



Broadband Technology Opportunities Program
Finding of No Significant Impact
Biddeford Internet Corp., Three Ring Binder Project

Summary

Biddeford Internet Corp. (Biddeford) applied to the Broadband Technology Opportunities Program (BTOP) for a grant to extend an open-access fiber optic network to rural and remote areas of Maine to stimulate economic development and improve health care and education services. The project is called the Three Ring Binder Project (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant to Biddeford through BTOP, as part of the American Recovery and Reinvestment Act (ARRA). The funding must be obligated and the project completed within three (3) years. This timeline is driven by the laws and regulations governing the use of this ARRA grant funding.

BTOP supports the deployment of broadband infrastructure in unserved and underserved areas of the United States and its Territories to enhance capacity at public computer centers nation-wide, and to encourage sustainable adoption of broadband service. As a condition of receiving BTOP grant funding, recipients must comply with all relevant Federal legislation, including the National Environmental Policy Act (NEPA) of 1969, which limits the types of activities that can be undertaken prior to completion of required environmental reviews. BTOP grant recipients, whose activities are not categorically excluded from further environmental review, must prepare an Environmental Assessment (EA) that meets the requirements of NEPA. After a sufficiency review, NTIA may adopt the EA and use it as the basis for finding that the proposed project will not have a significant impact on the environment. Following such a finding, the BTOP grant recipient may then begin construction or other activities that could impact the environment.

An Environmental Assessment for the Project was completed by Biddeford in May 2010, and reviewed, determined sufficient, and adopted by NTIA as part of the development of this Finding of No Significant Impact (FONSI).

The Project includes:

- Installing approximately 1,100 miles of new fiber optic cable in eastern, northeastern, and southern Maine on existing utility poles that provide the backbone for expanding high speed broadband Internet to currently unserved and underserved households throughout the State;
- Building new fiber cable entrances into approximately 64 existing telephone Central Offices or Remote Terminals throughout the State;
- Conducting utility pole replacement of less than an estimated 2 percent of aged poles along the proposed fiber line; and
- Where necessary, constructing a 25 foot x 25 foot concrete pad upon which to place a pre-fabricated hut used for fiber signal regeneration. Currently, only one segment along the western edge of the northern proposed fiber ring is expected to require a hut.

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Based on a review of the analysis in the EA, NTIA has determined that the proposed Project, if implemented in accordance with the preferred alternative, will not result in any significant environmental impacts. Therefore, the preparation of an Environmental Impact Statement (EIS) is not required. The basis for the determination is described in this FONSI.

Additional information and copies of the EA and FONSI are available to all interested persons and the public through the BTOP website (www2.ntia.doc.gov/) and the following contact:

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Purpose and Need

The purpose of the proposed Project is to expand high capacity broadband Internet (100Mbps or beyond) to rural and underserved areas of the State of Maine, including improving fiber network capacity to the University of Maine system and to elements of the Maine state government. The proposed fiber network will be established as open-access, enabling connection points for last mile service providers to purchase and distribute broadband service to parts of Maine that currently do not have adequate infrastructure to adopt high speed Internet service. Maine is the eleventh least populated state in the nation and much of the State is rural, non-metropolitan, and underserved with respect to high capacity Internet service.

Project Description

The Project will make use of existing utility infrastructure to provide 1,100 miles of fiber optic network throughout rural areas of Maine by installing cable on approximately 36,000 existing utility poles that are primarily located along Maine's roadways. Installation will include the use of metal hardware attachments to hang cable on existing wood and metal utility poles carrying existing power and telecom cables. If necessary, deteriorated wooden poles located roadside will be replaced in kind, concurrent with cable installation. Neither new development or real estate construction will be required, nor alternations to any buildings. The Project will not produce an electromagnetic field or generate any noise when in operation.

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Termination points will be constructed no more than every 37 miles along the route. The Project will use inline regeneration technology, thereby eliminating the need for separate structures to accomplish needed regeneration. Local drop fiber splices will be permitted between all termination points to maximize availability. Local drops will be made between termination points at locations along the route so that as many communities as possible will have access to services from private providers and/or MaineREN network(s). As designed, every termination point along the route will be connected to a minimum of two (2) other termination points.

The fiber routes will be constructed with a high fiber strand count to maximize outreach and scalable growth on all routes. All work will meet applicable code and other requirements, including but not limited to: federal, state, and local code, statutes, and ordinances; National Telecommunications and Information Administration (NTIA) / Rural Utility Service (RUS) specifications for telecommunications facilities; National Electrical Code; and Maine Department of Transportation (MDOT) Engineering Policy Guide (when in MDOT rights-of-way).

Installation will be accomplished using appropriate utility vehicles, operating primarily on public roadways. Construction vehicles will use existing access points and lay down areas and will install the cable via aerial attachment on existing utility poles.

Alternatives

NTIA requires that an EA include a discussion of the no action alternative. The no action alternative provides a baseline against which the effects of the proposed action may be compared. Under the no action alternative, the proposed action would not be implemented and the site-specific and direct impacts associated with the proposed Project would not occur in the Project area. In addition, this EA evaluated two alternative approaches to meeting the purpose and need, (1) hanging cable and (2) burying cable. A third approach, the wireless alternative, was identified but eliminated from further evaluation. Hanging cable was chosen as the preferred alternative, and this FONSI addresses the findings related to that alternative.

Alternative 1 – Hanging high capacity fiber optic cable (preferred alternative). Biddeford will utilize approximately 36,000 existing utility poles along the proposed 1,100 mile route to hang new high capacity fiber optic cable. The procedure for hanging fiber optic cable is similar to hanging telecommunication wires on utility poles, with the exception that fiber optic cabling does not connect to high voltage wire or other transmission wires already present on the existing poles. Utility vehicles, or bucket trucks that contain a hydraulic basket crane lifting system, will be deployed along the route and equipped with cabling to be affixed to utility poles. Bucket trucks may be accompanied by one or more worker vehicles (i.e., car or pick-up truck) to carry supplies and to add an extra layer of safety by placing warning cones or directing traffic, as necessary. Where aged poles require replacement, additional equipment will be used to drill new holes and place new utility poles. Where necessary, Biddeford will construct a 25 foot x 25 foot concrete pad on which to place a pre-fabricated hut used for fiber signal regeneration. Fiber

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signal regeneration is necessary to maintain the lower limit of 100Mbps Internet capacity along the entire route. Currently, only one segment along the western edge of the northern proposed fiber ring is expected to require a hut. As discussed above, interconnection or termination points will be established at existing facilities to enable branching of the fiber network to nearby unserved/underserved communities.

Alternative 2 – Burying high capacity fiber optic cable. The route and amount of cable required is similar to the preferred alternative; however, fiber optic cable would be buried along the existing rights-of-way adjacent to utility poles, rather than being hung. This alternative would use equipment to dig trenches within which the fiber optic cable would be placed. No pole replacement would be necessary; however, the construction of at least one pre-fabricated hut would still be required. In this alternative, interconnection points would still be established at the same locations as for the preferred alternative.

No Action Alternative. Under the no action alternative, Biddeford would not install new high capacity fiber optic cable enabling high speed broadband access within the State of Maine. All existing property would remain as it presently exists, and no construction or installation of new equipment would occur. The proposed action would not move forward using BTOP funds or any alternate funding sources. The no action alternative served as the baseline for assessing the impacts of the alternatives.

Alternatives Considered But Not Carried Forward. Biddeford considered the use of wireless technology affixed to existing pole structures and emitting microwave radio signals to construct the proposed broadband network. This alternative involves establishing huts supporting diesel generators as backup power sources at the base of each location where the wireless device would be hung. It was found that the signals supporting such technology would not support the high bandwidths desired for backbone broadband infrastructure. Wireless technology, in this scenario in Maine, is potentially more supportive of last mile project goals. Based on these factors, this alternative was not carried forward as a reasonable alternative.

Findings and Conclusions

The EA analyzes existing conditions and environmental consequences of the preferred alternative and two alternatives within 11 major resource areas. The resource areas analyzed in detail included Noise, Air Quality, Geology and Soils, Water Resources, Biological Resources, Historic and Cultural Resources, Aesthetic and Visual Resources, Land Use, Infrastructure, Socioeconomic Resources, and Human Health and Safety.

Implementation of the preferred alternative in support of the proposed action is not likely to result in any recognizable environmental impacts and does not involve any unusual risks or impacts to sensitive areas.

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Noise

The preferred alternative to attach fiber optic cable on existing utility poles has the potential to create a minimal increase in ambient noise. This noise will be temporary and localized in nature, related to short-term construction that may create minor disturbances in residential and commercial areas.

Air Quality

Given the temporary nature of installation and the limited impacts during operation, no significant effects to air quality will be associated with implementation of the preferred alternative. The Project will use Best Management Practices (BMPs) for construction activities and will train work crews in those measures before beginning work. The available BMPs will, at a minimum, include the practices listed below:

- Maintain truck and equipment engines in good running condition.
- Limit maximum speed to 15 miles per hour on unpaved roads.

Geology and Soils

The preferred alternative will result in minimal disturbance to soils and geologic resources by using existing utility poles to the extent practicable. In the event that utility poles require replacement, the new pole will be placed immediately adjacent to, or as near as possible to, the existing location. This will limit the need for additional cut and fill.

Generally, replacement poles are installed using a drilling machine and the excess soil either removed or mounded at the base. All pole replacements will be within the footprint of previous installations, and there will be limited disturbance to previously undisturbed, native soil profiles. Appropriate BMPs will be used to prevent soil erosion and sedimentation for any pole replacements that are necessary. In general, the specific BMPs used to replace a pole will depend on site-specific conditions. An appropriate erosion and sediment control strategy will be developed that matches the needs of each site. During pole replacement, a sediment barrier, such as properly toed-in silt fence or tightly placed hay bales, will be placed around the pole. If work would need to continue the following day and there was a chance of heavy precipitation, the spoils pile created from removing the old pole will be covered with straw or fabric at the close of the day. When pole replacement is complete, spoils piles and other exposed surfaces that pose an erosion and sedimentation threat will be reseeded and mulched.

Pole replacement will occur from the road right-of-way, wherever possible. If access to a pole located in a wetland is not possible from the road right-of-way, temporary mats will be used to minimize damage to the wetland and allow machinery, such as a drill, to access the pole.

Water Resources

Because the fiber optic cable will be affixed mostly to existing utility poles, the preferred alternative will result in minimal disturbance to water resources. In a limited number of circumstances, replacement of utility poles may be necessary. The new pole will be placed

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within the existing footprint of the previous installation and no new disturbance to surface water or floodplain resources will occur.

During replacement, appropriate BMPs will be used to prevent soil mobilization to wetlands or water bodies. Pole replacement has the potential to cause minimal leaching to the surrounding soil of wood preservatives, such as chromate copper arsenate (CCA) or pentachlorophenol (PCP), which are commonly used on utility poles. The low mobility of the preservatives, combined with use of proper BMPs, results in a negligible risk for wood preservative to leech into ground water or surface water bodies.

The U.S. Army Corps of Engineers has concluded under Section 404 of the Clean Water Act that no permit is required for the preferred alternative, and further, the Maine State Planning Office concluded that a Coastal Zone Management Act consistency review is not required.

Biological Resources

Under the preferred alternative impacts to biological resources will be minimal.

The preferred alternative does not include tree clearing, filling, or construction. Potential impacts to wildlife may include minor and temporary noise disturbance due to work activity and vehicles during the hanging of cable or when replacing poles.

Negligible potential disturbance to fish and mussels may result due to minor, localized turbidity. No permanent impacts to aquatic resources or wetlands will occur and temporary impacts can be eliminated or minimized through the use of proper BMPs such as those described under *Geology and Soils*. Where sensitive natural resources are involved, appropriate timing of stream crossings will be employed such as during the non-breeding season of vernal pool amphibians. No impacts to rare, threatened, and endangered species were identified under this alternative. Although the Project will pass through Critical Habitat for Canada lynx and Atlantic salmon, no riparian clearing, in-stream work, or land alteration will occur.

The National Oceanic and Atmospheric Administration (NOAA), although confirming that the proposed Project will cross several waterways designated as Essential Fish Habitat and Critical Habitat for federally managed species, including winter flounder and Atlantic salmon, concluded that the Project will have little or no direct or indirect impacts on aquatic habitat, and noted that the National Marine Fisheries Service's Habitat Conservation Division generally considers aerial crossings with no in-stream work as 'no impact'.

Consultations with the U.S. Fish and Wildlife Service (USFWS) determined the preferred alternative will not affect the habitat for the two (2) federally listed species for which the Project route overlaps. USFWS agreed that with no stream crossing or buried cable, no further review or consultation is required under Section 7 of the Endangered Species Act.

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Historic and Cultural Resources

The State Historic Preservation Officer (SHPO) was consulted pursuant to Section 106 of the National Historic Preservation Act and concluded that the proposed undertaking will have no adverse effect on above ground historic architectural resources.

Regarding prehistoric and historic archaeological resources, the SHPO concluded that the Project area potentially contained one or more prehistoric and/or archaeological sites. Therefore, the SHPO concluded that a Phase I archaeological survey may be necessary prior to any ground disturbance as a result of the potential for pole replacements. In response, NTIA and the SHPO prepared a Memorandum of Agreement that specifies that Phase I surveys will be conducted only in areas that have not previously been disturbed, but that will be impacted as a consequence of the pole replacement activity. Further, Phase I surveys will only be conducted in areas that are archaeologically sensitive.

NTIA also forwarded a copy of the Project description to the Tribal Historical Preservation Office (THPO) and other potentially interested tribal entities for review and comment. NTIA provided responses to comments and requests that were received.

Aesthetic and Visual Resources

The preferred alternative will result in a single additional cable being added to existing utility poles along Maine's roadways, which may have a small incremental impact on the local aesthetics.

Land Use

The preferred alternative is expected to have no land use impacts.

Infrastructure

The lack of existing communications infrastructure results in both public health and safety concerns, and schools, government agencies, and residential and business owners that are without high speed and/or reliable Internet connectivity. The preferred alternative will have the positive impact of providing this needed infrastructure.

Construction activities related to fiber installation will generate a certain amount of waste, including environmentally non-hazardous materials. The volume of waste generated is expected to be minimal, and all waste generated by the Project will be disposed of at an approved solid waste transfer station or disposal facility.

The existing roadway infrastructure in the State is adequate for the types of vehicles and equipment that will be required to complete the Project.

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Socioeconomic Resources

The preferred alternative will bring broadband access to low-income rural areas of Maine, such as Aroostook, Franklin, Oxford, Somerset, and Washington counties. The availability of broadband access in these underdeveloped areas will help to integrate existing community institutions such as hospitals, schools, and libraries. Other activities that require large bandwidth, such as remote schooling (*i.e.*, online college courses), will spur job creation and stimulate long-term economic growth and opportunity in low-income rural areas.

The preferred alternative is likely to stimulate local economies during the two year installation and construction period as a result of the economic impact of construction crews traveling throughout the State.

The preferred alternative is expected to have no adverse socioeconomic impacts.

Human Health and Safety

Trained and qualified line workers will perform all work on utility poles. Line work performed on the Project will be in accordance with OSHA Section 1910.137, 1910.269 and the National Electric Safety Code C2-2007.

Traffic control, where applicable, will be provided by a certified flagging company or local law enforcement.

The preferred alternative will not have any recognizable adverse affects on human health and safety.

Cumulative Impacts

There is a minor cumulative impact to infrastructure since the proposed Project involves adding cable to existing utility poles, which can accommodate a finite number of cables and associated equipment. Therefore, there may be less available space for potential future cables and lines on existing poles.

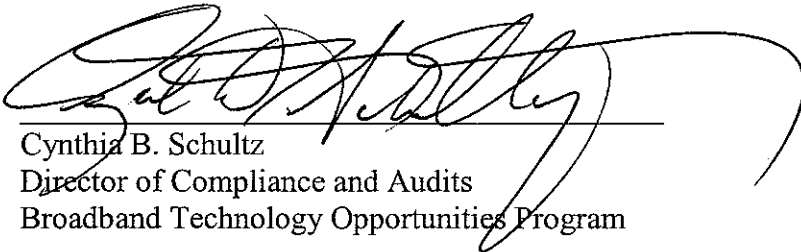
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There is a substantial positive cumulative impact of the Project on socioeconomic resources. The preferred alternative will provide broadband access to numerous underserved and unserved communities, which will improve opportunities to engage in the global economy, provide increased educational opportunities, and improved public safety through reliable and high speed communication.

Decision

Based on the above analysis, NTIA concludes that with the BMPs and environmental protection measures proposed for implementing the Project using the preferred alternative, the construction and operation of the Project would not require additional mitigation. A separate mitigation plan is not required for the Project. The analyses indicate that the proposed action is not a major Federal action significantly affecting the quality of the human environment. NTIA has determined that preparation of an EIS is not required.

Issued:



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Date