Broadband USA Applications Database

Applicant Name: ERWIN UTILITIES

Project Title: Sustainable Middle-Mile Network for Unicoi County, TN, a Rural Appalachian Community

Project Type: Comprehensive Community Infrastructure

_______________________ Executive Summary _____________________

Erwin Utilities submits this Critical Community Infrastructure (CCI) application to the Broadband Technology Opportunities Program (BTOP) to address the lack of access to high capacity broadband infrastructure throughout Unicoi County, TN. The proposed network will provide numerous benefits to the local community, including affordable high capacity broadband services for community anchor institutions (CAIs), smart grid deployment, business services, as well as creating a platform for the future deployment of fiber-to-the-home (FTTH) to residences throughout Unicoi County. Erwin Utilities is a publicly owned municipal utility serving Unicoi County since 1945 with electric, water and wastewater services. Our sixty-five years of experience in providing our community with critical utility services, including utility network construction, operation, maintenance, and customer service makes Erwin Utilities the ideal candidate to provide the newest utility service - high capacity broadband service - to Unicoi County. The Compelling Problem Erwin Utilities' proposed funded service area (PFSA) consists of the entirety of Unicoi County, TN. Unicoi County consists of rural Appalachian communities located in upper East Tennessee, with Erwin, TN serving as the county seat. The town of Unicoi is the only other incorporated community in Unicoi County. The other communities located in the PFSA are Whispering Pines, Limestone Cove, Dry Creek, Rock Creek, Flag Pond, Ernestville, Temple Hill, Chestoa, Canah Chapel, Evergreen and Clear Branch. Our PFSA is economically distressed according to the Bureau of Economic Analysis and the Bureau of Labor Statistics (see http://hepgis.fhwa.dot.gov/hepgis_v2/GeneralInfo/Map.aspx), and not surprisingly, is also underserved as that term is defined in the BTOP NOFA and according to Connected Tennessee (www.connectedtennessee.org), which has mapped broadband adoption throughout the State. In direct correlation to local economics and substandard broadband adoption, Unicoi County presently lacks the commercial foundation to support the deployment of high capacity broadband infrastructure so critical for 21st century CAI needs in the areas of distance learning, telemedicine, public safety, and other social services. In turn, Erwin Utilities itself is deprived of access to broadband resources that enable it to pursue smart grid network infrastructure capable of real-time monitoring of energy distribution and consumption, which are required for modern day energy efficiency. Erwin Utilities has identified only one existing middle mile service provider in the PFSA, offering access to the Internet backbone at $100 per Megabit. Our community simply cannot support such exorbitant rates. Furthermore, Erwin Utilities has been unable to identify any local service providers capable of providing high capacity services to CAIs, even if we had affordable access to high capacity middle mile network infrastructure. Erwin has only been able to identify slow residential-quality broadband services in the PFSA, ranging from a minimum of 3 Mbps to a high of 12 Mbps. The Solution To solve this compelling problem, Erwin Utilities
proposes a project with a total infrastructure cost of $3,339,125, which according to the President’s Council of Economic Advisors will create 37 jobs, to build a county-wide middle mile network by adding new fiber and broadband electronics to its existing utility rights of way and infrastructure. The network includes 64 miles of 144 count fiber optic cable; gigabit passive optical (GPON) and Internet Protocol/Multi-Protocol Label Switching (IP/MPLS) electronics; redundant Points of Presence (PoPs) for access to the Internet backbone; two centralized points of interconnection for third party service providers, including collocation space; and will utilize convenient and low cost fiber splitting for CAI direct connections to the middle mile network. Erwin Utilities' proposed network will offer CAIs located within the PFSA with up to 1 Gbps of Internet access at affordable rates. Additionally, Erwin Utilities proposes to make available to all CAIs the opportunity to utilize a 1 Gbps peer-to-peer intranet for purposes of unfettered and direct communication between them, adding local benefits to CAI engagement in distance learning, telemedicine, and public safety communications. While factored into the rates for service, there will be no additional charge to CAIs for utilization of the peer-to-peer anchor network. Immediate Results for CAIs Erwin Utilities' proposed network will directly connect to all of the 76 anchor institutions located in the PFSA, including: 10 schools and educational facilities; 10 public safety facilities; 6 medical facilities; 1 library; 1 public housing area; 6 community support organizations, including a minority serving institution; 42 governmental facilities, including 28 municipal utility facilities that serve as the foundation for the network, and make a BTOP-funded high capacity middle mile network deployment possible for the benefit of all CAIs, as well as the 263 businesses and 7516 households in the PFSA. Broader Results for the PFSA Additionally, the network will be an open network available to benefit the entire PFSA through Erwin Utilitites' open interconnection, nondiscrimination, and network management policies. Erwin Utilities will provide wholesale access and physical interconnection to requesting parties, including those who may want to compete for CAI business, ensuring that every business and household in the PFSA has the opportunity to benefit from this network. Erwin Utilities will fully comply with the Federal Communications Commission's Internet Policy Statement, and it will not favor any lawful content or applications accessed over the public Internet utilizing this network. Critically, Erwin Utilities is not prepared to rest on interconnection alone to ensure that the entire PFSA benefits from this network. While not including the costs of connecting to businesses in this application, yet honoring the intent of BTOP to support the deployment of high capacity networks to CAIs as a means to an end - the end being robust broadband deployment for entire communities and regions - Erwin Utilities' intends to make middle mile services available to businesses throughout the PFSA in addition to CAIs. Consequently, Erwin Utilities is able to reasonably project a business subscribership rate of 60% of the 263 businesses passed. Erwin Utilities' business case with respect to enterprise services is a critical element of our application. In providing services to local businesses in the PFSA, while being sure not to include any infrastructure costs related to such services, Erwin Utilities' is able to demonstrate in our financial documentation the generation of ample revenue to not only sustain this middle mile network for years to come, but to justify a much broader initiative to connect residential households in the PFSA to a fiber-to-the-home (FTTH) network, and Erwin Utilities intends to do so. Significantly, Erwin Utilities' middle mile network will interconnect with Bristol Tennessee Essential Services (BTES), a municipal FTTH provider located in Bristol, TN, for access to the Internet backbone. Interconnecting with BTES not only provides Erwin with an economical source of backhaul, but assists in setting the state for FTTH deployment in the PFSA, as BTES will be able to serve
our community with video services required for a full FTTH deployment. Again, business and residential FTTH investments are not included in this application, but in approving it, BTOP will set in motion a chain of actions that will certainly result in high capacity broadband benefits for the entire PFSA. Erwin Utilities is prepared to implement, manage and operate a broadband service network. Erwin Utilities currently provides service to 9,009 electric, 5,200 water, and 3,500 wastewater customers in the community and responds to its customer's needs and emergencies 24 hours a day seven days a week. Erwin Utilities currently has management and staff to oversee the grant administration and project implementation, customer service, marketing and operations necessary for this project. This project is a natural addition to the current services provided by Erwin Utilities.