

**National Telecommunications and Information Administration  
Broadband Technology Opportunities Program  
Finding of No Significant Impact  
Public Utility District of Pend Oreille County, Washington  
Fiber to the Premise Project**

**Summary**

The Public Utility District of Pend Oreille County, Washington (PUD) applied to the Broadband Technology Opportunities Program (BTOP) for a grant to install approximately 556 miles of last mile fiber optic cable and middle mile infrastructure in rural, northeastern Washington. The new cable and infrastructure will bring redundancy to the existing high speed network, and last mile service extensions will enhance broadband service to end users in southern Pend Oreille County. When completed, the network will provide broadband internet access to approximately 5,000 households, 360 businesses, and 24 community anchor institutions (CAIs) in a 400 square mile service area. The new infrastructure will include approximately 388 miles (70%) of aerial installation and 168 miles (30%) of underground cable. Aerial cable will be placed on existing power poles, with very limited pole replacement expected. Underground cable will be installed in existing utility rights-of-way (ROWS) or easements using plowing and directional drilling techniques. Ancillary infrastructure, including cabinetry and small storage structures, will also be installed in the planned network service area. This proposed action, formerly identified as the Pend Oreille County PUD Broadband Network, is currently referred to as the Fiber to the Premise Project (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant for the Project to PUD, through BTOP, as part of the American Recovery and Reinvestment Act (ARRA). The funding must be obligated and the Project completed within three 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. As a condition of receiving BTOP grant funding, recipients must comply with all relevant Federal legislation, including the National Environmental Policy Act of 1969 (NEPA). Specifically, NEPA limits the types of actions that the grantee can initiate prior to completing required environmental reviews. Some actions may be categorically excluded from further NEPA analyses based on the specific types and scope of work to be conducted. For projects that are not categorically excluded from further environmental review, the grant recipient must prepare an Environmental Assessment (EA) that meets the requirements of NEPA. After a sufficiency review, NTIA may adopt the EA, use it as the basis for finding that the project will not have a significant impact on the environment, and issue a finding of no significant impact (FONSI). Following such a finding, the BTOP grant recipient may then begin construction or other activities identified in the EA as the preferred alternative, in accordance with any special protocols or identified environmental protection measures.

PUD completed an EA for this Project in December 2010. NTIA reviewed the EA, determined it is sufficient, and adopted it as part of the development of this FONSI.

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The Project includes:

- Installing approximately 388 miles of fiber optic cable on existing utility poles within existing ROWs;
- Using plowing and directional drilling techniques to install approximately 168 miles of underground fiber within previously disturbed ROWs and construction easements;
- Installing approximately 23 service area hub cabinets to house network telecommunications equipment along the network route; and
- Installing aerial or underground last mile cable extensions to connect approximately 5,000 households, 360 businesses, and 24 CAIs to the network.

Based on a review of the analysis in the EA, NTIA has determined that the Project, implemented in accordance with the preferred alternative, and incorporating best management practices (BMPs) and protective measures identified in the EA, will not result in any significant environmental impacts. Therefore, the preparation of an EIS is not required. The basis for this determination is described in this FONSI.

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

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### **Purpose and Need**

The purpose of the Project is to expand an existing open access network and provide reliable, affordable, high-speed broadband service to residents, businesses, and government centers in southern Pend Oreille County. PUD currently relies on a single thread backbone system that extends from Spokane to near the Canadian border. The lack of system redundancy makes the network vulnerable to widespread outages in the event of a cable break. In addition, the existing last mile of connectivity is outdated, copper-based cable connecting individual properties with limited capacity. Although satellite-based Internet access is available in the planned network service area, it does not adequately support telecommuting, commerce, and education. This Project will increase reliability and redundancy of the backbone (middle mile) network, and

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provide high speed last mile connections to over 5,000 end user CAIs, businesses, and residential properties.

**Project Description**

The majority of the fiber optic cable to be installed for this Project (approximately 70%) will be installed aerially on existing power poles in existing utility ROWs. All-dielectric self supporting (ADSS) cable or figure eight style (molded messenger) flexible access cable will be placed within the communication space on existing poles. Existing aerial utilities will be adjusted if necessary to secure adequate clearance. In limited circumstances, pole replacements may also be needed to accommodate clearance requirements or replace deteriorated poles. In such cases, full-length, pressure treated, western red cedar poles will be used to replace existing infrastructure. Typically, the replacement pole will be installed in the hole created after the existing pole is removed. However, pole replacement may also be completed by setting the new pole next to the existing pole, transferring aerial telecommunications facilities, removing the displaced pole, and backfilling the existing pole hole with soil from the new hole. Power poles replaced due to height or class issues will be reused in another part of the system. Poles deemed unsafe or unusable will be recycled. Creosote treated poles removed during aerial fiber installation will be properly disposed.

Approximately 30% of the new fiber optic cable will be installed underground. PUD will use the plowing method to install the buried cable and conduit, except in areas where protection of surface features is required. In these cases, directional boring techniques will be used to avoid or mitigate damage to the environment or existing facilities. Directional drilling is a minimally disruptive technique that results in a surface disturbance of less than one foot in diameter and a 3-inch horizontal conduit along the designated installation route. Acoustic or other ground sensing techniques used during directional drilling allow for precise placement of buried infrastructure both horizontally and vertically. The need for directional boring will be determined during the design phase of the project to avoid conflict with existing utilities and paving, minimize adverse impacts associated with stream and wetlands crossings, and mitigate adverse effects on sites of historic or cultural significance. All underground cable will be placed at an approximate depth of two feet below ground surface within previously disturbed soil in existing ROWs. Following installation, the fiber route will be restored to pre-existing conditions, to the extent practicable.

Service drops (i.e., the final stretch of cable from the PUD infrastructure to end user buildings) will be installed along existing power drops from the nearest utility pole and electrical transformer to the end user building being served. The lateral fiber extension will be connected to a new, small meter box mounted near the electric meter on the end user's property. The new meter will be connected to the existing electric meter for power and future Smart Grid applications and communication. Other than the new meters, no customer premise equipment will be provided under this Project.

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Service area hubs (SAHs) will be installed along the route to house network equipment. The SAHs will be placed in locations that provide the best access for utility workers with limited impact on the environment, area aesthetics, and other critical infrastructure. According to the grantee's application, approximately 23 SAHs will be installed under this Project. The largest SAH cabinets will be approximately 4 feet wide by 2 feet deep by 5 feet tall. Most of the SAH cabinets will be smaller and installed with the base buried 12 inches deep in previously disturbed soil within existing utility ROWs. In some instances, the District will procure easements for installation of network cabinetry and other infrastructure. In urban areas and near surface water features, small parcels of PUD-owned land will be used as SAH sites. In rural areas, SAH cabinetry will be installed on poles within existing ROWs.

### **Alternatives**

The EA includes an analysis of the alternatives for implementing the Project to meet the purpose and need. NTIA also requires that an EA include a discussion of the no action alternative. The following summarizes the alternatives analyzed in the EA.

*Alternative 1 – Aerial and Underground Installation of Fiber Optic Cable (Preferred Alternative).* As discussed previously, this alternative includes installing roughly 556 miles of fiber optic cable, with approximately 388 miles (70%) of aerial installation and 168 miles (30%) of underground cable. This alternative will follow the configuration of the existing aerial and buried power service network, deviating from that route as necessary to minimize impacts on the environment, adverse effects on archaeological and historical sites, and disruption of traffic. The existing middle mile backbone will be expanded to create required system redundancy, and last mile service will be provided to approximately 5,000 households, 360 businesses, and 24 CAIs. This alternative also includes installation of approximately 23 SAH cabinets to house network equipment along the route.

*No Action Alternative.* No action was also considered. This alternative represents conditions as they currently exist. Under the no action alternative, southern Pend Oreille County would remain unserved and underserved, with limited choices for higher speed broadband service. The existing, outdated last mile infrastructure would not be upgraded, and end users in the area would continue to rely on a single thread backbone system without adequate redundancy. The EA examined this alternative as the baseline for evaluating impacts relative to other alternatives being considered.

*Alternatives Considered But Not Carried Forward.* During the planning stages of the Project, PUD considered using wireless technology to complete the network, or installing the new infrastructure as an all-aerial or all-underground network. The suitability and reliability of wireless technology is compromised by rolling terrain and tall evergreen trees in Pend Oreille County. The wireless option would significantly reduce available bandwidth and speeds across the network and would not take advantage of existing ROWs and PUD's experience maintaining and operating a wire-based network. An all-aerial fiber installation would result in significantly

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lower costs than the preferred alternative, but placement of new poles and wires would result in additional environmental disturbance and increased permitting requirements. An all-aerial network would be expected to generate public opposition. An all-underground fiber installation would not take advantage of existing utility poles in the planned service area and would result in significant cost increases. This option would be environmentally challenging and unnecessarily disruptive to the natural landscape, surface water features, areas of archaeological and historical significance along the route, and the daily lives of residents in the area. Following existing aerial and underground utility routes provides a level of protection for these resources that could not be achieved using an all-underground alternative. Based on these factors, PUD determined that the aforementioned options do not meet the requirements for successful implementation of the Project. Accordingly, only the preferred alternative was carried forward in the EA.

### **Findings and Conclusions**

The EA analyzed existing conditions and environmental consequences of the preferred alternative in 11 major resource areas, including 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. Cumulative impacts were also evaluated.

#### ***Noise***

Construction activities related to the Project will result in localized and short-term increases in ambient noise. However, standard industry best management practices (BMPs), such as requiring appropriate mufflers and limiting construction times, will be used to minimize these short-term impacts. Installation and operation of new fiber optic infrastructure will not result in new, long-term sources of noise. Accordingly, this Project will have minor short-term impacts on noise and no long-term impacts on noise in the area.

#### ***Air Quality***

Project-related impacts on air quality will be limited to short-term increases in fugitive dust and greenhouse gas (GHG) emissions. Underground construction associated with this Project will be completed in soils with a low to moderate resistance to fugitive dust. However, the narrow blade used for plowing limits disturbance to a small trench approximately 3 inches wide and cuts the soil rather than tumbling it. Heavy equipment and vehicles may generate fugitive dust when operated on bare or disturbed soil during the construction phase, but standard industry BMPs (e.g., watering down bare soil) will be implemented to minimize dust generation. Use of heavy construction equipment will also result in short-term, localized increases in air pollutant emissions. An estimated 300 gallons of gasoline and over 520 gallons of diesel fuel will be consumed per day for approximately 720 days during Project construction, releasing approximately 5,697 metric tons of carbon dioxide into the atmosphere. However, this calculated quantity is significantly lower than the presumptive effects threshold of 25,000 metric tons of carbon dioxide equivalent emissions established by the Council on Environmental Quality. No air impacts are anticipated to result from long-term operation and maintenance of

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the network. Accordingly, no significant impacts on air quality are expected to result from this Project.

***Geology and Soils***

No ground disturbance is expected in locations where aerial fiber will be replaced on existing poles. Some minor ground disturbance will occur during conduit fiber installation via plowing and replacement of utility poles, but disturbed soil will be restored to its original condition. All construction activities, including underground fiber optic cable installation and installation of SAH cabinets, will be conducted in previously disturbed areas along existing ROWs or PUD easements. Hydric soils, indicative of wetlands in the Project area, will be avoided through the use of aerial cable and/or directional drilling installation techniques. Based on these considerations, the Project will not result in significant adverse impacts on geology and soils.

***Water Resources***

More than 40 surface water bodies and wetlands areas, including the Pend Oreille River, will be encountered along the 556-mile cable route. Disturbance to surface water features will be avoided primarily by hanging new aerial cable on existing poles. For example, two aerial crossings of the Pend Oreille River are planned. Aerial fiber optic cable is already in place over the river from Herbs Drive to Leclerc Road, with no additional construction required to incorporate that existing infrastructure into the PUD network. The other aerial fiber optic cable crossing of the Pend Oreille River is planned in the vicinity of Westside Calispel Road and Dalkena Street and will be carried across the river on existing utility poles. Other surface water features encountered along buried portions of the fiber corridor will be avoided by routing cable through conduit on existing Washington State Department of Transportation (WSDOT) bridges or by directional drilling at least 10 feet below the stream bed. In email correspondence dated September 27, 2010, the U.S. Army Corps of Engineers (USACE) indicated that crossings of the Pend Oreille River require authorization under Nationwide Permit 12, but they do not anticipate any issues with the plowing or directional boring plans for this Project. Wetlands areas along underground routes will be avoided by installing fiber within the road shoulder. Directional drilling equipment will be operated from areas outside of stream and wetland buffers, and pre-existing surface contours will not be altered. Industry BMPs for erosion and sediment control (e.g., storm drain inlet protection) will also be implemented during Project construction. Through the use of these avoidance measures and BMPs, no significant adverse impacts on water resources will occur as a result of this Project.

***Biological Resources***

Implementation of this Project will have minimal and temporary effects on wildlife and vegetation, as all work will be performed within previously disturbed public ROWs or utility corridor easements. Elevated construction noise may temporarily disturb songbirds, rodents, deer, and other wildlife, but disturbance to vegetative habitat will be minimal. Grasses and small scrub vegetation removed within the ROW will be restored from seed. No effects on migratory birds are expected because fiber optic cabling will be installed in close proximity to existing

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power lines (in existing pole locations) or underground. No long-term effects on general wildlife or vegetation are expected.

Numerous federally listed endangered and threatened species may be present within Pend Oreille County. Most of these species are not known to inhabit areas within 200 feet of the planned fiber cable route for this Project. However, the threatened bull trout (*Salvelinus confluentus*) has a designated critical habitat that includes the Pend Oreille River and Indian Creek, both of which will be crossed twice to complete the planned network and last mile extensions. Most endangered and threatened plants are also located outside of the 200-foot buffer along the planned fiber installation corridor. Only one listed plant species, the threatened Rush Aster (*Symphyotrichum boreale*), is found within 200 feet of the cable routing. PUD has included a variety of BMPs in Project design plans to avoid impacts to the two protected species. These BMPs include using aerial cable or directional drilling to cross the two trout-bearing streams, monitoring waterways for elevated turbidity, avoiding construction during spawning season in the vicinity of the trout-bearing streams, and limiting clearing of vegetation in critical habitat for the Rush Aster. With implementation of these measures, PUD determined that the Project will have no effect on biological resources. In an email dated November 15, 2010, the U.S. Fish and Wildlife Service Eastern Washington Field Office found no reason to disagree with that determination.

Based on these analyses, no significant impacts on biological resources are anticipated to result from this Project.

***Historic and Cultural Resources***

PUD and its archaeological consultant conducted an evaluation to identify archaeological sites, cemeteries, and historic properties within the Project's area of potential effect (APE), which includes the fiber installation route, a half-mile of land on either side of that route, and any necessary staging areas. A total of 38 archaeological sites, 7 historic properties, and 2 cemeteries were identified as being potentially affected by the Project. PUD will avoid adverse effects on these known properties through the use of aerial cable installation. In areas where ground disturbance is necessary, PUD committed to conducting additional on-the-ground archaeological survey activities after staking is completed, developing site-specific monitoring plans as necessary, and submitting monitoring reports after construction is complete. PUD contacted the U.S. Forest Service (USFS) on August 19, 2010, via letter, to determine any stipulations on work to be completed in or near Coleville Forest. Through continued communications, PUD will ensure that any USFS interests are addressed with regard to Project work completed in or near Coleville Forest. Given these stipulations, NTIA concluded that the Project will have no adverse effect on historic properties. This determination was documented in a letter to the State of Washington Department of Archaeology and Historic Preservation (SHPO) dated November 5, 2010. On November 23, 2010, the SHPO concurred with the no adverse effect determination and Project stipulations.

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NTIA notified potentially interested tribes of the Project through the Federal Communication Commission's Tower Construction Notification System. Two tribes responded indicating no interest in the site other than requesting notification in the event of inadvertent discovery of cultural resources. Because the Project area is located outside of the Kalispel Indian Tribe Reservation, but within the area of influence for the Tribe, PUD and its consultants met with the Cultural Resources Program Manager for the Kalispel Tribe of Indians to discuss avoidance and mitigation measures. On December 13, 2010, the Tribe and PUD entered into a Letter of Agreement specifying measures that will be undertaken to address archaeological resources encountered during Project construction. These measures (i.e., ensuring avoidance of cultural resources, developing a monitoring implementation plan, and hiring of a cultural resource firm knowledgeable in the cultural resources of the Project area) are similar to those PUD committed to in an October 28, 2010, letter to NTIA. With the stipulations outlined in this Letter of Agreement, the Cultural Resources Manager for the Kalispel Tribe of Indians indicated concurrence with NTIA's determination of no adverse effect.

Based on the results of these consultations, and PUD's commitment to implement appropriate protective measures, the Project will have no significant impact on historic and cultural resources.

***Aesthetic and Visual Resources***

Due to the presence of construction equipment, very minor and temporary impacts on aesthetics and visual resources may occur during Project construction. Aerial fiber optic cable will be installed on existing poles adjacent to existing utility lines. This installation strategy will result in minimal long-term impacts on visual or aesthetic resources in the Project area. Small SAH cabinets will be installed in existing ROWs, with specific locations selected to minimize long-term impacts on visual aesthetics. Buried cable will not be visible after installation. Based on these design considerations, the Project will have no significant impacts on aesthetic or visual resources.

***Land Use***

The Project will bring fiber cabling from existing and new middle mile backbone infrastructure to communities and properties that have already been developed. Due to the presence of construction equipment, very minor and temporary impacts on land use may occur during Project construction. Network installation, operation, and maintenance will have no long-term impacts on land use or zoning in the Project area. No significant impacts on land use are expected to result from implementation of this Project as planned.

***Infrastructure***

Installation of new fiber optic cable on existing or replacement poles and in shallow trenches along previously disturbed ROWs will not negatively impact infrastructure in the Project area. Fiber cable will be installed on utility poles within PUD power line easements and ROWs. In the long term, this Project will add redundant capabilities and new broadband service infrastructure in southern Pend Oreille County. The new infrastructure will lower the cost of, and increase



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access to, high speed broadband services. No significant adverse impacts on infrastructure are anticipated to result from implementation of this Project.

***Socioeconomic Resources***

This Project is expected to provide significant positive socioeconomic benefits within the rural area to be served. Disadvantaged and vulnerable populations within unserved and underserved areas of southern Pend Oreille County will be provided with improved access to affordable broadband services. These opportunities are, in turn, expected to improve education and job training, medical services, emergency response, and overall quality of life. The Project is also expected to result in short- and long-term job growth within the county. No significant adverse socioeconomic impacts from this Project are anticipated.

***Human Health and Safety***

Construction activities will occur within ditches and utility corridors along highways and roads, but not directly in the path of traffic. This will reduce impacts on vehicles traveling on the highways and roads, as there will be no need to close or reroute traffic lanes. Warnings and guidance will be provided to traffic as appropriate. A detailed Traffic Safety Plan, based on Federal Highway Administration requirements and the Manual on Uniform Traffic Control Devices, will be developed and implemented during the construction phase to protect the health and safety of fiber installation workers. This plan will include requirements for use of high-visibility safety apparel when exposed to traffic or heavy equipment in the Project corridor. An accident prevention program will also be implemented to ensure regular inspection of job sites, materials, and equipment. Operation of the broadband network services will have a positive impact on human health and safety in the Project area. The project will provide enhanced broadband service to rural communities, including direct connection to medical facilities and emergency services providers. Accordingly, this Project will have no significant short-term adverse impacts and beneficial long-term impacts on human health and safety.

***Cumulative Impacts***

As described above, the Project will not have significant adverse impacts on any of the environmental resource areas evaluated in the EA. As such, no cumulative impacts to the environment are anticipated. PUD is unaware of any projects currently being planned for the Project area by other agencies (e.g., road widening projects, utility service projects, and other similar proposals). However, should such projects be identified, PUD will coordinate efforts so as to minimize disruptions and potential cumulative impacts.

**Decision**

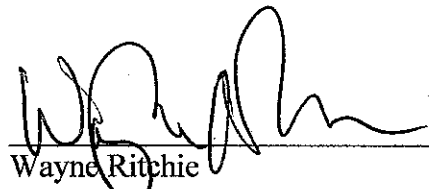
Based on the above analysis, NTIA concludes that constructing and operating the Project as defined by the preferred alternative, identified BMPs, and protective measures will not require additional mitigation. A separate mitigation plan is not required for the Project. The analyses indicate that the proposed action is not a major Federal action that will significantly affect the

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quality of the human environment. NTIA has determined that preparation of an EIS is not required.

Issued:



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Date