

NTIA NEPA ENVIRONMENTAL ASSESSMENT

NCREN Fiber Expansion Project
Southeastern and Western, North Carolina Routes



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NTIA NEPA ENVIRONMENTAL ASSESSMENT

**NCREN FIBER EXPANSION PROJECT
SOUTHEASTERN AND WESTERN NC ROUTES
AUGUST 2010**

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Acronyms List

| Acronym | Definition |
|---------|---|
| AEC | Area of Environmental Concern |
| AERO | Air Emission Reporting Online System |
| BTOP | Broadband Technologies Opportunities Program |
| CAI | Community Anchor Institution |
| CAMA | Coastal Area Management Act |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CES | North Carolina Cooperative Extension |
| CRC | Coastal Resources Commission |
| CZMA | Coastal Zone Management Act |
| DCM | North Carolina Division of Coastal Management |
| EA | Environmental Assessment |
| EO | Executive Order |
| EPA | UnitedStates Environmental Protection Agency |
| ESA | Endangered Species Act |
| FEP | Fiber Expansion Project |
| FONSI | Finding of No Significant Impact |
| GHG | Greenhouse Gas |
| Gbps | Gigabit per second |
| NC GWA | North Carolina Groundwater Association |
| HDPE | High Density Poly Ethylene |
| HUC | Hydrologic Unit Codes |
| ISP | Internet/Intranet Service Provider |

| Acronym | Definition |
|---------|--|
| MPO | Metropolitan Planning Organization |
| NAAQS | National Ambient Air Quality Standards |
| NC DAQ | North Carolina Division of Air Quality |
| NC DWQ | North Carolina Division of Water Quality |
| NC EMC | North Carolina Environmental Management Commission |
| NC NHP | North Carolina Natural Heritage Program |
| NC DOT | North Carolina Department of Transportation |
| NCREN | North Carolina Research and Education Network |
| SCH | State Clearinghouse |
| NC WRC | North Carolina Wildlife Resources Commission |
| NPL | National Priority List |
| NRCS | Natural Resources Conservation Service |
| NRHP | National Register of Historic Places |
| NTIA | National Telecommunications and Information Administration |
| RCRA | Resource Conservation and Recovery Act |
| ROW | Right-of-way |
| SHPO | State Historic Preservation Office |
| SIP | State Implementation Plan |
| SPCA | Sedimentation Pollution Control Act of 1973 |
| THPO | Tribal Historic Preservation Office |
| TSCA | Toxic Substances Contact Act |
| USDA | United States Department of Agriculture |

| Acronym | Definition |
|---------|---------------------------------------|
| USFWS | United States Fish & Wildlife Service |
| USFS | United States Forest Service |
| USGS | United States Geological Survey |

**ENVIRONMENTAL ASSESSMENT
NCREN FIBER EXPANSION PROJECT
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AUGUST 2010**

1.1 EXECUTIVE SUMMARY

The proposed “Building a Sustainable Middle Mile Network for Underserved Rural North Carolina” project is a fiber optic cable installation project for MCNC and the North Carolina Research and Education Network (NCREN). Pursuant to requirements of the National Environmental Policy Act (NEPA), an Environmental Assessment (EA) has been prepared for this project. S&ME, Inc. (S&ME) has prepared this EA in accordance with the Department of Commerce’s National Telecommunications and Information Administration (NTIA) Broadband Technologies Opportunities Program (BTOP) Environmental Assessment Guidelines. According to those guidelines, this EA addresses the existing environmental characteristics along the proposed project corridor and the predicted environmental effects of the project.

The proposed project entails installation of approximately 500 miles of fiber optic cable within existing right-of-way (ROW) maintained by the North Carolina Department of Transportation (NCDOT) and the U.S. Forestry Service (USFS). This EA identifies and evaluates environmental impacts associated with the proposed project, located in 26 counties in southeastern and western North Carolina. Due to the substantial differences between the routes of the proposed project, relative resources categories addressed in this EA are discussed separately between Southeastern NC Route and the Western NC Route.

Early coordination with regulatory agencies was conducted by the NTIA project team in March 2010, as well as during the EA scoping process initiated in May 2010 (Appendix III). Notification to regulatory agencies included letters and maps illustrating project details. The purpose of this agency consultation was to solicit comments and concerns appropriate state and federal agencies may have regarding the proposed project. Agencies that responded to the scoping process included:

- U.S. Fish and Wildlife (USFWS) Asheville and Raleigh Field Offices;
- Tribal Historic Preservation Office (THPO) of the Eastern Band of the Cherokee Indians of North Carolina;
- State Historic Preservation Office (SHPO); and
- North Carolina State Clearinghouse (SCH) for their circulation to concerned state agency reviewers, including the following North Carolina Department of Environment and Natural Resources (NCDENR) departments and divisions:

- North Carolina Wildlife Resources Commission (NC WRC), Division of Marine Fisheries, North Carolina Division of Water Quality (NC DWQ), Division of Environmental Health-Public Water Supply Section, Division of Coastal Management, Parks and Recreation, Division of Emergency Management-Floodplain Management Program, Legislative Affairs, Department of Agriculture, Department of Cultural Resources, NCDOT, and the Natural Heritage Program (NHP).

The proposed project plans received favorable responses. Agency responses are addressed in appropriate sections of this EA. Appendix III includes the correspondence between the project team and consulted agencies, as well as a table that summarizes their comments and references where the comment is addressed in the EA document.

The proposed project's engineering firm will apply for necessary permits prior to construction. Through avoidance and minimization design methods, including directional bore, it is not anticipated that the proposed project will impact jurisdictional waters of the U.S. (streams and wetlands). Mr. James Shern with the U.S. Army Corps of Engineers (USACE) – Raleigh Regulatory Field Office confirmed that a Section 404 permit issued by the USACE would not be required if disturbance remained within staked-sloped limits of the ROW. Although not anticipated, if disturbance would go beyond the staked-sloped limits of the ROW, encroaching on jurisdictional waters of the U.S., a permit from the USACE will be required and, subsequently, obtained by the proposed project's engineering firm.

Alternatives considered to cost-effectively satisfy the purpose and need of the proposed project while minimizing environmental impacts included 1) no action, 2) direct bury, 3) aerial construction, and 4) buried in conduit (the preferred alternative and proposed action). Two other alternatives considered to possibly satisfy the project purpose and need included 1) the utilization of copper cable and 2) wireless transmission techniques. Copper cable and wireless transmissions were determined to be unable to satisfy the project purpose and need, and not discussed further, because they: are cost prohibitive; are unable to transmit the same amount of bandwidth as fiber optic; and, require more ground disturbance during construction.

The *Proposed Action* is not expected to significantly adversely affect the quality of the human environment. If this judgment is confirmed through coordination of this EA, an Environmental Impact Statement will not be required, and a Finding of No Significant Impact (FONSI) will be signed prior to the initiation of the proposed action. The signed FONSI will be made available to the public.

1.2 CHAPTER 1 – PURPOSE AND NEED

Established in 1980, MCNC is an independent, non-profit organization that provides broadband and advanced networking technologies and systems to continuously improve