Executive Summary

a) Opportunity the proposed system seeks to address. Opportunity: Immediate availability of next generation converged broadband services delivery to underserved urban communities at affordable prices. Wireless channel bandwidths from 5MHz to 20MHz supported speeds from 1 Mbps to 20 Mbps. Service will be symmetric: Channel downlink and uplink bandwidths are identical. Converged broadband services include voice, data, video'including real-time multi-party video conferencing on cell phones, desktop computers, laptop computers, mobile internet devices, etc.'and television for educational, business and entertainment content delivery. b) A general description of the proposed funded service areas (location, number of communities, etc.) A small cell, fully LTE Release 8 compliant hybrid fiber-wireless network infrastructure network build-out architecture will be implemented, such that costs are reduced by 80% relative to wide area LTE network alternatives. Networks will be built in homes, multi-tenant buildings (including single-family residential, multi-tenant public, non-public and mixed housing and multi-tenant commercial structures), government buildings, schools (K-20), hospitals, libraries and community centers. A combination of newly built and existing dark fiber network resources will be used, independent of resources owned by existing telecommunications companies. These resources will be interconnected in 'meet me' facilities in established POP (Point of Presence) locations, such that interoperability with existing networks--wired, wireless, cable, public switched and internet'will be fully enabled. c) Number of households and businesses passed. The proposed solution will pass 902,877 households and 37,000 businesses, 1508 of which businesses are Brooklyn chamber of commerce members. Of the households, incNETWORKS' 4G network infrastructure will be made accessible to residents in 200,000 homes and/or apartments, including 50,000 public housing units. Networks will be installed in 17 million square feet of existing and planned commercial downtown Brooklyn office space, in alignment with the approved New York City (NYC) Department of City Planning, the NYC Economic Development Corporation, the Downtown Brooklyn Council, the Brooklyn Partnership and the Brooklyn Economic Development Corporation. A target penetration of 200,000 households with a special emphasis on 50,000 public housing homes, is included in the proposed financial plan. d) Number of community anchor institutions, public safety entities, and critical community organizations passed and/or involved with project (e.g., health care, education, libraries, etc.). Community anchor institutions include Brooklyn's sixteen hospitals, the sixteen institutions of higher learning, 64 Brooklyn libraries, 435 public schools, 362 private schools (K-12), and 339 senior citizen centers. e) Proposed services and applications for the proposed funded service areas and users. The proposed 4G Network Infrastructure, implementing an all Internet Protocol(all IP), Multi-Protocol Label Switching (MPLS) Hybrid Fiber-Wireless (HFW) Architecture, will
provide voice (including stereophonic capability), broadband (symmetric wireless bandwidths from 1Mbs to 20 Mbps per channel; symmetric optical bandwidths up to 1Gbps, video (including real-time, multiparty video-conferencing among cell phone and computer users), and television (including educational, business and entertainment content). f) Approach to addressing the non-discrimination and interconnection obligations Non-discriminatory interoperability and interconnectivity obligations will be met through 4G point-of-presence (POP) connection at these New York City locations, 60 Hudson Street, 111 8th Ave., 65 Broadway and 32 Avenue of the Americas. Further, any end-user or 'subscriber' devices (e.g., cell phones, desktop computers, laptop computers, mobile internet devices, televisions) will be eligible for 4G Network Service Enabling. g) Type of broadband system that will be deployed (network type and technology standard). incNETWORKS' small cell 4G implementation is fully compliant with Long Term Evolution Release 8. h) Qualifications of the applicant that demonstrate the ability to implement and operate a broadband infrastructure, and/or be a sustainable broadband services provider. Cisco has designated incNETWORKS as a Channel Partner deploying advanced Cisco switching and routing equipment in incNETWORKS' 'Small Cell' LTE Release 8 Compliant Broadband Networks. CDW is incNETWORKS' order fulfillment, services and advanced technology provider. EchoSTAR is incNETWORKS' proposed partner for education, business and television entertainment content at this time. These strategic relationships have been established through incNETWORKS' senior management team, led by CEO and founder, Jesse E. Russel. For contributions to Digital Cellular Technology Innovation, Mr. Russell was inducted into the National Academy of Engineering in 1995. Mr. Russell, who holds over 75 patents, made the world's first digital cellular phone call in Chicago, 1988. He made the world's first multi-party cellular video conference call in 2008 at the Lincoln Building, 60 East 42nd Street, Manhattan, NY, directly across from New York's Grand Central Station. incNETWORKS has successfully installed and activated the world's first cell LTE Release 8 compliant networks in the first of 2400 buildings under contract in US cities (e.g., New York, Chicago) in 19 states. Through its affiliate, AVC Global, incNETWORKS has leased its own optical fiber backbone infrastructure, from Lexent Metro Connect. AVC Global is a world-wide provider of telecommunications and data communications facilities engineering, installation and management services for government, Fortune 100 companies (e.g., AT&T) and college campus customers. incNETWORKS' management team, which includes two members of the National Academy of Engineering including Mr. Russell, has over 100 years of experience in innovating, leading and deploying innovative technologies to national and global markets. i) Overall infrastructure cost of the broadband system. incNETWORKS' Brooklyn 4G infrastructure cost will be $212,000,000.00 ($212M), US. Of this amount, $15M will be allocated to NYSERNet to complete the extension of its optical fiber network into Brooklyn to provide backbone connectivity to Brooklyn hospitals and K-20 schools, consistent with its New York State charter and mission. An additional $20M will be provided to Lexent to complete the extension of its New York City optical fiber network to Brooklyn, passing by 900,000 households. This network will be used to provide the optical backbone for the proposed Brooklyn 4G network infrastructure to be used to provide commercial 4G service to homes, schools, government buildings, senior citizen residents and commercial office customers. $34M will be used to build 4G hybrid fiber-wireless networks in 17 million square feet of Brooklyn office buildings and commercial neighborhoods. $120M will be used to provide 4G network infrastructure for 200,000 Brooklyn households and neighborhood communities, including 50,000 public housing units and 339 senior citizen centers. Finally, $23M will be spent to build 4G infrastructure for community area
locations such as parks, retail centers and cultural centers, as well as for libraries, K-20 schools and Brooklyn hospitals. These costs include complete, 'turnkey' network infrastructure costs. Hence, once built and validated, the network will be immediately capable of service delivery for all authorized users. Infrastructure design, construction, testing and validation is included. j) Overall expected subscriber projections for the project. It is projected that 115,000 office workers, in addition to 100,000 visitors will have access to daily, commercial venue 4G subscriber services. Over 35,000 college and university students, along with 318,000 K-12 students, faculty and staff will have subscriber access. For the target 200,000 Brooklyn homes, at 2.7 persons per home on average, this represents a 555,000 subscriber base. To avoid double counting, the number of K-12 students and office building visitors are not included in the estimated subscriber projection of 115,000 + 555,000 = 670,000. For infrastructure build-out, incNETWORKS uses 115,000 + 200,000 = 315,000. 200,000 subscribers are expected to adopt service in the first 2 years. k) Number of jobs estimated to be created or saved as result of this project incNETWORKS estimates that 2650 to 7500 jobs will be created. Job categories are network construction (1000 to 4000), equipment service and maintenance (100'400), customer service (500 ' 1000), sales and marketing (50 ' 100), and engineering & software design (1000 ' 2000). An additional 800 ' 1200 US 4G equipment manufacturing jobs are highly and uniquely possible but not proposed.