

**National Telecommunications and Information Administration  
Broadband Technology Opportunities Program  
Finding of No Significant Impact  
Columbia County Georgia Information Technology Department  
Columbia County Community Broadband Network**

**Summary**

The Columbia County Georgia Information Technology Department (Columbia County) applied to the Broadband Technology Opportunities Program (BTOP) for a grant to build a broadband network in Columbia County, Georgia. The new network will provide increased access to broadband and wireless service throughout Columbia County. The new network will be a hybrid of approximately 200 miles of fiber optic cable and five wireless towers. The proposed action will connect 150 anchor institutions and is referred to as the Columbia County Community Broadband Network (Project).

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

Columbia County 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 a hybrid broadband system using both wireless and fiber technology to connect Columbia County;
- Connecting 150 anchor institutions to the new broadband network;
- Creating 60 wireless access points in public spaces for free wireless use;
- Installing 300-foot towers and prefabricated concrete structures at five previously disturbed, county-owned properties;

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- Installing approximately 200 miles of fiber optic cable primarily underground;
- Installing buried portions of the fiber network in existing road rights-of-way (ROWs) and utility easements via plowing, trenching, and directional boring methods; and
- Installing aerial portions of the fiber network on new and existing pole lines, replacing poles when necessary.

Based on a review of the analysis in the EA, NTIA has determined that the Project, implemented in accordance with the preferred alternative and Memorandum of Agreement (MOA), 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 broadband service to unserved and underserved communities in Columbia County, Georgia. The network will be open to commercial users, government users, and broadband service providers. The Project will be operated as an open network that can be used by commercial service providers to enhance and expand service, especially in areas that are economically challenged. The new network will have a positive impact on businesses, healthcare, public safety, educational institutions, and the local community. The county-wide broadband network will connect 150 anchor institutions and service more than 430,000 individuals who reside in Columbia County.

### **Project Description**

The Project will install a hybrid broadband system using both fiber and wireless technology. The Project includes a fiber network with approximately 200 miles of fiber optic cable and five 300-

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foot towers. The buried fiber optic network will be installed along existing road ROWs via plowing, trenching, or directional boring. The majority of the fiber optic construction will be underground. Fiber optic cable will also be installed aerially along a limited portion of the Project route. The five tower sites will be located on previously disturbed, previously developed parcels currently owned by Columbia County.

Construction along rural routes will typically be done via plowing. A reel of fiber cable is loaded onto the plow, and as the plow moves forward the cable is fed into a chute. The cable is directed to the bottom of the opening created by the plow. The opening is no more than six inches wide. The cable is laid at the proper depth; as the plow continues forward, the excavated opening is compacted back to ground level.

Trenching will typically be used to install cable underground in congested areas. If the area has many obstructions, a trench is excavated and the cable is laid manually into the bottom of the trench. The trenching method requires the use of a backhoe or a trenching machine. Trench dimensions will vary, but are typically three feet deep by two feet wide if a backhoe is used, or six inches wide if a trencher is used. The trench is back-filled using the same soil material that was removed, except in rocky areas, where backfill may be used.

Boring will be used to install underground fiber cable in areas where surface linear excavation is not feasible, or when surface restoration is cost-prohibitive. Bore diameters are typically four to six inches. Bore lengths are typically less than 100 feet, but can be as long as hundreds of feet when crossing large rivers or streams. A bore pit may need to be dug at the beginning of the bore, which allows the excavation to start at the proper depth. The pit can be as deep as six to eight feet, depending on the depth required for the bore. The boring head is directed forward by the operator and is used to tunnel through the ground beneath obstructions. As the head moves forward, 10-foot rod sections are added at the boring rig to increase the length of the excavation. Once the obstructions are cleared, the boring head can be directed to the surface. When the excavation has been completed and the head appears above the surface, flexible PVC casing pipe from a spool is attached the bore head. The bore head is then pulled back along the excavation, pulling the casing pipe back to the bore pit creating a pathway for cables and inner ducts.

Aerial fiber optic installation will be used as an alternative to underground installation. Where existing pole lines are present, fiber optic cable can be installed on existing poles. As a new service provider, Columbia County owns no poles and would be dependent on leasing poles from third parties. In some cases, aerial installation may be done using new pole lines. This may occur when there is no pole line present, when joint-use costs are too expensive, or when the telecom space on the existing pole line is too crowded. If aerial inserts are required for stream crossings, new poles are usually needed on either side of the stream's buffer zone to support the aerial crossing. If any new poles are required, they will be engineered and constructed using industry best practices.

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Fiber optic cable will be used to interconnect approximately 150 existing anchor institutions. None of the anchor institution connections will require construction of new buildings. The fiber optic cable will be brought into these existing buildings via direct burial and/or new and existing conduits. Directional drilling will be used to install these links. The fiber optic cable will be terminated inside the existing buildings in areas suited for telecom equipment.

No significant clearing, excavating, or other disturbance will be required to install the five tower sites. The towers will be self-supported and 300 feet above ground level. The concrete pad foundation will be approximately 40 feet x 40 feet x 6 feet. Tower foundations will be secured using steel-reinforced concrete below grade. Tower construction will require the use of grading machinery to level the site and construct access roads, excavation machinery to dig the tower foundations, concrete trucks to install the steel-reinforced concrete for the tower foundations, and cranes to place the tower sections in place. Fencing will be constructed around the perimeter of the tower footprint and guy wire anchor points. Prefabricated 10 feet x 15 feet telecom buildings will be installed at the base of each tower. A utility pole line extension from an existing adjacent source is required to bring commercial power to two tower sites. Electrical power will be brought to two other sites via underground cable. An underground trench will be excavated and cable will be buried within the access road to the communication sites. The linear distance of the power run will be approximately 360 feet at one site and 480 feet at the other site. The fifth tower site currently has electrical power available on site. All tower sites will be equipped with a standby generator to provide power in the event of a commercial power failure. The standby generator will be powered by diesel. Diesel fuel will be stored in a tank mounted inside the perimeter fence on concrete slabs.

**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 – Wireless and Fiber Installation (Preferred Alternative).* This alternative includes constructing a tower and telecommunications facility at five previously-disturbed locations and installing 200 miles of fiber optic cabling via underground placement and aerial deployment.

*No Action Alternative.* No action was also considered. This alternative represents conditions as they currently exist in Columbia County, Georgia. Under the no action alternative, a new broadband network would not be constructed. The EA examined this alternative as the baseline for evaluating impacts related to other alternatives being considered.

*Alternatives Considered But Not Carried Forward.* As an alternative to building and operating its own network, Columbia County first investigated leasing capacity on the network from one of the existing incumbent providers in the county. This alternative was investigated in detail but eliminated because it was too expensive, did not cover the entire county, and offered less bandwidth. Another alternative was the placement of fiber optic cable on land that is not

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contained within ROWs. This alternative would have resulted in the need for property acquisition, engineering and construction delays, increased cost, and increased environmental impact. An all wireless alternative was also considered. An all wireless network would not provide as much bandwidth as the preferred alternative, and would require more construction, installation of additional towers and would therefore be more expensive. Columbia County determined that installation of the network using the combination of methods specified in the Project description would be the most appropriate.

### **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 Project construction will be temporary and localized in nature. Fiber installation will occur along existing roadways and will not significantly add to the ambient noise levels associated with traffic along the road corridors. Similarly, tower construction will take place on county-owned land, adjacent to state and county roadways, and will not significantly add to the ambient noise levels in these areas. Based on these considerations, no significant impacts on noise are expected to occur as a result of Project implementation.

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

Tower construction, fiber installation, and the operation of diesel powered emergency generators will have minor impacts on air quality. Tower construction and fiber installation will result in minimal fugitive dust emissions. A short-term minor increase in the use of fossil fuel and associated greenhouse gas (GHG) emissions will occur during Project construction. Diesel powered emergency generators at each new tower site will generate minor, temporary air pollutant emissions during intermittent periods when a backup power source is needed. The construction will be concentrated within or near the existing road corridors used by automobiles and trucks. Construction and operation of the network is not expected to have significant adverse impacts on air quality.

#### ***Geology and Soils***

The Project will be installed within the public roadway ROWs, as well as on previously-disturbed, county-owned property. The Project will have no impact on prime or unique farmlands. A majority of the fiber optic cable will be installed underground. Construction techniques include direct burial, trenching, plowing, and directional boring. Soil disturbance

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using these methods will be minor and temporary in nature. The Project is not expected to result in significant impacts on geology or soils.

***Water Resources***

Fiber optic cable will be installed primarily in existing roadway ROWs and will occasionally cross streams and creeks. Most of the stream crossings will be accomplished using directional boring techniques. Bore pits will be set outside the waterway boundaries and the stream bed will be crossed underneath at depths that will not impact the waterway. Aerial inserts may occasionally be used for stream crossings. Inserts would be set outside the stream beds and waterway boundaries, preventing the waterways from being adversely impacted. Towers will be constructed on county-owned high ground for maximum signal propagation, well above any wetland areas.

Columbia County corresponded with the United States Army Corps of Engineers (USACE) to better understand permit requirements. In an email dated July 20, 2010, the USACE indicated that the project will likely require a Department of Army Permit. Columbia County is coordinating with USACE personnel to meet the requirements of a regional general permit. An applicant must receive approval from the USACE and obtain Water Quality Certification from Georgia's Department of Natural Resources Environmental Protection Division (EPD) to use a regional permit. Columbia County plans to obtain approval from both the Corps and the EPD. Columbia County will also obtain a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges associated with construction activities. In a letter dated July 22, 2010, Georgia's EPD recognized Columbia County's commitment to obtain a permit and outlined permitting requirements. The requirements include notifying Georgia's EPD 14 days in advance of construction and implementing an Erosion Sedimentation Pollution Control Plan. All construction contractors will implement the State of Georgia's BMPs. Contractors will also attend a Georgia Soil and Water Conservation Fundamentals Level 1A training and receive certification.

By following agency guidance and implementing BMPs, construction of the network will have a minor 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 and tower construction is 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, but this disturbance will occur entirely on previously developed areas. A U.S. Fish and Wildlife Service (USFWS) map shows that no critical habitats are located in Columbia County. In an email dated April 29, 2010, the USFWS determined that federally listed species were not likely to occur on the Project sites. If the Project is modified or if information on impacts to listed species becomes available, the USFWS requested that Columbia County notify them. The USFWS also requested protective measures be implemented on the five towers to reduce potential impacts on migratory birds. The

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lights for the towers will be white in color and will be off for three seconds between flashes, as requested by the USFWS. The USFWS also requested that guy wires be equipped with bird diverters. Because the towers for this project will be 300-foot self-support towers, the towers will not require guy wires, and bird diverters will not be necessary. Based on these analyses and following the guidance of the USFWS, construction of the network will not have significant adverse impacts on biological resources.

***Historic and Cultural Resources***

Columbia County conducted a records review of the National Register of Historic Places (NRHP), eligible properties, state-surveyed historic resources, and archaeological sites within a 0.75 mile radius of the Project. Columbia County consulted with Georgia's State Historic Preservation Office (SHPO) regarding the effect of the Project on historical and archeological resources. In a letter dated May 27, 2010, the SHPO indicated that the fiber optic installation would not affect historic and/or archaeological resources along the fiber route. All five towers received SHPO concurrence indicating no effect on archaeological resources. However, three of the five towers received SHPO concurrence letters of no effect or no adverse effect on historic properties. In a letter dated July 19, 2010, the SHPO stated that an adverse effect on historic properties is anticipated from the Halali Farm Road tower site. In a separate letter dated July 19, 2010, the SHPO also stated that an adverse effect on historic properties is anticipated from the Cobbham Road tower site. To mitigate the anticipated adverse effect determinations made regarding the Halali Farm Road and Cobbham Road tower sites, a memorandum of agreement (MOA) was developed between Georgia's SHPO, the FCC, and Columbia County. The MOA outlines the agreement made between the parties to move forward with the Project. The MOA requires Columbia County to research, compile, and submit a report to the SHPO detailing the resources that are 50 years of age or older, as of the last survey conducted in 1991. The MOA also states that Columbia County will disassemble the tower and associated facilities and notify the SHPO in the event the Project is abandoned. The MOA was accepted and signed by the Georgia SHPO, the FCC, and Columbia County.

The Shawnee Tribe indicated interest in the five towers and additional information was provided to them. In a facsimile dated August 18, 2010, the Shawnee Tribe concurred that no known cultural sites would be impacted by tower construction and encouraged Columbia County to implement protective measures recommended by the USFWS to reduce impacts of the towers on migratory birds and bats.

The Thlopthlocco Tribal Town indicated interest in the ground disturbing activities associated with the Project. Columbia County will provide representatives of the Thlopthlocco Tribal Town any requested information regarding these activities before any ground disturbance occurs.

Based on these consultations and guidance from the SHPO and Shawnee Tribe, the Project is not expected to have adverse impacts on archeological and cultural resources. No historic properties will be affected by the fiber installation. One of the planned towers will not affect historic properties; two will have no Adverse Effects on historic properties. The remaining two towers

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(i.e., the Halali and Cobbham Road tower sites) will have Adverse Effects on historical resources. However, these impacts are being mitigated by Columbia County's compliance with the MOA and completion of a historic resources survey for a portion of the Project area.

***Aesthetic and Visual Resources***

The Project 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 while installing fiber in public ROWs and constructing five towers. No aesthetic and visual resources will be impacted by the fiber installation once construction activities are complete. When construction activities are complete at the five new tower sites, the only remaining visual impact will be a 300-foot tower installed in a previously developed area. The fiber optic cable route will not traverse sensitive resources and the five towers are not visible from sensitive resources such as parks, waterways, trails, and scenic byways. Accordingly, the Project is not expected to have a significant adverse impact on aesthetic and visual resources.

***Land Use***

This Project will be conducted in previously disturbed areas and in public ROWs. The five tower sites are located on county-owned property where the land is previously disturbed. No land use changes will occur as a result of Project implementation. Therefore, the Project will not have a significant impact on land use.

***Infrastructure***

The installation of the Project's broadband fiber and tower network will improve communications infrastructure in Columbia County. The five communications towers will result in improved wireless coverage for public safety and mobile broadband providers. The Project will have a positive impact on infrastructure in Columbia County.

***Socioeconomic Resources***

This Project will provide improved broadband services to underserved and unserved areas of Columbia County and will have a positive impact on lower-income areas of the county and minority populations. In the near term, the Project will benefit the local community with new jobs to construct the network. The Project will have a long-term positive impact, providing infrastructure that can be used to attract new employers and associated employment opportunities to Columbia County. Overall, the Project will have a positive impact on socioeconomic resources.

***Human Health and Safety***

The Project will require extensive use of heavy equipment to install the fiber optic cable along roadways and towers on county-owned properties. The cable construction will take place within existing roadway ROWs. Construction will be concentrated in the outermost five feet of the ROW, away from the roadway traffic. Safety procedures will be implemented to protect workers and the general public from any potentially dangerous construction activities. Construction contractors will provide an employee rescue plan in the event of a fall or assure that employees



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are able to rescue themselves. The contractor also must make sure that employees who are working at elevations above six feet use and maintain appropriate 100% fall protection systems. Tower workers responsible for rigging must be able to provide documented proof of rigging training. In addition, this Project will be implemented in compliance with safety standards and procedures mandated by the Occupational Safety and Health Administration (OSHA) and the Georgia Department of Transportation. With implementation of these protocols, tower construction and fiber installation activities will not generate any significant adverse worker or traffic-related health or safety issues.

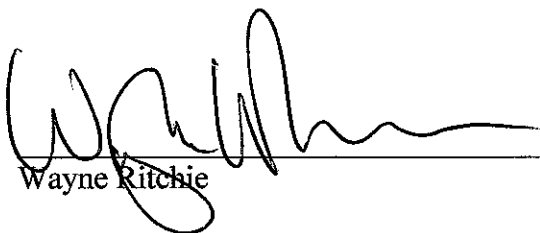
***Cumulative Impacts***

No cumulative impacts were identified in the EA.

**Decision**

Based on the above analysis, NTIA concludes that constructing and operating the Project as defined by the preferred alternative, identified BMPs, protective measures, and in accordance with the MOA 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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Wayne Ritchie

12/6/2010  
\_\_\_\_\_  
Date

Chief Administrative Officer  
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