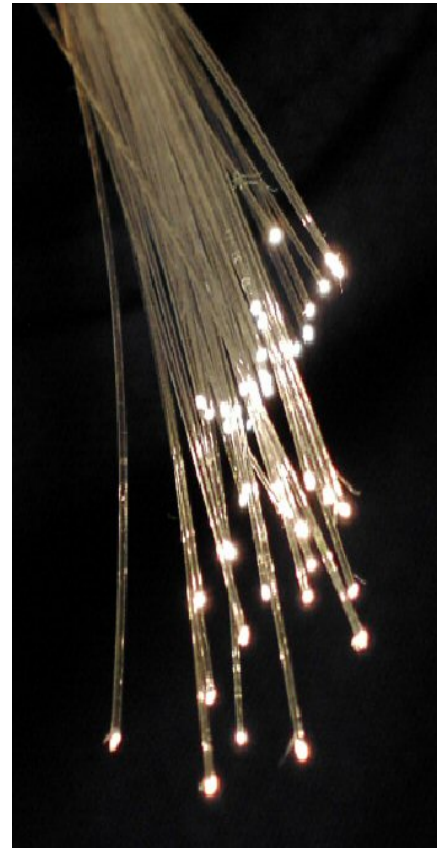


Environmental Assessment



Clackamas Broadband Innovation Initiative (CBII) Project

January 8, 2011

Prepared For
Clackamas County
Technology Services
121 Library Ct.
Oregon City, OR 97405

National Telecommunications
& Information Administration
U.S. Department of Commerce
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

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Acronyms and Abbreviations

| | |
|------------|---|
| AG/F | Agricultural/Forest (Zoning District) |
| AMS | American Meteorological Society |
| APE | Area of Potential Effect |
| ARRA | American Recovery and Relief Act |
| BLM | United States Bureau of Land Management |
| BMP | Best Management Practices |
| BTOP | Broadband Technology Opportunities Program |
| CAA | Clean Air Act |
| CBII | Clackamas Broadband Innovation Initiative |
| CEQ | Council on Environmental Quality |
| <i>CFR</i> | <i>United States Code of Federal Regulations</i> |
| COC | Clackamas County Chamber of Commerce |
| County | Clackamas County |
| CWA | Clean Water Act |
| DEQ | State of Oregon Department of Environmental Quality |
| DHS | United States Department of Homeland Security |
| DOI | United States Department of the Interior |
| EA | Environmental Assessment |
| ECSI | Environmental Cleanup Site Information |
| EFU | Extensive Farm Use |
| EPA | United States Environmental Protection Agency |
| FEMA | Federal Emergency Management Agency |
| ft | foot/feet |
| GC | General Conformity |
| GHG | greenhouse gas(es) |
| Gbps | Gigabytes per second |
| HCA | Habitat Conservation Area (Zoning District) |
| HDD | horizontal directional drill/drilling |
| Hwy 26 | United States Highway 26 |
| I-205 | Interstate 205 |
| in. | inch/inches |
| IPCC | Intergovernmental Panel on Climate Change |

| | |
|--------|---|
| LEV | low emissions vehicle |
| LUST | Leaking Underground Storage Tank |
| LUZD | Clackamas County Land Use and Zoning Division |
| m | meter/meters |
| Metro | Portland Metropolitan Area |
| MHNF | Mount Hood National Forest |
| mi | mile/miles |
| MM | middle mile |
| MSO | multiple system operator |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act |
| NMFS | National Marine Fisheries Service |
| NRC | United States Coast Guard National Response Center |
| NRCS | United States Department of Agriculture Natural Resource Conservation Service |
| NRHP | National Register of Historic Places |
| NRZD | Natural Resource Zoning District |
| NSR | New Source Review |
| NTIA | National Telecommunications and Information Administration |
| NWI | National Wetlands Inventory |
| NWP-12 | United States Army Corps of Engineer Nationwide Permit 12 |
| OAR | State of Oregon Administrative Rules |
| ODOT | State of Oregon Department of Transportation |
| OED | State of Oregon Employment Department |
| PGE | Portland General Electric |
| PSD | Prevention of Significant Deterioration |
| ROW | Right of Way |
| SDRMP | BLM Salem District Regional Management Plan |
| SFPP | Portland Metropolitan Area Stream and Floodplain Protection Plan |
| SHPO | State Historic Preservation Office |
| SIP | State Implementation Plan |
| State | State of Oregon |
| SWR | Clackamas County Solid Waste and Recycling |
| TBD | to be determined |

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|------------|--|
| TBR | Timber (Zoning District) |
| TC | Transportation Conformity |
| UGMFP | Portland Metropolitan Area Urban Growth Management Functional Plan |
| UNFCCC | United Nations Framework Convention on Climate Change |
| USACE | United States Army Corps of Engineers |
| <i>USC</i> | <i>United States Code</i> |
| USCB | United States Census Bureau |
| USCG | United States Coast Guard |
| USDA | United States Department of Agriculture |
| USDC | United States Department of Commerce |
| USDOT | United States Department of Transportation |
| USFS | United States Forest Service |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |
| WES | Clackamas County Water Environment Services |
| WQRA | Water Quality Resource Area (Zoning District) |
| WSR | Wild and Scenic River |
| ZDO | Clackamas County Zoning and Development Ordinance |

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Executive Summary

Funded by the American Recovery and Relief Act (ARRA), the National Telecommunications and Information Administration's (NTIA) Broadband Technology Opportunities Program (BTOP) has conditionally awarded the Clackamas Broadband Innovation Initiative (CBII; Project) a grant for construction of a fiber optic communications transmission line. The line would include 184.9 miles of high capacity, fiber-optic Middle Mile ring and Final Mile laterals to community anchor institutions including public safety and medical facilities, police stations, elementary, middle and high schools, community colleges, as well as county, state and federal government installations. The grant funding is considered a major federal action thus requiring compliance with the National Environmental Policy Act (NEPA) prior to the commencement of construction. This Environmental Assessment (EA) has been prepared to review the project's potential impacts to the environment.

The Project, located entirely within Clackamas County, Oregon would include an aerial and underground network ring with final mile laterals comprised of 144-strand single mode fiber optic cable. Of the 184.9 miles, 124.37 miles (67%) would be installed aerially on existing utility poles owned by Portland General Electric (PGE), 46.12 miles (25%) would be installed using horizontal directional drilling (HDD), 10.24 miles (6%) would be placed in existing conduit, and approximately 4.07 miles (8%) would be buried in trenches. Approximately 9.91 miles of the Project would be placed within the Mount Hood National Forest (MHNF) managed by the United States Forest Service (USFS) along the existing US 26 corridor and within existing utility right-of-ways (ROWs). A small segment (0.29 miles) would cross the Wildwood Recreation Area, which is managed by the U.S. Bureau of Land Management (BLM).

As required by NEPA, an analysis of alternatives was conducted. Three specific alternatives were identified and fully evaluated. These are the Preferred Alternative, Buried Cable Alternative, and the No Action Alternative. Each is described below.

Preferred Alternative

The Project, described as the Preferred Alternative in the EA, would involve the construction of a fiber optic communications transmission line. The transmission line is composed of a "middle mile" and "last mile" components. The middle mile serves as the high capacity fiber optic cable backbone infrastructure and the last mile provides a lower capacity lateral line to 160 public and non-profit institutions, called "anchor sites" along the Project route. The distances of the middle mile and last mile components as well as their respective method of installation are noted in Table 1-1. The fiber optic cable would be installed aerially or in the ground using existing conduit, HDD, or trenching. The total project length would be 184.90 miles and would be entirely located in Clackamas County, Oregon. Approximately 9.91 miles of the Project would be installed within the Mt. Hood National Forest and 0.29 miles of the Project would be installed along a corridor managed by the BLM (Wildwood Recreation Area). A 4 mile long segment of the project would be collocated in the trench created by the Clackamas County Service District #1's Intertie 2 – Diversion Project B Force Main (near Oregon City) which is currently undergoing permitting through the United States Army Corps of Engineers (USACE).

The installation of the middle mile fiber optic line would use existing utility poles owned by PGE and existing underground conduit to string fiber optic communications transmission line along 119.44 miles (65%) of the project's linear distance. Only a small distance of the middle mile would require either trenching (4.07 miles) or directional drilling (1.69 miles) in upland areas. All wetlands and water bodies would be crossed either aurally on existing poles or by utilizing a directional drill to avoid disturbance. Within the project route, 24 National Wetlands Inventory (NWI) wetlands would be crossed aurally. Most of the ROW to be used occurs along existing roadways, thus stringing activities would occur along previously disturbed and/or impervious surfaces.

This alternative would optimize the collocation of the project with existing infrastructure, avoid impacts to wetlands and minimize impacts caused by soil disturbance. By limiting subsurface excavation, this alternative also reduce the potential for impacts to archaeological resources. The aerial placement of the line would occur below all other transmission and utility lines and would also not be "energized" thus minimizing the potential for impacts to migratory birds.

This alternative meets the project goals by providing a modern and reliable broadband network that offers system redundancy, improves system reliability, and improves the delivery of emergency services.

Buried Cable Alternative

This alternative would also take advantage of existing rights-of-way by trenching and/or directionally drilling the conduit primarily along roads but also within exclusive utility corridors. It would also involve directional drilling of wetlands and water bodies to avoid impacts to water resources. It is similar to the Preferred Alternative in that it avoids wetland impacts. It also would address significant social and economic factors that have been disadvantageous to the region.

An increased reliance upon trenching and directional drilling, however, would dramatically increase the amount of land-disturbing activities (along 170.49 miles of the project area, taking into account the 14.24 miles of installation in existing or anticipated conduit) as well as the duration and cost of construction. The additional construction costs could result in a scaled back project if additional funding for construction was not available. A scaled back project would not provide the same level of accessibility to the public for the enhanced high speed internet services. With the increase of soil disturbance, the likelihood of erosion and storm water discharges into perennial water bodies is increased. These impacts would also increase the potential for impacts to threatened and endangered aquatic species. It would also increase the likelihood of impacts to archaeological resources. Effects to architectural resources would remain the same as for the preferred alternative.

No Action Alternative

Not pursuing this project would have no impact on the environment but a significant negative impact on the social welfare of Clackamas County. This alternative would provide no solution to the current lack of network diversity and reliability as well as the system's lack of capacity. The expedient delivery of information conveyed over fiber optic cable is essential to the development

of educational and training opportunities, the effective delivery of emergency medical and police services, and the supply of same day information pertaining to road conditions for road users. The No Action Alternative would have no impact on biological and cultural resources.

This EA fully analyzes these alternatives in accordance with NEPA requirements. A summary of that analysis in table format is provided below.

COMPARITIVE POTENTIAL EFFECTS OF THE PREFERRED, BURIED CABLE, AND NO ACTION ALTERNATIVES
Clackamas Broadband Innovation Initiative

| RESOURCE | ALTERNATIVES | | |
|---------------------|---|--|---|
| | Preferred | Buried Cable | No Action |
| Noise | Temporary, intermittent 85 - 91 dBA noise during construction may cause local annoyance, but can be mitigated. Operations would not change ambient noise levels. | Greater noise impacts (magnitude and duration) due to more equipment and a longer construction schedule. Operations would not change ambient noise levels. | No Impact |
| Air Quality | Minor mobile source and fugitive dust emissions during construction and maintenance. Construction and operation emissions would not have a significant effect on air quality or climate change. | Greater construction emissions due to longer construction time and more installation equipment. Less than significant air impacts. | No Impact |
| Geology/Soils | Minimal disturbance to soil where excavation necessary. | Increased potential for soil erosion; Increased temporary soil disturbance. | No Impact |
| Water Resources | Potential impacts during stream crossings would be minimized through mitigation procedures. | No permanent fill of wetlands; Temporary increased potential for stormwater runoff; no direct impacts due to use of HDD. | No Impact |
| Biological | Negligible short term adverse impacts during construction. | Negligible short term adverse impacts during construction. Greater potential for sediment discharges to stream habitats. | No Impact |
| Historical/Cultural | No adverse effects to historic properties are anticipated as long as several conditions are completed prior to construction and an Unanticipated Discovery Plan is implemented. | A greater potential for effects to archaeological resources would exist under this alternative due to additional ground disturbance. Effects to historic buildings would remain the same as NTIA's BMPs would be followed. | No Impact |
| Aesthetic/Visual | Negligible impact | Increased temporary disturbance during construction. | No Impact |
| Land Use | Negligible impact | Increased temporary disturbance of land uses during construction. | No Impact |
| Infrastructure | Minimal impacts expected due to the use of existing ROW and utility infrastructure. Improvement to telecommunication infrastructure | Minimal impacts due to use of existing ROW; Improvement to telecommunication infrastructure | Negative impact to telecommunication infrastructure for failing to upgrade. |

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| RESOURCE | ALTERNATIVES | | |
|---------------------|--|---|---|
| | Preferred | Buried Cable | No Action |
| Socioeconomic | Significant long-term positive economic impacts to public and private sectors due to improved telecommunications capabilities. 121 direct, indirect, and induced jobs created. Improvement in education due improved access to web-based learning tools and distance learning. | Higher project costs would have a negative effect on taxpayers. Socioeconomic effects otherwise same as preferred alternative. | Negative long-term impacts to job creation, education, and standard of living due to failure to upgrade telecommunication infrastructure. |
| Human Health/Safety | Hazards associated with construction would be minimized by adhering to safety guidelines. Long-term positive impacts due to improved telecommunication capabilities for public safety and agencies and healthcare. Minimal risk of encountering hazardous material because project is located on existing ROW. | Increased risk of accidents because more construction equipment needed. Increased risk of encountering hazardous material due to earth disturbance. | No Impact |
| Cumulative Impacts | Negligible I short-term impacts due to construction. Positive, long-term impact to telecommunications infrastructure. | Adverse short-term impacts due to construction. Positive, long-term impact to telecommunications infrastructure. | No adverse impacts. Negative economic impact due to failure to improve telecommunications infrastructure. |