National Telecommunications and Information Administration
Broadband Technology Opportunities Program
Finding of No Significant Impact
Delta Communications, dba Clearwave Communications, Illinois Broadband Opportunities Partnership – Southern

Summary

Delta Communications, doing business as (dba) Clearwave Communications, applied to the Broadband Technology Opportunities Program (BTOP) for a grant to install 740 miles of new fiber. The new middle mile infrastructure will connect approximately 55,500 businesses, 307,000 households, and 1,392 community anchor institutions (CAIs). In addition, an existing building will be repurposed to accommodate a new data center. The new network will consist of all buried fiber. The proposed action passes through 23 counties in Illinois and is referred to as the Illinois Broadband Opportunities Partnership – Southern (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant for the Project to Delta Communications, dba Clearwave Communications, 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.

Clearwave Communications completed an EA for this Project in February 2011. NTIA reviewed the EA, determined it is sufficient, and adopted it as part of the development of this FONSI.

The Project includes:

- Installing a broadband network of buried, underground fiber through 23 counties and 31 communities in southern Illinois;
- Installing the 740 mile network along various existing, Federal, state, city or county rights-of-way (ROWs);
- Installing, via vibratory plowing, directional drilling, and trenching technologies, 740 miles of buried fiber

- Repurposing an existing, abandoned building as a data center; and
- Providing final service connections to CAIs.

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/) and the following contact:

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Purpose and Need

The purpose of the Project is to bring affordable broadband service to unserved and underserved communities in southern Illinois. The Project will deploy fiber in areas where, to date, it has not been economically feasible to install telecommunications infrastructure. The middle mile infrastructure will pass through 23 counties, providing opportunities associated with broadband technology to 55,500 businesses and 307,000 households, including 232 CAIs, including 111 K-12 public schools, 28 public safety entities, 23 libraries, nine community colleges, Southern Illinois University, 60 healthcare facilities, and last mile interconnection points in all 31 communities in the proposed service area.

Project Description

The Project involves installing 740 miles of buried middle mile fiber throughout southern Illinois. Installation of the cable will be completed using vibratory plowing, directional drilling, and trenching. Construction will take place within public highway ROWs, along established electrical distribution or telecommunication cable routes. Cable will be constructed outside the

public highway ROW, under the jurisdiction of county or local municipal authorities; local negotiations are currently underway.

The Project will use vibratory plowing, directional drilling, and trenching technologies to install the underground cable fiber. All three construction types will use a truck and trailer to transport equipment and supplies, a reel containing conduit to be installed, and a pick-up truck for crew transportation. In addition, a vibratory plow machine, directional drilling machine, or trenching machine will be used where applicable. Directional drilling techniques will be used for installation at stream crossings, wetland crossings, railroad crossings, utility crossings, and in urban areas to minimize disturbance of surface features such as roadways and sidewalks. Trenching will be utilized where local conditions such as bedrock depth prevent the use of vibratory plowing and directional drilling. However, trenching of any streams, creeks, or rivers will be avoided during construction of the Project. Specialty crews, such as a dump truck and trailer, skid steer and backhoe, air compressor, and pick-up trucks may be needed to complete installation of hand holes, field repair, potholing utilities, and other miscellaneous tasks.

Vibratory plowing will be the primary method for installing the buried fiber optic cable. A plow opens a slit in the earth and inserts 1 ¼" high density polyethylene (HDPE) conduit at a depth of approximately three feet, without the excavation of soil. After the conduit is installed, the fiber optic cable is blown into the conduit using pneumatic equipment, or pulled through using a pull string. Directional boring will be used for installation in urban areas to minimize disturbance of surface features, such as roadways and sidewalks, at utility crossings, and at locations where there are sensitive wetland features. This method involves creating a horizontal cable pathway from one access point along the route to another, installing a 1 ¼" diameter HDPE conduit through which fiber optic cable is pulled. Directional drilling creates a borehole, fills the hole with a bentonite slurry to prevent cave in of the hole and to provide lubrication, then pulls the conduit through the opening. The depth of installation using this method will vary depending on the obstacle to be avoided. Trenching, to be used only when conditions prohibit the use of the first two methods described above, involves excavating a narrow trench for installation of the fiber at a depth of approximately 3 feet.

The Project will also provide final service connection to community anchor institutions as end users. The equipment will typically be located in an existing data or wiring closet and will enter the building at similar locations and in a similar fashion as the existing utilities. Extension of services from the public right-of-way to the end-user's building will be via buried fiber. The final service connection will be made via a conduit penetration of the existing building wall to facilitate installation of equipment on the interior of the building.

In addition, an existing building will be repurposed to house the data center. Some cosmetic changes will be made to the exterior of the existing building; however the total square footage of the building will remain the same. The existing building is not listed in, or eligible for listing in, the National Register of Historic Places (NRHP).

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 740 miles of buried cable, installation of final service connections to community anchor institutions, and repurposing an existing building to house a data center. The new fiber optic cable will be installed underground within existing rights-of-ways.

No Action Alternative. No action was also considered. This alternative represents conditions as they currently exist in southern Illinois. Under the no action alternative, new fiber middle mile infrastructure would not be constructed. Many rural communities would continue to be unserved or underserved with respect to broadband internet access. Additionally, broadband services would not be provided to CAIs in the Project area. The EA examined this alternative as the baseline for evaluating impacts relative to other alternatives being considered.

Alternatives Considered But Not Carried Forward. Clearwave Communications considered alternative routes, maintaining the planned structure and ring design of the core fiber optic network, but utilizing different roadway right-of-ways. However, this alternative does not serve all of the anchor institutions identified for service with the proposed route. Clearwave Communications also considered the alternative of installing an all-aerial network. An all-aerial network is susceptible to outages during storm events due to falling tree limbs and branches, excessive ice buildup, or high speed wind gusts. Additionally, the existing poles that would support the fiber optic aerial facilities are under the control of other utility companies and would require agreements which restrict the rights of the fiber owner. For these reasons, large scale installation of aerial fiber optic cable was not considered feasible and was therefore eliminated from further consideration. Clearwave Communications also considered an all-wireless telecommunications network. However, wireless technology would significantly reduce available bandwidth and speeds across the network and would not take advantage of existing ROWs.

Findings and Conclusions

The EA analyzed existing conditions and environmental consequences of the preferred alternative and the no action 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.

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. Given the anticipated rapid installation rates, proposed construction would increase noise near sensitive receptors for no more than one to two days. Also, local noise ordinances will be observed and any construction immediately adjacent to sensitive receptors will be coordinated with the receptor to avoid disturbances at critical times. Based on these considerations, no significant impacts on noise are expected to occur as a result of Project implementation.

Air Quality

Potential direct 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 because vibratory plowing, directional boring, and trenching techniques result in only minor disturbance of the ground surface. BMPs, including the application of water during dry conditions, will be used to control fugitive dust during the construction phase of the Project. The Project will have no direct effect on air quality during normal operations. However, negligible indirect effects may result from operating the proposed improvements since they will require electricity, potentially contributing to additional emissions due to the methods of power generation which are current prevalent. Also, implementation of the Project would constitute a short-term minor increase in the use of fossil fuel and associated greenhouse gas (GHG) emissions. The Project would result in the release of approximately 4,000 metric tons of equivalent of CO_2 emissions. The Council on Environmental Quality (CEQ) has issued draft guidance on when and how Federal agencies should consider GHG emissions and climate change in NEPA. The draft guidance includes a presumptive effects threshold of 25,000 metric tons of CO_2 equivalent emissions from an action – and the emissions associated with this Project are well below the CEQ threshold. Based on the nature of the identified impacts and implementation of BMPs, construction of the planned network is not expected to have significant adverse impacts on air quality.

Geology and Soils

The Project will be installed in previously disturbed public ROWs. The cable will be installed in these locations to, among other considerations, minimize impacts to geologic and soil resources. Both vibratory plowing and directional boring techniques result in very minor, temporary disruption of the soils. Erosion control measures and BMPs will be implemented before, during, and after construction activities. BMPs, such as installation of a silt fence, reseeding, and erosion control measures, including use of Illinois stormwater pollution prevention plans (SWPPs), will be followed during the construction and installation of the fiber optic cable. Consequently, the Project is not expected to result in significant adverse impacts on geology or soils.

Water Resources

Project construction activities could result in short-term, minor impacts on water resources within the Project area. The Project's fiber route will cross several streams, creeks, rivers, and

wetlands. Whenever these waterways are encountered, horizontal directional drilling will be used, beginning 30 feet outside the limits of the water resource, to install the conduits 3 feet below the bottom of the channel. The depth of the channel will be determined by a survey. The U.S. Army Corps of Engineers (USACE), Illinois EPA, and Illinois Department of Natural Resources were consulted on this Project. The USACE determined that the Project meets the criteria for a Corps Nationwide Permit (12). The Project will occasionally produce discharges of drilling mud from the boring location up through the earth's surface (known commonly as "frac out"). The USACE provided specific BMPs to minimize and respond to frac out. The Project route will also cross floodplains and short-term impacts during construction are expected on this resource, such as presence of equipment, minor turf and soil disturbance, minor soil compaction due to equipment, and exploratory trenching, but mitigation measures will be implemented immediately. Protective measures will also be implemented to minimize stormwater runoff from construction activities. Through implementation of appropriate BMPs and regulatory agency recommendations, Clearwave Communications will be able to construct the network with no significant adverse impacts on water resources in the Project area.

Biological Resources

The preferred alternative will result in minor impacts on biological resources. Noise and human activity associated with fiber installation are expected to disturb some wildlife species, but these effects will be minor and temporary. Some disturbance to the ground surface and vegetation will also occur during construction activities. This disturbance will be largely limited to previously disturbed ROWs. In a letter dated December 7, 2010, the U. S. Fish and Wildlife Service (USFWS) stated that this Project is not likely to affect federally listed threatened and endangered species. Based on this analysis and following the guidance of the USFWS, Clearwave Communications will be able to construct the fiber network with no significant adverse impacts on biological resources.

Historic and Cultural Resources

On October 14, 2010, a consultation initiation letter, including a detailed project description, was sent by NTIA to the State of Illinois Historic Preservation Officer (SHPO). Following the initiation letter, SHPO sent a request to the recipient to submit additional information including a detailed map and photographs of project area and standing structures located on 1100 Golf Drive in Marion, IL. On December 15, 2010, SHPO responded that information sent was sufficient for the purpose of initiating consultation for the project and determined the building located on 1100 Golf Drive, proposed as a data center, had no historic or architectural significance. In order to further the consultation process, The SHPO requested Clearwave engage the services of an archeological contractor to perform a literature search of the proposed cable route and identify any areas of concern.

Clearwave performed the archeological review on December 30, 2010 and provided it findings to the SHPO on January 15, 2010. In a letter dated January 18, 2011, the SHPO responded concurring with the recommendation, but asserted that ROWs in areas of high archaeological sensitivity would require survey.

Clearwave performed the required surveys and submitted a Management Summary report reflecting their findings in early February 2011. On February 10, 2011, after reviewing the report, SHPO sent a letter indicating stating that the Project, as proposed, would have no adverse affect on any historic properties subject to the following conditions. First, Clearwave will implement avoidance measures on the three locations described as the Beech Grove Cemetery (Pulaski-2 Segment), site 11MX311 (Massac-1 Segment), and a portion of site 11S706 located along First Street, Exchange Avenue and Katherine Dunham Place. Under the avoidance plan recommended by the SHPO for these three locations, Clearwave, in consultation with their archaeological consultant, will submit a narrative and drawing describing the proposed avoidance measures to the SHPO for review and approval prior to implementing project activities at these sites. Second, Clearwave Communications will submit to the SHPO for review and approval any route changes not previously analyzed in the report dated December 30, 2010 prior to implementing project activities in those locations.

Through the Tower Construction Notification System, NTIA provided Project details to 23 tribes interested in the Project's geographical location (southern Illinois). Of the 23 tribes notified, ten tribes responded to the notification. Three tribes requested additional information regarding the Project. After reviewing the additional information, the tribes responded that there would be no impact to religious, cultural, or historical assets. All responding tribes requested that if any human skeletal remains or any protected Native objects are uncovered during construction, construction should stop immediately, and state and tribal representatives should be contacted.

All construction will be restricted to previously disturbed areas. If any cultural material is discovered during construction, the SHPO will be notified immediately and all activities halted until a qualified archaeologist assesses the cultural remains. If any human skeletal remains or protected Native objects are uncovered during construction, construction will stop immediately, and all consulting parties will be contacted. Based on these consultations, guidance from the commenting agencies, and additional mitigation measures to be implemented by Clearwave Communications, the Project is not expected to have significant adverse impacts on historic and cultural resources.

Aesthetic and Visual Resources

The Project primarily involves installing fiber optic cable within existing utility ROWs along roadways. Fiber installation will have a short-term, minor, and temporary impact on aesthetic and visual resources due to the presence of construction equipment and limited soil disturbance. The new data center will be established in a vacant, existing building and all final service connections will be installed in existing community anchor institutions. There are no protected lands, national parks, or nature reserves located in the Project area. Accordingly, the preferred alternative is not expected to have a significant adverse impact on aesthetic and visual resources in the Project area.

Land Use

The fiber route will be installed in previously disturbed ROWs and the improvements are consistent with normal uses of ROWs and easements. The new data center will be housed in a

repurposed building, located in a business area, and final service connections will be connected to existing community anchor institutions, in 31 surrounding communities. Therefore, the Project will have no significant impact on land use.

Infrastructure

Project construction activities will result in a temporary interruption of traffic flow along the Project route. These interruptions are short-term and will subside when installation of the fiber is complete. Illinois Department of Transportation standards require traffic control signage, but not lane closures when work is off-pavement. Delays to motorists are expected to be minimal as construction would be off of the roadway surface, and only during working hours. There is potential for future improvement to the roadway system or other utilities located in the public ROWs to overlap with the proposed construction. However, the current state plan presents only minimal potential conflicts between the multi-year roadway improvement plans and the proposed routes. The Project will improve communications infrastructure and is expected to result in improved transfer of information between CAIs, businesses, and individuals residing within the communities along the Project route. Overall, the Project will have a positive impact on infrastructure in southern Illinois.

Socioeconomic Resources

The Project will provide improved communications infrastructure to residents who do not have access to broadband services in southern Illinois. The middle mile fiber backbone will also benefit these communities by providing broadband capabilities to 232 CAIs. An increase in both short-term and long-term employment opportunities are also anticipated as a result of Clearwave Communication's Project. The Project will have positive impacts on socioeconomic resources.

Human Health and Safety

It is unlikely that hazardous wastes will be encountered during Project implementation, because fiber cable will be installed in existing ROWs and areas with known hazards will be avoided. Areas with known contaminants are currently undergoing various stages of remediation. No fiber optic cable will be constructed in the direct path of any of the listed RCRA sites, Superfund sites, or potential Brownfield site located in the Project area. Should any soil be identified as potentially contaminated, work will cease in the area and an investigation to determine presence and extent of soil contamination will be conducted.

All construction activities will be conducted by qualified, licensed contractors that will follow safety regulations and the National Electric Safety Code. Traffic control standards will be in accordance with Illinois Department of Transportation and OSHA standards for worker visibility and equipment driving on roadways. With implementation of these protocols, the Project will not generate any significant adverse worker or traffic-related health or safety issues. Further, the Project will provide broadband service and directly connect medical facilities. The broadband will provide enhanced emergency and medical services and improve human health and safety throughout the Project area.

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 on the environment are anticipated.

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

Issued:

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