



Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date: Easygrants ID: 5684	
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: PLUMAS SIERRA RURAL ELECTRIC COOPERATIVE
Task: Submit Application - BTOP	Applicant Name: Mrs. Lori D Rice

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A. General Application Information

Applicant Information	
Name and Federal ID for Applicant	
DUNS Number	839358934
CCR # (CAGE)	5LBS5
Legal Business Name	PLUMAS SIERRA RURAL ELECTRIC COOPERATIVE
Point of Contact (POC)	LORI RICE 5308324261 Ext. 6055 lrice@psrec.coop
Alternate POC	CLAUDIA DOOHAN 5308324261 Ext. 6008 cdoohan@psrec.coop
Electronic Business POC	CLAUDIA DOOHAN 5308324261 Ext. 6008 cdoohan@psrec.coop
Alternate Electronic Business POC	JUDY MAY 5308324261 Ext. 6025 jmay@psrec.coop

Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
Prefix	Mrs.
First Name	Lori
Middle Name	D
Last Name	Rice
Suffix	



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Telephone Number	530-832-4261
Fax Number	
Email	lrice@psrec.coop
Title	Chief Operational Officer, AOR

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

Project Role	Name	Phone	Email
Secondary Point of Contact	Mrs. Judy , May	5308326025	jmayer@psrec.coop
Other Contact	Jennifer , Atkins	5308326038	jatkins@psrec.coop

Environmental Point of Contact

Prefix: Ms. Name: Mix, Mary Ann Suffix: Telephone Number: 2087883940 Title: Environmental Consultant
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Organization Classification

Type of Organization	For-profit Entity
Is the organization a small business?	No
Does the organization meet the definition of a socially and economically disadvantaged	No



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small business concern?	
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Authorized Organizational Representative	
AOR Name	RICE, LORI
Result	Notify

Project Title and Project Description

Project Title: Plumas-Sierra Telecommunications (PST) Mild Mile Fiber Project

Project Description: The Plumas-Sierra Telecommunications (PST) CCI project is a fiber optic Open Access network that traverses through parts of Plumas, Sierra, and Lassen County that are unserved and underserved. The PST Mid-mile project is a collaborative regional effort.

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.

Comprehensive Community Infrastructure Components



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

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?

- No

Easygrants ID	Project Title

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

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

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:



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Name	Title	Employer
Lori Rice	COO	PSREC
Judy May	CFO	PSREC
Bob Marshall	General Manager	PSREC
Jennifer Atkins	Grant Administrator	PSREC

B. Executive Summary, Project Purpose and Benefits

Essay Question

Executive Summary of the proposed project:

The Plumas-Sierra Telecommunications (PST) project is a fiber optic Open Access network that traverses through parts of Plumas, Sierra, and Lassen County that are unserved and underserved. The PST Mid-mile project is a collaborative regional effort. PST is being supported as the lead applicant by a Tri-County Broadband Consortia comprised of Anchor Tenants, Businesses, and Governments within the proposed network area. The aerial portion of the project will utilize existing transmission poles owned by PST's parent corporation Plumas-Sierra Rural Electric Cooperative. By utilizing these existing vertical assets the project will realize a cost savings of nearly \$10.2M. We believe this project not only meets the goals of delivering next generation broadband backbone but also demonstrates economic conscientiousness. When completed, it will be the core communications infrastructure for the region and serve the area with a secure, vital link to the outside world. Ten percent matching funds for this project have been sought from the California Advanced Services Fund (CASF), these funds were approved by the California Public Utility Commission (CPUC) on February 26, 2010; Resolution T-17230. The overarching problem for this region of California is the lack of backhaul facilities to provide cost effective, abundant broadband. A communication deficiency causing a weakness in this



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region of California that adversely affects progress, jobs and the local economy. This weakness has far reaching affects and has rendered this northeastern corner of California deficient in so many aspects; lack of adequate access to broadband in the home, inhibiting the advancement in health care, suppressing the progression of advanced learning opportunities for of our children, and the trickle down affect which adversely affects our communities and their sustainability. The proposed PST Project will provide access to wholesale broadband along the Highway 395 corridor to Susanville, California and along State Route 70 from Hallelujah Junction to Quincy, California. Constructing the network with many interconnection points will allow large Anchor Institutions and Internet Service Providers access to wholesale broadband significantly lowering the cost and increasing the availability. This project is a collaborative community effort. The intention of this group is to form a Broadband Cooperative and provide low cost abundant broadband service; supplying wholesale service to large anchor institutions and service providers, therefore not creating conflict with Last Mile providers and supporting entrepreneurialism. The network is engineered and designed to reach the largest Anchor Tenants; Hospitals, Colleges, Schools, Military, Utilities, Public Safety, State and Federal Prison, and Indian Rancheria. Service Providers will have access to an abundant number of interconnection points designed to ensure that communities in the most terrain challenged areas will receive broadband to their homes and businesses. Further, the capacity of the network will support all foreseeable future needs of the area and an opportunity to attract technology based businesses to the area.

The PST Mid-Mile Fiber Project is submitted as a Comprehensive Community Infrastructure. The project is a joint mission resulting from a collaborative effort of partners within the region. PST and the Plumas County Office of Education with assistance from the Center for Economic Development, California State University Chico organized Broadband deployment meetings through-out the region to discover the need for broadband as well as establish future needs and goals. Included in this application are letters of support and commitment from members of this group. As you will see the letters tell a story, define the need and support the sustainability of this project. In anticipation of ARRA Round 2 funding this group effort began in November of 2009 and given the very short time in which to meet and identify needs the group experienced a ground swell of interest with meetings scheduled every 3 weeks. Each meeting new partners arrived to support the effort. As we advance through the application process additional anchor tenants, businesses and organizations dedicated to economic development in our region have come forward to support this project. The consortia will continue its forward momentum and continue to gather supporters focused on a successful award in 2010.

About Plumas-Sierra Telecommunications



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The Plumas-Sierra Rural Electric Cooperative (PSREC) is a member owned electric distribution and transmission utility, founded in 1937, providing electrical power and related services to over 7500 member/owners in Plumas, Lassen, and Sierra County in California and portions of Washoe County in Nevada. Plumas-Sierra Telecommunications is a subsidiary of PSREC and was established in 1987. The Telecommunications Division provides video and data services to the tri county area.

Plumas-Sierra Telecommunications has delivered Internet service for more than 14 years to the proposed funded area. Initially first to offer Dial-up service to the area in 1995 and now through a sister subsidiary offers Wireless Internet access utilizing a point to multipoint topology.

Project Statistics

The total cost of the network is \$17.2M. Without ARRA funding through the stimulus program the proposed infrastructure in this project would otherwise never be constructed.

The total number of job-years created is estimated to be 372; 305 of these are direct and indirect job effects, 67 are induced job effects. The Council of Economic Advisor's Guide was utilized to determine the estimated job creation.

The project area includes 30 Census Block Groups covering 2,536 square miles in Eastern Lassen, Plumas, and Sierra County; 18 zip codes, 14,039 households, 2,111 businesses, 33 public safety entities 306 Anchor Tenants including health care, education, libraries and government offices. The project will significantly contribute to the increase in broadband subscribership in the project area. The project assumes a minimum 40% increase in household subscribership increasing the existing number by 6,100. The model further assumes that an additional 20% of businesses will increase their broadband usage and an increase in 70% connectivity to anchor institutions and critical services.

The PST network is a 172 mile, carrier grade optical fiber middle mile project designed to provide broadband services to Plumas, Sierra, Lassen Counties, CA. The route follows US 395, SR 89 & 70 & county road rights of way (ROW) in CA & NV & would serve the Forest Service, 3 counties, 18 zip codes, hospitals, safety and law enforcement entities, schools, prisons, Indian Reservations & Sierra Army Depot.

The services proposed for the PST Mid-Mile project are a full range of carrier grade, wholesale, services intended to enable broadband to existing service providers serving end users, create an entrepreneurial platform for new entrants, enhance the dependability for the telecommunications infrastructure with route redundancy, and enable another diverse route out of Northeastern California to strengthen the national telecom grid. The proposed service offerings on the network are Dark Fiber facilities; Point to Point Transport Service; and IP Ethernet Service.



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The obligations for non-discrimination and interconnection will be addressed both organizationally and in the architecture of the network. The PST Mid-Mile Fiber Network will fully comply with the principles in the FCC's Internet Policy Statement. The network management policies will be posted on the PST Website. The management of network facilities will not favor or discriminate based on service provider or applications. Interconnection will be supported via collocation or at any other technically feasible point.

The intent of the PST Mid-Mile Fiber Network open design is to seek out interconnection opportunities. The cable routing is designed to serve as many potential facilities as possible. Institutional anchor locations such as safety entities, government agencies, educational and medical facilities as well as Points of Interconnection including telephone company central offices, cable company headends, wireless telephone and Internet service provider sites.

Project purpose:

Compelling Problem: The overarching problem for this region of California is the lack of backhaul facilities to provide cost effective, abundant broadband. A communication deficiency causing a weakness in this region of California that adversely affects progress, jobs and the local economy. This weakness has far reaching affects and has rendered this northeastern corner of California deficient in so many aspects; lack of adequate access to broadband in the home, inhibiting the advancement in health care, suppressing the progression of advanced learning opportunities for of our children, and the trickle down affect which adversely affects our communities and their sustainability.

Evaluating the Deficiencies: There are several factors that contribute to the crippled communication in the proposed project area. The first element is the demographics, these are rural and remote communities that seem to be last in the communication food chain. No one begrudges the large communication companies their goal of meeting the needs of the masses and profitability. Population density lends itself to good business economics, 12 homes per mile does not. As a result, existing facilities in our region are limited, they're old, and they're expensive. The second element is terrain; mountains, large mature timber, and Federal and State lands which surround these isolated communities. The terrain presents two interesting and challenging factors, one is the physical aspect of delivering broadband through, over, and around mother earth, two is the regulatory process necessary to mindfully and environmentally circumvent this pristine portion of California. We believe we have an excellent plan to do this and if not for the ARRA Broadband Stimulus it would never be a reality.



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Solution: The Plumas-Sierra Fiber Project will provide access to wholesale broadband along the Highway 395 corridor to Susanville, California and along State Route 70 from Hallelujah Junction to Quincy, California. Constructing the network with many interconnection points will allow large Anchor Institutions and Internet Service Providers access to wholesale broadband significantly lowering the cost and increasing the availability. This project is a collaborative effort that includes Anchor Tenants, ISPs, Economic Development entities, and local governments. The intention of this group is to form a Broadband Cooperative and provide low cost abundant broadband service; supplying wholesale service to large anchor institutions and service providers, therefore not creating conflict with Last Mile providers and supporting entrepreneurialism. The network is engineered and designed to reach the largest Anchor Tenants; Hospitals, Colleges, Schools, Military, Utilities, Public Safety, State and Federal Prison, and Indian Rancheria. Service Providers will have access to an abundant number of interconnection points designed to ensure that communities in the most terrain challenged areas will receive broadband to their homes and businesses. Further, the capacity of the network will support all foreseeable future needs of the area and an opportunity to attract technology based businesses to the area.

Statutory Purpose: Four local Internet Service Providers support this project. The network is designed to offer Service Providers with abundant and cost effective broadband with multiple interconnection points. Currently coverage can best be described as "swiss cheese" leaving some areas completely unserved and other areas grossly under-served either by lack of service or less than satisfactory delivery of upload and download speeds. The multiple interconnection points and the abundance of bandwidth will allow third party providers to reach far beyond their current boundaries to access the unserved portions of the county and substantially increase service to underserved areas.

Our local Broadband Consortia is comprised of Hospitals, Colleges, School Districts, Economic and Workforce Alliance entities, and local governments who have committed to the sustainability of broadband through education, health, awareness, and outreach programs. Plumas District Hospital: Access to medical specialists and web based EMR and EHR solutions. Susanville Indian Rancheria: Plans to enhance Tele-medicine for their Clinics, distance learning opportunities for adults and children, expansion of business opportunities such as a call center and IT support services.



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Feather River College: Plans to expand their online course offerings, and enhanced online educational services to the sparsely populated rural areas. Enhance its Allied Health program by providing students the ability to receive instructional telemedicine classes. Enable student access to electronic library resources including the college's multimedia collection which currently cannot be delivered because of limited bandwidth. Full service student web portal for support services providing an equitable education to students who can only attend via distance education.

The Nevada Department of Transportation plans to utilize the proposed fiber network to implement the Intelligent Transportation Systems (ITS), a service which provides reliable, real time information on rural road conditions. The proposed project further allows for 911 redundancy currently unavailable in the region.

The region is economically distressed with an unemployment rate of 14.2% and a median income of \$27,759. Plumas, Lassen and Sierra County are all actively recruiting businesses to relocate in the region. The number one question from prospective businesses is "Do you have broadband service?" The PST Fiber Project will remedy this problem and result in better opportunity for economic development and growth, jobs, and sustainability. PST has begun conversations with California State University, Chico (Broadband Deployment group) in an effort to begin planning broadband adoption in the region.

Recovery Act and Other Governmental Collaboration:

Cash of \$1,721,280 have been awarded by the Public Utilities Commission of California. This represents 10% of the total project costs. On February 25, 2010 the Public Utilities Commission of California approved Resolution T-17230. This resolution adopts funding for the Plumas-Sierra Telecommunication middle-mile project, amounting to \$1,721,280 from the California Advanced Services Fund (CASF).

The Office of the State Chief Information Officer (CIO) is in strong support of the PST project. "If granted, the State of California intends to subscribe to broadband services from PST in the Plumas, Sierra and Lassen counties. This project will directly impact the following Public Safety Answering Points (PSAPs) by providing the necessary broadband technology for Next Generation 911 (NG 9-1-1): Sierra County Sheriff, Lassen County Sheriff, California Highway Patrol Susanville, Susanville Interagency Fire, Plumas County Sheriff. This project will provide an opportunity for the PSAPs in the proposed service areas, and working with those in adjacent



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counties, to improve public safety and homeland security by providing an IP-capable backbone to support the new NG9-1-1 architecture."

The underground construction portion of the PST Mid-Mile Fiber Project along the Highway 395 corridor will be a joint collaborative effort with the Nevada Department of Transportation. As stated in the NDOT support letter, "NDOT intends to work collaboratively with PST to make this network a viable and ongoing operation. Some possibilities include fiber or conduit swaps, availability of dark fiber to complete respective networks, and availability of rights-of-way." "For intelligent transportation systems (ITS) the ability to provide reliable, real time information on rural road conditions to NDOT operations and to the traveling public would be possible with this project."

Fit with BTOP CCI Priorities:

In 2009 a local Broadband Consortia was formed, key institutions include Offices of Education, Colleges, Hospitals, Utility Providers, Economic Development, Job placement agencies, Safety agencies, Indian Rancheria, Cities, Internet Service Providers, and small and large businesses. The consortia is in full support of this application and is hopeful for a successful grant. We understand that the grant alone is not the answer, however, if not for this grant our region would have a much harder time re-bounding. Attached to this application you will find letters from members of this consortia and their stories. The PST Mid-Mile Fiber Project proposes to introduce new broadband service as well as substantially improve service to the region. The network will augment existing facilities currently provided by AT&T and Frontier Communication to ensure that this north east region of California is able to meet the broadband demands of the future that affect our safety, education, and growth. This Mid-Mile application is a result of our local communities coming together and establishing the existing and future need of abundant, well distributed, and affordable broadband access. The attached letters show the support and offerings of easement to the project demonstrating the eagerness and enthusiasm of this group. Some of the partners have access but need more, some are concerned about the high cost of existing facilities, while others currently have no access to broadband. The proposed project area meets the economically distressed area criteria with an unemployment rate of 14.2% average and per capita income of \$27,759 which is 72% of the national average. Feather River College in Quincy California and Lassen Community College in Susanville California are both members of our broadband consortia. The proposed network will direct connect both institutions. The proposed project direct connects the US Forest Service which plays a vital role



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in the prevention of forest fires and fire protection to our region. The PST project will pass 23 Fire stations, 3 Highway Patrol, 4 Sheriff's Department, and 3 Police Departments. The project is further supported by the Nevada Department of Transportation who will use broadband for their highway safety project, US 395 North. The PST project is supported by 4 Internet Service Providers in the region with intent to purchase, [REDACTED] who just recently acquired the existing Cable Company and plans to revive the system and provide cable modem service in the more populated areas of Plumas County; [REDACTED] in Susanville; Got SKY Unlimited a WISP in Plumas, Sierra, and Lassen County, Got SKY provides free Hot Spots in several communities and plans to expand this effort; [REDACTED] although based in Chico California, provide wireless service to portions of Plumas, Sierra, and Lassen county.

Is the applicant seeking a waiver of the Buy American provision pursuant to section x.Q of the NOFA?

- No

Is the applicant delinquent on any federal debt?

- No

If Yes, justification for delinquency:

Are you seeking a waiver of any requirement set forth in the NOFA that is not mandated by statute or applicable law?

- No

Is the applicant a current recipient of a grant or loan from RUS?

- No

C. Partners

Are you partnering with any other key institutions, organizations, or other entities for this project?

- Yes

If YES, key partners are listed below:

Project Role: Contractor Name: Ort, Michael Phone: 7075518220

5 Pages

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



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Socially and economically disadvantaged small business concern: No

Description of the involvement of the partners listed above in the project.

Plumas-Sierra Telecommunications (PST) will be contracting out the construction of the mid-mile fiber network to Praxis Associates, an economically disadvantaged business. Praxis has previous experience managing CPUC and RUS funded projects and understands the technical and administrative requirements of grant programs. To date, Praxis Associates has completed all the necessary work to submit for BTOP grant funding including the creation of a shovel ready network design, project costing and scoping.

The Office of the State Chief Information Officer intends to purchase services from PST in the Plumas, Sierra and Lassen counties. The PST project will directly impact the PSAP's in our region by providing the necessary broadband technology for Next Generation 911 (NG9-1-1); improve public safety and homeland security.

The other 11 entities listed as partners are key members of the Tri-County Broadband Consortia, have been highly involved in the planning and development of the fiber network and have expressed intent to purchase if the project is funded. The involvement of these diverse entities further supports the very need for the project. The attached support letters demonstrate the additional projects and ways that they will be able to utilize the bandwidth to further their entities goals.

In Summary:

Praxis: Contracted Mid-Mile Fiber Construction Company

██████████: Planning and Development Partnership; fiber will help them with telemedicine, distance learning/education, increased business opportunities, and employment opportunities.

██ Planning and Development Partnership; provide services to K-12 schools, reduced rates, and redundancy.



Broadband USA

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State of Nevada Department of Transportation: Planning and Development Partnership; Intelligent Transportation Systems (ITS) and 911 redundancy.

██████████ College: Planning and Development Partnership; online course and educational offerings, web portal access, electronic library.

██ Planning and Development Partnership; medical specialists and web based EMR and EHR solutions.

██████████ Planning and Development Partnership; increased consumer communication services to support law enforcement, fire safety and other municipal services.

██████████████████████████████ Planning and Development Partnership; ISP that will be able to expand customer base and provide increased internet access.

GotSKY: Planning and Development Partnership; increased wireless service, increased free access points for the community, connect volunteer fire stations to broadband service.

██████████████████████████████████ Planning and Development Partnership; wants to expand its online course offerings, provide enhanced online educational services

██████████████████████████████████ Planning and Development Partnership; wants to double their current backhaul capacity to improved educational services to students and parents, and web portal.

Plumas-Sierra Rural Electric Cooperative: Planning and Development Partnership; In-Kind contribution of existing assets. Intent to purchase services to advance their SCADA (System Control and Data Acquisition) requirements.

D. Congressional Districts

Applicant Headquarters

- California



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Project Service States

California

Project Service Areas

California - 4

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

- Yes

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

Susanville Indian Rancheria

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

- Yes

E. Service Area Details

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

- No

Project Details

Service Area Type: Middle Mile
Service Area Name: PST Mid Mile Fiber Project
Rural Classification of the Last Mile Service Area: Rural
Service Status of the Last Mile Service Area: Underserved



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If Service Status is "Underserved" please select at least one applicable option from this list.
No more than 50% of the households in the proposed funded service area have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed;
The rate of broadband subscribership for the proposed funded service area is 40% of households or less.

Total Square Miles in Service Area: 2,536
Total Population in Proposed Service Area: 40,112
Total Number of Households in Service Area: 14,039
Total Number of Businesses in Service Area: 2,111
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 306
Unemployment Rate in the Service Area: 14
Median Income in the Service Area: 27,759
Estimated Percentage of Households with Access to Broadband: 30
Estimated Percentage of Households Subscribing to Broadband: 15

F. Community Anchor Summary

Community Anchor Summary	
Schools (k-12)	49
Libraries	5
Medical and Healthcare Providers	116
Public Safety Entities	39
Community Colleges	2
Public Housing	0
Other Institutions of Higher Education	4
Other Community	51



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Support Organization	
Other Government Facilities	40
TOTAL COMMUNITY ANCHOR INSTITUTIONS	306
Historically Black colleges and Universities	0
Tribal Colleges and Universities	0
Alaska Native Serving Institutions	0
Hispanic Serving Institutions	0
Native Hawaiian Serving Institutions	0
TOTAL MINORITY SERVING INSTITUTIONS	0

G. Project Benefits

Demographics

Jobs	
How many direct jobs-years will be created from this project?	186
How many indirect jobs will be created from this project?	119
How many jobs will be induced from this project?	67

Methodology used to estimate jobs:

The Whitehouse Estimate of Job Creation and Council of Economic Advisers (CEA) methodology was used to determine job creation of the PST Mid-Mile Fiber Project. Based on the project total of \$17.2M and \$92K of spending, the job-years created is 186. It is estimated



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that 119 of these job-years are related to direct and indirect jobs. An assumption of 20 jobs related to overhead construction, underground construction, mechanical, engineering, environmental, and laborer, 5 office, 2 accounting, 3 administrative, and 1 project manager. And approximately 28 contractors. It was further estimated 60 indirect jobs related to suppliers of material, construction and consulting of this project. Induced jobs have been estimated at 67 related to this project.

Project Impact:

The PST Mid-Mile Fiber Project will directly connect 18 Anchor Tenants. These include 2 community colleges, 1 National Forest Service Office, 2 Hospitals, 1 Indian Rancheria (two locations), 2 state prisons, 1 Electrical Co-generation plant, 1 Army Base, 1 Electric Utility, 3 School District Offices (all 3 counties), 2 Cities, 2 Cable Companies, and 1 ISP WISP. The network was designed to directly pass 23 Fire Departments, 3 CHP Offices, 4 Sherriff Offices, and 3 Police Departments.

There are approximately 306 Anchor Institutions in the application area that would have access to the broadband available from this project, either through direct connection or by purchasing services through one of the 4 local Internet Service Providers. The PST Fiber network intends and is designed to interconnect with existing ILEC/Cable/Wireless companies ensuring the lowest cost service distribution alternatives to anchor tenants and third party vendors making certain the distribution of broadband reaches the greatest number of subscribers.

Due to the formation of a local Broadband Consortia last year we have been able to capture the level of interest through a process of open community meetings. The support letters included in this application show the interest and the intent of key anchor tenants and others. Further these letters describe how the PST Mid-Mile Fiber network Project will impact individual tenants as well as the region.

Here are a few quotes from support letters that show the impact broadband will have on our region.

██████████ "Internet access is integral to almost every class. In short, we are gearing up to adhere with our district mission statement which states that we prepare our students to become productive citizens of the 21st century."

██████████ "Plumas County is challenged by an extreme lack of broadband infrastructure. Currently all land based telecommunications are reliant exclusively on a single AT&T microwave link from the County seat of Quincy to AT&Ts Chico, CA facility." Last summer during a very active wildfire season, the microwave Chico link failed completely leaving the entire County without any phone and data service (including 911 services) for over



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four hours. This is unacceptable. We had our entire County without any telecommunications at our hospitals, fire departments, and law enforcement facilities. They were all without service."

██████████ "In our Economic Development Strategy Plan, developed in 2004 the County adopted the following goal: Promote countywide expansion of telecommunications and broadband internet services via hardwire and wireless technologies to increase access for public safety, commercial and residential customers." "Unfortunately, since this policy was developed in 2004, we have seen no additional development of basic broadband infrastructure in Lassen County, while the world of technology has raced ahead....." "If [application] approved we expect that benefits to the people of Lassen County will include: Access to internet services at higher speeds while reducing costs; making benefits which are not presently an option affordable such as video conferencing, training and distance learning; A boost to the Lassen County economy through jobs creation, spending on equipment and services for next generation networks; attractive business climate for small and medium sized businesses to grow; The opportunity to backhaul access from Herlong to Susanville; Delivery of reliable and expeditious connectivity to telemedicine from more advanced urban health care providers to a population largely unserved. This important tool affords higher quality health care at lower cost to all the residents of Lassen County; Connectivity to local medical providers such as ██████████

██████████ An alternative for emergency medical staff to upgrade communications technology from outdated and unreliable services and equipment; An alternate path for fiber service from the Nevada border of Lassen County, thereby providing market competition to the only provider serving the majority of Lassen County's residents."

California Chief Information Officer: "If granted, the State of California intends to subscribe to broadband services provided by PST in the Plumas, Sierra and Lassen counties. This project will directly impact the following Public Safety Answering Points (PSAPs) by providing the necessary broadband technology for Next Generation 911 (NG9-1-1): Sierra County Sheriff, Lassen County Sheriff, California Highway Patrol Susanville, Susanville Interagency Fire, Plumas County Sheriff. This project will provide an opportunity for the PSAPs in the proposed service areas, and working with those in adjacent counties, to improve public safety and homeland security by providing an IP-capable backbone to support the new NG9-1-1 architecture."

In addition to our local needs and due to the delivery of service from Reno, Nevada; the PST Mid-Mile Project will travel 20 miles through Nevada before entering California. PST has met



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with the Nevada Department of Transportation (NDOT) (letter included) and is in support of the project and intends to share conduit along the Highway 395 corridor as well as intends to purchase Dark Fiber. The NDOT intends to utilize broadband along the corridor to support their Intelligent Transportation Systems (ITS) project.

As of the submission of this application 13 letters of support show intent to purchase. We have verbal intent from the [REDACTED] in purchasing [REDACTED] plus additional service for VOIP services, the [REDACTED] plus PRIs for voice service. Plumas-Sierra Rural Electric Cooperative intends to purchase 1 OC-3. Two cable companies, [REDACTED] have both expressed intent to purchase service as last mile providers. Got SKY Unlimited (GSU), a local WISP, and also a last mile provider has provided a firm commitment to purchase [REDACTED] for terrestrial wireless service and plans to resale T-1 service and Ethernet service to end users. GSU currently provides two free public Internet access sites and intends to add more access points with service resulting from this application. GSU also mentions in their letter the intent to assist Fire stations with Internet access.

This application projects that the number of end users the proposed connections will directly connect is 6,827 as well as exceptionally enhancing the level of safety in the region by making available either direct connections or dark fiber to existing Cellular Providers, Law Enforcement Agencies, Transportations, and local Fire and Safety Service. As described in the Subscriber Estimate and methodology the projections are conservative. At least one local ISP, Got SKY Unlimited (GSU), shows intent to provide public computing centers and expand their public Internet access locations; this type of public access will increase the number of end users overall. Although difficult to determine exactly how many users, GSU estimates that approximately 6500 individuals access their two existing public access locations annually.

Making the services of this project available to Cellular Providers is key to this application, as noted in several of the support letters and in an attached article from August 2009 the proposed project region lost all access to 911 Emergency Service as well as phone service and cellular service. It became apparent that the region severely lacks the connectivity and redundancy necessary to maintain a condition of safety and reliability for residents and visitors. In July 2009 the PST Mid-Mile Fiber Project was submitted to the California Public Utilities Commission (CPUC) for California Advanced Services Funds (CASF). The project has been reviewed by the CPUC and progressed through a due diligence phase which further investigated the existing connectivity in the region and in due course revealed the need and viability of the project. Resolution #T-17230 went to vote on February 26th and has successfully been granted a 10% matching fund. These funds will be available to PST should this Mid-Mile Application be



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successful. We believe this is a significant indication of the viability and necessity of this project and the significant positive impact it will have on the citizens living and working in the project area. The successful grant of CASF funds further validates the lack of broadband and connectivity in the region and supports the need for the PST Mid-Mile Fiber Project.

Vulnerable Populations:

N/A

Level of Need:

Community leaders throughout the proposed project area recognize that a broadband telecommunications infrastructure that affordably serves all residents, businesses, and anchor tenants is a requirement for robust economic and social development in the North Eastern Sierra Nevada's. The region is economically distressed with unemployment at 14.2% and a median income of \$27,759.

The area is served with a piece-meal, 1980's telephone backhaul network that is exhausted and incomplete. A patchwork of radio and copper, the out-of-region company that controls the telecommunications infrastructure admits to being unable to make the business case for further broadband investment. While telephone services are available throughout most of the region, from a broadband perspective, it is underserved with many communities simply having no terrestrial broadband whatsoever. With this in mind, the combination of ARRA and CASF (California Advanced Service Funds-successfully awarded to PST Project on February 26, 2010) funding represents a "blue-chip", once in a lifetime, chance to span the digital divide and set the region on a different course economically and culturally.

Plumas and Sierra County are served by a single [REDACTED] Provider, as noted above, the infrastructure is old and tired, the costs are high and the facilities are few. The local cable company and ISPs have struggled with the lack of backhaul facilities to build out the last mile connection to homes and businesses. This has resulted in many communities left severely underserved and unserved. Where facilities are available, the high cost of T-1s ultimately affect the end user in higher access fees. The anchor tenants who are eligible for E-rate discounts are thankful to avoid the high prices in the region. In Lassen County the broadband availability and costs are similar and like Plumas and Sierra County, only one ILEC exists in that region. It is common to place an order for a T-1 (largest available service) from [REDACTED] and wait months for the service only to receive news that the service is not available in the area due to lack of



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facilities or facilities too old to handle the service request. The PST project will enhance existing services and provide a more competitive landscape.

In addition to having only one choice of broadband connectivity our region does not have access to dark fiber. We are not close to any "NFL" size city, nor do we have any Interstate highways in our region. We have investigated fiber along the Union Pacific Railway, however when this fiber was installed back in the 1980's no one realized how important of a commodity fiber would become and failed to incorporate interconnection points for access. We have also investigated fiber installed by Sierra Pacific Electric (Reno, NV) along a 345KV line that extends from Alturas, CA to Reno, NV. Again, when this was installed 10 plus years ago the construction was not intended for lease. To date we have had no success in either of these options.

The following excerpts have been taken from support letters included in this application, and represent a small sampling of the level of need for the proposed network. The cost of service is high in the area, however, as the statements will show, it is the lack of service that strongly supports the need.

██████████ "We would like to provide high speed internet access at speeds commonly provided in larger communities but we are currently unable to do so because of the lack of mid-mile fiber connectivity. At this time, the bandwidth shortage is affecting us in Quincy, Portola, Greenville, and Crescent Mills, CA where other providers have run out of bandwidth. We need DS3's, we only have T1 lines."

██████████ "As a Tribe and Tribal business(s) we need the ability to expand our businesses and to ensure the most up-to-date technology to support our native and surrounding community and our future business success. The current system does not have the bandwidth or redundancy to facilitate present and future growth rates nor backup emergency 911 services. This would put ██████████ and ██████████ at a social, economic, and emergency disadvantage. This system would benefit our businesses in Herlong, and Susanville, CA."

██████████ " Being a critical access facility our reliance on the 911 emergency systems is the core of our operations. We and our community were without service for numerous hours in 2009 due to a generator malfunction. This is unacceptable for obvious reasons. We currently have a need for a larger pipe to the internet for our telemedicine project. We have a vendor whom is offering access to numerous [medical] specialists via the internet and



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our current bandwidth is limited....we are unable to agree to service model due to our limited bandwidth."

California Chief Information Officer: "If granted, the State of California intends to subscribe to broadband services provided by PST in the Plumas, Sierra and Lassen counties. This project will directly impact the following Public Safety Answering Points (PSAPs) by providing the necessary broadband technology for Next Generation 911 (NG9-1-1): Sierra County Sheriff, Lassen County Sheriff, California Highway Patrol Susanville, Susanville Interagency Fire, Plumas County Sheriff. This project will provide an opportunity for the PSAPs in the proposed service areas, and working with those in adjacent counties, to improve public safety and homeland security by providing an IP-capable backbone to support the new NG9-1-1 architecture."

██████████ "The challenge we have in Plumas County is that bandwidth is limited, and therefore costly or not available in some areas. There are still several areas within our county that we know cannot receive affordable broadband. Many of our students still do not have broadband at home and could benefit greatly from it when it becomes available. The high cost of adding new lines is prohibitive and the carriers do not provide alternatives. We believe the future of education will include technology to a much greater degree than is currently available in our county."

██████████ seeks to expand its online course offerings, and to provide enhanced online educational services to the sparsely-populated rural areas that surround the college. many prospective students in our service area cannot travel to the physical campus (a half-hour drive from several surrounding towns, over treacherous mountain roads that are often blocked by snow in winter months), and it is unreasonable to expect students to commute from communities...over an hour away by car, and most of these students cannot afford to move to Quincy to attend classes fulltime. Thus online instruction is essential. Many residents in our area cannot access adequate internet connectivity from where they live, either due to their physical isolation from ISPs and or due to the age and capacity of the technology providing service to our area."

██████████ "We recently polled the parents of our students and were astonished to find that less than 40% had any internet access, let alone DSL, satellite or broadband. Many of those with internet were still struggling with dial-up access."



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██████████ "The improvement and creation of network connectivity along this rural underserved and unserved area will provide direct improvement to the traveling public and to public safety. The additional connectivity would benefit the ability for public safety radio communication, intelligent transportation systems, and ██████████ operations. This is in an area that, while rural, has a high level of importance on the transportation network to Nevada and the Nation."

██████████ "Currently there is one path for data backhaul in and out of Lassen County. The sole supplier of this pathway is Frontier Communications. End users and Internet Service Providers pay over twice the cost for services and receive less bandwidth that is unreliable when compared to similar areas such as Shasta and Tehama County. There have been several instances where Lassen County has been completely disconnected from the outside world when and event such as a fire or other natural disaster severs this single pathway." Lassen County is sparsely populated with approximately 8 persons per square mile or seventy three acres per resident. Bringing affordable, local, reliable and adequate Internet services has been a constant challenge."

██████████ "One of the most prevalent impediments to the growth of Lassen County's economic development is the relative lack of adequate internet access, especially broadband service."

The PST Mid-Mile Fiber Project addresses the lack of broadband, provides a local presence and provides a competitive component. The Broadband Consortia agrees that a Cooperative model with local representation and accountability is effective and the best means for delivering affordable and abundant service. The model provides our community with a voice and inclusion in the advancement of broadband through-out the region. With a strategic goal to build out the network over the years and meet the economic, health, safety, and education goals of the region. The PST Mid-Mile Fiber Project provides a local element that supports sustainability and responsibility to the communities it serves.

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



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Other:

Technology Questions

Methodology for Area Status:

As a comprehensive, interactive, and searchable nationwide inventory map of existing broadband service capability and availability in the United States (“broadband map”) is not currently available, it was necessary for Plumas-Sierra Telecommunications (PST) to develop its own broadband map to determine the geographic extent to which broadband service may be deployed and available for the proposed service area. The rate of broadband subscribership and the percentage of households with access to terrestrial, facilities-based broadband, were the two criteria mapped and analyzed by PST to determine whether the proposed service area is classified as “unserved” or “underserved” per the definition of broadband adopted by BIP and BTOP. PST used the best available spatial data sets, obtained through both commercial and public entities, in the generation of its broadband map for the proposed service region. The data sets included:

- 2000 US Census data
- MapInfo cartographic boundary, line, and point data (as defined by US Census Bureau)
- Chico CSU Geographical Information Center
- Chico CSU Economic Development Center
- Used phone and Internet Outreach and surveying of consumers on their current broadband services and availability of services in service area.
- Consulted with local Internet Service Providers to understand current backhaul solutions and needs.
- Forming upon successful grant award the Broadband Consortia as a result of the areas serious lack of backhaul services and facilities.
- State of California CPUC Matching funds Resolution T-17143; which also had a requirement of the area being underserved and unserved.

Unserved: where at least 90% of the households lack access to facilities-based, terrestrial broadband service, either fixed or mobile, at the minimum broadband transmission speed.



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Underserved: where at least one of the following factors is met: 1.) no more than 50% of the households in the Last Mile or Middle Mile Service Area have access to facilities-based terrestrial broadband speed; 2.) no fixed or mobile terrestrial broadband service provider advertises to residential end users of at least 3Mbps in the service area; 3.) The rate of terrestrial broadband subscribership is 40% of households or less.

Description of Network Openness:

The obligations for non-discrimination and interconnection will be addressed both organizationally and in the architecture of the network. PST will own and operate the network. In this capacity, it will function as a not-for-profit entity offering wholesale services to telecommunications service providers, ISP's, utilities, as well as, large governmental, educational, and medical institutions.

The PST Middle Mile Network will fully employ with the principles in the FCC's Internet Policy Statement. The network management policies will be posted on the Cooperative website. The management of network facilities will not favor or discriminate based on service provider or applications. Interconnection will be supported via collocation in Susanville with Frontier, in Reno with American Fiber Systems, in Loyalton with AT&T, in Portola with AT&T and in Quincy with Frontier.

The intent of the PST open network design is to seek out interconnection opportunities with as many institutional anchor institutions anchor locations as possible. The cable routing is designed to serve as many potential facilities as possible. Institutional anchor locations include the telephone company central offices, cable company, wireless telephone and Internet service providers sites, governmental agencies, educational and medical facilities. To date, we have 18 direct connect anchor institutions that have expressed intent to purchase services once the fiber project is completed, and have identified approximately 288 other anchors that we intend to aggressively pursue.

System Design:

Key network components are: 1) the last mile fiber connection to the Community Anchor premise; 2) the middle mile optical packet backbone network and 3) connection to the IXC carrier or Internet Point of Presence. The Plumas Sierra Middle Mile Network will consist of 5 core and aggregation nodes designed as a physical point-to-point network with a logical ring



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service architecture. The network will require all new construction and network components. With the exception of the Portola node and NOC building, all network elements will be funded with BTOP assistance.

The last mile connection to the end user premise is at minimum, a [REDACTED] optic connection to a network node. The fiber terminates at the customer premise into a [REDACTED] switch. This CPE switch has multiple subscriber interfaces capable of delivering [REDACTED] and up to [REDACTED] services over a [REDACTED] port. Total available service capacity for the last mile link will be either [REDACTED] depending on the customer's service requirement, however data rates up to [REDACTED] can be supported with additional equipment.

The last mile fiber local loop interconnects at a network node for access to the [REDACTED] backbone network. Access to the [REDACTED] backbone network is accomplished thru aggregation nodes colocated with, or remote from the core fiber nodes. The aggregation nodes function as traffic collection points for lower level traffic providing access and egress to the backbone network system. The aggregation nodes are designed in a star topography that homes back to a designated core node. The backhaul capacity from the aggregation nodes to the core nodes operate at [REDACTED] data rate and are upgradeable to a [REDACTED] maximum data rate.

The backbone network is capable of supporting all legacy [REDACTED] data rates as well as emerging [REDACTED] services. Network traffic carried on the [REDACTED] backbone will be segregated using [REDACTED] frames and [REDACTED] with [REDACTED] tags to ensure data security and service quality through to the terminating node serving the [REDACTED]

The [REDACTED] backbone network will utilize four fibers in different cable buffer tubes to provide the maximum protection in the point-to-point design. Two of the fibers will be the primary traffic path and two of the fibers will function as the protection path. Network traffic will be simultaneously routed over all fibers with the network terminals constantly monitoring for errors and selecting the highest performing route. Designed with [REDACTED] protection on the backbone electronic cards, the [REDACTED] backbone terminals will have card level protection on all main electronic components so in the event of a failure or degraded service condition the traffic will automatically switch over to the diversity path. This protection switching would be transparent to the network users. Only in the event of a complete cable cut or shelf failure would service be interrupted.



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Upon transiting the backbone network to the [REDACTED] the end users traffic will handed off over an [REDACTED] fiber interconnection facility; or sent to a [REDACTED] [REDACTED] router via a [REDACTED] for access to Internet services.

The sizing of the Internet ports will be subject to demand, but initially we are expecting to equip a minimum of one [REDACTED] Internet ports, oversubscribed no more than 5 times. Network connections to the Internet and [REDACTED] networks will be at the [REDACTED] terminus of the network with at least two Public Internet ports at that location. In the event of an outage the [REDACTED] network will be designed to reroute the Internet traffic to the diversity port.

Due to the length of the network and distances between population centers, fiber optic cable in conjunction with optical packet switching was selected in order to ensure the greatest flexibility and lowest ongoing operational costs. The [REDACTED] optical packet technology used in the Middle Mile Network backbone design was selected because it can support a variety of legacy and emerging traffic types and the [REDACTED] line data rate achieves the best price performance when measured in cost per bit with headroom for future service growth. The [REDACTED] switching capability inherent in optical packet design allows the Service Provider to use the intermittent bursty nature of offered traffic load to oversubscribe the network and offer higher bit rate, lower cost transport alternatives to end users.

[REDACTED] has recently demonstrated the first [REDACTED] line cards on the [REDACTED] using the loss margins specified in our current network design. Those cards will be available in mid 2010. Alternatively microwave radio technology was evaluated as an alternative to the fiber for the network design but not selected due to capacity concerns and inter nodal distances.

The centralized facilities on the network will consist of five node buildings and one collocated terminal location [REDACTED]. The nodes will all be equipped with uninterruptible power supplies capable of supporting 8-hour holding time on all critical facility electronics. The backbone core nodes will also have a 250 Kw liquid propane generator backup with fuel tank sufficient for 48 hours. The remote aggregation nodes will be equipped with UPS rated for 8 hr hold time on critical electronics. The remote aggregation nodes will be equipped with quick connect generator attachments for vehicle tow behind generators for extended outages.



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Service Provider interconnection to network services at the aggregation nodes will be thru a variety of standard interfaces ranging from [REDACTED]. All service interfaces and data rates will be available at all aggregation nodes and a minimum of [REDACTED] per second service will be available at all points on the network.

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	13,770,239	3,442,561
Total	13,770,239	3,442,561

Project Budget Total: \$17,212,800

Match Percent: 20.0%

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	The Total Project Budget is \$17,212,800. The Federal Funding request is 80% of the total project budget or \$13,770,240. Matching Funds-Cash of \$1,721,280 have been awarded by the Public Utilities Commission of California. This represents 10% of the total project costs. As noted in the essay “Disclosure of Federal and/or



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State Funding Sources,” on February 25, 2010 the Public Utilities Commission of California approved Resolution T-17230. This resolution adopts funding for the Plumas-Sierra Telecommunication middle-mile project, amounting to \$1,721,280 from the California Advanced Services Fund (CASF).

Please see Section 18.9 of the Detailed Project budget which provides the information by line item for cash and in-kind contributions. Excluding the 20 budget line items for the in-kind contributions, it technically would have been necessary to break out each of the 140 line items into two components—the federal funding portion and the cash match. (Note: the 18.9 Detailed Project Budget template was updated after this work had already been completed). Rather than taking this approach, the Matching Cash total dollars of \$1,721,280 from California were applied to various line items until the dollars were expended. The cash dollars were allocated to some of the first project costs which will be incurred, such as the environmental costs, engineering work, permitting, and building and site prep. The remaining Matching Cash dollars were then apportioned to some of the major costs which will be incurred later in the project timeline, such as the purchase of the cable and the labor costs for the installation of the cable.

The In-Kind Contributions are from the parent company, PSREC. Since the majority of the fiber cable will be hung from the existing electrical transmission and distribution infrastructure, the in-kind is for the value of the easements and the annual pole attachment fee during the construction period. As noted in the details, the labor of installing the cable will be done by the electric line crew, a portion of which will be treated as an in-kind contribution by PSREC.

Another In-Kind contribution from the parent company is the node site at Portola and the electrical power. As an electric utility company, there are sites available and the electrical power can be provided as an in-kind contribution. During the build-out phase, PSREC also has office furniture and communications equipment, which the project can utilize as an in-kind contribution. Also during the build-out phase, the



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	<p>telephone services and internet connections of the parent company will be extended and treated as an in-kind contribution. A portion of the labor related to the documentation of the Business processes will be provided by the staff of PSREC, and has been treated as an in-kind contribution.</p> <p>Again, please see section 18.9 for the Detailed Project Budget. The line items reflect the cash and in-kind contributions. In addition, a separate worksheet, “cash vs in-kind” has been added to the file which recaps just the Cash and In-Kind items, which was designed to complement this essay.</p>
Unjust enrichment	Not applicable.
Disclosure of federal and/or state funding sources	<p>On February 25, 2010 the Public Utilities Commission of California approved Resolution T-17230. This Resolution adopts funding for the Plumas-Sierra Telecommunications middle-mile project, amounting to \$1,721,280 from the California Advanced Services Fund (CASF). The CASF program was established to provide matching funds of up to 40% of the total project costs for the deployment of broadband infrastructure in unserved and underserved areas in California.</p> <p>This 10% funding is contingent upon receiving American Recovery and Reinvestment Act (ARRA) funding, posting of a performance bond, completion of the CEQA review, and compliance with all guidelines, requirements, and conditions associated with the CASF funds award.</p>
Budget reasonableness	<p>Projected unit pricing and total units included in the Plumas Sierra Telecommunications project budget are derived from quotes provided by vendors for the proposed project. Quotations were specifically obtained for the purpose of this application. Where feasible, price quotations were based on firm, fixed prices to prevent possible cost overruns. A considerable amount of time has been devoted to the network design and mid-mile route, which is a key factor for the line items in the detailed project. As can be seen in Section 18.9, the Detailed Project Budget has 160 specific line items of budget detail.</p>



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	<p>Plumas Sierra Telecommunications is partnering with Praxis Associates for the build out of the proposed network. Praxis Associates is a leading edge telecommunications professional services firm with emphasis on the strategic, analytical, logistical and operational aspects of optical access networks. They have experience with the build-out of mid-mile projects and the budget reasonableness is attributable to their working knowledge and expertise.</p> <p>The overall project cost of \$17,212,800 covers 172 direct miles of fiber installation. This project is a new carrier grade network utilizing state of the art equipment. It is difficult to compare this project to other new fiber networks as some projects have existing facilities while others may have access to dark fiber. Other than approximately 3 miles of dark fiber this project is completely new. The PST project averages \$13.18 per mile with federal grant contribution. The overall project costs could have been considerably greater, however Plumas Sierra Telecommunications is in a unique situation where it is able to leverage the transmission and distribution facilities and network of its electrical cooperative parent company, Plumas Sierra Rural Electric Cooperative. Other than the trenching required from the Reno, Nevada hub to the California-Nevada border, the grant applicant can use the assets of the electrical cooperative to hang the fiber and conduit on the same poles and route as the electric system.</p>
Demonstration of need	<p>As noted on page 11 of the round 2 Notice of Funding Availability, “The Program is designed to extend broadband access to unserved areas, improve access to underserved areas, and expand broadband access to a wide range of institutions and individuals, including vulnerable populations. It will seek to serve the highest priority needs for federal investment—particularly projects that offer the potential for economic growth and job creation. The Program will support viable, sustainable, and scalable projects.”</p> <p>Plumas Sierra Telecommunications could never attempt a project of this magnitude without federal assistance. This is indeed a unique opportunity to improve high speed access to the internet, or our rural</p>



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	<p>communities will forever lag in technology and abilities to connect to and compete in this internet-and technology driven world.</p> <p>The overarching problem for this rural region of California is the lack of backhaul facilities to provide cost effective, abundant broadband, which adversely affects progress, jobs and the local economy. This northeastern corner of California is deficient in so many aspects--lack of adequate access to broadband in the home which inhibits the advancement in health care and suppresses the progression of advanced learning opportunities for our children. There is a trickle down affect which adversely affects our communities and their sustainability. New businesses are hesitant to come to our area as the outlook for the required internet broadband is not adequate for their future needs.</p> <p>The PST Mid-mile project is a collaborative regional effort. PST is being supported as the lead applicant by a Tri-County Broadband Consortia comprised of Anchor Tenants, businesses, and governments within the proposed network area. This project not only meets the goals of delivering next generation broadband backbone but also demonstrates economic conscientiousness. When completed, it will be the core communications infrastructure for the region and serve the area with a secure, vital link to the outside world. The \$13,770,240 of requested federal funding would make an unprecedented difference to the sustainability of the impacted communities.</p> <p>The company is seeking grant funding of 80% from BTOP of \$13,770,239 and has been awarded an additional 10% of grant funding from the California Public Utilities Commission of \$1,721,280 for a total funding amount of \$15,491,519. Without the funding, the NPV is (\$9,926,521) and an IRR of 4.41%. With the funding, the NPV is \$31,637,822 and an IRR of 46.93%. Without the BTOP project funding, it is highly unlikely that the company would be able to obtain financing for a project of this magnitude.</p>
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Funds to States/Territories

States	Amount of Federal Grant Request
California	13,770,239

Funds to States/Territories Total: \$13,770,239

J. Historical Financials

Matching Funds			
	2007	2008	2009
Revenue	1,531,774	1,956,411	1,623,406
Expenditures	1,487,648	1,544,302	1,556,505
Net Assets	6,166,026	6,388,313	6,633,111
Change in Net Assets from Prior Year	-149,008	222,287	244,798
Bond Rating (if applicable)	N/A	N/A	N/A

K. Project Readiness

BTOP Organizational Readiness

Plumas-Sierra Telecommunications is a subsidiary of Plumas-Sierra Rural Electrical Co-operative a member-owned electric distribution utility, founded in 1937, providing electrical power and related services to over 7,500 member/owners in Plumas, Lassen, and Sierra counties in California and portions of Washoe County in Nevada. Our Telecommunications division was established in 1987. We are a reputable entity with years of experience in designing, constructing and delivering telecommunication services and providing customer care.



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We currently serve 16,200 customers in four related business lines. Adding the customers poses no readiness challenges for our business. We have the physical space, management team and phone system to handle growth.

Our customer service center is well staffed and utilizes a Zeacom call handling solution for call routing and reporting supported by an Avaya communications manager, this division is able to handle inbound and outbound calls, perform sales, and customer care.

Our billing department handles all levels of billing and collection with a state of the art billing system utilizing the iVUE billing solution by NISC (National Information Solutions Cooperative); we provide all forms of billing from traditional paper bills to on-line payment.

Our systems are secure and PCI compliant, using technology best practices.

Our sales and marketing staff prepare creative marketing material and campaigns, utilizing internal skills, internally collected data, as well as long term relationship-established outsourcing. Sales and marketing are created both internally and externally utilizing local providers. Sales tracking is captured through our call handling software, in a real-time manner with reporting at the finger tips of our management team for our quick and decisive decision matrix.

Customer technical support is handled both internally and externally utilizing reporting systems that capture critical data for our network engineer and reporting purposes. We retain an internal IT staff to service and manage for internal systems, and software. Our internal systems are scrutinized and prepared for 100% uptime, using state of the art disaster recovery solutions.

Along with our internal systems we also use web based applications to track customers throughout the customer lifecycle, for streamlined customer care tracking with our external partners.

We are recognized in the community for being local, and for being the leaders in bringing technologies to our rural region that are typically offered only in urban areas. We additionally have firsthand knowledge of environmental and topographical challenges for our region and how best to overcome them. Our member/customers know that we have the means and operational structure to keep our systems up 24/7, ultimately giving them peace of mind that they will have a reliable system.

Construction and Vendor Contracts

Plumas-Sierra Telecommunications (PST) will be contracting out the construction of the mid-mile fiber network to Praxis Associates, an economically disadvantaged business. Praxis has previous experience managing CPUC and RUS funded projects and understands the technical and administrative requirements of grant programs. To date, Praxis Associates has completed all



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the necessary work to submit for BTOP grant funding including the creation of a shovel ready network design, project costing and scoping. In addition Praxis Associates has begun negotiations with key equipment/service vendors and initiated right of way and permit negotiations with the California Department of Transportation (CALTRANS/Nevada DOT). PST also has a verbal commitment of easements to the City of Portola and City of Loyalton.

Attached in the Supplemental documentation is the letters of commitment from 7 construction vendors and suppliers in relationship to the PST project. [REDACTED]

For environmental approvals, PST has contracted with MPE, Inc in Hailey Idaho who has worked with PST's parent company PSREC for the last 15 years on the Electric Utility side of the business.

Customer Base

n/a

Licenses, Regulatory Approvals and Agreements

California Certificate of Public Convenience and Necessity (CPCN): We have begun the process of applying for a Certificate of Public Convenience and Necessity to the State of California Public Utilities Commission (CPUC) and with the Nevada Public Utilities Commission. The CPCN is required for PST to operate as a Certificated Telephone Company public utility within the State of California and within the State of Nevada. Once the CPCN is filed the standard approval waiting period is 60-90 days. Because the CPCN application process will incur significant legal expense, the actual filing with the CPUC will be contingent upon receiving notification that our grant application has passed into the due diligence phase.

Interconnect Agreements: We have negotiations underway for a collation interconnection with [REDACTED] Once we have our CPCN authorization from the CPUC we will also submit a request for interconnection with [REDACTED]



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Environmental: MPE, Inc an Environmental Consulting firm in Hailey, Idaho has been retained by Plumas-Sierra Telecommunications to perform all necessary environmental requirements related to the PST Mid-Mile Fiber Project.

For Nevada Environmental: Nevada’s Utility Environmental Protection Act exempts telecommunications providers from an environmental review.

SPIN Number

L. Environmental Questionnaire

Project Description

Cable would hang on 138 miles of existing PSREC electrical poles, following existing ROW; all in compliance with National Electrical Safety Code. At each pole where cable is to be hung, 1200 sq ft of ground disturbance area for a total of 14 acres of disturbance. 34 miles of buried cable placed in existing CALTRANS or NDOT ROW along US 395 & SR70, SR89, primarily in cities of Quincy, Portola, Susanville & from the CA/NV boundary 21 miles to Reno terminus. Conduit system is 3)1.25” ducts, to accommodate future needs for the area; 5x3 sq ft pre-fabricated concrete below-ground vaults located approximately every 3,500-4,000’ to access the cable for O&M. 3 methods of conduit construction used to account for variations in geology, route accessibility, terrain or environmental issues: Cable Plowing(19,900’), Horizontal Directional Boring (126,672’), or Trenching (31,630’) for total of 178,202’ of underground construction—34 linear miles or maximum disturbance of 26 acres in existing CALTRANS/NDOT ROW. Maximum width disturbance of 18’, depth of 4’ in existing ROW. 3 re-gen buildings to be along 172 mile route: 2 located in existing buildings, not requiring construction/remodel. PSREC offices to house main node; terminus location in Reno to be co-located. PSREC existing Leavitt Sub [REDACTED] to house 240 sq ft pre-fabricated, modular building located within existing fenced substation property, powered by electrical service on-site. PRIOR NEPA APPROVALS attached.



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Property Changes

Route traverses a variety of land use and zoning types, including residential, commercial, agricultural, open space. Proposed action is in compliance with the cities’ and counties’ General Plans and zoning codes, which allow for installation of the underground cable without a special use permit. Portola has granted an easement for underground activities within the city ROW. No property changes are necessary or proposed. Underground activities would disturb 26 acres in existing CALTRANS or NDOT ROW; overhead activities would disturb 14 acres, primarily from the placement of equipment that would facilitate hanging the cable on existing electrical structures. A portion of ROW for SR70, SR89 traverses the Plumas National Forest; a portion of US395 is located on BLM lands; however, these ROWs are legal easements or fee simple lands.

Buildings

A 240 sq ft pre-fabricated, modular building to be constructed at [REDACTED] [REDACTED]. The underground construction would occur in existing previously disturbed public (CALTRANS or NDOT) ROW along SR 89, SR70 & US395, for 34 miles, primarily through cities. The overhead activities to occur on 510 existing electrical structures within existing, permitted PSREC easements for 138 miles with disturbance of 14 acres, primarily along existing county or state road ROW. All activities would occur on existing permitted easements or along existing public ROW.

Wetlands

The proposed project route crosses or parallels several streams and wetlands, including freshwater emergent and freshwater forested/shrub wetlands. The fiber cable to be underground within existing CALTRANS or NDOT ROW along SR 89, SR70 & US395. The areas anticipated to be affected by the project have been disturbed and permitted by past construction and ROW maintenance activities. As a preventative measure, construction techniques will be modified in wetland areas (e.g., horizontal directional drilling). Minimization and any applicable mitigation measures to be utilized to minimize and avoid impacts to wetlands or streams.

Critical Habitats

The areas anticipated to be affected by the project have been disturbed by past construction and ROW maintenance activities. The adjacent SR 89, SR 70, US395, CALTRANS or NDOT ROW that would be affected by the underground cable placement or overhead cable hanging lack



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most, if not all, of the constituent elements of critical habitat, thus it is anticipated the project would not adversely affect critical habitat or special populations.

A database review for Plumas, Sierra, Lassen Counties, CA, & Washoe County, NV of the USFWS, CA Natural Diversity Data Base & NV Natural Heritage Program indentified 94 sensitive species or communities found within the project vicinity in the 4 counties along the existing CALTRANS or NDOT ROW. The fiber cable will be installed within existing CALTRANS or NDOT ROW - areas that typically would not provide habitat for species due to the presence of traffic and maintenance activities. A habitat assessment will be performed to confirm that habitat or special populations do not exist within the project footprint.

Floodplain

The project route passes through 100-year floodplains through the cities of Quincy, Portola, Susanville & Reno areas, as identified on National Flood Insurance Maps by the Federal Emergency Management Agency; however, the project would not construct facilities within these floodplains, outside of the existing CALTRANS or NDOT ROW. The highway acts as a natural barrier to flood waters through construction of a raised roadway, culverts, and borrow ditches. The project would not place structures that would impede or redirect flood flows within a 100-year flood hazard area. The project also would not expose people or structures to significant risk of loss, injury, or death involving flooding.

Protected Land

The [REDACTED] is adjacent to the project route & will be served by the project. No construction activities would occur to affect any tribal lands on the [REDACTED]. Most of the project area has been surveyed and cleared for prior construction requiring NEPA clearance. See Attached FONSI for item i. Although past surveys have identified numerous historic and/or cultural resources within a 1-mile radius of the project route, the existing electrical pole structures have been placed as to avoid or to span any known sites. The project will install fiber cable underground in existing CALTRANS or NDOT ROW & does not propose to affect buildings or structures that were constructed more than 50 years ago. The 9 tribes identified by the CA Native American Heritage Commission were contacted for their comments & concerns. Two tribes responded. Additional coordination with SHPO/THPO will be conducted to identify and verify any information regarding historic and tribal resources in



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compliance with all appropriate laws and regulations. Cultural surveys to be conducted for areas of concern after Class I literature search.

Coastal Area

The proposed project area is not located within the boundaries of a Coastal Zone Management Area (CZMA).

Brownfield

The proposed project area is not located within a Brownfield site as defined by these regulations or the EPA.



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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	Service+Offerings+Competitor+Data.xls	Rice, Lori	03/25/2010
Network Diagram	Network Diagram_Plumas.pdf	Rice, Lori	03/24/2010
Build Out Timeline	Build Out Timeline.pdf	Rice, Lori	03/25/2010
List of Community Anchors and Points of Interest	Community Anchor Inst Points of Interest_Plumas Sierra.xls	Rice, Lori	03/25/2010
Management Team Resumes and Organization Chart	Management+Team+and+Org+Chart.pdf	Rice, Lori	03/23/2010
Government and Key Partnerships	Government&KeyPartnerships1.pdf	Rice, Lori	03/25/2010
Government and Key Partnerships	Government&KeyPartnerships2.pdf	Rice, Lori	03/25/2010
Historical Financial Statements	Audited Financial Statements.pdf	Rice, Lori	03/23/2010



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Historical Financial Statements	Historical Financial Statements.pdf	Rice, Lori	03/23/2010
Budget Narrative	Budget Narrative.pdf	Rice, Lori	03/25/2010
Detailed Budget	Detailed Project Budget.xls	Rice, Lori	03/24/2010
Pro-forma Forecast	Pro Forma Forecast.xls	Rice, Lori	03/25/2010
Subscriber Estimates	Subscriber+Estimates.xls	Rice, Lori	03/24/2010
Dashboard Metrics	Key+Metrics+Dashboard.doc	Rice, Lori	03/25/2010
Service Area Data	Service+Areas.xls	Rice, Lori	03/25/2010
Network Maps	Network Maps_Plumas.pdf	Rice, Lori	03/24/2010
BTOP Certifications	btopcert.pdf	Rice, Lori	03/22/2010
SF-424 C and D	SF424C-SF424D.pdf	Rice, Lori	03/24/2010
Supplemental Information	CA Resolution T-17143.pdf	Rice, Lori	03/25/2010
Supplemental Information	Environmental Q1_NEPA RUS Approvals Table 03242010.pdf	Rice, Lori	03/24/2010



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Supplemental Information	Environmental Qi_ NEPA Long Valley.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qi_ NEPA RUS Approvals 0229_001.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Blairsdn T22N, R13E, S1,2,3,4.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Blairsdn T23N, R13E, S34, 35, 36.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_BTOP Quad maps & PLSS.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Cable Project Area Map 03142010.JPG	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Evans Canyon T21N, R18E, S18, 19.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Federal Lands Map.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_GeoComm_Map Reno T20N, R19E.pdf	Rice, Lori	03/24/2010
Supplemental	Environmental Qii_maps_Johnstonville	Rice, Lori	03/24/2010



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Information	T29N, R12E, S3,4,10,11,13,14,24.jpg		
Supplemental Information	Environmental Qii_maps_Litchfield T29N, R13E, S19, 25, 31, 32 and Leavitt Sub.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Portola T23N, R14E, S29, 30.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Quincy T24N, R10E, S19, 20.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Quincy T24N, R9E, S2, 10,11,13,14,15,24.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Reno T20N, R18E, S1,2,3.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Reno T20N, R19E, S6,7,8,9,10,15,22,23,25,26,36.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Reno T21N, R18E, S19, 20, 29, 32, 33.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Standish T28N, R13E, S4, 5, 9, 10, 14, 15.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qii_maps_Susanville T29N, 12E, S4.jpg	Rice, Lori	03/24/2010



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Supplemental Information	Environmental Qii_maps_Susanville T30N, 12E, S21, S28, S29, S32, S33.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental qiii_propchanges_City of Portola Code.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental qiii_propchanges_Lassen County Code.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental_qiii_propchanges_Lassen County Land Use Map.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental_qiii_propchanges_Plumas County Code.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental_qiii_propchanges_Susanville Zoning.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Beckworth.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Blairsden.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Bordertown.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Chilcoot.pdf	Rice, Lori	03/24/2010



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Supplemental Information	Environmental Qv_wetlands_Copperfield.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Cromberg.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Hallelujah.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Hawley2.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Hawley.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_herlong.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_JanesvilleTown.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Johnstonville.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Loyalton.pdf	Rice, Lori	03/24/2010
Supplemental	Environmental	Rice, Lori	03/24/2010



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Information	Qv_wetlands_LoyaltonDetail.pdf		
Supplemental Information	Environmental Qv_wetlands_Milford.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_nBeckworthPass.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_nLoyalton.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_NorthJanesville.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_nwDoyle.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_nwReno.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Portola.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Prison.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Quincy.pdf	Rice, Lori	03/24/2010



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Supplemental Information	Environmental Qv_wetlands_QuincyDetail.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_Reno.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_seDoyle.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_seHerlong.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_seMilford.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_sHallelujah.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_SouthJanesville.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_SouthSusanville.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qv_wetlands_SpringGarden.pdf	Rice, Lori	03/24/2010
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Supplemental Information	Environmental Qv_wetlands_WestHoneyLake.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental qvi_critical habitats_334_LowRes.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental qvi_critical habitats_Species List - Lassen County.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental qvi_critical habitats_Species List - Plumas County.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental qvi_critical habitats_Species List - Sierra County.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental qvi_critical habitats_Species List - Washoe County.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qvii_floodplains_FEMA Flood Legend.doc	Rice, Lori	03/24/2010
Supplemental Information	Environmental qviii_protectedlands_Lassen County Historic Sites.pdf	Rice, Lori	03/24/2010
Supplemental	Environmental qviii_protectedlands_Native	Rice, Lori	03/24/2010



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Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: PLUMAS SIERRA RURAL ELECTRIC COOPERATIVE
Task: Submit Application - BTOP	Applicant Name: Mrs. Lori D Rice

Information	American consultation & response.pdf		
Supplemental Information	Environmental qviii_protectedlands_Plumas County Historic Sites.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental qviii_protectedlands_WASHOE COUNTY Historical sites.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental qviii_protectedlands_Sierra County Historic Sites.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qvii_floodplains_Portola Flood2.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qvii_floodplains_Portola Flood.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qvii_floodplains_Quincy Flood2.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qvii_floodplains_Quincy Flood3.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qvii_floodplains_Quincy Flood.jpg	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qvii_floodplains_Reno Flood.jpg	Rice, Lori	03/24/2010



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

Submitted Date: Easygrants ID: 5684	
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: PLUMAS SIERRA RURAL ELECTRIC COOPERATIVE
Task: Submit Application - BTOP	Applicant Name: Mrs. Lori D Rice

Supplemental Information	Environmental Qvii_floodplains_Susanville.pdf	Rice, Lori	03/24/2010
Supplemental Information	Environmental Qvii_floodplains_RenoNW Flood.jpg	Rice, Lori	03/24/2010
Supplemental Information	Vendorconstructionletters.pdf	Rice, Lori	03/24/2010