Environmental Assessment (EA)

Colorado Community Anchors Broadband Consortium Project
EAGLE-Net Alliance
Grant Award No. NT11BIX5570001
Various Locations, Colorado and Wyoming

July 6, 2011 Terracon Project No. 01119004

Prepared for:

National Telecommunications and Information Administration (NTIA)

Broadband Technology Opportunities Program

Washington, D.C.

Prepared by: Terracon Consultants, Inc. Wichita, Kansas

Offices Nationwide Employee-Owned Established in 1965 terracon.com



TABLE OF CONTENTS

		Р	age No.	
EXECUTIVE SUMMARYi				
1.0	PURPOSE AND NEED1			
2.0	PRO	POSED ACTION	2	
	2.1	Project Description		
	2.2	Alternatives		
		2.2.1 No Action Alternative		
		2.2.2 Preferred Alternative		
		2.2.3 Alternatives Considered but Eliminated from Further Discussion		
3.0	FXIS	STING ENVIRONMENT		
	3.1			
	3.2	NoiseAir Quality		
	3.3	Geology and Soils		
	3.4	Water Resources		
		3.4.1 Streams and Rivers		
		3.4.2 Wetlands		
		3.4.3 Floodplains		
		3.4.4 Groundwater	13	
	3.11	Biological Resources		
		Historic and Cultural Resources		
		Aesthetic and Visual Resources	32	
		Land Use		
		Infrastructure		
		Socioeconomic Resources		
		Human Health and Safety		
4.0	ENVIRONMENTAL CONSEQUENCES34			
	4.1	Noise		
	4.2	Air Quality		
	4.3	Geology and Soils		
	4.4	Water Resources		
		4.4.1 Streams and Rivers		
		4.4.2 Wetlands		
		4.4.4 Groundwater	37	
		Biological Resources		
	4.6	Historic and Cultural Resources		
	4.7 4.8 4.9	Aesthetic and Visual Resources		
		Land Use		
		Infrastructure		
		Socioeconomic Resources	43	
	4.11	Human Health and Safety	44	
	4.12	Cumulative Impacts	45	
5.0	ENVIRONMENTAL PERMITS AND REGULATORY REQUIREMENTS45			
6.0	LIST	OF AGENCIES AND PERSONS CONSULTED	46	

TABLE OF CONTENTS (CONT.)

7.0 LIST OF PREPARERS				
8.0 REFERENCES				
APPENDICES				
Appendix A	Community Anchor Institutions			
Appendix B	Fiber Route Locations			
Appendix C	Site Map			
Appendix D	Typical Building Penetrations			
Appendix E	Colorado State Historic Preservation Office Correspondence			
Appendix F	Denver-Boulder-Greeley-Fort Collins, Colorado Eight-Hour Ozone Control Area			
Appendix G	List of Waterways Crossed by CCABC Project			
Appendix H	Common Wildlife Species Within the CCABC Project Area			
Appendix I	USFWS Correspondence			
Appendix J	State Wildlife Agency Correspondence			
Appendix K	Potential Cultural Resources Located Near Proposed Fiber Routes			
Appendix L	Tribal Correspondence			
Appendix M	Wyoming State Historic Preservation Office Correspondence			
Appendix N	Railroad Correspondence			
Appendix O	Colorado Department of Transportation Erosion Control Measures			
Appendix P	Ground Disturbance Estimates			
Appendix Q	US Army Corps of Engineers Correspondence			
Appendix R	Forest Service Correspondence			

LIST OF ACRONYMS

ARRA American Recovery and Reinvestment Act

APE Area of Potential Effect

BGEPA Bald and Golden Eagle Protection Act

BLM Bureau of Land Management
BMP Best Management Practice

BTOP Broadband Technology Opportunities Program

CAI Community Anchor Institution

CBOCES Centennial Board of Cooperative Educational Services
CCABC Colorado Community Anchors Broadband Consortium

CDOT Colorado Department of Transportation

CDW Colorado Division of Wildlife EA Environmental Assessment

EAGLE-Net Educational Access Gateway Learning EnvironmentNetwork

EIA Electronic Industries Alliance
EPA Environmental Protection Agency
FCC Federal Communications Commission
FEMA Federal Emergency Management Agency

FHWA Federal Highway Administration

FS Forest Service
GHG Greenhouse Gas

MBTA Migratory Bird Treaty Act

NAGPRA Native American Graves Protection and Repatriation Act of 1990

NPDES National Pollutant Discharge Elimination System

NRCS Natural Resource Conservation Service
NRHP National Register of Historic Places

NWI National Wetland Inventory

NTIA National Telecommunications and Information Administration

OSHA Occupational Safety and Health Administration

RUS Rural Utilities Service

SHPO State Historic Preservation Office SWPPP Stormwater Pollution Prevention Plan

T&E Threatened and Endangered

TCNS Tower Construction Notification System
TIA Telecommunications Industry Association

USACE US Army Corps of Engineers
USDA US Department of Agriculture
USFWS US Fish and Wildlife Service

USGS US Geological Survey
UST Underground Storage Tank

TABLE OF CONTENTS (CONT.)

WYGF Wyoming Game and Fish

WYCRIS Wyoming Cultural Resource Information System

WYDOT Wyoming Department of Transportation

EXECUTIVE SUMMARY

This Environmental Assessment (EA) has been prepared to fulfill requirements of Broadband Technology Opportunities Program (BTOP) Grant Award No. NT11BIX5570001, "Colorado Community Anchors Broadband Consortium - Connecting Colorado's Middle Mile." The project was awarded by the National Telecommunications and Information Administration (NTIA) during Round 2 of the American Recovery and Reinvestment Act (ARRA) Broadband Stimulus Funding.

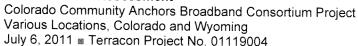
The proposed Colorado Community Anchors Broadband Consortium (CCABC) project was initially conceived by Colorado's Centennial Board of Cooperative Educational Services (CBOCES). The CBOCES created the Educational Access Gateway Learning Environment Network (EAGLE-Net), with a goal of addressing deficiencies in broadband availability by providing high-speed internet access to its school districts. The ARRA provided the opportunity for CBOCES to expand the EAGLE-Net network statewide, and bring broadband service at speeds of 20 Mbps to 1 Gbps to school districts, libraries, and community anchor institutions across Colorado through the CCABC project. In accordance with the grant application, CBOCES was the leader in creating the EAGLE-Net Alliance, an intergovernmental entity created pursuant to Colorado statute, with school district and other Community Anchor Institution representation on its Board of Directors. The BTOP grant award was officially transferred from CBOCES to the EAGLE-Net Alliance on February 16, 2011. The project will also provide broadband access to a small portion of Wyoming, with approximately 11 miles of fiber optic cable extending into this state. In addition, the project will facilitate more broadband accessibility and affordability for an estimated 1,623,852 households and 50,077 businesses.

The proposed EAGLE-Net network would consist of more than 1,600 miles of terrestrial fiber and 3,000 miles of microwave wireless broadband. The CCABC project will minimize costs by utilizing existing fiber optic infrastructure and wireless tower infrastructure where available. Vibratory plowing, directional boring, and trenching will be utilized to install proposed fiber optic lines in existing, previously disturbed rights-of-way along roadways and railroads. Vibratory plowing will serve as the primary method of installation. Directional boring will be utilized to minimize surface disturbance in select locations such as urban areas, streams, and wetlands to minimize disturbance to sensitive features.

Broadband access has traditionally been limited to major urban areas of Colorado. The diverse, rugged physical geography of Colorado has previously precluded fiber build-out due to increased costs, as one linear mile of distance may equate to three to six miles of fiber optic cable placement. Colorado is currently ranked 42nd in the nation in broadband connectivity. Rural areas that have access to broadband service often pay up to 10 times the cost of comparable urban areas, with lower available connectivity speeds.

The proposed project aims to provide access to unserved and underserved areas, educational and public institutions (e.g. schools, universities, libraries), and provide the opportunity for

Environmental Assessment





economic growth and job creation by providing new opportunities for rural communities. The CCABC project will also provide the ability for increased broadband growth in the future for additional unserved and underserved portions of Colorado and adjacent states.

Several alternatives were initially considered in the Environmental Assessment, including:

Preferred Alternative

A hybrid solution that utilizes existing infrastructure where available to reduce costs, and construction of additional fiber optic cable within existing, previously disturbed rights-of-way along roadways and railroads within needed locations. Wireless technology may be utilized where cable placement is not feasible.

Wireless Technology Only

Utilize towers only to provide broadband connectivity to needed areas. This alternative would not meet the goals of the project due to inability to support bandwidths and internet speeds available with fiber optic cable. In addition, the potential impacts to visual and biological resources would be higher utilizing this alternative.

Underground Installation Only of Fiber Optic Cable

Utilize new and existing fiber optic cable only to provide broadband connectivity to needed areas. This alternative is unfeasible as it is cost prohibitive. Impacts to evaluated resources may be higher due to the greater potential to disturb sensitive habitats.

Aerial Installation Only of Fiber Optic Cable

Install cable aboveground, rather than under existing rights-of-way. This alternative would lead to increased susceptibility to outages resulting from weather and weather related incidents such as icing, high winds, and falling tree limbs. Aerial installation could also possibly increase risks for volant wildlife species.

No Action Alternative

Do not implement the proposed CCABC project (do nothing).

This EA analyzes the Preferred and No Action alternatives, as other alternatives were eliminated for various reasons discussed above and considered further in this EA.

Based on analysis completed as part of this EA, the CCABC project would not result in significant negative impacts to environmental resources examined in this EA. In fact, the CCABC project is anticipated to provide several positive benefits to socioeconomics, human health and safety, and land use within the area served by the project. In addition, the proposed project will provide unserved and underserved communities with lower cost broadband access when implemented.