Broadband USA Applications Database

Applicant Name:  PACIFIC LIGHTNET, INC.

Project Title:  Your Extended-community access-Service Network: The YES! Network

Project Type:  Comprehensive Community Infrastructure

_______________________ Executive Summary _______________________

I. Introduction
YES! That sentiment is common with respect to high-speed access in most major intra-state areas. Not so in Hawaii. Our nation's only archipelago, Hawaii faces a unique challenge. It requires expensive submarine capacity to deliver ubiquitous statewide broadband. As such, Hawaii is more accustomed to 'No' rather than 'Yes' regarding universal high-speed access. Critically, this hinders Hawaii’s community anchor institutions. The dearth of available subsea capacity limits statewide collaboration and coordination; it renders anchor institutions, literally and figuratively, on their own island. Wavecom Solutions can solve this problem with assistance from this grant opportunity. A Hawaii-based communications provider serving our markets since 2001, we are believed to be the only entity with a submarine system that links Hawaii's six main islands. Our fiber network on Oahu is significant, but we lack similarly robust terrestrial fiber on the five 'neighbor' islands. Other providers may have fiber on multiple islands, but they lack a six-island subsea system. Thus, high-speed Internet access is not consistent or widespread. However, by combining our subsea system and the middle mile capacity builds in this project's proposed funded service areas (PFSAs) --Kaua'i, Lanai_City, Molokai, Maui, BigIsland_North, and Hilo -- Wavecom Solutions will deliver Your Extended-community access- Service Network: the YES! Network. This network will provide high-speed Internet access and 10G Ethernet-based Virtual Private Network (VPN) 'waves' connecting all six main islands. We have received non-binding letters of intent (LOIs) from 48 anchor institutions (Anchors) in the PFSAs stating their support for, and interest in, utilizing the proposed services. II. The Problem
An archipelago, Hawaii lacks ubiquitous high-speed broadband access due to a scarcity of affordable subsea capacity linking its six main islands. In fact, the December 2008 Hawaii Broadband Task Force Final Report quotes one source placing Hawaii 'last among all 50 states in the percentage of broadband subscribers with effective bandwidth of 5 mbps or more,' and a second source ranking it '49th in effective speed.' While other service providers in the Hawaiian marketplace may have terrestrial fiber presence on 'neighbor' islands, our research with Anchors in the PFSAs reveals that their on-island high-speed service needs are unmet. Additionally, these providers do not have six-island subsea systems, and they do not deliver state-wide inter-island service. In fact, the majority of residents with high-speed broadband service reside on Oahu, where only the state capital, Honolulu, meets the incorporated city classification requiring a population of 25,000. This project's PFSAs are dependent on submarine fiber links to Oahu; they do not have equal access to high-speed service, and they are effectively isolated from each other from a bandwidth perspective. Consequently, Hawaii has a poor uptake of high-speed access, including high-speed Internet on the 'neighbor' islands. This impacts the economy. Three of the proposed funded service areas -- Hilo, Maui, and Molokai -- are economically distressed, with five census tracts across Hilo and
Maui showing families living below the state poverty level. Moreover, 21% of people on Molokai live below the state poverty level, and 15% of the population is unemployed. Poor high-speed uptake also hampers Anchors, limiting their ability to interoperate effectively across service areas and islands. In turn, this hinders Hawaii's efforts to improve its healthcare, education, safety and economy state-wide.

III. The Proposed Solution
In short, Hawaii needs a high-speed service network that (a) connects all six of its islands with submarine capacity, (b) has robust terrestrial reach on all six islands, and (c) delivers universal high-speed service at reasonable prices. Wavecom Solutions’s the YES! Network is the answer. The YES! Network consists of two distinct, but interrelated components that will provide two separate, but associated services. 'First, it will provide middle mile builds and high speed Internet in the PFSAs. 'Second, it will deliver 10G Ethernet/IP capacity connecting Hawaii's six main islands. This subsea service layer will consist of two tranches. 'Tranche1 runs from Kaua'i - Oahu - Maui - Big Island. This is an in-kind match. 'Tranche2 runs from Lanai to Oahu and from Molokai to Oahu. This is self-funded, is not an in-kind match and will not receive grant funding (but connects to grant funded equipment). This subsea service layer will deliver state-wide access to Anchors. We will provide and manage 10G Ethernet or IP VPN 'community access waves' for the Anchors, like: WaveCare for healthcare providers; WaveLearn for educational institutions; WaveSafe for public safety agencies; and WaveServe for non-profit and government agencies. Each VPN can connect to the others, and with regards to WaveLearn and WaveCare, they can connect to public networks run by the University of Hawaii, such as the Hawaii Education and Research Network (HERN) and the State TeleHealth Access Network (STAN). Thus, WaveLearn will enable private and public schools to interconnect, and also will link them state-wide to all UH-operated libraries. Similarly, WaveCare will enable hospitals to link with each other and to others on the STAN. The YES! Network will be a 10G IP/Ethernet network that uses DWDM transport with an IP/MPLS overlay. It will utilize ADVA Optical Networking equipment, and Service Router equipment from Alcatel-Lucent that will connect to our subsea system and to the terrestrial routes to be built in the PFSAs. With respect to our nondiscrimination and interconnection obligations outlined in NOFA's policies, we will uphold these obligations on the YES! Network, and we will make these policies available on our corporate website and from our corporate offices. IV. The Proposed Solution Cures the Problem. The YES! Network will deliver high speed Internet access in the PFSAs, and high-speed VPN waves connecting Hawaii's six main islands. The proposed services are desired. We have LOIs from 48 education, non-profit, health care, and public safety Anchors expressing support and interest in the services. The list includes: 'Schools -- the University of Hawaii (UH), Maui Community College on Molokai, and Kihei Charter High School; 'Non-profit agencies -- the American Red Cross, Hale Kipa and the Arc in Hawaii; 'Health care providers -- Molokai Community Health Center and the Mental Health Kokua; and 'Public safety agencies -- Maui County Police Department and Lanai Police Department. Also, as noted, UH has signed an LOI to allow certain VPNs, like WaveLearn and WaveCare, to connect to public networks like HERN and STAN. The YES! Network will deliver to more than these 48 Anchors. We have LOIs from two last Mile providers, Advanced Wireless and Aloha Broadband, who intend to interconnect. Aloha Broadband received a round 1 grant to service underserved areas, and we believe the YES! Network will help achieve their goal. Also, there are 19 Anchors in the PFSAs off the network's path who have signed LOIs, and there are at least 69 more Anchors in the PFSAs who we have not yet approached. Also, the network will pass approximately 9185 non-anchor businesses. Conservatively projecting that 18% of these entities join the YES! Network, we can deliver to an additional 1653
subscribers. We estimate this project will create roughly 39 jobs excluding the in-kind match. V. Execution Wavecom Solutions is uniquely suited to deliver this project. 'We are believed to be the only entity with a submarine network connecting Hawaii's six main islands, and we have a significant fiber network on Oahu. 'We have extensive knowledge and a proven record in building networks. 'We are a well-established provider, having served the Hawaii markets since 2001. We know how to service large customers, such as Anchors, with mission critical communications needs. We service roughly 1,200 enterprises state-wide, including Anchors on Oahu and 'neighbor' islands. 'We provide service to major telecoms like AT&T, Verizon Wireless, and Qwest. 'Illustrative of our ability to build, deploy and service large broadband infrastructure projects, we helped deliver the Honotua cable in March, 2010. A two-year project, Honotua is a subsea cable linking Tahiti and Hawaii owned by Tahiti's main telecom. As their partner, we retro-fitted our Big Island cable landing station, obtained permits and rights-of-way, and pulled fiber from our beach manhole to the cable station. We will maintain the cable, and manage traffic across our network ' all skills we will put to use on the YES! Network.