



**Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program**

Submitted Date: 3/26/2010 8:13:48 PM	Easygrants ID: 7145
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: E.N.M.R. TELEPHONE COOPERATIVE
Task: Submit Application - BTOP	Applicant Name: Mr. Buddy Vaughan

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A. General Application Information

Applicant Information	
Name and Federal ID for Applicant	
DUNS Number	009848524
CCR # (CAGE)	0FKR4
Legal Business Name	E.N.M.R. TELEPHONE COOPERATIVE
Point of Contact (POC)	JAN WILLIAMS 5753895100 Ext. janw@plateautel.com
Alternate POC	DAVID ROBINSON 5753895100 Ext. drobinson@plateautel.com
Electronic Business POC	JEFF MOORE 5753895100 Ext. jmoore@plateautel.com
Alternate Electronic Business POC	DAVID J ROBINSON 5753895100 Ext. drobinson@plateautel.com

Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
Prefix	Mr.
First Name	Buddy
Middle Name	
Last Name	Vaughan
Suffix	
Telephone Number	575-389-4376



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Fax Number	
Email	bvaughan@plateautel.com
Title	Chief Strategy Officer

Additional Contact Information of Person to be Contacted on Matters Involving this Application:

Project Role	Name	Phone	Email
Secondary Point of Contact	Mr. Jason , Felty	5753894379	jasonf@plateautel.com

Environmental Point of Contact

Prefix: Mr. Name: Wilkinson, Rob Suffix: Telephone Number: 806-866-9900 Title: Vice President, Planning & Design
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Organization Classification

Type of Organization	Cooperative or Mutual
Is the organization a small business?	No
Does the organization meet the definition of a socially and economically disadvantaged small business concern?	No

Authorized Organizational Representative

AOR Name	WILLIAMS, JAN
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Result	Applicant Authorized
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Project Title and Project Description

Project Title: Extending the Middle Mile: ENMR-Plateau Middle Mile CCI Project

Project Description: This project intends to construct middle mile infrastructure to support critical community institutions including education, health care, public safety, public libraries, city, county and state government in rural New Mexico communities. The infrastructure will provide high speed broadband with capabilities up to 1 Gbps and beyond for special access and Internet connectivity.

CCI Priority Checklist

The following items were selected from the CCI Priority Checklist:

1. This project will deploy Middle Mile broadband infrastructure to community anchor institutions.
2. The project will deploy Middle Mile broadband infrastructure and has incorporated a public-private partnership among government, non-profit and for-profits entities, and other key community stakeholders.
3. This project will deploy Middle Mile broadband infrastructure in economically distressed areas.
4. This project will deploy Middle Mile broadband infrastructure to community colleges.
5. This project will deploy Middle Mile broadband infrastructure to public safety entities.
6. This project will deploy Middle Mile broadband infrastructure and either includes a Last Mile infrastructure component in unserved or underserved areas or has received commitments from one or more Last Mile broadband service providers to utilize the Middle Mile components. Any Last Mile components in rural areas do not exceed 20% of the total eligible costs of the project.
7. This project will deploy Middle Mile broadband infrastructure and the applicant has proposed to contribute 30 percent or more in non-federal cost match.

Comprehensive Community Infrastructure Components

The following items were selected from the Comprehensive Community Infrastructure Components:



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Middle Mile

BIP Applicants

Have you also applied to BIP for funding in the sample proposed funded service area?

- No

If Yes, please provide the project title and Easygrants ID number:

Title of Joint BIP Application:

Easygrants ID:

Other Applications

Is this application being submitted in coordination with any other application being submitted during this round of funding?

- Yes

Easygrants ID	Project Title
587	ENMR-Plateau Middle Mile

If YES, please explain any synergies and/or dependencies between this project and any other applications.

This project will work in complement to the round 1 award that ENMR-Plateau received. This project includes additional middle mile network segments using DWDM equipment to expand the number of interconnection points to more areas of New Mexico. This project is dependent on the network that is being built with round 1 funds. It should be viewed as an extension of the round 1 network and would not be possible without it.

Individual Background Screening

Is the Applicant exempt from the Department of Commerce requirements regarding individual background screening in connection with any award resulting from this Application?

- No, Applicant is subject to these requirements



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If the answer to the above question is "No," please identify each key individual associated with the Applicant who would be required to complete Form CD-346, "Applicant for Funding Assistance," in connection with any award resulting from this Application:

Name	Title	Employer
Tom Phelps	Chief Executive Officer	ENMR-Plateau
David Robinson	Chief Financial Officer	ENMR-Plateau
Buddy Vaughan	Chief Strategy Officer	ENMR-Plateau

B. Executive Summary, Project Purpose and Benefits

Essay Question

Executive Summary of the proposed project:

Opportunity

ENMR•Plateau is pleased to submit this proposal requesting BTOP grant funds from NTIA provided by the American Recovery & Reinvestment Act. As a telecommunications provider in New Mexico and Texas, ENMR•Plateau is proposing fiber connectivity services as a middle mile project to anchor locations throughout New Mexico and Texas. These fiber connectivity services will meet both the immediate and future bandwidth requirements of community anchor institutions including K-12 education, colleges and universities, public libraries, public safety agencies, hospitals and other medical facilities, city, county and state offices and will provide the ability to connect to other public and private institutions across the city and across the state.

ENMR•Plateau understands that in order to provide the amount of aggregated bandwidth required in the next three years and beyond will require a very robust core network. In fact, the core network is the key to ensuring long-term bandwidth needs are met. ENMR•Plateau is



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proposing additional DWDM (Dense Wavelength Division Multiplexing) optical equipment across much of New Mexico to provide very high bandwidth POP's (Point of Presence) in the major communities along the fiber routes. These POP's will provide opportunities for public and private entities to connect to the core network with speeds up to 1 Gbps and even higher. This will work in complement to the core network being created with the round 1 award that ENMR•Plateau received.

ENMR•Plateau has already invested in most of the communities in this proposal in some way whether offering FTTP (fiber to the premise), wireless Internet, cellular, or transport services. These investments allow for shovel ready projects to be started immediately and also help to reduce the costs of the projects in this proposal. ENMR•Plateau's design considerations include ensuring that construction of fiber to anchor locations is done strategically to serve business corridors instead of building the shortest routes. This enables ENMR•Plateau to serve the businesses passed in the future with minimal construction. Of course, construction and equipment costs to serve those customers are not considered in this proposal.

This project addresses several opportunities related to the BTOP program including support to schools, libraries, medical and healthcare providers, community colleges and other institutions of higher education, and other community support organizations, organizations that provide outreach to facilitate greater use of broadband service, and improved broadband service to public safety agencies.

Proposed Funded Service Areas

This project can be viewed in two parts: 1) DWDM network and 2) fiber to anchor institutions.

With that in mind, in part 1 of the project, there are a number of communities that will be served with DWDM nodes. These nodes will enable connectivity of either existing or proposed infrastructure from our company or existing infrastructure from another provider in the community. There are 6 additional communities that will be served with interconnection points by this project extending the core network into more areas of New Mexico. They will complement the core network that is being created with the current round 1 award that includes 20 interconnection points across central and eastern New Mexico and west Texas.



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The second part consists of fiber construction to 423 anchor institutions in 23 communities in New Mexico and the Texas Panhandle. These community anchor institutions consist of K-12 schools, community colleges, university branches, public libraries, hospitals and medical facilities, public safety entities, city, county and state offices. Most of these communities are considered underserved markets based on having less than 40% broadband subscribership.

Households and Businesses Passed

As a result of constructing middle mile fiber in multiple communities, there are a number of businesses and homes passed. The numbers breakdown as shown: Businesses 3,883; Homes 48,659.

Anchor Institutions Passed

There are 423 anchor institutions that will be served by this middle mile project.

Proposed Services

ENMR•Plateau is proposing to offer special access and Internet connectivity to critical community facilities, community anchor institutions, and public safety agencies. By consolidating services onto a single core network, we feel that we will be able to offer very competitive and reasonable rates to the customers. An added benefit of having the core network with multiple Tier 1 Internet providers is the ability to buy more Internet bandwidth in bulk. ENMR•Plateau intends to pass these bulk savings onto the customers. Another benefit of providing services to anchor institutions is the ability to consolidate services.

Non-discrimination and Interconnection Obligations

ENMR•Plateau has always provided the ability for other companies to interconnect to our network. The proposed project will be consistent with the NOFA's non-discrimination and network interconnection obligations.

Type of Broadband System



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ENMR•Plateau intends to install additional DWDM network nodes in New Mexico utilizing current fiber infrastructure. This system has a minimum overall capacity of 400 Gbps enabling flexibility in the network to provide many types of solutions for both public and private entities.

ENMR•Plateau also intends to construct fiber to anchor institutions utilizing an active Ethernet solution which will provide for 1 Gbps connections or higher.

Company Qualifications

ENMR•Plateau has extensive experience in installing and operating fiber networks. In business since 1949, ENMR•Plateau has been on the leading edge of technology and services making it one of the premier small telephone companies in the country. We have experience constructing fiber to the premise solutions being the first company to deploy such a solution in New Mexico in 2004. Our management team has been in the telecommunications business a long time with an average of 21.5 years of experience. [REDACTED]

[REDACTED] We have over 2,000 miles of long-haul fiber in New Mexico and Texas carrying high capacity circuits for large telecom and cable companies and other customers.

Cost

The total cost of the proposed project is \$23,515,451. ENMR•Plateau intends to provide a cash contribution of \$7,054,635 to this project.

Subscriber Projections

The subscriber projections for the project are estimated based on serving only those customers in the 23 markets where fiber to anchor institutions will be constructed. The estimates are based on locations provided to us by the state of New Mexico for state agencies, colleges and universities, schools and libraries, and our own evaluation of the communities to reach additional school locations, city and state offices, and local medical facilities.

Job Creation and Retention



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Certainly the most obvious job creation is based on the stimulus package itself. By providing \$7.2 billion in stimulus money and requiring it to be used in a short timeframe, it will generate additional business for many contractors and vendors across the country. Contractors to bury fiber, vendors to provide fiber and equipment, employees to install and maintain the networks will all be necessary. It is assumed that many companies will have to hire additional people to support this massive build and deployment.

One of the concerns of the rural telephone companies is the loss of people and families in their serving areas. The statistics show that the majority of customers disconnecting their landlines are moving from the area. By providing high speed broadband and other advanced services, businesses should be able to assist in keeping people from moving away from their communities by providing jobs with good salaries. More home-based businesses will spring up as improved broadband capabilities are provided in rural New Mexico.

According to the calculations performed for this proposal, 113 direct jobs-years will be created from this project, 51 indirect jobs will be created, and 92 jobs will be induced.

Summary

ENMR•Plateau believes this project meets all the requirements of the BTOP program and the spirit of the American Recovery & Reinvestment Act. Spending the past 12 months working with the state of New Mexico, other telecommunications companies, schools, colleges and universities, libraries, and other private businesses has certainly lifted the awareness for providing sufficient broadband to all citizens of New Mexico and the United States. ENMR•Plateau is committed to working with federal, state, and local entities to achieve broadband goals set by this initiative.

Project purpose:

This project is intended to be a middle mile project providing support for critical community facilities by constructing fiber to city, county and state offices, hospitals and medical facilities, community colleges and universities, K-12 educational facilities, and public safety agencies in underserved communities across New Mexico. Although this project is focused on middle mile anchor institutions, it has been designed to maximum the amount of businesses and homes passed for future last mile deployments. This project will be leveraging the round 1 award that



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ENMR•Plateau recently received by utilizing the core network that will be built and adding additional nodes to the network to serve anchors institutions.

This project provides the ability to connect these institutions with access to high speed broadband for special access and Internet connectivity. The network will enable these institutions to create private VLAN's between facilities or connect to the DWDM network for interconnecting facilities across the network and across the state. The project also enables future services by providing interconnect access points in many communities across New Mexico with capabilities of speeds up to 10 Gbps or higher and is only limited by the equipment placed on the network. As technology improves in the future, virtually unlimited bandwidth is available.

In many of the POP's across the network, utilizing current network infrastructure will be possible. In ENMR's serving area, access to anchor institutions will be provided by utilizing recent equipment upgrades to the network. ENMR is in the last year of a multi-year, multi-million dollar project to upgrade all DLC's to BLC's. This required constructing an additional 1,000 miles of fiber throughout rural northeastern New Mexico to ensure that all BLC's would be fiber fed. It also required upgrading from an OC-48 system to an OC-192 system to ensure additional bandwidth capacity across the network.

In other POP's across the core network, Plateau either currently provides CLEC services or is proposing new fiber services. Plateau already serves Clovis with over 65 miles of fiber targeting business corridors and greenfields and is ready to serve all anchor institutions that it is not already serving. Plateau will also be serving 5 new communities with the BTOP round 1 award that it recently received.

This project supports the statutory objectives of the BTOP program in a number of ways including:

Provide broadband education, awareness, training, access, equipment, and support to schools, libraries, medical and healthcare providers, community colleges and other institutions of higher education, and other community support organizations by or through these organizations

The entire focus of this project is on providing broadband services to anchor institutions serving schools, libraries, medical and healthcare facilities, colleges and universities, and other support organizations. These institutions will be able to take advantage of high speed services to



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interconnect to other institutions across the city or across the state. It enables a “future-proof” network that provides virtually unlimited possibilities.

Improve access to, and use of, broadband service by public safety agencies

This project includes public safety agencies as anchor institutions and intends on providing broadband services to many of the city police, county sheriff, state police, and fire department locations along with other emergency services.

Stimulate the demand for broadband, economic growth, and job creation

This project will also stimulate demand for broadband, economic growth, and job creation by providing the ability to offer high speed broadband to businesses because this project was designed to go through the majority of business corridors to reach anchor institutions. This will enable businesses to subscribe to broadband services, create private networks to connect offices across town or across the state, and generate new jobs and economic growth.

Provide improved access to broadband service to consumers residing in “underserved” areas of the United States

A by-product of this project is the ability to serve consumers with future fiber to the home services. By building fiber to anchor institutions in communities across New Mexico, many of which are underserved, we are enabling easier entrance into these communities with a future fiber to the premise build. Many of the costs that disable getting started in a community are covered by this project.

Recovery Act and Other Governmental Collaboration:

ENMR•Plateau has been working with the state of New Mexico on the Integrated Strategic Broadband Initiative since March 2009. The significance of this effort has been that many telecommunications companies and other entities in New Mexico have been working together to figure out how to provide broadband to every unserved and underserved citizen of the state. As the effort succeeds in building out broadband across New Mexico, it is important to remember that the core broadband network can be used for many things including smart grid and Telehealth. ENMR•Plateau intends to work with the state and the governor’s office to determine how to best utilize the network to support smart grid and Telehealth efforts. We have had



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discussions with Governor Bill Richardson’s Science Advisor, Thomas Bowles, who is on loan from Los Alamos National Laboratory and is leading the state’s efforts in smart grid, health care, and broadband.

[REDACTED]

[REDACTED]

Collaboration with other agencies will enable ENMR•Plateau and the state of New Mexico to further the integrated strategic broadband initiative.

Fit with BTOP CCI Priorities:

ENMR•Plateau has carefully considered all the BTOP CCI priorities and is confident that it has met all 7 of the priorities.

1. This project will deploy Middle Mile infrastructure to community anchor institutions. There are 423 anchor locations that have been identified in 23 communities. ENMR•Plateau has made every effort to identify and serve all anchor locations in each of these communities. In addition, there are a number of interconnection points created that will enable ENMR•Plateau and/or other service providers to utilize the network.
2. This project will deploy Middle Mile broadband infrastructure and has incorporated public-private partnership among government non-profit entities and other key community stakeholders.

[REDACTED]



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[REDACTED]

3. This project will deploy Middle Mile broadband infrastructure in economically distressed areas.

In these tough economic times, most areas of New Mexico are defined as economically distressed areas according to the web site

http://hepgis.fhwa.dot.gov/hepgis_v2/GeneralInfo/Map.aspx.

ENMR•Plateau will be deploying Middle Mile to 23 communities that are all considered economically distressed.

4. This project will deploy Middle Mile broadband infrastructure to community colleges. As a continuance of the round 1 award that ENMR•Plateau received, we are focused on providing high speed services to community colleges throughout the serving area. Because of the very rural nature of the serving area, these colleges are relying more and more on distance and on-line learning tools. ENMR•Plateau has been working with area community colleges and K-12 institutions for two decades on distance learning over ITV. [REDACTED]

[REDACTED]

5. This project will deploy Middle Mile broadband infrastructure to public safety agencies. ENMR•Plateau identified 53 public safety entities in the 23 communities it intends to serve with this proposal.

6. This project will deploy Middle Mile broadband infrastructure and either includes a Last Mile infrastructure component in unserved or underserved areas or has received commitments from one or more Last Mile broadband service providers to utilize the Middle Mile components. This proposal includes a Last Mile infrastructure component that will enable serving underserved areas. ENMR•Plateau is committed to providing the most progressive broadband services to these communities and has planned the build-out to leverage future Last Mile infrastructure. Furthermore, ENMR•Plateau has demonstrated that it is committed to this effort as it is in the last year of a multi-year, multi-million dollar project to extend fiber further into rural New Mexico.



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Project Service States

New Mexico

Texas

Project Service Areas

New Mexico - 1

New Mexico - 2

New Mexico - 3

Texas - 19

Will any portion of your proposed project serve federally recognized tribal entities?

- No

Indicate each federally recognized tribal entity your proposed project will serve.

Have you consulted with each of the federally recognized tribal entities identified above?

- No

E. Service Area Details

Is the applicant seeking a waiver for providing less than 100% coverage of a service area?

- No

Project Details

16 Pages

Withheld in their entirety
pursuant to FOIA Exemption 4
(5 U.S.C. § 552 (b)(4))



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Historically Black colleges and Universities	0
Tribal Colleges and Universities	0
Alaska Native Serving Institutions	0
Hispanic Serving Institutions	1
Native Hawaiian Serving Institutions	0
TOTAL MINORITY SERVING INSTITUTIONS	1

G. Project Benefits

Demographics	
Jobs	
How many direct jobs-years will be created from this project?	113
How many indirect jobs will be created from this project?	51
How many jobs will be induced from this project?	92

Methodology used to estimate jobs:

The methodology used to estimate job creation was developed by the Council of Economic Advisors. The calculations were made as follows:

Direct Job-years $((\$23,515,451 / \$92,000) * 64%) * 69\%$

Indirect Jobs $((\$23,515,451 / \$92,000) * 64%) * 31\%$

Jobs Induced $((\$23,515,451 / \$92,000) * 36\%$



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% Breakdown calculation based on direct costs of \$16,146,645 and indirect costs of \$7,368,805 which creates Direct 69% ($16,146,645 / \$23,515,451$) and Indirect 31% ($\$7,368,805 / \$23,515,451$).

Project Impact:

When ENMR•Plateau became involved with the New Mexico Strategic Broadband Initiative in March of 2009, it became evident early in the process that there are many entities across the state that are trying to figure out how to do more with broadband to improve efficiencies, communications and effectively save money especially in these tougher economic times. For example, the State of New Mexico is made up of many agencies all working independently with their own CIO's making decisions about broadband connectivity to their many locations around the state. The Department of Information Technology (DoIT) has been tasked with trying to consolidate technology resources, share costs and find efficiencies across all these agencies. The idea that DoIT has is to consolidate broadband connections across state agencies by utilizing a statewide core network. [REDACTED]

[REDACTED] By utilizing the core network, each of these agencies could share a larger broadband service at the Clayton interconnection point that would carry the traffic to their main offices in Santa Fe. This concept should save the State of New Mexico money and improve efficiencies for all and was enabled by the Middle Mile broadband infrastructure. Take this example into other fields including K-12, higher education, healthcare and private business and one can clearly see the advantages. By building middle mile infrastructure into as many communities in rural New Mexico, we as a State and as a country are truly achieving the long-term goals of a National Broadband Plan. These rural communities now have opportunities to reach beyond their local neighbors and schools for education, on-line and video distance learning, medical treatment and on and on. This proposed project will construct fiber to 423 anchor institutions including K-12, public libraries, community colleges and branches, hospitals and medical centers, police departments, fire departments, university campuses, city, county and state offices. It has been designed to strategically pass business corridors as much as possible so that they can more easily be served at a later date. In many cases, it will enable entry into residential areas that back up to business corridors and will take into account future builds into those neighborhoods. In each of the 23 communities and additional interconnection points in this proposal plus the 5 communities and 20 interconnection points identified in the round 1 award, there are capabilities for special access and Internet connectivity for last mile customers and other service providers. This project is



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creating a foundation to build on in each of the communities. The infrastructure enables future extensions to other anchor locations (if identified), businesses and residences.

[REDACTED]



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[REDACTED]

Vulnerable Populations:

Belen's median HH income \$42,500, 101% above US average \$41,994. Poverty rate 23.2% vs national rate 12.4%. Hispanic/Latino pop. 68.6%. 39% speak Spanish.

Clayton's median HH income \$25,600, 61% US average \$41,994. Poverty rate 27% vs national rate 12.4%. Hispanic/Latino pop. 46.5%. 27% speak Spanish.



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Corona's median HH income \$28,594, 68% US average \$41,994. Poverty rate is low at 6.2 % vs national rate 12.4%. Hispanic/Latino pop. 42.4%.19.7% speak Spanish.

Edgewood's median HH income \$42,500, 101% US average \$41,994. Poverty rate 9.9% vs national rate 12.4%. Hispanic/Latino pop. 20.3%.10.1% speak Spanish.

El Valle's median HH income \$33,056, 79% US average \$41,994. Poverty rate 5.7% vs national rate 12.4%. Hispanic/Latino pop. 70%. 55% speaks Spanish.

Estancia's median HH income \$24,276, 58% US average \$41,994. Poverty rate 19.9% vs national rate 12.4%. Hispanic/Latino pop. 50.6%.33.4% speak Spanish.

Farwell, TX has a median HH income \$29,808, 71% US average \$41,994. Poverty rate 13.9% vs national rate 12.4%. Hispanic/Latino pop. 32%. 27.3% speak Spanish.

Fort Sumner's median HH income \$19,583, 47% US average \$41,994. Poverty rate 20.4% vs national rate 12.4%. Hispanic/Latino pop. 48.3%.42.6% speak Spanish.

Grady's median HH income \$26,250, 63% US average \$41,994. Poverty rate was not specified in US Census. Hispanic/Latino pop.10.2%. 8.3% speak Spanish.

House's median HH income \$25,625, 61% US average \$41,994. Poverty rate 5.0% vs national rate 12.4%. Hispanic/Latino pop. 6.9%.17.9% speak Spanish.

Logan's median HH income \$24,871, 59% US average \$41,994. Poverty rate 7.1% vs national rate 12.4%. Hispanic/Latino pop. 20.4%.18% speak Spanish.

Moriarty's median HH income \$25,150, 60% US average \$41,994. Poverty rate 13.3% vs national rate 12.4%. Hispanic/Latino pop. 40.8%. 23.5% speak Spanish.

Mosquero's median HH income \$25,000, 60% US average \$41,994. Poverty rate 14.6% vs national rate 12.4%. Hispanic/Latino pop. 77.5%. 61.1% speak Spanish.

Mountainair's median HH income \$21,146, 50% US average \$41,994. Poverty rate 19.3% vs national rate 12.4%. Hispanic/Latino pop. 53.1%.38.1% speak Spanish.

Nara Visa's median HH income \$22,188, 53% US average \$41,994. Nara Visa was not included in US Census; therefore poverty rate numbers and Spanish speaking percentages were unavailable.

Roy's median HH income \$21,111, 50% US average \$41,994. Poverty rate 11.7% vs national rate 12.4%. Hispanic/Latino pop. 53.1%.43.9% speak Spanish.

San Jon's median HH income \$22,917, 55% US average \$41,994. Poverty rate 14.3% vs national rate 12.4%. Hispanic/Latino pop. 32%. 24.7% speak Spanish.

Santa Rosa has a median HH income \$25,085, 53% US average \$41,994. Poverty rate 18.9% vs national rate 12.4%. Hispanic/Latino pop. 81.2%. 63.6% speak Spanish.

Vaughn's median HH income \$23,083, 55% US average \$41,994. Poverty rate 13.9% vs national rate 12.4%. Hispanic/Latino pop. 87%. 68.7% speak Spanish.



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Level of Need:

The proposed network addresses several distinct areas of need throughout the proposed funded service area, and all these areas have needs and deficiencies based on the existing infrastructure. For the anchor tenants within the 18 ENMR exchanges included in this project, current broadband services are limited to copper facilities delivering ADSL2+ or T1 services. None of the anchor institutions in these areas have access to fiber facilities. The proposed Active Ethernet fiber links will be capable of delivering 1 Gbps rates to the anchor locations, regardless of their distance from the service provider central office or equipment cabinet. With the deployment of fiber facilities, the local loop will no longer be the bottleneck in delivering Internet and private Ethernet services to these key customers.

Perhaps as important as the raw speed possible via fiber, the Active Ethernet network is capable of symmetrical service, so services can include offerings such as 10 Mbps up and down. This is important, because although on short loops ADSL2+ can deliver 10 Mbps or more downstream, it is technically limited to at best 1.5 to 3 Mbps upstream. Symmetrical services such as 10 Mbps up/down or 20 Mbps up/down are critical for anchor institutions such as schools and colleges where two-way distance learning and large file sharing is required. Symmetrical services are also crucially important for health clinics and hospitals to support the uploading of medical imagery.

With the construction of fiber to these anchor institutions, bandwidth can be increased to meet future requirements simply by increasing the backhaul capacity from the service provider central office to the core network. There are certain areas and routes within the ENMR•Plateau network where backhaul bottlenecks exist, and this is the second area of need that will be remedied with the proposed network. By adding DWDM nodes in strategic locations and establishing connections to the DWDM core network funded via the Round 1 BTOP award, these bottlenecks in areas such as Santa Rosa and El Valle will be removed. The DWDM additions will allow backhaul to be incrementally increased to meet demand and maintain appropriate over-subscription ratios. Along with the DWDM node additions, strategic backbone fiber extensions will enable diverse protect routes to provide more reliable delivery of the services to the critical community anchor institutions.

[REDACTED]



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[Redacted content]

H. Technology

Technology Type

Indicate the technology that will be used to deliver last mile services. The following items were selected:

Wireline - Fiber-optic Cable

Other:

Technology Questions

Methodology for Area Status:



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We determined that no unserved areas exist in the PFSA.

Description of Network Openness:

The proposed project will be consistent with the NOFA’s non-discrimination and network interconnection obligations. The applicants proposed interconnection, nondiscrimination and network management practices follow:

Acceptable Use Policy - Our Acceptable Use Policy (AUP) is designed to provide all our customers with a high quality Internet experience. Our network, just like the Internet is a shared resource; our AUP defines specific actions which are not allowed by our customers in order to preserve high quality service to all of our customers.

This network may only be used for lawful purposes. We do not specifically monitor our customer’s Internet access for purposes of restricting access to illegal activities. However, law enforcement, with proper court orders may do so and may require us to provide assistance to them. Illegal activities brought to our attention will result in the customer’s network access being revoked. This includes violations of the Digital Millennium Copyright Act.

This network has systems in place to detect and prevent attacks, intrusions and disruptions to our services, including our various servers and network equipment. These automated systems block access automatically when those activities against our network are discovered. These systems do not differentiate between outside attacks and those coming from our customers. If our technical staff determines a customer is intentionally or unintentionally disrupting or attempting to disrupt our services their access will be revoked.

Network management practice – In general, we use best effort delivery of Internet packets. There is typically adequate bandwidth to meet all of our customers bandwidth needs at any given time. However, we have network management practices and systems in place to help ensure that all customers have the best possible Internet experience even during times of peak usage. All of our bandwidth management systems are protocol neutral but may shape traffic for individual customers (for all protocols) when one customer is generating a disproportionate share of overall traffic.

Interconnection practice – We offer two types of interconnection access to our network. The first is to interconnect with another provider for the exchange of IP packets between networks for the



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purpose of reducing each other's public Internet backhaul demands. The second is to offer interconnection for the purpose of shared access to the public Internet. These interconnections require a fiber interface to our network which will be provided at reasonable rates and terms. A minimum time commitment may be required when we have to invest in additional equipment for interconnection. In order to prevent exceeding our public Internet backhaul capacity, our standard network management practices are employed on these interconnections when used to access the public Internet.

System Design:

[REDACTED]



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[Redacted content]



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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Is the applicant seeking a waiver pursuant to section IX.C of the NOFA so as to sell or lease portions of the award-funded broadband facilities during their life?

No

I. Project Budget

Project Budget		
	Federal Grant Request	Match
Last Mile	0	0
Middle Mile	16,460,816	7,054,635
Total	16,460,816	7,054,635

Project Budget Total: \$23,515,451

Match Percent: 30.0%

Projects Outside Recommended Funding Range:

➤

Outside Leverage	
Applicant is providing matching funds of at least 20% towards the total eligible project costs?	Yes
Matching cost detail	ENMR•Plateau will contribute \$7,054,635 in cash to the proposed middle-mile project which is 30% of the total project cost. The \$7,054,635 of cash will be derived from existing cash and/or the sale of investments. The funds will be used for infrastructure.



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Unjust enrichment	ENMR•Plateau is not receiving Federal support for non-recurring costs nor have we applied for any Federal support for non-recurring costs for the proposed project.
Disclosure of federal and/or state funding sources	ENMR•Plateau has received funding from USAC for other projects under the following programs: HCL (total of \$980,649 for 2009), ICLS (total of \$438,576 for 2009), LSS (total of \$1,079,130 for 2009), New Mexico USF (total of \$1,585,034 for 2009) and USAC E-Rate (total of \$36,027.18 for 2009).
Budget reasonableness	<p>ENMR•Plateau will be working with vendors and contractors that have done prior implementations with the company. Prior to submitting the application ENMR•Plateau, working in conjunction with our Engineering firm, worked with the vendors and construction contractors to assure competitive pricing. The costs for this project can be primarily broken into several categories:</p> <p>Directional boring of mainline and drop fiber: ENMR•Plateau has letters of support from two competitively priced Directional Boring Contractors who have provided their intent to be “shovel ready” for the projects in this application. Costs associated with mainline boring are based on actual mileages of our designs. Routes were selected based on the locations of anchor institutions in conjunction with a goal of passing the maximum number of businesses. Drop costs were based on the number of anchor institutions and an average drop length of 300 feet. It is estimated that due to the nature of the anchor institution facilities, approximately 60% of all drops will have to be bored.</p> <p>Trenching of drop fiber: The cost of trenching drops is significantly cheaper than boring, however due to the nature of the anchor institution facilities, it is estimated that approximately 40% of anchor institution drops can be trenched. The cost for trenching is based on 300 foot drops at competitive trenching rates.</p> <p>DWDM Equipment Costs: DWDM equipment has been dramatically dropping in price over the last few years and is becoming an extremely efficient method for providing extensive bandwidth in transport networks with minimal fiber exhaustion and excellent scalability. ENMR•Plateau and its Engineering firm have been working with a</p>



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Funds to States/Territories

States	Amount of Federal Grant Request
New Mexico	16,205,385
Texas	255,431

Funds to States/Territories Total: \$16,460,816

J. Historical Financials

Matching Funds	2007	2008	2009
██████████	██████████	██████████	██████████
██████████	██████████	██████████	██████████
██████████	██████████	██████████	██████████
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Bond Rating (if applicable)			

K. Project Readiness

BTOP Organizational Readiness

ENMR was founded by its members in 1949 to provide local phone service to rural areas in eastern New Mexico. Now known as ENMR•Plateau, the company has grown to be one of the larger telecommunications service providers within the region. ENMR•Plateau has over \$195 million in assets and operates in 25 counties in eastern New Mexico and western Texas covering 25,000 square miles. The company provides local telephone service to approximately 10,000 residential and business subscribers and offers the latest in digitally switched technology.



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ENMR•Plateau also has over 2,000 miles of fiber buried in eastern New Mexico and west Texas and utilizes the fiber network to transport high capacity services for the company and other carriers in the area. ENMR has offices in Santa Rosa, Logan, Clayton, Fort Sumner, Farwell, TX as well as Plateau offices in Clovis, Roswell, Artesia, Carlsbad, Plainview, TX, and Levelland, TX. ENMR•Plateau has the reputation of being on the cutting edge of new technology and strives to offer the most advanced services available on the market. Plateau Telecommunications was formed in 1982 as a wholly-owned subsidiary of ENMR Telephone Cooperative, Inc. headquartered in Clovis, NM. Plateau offers a variety of services aimed at improving communications for our customers. Plateau sells phone systems, network services and cabling, long distance, long-haul circuits, and voice and broadband services. Current offerings include: DSL, Wireless Internet, Dialup and Satellite services. Plateau has currently deployed wireless high-speed Internet in 8 competitive markets in New Mexico offering plans up to 2 Mbps. Plateau is also a licensed Competitive Local Exchange Carrier (CLEC) in New Mexico and was recognized in 2005 as the first provider in the state to offer fiber services to business and residential users in Clovis, New Mexico. [REDACTED]

[REDACTED] Plateau is experienced in the research, design and implementation of various technology projects. We have two PMP certified project managers on staff and a project team already in place that is well versed in rolling out a variety of products in multiple markets. Sales, operational, and billing support systems are already in place to provide special access and broadband services to new markets. We have 12 retail store locations selling Internet and Cellular products in New Mexico and Texas. We are equipped with a 24/7 fully staffed Network Operations Center (NOC) that will monitor the circuits, alarms, customer usage, etc., certified technicians located in New Mexico and Texas who are ready to assist the customer in any way necessary

Construction and Vendor Contracts

There are three primary areas in which vendors and contractors will be used: Fiber Outside Plant – ENMR•Plateau will be using experienced contractors for fiber construction that have performed work for us before and have an excellent track record of delivering quality construction in a timely manner. ENMR•Plateau has letters of support from these contractors to start these projects within the required timelines. We will be procuring commodity materials such as duct, fiber, vaults, splice boots, and signs from reputable vendors that we have worked



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with on previous projects. DWDM Equipment -- In the last six months, ENMR•Plateau issued a detailed RFP to five major vendors of DWDM equipment. All the vendors responded to the RFP and are willing to enter into contract to provide the equipment proposed in this project. The eventual selected DWDM vendor will be deployed as part of the Round 1 awarded project and the same vendor will be deployed in this proposed project for the sake of equipment interoperability and the efficiency of standardization. [REDACTED]

[REDACTED]

Customer Base

[REDACTED]

[REDACTED]

[REDACTED]

The following numbers are based on the 18 locations that we serve as mentioned above:

- Number of residential customers within the Proposed Funded Service Area: 6,719



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- Number of business customers within the Proposed Funded Service Area: 1,289
- Number of anchor institutions within the Proposed Funded Service Area: 284
- Number of service providers within the Proposed Funded Service Area: 7

Licenses, Regulatory Approvals and Agreements

ENMR•Plateau is licensed in the State of New Mexico to provide local exchange public telecommunications services (Docket No. 98-578-TC; Utility Case No. 2981). Furthermore, ENMR•Plateau has been issued a Certificate of Financial and Technical Competency by the New Mexico Public Regulation Commission.

[REDACTED]

ENMR•Plateau has a long history of providing telecommunications in New Mexico, a track record of community involvement, strong relationships with state, county and local governments making us confident in our ability to obtain franchise agreements expeditiously and by the time the project begins.

[REDACTED]

SPIN Number

ENMR Spin Number

143002464

L. Environmental Questionnaire



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Project Description

Building on top of the network proposed and awarded in Round One of the BTOP grant program, ENMR•Plateau proposes to extend that network in order to incorporate another 28 markets in its regional New Mexico ring in order to serve an additional 423 anchor institutions.

[REDACTED]

As a part of FTTP build-out, ENMR•Plateau proposes to construct 109 miles of distribution fiber optic cable in 23 service area. To allow for additional protection of the DWDM ring, ENMR•Plateau proposes to construct 79.7 miles of backbone fiber cable for the purpose of the DWDM transport network.

[REDACTED]

[REDACTED]

Property Changes

[REDACTED]

The cabinet will be placed on a concrete pad of less than 20 square feet which may require minor soil leveling under the concrete pad. No other property changes beyond the normal burying of fiber cable and placement of pedestals, hand holes, and warning signs will be done.

Buildings

[REDACTED]



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equipment. The planned building size is 1200 square feet. The land would be appropriately zoned and of adequate size to contain the building, space for maintenance vehicles, space for employee parking, and space for a delivery vehicle. The amount of property to be cleared, excavated, fenced or otherwise disturbed will be known once the final building location is selected. The final location for the building is expected to be selected and leased on approval of this application.

Wetlands

The U.S. Fish and Wildlife Service’s National Wetland Inventory website [<http://www.fws.gov/wetlands/>] was reviewed for all of the construction routes. Some map areas show stream crossings along the construction route. No electronic equipment will be located within wetlands areas. When the construction route needs to cross a stream the cable will be placed by boring underneath the stream.

Critical Habitats

We reviewed the U.S. Fish and Wildlife Service’s website to review the endangered species list for each county of construction. The endangered species include the Arkansas River shiner, bald eagle, black-footed ferret, Holy Ghost ipomopsis, Kuenzler hedgehog cactus, least tern, lesser prairie-chicken, Mexican spotted owl, New Mexican meadow jumping mouse, northern aplomado falcon, Pecos (=puzzle, =paradox) sunflower, Pecos bluntnose shiner, piping Plover, Rio Grande cutthroat trout, Rio Grande silvery minnow, southwestern willow flycatcher, whooping crane, and yellow-billed Cuckoo.

Most species had no critical habitat listed.

The Arkansas River shiner had critical habitat specified but not for any construction county. The Holy Ghost ipomopsis, Kuenzler hedgehog cactus, least tern, lesser prairie-chicken, New Mexican meadow jumping mouse, northern aplomado falcon, and yellow-billed Cuckoo are known to occur in a construction county but no critical habitat is listed.

The Pecos bluntnose shiner is known to occur in a construction county and has finalized critical habitat rules.



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The piping Plover, Rio Grande cutthroat trout, and Rio Grande silvery minnow have no critical habitat rules for any construction county but are known to occur in a construction county.

The Pecos (=puzzle, =paradox) sunflower is known to occur in construction counties but no critical habitat is finalized.

The Mexican spotted owl resides in old-growth or mature forests and actions that open up or remove mature or old-growth forests are detrimental to the local owl population. Human activity (hiking, shooting, off-road vehicle activity) in or near nesting, roosting, or foraging sites may result in abandonment of an area, and indirectly may affect habitat parameters from trampling, vegetation removal, or increased fire risk.

The southwestern willow flycatcher has critical habitat in a construction county.

The whooping crane has final critical habitat rules but is not known to occur in a construction county.

Since all construction will be either located along existing roadways (previously disturbed areas) or placing fiber cables on existing utility poles, we do not anticipate any adverse effects on the environment or the listed species.

Floodplain

None of the electronic sites are located within a 100-year floodplain. Some of the buried fiber construction routes pass through a 100-year floodplain.

Protected Land

We reviewed the National Register of Historic Places website [e.g. <http://www.nationalregisterofhistoricplaces.com/tx/Parmer/state.html>] for each county with construction we identified the 444 properties which were listed. We determined that up to 166 properties may be within one mile of the construction. The breakdown by county follows:

1. TX - Parmer County – None listed
2. NM - Lincoln County – 32 listed but none within one mile.
3. NM - Curry County – 8 listed but none within one mile.
4. NM - Quay County – 11 listed but only 3 within one mile.



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5. NM - Torrance County – 7 listed but only 5 within one mile.
6. NM - Santa Fe County – 65 listed but only 42 within one mile.
7. NM - Bernalillo County 144 listed but none within one mile.
8. NM - Guadalupe County – 10 listed but only 5 within one mile.
9. NM - De Baca County – 4 listed and all 4 within one mile.
10. NM - Colfax County – 24 listed but only 5 within one mile.
11. NM - Valencia County – 22 listed but only 3 within one mile.
12. NM - Harding County – 2 listed but only one within one mile.
13. NM - San Miguel County – 106 listed but only 93 within one mile.
14. NM - Union County – 9 listed but only 5 within one mile.

The listed historic places should not be impacted by the project to bury fiber optic cables in previously disturbed highway right-of-way. The project is not located on tribal lands.

Coastal Area

There are no coastal areas in New Mexico.

Brownfield

[REDACTED]



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Uploads

The following pages contain the following uploads provided by the applicant:

Upload Name	File Name	Uploaded By	Uploaded Date
Service Offerings and Competitor Data	18-1 Service Offerings and Competitive Data.xlsx	Vaughan, Buddy	03/25/2010
Network Diagram	18-2 Network Diagram.pdf	Vaughan, Buddy	03/25/2010
Build Out Timeline	18-3 Build-Out Timeline.pdf	Vaughan, Buddy	03/26/2010
List of Community Anchors and Points of Interest	18-4 Community Anchor Institution and Network Points of Interest Detail.xls	Vaughan, Buddy	03/26/2010
Management Team Resumes and Organization Chart	18-5 Management Team Resumes and Organizational Chart.pdf	Vaughan, Buddy	03/25/2010
Government and Key Partnerships	18-6 Letters of Support.pdf	Vaughan, Buddy	03/26/2010
Historical Financial Statements	18-7 Historical Financial Statements.pdf	Vaughan, Buddy	03/25/2010
Budget Narrative	18-8 Budget Narrative.docx	Vaughan, Buddy	03/26/2010



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Detailed Budget	18-9 CCI Detailed Budget.xls	Vaughan, Buddy	03/26/2010
Pro-forma Forecast	18-10 Pro Forma Financial Projections.xlsx	Vaughan, Buddy	03/26/2010
Subscriber Estimates	18-11 Subscriber Estimates.xlsx	Vaughan, Buddy	03/26/2010
Dashboard Metrics	18-12 Dashboard Metrics.docx	Vaughan, Buddy	03/26/2010
Service Area Data	18-13 Service Area Data.xls	Vaughan, Buddy	03/25/2010
Network Maps	██████████	Vaughan, Buddy	03/25/2010
Network Maps	██████	Vaughan, Buddy	03/25/2010
Network Maps	██████████	Vaughan, Buddy	03/25/2010
Network Maps	██████	Vaughan, Buddy	03/25/2010
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Network Maps	██████████	Vaughan, Buddy	03/25/2010



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Network Maps	██████████	Vaughan, Buddy	03/25/2010
Network Maps	██████████	Vaughan, Buddy	03/25/2010
Network Maps	██████████	Vaughan, Buddy	03/25/2010
Network Maps	██████████	Vaughan, Buddy	03/25/2010
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Network Maps	██████████	Vaughan, Buddy	03/25/2010
Network Maps	Floodplain Maps 1 of 3.pdf	Vaughan, Buddy	03/25/2010
Network Maps	Floodplain Maps 2 of 3.pdf	Vaughan, Buddy	03/25/2010
Network Maps	Floodplain Maps 3 of 3.pdf	Vaughan, Buddy	03/25/2010
Network Maps	██████████	Vaughan, Buddy	03/25/2010



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Submitted Date: 3/26/2010 8:13:48 PM		Easygrants ID: 7145	
Funding Opportunity: Broadband Technology Opportunities Program		Applicant Organization: E.N.M.R. TELEPHONE COOPERATIVE	
Task: Submit Application - BTOP		Applicant Name: Mr. Buddy Vaughan	

Network Maps	██████████	Vaughan, Buddy	03/25/2010
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Network Maps	██████████	Vaughan, Buddy	03/26/2010
Network Maps	██████████	Vaughan, Buddy	03/26/2010
Network Maps	All Lateral Cable Routes.pdf	Vaughan, Buddy	03/26/2010
BTOP Certifications	18-16 BTOP Certification.pdf	Vaughan, Buddy	03/26/2010



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SF-424 C and D	18-17 SF-424C and SF-424D.pdf	Vaughan, Buddy	03/26/2010
Supplemental Information	NM Broadband Initiative Round 2 Proposal, ENMR•Plateau.pdf	Vaughan, Buddy	03/26/2010
Supplemental Information	18-18 PIVOT Group Broadband Study for Plateau.pdf	Vaughan, Buddy	03/25/2010