

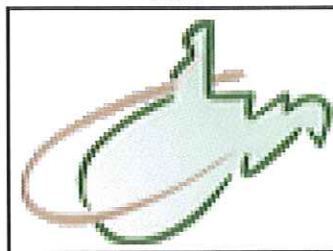
**DRAFT FINAL ENVIRONMENTAL ASSESSMENT (EA)
NTIA-BTOP Grant 2762 EXECUTIVE OFFICE STATE OF WEST
VIRGINIA (NT10BIX5570031)
West Virginia Statewide Broadband Infrastructure
Project – Middle Mile**

Prepared for:



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Broadband Technology Opportunities Program
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and



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1 EXECUTIVE SUMMARY

RPM Engineers, Inc. (RPM) has completed an EA for the NTIA-BTOP Grant 2762 Executive Office State of West Virginia (NT10BIX5570031) Statewide Broadband Infrastructure Project – Middle Mile, in general compliance with the national Environmental Policy Act (NEPA) and the NTIA BTOP EA Guidance protocol dated 24 August 2010. The report has been prepared for the West Virginia Department of Commerce (DOC) and NTIA.

The DOC Middle Mile Broadband Project construction activities include:

- Construction of 12 new telecommunication towers with access roads and fenced compounds containing ground equipment shelters, propane tank, and emergency generators. The towers are located in Brooke, Calhoun, Gilmer, Greenbrier, Hancock, Jackson, Mingo, Nicholas, Pendleton, Pocahontas (2), and Upshur Counties. Radio equipment at 98 existing sites will be replaced facilitating broadband on those legacy towers.
- Installation of fiber for redundancy in six state centers located at Pinnickinnick Mountain, Building 5 Capitol Complex, Charleston, Flatwoods, Wheeling Courthouse, Wheeling, Jefferson County 9-1-1 Center, and 9-1-1 Center located in Welch. WV DHHR has issued a memorandum (WVDHHR, 2010) regarding Installation of the fiber within existing utility corridors in each center.
- Installation of 66 miles of fiber (51 miles above ground and 15 miles buried) to complete a 580-mile circuit from the National Radio Astronomy Observatory at Greenbank (Pocahontas County) to West Virginia University (Marion County). Frontier Corporation will install the new fiber in Pocahontas, Preston, and Tucker Counties. The termination points are at the Observatory in Greenbank, and West Virginia University in Morgantown. Each of the termination locations will have specific termination equipment located within the confines of their switch rooms, which have sufficient electricity, air conditioning, cable trays / conduit already in place.
- Installation of 915 miles (815 miles above ground and 100 miles buried) of fiber as part of the middle mile connection. Frontier Corporation will install this fiber in existing WV Department of Highways (WVDOH) right-of-ways or city streets in all fifty-five counties in West Virginia. Each site will have a CISCO router programmed and installed. Further, the termination point typically is wall mounted.

The purposes of the proposed project are to provide (1) broadband network access to consumers in unserved and underserved areas of the State of West Virginia; (2) improve access to broadband service to consumers residing in underserved areas of the State of West Virginia; (3) broadband education, awareness, training, access, equipment and support to:

- Schools, health care, public safety, libraries, court houses, jails and other community support organizations;
- Organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by low-income, unemployed, aged, and otherwise vulnerable populations;

- Strategic facilities, designed create employment opportunities, within a State designated economic zone, Economic Development District designated by the Department of Commerce, Renewal Community, or Empowerment Zone designated by the Department of Housing and Urban Development, or Enterprise Community designated by the Department of Agriculture;
- (4) improve access to, and use of, broadband service by public safety agencies; and
 (5) Stimulate the demand for broadband, economic growth and job creation.

Construction of the twelve new towers and underground fiber cables will have ground disturbances. However, proper clearances have been received from applicable federal and state agencies prior to construction. The redundant fiber, above ground fiber installation (except for the new poles), and replacement of equipment at existing tower sites will not have ground disturbances

Alternatives such as complete fiber runs, satellite services, etc were considered during the planning phase of this grant. Due to cost, total number of miles of fiber to run, and terrain and project complexity, the Preferred Alternative proved to be the best solution. The WV Interoperable Radio Group (IRP) agreed to connectivity with the existing towers, thus, mitigating the significant cost of new fiber connectivity. This solution maximizes “over the mountain” frequencies which negate new fiber. These other alternatives were considered but eliminated from analysis because they would be costlier as well as potentially produce greater environmental impacts.

1.1 Summary of Environmental Consequences

Based on the information obtained and reviewed by RPM to date, the four planned actions of construction of 12 new towers, redundant fiber within five centers, fiber installation from NRAO to WVU, and fiber installation to middle mile users is expected to have no significant effects as summarized below:

Resource Areas	During Construction	Post Construction	No-Action
Noise	No significant	No	No
Air Quality	No significant	No	No
Geology and Soils	No significant	No	No
Water Resources	No significant	No	No
Biological Resources	No significant	No	No
Historic and Cultural Resources	No significant	No	No
Aesthetic and Visual Resources	No significant	No	No
Land use	No significant	No	No
Infrastructure	No significant	No	No
Socioeconomic Resources	No significant	Beneficial	Continued adverse
Human Health and Safety	No significant	No	No

The “no significant effects” are summarized below with “no effects” presented in Section 6.

The Preferred Alternative will have no significant effects on the resources within

the State of West Virginia during construction of the towers or installation of redundant fiber within buildings, new pole and fiber cable, and buried fiber cable. BMPs will be utilized to minimize impacts to water resources during construction. The cumulative effects of this project compared to existing or future (during the project's duration) statewide projects (such as roadways, water and sewers, commercial, residential, or industrial construction) will be minimal due to the localized nature of the project within city streets and WV DOH rights-of-way. Upon completion of the project, there will be no additional effects to any of these resources.

1.2 Conclusion

In conclusion, based on the information obtained to date, the project will not have a significant adverse environmental or socioeconomic impact. A "Finding of No Significant Impact" (FONSI) should be generated by NTIA.

2 PURPOSE AND NEED

2.1 Purpose

The State of West Virginia lags behind much of the United States in the expansion of broadband capabilities and enhanced networking capabilities. As much of the nation is experiencing the advantages of being connected, the communities of West Virginia and their constituents have not been afforded the opportunity to utilize the commonly available internet based tools for schools, health care, public safety, libraries, courthouses, jails and research. Competitive network vendors have often viewed the potential expansion of network facilities in West Virginia as too costly to provide a return on investment. This situation has created a substantial gap that is limiting the growth potential of the entire state. Statistically, figures indicate that less than 25 percent of the State currently has access to broadband and of those only 40 percent subscribe, which is clearly behind many other States.

While the geographic topography in West Virginia presents difficulties in extending network access to the unserved and underserved areas within the State, broadband access is available in many of its urban regions. These urban areas have experienced moderate growth in connectivity and population. These areas have also gained greater efficiency for their businesses, communities, and residents through the competition of broadband service providers. Growth in these areas has proven competitive availability is the key element required to successfully fulfill the goals of this project. Since the entire State of West Virginia is categorized by NTIA guidelines as underserved, the primary use of BTOP funding will be to extend the reach and density of broadband access throughout the state. This project requires BTOP funding to satisfy all of the following statutory objectives upon deployment.

The purposes of the proposed project are to provide:

1. broadband network access to consumers in unserved and underserved areas of the State of West Virginia;
2. improve access to broadband service to consumers residing in underserved areas of the State of West Virginia;
3. broadband education, awareness, training, access, equipment and support to: