Executive Summary:

a) Through two (2) recent telecommunications / broadband access studies in Chemung County, the first in 2006, The STCRPDB Telecommunications Study and the second in 2009, The Chemung County Fiber Assessment, it has been determined that the largest hurdle to providing broadband and high capacity telecommunications within the County is the lack of infrastructure to the needed areas. Much of the County is considered un-served or under served. The studies also identified many of the enterprise organizations in the County would like to extend services into rural and remote areas of the County but do not have access to the needed capacity to do so.

Using the highly successful Ontario County Model (http://www.co.ontario.ny.us/tdc/Project.html) as a guide, Chemung County will develop a County-wide, Open Access fiber backbone to meet the needs of the community. Chemung County proposes the creation of a middle mile Municipal Based Open Access Fiber Optic Backbone that will be owned, managed and controlled by the County.

The business model is based on Public Private Partnerships (PPP) between the community and the private organizations in the community who have agreed to support the fiber once it is built. This infrastructure will be used to spur technology led economic development, telecommunications investment, improved healthcare, education, public safety and broadband access county-wide.

The County owned fiber backbone will consist of 116.5 miles of fiber optic infrastructure and will be made available or “open” to any viable entity to use for internal needs or to provide last mile broadband services. Points of presence or POPs will be located throughout the fiber route. In addition, connections to other fiber initiatives currently ongoing in the neighboring counties of Tioga, Schuyler and Steuben will be accommodated.

The opportunities this system provides will address the needs of un-served areas and improve service in underserved areas. Anchor tenants such as schools, hospitals, libraries, etc. will have access to the unlimited bandwidth capacities of fiber optic infrastructure.

The Chemung County middle mile backbone will serve three (3) primary customer types; the Service Providers which includes remote area wireless internet providers and CLECs, the Enterprise Customer including healthcare, education, government organizations and Chemung County Public Safety.

The fiber optic backbone will establish an equal opportunity telecommunications foundation by which all service providers, including Competitive Local Exchange Carrier (CLECs) and wireless Internet Service Providers (WISPs), can develop and provide services on an equitable and cost effective basis. Currently, Chemung County has many areas that do not have the fiber infrastructure needed to support broadband access. Meetings with the incumbent providers confirmed that building fiber into the rural areas of Chemung County does not meet their acceptable return on investment criteria. However, broadband service providers have stated that if the County can find a way to build the fiber, they will provide last mile broadband solutions over the fiber. The lower back haul costs of the County’s fiber will equate to more profitable revenue streams for these companies, which will provide incentives for further investment in last mile infrastructure.
Enterprise customers including the hospitals, k-12 school districts, colleges and municipal organizations will use the fiber to expand their own industry specific applications to areas of the County that need it the most. The medical industry will use the fiber to extend high bandwidth systems including Radiology Information Systems (RIS), Picture Archiving Communication Systems (PACS) electronic patient records into remote areas. The educational institutions in the County will implement student instructional / administrative programs such as ToolBox a web based application that relies on home broadband access. The local government organizations are consolidating services between towns and county government. The current Emergency Management Service (EMS) system backbone between wireless towers is connected with 9 year old Microwave equipment that is limited to only T1 and DS0 capacities. The routing of the fiber optic backbone was selected based on several factors including the ability to reach the largest number of communities and to serve the greatest need. During the previous studies and the development of the fiber Business Plan it was determined that the fiber backbone would not support revenue based bonding but revenues would sustain the fiber backbone once built. 

b) The proposed funded service area for the fiber routes consists of an area in the center of the County that connects all the rural village areas together with the rest of the county. The proposed middle mile backbone will bring fiber based access for last mile services to the rural villages of Millport, Van Etten, and Wellsburg. The projected last mile service area as a result of the middle mile infrastructure will be in the towns of the County. Each proposed funded service area will have connections to the anchor tenants such as, the remote clinics, fire stations and the EMS towers. 

c) The number of households passed is roughly 38,000, and the number of businesses is approximately 1,400. 

d) There are approximately 170 community anchor institution locations that can be connected to the fiber backbone including the school districts, higher education and healthcare. In addition 9 of the 10 emergency management towers in the County, 17 of the 21 fire stations, many of the County library locations, town and village halls and numerous economic development sites. 

e) Chemung County seeks to be a wholesale provider of fiber optic capacity throughout the County. The business model of the County is to lease dark fiber optic capacity to enterprise, carrier, and other entities who desire to manage and control their own telecommunications networks. Furthermore the business model will focus on partnerships with service providers to use the fiber optic backbone to expand services into the more rural areas of the County. The proposed services will consist of dark fiber strand leasing and IRUs only. 

f) The proposed fiber backbone will allow for non-discrimination interconnection and be made available to any viable organization or service provider that wishes to use it. The fiber optic backbone will allow for interconnection to existing fiber owned by others in the County. Interconnection will be done at previously mentioned and strategically located Points of Presence (POPs) or Collocation points. Users will have several access points into the fiber optic backbone. POPs and co-locations will be located in towns, villages, municipal buildings, and other desirable
locations within each community. The County will make every effort to accommodate rural last mile service provider access in remote and un-served areas of the County.

g) The type of broadband system to be deployed will consist of a dark fiber backbone, passive POPs, and splice points that will allow for the interconnection of other networks and last mile provider equipment. The fiber cable will consist of single mode cabling as manufactured by Corning Glass Corporation of Corning, New York. The single mode cable will be the most technologically advanced for telecommunications available on the market today. It is anticipated that cable sizes along the fiber optic backbone will range from 72 to 96 fibers and be sized to accommodate future growth potential.

h) Our initiative will be managed through a County Legislative oversight committee. Since the County Legislature is made up of members from each town in the County, all communities within the County will be represented to ensure equity. It is expected that no more than four (4) or five (5) Legislatures will be assigned to the oversight committee. The term and conditions are to be defined by the Legislature.

The creation of Public Private Partnerships will oversee the design, construction and operations of the fiber backbone. Existing and future contracts with companies such as ECC Technologies, Verizon, and Energy East (and others as needed) will facilitate the development and support of this fiber backbone. In addition, the County’s Public Works Team has considerable experience in developing underground pathway and fiber optics. Bid packages for the building of aerial sections of the fiber backbone can be released and awarded with 30 days of notification of funding. Agreements with utility pole owners allowing temporary attachments are in place and will minimize Make Ready delays. Construction can begin immediately upon notification of funding.

i) The overall cost of the fiber infrastructure will be $4.4 million with annual operations and maintenance costs of $372,000. Value engineering will be provided and costs tracked continuously to ensure adherence to budgets and timelines.

j) The levels of community support for the project have been very encouraging. All levels of the community, including the Service providers, have indicated a strong level of support and a willingness to participate in the Open Access Fiber Optic Backbone.

k) The number of jobs estimated to be created during the construction of the fiber backbone is 30. Of the project jobs ECC Technologies is anticipated to have 5 to 7 people working on the initiative including after construction helpdesk and operations and maintenance and Syracuse Utilities will have up to 25 people working on the actual construction and placement of the fiber.

Based on experiences from the previously mentioned Ontario County Fiber Backbone it is expected that the existence of this infrastructure will result in the attraction of 100 plus local jobs in first two (2) years.