environmental resources as provided by the environmental constraint mapping;
- Limitation of earthwork quantities to minimize potential secondary impacts; and
- Consideration of access from existing collector roads (e.g., US 219, WV 72, Tucker Co.to the main line of the alternatives.

A total of 13 Avoidance Alternatives were developed and evaluated as part of the Supplemental EIS process. Specifically, ten (10) Avoidance Alternatives, the original Battlefield Alternative, the Improved Roadway Alternative (IRA), and the No Build Alternative were considered. The evaluation process for all alternatives considered involved a three-tiered approach for alternative screening. The screening criteria were divided into three (3) categories:

- Ability to meet Purpose and Need/Settlement Agreement Requirements;
- Total Earthwork and overall "footprint" impacts;
- Additional environmental consideration.

Agency and public comments were also considered during the development and evaluation of the alternatives. Detailed information on agency coordination and public involvement activities during the 2000-2003 NEPA process were included in the 2002 SFEIS and the 2003 AROD, which are incorporated by reference in this Re-evaluation.

1.5.2 Selected Alternative

In 2003, the FHWA issued the AROD naming Avoidance Alternative DF as the Selected Alternative. The basis of its selection involved the following considerations, as detailed in the 2002 SFEIS. Avoidance Alternative DF:

1) Is consistent with provisions outlined in the Corridor H Settlement Agreement;
2) Avoids any encroachment on the Battlefield Area and adverse effects to Corricks Ford Battlefield - eligible for listing on the National Register;
3) Avoids the use of 4(f) resources;
4) Is the least damaging environmental alternative:
   a. Least amount of overall stream, land cover and MNF impacts,
   b. Zero floodplain impacts,
   c. Least amount of projected waste material; and
5) Does not adversely impact rare, threatened or endangered Species.

In summary, the Selected Alternative (Avoidance Alternative DF) has the least amount of impacts to the natural environment, meets all the requirements for study under NEPA, and the Corridor H Settlement Agreement. Further, the Selected Alternative is feasible and prudent and does not use any land protected by Section 4(f).

Finally, the Selected Alternative was identified as the environmentally preferred alternative by all of the resource agencies that commented in response to a January 24, 2002 WVDOT request for agency concurrence on the selection of Avoidance Alternative DF. Those resource agencies providing written concurrence were:

- USEPA (U.S. Environmental Protection Agency);
- USFWS (U.S. Fish and Wildlife Service);
- USDA (U.S. Department of Agriculture) Forest Service – Monongahela National Forest;
- USCOE (U.S. Army Corps of Engineers) - Pittsburgh District; and
- WVDNR (WV Division of Natural Resources).

Since the 2003 AROD, the Selected Alternative has undergone adjustments, as described in the following re-evaluation analysis.

2.0 Re-evaluation Analysis for Kerens to Parsons Project

As stated in the Introduction (Section 1.1), a re-evaluation should focus on ***"the changes in the project, its surroundings and impacts, and any new issues identified since the final EIS was approved."*** (FHWA Technical Advisory T.A. 6640.8A). For this Re-evaluation, changes to the proposed project are addressed in Section 2.1, changes to the project surroundings are addressed in Section 2.2, and changes in impacts are addressed in Section 2.3. Other "new issues" are addressed as appropriate within one of these other categories. For example, new project mitigation commitments are addressed as one of the project changes (Section 2.1), and new legal issues are addressed as a change to the "project surroundings" (Section 2.2) because they affect the context for assessment of project impacts.

2.1 Changes in the Project

2.1.1 Purpose and Need

As noted above, the need for and purpose of the project has not changed. The project area still has a need for improved system linkage, improved safety, and economic growth. Specifically,

- System linkage in the project area has not experienced substantial change since 2003.
- Safety concerns detailed in the 2002 SFEIS have not been addressed. Truck traffic has not been diverted from downtown Parsons, and geometric constraints such as short sight distances have not been changed along the principal route through the region (US 219).
- The need for economic growth has increased since 2003 with loss of employment in the region. In 2003, Randolph and Tucker counties had annual unemployment rates of 6.4 and 7.3 percent, respectively. In 2012, the annual rates were 8.6 and 9.4 percent (US BLS, 2013).

2.1.2 Commitments and Coordination

2.1.2.1 2003 Memorandum of Understanding

During the NEPA process for the Kerens to Parsons Project, FHWA, WVDOH, and the Forest Service discussed measures to ensure continued and enhanced coordination for the implementation of the Corridor H project on lands within the MNF, including large portions of the Kerens to Parsons Project. After the AROD was signed in May, 2003, the three agencies completed execution of the new MOU in June, 2003. The enhanced coordination processes have been implemented and have affected the development of the Selected Alternative, as detailed in the following section ("Refined Selected Alternative"). The 2003 MOU is included as Appendix A.

The 2003 MOU describes measures that have been or will be employed to facilitate continued coordination among FHWA, WVDOH, and the Forest Service during the development and implementation of the Appalachian Corridor H highway project (including the Kerens to Parsons Project). The MOU outlines project specific measures to minimize and mitigate the effects of the highway on the MNF and to outline the review and approval processes for activities that cannot be defined until final design activities have been undertaken. Such activities include, among others, core boring, planning access points and trail relocations, and locating waste sites.

2.1.2.2 Public Coordination

WVDOH and FHWA hosted an Open House Public Meeting for the Kerens to Parsons Project on June 30, 2015, from 4:00 PM to 7:00 PM. The meeting included a handout and display boards, and personnel from FHWA and WVDOH were available to answer questions. The public was afforded opportunity to comment using comment sheets they could leave at the meeting or mail in or using the WVDOH website

(http://www.transportation.wv.gov/highways/engineering/comment/CorridorH-KerensToParsons), where copies of the handout were also made available.

The alignment being shared at the meeting included the best information for the entire alignment known at that time for the elements of the project being presented, such as length, cost, and estimated excavation amounts. The presentation of the alignment showed draft changes to the interchanges at WV 72 and Mackeyville Road at the ends of Sections 2 and 3, respectively. The alignment as shown at the meeting is provided in Appendix B. Presenting those draft changes offered opportunity for WVDOH to receive feedback from the public even while refined engineering and environmental studies are still ongoing in Sections 2 and 3. However, as discussed in Section 1.1.2, this Re-evaluation is focusing on changes in Section 1, where more detailed engineering and environmental studies have been completed. Changes in Sections 2 and 3 are being further refined, and will be fully evaluated in a future Re-evaluation document, anticipated to be completed in 2016.

WVDOH received a total of seven (7) different comment letters within the 30-day comment period following the meeting. All comments and responses are included in Appendix C. A summary of the comments is as follows:

- Two (2) residents of Moorefield and the Hardy County Rural Development Authority wrote to support completion of the Kerens to Parsons Project and Corridor H as a whole.
- Two (2) letters were received from more local organizations: the Randolph County Development Authority and the Elkins-Randolph County Chamber of Commerce, who also expressed support for the project, particularly because of the anticipated economic benefits.
- Two (2) letters were received (both via email and via the website) reiterating previously expressed concerns about a residence and 280-acre woodlot that are adjacent to and crossing both the Selected Alternative and the Refined Selected Alternative near the crossing of County Route 3 (see Exhibit 3, Sheet 2). These concerns include right-of-way compensation, noise, stream impacts, and roadway and trail access. WVDOH has designated a single point of contact who maintains communication with these citizens and responds to each concern when conveyed. Further such concerns have been addressed in detail in the SFEIS, thereby negating the need for additional analysis in a supplemental EIS.

2.1.2.3 Environmental Compliance Tracking

An environmental compliance tracking table has been generated for the Kerens to Parsons Project to help ensure that all commitments are being met throughout the project. Since the 2003 AROD, many additions have been made to the table presented in Appendix A of the AROD ("Mitigation Measures"). Throughout this Re-evaluation, discussions often reference mitigation measures, which are all compiled in the table included as Appendix D.

2.1.3 Refined Selected Alternative

Advanced design of the Selected Alternative resulted in minor shifts in Section 1 of the Kerens to Parsons Project. For evaluation in the EIS, detailed engineering is not required; however, the more detailed engineering that occurs after approval of an alternative can reveal new impacts and issues. The Selected Alternative for the Kerens to Parsons Project was approximately 30 percent engineered by the issuance of the 2003 AROD. That same year, final design engineering was undertaken for the first (westernmost) 7.5 miles of the project. These engineering studies included detailed evaluations to improve function and reduce cost without sacrificing basic functions. The studies

resulted in a first set of refinements to the Selected Alternative, which were further analyzed for environmental impacts and reviewed with resource agencies as appropriate.

From 2003 to 2012, WVDOH held regularly scheduled meetings with the Forest Service for them to review and concur with the developments in accordance with the 2003 MOU (Appendix A). In early 2012, the Forest Service requested that WVDOH conduct additional investigations regarding the presence/absence of plant and animal species referred to as Regional Forester's Sensitive Species (RFSS) along with required surveys for federally threatened, endangered and proposed species.

During surveys in the summer of 2012, two populations of *Isotria medeoloides*, the small whorled pogonia (SWP), a federally listed threatened plant species, were found within the proposed right-of-way. USFWS was notified of the finding, and WVDOH and FHWA hosted a meeting with USFWS, the Forest Service, and the West Virginia Division of Natural Resources (WVDNR) in attendance. After the meeting, USFWS provided recommendations to avoid and reduce potential impact to the SWP. WVDOH implemented or committed to implement all of the USFWS recommendations, including a shift downstream in the Panther Run watershed. Details regarding coordination and mitigation for potential impacts to threatened and endangered species are provided in Section 2.3.11.

In 2012 to 2014, coordination with the Forest Service increased in frequency to monthly occurrences. In 2014, after finalization of a shift to avoid and reduce impacts to the SWP, WVDOH engineers proceeded to balance the earthwork and coordinate with the Forest Service in the identification and designation of waste sites.

WVDOH developed seven (7) waste scenario alternatives for Section 1, where detailed engineering was taking place. These scenarios provided different combinations of horizontal and vertical shifts to the alignment as well as different bridge configurations. Generally, alternatives with more bridges have larger areas required outside the right-of-way for the placement of excess excavation, and alternatives with fewer bridges allow for more excess excavation to be placed within the right-of-way. These differences affect the impacts calculations. The seven waste scenarios are described in Table 1.

The three major steps of refinements to the Selected Alternative are depicted graphically in Exhibit 4. These were 1) improve function and reduce cost, 2) avoid the SWP (a federally listed threatened species), and 3) avoid a stream known to contain trout (Laurel Run) and examine different bridge configurations. Over the course of a two-day workshop in November of 2014, WVDOH, FHWA, and the Forest Service, as well as a USFWS representative, met to discuss the alternatives and review differences in impacts to the MNF, trout streams and streams overall; RFSS populations; cost; and other considerations. After additional coordination meetings, including a field view of the proposed stream crossings in April of 2015, the Forest Service selected Waste Scenario Alternative 3D for Section 1 of the Refined Selected Alternative (Appendix E).

Table 1. Waste Scenario Alternatives in Section 1 of Refined Selected Alternative

Refinement (see Exhibit 4)	Waste Scenario	Description	Key Pros and Cons
1	Alternative 1	Refined Selected Alternative prior to SWP discovery	• Impacts to SWP, a federally threatened species
2	Alternative 2A	Refined Selected Alternative with shift for the SWP; two bridges removed to partially offset increased costs due to the shift (Bridges 1 and 3 in Exhibit 4)	• Avoids SWP • Additional land cover and stream impacts with removal of two bridges
	Alternative 2B	Same as Alternative 2A, with refined vertical and horizontal alignments	• Avoids SWP • Additional land cover and stream impacts with removal of two bridges • Reduction in excavation volume vs. Alternative 2A of approximately 2 million cubic yards • Reduction in cost vs. Alternative 2A of approximately $11 million • Profile changes made the footprint encroach on Laurel Run, a known trout stream
3	Alternative 3A	Same as Alternative 2B, with shift for Laurel Run	• Avoids SWP • Avoids Laurel Run, a known trout stream • Increase in cost vs. Alternative 2B of approximately $2.3 million
	Alternative 3B	Same as Alternative 3A, with two bridges returned (Bridges 1 and 3 in Exhibit 4)	• Avoids SWP • Avoids Laurel Run • Reduction in land cover and stream impacts with increased bridging vs. Alternative 3A • Increase in cost vs. Alternative 3A of approximately $21 million
	Alternative 3C	Same as Alternative 3A, with one bridge returned (Bridge 1 in Exhibit 4)	• Avoids SWP • Avoids Laurel Run • Reduction in land cover and stream impacts with increased bridging vs. Alternative 3A • Increase in cost vs. Alternative 3A of approximately $12 million

Refinement (see Exhibit 4)	Waste Scenario	Description	Key Pros and Cons
	Alternative 3D	Same as Alternative 3A, with one bridge returned (Bridge 3 in Exhibit 4)	• Avoids SWP • Avoids Laurel Run • Reduction in land cover and stream impacts with increased bridging vs. Alternative 3A • Increase in cost vs. Alternative 3A of approximately $9 million

Note: These waste scenario alternatives were developed by Michael Baker International and WVDOH and presented to resource agencies in November of 2014. The shift to avoid the SWP, the shift to reduce impacts to Laurel Run, and the three bridge locations are shown in Exhibit 4. Additional details regarding differences in impacts were presented and discussed at the meeting, including impacts to RFSS.

See Exhibit 2 for a comparison of the Selected Alternative and the Refined Selected Alternative, which has Waste Scenario Alternative 3D incorporated to Section 1. Changes in Section 1 were presented to the public in the Open House Public Meeting described in Section 2.1.2.2. The location where one bridge was removed in Section 1 is across a tributary to the South Branch Haddix Run, at approximately Station 380, shown on Sheet 4 in Exhibit 2. As described above, Section 1 has undergone more detailed environmental analyses and design than Sections 2 or 3; therefore, this Re-evaluation focuses on the changes in Section 1. See Section 1.1.2 for more discussion of the approach to this Re-evaluation.

2.2 Changes in the Surroundings

2.2.1 Affected Natural and Physical Environment

The affected environment remains essentially the same as that which was reported in the 2002 SFEIS. Field reviews of the project area in 2012-13 did not identify any major changes to the environmental or man-made (e.g., houses, barns, commercial buildings, etc.) resources of the area. Specific detailed changes in the areas of impact are addressed with respect to each resource in Section 2.3.

2.2.2 Legal and Regulatory Changes

2.2.2.1 Stream Impact Accounting

The regulatory environment relative to headwater tributary streams has changed since 2003. Clean Water Act rules enacted by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers (USACE) have added protections for ephemeral streams where such protections did not exist during the assessment of impacts for the 2002 SFEIS. If an alignment is elevated within a watershed in an effort to reduce direct impacts to perennial and intermittent streams, impacts to ephemeral streams can substantially increase within the shifted location. The addition of ephemeral streams is an important consideration when assessing the significance of changes to total stream impacts in this Re-evaluation. A detailed breakdown of impacts and discussion of the differences from the 2002 SFEIS analysis is provided in Section 2.3.13.

2.2.2.2 New Threatened Species Listing

The northern long-eared bat (*Myotis septentrionalis*) was proposed for listing by the USFWS in October of 2013. As required by Section 7(a)(4) of the Endangered Species Act, FHWA began conferencing with the USFWS as part of the Kerens to Parsons Project re-evaluation. Because of the proposed listing, in order to reduce the potential for

impacts to the species, a limitation on tree clearing was expanded from the commitment documented in the 2003 AROD: instead of restricting tree clearing to a specific time frame (November 15-March 31) within a specific buffer zone, tree clearing is now limited to that time frame throughout the entire project area. As detailed in Section 2.3.11, Section 7 consultations have been completed.

2.3 Changes in Impact Assessment

This section presents a reassessment of impacts in light of the changes that have occurred to the project and surroundings since the 2002 SFEIS assessment. If the changes have affected the impact assessment as presented in the SFEIS, those impacts are discussed and assessed. Differences in impacts are assessed for their significance, i.e., the "context" and "intensity" of the change in impact.

Throughout this discussion of impacts the reader should understand that the level of engineering in Section 1 of the Kerens to Parsons Project has been more detailed than that in Sections 2 and 3. Engineering has been conducted to design waste sites and minor drainage, and to generate 50-scale mapping instead of just 200-scale mapping for Section 1.

2.3.1 Summary of Impacts from 2002 SFEIS and Current Analysis

As an overview, the summary impact table from the 2002 SFEIS (Table S-1, p. S-6) is included below (Table 2), with slight changes to the ordering of resource topics within the table. A column has been added to show the impacts associated with the Refined Selected Alternative. Differences are discussed in the following sections of this Re-evaluation (Section 2.3.2 through 2.3.26).

As will be discussed with each topic as appropriate, several differences in the means of analyses have affected some of the changes apparent in Table 2. The more substantial circumstances that have affected impact differences include:

- Use of a more detailed stream database and incorporation of ephemeral streams to stream impact totals.
- Waste areas, or disposal sites for "excess excavation," are now included in the calculations of impacts. This affects the apparent difference in impacts to footprint, land cover, wetlands, and streams.
- The U.S. Forest Service, Monongahela National Forest has updated their management plan for the MNF since the 2002 SFEIS analyses.

Table 2. Kerens to Parsons Project Impact Summary

	Resource	Selected Alternative	Refined Selected Alternative
	Length (miles)	15.4	15.3
	Construction Cost (million $)[1]	$424	$455
	Excavation (million cubic yards)[2]	25.6	24.2
	Excess Excavation (million cubic yards)[2]	3.2	1.9
	Floodplain (acre)	0	0
	Potential 4(f) Impacts	No	No
	Footprint (acre) (incl connectors)	692 (without waste area)	740.3 (41.3 of which is waste area)
MNF	MPA 3.0 (acre)[3]	412 (incl private land)	56.5 (excl private land)
	MPA 6.1 (acre)[3]	186 (incl private land)	285.4 (excl private land)
	MPA 2.0 (acre)	0	0
	MPA 8.0 (acre)	0	0
	MNF (Public Lands) (acre)	281	341.9
	Major Trail Crossings – total # (bridged #)	6 (4)	7 (2)
	Trail Realignments – total # (length in feet)[4]	2 (562)	5 (3,261)
Land Cover	Forest Cover (acre)	653	700.9
	Agricultural Cover (acre)	26	9.7
	Grassland Cover (acre)	12	3.4
	Developed, Open Space[5]	-	26.3
Bldgs	Residential	23	22
	Commercial	0	0
	Community Facilities/Parks	0	0
Waters of the U.S.[6]	Wetlands (acre)	0	0.595
	# Stream Crossings	19	153
	# Bridges	14	13
	# Streams in Culverts	2	58
	# Stream Relocations	5	61
	Length of Bridges (feet)	13,960	12,840
	Lengths Culverts (feet)	1,680	24,699
	Length of Relocation (feet)	1,890	14,376
	Total Stream Length Impact (feet)	3,570	43,230

[1] The cost for the Selected Alternative is the amount reported in the 2002 SFEIS ($297 million) adjusted for 2015 construction costs. The cost for the Refined Selected Alternative represents the best available information for the entire alignment with draft changes incorporated to Sections 2 and 3 as well as the detailed information known for Section 1. Cost is presented this way to be consistent with Financial Plans (WVDOH, 2015). Estimates include the costs of right-of-way.

[2] "Excavation" and "Excess Excavation" in this table are the same as "Cut" and "Waste" from the SFEIS Summary Table. Volumes for the Refined Selected Alternative are based on the detailed excavation information known for Section 1 and the volumes reported in the 2003 AROD for the Selected Alternative.

[3] The Management Prescription Area (MPA) mapping for the MNF has changed substantially since the 2002 analysis. See Section 2.3.3.1 for discussion.

[4] Planning for trail crossing impact, as with other elements of impact in the MNF, has been closely coordinated with the Forest Service. See Section 2.3.7 for discussion.

[5] The area of the alignment that impacts developed property has not shifted since 2003. The increase in acreage impact in this category represents a change in the dataset. See Section 2.3.3 for discussion.

[6] The 2015 stream impact calculations use field delineation results for Section 1 and the Local Resolution-National Hydrography Dataset (WVGIS TC, 2010) for the remainder of the alignment. When the latter dataset is applied to the Selected Alternative, impacts are much closer to those reported for the Refined Selected Alternative, as detailed in Section 2.3.13. Note: the total for the Refined Selected Alternative includes pipe crossings as well as culverts and relocations.

The following sections address the same topics addressed in the SFEIS, with additional subtopics added as appropriate to acknowledge new studies, e.g., "Regional Forest Sensitive Species" has been added as a topic covered along with federally listed species in Section 2.3.11. The order of topics matches that of the SFEIS with the exception that topics have not been divided into the categories "Socio-Economic Environment," "Natural Environment," and "Physical Environment."

2.3.2 Economic Environment

The regulatory and alignment changes that have occurred since 2002 do not affect the general economic benefits and costs associated with the project that were reviewed in the SFEIS, such as improved access to jobs and diversion of traffic from downtown Parsons.

The need for economic growth has increased since 2003 with loss of employment in the region. In 2003, Randolph and Tucker counties had annual unemployment rates of 6.4 and 7.3 percent, respectively. In 2012, the annual rates were 8.6 and 9.4 percent (US BLS, 2013).

The cost to construct the project has been examined. With consideration for changes in construction costs as well as the addition of right-of-way costs, the 2002 estimate of $297 million is raised to $424 million. With detailed design engineering, the cost for the entire Refined Selected Alternative is estimated to be $455 million. This estimated cost incorporates not only the changes in Section 1, but also draft changes in Sections 2 and 3 as presented in the June 2015 Open House Public Meeting (see Section 2.1.2.2). This cost estimate uses the best available information for the entire Refined Selected Alternative and matches Financial Plans (WVDOH, 2015).

The changes to economic impact do not warrant analysis in a supplemental EIS.

2.3.3 Land Cover/Land Use

The project's impact to land cover/land use will not change substantially. A breakdown of acreages as reported in the 2002 SFEIS for the Selected Alternative and as calculated for the current alignment is presented in Table 3. Because of its effect on land cover calculations, this table also includes information regarding excess excavation (waste), which is included in the discussion below.

Table 3. Land Cover Impacts and Waste Volume

Land Cover Category	Selected Alternative	Refined Selected Alternative[1]
Forest Cover (acre)	653	700.9
Agricultural Cover (acre)	26	9.7
Grassland Cover (acre)	12 (also includes shrubland)	3.4
Developed, Open Space (acre)[2]	N/A	26.3
Urban/Commerical/Industrial (acre)[2]	1	N/A
TOTAL FOOTPRINT AREA	692	740.3
Waste Volume	3.2 million cubic yards	1.6 million cubic yards

[1] Calculations for the Refined Selected Alternative include 43.1 acres for the placement of waste in Section 1, which encompasses approximately half the alignment (7.54 miles).

[2] The USGS dataset used for the SFEIS analysis had a category called "Urban/Commercial/Industrial," and the current dataset has a category called "Developed/Open Space."

The difference in total land cover (692 acres versus 740.3 acres) is largely (86%) attributable to the addition of waste areas in the calculations. The Refined Selected Alternative total of 740.3 acres includes 41.3 acres for waste in Section 1, while the 2002 SFEIS did not include waste areas because they had not been designed. Because those impacts are now known, they are included in this Re-evaluation.

The SFEIS did acknowledge the issue of waste areas. Earthwork volume was an important consideration in the alternatives analysis (see Section 2.3.3.2 of the SFEIS), where it was explained that increased waste volume can have environmental effects. The volume of waste associated with the preliminary design was reported in the summary of impacts (Table S-1), and the SFEIS also acknowledged that the volumes may change during final design (p.II-7).

Since 2003, the amount of waste has been reduced during the final design process. In the SFEIS, waste totaled 3.2 million cubic yards, while the Refined Selected Alternative is estimated to have a total of 1.6 million cubic yards. Although it is unknown exactly how much space the 3.2 million cubic yards would have required for the Selected Alternative final design, it is reasonable to assume that it would occupy more than that required for 1.6 million cubic yards.

Both the Selected Alternative and the Refined Selected Alternative are composed of over 94 percent forest (Table 3). The land cover within the remaining six (6) percent of the footprints has changed from agricultural and grasslands observed during the 2002 analysis to residential and light commercial "developed, open space" currently found. This is not a consequence of alignment shifts, but the result of farms and pastures falling to disuse and now considered open spaces.

With respect to planning, the project remains consistent with local and regional land use and transportation plans, as concluded in the SFEIS. The 2014-2019 Statewide Transportation Improvement Program (STIP) lists the Kerens to Parsons Project (WVDOT, 2014), and the Planning and Development Council for WV Region VII, which includes Randolph and Tucker counties, emphasizes the importance of finishing Corridor H through the region (Region VII Planning and Development Council, 2011).

More detail about the forested land impacts and how they relate to Forest Service land use plans are addressed in the following section.

2.3.3.1 Impact to National Forest

The SFEIS included analysis of impacts to different Management Prescription Areas (MPAs) in the MNF. It employed the 1986 version of the MNF's Forest Plan. In the early 2000s, the MNF re-wrote its Forest Plan and the latest version was issued in 2011 (USDA Forest Service, 2011a). As shown with a comparison in Exhibit 5, the dataset available at the time of the SFEIS (inset) has been updated by the Forest Service. First, the MPAs no longer cover the whole proclamation boundary of the MNF (compare inset to large map in Exhibit 5). That is because the Forest Service now excludes privately held properties from the MPA designations. Second, MPA 6.1 now extends farther to the east of US 219. Differences between the impacts of the Selected Alternative, as reported in the SFEIS, and the Refined Selected Alternative reflect these changes to the Forest Plan as well as the refinements in Section 1 (Table 4).

Table 4. Management Prescription Areas and Public Land

MPA[1]	Selected Alternative (MPAs include private lands) [2]	Refined Selected Alternative (MPAs exclude private lands) [2]
MPA 2.0	0	0
MPA 3.0	412 acres	56.5 acres
MPA 5.0	0	0
MPA 6.1	186 acres	285.4 acres
MPA 8.0	0	0
TOTAL IMPACT TO PUBLIC LANDS	281 acres	342 acres

[1] The MPAs were redefined with the 2011 update to the MNF Forest Plan (USDA Forest Service, 2011a).

[2] The Forest Plan used for mapping MPAs in the 2002 SFEIS included privately held lands within the MNF with lands owned by the Forest Service. This is why the total for public lands as shown here and in the SFEIS is lower than the total for the MPA impacts. The 2011 Plan update (USDA Forest Service, 2011a) excluded privately held lands from the MPAs, and thus acreages of impacts to MPAs overall are smaller.

The increase in impacts to public lands (Table 4) is partially explained again by the accounting for waste areas with the Refined Selected Alternative. FHWA and WVDOH have coordinated final design on public lands with the Forest Service, which provides stewardship for the MNF public lands. In the coordination process, the Forest Service has been able to comment on details of design plans, such as the location of waste areas and access points; has been consulted for cultural resource effect determinations; and has been a part of developing more detailed mitigation measures than those listed in the 2003 AROD.

2.3.3.2 Conclusion

In summary, the changes to land cover and land use impacts are minor and will occur in conjunction with enhanced BMPs to mitigate for impacts in the MNF. The changes do not warrant analysis in a supplemental EIS.

2.3.4 Social Environment

Effects to the social environment are not expected to be different now than they were in the 2002 SFEIS analysis. A principal consideration in the SFEIS for this category of impact was traffic patterns and effects to school bus routes. As seen in the exhibits showing differences in the alignments, the shifts in Section 1 have not occurred near roadways and will not impact traffic patterns. No neighborhoods are impacted differently from the the Selected

Alternative, and no community facilities will be impacted by the changes to the alignment. No significant social environment changes in impacts are anticipated.

2.3.5 Relocations

The number of impacts to residences has decreased by one with the changes since the 2003 AROD. A house in the vicinity of CR 3 has been avoided with the shift. No other changes have occurred. The public was offered opportunity to view the changes in Section 1 during an Open House Public Meeting held in June of 2015 (see Section 2.1.2.2).

2.3.6 Farmlands

AD-1006 Forms were completed for impact areas of the Battlefield Alternative and Avoidance. According to the National Resource Conservation Service, no important farmland is involved in the Kerens to Parsons Project. Additional analysis of impact to farmlands is not warranted.

2.3.7 Recreational Resources

As detailed in Table 5, four major trails were crossed by the Selected Alternative, and the same four trails will be crossed by the Refined Selected Alternative. Because of the extensive coordination that has taken place between WVDOH and the Forest Service since the 2003 AROD, details of trail crossings have been developed to a much greater extent than could be reported in the SFEIS. For example, the 2002 SFEIS reported "potential realignments" of 50 feet and 512 feet for the American Discovery Trail and the Shingle Tree Trail. In accordance with the 2003 MOU among the FHWA, Forest Service, and WVDOH, trail realignments have been developed to a more detailed and definitive extent, including preliminary design of additional parking areas. Changes in impacts are listed below.

Table 5. Trail Impact Summary

Trail Name	Selected Alternative Impact	Refined Selected Alternative
Trail Road 126, aka South Haddix Trail	3 perpendicular crossings reported 1 bridge 0 realignments reported	4 crossings 4 realignments totaling 2,740 feet
Trail Road 121, aka. Shingle Tree Trail	1 perpendicular crossing reported 1 bridge 1 realignment totaling 512 feet	1 crossing 0 bridge 1 realignment totaling 521 feet
American Discovery Trail	1 perpendicular crossing reported 1 bridge 1 realignment totaling 50 feet	1 crossing 1 bridge
Allegheny Highlands Trail	1 perpendicular crossing reported 1 bridge	1 crossing 1 bridge
TOTAL REALIGNMENTS	562 feet	3,621 feet

The total amount of major trail realignment has increased from 562 feet to 3,260 feet. However, all realignment decisions and designs have been and will continue to be coordinated with the Forest Service. Additionally, neither of the trails proposed for realignment are featured hiking trails on the MNF website (http://www.fs.usda.gov/activity/mnf/recreation/hiking). During discussions to mitigate for impacts, WVDOH and the

Forest Service have devised means of not only mitigating but also improving access to the trails. Additional parking will be incorporated to the realignment plans. With consideration of all these factors, it has been determined that the change in impacts does not rise to a level of significance that warrants review in a supplemental EIS.

2.3.8 Visual Environment

As seen in the exhibits showing differences in the alignments, the shifts in Section 1 have not occurred near roadways or neighborhoods; therefore, the change will not substantially affect the views of the new highway from populated areas. Some views of the highway may be affected from trails within the MNF. See Section 2.3.7 for more information about effects to trails and the coordination that has taken place with the Forest Service. No substantial changes to views from the highway are expected as a result of the refinements to the Selected Alternative. None of the viewshed changes rise to a level that warrants analysis in a supplemental EIS.

2.3.9 Floodplains

No new impact to floodplains is anticipated. As stated in the SFEIS, "All [Battlefield] Avoidance Alternatives will encroach on the Cheat River floodplain through the placement of bridge abutments or piers. All other floodplains (e.g., Haddix Run) will be completely bridged. Piers will be designed and placed so that downstream flood height would not increase beyond 1-foot, as required by floodplain regulations." In addition to this statement holding true for the Refined Selected Alternative, commitments made with the USFWS for protection of the small whorled pogonia include not placing any fill material within the floodplain of Panther Run (see Section 2.3.11.3).

2.3.10 Vegetation and Wildlife

No new adverse effects to vegetation and wildlife are anticipated. Relatively small differences in impact to land cover are addressed in Section 2.3.3, and specific concerns related to federally listed species and species of concern to the Forest Service (RFSS) are addressed in Sections 2.3.11 and 2.3.11.4, respectively. Because of new mitigation measures in place for protecting the MNF, the small whorled pogonia, and the northern long-eared bat, such as a specialized SWPPP for the Panther Run watershed and seasonal tree-clearing for the entire project, effects to vegetation and wildlife will likely be less than anticipated with the SFEIS analysis and do not warrant further analysis in a supplemental EIS.

2.3.11 Threatened and Endangered Species and RFSS

As documented in the 2002 SFEIS, USFWS stated in a letter dated August 22, 2001 that no further Endangered Species Act Section 7 consultation was necessary for the Kerens to Parsons Project. Since that time, the following events have occurred which influence the re-evaluation of impacts to threatened and endangered species:

1) The mist-net report used to assess potential impacts to bats in 2002 has expired;
2) The northern long-eared bar (*Myotis septentrionalis*) has been federally listed as threatened; and
3) A threatened plant species, the small whorled pogonia (*Isotria medeoloides*), has been discovered within the project area.

Additionally, the SFEIS did not address potential impacts to Regional Forester's Sensitive Species (RFSS). Each of these issues is addressed in the following sections.

2.3.11.1 Survey for Bats

Since the 2003 AROD, in accordance with guidance for protection of the Indiana bat and consultation with the USFWS for the SFEIS, bat mist-netting was conducted for the project after five years had passed since the previous study. WVDOH conducted mist net surveys in the vicinity of the proposed project in Randolph and Tucker Counties in July and August of 2012 and submitted a report of the survey findings to USFWS (Mountain State Biosurveys, 2013).

The area was also surveyed for caves and abandoned mine portals and none were found in the action area. In a letter dated October 18, 2013, USFWS stated that "no federally listed endangered and threatened bats are expected to be impacted by the project. Therefore, no biological assessment or further section 7 consultation under the ESA is required." This applied to species listed at that time (2013).

2.3.11.2 Northern Long-Eared Bat

On October 3, 2013, the USFWS proposed to list the northern long-eared bat (*Myotis septentrionalis*). From the bat mist-netting surveys conducted for the Kerens to Parsons Project in 2012, the species is known to occur in the project area (Mountain State Biosurveys, 2013).

In accordance with guidance available at the time, WVDOH developed a Northern Long-Eared Bat Conservation Plan ("Conservation Plan") (Michael Baker Jr., Inc., 2014a). The plan reinforces some mitigation measures that were already part of the Kerens to Parsons Project, such as the commitment to implementing a strong erosion and sediment control plan, but also adds the commitment to conduct all tree clearing for the project during the winter (November 15 to March 31) to reduce the potential to impact the northern long-eared bat.

In a letter dated December 9, 2014, USFWS concurred that the Conservation Plan provided measures that could reduce the likelihood of adverse effect to the species. USFWS concluded that the Kerens to Parsons Project was not likely to jeopardize the northern long-eared bat (Appendix F1). On April 2, 2015, the USFWS formally listed the northern long-eared bat as a federally threatened species. Through email in October of 2015, USFWS confirmed that the Conservation Plan was still valid.

2.3.11.3 Small Whorled Pogonia

Since issuance of the 2003 AROD, a federally listed threatened plant species, the small whorled pogonia (SWP) (*Isotria medeoloides*) was discovered within the proposed project footprint. The following list describes the history of consultation with the USFWS regarding the in the Kerens to Parsons Project action area.

- During botanical surveys in August and September of 2012, SWP was discovered within the proposed right-of-way, as it existed at the time, within the watershed of Panther Run. A follow-up survey of the entire Panther Run watershed identified one additional SWP population upstream of the first. (All-Star Ecology, 2012)
- Three shift alternatives were developed to move the alignment downstream of the populations.
- A meeting with the USFWS, WVDNR, and the Forest Service was held on December 10, 2012 to identify potential issues for SWP related to development of the Kerens to Parsons Project.
- On December 18, 2012, USFWS provided WVDOH with a list of recommendations to minimize and/or avoid adverse effects to the species (Appendix F2). These recommendations included items to incorporate into project planning and execution to ensure that Corridor H will not adversely affect SWP.
- Between December of 2012 and February of 2014, WVDOH conducted investigations (e.g., botanical surveys, engineering design studies, hydrologic and hydraulic studies, etc.) necessary to respond to each of USFWS's December, 2012 recommendations. Three alternatives were developed and analyzed for shifting the alignment downstream (to the north) of the SWP populations in the Panther Run watershed.
- On February 5, 2014, WVDOH hosted a workshop in the offices of WVDOH District 8, Elkins, WV. At that workshop, WVDOH presented the results of its year-long activities to USFWS, WVDNR and MNF.
- On February 12, 2014, WVDOH received an e-mail from USFWS that stated in part, "While we recognize that there are many additional details to work out, if you continue to work to resolve these remaining issues with the conscientious approach evident at the meeting, and if the ideas presented in the shift 3 alignment study are

carried forward and executed in final design, the USFWS believes that formal consultation on small whorled pogonia can likely be avoided." (Appendix F2)

- In October of 2014, WVDOH and FHWA submitted to the USFWS a Biological Assessment (BA) for the SWP, detailing the analyses summarized in the February, 2014 meeting as well as additional studies that had taken place since that time. In particular, WVDOH had developed a specialized SWPPP for construction activities in the Panther Run watershed and had updated the hydrologic and hydraulic study from earlier in 2014. The BA concluded that all measures requested by the USFWS in December of 2012 had been addressed.
- In a letter dated December 9, 2014, USFWS concurred with the conclusions of the BA and stated, "the Service concurs that the proposed project is not likely to adversely affect the small whorled pogonia." (Appendix F1).

2.3.11.4 Regional Forester's Sensitive Species

In accordance with the ESA and the Forest Service's Standards and Guidelines, the Forest Service is required to conduct Biological Evaluations for impacts that may occur from their transfer of National Forest lands. Their evaluations include not only federally listed species, but also RFSS. RFSS are species for which the Forest Service has determined population viability may be a concern.

WVDOH conducted surveys for RFSS for the whole length of the Kerens to Parsons Project. The surveying process was conducted in close coordination with the Forest Service, included several screening processes as well as fieldwork, and resulted in two reports – one for animal species and one for botanical species. The Forest Service used these reports to conduct their evaluation for the potential impacts to RFSS. Additionally, consideration for RFSS played a role in the alternatives development. As stated in their June 24, 2015 letter, the Forest Service agreed to move forward with Alternative 3D in Section 1 with the understanding that WVDOH would work with the agency "to move the waste area adjacent to Panther Run to minimize impacts to a known location of blunt-lobe grape fern [*Botrychium oneidense*]" (Appendix E). Locations of butternut (*Juglans cinerea*) found during WVDOH's RFSS surveys also factored into the detailed alternatives analysis, as documented in materials from fall 2014 coordination meetings contained in the project record.

In June 2015, the Forest Service conducted two Biological Evaluations, which included determinations for each of the RFSS (USDA Forest Service, 2015a and 2015b). All determinations were either "no impacts" or "may impact individuals but is not likely to cause a trend toward federal listing or loss of viability." The final determinations that were a part of the Biological Evaluations are included in Appendix F3 and Appendix F4 for animal and plant species, respectively.

2.3.11.5 Conclusion

All of the new issues that have arisen since the 2003 AROD with respect to protected species have been addressed as described above. In their letter dated December 9, 2014, USFWS concluded that no further Section 7 consultation was necessary for the Kerens to Parsons Project (Appendix F1). Because of the enhanced mitigation measures incorporated to the project in consultation with agency and academic experts and the determinations from the Forest Service and USFWS, the changes to the impacts to these plant and animal resources are not considered significant and do not warrant analysis in a supplemental EIS.

2.3.12 Wetlands

A comparison of total wetland impacts is presented in Table 6. The 2003 AROD reported zero wetland impact for the Selected Alternative. The Refined Selected Alternative impacts 12 wetlands and a total of 0.595 wetland acres. Of this total, over half (57%, 0.342 acre) are crossings of two (2) manmade ponds, considered here as palustrine open

water (POW) wetlands, on a single property. The remaining 43% of impact (0.252 acre) accounts for 10 different palustrine emergent (PEM) wetland crossings, with an average of 0.025 acre of impact each.

As explained below, the increase in impacts is mostly due to the passage of time. Only a small portion of the new impacts are due to the shift in the alignment. The wetlands delineated in the project area and how the current alignment impacts them is presented in Table 7.

Table 6: Comparison of 2003 AROD and Re-evaluation Wetland Impacts

Delineation	PEM (# and acres)	PSS (# and acres)	PFO (# and acres)	POW (# and acres)	Total (# and acres)
2003 AROD Alignment	0	0	0	0	0
Refined Selected Alternative	10 0.252	0	0	2 0.342 ac	12 0.595 ac

Table 7: Wetland Crossings by the Refined Selected Alternative

Wetland Name	Watershed	Approximate Station	Wetland Classification	Wetland Total Area	Wetland Impact (area and % of total)
W038	Haddix Run	Sta. 475	POW	0.150 ac	0.150 ac (100%)
W039	Haddix Run	Sta. 475	PEM	0.007 ac	0.007 ac (100%)
W037	Haddix Run	Sta. 476	POW	0.262 ac	0.192 ac (73%)
W014	Panther Run	Sta. 286	PEM	0.009 ac	0.009 ac (100%)
W015	Panther Run	Sta. 287	PEM	0.053 ac	0.002 ac (4%)
W015	Panther Run	Sta. 287 (in waste area)	PEM	0.053 ac	0.001 ac (<2%)
W210	Wilmoth Run	Sta. 138	PEM	0.181 ac	0.172 ac (95%)
W211	Wilmoth Run	Sta. 140	PEM	0.025 ac	0.024 ac (96%)
W212	Wilmoth Run	Sta. 142	PEM	0.018 ac	0.006 ac (33%)
W003	Wilmoth Run	Sta. 164	PEM	0.011 ac	0.011 ac (100%)
W004	Wilmoth Run	Sta. 164	PEM	0.002 ac	0.002 ac (100%)

Wetland Name	Watershed	Approximate Station	Wetland Classification	Wetland Total Area	Wetland Impact (area and % of total)
W005	Wilmoth Run	Sta. 168	PEM	0.019 ac	0.019 ac (100%)
TOTAL IMPACT					0.595 ac

Source: Skelly & Loy Inc. conducted field delineations in Sept-Oct, 2013 and Apr-May, 2014 and based impact calculations on designs for Section 1 of the Kerens to Parsons Project current as of June 30, 2015.

Ninety-six percent (96%) of the current wetland impact (0.57 acre of the 0.595 acre total) actually overlaps the Selected Alternative as well as the shifted alignment. Of this 0.57 acre, 0.342 acre is composed of two manmade ponds. Aerial photographs suggest that the ponds existed in 1999. These ponds may still be considered not jurisdictional (for instance, if it is found that they require dredging to be maintained). The Jurisdictional Determination has not been finalized and reporting in this Re-evaluation is providing a worst case scenario for impacts to waters of the U.S.

The remaining 0.228 acre of wetland that currently overlaps both alignments most likely did not exist at the time of the previous delineation. These are all small PEM wetlands, less than 0.2 acre each), and PEM wetlands in particular change over time. One impact (W210) comprises 30% of the total wetland impact (0.172 acre) and is located alongside a watercourse, so this wetland may easily have been created from flooding events since 2002. USACE requires a new Jurisdictional Determinations after five (5) years have passed. More than 13 years have elapsed since the delineations used for the SFEIS analyses.

Impacts to wetlands are being mitigated using available preservation credits from implementation of the Cheat River Watershed Wetland Mitigation and Preservation Plan. This Plan, dated August 2010, was accepted by USACE in conjunction with the Davis to Bismark Project 404 Permit Modification Package. Prior to applying debits from the Kerens to Parsons Project impacts, WVDOH has 74.75 acres of preservation credit available to apply to Corridor H wetland impact mitigation. After applying the Kerens to Parsons impacts, the remaining credits will be 70.51 acres. Proposed mitigation is currently pending approval, as part of CWA 404 Permit Modification request. The modification is currently pending approval by the USACE. As with the Selected Alternative, USACE approval will be required prior to construction.

2.3.13 Watersheds and Streams

2.3.13.1 Impacts

The 2003 AROD reported 3,570 feet of stream impact (e.g., culverting, relocation, etc.), but the new analysis presented here indicates that the stream impacts will increase by over 10 times. Eighty-five percent (85%) of this disparity is not due to actual impact increase but to the difference in data and methods available and utilized in 2003 vs. those used for the Refined Selected Alternative impact analysis.

Since the 2002 SFEIS analysis, the regulatory environment relative to headwater tributary streams has changed. Clean Water Act rules enacted by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers (USACE) have added protections for ephemeral streams where they did not exist during the assessment of impacts for the 2002 SFEIS. Additionally, a refined dataset has become available in West Virginia and has been applied to calculations for the entire Kerens to Parsons Project even though detailed design has not been completed in Sections 2 and 3. Also, WVDOH conducted formal field delineations of streams in Section 1 where detailed

engineering has taken place. Both the refined dataset (described in more detail below) and the field surveys include streams not included in the more basic analysis that was sufficient for selecting an alternative in 2003. Results of the current analysis show that the Refined Selected Alternative is predicted to have 43,230 feet of impact. As detailed below, the majority of the increase does not represent new impacts; the alignment is generally in the same location as it was in 2003.

A summary of the stream impacts is provided in Table 8. Specific crossing types are not known for Sections 2 and 3, so enclosures are not separated by type (e.g., culverts versus pipes). It should be noted that neither the 2002 SFEIS nor the current stream impact calculations are based on jurisdictional determinations of waters of the U.S. The USACE Jurisdictional Determination has not been finalized for this project.

Table 8: Comparison of Stream Crossings

Alignment	Number of Enclosures	Number of Relocations	Number of Bridges[1]	Enclosure Length[2] (feet)	Relocation Length (feet)	Bridge Length (feet)	Total Impact (feet)
Selected Alternative as presented in SFEIS	2	5	12	1,680	1,890	13,960	3,570
Refined Selected Alternative	126[3]		13	43,230[3]		12,840	43,230

Sources: Information for the Selected Alternative is taken directly from the SFEIS, Table III-43. For Section 1 of the Refined Selected Alternative, field delineations were conducted by Skelly & Loy Inc. in Sept-Oct, 2013 and Apr-May, 2014. For Sections 2 and 3 of the Refined Selected Alternative, impacts were calculated using the most updated available data (WVGIS TC, 2010). Calculations have been rounded to the nearest 10.

[1] Table III-43 in the SFEIS reported 12 bridges although the preliminary design included 14 bridges. Only 12 bridges were reported in the table because only 12 of the 14 total bridges were determined to be crossing streams. More detailed data reveals that all 14 bridges cross streams. The 14 total bridges in the Selected Alternative and 13 total bridges in the Refined Selected Alternative can be seen in Exhibit 3.

[2] Table III-43 in the SFEIS entitled this column "Culvert Length"; however, it has been changed for the purposes of this presentation to include the length of all enclosures, including pipes.

[3] For the Refined Selected Alternative, specific crossing types are unknown in Sections 2 and 3, so these categories are grouped.

As described in the SFEIS, analysis of stream impacts for the alternatives presented in the SFEIS was based on USGS Digital Topographic Quadrangle mapping (i.e., the blue lines on topographic maps) and field truthing of that data. At the same time, in 2002, the U.S. Geological Survey (USGS), Forest Service, State agencies, and others began work to produce a high resolution National Hydrography Dataset (NHD), and this work was completed in 2007 (USGS, 2015). Also in the early 2000's, the WV Geographic Information System Technical Center (WVGIS TC) began an effort to produce a local resolution (i.e., more refined) dataset, joining the NHD with data available from the WV Statewide Addressing and Mapping Board (SAMB) and other available data such as that from coal mine permits (WVGIS TC, 2015). For the SAMB data, high resolution aerial photography was flown for the state of West Virginia in 2003. The resulting Local Resolution-National Hydrography Dataset (LR-NHD) has a scale of 1:4,800, which offers

more detail than the NHD with a scale of 1:24,000. The last version of the dataset, dated 2010, was downloaded for use with the Kerens to Parsons Project analysis (WVGIS TC, 2010).[1]

Table 9 shows results for the Selected Alternative when the LR-NHD is applied to the entire alignment. Results indicate that the Selected Alternative would have 37,290 feet of impact, including 18,850 feet in Section 1 and 18,438 feet in Sections 2 and 3. Therefore, the stream impacts are more than ten times those calculated in 2002 just because of the use of an updated dataset (3,570 feet increased to 37,290 feet). This increase of 33,720 feet makes up 85% of the total difference between the Selected Alternative stream impacts reported in the SFEIS (3,570 feet) and the current calculations for the Refined Selected Alternative (43,230 feet).

Table 9: Comparison of Stream Impacts Using Updated Database

	Total Reported in SFEIS/AROD	Totals Using 2015 Best Available Data[1]			Changes Since 2002 Analysis
		Section 1	Sections 2 and 3	Total Alignment	
Selected Alternative	3,570	18,850	18,440	37,290	Use of LR-NHD
Refined Selected Alternative	N/A	24,790	18,440	43,230	Use of LR-NHD, detailed engineering including waste sites in Section 1, field delineations in Section 1

[1] These 2015 calculations were performed using the LR-NHD (WVGIS TC, 2010), except for Section 1 in the Refined Selected Alternative for which results of formal field delineations conducted in 2013 and 2014 were used.

For calculating the total stream impacts for the Refined Selected Alternative, WVDOH applied not only the LR-NHD but also results from field surveys conducted for Section 1, for which more detailed design is known. For the Refined Selected Alternative, stream impacts are 24,790 feet in Section 1 versus 18,850 for the Selected Alternative. The difference is the result of several factors discussed below.

While minor shifts in the alignment since 2002 may have affected stream impacts in minor ways, two changes that have occurred during detailed engineering design account for the bulk of the apparent difference (approximately 77 percent) in impacts in Section 1: removal of a bridge and the additional consideration for waste sites.

One 700-foot bridge that was a part of the Selected Alternative has been removed from the design, and the Unnamed Tributary to South Branch Haddix Run will be crossed with an enclosure at Station 381+00 (Exhibit 3). A total of approximately 2,780 feet of stream impact results from this change. The environmental effects of removing this bridge were considered along with effects of locating excess excavation and project costs. These cost-benefit

[1] The LR-NHD represents the best available data for a detailed GIS stream layer in West Virginia; however, it should be noted that the WVGIS TC considers the dataset to remain still in draft form (WVGIS TC, 2015). Comparison of field delineation results in Section 1 of the Refined Selected Alterative with results from overlaying the alignment with the LR-NHD shows the LR-NHD yields results similar to the more precise field surveys. This comparison supports the decision to use LR-NHD for analysis of Sections 2 and 3 and for an update to the Selected Alternative impacts.

considerations were discussed with resource agencies as detailed in Section 2.1.3. Mitigation has also been coordinated with the Forest Service because the stream crossing lies within the MNF. Mitigation is detailed below in Section 2.3.13.3.

As discussed at the beginning of Section 2.3, Section 1 has undergone detailed environmental analysis and design engineering, and this has included the location of waste areas. After efforts to minimize environmental effects and coordination with the Forest Service in accordance with the 2003 MOU, waste areas were determined. The areas overlap approximately 1,780 feet of stream. These are not new impacts, but rather impacts that have been realized in more detail since the signing of the AROD. The SFEIS acknowledged the issue of waste areas. Section 2.3.3 includes a complete discussion of this topic. Although it is unknown exactly how much space the 3.2 million cubic yards of excess excavation associated with the Selected Alternative would have required, it is reasonable to assume that it would occupy more than that required for the 1.6 million cubic yards associated with the Refined Selected Alternative, and that the additional area would include stream crossings.

Remaining impact differences between the Selected Alternative and the Refined Selected Alternative in Table 9 is likely the result of more detailed data collection that has taken place for Section 1. The streams in the LR-NHD are not classified, so it is unknown to what extent it includes ephemeral streams. However, because that dataset is based on aerial photography and not on field surveys, it undoubtedly does not include all ephemeral streams. The field surveys conducted by Skelly & Loy Inc. for the Kerens to Parsons Project in 2013 and 2014 delineated 10,150 feet of ephemeral streams in Section 1. This could account for more of the difference between impacts in Section 1.

2.3.13.2 Avoidance and Minimization Measures

Avoidance and minimization of stream impacts have always been an important consideration with development of Corridor H in general and of the Kerens to Parsons Project specifically. For instance, the 1996 FEIS included the commitments to use advanced Best Management Practices (BMPs) with Tier 3 stream crossings and to incorporate permanent stormwater management facilities (WVDOH, 1996). Since the signing of the AROD, additional measures to avoid and minimize impacts to streams have been incorporated to the project, many of which were the result of coordination with the Forest Service for protection of the MNF and with the USFWS for the protection of habitat in the Panther Run watershed.

Alignment Shifts. As detailed in Section 2.1.3, WVDOH in coordination with the Forest Service, chose to shift the Refined Selected Alternative slightly north in the Laurel Run watershed to minimize impacts to the stream and its reproducing native trout population. The shift is visible in Exhibit 4.

Commitment to Bridging. Although Contractors can sometimes change the method of crossing streams during final design, WVDOH is placing restrictions on changes to the design of stream crossings within the MNF. Contractors are being required to keep bridges over the following streams: Baldlick Fork, Panther Run, UNT South Branch Haddix Run 5, South Branch Haddix Run, and Haddix Run.

Natural Channel Design. The WVDOH will use natural channel design where practicable for all high quality stream relocations and selected culvert crossings within the MNF.

Stormwater Pollution Prevention Plan. WVDOH developed a specialized SWPPP for construction activities in the Panther Run watershed. WVDOH is providing a copy of this SWPPP as an example for Contractors to use in developing SWPPPs for areas outside the Panther Run watershed as well. The SWPPP plan provides for the following controls, some of which are further detailed under “Erosion and Sediment Control” below):

- Site management (i.e., "housekeeping") measures for construction materials,
- Perimeter controls,
- Erosion control and stabilization of the site,
- Inlet protection,
- Sediment track out (stabilized entrances),
- Material spoils management,
- Storm drain inlet protection,
- Sediment basins,
- Spill prevention and response, and
- Construction site inspections (and corrective actions if concerns are identified).

Sediment and Erosion Control. The following commitments are included in the project for control of erosion and prevention of sedimentation in streams:

- Implementation of a strong Erosion and Sediment Control Plan approved by WVDOH, including the SWPPP already prepared and approved for the Panther Run watershed area;
- Preserving existing vegetation where attainable and stabilizing disturbed project areas as rapidly as possible;
- Limiting disturbance on steep slopes. (of 30% or greater);
- Seeding and mulching shall be performed on all cut and fill slopes, including any cut and fill slopes associated with waste sites and borrow sites, during the construction process, and all additional disturbed areas, including diversion ditches, sediment basins, areas around sediment structures, haul roads, cut and fill slopes, clear and grubbed areas, and storage areas shall be seeded and mulched as quickly as possible following disturbance to minimize erosion;
- Implementing effective wind erosion control;
- Establishing and maintaining effective perimeter controls as needed, and implementing effective BMPs for all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.
- The Contractor must prepare a Spill, Prevention, Control, and Countermeasure (SPCC) Plan and submit it for approval from WVDOH;
- Inspections for storm water runoff erosion;
- Photo documentation of conditions and maintenance of erosion and sediment control measures;
- Within areas owned by the Forest Service within the MNF, all erosion control plans must be reviewed by the Forest Service, and the Forest Service will be invited to attend all erosion control reviews.

Hydrologic & Hydraulic Study. For protection of threatened species habitat, WVDOH had Michael Baker International conduct a hydrologic and hydraulic study and develop preliminary and final BMPs to implement with construction in the Panther Run watershed (Michael Baker Jr., Inc., 2014b). After lengthy analysis of a range of alternatives for the BMP implementation, a suite of BMPs was incorporated to the project plans that will reduce potential hydrologic and hydraulic stressors (e.g., flow depth, velocity, and sheer stress).

Tier 3 Streams. As part of securing the required Clean Water Act Section 402 permit, also known as the National Pollutant Discharge and Elimination System (NPDES) Permit, Tier 3 streams in the project area will receive antidegradation review by the WVDEP. The SWPPPs for the Kerens to Parsons Project will need to address Tier 3 streams as part of their NPDES permit for both core boring and roadway construction, and this will help ensure minimization of impacts.

Acid-Base Accounting. Acid-base accounting is a standard method used on highway construction projects where there is concern that disturbance of the soil and underlying strata as the result of construction could produce acid drainage. Acid-base accounting analyses were conducted on core boring samples along Section 1 of the Refined Selected Alternative. Based on Acid-Base Accounting evaluation of these 16 rock cores, a conclusion was reached that it appears geologic materials along the alignment have little potential to produce acid drainage because the alkalinity in the rocks greatly overwhelm the few samples that contain sulfur concentrations. Details on methods and findings were documented in two reports produced by Michael Baker International, which were shared with the Forest Service (Michael Baker International, 2015a and 2015b).

2.3.13.3 Mitigation Plan and Clean Water Act Section 404 Individual Permit

As stated in the SFEIS, "West Virginia Division of Highways (WVDOH) will continue to coordinate with the USCOE [USACE] and state environmental regulatory agencies regarding potential stream and wetland encroachments that may be identified during the final design process," (p. V-7). In 1996, a Clean Water Act Section 404 Individual Permit was issued for the entire Corridor H Project (approximately 100 miles), and that Permit was extended in 2007 through 2017. Modifications to the Corridor H Section 404 Permit have been approved for segments of the highway that have proceeded to construction. A modification request for the Kerens to Parsons Project, Section 1, which has undergone detailed design and field surveys, is being prepared for submittal to the USACE. That modification request includes the following plan for mitigating impacts in Section 1, which total 24,790 feet.

Stream impacts from the Kerens to Parsons Project are being evaluated and mitigated following the guidance of the West Virginia Stream and Wetland Valuation Metric (SWVM, USACE 2010). The SWVM is a means of identifying stream impairments and improving streams as needed to provide functional lift. In the 1996 FEIS Mitigation Plan and 2003 AROD, WVDOH and FHWA committed to implementing a stream Habitat Improvement program. However, the SWVM provides a more quantifiable habitat improvement for the stream and surroundings than the methods in the 2003 AROD Mitigation Plan. Therefore, a new plan has been formulated.

To offset a portion of the impacts from the Kerens to Parsons Section 1, the WVDOH in coordination with the Forest Service developed a plan to provide off-site stream and wetland enhancements. The conceptual plan includes a variety of efforts to provide functional lift in streams by replacing certain existing culverts that restrict aquatic organism passage (AOP) within the Right Fork Clover Run watershed. For the remaining stream impact debits, WVDOH will purchase credits from available mitigation banks and then from the In Lieu Fee program, which is administered by the West Virginia Department of Environmental Protection (WVDEP).

The proposed Mitigation Plan will result in habitat improvements to the streams in a more quantified and scientifically based way because of implementation of the SWVM It is anticipated that Sections 2 and 3 of the Kerens to Parsons Project will implement a similar mitigation plan for stream impacts. Remaining Kerens to Parsons impacts will be addressed in a future 404 Permit Modification when designs are finalized and impacts are more firmly established.

2.3.13.4 Conclusions

Stream impacts have been an important consideration from the start of the Corridor H Project. As evidenced in the extensive mitigation planning for stream impacts, NEPA analyses for the Corridor H project have acknowledged significant impacts to stream resources would occur. Stream impacts associated with the Selected Alternative for the Kerens to Parsons Project were reported as being 3,570 feet; however, that figure would have been updated after detailed design, inclusion of waste areas, and employing updated hydrography mapping. The analysis above shows that updated impact calculations for the Selected Alternative and the Refined Selected Alternative yield similar

results. With this understanding, and in light of the extensive coordination and addition of mitigation measures that have occurred since the 2003 AROD, FHWA has determined that the change in impacts does not rise to a level of significance that warrants review in a supplemental EIS.

2.3.14 Wild and Scenic Rivers

The Refined Selected Alternative does not overlap designated wild and scenic rivers (National Wild and Scenic Rivers System, 2015). The Cheat River is listed on the Nationwide Rivers Inventory, which is a listing of more than 3,400 free-flowing river segments in the United States that are believed to possess one or more "outstandingly remarkable" natural or cultural values judged to be of more than local or regional significance. Segments along the Cheat, including the project area, is listed for having outstanding recreational, wildlife and “other similar values” (NPS, 2015). However, because the National Park Service was engaged in the agency coordination for the EIS development and because the project will be entirely bridging the Cheat River, no further analysis is required. The National Park Service will be re-engaged if impacts to the Cheat River change with design in the eastern portion of the Kerens to Parsons Project.

2.3.15 Groundwater Resources

Changes to the project are not anticipated to have any change in effect on these resources.

2.3.16 Public Water Supply

Changes to the project are not anticipated to have any change in effect on these resources.

2.3.17 Geology, Mines & Minerals

One update to the assessment of potential impact associated with these resources is a new study of acid drainage potential with the project.

Acid-base accounting (ABA) is a standard method used on highway construction projects where there is concern that disturbance of the soil and underlying strata as the result of construction could produce acid drainage. Acid base accounting analyses were conducted on core boring samples along Refined Selected Alternative in Section 1. Although no impacts were reported in the SFEIS, results of further studies, like the ABA, since the SFEIS analyses contribute to the assessment of potential impacts that may accompany changes to the project.

Based on ABA evaluation of these 16 rock cores, it appears from the data that the geologic materials represented by these cores have little potential to produce acid drainage because the alkalinity in the rocks greatly overwhelm the few samples that contain sulfur concentrations (Michael Baker International, 2015a and 2015b).

2.3.18 Hazardous Materials

On behalf of WVDOH, Skelly & Loy Inc. investigated the potential for impacts to occur from hazardous materials throughout the Refined Selected Alternative Section 1, where detailed engineering has been conducted. Investigations included field views during environmental surveys in 2013, generation of Environmental Data Resources (EDR) Radius Reports in May of 2014 and October 2015, and gathering information through the West Virginia One-Call system. Three pipelines have been found crossing the alignment within the MNF. The first is an active line owned by Energy Corporation of America (ECA). The active line is 8 inches in diameter and buried between 2 to 5 feet, depending on the surrounding surface conditions. This line carries non-processed natural gas. Although project area utility drawings have been requested from ECA, the company has not provided them. The second pipeline is located parallel to the active line and is likely abandoned, but neither the EDR report nor ECA have been able to confirm that. Remnants of a third abandoned pipeline have been found to be located in South Branch Haddix Run, but there is no written record of it or drawings showing its extent.

Although the database reports found potentially hazardous materials as well as wells within the one-mile radius of the project, none are located within the proposed cut/fill. As stated in the SFEIS, if any potential hazardous waste sites are identified during the final design, an environmental site assessment would be performed prior to the acquisition of the property, and site investigations would follow WVDOH Guidelines for identifying and handling hazardous waste on highway projects.

Updated investigations for Sections 2 and 3 will be conducted when more refined engineering has been completed for those Sections.

2.3.19 Cultural Resources

Section 106 coordination was completed for the Kerens to Parsons Project at the time of the SFEIS in 2002. New surveys have been conducted for the areas of shifts within Section 1 of the Refined Selected Alternative. Additionally, all structures were re-examined for potential eligibility for listing in the National Register of Historic Places (NRHP). Consultation took place with both the SHPO for all of the project area and the Forest Service, in accordance with the 2003 MOU in which FHWA, WVDOH, and the Forest Service agreed to continue coordination with the SHPO during final design and construction of the Kerens to Parsons and Parsons to Davis Projects (see Section 2.1.2 and Appendix A).

Following is a summary of the reports, findings, and finalization of consultation for historic and archaeological investigations for Section 1 of the Kerens to Parsons Project.

Addendum to the July 2000 Determination of Eligibility for Historic Resources for areas outside the MNF, November 2013 Report: None of the resources were recommended for further study (Skelly & Loy Inc., 2013a). In a letter dated December 9, 2013, SHPO concurred that there are no structures that are recommended eligible for the NRHP (Appendix G).

Addendum to the July 2000 Determination of Eligibility for Historic Resources for areas within the MNF, May 2014 Report: None of the resources were recommended for further study (Skelly & Loy Inc., 2014a). In a letter dated July 14, 2014, SHPO concurred that there are no structures that are recommended eligible for the NRHP, and concurrence from the MNF was not necessary because all of the properties reviewed were on private property (see letter dated June 4, 2014) (Appendix G).

Phase 1 Archaeological Survey outside the MNF, October 2012 and September 2013 Reports: No further investigations were recommended (Michael Baker Jr., Inc., 2012; Skelly & Loy Inc., 2013b). In letters dated November 15, 2012 and October 23, 2013, SHPO concurred with the findings that no further coordination was necessary for archaeology in this portion of the Project (Appendix G).

Phase 1A and 1B Archaeological Surveys within the MNF, April and May 2014 and June 2015 Reports: No further investigations were recommended (Skelly & Loy Inc., 2014b, 2014c, and 2015). SHPO concurred in letters dated June 10, 2014 and July 8, 2015, and the Forest Service concurred for areas overlapping their property in letters dated June 4, 2014, June 27, 2014, and August 24, 2015 (Appendix G).

No archaeological sites or historic resources that are listed or eligible for listing on the National Register of Historic Places (NRHP) will be impacted in Section 1 of the Project. For the remaining portion of the Kerens to Parsons Project, there are no known historic or archaeological sites listed or eligible for listing on the NRHP and updated surveys and consultation will be completed as necessary with any final design changes with the SHPO and Forest Service.

Since issuance of the 2003 AROD, an MOU was executed among FHWA, WVDOH, and the Forest Service in June of 2003 (see Section 2.1.2). Provisions in that MOU relate to historic and archaeological resources and have been implemented since the 2003 AROD. Principally, this includes the transfer of $1.2 million to the Forest Service's Heritage Resources Program between fiscal years 2004 and 2008. In 2011, the Forest Service submitted a report to the WVDOH summarizing the accomplishments achieved through the use of those funds, including the identification of hundreds of archaeological sites, historic site stewardship, and database and collections management (USDA Forest Service, 2011b).

This re-evaluation has determined that no new impacts to cultural resources warrant analysis in a supplemental EIS.

2.3.20 Air Quality

Section 1 of the Refined Selected Alternative was reviewed to identify any changes in the area or in the proposed highway design that could affect air quality since the SFEIS was approved. Both Randolph and Tucker Counties are currently in attainment for all principal pollutants identified as criteria pollutants in the Clean Air Act (WVDEP, 2013). Additionally, the project has not been linked with any special Mobile Source Air Toxics concerns (FHWA, 2012). Based on the anticipated level of traffic, the anticipated future traffic mix, and the probable vehicular speeds, air quality impacts remain the same as documented in the SFEIS. No further analysis is warranted.

2.3.21 Noise

A traffic noise analysis was undertaken to identify and evaluate the potential noise impacts resulting from the Refined Selected Alternative in Section 1, where detailed engineering has been conducted. The analysis was undertaken to account for the minor shifts and any new noise sensitive receptors (e.g., houses), and in order to address changes to State/Federal traffic noise guidelines, procedures, and modeling software that have occurred since the 2002 SFEIS analysis. The study complies with 23 CFR 772 and the WVDOH Noise Policy.

Results indicate that no receptors will experience noise levels that exceed the threshold of 66 dBA. Also, no residential receptors will experience an increase of more than a 15 dBA as compared to existing conditions. The low projected traffic volumes coupled with the distance, ground cover and undulating terrain between the facility and homes minimize the highway's footprint on the acoustical environment. Several trail crossing will experience zones where the sound increases more than 15 dBA; however, based on trail usage and the magnitude of the sound levels, impacts are not anticipated, and mitigation would not be reasonable.

No new impacts are anticipated in Sections 2 and 3; however, detailed analysis will be undertaken when engineering is more complete in those portions of the project.

2.3.22 Energy

The project is not expected to have more adverse effects to energy resources than reported in the SFEIS. Indeed, because of detailed engineering efforts, energy expenditures will likely be less than with the Selected Alternative. For example, excavation has been reduced from 25.6 million cubic yards to 24.1 million cubic yards (Table 2). Further analysis in a supplemental EIS is not warranted for energy impacts.

2.3.23 Construction Impacts

The 2002 SFEIS included disclosure of temporary impacts from construction activities. No new construction impacts are anticipated as a result of the project changes.

2.3.24 Relationship of Local Short-Term Uses Versus Long-Term Productivity

Changes to the project have not affected considerations for short-term uses versus long-term productivity.

2.3.25 Irreversible & Irretrievable Commitments of Resources

Changes to the project have not affected considerations for irreversible and irretrievable commitments of resources.

2.3.26 Section 4(f) and Section 6(f)

Changes to the project have not resulted in effects to properties that qualify for protection under Section 4(f) of the USDOT Act of 1966. No publically owned public park, recreation area, wildlife or waterfowl refuge, or significant historic site will be impacted. As detailed in past NEPA documentation for the project, impacts within the MNF itself do not apply as Section 4(f) impacts. The trails that will be affected (Section 2.3.7) are not a part of the National Trails System (NPS, 2010) and therefore do not qualify as Section 4(f) properties.

Changes to the project have not resulted in effects to any properties acquired or developed using the Land and Water Conservation Fund (Section 6(f) properties).

3.0 Re-evaluation Conclusion

The re-evaluation of the 2002 SFEIS/2003 ROD presented above was conducted consistently with FHWA regulations for a written re-evaluation. This analysis clearly indicates that while there have been changes to the Selected Alternative and regulatory changes relative to certain resource categories analyzed in the NEPA documents, those changes did not result in new significant impacts as compared to those disclosed in the 2002 SFEIS/2003 ROD. Therefore, additional evaluation in a supplemental EIS is not required for the Kerens to Parsons Project.

4.0 References

AllStar Ecology LLC. 2012. Botanical Survey for Threatened & Endangered Species within the Corridor H Right-Of-Way Kerens to Parsons. Fairmont, WV.

Federal Highway Administration (FHWA). 2012. Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA. Washington, D.C.

Michael Baker International. 2015a. Acid-Base Accounting Analyses Interpretations Cores KP1B-90, 116, 153, 163, 172,181,198, 207, 219CR-3, 10, and 16. Corridor H, Kerens to Parsons, Section 1B, Randolph and Tucker Counties. Charleston, WV.

_____. 2015b. Acid-Base Accounting Analyses Interpretations Cores KP1B-14, 25, 55, 58 and 66. Corridor H, Kerens to Parsons, Section 1B, Randolph and Tucker Counties. Charleston, WV.

Michael Baker Jr., Inc. 2014a. Northern Long-Eared Bat Conservation Plan. Charleston, WV.

_____. 2014b. WVDOH Corridor H, Kerens to Parsons. Hydrologic & Hydraulic Report for Mitigation of Impact to Small Whorled Pogonia. Charleston, WV.

_____. 2012. A Phase I Survey of Previously Unsurveyed Portions of the Kerens-to-Parsons Project from Kerens to the Monongahela National Forest Boundary, Appalachian Corridor H, Randolph County, West Virginia. Prepared for WVDOH. Moon Township, PA.

Mountain State Biosurveys. 2013. Mist Net Survey Report West Virginia Department of Transportation Appalachian Corridor H Kerens to Parsons Section. Lesage, WV.

National Park Service (NPS). 2010. Map of the National Trails System. Retrieved from: http://www.nps.gov/nts/maps.html. Last updated April 2010.

National Park Service. 2015. Nationwide Rivers Inventory, list for State of West Virginia. Retrieved from: http://www.nps.gov/ncrc/programs/rtca/nri/states/wv.html. September 10, 2015.

National Wild and Scenic Rivers System. 2015. National Wild and Scenic Rivers System, list for State of West Virginia. Retrieved from: http://www.rivers.gov/west-virginia.php. September 28, 2015.

Region VII Planning and Development Council. 2011. West Virginia Region VII Coordinated Public Transit-Human Services Transportation Plan Update. Final Report. Retrieved from: http://www.transportation.wv.gov/publictransit/Documents/Region%20VII%20Final%20Report.pdf.

Skelly & Loy Inc. 2015. Corridor H Project Kerens to Parsons (Section 1B) Randolph and Tucker Counties, West Virginia: Phase IB Archaeology Abbreviated Technical Report Addendum. Morgantown, WV.

_____. 2014a. Corridor H Project Kerens to Parsons (Section 1B) Randolph and Tucker Counties, West Virginia Randolph County 219/3 (Cherry Fork Road) to US 219 Connector, 4.8 Miles: Determinations of Eligibility for Architectural Resources Addendum Report. Morgantown, WV.

_____. 2014b. Corridor H Project Kerens to Parsons (Section 1B) Randolph and Tucker Counties, West Virginia: Phase 1A Archaeology. Report prepared for WVDOH. Morgantown, WV.

_____. 2014c. Corridor H Project Kerens to Parsons (Section 1B) Randolph and Tucker Counties, West Virginia: Phase 1B Archaeology Abbreviated Technical Report. Morgantown, WV.

_____. 2013a. Appalachian Corridor H Battlefield Avoidance Study Determinations of Eligibility for Architectural Resources Addendum Memorandum. Morgantown, WV.

_____. 2013b. Corridor H – Kerens to Parsons (Kerens to Monongahela National Forest Boundary), Randolph County, West Virginia: Phase I Archaeology Abbreviated Report. Morgantown, WV.

U.S. Bureau of Labor Statistics (US BLS). "Local Area Unemployment Statistics." Query conducted December 19, 2013 for Randolph and Tucker counties, WV. Retrieved from: http://data.bls.gov.

U.S. Department of Agriculture (USDA), Forest Service. 2015a. Biological Evaluation Regional Forester Sensitive FAUNA Species On Monongahela National Forest for West Virginia Department of Transportation Kerens to Parsons Project Corridor H. Elkins, WV.

_____. 2015b. Biological Evaluation for Regional Forester's Sensitive Plant Species On the Monongahela National Forest for the West Virginia Department of Transportation Corridor H, Kerens to Parsons Project. Dated June 24, 2015. Elkins, WV.

_____. 2011a. Monongahela National Forest Land and Resource Management Plan.

_____. 2011b. USDA, Forest Service, WVDOH, and FHWA Corridor H Agreement Final Accomplishment Report. Sent by Clyde N. Thompson by letter to Ben Hark of WVDOH on April 1, 2011.

U.S. Geological Survey (USGS). 2015. Frequently Asked Questions about the NHD; "What is the history of the NHD?" Retrieved from: http://nhd.usgs.gov/nhd_faq.html.

West Virginia Department of Environmental Protection (WVDEP). 2013. Air Quality Annual Report. Charleston, WV.

West Virginia Department of Transportation (WVDOT). 2015. Comprehensive Financial Plan for Section #2 of Appalachian Highway System Corridor H [Kerens-to-Parsons Project]. Submitted by WVDOT to FHWA on August 7, 2015.

_____. 2014. West Virginia Statewide Transportation Improvement Program (STIP) 2014-2019 Federal Fiscal Year. Charleston, WV.

West Virginia Division of Highways (WVDOH). 2014. Kerens to Parsons Project Biological Assessment for the Small Whorled Pogonia. Dated October 2014.

_____. 2010. Cheat River Watershed Mitigation and Preservation Plan Proposal; Additional Wetland/Stream Mitigation Plan Proposal. As accepted by the USACE in conjunction with the Davis to Bismark Project 404 Permit Modification Package. Dated August 2010.

_____. 2003. Appalachian Corridor H Battlefield Avoidance Record of Decision. (Corridor H ROD Amendment #8: Kerens to Parsons Project.) Charleston, WV.

_____. 2002. Appalachian Corridor H Battlefield Avoidance Supplemental Final Environmental Impact Statement. Charleston, WV.

_____. 1996. Appalachian Corridor H Final Environmental Impact Statement. Charleston, WV.

West Virginia Geographic Information System Technical Center (WVGIS TC). 2010. Hydrography (Streams and Water Bodies). Retrieved from: http://www.mapwv.gov/gis_services.html.

_____. 2015. "Streams (SAMB 1:4,800 Scale); Description." Accessed from the internet: http://www.wvgis.wvu.edu/data/dataset.php?ID=265.

Exhibits

Appendix A

Appendix B

Appendix C

Appendix D

Appendix E

Appendix F

Appendix G