

Last Mile Broadband, LLC

March 7, 2014

VIA ELECTRONIC FILING

Office of the Secretary

Federal Communications Commission

445 12th Street, S.W.

Washington, D.C. 20554

Re: WC Docket No. 10-90; Letter of Support for the Expression of Interest filed by
Last Mile Broadband, LLC (Broadband Connect, LLC)

Dear Ms. Dortch:

On behalf of Last Mile Broadband, LLC, this letter is an Expression of Interest for the above-referenced FCC proceeding.

Last Mile Broadband, LLC (“Last Mile”) is excited about an opportunity to enter into a public-private partnership with Prince George’s County for the design, installation of a fiber wireline and/or broadband wireless network and to provide high-speed Internet service to its unserved and underserved communities and populations within its borders. The Public-Private Partnership is accomplish the shared goal of providing high-speed Internet service to unserved and underserved areas of the County. The County’s commitment to provide funding to build the backbone/ middle-mile connectivity; along with the funding provided via the Rural Broadband Experiment will support Last Mile Broadband, LLC’s build-out of the last mile wireline and/or wireless broadband connectivity to the eligible census blocks and tracts under the Rural Broadband Experiment.

Prince George’s County is ready for a Gigabit-capable network. The County has progressive leadership in the County Administration Office, the Office of Information Technology, and the County Council, and they are willing to provide the financial incentives and support to facilitate cost-effective build-out of a broadband network. The County also has progressive financial programs to support companies, particularly local companies, that are involved in economic development and bringing jobs to the County.

Submitting Entities

Last Mile Broadband, LLC is stepping up, as part of a Public-Private Partnership with Prince George’s County, to be the company that can bring economic development and job opportunities; via the building, operation, maintaining and providing cost-effective high-speed Internet services the eligible census blocks and tracts; as well as throughout Prince George’s

County. The partnership to build the network would also ensure the connection of all public anchor institutions -- schools, hospitals, libraries and small businesses, to the network.

Last Mile Broadband, LLC's core mission is to provide wireline (fiber) and/or wireless broadband services to the unserved, underserved and rural communities. Last Mile Broadband, LLC's desire, via the Public-Private Partnership is to make Prince George's County a Giga-Bit capable community. We are a "home grown" Company, fully qualifying as a local Minority Business Enterprise (MBE). Last Mile Broadband, LLC (and its affiliated management and partner team) has more than three decades of experience operating telecommunication facilities, network operations and designing, constructing, installing, and maintaining fiber/copper infrastructures and telecommunications systems around the United States, including to some of the most sophisticated Federal Government military bases in the world. We are not just a "software" or "IT" company looking to "get into broadband," but rather a seasoned and experienced broadband infrastructure construction company located right here in Prince George's County. The leadership, ownership, and direction of this project will reside with Last Mile Broadband, LLC and its management team. Last Mile Broadband, LLC will, however, utilize appropriate partners, including some of the industry's leaders in their respective niches, to handle discrete functionalities associated with the building and operations of a Gigabit-capable network.

Bottom-line, we offer to Prince George's County the "best of all worlds," local leadership and national experience and support; in the building and operation of a Gigabit-capable network. We also offer the Rural Broadband Program the perfect opportunity to show success in implementing high-speed Internet access in a community that has a mixture of rural, unserved and underserved high-cost communities.

Prince George's County's focus as part of the Public-Private Partnership is to fund the construction of the fiber backbone to community anchor institutions (schools and public buildings) in South County. From that backbone, we will build the last mile fiber wireline and broadband wireless connectivity to the communities. In concert with the census tracts that were identified as eligible for Phase II Rural Broadband Experiment funding; our research and the results of a study by Columbia Telecommunications Corporation dba CTC Technology & Energy ("CTC"), also indicate that there are significant broadband service deficiencies in the Southern part of Prince George's County.

Our project will initially focus on the area east of the US-301 corridor; encompassing approximately 170 square miles roughly bordered by:

- Route 4 to the north
- Routes 377 and 210 to the west
- Routes 381 and 382 to the southeast

According to CTC, this area includes roughly 8,800 homes and approximately 30 community anchor institutions (e.g., elementary schools, fire stations) in Accokeek, Aquasco, Baden, Brandywine, Cedarville, Croom, Eagle Harbor, Naylor, and Piscataway.

The Public-Private Partnership will provide a technologically-advanced open access network that will support the core statutory values of public safety, universal access, competition and consumer protection. Attached, please find a Letter of Support from the Prince George’s County Chief Information Officer; outlining the County’s commitment to the planned partnership. The following information highlights, but is not limited to what will be included in our response to the Commission’s subsequent RFP release:

Proposed Rural Experiment Service Area

Presently, Last Mile’s intent is to build an open-access high-speed wireline and wireless broadband network beginning with the top three (3) geographic areas in accordance with the Connect America Phase II Rural Broadband Experiment census tract (Table 1) as a pilot project. We intend to build the broadband network throughout each eligible census tract, with the intent of providing high speed Internet services all customers, including schools, libraries, and other anchor institutions within a particular tract ID. The following table highlights census tracts that were identified as eligible for Phase II Rural Broadband Experiment funding.

State	County	CountyName	TractID	Eligible High Cost Locations	Extremely High Cost Locations	Annual Support	Prince George’s County Area
MD	24033	Prince George’s	24033800800	108	4	34975.48	Croom/Baden
MD	24033	Prince George’s	24033800900	133	11	36825.46	Aquasco
MD	24033	Prince George’s	24033801003	17	0	9571.86	Cedarville/Brandywine
MD	24033	Prince George’s	24033801004	7	1	2987.99	Brandywine
MD	24033	Prince George’s	24033801104	9	1	3514.92	Joint Base Andrews Area
MD	24033	Prince George’s	24033801213	1	0	114.17	Camp Springs
MD	24033	Prince George’s	24033801216	1	0	868.12	Clinton

MD	24033	Prince George's	24033801302	1	0	3536.7	Accokeek
MD	24033	Prince George's	24033801310	28	0	3147.64	Accokeek
MD	24033	Prince George's	24033801311	1	0	1127.99	Friendly
MD	24033	Prince George's	24033804002	1	0	55.98	Bladensburg

Table 1 Eligible Census Tracts

Broadband Technologies Deployed

The wired portion of the network will be based on the use of Passive Optical Network (PON) technology. Last Mile's primary goal is to build a Giga-bit capable fiber broadband network within the eligible areas and eventually, throughout Prince George's County. However, our preliminary analysis indicates a need to build a blended wireline and wireless network to be able to cost-effectively provide high-speed broadband services to some of the potential customers eligible under the Rural Broadband Experiment program. For the wireless portion our goal is to build a wireless broadband network that will provide speeds in the range of 25Mbps – 50Mbps, using Cambium Networks wireless broadband equipment.

The public-private partnership will build a "blended" fiber and wireless broadband network to support, at a minimum, Internet and VOIP service offerings. High capacity fiber, typically 144 strands, will form the "middle mile" for the network, including a core fiber ring through the Designated Service Areas. "Last mile" connections from the fiber ring to end user customers will be through both fiber (where scale and the nature of the end user so justifies) and wireless broadband (a cost effective means to provide basic broadband services for smaller business and residential customers). In considering the mix of fiber versus wireless, we intend to install as much fiber as economically feasible in the belief that the industry-leading bandwidth and reliability of fiber will confer substantial value to the County, private sector business, and real estate developments. Fiber cable's bandwidth is only limited by end equipment and hence "future proofs" the network. As the population density increases in the broadband wireless areas, we will expand our fiber infrastructure.

The proposed network will have multiple levels of redundancy to support high availability at the levels of the backbone as well as at the last mile end. The proposed fiber optic ring backbone will have redundancy in its design consistent with contemporary standards for data networks. Thus, no single point failure can cause an outage, and in many cases a double point failure will not cause an outage. The ring also supports isolating outages to locations near the failure point.

Feeder branches to bring fiber to the premise will in most cases be single lines. Each feeder, serving a limited number of customers, will have no built-in, physical redundancy. This is consistent with current standards for data network design.

Customers served by wireless broadband connections will also have redundancy built into their service. In the proposed design, all customers are within three miles of their primary service antenna. In all cases at least two more antennas are within six miles of the customer. If a wireless node drops out in single point failure, the customer will be serviced by other antennas clusters in the network. The shift in service will be seamless in the same manner as a cellular telephone network shifts among serving antennas.

The electronics serving the network, including optical routers and network interfaces, will be specified for reliability and availability. Current industry standards are for “five nines” availability, meaning 99.999% of the time each piece of equipment is operating normally.

The final step toward network availability will be network maintenance. Maintenance will be consistent with industry standards. Technicians will monitor the network’s performance using the metrics built into the networking equipment. Individual components of the network will be subject to routine, preventive maintenance. Physical inspections of the installed network infrastructure will be arranged to anticipate potential failures and make corrections before they occur.

Contemplated Service and Price Offerings

Lat Mile’s network will consist of fiber optic and wireless broadband infrastructure that will start with the Southern part of the County and expand throughout the County; at minimum focusing on the other underserved and unserved neighborhoods. The Prince George’s County Giga-bit capable network will also cover County-agency offices and community anchor institutions within these neighborhoods. More specifically, the plan is to initially provide high-speed Internet and voices over the network.

- 1) For the wireline portion of the network, we will provide Internet access services with connection speeds up to one Gigabit for both upload and download (1,000 megabits, Mbps). We expect to offer the following service levels:

<u>Download</u>	<u>Upload</u>	<u>Rates</u>
Up to 20 Mbps	Up to 20 Mbps	\$30.00
Up to 50 Mbps	Up to 50 Mbps	\$50.00
Up to 100 Mbps	Up to 100 Mbps	\$70.00
Up to 500 Mbps	Up to 500 Mbps	\$110.00
Up to 1,000 Mbps	Up to 1,000 Mbps	\$150.00

- 2) For the wireless portions of the network, we will build a highly scalable network; providing voice services and Internet speeds up to 50Mbps; using Cambium Networks products.

<u>Download</u>	<u>Upload</u>	<u>Rates</u>
Up to 20 Mbps	Up to 20 Mbps	\$25.00
Up to 50 Mbps	Up to 50 Mbps	\$45.00

Our primary goal will be to provide affordable high-speed Internet access in rural, unserved and underserved communities.

Local Governmental Participation and/or Project Support

Prince George’s County will to enter into a public-private venture with Last Mile Broadband, LLC to accomplish the shared goal of providing high-speed Internet service to unserved and underserved areas of the County. As part of the Public-Private Partnership, the County Administration plans to:

- Provide funding to building the backbone or middle-mile connectivity to support the build out of the last mile wireline and/or wireless broadband connectivity to the census blocks and tracts that are potentially eligible for the Rural Broadband Experiment
- Provide access to County GIS mapping showing any State or commercial fiber networks, in order to facilitate access to key assets such as fiber, conduit, utility poles and real estate
- Assist with accessing State-owned resources (e.g. towers, fiber networks)
- Facilitate ways to streamline local permitting and inspection processes to support the fiber network installation

Proposal Funding Plan and Amount Requested

The following provides a high-level estimate of the costs for the engineering, construction of a Gigabit-capable wireless and broadband wireless network in support of the Connect America Rural Broadband Experiment. The financial details are still being developed, but we envision a one-time funding request, which can be in phased amounts.

Assumptions for Network:

Miles of Fiber:	70-80
Number of Households (Census tracts 24033800800, 24033800900 & 24033801003)	~9000 (~1/3 rd wireless)

Engineering Costs: **\$200,000.00**

Construction Costs: **\$9 -10 million**

- Middle-mile fiber costs: (paid for by County)
- FTTP construction from backbone to each street costs
- Drop to a home or facility (6000 homes)

Hardware/Software Costs: **\$3 -4 million**

- Network, Voice & Access Equipment
- Network Management Systems
- Customer Premise Equipment
- Wireless Network Equipment

Facilities: **\$250,000.00**
• Office Renovations/Portable Buildings, etc.

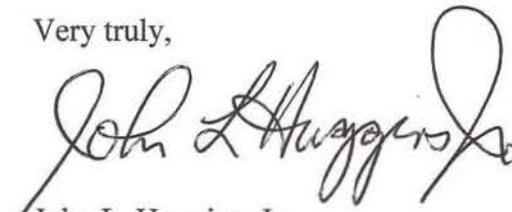
Estimated Total Costs: **\$12 – 14 million**

The utilization of underground installation processes will be our primary wireline installation method. We expect a high take-rate of around 60% because of the indicated demand for high-speed Internet services in these areas.

Last Mile Broadband, LLC/Prince George's County partnership will bring fiber optic broadband connections – the fastest available Internet technology in the world – to rural, unserved and underserved areas of Prince George's County. The initiative will further demonstrate and solidify the County's position as a leading and regionally competitive jurisdiction. The resultant network will create new opportunities for innovation, as it will be the foundation for creating a destination for 21st century commerce; driving community advancement through economic development, improved public health and safety, and government efficiencies.

Should the Commission have any questions regarding Last Mile Broadband, LLC's participation in the Connect America Phase II Rural Broadband Experiment, please contact the undersigned, Mr. John L. Huggins, Jr. at 301-706-5433.

Very truly,



John L. Huggins, Jr.

COO and Co-founder

Enclosures

Prince George's County Letter of Support

cc: Prince George's County Executive, the Honorable Rushern L. Baker, III
Prince George's County Chief Information Officer, Vennard Wright
Prince George's County Broadband Manager, Lakisha Pingshaw
Last Mile Broadband, LLC (Broadband Connect, LLC)