

US 19 Shady Spring to Beaver Project (Beckley Z-Way)

Environmental Assessment

Raleigh County, West Virginia

State Project: X341-ZWA/Y 1.00 00

Federal Project: STP-0019(419)D

**U.S. Department of Transportation
Federal Highway Administration**



**West Virginia Department of Transportation
Division of Highways**



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ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to 42 USC 4332(2)(c) by the U.S. Department of Transportation, Federal Highway Administration
and the West Virginia Department of Transportation - Division of Highways

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FOR WEST VIRGINIA DIVISION OF HIGHWAYS

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FOR FEDERAL HIGHWAY ADMINISTRATION

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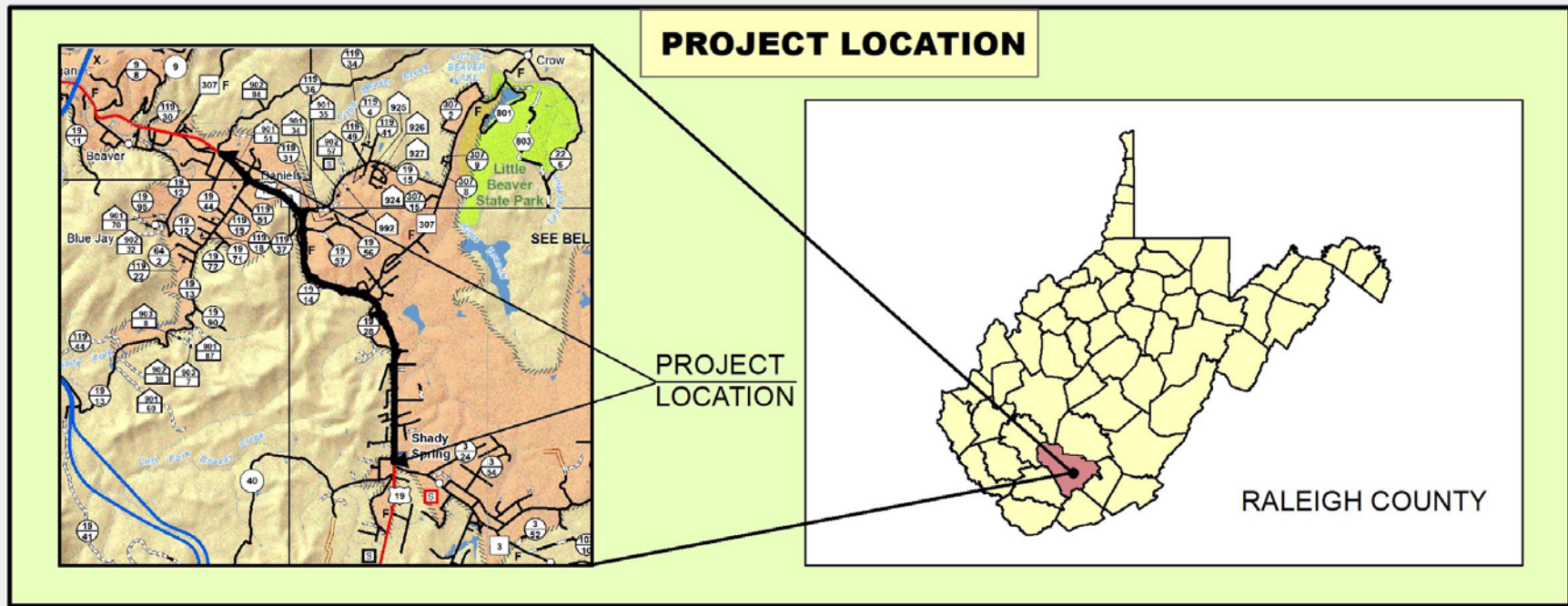
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INTRODUCTION

The West Virginia Division of Highways (WVDOH), in cooperation with the Federal Highway Administration (FHWA), proposes to widen US 19, approximately two miles south of Beckley. Beckley is the Raleigh County seat and a major center for residential, commercial, and tourism development in southern West Virginia. The purpose of the project is to provide operational improvements along US 19 between Shady Spring and Beaver to correct geometric deficiencies, reduce crashes, and reduce congestion. The proposed project is part of a regional program of similar transportation initiatives being undertaken by the WVDOH within the US 19 corridor. That program of projects is commonly referred to as the Beckley Z-Way. The Z-Way program will improve traffic operations within the corridor and provide needed congestion relief to the City of Beckley and southeastern Raleigh County.

The project is located along US 19 between the towns of Beaver and Shady Spring. The northern terminus is located in Beaver just south of the intersection of US 19 (Flat Top Road) and WV 307 (Airport Road) and the southern terminus is located in Shady Spring in the general vicinity of the intersection of US 19 and WV 3 (Hinton Road) for a distance of approximately 4 ½ miles. The existing two-lane road will be widened in most locations, but in a few locations, US 19 will be partially shifted. Any related Z-Way projects will have independent functional utility and logical termini. Other Z-Way projects may result in a new highway alignment requiring separate engineering design and *National Environmental Policy Act of 1969* (NEPA) analyses.





This Environmental Assessment (EA) is being prepared by the WVDOH, in conjunction with the FHWA, to fulfill requirements of NEPA and related transportation development laws. NEPA requires that the potential for environmental impacts be assessed for every federal action that *could significantly affect the quality of the human environment*. WVDOH has initially determined that the project will displace some residences and businesses and could impact historic resources.

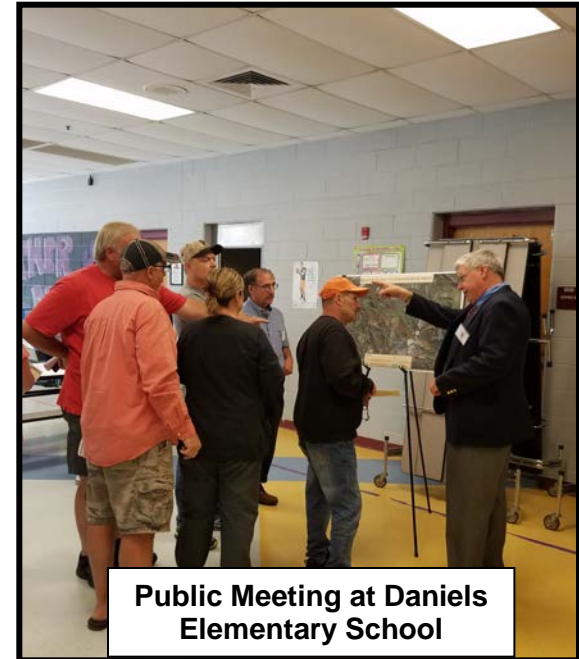
Early in the study process, the significance of the impacts were unclear. Therefore, the project was being advanced with an EA which is the appropriate NEPA document when the significance of the potential environmental impact is not clearly established.

HOW HAS THE PUBLIC BEEN INVOLVED IN THE PROJECT?

A public informational meeting for the project was held on May 22, 2017, at the Daniels Elementary School in Beaver in conjunction with an adjacent Z-Way project, the Beaver to South Eisenhower Drive Project. The goal of the meeting was to present current information on the project, answer questions from the public, and listen to ideas or concerns from community residents and businesses. The meeting complied with the public involvement requirements of NEPA and Section 106 of the *National Historic Preservation Act*.

Approximately 150 people attended the public informational meeting where the WVDOH showed the public four potential alternatives for the project which are described further in this report. All information presented at the meeting was also available online at the WVDOH project website (<http://go.wv.gov/dotcomment>).

Written comments were received from 13 individuals or businesses, either at the meeting, through subsequent correspondence, or from online forms. People providing comments offered engineering ideas for the project (including construction of a four-lane roadway instead of only expanding to three lanes), or expressed concern about future traffic movements, potential future flooding, and possible residential and commercial displacements. Copies of the materials presented to the public are included in this EA as Appendix A.



WHAT IS THE PURPOSE AND NEED FOR THIS PROJECT?

The purpose of the project is to provide operational improvements along US 19 between Shady Spring and Beaver to correct geometric deficiencies, reduce crashes, and reduce congestion. US 19 is a rural arterial roadway, one of the principal north-south

routes in Raleigh County and the major local access route for the southeastern corner of the county. The project is needed to assure safe and efficient transportation access by correcting geometric deficiencies, decreasing crash incidents, and reducing traffic congestion; and to assure adequate emergency response times for ambulance, police, and fire services. Although not a specific need of the project, it will also support economic development.

Geometric Deficiencies

The corridor contains geometric deficiencies that need to be addressed to maintain a safe and efficient roadway. The properties within the corridor have unrestricted highway access to US 19 and many driveways are closely spaced together, creating vehicle conflicts along the road's entire length. Compounding the issue of unlimited access, several of the side roads with US 19 enter on a skewed intersection, an undesirable situation for modern traffic, especially along heavily travelled roadways with limited sight distance. Shoulder widths are narrow or non-existent in many locations and many of the utility poles that dot the landscape are immediately adjacent to the shoulders.

Crash Incidents

Crash rates in the area are higher than statewide averages for similar roadways. A design study conducted for all of the Z-Way projects showed that several segments along existing US 19 have accident rates higher than the statewide average (WVDOH 2014). Nearly 60 percent of the vehicle crashes in the corridor are vehicular rear-end collisions, a clear indication for the need to provide turning lanes. Another 15 percent of the crashes are either “access conflicts” or occurred during left turn movements (WVDOH 2014). A copy of the design study is included in this EA as Appendix B.



Traffic Congestion

Roadway capacity is inadequate to meet current and future needs. The limited roadway capacity on US 19 creates heavy congestion along the road that often spills onto adjoining side roads. This occurs not only during peak travel times, but also throughout the day causing back-ups at many intersections in the corridor. Not only does this reduce driver comfort and satisfaction, but together with the geometric deficiencies found along US 19, creates an unsafe condition for motorists.



Average daily traffic (ADT) on US 19 ranges from 13,783 vehicles in Shady Spring to 20,070 vehicles near Airport Road (WVDOH 2014). ADTs south of the Glade Springs Resort, a principal traffic generator on this stretch of US 19, are approximately 14,000-15,000 vehicles. North of the resort, ADTs increase from approximately 16,000 to approximately 20,000 (WVDOH 2014).

Emergency Response Times

Movement of emergency vehicles through the corridor is hampered by traffic congestion and geometric deficiencies. Emergency vehicles are slowed by the congestion and the limited shoulders prevent other vehicles from yielding the travel lane to emergency responders. The National Fire Protection Association has developed a set of codes and standards that call for first responders to arrive on the scene of an emergency within four minutes at 90 percent of the time (NFPA 2016). Past studies on emergency response management have shown a higher survival rate of patients if medical procedures are initiated within four minutes and if definitive care is provided within eight minutes (Eisenberg, Bergner, and Hallstrom 1979). While local fire companies and other first

responders endeavor to do this, traffic sometimes affects their success meeting this suggested response standard. In a study conducted by the Mountain-Plains Consortium, narrow roads and poor intersection geometry were often cited as a risk factor for safety and delay to EMS providers (MPC 2014).

Police service in Beaver, Daniels, and Shady Spring is provided by the Raleigh County Sheriff's Office and the West Virginia State Police. The Sheriff's Office is located at 201 S. Eisenhower Drive in Beckley, about 4 miles from the project's northern terminus. The West Virginia State Police Troop 6 is located at 105 Pinecrest Drive in Beckley, about 3 miles from the project's northern terminus.

Fire protection service to the area is provided by the Beaver Volunteer Fire Department (VFD), the primary fire department in the community. The Beaver VFD main station is located at 147 Third Street, Beaver, and a secondary station is located at 162 Industrial Park Road. Both locations are outside the project corridor.



Two hospitals serve the community, Raleigh General Hospital and Beckley Appalachian Regional Hospital. Both are located in Beckley, about 6 miles north of the project's northern terminus.

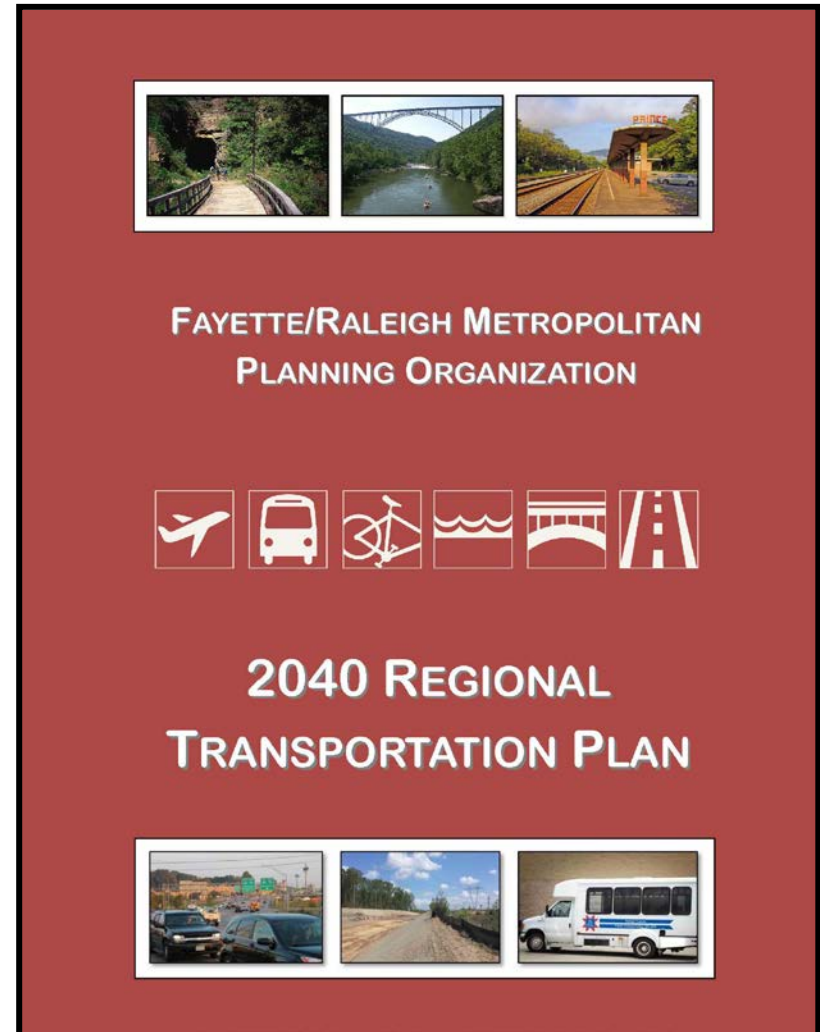
IS THE PROJECT CONSISTENT WITH OTHER AREAWIDE PLANS?

The proposed project is consistent with the *West Virginia Multi-Modal Statewide Transportation Plan* (WVDOH 2010), West Virginia's principal long-range transportation planning document. The *West Virginia Multi-Modal Statewide Transportation Plan* is a policy document that evaluated current needs, revenue, and expenditures across all transportation modes. One of the major goals of this plan is to develop a modern transportation system that supports economic development goals and serves the needs of West Virginia citizens.

The project is listed in the *Statewide Transportation Improvement Program (STIP) 2016-2021*. The STIP is the state’s plan of action for funding transportation projects. It includes a wide variety of projects including roadway, bridge, bicycle, pedestrian, safety and public transportation (transit) projects (WVDOH 2016).

At the regional level, the project is also consistent with both the *Fayette/Raleigh Metropolitan Planning Organization 2040 Regional Transportation Plan* and the *2015-2017 Strategic Plan*. The long range transportation plan has been developed by the Region I Planning and Development Council to identify the projects and programs needed to provide an efficient, effective and functional transportation system to serve residents, businesses, and visitors (RIPDC 2015). The Region I Planning and Development Council is the administrative arm of the area’s official metropolitan planning organization. The Shady Spring to Beaver Project has a prominent position within the long range transportation plan. The strategic plan was developed by the New River Gorge Regional Development Authority. One of the major goals of this plan is “to connect communities to external resources” (NRGRDA 2014). Raleigh County is one of four counties that are members of the Authority.

At the local level, the project is consistent with both the *Raleigh County Land Use Master Plan* and the *Raleigh County Comprehensive Plan*. The land use master plan identifies the US 19 corridor south of Beckley as one of the five top development areas in the county (OCCD 2013). Although it has not been updated



FAYETTE/RALEIGH METROPOLITAN
PLANNING ORGANIZATION

2040 REGIONAL
TRANSPORTATION PLAN

since it was first written, one of the major goals of the comprehensive plan is “to maintain and further develop a highway system which will provide adequate access to all areas of Raleigh County (RCC 1997). Similar to other communities in West Virginia, development has been shifting over the past several decades from central business districts to other parts of the local community. Although downtown Beckley remains strong, some of its businesses have transitioned south to US 19 and other, newer businesses have joined them there. With other community and highway infrastructure in place, US 19 south of Beckley is a limiting factor for continued economic development in the corridor and Raleigh County as a whole. While there is considerable growth and redevelopment potential in the corridor, efficient access to attractive commercial and residential areas is not present due to the existing conditions on US 19.

WHAT ALTERNATIVES WERE CONSIDERED?

The Shady Spring to Beaver Project will widen existing US 19 from WV 3 (Hinton Road) in Shady Spring to WV 307 (Airport Road) in Beaver from two lanes to three. Preliminary traffic studies conducted by WVDOH showed that a three-lane roadway would be appropriate for this section of US 19. A three-lane configuration allows for a through-lane in each direction and continuous left turn lanes throughout the corridor. The through-lanes are 12 feet wide and the continuous turning lane is 14 feet wide. Some vertical and horizontal alignment adjustments to the existing roadway profile are also necessary to improve safety.



The speed limit on existing US 19 varies from 40 mph to 50 mph. Consequently, a 45 mph design speed was chosen for the development of alternatives. The functional classification of the road is Rural Arterial. Based on FHWA transportation planning criteria, rural arterials generally serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel; connect urbanized areas; and provide an integrated network of continuous routes (FHWA 2018). In addition, this section of US 19 carries considerable local traffic and provides access to many adjacent buildings and properties.

The following six alternatives were examined for the project:

- **Alternative 1, the No-Build:** Under Alternative 1, minor improvements may be undertaken to preserve the existing roadway and maintain traffic. There could be spot improvements along US 19 when necessary, but generally no major work will occur to modify existing conditions. The No-Build Alternative is always carried throughout the alternatives analysis and environmental consequences processes to provide a baseline comparison for any future improvements and a benchmark to judge the potential environmental impacts of the project.

- **Alternative 2:** Under Alternative 2, US 19 is widened to both sides of the road along the existing alignment. Initially, Alternative 2 was developed with no horizontal or vertical changes to the present alignment. The 45 mph design speed cannot be met with this alternative as originally developed. Despite that, early in the design process, Alternative 2 showed the most promise as a solution to existing roadway problems and was later modified to lessen its potential impact on the community. Changes in both the vertical and horizontal alignments were introduced to avoid existing landscape features. Physical elements of transportation systems management (TSM) were also incorporated into the modified alternative. TSM is fully discussed later in this EA. By avoiding existing residences, businesses, and environmental features to the greatest extent possible, Modified Alternative 2 minimizes the project's socioeconomic and environmental impact.

- **Alternative 3:** With Alternative 3, US 19 will also be widened to three lanes. As with Alternative 2 and Modified Alternative 2, this alternative will have two continuous through-lanes, a continuous left-turn lane, and incorporate TSM elements into the design. The typical section will be identical to Modified Alternative 2. All of the widening, however, will occur west of the existing roadway. Thus, all of the impacts to the environment and properties will be borne on that side of the road. To meet the 45 mph design speed, additional construction is undertaken to reduce the roadway's horizontal curves.

- **Alternative 4:** Alternative 4 is similar to Alternative 3, but the widening occurs to the east, opposite the areas to be widened in Alternative 3.

- **Alternative 5:** Alternative 5 also widens US 19 to three lanes to the west of the existing road. Two of the lanes will be continuous through-lanes and the third lane will be a continuous left-turn lane. Unlike Alternative 3, Alternative 5 includes curbs and gutters instead of an open design. In general, the use of curbs and gutters for the entire length of the design will result in a smaller project footprint than the roadside ditch typical. The main advantage of using curbs and gutters is that property access is easier and impacts to the adjacent properties are often minimized. This is especially true in urban areas, but not always the case in suburban/rural areas like the US 19 corridor south of Beckley. Curbs and gutters are more costly to construct, however, and require a more costly roadway drainage system utilizing curb inlets instead of roadside ditches and ditch inlets. Besides higher design and construction costs, a curb and gutter drainage system has higher continuing maintenance costs to keep the system functioning properly.

- **Alternative 6:** Alternative 6 is similar to Alternative 5, including curbs and gutters, but the widening of US 19 will occur to the east of the current alignment.

Each of the build-alternatives included elements of TSM. Through better management of the existing transportation system, TSM improvements may provide better operational control of existing levels of congestion. Often erroneously considered to always be a low-cost improvement, TSM alternatives can, in fact, be quite expensive. Typically, they include grade separations, widening shoulders, minor realignments, signalization, channelization, pavement striping, and/or adding turning lanes. They can also include improvements related to ridesharing, bicycling, or pedestrian access. Capital improvements are often combined with other transportation enhancements to provide better overall transportation than any individual improvement strategy can achieve.

Preliminary consideration was also given to a mass transit alternative, especially because the area has some public bus service now. Public transportation in Raleigh County is provided by the New River Transit Authority (NRTA) and the Raleigh County Community Action Association (RCAA). The service is limited, operating from 8 AM to 4 PM on weekdays only. This allows for certain types of personal trips and some work commutes. Ridership on the entire transit system is about 3,000 people per month (NRTA 2017). Specifically, the NRTA “Raleigh West” route provides regularly scheduled bus service along US 19 from Beaver to Shady Spring on Mondays and Wednesdays only. Vehicles will deviate up to 3/4 of a mile off the route to pick up passengers at their origin or destination, but there are no plans for significant service expansion in the area.

Added bus service will not correct the geometric conditions found on US 19. It is possible that more buses, even mini-buses, mixing with other traffic on the road will aggravate existing issues, albeit to an extremely minor degree. Furthermore, past transportation research has determined that mass transit alternatives are only relevant in areas with a population of over 200,000 (FHWA 1987). The current population of Raleigh County is slightly more than 78,000. Even if existing bus routes were expanded to daily service, the residential and commercial densities within the heart of the project area would not easily support public transit. While some people in the area would utilize bus service if it were available, the level of service that could be offered under current budget capacity would likely be low. Without significant schedule headways, expanded bus service would fail to attract enough ridership to have any effect on the amount of car usage along US 19. Most people will still use their cars rather than commute by local bus. Without eliminating a significant amount of traffic, emergency response vehicles will still be delayed by existing traffic congestion.

Thus, the mass transit alternative was shown to be ineffective in meeting the project's purpose and need and was eliminated from further consideration.

IDENTIFICATION OF A PREFERRED ALTERNATIVE

All six alternatives were screened to determine a preliminary level of impact to businesses and residences within the project area. The results of that screening are shown in Table 1.

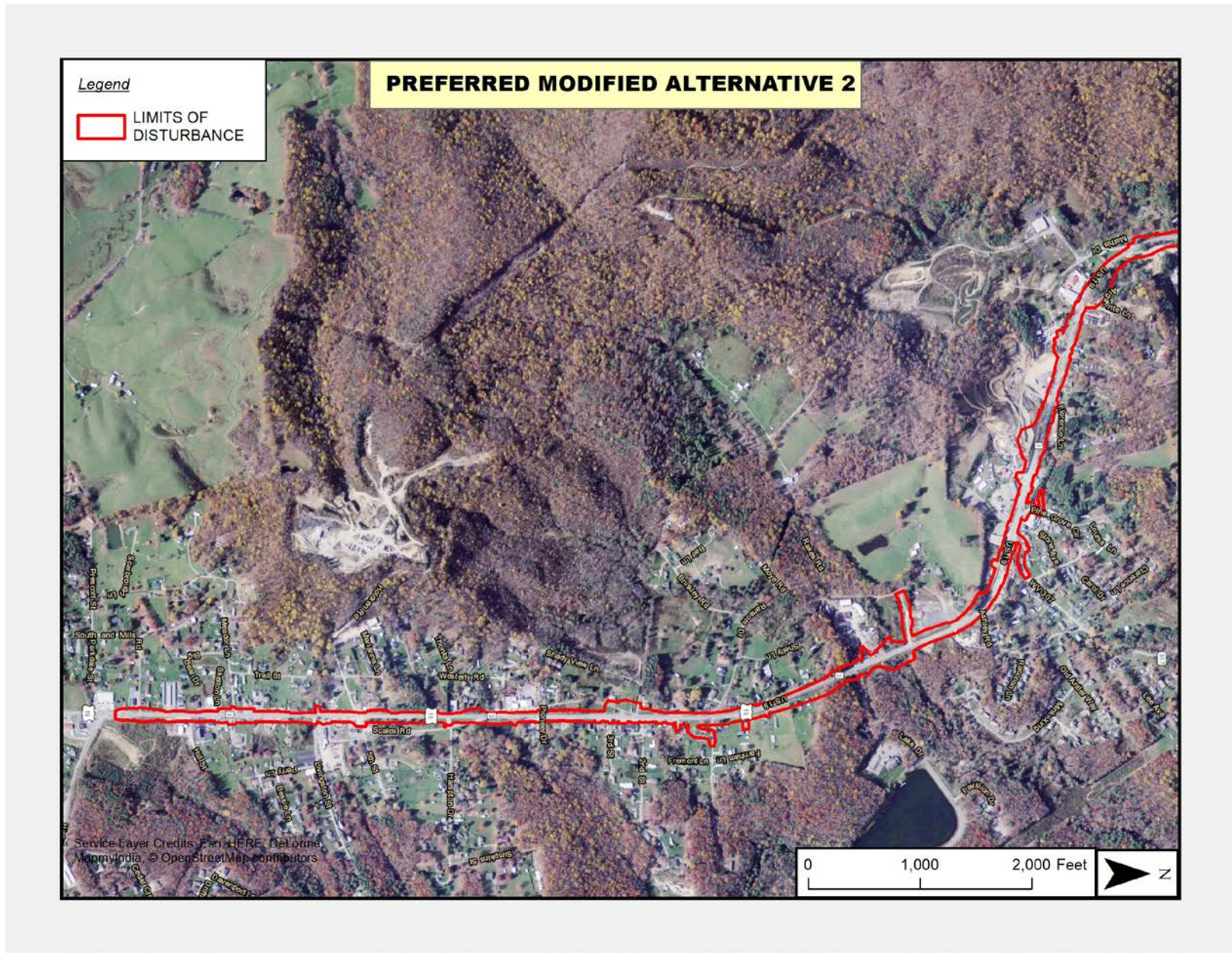
**Table 1
Preliminary Impact Screening**

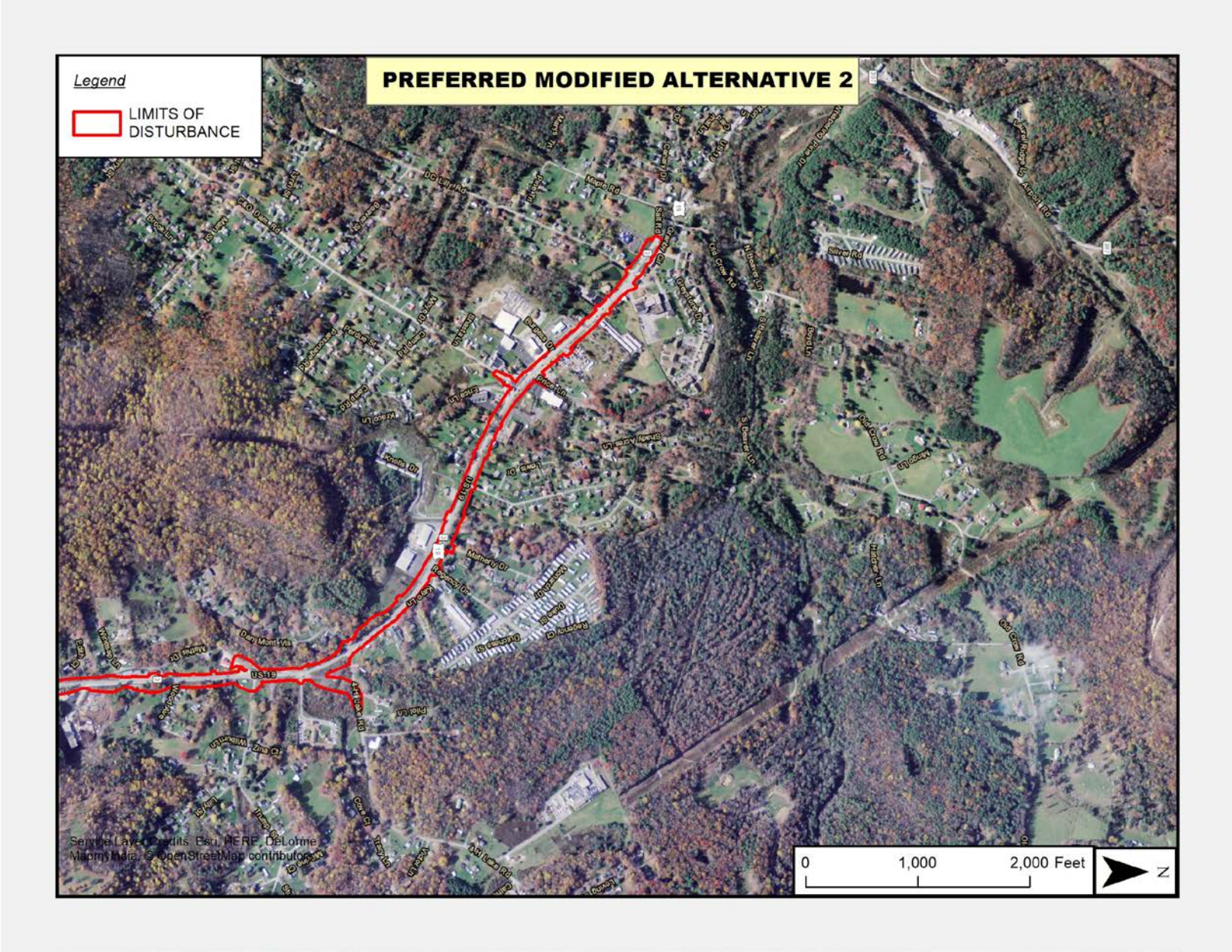
Feature	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Businesses Taken	0	8	63	54	63	54
Residences Taken	0	17	28	35	28	35

A full range of alternatives was developed during preparation of the Final Design Study Report. From a list of six preliminary alternatives, Modified Alternative 2 is identified as the preferred alternative for the following reasons:

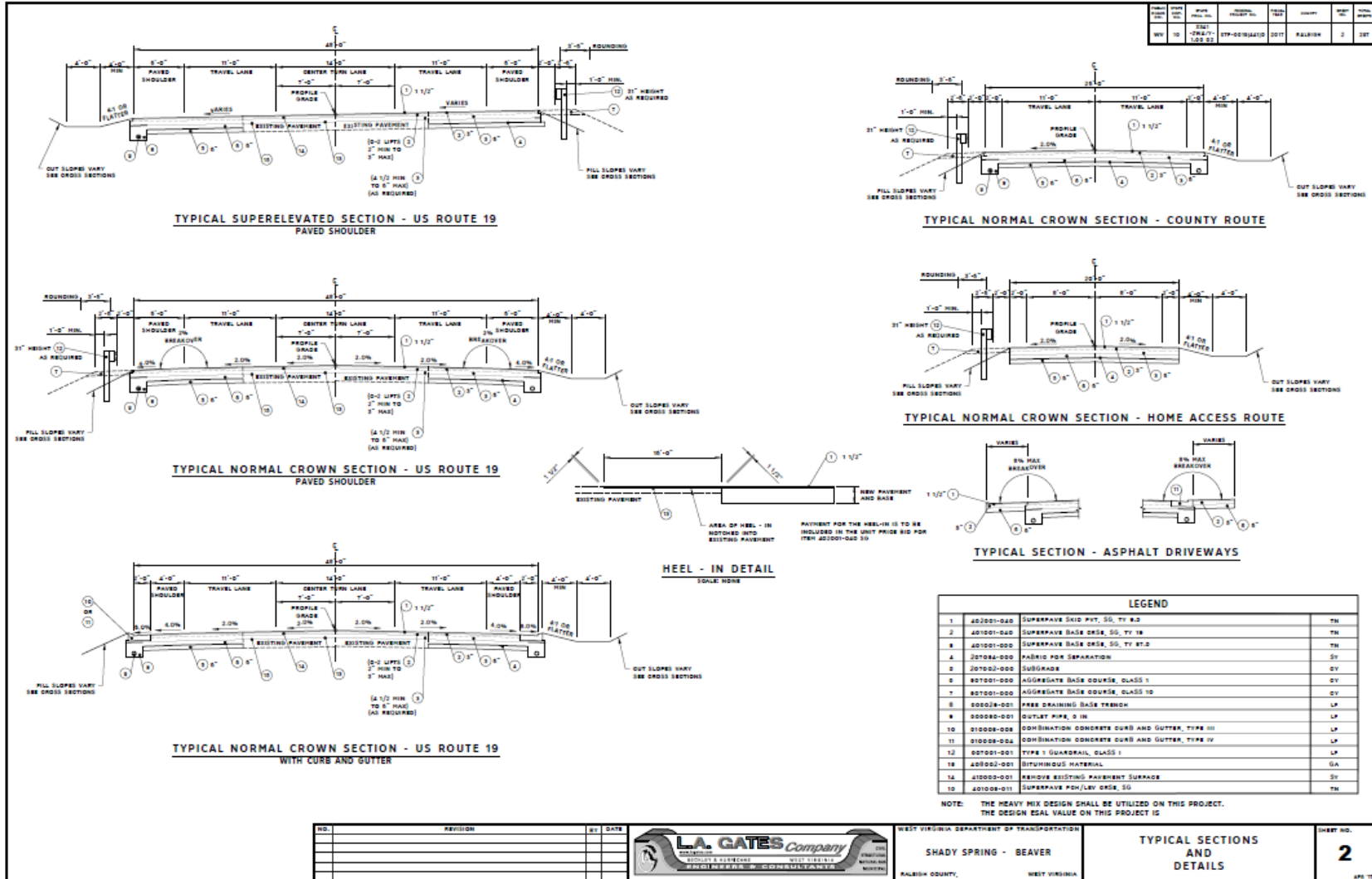
- It has considerably fewer impacts to businesses and residences.
- It corrects horizontal and vertical alignment issues along US 19 while the other alternatives only addressed problems associated with the horizontal alignment.
- With the inclusion of more TSM elements into the design of Modified Alternative 2, problems with many of the skewed intersections on the road will be eliminated.

Consequently, only the No-Build Alternative and Modified Alternative 2 were carried forward for detailed analysis. A small scale view of the potential alignment and a typical section for Modified Alternative 2 follows the description of all of the alternatives. More detailed maps of Modified Alternative 2 are located at the end of this EA.





A typical section for Modified Alternative 2 is shown below:



HOW WELL DOES THE PREFERRED ALTERNATIVE MEET THE PURPOSE AND NEED?

To determine if the expenditure of public funds for the proposed improvement is valid in light of any potential impacts to the environment, Modified Alternative 2 was compared to the No-Build Alternative and the purpose and need. The results of that comparison are described in Table 2.

**Table 2
Comparison of the Preferred and No-Build Alternatives in Meeting Purpose and Need**

Purpose and Need Element	Preferred Alternative (Modified Alternative 2)	No-Build Alternative
Safe and Efficient Transportation Access	<p>Highway operations will be improved with this alternative. Widening US 19 and correcting the existing geometric conditions will bring the roadway up to current engineering standards. By adding a continuous left turning lane and eliminating skewed intersections and unrestricted access to the arterial, traffic conflicts will be reduced. By providing a continuous left-hand turning lane and efficient stacking lanes at key intersections, rear-end crashes will be reduced.</p> <p>Highway capacity will also be improved by the removal of bottlenecks along US 19 where vehicles in a travel platoon are delayed while the lead vehicle waits to turn left. Additionally, widening US 19 will alleviate localized transportation problems and stimulate local economic activity.</p>	<p>With no changes to the existing roadway geometry, conditions on US 19 will continue as is. Traffic congestion and high crash rates on US 19 will also hinder commercial and industrial development in the area. As traffic increases, additional traffic congestion can be expected. Without changes, it is likely that the current high crash rates will also continue.</p>
Emergency Response Times	<p>With better traffic flow and the reduction of traffic conflicts, emergency response times will decrease.</p>	<p>With no roadway improvements, emergency response times will begin to increase as traffic increases on US 19.</p>

WHAT ARE THE POTENTIAL IMPACTS OF THE PROJECT?

Table 3 provides a summary of the potential impacts of constructing Modified Alternative 2. A general view of the environmental features found within the project area are shown in the figure immediately following Table 3, but more detailed maps are found in a separate section at the end of this EA. Additional information and supporting documentation on the impacts analysis are included in this EA as appendices.

**Table 3
Potential Impacts of the Preferred Alternative and the No-Build Alternative**

Resource or Element	Context	Preferred Alternative (Modified Alternative 2)	No-Build Alternative
Environmental Justice	Executive Order 12898 of February 11, 1994, <i>Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations</i> , requires that the proposed project be assessed to determine whether or not it will have a disproportionately high impact on minority or low-income populations within the area. The WVDOH will work to assure that minority populations and low-income individuals have full access to information on the project and understand the potential impacts from construction and operation of improved access.	With a minority population of 4.4 percent, the study area does not exceed the screening threshold of Raleigh County (11.3 percent). With a low-income population of 8.9 percent, the study area does not exceed the screening threshold of Raleigh County (17.7 percent). Consequently, the project is unlikely to have a disproportionate effect on environmental justice populations. A complete environmental justice analysis is included in this EA as Appendix C.	No impact.
Tax Base	Taxable land will be converted to a transportation use. For Fiscal Year 2017-2018, property tax revenues for Raleigh County are estimated to be \$12.7 million (WVSAO 2018). The average annual tax per property in the county is \$800 (DUSA 2018).	There will be an initial decrease of property tax revenues in Raleigh County as a result of converting some taxable property to a public use. Based upon the small percentage of the total assessed value that would be lost from construction of the proposed project (less than 0.2 percent), the associated property tax losses would be negligible. Furthermore, this loss would be temporary if displaced residents and businesses relocate within the same area. Tax revenues	No impact.

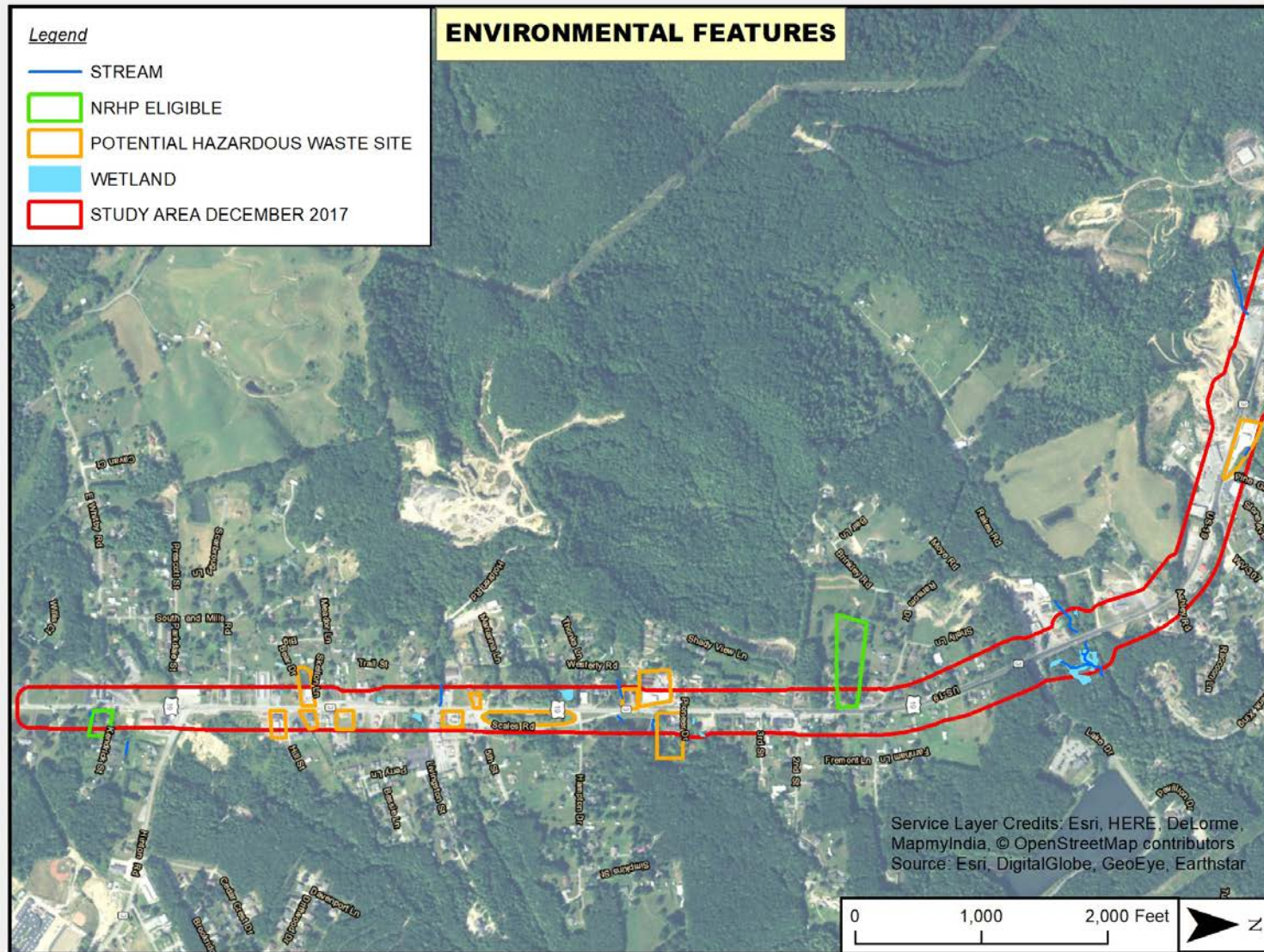
Resource or Element	Context	Preferred Alternative (Modified Alternative 2)	No-Build Alternative
		temporarily lost would be regained upon relocation of residences and businesses.	
Displacements	Land use along US 19 in the project area is primarily residential, but many businesses are also located along the roadway.	The project will permanently displace 8 businesses and 17 residential units (11 single-family dwellings and one 6-unit apartment building).	No impact.
Community Facilities and Services	No community facilities, parks, or publically owned recreation facilities are in the project area. Police service is provided by the Raleigh County Sheriff's Department and the West Virginia State Police. The Beaver VFD responds to fire calls.	Eliminating geometric deficiencies, such as narrow lanes, bottlenecks, skewed intersections, and poor horizontal and vertical curves, will allow for better free-flow of traffic. The addition of turning lanes for the length of US 19 and the use of TSM elements at problem-intersections will improve traffic capacity and provide all traffic increased mobility. As a result, all vehicles traveling in the corridor will operate more efficiently and response times for emergency vehicles will decrease.	Emergency response times will increase as traffic grows.
Community Cohesion	"A strong community bond creates a sense of cohesion that can be expressed through the patterns of daily social interaction, the use of local facilities, participation in local organizations, and involvement in activities that satisfy the population's economic and social needs" (FHWA 1996). Under some circumstances, impacts caused by a transportation project can create changes to community cohesion if they interfere with or change the physical characteristics of a neighborhood or change local transportation patterns to a measureable degree.	Community cohesion will be improved for residents and businesses along US 19 by improving mobility within the corridor. Although 8 businesses and 17 residential units will be taken for a widened road, there are dozens of businesses and over 150 homes located directly along US 19 between Shady Spring and Beaver and it is likely that any persons or businesses displaced by the project will relocate in the general area. Additionally, there are no "clustered" displacements. All displacements, be they businesses or residential units, are scattered throughout the corridor and are widely dispersed. Often in suburban/rural areas, improved transportation access strengthens community cohesion because increased mobility enhances the connectivity of people and places.	No impact.

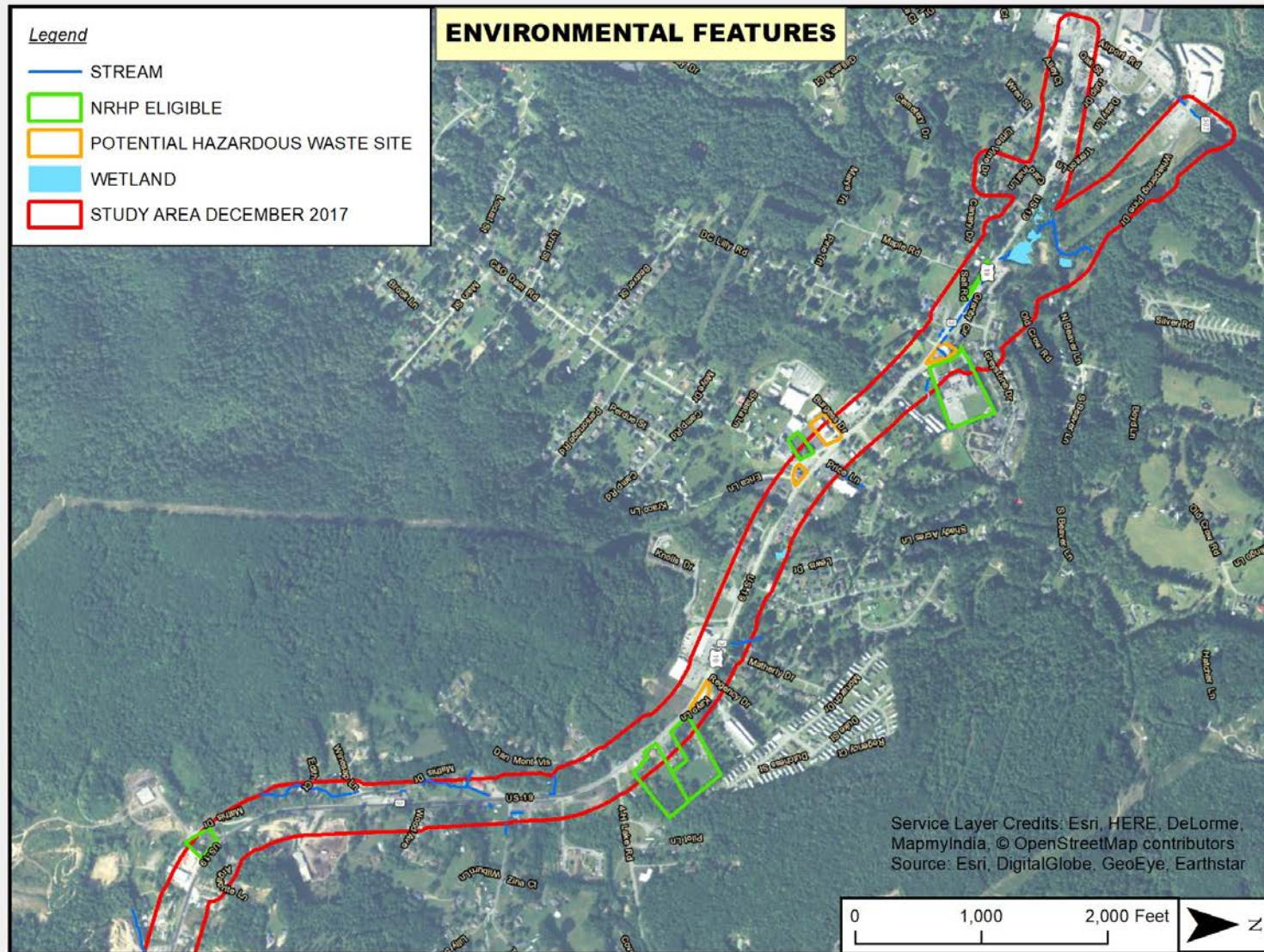
Resource or Element	Context	Preferred Alternative (Modified Alternative 2)	No-Build Alternative
Farmlands	<i>Farmland Protection Policy Act</i> soils are present in the area. The Form AD-1006 Farmland Impact Rating for the project was less than the 60-point threshold.	The project will impact 0.23 acres of pasture. No <i>Prime Farmland Soils</i> or <i>Soils of Statewide Importance</i> underlay the pasture land.	No impact.
Land Cover	Based on a review of U.S. Geologic Survey data, the immediate project area has been classified as <i>Developed and Other Human Use</i> (USGS 2017). Land use within the project study area can be characterized as urban/developed and consists of predominately residential and commercial uses. Past land use included coal mining operations.	The project will impact 37.21 acres of land in the following manner: <ul style="list-style-type: none"> ➤ Built-up, mixed urban (low intensity – 13.58 acres; medium intensity – 19.03 acres; and, high intensity – 2.54 acres) ➤ Open Space – 4.29 acres ➤ Forested – 0.08 acres ➤ Pasture – 0.23 acres 	No impact.
Rare, Threatened, and Endangered (RTE) Species	In a letter dated June 5, 2017, the U.S. Fish and Wildlife Service (USFWS) stated that two federally-listed species, the endangered Indiana bat (<i>Myotis sodalis</i>) and the threatened northern long-eared bat (<i>Myotis septentrionalis</i>), could occur in the project area. However, the USFWS further stated that “The Service has determined that this project is not likely to adversely affect the Indiana bat because your project: 1) will affect less than 17 acres of potential Indiana bat foraging or roosting habitat; 2) is not within any of the Indiana bat hibernacula or summer use buffers described above; 3) will not affect any potential caves or mines that could be used as hibernacula for this species; and 4) effects to aquatic features used for foraging habitat will be insignificant” (Appendix D). In a letter dated August 23, 2017, the West Virginia Division of Natural Resources (WVDNR) stated that “There are no known occurrences of any RTE species or natural trout streams within the project area (Appendix D).	No impact.	No impact.

Resource or Element	Context	Preferred Alternative (Modified Alternative 2)	No-Build Alternative
Streams	Waters of the US were assessed in accordance with the non-amended 33 CFR 328.3; and guidance provided by the EPA and USACE. The dominant land uses within the project study area are mixed low-density residential and commercial properties. Runoff from these properties have caused degradation of the adjacent streams. The transportation network, storm water drainage network, and former coal mining operations have also degraded the streams due to fragmentation, channelization, and past land use activities. Headwater stream reaches have been diverted, relocated, channelized, and piped which has further degraded the biological, chemical, and physical functions of the streams.	A complete aquatic resources report is included in this EA as Appendix E. That report provides detailed information on the streams and their characteristics, but as is common industry practice, does not describe the potential impacts from the project. The project will impact 488 feet of perennial streams, 215 feet of intermittent streams, and no ephemeral streams, for a total of 703 feet of stream impact. The impacts will occur due to replacement of, or extensions of existing roadway drainage ditches, drainage pipes, and culverts. The impacts are shown on the detailed environmental features figures that accompany this EA.	No impact.
Wetlands	Identification and delineation of palustrine wetland habitats were conducted through field investigations and a review of existing information, including USGS 7.5 minute topographical quadrangles; National Wetlands Inventory; the Soils Data Mart for Raleigh County; and the National Hydric Soils List. For the most part, the wetlands in the area have been created from residential and commercial development. They are fragmented, disturbed, and degraded because of sewer installation, culvert installation, roadway influence, and active property maintenance.	A complete aquatic resources report, including detailed information on the wetlands in the project area, is included in this EA as Appendix E. That report provides detailed information on the streams and their characteristics, but as is common industry practice, does not describe the potential impacts from the project. Three wetlands will be impacted by the project. Approximately 0.6 acres of wetlands will be impacted by the project. Two of the impacted wetlands are entirely Palustrine Emergent (PEM). While the third is mostly a PEM wetland, it has some elements of Palustrine Forested (PFO) and Palustrine Scrub Shrub (PSS) in it. The impacts are shown on the detailed environmental features figures that accompany this EA.	Minimal impact is expected.
Floodplains	Federal guidelines require the use of National Flood Insurance Program maps to evaluate the	Localized flooding issues have been raised as a concern by residents and business owners in the	No impact.

Resource or Element	Context	Preferred Alternative (Modified Alternative 2)	No-Build Alternative
	effect the proposed action may have on 100-year floodplains and the risk of flooding. The Federal Emergency Management Administration (FEMA) has identified floodplains on Little Beaver Creek and Sand Branch. The closest either of these streams are to the project area is 800 feet.	project area. While there will be no impact to regulated floodplains as a result of the project, design considerations for the improved roadway have been incorporated into the project to reduce existing stormwater drainage problems and prevent future problems with an increased impervious surface.	
Groundwater	Aquifers are at sufficient depth to be protected from any proposed construction. Public water service is provided throughout the project area.	No impact.	No impact.
Air Quality	The project is included in the Fayette/Raleigh Metropolitan Planning Organization 2040 <i>Regional Transportation Plan</i> , the 2015-2017 <i>Strategic Plan</i> , and the <i>Statewide Transportation Improvement Program (STIP) 2016-2021</i> . Air quality was assessed qualitatively in compliance with the <i>Clean Air Act (CAA)</i> and its amendments, related Federal regulations, and FHWA guidance. Raleigh County is in attainment with National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.	The project is exempt under the CAA conformity rule under <i>40 CFR 93.126</i> , and from project-level and Regional Conformity Analyses.	No impact.
Noise	The existing road will be widened from two to three lanes. This configuration allows for a through-lane in each direction and continuous left turn lanes throughout the corridor.	This project does not meet the classifications of a Type I or Type II project as defined in the <i>WVDOH Highway Traffic Noise Policy</i> and <i>23 CFR 772</i> . As such, it qualifies as a Type III project and requires no analysis for highway traffic noise impacts.	No impact.
Potentially Hazardous Wastes	A potential hazardous waste analysis was conducted to identify any properties in the project area that contain regulated substances.	Eleven potentially hazardous waste sites will be impacted. All but two of the sites are former automotive repair shops or gas stations with underground storage tanks. One of the remaining sites is a former strip mine; the other may contain asbestos. A Phase I Environmental Site Assessment is included in this EA (Appendix F).	No impact.

Resource or Element	Context	Preferred Alternative (Modified Alternative 2)	No-Build Alternative
Historic Resources	Historic resources surveys were conducted in 2016. Eight properties were identified as potentially eligible for listing on the <i>National Register of Historic Places</i> (NRHP). In a letter dated August 29, 2016, the West Virginia Division of Culture and History, the State Historic Preservation Office (SHPO), concurred with that finding and requested an effects report be prepared (Appendix D).	Two of the NHRP-eligible properties will be impacted directly by the project with sliver takes. There will be a visual impact to the six other NRHP-eligible properties. WVDOH determined the project would have <i>No Adverse Effect</i> on any of these eight properties. In a letter dated October 26, 2017 (Appendix D), the SHPO concurred with the WVDOH.	No impact.
Archaeological Resources	Archaeologic surveys were conducted in 2016 and 2017. In a letter dated June 1, 2016, the SHPO requested Phase 1b studies for a specific site. That work was completed and in a letter dated November 8, 2017 (Appendix D), the SHPO determined no further archaeological investigations are necessary.	No impact.	No impact.
Utilities	Electric, water and sanitary sewer, communications, and gas lines are in the area	Several utility lines and associated utility components will be relocated.	No impact.
Section 4(f) Resources	Transportation projects may not take land from any historic site or public recreation area unless there is no feasible and prudent alternative to the use of that land; and, all possible efforts to minimize harm to the property have been undertaken. A Section 4(f) <i>de minimis</i> determination is found in Appendix G of this EA.	Eight impacted properties have been identified as eligible for listing on the NRHP. The SHPO has determined that there would be <i>No Adverse Effect</i> on the properties. Two of the properties will be impacted directly by sliver takes from the project and are considered as Section 4(f) impacts, however, the impacts are considered <i>de minimis</i> .	No impact.
Temporary Construction Impacts	Construction will create short-term impacts such as inconvenient traffic conditions, increased noise and particulate air pollution, erosion, and safety-related construction issues.	Construction will be scheduled to minimize traffic delays. Traffic disruptions will be temporary, localized, and of short duration. Access to all property will be maintained during construction. Construction will comply with all federal, state, and local laws regarding safety, health, and sanitation. Contractors will follow Occupational Safety and Health Administration guidelines to protect employees, the public, and property.	No impact.





WILL THERE BE ANY SECONDARY OR CUMULATIVE IMPACTS FROM THE PROJECT?

Guidelines prepared by the Council on Environmental Quality (CEQ) for carrying out NEPA requirements broadly define secondary impacts as those that are caused by an action and are later in time or further removed in distance, but are still foreseeable (CEQ 1978). Secondary impacts can be associated with development that may result from the construction of a facility, such as a transportation improvement project, but differ from impacts directly associated with the construction and operation of the facility itself. Generally, these impacts are stimulated by an initial action and comprise a wide variety of indirect effects, such as changes in land use, development patterns, economic activity, population density, and related impacts on air, water, and other natural systems, including ecosystems. Indirect impacts may result in increased development pressure on open space, farmlands, and other natural resources.

Cumulative impacts, on the other hand, result from the incremental consequences of an action when added to other past, present, and reasonably foreseeable future actions (CEQ 1997), regardless of what agency, person, or organization undertakes such actions. Cumulative impacts result from past, present, and future actions. When considered as a whole and in concert with other foreseeable developments and projects, they can result in a combined effect greater than considering separate elements independently.

Factors that typically induce secondary, or indirect, development include new access to potential development areas, increased roadway capacity, existing development plans, suitable terrain, and economic incentives. The potential for indirect development to occur in any particular area is determined in great part by individual municipal planning objectives. Although secondary impacts may result in increased development pressure on open space and other natural resources, the character and terrain of the project area limits secondary impacts primarily to areas with some infrastructure in place. Availability of land and transportation infrastructure in the project area indicates that new development is most likely to occur along Airport Road (WV 307), at the Pinecrest Business and Technology Park, at the Raleigh County Airport Industrial Park, and as infill along US 19, and in downtown Beckley. Redevelopment of existing properties could occur anywhere along US 19. Summaries of these locations are found below:

➤ Along Airport Road – There are several vacant or underutilized, large parcels available for redevelopment and new commercial development on Airport Road between US 19, the county airport, and I-64. Proximity to the interstate highway, the airport, existing commercial development in Beckley and its southern environs, and residential development in the US 19 southern corridor makes this section of WV 307 one of the most attractive development areas in Raleigh County.

➤ Pinecrest Business and Technology Park – All utilities are available at this industrial park located on the north side of I-64, less than one mile from Interchange 124. Approximately 180 acres are available for development at this relatively new business park.

➤ Raleigh County Airport Industrial Park – The Raleigh County Airport Industrial Park, shown on the figure to the right, is a mature 492-acre business park located adjacent to the county airport. All utilities are available at the park, including runway access. The industrial park is located on the



north side of I-64, approximately one mile from Interchange 125. Approximately 125 acres, or about 25 percent of the park, are still available for development. All of the available parcels are located on the west side of the airport.

- US 19 Infill – The US 19 corridor south of Beckley has public water and sewer service as well as many large parcels that could be developed for housing or commercial use.

- Downtown Beckley – West Virginia University (WVU) has recently relocated most of its Montgomery campus (WVU Institute of Technology) to downtown Beckley. The new WVU facilities are located on the old Mountain State University campus on S. Kanawha Street, within the Beckley central business district, but about seven miles northeast of the project area. Approximately 1,800 new students arrived in Beckley for the 2017-2018 academic year. Opportunities to serve these students with housing and food service by providing other needed commercial activities will increase year-by-year until student admissions level off after 2024.

Currently, traffic congestion has hindered much of the commercial and industrial development in the area. Widening US 19 will alleviate localized transportation problems and stimulate local economic activity but is unlikely to affect the overall regional economy to any measurable degree.

Although residential growth could occur almost anywhere, it is constrained by topography and the limits of existing public water and sewer systems. Suitable land, the availability of public water, the availability of public sewer service, and suitable transportation are typically used as appropriate development features that can be used to predict growth (Kulkarni 1976). The opportunity for induced development is strongest when all four elements are in place and almost nonexistent when none of them are. Economic pressures on the local community, coupled with national trends, are also likely to limit development in the region and growth in the corridor is constrained by the finite availability of flat land and sufficient infrastructure. Thus, development is expected to be limited to infill occurrences and the likelihood of indirect impacts is minimal and induced development from the project can be accommodated in an orderly manner. Although unlikely, any secondary development would be an economic benefit to the community and supports the project's needs.

Taken individually, the impacts from an action may have little effect on the environment. When viewed as a sequence of events, however, different actions may add up to, or cause, additional effects over time. Thus, the cumulative impact may be of more consequence than isolated, individual impacts.

Past projects since 1970 and planned actions through the year 2030 were reviewed to complete a qualitative assessment of cumulative impacts. Primary data sources included interviews with local economic development officials, study area field views, and secondary data sources. Consequently, a qualitative analysis rather than a quantitative trends analysis emerged.

Cumulative impacts or effects are a result of the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions (RFFAs). Cumulative effects can be difficult to understand because they are not clear cut. They can accrue from similar impacts, from multiple actions, or be the product of unrelated impacts from a variety of actions. In addition, some actions may offset the effects of other actions, lessening the overall impact. Cumulative effects can also arise from actions which may only be connected by their common impacts on similar resources, ecosystems, or human communities.

The identification and analysis of RFFAs present many challenges. Proponents of future actions may be reluctant to reveal information for a number of reasons. Plans may be uncertain and project sponsors, both private and public, may not see a benefit in disclosing them. Furthermore, project sponsors may not completely understand the importance of their plans on other projects, or understand the potential impact inherent in those plans on others. Detailed design and operational information is generally not available for proposed projects. At the preliminary stage of project development, locations may not be set. Project size and magnitude may not have been determined. Usage estimates or projections may not be sufficiently rigorous. Many factors also affect the timing, location, and design of future actions. If programming and funding requirements have not been finalized, future actions may be delayed, downsized, or modified significantly over time. If definitions of future actions are too liberal, future impacts may be predicted as being too high. If definitions are too conservative, future impacts may be underestimated.

Actions that may have contributed to cumulative effects in the area include: water and sewer system improvements in Beckley and within the Shady Spring Public Service District; transportation improvements throughout Raleigh County; the WVU campus in downtown Beckley; and conversion of farm or forest land to commercial or residential development. These activities could have a cumulative impact on terrestrial habitat, land use, water quality, wetlands, air quality, traffic, and cultural resources.

Development projects would have mixed impacts to most resources. Properly functioning water and waste water treatment systems, regardless of type, can encourage economic growth. When public water is available and a community has adequate sewer facilities in place, as it does within the project area, public health improves and the community becomes more attractive as a place to live or work. When such systems are not in place, however, or not functioning properly, pollution can result. If not replaced or improved, older systems may not be able to accommodate growth and can result in negative impacts to environmental resources.

Development also can affect wetlands, terrestrial habitat, and sensitive animal and plant species by consuming land and infringing on natural ecosystems. Properly designed development can offset negative impacts, however, and assist in preserving valued elements of the landscape.

Additional development could also increase traffic and subsequently cause air quality problems or require future transportation improvements. The potential effects could be mitigated by the design of future developments and the regulatory environment. Positive effects to recreation and socioeconomic resources would be expected, primarily through improved facilities or better access.

Increased safety, efficiency, and congestion management are the principal reasons for surface transportation projects. Short-term local income and revenues would increase as a result of future transportation projects, including bridge renovations, highway rehabilitations and upgrades, and new roadways. Significant changes to population, property values, local taxes, and existing land use patterns could occur, however, if roadway locations are changed or shifted.

There could be mixed impacts to water quality, wetlands, terrestrial habitat, and sensitive species as a result of converting additional land to highway use. Effects would be mitigated in various ways, including avoidance, minimization, and replacement.

Effects to air quality, recreation resources, and socioeconomics would be expected to be generally positive. Additionally, although the effects of transportation projects on cultural resources are mixed, these projects are tied to federal funding or permitting and, therefore, are subject to Section 106 and Section 4(f) compliance. These regulatory processes ensure that the significance of individual cultural resources is considered during project development.

Long-term positive impacts would be associated with improved environmental conditions guaranteed through the regulatory environment. These regulations are especially important where there are numerous development opportunities and the potential for threats to the natural environment to occur. All three levels of government (federal, state, and local) have created laws or programs to address negative effects.

A concerted effort by government and the private sector has also occurred over the past 20 to 30 years to bring about economic redevelopment in the area. These efforts have enhanced the quality of life for the area's citizens and businesses without imposing an inordinate cumulative impact on the natural, cultural, or socioeconomic environment. A complete secondary and cumulative effects analysis is included in this EA as Appendix H.

MITIGATION OF IMPACTS FROM THE PREFERRED ALTERNATIVE

To lessen any permanent or temporary impacts from construction of the project, mitigation commitments proposed by the WVDOH are shown in Table 4. Additional mitigation measures may be proposed during final design to further avoid and minimize any temporary and permanent impacts.

**Table 4
Mitigation Commitments Associated with the Preferred Alternative**

Resource/Element	Impact	Mitigation Measures
Displacements	The project will permanently displace 8 businesses and 12 residential properties.	All properties to be acquired, or used temporarily, will be purchased or utilized in accordance with the <i>Uniform Relocation and Real Property Acquisition Policies Act</i> , Title VI of the <i>Civil Rights Act</i> , and applicable West Virginia laws.
Land Cover	Approximately 4.6 acres of non-built-up land will be converted to highway use.	An Erosion and Sedimentation Control Plan will be used to minimize impacts to the water quality and habitat of the project area streams. Disturbed areas will be revegetated with a native seed mixture after construction.
Streams	The project will impact 488 feet of perennial streams, 215 feet of intermittent streams, and no ephemeral streams, for a total of 703 feet of stream impact. The impacts will occur due to replacement of, or extensions of existing roadway drainage ditches, drainage pipes, and culverts.	To avoid and/or minimize potential impacts to water quality, the specific best management practices (BMPs) will be developed prior to construction. At a minimum, the BMPs will reduce the amount of disturbed aquatic habitat and riparian vegetation; revegetate all disturbed areas to prevent accelerated erosion; designate equipment fueling and service areas away from aquatic habitats; designate and construct all stormwater management facilities to prevent runoff; and coordinate with resource agencies.
Wetlands	Three wetlands, approximately 0.6 acres combined, will be impacted by the project. Most of the impacted wetland acreage is classified as PEM.	Unavoidable impacts to wetlands will be mitigated through the purchase of the appropriate wetlands banking credits or payment into the state's in-lieu fee program. During final design, measures will be identified that may further minimize any temporary and permanent impacts to wetland resources.
Air Quality	Although there will be no permanent changes to air quality as a result of the project, there will be some temporary impacts. During construction, there will be an increase in emissions by heavy construction equipment and an increase in dust. Dust and exhaust particulate emissions from heavy	To address temporary impacts on air quality during construction, the following measures should be observed. If it is necessary to burn debris, approval by the West Virginia Department of Environmental Protection (WVDEP) Secretary or an authorized representative is required to conduct such burning. Demolition activities are subject to 45CSR15 (the asbestos NESHAP at 40 CFR 61, Subpart M). A formal <i>Notification of Abatement, Demolition, or Renovation</i> must be completed and timely filed with the DEP Secretary's authorized representative. Approval must be received before commencement of the activities addressed in the Notification. If demolition, excavation, transportation of soil/aggregates, or the handling of materials cause nuisance dust emissions or entrainment or creation of objectionable odors, adequate air

Resource/Element	Impact	Mitigation Measures
	equipment operations and land clearing will temporarily degrade air quality in the immediate construction zone. Impacts from dust will be localized within the immediate area of construction.	pollution control measures must be applied to prevent statutory air pollution problems as addressed by 45CSR4 and 45CSR17. Backup or emergency electrical generators may be subject to federal and state requirements and require an air permit in accordance with 45CSR13.
Noise	Construction may temporarily influence sound levels.	Noise generating construction activities such as pile driving or jack hammering should be minimized and completed during daytime activities.
Potentially Hazardous Wastes	The project will impact eleven potentially hazardous waste sites. All but two of the sites were repair shops or gas stations with underground storage tanks. One of the two remaining sites is a former strip mine and the other is a small business that may contain asbestos.	A waste management plan and/or waste-management related provisions will be incorporated into construction bid documents to address potential contamination at specific properties and waste sites. A Phase 2 Environmental Assessment, if necessary, will be conducted prior to construction.
Utilities	Utility relocations will be required as a result of the project.	Coordination with the utility operators will be required throughout the project. Coordination meetings will be held to discuss the need for additional right-of-way, expansion, or relocation easements; impacts to schedules; construction requirements; and any other issues. The WVDOH has detailed procedures for coordinating with impacted utilities. The relocation of utilities will be completed prior to construction with limited inconvenience to the public.
Secondary Impacts	Availability of land and transportation infrastructure in the project area indicates that commercial development is most likely to occur at Airport Road, Pinecrest Business and Technology Park, Raleigh County Airport Industrial Park, along US 19, and downtown Beckley. New	Secondary development would be an economic benefit to the community and supports the project's needs. Avoidance and minimization of the adverse impacts related to induced development will be accomplished primarily through implementation of highway-access controls. Strict land use controls are not present in the area, but future developmental controls could include access management, transfer of development rights, growth management, resource management, resource preservation, and conservation easements.

Resource/Element	Impact	Mitigation Measures
	residential development and business redevelopment could occur along US 19.	
Cumulative Impacts	Development has enhanced the quality of life for the area without imposing an inordinate cumulative impact on the natural, cultural, or socioeconomic environment.	When taken as a whole, past, present, and future projects have had and will have a cumulative effect on the area. Future cumulative effects are expected to benefit the community rather than harm it.
Temporary Construction Impacts	Short-term impacts associated with construction may include inconvenient traffic conditions, increased noise, particulate pollution, erosion, and health and safety-related construction issues.	Construction will be scheduled to minimize traffic delays. Traffic disruptions will be temporary, localized, and of short duration. Access to residences and businesses will be maintained during construction although temporary disruptions may occur. Construction will be performed to comply with all applicable federal, state, and local laws regarding safety, health, and sanitation. All contractors are required to adhere to Occupational Safety and Health Administration guidelines to protect the lives and health of employees, the safety of the public, and the integrity of adjacent properties.

RESOURCE AGENCY COORDINATION

Throughout development of the project, the WVDOH has coordinated with environmental resource and transportation agencies with jurisdiction over, or having operating responsibilities with, transportation projects. Agencies that have taken an active role in the project to date include the FHWA, the USFWS, the WVDEP, the West Virginia Division of Culture and History (WVDCH), the WVDNR, the Raleigh County Commission, and the New River Gorge Regional Development Authority. Relevant correspondence from these agencies is found in Appendix D. Coordination with these, and other agencies will continue as the project progresses.

REQUIRED PERMITS

The following permits will be required prior to construction: *Clean Water Act* (CWA) Section 404 Permit from the U.S. Army Corps of Engineers; CWA Section 401 *Certification from the West Virginia Department of Environmental Protection* (WVDEP); and a *National Pollutant Discharge Elimination System* (NPDES) Permit from the WVDEP.

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DISTRIBUTION LIST

Federal, state, and local agencies with jurisdiction over transportation projects and relevant environmental regulations have received, or will receive, a copy of the EA to review. Agencies receiving a copy are shown in Table 5.

**Table 5
Agency Distribution List**

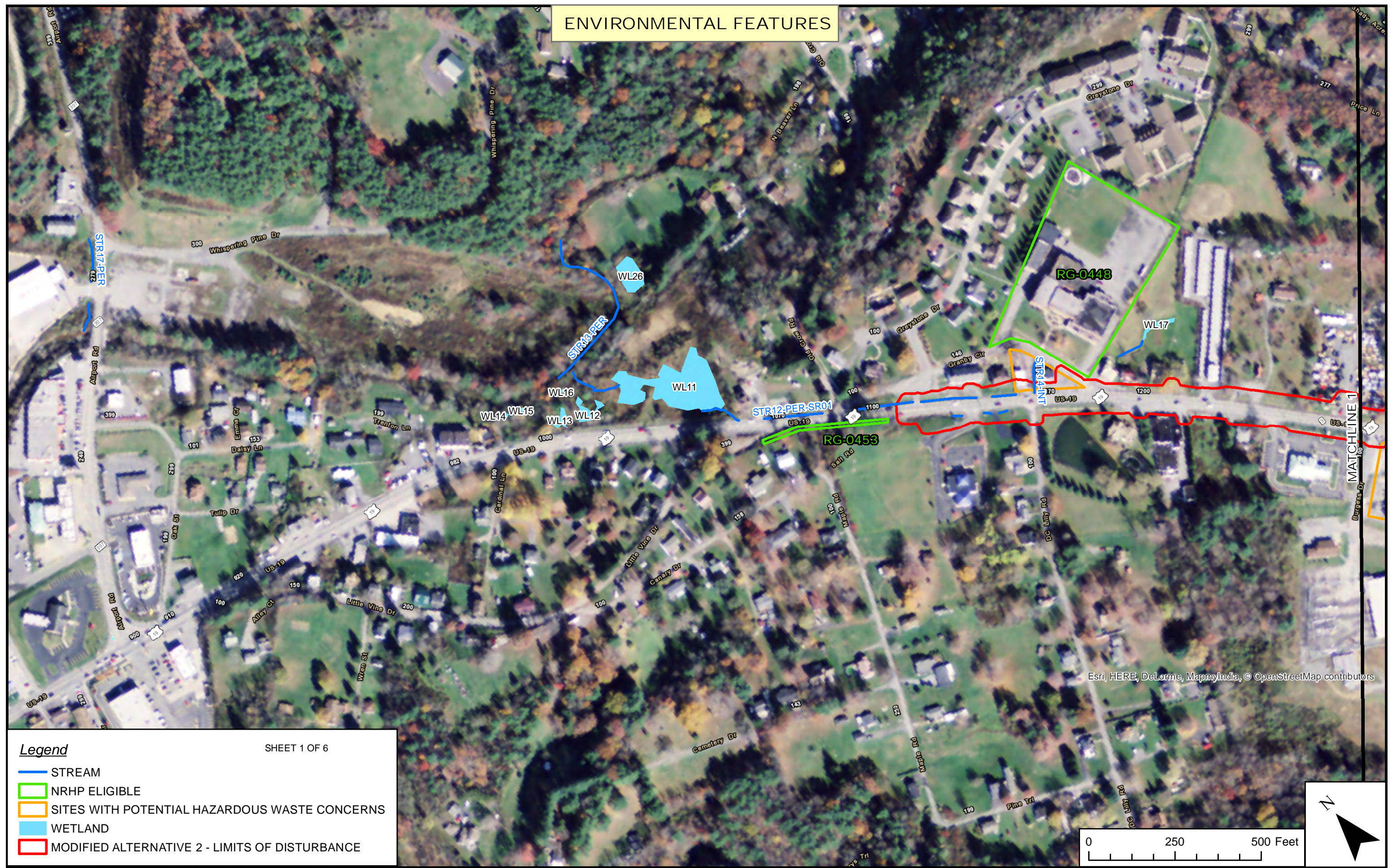
Federal Agencies		Tribal Nations	
Jessica Martinsen U.S. EPA Office of Environmental Programs 1650 Arch Street Philadelphia, PA 19103	John Schmidt, Supervisor U.S. Fish and Wildlife Service 694 Beverly Pike Elkins, WV 26241	Caitlin Totherow Tribal Historic Preservation Office Catawba Indian Nation 996 Avenue of the Nations Rock Hill, SC 29730	Micco Emarthia, Tribal Historic Preservation Officer Seneca-Cayuga Tribe of Oklahoma P.O. Box 45322 Grove, OK 74345
Barbara Okorn U.S. EPA Office of Environmental Programs 1650 Arch Street Philadelphia, PA 19103	Norm Bailey Resource Conservationist NRCS U.S. Department of Agriculture 1550 Earl Core Road Morgantown, WV 26505	Russell Townsend, Tribal Historic Preservation Officer Eastern Band of Cherokee Indians P.O. Box 455 Cherokee, NC 28719	Jay Toth Tribal Historic Preservation Officer Seneca Nation of Indians 90 Ohi:yo' Way Salamanca, NY 14779
Willie R. Taylor, Director Office of Environmental Policy and Compliance U.S. Department of the Interior 1849 C Street, NW Washington, DC 20240	Mary Ann Tierney, Regional Administrator Federal Emergency Management Agency 615 Chestnut Street Philadelphia, PA 19106	Robin Dushane, Tribal Historic Preservation Officer Eastern Shawnee Tribe of Oklahoma 12705 East 705 Road Wyandotte, OK 74370	Eric Oosahwee-voss, Tribal Historic Preservation Officer United Keetoowah Band Cherokee Indians in Oklahoma P.O. Box 1245 Tahlequah, OK 74465
Michael Hatten, Chief Regulatory Division U.S. Army Corps of Engineers Huntington District, CELRH-RD 502 Eighth Street Huntington, WV 25701			

State Agencies		Local Agencies	
<p>Austin Caperton Cabinet Secretary West Virginia Department of Environmental Protection 601 57th Street, SE Charleston, WV 25304</p> <p>Scott G. Mandirola Director Division of Water and Waste Management Permitting and Engineering Branch West Virginia Department of Environmental Protection 601 57th Street, SE Charleston, WV 253041</p> <p>William F. Durham Director, Office of Air Quality West Virginia Department of Environmental Protection 601 57th Street, SE Charleston, WV 25304-2345</p>	<p>Patty Hickman, Acting Division Director Division of Land Restoration Office of Environmental Remediation West Virginia Department of Environmental Protection 601 57th St, Room 1072 Charleston, WV 25304</p> <p>Susan Pierce Deputy State Historic Preservation Officer West Virginia Division of Culture and History 1900 Kanawha Blvd East Charleston, WV 25305</p>	<p>Steve McDaniel Director West Virginia Division of Natural Resources 324 Fourth Avenue South Charleston, WV 25303</p> <p>Danny Bennett West Virginia Division of Natural Resources P.O. Box 67 Elkins, WV 26241</p> <p>Alan Reed District 10 Engineer West Virginia Division of Highways 270 Hardwood Lane Princeton, WV 24740</p>	<p>John Tuggle Executive Director Fayette Raleigh Metropolitan Planning Organization 885 Broad Street Summersville, WV 26651</p> <p>Dave Tolliver Raleigh County Commission 116 N. Heber Street Beckley, WV 25801</p> <p>Steve Christian Executive Director New River Gorge Regional Development Authority 116 N. Heber Street Beckley, WV 25801</p>

DETAILED FIGURES

Detailed figures of the project are shown on the following six pages. The figures show the preferred alternative and provide information on both the built-up landscape and the natural environment.

ENVIRONMENTAL FEATURES

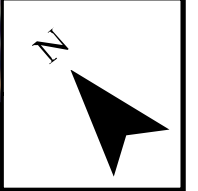
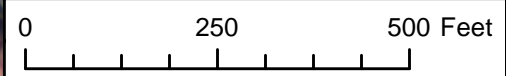


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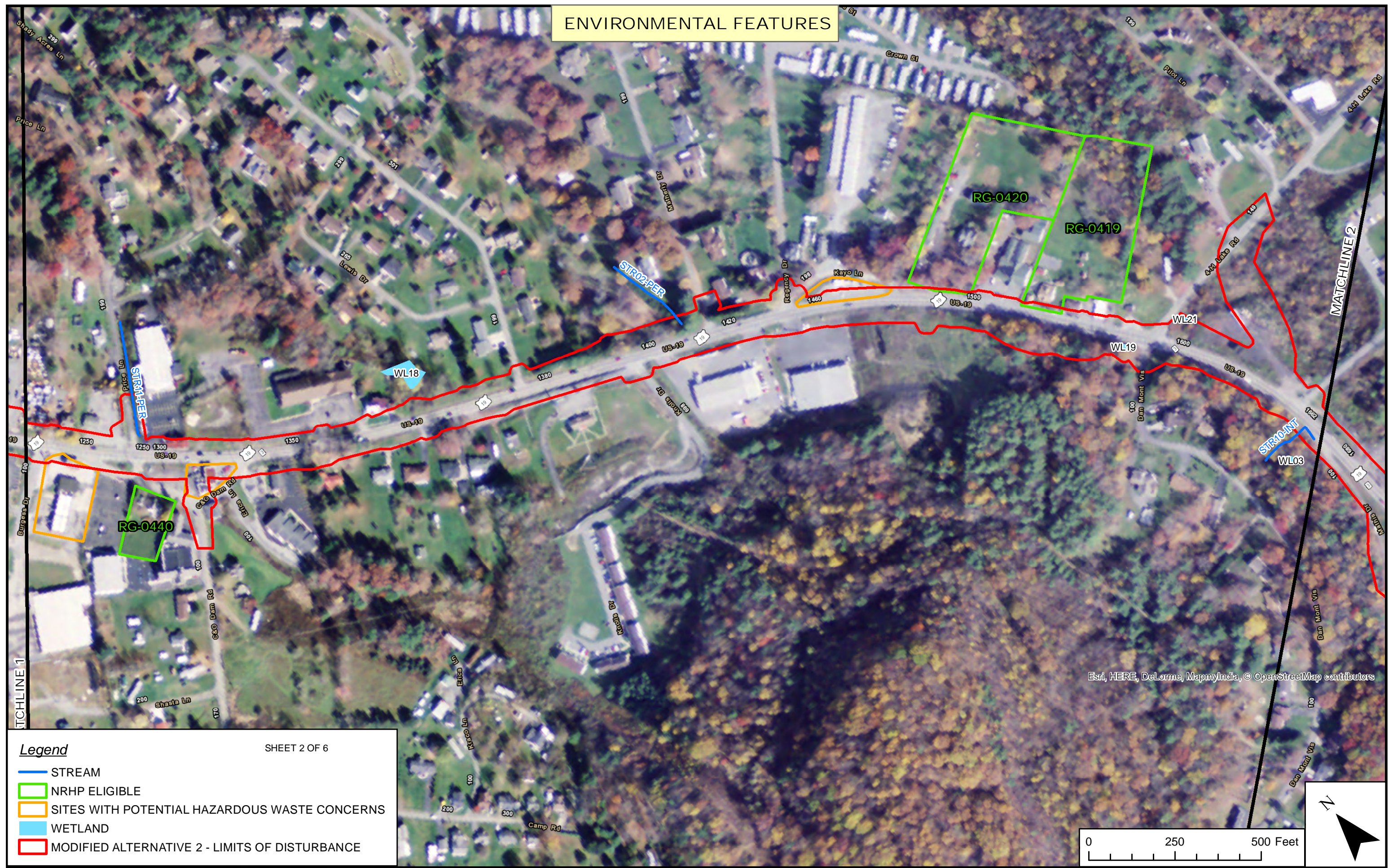
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- NRHP ELIGIBLE
- SITES WITH POTENTIAL HAZARDOUS WASTE CONCERNS
- WETLAND
- MODIFIED ALTERNATIVE 2 - LIMITS OF DISTURBANCE

SHEET 1 OF 6



ENVIRONMENTAL FEATURES

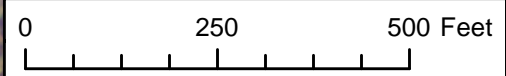
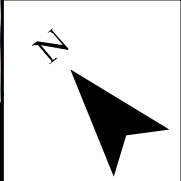


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Legend

- STREAM
- NRHP ELIGIBLE
- SITES WITH POTENTIAL HAZARDOUS WASTE CONCERNS
- WETLAND
- MODIFIED ALTERNATIVE 2 - LIMITS OF DISTURBANCE

SHEET 2 OF 6



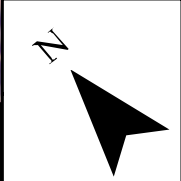
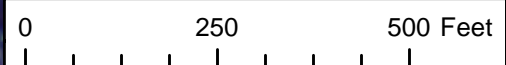
ENVIRONMENTAL FEATURES



Legend

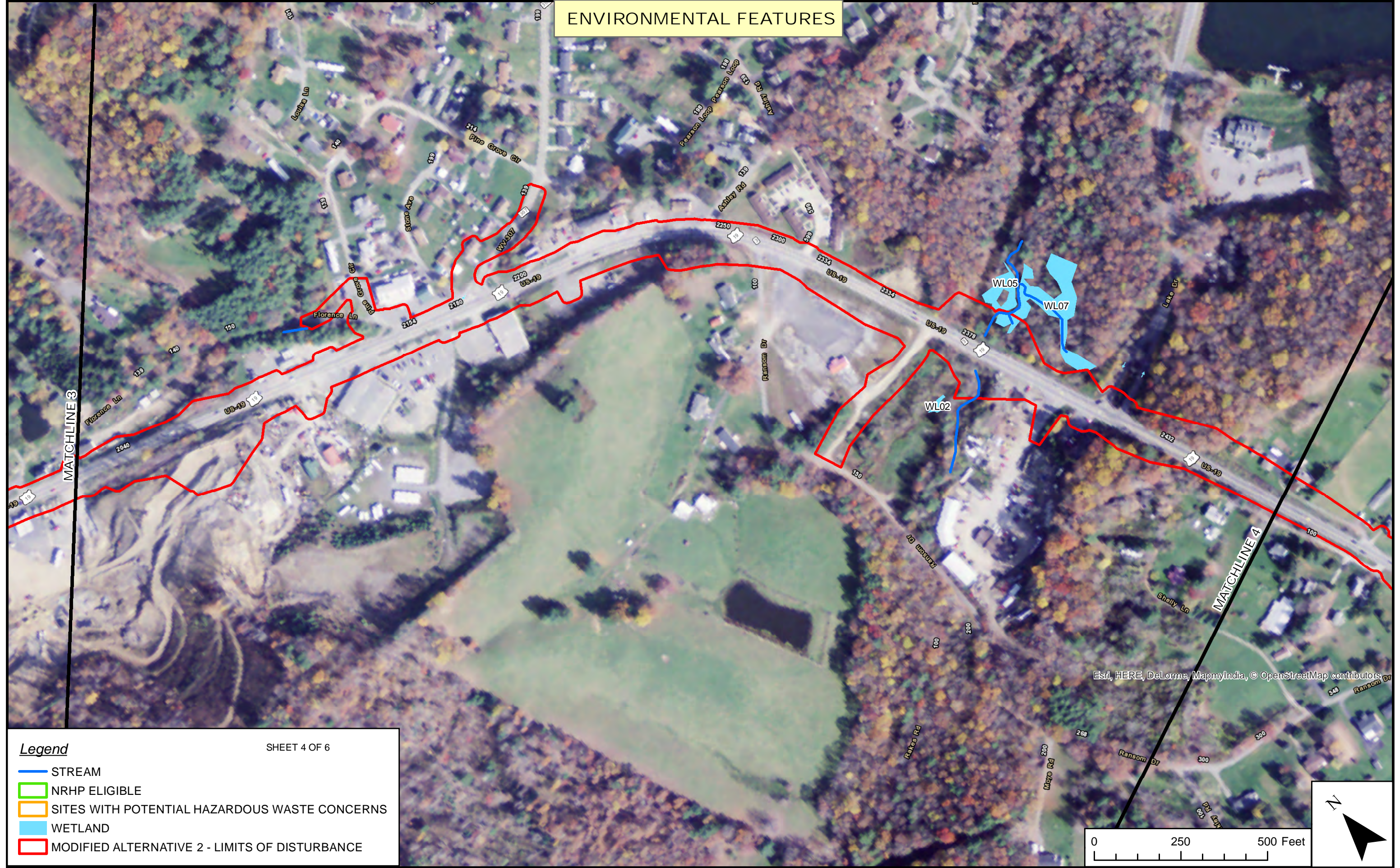
- STREAM
- NRHP ELIGIBLE
- SITES WITH POTENTIAL HAZARDOUS WASTE CONCERNS
- WETLAND
- MODIFIED ALTERNATIVE 2 - LIMITS OF DISTURBANCE

SHEET 3 OF 6



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ENVIRONMENTAL FEATURES

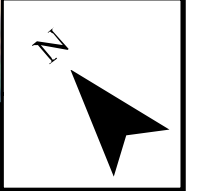
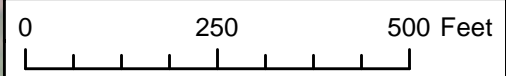


Legend

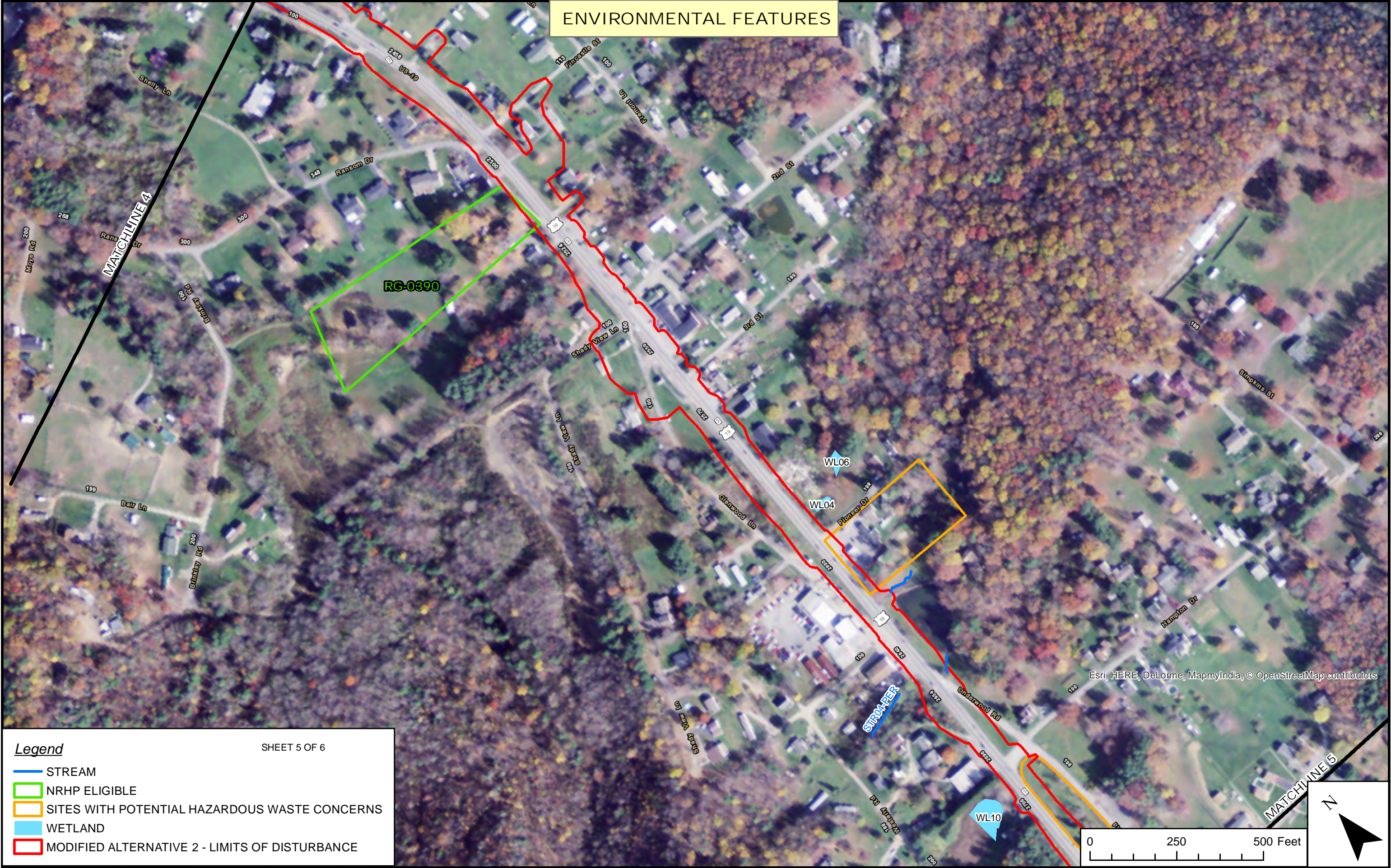
- STREAM
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SHEET 4 OF 6

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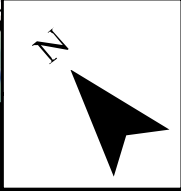
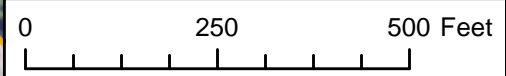
ENVIRONMENTAL FEATURES



Legend

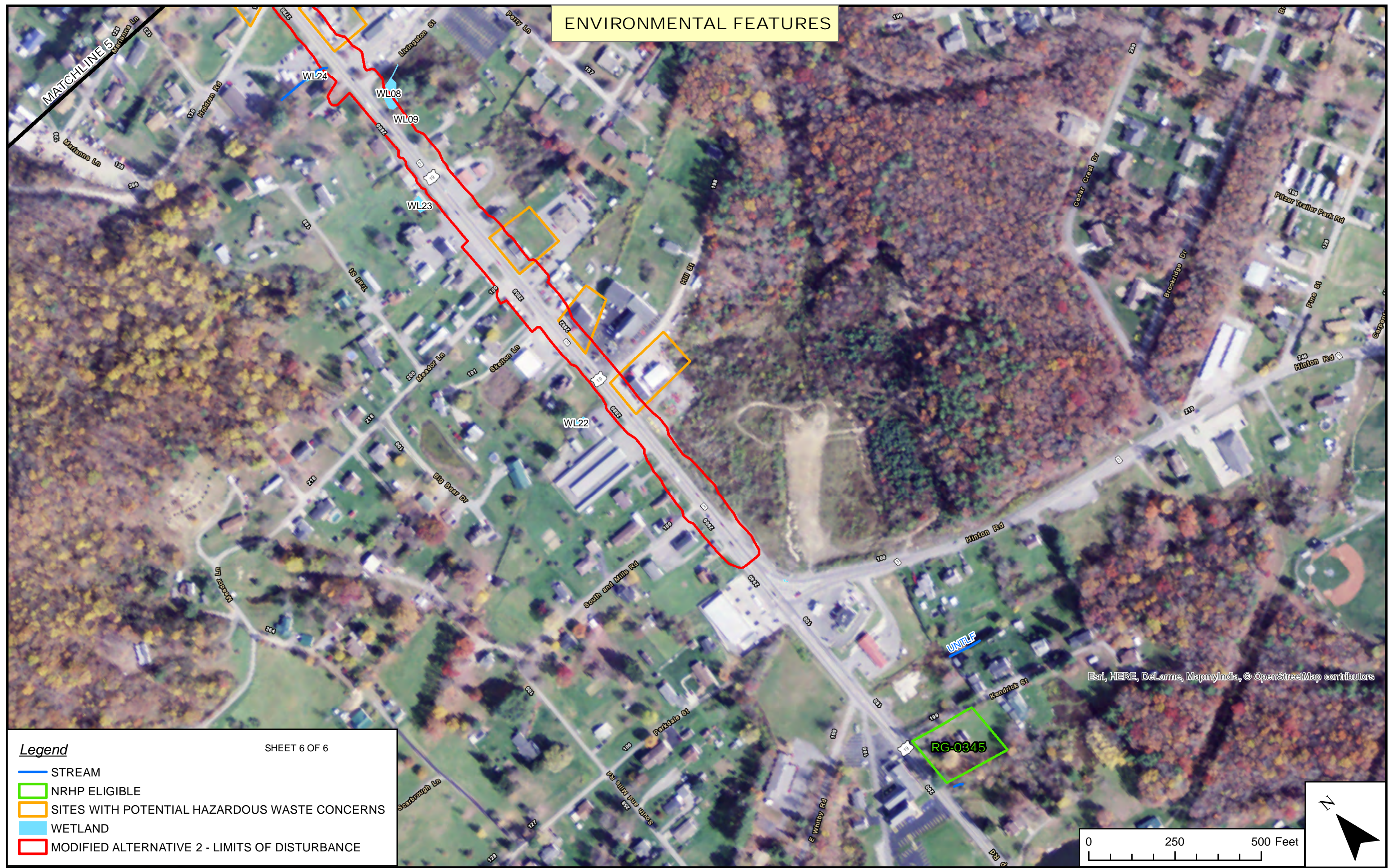
- STREAM
- NRHP ELIGIBLE
- SITES WITH POTENTIAL HAZARDOUS WASTE CONCERNS
- WETLAND
- MODIFIED ALTERNATIVE 2 - LIMITS OF DISTURBANCE

SHEET 5 OF 6



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ENVIRONMENTAL FEATURES



Legend

- STREAM
- NRHP ELIGIBLE
- SITES WITH POTENTIAL HAZARDOUS WASTE CONCERNS
- WETLAND
- MODIFIED ALTERNATIVE 2 - LIMITS OF DISTURBANCE

SHEET 6 OF 6

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