Applicant Name:  W & W COMMUNICATIONS INC.

Project Title:  Puerto Rico - Florida Rural Network Expansion for Undeserved Communities

Project Type:  Comprehensive Community Infrastructure

_______________________ Executive Summary _______________________

For more than 15 years, we have been exploring wireless technology as a transport medium for high speed Internet but there have always been problems with the related costs of the technology and, in several instances, with the lack of penetration allowed by the technology. In particular, the cost of access points was exorbitant and CPE devices were just as expensive, creating a burden for the end user. To address these limitations, for the past 4 years our company has been developing a high capacity self healing wireless network, able to provide high quality, high availability communications services to small businesses oriented toward providing a mass market residential product. We have been able to venture into this market by evaluating and utilizing a variety of technologies and, in several cases, developing or adapting technologies for enhanced connectivity. Through the years researching this market, we have learned from the failures and successes of other companies, including which business models are not sustainable, which technologies are useful and cost effective and also the fact that municipalities can be the best business partner in this process. With the current state of the economy it is clear that the public is looking for less expensive alternatives for Internet connectivity. As well, there is awareness of the lack of Internet access for constituents that are unemployed and underemployed and unable to search employment opportunities that are often accessible only through electronic media. Similarly, lack of access limits varieties of household activities required for regular daily life such as children's homework. Our market research has shown that many of the areas for which we are expecting to provide Internet service are partially serviced by the local Telco using only DSL while a local cable company provides only partial service. Concurrently, these services are provided at very high prices and often beyond affordability for many households. Yet, need for Internet access with no alternative providers pushes households to pay the high prices requested, even if these prices are often beyond their means. Lack of competition is a main cause for inflated prices since most areas are serviced by only these two providers -the local Telco and the local cable company- which are for the most part monopolies in their markets. Our company's vision has always been to provide Internet access to small businesses and households affected by high prices and, at the same time, to provide access in more rural areas that are not served by either cable or Telco DSL. 41.9% of the families in the average service area fall under the poverty line, with many residing in rural communities desiring Internet connectivity. Our proposed network in this project will service these areas as well as a proposed PCC project that is targeting some of the most in need communities in Puerto Rico. Based on our network maps we expect to be able to provide access to an estimated 800000 households based on census data number of housing units. The number is probably higher since the census data for many of the areas to be served have not been updated since the year 2000. One of the proposed areas to be served is a 55 and over retirement community with a
population of just over 8000 in the year 2000 but currently with a population of over 75000, with over 38000 housing units built after the year 2000. The proposed project has 10 Projected PCC centers and 6 municipalities expecting this infrastructure. The infrastructure will provide Internet access to the Centers and an initial public safety network infrastructure not currently available in any of these municipalities and, more generally, not available in most municipalities in Puerto Rico. Our proposed service area will have a complement of low cost Internet access for residential and small businesses utilizing low cost CPE devices able to provide upto 15 Mbps and the ability to offer dedicated Internet access with the use of stationary wimax devices for dedicated Internet or WAN speeds of upto 40 Mbps. Our network is already configured with MPLS allowing us to compete directly with any MPLS wan service commercially available within our network footprint. The network currently works with backhauls that utilize the WiFi standard with some proprietary protocols allowing for more stable connectivity and better throughput. Our proposed project relocates the current network equipment into secondary service areas to fill in fringe areas and all primary backhauls will be replaced by carrier grade Motorola PTP600 series 5 Ghz backhaul technologies allowing over 220 Mbps between links with low 1msec average latency per link. There will be 5 Ethernet fiber connections deployed strategically through out Puerto Rico with an initial bandwith of 50 Mbps upgradeable to 1 Gbps as needed. Each link end terminates in a high capacity router utilizing dynamic routes and MPLS. This configuration allows for decentralization of the main router concept allowing any router to become the exit point as needed based on capacity, latency or redundancy. The last mile connectivity will be provided by Ubiquity Air Max products for Small Business and residential services. These Air Max products utilize WiFi type transceivers in a MIMO configuration and the Ubiquity proprietary Air Max symetric protocol permitting 4 times the CPE density that normal wifi standard devices permit at speeds of up to 150 Mbps in both 2.4 Ghz and 5 Ghz. These devices allow us to provide the high quality connectivity required utilizing sub $100.00 CPE devices. Larger businesses, Public Computer Centers (PCC) or anyone requiring true dedicated Internet and Wan service equivalent to T-1 will be connected through WIMAX services in the 3.65 Ghz range. The equipment supplying these services will be the Motorola PTMP320 series. The cost of this hardware makes prohibitely expensive for the average constituent but it is extremely cost effective and competitive for dedicated services. Our company has designed and operated a wireless network providing middle mile and last mile connectivity for various municipal projects since December 2006. Prior to December 2006 the Company officers worked and consulted for various private and government entities designing and deploying small to large scale local area networks and wide area networks. The extensive experience acquired through all the projects that we have designed and collaborated on makes us uniquely qualified to fulfill the deployment of this project. The coverage and penetration provided by the proposed infrastructure makes it a bargain compared to other technologies. The equivalent cost for deploying this type of coverage and penetration through the use of land lines such as fiber and copper would be several times greater. The proposed design expects to cover a subscriber base of at least 35000 customers by the end of the fifth year. By the eighth year, we expect that number to be close to 60000 customers, supported by new technologies and capital reinvestment. By the end of the eighth year we expect to be employing 76 people, also saving 4 additional jobs that would be lost under the current economic trend.