

Application to DHCD Submitted through CAMS

Tazewell County

Thompson Valley Telecommunications Project

Application ID: 59812142018115653
Application Status: In Progress - DHCD
Program Name: Virginia Telecommunications Initiative 2019
Organization Name: Tazewell County
Organization Address: 197 Main Street
Tazewell, VA 24651
Profile Manager Name: Arlene Matney
Profile Manager Phone: (276) 385-1206
Profile Manager Email: amatney@tazewellcounty.org

Project Name: Thompson Valley Telecommunications Project
Project Contact Name: Pam Warden
Project Contact Phone: (276) 385-1271
Project Contact Email: pwarden@tazewellcounty.org
Project Location: 197 Main Street
Tazewell, VA 24651-6101
Project Service Area: Tazewell County

Total Requested Amount: \$154,000.00
Required Annual Audit Status: Accepted

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Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
Telecommunications	\$154,000.00	\$70,750.00	\$224,750.00
Construction	\$154,000.00	\$70,750.00	\$224,750.00
Total:	\$154,000.00	\$70,750.00	\$224,750.00

Budget Narrative:

Gigabeen Networks, LLC is investing \$70,750.00. The \$154,000.00 being requested will provide funding for the utility poles, solar power, batteries, backhaul equipment, AP equipment and customer premise equipment.

Questions and Responses:

1. Project Area

Provide a map and description of the proposed geographic area including specific boundaries of the project area e.g.; street names, local and regional boundaries, etc. Explain why and how the project area(s) was selected. Attach a copy of your map(s).

Answer:

The coverage area for the project is in a very rural area of Tazewell County known as Thompson Valley. This type of diverse topography requires a mixture of technology and design to get adequate coverage to all locations. Currently Thompson Valley has no internet access except along the main road which has cable service. This project adds 100Mbps+ service to the rest of the valley excluding the cable provided area. The project was selected because it met the definition of being an unserved area.

2.

Describe your outreach efforts to identify existing providers in the selected project area. Provide a map and list of all existing providers (fixed and wireless), and speeds offered within the project area. Provide a detailed explanation of how this information was compiled and the source(s).

Answer:

There are no providers in the areas needed. However, Spectrum has cable service along Virginia State Rt. 16, which is not included in this project. Therefore, with the exception of Virginia State Rt. 16, there are no providers in the coverage area as shown on the map attached for question one.

3. Project Need/Description

To be eligible for VATI, applicants must demonstrate that the proposed project area(s) is unserved. An unserved area is defined as an area with speeds of 10 Mbps/1 Mbps or less, and with less than 10% service overlap within the project area. Describe the anticipated

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service overlap with current providers within the project area.

Answer:

The coverage area for the project is in a very rural area of Tazewell County known as Thompson Valley. This type of diverse topography requires a mixture of technology and design to get adequate coverage to all locations. Currently Thompson Valley has no internet access except along the main road which has cable service. This project adds 100Mbps+ service to the rest of the valley excluding the cable provided area. The project was selected because it met the definition of being an unserved area.

4. Describe population both in terms of absolute numbers within the project area and the eligible users that will be served by the proposed project. Describe the basis for these projections.

Answer:

Thompson Valley is not a Census Designated Place (CDP); therefore, it is impossible to provide an exact population in terms of numbers and eligible users. We estimate this area will serve 200 homes in the area and we expect to provide service to at least 150 homes.

5. Indicate the numbers of businesses and community anchor institutions the proposed project will pass in the project area.

Answer:

Thompson Valley is not a Census Designated Place (CDP); therefore, it is impossible to provide an exact number of businesses and community anchor institutions; however, the following community anchor institutions exist: Thompson Valley Fire Department, Thompson Valley Community Center, Foxtail Cabin Rentals, Plum Creek Winery and at least five to ten churches.

6. Provide the anticipated take rate for the proposed service within one year of project completion and describe the basis for the estimate. Also provide all actions to be implemented to reach the identified potential customers within the project area.

Answer:

We expect approximately 75% take rate upon one year of project completion. The basis for this estimate is based on (1) lack of other service providers in the area, and (2) historical take rates with similar projects by this service provider.

Our proven design proposal utilizes microsite deployments to get service into hard to reach areas with fast dependable service at minimal expense. To get connectivity to the customer, access points in unlicensed 5.8ghz spectrum and EnodeB's (LTE access points) are installed on the main backhaul towers as well as these microsities. The LTE Enb's utilize the newly formed CBRS (Citizens Broadband Radio Service) spectrum made available by the FCC in the 3.5-3.7Ghz range. CBRS spectrum will be usable in 2020 and until then the project equipment will use our licensed 3.65-3.7ghz NN spectrum (it will be merged into CBRS in 2020). All of the proposed equipment supports this transition.

A microsite is a small site typically on a utility pole or even on existing structures to relay coverage into hard to reach areas. Microsites are interconnected to each other in "legs" that go back to a master backhaul site. These backhaul links will utilize unlicensed 24Ghz radios to provide up to gigabit speeds to the site. Each microsite is

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designed to support between 6-40+ clients with speeds of 100Mbps+ to clients. A typical microsite includes:

Structure (Utility pole or building)

- Power (AC if available or solar power)
- Backhaul radios (to a main site or other microsite(s))
- AP/ENB's (1-4 depending on coverage needs and population density)

Master sites are larger towers that provide service directly to customer as well as the backhauling to microsites.

This project will utilize already existing GigaBeam master site located on Morris Knob to extend service into the valley.

The backhaul for this tower will be a licensed multi-gigabit 11Ghz radio link.

This project will expand and incorporate this site to provide the backhauling to the microsites in the project area.

This master site and backhaul support gigabit speeds and are directed back to our fiber point of presence in Pearisburg and Bluefield, VA.

This provides the speed necessary to provide services to the project area as well as geographical redundancy to maintain near 100% uptimes.

There are basically two "legs" of microsites in this proposal with each feeding from the Morris master site.

The grant would provide funding to purchase all the hardware and equipment to be installed on the Master tower to

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support the expansion as well as all the microsites. This would include utility poles, solar power equipment and batteries, backhaul radios, AP radio equipment, and customer radios. GigaBeam Networks would offer in-kind all labor and equipment (tools, derrick and bucket trucks, etc) to build the microsites and install the equipment on the master sites as well as all the supplies (Surge, router, cabling) and labor for customer installation. In-kind contribution would total \$70,750. GigaBeam Networks estimates that one additional full time employee will be added to build and support this project.

7. A statement whether the proposed project is targeting the “last mile,” “middle mile,” or “backbone” portion of the broadband infrastructure.

Answer:

This project is targeting the last mile portion of the broadband infrastructure.

8. For wireless projects only: Please explain the ownership of the proposed wireless infrastructure. Will the wireless co-applicant own or lease the radio mast, tower, or other raised structure onto which the wireless infrastructure will be installed?

Answer:

Please see the attached Maintenance and Operations Agreement between Tazewell County, the Tazewell County Wireless Service Authority, and GigaBeam Networks, LLC.

9. Provide a description of the broadband service to be provided, including estimated download and upload speeds, whether that speed is based on dedicated or shared bandwidth, and the technology that will be used. This description can be illustrated by a map or schematic diagram, as appropriate.

Answer:

GigaBeam's proven design proposal utilizes microsite deployments to get service into hard to reach areas with fast dependable service at minimal expense. To get connectivity to the customer, access points in unlicensed 5.8ghz spectrum and ENodeB's (LTE access points) are installed on the main backhaul towers as well as these microsites. The LTE Enb's utilize the newly formed CBRS (Citizens Broadband Radio Service) spectrum made available by the FCC in the 3.5-3.7Ghz range. CBRS spectrum will be usable in 2020 and until then the project equipment will use our licensed 3.65-3.7ghz NN spectrum (it will be merged into CBRS in 2020). All of the proposed equipment supports this transition.

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master sites as well as all the supplies (Surge, router, cabling) and labor for customer installation. In-kind contribution would total \$70,750. GigaBeam Networks estimates that one additional full time employee will be added to build and support this project.

10. Provide a description of the network system design used to deliver broadband service from the network's primary Internet point(s) of presence to end users, including the network components that already exist and the ones that would be added by the proposed project. Also describe specific advantages of using this technology. Provide a detailed explanation on how this information was compiled and source(s). For wireless projects, provide a propagation map including the proposed project.

Answer:

Our proven design proposal utilizes microsite deployments to get service into hard to reach areas with fast dependable service at minimal expense. To get connectivity to the customer, access points in unlicensed 5.8ghz spectrum and EnodeB's (LTE access points) are installed on the main backhaul towers as well as these microsities. The LTE Enb's utilize the newly formed CBRS (Citizens Broadband Radio Service) spectrum made available by the FCC in the 3.5-3.7Ghz range. CBRS spectrum will be usable in 2020 and until then the project equipment will use our licensed 3.65-3.7ghz NN spectrum (it will be merged into CBRS in 2020). All of the proposed equipment supports this transition.

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-

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-

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11. Project Readiness

What is the current state of project development (i.e. planning, preliminary engineering, final design, etc.)? Prepare a detailed project timeline or construction schedule, which identifies specific tasks, staff, contractor responsible(s), collection of data, etc., and estimated start and completion dates. The timeline should include all activities being completed within 12 months of contract execution with DHCD.

Answer:

This project is in the planning stages of development. Should the grant be awarded in May, 2019, the project could be completed within six months. Within the first month equipment will be purchased, months two through four the infrastructure will be built including the microsites, and in months five and six the customer installations will occur

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which include installation of hardware at customers' residences.

12. Matching funds: Provide a description of the matching funds the applicant and co-applicant will invest in the proposed project, (VATI funding cannot exceed 80% of total project cost). The Funding Sources Table should be completed.

i. For each element of matching funds in the description, indicate the type of match (cash, salary expense, or in-kind contribution).

ii. Identify whether the applicant or co-applicant is responsible for providing each element of the proposed matching funds.

iii. Include copies of vendor quotes or documented cost estimates supporting the proposed budget.

Answer:

As the wireless internet provider constructing the project, delivering the service when the network goes live, and continuing the operations and maintenance of that network, GigaBeam Network commits to providing the 31.5% match for the grant totaling an in-kind match in the amount of \$70,750.00

13. Identify key individuals, including name and title, who will be responsible for the management of the project. Describe their role and responsibilities for the project. Present this information in table format.

Answer:

Michael Clemons, President of GigaBeam Networks, LLC. Please see Section 12.12 of the Maintenance and Operation Agreement.

Arlene Matney, Tazewell County Director of Budget and Finance will be responsible for administering the grant.

14. Applicant and Co-Applicant: A description of the public-private partnership involved in the project. Detail the local government assistance: Local government co-applicants should demonstrate assistance to project that will lower overall cost and further assist in the timely completion of construction, including assistance with permits, rights of way, easement and other issues that may hinder or delay timely construction and increase cost.

i. If the partnership is formalized in a written agreement provide a copy of that agreement.

ii. If the partnership has not been formalized, provide a short description of the project management role, financial commitment, or other contribution to the project for the applicant and co-applicant and any additional partners.

Answer:

A copy of the Maintenance and Operation Agreement between Tazewell County, Virginia, Tazewell County Wireless Service Authority, and Gigabeam Networks, LLC is attached.

15. Project Budget and Cost Appropriateness

Applicants shall provide a detailed budget as to how the grant funds will be utilized, including an itemization of

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equipment and construction costs and a justification of proposed expenses. Expenses should be substantiated by clear cost estimates.

Answer:

The itemized budget breakdown is attached.

16. The cost benefit index is comprised of three factors: (i) state share for the total project cost, (ii) state cost per unit passed, and (iii) the internet speed. From these statistics, individual cost benefit scores are calculated. Finally, the three component scores are averaged together and converted to a 30 point scale to form a composite score.

Answer:

The state share for the total project cost is \$154,000.00 which is 68.5%.

The state cost per unit passed is \$770.00 per unit.

The internet speed will be as high as 100Mbps/5Mbps. All customers will have access to it at a minimum of 10Mbps/3Mbps.

17. A description of applicant and co-applicant's history or experience with managing grants and constructing broadband communications facilities in the Commonwealth of Virginia and elsewhere.

Answer:

GigaBeam Networks, LLC has administered a DHCD/VATI grant with Bland County, Virginia. GigaBeam Networks, LLC has partnered with the Shott Foundation for a grant in Bluefield, WV. GigaBeam Networks, LLC has also partnered with Tazewell County for a Community Connect grant. GigaBeam Networks, LLC has been in business for over 21 years and has extensive experience in building and operating broadband networks in Virginia, West Virginia and Kentucky.

Tazewell County has administered many grants and is in support of this project because it meets the need of many households in an area that is underserved. Tazewell County has had a management agreement with GigaBeam Networks since May, 2018.

18. Service

Describe the Internet service offerings to be provided after completion of this project and your price structure for these services. The service offerings should include all relevant tiers.

Answer:

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19. Additional Information

Any other equitable factor that the applicant desires to include.

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Answer:

This is the second phase of a multi-phase project to provide high speed broadband to the citizens of Tazewell County.

Attachments:

Derivation of Cost (Project Budget)

ThompsonValleyBudgetBreakdown1214201821740.xlsx

Project Management Plan

ThompsonValleyNarrative1214201844615.docx

Supporting documentation for costs estimates

VATILetter1214201832135.pdf

Map(s) of project area, including proposed infrastructure

TVMap11214201822245.jpg

Map(s) or schematic of existing broadband providers (inventory of existing assets)

TVMap11214201845745.jpg

Documentation of relationship between applicant and co-applicant (formal or informal)

MaintenanceandOperationAgreementwithGigabeam1214201830027.pdf

Two most recent Form 477 submitted to FCC

Form477for2017and20181214201832427.pdf

Documentation for in-kind contributions, including value(s)

VATILetter1214201824445.pdf

Documentation supporting project costs (i.e. vendor quotes)

ThompsonValleyBudgetBreakdown1214201823112.xlsx

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Documentation of source of match funding

ThompsonValleyBudgetBreakdown1214201823120.xlsx

Documentation that proposed project area is unserved based on VATI criteria

VATILetter1214201825452.pdf

Documentation that proposed project area is not designated for Connect America Funding (CAF)

TVMap11214201845825.jpg

Funding Sources Table

ThompsonValleyBudgetBreakdown1214201844757.xlsx

Notes:

Thank you for your consideration.

Budget Breakdown

Grant Contribution

Utility Poles (14 total)	5600
Solar Power Equipment/Batteries	46900
Backhaul Equipment	50000
AP Equipment	29000
Customer Premise Equipment	22500
Total	154000

GigaBeam Contribution

Labor and equipment use (trucks, etc)	40000
Customer Installation Labor/supplies	30750
Total	70750

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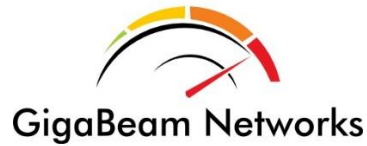
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387 Old Virginia Avenue
Rich Creek, VA 24147
540-726-2317

601 Virginia Avenue
Bluefield, VA 24605
866-988-2638

December 14, 2018

Erik Johnston, Director
Department of Housing and Community Development
600 E. Main Street, Suite 300
Richmond, VA 23219

RE: VATI Telecommunication Initiative Grant Letter of Support

Dear Mr. Johnston:

We are pleased to pledge our support to this project to deploy broadband service for the area's citizens. As the wireless internet provider constructing the project, delivering the service when the network goes live, and continuing the operations and maintenance of that network, we commit to providing the 31.5% match for this grant totaling an in-kind match in the amount of \$70,750.

As broadband becomes more widely understood as a service as necessary as electricity and running water, those without access to it will face considerable challenges in maintaining and building economic resiliency. Without widely available internet access, our community will not simply stagnate, it will fall behind in pursuing economic opportunity.

The proposed broadband deployment project to expand internet access in Tazewell County addresses these issues by reaching into communities without broadband speed internet service. Our citizens will be able to ready themselves to participate in the workforce, create their own business endeavors, access community services, and even conduct basic banking, shopping and communication activities online.

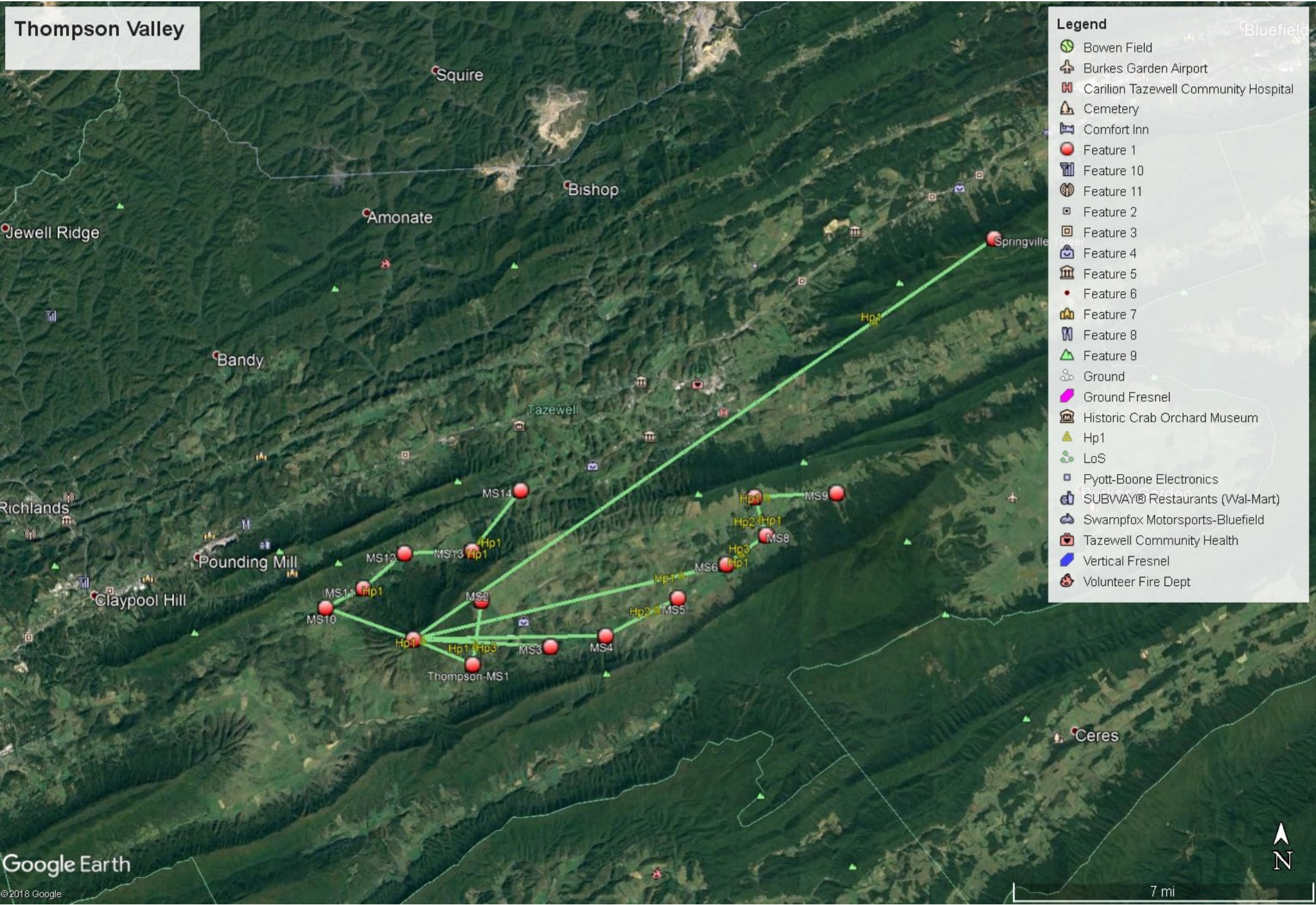
We look forward to working with DHCD and the other project partners to facilitate the deployment of broadband. Please contact me if you need any further information about our support for this regional effort.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael Clemons".

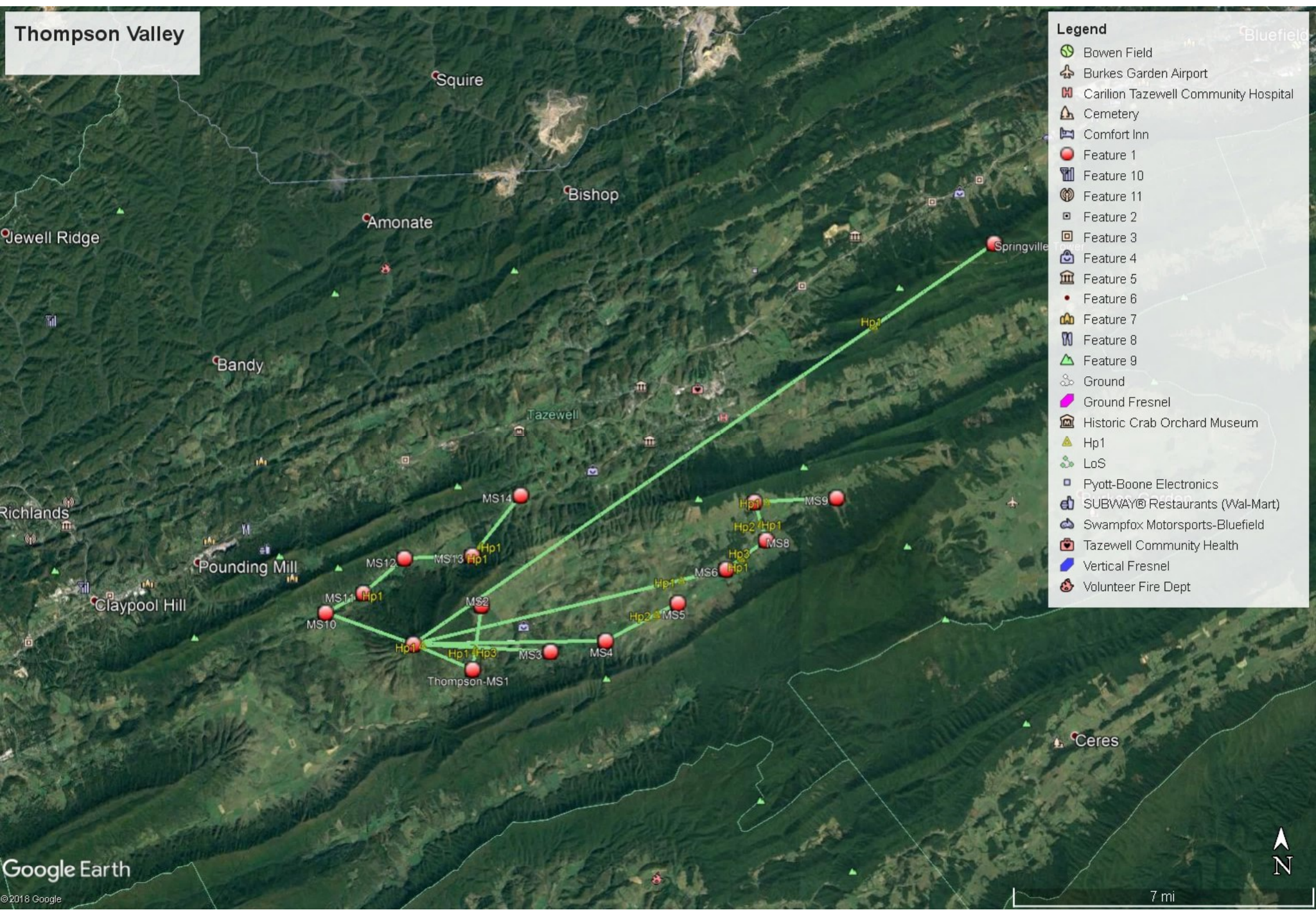
Michael Clemons
President
GigaBeam Networks, LLC

Thompson Valley



- ### Legend
- Bowen Field
 - Burkes Garden Airport
 - Carilion Tazewell Community Hospital
 - Cemetery
 - Comfort Inn
 - Feature 1
 - Feature 10
 - Feature 11
 - Feature 2
 - Feature 3
 - Feature 4
 - Feature 5
 - Feature 6
 - Feature 7
 - Feature 8
 - Feature 9
 - Ground
 - Ground Fresnel
 - Historic Crab Orchard Museum
 - Hp1
 - LoS
 - Pyott-Boone Electronics
 - SUBWAY® Restaurants (Wal-Mart)
 - Swampfox Motorsports-Bluefield
 - Tazewell Community Health
 - Vertical Fresnel
 - Volunteer Fire Dept

Thompson Valley



Legend

- Bowen Field
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- Carilion Tazewell Community Hospital
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MAINTENANCE AND OPERATION AGREEMENT
BETWEEN
TAZEWELL COUNTY, VIRGINIA,
TAZEWELL COUNTY WIRELESS SERVICE AUTHORITY, AND
GIGABEAM NETWORKS, LLC
AS OF MAY 1, 2018

MAINTENANCE AND OPERATION AGREEMENT

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MAINTENANCE AND OPERATION AGREEMENT

This MAINTENANCE AND OPERATION AGREEMENT (hereafter, "the Agreement") is entered as of this _____ day of _____, 2018, by and between the TAZEWELL COUNTY BOARD OF SUPERVISORS, the governing body of the County of Tazewell, a political subdivision of the Commonwealth of Virginia (hereafter, "the County"), being a governmental entity created under the laws of the Commonwealth of Virginia; the TAZEWELL COUNTY WIRELESS SERVICE AUTHORITY, a Virginia wireless service authority created pursuant to Section 15.2-5431.1 *et seq.* of the Code of Virginia (1950), as amended (hereafter, "the Authority"); and GIGABEAM NETWORKS, LLC, a limited liability company organized under the laws of the Commonwealth of Virginia, and authorized and licensed to do business in the Commonwealth of Virginia (hereafter, "the Contractor").

RECITALS:

WHEREAS, the County holds assignable leases to certain real property in Tazewell County, Virginia, upon which the Authority operates and maintains a wireless broadband internet system for the benefit of the residents of Tazewell County, Virginia;

WHEREAS, the County further owns towers and related infrastructure upon its assignable leaseholds, which the Authority utilizes for the operation and maintenance of said wireless broadband system;

WHEREAS, the Authority is currently responsible for the operation and maintenance of said wireless broadband system, which services include, but are not limited to: maintenance of wireless broadband hardware, maintenance of tower equipment, provision of electricity for operation; provision and maintenance of bandwidth, provision of billing and customer service, provision of monthly financial and customer reports, and provision of other services reasonable necessary for the operation and maintenance of said wireless broadband system;

WHEREAS, the Authority published an Invitation for Bid to solicit proposals from qualified firms for the purposes of operating and maintaining the wireless broadband internet services currently operated and maintained by the Authority;

WHEREAS, after the Authority accepted proposals and conducted interviews, the Authority ranked the Contractor first for purposes of negotiating a Maintenance and Operation Agreement; and

WHEREAS, the County and the Authority desire that the Authority's wireless broadband internet system be operated and maintained by a private professional entity with expertise in the operation and management of said systems, and the Contractor has such expertise and is willing to operate and maintain said system for the County and the Authority pursuant to the terms and conditions of this Agreement,

NOW, THEREFORE, FOR AND IN CONSIDERATION of the foregoing premises and the other mutual covenants between all parties, the receipt and sufficiency are hereby acknowledged by all parties, the parties hereto do hereby agree as follows:

I. **DEFINITIONS**

1.1 **Definitions.** The following terms shall be defined in the following manner throughout this Agreement.

Commencement Date. This term shall mean the date which is the earlier of the first day Contractor assumes operation and maintenance of the wireless broadband internet system, or such other date as may be agreed upon in writing between the parties hereto. The Contractor shall document the Commencement Date in a letter to the County. The Commencement Date shall be no later than July 1, 2018.

Equipment of the Contractor. This term shall mean the equipment or other personal property owned by the Contractor to be used in the operation of the wireless broadband internet system.

Equipment of the County. This term shall mean the equipment or other personal property owned by the County that is leased by Contractor from the County pursuant to this Agreement, to be used in the operation of the wireless broadband internet system. Such Equipment of the County is listed on Schedule A hereto attached.

Work. This term shall mean the Contractor's work obligations during the term of this Agreement, subject to, in conformance with, and as more specifically and definitively described in the terms, conditions, and limitations set forth in this Agreement, which work is summarized as follows:

- (a) Operate, maintain, and manage all wireless broadband internet systems under the authority and jurisdiction of the County and the Authority;
- (b) Operate, maintain, and manage all tower equipment under the authority and jurisdiction of the County and the Authority that is pertinent to said wireless broadband internet systems;
- (c) Operate and maintain all equipment and hardware as necessary to perform the Work described in clauses (a) and (b) above, whether such equipment is Equipment of the Contractor or Equipment of the County;
- (d) Provide and train personnel as necessary to perform the Work described in clauses (a) and (b) above, and have said personnel available during all reasonable time periods, including nights, weekends, and holidays;

- (e) Furnish all supplies, materials, and equipment necessary to perform the Work described in clauses (a) and (b) above;
- (f) Pay the reasonable expenses of all utilities needed to perform the Work;
- (g) Conduct all billings and collection of revenue for the operation and maintenance of the wireless broadband internet systems effective as of the Commencement Date;
- (h) Conduct all customer service operations for the operation and maintenance of the wireless broadband internet systems effective as of the Commencement Date;
- (i) Operate and maintain wireless hotspots for the wireless broadband internet systems, with location and operation requirements determined by mutual agreement of the Authority and the Contractor; and
- (j) Undertake commercially reasonable efforts to develop wireless broadband internet systems for additional areas of Tazewell County, Virginia not yet served by the wireless broadband internet systems currently available to the County and the Authority;

II. WARRANTIES, REPRESENTATIONS AND COVENANTS

2.1 Warranties, Representations and Covenants of the County and the Authority. The County and the Authority hereby warrant, represent, and covenant that, as of the date of the execution of this Agreement:

- (a) The County and the Authority are duly authorized and empowered to enter into and fully perform this Agreement according to its terms, and any and all prior agreements regarding the operation and/or management of the wireless broadband system have lawfully and rightfully expired or terminated;
- (b) There is no known decree, judgment, or administrative order of any kind threatened or in existence enjoining or restraining the County and the Authority from taking any action required under this Agreement;

- (c) The County and the Authority have obtained, and will continue to maintain all existing necessary land use agreements, license agreements, and leasehold agreements for the operation of the wireless broadband internet system, and all such agreements are valid and in full force and effect. Further, The County and the Authority have constructed and operated the tower equipment with all necessary permits and approvals and shall continue to use best efforts to assist the Contractor with any and all permits and approvals from federal, state and local authorities to enable the Contractor, on behalf of the County and the Authority, to perform Work;
- (d) The County and the Authority have disclosed to Contractor, to the best of their knowledge, after reasonable inquiry, of all the facts, information and data necessary and pertinent to the wireless broadband internet system, and all of the representations and warranties contained in this Agreement and any written statements and exhibits prepared in connection with this Agreement, are true and correct as of the date of the execution hereof, to the best of the County's and the Authority's knowledge and belief;
- (e) The County and the Authority own the Equipment of the County, and have the right, power, and authority to lease the Equipment of the County to the Contractor pursuant to the terms of this Agreement, and such equipment is free from liens or other encumbrances; and
- (f) All the representations and warranties contained in this Agreement and any written statements and exhibits prepared in connection with this Agreement, are true and correct as of the date of the execution hereof.

2.2 Warranties, Representations and Covenants of the Contractor. The Contractor hereby warrants, represents, and covenants that, as of the date of the execution of this Agreement:

- (a) All of the Contractor's representations and warranties contained in this Agreement and any written statements and exhibits prepared in connection with this Agreement, are true and correct as of the date of execution hereof, and
- (b) The Contractor is a duly authorized limited liability company organized under the laws of Virginia; and
- (c) The Contractor has the requisite expertise and financial ability to fully, completely, and satisfactorily perform its obligations hereunder in full compliance with applicable law; and

- (d) The Contractor owns the Equipment of the Contractor, and has the right, power, and authority to utilize the Equipment of the Contractor pursuant to the terms of this Agreement, and such equipment is free from liens or other encumbrances; and
- (e) To the best of its knowledge, the Contractor has disclosed to County its knowledge of all facts, information, and data pertinent to its capacity to perform its duty and obligations under this Agreement.

III. SCOPE OF WORK

- 3.1 **Intent.** In order to assure viability of the wireless broadband internet system for the County and the Authority, the parties hereto intend to develop markets throughout Tazewell County, Virginia, in addition to the markets currently served within Tazewell County, Virginia. The Contractor shall perform all Work hereunder in compliance with all applicable federal, state, county, and municipal laws, ordinances and regulations, at the Contractor's expense. Prior to the Commencement Date, the parties shall work together to allocate costs for any applicable permits and/or licenses. After the Commencement Date, it shall be the responsibility of the County and the Authority to continue to obtain and maintain, all necessary land use agreements, license agreements, and leasehold agreements for the operation of the wireless broadband internet system. After the Commencement Date, it shall be the financial responsibility of the Contractor to timely pay any and all fees required by said land use agreements, license agreements, and leasehold agreements. The Contractor shall utilize its reasonable efforts to assist the County in obtaining and maintaining any and all new land use agreements, license agreements, and leasehold agreements and/or renewals or modifications of any existing land use agreements, license agreements, and leasehold agreements as may be required in order to operate said wireless broadband internet system as anticipated by this Agreement. It is further intended that the Contractor shall have maximum flexibility in performing its operations and services contemplated by this Agreement, which includes, without limitation, performance of the Work and the discretion to make and implement at Contractor's expense design improvements and changes to enhance the quality and capacity of said wireless broadband internet system.
- 3.2 **The Contractor's Responsibilities.** As more specifically set forth in this Agreement, Contractor agrees to conduct the Work in material accordance with all applicable federal, state, and local laws and administrative procedures, and in accordance with applicable standards of care, from the Commencement Date until the expiration of this Agreement.

3.3 The County's and The Authority's Responsibilities.

- (a) As more specifically set forth in this Agreement, the County and the Authority shall work in good faith with Contractor to facilitate Contractor's performance of its obligations hereunder, including without limitation the efforts to increase the efficiency and capacity of the wireless broadband internet system, and the pursuit of an increase in the number of residents of Tazewell County, Virginia, to whom service may be provided. The County and the Authority agree that Contractor shall be entitled to use any and all appropriate facilities and resources owned or leased by the County or the Authority in order for Contractor to perform its contractual obligation hereunder. To fulfill such responsibilities, the County and the Authority agree to exercise any and all lawful means available to it to fulfill such responsibilities, including obtaining of all necessary land use agreements, license agreements, and leasehold agreements, or any amendments, modifications, or supplements to existing land use agreements, license agreements, and leasehold agreements.
- (b) The County and the Authority warrant to work in good faith with Contractor to consider the use of public-private partnerships to obtain grant funding to strengthen the current wireless broadband internet system and to expand said wireless broadband internet system into other areas throughout Tazewell County, Virginia.
- (c) By execution of this Agreement, the County and the Authority hereby assigns to the Contractor all land use rights, licenses, and leaseholds and all Equipment of the County for an aggregate amount equal to ONE DOLLAR (\$1.00) to be paid to the Authority by Contractor on or before the Commencement Date. Such assignment shall terminate upon termination of this Agreement.

3.4 Designated Representatives. The County and the Authority designate the County Administrator for Tazewell County as the County's primary liaison with the Contractor. Said liaison shall be required to devote only the time and effort to the administration of this Agreement that the County and the Authority shall require. Contractor also shall designate in writing an individual (hereafter, "Liaison Representative") to serve as its primary liaison with the County's liaison and the Authority's liaison. The Liaison Representative shall administer this Agreement on behalf of Contractor. Instructions and/or representations from the County's liaison and/or the Authority's liaison and the Liaison Representative shall be deemed to be instructions and/or representations from the County and/or the Authority and the Contractor, respectively; provided, that the County's liaison and/or the Authority's liaison may on a case-by-case basis expressly condition his or her actions hereunder with respect to any particular issue upon obtaining the prior authorization and approval from the full Tazewell County Board of Supervisors.

3.5 Term Period. This Agreement shall be effective upon execution by the parties hereto, and the Contractor shall commence the Work on the Commencement Date. The term of this Agreement shall continue for a period of three (3) years subsequent to the Commencement Date (hereafter, "Term"). Unless either party provides the other party written notice of the County's or the Authority's intent not to extend the Term of this Agreement prior to January 1, 2021, this Agreement shall be extended for a second three (3) year term ending July 1, 2024, unless such notice not to extend is provided prior to January 1, 2024. Thereafter, the Agreement terms shall be extended for successive three (3) year terms, unless either party notifies the other party of its intent not to renew the Agreement by January 1 preceding expiration of the then-current term.

In the event either party elects not to renew the Agreement Period, the parties shall work together in good faith to return control of the then-existing wireless broadband internet system to the Authority in a manner in which the Authority may immediately resume provision of internet services in a similar capacity as provided by the Contractor upon the termination of this Agreement.

IV. LAND USE AGREEMENTS AND LEASEHOLDS

4.1 Permits. Prior to the Commencement Date, the County, with the Contractor's assistance, shall remain responsible for procuring, maintaining and renewing of all land use agreements, license agreements, and leasehold agreements required for the wireless broadband internet system to be fully operational; provided that the Contractor shall assist the County in procuring, maintaining and renewing of all land use agreements, license agreements, and leasehold agreements.

4.2 Title to Leaseholds and Permits. At all times hereunder, title to the land use agreements, license agreements, and leasehold agreements, and all other applicable leases or agreements, shall remain in the name of the County.

V. OPERATION, ADMINISTRATION AND MAINTENANCE OF SERVICES

Except as otherwise provided herein, the Contractor shall, at its expense, conduct the Work, including, but not limited to, the specific items listed below:

5.1 **Quarterly Reports.** The Contractor shall make quarterly reports to the Authority within ten (10) days of the Authority's next scheduled regular meeting regarding the operation of the wireless broadband internet system and the activities contemplated hereunder. Such written reports shall include, but not be limited to, the following: (1) reports regarding number of Tazewell County, Virginia customers served pursuant to this Agreement, by month; (2) financial reports regarding revenues and costs of the wireless broadband internet system, by month; (3) reports regarding any outages in the wireless broadband internet system lasting for a period of greater than six (6) hours; (4) reports regarding service calls involving the wireless broadband internet system; (5) reports regarding the status of infrastructure owned by the County; and (6) reports regarding the Equipment of the County.

5.2 **Hours of Operation.**

- (a) The Contractor shall operate in accordance with its current hours of operation while providing operation and maintenance of the wireless broadband internet system.
- (b) Notwithstanding the foregoing, the parties understand that the Contractor shall, to the best of its ability, operate and maintain the wireless broadband internet system during all time periods, including nights, weekends, and all holidays.
- (d) The Contractor shall exercise an appropriate standard of care, and shall perform Work in good faith, while operating and maintaining the wireless broadband internet system in inclement weather and/or hazardous conditions.

5.3 **Personnel.** The Contractor shall be solely responsible for providing employees for operation and maintenance of the wireless broadband internet system. Said employees shall be treated as employees of the Contractor, and shall be covered by the Workers' Compensation policies, insurance policies, and other compensatory policies of the Contractor. The Contractor warrants that all employees of Contractor shall be alcohol free and substance-free at the time said employees are conducting the Work.

The Contractor shall assign personnel to perform the Work on such days and during such hours that wireless broadband internet is being provided, as may be reasonably required to assure a smooth and efficient operation. An authorized representative of the Contractor shall be available at reasonable times that any Work is being conducted herein. Said reasonable times are expected to include nights, weekends, and holidays. The Contractor shall file with the County's primary liaison the names, addresses, and telephone numbers of authorized representatives who can be contacted at any time. These authorized representatives must be fully authorized and equipped to respond to reasonable requests of the County's primary liaison. If the County's primary liaison finds it necessary to give directions to assure compliance with the provisions of this Agreement, the Contract Administrator shall give such directions in writing to the authorized representative of the Contractor.

An authorized representative of the Contractor shall be responsible for handling complaints regarding the wireless broadband internet system. The Contractor shall report complaints to the Authority as otherwise authorized herein.

5.4 Contractor's Provision of Bandwidth. Upon the Commencement Date, the County and the Authority shall withdraw and retain the bandwidth currently provided by them for usage for the wireless broadband internet system. After the Commencement Date, and thereafter during the remaining term of this Agreement, the Contractor shall be responsible for providing bandwidth to operate the current wireless broadband internet system. Further, the Contractor shall be responsible for providing bandwidth to operate any expansion of the current wireless broadband internet system, and any additional systems planned pursuant to Article VII of this Agreement.

5.5 System Monitoring. After the Commencement Date, and thereafter during the remaining term of this Agreement, and only to the extent expressly required by this Agreement, the Contractor shall permit an agent or designee chosen by the Authority to monitor the physical sites upon which the Equipment of the Contractor or Equipment of the County are located. Prior to the Commencement Date, any such monitoring shall be the responsibility of the Authority.

5.6 Use of Premises and Accessibility.

- (a) Subject to clause (c) below, the County and Authority hereby grant to the Contractor a nonexclusive right to access leaseholds and towers in control of the County and the Authority for purposes of maintaining and operating the wireless broadband internet system. All permanent real property improvements to the real property leased by the County and the Authority made by the Contractor during the term of this Agreement shall remain on the property and become the property of the County after the term of this Agreement.

- (b) The Authority shall have the reasonable right to inspect the Contractor's Work, as long as such inspections do not unreasonably interfere with performance of the Work. The inspection of the Work shall not relieve the Contractor of any obligation to fulfill the Agreement as prescribed hereunder or operate as a waiver of any right of the County under this Agreement. Contractor shall meet with the Authority at least quarterly to discuss all issues and review Contractor's Work and under the Agreement.

5.7 **Litter Control.** The Contractor shall use reasonable efforts to maintain and keep free of litter and other foreign material all areas within the leaseholds of the County and the Authority.

5.8 **Contractor's Management Fee.** The County shall pay unto the Contractor a fee in the amount of Two Thousand, Four Hundred Dollars per year (\$2,400.00/yr.) for its management and administration of the Work performed in the maintenance and operation of the wireless broadband internet system under this Agreement. Said fee shall be paid upon the first of every month, and may be paid in advance, or as otherwise agreed by the County and the Contractor. In addition thereto, the Contractor shall be permitted to retain all net revenues from the current Tannersville wireless broadband internet system, after Contractor has recouped its operational costs incurred in performance of this Agreement.

VI. **ACCESS AND SAFETY**

6.1 **Access Roads.** As of the date of this Agreement, the Contractor acknowledges that access to the leaseholds of the County and the Authority is adequate to perform its obligations under this Agreement. The County shall ensure that the Contractor will continue to have adequate access roads for ingress to and egress from the leaseholds of the County and the Authority, and upon request of the Contractor, shall use its powers to secure and preserve adequate means of ingress and egress. The Contractor shall not be responsible for the maintenance of roads of the County.

VII. **DEVELOPMENT OF ADDITIONAL WIRELESS BROADBAND INTERNET SYSTEMS OR EXPANSION OF EXISTING SYSTEM**

7.1 **Contractor's Responsibility.** After the Commencement Date, the Contractor shall, at its cost, develop a plan to expand the wireless broadband internet system in accordance with the terms of this Agreement. The planned expansion of the system would continue to be overseen and regulated by the County while operated and maintained by the Contractor. The plan shall include the expected cost of the expansion and anticipated rates for potential customers.

- 7.2 **County's Responsibility.** The County and the Authority, in their discretion, may elect to pursue the proposed plan or not pursue the plan. The County and the Contractor will negotiate in good faith to amend the plan such that it is acceptable to both parties to construct and operate new wireless broadband internet systems built pursuant to the agreed plan in accordance with the terms of this Agreement.
- 7.3 **Contractor's Rights.** The Contractor may, in the Contractor's discretion and at the Contractor's expense, design, construct, operate and develop an expansion of the wireless broadband internet system using the leaseholds of the County and the Authority.

VIII. CONTRACTOR'S RIGHTS TO USE MORRIS KNOB LEASEHOLD

- 8.1 **Sublease of Morris Knob Leasehold.** The County hereby subleases to the Contractor the right to relay communications from the towers on Morris Knob and the right to visit the towers on Morris Knob to install, inspect, maintain, repair, and replace the Equipment of the Contractor and Equipment of the County on said towers. Said rights are rights possessed by the County by a Lease Agreement executed on May 23, 2014, by and between W. Andrew Copenhaver ("Lessor") and the Tazewell County Board of Supervisors ("Lessee"), which is incorporated by reference herein. The County subleases its rights to the Contractor to the maximum extent allowable by said Lease Agreement. The Contractor shall be bound by the same obligations and conditions as the County under said Lease Agreement in the Contractor's utilization of and Work upon Morris Knob. The Contractor acknowledges that the County will continue to use Morris Knob towers for County's purposes pursuant to said lease.
- 8.2 **Contractor's Consideration.** As part of the consideration to the Contractor, the Contractor shall be permitted to use the towers on Morris Knob to serve systems owned exclusively by the Contractor.
- 8.3 **Non-Interference.** The Contractor's use of the towers on Morris Knob shall in no way interfere with the County's use of the towers for emergency communications and transmissions. The County reserves the right to disable the Contractor's equipment if such interference occurs. Prior to disabling the Contractor's equipment, the County will provide the Contractor with a written notice in an attempt to resolve issues of interference. Further, upon the written notice, the County and the Contractor will work in good faith to resolve issues of interference.
- 8.4 **Contractor's Rent.** The Contractor shall pay rent unto the County in the amount of Two Hundred Dollars per month (\$200.00/mo.) for the rights to relay communications from the towers on Morris Knob and the rights to visit the towers on Morris Knob to install, inspect, maintain, repair, and replace the Equipment of the Contractor and Equipment of the County on said towers. Said fee shall be paid upon the first of every month, and may be paid in advance, or as otherwise agreed by the County and the Contractor.

IX. DEFAULT

9.1 **Event of Default.** An "Event of Default" occurs when Contractor fails to materially perform any of its obligations under this Agreement including, but not limited to the following, and Contractor fails to cure its default within thirty (30) days after its receipt of written notification by the Authority; provided, that if such default cannot be cured within thirty (30) days, an event of default does not occur if the Contractor promptly initiates steps to cure the default and diligently pursues correcting the default until cure is achieved, which cure must be achieved as soon as practicable, but in no event more than one hundred eighty (180) days after the County's written notice of default:

- (a) Failure of Contractor to materially comply with any and all conditions under this Agreement;
- (b) Willful or grossly negligent acts of Contractor in performing any aspect of the Work;
- (c) Failure of Contractor to substantially perform any aspect of the Work; or
- (d) Failure to materially comply with any federal, state or local law, rule, resolution or ordinance applicable to the Work;

Upon the occurrence of an Event of Default, the County shall have the right to terminate this Agreement by written notice to Contractor at any time prior to cure or County's waiver of said Event of Default, and in the alternative has the right, but not the obligation, to cure said Event of Default, at Contractor's expense; provided, that in the event that the County exercises its right to terminate this Agreement hereinabove, the parties shall in good faith agree to a reasonable transition period for Contractor to cease or transfer operations to the County in an orderly manner and exit the Landfill and the Related Facilities.

9.2 **County's Rights.** In the event the County terminates this Agreement in whole or in part as provided in Section 9.1, the County shall have the right to assume maintenance and operation of the wireless broadband internet system, and to operate the wireless broadband internet system for the remainder of the term of this Agreement. If County terminates under this provision and it is later adjudicated that Contractor was not in breach of this Agreement, then County's termination shall constitute a breach by County.

9.3 **Contractor's Rights.** Contractor shall have the right to terminate this Agreement in the event of a material breach of this Agreement by the County, which, after ninety (90) days following written notice from Contractor, has not been cured.

- 9.4 **General.** The rights and remedies of the parties provided in this Article IX shall not be exclusive, and are in addition to any other rights and remedies provided by law or under this Agreement. Failure on the part of either party to exercise any right or remedy granted to it hereunder for previous default shall not constitute a waiver to exercise any right or remedy granted to it hereunder in the event of a subsequent default.
- 9.5 **Notices Concerning the System.** Both parties agree to copy the other party promptly, but in no event later than seven (7) days of receipt of any notice of any correspondence that affects the wireless broadband internet system.

X. **REVENUE COLLECTION & COMPENSATION**

10.1 **Revenue Collection: Billing.**

- (a) **Prior to the Commencement Date.** Prior to the Commencement Date, the Authority shall be responsible for collecting revenues received in provision of wireless broadband internet services. All revenues obtained shall be the property of the Authority. Any past due payments or accounts receivable as of the Commencement Date shall, if collected, be the property of the Authority.
- (b) **After the Commencement Date.** After the Commencement Date, the Contractor shall be responsible for collecting revenues received in provision of wireless broadband internet services. All revenues obtained shall be the property of the Contractor. The Authority shall assist the Contractor with the transition of the billing and collection responsibilities for revenues. The Contractor will be responsible for the payment of all state or federal fees and/or surcharges involved in operating and maintaining the wireless broadband internet system, if any. The Contractor shall maintain auditable records of data related to all aspects of the wireless broadband internet system and shall report these data on a quarterly basis to County in a mutually agreed-upon and auditable format.

- 10.2 **Leasehold Fees of the County and Authority.** After the Commencement Date, and yearly by January 15th, the Contractor shall remit and pay to the Authority an amount equal to the yearly lease fees required to be paid by the Authority as part of its lease agreements with landowners. The Authority will notify the Contractor by November 30th of the preceding year, in writing, of the amount required to satisfy the Authority's lease agreements. As of the date of this Agreement, the County's and Authority's owed obligations are as listed on attached Schedule B.

10.3 Service Prices and Fees.

- (a) **Prior to the Commencement Date.** Prior to the Commencement Date, the Authority shall maintain the current schedule of rates, fees, and charges as lawfully adopted by the Authority for the provision of wireless broadband internet services.
- (b) **After the Commencement Date.** After the Commencement Date, the Contractor shall institute its current schedule of rates, fees, and charges as currently charged by the Contractor, which shall become effective at the beginning of the Contractor's next regularly scheduled billing cycle. Such rates, fees, and charges shall be no higher than any rates, fees, and charges the Contractor charges its customers served by any systems the Contractor maintains and operates. Upon request, the Contractor will provide the County with verification of the Contractor's rate schedules for other systems.
- (c) The Contractor shall provide the County, the Authority, and the customers served by the wireless broadband internet system written notice of at least thirty (30) days in advance of the Contractor's intent to increase the Contractor's rates, fees, and/or penalties for wireless broadband internet services.

10.4 **Payment Terms.** For all rates, fees, and charges, including delinquencies occurring prior to the Commencement Date, the Contractor shall negotiate acceptable payment terms and conditions with customers of the wireless broadband internet system.

XI. NO ENCUMBRANCES

- 11.1 **Sale or Encumbrance of the System.** The County and the Authority will not in any manner sell, alienate, mortgage or encumber the leaseholds, towers, or Property of the County. The Contractor reserves the right to terminate this Agreement in the event that the County sells, alienates, mortgages, subleases, or otherwise makes dispositions of its leaseholds, towers, or Property of the County to an entity that is in competition with Contractor.
- 11.2 **No Liens.** The Contractor agrees that it shall not cause or allow any liens, encumbrances, charges, or assessments to be placed or levied upon the Property of the Contractor in use for the wireless broadband internet system, and further agrees that, in the event of such occurrence, it will promptly and fully discharge the same.

XII. GENERAL PROVISIONS

- 12.1 Independent Contractor.** The Contractor is, for all purposes arising out of this Agreement, an independent contractor and shall not be deemed an employee, agent, or mandate of the County. It is expressly understood and agreed that the Contractor shall in no event as a result of this Agreement be entitled to any benefits to which the County employees are entitled, including, but not limited to, overtime, any retirement benefits, worker compensation benefits, any injury leave or other leave benefits.
- 12.2 Assignment and Subcontracting.** This Agreement or any portion thereof may not be assigned by the Contractor without the express prior written consent of the Authority, which approval (a) shall not be unreasonably withheld, and (b) if approval cannot be reasonably withheld by the Authority, approval shall be timely given. It is reasonable for the Authority to withhold approval of the Contractor's assignment if the proposed assignee is not at least as qualified as Contractor to operate the wireless broadband internet system and at least as financially viable as the Contractor. Contractor shall not be relieved of any of its liabilities under this Agreement by an assignment hereof unless and until the assignee fully assumes Contractor's liabilities hereunder in writing.

Contractor shall have the right to subcontract all or a substantial portion of any or all of the Work; provided that any subcontract of a substantial portion of the Work shall be subject to the express written consent of the Authority, which approval shall not be unreasonably withheld and timely given. However, Contractor shall have the right to subcontract a minimal portion of the Work without the express written consent of the Authority in the event of an emergency; for purposes of this section, "emergency" shall be defined as "Work that must be performed within twenty-four (24) hours to restore or otherwise maintain service of the wireless broadband internet system." Contractor shall give its personal attention to the fulfillment of the Agreement and shall keep the Work under its control. No subcontractor shall be recognized as such by the County, and all persons engaged in the Work shall be considered as employees of the Contractor. All subcontractors shall be required to carry insurance with terms and amounts equal to or exceeding Contractor's insurance coverage under Section 12.5. Contractor shall be held responsible for a subcontractor's Work, which shall be subject to the provisions of the Agreement.

12.3 Hold Harmless Clause.

- (a) The Contractor agrees to indemnify, defend and hold harmless the County and the Authority, and their officers, agents, and employees from, against, and with respect to any claims incurred by or asserted against the County or the Authority, arising due to any negligence or intentional misconduct of the Contractor or any of its officers, agents, employees, or subcontractors, in the performance of the Work on the wireless broadband internet system. Such claims shall include, but not be limited to, any violations of Federal Communications Commission policies, regulations, rules, or any other applicable federal, state, or local laws. However, the Contractor shall not be required to indemnify the County for any matter to the extent that it is due in whole, or in part, to the negligence, willful misconduct, or wrongful act of the County or the Authority.
- (b) To the fullest extent allowable within the County's powers under applicable law, the County agrees to indemnify, defend, hold harmless, and reimburse the Contractor from, against, and for any and all claims incurred by or asserted against the Contractor, arising out of or related to the wireless broadband internet system, except for those claims solely caused by the negligence or intentional misconduct of the Contractor in the performance of Work upon the wireless broadband internet system.
- (c) Nothing in this agreement shall be deemed a waiver of the County's or the Authority's Sovereign Immunity with respect to third parties.

12.4 Taxes, Assessments and Fees. This Agreement is not a lease of the wireless broadband internet system, but is a lease of equipment and land rights. However, to the extent that the terms of this Agreement may result in the creation of one or more possessory interests in real or personal property that are or may be subject to real estate taxes, the County shall be responsible for the payment of all such taxes, assessments, fines, penalties, permit and/or license fees and any other fees assessed or levied upon the Contractor by reason of the business or other activities of Contractor hereunder during term of this Agreement; provided, that *ad valorem* taxes assessed on Contractor's own equipment, machinery, tools, or similar tangible personal property are not addressed by this covenant. The Parties further agree not to allow such taxes, assessments, or fees to become a delinquent lien. Nothing herein contained shall be deemed to prevent or prohibit the Contractor from contesting the validity or the amount of any such tax, assessment, or fee in the manner authorized by law.

12.5 Insurance. The Contractor shall secure and maintain throughout the term of this Agreement the following types of insurance with limits as shown to protect the County, the Authority, and the authorized agents and employees of the above, from any damage claims, including exemplary or punitive damages, for damage such as bodily injury, death, or property damage, which may arise from the Contractor's operations and Work under this Agreement, whether such operations be by Contractor, a subcontractor, an agent of Contractor, or anyone employed by Contractor directly or indirectly.

(a) Worker's Compensation Insurance. The Contractor and its subcontractors shall procure and maintain during the term of this Agreement Worker's Compensation Insurance for all of its employees to be engaged in the Work under this Agreement. In case any class of employees engaged in the Work under this Agreement is not protected under the Workers Compensation Statute, the Contractor shall provide employer's liability insurance for the protection of such of its employees as are not otherwise protected. Employer's Liability Insurance shall be a minimum of One Million Dollars (\$1,000,000.00) for occurrence.

(b) Contractor's General Liability Insurance. Contractor shall procure and maintain General Liability Insurance in full force and effect during the term of this Agreement, including completed and ongoing operations and a Comprehensive Liability Policy on an occurrence basis. Comprehensive Liability Insurance shall be a yearly minimum of One Million Dollars (\$1,000,000.00) per occurrence and Two Million Dollars (\$2,000,000.00) in the aggregate.

The General Liability Insurance policy must include ISO CG 20 10 11 85 Additional Insured Endorsement, or the combination of ISO CG 20 10 07 04 Additional Insured – Owners, Lessees, or Contractors – Scheduled Person or Organization and CG 20 37 07 04 Additional Insured – Owners, Lessees, or Contractors – Completed Operations Endorsements, or similar provisions for Ongoing-Operations and Products-Completed Operations Hazard Coverage.

(c) Comprehensive Automobile Liability Insurance. Contractor agrees to carry a Comprehensive Automobile Liability Policy providing bodily injury liability on an occurrence basis and providing Property Damage Liability on an accident basis. The policy shall protect the Contractor against all liability arising out of the use of automobiles, both private, passenger, and commercial, regardless of whether such vehicle shall be owned by the Contractor, owned by others, or hired. Limits of Liability for Comprehensive Automobile Liability Insurance shall be One Million Dollars (\$1,000,000.00) per occurrence combined single limit.

- (d) Contractor's Excess Liability Insurance. Contractor shall procure and maintain Excess Liability Insurance in full force and effect during the term of this Agreement. Excess Liability Insurance shall be a yearly minimum of Four Million Dollars (\$4,000,000.00) per occurrence. Excess Liability Insurance shall be in excess of the insurance coverages listed in subsections (a) through (c) of this section.
- (e) Third Party Crime Policy. Contractor agrees to carry a Third Party Crime Policy in an amount equal to or exceeding Twenty Thousand Dollars (\$20,000.00) per occurrence.
- (f) Certificate of Insurance. Appropriate Certificates of Insurance shall be used in submitting evidence of compliance with the above requirements. The Contractor will provide the Authority with a copy of the Contractor's Certificates of Insurance.
- (g) Insurance Adjustment. On the third (3rd) anniversary of the Commencement Date and every three (3) years thereafter, the Authority and Contractor shall reconsider the policy limits of all required insurances to reflect appropriateness of the coverage required.
- (h) Waiver of Subrogation. Contractor further agrees that the insurance policies as set forth in Chapter XII of this Agreement shall contain provisions that the Contractor will have no right of recovery or subrogation against the County and/or the Authority. Accordingly, Contractor is responsible for damage to/loss of Equipment of the Contractor.

The foregoing insurance policies shall be carried with responsible insurance companies authorized to transact business in the Commonwealth of Virginia; shall be procured with a Category X company; shall not be procured by less than an A-rated insurance carrier; shall name the County and the Authority as an additional insured; shall be primary/non-contributory to insurance policies of the County and the Authority; shall provide that with respect to the interest of the County or Authority in such policy or policies, the insurance shall not be invalidated by any action or inaction of the Contractor or by any breach or violation of Contractor of any warranties, declarations or conditions contained in such policy or policies; and shall provide that County and the Authority shall be given at least thirty (30) days written notice prior to any materially changing modification or termination of said insurance, except for instances of nonpayment of premium, which notice shall be at least ten (10) days. Prior to the commencement of any activity or operation by the Contractor hereunder, the Contractor shall furnish to the County certificates evidencing insurance coverage satisfactory to the County and the Authority as set forth herein above.

12.6 Audit and Inspection of Records.

The Contractor shall keep accurate records of all income and expenditures related to the operation of the wireless broadband internet system, and/or to any activity performed upon said system by the Contractor. At any time during normal business hours and as often as the County and/or Authority may reasonably deem necessary, the Contractor shall make available to the County and/or Authority for examination of copies all of its data and records regarding matters covered by this Agreement, and shall permit the County and/or Authority to audit, examine, and make excerpts or transcripts from such data and records, and to make audits of all invoices, material, payrolls, records of personnel, records of equipment usage if requested by the primary liaison(s) of the County and/or Authority, and other data relating to all matters covered by this Agreement. All reports resulting from reasonable requests made by the County and/or Authority shall be made available to the primary liaison(s) of the County and/or Authority within five (5) days of the Contractor's receipt of the request. The Authority shall permit the Contractor to inspect and audit all data and records of the wireless broadband internet system currently in the Authority's possession prior to the Commencement Date. The Contractor shall have access to said data and records at any time during normal business hours and as often as the Contractor may reasonably deem necessary. The Authority shall permit the Contractor to audit, examine, and make excerpts or transcripts from such data and records. The Authority shall maintain such data and records in an accessible location for the Contractor. At the expiration or termination of this Agreement, and at the County's and/or Authority's request, the Contractor shall provide the Authority with exact photocopies of all documents not previously provided to the Authority that materially pertain to its performance under this Agreement (excluding confidential trade information), including all documents transmitted to or received from any governmental agency.

12.7 Control of the Work. The Contractor may not change any conditions of service under this Agreement without the prior written approval of the primary liaison(s) of the County and/or Authority. The Contractor shall not be assessed with damages for delay in performance of the Contractor's obligations hereunder where such delay is caused by the County's failure to perform its obligations under this Agreement.

12.8 Force Majeure. Notwithstanding the foregoing, neither party shall be assessed with damages during any delay in the performance of its obligations hereunder caused by events beyond the reasonable control of the performing party, including without limitation: acts of God, war, riot, explosion, sabotage caused by an unrelated third party, floods, forest fires, tornadoes, hurricanes or other extreme weather, earthquakes, epidemics, quarantine restrictions, labor strikes, suppliers' or vendors' strikes, freight embargoes, legislative action, and regulatory action or inaction, provided that such events are not directly or indirectly the result of the performing party's omission, material fault, or negligence. The performing party shall make reasonable efforts to mitigate the effects of said causes.

- 12.9 Compliance with Laws.** The Contractor agrees to comply with all laws and regulations federal, state, and local laws and regulations now in force and which may hereafter be in force during the term of this Agreement, including compliance with all applicable permits, licenses, reporting, inspections, or regulations as amended.
- 12.10 OSHA.** To the extent applicable, the Contractor shall comply with the Department of Labor Safety and Health Regulations promulgated under the Occupational Safety and Health Act of 1970 (PL-596), and under Section 107 of the Agreement Work Hours and Safety Standard Act (PL-9154), and under corresponding Virginia statutes and regulations.
- 12.11 Discrimination.** The Contractor shall not discriminate against any person because of race, sex, age, creed, color, religion, or national origin.
- 12.12 Notices.** All notices or other communications required or permitted hereunder shall be sent by telecopy, facsimile, email, certified mail, or express mail, addressed as follows or to such other addresses as may be designated hereunder from time to time:

Contractor: Gigabeam Networks, LLC
ATTN: Michael Clemons
601 Virginia Avenue
Bluefield, VA 24605
Telephone: (540) 726-2317

County: Patricia K. Green – Tazewell County Administrator
Tazewell County Board of Supervisors
197 Main Street
Tazewell, VA 24651
Telephone: (276) 385-1204
Fax: (276) 988-4246

Authority: Michael Watson – Chairman, Wireless Service Authority
197 Main Street
Tazewell, VA 24651
Telephone: (276) 385-1502
Fax: (276) 988-4246

Copy To: C. Eric Young, Esq. – Tazewell County Attorney
197 Main Street
Tazewell, VA 24651
Telephone: (276) 385-1208
Fax: (276) 988-4246

12.13 Affirmative Action and Equal Employment Opportunity. The Contractor shall comply with all affirmative action and equal employment opportunity requirements as set forth herein or as required by applicable laws, rules, or regulations.

12.14 Time is the Essence/Survival or Terms. Time is of the essence in this Agreement and in each of its provisions. The provisions of Paragraph 12.3 (Hold Harmless Clause) shall survive the termination of this Agreement.

12.15 Future Development Protections

- (a) Intent. Under this Agreement, the Contractor may undertake at its expense the future development of the wireless broadband internet system, which may require the Contractor to invest significant sums of its own money into the wireless broadband internet system. The Contractor's only way to recoup and earn a return on its investment is to maintain and operate said system throughout the term of this Agreement. This Paragraph is intended to prevent the Contractor from losing its substantial investments in the wireless broadband internet system in the event the validity of this Agreement is challenged. However, this Paragraph only makes the County responsible for protecting the Contractor's investments when the County will benefit from the continuing operation of the wireless broadband internet system. Any such investment to be protected pursuant to this section must be approved in advance by the County and the Authority.
- (b) Loss Compensation. In the event of any administrative or judicial proceeding initiated by anyone other than the Contractor, the County, or the Authority that contests the validity of this Agreement, or the County's or the Authority's ability to enter into and bind the County and the Authority to any of the terms and conditions of Agreement, and that results in a material adverse impact on the Contractor's rights to operate the wireless broadband internet system under this Agreement, the Contractor's obligations hereunder, if any, for capital improvements to the wireless broadband internet system shall be suspended until a final resolution of such a proceeding favorable to the Contractor, unless the County and/or the Authority, in its/their sole discretion(s), provide(s) the Contractor with adequate protections in the event of a successful proceeding; provided, that such suspension of obligations to make improvements shall not impair the Contractor's obligation to operate the then existing wireless broadband internet system. In the event any such proceeding is successful, the County and the Authority shall provide Contractor with Loss Compensation. For purposes of Agreement, Loss Compensation shall be a reasonable amount of compensation, on a time and materials basis, for capital improvements to the wireless broadband internet system; provided, that Loss Compensation does not include any

element of loss of future profits from operation of said system and system operating costs paid by the Contractor. Loss Compensation may be satisfied by the County requiring subsequent operators of the wireless broadband internet system to discharge the Loss Compensation obligation.

XIII. MISCELLANEOUS

- 13.1 **Complete Agreement.** This Agreement, including the Exhibits, represents the complete agreement between the parties, and it supersedes all prior agreements, requests for proposals, and proposals. No terms of any previous agreement remain in force or effect.
- 13.2 **Section Headings.** The section or paragraph headings are used only for convenience and are not to be used in determining the intent of the parties or in otherwise interpreting this Agreement.
- 13.3 **Provisions Unenforceable.** If any provision of Agreement shall be declared illegal, void or unenforceable, the other provisions shall not be affected but shall remain in full force and effect, unless the resulting interpretation of the Agreement shall materially alter the obligations of either party so as to work an unfair hardship on such party (the "Burdened Party"), in which case the Burdened Party shall have the option to request a renegotiation of the Agreement and/or to terminate this Agreement upon ninety (90) days advance written notice to the other party stating the reason for termination. This Agreement may be modified, amended, discharged, or waived only by an agreement in writing by each party.
- 13.4 **Successors and Assigns.** This Agreement shall be binding upon and will inure to the benefit of the successors and assigns of the respective parties hereto.
- 13.5 **Counterpart.** This Agreement may be executed in counterparts, each of which, when so executed and delivered, shall constitute an original, fully enforceable counterpart for all purposes.
- 13.6 **Attorney's Fees.** The parties hereto shall be responsible for their own attorney's fees in any action related to this Agreement.
- 13.7 **Governing Laws.** This Agreement will be governed by and construed according to the laws of the Commonwealth of Virginia. The parties agree that any actions brought to enforce the rights of either party under this Agreement shall be filed in the state and federal courts in the Commonwealth of the Virginia.

IN WITNESS WHEREOF, the parties hereto have caused their duly authorized representatives to execute this Agreement as of the day and year first above written.

TAZEWELL COUNTY, VIRGINIA

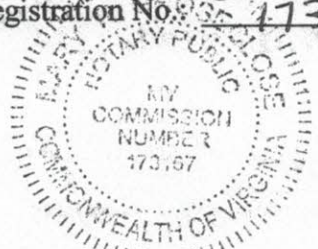
By: Margaret A. Asbury
Margaret A. Asbury, Chairperson

**COMMONWEALTH of VIRGINIA,
COUNTY of TAZEWELL, to-wit:**

The foregoing Maintenance and Operation Agreement was acknowledged before me, the undersigned Notary Public, in and for the jurisdiction aforesaid by Margaret A. Asbury, Chairperson of the Tazewell County Board of Supervisors, whose identity was satisfactorily proven before me, on this 3 day of May, 2018.

My Commission Expires: July 31, 2020
My Notary Registration No.: 173167

Mary R. Groseford
Notary Public



Attest: Patricia K. Green
Patricia K. Green, County Administrator

**COMMONWEALTH of VIRGINIA,
COUNTY of TAZEWELL, to-wit:**

The foregoing Maintenance and Operation Agreement was acknowledged before me, the undersigned Notary Public, in and for the jurisdiction aforesaid by Patricia K. Green, Tazewell County Administrator, whose identity was satisfactorily proven before me, on this 3 day of May, 2018.

My Commission Expires: July 31, 2020
My Notary Registration No.: 173167

Mary R. Groseford
Notary Public



WIRELESS SERVICE AUTHORITY

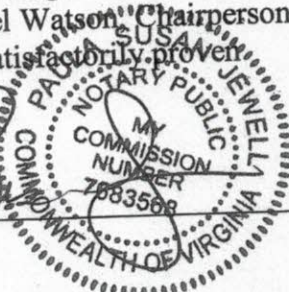
By: *Michael Watson*
Michael Watson, Chairperson

**COMMONWEALTH of VIRGINIA,
COUNTY of TAZEWELL, to-wit:**

The foregoing Maintenance and Operation Agreement was acknowledged before me, the undersigned Notary Public, in and for the jurisdiction aforesaid by Michael Watson, Chairperson of the Tazewell County Wireless Service Authority, whose identity was satisfactorily proven before me, on this 9th day of May, 2018.

My Commission Expires: 5/31/2020
My Notary Registration No.: 7683568

Paula Susan Jewell
Notary Public



GIGABEAM NETWORKS, LLC

By: *Michael Clemons*
Michael Clemons, President

**COMMONWEALTH of VIRGINIA,
COUNTY of TAZEWELL, to-wit:**

The foregoing Maintenance and Operation Agreement was acknowledged before me, the undersigned Notary Public, in and for the jurisdiction aforesaid by Michael Watson, President of Gigabeam Networks, LLC, whose identity was satisfactorily proven before me, on this 23 day of May, 2018.

My Commission Expires: 11-30-18
My Notary Registration No.: 7319903

Lisa Diane Alley
Notary Public

Approved as to Form:

C. Eric Young
C. Eric Young, Esq.
Tazewell County Attorney



SCHEDULE A

ITEM	DESCRIPTION	QUANTITY
Radio	Ubiquiti NanoStation M2	38
Radio	Ubiquiti NanoBridge M2	9
Radio	Ubiquiti NanoBridge M900	3
Radio	Ubiquiti NanoLoco M2	1

SCHEDULE B

LEASEHOLD	GRANTOR	PRICE	TERM END
Morris Knob Tower Site	Anne P. Copenhaver	\$3,322.50/year (2019) + 3% increase/year + 20% increase/term + Sublease Rent	December 31, 2023
Craig Tower Site	Patricia W. Craig	\$8,712/term (paid)	June 30, 2019
Dixon Microtower Site	Gary L. Dixon Brenda Dixon	\$2,475/term (paying)	June 30, 2021
Keene Microtower Site	Arlene Keene	Payment Equal To Basic Internet Rate Per Month (paying)	June 30, 2021
Lockhart Microtower Site	Patricia Lamie Leon Lockhart	\$2,475/term (paying)	June 30, 2021
Neal Microtower Site	John A. Neal, III	\$2,475/term (paying)	February 28, 2022
Osborne Microtower Site	Della H. Osborne	\$2,475/term (paying)	June 30, 2021

Anne P. Copenhaver
1121 Arbor Road
Winston-Salem, NC 27014

Patricia W. Craig
1947 Veterans Road
Tannersville, VA 24377

Patricia Lamie/Leon Lockhart
2069 Freestone Valley Road
Tannersville, VA 24377

John A. Neal, III
1085 Mountain Springs Road
Tannersville, VA 24377

Gary L. Dixon/Brenda Dixon
279 Mountain Springs Road
Tannersville, VA 24377

John A. Neal, III
P.O. Box O
Emory, VA 24327

Della H. Osborne
328 Little Tumbling Creek Road
Tannersville, VA 24377



(RETAIN FOR YOUR RECORDS)
Form 477 Filing Summary

FRN: 0018473223 | Data as of: Dec 31, 2017 | Operations: Non-ILEC | Submission Status: Original - Submitted | Last Updated: Mar 16, 2018 12:14:19

Filer Identification

Section	Question	Response
Filer Information	Provider Name	GigaBeam Networks LLC
	Holding Company Name	WVVA.net Inc.
	SAC ID	
	499 ID	
Data Contact Information	Data Contact Name	Michael Clemons
	Data Contact Phone Number	(540) 726-2317
	Data Contact E-mail	mclemons@gigabeam.net
Emergency Operations Contact Information	Emergency Operations Name	Michael Clemons
	Emergency Operations Phone Number	(540) 726-2317
	Emergency Operations E-mail	mclemons@gigabeam.net
Certifying Official Contact Information	Certifying Official Name	Michael Clemons
	Certifying Official Phone Number	(540) 726-2317
	Certifying Official E-mail	mclemons@gigabeam.net

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	Censusblocks_ALL_DEC_2017.csv	Mar 16, 2018 12:09:28	8820
Fixed Broadband Subscription	form 477 customer data Dec 2017.csv	Mar 16, 2018 12:13:23	104

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Kentucky	GigaBeam Networks LLC	Terrestrial Fixed Wireless	266
Virginia	GigaBeam Networks LLC	Terrestrial Fixed Wireless	5028
West Virginia	GigaBeam Networks LLC	Terrestrial Fixed Wireless	3526
Total			8820

**Fixed
Broadband
Subscription**

Fixed Broadband Subscriptions by State, Technology and End-user Type

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Kentucky	Terrestrial Fixed Wireless	8	42	10	52
Virginia	Terrestrial Fixed Wireless	53	526	28	554
West Virginia	Terrestrial Fixed Wireless	43	430	10	440
Total		104	998	48	1046

Fixed Broadband Subscriptions by Bandwidths and End-user Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
4.000	1.000	14	0	14
5.000	1.000	357	6	363
10.000	1.000	425	7	432
25.000	2.000	163	26	189
50.000	3.000	39	7	46
50.000	50.000	0	1	1
100.000	100.000	0	1	1
Total		998	48	1046

Fixed Broadband Subscriptions by Technology, Bandwidths and End-user Type

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Terrestrial Fixed Wireless	4.000	1.000	14	0	14
	5.000	1.000	357	6	363
	10.000	1.000	425	7	432
	25.000	2.000	163	26	189
	50.000	3.000	39	7	46
	50.000	50.000	0	1	1
	100.000	100.000	0	1	1
Total			998	48	1046



(RETAIN FOR YOUR RECORDS)
Form 477 Filing Summary

FRN: 0018473223 | Data as of: Jun 30, 2018 | Operations: Non-ILEC | Submission Status: Original - Submitted | Last Updated: Sep 18, 2018 09:47:20

Filer Identification

Section	Question	Response
Filer Information	Provider Name	GigaBeam Networks LLC
	Holding Company Name	WVVA.net Inc.
	SAC ID	
	499 ID	
Data Contact Information	Data Contact Name	Michael Clemons
	Data Contact Phone Number	(540) 726-2317
	Data Contact E-mail	mclemons@gigabeam.net
Emergency Operations Contact Information	Emergency Operations Name	Michael Clemons
	Emergency Operations Phone Number	(540) 726-2317
	Emergency Operations E-mail	mclemons@gigabeam.net
Certifying Official Contact Information	Certifying Official Name	Michael Clemons
	Certifying Official Phone Number	(540) 726-2317
	Certifying Official E-mail	mclemons@gigabeam.net

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	CENSUS_BLOCKS_ALL_JUNE_2018.csv	Sep 17, 2018 12:27:19	7624
Fixed Broadband Subscription	form_477_customer_Jun_2018.csv	Sep 18, 2018 09:45:00	122

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Kentucky	GigaBeam Networks LLC	Terrestrial Fixed Wireless	526
Virginia	GigaBeam Networks LLC	Terrestrial Fixed Wireless	4360
West Virginia	GigaBeam Networks LLC	Terrestrial Fixed Wireless	2738
Total			7624

**Fixed
Broadband
Subscription**

Fixed Broadband Subscriptions by State, Technology and End-user Type

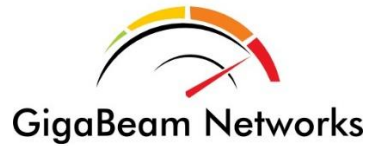
State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Kentucky	Terrestrial Fixed Wireless	9	49	13	62
Virginia	Terrestrial Fixed Wireless	60	489	103	592
West Virginia	Terrestrial Fixed Wireless	53	469	51	520
Total		122	1007	167	1174

Fixed Broadband Subscriptions by Bandwidths and End-user Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
5.000	1.000	267	41	308
10.000	1.000	511	42	553
25.000	2.000	200	57	257
50.000	3.000	29	25	54
50.000	50.000	0	1	1
100.000	100.000	0	1	1
Total		1007	167	1174

Fixed Broadband Subscriptions by Technology, Bandwidths and End-user Type

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Terrestrial Fixed Wireless	5.000	1.000	267	41	308
	10.000	1.000	511	42	553
	25.000	2.000	200	57	257
	50.000	3.000	29	25	54
	50.000	50.000	0	1	1
	100.000	100.000	0	1	1
Total			1007	167	1174



387 Old Virginia Avenue
Rich Creek, VA 24147
540-726-2317

601 Virginia Avenue
Bluefield, VA 24605
866-988-2638

December 14, 2018

Erik Johnston, Director
Department of Housing and Community Development
600 E. Main Street, Suite 300
Richmond, VA 23219

RE: VATI Telecommunication Initiative Grant Letter of Support

Dear Mr. Johnston:

We are pleased to pledge our support to this project to deploy broadband service for the area's citizens. As the wireless internet provider constructing the project, delivering the service when the network goes live, and continuing the operations and maintenance of that network, we commit to providing the 31.5% match for this grant totaling an in-kind match in the amount of \$70,750.

As broadband becomes more widely understood as a service as necessary as electricity and running water, those without access to it will face considerable challenges in maintaining and building economic resiliency. Without widely available internet access, our community will not simply stagnate, it will fall behind in pursuing economic opportunity.

The proposed broadband deployment project to expand internet access in Tazewell County addresses these issues by reaching into communities without broadband speed internet service. Our citizens will be able to ready themselves to participate in the workforce, create their own business endeavors, access community services, and even conduct basic banking, shopping and communication activities online.

We look forward to working with DHCD and the other project partners to facilitate the deployment of broadband. Please contact me if you need any further information about our support for this regional effort.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael Clemons".

Michael Clemons
President
GigaBeam Networks, LLC

Budget Breakdown

Grant Contribution

Utility Poles (14 total)	5600
Solar Power Equipment/Batteries	46900
Backhaul Equipment	50000
AP Equipment	29000
Customer Premise Equipment	22500
Total	154000

GigaBeam Contribution

Labor and equipment use (trucks, etc)	40000
Customer Installation Labor/supplies	30750
Total	70750

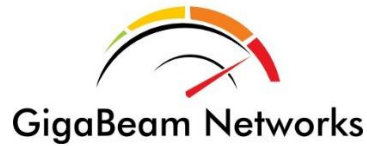
Budget Breakdown

Grant Contribution

Utility Poles (14 total)	5600
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Total	154000

GigaBeam Contribution

Labor and equipment use (trucks, etc)	40000
Customer Installation Labor/supplies	30750
Total	70750



387 Old Virginia Avenue
Rich Creek, VA 24147
540-726-2317

601 Virginia Avenue
Bluefield, VA 24605
866-988-2638

December 14, 2018

Erik Johnston, Director
Department of Housing and Community Development
600 E. Main Street, Suite 300
Richmond, VA 23219

RE: VATI Telecommunication Initiative Grant Letter of Support

Dear Mr. Johnston:

We are pleased to pledge our support to this project to deploy broadband service for the area's citizens. As the wireless internet provider constructing the project, delivering the service when the network goes live, and continuing the operations and maintenance of that network, we commit to providing the 31.5% match for this grant totaling an in-kind match in the amount of \$70,750.

As broadband becomes more widely understood as a service as necessary as electricity and running water, those without access to it will face considerable challenges in maintaining and building economic resiliency. Without widely available internet access, our community will not simply stagnate, it will fall behind in pursuing economic opportunity.

The proposed broadband deployment project to expand internet access in Tazewell County addresses these issues by reaching into communities without broadband speed internet service. Our citizens will be able to ready themselves to participate in the workforce, create their own business endeavors, access community services, and even conduct basic banking, shopping and communication activities online.

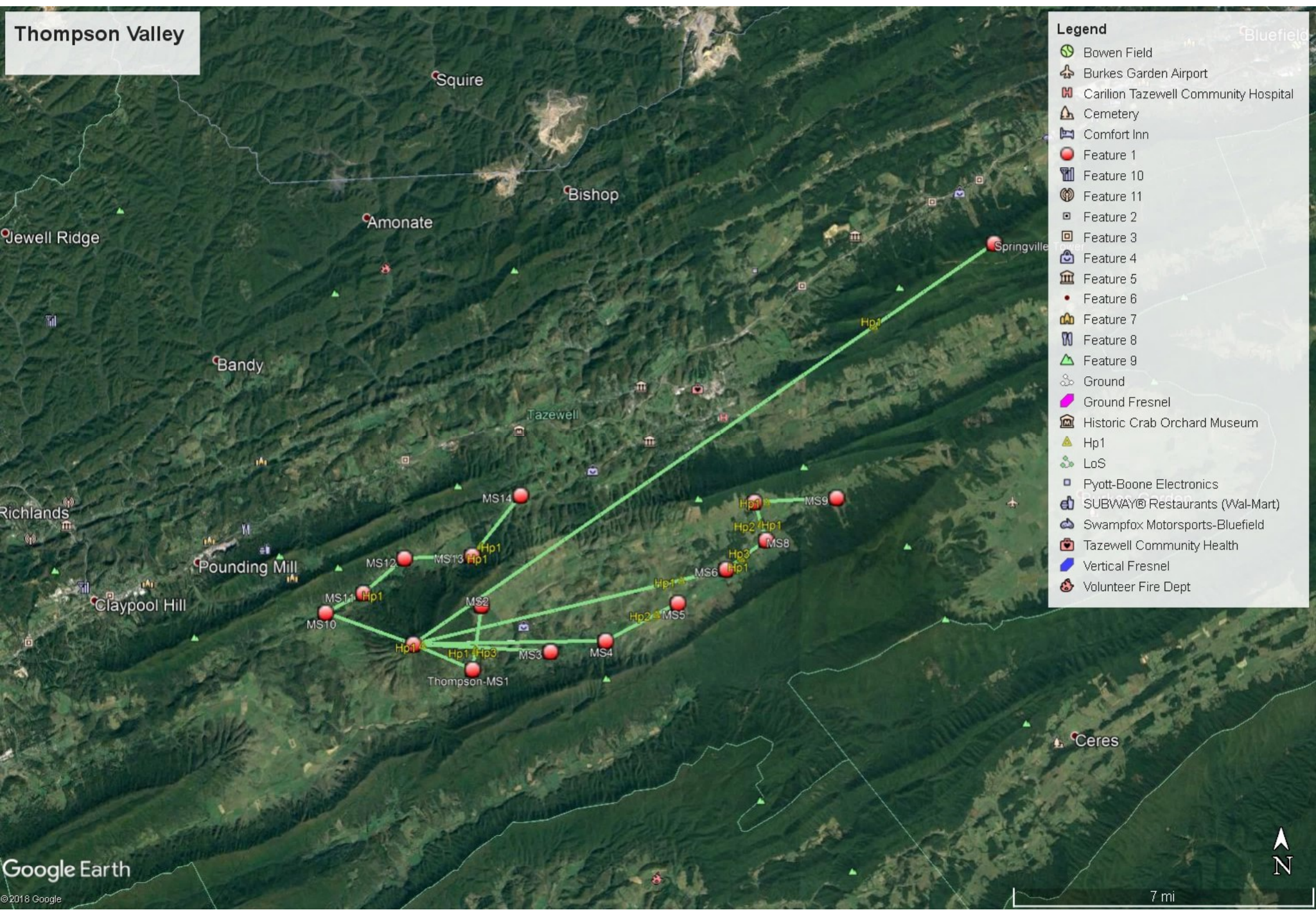
We look forward to working with DHCD and the other project partners to facilitate the deployment of broadband. Please contact me if you need any further information about our support for this regional effort.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael Clemons".

Michael Clemons
President
GigaBeam Networks, LLC

Thompson Valley



- ### Legend
- Bowen Field
 - Burkes Garden Airport
 - Carilion Tazewell Community Hospital
 - Cemetery
 - Comfort Inn
 - Feature 1
 - Feature 10
 - Feature 11
 - Feature 2
 - Feature 3
 - Feature 4
 - Feature 5
 - Feature 6
 - Feature 7
 - Feature 8
 - Feature 9
 - Ground
 - Ground Fresnel
 - Historic Crab Orchard Museum
 - Hp1
 - LoS
 - Pyott-Boone Electronics
 - SUBWAY® Restaurants (Wal-Mart)
 - Swampfox Motorsports-Bluefield
 - Tazewell Community Health
 - Vertical Fresnel
 - Volunteer Fire Dept



Budget Breakdown

Grant Contribution

Utility Poles (14 total)	5600
Solar Power Equipment/Batteries	46900
Backhaul Equipment	50000
AP Equipment	29000
Customer Premise Equipment	22500
Total	154000

GigaBeam Contribution

Labor and equipment use (trucks, etc)	40000
Customer Installation Labor/supplies	30750
Total	70750