Broadband USA Applications Database

**Applicant Name:** GPCS FIBER COMMUNICATIONS INC.

**Project Title:** Martha's Vineyard Broadband

**Project Type:** Comprehensive Community Infrastructure

_______________________ Executive Summary_______________________

GPCS Fiber Communications Inc. (GPCS), a Massachusetts domestic public utility corporation approved by the Massachusetts Department of Telecommunications and Cable to provide facilities-based inter-exchange telecommunications services since 2009, is seeking funding assistance in the amount of twenty three million four hundred and twenty-two thousand dollars ($23,422,000) to make possible the company's Martha's Vineyard Broadband Network that will bring state of the art all fiber optic based broadband connectivity to the approximately 17,000 year round residents and businesses of the County of Dukes County. The funding request represents 68.94% of the projected total allowed cost of $33,976,000 required for building out the entire project, the balance being provided by matching funds from private sources. GPCS recognizes that the County of Dukes County is presently underserved as regards broadband for municipal, medical, residential and business customers. GPCS, with the funding assistance of this application, will enable delivery of broadband services to municipal, medical, residential and business customers, making it a key enabler of future business activities, as well as making the health, safety, and well-being of the citizens of this underserved area of paramount importance through the technological innovations that require high-throughput broadband services. GPCS understands that broadband, like any key utility is more than burying cable in underserved areas. The proposed funded service area includes a total 2000 census population of 14,987 encompassing 7 municipalities and passing approximately 4,200 business locations and 16,400 residential locations. Two of the communities, Chappaquiddick (Edgartown) and Cuttyhunk Gosnold), are presently unserved by anything other than dial-up service. Approximately 92 community anchor institutions, public safety entities, critical community organizations and critical infrastructure locations are passed and/or will be directly impacted by the project. It is important to note that both the public image of 'Martha's Vineyard' and the census data do not reflect the true nature of the communities that makes up Dukes County. The average mean income is 5% lower than that of Massachusetts as a whole while the growth rate is second highest in the state. As an example, according to the 2000 Census the resident population of Chappaquiddick is 172 but there are 475 residences in the same area. While the 'Census' population is low, the 'seasonal' population can swell to about 100,000 with an additional 20,000 visitors making day trips into the County. This flood of people makes reliable communications critical in the event of an emergency requiring immediate notification. The resulting isolation of the Island during and after a major weather event makes communications a necessity beyond that of ordinary 'dry land' communities. The system will be an all fiber optic network utilizing Wave Division Multiplexing Passive Optical Networking (WDMPON) from Nortel Networks and Gigabit Passive Optical Networking (GPON) from Calix Systems delivering bidirectional speeds from 10Mbps to 10Gbps at the subscriber location.
Where subscriber locations are uniquely remote a digital subscriber access multiplexer (DSLAM) will be installed to deliver fiber based services to the node connecting existing copper to the fiber backbone and giving even that most remote subscriber access to at least 3Mbps of connectivity. All system components will be redundant and all GPCS switch locations will be connected to a self-healing fiber optic ring. All cabling will be installed underground to assure uninterrupted services during and after major weather related events or other natural or man made disasters. By deploying high strand count fiber optic cables throughout the proposed service area, GPCS is ‘futureproof’ and positioned to take full advantage of the almost limitless capacity of fiber for tomorrows applications. Services and applications that will be available to users in the proposed funded service areas include: Next Generation IP service ' Next generation VoIP, IPTV and high speed data Network Storage ' Unlimited anywhere-anytime remote storage for personal files Data Warehousing ' Real time backup and storage of sensitive data in multiple hardened locations for health care, public safety, local government and other critical infrastructure entities FOREC ' A GPCS composite suite of services for disaster management Wireless Services Backhaul ' Dedicated fiber optic facilities to support the demanding backhaul needs of the wireless services industry. DAS ' Dedicated dark fiber to support the unique interconnection needs of this segment of the wireless services industry including design provisions for 27 wireless locations providing public safety coverage to the entire County. Telepresence ' Bandwidth to support the most demanding combined interactive voice/video/data applications in real time. Telemedicine ' Transport and sharing of files, test information and the virtual delivery of specialized medical services including linking the Islands healthcare network to health care facilities in Boston and beyond. Security ' Cameras, traffic monitoring, reverse 911 and the ability to deliver preplanning data to first responders any time any where. Access control, SCADA and remote supervision in real time are additional assets of reliable bandwidth. Environmental Data Gathering ' Real time weather data gathering anywhere along the fiber route. Video Conference on Demand ' The ability to enable any customer premise for instant two way conferencing Distance Learning ' Delivering high quality educational services to every resident, even on the most remote Island. GIS ' Interactive mapping and plotting of critical structures and services in support of tourism, emergency services and community planning As a regulated public utility company GPCS filed a tariff with the MA DTC detailing offering of facilities-based inter-exchange telecommunications services and its compliance with FCC mandated non-discrimination, interconnection and competitively neutral business practices. GPCS has developed multiple broadband initiatives ' all of them focus on underserved and unserved areas, with a focus on making broadband services available to all ' but then also developing a high-fiber count distribution system that provides maximum flexibility and ‘future-proofs’ any installed plant so that communities will have the ability to implement future innovations that require broadband infrastructure. With over 150 years of combined engineering and telecommunications experience the combined personal experience of the members of the management team assures timely and cost effective delivery of the proposed system. GPCS projects that the availability of fiber optics and the associated large bandwidth availability will be very popular with both business and residence subscribers. It will allow them to receive video (both real time and national content) as well as access the Internet at bidirectional speeds not currently possible. Coupled with the many possible business uses ranging from telemedicine, home based virtual business as well as distance learning for schools the projected penetration rate at the end of 5 years exceeds the 30% to 35% range forecasted in this application. A 2006 Commerce Department report determined that property values
are 6% higher in communities where broadband is available. Small and home-based businesses will be, as a group, uniquely benefited from the ability to rapidly and reliably communicate from home or on the road. Approximately two-thirds of the establishments on Martha’s Vineyard employ between one and four individuals, according to the US Census County-to-County Business Patterns; 70% have 1-4 employees and 17% have 5-9 employees compared to 54% and 19% respectively for Massachusetts as a whole. These figures do not include part-time help or the approximately 5,000 seasonal workers that populate the Island between May and September. On a more personal level, GPCS will be directly creating approximately 8 construction related jobs, employ approximately 12 additional contractor positions during construction and require approximately 11 employees for its long term operations. GPCS has looked at the Island of Martha’s Vineyard since 2006 with an eye toward any opportunity that would make the build-out of this area possible. This is the opportunity, perhaps the only opportunity, which the residents of the County of Dukes County will have to get connected in a meaningful and affordable way that allows them to enjoy the benefits of living in one of the most beautiful areas in the country and still be part of the world at large. Real broadband at an affordable price.