National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Mitigated Finding of No Significant Impact
Zayo Bandwidth, LLC, Indiana Middle Fiber Project

Summary

Zayo Bandwidth, LLC (Zayo), in partnership with I-Light, applied to the Broadband Technology Opportunities Program (BTOP) for a grant to build 645 miles of new, 96-strand fiber middle mile network infrastructure and provide direct fiber connections for 21 Ivy Tech Community College (ITCC) campuses throughout the state of Indiana. This Project will leverage and expand existing I-Light infrastructure that already connects numerous colleges and universities in Indiana, thereby advancing research, education, healthcare, and economic opportunities throughout the state. Fiber interconnection points will be placed at the ITCC facilities, within each unserved/underserved community in the Project area, and at least every two miles along the route. Through these interconnection points, the new network will also enable last mile providers in the region to offer broadband services to communities, businesses, and anchor institutions between the ITCCs. The proposed action passes through 44 counties in Indiana and is referred to as the Indiana Middle Fiber Project (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant for the Project to Zayo, 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.

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

The Project includes:

- Installing 547 miles of fiber in 11 backbone segments throughout rural Indiana;
- Installing approximately 98 miles of fiber in 21 lateral branches to connect new backbone segments to existing fiber routes;

- Installing approximately 90% of the planned network as aerial fiber on existing utility poles;
- Installing approximately 10% of the planned network through existing conduits and underground via vibratory plow and directional boring methods;
- Providing ITCC facilities with broadband access at speeds ranging from 1 to 10 Gigabytes (Gb); and
- Providing 413 points of interconnection along the route, each offering dedicated internet access, Synchronous Optical Network (Sonet) private lines, wavelengths, Ethernet, and dark fiber.

Based on a review of the analysis in the EA, NTIA has determined that the Project, implemented in accordance with the preferred alternative and Programmatic Agreement (PA), 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/) and the following contact:

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Purpose and Need

The purpose of this Project is to expand the existing I-Light network and provide direct fiber connections for 21 ITCCs throughout the state of Indiana. This Project will connect the ITCC campuses to colleges and universities already on the I-Light network, thus advancing research, education, healthcare, and economic opportunities throughout the state. In addition, 413 points of interconnection will be installed along the route, enabling last mile providers to serve an area with an estimated 480,358 households; 49,071 businesses; and almost 4,800 anchor institutions. By allowing local internet service providers to connect to the network, the Project will offer affordable broadband services for local consumers in more than 100 communities, over 70% of which are located in currently underserved areas. The majority of the new fiber route will be located in rural areas of Indiana that currently have little to no broadband service. These unserved/underserved communities are at a significant disadvantage with regard to economic,

educational, and health care services and opportunities, as compared to dense urban areas with broadband capabilities. Each unserved/underserved community will be provided an interconnect point on the fiber.

Project Description

Under this Project, fiber will be installed within existing road and utility rights-of-way (ROWs) throughout the state of Indiana. The new infrastructure will include 547 miles of cable on 11 backbone segments, and approximately 98 miles of cable on 21 lateral branches that connect the new backbone segments to existing fiber routes. Interconnection points will be installed within each unserved/underserved community along the route, as well as every two miles along other portions of the fiber route.

Approximately 90% of the network route will be installed aerially along existing utility poles. Aerial installation involves lashing fiber optic cable to a suspension strand located on utility poles, using either the moving reel or stationary reel method. The moving reel method is used when the reel-carrying vehicle and/or aerial lift truck can be moved along the existing pole line, and no obstacles exist between the cable reel and the suspension strand. The stationary reel method is used when the reel-carrying vehicle cannot be driven along the cable route due to topographical features or the presence of other obstacles. This method involves pulling the cable into place by hand or with a winch. Fiber will only be installed on existing poles, and no existing poles will be replaced during fiber installation.

The remaining 10% of the network route, approximately 69 miles along the backbone segments and laterals, will be installed within ROWs where no utility poles exist. In these areas, the fiber will be installed in existing conduit/duct, along existing bridges, or underground. At stream crossings, fiber will be pulled through existing conduit or will be attached to bridges spanning the water body. If existing conduits or bridges are not available, underground fiber will be installed using directional boring methods.

The plowing method will typically be used in open, rural, and suburban areas where there are few obstacles to interfere with the plowing equipment. This installation method uses a vibratory cable plow and a crawler tractor to carry the cable feed system. As the tractor moves forward, the plow cuts a thin path approximately 3 to 4 inches wide in the soil, and installs the cable at depths ranging from 36 to 48 inches below grade. The cable is then immediately covered with soil. Although the proposed route will be located within existing ROWs, some minimal impact to the surrounding area is expected, as the plow itself is approximately 7 to 8 feet wide. All paving, sidewalks, impacted lawns, shrubs, and other vegetation removed or damaged during cable installation will be replaced and/or restored.

Directional boring will be used when plowing is not practical. This method of underground fiber installation uses a surface-launched drilling rig to drill a hole and advance an underground pathway along the designated installation route. Conduit and fiber is then pulled through the drilled pathway. Although ground disturbance is minimized during the actual drilling, the

directional boring equipment itself is approximately 7 feet wide and may result in some surface impacts.

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 – Hybrid Fiber Installation (Preferred Alternative). As noted in the Project Description, this effort will include installation of approximately 645 miles of cable. Approximately 90% of the network route will be installed aerially along existing utility poles in existing ROWs. Approximately 69 miles of backbone and laterals (covering 10% of the planned network route) will be installed within ROWs where no utility poles exist. In these areas, fiber will be installed in existing conduit/duct, along existing bridges, or underground using vibratory plowing or directional boring methods. The plowing method will be used in upland areas where utility poles are absent, and wetlands and high quality habitat are not present. Directional boring will be used at road and railroad crossings, and to minimize impact to wetlands and high-quality habitat. Interconnection points will be installed within each unserved/underserved community along the route, and every two miles along other portions of the fiber route.

No Action Alternative. No action was also considered. This alternative represents conditions as they currently exist in the Project area. Under the no action alternative, there would be no new fiber network construction. Many rural communities would continue to be unserved or underserved with respect to broadband internet access. Additionally, educational institutions and health care facilities would not be provided with greater access to faster broadband services, thereby limiting educational and research resources and opportunities. The EA examined this alternative as the baseline for evaluating impacts related to other alternatives being considered.

Alternatives Considered But Not Carried Forward. During Project planning stages, Zayo considered installation of a wireless telecommunications network, including radio towers and microwave radios throughout the state of Indiana. However, wireless transmission technology via microwave radio does not provide adequate broadband width to transmit large amounts of data over long distances, and is not as reliable as fiber optic technology. Zayo also considered installing an all-aerial network on new poles. This option was not considered a viable alternative for this Project because pole installation activities would be disruptive to wetlands and potentially sensitive areas and could result in impacts from erosion and soil runoff. A variety of alternative underground fiber installation methods were also evaluated during Project planning. The trenching method is typically used in urban and suburban areas where obstacles (e.g., underground utilities, sidewalks, and paved road crossings) are present. However, more soil disruption and site disturbance is associated with the trenching method than with vibratory plowing or directional boring techniques. Underground installation using a static plow was considered but eliminated because static plows tend to be larger and heavier than vibratory plows and rely on older, less efficient technologies. Ultimately, Zayo determined that installation of

the network using the methods specified in the Project description would be most appropriate for evaluation in the EA.

Findings and Conclusions

The EA analyzes existing conditions and environmental consequences of the preferred alternative and the no action alternative. To analyze the conditions and consequences, 11 major resource areas were analyzed, 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 of each alternative were also evaluated.

Noise

This Project will have no impacts on noise during long-term operation. However, short-term increases in ambient noise levels are expected during the construction period. Noise created by machinery used during installation will be temporary and localized in nature. To mitigate excessive impacts, cable installation will generally be done within normal daylight hours in rural areas (sunrise to near sunset) and within normal business hours (8 a.m. to 6 p.m.) in urban areas. Based on these considerations, no significant impacts on noise are expected to occur as a result of Project implementation. .

Air Quality

Potential impacts to air quality associated with this Project will be limited to the construction period. Fiber optic cable installation will result in negligible fugitive dust emissions. Dust will not be generated during aerial installation or while utilizing existing conduits because the roadways are paved and the ROWs are well vegetated. Furthermore, plowing and boring activities will result in only minor disturbances to the ground surface, thereby producing minimal dust. Heavy equipment used during aerial and underground fiber installation will generate diesel exhaust emissions. However, the air pollution and greenhouse gas emissions resulting from these construction vehicles will be only a small fraction of the total emissions generated by vehicle traffic present on adjacent roadways within the Project area. To reduce air pollutant and greenhouse gas emissions during the installation phase, construction vehicle engines will be turned off when not needed. By using these minimally invasive installation techniques and vehicle operation BMP, network installation is not expected to have significant adverse impacts on air quality.

Geology and Soils

The preferred alternative would result in only minor disturbances to the geologic and soil resources along the planned fiber route because the entire Project area is located within highly disturbed corridors along existing road ROWs. No soil designated as prime farmland will be converted to nonagricultural uses. The use of existing poles, implementing appropriate underground installation methods, and rapidly restoring each work site to pre-existing conditions, will minimize short term disturbance to soils and bedrock, and avoid long term impacts. Plowing and directional boring activities will result in only minor soil disturbances

within 15 feet of the edge of pavement in road ROWs. In addition, BMPs will be implemented during plowing and boring to minimize soil erosion, sedimentation, and associated impacts on nearby wetlands and water bodies. These BMPs may include installing silt fences, stabilizing disturbed soil with straw mats, revegetating disturbed soil with grass seed or sod, and avoiding discharge of drilling fluid onto the ground or into adjacent water bodies. Given these plans and protocols, the preferred alternative is not expected to result in significant impacts on geology or soils.

Water Resources

The preferred alternative will result in only minor disturbances to water resources, and planned installation methods will avoid impacts to streambeds, wetlands, and surface waters. No plowing or ground disturbance will occur within streambeds; in these locations, fiber will be run through existing conduits or be attached to existing bridges. Some minor sedimentation may occur during construction near streams and wetlands habitats (e.g., grassed roadside ROWs that slope to wetlands). However, any potential impacts will be minimized through use of appropriate installation methods, soil erosion control techniques, and standard BMPs previously discussed. No filling, dredging, or construction activities will occur in wetlands. Given the relatively shallow depth of fiber installation, no impacts to groundwater resources are expected to result from Project implementation.

Several agencies were contacted during Project planning to determine permitting requirements for stream crossings. On July 29, 2010, the U.S. Army Corps of Engineers (USACE) Louisville District authorized four aerial crossings and one underground crossing, provided that Zayo comply with the terms of Nationwide Permit (NWP) No. 12, and maintain a minimum cable line clearance of 10 feet above bridges. On September 10, 2010, the USACE Chicago District indicated that a NWP No. 12 will be needed for one aerial stream crossing within their jurisdiction. On July 21, 2010, the Indiana Department of Environmental Management (IDEM) indicated that a National Pollutant Discharge Elimination System storm water permit may be required for construction along five areas of the planned route, and recommended that Zayo also evaluate the Municipal Separate Storm Sewer System (MS4) permitting requirements in communities through which fiber will be installed. On September 13, 2010, the Indiana Department of Natural Resources (IDNR) Department of Water indicated that formal approval for construction in a floodway will be required if the upstream drainage area is greater than 1 square mile.

Crossings along the planned fiber route were also evaluated for impacts to unique water features. Although an aerial route in East Chicago crosses a Lake Michigan Coastal Zone shipping channel, the Program Manager for the Lake Michigan Coastal Program (LMCP) indicated no stipulations on this aerial crossing. The Project route also crosses the Blue River, a Natural, Scenic, and Recreational River System water feature in Indiana; aerial installation methods to be used for this span will result in no adverse impacts to the river. Underground crossings will be installed at four designated Indiana Outstanding Rivers; drilling to access existing conduits will be conducted outside of floodplains, riverbanks, and stream banks. Aerial fiber will be installed on existing aboveground utility poles to cross another seven designated Indiana Outstanding

Rivers, and no adverse impacts are anticipated in these areas. The Project will also cross six navigable water bodies, but no interference to water navigation will result from fiber installation and operation. No designated or potentially designated Wild and Scenic Rivers will be affected by this Project.

Based on these consultations, determinations, and segment-specific installation methods, implementing the Project in accordance with the preferred alternative is not expected to have significant adverse impacts on water resources.

Biological Resources

The preferred alternative will result in minimal impacts on biological resources. Noise and human activity associated with fiber installation is expected to disturb some wildlife species, but these effects will be minor and temporary. Approximately 90% of the new infrastructure will be placed on existing utility poles between existing power and cable lines. This placement will reduce the potential for increasing bird collisions. Some disturbance to the ground surface and vegetation will also occur, but this disturbance will be largely limited to roadside turf and weedy areas that do not include significant or critical habitats. No long-term impacts to rare, threatened, or endangered species have been identified. In correspondence dated July 17 and September 2, 2010, the U.S. Fish and Wildlife Service (USFWS) stated that they do not anticipate any significant Project-related impacts on wildlife, and no further consultation is necessary. On September 13, 2010, IDNR determined that the Project will not impact any state or federally listed species in Indiana streams. Based on these analyses, no significant adverse impacts to biological resources are anticipated as a result of implementing the preferred alternative for this Project.

Historic and Cultural Resources

A PA was established between NTIA, the IDNR Division of Historic Preservation and Archaeology, and Zayo on August 18, 2010. The PA establishes a systematic and phased approach to compliance with Section 106 of the National Historic Preservation Act and resolution of potential adverse effects. Zayo will adhere to PA requirements to ensure minimal or negligible adverse environmental impact to archaeological and architectural resources that may be present in the ROW within which fiber optic cable will be installed. NTIA conducted Native American consultations for the proposed Project via the Federal Communication Commission's (FCC's) Tower Construction Notification System (TCNS). Consultations with tribes will be conducted pursuant to the requirements of the PA. Based on the PA and consultations, the Project is not expected to have adverse impacts on historic and cultural resources.

Aesthetic and Visual Resources

Since the new fiber will simply be an additional cable on existing utility poles. Aerial fiber installation will have a negligible impact on aesthetic and visual resources. The underground portions of the route will have a temporary and minor impact on aesthetic and visual resources due to the presence of heavy equipment and limited soil disturbance within existing ROWs.

Installation of conduit on the underside of bridges will slightly alter the appearance of the bridge. Utilization of existing conduits will result in no new aesthetic or visual impact. Accordingly, the preferred alternative is not expected to have a significant adverse impact on aesthetic and visual resources.

Land Use

This Project will be conducted entirely within existing road and utility ROWs. These areas are highly disturbed zones designated for transportation and utility use. No land use changes will occur as a result of Project implementation. Therefore, the Project will have no significant impact on land use.

Infrastructure

All portions of the network route are served by existing utilities and have access for vehicles, and this infrastructure is adequate to meet Project implementation and operation needs. Equipment and supplies will be staged within the existing road and utility ROWs where the actual installation activities occur. The potential exists for utilities within affected ROWs to be damaged during installation activities. To avoid damaging existing buried utilities, the locations of buried electrical lines, telephone lines, and other utilities will be marked prior to any installation activities. The new fiber will enhance the existing communications infrastructure and is expected to result in expanded and faster transfer of information between public health, safety, and other government agencies; schools and other institutions of higher learning; businesses; and individuals residing within the communities along the proposed fiber path. In this manner, the Project will have a positive impact on infrastructure in the state of Indiana.

Socioeconomic Resources

The Project will temporarily stimulate local economies during the installation and construction phases and will provide long term benefits during network operation. A primary benefactor of the new telecommunications capability is the ITCC network, which provides affordable higher education to low income and minority populations in underserved geographic areas. An expected and significant impact of the expansion of broadband services is economic growth, job creation, improved education, and additional health care services for low-income, rural areas. The preferred alternative is not expected to have any adverse impacts on socioeconomic resources in the Project area.

Human Health and Safety

Project installation will not have significant adverse effects on human health and safety. Installation of fiber will be conducted within existing road ROWs and utility corridors. Prior to installation, the location of buried electrical lines, telephone lines, and other utilities will be determined for the fiber route. All fiber installation procedures will be conducted in accordance with standard construction safety protocols. No lane closures or traffic re-routing will be required, but traffic and roadside safety practices will be followed, as appropriate and necessary. Applicable safety standards and procedures required by the Indiana Department of Transportation, the Federal Highway Administration, and the Occupational Safety and Health Administration will be followed during fiber installation and maintenance. All personnel

involved in these activities will be required to use appropriate and recommended personal protective equipment. Human contact with potentially contaminated soil or groundwater is unlikely, but handling, management, and disposal of any such materials will be overseen by a qualified professional and conducted in accordance with all applicable state and federal regulations. With implementation of these protocols, the new fiber build will not generate any significant adverse health or safety issues. Expansion of the fiber network will also provide low income communities improved health awareness and enhanced access to clinical health care specialists.

Cumulative Impacts

Cumulative Project impacts on noise and air quality will occur during the installation phase, but the nature of these impacts (equipment noise and emissions) are similar to those already experienced along existing roadway and utility ROWs. Potential cumulative effects on geology and soil will be minimal because the majority of the new network will be constructed aerially. However, the addition of aerial cable and bridge conduit will have minor impacts on aesthetic and visual resources, as well as infrastructure. Plowing and directional boring procedures may result in a temporary increase in erosion or sediment transfer to wetlands or surface waters. However, by using appropriate BMPs for erosion and sediment control, this potential is minimized and does not represent a significant cumulative impact on soils, wetlands, or water resources. Adverse cumulative impacts on biological resources caused by human presence during fiber cable installation and maintenance activities will be minor and temporary. Cumulative adverse effects on historical or cultural resources will be minimized by adhering to the PA throughout Project implementation. No negative effects were identified with respect to land use, as this resource will not be changed. The Project will have significant positive impacts on infrastructure, socioeconomic resources, and human health/safety, with improved regional education, employment, economics, health care, and public safety opportunities. No significant adverse cumulative impacts are anticipated with regard to the preferred alternative.

Decision

Based on the above analysis, NTIA concludes that constructing and operating the Project as defined by the preferred alternative, and in accordance with the PA, 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 quality of the human environment. NTIA has determined that preparation of an EIS is not required.

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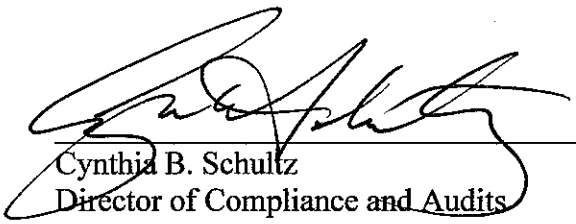

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Date