

**National Telecommunications and Information Administration  
Broadband Technology Opportunities Program  
Finding of No Significant Impact  
Northern Illinois University  
Illinois Broadband Opportunity Partnership – Northwest Region**

**Summary**

Northern Illinois University (NIU) applied to the Broadband Technology Opportunities Program (BTOP) for a grant to install 637 miles of new fiber optic cable. The new middle mile infrastructure will connect approximately 500 community anchor institutions (CAIs). While the new network will be a hybrid of aerial and buried fiber, approximately 99% of the fiber will be installed underground within existing roadway and utility rights-of-way and easements. The proposed action passes through nine counties in northwest Illinois, and is referred to as the Illinois Broadband Opportunity Partnership – Northwest Region (Project).

The National Telecommunications and Information Administration (NTIA) awarded a grant for the Project to NIU, 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 will comply with 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.

NIU completed an EA for this Project in April 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 hybrid broadband network of aerial and buried fiber through nine counties in northwest Illinois;
- Installing the 637 mile network along various existing, federal, state, city, or county rights-of-way (ROWs);
- Installing approximately 9 miles of fiber aerially by attaching to existing poles, replacing poles when necessary;

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- Installing, via vibratory plow-in, open-cut trench, and directional drilling, approximately 628 miles of buried fiber where aerial electrical distribution and telecommunication cable routes are not available; and
- Installing 19 wireless transceivers, 10 of which will require new monopole towers to be constructed and will include construction of possible access roads, and 9 of which will be installed on existing structures.

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 provide open-access, middle-mile broadband infrastructure to rural, unserved and underserved areas of northwestern Illinois; to provide access to broadband services at reasonable prices for community based organizations such as emergency services, educational facilities, municipal government, and medical facilities (collectively referred to as CAIs); and to increase the reliability of the existing and proposed broadband network. The Project is needed because it will deploy fiber in areas where, to date, it has not been economically feasible to install telecommunications infrastructure. Businesses, healthcare organizations, and educational institutions are creating more demands on the existing network capacity, and existing networks are unable to accommodate the levels of service and speeds desired. The Project also will provide broadband infrastructure to support other ARRA initiatives and will increase the reliability of the regional fiber optic network.

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**Project Description**

The Project involves installing approximately 637 miles of middle mile fiber and 19 wireless transmitters in northwestern Illinois. The network will include both buried and aerial fiber. Approximately 99% of the fiber will be installed underground via vibratory plow-in, open-cut trench, and directional drill methods and approximately 1% will be installed on existing overhead utility infrastructure. Construction will take place within public highway ROWs, along established electrical distribution or telecommunication cable routes. No cable will be constructed outside the public highway ROW.

Approximately 628 miles of buried fiber optic cable will be installed along the Project route using vibratory plow-in, open-cut trench, and directional drill techniques. Vibratory plowing creates a slit trench and inserts the innerduct at a depth of 30 to 36 inches below the ground surface, without the excavation of soil materials. After the innerduct is installed, the fiber optic cable is either blown into it with an air compressor or pulled through the innerduct using pull strings. Afterwards, seed and mulch is placed on the ground at locations of soil disturbance to minimize soil erosion. Plowing equipment is track-mounted and will disturb a path that is approximately 8 to 10 feet in width. Open-cut trenching involves the use of a rock saw or vibratory equipment to break the rock; excavating a trench 30 to 36 inches below the ground surface. The innerduct is then placed at the bottom of the trench. The trench is then backfilled with the excavated materials, and seed and mulch placed on top of the trenched area to minimize soil erosion. The disturbed area for this type of operation is larger than for plowing operations due to the need for trench backfilling. The anticipated path of surface disturbance is 15 to 20 feet in width. Directional drilling will be used to cross under roads, railroads, rivers, streams, wetlands, wooded areas, and possibly for shallow bedrock areas. This method involves creating a bore hole; filling the hole with bentonite slurry to prevent cave in of the hole; and then pulling the innerduct through the opening. Because directional drilling will typically be used at locations where there is an obstacle that must be avoided, the depth of installation will vary to provide adequate separation from the impediment. However, crossings under rivers and wetlands will be a minimum of 3 feet below the bed of the water body. There will be some ground disturbance at the insertion and extraction areas, and seed and mulch will be placed on disturbed ground to minimize soil erosion. The equipment is track-mounted and will only disturb surface soils in a small area where equipment setup takes place; approximately 20 by 50 feet in area. Access vaults will be installed approximately every 2,500 feet in rural areas and 600 feet in urban areas, and will typically be three feet deep and two by three feet in surface area. Erosion control procedures will be utilized where ground disturbing activities occur; such as drilling and receiving pits at the directional boring locations.

Approximately 9 miles of aerial fiber optic cable will be installed along the Project route. Fiber optic cable will be hung on distribution poles 12 to 40 inches below the lower of the existing ground or electric lines, depending on pole owner requirements. Typical equipment includes a bucket truck, a truck and trailer to transport equipment and supplies, a reel containing cable to be installed, and a pick-up truck for transporting crews and general use. If necessary, installation of

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new poles may be required; a structural evaluation of the poles will take place during the detailed design phase of the project. Should pole replacement be necessary, a 10-foot deep hole will be excavated, the new pole will be placed in the hole, the old pole will be removed and disposed of properly, and the old hole will be backfilled with materials excavated from the new hole. If additional anchors are needed to further support the new poles, minor soil disturbance will occur to place the anchors into the ground. Aerial cable installation may also include minor vegetation cutting for access to the utility poles.

In addition, the Project will utilize nineteen wireless transceivers to provide broadband access to more remote locations throughout the Project area. Nine wireless transceivers will be located on existing water tower structures, and ten will require construction of new monopole towers, located in nine northwestern Illinois counties, including JoDavies, Carroll, Whiteside, Stephenson, Winnebago, Boone, Ogle, Lee, and LaSalle. The new towers will be monopole constructions (no guy wires) with an above ground height of 100 feet or less, set on concrete foundations. Construction of short access roads and/or construction pads may also be necessary, if adjacent paved surface is not available. Each of the new tower locations will require a 3,000-watt backup generator, if the host facility from which the power is currently drawn does not already have backup power. The generator is 2 to 3 feet in height, width, and depth and will use natural gas, if available and preferred, or diesel power if natural gas is not available.

The Project will connect more than 500 CAIs, including schools (K-12 and higher education), libraries, healthcare providers, courthouses, public safety entities, and other government facilities. Fiber optic network connection to these CAIs will be either aerial or underground, based on site conditions and user preferences. Connections will be at each institution's data room and may include new broadband/Ethernet equipment within the data room. Several of the proposed buildings have historical significance. The entrance of the service connection to these buildings will mimic the existing utility connections to preserve the historical integrity of the structure.

### **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.

*Hybrid Fiber Installation (Preferred Alternative).* As noted in the Project Description, this effort will include installation of approximately 637 miles of cable. The new fiber optic cable will be primarily buried underground within existing ROWs, with several portions installed aerially, on existing poles, where requested by the permitting authority – specifically, in the City of Oglesby and the City of Freeport.

*All-Aerial Installation Alternative.* An alternative considered for this project was the use of a network installed entirely on pole lines as opposed to buried fiber. The construction methods used would be consistent with the description of aerial fiber installations discussed above for the

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preferred alternative. The routes and tower locations would be the same as those described for the preferred alternative. However, a significant number of additional poles would be required at locations where no pole line currently exists. It is estimated that over 6,000 new poles would be required to build out the pole line, as well as replacement of any poles on the existing pole lines that are structurally deficient or that must be elevated to allow for adequate roadway clearances.

*No Action Alternative.* No action was also considered. This alternative represents conditions as they currently exist in northwestern 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.* NIU considered an all-wireless telecommunications network. However, this alternative was eliminated from consideration for several reasons. First, the current capacity and speed of the available wireless technology does not match the capacity and speeds of fiber optics, and therefore, the level of service that an all-wireless network offers would be insufficient to address the purpose and need of this Project. Also, some existing users, such as several of the education and health care facilities, would not access such a wireless network due to insufficient data capabilities. Wireless networks also do not have the built-in expansion capacity that a fiber optic network can offer.

## **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. To reduce noise impacts, construction activities will occur during weekday daylight hours and construction equipment will be equipped with mufflers. Based on these considerations, no significant impacts on noise are expected to occur as a result of Project implementation.

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***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 because plowing and directional boring techniques result in minor disturbance of the ground surface. It is possible that a limited number of poles may need to be replaced along the Project route, and installation of the new monopoles, also would both cause minor increases in fugitive dust emissions. The operation of the fiber optic network will require electricity generated by power plants; occasional use of backup natural gas and diesel generators; use of vehicles; and use of maintenance and repair equipment – all of which will slightly increase emissions to the atmosphere in limited quantities. A short-term minor increase in the use of fossil fuel and associated greenhouse gas (GHG) emissions will occur as a result of Project construction, amounting to approximately 4,200 metric tons of equivalent of carbon dioxide emissions – well below the presumptive effects threshold. BMPs will be used to control fugitive dust during the construction phase of the Project. Additionally, all construction equipment and vehicles will be maintained in good operating condition to minimize exhaust emissions. Based on implementation of these BMPs, construction and operation 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 plowing and directional drilling techniques result in very minor, temporary disruption of the soils. Although the plowing method of installation will disturb the soils, the soil profile is left generally intact and will function in a similar fashion as it did prior to installation. The directional drilling technique uses drilling mud which seals the fine pores of the soils and prohibits the free movement of sub-surface waters. However, the potential area of impact from this type of construction is very limited. Based on topography, some locations may require that a bore pit be excavated to allow the boring machine to achieve the appropriate drilling angle. In these locations, the excavated materials will be used for backfill. This will result in co-mingled soils. However, the extent of the required excavation is relatively small (15' x 40') and will not have significant impacts to the surrounding geology.

Excavation will also be required during tower construction. Soil conditions typical of northern Illinois will require the foundation for the towers to be 2 to 3 feet in diameter and 10 to 20 feet in depth. The soils will be removed from the site and replaced with a concrete foundation. Due to the limited size, the foundation will have an insignificant impact on the surrounding geology.

Erosion control measures and BMPs will be implemented before, during, and after construction activities. The proposed project will be required to obtain a National Pollution Discharge Elimination System (NPDES) construction permit. Under this permit, a Storm Water Pollution Prevention Plan (SWPPP) is required. The SWPPP will designate the appropriate storm water best management practices as well as provide detailed guidance for soil erosion and sediment control plans. The plans will require restoration of disturbed areas within 14 days of the

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completion of soil disturbing activities. Details regarding the type of structural measures required for erosion control, such as silt fences, ditch checks, and sedimentation basins will be provided in the SWPPP, which must be filed with the Illinois EPA. All existing drainage paths must remain unobstructed during construction of the project to allow the existing drainage patterns to be maintained. Based on implementation of these BMPs, construction and operation of the planned network is not expected to have 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 numerous streams, creeks, and rivers and the underground installation method would use horizontal directional drilling techniques to place the fiber optic cable several feet under perennial watercourses and intermittent streams that have flowing water at the time of construction. The insertion and extraction points would be a minimum of 30 feet beyond the stream channel. There is a chance that the drilling mud used by horizontal directional drilling crews could "frac-out" and enter watercourses. As part of the National Pollutant Discharge Elimination System (NPDES) permit required for this project, a contingency plan must be in place to monitor for this situation and to respond to a frac-out. Construction of the wireless towers will be well away from any water bodies and therefore will have no impact on streams and rivers.

The Project crosses regulatory floodplains and floodways. For underground installation, the proposed work will not add fill or structures to the floodplain and therefore is acceptable under Statewide Permit No. 8. Hand holes constructed within the floodplain for this project will be flush with the existing grade and therefore will not add fill to the floodplain. Other construction activities, such as pits excavated for construction, will be temporary in nature and will be backfilled to the same grade as the surrounding ground. Construction of the wireless towers is outside the limits of the floodplain and therefore will have no impact on this resource.

The Project route also crosses several wetlands of varying quality. The underground construction methods within or near wetlands includes directional drilling and vibratory plow-in. For wetlands which are intermittently dry, a vibratory plow-in method would be used to install the cable. These relatively-dry wetlands are typically small and often occur as fringe wetlands along intermittent streams. Impacts to these wetlands would occur only when these wetlands are dry (typically summer and fall) and would be temporary in nature. No fill would be placed in these wetlands and the disturbed soils would be re-seeded to accelerate re-vegetation. For wetlands which are normally wet, large, or susceptible to vehicle damage; horizontal directional drilling will be used to cross beneath the wetlands thereby avoiding impacts to those resources. Construction of wireless towers will not take place within wetlands, therefore there will be no significant impact to this resource. The Project was submitted to the U.S. Army Corps of Engineers (USACE) for their review. On March 18, 2011, the Corps issued a letter stating that they concur that the project can be constructed under the terms and conditions provided for in Nationwide Permit No. 12.

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Construction of the Proposed Action or alternate routes would have negligible impact to groundwater supplies due to the construction methods being employed. The aerial installation method would not change groundwater quality or quantity. Similarly, construction of the foundations for wireless towers will have no impact to the groundwater. Vibratory plows would be used as the primary underground cable installation method. This method preserves the in-situ soil profile and would not adversely affect groundwater resources. Horizontal directional drilling would also be used. During horizontal directional drilling, the bore hole would be stabilized by a bentonite slurry grout pumped under pressure. Although the grout is inert and would not act as a pollutant, it can affect groundwater flows by filling voids adjacent to the borehole and reducing the overall permeability. The magnitude of this potentially adverse affect is negligible due to the depth of installation to be utilized (approximately 3 feet) and width of the bore hole (3 inches). Significant groundwater aquifers are not present at such limited depths and would not be impeded by the installation of the improvements. Therefore, the proposed methods of installation would have negligible adverse impact to groundwater resources.

By avoiding construction in waterways and implementing erosion and sediment control BMPs, NIU will be able to construct the network with little or no impact on water resources in the Project area.

***Biological Resources***

The Project 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. There are 8 federally-listed endangered, threatened or candidate species occurring within the Project Area. The U.S. Fish and Wildlife Service (USFWS) reviewed the Project and determined that the Project would not adversely impact these species. The Illinois Department of Natural Resources, through the EcoCAT system, identified ninety species of concern along the project route. Due to the snow cover conditions at the time the EA was prepared, it was impossible to field verify the presence of these species at the reported locations. Prior to initiating construction at locations where the threatened and endangered species have been identified, a field review by a qualified professional will be completed to determine the locations of the species in question. Once the species have been identified, the appropriate avoidance measures identified in the EA will be implemented. If the avoidance measures outlined are followed, then both the underground and aerial routes will not adversely impact Federal- or State-listed threatened or endangered species. Coordination with IDOT regarding the limits of roadside prairie and the appropriate avoidance measures will be completed during the permit process. The Project will have no significant impacts on wildlife, wildlife habitat, or threatened or endangered species within the region and therefore will have no significant impact on biological resources.



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***Historic and Cultural Resources***

In a letter dated November 18, 2010, NTIA initiated consultation on the Project with the Illinois Historic Preservation Agency (SHPO). NTIA provided a comprehensive project description and map with this submission. In a letter dated December 3, 2010, the SHPO confirmed that they had received the initial letter and Project materials. In subsequent communications, the SHPO requested that the Project routes be evaluated by a qualified archaeologist to identify known archaeological resources along the routes, as well as identify locations with a high probability for resources where no archaeological investigation has been completed. This study was completed by the Public Service Archeology & Architecture Program from the University of Illinois. On January 10, 2011, the University of Illinois at Urbana-Champaign sent to the SHPO the desktop study report prepared by the Public Service Archaeology & Architecture Program at the request of Baxter & Woodman Consulting Engineers. The desktop study examined the electronic site and survey database maintained by the Illinois State Museum; examined existing U.S. Geological Survey (USGS) topographic maps and historic plat maps; and reviewed the National Register of Historic Places and HAARGIS database for potential structures in or near the proposed route. Their review of available documentation identified nine Historic Districts, thirty-eight archeological sites, and nineteen possible cemeteries which are intersected by a 5 meter wide area of potential effect along the propose route. Of this inventory of sites, a sensitivity analysis was conducted resulting in recommendations for field survey of those locations deemed to have a high probability of containing cultural resources. These areas must be field surveyed to determine the appropriate avoidance or mitigation measures. Field investigations are currently underway and a determination regarding cultural resources will be made by the archeological consultant in conjunction with the SHPO. Based on this approach, the SHPO has provided a Conditional Determination of No Effect. On February 18, 2011, the SHPO sent a letter to NTIA indicating that they had determined, based on the additional information submitted, that the project as proposed will have no adverse effect on any historic properties, as long as the following conditions also are implemented:

1. In regards to the APE defined within historic districts, if the work will occur within streets, we [the SHPO] need to know the street material to avoid damage to historic street surfaces.
2. Our office [the SHPO] concurs with the recommendations of the archaeological consultant, Kevin McGowan with Public Service Archaeology and Architecture Program (PSAAP), as shown in the attached maps.
3. NIU, in consultation with their archaeological consultant, PSAAP, shall provide a recommended means for avoidance of cultural resources. A drawing showing the proposed avoidance measure, along with any narrative deemed appropriate, shall be submitted to our office for review. This office shall review the avoidance measure and provide approval or denial, stating the reason for denial, within 20 business days of receipt of the documents. Approval of the avoidance measures may be documented in the form of informal written communications.

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These conditions have been agreed to by NIU, SHPO, and NTIA, and construction of the project will be in accordance with these conditions.

Through the Tower Construction Notification System (TCNS), NTIA provided Project details to 17 tribes interested in the Project's geographical location (Illinois). Of the 17 tribes notified, nine tribes responded to the notification. Four of the nine responding tribes replied by indicating that they had no further interest in the Project. The other five of the nine responding tribes indicated interest in the Project, the Section 106 process, and in consulting specifically on the proposed towers. NIU provided additional Project information to the five tribes, three of which then indicated that they concurred and had no further interest in the Project. Consultation with the two THPOs that requested information and did not respond after the information was sent will continue. The tribes, in general, 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.

If earth disturbing activities during project construction uncover cultural materials (i.e. structural remains, historic artifacts, or prehistoric artifacts), all work shall cease and interested Tribes, the State Historic Preservation Office, and NTIA shall be notified immediately. Such construction activities may then only continue with the written approval of NTIA. If earth disturbing activities during any area of the project uncover human remains, all work shall cease immediately in accordance with the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) and relevant state statutes. The area around the discovery shall be secured and the relevant law enforcement personnel (e.g. local police or County Coroner) and NTIA shall be notified immediately. Such construction activities may then only continue with the written approval of NTIA.

For all ground disturbing activities that occur during project implementation in the vicinity of known archaeological sites or suspected or known burials, the grant recipient will ensure that an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards monitors ground disturbance.

Any Community Anchor Institutions determined to be listed on the National Register of Historic Places will have their service connections completed in the same manner as the other existing utility services to the structure. The entrance of the service connection to these buildings will mimic the existing utility connections to preserve the historical integrity of the structure. Building penetrations will be completed in a workman like manner to minimize damage to the building façade. The interior equipment for this project will be contained to the designated utility rooms, thus avoiding inappropriate placement within the historic structure.

By completing the project in accordance with the means and methods described, the Project will have no significant impact to historic and cultural resources.

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***Aesthetic and Visual Resources***

The Project primarily involves installing fiber optic cable underground and on existing utility poles along major roadways. Fiber installation will have short-term, minor, and temporary impacts on aesthetic and visual resources during construction due to the presence of construction equipment and limited soil disturbance. Permanent aesthetic impacts would be associated with adding cable to utility poles, wireless transceivers to existing structures, the addition of tower structures for installation of transceivers, and other construction of above-grade facilities. The proposed towers are to be constructed at locations where development already has taken place, such as schools or municipal buildings. All towers will be less than 100 feet tall. Given the prevalence and general acceptance of communications towers in our built environment, the proposed towers will be consistent with the general landscape and will not have significant impact on the visual aesthetics within the project area. Permitting of the project along scenic byways or adjacent to Illinois Nature Preserves would not require any additional permits outside of those required for construction in the roadway rights of way. Overall, because the facilities to be constructed generally conform to the character of the existing land uses and built environment in the surrounding area, there will be no significant impacts on aesthetic and visual resources.

***Land Use***

Several types of land use are present along the Project route, including residential, business, agricultural, medical, educational, natural areas, and recreational areas. The infrastructure necessary to complete this project will be located within existing roadway ROWs and existing utility easements. These improvements are consistent with normal uses of ROWs and easements, and therefore no adverse or significant impacts based on land use are expected. NIU will adhere to the established IDOT rules for the use of ROWs for utility purposes. Local and county zoning ordinances require a Special Use Permit for construction of new wireless antennae towers. The process for obtaining a Special Use Permit will require a public hearing where interested parties can express concerns regarding the potential impacts of the towers. Ultimately, the elected officials will decide if the towers are an appropriate land use. The final location of the towers will need to fit with the property owners long range plans for use of the site and expansion of facilities. Provided the proper procedures for obtaining Special Use Permits are followed, the Project will not cause significant impacts to Land Use.

***Infrastructure***

Project construction activities will result in a temporary interruption of traffic flow along the Project route. These interruptions will be temporary and short-term, and will subside when installation of the fiber is complete. Delays to motorists are expected to be minimal as most of the construction will be off of the roadway surface and the safe passage of vehicles will be incorporated into the contractor's traffic control plan. There is potential for future improvement to the roadway system or other utilities located within the public ROWs to overlap with the proposed construction of the fiber optic facilities. The current IDOT plan shows a few potential conflicts between their multi-year roadway improvement plan and the proposed fiber optic plan. Potential conflicts will be reviewed in detail and will be resolved at the time a right-of-way construction permit is issued. IDOT also expressed concerns related to preserving the integrity

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of their survey monument system. As part of the permit process, known monuments will need to be identified and located on the permit drawings so that contractors will be aware of these monuments and take necessary precautions to preserve them.

The Project route will cross numerous railroads throughout the Project area, requiring a permit from the railroad for installation of the fiber cable across their ROWs. As part of the permit, clearance requirements will be specified by the railroad and all work within the railroad ROWs will be coordinated with the railroad. Train traffic control will be provided by the railroad to minimize disruptions during construction and to aid in worker safety.

The majority of the cable installation would occur along existing roadway ROWs and utility easements, in which other utilities are located – therefore, it is anticipated that utility conflicts and crossings would occur. Once the utilities have been field located, it is the responsibility of the construction contractor to identify a safe route for the fiber construction. Where utility crossings are unavoidable, the existing utilities would be hand-excavated to determine the depth of crossing. Adjustments to the proposed fiber cable depth would then be made as required to avoid conflicts.

As part of the wireless transceiver construction, electrical service must be brought to the transceivers. At sites where the installation will be a collocation, service is already available to the existing towers to power warning lights and other equipment. The transceivers will be powered from these same electrical feeds. At new tower locations, an electrical service will be split from the service feed which currently serves the associated anchor institution that owns the property on which the tower is to be located.

If appropriate procedures are followed for locating and working around existing utilities, the Project will have no impact on the existing utility infrastructure, and will, overall, have a positive impact on infrastructure in the Project area.

***Socioeconomic Resources***

The Project will provide open-access, middle-mile broadband infrastructure to rural, unserved and underserved areas of northern Illinois and to increase the reliability of the existing and proposed broadband network. This would allow rural residents, businesses, and institutions access to high-speed internet, communications, and other broadband applications. Also, direct employment opportunities would be created in the engineering, construction, and fiber optic supply industries. Indirect economic benefits include new jobs for last-mile providers; new jobs for rural industries that need fiber optic infrastructure to remain competitive; enhanced employment opportunities due to the potential for e-commuting and online collaboration; and educational opportunities via online education and connected classrooms. The Project also would provide broadband access to communities where low-income and minority individuals live. It would include areas where broadband access is currently not available. Healthcare facilities, educational venues, and other governmental entities would be able to improve their services with additional broadband width and access. Overall, the Project will not result in

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significant impacts on socioeconomic resources, and will have positive impacts on such resources in the future.

***Human Health and Safety***

There are numerous sites along the proposed route that could potentially impact construction activities. It is anticipated that any areas of soil contamination identified in conflict with the Project will be addressed with the construction methods proposed. Any contaminated spoils from wireless tower foundation construction and aerial utility pole hole excavation will require appropriate personal protection equipment and materials handling. Known sites of potential contamination will be identified on the project plans to alert workers of areas of potential contamination. Soils would be identified as potentially contaminated if they appear visually different than surrounding soil, or if the smell of petroleum products or other unusual odor is detected. Upon identification of potentially contaminated soils, work would cease in the area of concern and an environmental consultant would conduct an investigation to determine the presence and extent of soil contamination.

One Community Anchor Institution has been identified as an NPL site with deed restriction on the use of the property. Excavation at this site, located at 613 West Marquette Street in Ottawa, cannot take place at more than 4 feet below grade. The proposed route also passes a remediation site (NPL-8) where work has not yet been completed. At this location, the proposed route will be located on the south and east sides of US 6 to avoid the potentially contaminated soils.

Because much of the proposed work would take place adjacent to high speed traffic, worker and motorist safety is paramount. The Illinois Department of Transportation traffic control standards would be used to establish and maintain a safe work zone. Workers are required to meet OSHA standards for worker visibility and equipment driven on roadways must meet proper signage and licensing requirements. In accordance with IDOT standards, work within urban areas shall maintain safe pedestrian routes. Work in and around school zones would be coordinated with school district officials to ensure that safe, functional routes are available for pedestrian and bus traffic.

By adopting the safety and coordination efforts described above, it is anticipated that the Project could be constructed with no adverse impacts to human health and safety. Further, the Project will provide broadband service and directly connect medical facilities, which will provide enhanced emergency and medical services and improve human health and safety throughout the Project area.

***Cumulative Impacts***

Implementation of the Project is likely to occur simultaneously with other construction work within roadway and utility rights-of-way. To minimize repetitive disturbance to the environment and provide adequate worker safeguards, NIU will coordinate construction work schedules with the owners of the rights-of-way. Also, the Project will join with other nearby broadband projects including the DeKalb County DATA project (approximately 135 miles of fiber primarily in

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**Finding of No Significant Impact**  
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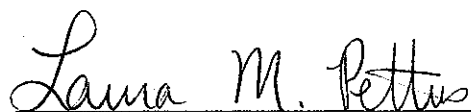
DeKalb County) and the IBOP – East Central project located to the south and extending to the IBOP – Southern project. Joining this project with the surrounding projects will make available a nearly statewide network of middle mile fiber providing broadband access and connectivity throughout the State of Illinois. This network allows for coordination of emergency services, sharing of resources and information and enhancement of economic opportunity on a regional basis. Joining these networks together also provides for the creation of network loops which increase overall system reliability.

Bringing broadband infrastructure to new areas would encourage the growth of the economy; increase health care capabilities; increase educational opportunities; and increase the efficiency and effectiveness of government institutions beyond what is currently provided. Although these are positive socioeconomic impacts, this potential, enhanced growth could adversely impact the natural environment. Broadband access may encourage companies and institutions to expand existing buildings or construct new buildings in green space areas. New jobs would attract new people to live in the area. The overall health of the economy, rather than access to broadband infrastructure, would be more of a driver for economic growth in the Project area. In addition, any growth would need to meet local and regional planning guidelines and environmental permits. The potential cumulative impacts, described above, are not anticipated to be significant.

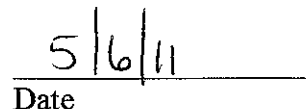
**Decision**

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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National Telecommunications and Information Administration

  
Date