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**RECORD OF DECISION (ROD)
FEDERAL HIGHWAY ADMINISTRATION – REGION 3**

**CORRIDOR H PROJECT
ELKINS, WV TO I-81 IN VIRGINIA
RANDOLPH, TUCKER, GRANT, AND HARDY COUNTIES, WEST VIRGINIA
FREDERICK AND SHENDANDOAH COUNTIES, VIRGINIA**

FHWA-WV-EIS-92-01-F
FEDERAL PROJECT APD-484 (59)
STATE PROJECT X142-H-38.99 C-2

I. DECISION

This Record of Decision (ROD) approves the selection of the Preferred Alternative for the Appalachian Corridor H Project, as described in the Final Environmental Impact Statement (FEIS) issued in April, 1996. The FEIS studied a proposed action consisting of a divided, four-lane highway, approximately 183 km (114 miles) in length, from Elkins, West Virginia to I-81 in Virginia. The Preferred Alternative is a modified version of the proposed action, consisting of a divided, four-lane highway, approximately 161 km (100 miles) in length, from Elkins, West Virginia to a terminus just west of the border of West Virginia and Virginia. The selection of the Preferred Alternative is conditioned upon compliance with the requirements contained in the Mitigation Document (FEIS, Vol. III) and all additional conditions and requirements set forth in this ROD. This decision is based on the Corridor Selection Supplemental Draft Environmental Impact Statement (CSDEIS), the Alignment Selection Supplemental Draft Environmental Impact Statement (ASDEIS), the FEIS, the associated technical reports, the comments of governmental agencies and members of the public, and other information in the record in this matter.

A. Selection of Corridor and Alignment for Build Alternative.

The Preferred Alternative approved in this ROD consists of Line A plus the Interchange Option Area, the Forman Option Area, the Baker Option Area, and Section 5-D, together with modifications in the alignment in the vicinity of Corricks Ford and Moorefield battlefields. Line A was selected over other alignments during the preliminary screening process, prior to the drafting of the ASDEIS, based on engineering and environmental considerations as well as public and agency comments. The alignment shifts in the vicinity of Corricks Ford and Moorefield were made in order to avoid the use of Section 4(f) resources. The alignments in the four Option Areas were selected for the following reasons:

- Interchange Option Area (Line I): will reduce the number of business relocations, cause less wetland encroachment, cause less floodplain encroachment, cause less farmland impact, and is less likely to impact archeological resources.
- Forman Option Area (Line F): has strong public support, is less likely to impact archeological resources, will avoid relocation of Patterson Creek, and is almost 50% less costly to construct.
- Line 5-D: will reduce the number of noise exceedances, will reduce wetlands encroachments, will reduce stream encroachments, and will reduce the number of relocated poultry facilities.

- Baker Option Area (Line B): will result in more efficient access to E.A. Hawse Continuing Care Center, to Baker Elementary, Middle, and High Schools, and to West Virginia Routes 55 and 259.

Some unavoidable adverse environmental effects will be associated with the Preferred Alternative. There will be approximately 52 residences and 4 businesses displaced; approximately 15 hectares (37 acres) of wetlands encroachment; approximately 7,800 meters (26,000 feet) of stream enclosure; approximately 3,300 meters (11,000 feet) of stream relocation; and approximately 1,400 hectares (3,400 acres) of forest removal. However, the Preferred Alternative will generate significant benefits, including enhancing the potential for economic growth and development, decreasing response times for emergency service providers, and providing safer and more efficient access to and from the area's industrial, commercial, and recreational resources. Moreover, the Preferred Alternative will implement the important national policy objectives established in the Appalachian Regional Development Act of 1965 by establishing a 161-km (100-mile) transportation facility in West Virginia that is connected to, and is compatible in design and operation with, other elements of the Appalachian Development Highway System.

B. Selection of Build Alternative over IRA and No Build Alternative.

The Build Alternative, as embodied in the Preferred Alternative identified in the FEIS, is the only alternative that is capable of satisfying the identified transportation need in the project area. The No Build Alternative, while providing a useful benchmark for purposes of this environmental analysis, is not a viable choice because it does nothing to address the project area's transportation needs.^{1/} While the Improved Roadway Alternative (IRA), as defined in the ASDEIS, satisfies design standards for a two-lane rural principal arterial, it too would not satisfy the need for this project. (See FEIS at II-29 to II-30.) Moreover, there are several additional and independent reasons for selecting the Build Alternative over the IRA:

1. The environmental impacts of the IRA would, in many respects, be more severe than the environmental impacts of the Build Alternative, since the expansion of existing roads involves more extensive displacement of existing residents and businesses, and allows for less flexibility in locating new construction in areas where environmental impacts can be minimized.
2. The construction cost of the IRA is approximately \$416 million, a substantial investment yet one that yields only modest benefits in terms of transportation improvements.
3. If the IRA were expanded from two lanes to four lanes, to handle future increases in traffic volume, the resulting environmental impacts would be far greater than the environmental impacts of constructing the Build Alternative, given the proximity of the IRA to residences, businesses, and sensitive resources.

^{1/} The No-Build Alternative is considered the "environmentally preferable alternative" for purposes of 40 C.F.R. § 1502.2(b), because it would cause the least damage to the biological and physical environment. However, the No-Build Alternative was not selected because it would not meet the purpose and need for the project.

C. Conditions of Approval.

The approval of the Preferred Alternative in this ROD is conditioned upon compliance with (1) the mitigation and monitoring requirements set forth in this ROD and in the Mitigation Document in the FEIS, Volume III; (2) compliance with the Section 106 process, according to the terms of the Programmatic Agreement, and the additional terms specified in this ROD; and (3) compliance with Section 4(f), according to the terms specified in this ROD.

II. BACKGROUND: ORIGINS OF APPALACHIAN CORRIDOR H

The Appalachian Corridor H Project originated in the Appalachian Regional Development Act of 1965 (ARDA), which was passed by Congress in an effort to stimulate economic growth in rural Appalachia. In enacting the ARDA, Congress found that:

[T]he Appalachian region of the United States, while abundant in natural resources and rich in potential, lags behind the rest of the Nation in its economic growth and that its people have not shared properly in the Nation's prosperity. The region's uneven past development, with its historic reliance on a few basic industries and a marginal agriculture, has failed to provide the economic base that is a vital prerequisite for vigorous, self-sustaining economic growth. . . . It is, therefore, the purpose of this Act to assist the region in meeting its special problems, to promote its economic development, and to provide a framework for joint Federal and State efforts toward providing the basic facilities essential to its growth and attacking its common problems and meetings its common needs on a coordinated and concerted regional basis. . .

To achieve these objectives, the ARDA created the Appalachian Regional Commission (ARC) and authorized the creation of the Appalachian Development Highway System, covering the Appalachian region from Mississippi to New York State. The legislative purpose of the Appalachian Development Highway System, as defined by Congress, is to "provide a highway system which, in conjunction with the Interstate System and other Federal-aid highways in the Appalachian region, will open up an area or areas where commerce and communication have been inhibited by lack of adequate access." (40 U.S.C. App. 201(a)) The ARDA gave the ARC responsibility for establishing Appalachian Corridor termini, setting priorities for the construction of Appalachian Corridor segments, and distributing funds (through the FHWA) for the construction of those segments.

In 1965, the ARC designated Appalachian Corridor H as one of 23 transportation corridors to be developed as part of the Appalachian Development Highway System. As specified by the ARC, Appalachian Corridor H would run from Interstate 79 (I-79) near Weston, West Virginia to I-81 near Strasburg, Virginia. It was anticipated that such a transportation corridor would enhance access and mobility to major urban markets of the East Coast, such as Washington, D.C.; Baltimore, Maryland; and Norfolk, Virginia; as well as to those markets to the west, such as Charleston, West Virginia; Columbus and Cincinnati, Ohio; and Lexington, Kentucky. It was also recognized that Appalachian Corridor H would connect several existing north/south highway systems, including I-79 and I-81.

For purposes of planning and construction, Appalachian Corridor H has been divided into several sections. The first portion of the corridor to be constructed was a ten-mile section

running from I-79 near Weston, West Virginia eastward to Buckhannon, West Virginia. Subsequently, the corridor was extended by the construction of several additional portions running from Buckhannon eastward to Elkins, West Virginia. The corridor now is now complete between I-79 and Elkins, but the portion between Elkins and I-81 in Virginia remains unbuilt. This remaining portion -- which is approximately 183 km (114 miles) in length -- is one of the last major unbuilt segments of the Appalachian Development Highway System.

The possible construction of the Appalachian Corridor H Project from Elkins to I-81 was initially studied in the late 1970s. As a result of that study process, a Draft Environmental Impact Statement (DEIS) was issued in 1981. In June and July of 1981, following the circulation of the DEIS, six public hearings were held throughout the study area. Based on the comments received during that period, "Scheme A" was identified as the preferred route for the project. Scheme A was among the southernmost routes under consideration in the DEIS, and passed through several areas that were found to be environmentally sensitive, including some areas protected under Section 4(f) of the Department of Transportation Act. In 1984, however, the project was put on hold, and no FEIS or ROD was issued in connection with the 1981 DEIS.

In 1990, consideration of the Appalachian Corridor H Project resumed. Based on a written reevaluation, which was performed in 1990, it was determined that subsequent project development would require preparation of a Supplemental Draft Environmental Impact Statement (SDEIS). For purposes of the new study process, all of the corridors considered in the 1981 DEIS were evaluated equally -- i.e., no preference was given to Scheme A, the Preferred Alternative in the 1981 DEIS. The preparation of the SDEIS culminated in the issuance of the FEIS in April 1996, which provides the basis for this ROD.

III. CONSIDERATION OF PROPOSED ACTION AND ALTERNATIVES

The SDEIS for this project was prepared in two stages: first, a Corridor Selection SDEIS (CSDEIS), issued in October 1992, and then an Alignment Selection SDEIS (ASDEIS), issued in October 1994. This process is consistent with the "tiering" procedures for the preparation of environmental impact statements, as discussed in the FEIS at II-1 to II-2. The entire study process has been conducted in compliance with the NEPA/404 integration guidelines, which call for ongoing consultation with all relevant resource agencies and concurrence by resource agencies at key decision points.

The FEIS was issued in April 1996. The body of the FEIS consists primarily of a revised version of the ASDEIS; the text of the CSDEIS is incorporated into the FEIS by reference. As required by FHWA and CEQ regulations, the FEIS responds to comments on both the CSDEIS and the ASDEIS, and the identification of the Preferred Alternative in the FEIS is based on the analysis contained in both the ASDEIS and the CSDEIS.

A. CORRIDOR SELECTION SDEIS (CSDEIS)

The purpose of the CSDEIS was to address several threshold planning issues: (1) determining the nature and extent of the existing transportation need in the project area, (2) identifying and evaluating a broad range of possible means of addressing that need, including alternatives that do not involve the construction of a new highway, and (3) identifying and evaluating several potential 2,000-foot-wide corridors for the construction of a new four-lane highway in the study area.

1. Evaluation of Transportation Needs.

The Transportation Needs Study, which was prepared as part of the CSDEIS in 1992, evaluated each of the seven factors specified in FHWA Technical Advisory T6640.8A for evaluating the need for a transportation project: (1) social demand and economic development, (2) capacity and level of service, (3) safety considerations, (4) roadway deficiencies, (5) system linkage, (6) regional planning demands, and (7) legislation. Several of the factors discussed in the Transportation Needs Study were particularly important in establishing the need for this project:

- The average travel speed on the existing route between Elkins, WV and I-81 (at Strasburg, VA) is very low for an arterial -- 35 mph for autos and 24 mph for trucks. This low average travel speed is caused by numerous roadway deficiencies, including steep grades, sharp curves, and the absence of truck-passing lanes. Because of these deficiencies, the existing routes do not provide a safe, rapid means of transporting individuals and goods through the project area. (See Transportation Needs Study, at II-7). Moreover, the existing roads fall far short of the design requirements for components of the Appalachian Regional Highway System: under the ARC Code, components of the system should achieve an average travel speed of 50 mph.
- The Level of Service on the existing route between Elkins, WV and I-81 (at Strasburg, VA) is "D" or "E" for all sections within West Virginia, except for the 6.6-mile section of existing four-lane highway between Elkins and Alpena, WV. By the design year of 2010, the Level of Service will be "E" – the lowest level – for all of those sections. Under AASHTO guidelines, the Level of Service for a two-lane arterial in a mountainous terrain should be at least a "C." (See Transportation Needs Study, at II-9 to II-14). Thus, the existing route is already well below the acceptable Level of Service, and this deficiency is expected to become severe within the foreseeable future.
- The economic development of the project area was established as an important national objective by Congress in the Appalachian Regional Development Act, which specifically provided for transportation improvements as a means of stimulating such development. Moreover, qualitative data indicate that the inadequacy of existing roads in the project area continues to hinder economic development, and that an adequate highway would provide the missing component for such development in several communities in the project area. (See Transportation Needs Study, at II-8 to II-9 and III-1 to III-20).
- The safety of the existing road network is compromised by the roadway deficiencies and is likely to deteriorate further as congestion increases. Thus, although current accident rates on existing routes between Elkins, WV and I-81 are somewhat below the statewide average in West Virginia, those accident rates are expected to increase as the design year (2010) approaches. The need to ensure safe transportation conditions over the long term is an important component of need for the project.

These factors, together with others discussed in the Transportation Needs Study, demonstrate the need for a safe, high-speed transportation facility connecting I-79 and I-81 in the project area. As required by the NEPA/404 integration process, the findings in the Transportation Needs Study were presented to relevant agencies at Resource Agency Workshops on May 5-6, 1992 and September 23-24, 1992, resulting in an overall recognition by resource agency

representatives that a transportation need existed. The basis for the finding of a transportation need are summarized in the FEIS at I-3 to I-5 and in the CSDEIS at I-9 to I-29, and are described in detail in the Transportation Needs Study.

2. Evaluation of Broad Range of Alternatives.

After determining that a transportation need existed in the project area, the Transportation Needs Study evaluated a broad range of alternatives for addressing that need. These included: (1) the Transportation Systems Management (TSM) Alternative, (2) the Mass Transit Alternative, (3) the Improved Roadway Alternative (IRA), (4) the No Action Alternative, and (5) the Build Alternative -- with the Build Alternative defined as a four-lane divided highway running from Elkins, West Virginia to I-81 in Virginia.

Based on the Transportation Needs Study, the Transportation Systems Management, Mass Transit, and Improved Roadway alternatives were considered in the CSDEIS, but all were eliminated from detailed consideration because none of them satisfied the established project need. Thus, the CSDEIS focused on two alternatives: the No Build Alternative, and the Build Alternative. The basis for the decision to take this approach is summarized in the FEIS at II-3 to II-8 and in the CSDEIS at II-2 to II-7, and is described in detail in the Transportation Needs Study.

3. Evaluation of Potential Corridors for Build Alternative.

The primary purpose of the CSDEIS, in addition to describing the impacts of the No Build Alternative, was to evaluate a range of possible routes for the Build Alternative. The CSDEIS identified five 2,000-foot-wide corridors running from Elkins, West Virginia to I-81 in Virginia, designated as Schemes A, B, C, D, and E. The CSDEIS also identified a number of Subschemes, which consisted of local variations of individual Schemes. Altogether, the CSDEIS considered a total of 24 different Scheme options (including Subschemes). The objective of the CSDEIS was to identify a single 2,000-foot-wide corridor for further study as the basis for the Build Alternative. The Schemes and Subschemes are identified in the CSDEIS at II-9 to II-19.

The CSDEIS evaluated the competing Scheme and Subscheme options according to three general criteria: (1) ability to meet the identified transportation need in the project area; (2) ability to avoid and/or minimize impacts to environmental resources, including Section 4(f) land, while still satisfying the project need; and (3) ability to accommodate the various interests and views expressed by members of the public during the public involvement process. The CSDEIS provided an equivalent level of analysis and documentation for all of the Schemes and Subschemes, and did not specify a particular Scheme or Subscheme as preferable to any of the others. The environmental impacts associated with each of the Schemes and Subschemes are described in Part III of the CSDEIS.

4. CSDEIS Decision Document.

Based on the information contained in the CSDEIS, as well as the public and agency comments on the CSDEIS, the various Scheme options were systematically reviewed to select a single 2,000-foot-wide corridor for more detailed consideration as the Build Alternative. This selection process consisted of four distinct stages, each of which reduced incrementally the range of Scheme options under consideration. The selection process is described in detail in the FEIS at II-9 to II-21 and in the CSDEIS Decision Document, and is summarized here:

➤ At the first stage, all 24 Scheme options were evaluated according to the three general criteria discussed above -- ability to meet transportation needs, ability to avoid sensitive resources, and ability to accommodate public and agency concerns. Based on this review, it was determined that Scheme option "A1" provided the most effective means of addressing the identified transportation need, but that need also would be satisfactorily addressed by several Scheme "D" and "E" options. It also was determined that Scheme option "A1" would require the use of a Section 4(f) resource -- the Spruce Knob/Seneca Rocks National Recreation Area -- and that all Scheme "B" and "C" options also would involve the use of Section 4(f) resources. No Scheme options were eliminated at this stage.

➤ At the second stage, the Scheme options under consideration were narrowed to those that would allow the avoidance of Section 4(f) property. At this stage, all Scheme "A" options, all Scheme "B" options, and all Scheme "C" options were eliminated from further consideration because all would have required the use of Section 4(f) property. All six Scheme "D" options and two of the Scheme "E" options were retained for further consideration; each of these Scheme options provided a prudent and feasible alternative to the use of the identified Section 4(f) property -- namely, the Spruce Knobs/Seneca Rocks National Recreation Area.

➤ At the third stage, a single Scheme "D" option and a single Scheme "E" option were selected for further review. Among the Scheme "D" options, Scheme option "D5" was selected because it best avoided disruption to the town of Montrose, West Virginia and best avoided intrusion upon the Greenland Gap. Among the Scheme "E" options, Scheme option "E2" was selected because it was the only Scheme E option that avoided the town of Montrose. (Avoidance of Greenland Gap was not relevant with respect to Scheme "E" options, because both avoided that resource).

➤ At the fourth and final stage, Scheme option "D5" was selected for further analysis as a potential Build Alternative. Since both "D5" and "E2" follow the same route between Elkins and Bismarck, West Virginia, the comparison between these two Scheme options focused on their differences between Bismarck and I-81 in Virginia. Ultimately, Scheme option "D5" was selected based on numerous factors, including, in comparison to Scheme option "E2" (1) fewer potential wetlands impacts, (2) fewer potential impacts on cultural resources, particularly historic structures, (3) greater potential for the development of industrial parks, and greater access to the Virginia Inland Port in Front Royal, Virginia, and (4) greater potential to avoid Section 4(f) resources. Additional considerations are discussed in the FEIS at II-25 to II-26 and in the CSDEIS Decision Document.

Following this four-step process, the CSDEIS Decision Document was issued in July 1993, approving the selection of Scheme option "D5" for the development of more detailed alignments at the ASDEIS stage. It should be noted that the Decision Document served solely as a formal transition point between two stages of the preparation of the SDEIS, not as a final agency decision with respect to the approval or rejection of any particular alternative. This ROD, not the Decision Document, constitutes the final decision with respect to the entire decisionmaking process concerning the Corridor H Project, including both corridor-selection and alignment-selection decisions.

B. ALIGNMENT SELECTION SDEIS (ASDEIS)

The Alignment Selection SDEIS (ASDEIS) addressed three main issues: (1) the consideration of a revised version of the Improved Roadway Alternative (IRA), after the elimination of an earlier version of the IRA at the CSDEIS stage; (2) the selection of particular

alignments for the Build Alternative and the IRA within the “D5” corridor; and (3) the comparison of the Build Alternative, the IRA, and the No Build Alternative.

1. Consideration of ASDEIS IRA.

As discussed above, the CSDEIS considered an IRA as a possible means of addressing the study area's transportation needs, and concluded that the IRA would not adequately address those needs. As a result, the CSDEIS eliminated the IRA from detailed consideration as an alternative. Based on comments received on the CSDEIS, including comments of resource agencies, a revised version of the IRA was given detailed consideration in the ASDEIS. In taking this approach, however, the ASDEIS stated that the IRA would not satisfy the identified transportation needs and was being considered only for purposes of comparison with the impacts of the Build and No Build Alternatives. This approach is consistent with applicable FHWA guidance, as discussed in the FEIS at II-28.

For purposes of the ASDEIS, it was determined that the IRA must achieve a minimum design speed of 50 mph and must comply with the design requirements for a two-lane rural arterial, as specified in applicable West Virginia and AASHTO guidelines. The design criteria used in defining the ASDEIS IRA were intended to provide a realistic basis for comparison to the Build Alternative, by ensuring that the IRA (even though it fell short of meeting the project's purpose and need) at least provided a significant improvement over the existing routes. While “less intrusive” versions of the IRA could have been defined, they would have provided only minimal improvements over the existing road network in terms of improving east-west mobility through the project area. In other words, the relatively significant environmental impacts associated with the ASDEIS IRA are a necessary result of any roadway improvements that significantly increase average travel speeds and thereby reduce average travel times across the corridor as a whole.

It also was determined that the IRA in the ASDEIS must be located generally within the selected Corridor “D5” in order to avoid Section 4(f) impacts. As with the identification of possible Build Alternatives, the definition of the IRA was confined to the D5 corridor in order to avoid sensitive resources – particularly Section 4(f) resources – that could not have been avoided by alignments in other corridors. For example, an alignment for the IRA along the primary existing route between Elkins and I-81 (at Strasburg, VA) – U.S. Route 33 to State Route 55 – would pass directly through the Spruce Knob/Seneca Rocks National Recreation Area, resulting in uses of Section 4(f) property. (See FEIS at VII-140.)

Because of these constraints, and because it was designed to a greater level of engineering detail, the version of the IRA that was evaluated in the ASDEIS differs significantly from the version that was evaluated in the CSDEIS. The CSDEIS IRA consisted primarily of spot improvements to the existing roadway between Elkins, West Virginia and I-81 in Virginia; it would have involved the addition of truck climbing lanes, the widening of roadways and shoulders, the re-grading of steep slopes, and realignment in areas where sight distances are poor, but it would not have involved any construction of entirely new roadway on new location. In contrast, the ASDEIS IRA would involve both the upgrading of existing roadways and a significant amount of construction on new location. The factors considered in developing the ASDEIS are discussed in more detail in the FEIS at II-28 to II-30.

2. Selection of Alignments for Build Alternative and IRA.

To evaluate the Build Alternative and the IRA in the ASDEIS, it was necessary to select a particular alignment within the Scheme "D5" corridor for both the Build Alternative and the IRA. In a departure from traditional design approaches, which focus primarily on engineering constraints, the alignment selection process focused heavily on the avoidance and minimization of environmental impacts. Advanced Geographic Information Systems (GIS) technology, together with extensive on-site field work by experienced environmental scientists, made it possible to avoid many of the sensitive resources located with the D5 corridor. In addition, expert consultants were retained to evaluate findings and provide recommendations concerning particular issues within their expertise – including acid mine drainage (Dr. Jeffrey Skousen), the Cheat Mountain salamander (Dr. Thomas Pauley), and karst/groundwater issues (Dr. Thomas Aley). Although it was not possible to avoid all environmental impacts, these efforts achieved a high degree of environmental sensitivity given the resources located in the project area.

The alignments for the Build Alternative and the IRA were selected through an 11-step process that involved extensive and detailed engineering design, environmental analysis, agency coordination, and public involvement. As part of this process, which is described in detail in Table II-4 of the FEIS, alignments and construction limits were developed for 52 different alignments for the Build Alternative in the Scheme "D5" corridor. These alignments, as well as a range of potential alignments for the IRA, were presented to resource agencies (pursuant to the NEPA/Section 404 integration process) and to the public in a series of six Informational Public Workshops in January and February 1994, at locations in both West Virginia and Virginia. The workshops provided an opportunity for interested citizens to review mapping, ask questions, provide comments on preliminary alignments, and suggest alternative alignments.

Following the public meetings, and after consultation with resource agencies, "Line A," together with eight Option Areas, was selected as the Build Alternative to be examined in the ASDEIS. Line A was selected because it: (1) avoided impacts to two endangered species (running buffalo clover and the Cheat Mountain salamander); (2) avoided the use of exceptional value wetlands systems (e.g., Big Run Bog, Elder Swamp); (3) avoided all known Section 4(f) resources; (4) avoided disruption of wetland mosaic patterns; (5) minimized encroachments into high-quality wildlife habitat, wetlands systems, riparian buffers; (6) minimized use of areas with a high probability of containing archeological resources; and (7) minimized relocation of homes and businesses.

Each of the eight Option Areas considered in the ASDEIS represented an alternative alignment for a particular portion of the Build Alternative, allowing a comparison of two different alignments for that portion of the Build Alternative. The eight Option Areas considered in the ASDEIS included:

- Interchange Option Area (Line I): involves a different interchange location than Line A near Laurel Mountain Road, east of Elkins, West Virginia.
- Shavers Fork Option Area (Line S): involves an alignment at a higher elevation than Line A at Porterwood, West Virginia; would not cross Shavers Fork River, and would not provide access into Porterwood.
- Patterson Creek Option Area (Line P): involves an alignment that parallels but does not cross the Middle Fork of Patterson Creek.

- Forman Option Area (Line F): involves an alignment to the north of Line A near Forman, West Virginia, providing an interchange with County Route 5.
 - Line 5-D: involves an alignment that bridges Long Lick Run and Rock Oak Road.
 - Baker Option Area (Line B): involves an alignment that passes to the north of Baker, West Virginia, taking a route behind Hardy High School.
 - Hanging Rock Option Area (Line R): involves an alignment passing west of and closer to Hanging Rock than Line A.
 - Duck Run Option Area (Lines D1 and D2): involves alternative alignments in the vicinity of Duck Run, Virginia, near the West Virginia/Virginia state line.
 - Lebanon Church Option Area (Line L): involves an alignment that passes north of and further from Lebanon Church, Virginia.
3. Comparison of Build Alternative, IRA, and No Build Alternative.

After identifying Line A and the eight Option Areas for consideration as the Build Alternative, the potential environmental impacts of the Build Alternative, the IRA, and the No-Build Alternative were comprehensively examined in the ASDEIS. Each alternative was studied in a comparable level of detail, as required by NEPA.

C. Final Environmental Impact Statement (FEIS)

Rather than reprinting the entire text of the CSDEIS, the FEIS describes the relationship between the CSDEIS and the ASDEIS, incorporates the CSDEIS by reference, and responds to comments on both the CSDEIS and the ASDEIS. The body of the FEIS consists largely of a revised version of the ASDEIS, with revisions incorporated to reflect public comments on the ASDEIS and refinements in the relevant analyses subsequent to the publication of the ASDEIS. The FEIS also has been revised to reflect two developments that have occurred subsequent to the publication of the ASDEIS: (1) Virginia's decision not to select a Preferred Alternative for the portion of the project area that is located in Virginia, and (2) the determinations by the Keeper of the National Register of Historic Places concerning the eligibility of two Civil War battlefields for listing on the National Register. In addition, a Programmatic Agreement was signed in order to satisfy the requirements of Section 106 of the National Historic Preservation Act (NHPA).

1. Virginia's Decision Not to Identify a Preferred Alternative.

The Virginia Commonwealth Transportation Board (VCTB) passed a resolution in February 1995 directing the Virginia Department of Transportation (VDOT), which participated in preparing the CSDEIS, ASDEIS, and FEIS, not to identify a Preferred Alternative for this project. Because of the Virginia Board's decision, it was necessary to revise the FEIS in several respects: (1) discussion of logical termini, (2) discussion of purpose and need, and (3) discussion of environmental impacts. (See FEIS, Section IV.)

Logical Termini. At the outset of this study process, the proposed action was defined as construction of a four-lane divided highway from Elkins, West Virginia to I-81 in Virginia. Those project termini -- Elkins and I-81 -- were used in establishing the scope of the CSDEIS and the ASDEIS, each of which examines alternatives and environmental impacts along the

entire route between Elkins and I-81. The scope of the FEIS is equally broad: it also examines alternatives and impacts along the entire route between Elkins and I-81. However, while examining impacts on this broad scope, the FEIS identifies a Preferred Alternative that would be constructed solely within West Virginia. Thus, the termini of the Preferred Alternative are Elkins and the West Virginia/Virginia state line. Section IV of the FEIS has been revised to explain that the new project termini, like the termini that were originally used in determining the scope of the FEIS, also provide logical endpoints for this transportation project.

Purpose and Need. The discussion of purpose and need in the CSDEIS and the ASDEIS focused primarily on the transportation needs in West Virginia, which constitutes the majority of the study area, but also discussed needs in Virginia. To reflect the fact that Virginia does not intend to approve the construction of the portion of the Build Alternative or the IRA that would be located in Virginia, Section IV of the FEIS reexamines in detail the nature and extent of the transportation needs in the West Virginia portion of the study area, and confirms that (1) an important transportation need exists in West Virginia and (2) that transportation need can be effectively addressed by constructing the Preferred Alternative, in West Virginia only, even if Virginia does not construct any additional improvements connecting the Preferred Alternative and I-81.

Impacts. The discussion of environmental impacts in the CSDEIS and the ASDEIS assumed the construction of a roadway from Elkins, West Virginia to I-81 in Virginia. The discussion of environmental impacts in the FEIS has been revised in two main ways in response to Virginia's decision not to identify a Preferred Alternative. First, while the FEIS continues to explain the impacts of constructing the Build Alternative and the IRA in Virginia (as well as in West Virginia), the FEIS has been revised so that it clearly distinguishes impacts in West Virginia from impacts in Virginia. For example, the tables in Volume II of the FEIS have been reformatted to list impacts of the Preferred Alternative in West Virginia separately from impacts of the Build Alternative and the IRA in Virginia. Second, Section IV of the FEIS has been expanded to examine the impacts that could result in Virginia from the construction of the Preferred Alternative, assuming that the Preferred Alternative terminates near the West Virginia/Virginia state line. This discussion considers the impacts that would result if Virginia makes improvements to the existing two-lane roadway between the eastern terminus of the Preferred Alternative and I-81, as well as the impacts that would result if Virginia makes no such improvements. Thus, while the FEIS continues to present the full range of information contained in the ASDEIS, it also presents additional analysis to reflect the different and/or additional impacts that could result from the construction of the Preferred Alternative rather than the ASDEIS version of the Build Alternative.

2. Determinations of Eligibility for Corricks Ford and Moorefield Battlefields.

Following the publication of the ASDEIS, the Keeper of the National Register of Historic Places was asked to determine the eligibility of two Civil War battlefields, Corricks Ford and Moorefield, for listing on the National Register. The FEIS has been revised to reflect the Keeper's determinations and to reflect the resulting modifications in the alignment of the Preferred Alternative.

Corricks Ford Battlefield. In December 1995, the Keeper of the National Register determined that the Corricks Ford battlefield, which is located in the vicinity of Parsons, West Virginia, is eligible for listing on the National Register. Given the boundaries of the battlefield, as specified by the Keeper, it was necessary to adjust the alignment of the Preferred Alternative to ensure that the Preferred Alternative continues to avoid any use of Section 4(f) resources. The

revised alignment of the Preferred Alternative in the vicinity of the Corricks Ford battlefield is still located largely, although not entirely, within the original 2,000-foot Scheme "D5" corridor. The portion of the revised alignment that is located within the D5 corridor follows the approximate location of Line S in the Shavers Fork Option Area, as studied in the ASDEIS; thus, this portion of the revised alignment was thoroughly examined in the ASDEIS. The portion of the revised alignment that is located outside the D5 corridor is located just to the south of Kalars Ford; although this area was not studied in detail in the ASDEIS, sufficient information is present in the record to establish that this area involves resource types comparable to those located within the corridor itself.

Moorefield Battlefield. In December 1995, the Keeper of the National Register determined that the Moorefield battlefield, which is located in the vicinity of Old Fields, West Virginia, is eligible for listing on the National Register. The Keeper determined the boundary for the Moorefield battlefield in April 1996. In response, the alignment of the Preferred Alternative was then adjusted to ensure that the Preferred Alternative avoids the boundaries specified by the Keeper for this cultural resource -- thereby ensuring that the Preferred Alternative continued to avoid any use of Section 4(f) resources. The revised alignment of the Preferred Alternative in the vicinity of the Moorefield battlefield was within the original 2,000-foot Scheme "D5" corridor. After the FEIS was issued, the Keeper reconsidered its boundary determination for the Moorefield battlefield, at the request of the West Virginia State Historic Preservation Officer; subsequently, the Keeper adjusted a portion of the boundary, but the adjustment did not affect the new alignment for the Preferred Alternative.

3. Execution of Programmatic Agreement for Section 106 Process.

During and after preparation of the ASDEIS, a consultation process with the Advisory Council on Historic Preservation was conducted in order to determine how best to comply with the requirements of Section 106 of the National Historic Preservation Act (NHPA) for this project. Through that process, it was agreed that a Programmatic Agreement would be an appropriate means of complying with Section 106 in this case, given the scope and complexity of this project. The Programmatic Agreement was signed by FHWA, WVDOH, the West Virginia State Historic Preservation Officer (WVSHPO), the Advisory Council on Historic Preservation, the Monongahela National Forest, and the George Washington National Forest. (See FEIS, Appendix B.) In addition to these signatories, several consulting parties also are participating in the Section 106 process and were given an opportunity to sign the Programmatic Agreement. These include: Corridor H Alternatives, Capon Springs Farms & Resort, the Association for the Preservation of Civil War Battlefields, the Shenandoah County Corridor H Advisory Committee, and Ms. Pamela Merritt. The obligations contained in the Programmatic Agreement are incorporated in this ROD, and approval of the Preferred Alternative is conditioned on compliance with those obligations.

Pursuant to the Programmatic Agreement, investigations are to be conducted and reports are to be prepared for cultural resources on a section-by-section basis. The Programmatic Agreement requires the FHWA to submit each report to the WVSHPO for review within 90 days after completion of the fieldwork for that report. The consulting parties in the Section 106 process are to be notified when any such report is transmitted to the WVSHPO, and are to be allowed an opportunity to examine the report and to submit comments. The reports covered by these requirements are: Phase I management summaries, Phase II management summaries, combined Phase I/II technical reports, Determination of Eligibility Reports, Criteria of Effect Reports, Cultural Resource Avoidance Feasibility Reports, and Data Recovery Plans.

Thus far, Phase I management summaries have been submitted to the West Virginia SHPO for twelve of the fourteen sections; it is expected that the remaining two management summaries will be submitted shortly. The Determination of Eligibility reports have been submitted for all 14 sections (except for Section 11, which has no cultural resources). All reports submitted to the SHPO have also been submitted to FHWA, and made available to the consulting parties for their review.

4. Decision Not to Prepare Written Reevaluation.

At the time the FEIS was issued, in April 1996, more than three years had elapsed since the date of publication of the CSDEIS in October 1992. However, as discussed above, the CSDEIS and the ASDEIS are components of a single Supplemental Draft Environmental Impact Statement (SDEIS), and have been prepared sequentially in order to facilitate public understanding and involvement. Thus, the relevant date in determining the need for a written reevaluation is the date of publication of the ASDEIS, November 1994. Because the FEIS was issued well within the three-year period following that date, no written reevaluation was needed.

Notwithstanding this determination, consultation between FHWA and WVDOH has been undertaken to ensure that the analysis contained in the CSDEIS (as well as the ASDEIS) remains accurate and up-to-date. As a result of this consultation, it has been determined that there is no need in this case for an additional supplemental NEPA document.

IV. MEASURES TO MINIMIZE HARM.

Given the scope and complexity of this project, and the sensitivity of some of the environmental resources in the project area, all practicable means to minimize environmental harm (including mitigation procedures as well as substantive mitigation measures) have been adopted as part of this action. These mitigation procedures and measures are identified in the Mitigation Document, which is contained in Volume III of the FEIS and is hereby incorporated in its entirety into this ROD. (See ROD, Exhibit 1). The requirements in the Mitigation Document are particularly significant because they provide for an extensive, ongoing role for resource agencies following the issuance of the ROD: pursuant to the Mitigation Document, the resource agencies will remain involved throughout final design and construction of the project, to ensure effective implementation of appropriate mitigation measures.

Mitigation measures for cultural resources (e.g., historic sites) are not addressed in the Mitigation Document; instead, they are being established through the procedures mandated by the Section 106 Programmatic Agreement. (See Section VII below.)

V. MONITORING AND ENFORCEMENT PROGRAM.

In addition to specifying substantive requirements, the Mitigation Document establishes procedures for ongoing involvement by resource agencies in the final design and actual construction of the Preferred Alternative. Resource agencies that will be involved in this process include: the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the U.S. Natural Resources Conservation Service, the U.S. Forest Service, the West Virginia Department of Natural Resources, and the West Virginia Department of Environmental Protection.

The Preferred Alternative will be designed and constructed in sections. For each section, the resource agencies will be given an opportunity to review and comment upon the proposed

mitigation plans and to participate in field views associated with the development of the plans. Moreover, the agencies will have an opportunity to review the effectiveness of the mitigation plans at agency coordination meetings held by WVDOH.

This agency involvement process, which is summarized in a chart in the Mitigation Document at p. 3), is far more extensive than in the typical case, where the involvement of the resource agencies diminishes greatly after the issuance of the ROD and the completion of the NEPA process. It is anticipated that this process will greatly strengthen the enforceability and the long-term effectiveness of the substantive mitigation measures adopted for this project.

Finally, to ensure effective implementation of the Mitigation Document and to address concerns raised by the U.S.EPA in its comments on the FEIS, the following commitments have been made and will be implemented as appropriate during final design and construction of this project:

1. Implementation of all measures and processes contained in the Corridor H FEIS and FEIS Mitigation Document. This includes the commitment to implement the agency involvement procedures outlined in Section I.B (page 2) and Figure 1 of the Mitigation Document.
2. Actively pursue and initiate formal agreements with appropriate state and federal agencies for beneficial disposal of excess overburden materials, e.g., strip mine reclamation, landfill cover material, flood protection walls.
3. Coordinate with FEMA and USGS to obtain and use the most current hydrologic information when conducting hydraulic studies.
4. Design and implement stormwater management measures and facilities that will implement both temporary (construction) and permanent (highway use and maintenance) stormwater events. Siting of stormwater management facilities should avoid sensitive areas and include Agency review.
5. Clearly define intermittent streams as it pertains to siting of disposal areas and stormwater management facilities.
6. Ensure objective analysis of acid drainage potential resulting from construction of the highway. Acid drainage monitoring is to proceed over the life of the highway construction. Technological advances are to be incorporated into the project which will resolve current conditions and prevent future or perpetual acid drainage. Acid/base accounting will be included as part of the analysis for each section containing acid-bearing strata.
7. Native vegetation will be used for any permanent vegetative reclamation that is required.
8. Additional consideration will be afforded the sensitive natural areas which are of national and regional significance including but not limited to Otter Creek Wilderness, Greenland Gap, Canaan Valley National Wildlife Refuge.

9. The Environmental Monitor will submit quarterly reports updating resource agencies on the status of the project and inform those agencies of upcoming key activities.

VI. SECTION 106 PROCESS

The Programmatic Agreement contemplates that final design and construction of the Preferred Alternative will proceed on a section-by-section basis, as implementation of the Programmatic Agreement proceeds. To ensure compliance with Section 106, while allowing final design and construction to proceed on some sections while cultural resource reviews continue for other sections, the Programmatic Agreement also provides that:

The FHWA affirms that avoidance of adverse effects to cultural resources remains the preferred course of action and that design activities in any Section will not preclude the shifting of the Project centerline, or the cut and fill boundaries, in any adjacent Section if necessary to avoid, minimize, or mitigate adverse impacts to historic properties. No work shall proceed in any section which precludes consideration of alternate alignments in Sections where treatment of historic properties has not yet been finalized.

To implement this provision of the Programmatic Agreement, this project is approved on the following conditions:

- (1) Before approving plans, specifications, and estimates for any section (or any part of a section), the FHWA must first find that Section 106 review is complete with respect to that section and with respect to any sections immediately adjacent to that section.
- (2) For purposes of paragraph (1) immediately above, Section 106 review for a section will be considered "complete" only when the FHWA has determined that Stipulations II(A)-(G), III(A)-(D), and IV(A) of the Programmatic Agreement have been satisfied with respect to that section.
- (3) For purposes of paragraphs (1) and (2) immediately above, a "section" shall be any one of the fourteen sections identified in Appendix A of the Programmatic Agreement.

Finally, the Programmatic Agreement has been implemented satisfactorily during the period since it was signed. As discussed above, Phase I management summaries have been submitted to the West Virginia SHPO for twelve of the fourteen sections; it is expected that the remaining two management summaries will be submitted shortly. The Determination of Eligibility reports have been submitted for all 14 sections (except for Section 11, which has no cultural resources). All reports submitted to the SHPO have also been submitted to FHWA, and made available to the consulting parties for their review. The results of the studies conducted thus far under the Programmatic Agreement indicate that the CSDEIS, ASDEIS, and FEIS accurately identified and evaluated potential impacts on all of the relevant cultural resources in the project area, and confirm that the Programmatic Agreement is an effective means of complying with the requirements of Section 106 in this case.

VII. SECTION 4(F) COMPLIANCE.

The requirements of Section 4(f) of the Department of Transportation Act have been considered at each stage of the development of this project.

- At the CSDEIS stage, all corridors that would result in unavoidable uses of Section 4(f) property were eliminated from consideration; the preferred corridor, Scheme option D5, was selected in part because it would allow for the development of prudent and feasible alignments that would not involve uses of Section 4(f) resources.
- At the ASDEIS stage, 52 possible alignments were considered for the Build Alternative; the Preferred Alternative identified in the ASDEIS was selected in part because it did not involve the use of any known Section 4(f) resource.
- In the FEIS, the Preferred Alternative was modified to avoid Corricks Ford and Moorefield battlefields, both of which had been determined to be eligible for the National Register.
- Finally, since the issuance of the FEIS, determination of eligibility reports and archeological resource management summaries for most sections of the project have been submitted to the WVDOH, the FHWA, and the SHPO, and have been made available to the consulting parties pursuant to the Programmatic Agreement. These reports are generally consistent with the cultural resource findings in the FEIS, and therefore do not appear to require any significant changes in the alignment for the Preferred Alternative.

The Preferred Alternative, as designed, does not use any known Section 4(f) resource. Moreover, based on the cultural resources studies completed thus far, it appears highly likely that the Preferred Alternative can in fact be constructed as currently planned without using any Section 4(f) resource. However, because the Section 106 process is still ongoing and could conceivably result in a determination that a Section 4(f) resource would be used by the current alignment of the Preferred Alternative, this Record of Decision establishes the following requirement (as stated in the FEIS):

If, during final design activities, any Section 4(f) properties not identified during the extensive Section 4(f) evaluations undertaken for this project are encountered, a separate Section 4(f) evaluation will be completed. Such an evaluation would be consistent with FHWA regulations (23 C.F.R. § 771.135(m)) which state in part that, "Circulation of a separate Section 4(f) evaluation will be required when: (1) a proposed modification of the alignment or design would require the use of Section 4(f) property after the . . . final EIS has been processed; (2) the Administration determines after processing . . . the final EIS that Section 4(f) applies to a property. (FEIS, at IV-10).

Finally, to ensure that findings with respect to the availability of prudent and feasible alternatives are made at an appropriate stage in the decisionmaking process, the FHWA will not approve the plans, specifications, and estimates for any section of this project until the Section 106 process has been completed for that section and for any immediately adjacent section(s). This requirement, which is a condition of approval of the Preferred Alternative, will ensure that

the construction of this project in a section-by-section sequence will be compatible with the important national interests protected by Section 4(f).

VIII. COMMENTS

Following circulation of the FEIS, over 500 comments were received commenting on the project or specific issues discussed in the FEIS. A large number of these were letters that expressed general support for the project but did not comment substantively on the FEIS or its findings. Several letters expressed general opposition to the project but did not comment substantively on the FEIS or its findings. Letters commenting substantively on the findings and conclusions in the FEIS were received from 1 local government (Town of Wardensville), 1 state agency (Virginia Department of Conservation and Recreation), 3 federal agencies (U.S. Department of the Interior, U.S. Environmental Protection Agency, U.S. Forest Service Northeastern Forest Experiment Station), 6 public interest groups, and 6 private citizens. No comments on the FEIS were received from the U.S. Army Corps of Engineers, Natural Resources Conservation Service, George Washington or Monongahela National Forests, the WV Department of Natural Resources, WV Department of Environmental Protection or the WVSHPO. All letters are on file and available for public review in the offices of the FHWA in Charleston, WV and Baltimore, MD.

Responses to all substantive comments are found in Exhibit 2. Comments have been grouped by subject and addressed together wherever possible, to facilitate ease of reference and to avoid duplication of responses. Names of individual commenters are provided with the summary of the comments in each subject area.

8-2-96
Date

David C. Lawton
David C. Lawton, Director
Office of Planning and Program Development

EXHIBIT 1:
SUMMARY OF MEASURES REQUIRED BY MITIGATION DOCUMENT

IMPACT CATEGORY	MITIGATION MEASURES
<p>Wetlands:</p> <p>Approximately 15.5 hectares (39 acres) of wetland encroachment will occur as a result of the Preferred Alternative.</p> <p>See FEIS, pp. 162-185.</p>	<p>Mitigation:</p> <p>Wetlands replacement sites will be created at two locations approved by resource agencies. Replacement ratios will be 1:1 for open water and palustrine emergent wetlands and will be 3:1 for palustrine scrub-shrub and forested wetlands. Wetlands replacement sites will be constructed prior to the commencement of highway construction</p>
<p>Streams:</p> <p>Approximately 7800 meters (26,000') of streams will be enclosed and approximately 3300 meters (11,000') of streams will be relocated.</p> <p>See FEIS, pp. 185-218.</p>	<p>Mitigation:</p> <p>Habitat improvement strategies and conceptual plans have been developed and will be implemented for each stream encroachment. These efforts will include fencing of certain first- and second-order streams, maintenance of riparian buffers, and habitat improvement in designated habitat-improvement areas. Details of these efforts will be developed during final design with resource agency participation, pursuant to the Mitigation Document. (Fig. 1 and pp. 7-13.)</p> <p>Additionally, a long-term program will be undertaken and funded to determine the impacts of highway construction on streams in West Virginia. This program will be developed by the WVDOH and resource agencies (West Virginia Department of Natural Resources, U.S. Environmental Protection Agency, and U.S. Fish and Wildlife Service).</p>
<p>Erosion and Sedimentation:</p> <p>Siltation of streams during construction can be detrimental to aquatic life.</p> <p>Some soil types within the project area are particularly prone to erosion and some streams are close to their maximum silt load to sustain high quality (e.g., native trout) aquatic life.</p> <p>See FEIS, pp. 206-207 and 216.</p>	<p>Mitigation:</p> <p>The WVDOH "Erosion and Sedimentation Control Manual" (March 1995) is incorporated by reference in the Mitigation Document, and will be followed in the construction of the Preferred Alternative.</p> <p>Advanced erosion and sedimentation control measures have been developed and will be included in the final design for the Preferred Alternative. (Mitigation Document, pp. 13-16.) Additionally, water quality parameters will be monitored during construction, in order to ensure that pre-construction water quality levels are maintained. If water quality should deteriorate below acceptable standards, immediate action will be taken to bring water quality to pre-existing limits. (Mitigation Document, p.4.)</p> <p>All applicable NPDES requirements will be satisfied.</p>

<p>Upland Habitat Removal:</p> <p>There will be a net loss of approximately 6000 habitat units due to removal and replacement of approximately 1400 hectares (3400 acres) of upland habitat.</p> <p>See FEIS, pp. 127-135.</p>	<p>Mitigation:</p> <p>Coordination will be undertaken with resource agencies to mitigate impacts to upland habitat through the application of innovative design features, including revegetation of excess excavation, reduction of clearing and grubbing limits, upland habitat acquisition based on habitat unit replacement, and other measures. (Mitigation Document, pp. 14-20, p. 25.)</p>
<p>Acid Drainage:</p> <p>The potential for acid drainage production exists in certain limited areas of the project area due to highway construction and disposal of excess excavation.</p> <p>See FEIS, p. 232.</p>	<p>Mitigation:</p> <p>Methods for identification of such areas and for mitigation of acid drainage are identified in the Mitigation Document (pp. 22-25). To the extent known, specific areas where acid drainage may occur have been identified in the Mitigation Document (pp. 28-65). The required mitigation measures include the use of acid-base accounting or other acceptable procedures for refined identification of acid-drainage producing areas, and the incorporation of limestone additives to minimize acid formation. Additionally, special materials handling plans will be developed for disposal of any potentially acid-forming excavation materials.</p>
<p>Excess Excavation:</p> <p>Large quantities of excess excavation will be created. Disposal of this material could impact additional resources.</p> <p>See FEIS, e.g., p. VII-47.</p>	<p>Mitigation:</p> <p>During final design of the Preferred Alternative, efforts will be made to reduce the amount of excess excavation.</p> <p>Maps will be reproduced and supplied to contractors to indicate areas that are not suitable for the disposal of excess excavation, and all proposed excess disposal sites will be pre-approved by WVDODH.</p> <p>Excess disposal sites will not be allowed in wetlands, floodplains, perennial streams, known archeological sites, or known habitat of Federally listed threatened or endangered species. (Mitigation Document, pp. 20-22.)</p> <p>Revegetation standards including use of native species and monitoring for these excess disposal sites will comply with the requirements. (Mitigation Document, pp. 17-20.)</p>
<p>Visual:</p> <p>Viewsheds surrounding the highway will be modified.</p>	<p>Mitigation:</p> <p>Scenic overlooks will be included in final design for the Preferred Alternative at appropriate selected locations. These locations are specified in the Mitigation Document, at 28-65.</p>

<p>See FEIS, pp. 79-91.</p>	
<p>Groundwater and Wells:</p> <p>Potential areas susceptible to groundwater contamination, and wells used for public and private consumption, have been identified.</p> <p>See FEIS, pp. 38-53.</p>	<p>Mitigation:</p> <p>Additional testing will be done to delineate the boundaries of the areas where groundwater and/or well contamination could potentially occur. Should construction result in the contamination of loss of a water supply, that water supply will be replaced. (Mitigation Document, p. 26.)</p>
<p>Recreation:</p> <p>There are no direct or indirect use made of recreation areas by the project.</p> <p>See FEIS, pp. 71-78.</p>	<p>Mitigation:</p> <p>Bikeways and bike paths will be included in the final design for the Preferred Alternative, at the locations specified in the Mitigation Document (pp. 28-65.)</p>

EXHIBIT 2
COMMENTS AND RESPONSES

I. PURPOSE AND NEED / INDUCED ECONOMIC GROWTH

A. General Comments on Purpose and Need

Some commenters stated that the purpose and need for the project had not been adequately established, and questioned whether the Preferred Alternative would be sufficient to achieve the purpose and need. (West Virginia Sierra Club, Corridor H Alternatives, Pamela & Charles Merritt, and Dr. George Deike.)

Response:

The Transportation Needs Study reviewed and analyzed each of the seven factors that are considered in establishing purpose and need. Based on this analysis, the Transportation Needs Study demonstrated the existence of a transportation need in the study area. (See FEIS, at I-2 to I-5.) The following are responses to the West Virginia Sierra Club's specific criticisms of the analysis of purpose and need for this project:

- Neither the Preferred Alternative nor the IRA would involve system-wide improvements of the network of existing roads throughout the study area; because of the nature of the identified transportation need, the alternatives under consideration were designed to provide a linear transportation facility connecting two end-points. By the same token, neither the Preferred Alternative nor the IRA would preclude system-wide improvements to the existing road network.
- While growth in the tourism industry has been increasing, the Transportation Needs Study demonstrated that the inadequacy of existing transportation facilities constrains opportunities for future growth in that industry. Moreover, the Transportation Needs Study also showed that improved mobility is necessary for growth in other industries.

The Preferred Alternative is not intended to provide "competition" for other modes of transportation, such as railroads. Instead, it is intended to complement those modes by providing a transportation facility that can be used by those individuals and businesses for whom highway transportation is more convenient or economical.

B. Need for "Uninterrupted Through Route" Between I-79 and I-81.

Some commenters stated that the purpose of the project could not be achieved by the Preferred Alternative because it would not provide an "uninterrupted through route" between I-79 and I-81 and therefore would not achieve the goal of "system

linkage," meaning a consistent four-lane through route connecting I-79 and I-81. (West Virginia Highlands Conservancy and Pamela & Charles Merritt.)

Response:

The legislative purpose of the Appalachian Regional Development Act is to stimulate economic development in the Appalachian region by improving mobility into and through the region. The existing roadway network in the study area consists of narrow, winding, two-lane roads in mountainous terrain; the Preferred Alternative would greatly improve this network. Moreover, the existing two-lane facility in Virginia (Route 55) is adequate to handle the traffic generated by the Preferred Alternative, thus completing a through-route from the WV/VA state line to I-81. The Preferred Alternative therefore would be consistent with the purposes of the Appalachian Regional Development Act and the objective of system linkage, as well as with the other elements of the project's purpose and need.

C. Need for Linear Transportation Facility vs. Improvement of Entire Road Network

One commenter suggested that the purpose and need for this project could be better achieved by improvement of the existing road network throughout the project area, rather than by construction of a corridor-type facility providing a single through-route. (West Virginia Highlands Conservancy.)

Response:

The Transportation Needs Study examined a variety of needs and a variety of methods of meeting those needs. While improvement of the existing road network throughout the study area may be one way to facilitate movement of goods and services and to promote tourism, it has been determined that a single linear transportation facility connecting I-79 and I-81 -- even if it consists partly of the existing two-lane facility in Virginia -- would be the most effective means of meeting the identified project purpose and need.

D. Use of Economic Growth Projections in Establishing Purpose and Need

Some commenters have questioned the projections of economic growth used in the analysis of purpose and need, suggesting that actual growth will be lower than projected, that the discussion of growth trends in the FEIS is inconsistent, and/or that additional information is needed before the FEIS's growth projections can be relied upon. (West Virginia Highlands Conservancy, Corridor H Alternatives, U.S. EPA, West Virginia Environmental Council, and Dr. George Deike.)

Response:

The purpose and need for the project was documented at the CSDEIS stage. The Transportation Needs Study comprehensively studied the economic conditions within the study area, and

specifically identified five factors that affect the area's potential for economic growth: water supply capacity, sewage treatment availability, land use plans and controls, land suitability, and transportation access. (TNS, Sec. III.) The Transportation Needs Study demonstrated that all but one of those factors – adequate transportation access – are present in several locations within the study area. (TNS, Sec. III, Ex. III-3.) The qualitative and quantitative evidence in the Transportation Needs Study and the CSDEIS strongly suggest that the lack of an adequate highway network is a principal obstacle to growth in the study area, even though other factors also contribute to the area's growth potential and no single factor guarantees growth. Of course, as discussed in detail in the FEIS, all predictions about economic trends are subject to considerable uncertainty, and predictions about the growth-inducing effects of highway projects are particularly difficult to make. (FEIS, at III-4).

To assess the secondary and cumulative impacts of the project, the project's growth-inducing effects also were considered at the ASDEIS stage. For purposes of the ASDEIS Secondary and Cumulative Impacts Study, it was assumed that the proposed action would result in full build-out of the study area's industrial parks. (See FEIS, Sec. III-A.) This approach provided a reasonable "worst-case" depiction of the secondary and cumulative impacts that could be caused by the project. However, to ensure that the ASDEIS analysis was not misinterpreted, the FEIS emphasizes that predictions of induced economic development are inherently uncertain (FEIS, at VII-151). The FEIS also made it clear that the "worst-case" analysis of economic development impacts in the ASDEIS was not used as further justification for the purpose and need of the project. (FEIS, at III-4).

Following are responses to specific criticisms:

- The references in the ASDEIS to "negative trends" under the No Build and to "recent growth trends" under the same scenario are entirely consistent, since positive and negative economic trends often co-exist and in fact do exist under the No Build scenario. Specifically, the study area (particularly in West Virginia) has experienced and continues to experience significantly lower levels of economic prosperity than other regions of the country; these economic challenges reflect, among other things, the lack of adequate transportation facilities in the study area. (See Transportation Needs Study, Sec. III.) This conclusion is entirely consistent with a recognition of certain positive economic trends. The underlying point is that the study area's economy has traditionally been relatively weak, and (notwithstanding certain areas of improvement) pressing economic needs and overall negative economic trends persist in the study area.
- The Preferred Alternative would be a four-lane divided highway with partial control of access -- i.e., with some at-grade connections to the highway -- unlike an Interstate highway, which has full control of access. As a result, studies of Interstates tend to underestimate the amount of local access that the Preferred Alternative would provide.

E. Consideration of Growth Induced by Factors Other Than Transportation

Some commenters questioned whether growth-inducing factors other than transportation had been adequately addressed. (West Virginia Highlands Conservancy, West Virginia Environmental Council.)

Response:

The Transportation Needs Study comprehensively studied the economic conditions within the study area, and specifically identified five factors that affect the area's potential for economic growth: water supply capacity, sewage treatment availability, land use plans and controls, land suitability, and transportation access. (TNS, Sec. III.) The Transportation Needs Study demonstrated that all but one of those factors – adequate transportation access – are present in several locations within the study area. (TNS, Sec. III, Ex. III-3.)

F. Virginia's Decision Not to Select a Preferred Alternative

One commenter stated that the project will not achieve its economic development purpose, because projected job growth in Virginia's industrial parks will not occur, and that employment gains in Hampshire County, West Virginia, and Garrett County, Maryland, should be deleted because those counties are closer to I-68. (West Virginia Highlands Conservancy.)

Response:

Section IV of the FEIS addresses the purpose and need for the project in light of Virginia's decision not to approve the construction of the Build Alternative or the IRA in Virginia at this time. As discussed in more detail in that section of the FEIS, the need for economic development is greatest in the West Virginia portion of the study area, and the construction of the Preferred Alternative in West Virginia would be capable of adequately addressing that need. Thus, even without the Virginia portion of the project, the project still is justified based as a means of addressing economic needs in West Virginia. (FEIS, Sec. IV.)

G. Assumptions on Latent Demand

One commenter questioned the FEIS's use of assumptions about "latent demand," stating that the FEIS appears to use latent demand projections to not only for assessing "worst case" economic development impacts but also to establish purpose and need. (West Virginia Highlands Conservancy)

Response:

Latent demand has been considered in evaluating both the need for the proposed action and the environmental impacts of the proposed action and its alternatives. The consideration of latent

demand in both contexts is consistent with customary practices in transportation planning. For purposes of the evaluation of environmental impacts, a “worst case” calculation of latent demand was conducted; this approach was employed to depict the extent of secondary and cumulative impacts that would result if the amount of economic growth induced by the project is in the upper end of the predicted range. These predictions were considered in determining whether the Preferred Alternative would satisfy the purpose and need for the project, but the uncertainty inherent in all predictions of growth inducement also was acknowledged. (See FEIS, at III-2 to III-6.)

H. Cost-Benefit Analysis

Some commenters suggested that a cost-benefit analysis should have been included in the FEIS, and/or that the weighing of costs and benefits in the document was not adequate. (Corridor H Alternatives and U.S. EPA.)

Response:

As stated in the FEIS, NEPA does not require a cost-benefit analysis to be performed for this action. The CEQ regulation cited by the commenter does not suggest otherwise: it simply states that if a cost-benefit analysis is conducted and is relevant to the choice among environmentally different alternatives, that analysis shall be incorporated by reference in or appended to the NEPA document. NEPA does require a statement of the purpose and need for the proposed action, which is used in narrowing the range of alternatives under consideration; however, NEPA does not require “proof” that the proposed action will yield benefits that will exceed some quantitative measure of the action's costs/impacts.

I. Projections of Savings in Travel Time and Cost Over Existing Routes

One commenter questioned the findings concerning projected savings in travel times and costs. (Corridor H Alternatives.)

Response:

The FEIS responds to Dr. Beale's comments by providing a reference to appropriate sections of the CSDEIS Transportation Needs Study and to the CSDEIS Decision Document. While predictions about the effectiveness of the Build Alternative in reducing travel times and improving safety is an issue about which experts may differ, it has been determined that the analysis contained in the CSDEIS Transportation Needs Study provides an appropriate basis for decisionmaking.

II. ALTERNATIVES CONSIDERED

A. Consideration of Improved Roadway Alternative (IRA)

Numerous commenters questioned the adequacy of the study of the Improved Roadway Alternative, suggesting that a “less intrusive” version of the IRA could have been designed and should have been considered. (West Virginia Sierra Club, West Virginia Environmental Council, Corridor H Alternatives, West Virginia Highlands Conservancy, Marilyn Cuonzo.)

Response:

During the development of the CSDEIS, the existing system of roadways in the study area was examined for the purpose of identifying an Improved Roadway Alternative (IRA) that would satisfy the purpose and need of the project. Fundamental to this study was the identification of a system of existing connecting roads that could be improved to provide a system linkage between I-79 in West Virginia and I-81 in Virginia, and that could provide the safety and capacity improvements necessary to stimulate economic growth in the study area. The outcome of that study was the initial determination that the existing roadway system does not lend itself to improvements that would accomplish the purpose and need of this project. A brief examination of the existing roadway system through the study area is indicative of the problems encountered in trying to use existing roadways to provide a safe, high-speed transportation facility that improves the system linkage between I-79 and I-81 and facilitates economic growth.

- The most direct existing route between Elkins WV and I-81 in Virginia (at Strasburg) follows U.S. Route 33 and State Route 55. Beginning at Elkins, this route runs east along U.S. Route 33 to Seneca Rocks. From Seneca Rocks, State Route 55 runs north (concurrent with State Route 28) to Petersburg, then northeast towards Moorefield, and then eastward to the WV/VA state line. From the state line, Route 55 runs east for approximately 14 miles to I-81 in Strasburg. The majority of this route in West Virginia traverses environmentally sensitive portions of the Monongahela National Forest, including the Spruce Knob/Seneca Rocks National Recreation Area and the Dolly Sods Wilderness – which is considered a Section 4(f) resource. Moreover, although the portion of this route in Virginia is located on relatively level terrain, the portion in West Virginia is located in mountainous terrain that necessitates sharp curves and steep climbs. Given this terrain, average travel speeds on the existing route could not be significantly improved without significant relocations. Moreover, any such improvements would involve the use of some Section 4(f) property.
- An alternative route involves fewer sensitive resources, but is much less direct and involves comparable difficulties in terms of terrain. From Elkins, this route runs north and then east on U.S. Route 219 to Davis, then north and east on Route 93 and Route 42 to Mount Storm;

from Mount Storm, this route runs north on U.S. Route 50 to New Creek, then east to Junction, then south on U.S. Route 220 to Moorefield, and then east on Route 55 from Moorefield to the state line and then to I-81 near Strasburg. A variation of this route runs north on U.S. Route 219 past Davis until reaching Route 90, then runs north on Route 90 to Gorman, then connects with U.S. Route from Gorman to Mount Storm. Yet another variation of this route runs south from Mount Storm on Route 42 to Petersburg (rather than taking U.S. Route 50 to the east), then follows Route 55 east to Moorefield, and remains on Route 55 from Moorefield to the state line and to I-81.

- None of these options would result in a single direct route from I-79 to I-81, nor would any of them allow for the average travel speeds and traffic capacity that is necessary in order to stimulate economic growth in the study area. Thus, it was determined at the CSDEIS stage of the study process that the IRA did not meet the project's purpose and need and therefore should not be carried forward for detailed consideration.

At the ASDEIS stage, as a result of expressed public and agency interest in consideration of an IRA, a revised version of the IRA was developed for detailed study. As discussed elsewhere in this ROD, the ASDEIS IRA was designed to achieve a 50 mph "design speed" (which would result in an average travel speed somewhat lower than 50 mph) and was located within the selected D5 corridor. These criteria were intended to provide a realistic basis for comparison to the Build Alternative, by ensuring that the IRA (even though it fell short of meeting the project's purpose and need) at least provided a significant improvement over the existing routes. Although the use of these criteria necessitated a substantial amount of relocation, the relatively significant environmental impacts associated with the ASDEIS IRA are a necessary result of any roadway improvements that significantly increase average travel speeds and thereby reduce average travel times across the corridor as a whole, while remaining within the selected D5 corridor (i.e., the corridor that allows avoidance of Section 4(f) resources). However, even the ASDEIS version of the IRA could not accommodate the purpose and need for this project, as discussed in the FEIS at II-29 to II-30. As in the case of the CSDEIS IRA, the failure of the ASDEIS IRA to achieve the project's purpose and need is attributable to the weakness of the existing road system and the obstacles presented by the topography of the study area.

Finally, there is no contradiction between the treatment of the IRA in the CSDEIS and in the ASDEIS. In both documents, it was stated that the IRA would not meet the purpose and need for this project. The difference between the documents concerns the level of discussion afforded to this alternative: unlike the CSDEIS, the ASDEIS considered the IRA in detail, despite the fact that the IRA is not adequate to meet the project's purpose and need. However, the ASDEIS (and FEIS) expressly stated that the IRA was carried forward for detailed consideration only to provide a basis for comparison to the Build and No Build alternatives. (See FEIS at II-28.)

B. Role of "System Linkage" in Comparison of Build Alternative and IRA

Some commenters suggested that, if the Preferred Alternative in combination with existing two-lane Route 55 would meet "system linkage" needs, then the two-lane

IRA also would meet system linkage needs. (West Virginia Sierra Club, West Virginia Highlands Conservancy, and Pamela & Charles Merritt.)

Response:

The evaluation of an alternative's ability to achieve "system linkage" was based on pragmatic rather than formalistic considerations. This pragmatic approach focused on improving the linkage between existing four-lane highway facilities -- i.e., making the greatest possible improvements in the degree of connectivity between existing elements of the highway system.

Without question, the highest degree of system linkage is achieved when the gap between two existing four-lane facilities is entirely filled by a new four-lane facility. But in this case, the Preferred Alternative, combined with existing Route 55 in Virginia, will be sufficient to achieve the goal of system linkage. The Preferred Alternative will provide a new four-lane, divided roadway for approximately 100 miles through an area where traffic now must travel on poor two-lane roads through mountainous terrain. Although the Preferred Alternative would not provide a four-lane, divided highway between the state line and I-81, the existing Route 55 in that section is far different from the existing road system in the study area in West Virginia: unlike the West Virginia roads, Route 55 in Virginia is located on relatively level terrain and generally allows for higher travel speeds. Thus, the section to be constructed in West Virginia is not only much longer than the section of Route 55 in Virginia, but also addresses the area of greatest inadequacy in the existing road system between Elkins and I-81. Given these factors, constructing the Preferred Alternative will achieve the goal of system linkage in this area. By contrast, relying exclusively on improvements to existing two-lane roads for the entire 115-120 mile corridor between existing Elkins and I-81 would fall far short of the goal of achieving system linkage.

C. Improvement of Local Roads "Throughout the Project Area"

One commenter questioned whether the CSDEIS IRA would have improved local roads on a particular existing route or would have improved local roads "throughout the project area." (West Virginia Highlands Conservancy.)

Response:

The statement that the CSDEIS IRA was "considered the improvement of local roads throughout the project area" was simply intended to clarify that the CSDEIS IRA was not confined to a particular corridor. (See FEIS, at VII-182.) The CSDEIS clearly described the IRA as an east-west corridor project; the IRA has never been intended or presented as involving a wide-ranging program for the improvement of the entire local road network throughout the study area. Such a road improvement program would not satisfy the purpose and need for this project and therefore has not been considered in this study process. However, none of the alternatives considered in this process would preclude construction of such improvements; indeed, improvements of existing roads throughout West Virginia would be made, in the normal course of events, even under the No-Build Alternative.

D. Consideration of Transportation Systems Management (TSM) Alternative

One commenter suggested that the Transportation Systems Management (TSM) alternative deserved more detailed consideration and that it was rejected without sufficient explanation. (West Virginia Highlands Conservancy.)

Response:

The inability of either the TSM or IRA alternatives to serve the identified purpose and need for this project is attributable to the lack of an adequate roadway system in the West Virginia portion of the study area. The lack of an adequate existing roadway system, in turn, can be attributed to the topography of the West Virginia portion of the study area: the existing roadways conform to the mountainous terrain, resulting in many roadways with steep climbs, sharp curves, and short sight distances. While spot improvements to the existing system (e.g., shoulder widening, warning signs, and minor relocations) would enhance the safety of existing roadways to some degree, such improvements would provide at best marginal improvements in average travel speed through the study area – and therefore would not provide economic stimulus to the study area or provide a single roadway link between I-79 and I-81. For this reason, an alternative “on the continuum from TSM to IRA” would not meet the purpose and need for this project.

E. Role of Functional Classification Map in Consideration of IRA

One commenter asserted that the standards for each road's “classification” on the Functional Classification Map were used inappropriately to exclude alternatives. (West Virginia Highlands Conservancy.)

Response:

All states use a functional classification system as a means of categorizing the different components of the road network. The classification of a particular road within the network is based on established criteria, including current and projected average traffic volumes. These criteria reflect the actual function of the road within the network, not the road’s existing geometric features. Thus, the functional classification map provides a useful tool for identifying roads where improvements are needed and for determining the design standards that should be applied in constructing those improvements. It should be emphasized, however, that the classification of a road on the state’s functional classification map is only one of many factors considered in determining the need for a transportation improvement and in deciding which alternatives are adequate to meet that need.

F. Consideration of Rail as an Alternative

Some commenters suggested that railroads should have been given greater consideration as an alternative, and that the discussion of railroads should have

included additional detail. (West Virginia Highlands Conservancy, West Virginia Environmental Council.)

Response:

Like roads and airports, existing rail facilities are an essential component of the intermodal transportation system. As noted in the Transportation Needs Study at II-14, railroads play a particularly important role in meeting the transportation needs of the coal mining industry in West Virginia. However, while rail transportation may effectively interact with other transportation modes to provide economic stimulus to the study area, railroads alone are not sufficient to address the area's transportation needs: while a rail facility could divert some freight from trucks to rail, it would provide far less overall improvement in safety and little or no improvement in safety and mobility in the study area. In contrast, an adequate east-west highway linkage would significantly improve safety and mobility throughout the road network in the study region by removing many heavy trucks from winding, narrow, two-lane mountain roads and providing improved access to connectors and local roads in rural areas.

G. Consideration of Corridor "D5" at CSDEIS Stage

One commenter asserted that the public was not informed that Corridor D5 was under serious consideration during the corridor-selection process. (West Virginia Highlands Conservancy.)

Response:

Consistent with the Council on Environmental Quality (CEQ) regulations regarding the tiering of NEPA documents, the purpose of the CSDEIS was to identify a single corridor for further study at the ASDEIS stage. The CSDEIS identified five 2,000-foot-wide corridors running from Elkins, West Virginia to I-81 in Virginia, designated as Schemes A, B, C, D, and E.

These Schemes (and numerous Subscheme options) were evaluated according to three general criteria: (1) ability to meet the identified transportation need in the project area; (2) ability to avoid and/or minimize impacts to environmental resources, including Section 4(f) land, while still satisfying the project need; and (3) ability to accommodate the various interests and views expressed by members of the public during the public involvement process. An equivalent level of analysis was provided for all Schemes; no particular Scheme was identified as preferable to any of the others in the CSDEIS. Also, the CSDEIS stated that the Scheme designated as preferred in the 1981 DEIS (Scheme A) would not be given any special weight in this process.

During the comment period on the CSDEIS, a variety of concerns were expressed by members of the public and other agencies about various corridors under consideration. Many of these comments dealt with environmentally sensitive areas located within the "southern" Scheme options (particularly Scheme A). Many other commenters were opposed to the "northern" Scheme options (particularly Scheme E). Based on this input, Scheme D5 was selected as the

corridor that best combined the positive features of the northern and southern routes, while providing the greatest opportunity for avoidance of sensitive resources. Most notably, as affirmed in the CSDEIS Decision Document, Scheme D5 allowed the avoidance of Section 4(f) resources.

H. Comparison Between Existing Roads in West Virginia and Virginia

Some commenters suggested that, if State Route 55 in Virginia could safely and efficiently accommodate future traffic, then the existing two-lane roads in West Virginia also could do so. (West Virginia Highlands Conservancy, Corridor H Alternatives, Pamela & Charles Merritt.)

Response:

The potential feasibility of particular types of road improvements in Virginia cannot be used as the basis for determining the feasibility of similar improvements in West Virginia, because there are significant differences between the terrain and the existing road networks in the West Virginia and Virginia portions of the study area. In West Virginia, the existing east-west routes through the study area are located in mountainous terrain, which results in poor roadway geometrics – i.e., sharp curves, steep climbs, and short sight distances. By contrast, in Virginia the existing Route 55 between the state line and I-81 is located on relatively level terrain and therefore presents fewer instances of inadequate roadway geometrics. Moreover, because Route 55 in Virginia is not a narrow, twisting mountain road, improving Route 55 in Virginia to allow higher-speed travel requires fewer and less intrusive relocations. Given these differences, Virginia’s decision to continue relying on existing Route 55 does not affect the determination of the need for this project in West Virginia.

Finally, the decision of the Virginia Commonwealth Transportation Board (FEIS at App. A) represents the decision of the Commonwealth of Virginia solely with respect to the section of Corridor H between the West Virginia/Virginia state line and I-81 in Virginia. Therefore, the Board’s decision should not be interpreted as an evaluation of the need for this project in West Virginia.

I. Role of Funding in Determining Range of Alternatives Considered

One commenter suggested that the funding considerations had inappropriately influenced the consideration of alternatives, particularly the rejection of the IRA. (West Virginia Environmental Council).

Response:

Improvements to existing roads would be eligible for funds appropriated by Congress for this project only if those improvements satisfied the design criteria for components of the Appalachian Development Highway System. These criteria include the requirement that

components of the System achieve an “average travel speed” of approximately 50 mph. The Appalachian Regional Commission, which has established those criteria, has stated that “[w]hile many of the corridors have scenic vistas, the overall design requirements of the corridors, including the average speed requirement, do not lend themselves to a complete scenic byways approach.” Thus, improvements that retain the existing two-lane, undivided facility generally would not be eligible for the funds that have been approved for this project.

Funding availability has not been used in this study process as the basis for determining which alternatives to consider. While the limitations on the use of appropriated funds may make the construction of the IRA more difficult, the decision to select the Preferred Alternative was based on the determination that only the Preferred Alternative would satisfy the project’s purpose and need.

J. Need for Relocations as Part of the IRA

One commenter suggested that the IRA could have been designed to avoid a significant number of relocations if “good engineering judgment” had been used. (Corridor H Alternatives.)

Response:

Some sections of the IRA are located in areas in which there are few or no homes or businesses immediately adjacent to the proposed IRA alignment. However, as discussed in the ASDEIS and FEIS, other portions of the IRA would in fact require a significant number of relocations if the IRA is designed according to the design criteria specified for a two-lane rural arterial with a design speed of 50 mph. Based on the mountainous terrain and the existing road network, it is not possible to design an IRA that achieves significant improvements in the quality of the existing roadway without causing significant environmental impacts. The option of making more limited modifications to existing roadways (e.g., road widenings in specific areas, shoulder improvements, etc.) was considered in the CSDEIS as the Transportation Systems Management (TSM) alternative, and was eliminated from detailed consideration because the TSM alternative would not meet the project's purpose and need.

K. Safety Comparison Between Preferred Alternative and Existing Roads

Some commenters suggested that the Preferred Alternative would not achieve the safety component of the project’s purpose and need, and might actually increase the accident rate, based on data in the Transportation Needs Study. (Corridor H Alternatives, West Virginia Highlands Conservancy.)

Response:

As discussed in the Transportation Needs Study, the average accident rate on the existing roads between Elkins and Strasburg is 3.24 accidents per million vehicles miles traveled (a/VMT).

Data presented the Transportation Needs Study indicated this rate -- while certainly high enough to raise safety concerns -- was somewhat below the average accident rate for all rural arterials in West Virginia. (CSDEIS, at II-18.) The Transportation Needs Study also indicated that this rate was somewhat below the nationwide average accident rate for all four-lane divided highways with partial control of access. (CSDEIS, at II-18.) The Transportation Needs Study data was not given great weight, since (1) the 3.24 a/VMT accident rate is considered significant even if other state routes have similar or greater accident rates, (2) the accident rate for all four-lane divided highways with partial access control nationwide is not considered representative of Corridor H, because it is based on many highways that are not designed to current design standards.

Moreover, more recent data for West Virginia confirm the conclusion that the Preferred Alternative will provide significant safety benefits:

- Statewide average crash rates for 1993-1995 indicate that four-lane rural arterials with partial access control have an accident rate of 1.31 a/VMT.
- The accident data for the completed section of Corridor H in West Virginia, from Weston to Elkins, is 0.59 a/VMT from I-79 eastward for 6.83 miles and 0.69 a/VMT from that point for the next 4.63 miles eastward to County Route 12.

These more recent statistics are considered to be representative of the expected accident rates for the Preferred Alternative, thus strengthening support for the conclusion that the Preferred Alternative will provide significant safety improvements in comparison to both the IRA and to the existing routes, in addition to providing increased average travel speeds.

L. Safety Comparison Between Preferred Alternative and IRA
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One commenter asserted that a "good two-lane road" (i.e., a version of the IRA) would be "about as safe" as a four-lane, partially controlled access highway (i.e., the Preferred Alternative.) (Corridor H Alternatives.)

Response:

As the commenter acknowledges, a four-lane divided highway with partial control of access (i.e., the Preferred Alternative) generally provides greater levels of safety than even the best two-lane undivided arterial with no control of access. While the magnitude of this difference in safety is a matter on which experts may differ, the difference is significant -- particularly with respect to fatality rates, as discussed in the FEIS at II-7 and in Appendix E of the CSDEIS Traffic and Transportation Technical Report. This conclusion is consistent not only with accident rates on existing highways in West Virginia but also with common sense: it stands to reason that high-speed travel is far more likely to result in fatal head-on collisions on an undivided two-lane highway than on a divided four-lane highway. Moreover, it should be noted that for the IRA to achieve a level of safety even approaching the Preferred Alternative, the IRA would (as the commenter acknowledges) have to be constructed as a "good" two-lane arterial -- which, in this

case, would necessarily result in the new construction and major realignments to which the commenter objects.

M. Consideration of Three-Lane Roads as Alternative

One commenter states that the FEIS does not properly describe the advantages of three-lane roads as an alternative to four-lane roads. (Corridor H Alternatives.)

Response:

There are circumstances in which the addition of a third lane may be an appropriate response to operational problems on an undivided two-lane arterial. (FEIS at II-5.) Indeed, the FEIS specifically notes that the use of three-lane roadways has become more common since the mid-1980s and states that three potential uses of three-lane roadways were considered at the CSDEIS stage. (FEIS, at II-5.) However, three-lane roadways also have prominent drawbacks, as set forth in the Highway Capacity Manual. (See FEIS, at II-5 to II-6). Having balanced the potential advantages of a three-lane roadways against the potential disadvantages, it was determined that a three-lane roadway would not provide a feasible means of meeting the need for this project.

III. IMPACTS AND MITIGATION MEASURES

A. General Comments on Impacts and Mitigation

Several commenters addressed the effectiveness and enforceability of the mitigation measures and procedures adopted in the Mitigation Document, and requested additional detail and clarification in this Record of Decision. (U.S. EPA, West Virginia Environmental Council.)

Response:

In carrying out the environmental analysis for Corridor H, the WVDOH and FHWA have attempted to comply with the longstanding recommendation of the EPA and other resource agencies to examine proposed highway projects on a broad scope -- i.e., preparing a single NEPA document for an entire highway corridor, rather than preparing separate NEPA documents for each independently viable section of a lengthy corridor. However, to accommodate the concerns of the EPA and other resource agencies, the WVDOH and FHWA have examined the section of Corridor H between Elkins and I-81 in a single EIS. This approach is appropriate and has significant benefits, but it is subject to misinterpretation: in comparison to the highway project examined in a typical EIS, this project appears to have substantially greater impacts, but that appearance can be attributed in part to the simple fact that the corridor studied in this EIS is well over 161 km (100 miles) long. Mile for mile, this project's impacts are comparable to (or even lower than) the impacts of most other highway projects in similar terrain. Indeed, this project has been designed with extraordinary attention to the presence of sensitive resources, using sophisticated GIS technology to avoid or minimize environmental impacts.

Moreover, the WVDOH and FHWA have agreed to implement a virtually unprecedented mitigation program -- one that gives the EPA and other federal, state, and local resource and planning agencies an opportunity to participate in selecting and designing mitigation measures during final design and construction. As one EPA staff member stated in a meeting with WVDOH and FHWA officials on June 10, 1996 to discuss the FEIS for this project, the Mitigation Document contained in the FEIS "is something we've never done before" and is "what we always wanted" -- namely, a continuing role in the decisionmaking process after the Record of Decision is issued. The WVDOH and FHWA believe the substantive and procedural provisions of the Mitigation Document, which is made binding by this Record of Decision, truly represent a precedent-setting achievement and provide a model to be followed in future highway projects.

Mitigation measures presented in the FEIS have been developed to the extent permitted by the level of design developed for the FEIS as is consistent with FHWA regulations (23 CFR 771.125). Because many of the mitigation measures discussed in the FEIS are advanced (e.g., sedimentation and erosion control, reclamation) and/or unique (e.g., acid drainage development

and control), a continuous review and comment process by those Federal and state agencies charged with environmental protection has been developed for this project. That process itself is unique for a highway project of this geographical and temporal length. The process is detailed in the Mitigation Document (Sec. (I)(2), Fig. 1.) In short, the process actively involves Federal and state agencies (e.g., USEPA, FWS, COE, WVDNR) at each step of engineering and mitigation design. It also provides for regular reports to them concerning efficacy of erosion and sedimentation control measures, reclamation success, acid drainage prevention, stream enhancement results and a variety of other mitigation measures that will be undertaken for this project as described in the Mitigation Document. Some of these reports will continue for 5 years following highway construction.

Finally, the language requested by EPA in its comments on the FEIS has been incorporated in full in the body of this Record of Decision.

B. Air Quality

Some commenters questioned the air quality analysis, suggesting that the Preferred Alternative would worsen air quality in the study area by, for example, pushing the area into nonattainment for ozone and by adversely affecting conditions in the Fernow Experimental Forest. (West Virginia Sierra Club, U.S. Forest Service Northeastern Experiment Station.)

Response:

The FEIS (*Volume I(III)(H)(3)(b)*) presented a mesoscale analysis of pollutants. That analysis concluded that air pollutants present in the study area are dominated by pollutants produced and transported from stationary sources located many miles from the project area. There has been only one exceedance recorded at the Parsons Site since 1988. That exceedance occurred in 1988; a drought year. Since 1988, the ozone levels at this station have, on average, been declining. There is no known method to derive the amount of additional ozone produced by a known increase in volatile organic compounds (VOCs) or oxides on Nitrogen (NO_x). However, the air quality analysis developed for the FEIS revealed that the predicted additional traffic on the Preferred Alternative would produce an additional approximately 3 kilograms/day of VOC and 6 kilograms/day of NO_x. The current VOC level for the region is approximately 6300 kilograms/day and the NO_x is approximately 12,500 kilograms/day.

Based on this analysis, it has been concluded that the quantities of these two pollutants produced by the additional traffic would not have any additional deleterious effects on forest resources or on increased ozone levels.

C. Acid Drainage

Some commenters requested additional commitments by WVDOH and FHWA to ensure the long-term enforceability and effectiveness of the mitigation of acid

drainage, to address concerns about stream acidification and other impacts. (U.S. U.S. EPA, West Virginia Rivers Coalition.) Other commenters questioned the effectiveness of using limestone-lined drainage ditches for mitigating acid drainage. (West Virginia Rivers Coalition, Pamela & Charles Merritt.)

Response:

Construction activities in many areas along the Preferred Alternative could result in potential stream acidification. A discussion of this issue was included in the FEIS (*FEIS, Volume I(T)(b)(2); Volume III(II)(F) and (III)*). Areas of potential acid formation during and/or following construction were identified based on geological mapping and preliminary cut profiles of the Preferred Alternative (*FEIS, Volume III(II)(F)*). Prior to the next level of engineering design, core boring samples taken within those areas identified as having potential for acid formation during and/or following construction will be subjected to acid-base accounting or other appropriate chemical testing to determine their acid producing potential (*FEIS, Volume III(I)(Fig. 1) and (II)(F)*). Following that assessment, appropriate mitigation measures will be developed that are “necessary and practicable” to control (neutralize) acidified drainage before it enters streams (*FEIS, Volume III(I)(F)*) and will be included as part of the contract plans for each section of the highway (*FEIS, Volume III(F)(2)*). Finally, any excess excavation material that has the capability of acid production “will be disposed of in accordance with [an] approved Acid Producing Materials Handling Plan (*FEIS, Volume III, Mitigation Document, p. 25*).

Results of acid-base accounting or other appropriate chemical testing will be shared with resource agencies including EPA as outlined in Figure 1 of the FEIS (*FEIS, Volume III(I)(B)*). Additionally, the Environmental Monitor is responsible, in part, to “[c]onduct monitoring in order to determine compliance with State water quality standards, including monitoring of sites with the potential for production of acid drainage” (*FEIS, Volume III(I)(C)*) and to report monitoring results of water quality monitoring to the regulatory agencies, including EPA, on a monthly basis (*FEIS, Volume III(D)(1)*). Finally, as stated in the FEIS (*Volume III(II)(F)(2)*), should acid drainage occur following construction, necessary and practicable measures (e.g., inclusion of limestone on roadway base, construction of limestone lined drainage channels) will be developed and implemented. As stated on page 25 of the FEIS (*Volume III(F)(2)*) “[s]hould acid drainage occur following construction, necessary and practicable mitigation measures [for acid drainage] will be developed”. These measures will also be implemented.

The discussion of limestone lining of drainage ditches on page 23 referred to one particular study on seven sites along WV 33 which was carried out at the request of the WVDEP in its ASDEIS comment letter (*FEIS, Volume II, Appendix D*). It is recognized that lining drainage ditches with limestone is not the only method for neutralizing acid drainage. Other forms of mitigation including prevention of acid drainage development are discussed on pages 24 and 25 of the Mitigation Document (*FEIS, Volume III: Mitigation Document*). Additionally, that document states that “necessary and practicable mitigation measures” will be developed should acid drainage develop following construction; any excess excavation material that has the capability of acid production “will be disposed of in accordance with [an] approved Acid Producing Materials Handling Plan (*FEIS, Volume III, Mitigation Document, p. 25*). Finally, Dr. Jeffrey

Skousen, of West Virginia University, an internationally recognized expert in acid drainage, will act as a consultant during the design and implementation of acid drainage mitigation measures.

D. Endangered, Threatened, & Other Sensitive Species

1. Consultation with U.S. Fish & Wildlife Service.

The U.S. Fish & Wildlife Service stated that the FEIS adequately evaluated the Cheat Mountain salamander and other Federally-listed species and species of concern that may occur in the project impact area, except for the Virginia northern flying squirrel. The comment stated that the U.S. Fish & Wildlife Service had determined, based on new information regarding habitat requirements and range extension, that the Virginia northern flying squirrel “could possibly occur” in the project area. The U.S. Fish & Wildlife Service requested that informal Section 7 consultation be re-initiated for this species and that live trap surveys be conducted within one small area of potential impact. (U.S. Department of the Interior).

Response:

Informal Section 7 consultation was re-initiated on May 9, 1996 with the U.S. Fish and Wildlife Service to address concerns about the possible presence of the Virginia northern flying squirrel. A field view of the area of concern and discussions concerning trapping methodology were held with the U.S. Fish and Wildlife Service, the West Virginia Division of Natural Resources, and project biologists. Following the May 9, 1996 meeting, a recognized Virginia northern flying squirrel expert, Dr. Edwin D. Michael, Professor of Wildlife Management, West Virginia University, was employed to conduct the live trapping survey. Following a methodology developed by the U.S. Forest Service and supported by the U.S. Fish and Wildlife Service and the West Virginia Division of Natural Resources, the first in a series of two (2) live trapping events was conducted in the suspected area between July 24, 1996 and July 30, 1996. No Virginia northern flying squirrels were trapped during that period, during a total of 300 trap nights. The second, and final, trapping event will extend from Aug. 11, 1996 to Aug. 16, 1996.

2. References to “Category 2” Candidate Species.

The Fish and Wildlife Service also stated that the definition of the term “candidate species” has been recently narrowed; thus, while no “candidate species” occur in the project area, some “species of concern” -- formerly referred to as Category 2 candidate species -- do occur in the project area. (U.S. Department of the Interior).

Response:

The change in terminology regarding “species of concern” is noted. As the project moves into the next levels of engineering design, coordination will continue to occur with the Fish and Wildlife Service through the process detailed in the Mitigation Document (*FEIS, Volume III(I)(Fig. 1)*). This coordination will assure that species of concern are given appropriate consideration.

3. References to Delisting of Kate’s Mountain clover and mountain pimpernel.

The U.S. Fish & Wildlife Service stated that the FEIS should state that Kate’s mountain clover and mountain pimpernel were removed from the list of species of concern, not from the list of endangered species. (U.S. Department of the Interior).

Response:

Comment noted. This Record of Decision clarifies that Kate’s mountain clover and mountain pimpernel were removed from the list of species of concern.

4. Mitigation Measures.

The U.S. Department of the Interior stated that “adverse impacts to aquatic and terrestrial wildlife resources have been avoided or minimized to a considerable degree for the 4-lane, Line A alternative. The Mitigation Document accurately reflects the combined efforts of the action and resource agencies to resolve agency concerns expressed following review of the Alignment Selection SDEIS.” The Department of the Interior also “commend[ed] the WVDOT and their consultant for the high level of cooperation to avoid and minimize adverse impacts to trust resources and their habitats. We fully understand and appreciate the extensive efforts that went into the preparation of the FEIS and the mitigation document. This process has led to a better understanding of the project’s benefits as well as adverse impacts.”

Response:

Comment noted.

E. Excess Excavation

One commenter expressed concern that the disposal of excess overburden will require disposal and thereby degrade habitat. (U.S. EPA.)

Response:

Disposal of excess excavation materials will require additional habitat disturbance. However, as pointed out in the FEIS (*Volume III(II)(E)*), the initial estimates of the amount of excess excavation, because of the level of engineering detail employed at the EIS stage of a project, often result in an over estimate of the amount of excess excavation. Additional engineering performed to examine this issue determined that excess excavation amounts could be dramatically reduced in 4 out of the 5 sections evaluated (*FEIS, Volume III(II)(E)*). To minimize the impacts of disposal of excess excavation, disposal and reclamation plans were developed and were detailed in the FEIS (*Volume III(II)(9),(D),(E)*). These include engineering techniques to minimize the amount of excess excavation, identification of areas that can not be used for excess waste disposal and a detailed 5 year reclamation and monitoring plan.

F. Forests

Some commenters addressed the project's impact on disturbance forest ecosystem processes, through direct destruction and secondary effects associated with forest fragmentation, increased edge, introduction of exotic/non-native species, conversion of forest type. The commenter requested that the Record of Decision require that native vegetation be used for any permanent vegetative cover. (U.S. U.S. EPA, David Ostergren.)

Response:

The impacts to the forest ecosystem were extensively examined in the ASDEIS (*(III)(O)*), the ASDEIS Vegetation and Wildlife Technical Report, and the FEIS (*Volume I(O), Volume II (Tables III-43 - III-51)*). Issues analyzed in these documents included: habitat loss; habitat value and loss as determined by the US Fish and Wildlife Service's Habitat Evaluation Procedure (HEP), an extensive literature review concerning forest fragmentation and biodiversity (*FEIS, Volume I(O)(2)*), a GIS analysis of the number of forest patches "created"; a consideration based on a literature review of the impacts of that forest patch creation (*FEIS, Volume I(O)(2)(d and e)*); an analysis/discussion of the "edge effect"; and an analysis of potential wildlife mortality impacts (*FEIS, Volume I(O)(3)*).

Those analyses of impacts presented in the ASDEIS and FEIS were extensive and sufficient to accurately characterize forest impacts expected from construction of the Preferred Alternative. While the highway will have some affect on the forest areas through which it passes and upon wildlife species within those immediate areas, those effects will not, when considering the total forest habitat available within the study area, be significant.

Finally, important and innovative mitigation procedures will be implemented to mitigate for those impacts to the forest associated with construction and operation of the highway. These include: "greater use of native or naturalized species" to revegetate medians, shoulders and mowable areas (*FEIS, Volume III(II)*); a reclamation plan that requires that 90% of dominant

species by the 5th year consist of “species included in the seed mixture[referred to previously] and/or occurring in the surrounding natural vegetation” (*FEIS, Volume III(II)(D)(a)*); contouring and restoring excess excavation and borrow sites “to reflect the surrounding landscape contours and to reflect the vegetative community that existed prior to the placement of excess excavation or the removal of borrow”(*FEIS, Volume III(II)(D)(2)*); development of planting plans for excess excavation and borrow sites which “will be submitted to appropriate agencies [including EPA] during agency coordination activities” (*FEIS, Volume III(II)(D)(2)*); establishment, where practicable, “of clearing limits independent of the right-of-way edge so as to preserve existing wildlife habitat within the right-of-way [and] maintenance, where practicable, of original vegetation under bridge structures” (*FEIS, Volume III(II)(G)*); and the allocation of approximately \$1.8 million dollars for the purchase of an area or areas of unique habitat as identified by WVDOH, US FWS and WVDNR.

G. Groundwater

Some commenters raised concerns about the potential disruption and/or contamination of underground aquifers, including the Wardensville Spring. (West Virginia Sierra Club, Town of Wardensville, Rollin Garrett)

Response:

The sensitivity to disruption of aquifers and groundwater in the project area has been recognized throughout the development of this project. For example, a detailed hydrogeological analysis of groundwater was undertaken for and reported in the ASDEIS (III(G)) and the FEIS (*Volume I(III)(G)*) by an internationally recognized hydrogeologist. As was pointed out in these documents, additional testing and research will be done during the final design phase of the project. From this testing and research, a detailed plan of action and groundwater protection will be developed. Successful and nondisruptive highway construction, operation and maintenance has occurred throughout the US (e.g., Edwards aquifer in Texas) and there is no reason to expect that it can not occur in West Virginia. The State of West Virginia requires contractors to be liable for any disruption of water supplies. Finally, following additional, detailed hydrogeological testing and determination of the wellhead protection area, coordination will occur among with the Town of Wardensville, the WVDO and the WV Department of Health to develop additional construction, design and mitigation strategies.

H. Cultural Resources

1. Archeological Resources.

One commenter suggested that the predictive model for finding archeological resources used criteria that were too vague to be meaningful. The commenter also stated that the cost of mitigation for archaeological sites can be quite high and should be considered up front. (Pamela & Charles Merritt.)

Response:

The predictive model was developed through intensive coordination with the WVSHPO and the Advisory Council for Historic Preservation. It was used to compare the probability of alternatives of impacting archaeological resources. Additional investigations as required by Section 106 are being carried out through a Programmatic Agreement. That agreement was discussed and included in the FEIS (*Volume I(L)(1)(d) and Volume II(Appendix B)*). As discussed in the FEIS (*Volume I(II)(O)(2)*) mitigation costs presented represented those costs quantifiable at the time. Mitigation costs associated with various resource areas (e.g., water quality monitoring, reclamation, acid drainage prevention and control and archaeological investigations) can not be developed until final design for the highway has been completed. Final highway design occurs after approval of the FEIS and issuance of the ROD.

2. Corricks Ford and Moorefield Battlefields.

Several commenters stated that the FEIS did not provide sufficient discussion of impacts on Corricks Ford and Moorefield battlefields, particularly with respect to indirect impacts (noise, pollution, alteration of the sites' character). A number of these commenters also expressed concern about the need for additional study of the area where the realignment of the Preferred Alternative would be outside the original D5 corridor. A number of these commenters also requested additional analysis of Section 4(f) issues related to Corricks Ford and Moorefield battlefields. (Corridor H Alternatives, Pamela & Charles Merritt, West Virginia Highlands Conservancy, National Trust for Historic Preservation, U.S. Department of the Interior.) On the other hand, some commenters expressed a preference for the original version of the Preferred Alignment along Shavers Fork. (Terry and Judy Fairbanks and Mrs. Dale Barr.)

Response:

Extensive research and analysis was conducted concerning cultural resources during the study process for purposes of compliance with NEPA, Section 106 of the National Historic Preservation Act, and Section 4(f) of the Department of Transportation Act. As part of that process, and in order to address concerns raised about potential impacts on the Corricks and Moorefield battlefields, the following steps have been taken:

- After concerns were raised about the Corricks Ford and Moorefield battlefields, the FHWA requested determinations by the Keeper of the National Register concerning their eligibility and their boundaries. The Keeper determined that both battlefields are eligible for listing on the National Register, and identified their boundaries.
- In response to the Keeper's determination, the WVDOH and FHWA moved the alignment of the Preferred Alternative to ensure that the alignment completely avoids any physical occupation of the battlefields.

- As requested by several commenters, additional analysis and review has been conducted prior to the issuance of this Record of Decision to assess the potential proximity impacts of the realignment of the Preferred Alternative on Corricks Ford and Moorefield battlefields. (The results of these additional reviews are summarized below.)
- The FEIS includes, and this Record of Decision affirms, a commitment that plans, specifications, and estimates will not be approved for any section of the Preferred Alternative until the Section 106 process has been completed for that section and for both adjacent sections. This will ensure an ample opportunity to consider any effects and/or adverse effects on the Corricks Ford and Moorefield battlefields well before any decisions are made that could significantly affect consideration of avoidance alternatives and/or mitigation measures.
- Finally, the FEIS includes, and this Record of Decision affirms, a commitment to: (1) mitigate any proximity impacts that result in an "adverse effect" finding in the Section 106 process (FEIS at III-107) and (2) prepare a separate Section 4(f) evaluation if and when, at any time during the implementation of this project, it is determined that any Section 4(f) properties not identified during the extensive Section 4(f) evaluations undertaken thus far are encountered.

In sum, the status of and potential impacts on the Corricks Ford and Moorefield battlefields have been studied at an appropriate level of detail in this NEPA process, and sufficient procedures and safeguards are established in this Record of Decision to ensure that the public is given an adequate opportunity to participate in further evaluations of impacts on these resources and to ensure that these resources are adequately protected (pursuant to both Section 106 and Section 4(f)) during final design and construction of this project.

Additional Analysis and Review. As noted above, additional analysis and review has been conducted to ensure that the potential proximity impacts of the Preferred Alternative on the Corricks Ford and Moorefield battlefields have been adequately studied and to ensure that any such impacts do not result in the use of those battlefields for purposes of Section 4(f). This analysis and review is summarized as follows:

Corricks Ford Battlefield:

- Approximately one mile of the relocated alignment would be located outside Corridor Scheme Option D5, in a loop that runs south of the confluence of Pleasant Run and Shavers Fork. According to preliminary engineering, this loop is located between 200' and 2000' from the original alignment -- and at no point is located more than 1200' from the outer limits of Corridor Scheme Option D5.
- The visual impacts of the realigned version of the Preferred Alternative have been considered. It has been determined that the regrading and recontouring of the steep slope

on Fork Mountain at its nearest point will be approximately 120 meters (400') horizontal distance from the closest boundary of Corricks Ford. The proposed roadway will maintain this approximate distance from the battlefield boundary for approximately 900 meters (3000'). However, the highway will be on the side of Fork Mountain a minimum vertical distance of 30 meters (100') above the battlefield boundary along the approximate 900 meters (3000') highway section. The visual analysis revealed that because of the dense, forest vegetation composed of mature trees averaging 15 meters (50') in height, the topography of the river valley and Fork Mountain, and the location and proposed construction technique for the highway, the highway would not substantially impair the viewshed within or from the battlefield.

- As part of the noise analysis conducted for the ASDEIS, predicted noise levels were determined for eleven (11) receptors located within the boundaries of the Corricks Ford Battlefield. In no case did the predicted noise levels equal or exceed FHWA's noise abatement criteria.
- Although the Preferred Alternative will be noticeable from within the boundaries of the battlefield, numerous other modern intrusions (e.g., roads) currently are visible and/or audible from within the battlefield, and were present at the time the battlefield was determined eligible for listing on the National Register.

Moorefield Battlefield:

- Noise analyses were conducted for the ASDEIS on five (5) receptors that lie within the boundaries of the Moorefield Battlefield. Following the Keeper's decision regarding the battlefield and its boundaries, noise analyses were conducted for three (3) additional sites within the boundaries of the battlefield. All of the noise analyses determined that noise levels would not exceed FHWA noise abatement criteria.
- Visual impacts will result from the proposed highway, but will be insignificant given the substantial preexisting visual intrusions on the Moorefield battlefield. Currently, U.S. Route 220, a heavily used highway leading south into the City of Moorefield, runs through the battlefield from north to south and can be viewed from much of the battlefield. Additionally, County Road 220/8 is visible from the battlefield as are other smaller farm roads and lanes.
- Although the Preferred Alternative will be noticeable from within the boundaries of the battlefield, numerous other modern intrusions (e.g., roads) currently are visible and/or audible from within the battlefield, and were present at the time the battlefield was determined eligible for listing on the National Register.

Based on the analysis and review that has been conducted, it has been determined that the direct and indirect impacts of the realigned version of the Preferred Alternative on the Corricks Ford and Moorefield battlefields are not significantly different or greater than the impacts that were

previously studied (prior to the realignment). Also, while the relocated alignment would be noticeable from within the battlefields, the impacts of the roadway on the battlefields would not substantially diminish or impair the activities, features, or attributes that made these resources eligible for listing on the National Register. For these reasons, the environmental reviews concerning the location of the alignment for the Preferred Alternative in the vicinity of Corricks Ford or Moorefield battlefields are considered appropriate and sufficient for purposes of this Record of Decision.

3. Old Fields Multiple Resource Area.

Some commenters requested additional analysis of whether an historic area in the vicinity of Old Fields should be considered eligible as a “rural historic landscape” for the National Register and, if so, what the boundaries of that historic district would be. Some of these commenters also requested additional Section 4(f) analysis of this area. (U.S. Department of the Interior, National Trust for Historic Preservation, and Corridor H Alternatives.)

Response:

The historic resources in the vicinity of Old Fields, West Virginia, were studied during the preparation of the ASDEIS. The results of that study are summarized in the ASDEIS Cultural Resources Technical Report, which describes the Old Fields area as a “multiple resource area,” not as a rural historic district – i.e., the study concluded that the area encompasses a number of sites and/or structures that are individually considered eligible for the National Register of Historic Places, but the area as a whole was not itself considered an eligible resource. See ASDEIS, Cultural Resource Technical Report, Vol. I, pp. 402-403, pp. 421-425.

Shortly before the FEIS was issued, additional concerns were raised by some groups about the historic resources in the Old Fields area. At the request of those groups, an opportunity was provided for the submission of additional information concerning the potential basis for a finding that the Old Fields area should be considered a “rural historic district” and/or “rural historic landscape” eligible for listing on the National Register. Subsequently, a brief report (2 ½ pages in length) was received. The report stated that the Old Fields area “could be” eligible for listing on the National Register as a rural historic landscape. After consultation with the West Virginia State Historic Preservation Officer and a review of this report, it has been confirmed that:

- the Old Fields area is not itself eligible for listing on the National Register, even though individual sites or structures in that area may be eligible, and
- even if the Old Fields area were eligible for listing on the National Register, its boundary would be substantially north of the alignment of the Preferred Alternative, thus precluding the possibility of any direct use or substantial impairment of that resource.

In addition to the analysis that has been conducted for purposes of the ASDEIS and FEIS, further analysis and consultation concerning Old Fields is being and will be conducted as part of the Section 106 process. Pursuant to the Programmatic Agreement, an opportunity will be provided for any interested parties to raise concerns about Old Fields (or any other resource, including individual resources in the Old Fields area) during the Section 106 process, and those concerns will be addressed, as appropriate, at an appropriate point during that process.

Furthermore, this Record of Decision contains requirements to ensure that appropriate consideration is given to cultural resources during the implementation of the Section 106 Programmatic Agreement. Specifically, this Record of Decision requires that:

- before construction can begin in any section, the Section 106 consultation process must be completed for that section and for the two adjacent sections; and
- in accordance with established FHWA procedures, 23 C.F.R. § 771.135(m), a separate Section 4(f) evaluation will be circulated if any resource is found to have Section 4(f) status.

Thus, it has been determined that no additional evaluation of the historic resources in the vicinity of Old Fields is necessary or appropriate at this time.

4. Other Cultural Resources

Some commenters have requested additional analysis of potential impacts on the Coketon Coal Complex and the Blackwater Canyon Railroad Grade in West Virginia, and of the Belle Grove Plantation and Cedar Creek Battlefield in Virginia. (National Trust for Historic Preservation, Pamela & Charles Merritt.)

Response:

The Coketon Coal Complex and the Blackwater Canyon Railroad Grade are part of the Coketon Industrial Site. That site was determined to be eligible for listing on the National Register of Historic Places in a 1993 study undertaken by the WVDEP as part of a reclamation project to control acid drainage from an abandoned coal mine and coal waste piles. During the 1993 study the eligibility determination was made and a Section 106 Memorandum of Agreement was executed. Due to the destruction of resources during the reclamation, it has been recommended that new boundaries for the Coketon Industrial Complex be determined. The Preferred Alternative crosses the area on a bridge approximately 70 meters (225') above the area that has undergone extensive reclamation and that no longer retains any resources related to the Coketon Industrial Site. The Preferred Alternative will make no use of the Coketon Industrial Site.

Both the Belle Grove Plantation and Cedar Creek Battlefield are located in the Commonwealth of Virginia well away from VA 55. It was determined in the ASDEIS that both of these resources were outside of the Area of Potential Effect. Also, the Virginia State Historic Preservation Officer withdrew from participation in the Section 106 process for this project after

the Virginia Commonwealth Transportation Board decided not to proceed with consideration of the Build or IA alternatives.

I. Recreation Resources / Other Sensitive Resources

1. Allegheny Trail.

One commenter requested a Section 4(f) evaluation of the Allegheny Trail. (Pamela & Charles Merritt.) Another commenter expressed concern about the potential negative impacts of the Preferred Alternative or the IRA on the Allegheny Trail. (West Virginia Scenic Trails Association.)

Response:

Portions of the Allegheny Trail are located on publicly owned land within the Monongahela National Forest. Pursuant to FHWA regulations, 23 C.F.R. § 771.135(d), consultation has been conducted with the Supervisor of the Monongahela National Forest to determine the Section 4(f) status of those portions of the Allegheny Trail. Based on those discussions and an independent review of relevant materials, it has been determined that the publicly owned portions the Allegheny Trail are not a Section 4(f) resource. It also has been determined that, while the Preferred Alternative would affect the Allegheny Trail, those effects would not substantially impair the function of the trail as a recreational resource. Also, it should be noted that the Allegheny Trail is not designated as a "scenic" or "recreational" trail under the National Trails System Act or under any other authority.

To minimize any interference with the use of the Allegheny Trail, consultation will be conducted with the Monongahela National Forest and others, including the West Virginia Scenic Trails Association, during the final design process. It is expected that this consultation process will result in the adoption of appropriate mitigation measures and the continued enjoyment of the Allegheny Trail as a recreational resource.

2. Canaan Valley

One commenter stated that increased access will subject the Canaan Valley to additional stress, including visual and noise impacts (U.S. EPA).

Response:

Canaan Valley is located over 27 kilometers (17 miles) from the proposed highway. Because of the considerable distance from the proposed highway to Canaan Valley, it has been determined that Canaan Valley will not experience adverse visual or noise impacts as a result of the project itself.

The proposed highway will provide a safer and more efficient method of transportation that will allow for greater access by the general public to Canaan Valley State Park and the Canaan Valley National Wildlife Refuge, which may result in increased use of the recreational resources available in Canaan Valley; promotion of tourism is part of the economic development function of this project.

3. Fernow Forest and Fork Mountain

One commenter stated that the realignment of the Preferred Alternative in the vicinity of Fork Mountain would deleteriously affect the Fernow Forest, and that the blasting associated with construction of the elevated structures proposed for the project would have a significant effect on the continuity of the bedrock and hydrology of Fork Mountain. (U.S. Forest Service Northeastern Experimental Station.)

Response:

The higher alignment is, except for an approximately 500 meter (1500 feet) section of the “new” alignment, Option Area S as discussed in the FEIS (*Volume I(II)(K)(3)(b)*). Option Area S was investigated and its impacts assessed throughout the ASDEIS. Following the determination of National Register eligibility and boundaries of the Corricks Ford Battlefield, this slightly modified Option Area S was selected as the Preferred Alternative as a prudent and feasible alternative to the original Preferred Alternative (Line A). The ASDEIS and FEIS analyses did not reveal any substantial or negative impacts on the Fernow Experimental Forest or the Otter Creek Wilderness as the result of selection of Option Area S as the Preferred Alternative. Additional geological investigations will be performed prior to the development of the final design for this project as is standard practice. Following these investigations, appropriate designs and construction techniques will be developed. These designs and techniques will be carefully reviewed by appropriate resource agencies (including the US Forest Service and Natural Resources Conservation Service) as detailed in the FEIS (*Volume III(I)(B)*). Finally, similar highway structures have been successfully constructed in geologically and hydrologically sensitive areas (e.g., I-70 in Glenwood Canyon, Colorado).

4. Greenland Gap

One commenter expressed concern that increased access to Greenland Gap could potentially subject Greenland Gap to additional stress, including visual and noise impacts. (U.S. EPA.)

Response:

The Preferred Alternative was specifically selected because it avoids impacts on Greenland Gap. In fact, sub-scheme L2 was developed in the CSDEIS study (CSDEIS at II-17) as a Greenland Gap avoidance alternative. This sub-scheme was incorporated into Corridor D5 during selection process for the preferred corridor (CSDEIS Decision Document at Exhibit 4).

- The visual analysis prepared utilizing the FHWA's *Visual Assessment for Highway Projects* did not indicate any visual impacts to Greenland Gap. FEIS (*Volume I(VII)(p. VII-231)*). Indeed, Greenland Gap will not be visible from the highway nor will the highway be visible from Greenland Gap.
- The noise analysis reported in the FEIS (*Volume I(I)(3)(e)*) concluded that noise levels in Greenland Gap would be same following construction of the proposed highway as they would be with the No-Build alternative.
- No additional access is provided from the proposed highway to Greenland Gap. With the additional traffic expected to use the new highway some additional visitation to the Greenland Gap may occur.

5. Monongahela National Forest

Some commenters expressed concerns that increased access will subject the Monongahela National Forest to additional stress, including visual and noise impacts. (U.S. EPA, Pamela & Charles Merritt.)

Response:

From early on in the planning process for this project, avoidance of sensitive resources in and minimization of impacts to both the Monongahela National Forest (MNF) was considered important. Extensive coordination occurred with National Forest personnel which included numerous meetings and field views (*FEIS, Volume II(Tables VII-1-VII-3)*).

All management prescription areas that in the opinion of the Forest Service should be provided Section 4(f) status were avoided. All sensitive natural resources (e.g., Big Run Bog, Cheat Mountain Salamander populations) were avoided.

Noise analyses conducted at sites in the MNF for the ASDEIS indicated that noise levels would increase in the MNF from 48 dBA to 53 dBA. It should be noted that these increases were based on a worst case analysis assuming flat terrain with no intervening vegetative cover and would be less in the real situation. Even so, the predicted increases in the MNF do not exceed FHWA criteria of 67 dBA for resources designated as Activity Category B (e.g. picnic areas, parks, recreation areas). Indeed, predicted worse case noise levels, as described above, do not even exceed the 57 dBA noise abatement criteria prescribed for the more stringent Activity Category A; the most stringent outdoor criteria defined for lands on which serenity and quiet are of extraordinary significance (23 CFR 772).

Changes in some viewsheds of and from the MNF will occur. However, the analysis of visual impact presented in the ASDEIS found no visual impact to the forest and the MNF in its ASDEIS comment letter stated that, "We agree the [Preferred Alternative] will not have an

adverse impact on the visual resource of the Monongahela National Forest” ASDEIS (*FEIS, Volume II(Appendix D)*).

The proposed highway will provide a safer and more efficient method of transportation that will allow for greater access by the general public to the National Forest.

6. Olsen Fire Tower

One commenter suggested that a Section 4(f) evaluation for the Olsen Fire Tower should be prepared.

Response:

The Olsen Fire Tower is not considered a Section 4(f) resource. Moreover, the viewshed of the Olsen Fire Tower encompasses (by design) a very broad geographic area of Backbone Mountain and its environs. The Preferred Alternative (like many other non-natural structures) falls within that viewshed, but is located at a considerable distance from the fire tower; the fire tower is well outside the Area of Project Effects (APE) for the Preferred Alternative, as defined by the WVSHPO and the Advisory Council for Historic Preservation. In these circumstances, it was determined that even if the Olsen Fire Tower were a Section 4(f) resource, the Preferred Alternative would not significantly affect or impair the valuable qualities of the fire tower.

7. Otter Creek Wilderness

Some commenters stated that increased access will subject Otter Creek Wilderness to additional stress, including visual and noise impacts, and stated that a section 4(f) document is needed for the Otter Creek Wilderness Area. (U.S. EPA, Pamela & Charles Merritt, West Virginia Sierra Club, West Virginia Highlands Conservancy.)

Response:

The realignment of the Preferred Alternative in the vicinity of Corricks Ford moves the roadway somewhat closer to the Otter Creek Wilderness, but even with the realignment the effects of the Preferred Alternative on the Otter Creek Wilderness would be minimal. This conclusion is supported by the following considerations:

- The Otter Creek Wilderness is located on the western side of Fork Mountain. To access the western boundary of the Otter Creek Wilderness, the closest boundary to the Preferred Alternative, one would have to cross Fork Mountain, proceed down its eastern side, passing through the Fernow Experimental Forest crossing the Elklick Run’s watershed and proceed up the east side of McGowan Mountain to its summit which marks the western boundary of the Otter Creek Wilderness. This is a horizontal (straight line) distance of approximately 2

miles but considerably longer when vertical distances are included.

- FHWA noise regulations (23 CFR 772.) relating to Class 1 Wilderness Areas such as Otter Creek Wilderness Area fall under Activity Category A. Activity Category A is defined by lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. The noise criteria listed in 23 CFR 772 for this Activity Category is 57 dBA. Noise analyses prepared for the FEIS indicate that noise levels from the proposed highway in the Otter Creek Wilderness Areas, would not exceed the 57 dBA threshold. Therefore the proposed highway will not cause noise impacts to the Otter Creek Wilderness.
- The proposed highway would only be visible to an observer who was standing on the crest of McGowan Mountain along one approximately 200 meter (600') section of Wild Turkey Trail (located on the western boundary of Otter Creek Wilderness) looking down the mountain through approximately 3 kilometers (2 miles) of dense forest vegetation. During the summer months, it would be virtually impossible to see the highway from the trail. During the winter months, the view of the highway would continue to be obscured from this section of Wild Turkey Trail by tree trunks and shrubs.
- Proximity (4(f) constructive use) impacts to the visual environment must constitute "a substantial impairment to esthetic features or attributes of a resource" (23 CFR 771.135(p)(4)(ii). No substantial impairment of the esthetic features or attributes of the Otter Creek Wilderness will occur and therefore no constructive use will be made of the Otter Creek Wilderness Area due to visual affects.
- As discussed in the FEIS (*FEIS, Volume I(J)*), the determination of effects on specific resources resulting from improved public access depends on the point of view of the user(s) and the provider(s). However, no direct access from the proposed highway to the Otter Creek Wilderness Area is proposed.

8. Wardensville Town Park (J. Allen Hawkins Park)

One commenter stated that the Wardensville Park, while being not directly impacted, will suffer negative impacts from the road on its scenic beauty and quiet tranquillity, and requested that these impacts be considered in this Record of Decision. (Town of Wardensville)

Response:

Potential impacts to the J Allen Hawkins Park [Wardensville Park] were addressed in the ASDEIS (*ASDEIS(III)(J)(2)(d) and (III)(K)(3)*) and the FEIS (*FEIS(III)(J)(2)(d) and (III)(K)(3)*). As pointed out in the analysis of recreation and visual impacts contained in those documents: there would be no impact to the use of the park or its recreation facilities

Views of Line A [Preferred Alternative] would not interfere with current park activities. Picnicking, a visually sensitive activity, takes place in the park at the furthest point from Line A [Preferred Alternative].

The noise analysis performed for the FEIS indicated that design year noise would not exceed 54 dBA, a noise level that falls below the maximum noise abatement criteria level described by FHWA regulations (23 CFR 772) as allowable for picnic areas, recreation areas, parks and playgrounds. In fact, the predicted noise level even falls below the more stringent maximum noise abatement criteria level of 57 dBA for areas [lands] on which serenity and quiet are of extraordinary significance and where preservation of those qualities if the area is to continue to serve its intended purpose.

J. Stormwater and Flooding

Several commenters raised questions about stormwater/flooding analysis, focusing particularly on new data from a U.S. Geological Survey study concerning the Cheat River valley, which indicates that the 100-year floodplain level may be substantially higher than previously believed. The commenters requested that this new data be considered prior to issuance of the ROD, and that it be addressed in appropriate mitigation measures. Some of these commenters also specifically raised questions concerning mitigation measures for flooding events – e.g., temporary/permanent stormwater basins. (West Virginia Rivers Coalition, U.S. EPA, U.S. Department of the Interior, Pamela & Charles Merritt, West Virginia Highlands Conservancy, Corridor H Alternatives, West Virginia Environmental Council.) One commenter also expressed concerns about increased flooding in the Crystal Springs/Leading Creek drainage area near Elkins, and mentioned a possible discrepancy in the estimate of floodplain impact for the Tygart River Valley watershed, between the text and the tables of the FEIS. (U.S. Department of the Interior).

Response:

The flooding and stormwater impacts for this project, including the specific types of studies conducted and maps considered, are described in the FEIS, at III-120 to III-127. Concerns about new flood data and mitigation measures can be addressed as follows:

New Flood Data. The recent findings by the U.S. Geological Survey concern the 100-year flood concern one of the five major watersheds in the study area -- the Cheat River watershed. After considering these findings, it has been determined that, while they should be considered as appropriate in final design, they do not require supplementation of the FEIS. The basis for these determinations is described in more detail as follows:

During preparation of the EIS, detailed hydraulic studies and current FEMA floodzone maps were used to evaluate the extent to which construction of each alternative would affect

floodzones. These studies evaluated, for each watershed in the study area, each of the points at which a bridge or large culvert would be constructed across a stream. The results of these analyses are described in the FEIS, at III-120 to III-126, and in Table III-41. With respect to the Cheat River watershed, the FEIS found that:

- The Preferred Alternative would involve three stream crossings in the Cheat River watershed: a bridge over Slabcamp Run, a bridge over Black Fork River, and a culvert at Pendleton Creek. (See FEIS, Table III-41; ASDEIS Cultural Resources Technical Report, Vol. III, Sheets 9, 14, 20.)
- These three crossings, according to calculations based on information available at the time the FEIS was prepared, were predicted to result in relatively small floodplain encroachments: 0.3 hectares (0.8 acres) for Slabcamp Run, 0.2 hectares (0.6 acres) for Black Fork, 0.8 hectares (2.1 acres) for Pendleton Creek.
- These total projected floodplain encroachments are considered to be relatively small, in comparison to the portion of the Cheat River watershed within which the Preferred Alternative would be located: that portion of the Cheat River watershed in the project area defined as being within the 30-minute contour around the Preferred Alternative, covers approximately 415,000 acres. (FEIS, Table III-46).

The findings in the FEIS concerning floodplain encroachments in the Cheat River watershed are based on the official FEMA floodplain maps, which have not yet been revised to reflect any new data concerning the 100-year flood. Moreover, even if revised floodplain maps were available, and depicted substantially larger floodplain boundaries, it appears unlikely that they would materially affect the evaluation of the floodplain impacts of any of the alternatives under consideration:

- The overall magnitude of the predicted floodplain impacts from the Preferred Alternative in the Cheat River watershed is relatively low, particularly in comparison to the total size of the Cheat River watershed.
- During final design (as is standard engineering practice) detailed hydraulic and hydrological studies will be undertaken. Following these studies, bridges and culverts will be designed and sized as necessary to ensure that the construction of the stream crossings does not cause more than a one-foot rise in the predicted level of the 100-year flood. Thus, any increase in floodplain encroachments, due to an increase in the size of the 100-year floodplain, will be offset by modifications in the design of the roadway – e.g., larger culverts and longer bridges, in order to allow a greater volume of water to flow under the roadway during peak flood periods.
- Resource agencies will be involved in the final design process, and thus will have an opportunity to ensure that appropriate flood data are used for purposes of mitigating floodplain impacts. (See Mitigation Document.)

Mitigation. Temporary and permanent stormwater measures are not developed until final design. They will be developed section by section as final design for the Preferred Alternative proceeds. These final designs will be reviewed and commented on by those Federal and state agencies charged with protection of the environment. Commitment to this review and comment process was included in the FEIS (*Volume III*). Temporary stormwater control measures will be made permanent as advanced hydrological studies require.

Consistency of Estimates in FEIS. In a complex and lengthy environmental review process, it is expected that some minor inconsistencies may occur between different parts of the study document. Based on a review of the FEIS, including the pages noted by the commenter, it has been determined that the discussion of existing conditions and potential impacts in the FEIS is fundamentally sound and provides a sufficient basis for the evaluation of alternatives and the selection of the Preferred Alternative in this Record of Decision.

K. Streams and Water Quality

One commenter stated that flow patterns in headwaters will be changed due to road construction, and asked what specific measures will be taken on those streams already identified to be at their threshold levels of sediment load for aquatic life e.g., brook trout. (West Virginia Rivers Coalition.) Another commenter requested that the Record of Decision clarify the definition of intermittent streams as it pertains to siting disposal areas and stormwater management facilities. (U.S. EPA.)

Response:

Flow patterns in headwaters will not be changed. Careful calculations are carried out during final design to maintain natural flow patterns throughout a watershed.

Advanced control methods of sedimentation will be employed throughout the project. These are discussed in the FEIS (*Volume III(I)(D) and (II)*). Methods such as those described in that document have been successful in other highway projects (e.g., Snake River Canyon Highway, Wyoming) in controlling erosion. Additionally, water quality, including sediment loads, will be rigorously monitored as described in the FEIS (*Volume III(I)(D)*) for both long term and short term impacts. Should sedimentation appear problematic, additional sedimentation control measures will be developed and implemented.

The definition of perennial and intermittent streams was clearly defined in the ASDEIS technical report entitled *Alignment Selection SDEIS Streams Technical Report*. It states that, "Streamswere classified as perennial if the West Virginia regulatory definition was met. In West Virginia, intermittent streams are defined as "streams which have no flow during sustained periods of no precipitation and which do not support aquatic life whose life history requires residence in flowing waters for a continuous period of at least six (6) months" (Title 46, Series 1,

Section 2.5). The definition of a perennial stream therefore is a stream which has flow during sustained periods of no precipitation and which does support one or more species of aquatic life which require residence in flowing waters for greater than six months.” This definition will be the definition applied to perennial streams as referred to in the Mitigation Document (*FEIS, Volume III: Mitigation Document*). It will be inserted into the Mitigation Document so that no confusion exists during final design. Additionally, the location of streams, as well as other sensitive resources, will be provided to contractors “by inclusion of mapping in contract bid packages indicating the location of [these] sensitive resources” (*FEIS, Volume III(E)(1)*). That mapping will be produced using project developed GIS which identifies streams as defined above.

L. Wild and Scenic Rivers

Several commenters requested additional consideration and analysis of impacts on Shavers Fork and the South Branch of the Potomac River, given the adjustment in the alignment of the Preferred Alternative in the vicinity of Corricks Ford. Some of these commenters requested additional information concerning the structures that will be used to minimize cuts into the hillside above Shavers Fork, and expressed uncertainty about whether the Preferred Alternative would use such structures or involve deep hillside cuts. (West Virginia Rivers Coalition, Pamela & Charles Merritt, West Virginia Environmental Council, West Virginia Highlands Conservancy.)

Response:

The *FEIS(Volume III(S)(3)(a))* thoroughly discussed the issues concerning the Shavers Fork River and the Corricks Ford alignment shift referred to in the *FEIS* as modified Line S. There has been no change of location for the crossing of the South Branch of the Potomac River by the Preferred Alternative and therefore no additional analysis or discussion is required.

The highway will not be visually intrusive nor will it substantially impair the view from the Shavers Fork River. Advanced engineering designs that will be incorporated into the section of the highway along and above Shavers Fork River during final design will “blend” the highway into the contours of Fork Mountain. Cuts into the mountain will be minimal. The thick forest cover on the western side of Fork Mountain with trees ranging from 15-25 meters (50 - 80’) in height will provide a vegetative buffer between observers on the river and the highway. The bridge will cross Shavers Fork River approximately 60 meters (200’) above the surface of the water. The bridge will not substantially impair the view along the river.

The special structures along Fork Mountain parallel to Shavers Fork River have not been specifically designed. Structures for this area were considered and found feasible. They were “designed” at the same level of detail as each of the other structures that were discussed in the *FEIS* (e.g., bridges discussed in Section R - Streams). Specific designs are developed at a later stage in all projects and is termed final designs. Final design plans will be presented to the

regulatory agencies for their review and comment as discussed in the FEIS (*FEIS, Volume III(I)(B)*).

The discussion referred to on page III-491 of the ASDEIS was not related to the impossibility of constructing Line S. The shift discussed on that page was discussed in terms of shifting Line A to avoid two bridges over Shavers Fork. The discussion of the shift on page III-491 states in part that, "The shift would eliminate the two crossings of Shavers Fork at Porterwood because the shifted alignment [of Line A] would need to tie in to Line S of the Shavers Fork Option Area." Because the shift was described as needing "to tie into Line S of the Shavers Fork Option Area", the shift clearly could not be Line S. The actual quote concerning "impossibility" was, "The feasibility of constructing the shifted alignment in this location would likely be impossible due to the severe terrain and the excavation required". Finally, the detailed discussion of Option Area S in the ASDEIS (*ASDEIS(II)(b)*) makes no mention of the "impossibility" of its construction.

M. Role Of Environmental Monitor

One commenter requested that the Environmental Monitor, under the Mitigation Document. Be required to submit quarterly reports to resource agencies. (U.S. EPA.) Another commenter addressed the issue of who would select the environmental monitor. (West Virginia Environmental Council.)

Response:

The Environmental Monitor will submit quarterly reports to the agencies in addition to those other duties and report submissions discussed in the FEIS (*FEIS, Volume III(I)(D)(1)*) which include:

- Monthly reports to agencies on water quality monitoring during highway construction (*FEIS, Volume III(I)(D)(1)*)
- Yearly reports on long-term water quality impact investigation (*FEIS, Volume III(I)(D)(2)*)
- Yearly reports on reclamation success (*FEIS, Volume III(II)(D)(3)*).

The environmental monitor will be selected prior to the commencement of final design activities. The person chosen as the environmental monitor will be responsible for those duties described in the FEIS (*Volume III(I)*). Selection of the person(s) to fill that position will be contingent on their professional abilities to perform those duties.

N. Safety

One commenter stated that control of access on the Preferred Alternative would be inconsistent, so that encounters of high speed traffic and slow-moving vehicles entering from the side would be frequent. (West Virginia Highlands Conservancy.)

Response:

Control of access on the Preferred Alternative would not be inconsistent. This issue was discussed in detail in the ASDEIS (*ASDEIS(II)(B)(3)*) and the FEIS (*FEIS(II)(H)(1)*). The latter document states in part that, "Proper access conditions are an essential element in establishing a network of basic transportation facilities. In general, access to the four-lane facility would be partially controlled by at-grade intersections or interchanges, where required, by traffic projections. Access points would be generally limited to a maximum of two per side per 1.6 kilometers (per mile) of the proposed facility, with a limiting distance of approximately 3.2 kilometers (2 miles) between interchanges for safety purposes. A minimum distance of 610 meters (2,000 feet) would be maintained between access points, where possible. If warranted, the existing roads, would be upgraded in the areas near an access point, to insure proper sight distances."

O. Secondary and Cumulative Impacts

One commenter stated that secondary and cumulative impacts will be greatest in Virginia, such that residents in that area will bear a disproportionate share of the environmental burdens with none of the transportation benefits of a 4-lane highway. (West Virginia Sierra Club.)

Response:

The secondary and cumulative impacts of the Build Alternative and the IRA were examined for the entire corridor – Elkins WV to I-81 in Virginia – in the ASDEIS Secondary and Cumulative Impacts Technical Report. As discussed in the FEIS, at IV-8, traffic assumptions for the Build Alternative and the IRA in Virginia are identical to traffic projections for Route 55 in Virginia if the Preferred Alternative is constructed. Thus, predictions of secondary and cumulative impacts in Virginia (i.e., growth inducement) for the Virginia sections of the Build Alternative and the IRA are reflective of the secondary and cumulative impacts that would result in Virginia if the Preferred Alternative is constructed in West Virginia. Indeed, to the extent that the Levels of Service on Route 55 are somewhat lower than the Levels of Service would have been on the Build Alternative or the IRA in Virginia, it can be expected that the Preferred Alternative will cause somewhat less secondary and cumulative development in Virginia than would have been caused by the Build Alternative or the IRA in Virginia. Thus, further study of secondary and cumulative impacts in Virginia is not required.

P. Social Impacts

1. Community Cohesion.

One commenter challenged the finding that there would be no impact to the towns of Davis and Thomas in terms of community cohesion. (West Virginia Highlands Conservancy.) Another commenter stated that the ROD should assess whether

low income populations bear a disproportionate share of relocations associated with construction. (West Virginia Sierra Club.)

Response:

The current roadways that connect the towns of Davis and Thomas will not be severed by the Preferred Alternative. Therefore, movement patterns and thus cohesion between these two communities will not be disrupted. As to the individual communities, it was concluded in the FEIS (III-24) that while community cohesion of the individual communities would not be affected that each of the communities "have businesses that are traffic related such as motels, gas stations or retail stores that could be attracted to the new Corridor H."

As discussed in the FEIS (*Volume I(IV)(A)(2)(a)*), the approximately 19% of the population below the poverty level in the project area is distributed evenly over the area. There are no concentrations of low income people that will be disproportionately affected. Indeed, as discussed in other responses above, one of the purposes of the APD highway system is to provide economic opportunities for low income populations.

In summary, adequate study and consideration of impacts on low-income and minority populations was performed and reported in the FEIS (page III-27, section C.2.e and pages IV-2 and 3, section 2.a), in compliance with Executive Order 12898 on Environmental Justice. Although there are no concentrations of low-income or minority populations within the study corridor, the Preferred Alternative will result in fewer overall displacements of residents, businesses, and other corridor occupants than the Improved Roadway Alternative.

IV. ADDITIONAL ISSUES

A. Logical Termini

Some commenters questioned whether the state line provided a logical terminus for the project, and suggested that it was inappropriate to “redefine” the project termini in the FEIS. (West Virginia Highlands Conservancy and West Virginia Sierra Club.)

Response:

The West Virginia/Virginia state line is a logical terminus for the construction of the Corridor H project, since the four-lane highway could be easily linked at that point to a two lane highway (Virginia Route 55) that would lead directly to I-81. It should be emphasized, however, that for purposes of determining the scope of the NEPA documents, Elkins, WV and I-81 in Virginia have been used as the logical termini for this project – i.e., the impacts of the Build Alternative and the IRA were examined for the entire length of Corridor H, from Elkins to I-81.

After the Virginia Commonwealth Transportation Board decided not to recommend a preferred alternative for Corridor H in Virginia, additional analyses were conducted concerning (1) logical termini, (2) purpose and need, and (3) environmental impacts. (See FEIS, Section IV.) Based on these analyses, a version of the Build Alternative that runs from Elkins, WV to a point just west of the West Virginia/Virginia state line was selected as the Preferred Alternative. As discussed in Section IV of the FEIS, the Preferred Alternative effectively addresses the need for this project.

B. Analysis of Impacts Associated with Road Improvements in Virginia

One commenter stated that the decision to drop the fourteen-mile segment of the project in Virginia and build a four-lane highway to the Virginia/West Virginia border is a significant change in the project that has environmental consequences that have not been evaluated in the FEIS. For example, the FEIS notes that a number of transportation improvements may be necessitated to transition from a four-lane highway to the two-lane portion of Route 55 in Virginia. (Corridor H Alternatives.)

Response:

The FEIS, in comparison to the ASDEIS, has been extensively revised to address the Virginia Commonwealth Transportation Board's decision not to recommend a preferred alternative for the Corridor H project in Virginia. These changes fall into two general categories:

- First, the body of the FEIS and the corresponding tables and exhibits have been revised throughout to distinguish data for West Virginia from data for Virginia. (See FEIS at I-1.) For example, Table III-46, which addresses land cover and habitat units lost to predicted development, has been reformatted to present data for West Virginia and Virginia separately. (FEIS, Vol. II, at T-95.)
- Second, Section IV of the FEIS contains a revised and expanded discussion of the implications of Virginia's decision for this project. The discussion in Section IV focuses on three key issues: (1) logical termini, (2) purpose and need, and (3) environmental impacts. (FEIS at IV-1 to IV-9.)

The FEIS does not attempt to specify the particular road improvements that may be made by Virginia on the section of Route 55 between the state line and I-81, nor does it specifically evaluate the environmental impacts associated with such improvements. However, the FEIS provides detailed analysis of the environmental impacts of the Build Alternative (a four-lane divided highway) and the IRA (a two-lane undivided highway) in Virginia.

⇒ Since each of those alternatives would have followed the route of the existing Route 55, and would (if anything) have caused greater environmental impacts than would be caused by safety-related improvements, the discussion in the FEIS provides an adequate depiction of the environmental impacts that could be caused by safety-related improvements to Route 55 in Virginia.

Finally, it should be noted that road improvements on Route 55 are not "necessitated" by the Preferred Alternative: while such improvements would undoubtedly facilitate the traffic flow between the state line and I-81, the WVDOH and FHWA have determined that Route 55 in its existing condition could accommodate the traffic from the Preferred Alternative.

C. Levels of Service in Virginia

One commenter noted that VA 55 will operate at a Level of Service rating of E during peak flows, and that a LOS E generally is considered unacceptable. The commenter stated that the transition from 4 to 2 lanes creates "loaded gun" impacts in Virginia. (West Virginia Sierra Club.)

Response:

While LOS E is predicted for very limited portions of Route 55 during peak hours, the majority of Route 55 would operate at LOS D or better (e.g., LOS C) at all times. Thus, while road improvements would undoubtedly facilitate the traffic flow between the state line and I-81, Route 55 in its existing condition could accommodate the traffic from the Preferred Alternative. Because the road improvements on Route 55 do not "necessitate" construction of the Preferred Alternative, it is incorrect to characterize the Preferred Alternative as presenting a "loaded gun"

that coerces future transportation decisions in Virginia. In any event, the "loaded gun" concept is used in determining whether a project has been improperly segmented for purposes of environmental review -- not for purposes of actual construction. In this case, environmental analysis was conducted for the entire length of Corridor H, including the portion in Virginia, for both the Build Alternative and the IRA. Thus, even if the Preferred Alternative did necessitate construction of a four-lane highway along Route 55 in Virginia, the impacts associated with such construction in Virginia have been adequately examined in this study process.

D. Construction Costs Compared to Other Projects

One commenter stated that the total cost of the project would be approximately \$1.1 billion, equal to all Appalachian Regional Commission expenditures in West Virginia from 1965 to 1995. (West Virginia Highlands Conservancy.)

Response:

The predicted cost of the Corridor H project is comparable to the cost of other highway projects under construction in comparable geographic areas today, including other components of the Appalachian Development Highway System that recently have been constructed (or are in the planning stages) in West Virginia.

E. Categorization of Public Comments

One commenter stated that the summary of public comments in the CSDEIS Decision Document was misleading and inaccurate, because it implied that the majority of the public supported the construction of Corridor H. (West Virginia Sierra Club, David Ostergren.)

Response:

Rather than being categorized based upon their support for, or opposition to, the project, comments received on the FEIS have been considered in the official decisionmaking process and have been made a part of the official record in their original form. In addition, all comment sheets, written letters, and oral comments received by FHWA during the comment period on the CSDEIS have been made part of the record in their original form and have been and are available for public review.

F. Description of Public Involvement Process.

One commenter stated that the description of the public involvement process in the FEIS fails to meet the minimum standards for useful analysis. (West Virginia Sierra Club.)

Response:

The description of the public involvement process may have been too abbreviated. However the public involvement process from project scoping through and including the FEIS was extensive and continuous. This includes public informational meetings held in Elkins, Moorefield, Bismark, Canaan Valley, Wardensville and Strasburg during the corridor selection process. These meetings began in the afternoon and extended into the evening to allow for maximum participation. At those meetings, over 7000 executive summaries were distributed. Additionally, copies of the CSDEIS and its voluminous Technical Reports were available for free distribution. Over 3000 copies of the CSDEIS were distributed. Over 3000 citizens attended these meetings; many people requested and were given multiple copies of the executive summary to distribute to neighbors, citizens groups, etc.

Public informational meetings were also held throughout corridor D5 during the development of the ASDEIS to receive the public's comments on alternatives developed. These meetings were held at Elkins, Moorefield, Canaan Valley, Wardensville and Strasburg. The meetings were held in a workshop format that allowed for maximum interaction with the over 1500 public attendees. Comment sheets were also developed and comments collected. Following completion of the ASDEIS, over 2000 copies of it and, if requested, its voluminous technical reports, were distributed. Public meetings/hearings were held following circulation of the ASDEIS. These public meetings/hearings were held at the same locations. Additional copies of the ASDEIS and its Technical Reports were available and distributed. Finally, throughout the project a toll free number was available for citizen input/information.

G. Adequacy of Responses to Comments on CSDEIS and ASDEIS

Some commenters stated that the responses to comments on the CSDEIS and the ASDEIS were incomplete, misleading, and otherwise unacceptable with regard to a variety of issues, and particularly with respect to the Otter Creek Wilderness, and requested that the Record of Decision address each of these issues. (West Virginia Sierra Club, West Virginia Highlands Conservancy, Corridor H Alternatives.)

Response:

Comments on the CSDEIS and ASDEIS received specific and detailed responses in the FEIS, and, where appropriate, revisions were made in the body of the FEIS. To the extent that any additional clarification was needed with respect to particular issues, it has been provided in this Record of Decision.

H. Improvement of Local Roads Near Wardensville.

One commenter stated that the narrow uneven roads (Trout Run Road and Waites Run Road) that are scheduled to connect Wardensville to H, if left unimproved,

would choke off access to further business development and tourism in our town and eastern Hardy and Hampshire counties. The Town stated that these roads should be improved simultaneously with construction of Corridor H. (Town of Wardensville.)

Response:

Improvement of local roads as it relates to access to the new facility and to and from the new facility to important community economic generators will be considered during the development of the state's transportation improvement program.

I. Discussion of Non-Environmental Factors Relevant to Decision

One commenter stated that the CEQ regulations require that an EIS "at a minimum indicate those considerations, including factors not related to environmental quality, which are likely to be relevant and important to a decision." (West Virginia Highlands Conservancy.)

Response:

The FEIS complies fully with this requirement, by discussing the transportation and economic development needs that have been taken into account in selecting the Preferred Alternative. As discussed elsewhere in this Record of Decision, it is not necessary to provide a quantified cost-benefit analysis for this project.

J. Discussion of Irreversible and Irretrievable Commitments of Resources

One commenter stated that NEPA requires a "detailed statement" of "any irreversible and irretrievable commitments of resources which would be involved in the proposed action," and asserted that the summary of this issue in the FEIS is not enough to satisfy NEPA. The commenter also stated that to the extent that the FHWA's T6640.8A guidance allows this issue to be addressed in "general terms," the guidance violates NEPA. (West Virginia Highlands Conservancy.)

Response:

The entire FEIS explains, in various ways, the "irreversible and irretrievable commitments of resources which would be involved in the proposed action." Thus, although the discrete discussion of this issue in the FEIS (III-AA, at III-256) is not lengthy, the FEIS as a whole provides more than ample examination of "irreversible and irretrievable commitments" involved in the Preferred Alternative.

K. Concerns About the Effect of the Preferred Alternative on Property Owners

Some commenters expressed concerns about the effect of the Preferred Alternative on their property, and provided specific recommendations for adjustments in the alignment. (Allen R. Fonsler, Donald E. Thorne, Jr.).

Response:

The Preferred Alternative has been designed to avoid and minimize, wherever possible, the need for relocation of homes and business. See FEIS, at III-29 to III-31. During final design, additional opportunities will be provided for property owners, to raise specific concerns, and efforts will be made to accommodate those concerns in selecting the final design of the highway.

L. Plans for Corridor H in Virginia

One commenter stated that Virginia has no plans to proceed with construction of Corridor H in Virginia at this time and did not select any of the four-lane Build Alternatives or the Improved Roadway Alternative. (Virginia Department of Conservation and Recreation.)

Response:

The implementation of the Preferred Alternative is not conditioned upon, and does not necessitate in any way, the construction of additional road improvements in Virginia. As discussed elsewhere in this Record of Decision, it has been determined that existing Route 55 in Virginia is adequate to accommodate the traffic levels that are anticipated under the Preferred Alternative. (See FEIS, Section IV.)