Applicant Name: RENO, CITY OF

Project Title: City of Reno Community Fiber-Optic Network

Project Type: Comprehensive Community Infrastructure

Executive Summary

This project envisions the creation of a community-wide fiber-optic network linking the communities of Reno and Sparks, and specific population areas within Washoe County. This network will link public safety facilities, government facilities, health care facilities and educational institutions on a 'single' network 'backbone' that provides inter-county, intra-county and local community access to community anchor institutions. Once this backbone is created the foundation would be in place for additional public-private broadband connectivity within the great basin region of Northern Nevada. The City of Reno is the County seat of Washoe County and has a population of approximately 217,999. Reno borders the City of Sparks which has a population of approximately 90,000. Reno sits in a high desert valley at the foot of the Sierra Nevada Mountains. During major tourist events, such as Hot August Nights, the population of Reno can swell to over 500,000. Reno has a main east-west rail line and interstate highways running through the middle of the city. Reno's geographic place has allowed it to grow into a warehousing and distribution center for eleven western states. Being a central hub for the surrounding communities, Reno also functions as a primary provider of public safety, education and health care to the region. Key to this community backbone concept is the strategic location of fire stations within this community. We intend to inter-connect every single fire station and police/sheriff stations to this fiber optic backbone. Focusing our fiber placement on inter-connecting these neighborhood resources allowed the actual conduit routes to be engineered for maximum penetration within Washoe County. It also allows routing of fiber-optic cabling to cover the maximum amount of anchor institutions (health care, education, libraries, community centers, etc.) within the community. The need for this community fiber-optic network is clear and urgent on a number of major fronts. First, it would provide an immediate injection of stimulus dollars into an economically depressed region sorely in need of a helping hand. Second it would address and correct the piece meal approach to public safety communications currently employed not only in Reno but through-out the Northern Nevada region, and third it provides a foundation for new entrepreneurial organizations to build upon and expand. The current regional economy is overly dependent on declining tourism, gaming and construction and is in dire need of re-thinking and implementing new economic growth strategies. At present, the region is falling further behind in education, manufacturing, and employment and will continue this downward trend if the region continues to rely on non-sustainable funding sources. To combat our downward spiral the region needs help to compete with other regional and international communities on an equal footing. One way of leveling this disparity is through the development of a state-of-the-art community focused telecommunications environment. As mentioned, enhancing public safety communications is another key deliverable associated with this backbone network. The region has already demonstrated
the viability of using a common communications environment in that the region's 800MHZ radio communications is touted as a model for other agencies across the nation to follow. With this environment, various government agencies (including state and federal) have not only been able to achieve inter-agency communications, but they have been able to implement a viable management environment to oversee this operation. Connecting various public safety agencies via fiber opens the door for further government efficiency opportunities. Currently, communities within Washoe County are served by three primary Public Safety Answering Points (PSAP) for 9-1-1 calls. Recognizing the need to upgrade this vital public service, Reno, Sparks and Washoe County had embarked on the project to bring Next Generation 9-1-1 (NG9-1-1) to the region. As the older telephone infrastructure (analog) in the region does not support digital communications to the PSAPs, a digital network needs to be built. The PSAPs in the area intend to procure and build such a network, using funds collected from telephone subscribers in the area. It is anticipated that the initial cost to install the NG9-1-1 network will be approximately $1,000,000, with ongoing yearly costs yet to be determined. (Note: a request for proposal was released in October of 2009 for this NG911 network. A final purchased decision is expected in March/April of 2010.) Presently only a few government agencies within the community are linked via broadband technology. Where these links are in place, it has been demonstrated that additional government efficiencies can be achieved. For example, the City of Reno provides 911 dispatching and police record management for over 14 different agencies in the area. More agencies would join this environment if additional broadband technology were available and cost-effective. If funds were available to install all fiber cable contemplated under this grant, we would have an infrastructure linking not only the metro areas but also the rural areas of Nevada with access points provided to Washoe Tribal communities. The total project is estimated to cover 352 miles and cost $126,150,000. On going maintenance of this infrastructure is estimated at $1,000,000. Using the Council of Economic Advisers estimates for job-years created, we calculated this project would generate 1,371 job-years during construction and 11 job-years for the ongoing maintenance. As mentioned this project is a middle-mile project, with the goal of inter-connecting Public Safety and Government owned facilities to a common fiber-optic backbone. In discussing this project with our private partners, we believe that through the installation of multi-strand single-mode fiber, we can develop a public/private partnership that could work well for all parties involved. Preliminary network engineering indicated that less then of the fiber strands installed would be required to link the government facilities allowing the remaining fiber assets to be used by private firms to address their unique needs. Single Mode fiber-optic technology was selected over Wireless or Wi-Fi due to its superior performance, carrying capacity and future potential. For example, if fiber were available at our fire stations, Wireless or Wi-Fi companies could utilize the dark fiber to create backhauls for their Wireless and Wi-Fi customers. At a minimum, the fiber-optic communication lines used will be outdoor rated single mode fiber with a minimum of 144 fiber optic strands in the bundle. If funded, the private partners on this project would include Edge Communications Inc for the fiber installation and American Fiber Systems for the engineering, maintenance and operational guidance. The City of Sparks and Washoe County have also agreed to be partners on this grant request. Other private and public partners have expressed interest in the project and may indeed participate. However, given the region's current economic condition, commitment to or for this project will depend upon the grant funding available and overall costs to each agency. Please note the City of Reno, Sparks and Washoe County have been running a joint fiber infrastructure for over
13 years and have experience in making a joint infrastructure project work. Edge Communications (if they decide to join the application) is a certified fiber installation company, American Fiber Systems (if they decide to join the application) runs multiple broadband fiber environments nation-wide and has substantial experience with a project of this type. As mentioned, the Northern Nevada region has been extremely hard hit during this economic downturn. This is especially true as a majority of the region’s income is based upon tourism and gaming. In order to diversify the region’s economy new projects must be undertaken, which shift the focus of the region. Installation of a community-wide fiber optic network could be that project. The goal of this community-wide fiber-optic network is to attract and retain good employers, enhance educational opportunities, spur entrepreneurial development, improve community connectivity and provide higher quality public and private service efficiently and effectively. The community focused fiber optics network will provide for construction jobs, and offers the potential for development of new online applications for the public. Sharing this infrastructure with the private sector could spur new entrepreneurial development sorely needed in this community.