

Application to DHCD Submitted through CAMS

Greensville County

Greensville County FY21 VATI Project

Application ID: 75707202020112818
Application Status: In Progress - DHCD
Program Name: Virginia Telecommunications Initiative 2021
Organization Name: Greensville County
Organization Address: 1781 Greensville County Circle
Emporia, VA 23847-6347
Profile Manager Name: Brenda Parson
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Project Name: Greensville County FY21 VATI Project
Project Contact Name: Linwood Pope Jr.
Project Contact Phone: (434) 348-4232
Project Contact Email: lpope@greensvillecountyva.gov
Project Location: 1781 Greensville County Circle
Emporia, VA 23847-6347
Project Service Area: Greensville County

Total Requested Amount: \$114,162.17

Required Annual Audit Status: Accepted

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Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
Telecommunications	\$114,162.17	\$178,561.34	\$292,723.51
Construction	\$114,162.17	\$178,561.34	\$292,723.51
Total:	\$114,162.17	\$178,561.34	\$292,723.51

Budget Narrative:

The funds requested by both the applicant and co-applicant from VATI funds will be used for the costs of aerial, underground, and drop construction of the proposed fiber system for a total amount of \$114,162.17. MEC and EMPOWER Broadband will provide an in-kind match of \$178,561.34 that will be used for the remaining construction costs, as well as, the following: Outdoor Wall Mount Labor and Materials, Splicing Labor and Materials, Staking Labor, ONT (router) labor and materials, Network Equipment that consists of E7-2 Package Chassis, GPON SFP OIM, Class B+ 1490/1310nm and E7-2 8 Card PON Unit. These costs are listed in detail in the derivation of costs that is attached and labeled Attachment 11.

Questions and Responses:

1. Project Description and Need

Describe why and how the project area(s) was selected. Describe the proposed geographic area including specific boundaries of the project area (e.g. street names, local and regional boundaries, etc.). Attach a copy of the map of your project area(s). Label map: Attachment 1 – Project Area Map.

Answer:

This project is located in the east-central, portion of Greenville County; Greenville is centrally situated between Raleigh, Richmond and Hampton Roads. This strategic location demands the County and its residents advance their opportunity to attract desperately needed jobs to not only maintain but grow a thriving community. Accordingly, high-speed fiber broadband with a capacity of 1Gigabit per second, and an immediately available upgrade to deliver 10 Gigabit per second, is a key objective in driving Greenville County to the top of the list for prospective business locators. This project is unique in that it supports service to business, educational and residential accounts. Additionally, this backbone extension will provide a true last mile solution and provides subscribers with a cost-effective broadband option. This proposed fiber deployment will utilize, and extend, a 135-mile foundational backbone infrastructure being constructed with matching funds through a 2018 TRRC Grant and is part of a larger nine (9) county joint-project to provide fiber-to-the-premises. This VATI application will fully deploy services, passing 92 homes and businesses, to this unserved portion of the County with the deployment of new fiber and the extension of service beyond EMPOWER's phase one 1000-foot deployment. This fiber project will be built along the Mecklenburg Electric Cooperative (MEC) existing electric infrastructure and ROW's that follow along portions of the following roads: Highway 301 North, Moonlight Road., Daniel A. Belmonte Drive, Industrial Park Way, Country Club Road, Blank Lane, Uriah Branch Way, and Riggs Lane. It should be noted that the TRRC funded backbone project will partially serve the Greenville County Government Complex, the Robert

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C. Wrenn SVCC Campus, the Emporia Workforce Development Center, and the Greensville County Industrial Park to this area. This proposed project will complete service to the remaining premises along this route.

This area was selected because of the unserved designation of the area, to maximize the advantage of being adjacent to MEC's Substation Fiber Backbone, and the ability to meet the need of business, industrial, and residential subscribers.

Again, and most important to this grant, this area is unserved and is not part of any other existing or proposed high-speed system buildout. However, this project utilizes existing infrastructure to complete the deployment of high-speed broadband to this portion of the County. Current internet alternatives for the area, prohibit the completion of routine tasks. Relatively low-speed mobile and high-latency satellite are currently available to this area but the 25/3 requirement is not met.

2. List existing providers in the proposed project area and the speeds offered. Please do not include satellite. Describe your outreach efforts to identify existing providers and how this information was compiled with source(s).

Answer:

In reviewing the Virginia Broadband Availability Map, the Broadband Now National Map, and the FCC Fixed Broadband Deployment Map, there are four providers noted within the project area: ComCast, EarthLink, Verizon, and Kinex Telecom. From this information, efforts were made by reaching out to those providers listed through checking availability through the company on-line availability tool, just as a subscriber would. By using these resources, as well as, by speaking directly to residents and businesses in the area, we discovered that the current providers listed in that area either did not provide any services in the area, or the service that is currently provided is well below 10/1. Accordingly, by DHCD and VATI definitions, this area is unserved.

To expand on the results of our outreach, availability at multiple addresses were checked on EarthLink's availability tool. The results in all cases indicated "EarthLink is not yet available at your address". Additionally, limited DSL is shown on Broadband Maps offered by Verizon in this area; in segments where DSL is available, speeds documented on the Va. Broadband Availability Map (VBAM) indicated uploads speeds of 5Mbps and download speed of 0.768Mbps. When checking availability for multiple locations in the areas on the VBAM through Verizon's website, it indicated that internet service was not available. If the service provider can indeed offer higher speed service, it is effectively not offered and unavailable to the member. Effectively, this renders the area unserved. Kinex Telecom is a broadband provider that has offered service across Mid-Atlantic Broadband's open access middle mile cable. Currently, an MBC fiber connection is available to the County's Administrative building and the Southside Virginia Community College, Robert Wrenn Campus; at present, Telpage Inc. utilizes MBC fiber to provide service to these entities. It should be noted that these services are costly and are simply not an option for smaller businesses or residences. It should be noted, segments of proposed fiber extend from the MEC substation located in the Greensville County Industrial Park. The premises within the Greensville County Industrial Park have been excluded from all counts as they are served by the same MBC open access fiber.

Both the VBAM and FCC maps show a thin strip of Comcast facilities along and adjacent to Country Club Road. It should also be noted that the strip does not extend into blocks which contain premises. When performing a survey of multiple residents along the proposed route, all indicated the service was not available to them and that satellite offered the only options. Additionally, when online availability checks for cable service were performed,

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using addresses along the route, service was not available and resulted an error for each address.

Furthermore, there were no winning bidders for any CAF-II blocks in Greenville County.

Please see Attachment 2 for existing Providers and Speed Maps.

3. Describe if any areas near the project have received funding from federal grant programs, including but not limited to Connect America Funds II (CAF II), ACAM, ReConnect, and Community Connect. If there have been federal funds awarded near the project, provide a map verifying the proposed project area does not conflict with these areas. Describe if there are Rural Digital Opportunity Fund (RDOF) eligible census blocks located in the proposed project area. Label Map: Attachment 2 – Documentation on Federal Funding Area.

Answer:

According to the FCC affiliated USAC (Universal Services Administrative Company) maps, there were no funds awarded for Connect America Funds, CAF-II, or ACAM. Additionally, USDA's ReConnect Eligibility Map indicates no awards were made for this area nor were there Community Connect funds awarded for the area. Additionally, none of the aforementioned funds are near the application area. A portion of the application area is eligible for the RDOF Auction. All of this information has been acquired from the official program's funding maps and can be found in Attachment 2.

It should be noted that Greenville County was the recipient of a VATI for 2017-2018. Excerpts from that application do not apply to this area as noted below.

"In Greenville County residents who live along Allen Road, South Allen Road, Perkins Lane, Leeds Lane, Gray Street, Park St., Grigg Ave, Horeshoe Rd., Susan St., Ivey St., S.Braxton Ave., Braxton Ave., Corrections Way, Susan St., Park Ave., and Pine Place will now have adequate broadband service made available to them. In Sussex County residents who live on N Halifax Road, First Street, Harvell St., Mayes St., Macklin Ave., Marion Ave., Carver Ave., Mangum Ln., and Blue Star Highway will now have adequate broadband service made available to them. The second area Greenville County and Telpage are looking to provide adequate broadband service is in the Jarratt Ave area of the Town of Jarratt... The third area that Greenville County wishes to provide broadband coverage is located in the western part of Greenville County near the community of Pleasant Shade. The co-applicant Telpage owns a telecommunication tower near the Brunswick Co. Greenville Co line near Pleasant Shade. If successful in obtaining VATI grant funds residents located within a three mile radius of this site could be served broadband. Greenville residents who live along Spanglers lane, Grassy Pond Road, Pleasant Shade Drive, Radium Road, Chapmans Ford Road and Brunswick Road will now have adequate broadband services made available to them. Residents in Brunswick County who live along Five Forks Road, Pocohantas Road, Deerfield Road, Reedy Creek Road, Gov. Harrison Pkwy., Walton Road, Old Church Drive, Lewis Drive, Windmill Hill Dr., Glendale Mill Road and Belfield Road will now have adequate broadband service available to them."

4. Overlap: 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 25/3 mbps or less and with less than 10% service overlap within the project area. Describe any anticipated service overlap with current providers within the project area. Provide a detailed explanation as to how you determined the percentage overlap. Label Attachment: Attachment 3 – Documentation Unserved Area VATI Criteria.

Answer:

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Data was gathered from the The Virginia Broadband Availability Map (VBAM), the most recent FCC 477 data, and the FCC Broadband Map. The VBAM indicates that 10/1 is not available in the area. Further, review of VBAM DSL map indicates maximum speed are 5-7/.768; occasionally the map indicates that 7 M download is available but most often the highest available speed is 5Mbps down.

When examining the map closely, Comcast indicates they provide speeds over 25/3; however, when surveying residents none subscribed the service, a field review identified no aerial or underground cable facilities, nor does the map itself extend beyond the road way. No blocks are marked beyond the roadway. Additionally, a review of Comcast's availability maps for addresses do not indicate service is available in the shown area.

It is also important to note that residents in that area reported that they had also been informed by the provider that services below 10/1 were not available at their location. It was discovered that residents had been informed by the provider that they were not accepting new customers in this area due to the system being overtaxed. The goal of the VATI grant is to provide broadband services to residents of Virginia; and even though there are providers who have claimed to serve small portions of this proposed project area, through their website, communicate their inability to provide service to those along this proposed project route when residents have inquired. Subsequently, the area must be regarded as unserved.

When surveying members in the area we identified one business, an RV Park, had privately constructed fiber and contracted with Verizon in early 2020 for limited individual business service over 25/3. Accordingly, this premise has been removed from this application.

5. Total Passings: Provide the number of total serviceable units in the project area. Applicants are encouraged to prioritize areas lacking 10 Megabits per second download and 1 Megabits per second upload speeds, as they will receive priority in application scoring. For projects with more than one service area, each service area must have delineated passing information. Label Attachment: Attachment 4 – Passings Form
 - a. Of the total number of passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area. Describe the methodology used for these projections.
 - b. Provide the number of serviceable units in the project area that have 10/1 mbps or less. Describe the methodology used for these projections.

Answer:

According to maps from internal GIS systems, the area has 92 MEC accounts located within proposed project. Other than the overlap of one premise, mentioned above, which is well below the 10% limit established by VATI guidelines, 98% of these residences lack access to the 10/1 Mbps speed, with 100% of the homes lacking access to the 25mbps/3Mbps minimum. An estimated 45% take rate within the first year is expected based on household income, level of education and the age of those along the proposed routes based from research data adopted by the Pew Research Institute and the feasibility study conducted by Pulse Broadband for the entire MEC service territory. This would mean that within the first year of project completion, 42 locations are expected to have broadband services provided.

5a.

A field survey along the proposed route provides a list of varied premises; there are is a Virginia State Police

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building and an associated communication tower, two motels, a golf and tennis club, a restaurant, a small apartment building, a mobile home park, a former truck terminal and office, a store, a water pumping station and water treatment facility and a church. Of the 92 passings, 83 are residential, 7 are businesses, and two non-residential. One of the premises mentioned above acts as a community hub, a golf and tennis club. In this rural area the golf and tennis club aids (country club) in attracting businesses wishing to locate in the area as well as serving as a facility for business events. Also, within the project area is a mobile home park containing approximately 15 units. Residents here have no option for high speed broadband and in today's environment, including the impact of COVID-19, broadband must be available to all rural families and students.

One of the greatest challenges in selecting an area for broadband expansion is choosing one with community anchors such as schools, libraries, community centers, etc. It should be noted, the areas within our service territory that contain these institutions are located in areas that are in more densely populated localities and, therefore, already have broadband services. Due to the lack of broadband in the areas we serve and have selected, these institutions are not readily available; however, through the support of VATI funding, these areas will now have access to the tools that will allow community anchor institutions to be developed, grow and thrive. VATI, along with the applicant and co-applicant share the same goal to bring much needed broadband to rural Virginia; however, to overlook rural areas due to a lack of community anchors would be a great disservice, as broadband access and community anchors tend to go hand in hand. It would also be in opposition to Governor Northam's vision as written on page 5 of the Commonwealth Connect Plan, where "everyone has the infrastructure necessary to access the internet."

5b. In reviewing FCC and VBAM maps, service delivered in the project area is below 10/1. Additionally, conversations with those in the area indicate DSL is below the unserved level or is not offered as the system is over taxed. Other resident in the project area have indicated satellite is the only available option.

6. For wireless projects only: Please explain the ownership of the proposed wireless infrastructure. Please describe if the private co-applicant will own or lease the radio mast, tower, or other vertical structure onto which the wireless infrastructure will be installed.

Answer:

N/A. This application is for a fiber-to-the-premise construction project.

7. Speeds: Describe the internet service offerings, including download and upload speeds, to be provided after completion of the proposed project. Detail whether that speed is based on dedicated or shared bandwidth, and detail the technology that will be used. This description can be illustrated by a map or schematic diagram, as appropriate. List the private co-applicant's tiered price structure for all speed offerings in the proposed project area, including the lowest tiered speed offering at or above 25/3 mbps.

Answer:

EMPOWER Broadband, Inc. is using the Calix implementation of Gigabit Passive Optical Network (GPON). GPON is a fiber-to-the-premises (FTTP) technology that implements point-to-multipoint architecture to serve residential and business customers and provide up to 1 Gbps service per subscriber. This technology utilizes fiber optic splitters to enable up to 64 customer locations to be served by a single optical line terminal (OLT) port. Below is an example of how the bandwidth is shared utilizing the preferred EMPOWER implementation of a 1:32

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fiber split:

Upstream 37.5 Mbps / subscriber = (1.2Gbps)/(32 subscribers)

Downstream 75 Mbps / subscriber = (2.4Gbps)/(32 subscribers)

Residential packages offered to residents along the proposed project route would be as follows:

- 50 Mbps/50 Mbps - \$69.95/month (optional VOIP telephone service at \$30/month)
- 100 Mbps/100 Mbps - \$119.95/month (optional VOIP telephone service at \$30/month)
- 300 Mbps/300 Mbps - \$199.95/month (optional VOIP telephone service at \$34.95/month)
- 1 GB - \$269.95/month (optional VOIP telephone service at \$30/month)

Business packages offered to enterprises along the proposed project route would be as follows:

- 50 Mbps/50 Mbps - \$89.95/month (optional VOIP telephone service at \$34.95/month)
- 100 Mbps/100 Mbps - \$139.95/month (optional VOIP telephone service at \$34.95/month)
- All business packages larger than 100Mbps/100Mbps require consultation for a customized quote to ensure all needs and service requirements are delivered.

In regards to growth and future expansion, EMPOWER Fiber is a technology ready to meet tomorrows demands and the exponential growth in consumer demand for bandwidth, MEC / EMPOWER's electronics provider, Calix, currently provides an off the shelf next generation passive optical network (NG-PON) technology that provides 10Gbps symmetrical broadband over existing fiber cable. Please note, this is 10 times greater than today's top fiber speeds of 1Gig and represents a robust solution to even the most demanding business requirements. Additionally, Calix also produces NG-PON2 which can deliver 40 Gbps — with 80 Gbps possible in the future — all on a single fiber.

This project will make 1Gbps speed available to each home and business. By changing electronics, sizeable gains in speed are obtainable for an incremental investment to accommodate the need of future families and businesses. This grant sets up the foundational investment in both fiber and the associated labor investment for deployment.

It should be further noted that fiber technology simply rivals the highest speeds deliverable by any other technology and creates a tremendous value for both MEC / EMPOWER, VATI and most importantly... Southside Virginia rural residents.

8. Network Design: 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. Provide a detailed explanation of how this information was determined with sources. If using a technology with shared bandwidth, describe how the equipment will

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handle capacity during peak intervals. For wireless projects, provide a propagation map for the proposed project area with a clearly defined legend for scale of map. Label Map: Attachment 5 – Propagation Map Wireless Project.

Answer:

Last Mile Service Delivery will use Calix customer premise equipment. The fiber drop terminates to a Network Interface Device (NID) outside the premises. From there, single-mode fiber with Angled Physical Connectors (APC) is used to connect to a Calix 803G or 844G Optical Network Terminal (ONT) device inside the premises. When using an 803G ONT, the device's Ethernet port is connected via a standard Ethernet cable to a Calix Model 844e Gigacenter. The 844e provides wired and Wi-Fi connections inside the premise for internet service. Optionally, an 844G with a combined ONT and Gigacenter can also be used. The Gigacenter's Wi-Fi service distributes a wireless signal through both 2.4 Ghz and 5.0 Ghz bands. An optional wireless mesh device, the 804 Mesh Extender, can be used in large homes or businesses to extend the range of the wireless service. The 803G ONT and the 844G Gigacenter contain a voice port, which connects to an existing telephone RJ-11 cable for the optional Voice over IP (VoIP) service. The ONT is powered from either a standard AC wall outlet, or also can be connected to an optional Lithium-ion battery back-up unit. The last mile network uses an overall tree and branch design for the access network. Each end customer has a fiber connection in the home or business. Layer2 switching connects the end user back to a Calix E7-2 access device which transmits light on the fiber with a GPON small form-factor plug (SFP). E7 C+ SFP's have a 32- way split capable of reaching 32km, which puts all accounts within range of the Substations serving the area and is also the location of the E7-2's and an edge router. Layer 2 segments are trunked up to the edge router and then one of the centralized aggregation routers. Aggregation routers have been installed in Chase City and Gasburg. Aggregation routers are connected to a redundant Internet Data Provider using multiple 10Gb connections across a Mid-Atlantic Broadband (MBC) open-access network. The diagram included shows the physical infrastructure and long-term plan, ultimately showing the location of all major network nodes, creating a highly redundant network. Each of the nine (9) larger highlighted substations contain a major network node with a Layer 3 router that is locally ringed together with 10Gb fiber uplinks.

9. Project Readiness

Describe the current state of project development, including but not limited to: planning, preliminary engineering, identifying easements/permits, status of MOU or MOA, and final design. Prepare a detailed project timeline or construction schedule, identifying specific tasks, staff, contractor(s) responsible, collection of data, etc., and estimated start and completion dates. Applicants must include Memorandums of Understanding (MOUs) or Memorandums of Agreement (MOAs) between applicants (drafts are allowable). Label Attachments: Attachment 6 – Timeline/Project Management Plan; Attachment 7 – MOU/MOA between Applicant/Co-Applicant.

Answer:

Included with this application is the draft MOU as reviewed and approved by County staff; the agreement is set for execution at the Board of Supervisors next appointed meeting on September 8th. Additionally, the project is ready to enter the final design phase as planning and preliminary engineering are complete. Each segment of this project has been included in MEC's overall fiber network "tree and branch" design; this includes anticipation of substation network hardware, fiber splitting, and fiber loops. Additionally, through our knowledge of the area, each project area has been selected to maximize existing main line pole infrastructure and minimize make ready work. These

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areas have also been selected to reach further into these unserved areas by creating the next fiber class for MEC's fiber expansion. The first tier or class, Backbone, is substantially underway and is maximized to provide for the additional deployment of Distribution Class (FTTH Mid-Mile) fiber along with the required Access Class fiber (last mile) and Drops.

All fiber cable will follow the electrical system and will be installed on or adjacent to existing distribution facilities within the existing right-of-way. This allows the use of MEC's Geographic Information System for the determination of required fiber length along with classification as Distribution, Access, or Drops to facilitate the determination of fiber count for each respective use. Typically, the MEC-EMPOWER system uses 144-count fiber for Backbone, 48- and 24- count fiber for Distribution, and 12- count for routes deemed as Access.

Within 30 days of the notice of Grant award, MEC staff will complete the final fiber layout in each project area. This will include detailed GPON fiber splits, splice can location, and final material list to proceed with purchase orders. VDOT and railroad crossings have been identified and permit requests will be filed and substantially completed within this allocated time period. Staff has entered conversations for the project's single railroad crossing, directly with CSX, and is working to utilize existing crossings for maximum time and cost savings. Residents benefiting from an awarded grant will be notified by letter of the pending deployment and the use of construction crews to complete the work. Please see Attachment 14 Existing MEC CSX Crossing Review.pdf

MEC's Senior Field Engineering Technician will confirm the final design layout, checking clearances, splice can size, and splice can location to ensure future fiber deployment to other unserved homes and businesses. As a part of the confirmation process, MEC will assign contract staking engineers, with Booth & Associates Consulting Engineers, to visit each pole to confirm height and space for cable placement. Additionally, each pole will be checked to confirm selection of appropriate mounting hardware for the line angle and for review of modifications needed for cross arm or vertical pole construction.

As a result of the field review, technicians will identify all make ready work and associated poles requiring replacement. This final layout will be assigned to Davis H. Elliot or River City Construction crews to complete all make ready work followed by Distribution and Access Class fiber installation. Make ready and fiber installation activities are scheduled for 20 weeks.

Each 144-count fiber reel is 9,000 feet in length; such higher count fiber splicing will be performed by S&N Communications while Distribution class lower count cables will be spliced by MEC's fiber technicians. It is expected fiber splicing will require four – six weeks.

While construction crews perform make ready work and install fiber, Booth & Associate field technicians will visit each subscriber's location to plan for the Drop installation. MEC crews will then perform the Drop installation to the home. Next Generation Electronics will install the NID (Network Interface Device) and the Router/ONT. Drop and ONT installation is set for 20 weeks as it will be completed concurrently with Distribution and Access fiber construction deployment.

10. Matching funds: Complete the funding sources table indicating the cash match and in-kind resources from the applicant, co-applicant, and any other partners investing in the proposed project (VATI funding cannot exceed 80 percent of total project cost). In-kind resources include, but are not limited to: grant management, acquisition of rights of way or easements, waiving permit fees, force account labor, etc. Please note the a minimum 20% match is required to be eligible for VATI, the private sector provider must provide 10% of the required match. If the private

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co-applicant's cash match is below 10% of total project cost, applicants must provide financial details demonstrating appropriate private investment. Label Attachments: Attachment 8 - Funding Sources Table; Attachment 9 – Documentation of Match Funding.

Answer:

Matching funds are being provided by MEC/EMPOWER in the form of construction of a fiber “Backbone.” The backbone fiber infrastructure will provide connectivity for the MEC electrical grid and will have excess fiber to be used to serve drops and is estimated to cost \$178,561.34 (61 %). The drops being built off said backbone are estimated at a cost \$114,162.17 (39 %).

11. Leverage: Describe any leverage being provided by the applicant, co-applicant, and partner(s) in support of the proposed project.

Answer:

Several factors played a vital part into the selection of the proposed project area that can be viewed as leverage. One of the biggest factors impacting the selection process was the tremendous advantage afforded by resources currently under constructed in the area by MEC and its subsidiary EMPOWER Broadband. During the third quarter of 2020, backbone fiber will be installed along Highway 301, just preceding the area covered by this proposed project, and thus allow the cost-effective extension of service through this VATI application. Accordingly, this project area can be easily deployed as an extension off this new fiber backbone which is part of a 135-mile fiber backbone project funded in partnership with MEC and the TRRC. The proposed area was not eligible in the original backbone project but can easily be served through this round of VATI funding and complete a portion of the county that would now be served and, in essence, “fill in the gap.” Additional factors of leverage that factored into our decision to pursue additional construction in this area was the direct result of Greenville County officials, both staff and elected representatives on the Board of Supervisors, reaching out to EMPOWER Broadband staff requesting that we partner together and pursue broadband expansion projects in the County.

Subsequently, an additional factor that played greatly in influencing the selection of this area for a grant proposal was the economical and efficient use of the crews that MEC and EMPOWER already have in place. Crews will be in place constructing the project previously awarded through the TRRC and will be able to expand the proposed project and minimize the relocation of crews as manpower and equipment will be in the area, expediting the completion of both projects.

Furthermore, the residents and businesses in these areas have also added additional leverage, as they spread the message throughout the project area to increase the take rate beyond 45% and ensure the success of the project area and provide additional revenue to complete construction to other unserved areas. Additionally, this service will afford significant broadband advancement to those businesses and manufacturers in the area.

As previously mentioned, EMPOWER utilizes a business principle of reinvesting revenues generated by those subscribing to services and further expand broadband expansion in other areas. Demonstrated community commitment means that revenue will be readily available to expand broadband services in other areas that have yet to receive funding of any type.

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12. Marketing: Describe the broadband adoption plan.

- a. Explain how you plan to promote customer take rate, including marketing activities, outreach plan, and other actions to reach the identified serviceable units within the project area. Provide the anticipated take rate and describe the basis for the estimate.
- b. Describe any digital literacy efforts to ensure residents and businesses in the proposed project area sufficiently utilize broadband. Please list any partnering organizations for digital literacy, such as the local library or cooperative extension office.

Answer:

The feasibility conducted by Pulse broadband for the entire MEC area, based on National statistics from cooperative areas like ours with similar service offerings in a rural setting, estimates the take rate (number of homes expected to subscribe for services) for this area to be 45 percent within one-year of project completion. This expected take rate is also based off research conducted and adopted by the Pew Research Institute. Accordingly, from the 96 accounts passed, an estimated 44 that would take service, within the first year. We believe, however, after Broadband discussions with those in the area and the interest generated by our announcement, that the 45 percent take rate is both easily obtainable and a conservative estimate.

Once field engineering for the electrical make ready construction begins in the designated area, potential EMPOWER customers will be notified by direct mail that fiber internet services are forthcoming. Once fiber construction begins, potential customers will receive another direct mail letter, including pricing structures and a contract for early sign up. All members who sign up early will receive free installation, a \$100 value for bundled services (internet and voice) or half-off for internet services only. Additionally, postcard reminders will be mailed three-weeks following the second direct mailer. Once installations begin, door hangers will be placed on all doors at those accounts not already signed up for service and, where allowed, yard signs will be displayed at the properties already receiving EMPOWER services.

In addition to the above direct marketing activities, EMPOWER will set up at local community functions, live or virtual as conditions permit, to educate potential customers, as well as the public, and will distribute brochures and promotional items. Social Media platforms for both EMPOWER and MEC, as well as both websites and local printed materials (newspapers and magazines), will be used to notify potential customers.

Information regarding EMPOWER, its services and construction progress is also available at each district location, by telephone, or website.

Please see Appendix – for a summarized version of EMPOWER’s Marketing Plan and marketing materials to be utilized.

12b. At this time, neither Greenville County’s Cooperative Extension or public libraries currently utilize digital literacy programs. To meet this need and ensure the delivery of the needed resources; EMPOWER staff has already worked to create its own digital literacy tools that can help educate those in the community about the world that broadband access can provide. One of these programs is a simple, yet effective open house in which members of the community are invited to join us at one of our facilities, or a selected location within the community, where

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staff demonstrate the numerous ways that one can use the broadband services in their everyday lives. Attendees can also speak with staff about any issues/questions they may have about the many uses and improvements to their lives. Social media is also another platform in which staff are making great strides to increase digital literacy; brief, informative videos are being created that will highlight certain aspects of the construction process and the ways that the service can be put into use via VoIP services, television streaming, remote learning, etc. Since the changes brought about by COVID-19, staff members are now creating a Virtual Town Hall meeting that will be open to the public to educate residents on the process involved in the actual construction of fiber-to-the-premise, but also use it as a tool to explain that broadband is more than just internet and can be used in numerous daily activities. Another program in development is called “Sr. helping Seniors.” This is a program that would utilize volunteers from the local high school senior class who would pair up with a senior citizen from the community in an open to the public program; during this time, the students would serve as a teacher to help explain how to use basic programs and tools not only on a computer, but also devices such as mobile phones, tablets, firesticks, Roku, etc. that can be utilized by having access to broadband. Of course, our in-person programs will not be open until prudence and restrictions on gatherings are alleviated as a result of COVID-19. Virginia Tech also hosts Digital Literacy Symposiums with the most recent having participants exploring online identities through the many roles as students, educators, scholars and more.

Previously, in other rural deployment areas EMPOWER has identified the need for digital literacy training and accordingly we have identified several local entities who are potential partners in training our community. These include the Richardson Memorial Library, The Improvement Association, The Cooperative Extension, The Emporia Greensville YMCA, and the Southern Virginia Regional Medical Center. Each of the aforementioned entities, though not directly associated with either the applicant nor co-applicant, can be engaged as avenues to promote digital literacy across each group’s area of influence. EMPOWER began construction in Greensville County in early 2020 and will begin offering services by year end 2020. Accordingly, efforts to bolster digital literacy are now underway as we prepare for a more relaxed post-pandemic environment in 2021.

13. Project Management: Identify key individuals who will be responsible for the management of the project and provide a brief description of their role and responsibilities for the project. Present this information in table format. Provide a brief description of the applicant and co-applicant’s history and experience with managing grants and constructing broadband communication facilities. Please attach any letters of support from stakeholders. If applicant is not a locality(s) in which the project will occur, please provide a letter of support from that locality. Attachment 10 – Letters of Support.

Answer:

The executive team at Mecklenburg Electric Cooperative is responsible for the management of the project. This team is well-positioned and prepared to implement, manage, operate, and sustain the services proposed. Members of the team are included in the table below.

Mecklenburg Electric Cooperative and Empower Broadband Inc. are currently administering a grant for the TRRC’s R&D Last-Mile Broadband Project sponsored by Mecklenburg County. Mecklenburg Electric

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Cooperative was also a recipient of TRRC grant funds for development of electric infrastructure in partnership with Greenville County, whereby the county was the administrator of the grant. Mecklenburg Electric Cooperative has extensive experience in managing projects similar in scope to the project being proposed in this application. As a current provider of utility services, Mecklenburg Electric Cooperative is required to maintain detailed records and is held accountable for proper data management and project management on the electric side due to its status as a borrower in good standing with USDA’s RUS (Rural Utilities Service). Mecklenburg Electric Cooperative will be enforcing similar accountability and due diligence with the DHCD grant program as well.

On June 17, 2019, Buggs Island Telephone Cooperative (BIT) and EMPOWER signed an agreement to allow BIT to be acquired by EMPOWER in order for the two organizations to combine resources to accelerate the deployment of fiber and the offering of ultra-high-speed internet service to those living in Southside Virginia and northern North Carolina. By March 30, 2020, the acquisition had been approved by the BIT membership, and the appropriate State and Federal agencies. BIT, who was formed by Mecklenburg Electric Cooperative in 1951, provided quality communications services and products in portions of Mecklenburg and Brunswick Counties for 65 years. BIT’s experience with managing grants and constructing broadband communications facilities in the Commonwealth is now combined with the MEC/EMPOWER’s strengths creating a strong, viable organization prepared and dedicated to our communities in which we serve. BIT was awarded a 2018 VATI grant with a partnership with Mecklenburg County that connected the first fiber to the home that is currently serving approximately 220 households.

Letters of Support are included in Attachment 10. Additional letters are being directly forwarded to DHCD.

Name	Title	Project Role	Project Responsibilities
Mr. Linwood E. Pope, Jr.	Director of Planning, Greenville County	Project Liaison	Project Oversight and serves as a liaison with Greenville County
John C. Lee, Jr.	President and CEO Mecklenburg Electric Cooperative (MEC) and EMPOWER Broadband	Corporate management	Manager of Overall Project

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Dwayne Long	Vice President of Information Technology, MEC and COO EMPOWER Broadband	Project Manager	Monitor overall progress of project
David Lipscomb	Vice President of Member and Energy Services, MEC. VP Marketing and Communications, EMPOWER Broadband.	Project Marketing	Advance Project Marketing Program
Michelle Taylor	Vice President of Business Development, EMPOWER Broadband	Project Milestone Manager	Liaison for Task Advancement
Carol Ann Jones	Vice President of Finance and Accounting, MEC	Grant Accounting	Tracks grant expenses and prepares reports
Sherry Harris	Administrative Assistant, EMPOWER Broadband, INC.	Administrative	Performs administrative tasks as necessary
Brian Woods	Director of Engineering, MEC	Engineering Coordinator	Coordinates engineering plans of fiber infrastructure for project
Robert Lankford	Director of Operations, MEC	Construction Coordinator	Coordinates construction of fiber infrastructure for project
B. J. Seamans	Vice President of Engineering and Operations, MEC	Engineering & Construction Manager	Oversees all engineering and construction duties for project

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14. Project Budget and Cost Appropriateness

Budget: Applicants must provide a detailed budget that outlines how the grant funds will be utilized, including an itemization of equipment, construction costs, and a justification of proposed expenses. If designating more than one service area in a single application, each service area must have delineated budget information. For wireless projects, please include delineated budget information by each tower. Expenses should be substantiated by clear cost estimates. Include copies of vendor quotes or documented cost estimates supporting the proposed budget. **Label Attachments:** Attachment 11 – Derivation of Costs; Attachment 12 - Documentation of Supporting Cost Estimates.

Answer:

The funds requested by both the applicant and co-applicant for VATI funds will be used for the costs of aerial, underground and drop construction of the proposed fiber system for a total amount of \$114,162.17. MEC and EMPOWER Broadband will provide an in-kind match of \$178,561.43 that will be used for the remaining construction costs, as well as, the following:

Outdoor Wall Mount Labor

Outdoor Wall Mount Materials

Splicing Labor

Splicing Materials

Staking Labor

ONT (router) labor

ONT (router) materials

E7-2 Package Chassis

Battery String Kit, Heater and Connectors

GPON SFP OIM, Class B+ 1490/1310nm

E7-2 8 Card PON Unit

These costs are listed in detail in the derivation of costs that is attached.

15. 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 and averaged together to create a point scale for a composite score. Provide the following:

a. Total VATI funding request

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- b. Number of serviceable units
- c. Highest residential speed available in proposed project area

Answer:

- a) State Share for total project cost: \$114,162.17 / Total project cost: \$292.723.50
- b) 92 units passed / \$114,162,17 = \$1,240.89 per unit passed (State cost)
- c) Internet Speed: The maximum available speed is One Gigabit per second upload and download.

16. Commonwealth Priorities

Additional points will be awarded to proposed projects that reflect Commonwealth priorities. If applicable, describe the following:

- a. How the proposed project fits into a larger plan to achieve universal broadband coverage for the locality. Explain the remaining areas of need in the locality and a brief description of the plan to achieve universal broadband coverage.
- b. Businesses, community anchors, or other passings in the proposed project area that will have a significant impact on the locality or region because of access to broadband.
- c. Unique partnerships involved in the proposed project. Examples include electric utilities, universities, and federal/state agencies.
- d. Digital equity efforts to ensure low to moderate income households in the proposed project area will have affordable access to speeds at or above 25/3 mbps.

Answer:

The proposed project area included constitutes one part of a three-part application submittal across three counties: Halifax, Mecklenburg and Greenville. The areas in the project proposal are extensions off previously funded projects through both VATI and TRRC grant programs and will be vital in “filling the gap” of unserved areas not served by those previous projects or by traditional providers. These project areas are also an expansion to a fiber backbone construction project consisting of 135 miles of fiber and includes portions of six Southside Virginia counties (Pittsylvania, Halifax, Charlotte, Mecklenburg, Brunswick and Greenville). The proposed project area, along with the current backbone project, will provide a larger foundation to provide fiber-to-the-home in nine different counties in Virginia that MEC provide electric service to rural residents and the Cooperative member owners. Since receiving clearance from the State Corporation Commission (SCC) in 2019, over 125 miles of backbone fiber has been constructed and some 700 residents in those areas have already begun receiving ultra-highspeed fiber broadband services. This project will also provide additional sites to be utilized as neighborhood hotspots, for areas that services have yet to be built. These hotspot sites would provide broadband access for county residents who currently lack access to high-speed broadband throughout the community. This is a need that has been brought forth in the spotlight due to the current COVID-19 pandemic; numerous households have found themselves struggling to continue their work and education from home without access to broadband services. While it is acknowledged that this can not be a permanent fix, it will serve as a “extra” use of the VATI funds and provide much needed relief to numerous families outside the project area and the MEC/EMPOWER service

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territory.

In addition to TRRC funds, MEC has received Federal Communication Commission (FCC) Connect America Funds (CAF) to provide service to 848 residents and businesses in southern Brunswick County; and MEC applied and received a USDA ReConnect loan to build fiber to the home passing approximately 844 homes and businesses in portions of Brunswick County. Collectively, these projects represent the commitment of both MEC and EMPOWER Broadband to provide reliable high-speed broadband service to residents of Southside Virginia.

As a subsidiary of Mecklenburg Electric Cooperative, EMPOWER Broadband enjoys a unique advantage in the development and construction of broadband infrastructure in that both parties share a close working relationship which allows access to electrical infrastructure, namely poles, in which fiber can be attached to expedite the buildout of fiber to those living in the areas.

In addition to providing community hotspots, EMPOWER is also an active participant in the USAC Lifeline program. Lifeline is a federal program that lowers the monthly cost of phone or internet for consumers, intended to make communications services more affordable for low-income consumers. Lifeline provides subscribers a discount of \$7-9 on monthly telephone or internet service purchased from participating providers in the marketplace.

Again, due to the rural nature of the area that comprises Greenville County and MEC/EMPOWER's service territory, new community anchors have had an almost impossible task of being established due to the lack of broadband access in today's technologically-driven world. However, the availability of high-speed broadband internet through this project area would bolster the opportunity for the community, including the often overlooked residents and valuable community anchors to thrive in the area.

Lastly, Southside Virginia is perhaps the Commonwealth's most disadvantaged region; this project promotes both education and economic development, of which both are required to deliver desperately needed jobs. It should be further noted that in a 2014 Weldon Cooper study, Virginia's Southside Region was the only region to lose population. Regretfully, our region also demonstrated the highest levels of poverty. Subsequently, one cannot understate the value of delivering Mainline Fiber Distribution facilities into the rural areas of Southside Virginia.

Accordingly, this grant request must be considered none other than one of the Commonwealth's highest priorities.

17. Additional Information

17. Provide any other information that the applicant desires to include. Applicants are limited to four additional attachments.

Label Additional Attachments as:

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- a. Attachment 13 – Two most recent Form 477 submitted to the FCC or equivalent
- b. Attachment 14 – XXXXXXXX
- c. Attachment 15 – XXXXXXXX
- d. Attachment 16 – XXXXXXXX
- e. Attachment 17 – XXXXXXXX

Answer:

Closing Remarks

Greenville County and Mecklenburg Electric Cooperative / EMPOWER Broadband jointly submit this VATI application to deploy much needed high-speed fiber broadband to homes and business in the unserved area in the east-central portion of the County. Providing such services, to both its Members and communities, is a part of MEC's DNA. The Cooperative is known for providing outstanding service to Southside Virginia, in both electrical utility service and by being actively involved in the communities we serve. This reputation of excellent customer service allows MEC / EMPOWER an unparalleled recognition in expanding the delivery of rural broadband.

Mecklenburg Electric Cooperative is a member-owned electric distribution utility certificated to provide electric service to portions of nine southern Virginia counties. We currently serve over 31,000 meters across Pittsylvania, Halifax, Charlotte, Mecklenburg, Lunenburg, Brunswick, Greenville, Southampton and Sussex counties. We are one of eleven electric cooperatives in Virginia and a member of the Old Dominion Electric Cooperative, that consists of 11-member distribution cooperatives across Virginia, Maryland and Delaware.

Mecklenburg Electric Cooperative was chartered in 1938 as a part of the Rural Electrification Act to provide electric service to rural areas, by the members – for the members. After 80 years, our legacy of providing our member-owners with safe, reliable, affordable and environmentally responsible electric service continues. We operate under the jurisdiction of the Virginia State Corporation Commission (SCC) and administrated by the U.S. Department of Agriculture's (USDA) Rural Utilities Service (RUS).

Mecklenburg Electric Cooperative and Greenville County's Objectives for VATI Grant Funding

With this grant, we will provide fiber based broadband service to an area that passes 83 homes, 7 businesses, and two non-residential premises. The service will allow Mecklenburg Electric Cooperative / EMPOWER to offer both broadband and VoIP services. Broadband will allow the residents of this area access to previously unavailable high-speed internet that will afford multiple new opportunities including, but not limited to, educational, home based businesses, telemedicine, video streaming, gaming and overall improved communications.

Defining Greenville County and Mecklenburg Electric Cooperative's Grant Need

Greenville County and Mecklenburg Electric Cooperative are applying for these funds because, without VATI grant assistance, this area would fall further behind in the "digital divide" compared to areas that already have access to high speed broadband. The lack of VATI funds would also further delay the construction of an asset that has now become a requirement for everyday life in the 21st-century. Greenville County is a rural area and does not have the population density to offer a substantial payback on an investment by investor-owned internet service providers. Mecklenburg Electric Cooperative is a not for profit entity that focuses on providing service to areas that otherwise would not receive that service. In this case, the service is broadband. MEC has experience in providing service on this basis. We were formed to provide electricity to rural areas when other for- profit utilities could/would not provide it. Being owned by those that we serve, our members, require that we hold ourselves to a higher standard of service for our Members.

Why Serve this Area of Greenville County?

This project area offers several key attributes for providing high speed broadband service. First, it is considered unserved by the grant guidelines and the FCC. Second, the area has accessibility to the Mecklenburg Electric Cooperative fiber backbone and would serve as an extension off existing infrastructure to be used in the most beneficial and economical fashion. Finally, the project would help establish Smart Grid communications between Mecklenburg Electric Cooperative's facilities, creating a more reliable power service to our

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customer/member.

Fiber Technology Offers an Unparalleled Bandwidth Platform... 10 Gig, 40 Gig, and 80 Gig

In response to the exponential growth of consumer demand for bandwidth, MEC / EMPOWER's existing electronics provider, Calix, delivers off the shelf next generation passive optical network (PON) technologies that provide 10Gbps symmetrical broadband over existing fiber cable. Additionally, Calix also produces NG-PON2 which can deliver 40 Gbps — with 80 Gbps possible in the future — all on a single fiber.

This project will make 1Gbps speed available to each home and business. By changing electronics, sizeable gains in speed are obtainable for an incremental investment to accommodate the need of future families and businesses. This grant sets up the foundational investment in both fiber and the labor for its deployment.

It should be further noted that fiber technology simply rivals the highest speeds deliverable by any other technology and creates a tremendous value for both MEC / EMPOWER and VATI.

An Enduring Financial Investment for Greenville County and Southside Virginia

The economic benefits of this project will continue to deliver advantages in support of broadband growth as MEC is a not for profit electric cooperative owned by its members. All margins or profits will first be utilized to expand broadband into additional unserved areas. Monetary gains will remain in the Commonwealth and County as future profits generated by EMPOWER, a wholly owned subsidiary of Mecklenburg Electric Cooperative and its members, will be utilized to reduce the cost of electricity for the cooperative member.

Summary

Considering speed, expandability, delivery from a vested locally owned and locally controlled company, at competitive pricing sets this project apart from other applications. In a related observation, a 2014 Weldon Cooper Center for Public Service Demographic Study found Southside Virginia to be the only region of eight (8) within the Commonwealth that lost overall population. Our region, our County, our Cooperative, must strive to retain our youth and our employers, and create an environment to promote every advantageous resource. Broadband is a significant factor in leveling the playing field for our rural communities.

Attachments:

Map(s) of project area, including proposed infrastructure

Attachement1ProjectAreaMapGreenvilleCoVATI2021815202035618.pdf

Documentation of Federal Funding (CAF/ACAM/USDA, etc...) in and/or near proposed project area.

Attachment2DocumentationonFederalFundingArea815202041818.pdf

Documentation that proposed project area is unserved based on VATI criteria

Attachment3DocumentationUnservedAreaVATICriteriaGreenvilleCounty2021VATI815202042212.pdf

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Passings Form (Please use template provided)

Attachment4PassingsFormGreenvilleCountyVATI2021815202043132.pdf

Timeline/Project Management Plan

Attachment6TimelineProjectManagementPlanGreenvilleCountyVATI2021815202044420.pdf

MOU/MOA between applicant/co-applicant (can be in draft form)

Attachment7MOUbetweenApplicantCoApplicantGreenvilleCountyVATI2021815202044937.pdf

Funding Sources Table

Attachment8FundingSourcesTableGreenvilleCountyVATI2021815202050443.pdf

Documentation for match funding

Attachment9DocumentationofMatchFundingGreenvilleCountyVATI2021815202050906.pdf

Letters of Support

Attachment10LettersofSupportGreenvilleCounty2021VATI8172020121034.pdf

Derivation of Cost (Project Budget)

Attachment11DerivationofCostsGreenvilleCountyVATI2021815202060423.pdf

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

Attachment12DocumentationofSupportingCostEstimatesGreenvilleCountyVATI2021815202061039.pdf

Two most recent Form 477 submitted to FCC

Attachment13TwomostrecentForm477submittedtotheFCCGreenvilleCountyVATI2021815202061542.pdf

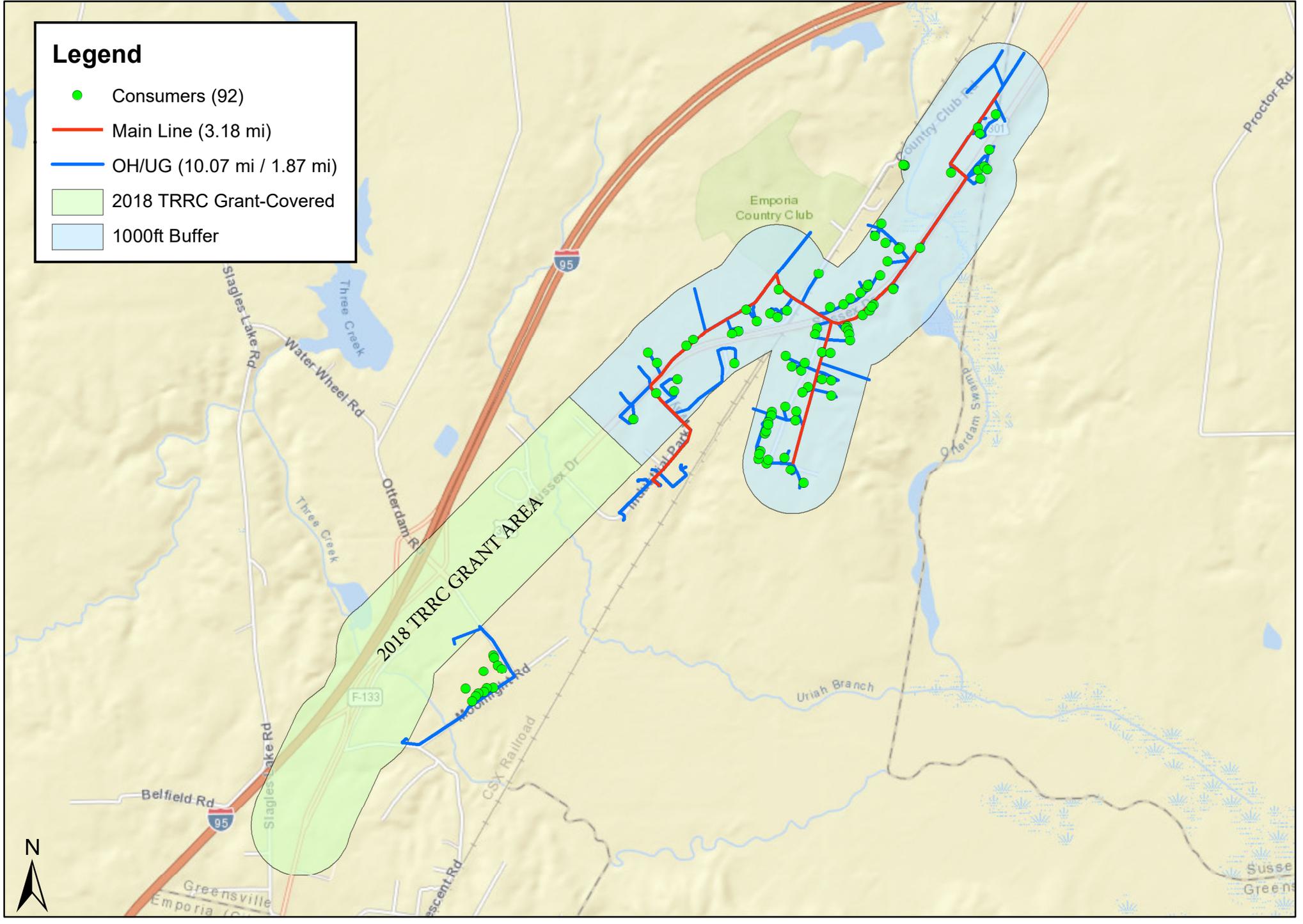
Optional

VATIMarketingPlanAugust2020815202062637.pdf

Optional

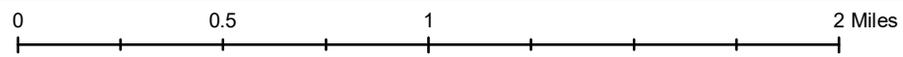
Attachment14ExistingMECCSXCrossingReview8172020112822.pdf

Attachment 1: Greenville County VATI 301N



Legend

- Consumers (92)
- Main Line (3.18 mi)
- OH/UG (10.07 mi / 1.87 mi)
- 2018 TRRC Grant-Covered
- 1000ft Buffer



Attachment 2 – Documentation on Federal Funding Area

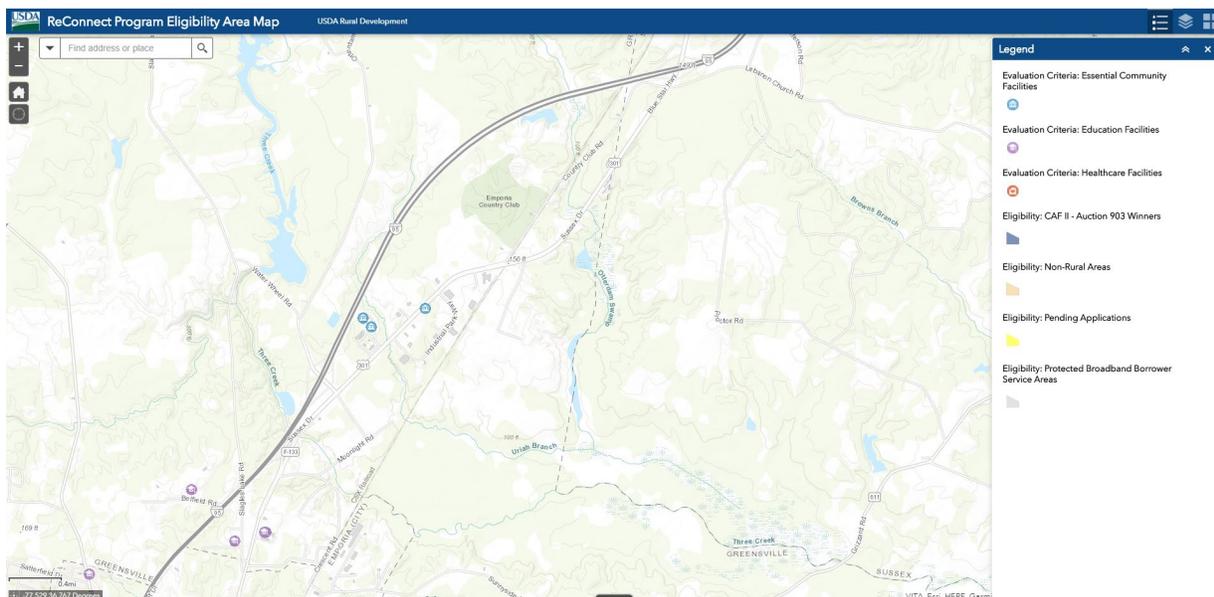
Connect America Fund Phase II: Auction 903 Results

Data as of 8/28/18



The above map indicates no CAF-II funds were awarded to the proposed project area in Greensville County.

The following ReConnect Eligibility map indicates no Pending Applications or Protected Broadband Borrower Service Areas, i.e. ReConnect or Community Connect.



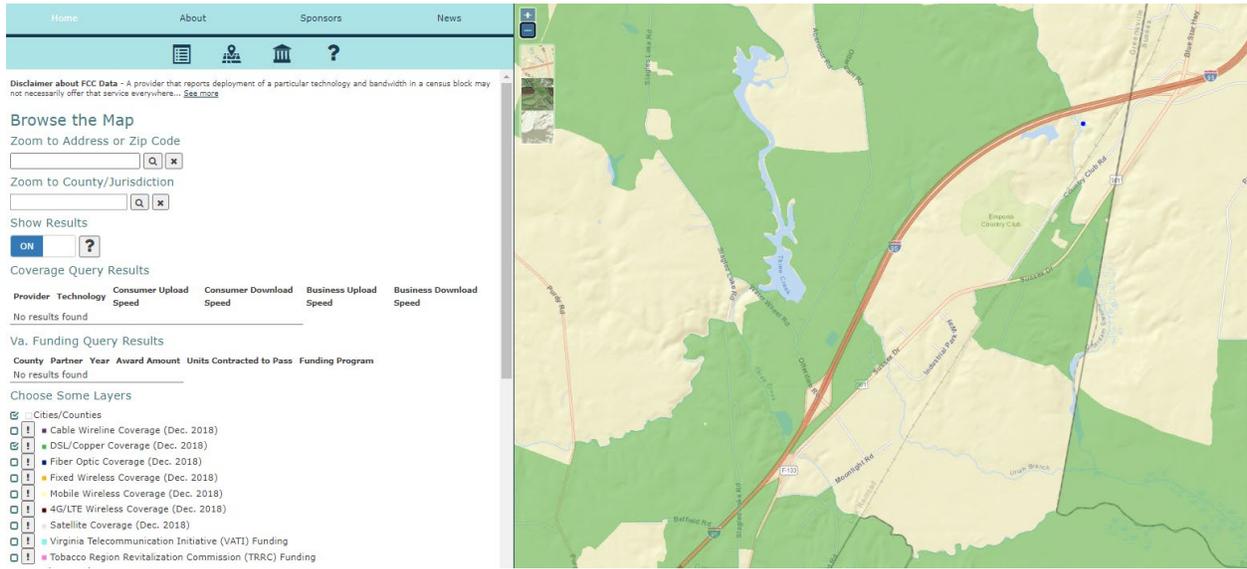
Auction 904 Updated Eligible Areas

Published on 06/25/20

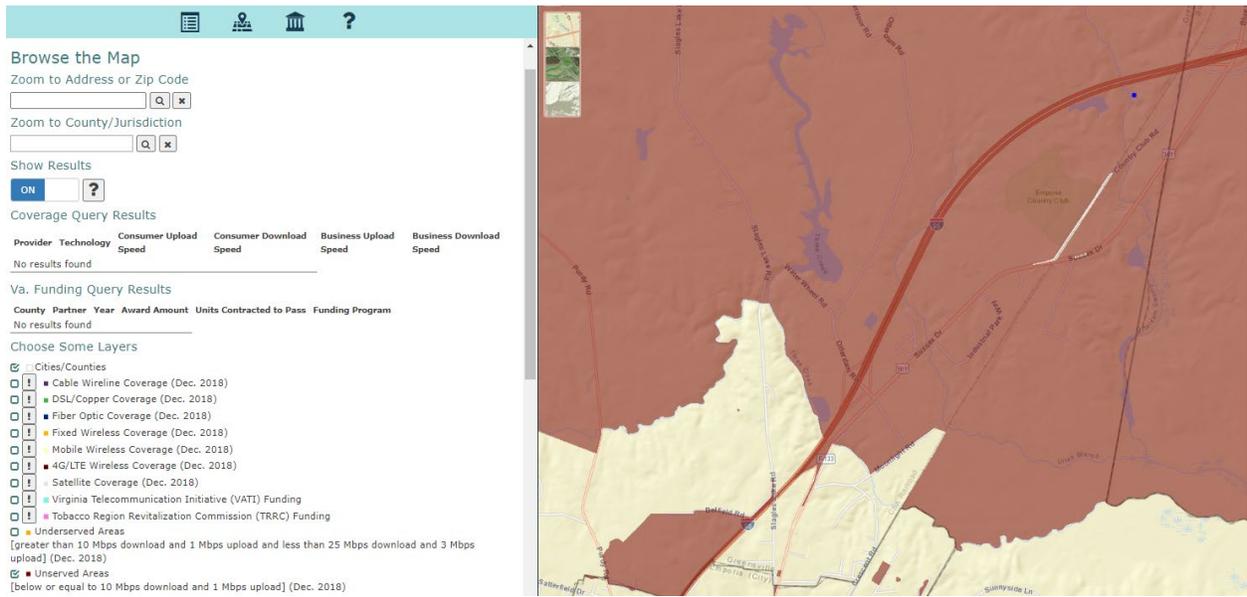


The above FCC map depicts portions of the proposed project area eligible for RDOF Funding.

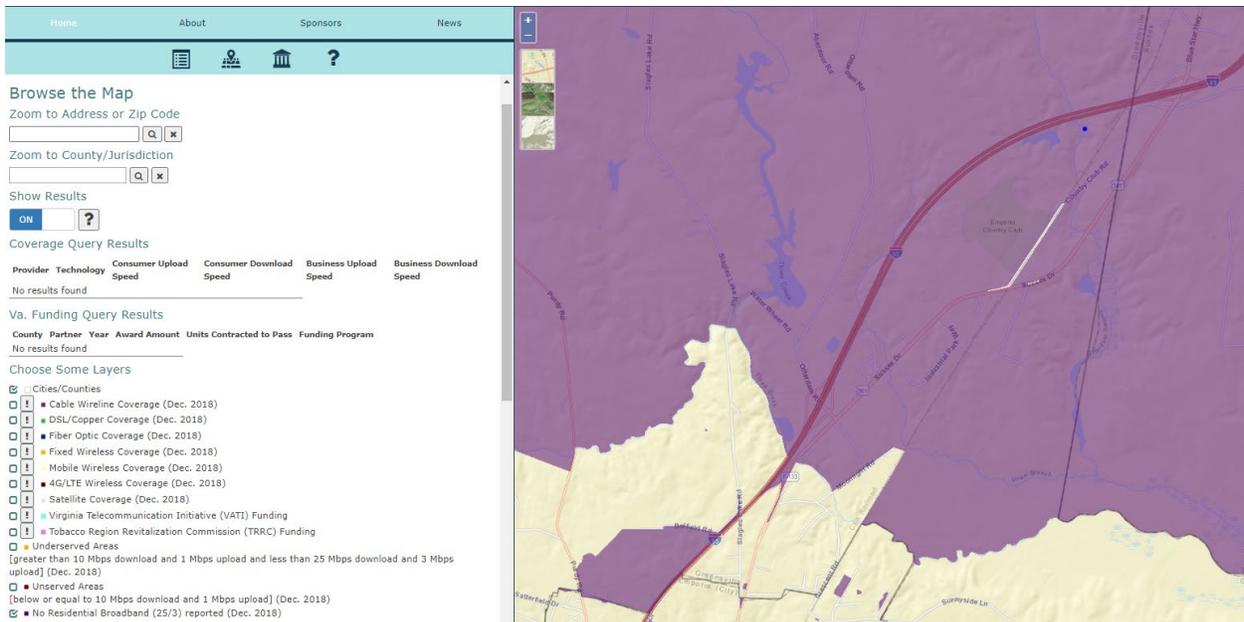
Attachment 3 – Documentation Unserved Area VATI Criteria



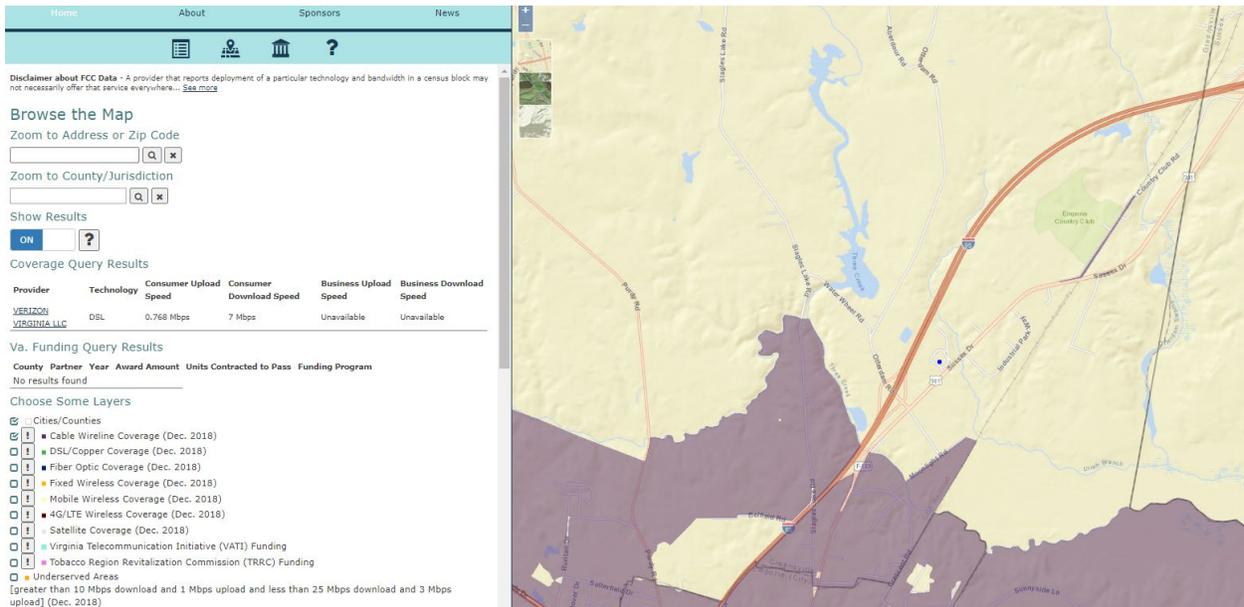
DSL Virginia Broadband Availability Map indicates .768 Up and 5-7M Down



Virginia Broadband Availability map depicting No 10/1 Residential Service



VBAM map depicting No 25/3 Service. Note errant strip, in white, along Country Club Road.



VBAM depicting no Cable Service

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Disclaimer about FCC Data - A provider that reports deployment of a particular technology and bandwidth in a census block may not necessarily offer that service everywhere... [Get more](#)

Browse the Map

Zoom to Address or Zip Code

Zoom to County/Jurisdiction

Show Results

Coverage Query Results

Provider	Technology	Consumer Upload Speed	Consumer Download Speed	Business Upload Speed	Business Download Speed
KINEX TELECOM, INC.	Fiber	Unavailable	Unavailable	10 Mbps	10 Mbps

Va. Funding Query Results

County	Partner	Year	Award Amount	Units Contracted to Pass	Funding Program
No results found					

Choose Some Layers

- Cities/Counties
- Cable Wireline Coverage (Dec. 2018)
- DSL/Copper Coverage (Dec. 2018)
- Fiber Optic Coverage (Dec. 2018)
- Fixed Wireless Coverage (Dec. 2018)
- Mobile Wireless Coverage (Dec. 2018)
- 4G/LTE Wireless Coverage (Dec. 2018)
- Satellite Coverage (Dec. 2018)
- Virginia Telecommunication Initiative (VATI) Funding
- Tobacco Region Revitalization Commission (TRRC) Funding

VBAM Map depicting MBC Open Access Fiber – service previously provided by Kinex. Currently, Telpage.

2021 Virginia Telecommunication Initiative (VATI) Passing Form

Type of Passings	Total Number in Project Area	Number with Speeds at 10/1 or below in Project Area
Residential	83	83
Businesses (non-home based)	7	7
Businesses (home-based)		
Community Anchors		
Non-residential	2	2
Total Number of Passings	93	92

*Note: The Total Number of Passings **MUST** be equal to the Residential, Business (non-home based), Non-residential and Community Anchors sum.*

Definitions

Passing – any structure that can receive service.

Business – An organization or entity that provides goods or services in order to generate profit. Businesses based in residential homes can count if they are a registered business (BPOL, LLC, etc.).

Community Anchor - schools, libraries, medical and health care providers, public safety entities, community colleges and other institutions of higher education, and other community support organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by vulnerable populations, including low-income, unemployed, and the aged.

Non-Residential Passing – places of worship, federal, state, or local facilities or other potential customers that are neither a residence, business or a community anchor as defined above.

MEC-EMPOWER 2020 VATI Timeline						
Task Name	Assigned MEC Manager	Responsible Individual	Responsible Entity	Start Date	Finish Date	Duration
Finalize VATI Bid award	M. Taylor	M. Taylor	EMPOWER	12/15/2020	12/18/2020	1 Week
Press Release of Award Notification to Local Newspaper	D. Lipscomb	D. Winn	MEC	12/15/2020	12/20/2020	1 Week
Social Media Release	D. Lipscomb	P. Whirley	MEC	12/15/2020	12/20/2020	1 Week
Finalize Engineering Design						
Edit Basemap with final route fiber count, splice can location, splitter diagram	D. Long	D. Long	MEC	12/15/2020	12/22/2020	1 Week
Finalize fiber count, splice can location, and splitter diagram	D. Long	D. Long	MEC	12/15/2020	12/22/2020	1 Week
Create permit application drawings, VDOT/Railroad	B. Woods	J. Blair	MEC	2/3/2021	2/28/2021	1 Month
Engineering design assigned to Field Engineers for field review	J. Blair	B. Buckner	Booth & Associates	1/13/2021	2/28/2021	1.5 Months
Finalize network electronic equipment list and release RFP	D. Long	B. Soles	MEC/EMPOWER			
Award electronics vendor bid	D. Long	B. Soles	MEC/EMPOWER			
Generate and release Construction and Materials RFP package	B. Seamans	R. Lankford	MEC	3/16/2021	3/20/2021	5 Days
Social Media Project Progress Update	D. Lipscomb	P. Whirley	MEC	3/16/2021	3/20/2021	5 Days
Community Meetings (Virtual or In-Person): Greenville, Halifax, Mecklenburg Update & Digital Literacy	D. Lipscomb	D. Francis	MEC/EMPOWER	3/15/2021	3/22/2021	1 Week
Award construction and materials bid	B. Seamans	R. Lankford	MEC	4/1/2021	4/1/2021	1 Day
Project Status Review	M. Taylor	M. Taylor	EMPOWER	12/15/2020	4/1/2021	4.5 Months
Fiber Design and Make Ready Design - Integration						
Complete Fiber Engineering Design Edits	B. Woods	J. Blair	MEC	1/13/2021	2/28/2021	1.5 Months
Make Ready Engineering	B. Seamans	J. Blair	MEC	1/13/2021	2/28/2021	1.5 Months
Details of poles collected using Work Studio	J. Blair	B. Buckner	Booth & Associates	1/13/2021	2/28/2021	1.5 Months
Details of all underground fiber route using Work Studio	J. Blair	B. Buckner	Booth & Associates	1/13/2021	2/28/2021	1.5 Months
Make ready engineering evaluated for fiber placement	B. Seamans	B. Woods	MEC	1/13/2021	2/28/2021	1.5 Months
Make ready engineering finalized by MEC Field Engineering	B. Woods	J. Blair	MEC	3/2/2021	3/6/2021	5 Days
Final Construction Dept. and Engineering Field Review	B. Seamans	R. Lankford	MEC	3/9/2021	3/13/2021	5 Days
Project Status Review	M. Taylor	M. Taylor	EMPOWER	1/13/2021	3/13/2021	3 Months
Detailed Design Complete/Make Ready Construction						
Make Ready Construction Work Orders generated	J. Blair	B. Buckner	Booth & Associates	3/2/2021	3/6/2021	5 Days
Permit drawings and Applications filed	B. Woods	J. Blair	MEC	3/2/2021	3/6/2021	5 Days
Splice sheets generated	B. Woods	J. Belknap	MEC	5/1/2021	5/29/2021	1 Month
Bill of materials finalized	B. Seamans	J. Blair	MEC	3/16/2021	3/20/2021	5 Days
Direct Mailer #1 to Premises on pending make ready construction	D. Lipscomb	P. Whirley	MEC	2/15/2021	2/22/2021	1 Week
Make Ready Construction	B. Seamans	B. Woods	MEC	3/2/2021	5/30/2021	3 Months
Press Release of Award Notification to Local Newspaper	D. Lipscomb	D. Winn	MEC	4/15/2021	4/20/2021	1 Week
Social Media Release	D. Lipscomb	P. Whirley	MEC	4/15/2021	4/20/2021	1 Week
Community Meetings (Virtual or In-Person): Greenville, Halifax, Mecklenburg Update & Digital Literacy	D. Lipscomb	D. Francis	MEC/EMPOWER	5/15/2021	5/22/2021	1 Week
Project Status Review	M. Taylor	M. Taylor	EMPOWER	3/2/2021	5/22/2021	3 Months
Construction of Outside Plant (OSP)						
Overall Construction of Outside Plant (OSP)	R. Lankford	P. Sopko	DHE	6/1/2021	12/15/2021	6.5 Months
Stringing Block deployment to pull in Overhead ADSS Cable	R. Lankford	P. Sopko	DHE	6/1/2021	10/30/2021	5 Months
ADSS overhead cable deployment	R. Lankford	P. Sopko	DHE	6/15/2021	11/20/2021	5 Months
Underground cable deployment	R. Lankford	R. Lankford	MEC	6/15/2021	11/20/2021	5 Months
Community Meetings: Greenville, Halifax, Mecklenburg Update & Digital Literacy	D. Lipscomb	D. Francis	MEC/EMPOWER	7/15/2021	7/22/2021	1 Week
Installation of downline Splice Cans and Splitters	J. Belknap	A. Gibson	N & S	8/3/2021	12/15/2021	4.5 Months
Direct Mailer #2 to Premises for early sign-up with \$50 or \$100 installation incentive	D. Lipscomb	P. Whirley	MEC	8/15/2021	8/22/2021	1 Week
Site racks and equipment installed	B. Woods	J. Belknap	MEC	9/14/2021	9/25/2021	2 Weeks
Test Network Electronics	D. Long	B. Soles	MEC/EMPOWER	9/15/2021	9/26/2021	2 Weeks
Commission data network for ONT Connection	D. Long	B. Soles	MEC/EMPOWER	9/26/2021	10/2/2021	1 Week
Installation of Access Class FTTH (Back Haul from Main Line to Drop)	B. Seamans	R. Lankford	MEC	8/3/2021	12/15/2021	4.5 Months
Project Status Review	M. Taylor	M. Taylor	EMPOWER	6/1/2021	12/15/2021	6.5 Months
Drop, NID, ONT Installation						
Direct Mailer #3 Sign-up reminder	D. Lipscomb	P. Whirley	EMPOWER	9/7/2021	9/14/2021	1 Week
Drop Installation	B. Seamans	R. Lankford	MEC	8/3/2021	12/15/2021	4.5 Months
Home installation of ONT and NID	J. Belknap	L. Fleshman	Next Generation Electronics	9/1/2021	12/15/2021	3.5 Months
Door to Door visits with door mailer for those remaining eligible	D. Lipscomb	P. Lawson	EMPOWER	9/1/2021	9/15/2021	1 Week
Press Release of Award Notification to Local Newspaper	D. Lipscomb	D. Winn	MEC	8/15/2021	8/20/2021	1 Week
Social Media Release	D. Lipscomb	P. Whirley	MEC	8/15/2021	8/20/2021	1 Week
Community Meetings (Virtual or In-Person): Greenville, Halifax, Mecklenburg Update & Digital Literacy	D. Lipscomb	D. Francis	EMPOWER	9/15/2021	9/22/2021	1 Week
Yard Sign Deployment at installed users	D. Lipscomb	D. Francis	EMPOWER	9/1/2021	12/15/2021	3.5 Months
Project Status Review	M. Taylor	M. Taylor	EMPOWER	8/3/2021	12/15/2021	4.5 Months

**Memorandum of Understanding
Regarding VATI Funding**

THIS MEMORANDUM OF UNDERSTANDING (“Agreement”) is entered as of this ____ day of _____, 2020, by and between GREENSVILLE COUNTY, VIRGINIA, a political subdivision of the Commonwealth of Virginia (the “COUNTY”), and EMPOWER BROADBAND, INC., (“EMPOWER”), a wholly owned subsidiary of the MECKLENBURG ELECTRIC COOPERATIVE, a Virginia consumer utility services cooperative (each a “Party” and collectively the “Parties.”)

On _____, 2020, the Virginia Department of Housing and Community Development (“DHCD”) announced that it had offered GREENSVILLE COUNTY a total of \$ _____ in funding under the Virginia Telecommunication Initiative (VATI) program in response to the joint application of the COUNTY and EMPOWER. Pursuant to the program guidelines and statutory authority, the primary objective of the VATI is to provide financial assistance to supplement construction costs by private sector broadband providers, in partnership with local units of government, to extend service to areas that presently are unserved by any broadband provider. The grant agreement. between DHCD and the COUNTY (the “DHCD Agreement”) will impose certain responsibilities on the Parties in accepting the VATI grant. As anticipated in the joint application for funding submitted by COUNTY and EMPOWER, the Parties wish to outline the roles of each party now that the grant has been awarded. Accordingly, the Parties now hereby agree as follows:

EMPOWER shall perform all work described in the DHCD Agreement and VATI# _____ Special Conditions, the submitted application, project management schedule and budget, Specifically, EMPOWER shall complete all Grant Activities described in the DHCD Contract Documents on or before _____ as long as all construction materials, which could have a 6-week lead time, are received and implemented in the network. At which time, DHCD has stated it will extend the completion date until _____ with no penalties or repercussions, if applicable. EMPOWER shall indemnify, defend and hold the COUNTY harmless for any failure(s):

(a) to complete any Grant Activities described in the DHCD Contract Documents on or before the date of Grant Expiration and/or

(b) to achieve any project Outcomes by the estimated date of Construction Conclusion per Contract.

EMPOWER will provide information of subscribers and speed package selected, as well as speed validation data to ensure that the proposed Outcomes have been met and that broadband speeds meet VATI criteria. EMPOWER will submit invoices for payment upon completion of the work. No VATI funds shall be distributed unless and until:

- (a) EMPOWER has submitted all requested documents and
- (b) the COUNTY has verified that pre-construction and/or construction work has been completed or equipment has been ordered and received.

In their application, the Parties estimated that 92 serviceable units will have access to the required broadband speeds. COUNTY and EMPOWER will exercise due diligence and best efforts on community outreach and marketing the availability of service, which is the intent of the program, The Parties understand, however, that the actual number of customers who choose to subscribe is beyond the Parties control. The Parties also understand that the intent of the Department of Housing and Community Development is that the Parties exercise due diligence and best efforts and that no funds will be returned to the Commonwealth nor retained by COUNTY so long as the Parties exercise due diligence and best efforts to reach the program goals.

IN WITNESS WHEREOF:

GREENSVILLE COUNTY, VIRGINIA:

Name: _____
Title: County Administrator

EMPOWER BROADBAND, INC.

John C. Lee, Jr., President and CEO

VATI FUNDING SOURCES TABLE

Please fill in the chart below with a description of the project funding source (local, federal, state, private, other), the amount from that source, the percentage of total project funding that source represents, and a description of the current status of the funds (pending, secured, etc.).

Source	Amount	%	Status
REQUESTED VATI	\$ 114,162.17	39	Pending
MEC/EMPOWER	\$ 178,561.34	61	Secured
	\$		
	\$		
	\$		
	\$		
	\$		
TOTAL	\$292,723.50	100 %	

HEADQUARTERS

P. O. Box 2451
Chase City, VA 23924
Phone: 434-372-6100/Fax: 434-372-6101

CHASE CITY DISTRICT

P. O. Box 2451
Chase City, VA 23924
Phone: 434-372-6200/Fax: 434-372-6201



Your Touchstone Energy® Partner

www.meckelec.org

SAFETY FIRST!

EMPORIA DISTRICT

P. O. Box 427
Emporia, VA 23847
Phone: 434-634-6168/Fax: 434-348-7100

GRETNA DISTRICT

P. O. Box 617
Gretna, VA 24557
Phone: 434-656-1288/Fax: 434-656-9200

August 14, 2020

Tamarah Holmes, PhD.
Virginia Department of Housing and Community Development
ATTN: Virginia Telecommunications Initiative
600 East Main Street, Suite 300
Richmond, VA 23219

Dear Dr. Holmes,

This letter is to document Mecklenburg Electric Cooperative’s (MEC) in-kind match for three Virginia Telecommunications Initiative Last Mile Grant Applications submitted by MEC and our affiliate EMPOWER Broadband, INC.

MEC and EMPOWER Broadband, INC. will provide funding to expand our fiber optic network; these investments are being presented for the in-kind match for each application, respectively. The project area, MEC’s match, and the VATI request are listed below.

<u>Project Area</u>	<u>MEC/EMPOWER Match</u>	<u>VATI Request</u>
Halifax County	\$947,304	\$350,373
Greensville County	\$178,562	\$114,162
Mecklenburg County	\$1,048,556	\$449,381

The Cooperative has approved these expenditures as in-kind matching funds upon a successful grant award.

Respectfully,

John C. Lee, Jr.
President and CEO
Mecklenburg Electric Cooperative

Copy: Glen
12/5/06



**National Rural Utilities
Cooperative Finance Corporation**

2201 Cooperative Way
Herndon, Virginia 20171-3025
703-709-6700 | www.nrucfc.coop

A Touchstone Energy® Cooperative 

November 29, 2006

Mr. M. John Bowman
President and CEO
Mecklenburg Electric Cooperative
11633 Hwy 92
Chase City, VA 23924



Re: Line of Credit # VA031-P-5102

Dear Mr. Bowman:

Your cooperative has executed and returned all required CFC documents and supporting papers in connection with the Line of Credit designated above. These documents have been reviewed and found legally acceptable and satisfactory to CFC and thus constitute a binding agreement between CFC and your cooperative.

Enclosed, for your records, is a copy of the fully executed Line of Credit Agreement. Line of Credit funds may now be requisitioned in accordance with the terms of the Line of Credit Agreement.

We at CFC appreciate the opportunity to serve your system and look forward to our continued business relationship.

Sincerely,

Handwritten signature of David Olah.

David Olah
Associate Vice President

Enclosure

**National Rural Utilities Cooperative Finance Corporation
Perpetual Line of Credit Agreement
("Agreement")**

Name of Borrower: Mecklenburg Electric Cooperative

Address: PO Box 2451, 11633 Hwy 92, Chase City, Virginia 23924

National Rural Utilities Cooperative Finance Corporation ("CFC"), a District of Columbia corporation, has approved Borrower for a revolving line of credit loan in an amount not to exceed Nine Million Two Hundred Thousand Dollars (\$9,200,000.00) (hereinafter referred to as the "CFC Commitment"). Borrower hereby agrees that the terms and conditions herein, plus any additional terms and conditions agreed to in writing by the parties, shall constitute a valid and binding agreement between Borrower and CFC. In consideration of their mutual promises hereunder and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, CFC and Borrower agree to the following terms and conditions:

- 1. Revolving Credit and Term.** CFC agrees to advance funds to the Borrower pursuant to the terms and conditions hereof (each such advance of funds is referred to herein as an "Advance"), provided, however, that the amount at any time outstanding under this line of credit shall not exceed the CFC Commitment. The Borrower may borrow, repay and reborrow funds at any time or from time to time for a period up to twelve (12) months from the effective date hereof. This Agreement shall thereafter automatically renew for subsequent periods of twelve (12) months each. Either party may terminate this Agreement at the end of any period by providing written notice to the other party at least ninety (90) days prior to the expiration of such period.
- 2. Requisitions.** Requests for Advances shall be in such written form as CFC may reasonably require from time to time.
- 3. Interest Rate and Payment.** The Borrower unconditionally promises and agrees to pay, as and when due, interest on all amounts advanced hereunder from the date of each Advance and to repay all amounts advanced hereunder with interest on the date this Agreement terminates as provided herein. Interest shall be due and payable in accordance with CFC's regular billing cycles as may be in effect from time to time. CFC shall send a payment notice to the Borrower at least five days prior to the due date of any interest payment. All amounts shall be payable at CFC's main office at Woodland Park, 2201 Cooperative Way, Herndon, Virginia 20171-3025 or at such other location as designated by CFC from time to time. The interest rate on all Advances will be equal to the total rate per annum as may be fixed by CFC from time to time, which shall not exceed the Prevailing Bank Prime Rate (as defined herein), plus one percent per annum. Interest will be computed on the basis of a 365 day year for the actual number of days that any

Advance is outstanding. The effective date of an interest rate adjustment will be determined from time to time by CFC, provided that no such adjustment may be effective on a date other than the first or sixteenth day of any month, and any such adjustment shall remain in effect until any subsequent change in the interest rate occurs.

The "Prevailing Bank Prime Rate" is that bank prime rate published in the "Money Rates" column of the eastern edition of *The Wall Street Journal* on the publication day immediately preceding the day on which an adjustment in the interest rate hereof shall become effective. If *The Wall Street Journal* shall cease to be published, then the Prevailing Bank Prime Rate shall be determined by CFC by reference to another publication reporting bank prime rates in a similar manner.

4. **Mandatory Prepayment.** If (a) there is a change in the Borrower's corporate structure (including without limitation by merger, consolidation, conversion or acquisition), and (b) after giving effect to such change, Borrower (i) would not be eligible to receive a loan or commitment for a loan from the Rural Utilities Service or any successor agency, or (ii) would no longer engage in the furnishing of utility services to its members and patrons for their use as ultimate consumers, then upon the effective date of such change, the Borrower shall prepay the outstanding principal balance of all Obligations, together with any accrued but unpaid interest thereon, any unpaid costs or expenses provided for herein, and a prepayment premium prescribed by CFC pursuant to its policies of general application in effect from time to time.

"Obligations" shall mean any and all liabilities, obligations or indebtedness owing by the Borrower to CFC, of any kind or description, irrespective of whether for the payment of money, whether direct or indirect, absolute or contingent, due or to become due, now existing or hereafter arising.

5. **CFC Accounts.** CFC shall maintain in accordance with its usual practices an account or accounts evidencing the indebtedness of the Borrower resulting from each Advance and the amounts of principal and interest payable and paid hereunder. In any legal action or proceeding in respect of this Agreement, the entries made in such account or accounts (whether stored on computer memory, microfilm, payment notices or otherwise) shall be presumptive evidence (absent manifest error) of the existence and amounts of the Borrower's transactions therein recorded.
6. **Corporate and Regulatory Approvals.** Borrower represents and warrants that it has obtained any and all necessary corporate and regulatory approvals for Borrower to execute, deliver and perform its obligations under this Agreement.
7. **Reports.** During the term of this Agreement, Borrower agrees (a) to provide CFC, within 120 days of the end of Borrower's fiscal year, its annual financial statements, prepared in accordance with generally accepted accounting principles ("GAAP") and audited by an independent certified public accountant, or otherwise in form and substance satisfactory to CFC, and (b) to provide CFC with any other reports or information which CFC may from time to time reasonably request.
8. **Fees.** If any amount outstanding and due hereunder shall not be paid when due, Borrower agrees to pay on demand CFC's reasonable costs of collection or enforcement

of this Agreement, or preparation therefor, including reasonable fees of counsel. If payment of any principal and/or interest due under the terms of this Agreement is not received at CFC's office in Herndon, Virginia, or such other location designated by CFC within 5 business days after the due date thereof, then Borrower shall pay to CFC, on demand, and in addition to all other amounts due under the terms of this Agreement, any late-payment and additional interest charges as may then be in effect pursuant to CFC's then current policies without setoff or counterclaim. For purposes of this Agreement, a "business day" means a day that both CFC and the financial institution it employs for funds remittance are open for business.

9. **Limitation on Advances.** While an Advance is outstanding, CFC reserves the right to limit further Advances if the sum of (a) all Advances outstanding, (b) the amount of any further Advance requested, and (c) the total amount of Borrower's other unsecured outstanding debt, would exceed the CFC Commitment. CFC may also, in its sole discretion decline to make any Advance during any period when the Borrower is in default hereunder.
10. **Paydown Requirement.** For each 12-month period while this Agreement is in effect, Borrower shall, for a period of at least five consecutive business days, pay down the entire outstanding principal balance on this line of credit ("Paydown"). Borrower shall make the initial Paydown within 360 days of the first Advance hereunder, and shall make each subsequent Paydown within 360 days of the date of the first Advance following each Paydown.
11. **Credit Support.** With CFC's prior written approval, this Agreement may be used as credit support for other financings.
12. **Notices, Acceleration of Debt and Waivers.** While an Advance is outstanding, Borrower agrees to notify CFC in writing of (a) any delinquency or default on any of its financial obligations, (b) any material adverse change in its financial or business condition, and (c) if any representation or warranty made in this Agreement is no longer true in any material respect. If any delinquency, default, or any other event as a result of which any holder of indebtedness may declare the same due and payable shall occur and continue uncorrected for more than any applicable grace period, or any representation or warranty herein shall no longer be true, or Borrower shall fail to perform or to comply with any term of this Agreement, or if the financial condition of Borrower shall have changed to the extent that such change, in the reasonable judgment of CFC, materially increases CFC's risk of repayment hereunder, then CFC may declare at any time all outstanding principal, interest and other amounts due hereunder immediately due and payable in full with accrued interest, without presentment or demand, and may withhold Advances. The Borrower waives the defense of usury and all rights to setoff, counterclaim, deduction or recoupment.
13. **Survival of Representations and Warranties and Payment Obligations.** Borrower agrees that its obligation to repay principal, interest and all other amounts due hereunder, and the representations and warranties made herein, shall survive termination of this Agreement. Borrower further agrees that such repayment obligations shall be automatically reinstated if and to the extent that for any reason any payment by or on

behalf of the Borrower is rescinded, set aside or must be otherwise restored, whether as a result of any proceeding in bankruptcy or reorganization or otherwise.

14. Representations and Warranties. Borrower represents and warrants that as of the date of its application for this line of credit, and on the date of each Advance hereunder:

- a) the Borrower is not in default of any of its financial obligations;
- b) there has been no material adverse change in the Borrower's business or financial condition from that set forth in its most recent audited financial statements;
- c) no litigation is pending or, to the best of Borrower's knowledge, threatened against the Borrower which, if adversely determined, would have a material adverse effect on the Borrower's ability to perform under this Agreement;
- d) the information contained in Borrower's audited financial statements, its other financial reports and information otherwise submitted in connection with this Agreement is complete and accurate, and said financial statements and financial reports fairly represent the financial condition of the Borrower as of the dates reflected thereon;
- e) the execution, delivery and performance of this Agreement has been duly authorized by the Borrower, which authorization has not been rescinded or modified;
- f) all Advances hereunder will be used only for proper corporate purposes;

15. Conditions of Lending. As a condition to CFC making Advances hereunder, each of the following conditions shall be satisfied at the time of each Advance:

- a) CFC shall have received the Borrower's most recent annual financial statements, prepared in accordance with GAAP and audited by an independent certified public accountant, or otherwise in form and substance satisfactory to CFC;
- b) all representations and warranties set forth herein shall be true and correct; and
- c) the Borrower shall have obtained any and all necessary corporate, regulatory and governmental approvals for the Borrower to execute, deliver and perform its obligations under this Agreement.

16. GOVERNING LAW; SUBMISSION TO JURISDICTION; WAIVER OF JURY TRIAL.

- (a) **THE PERFORMANCE AND CONSTRUCTION OF THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE COMMONWEALTH OF VIRGINIA.**
- (b) **BORROWER HEREBY SUBMITS TO THE NONEXCLUSIVE JURISDICTION OF THE UNITED STATES COURTS LOCATED IN VIRGINIA AND OF ANY STATE COURT SO LOCATED FOR PURPOSES OF ALL LEGAL PROCEEDINGS ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY. BORROWER IRREVOCABLY**

WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY OBJECTION THAT IT MAY NOW OR HEREAFTER HAVE TO THE ESTABLISHING OF THE VENUE OF ANY SUCH PROCEEDING BROUGHT IN SUCH A COURT AND ANY CLAIM THAT ANY SUCH PROCEEDING HAS BEEN BROUGHT IN AN INCONVENIENT FORUM.

(c) EACH OF THE BORROWER AND CFC HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

- 17. Severability.** If any term, provision or condition, or any part thereof, of this Agreement shall for any reason be found or held invalid or unenforceable by any court or governmental agency of competent jurisdiction, such invalidity or unenforceability shall not affect the remainder of such term, provision or condition nor any other term, provision or condition, and this Agreement shall survive and be construed as if such invalid or unenforceable term, provision or condition had not been contained herein.
- 18. Setoff.** Upon the occurrence and during the continuance of any default, CFC is hereby authorized at any time and from time to time without prior notice to the Borrower to exercise rights of setoff or recoupment and apply any and all amounts held, or hereafter held, by CFC or owed to the Borrower or for the credit or account of the Borrower against any and all of the obligations of the Borrower now or hereafter existing hereunder. CFC agrees to notify the Borrower promptly after any such setoff or recoupment and the application thereof, provided that the failure to give such notice shall not affect the validity of such setoff, recoupment or application. The rights of CFC under this section are in addition to any other rights and remedies (including other rights of setoff or recoupment) which CFC may have.
- 19. Additional Terms and Conditions.** Additional terms and conditions as set forth herein or attached hereto are an integral part of this Agreement.
- 20. Termination and Cancellation of Existing Agreement.** Borrower agrees that its existing line(s) of credit No(s). VA031-R-5101 with CFC, and any agreement(s) relating thereto shall be terminated and any outstanding principal, interest and other amounts outstanding thereunder shall be transferred to the line of credit established pursuant to this Agreement and deemed an Advance hereunder.
- 21. Miscellaneous.** (a) This Agreement contains the entire agreement of the parties hereto with respect to the matters covered and the transactions contemplated hereby, and no other agreement, statement or promise made in connection with this line of credit by any party hereto, or by any employee, officer, agent or attorney of any party hereto which is not contained herein shall be valid and binding. (b) Any amendment to this Agreement must be in writing signed by both parties. (c) No failure or delay by CFC in exercising any right or remedy hereunder shall operate as a waiver or preclude the future exercise thereof or of any other right or remedy. (d) If any payment is due from Borrower on a day which CFC is not open for business, then such payment shall be made on the next succeeding day on which CFC is open for business.

- 22. Notices.** All notices, requests and other communications provided for herein including, without limitation, any modifications of, or waivers, requests or consents under, this Agreement shall be given or made in writing (including, without limitation, by telecopy) and delivered to the intended recipient at the "Address for Notices" specified below; or, as to any party, at such other address as shall be designated by such party in a notice to each other party. Except as otherwise provided in this Agreement, all such communications shall be deemed to have been duly given when personally delivered or, in the case of a telecopied or mailed notice, upon receipt, in each case given or addressed as provided for herein. The Address for Notices of the respective parties are as follows:

CFC:

National Rural Utilities
Cooperative Finance Corporation
2201 Cooperative Way
Herndon, Virginia 20171-3025
Attention: Senior Vice President - Member Services
Fax: (703) 709-6776

The Borrower:
Mecklenburg Electric Cooperative
PO Box 2451, 11633 Hwy 92
Chase City, VA 23924
Attention: President and Chief Executive Officer
Fax: (434) 372-6101

23. Additional Terms and Conditions.

- (a) Prior to and as a condition of making the initial Advance, CFC shall have been furnished with an opinion of counsel for Borrower addressing such legal matters as CFC shall reasonably require.
- (b) CFC hereby agrees to reserve \$90,000.00 hereunder to back potential obligations of Borrower to the Virginia Department of Transportation ("VDOT"). To access the reserved funds, Borrower will need to submit documentation in form and substance acceptable to CFC that confirms that proceeds of Advances from the reserved portion are to be used solely to make payment on its obligations to VDOT. Such documentation will include, but not be limited to the appropriate notification from VDOT that Borrower owes payment to VDOT which payment has not been made within a specified timeframe, that such non-payment default has not been cured within any applicable grace period and that VDOT has demanded payment to cure such default.

The reservation in availability will remain in place until Borrower submits a written request in form and substance satisfactory to CFC, confirming that it is no longer necessary for the reservation to remain in effect.

MECKLENBURG ELECTRIC COOPERATIVE

Signed By: _____



Title: _____

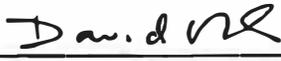
Chairman of the Board

Date Signed: _____

November 15, 2006

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION

By: _____



Assistant Secretary-Treasurer

DAVID W OLAH

Loan Number: VA031-P-5102

(To be filled in by CFC) The effective date of this Agreement is: _____

11/29/06

CRATER PLANNING DISTRICT COMMISSION

Monument Professional Building • 1964 Wakefield Street • Post Office Box 1808 • Petersburg, Virginia 23805
PHONE: (804) 861-1666 • FAX: 804-732-8972 • E-MAIL: info@craterpdc.org • WEBSITE: www.craterpdc.org
Dennis K. Morris, Executive Director

August 6, 2020

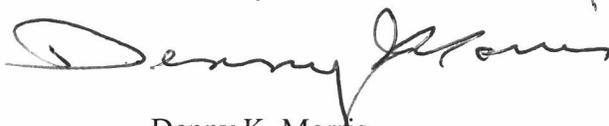
Mr. Linwood E. Pope, Jr.
Director of Planning
Greensville County, Virginia
1781 Greensville County Circle
Emporia, Virginia 23847

Dear Lin,

Please allow this correspondence to serve as a very strong letter of support from the Crater Planning District Commission in regard to Greensville County's FY 2021 Virginia Telecommunication Initiative (VATI) application. Greensville County's partnering with Mecklenburg Electric Cooperative's EMPOWER Broadband Subsidiary builds a strong strategic Team. This Team's proposal to provide adequate broadband coverage to an extremely underserved neighborhood of approximately 220 residents along U. S. Highway 301 North in Greensville County will provide service to one of the highest pockets of need within the Crater District.

Thank you for allowing the Crater Planning District Commission to comment on this most critical project.

Sincerely,



Denny K. Morris
Executive Director

CC: Ms. Brenda Parson

**Greenville County Public Schools
Administrative Office
105 Ruffin Street
Emporia VA 23847**

Kim F. Evans, Ed.D.
Division Superintendent

Telephone (434)634-3748
FAX: (434) 634-3495

August 10, 2020

Mr. Lin E. Pope, Jr.
Director of Planning
Greenville County, Virginia
1781 Greenville County Circle
Emporia, VA 23847

Dear Mr. Pope, Jr.,

Please allow this correspondence to serve as a letter of support from the Greenville County Public School System in regards to the Greenville County FY 2021 Virginia Telecommunication Initiative (VATI) application. Greenville County's partnership with Mecklenburg Electric Cooperative's EMPOWER Broadband Subsidiary will not only benefit Greenville County but Greenville County Public Schools. The application will provide over 133 homes and businesses (which is equivalent to 220 residents) in the area with reliable internet. Having reliable internet throughout the county is vital at this particular time.

U.S. Highway 301 North is home to a large number of students and staff, our students and staff will be working from home for the first nine weeks of the school year; and reliable internet is crucial to providing virtual instruction. The school system is able to provide some hot spots for those lacking internet in their homes; yet at times, it is still difficult to pick up an adequate signal.

Thank you for allowing Greenville County Public Schools to comment on this project, if you need anything further from us please do not hesitate to contact us.

Sincerely,



Kim F. Evans, Ed.D.
Superintendent

RECEIVED

AUG 14 2020

ADMINISTRATOR'S OFFICE
GREENVILLE COUNTY



COMMONWEALTH OF VIRGINIA
HOUSE OF DELEGATES
RICHMOND

ROSLYN C. TYLER
25359 BLUE STAR HIGHWAY
JARRATT, VIRGINIA 23867

SEVENTY-FIFTH DISTRICT

COMMITTEE ASSIGNMENTS:
EDUCATION (CHAIR)
APPROPRIATIONS
AGRICULTURE, CHESAPEAKE AND
NATURAL RESOURCES

August 13, 2020

Department of Housing & Community Development
C/O Dr. Holmes, VATI Grant Administrator
600 East Main Street, Suite 300
Richmond, VA 23219

Dr. Tamarah Holmes,

I am writing this letter on behalf of Mecklenburg Electric Cooperative (MEC) and EMPOWER Broadband. As the Delegate representing the 75th District in Virginia's House of Representatives, which includes Greensville County. I would like to express my full support of the Virginia Telecommunications Initiative (VATI) grant application submitted by Mecklenburg Electric Cooperative and EMPOWER Broadband for east-central Greensville County. MEC has a long and successful history of providing services in the areas they serve for over 80 years and has a strong reputation for customer service and community commitment. I am confident in Mecklenburg Electric Cooperative and EMPOWER's capabilities for enhancing broadband service to this region.

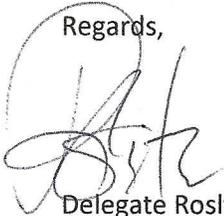
With this grant, Mecklenburg Electric Cooperative and EMPOWER Broadband will enhance our broadband connectivity with a fiber network design. This fiber build will enable us to overcome geographical distances, empower us through information, and bring the world to us through a simple stroke of a keyboard.

With unserved areas within the County, we face many challenges including limitations in accessing medical resources relating to distance between patients, physicians, and specialists. Because of the rural nature of our areas, our students do not receive equitable broadband resources as other students in more urban learning centers. Even though we have made significant advancement in education with the advancement of our schools and Southside Virginia Community College, we continue to lack in distance learning and other educational opportunities that advanced broadband can bring to our students. Therefore, it is extremely important that VATI grant funding be obtained to provide for much needed broadband service to our area. Additionally, this expansion brings needed broadband solutions to underserved and unserved business along this portion of 301 North.

I would be remiss if I did not mention that this project is an extension of the MEC/EMPOWER fiber network funded with the assistance of a recent TRRC Last Mile matching Broadband Grant. This application will leverage existing funding and maximize the effectiveness of previously awarded grant funds.

In closing, our rural area must overcome the expansive digital divide which has only been magnified through our effort to live, work, and learn through the difficulties of COVID-19. Accordingly, I strongly urge the Department of Housing and Community Development to fund this VATI grant application, not only will this help with sustaining the future of advanced broadband services in Mecklenburg Electric Cooperative and EMPOWER's service area, but also in promoting the future educational and economic stability of our community.

Regards,

A handwritten signature in black ink, appearing to read 'Roslyn Tyler', is written over a circular stamp or seal that is mostly obscured by the signature.

Delegate Roslyn Tyler
Virginia House of Delegates
75th District

Attachment #11 - Derivation of Costs Greenville County VATI 2021

Product	Total	VATI	Non-VATI	Source of Estimate	Date
EXAMPLE					
<u>Construction</u>					
200 LF of fiber @\$150/LF	\$30,000	\$15,000	\$15,000	Company A	9/5/2016
Tower	\$100,000	\$80,000	\$20,000	Company B	9/5/2016
Engineering	\$20,000	\$0	\$20,000	ABC Engineering Firm	9/5/2016

Product	Total	VATI	Non-VATI	Source of Estimate	Date
Drop Installation Cost	\$ -	\$ -	\$ -		
Outdoor Wall Mount Labor	\$ 2,310	\$ -	\$ 2,310	MEC based on 2019-20 projects	8/10/2020
Outdoor Wall Mount Materials	\$ 1,043	\$ -	\$ 1,043	MEC based on 2019-20 projects	8/10/2020
Splicing Labor	\$ 2,603	\$ -	\$ 2,603	MEC based on 2019-20 projects	8/10/2020
Splicing Materials	\$ 14	\$ -	\$ 14	MEC based on 2019-20 projects	8/10/2020
Staking Labor	\$ 1,925	\$ -	\$ 1,925	MEC based on 2019-20 projects	8/10/2020
ONT (router) labor	\$ 14,700	\$ -	\$ 14,700	MEC based on 2019-20 projects	8/10/2020
ONT (router) materials	\$ 10,648	\$ -	\$ 10,648	MEC based on 2019-20 projects	8/10/2020
Network Equipment					
E7-2 Package Chassis	\$ 697	\$ -	\$ 697	MEC based on 2019-20 projects	8/10/2020
Battery String Kit, Heater and Connectors	\$ -	\$ -	\$ -	MEC based on 2019-20 projects	8/10/2020
GPON SFP OIM, Class B+ 1490/1310nm	\$ 1,800	\$ -	\$ 1,800	MEC based on 2019-20 projects	8/10/2020
E7-2 8 Card PON Unit	\$ 9,797	\$ -	\$ 9,797	MEC based on 2019-20 projects	8/10/2020
Aerial Construction Costs	\$ -	\$ -	\$ -		
Aerial Construction Labor	\$ 93,616	\$ 43,438	\$ 50,178	MEC based on 2019-20 projects	8/10/2020
Aerial Materials	\$ 45,810	\$ 21,256	\$ 24,554	MEC based on 2019-20 projects	8/10/2020
Underground Construction Costs	\$ -	\$ -	\$ -		
Underground Construction Labor	\$ 5,986	\$ 2,777	\$ 3,208	MEC based on 2019-20 projects	8/10/2020

CDBG Derivation of Cost

Underground Materials	\$ 3,718	\$ 1,725	\$ 1,993	MEC based on 2019-20 projects	8/10/2020
Access Construction Costs (Back Haul & Drop)	\$ -	\$ -	\$ -		
Access Construction Labor	\$ 66,140	\$ 30,689	\$ 35,451	MEC based on 2019-20 projects	8/10/2020
Access Materials	\$ 31,918	\$ 14,277	\$ 17,641	MEC based on 2019-20 projects	8/10/2020
TOTAL	\$ 292,723	\$ 114,162	\$ 178,561		

Greenville County, 301 N Project, VATI 2021

EMPOWER				KEY IN RED NUMBERS		
DESCRIPTION	LABOR	MATERIAL	QUANTITY		DESCRIPTION	AMOUNT
Outdoor wall mount	\$55.00	\$24.83	42.00		Connects	\$3,352.86
Splicing (2)	\$61.98	\$0.34	42.00		Connects	\$2,617.44
Staking	\$45.83		42.00		Connects	\$1,924.86
ONT (router)	\$350.00	\$253.53	42.00		Connects	\$25,348.26
E7-2 Package Chassis		\$696.50	1		Each	\$696.50
Battery String Kit, Heater and Connectors		\$7,100.00	0		Each	\$0.00
GPON SFP OIM, Class B+ 1490/1310nm		\$600.00	3		Each	\$1,800.00
E7-2 8 Card PON unit		\$9,796.50	1		Each	\$9,796.50
ODC-1000E E7-2 Cabinet Package		\$10,762.50	0		Each	\$0.00
E7-2 Package Chassis		\$696.50	0		Each	\$0.00
GPON SFP OIM, Class B+ 1490/1310nm		\$600.00	0		Each	\$0.00
E7-2 8 Card PON unit		\$9,796.50	0		Each	\$0.00
Total EMPOWER	\$512.81	\$40,327.20				\$45,536.42

Mecklenburg Electric Cooperative		Main Line		KEY IN RED NUMBERS	Back Haul to House Feet	
DESCRIPTION	LABOR	MATERIAL	QUANTITY		DESCRIPTION	AMOUNT
Main Line and Back Haul for EMPOWER	Total Miles	3.18			350	1st Pole Feet
					350	2nd Pole Feet
					350	3rd Pole Feet
					0	4th Pole Feet
					0	Drop
					1,050.00	
Aerial Construction (93% of Total Miles)	\$31,658.90	\$15,491.69	2.957		Miles	\$139,443.15
Underground Construction (7% of Total Miles)	\$26,840.99	\$16,671.21	0.223		Miles	\$9,685.82
Equipment		\$0.00	0.0		Each	\$0.00
Back Haul and Drop Construction	\$1,499.78	\$0.72376	44,100		Feet	\$98,058.11
Total Construction	\$58,501.39	\$32,163.62				\$247,187.08

Total EMPOWER Projects Cost Estimates as of	15-Aug-20	\$45,536.42
Total MEC Projects Cost Estimates as of	15-Aug-20	\$247,187.08
Total Projects Cost Estimates as of	15-Aug-20	\$292,723.50

Total Project Costs to be Funded	\$292,723.50
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VATI Request	\$114,162.17
MEC/EMPOWER Match	\$178,561.34

(RETAIN FOR YOUR RECORDS)
Form 477 Filing Summary

FRN: 0027843333 | Data as of: Jun 30, 2019 | Operations: Non-ILEC | Submission Status: Original - Submitted | Last Updated: Aug 19, 2019 10:43:38

Filer Identification

Section	Question	Response
Filer Information	Company Name	EMPOWER Broadband
	Holding Company Name	Mecklenburg Electric Cooperative
	SAC ID	199022
	499 ID	832934
Data Contact Information	Data Contact Name	Dwayne L Long
	Data Contact Phone Number	(434) 373-6125
	Data Contact E-mail	dlong@meckelec.org
Emergency Operations Contact Information	Emergency Operations Name	Dwayne L Long
	Emergency Operations Phone Number	(434) 372-6125
	Emergency Operations E-mail	dlong@meckelec.org
Certifying Official Contact Information	Certifying Official Name	John Lee
	Certifying Official Phone Number	(434) 372-6111
	Certifying Official E-mail	jlee@meckelec.org

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	EmpowerBBdeploy63019.csv	Aug 19, 2019 10:37:16	75
Fixed Broadband Subscription	EMPOWERBBSpeeds063019.csv	Aug 19, 2019 10:38:28	3

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Virginia	EMPOWER Broadband	Optical Carrier/Fiber to the End User	75
Total			75

Fixed Broadband Subscription

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

State	Technology	Census Tracts	Subscriptions		Total
			Consumer	Business / Govt	

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Virginia	Optical Carrier/Fiber to the End User	3	23	2	25
Total		3	23	2	25

Fixed Broadband Subscriptions by Bandwidths and End-user Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
50.000	50.000	22	2	24
100.000	100.000	1	0	1
Total		23	2	25

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

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Optical Carrier/Fiber to the End User	50.000	50.000	22	2	24
	100.000	100.000	1	0	1
Total			23	2	25

(RETAIN FOR YOUR RECORDS)
Form 477 Filing Summary

FRN: 0027843333 | Data as of: Jun 30, 2020 | Operations: Non-ILEC | Submission Status: Revised - Submitted | Last Updated: Aug 14, 2020 08:37:41

Filer Identification

Section	Question	Response
Filer Information	Company Name	Empower Broadband
	Holding Company Name	Mecklenburg Electric Cooperative
	SAC ID	199022
	499 ID	832934
Data Contact Information	Data Contact Name	Dwayne L Long
	Data Contact Phone Number	(434) 372-6125
	Data Contact E-mail	dlong@meckelec.org
Emergency Operations Contact Information	Emergency Operations Name	Dwayne L Long
	Emergency Operations Phone Number	(434) 372-6125
	Emergency Operations E-mail	dlong@meckelec.org
Certifying Official Contact Information	Certifying Official Name	John Lee
	Certifying Official Phone Number	(434) 372-6244
	Certifying Official E-mail	jlee@meckelec.org

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	EmpowerBBdeploy63020.csv	Aug 14, 2020 08:36:29	75
Fixed Broadband Subscription	EmpowerBBSpeeds063020.csv	Aug 14, 2020 08:36:29	19
Fixed Voice Subscription	EmpowerFixedVoiceSubs063020.csv	Aug 14, 2020 08:36:29	4

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Virginia	EMPOWER Broadband	Optical Carrier/Fiber to the End User	75
Total			75

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

Fixed Broadband Subscription

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Virginia	Asymmetric xDSL	1	1	0	1
	Optical Carrier/Fiber to the End User	18	119	30	149
Total		19	120	30	150

Fixed Broadband Subscriptions by Bandwidths and End-user Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
5.000	5.000	1	0	1
10.000	10.000	0	1	1
50.000	50.000	107	16	123
100.000	100.000	11	11	22
300.000	300.000	1	0	1
1000.000	1000.000	0	2	2
Total		120	30	150

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

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Asymmetric xDSL	5.000	5.000	1	0	1
	10.000	10.000	0	1	1
Optical Carrier/Fiber to the End User	50.000	50.000	107	16	123
	100.000	100.000	11	11	22
	300.000	300.000	1	0	1
	1000.000	1000.000	0	2	2
Total			120	30	150

Fixed Voice Subscription

VGE Lines and VoIP Subscriptions by State and End-user Type

State	Total VGE Lines	Consumer VGE Lines	Total VoIP Subscriptions	Consumer VoIP Subscriptions
Virginia	0	0	9	7
Total	0	0	9	7

Fixed Voice Subscription (iVoIP)

Over-the-top VoIP Subscriptions by State and End-user Type

State	Total	Consumer	Business / Govt
Virginia	0	0	0
Total	0	0	0

All other VoIP Subscriptions by State, End-user Type, Bundle and Last-mile Medium

State	Total	by End-user Type		by Bundle		by Last-mile Medium			
		Consumer	Business / Government	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	Copper
Virginia	9	7	2	9	0	9	0	0	0
Total	9	7	2	9	0	9	0	0	0

Attachment 14 Existing MEC CSX Crossing Review

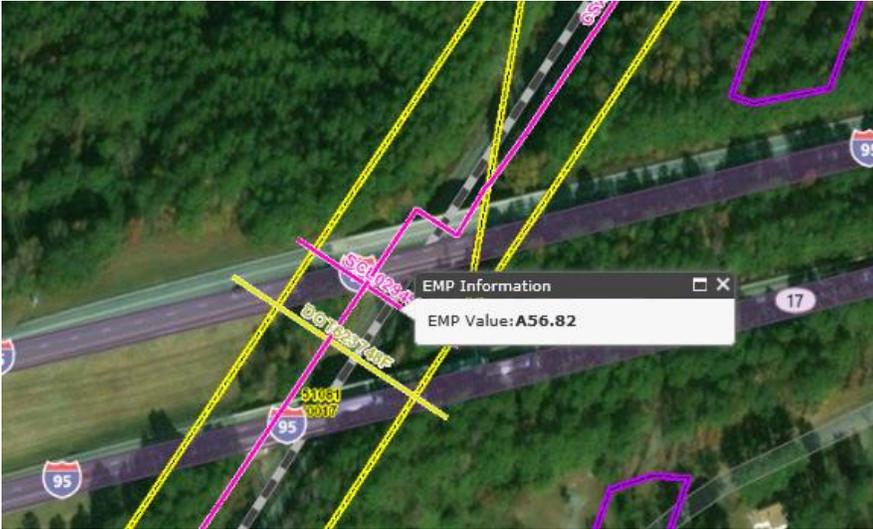
High 301N, East-Central Greenville County 2021 VATI - CSX Real Estate Asset Management Review

CSX Contacts: Randy Marcus, Max Hamel

SCL029457 – Power Wireline Crossing

Latitude: 36.765538873727266

Longitude: -77.48070727794334



ACLM01232 – Power Wireline Crossing

CSX684789 – Power Wireline Crossing

Latitude: 36.74664118277465

Longitude: -77.49592760596785



MARKETING PLAN

EMPOWER



BROADBAND

Powered by MEC

2020 VATI GRANT

EMPOWER BROADBAND, INC.
11633 Hwy 92 West, Chase City, VA 23924

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I. Executive Summary

EMPOWER Broadband, Inc. (EMPOWER) is a wholly-owned subsidiary of Mecklenburg Electric Cooperative (MEC) created to bridge the digital divide in rural Southside Virginia by bringing ultra-high-speed fiber-to-the-premise (FTTP) to those unserved and underserved regions across MEC's service territory and its surrounding communities.

II. Marketing Plan Summary

1. The Business

Name: EMPOWER Broadband, Inc.

Structure: Wholly-owned subsidiary of Mecklenburg Electric Cooperative

Location: 11633 Hwy 92 West, Chase City, VA 23924

Incorporated: 2019

Owner: Mecklenburg Electric Cooperative

Experience: MEC was established in 1938, by the members, for the members, at a time when rural Southside Virginia did not have access to electricity. For over 80 years, MEC has provided power to the rural citizens across portions of nine southern Virginia counties and five northern North Carolina counties. MEC understands the needs of rural citizens and how to operate a successful business with limited funds and lower density per mile. MEC has the infrastructure in place to hang fiber and a workforce that can capably design and implement fiber deployment. The MEC team has significant experience in line construction – having already strung portions of fiber to the offices and substations. Additionally, MEC's IT team has experience in network and fiber-to-the-premise broadband.

Products/Services: EMPOWER provides middle-mile capacity, retail high-speed internet service, as well as voice over IP telephony, high-speed data services, and advanced cloud-based solutions, to over 4,000 accounts in the cooperative's service territory in Southside Virginia and northern North Carolina

2. The Future

Vision Statement:

To further enhance the quality of life for the members and communities served by Mecklenburg Electric Cooperative by providing fiber-to-the-premise.

EMPOWER's initial goal has been, to complete the deployment of the fiber backbone reaching 135 miles across MEC's service territory – connecting 14 substations, the three

district offices (Emporia, Chase City and Gretna) and the headquarters' office together within 36 months to provide needed smart grid technology for MEC's distribution system and to extend FTTP to MEC members, or citizens that live within 1,000 foot of the backbone by utilizing MEC employees installing the backbone and initiating a foundation for the EMPOWER subsidiary.

Additionally, MEC continues planning fiber deployment to its remaining substations, as well as unserved and underserved routes extending from that backbone, while EMPOWER seeks to secure funding for additional FTTP customers along and adjacent to those routes.

EMPOWER's long-term goal is to extend fiber throughout MEC's service territory.

3. The Market

EMPOWER's target market begins with the members of MEC. There are nearly 3,000 members within the initial 1,000-foot backbone project. At an estimated 45.3% take rate, EMPOWER anticipates a minimum of 1,359 FTTP customers by March 2021. Including additional fiber projects already scheduled and/or completed, 3,270 FTTP customers are expected by 2022.

Currently, EMPOWER has the potential to serve a minimum of 30,158 homes, farms, and businesses across six counties, including those specifically outlined in this grant proposal, where MEC currently provides electric utility services.

- City of Emporia – 189 homes passed
- Mecklenburg County – 414 homes passed
- Halifax County – 1153 homes passed

EMPOWER Broadband will utilize cost-saving measures by soliciting only prospective customers throughout the build. Items such as direct-mailers, brochures, yard signs, rack cards and door hangers will be purchased and used to contact members as fiber is being installed along those lines within 1,000 feet of their home. Additionally, this targeted approach directly and specifically engages those homes within the initial 1,000 foot.

4. The Finances

Mecklenburg Electric Cooperative is spending \$2.6 million dollars to build the fiber optic backbone across its utility infrastructure to connect its substations and district offices – creating a fiber ring. The cost to supply high-speed fiber optic cables to the entire MEC service area is estimated at \$85 million.

Additional funds have, and will continue to be, pursued with grant funding from organizations, such as the Virginia Tobacco Region Revitalization Commission (VTRRC),

The Virginia Telecommunication Initiative (VATI), and the Federal Communications Commission's (FCC) Connect America Funds (CAF), which will be used to fund FTTP installations of EMPOWER Broadband accounts.

III. **Business Overview**

EMPOWER Broadband, Inc. provides middle-mile capacity, retail high-speed internet service, as well as voice over IP telephony, high-speed data services, and advanced cloud-based solutions, to over 4,000 accounts in the cooperative's service territory in Southside Virginia and northern North Carolina.

In April 2019, EMPOWER Broadband, Inc. joined forces with Buggs Island Telephone Cooperative, located in Bracey, Virginia, acquiring both its current telephone and broadband customers, who are mutual Mecklenburg Electric Cooperative members. All broadband and telephone customers are now served by EMPOWER Broadband, Inc.

IV. **The Future**

1. **Vision Statement:**

To enhance Mecklenburg Electric Cooperative's grid with a communications network – with a redundant fiber optic backbone at its core – to enable metering, smart grid, distributed generation, and direct connectivity for smart home appliances.

To further enhance the quality of life for the members and communities served by Mecklenburg Electric Cooperative by providing fiber-to-the-premise.

2. **Mission Statement:**

To bridge the digital divide for MEC members and the surrounding communities by providing high-speed broadband to create jobs, attract new businesses, improve education and healthcare, and boost the local economy.

- Create Jobs/Attract Business – By providing the local community with the necessary internet speeds to attract businesses to the area, job opportunities will increase.
- Education – By providing students, teachers and administration with the necessary internet speeds, both teaching and learning will be transformed.
- Healthcare – By helping bring physicians state-of-the-art equipment to the rural healthcare facilities of Southside Virginia with FTTP that will deliver world class

opportunities for remote patient care in the home, and with bandwidth that will support video diagnosis and communication or data downloads from advanced medical equipment.

- Economic Development – By having high-speed internet, rural Southside Virginia will become a hub for industry and growth.

3. Goals:

Short Term

To complete the deployment of a fiber backbone reaching 135 miles across MEC's service territory – connecting its substations, the three district offices (Emporia, Chase City and Gretna) and the headquarters' office within 36 months (March 2021) by utilizing MEC's employees to provide needed smart grid technology for MEC's distribution system.

To extend fiber-to-the-premise to MEC members, or citizens who live within 1,000 foot of the backbone, as well as other funded routes along the backbone, by utilizing MEC employees to install the backbone and initiate a foundation for the EMPOWER Broadband subsidiary. Additionally, contract deployment crews have been added to complete construction within the established schedule and strategic plan.

Long Term

EMPOWER Broadband, Inc. will extend fiber throughout MEC's service territory and/or local communities based on a take-rate approach.

V. The Market

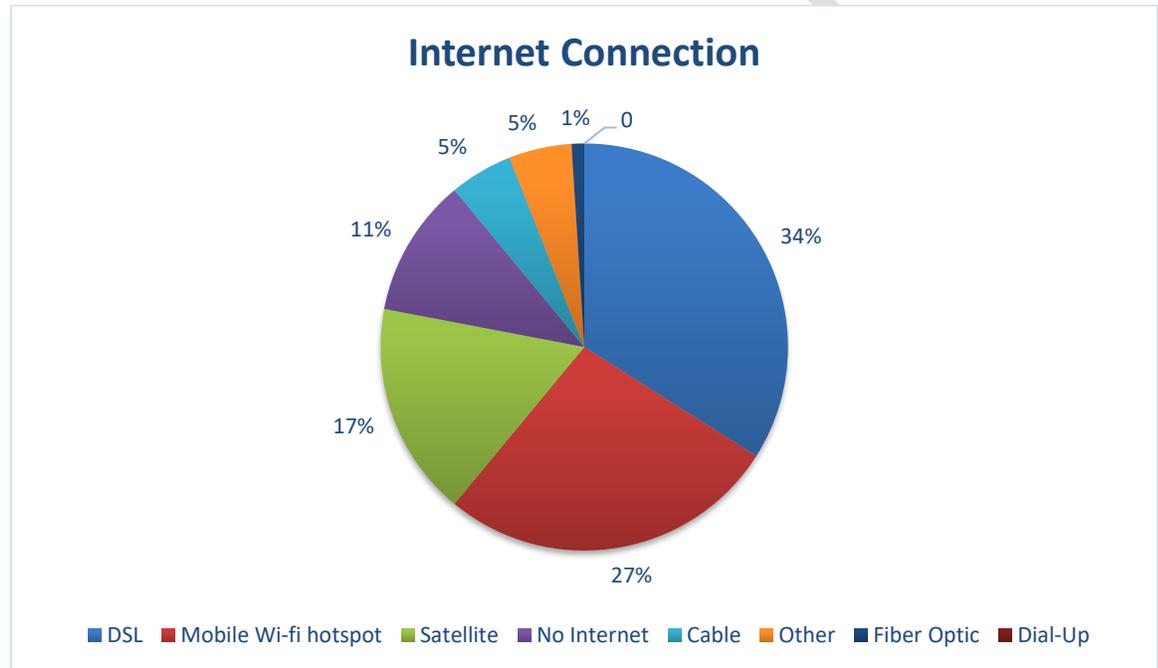
1. Unique Selling Position

Established in 1938, Mecklenburg Electric Cooperative is a not-for-profit, member-owned electric cooperative formed by the community for the sole purpose of providing electricity to the rural citizens of Southside Virginia. Over time, MEC has built a reputation of trust, commitment and service excellence among its membership. Today, the members of MEC are unable to acquire affordable, dependable, and sufficient high-speed internet services. MEC is uniquely situated in the unserved and underserved areas of Southside Virginia where high-speed internet is overpriced, unreliable and, in most cases, simply unavailable. Already having the infrastructure in place to easily add fiber cables, a skilled and capable workforce, an established potential customer base, and an established reputation

for excellent service and commitment, EMPOWER is perfectly situated to provide retail internet services throughout the service territory of MEC.

2. Market Research

Currently, over 60 cooperatives across the nation have, or are in the process, of providing their rural members with high-speed fiber-optic internet. According to MEC's most recent Residential Energy Survey conducted by Olson, 83% of MEC members use their PC/Laptop to connect to the internet with the following internet connections:



Internet service from satellite and dial-up services are too slow, latency laden, and unreliable for modern applications while DSL is well oversubscribed. With only one percent of our members having access to fiber-optic internet service, it is imperative that MEC share with its membership high-speed internet using the fiber-optic cables installed along its system.

3. Target Market

Members of MEC

MEC has nearly 3,000 members within the initial 1,000-foot backbone buildout. At an estimated 45.3% take rate, EMPOWER forecasts 1,359 customers within the first 36 months of operation.

Following the initial backbone phase, MEC has the potential to serve a minimum of 30,158 accounts across the following six counties, which MEC currently serves:

* Pittsylvania – 6,559

* Halifax – 5,950

* Charlotte – 1,169

* Mecklenburg – 10,130

* Brunswick – 3,749

* Greenville – 2,601

**Totals as of June 2020*

It should be further noted that this backbone will create the infrastructure to deliver a tree and branch approach for deploying fiber services to more unserved homes deeper into rural Southside Virginia.

Accordingly, MEC/EMPOWER has already secured funding and begun additional construction in the following areas:

Brunswick County – An additional 68.82 miles are being built to serve 844 households near Gasburg, Valentines and Wyche, Virginia. This is a six-year work plan beginning in 2020.

Halifax County – A one-year work plan has begun to feed 679 homes across various portions of Halifax; including Lower Liberty, Meadville, Northwest Halifax and Virgilina, which will add an additional 37.23 miles of fiber facilities.

Mecklenburg County – Approximately one mile of line has been run to include the new Mecklenburg County Junior and Senior High Schools, which are currently under construction. This line passes an additional 10 homes that have all been connected to fiber.

Pittsylvania County – An additional 9.2 miles of line will be constructed from Mt. Airy to Grit in 2021 and will pass 174 more homes.

With the acquisition of Buggs Island Telephone, EMPOWER also acquired additional fiber assets in portions of Mecklenburg and Brunswick Counties, including Holly Grove, Long Branch, Joyceville, Great Creek and Morristown Subdivisions.

Projected future projects include facilities passing:

96 consumers in Greenville County with an additional 3.18 miles of main line fiber.

414 consumers within Tanglewood Subdivision in Mecklenburg County totaling 22.33 miles of consumer access fiber.

1,250 consumers throughout portions of Halifax County with an additional 77.52 miles of main line.

Communities in close proximity to MEC lines

Although the initial priority of EMPOWER Broadband is to provide high-speed internet access to the members of MEC, community interest/need will be the driving factor of broadband cable placement and access following the initial backbone build.

For example, we have worked with Mid-Atlantic Broadband to provide services to a call center in the town of Lawrenceville, Virginia and we'll continue to work with local townships that are not directly served by MEC to ensure economic development for our rural communities.

4. Marketing Strategy

Marketing Activity	Person Responsible	Date of expected completion
Introduction Letter (services coming) Direct Mail to eligible members	Member & Energy Services Team	Mail once make-ready construction begins at location
Letter to include services and contract Direct Mail to eligible members	Member & Energy Services Team	Mail when make-ready work is complete
Postcards	Member & Energy Services Team	Mailed 3 weeks after contract letter
Door Hangers/Door to Door	Member & Energy Services Team	Used during installation phase
Yard Signs	Member & Energy Services Team	Displayed at property where services are connected
Rack Cards	Member & Energy Services Team	Complete
Brochures	Member & Energy Services Team	Complete
Website	Member & Energy Services Team	Complete
Giveaway Items	Member & Energy Services Team	Complete

<p>Branding Materials (shirts, tent, table cover, display stand)</p>	<p>Member & Energy Services Team</p>	<p>Complete</p>
--	--	-----------------

VI. The Finances

1. Price

Residential pricing structures are as follows:

EMPOWER BROADBAND
Powered by MEC

Now offering Fiber-to-the-Home Broadband Service.

Get the fastest and most dependable internet speeds available today.

CALL TODAY TO SIGN-UP!
Also offering home telephone service.

Residential Pricing

Premium Package	Ultra Package	Super Package	Lightning Package
\$69.95 Month	\$119.95 Month	\$199.95 Month	\$269.95 Month
Add home phone for \$30.00			
Total \$99.95	Total \$149.95	Total \$229.95	Total \$299.95
Up to 50/50 Mbps	Up to 100/100 Mbps	Up to 300/300 Mbps	1 GIG

*All prices include in-home Managed Wireless Router.

Commercial pricing structures are as follows:

EMPOWER BROADBAND
Powered by MEC

Now offering Fiber-to-the-Premise Broadband Service.

Get the fastest and most dependable internet speeds available today.
CALL TODAY TO SIGN-UP!
Also offering telephone service.

Business Pricing

Small Business Premium Solution	Small Business Ultimate Solution	Customized Enterprise Solution
\$89.95 Month	\$139.95 Month	Call Today!
Speeds up to 50 Mbps <small>Help your business reach new heights with premium speeds. 50 Mbps download/50 Mbps upload and employees will no longer have to wait on that buffering symbol to get the job done. Recommended for < 3 employees</small>	Speeds up to 100 Mbps <small>With 100 Mbps internet service, the power is now in your hands. With ultimate speeds, 100 Mbps download/100Mbps upload - your business will have the speeds it needs to accomplish more than ever. Recommended 5-10 employees</small>	<small>In today's business world, you need the fastest, most reliable internet service. We understand that, and at EMPOWER, we can customize a network solution to meet your enterprise data and phone requirements. Call us today for a free quote. Recommended for 10+ employees</small>

2. Expected Sales

Per EMPOWER's VTRRC grant funding guidelines, MEC will provide FTTP services to a minimum of 1,300 customers by March 2021. With all additional building projects expected between 2020 to 2022, at an expected take rate of 45.3%, an anticipated 3,270 FTTP customer connections are projected.

EMPOWER's market research indicates the average take rate of 45.3% for these initial installations along the backbone route, as well as additional routes outlined in these proposed VATI grant areas, are both obtainable and reasonable .

3. Monitoring/Measurement Activities

EMPOWER Broadband will monitor early customer sign-ups per phase of fiber cable installed. If forecasts are not met with above marketing material, EMPOWER will take more aggressive measures to reach potential customers, i.e. door-to-door visits, phone calls, etc.

4. Crisis Management

During the event of unexpected and disruptive events, such as the ones experienced with COVID-19, both Mecklenburg Electric Cooperative and EMPOWER Broadband, Inc., will take the necessary precautions to ensure the safety of its employees, customers and the public -- first and foremost. With that said, we understand that dependable, high-speed internet access is needed more than ever for our community to thrive. Our crews, as well as contract crews, have continued to work around the clock and will continue to do so as long as government restrictions permit. Keeping in mind that utilities are "essential businesses," we must continue to perform daily work to ensure our members and customers have access to electricity and communications mediums during any crisis.

The following COVID-19 precautions are currently in place for Mecklenburg Electric Cooperative and EMPOWER Broadband, Inc.:

- **NO ONE** except for MEC/EMPOWER employees and directors is allowed in any of the cooperative's facilities, including family members.
- If anyone in an employee's home is sick or running a temperature, the direct supervisor must be notified, and the employee stays home until the person who is sick has been at least 24 hours without a fever.
- All employees must maintain the 6-foot social distancing standard and not congregate in close quarters.

- There is no gathering of more than 10 employees and only then if absolutely necessary. We recognize that outside employees work in the general vicinity of each other; and even then, employees must distance whenever possible.
- Avoid physical contact with co-workers.
- Cleaning services have been doubled at our facilities with emphasis on disinfectant wipe downs on door knobs, push-bars and other areas that get heavy hand contact.
- All business travel requiring airlines is prohibited. Personal travel is strongly discouraged. Supervisor must be notified of all travel outside of region.
- Bottles of disinfecting hand cleaner are available throughout each district office. Employees are encouraged to use frequently.
- There is limited interoffice travel and interaction among the districts and the EMPOWER Headquarters in Bracey.
- Lobbies are closed to all traffic and will remain closed until further notice.
- Employees are encouraged to bring their lunches and limit interaction with others at restaurants or food service establishments during lunch.
- Outside employees are to limit any interaction with others while in the field. If approached by a member/customer or other individual, employee will politely let them know that they must keep a safe distance and that they can contact the office by phone for assistance.
- Outside employees will avoid coming into the buildings whenever possible.
- Home fiber installs will continue at the discretion of the independent contractor. The contractor will pick up the equipment needed outside the back door, and return all paperwork using outside drop box.
- EMPOWER technicians are dispatched from home for new phone and internet installs and trouble calls and will pick up equipment in the same manner as the independent contractor.
- All deliveries to offices are delivered to outside dock and/or porch. No entry!
- Any employee with a dry cough, high fever, shortness of breath, or any other COVID-19 symptoms, is to stay at home until symptoms have ceased 24 hours have lapsed without a fever.



HOW FAST WILL THE INTERNET SERVICE OFFERED BY EMPOWER BROADBAND REALLY BE?

- The basic package will offer 50 Mbps download / 50 Mbps upload.
- Speeds will provide simultaneous video to at least five separate devices with no buffering.
- A four-minute song can be downloaded in 6/10's of a second.
- A 45-minute TV show can be downloaded in 30 seconds.
- For the most demanding user, EMPOWER Broadband's fiber will be capable of delivering speeds up to 1 Gig.

Fiber will provide the absolute fastest and most reliable communication medium for the next generation. In other communities, the deployment of fiber broadband has led to increased property values, fostered economic development and has had a marked impact on educational and training opportunities.

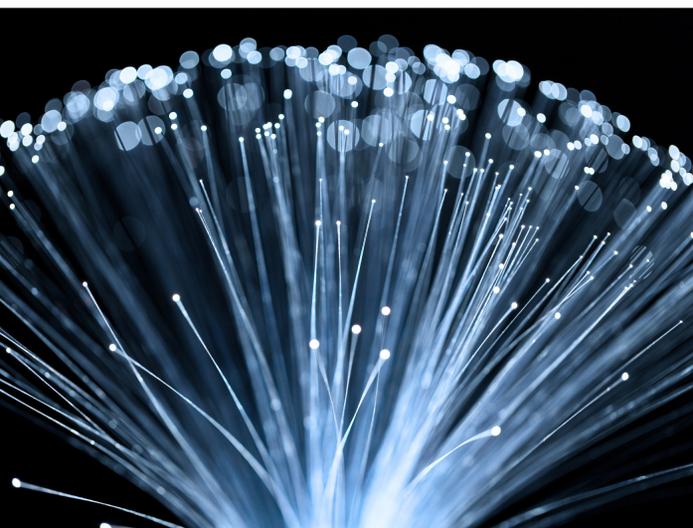


CONTACT US

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EMPOWER@meckelec.org
www.meckelec.org

11633 Hwy 92 W
Chase City, VA 23924

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BROADBAND
Powered by MEC



Proposed Backbone Route

What is FTTP?

EMPOWER Broadband, a wholly-owned subsidiary of Mecklenburg Electric Cooperative (MEC), will deploy fiber optic cable to homes and businesses; the connection from the fiber backbone to individual buildings is referred to as “Fiber-to-the-Premises (FTTP).”

What is the EMPOWER Broadband pilot project?

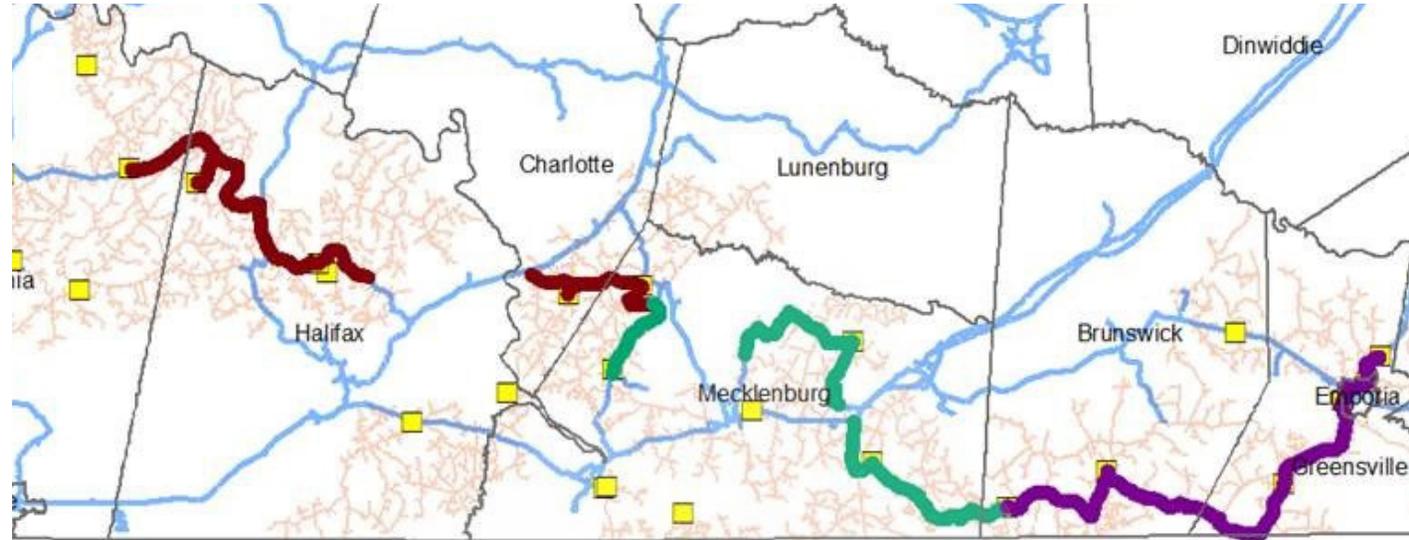
MEC’s EMPOWER Broadband pilot project will utilize \$2.6 million in Tobacco Region Revitalization Commission grant funds to deploy fiber to connect consumers within 1,000 feet of a 135-mile fiber backbone crossing portions of Brunswick, Charlotte, Greenville, Halifax, Mecklenburg, and Pittsylvania counties.

Will my home be within 1,000 feet of the backbone line?

We are currently engineering the exact route the backbone line will traverse; a map showing the most current proposed path is attached. Additional information will be forthcoming at www.meckelec.org.

When will EMPOWER Broadband be available to every MEC member?

The deployment schedule is largely dependent on the availability of funds. EMPOWER Broadband will continue to aggressively seek grant funds to extend services across the MEC system and beyond.



Mecklenburg Electric Cooperative will deploy fiber optic cable across its system to connect its substations and district offices.

Why fiber as opposed to wireless or other technologies?

- ✓ An all-fiber network provides our communities with communications capabilities, educational and training opportunities, and economic development infrastructure resources that rival the best in the world and it can be upgraded without laying new fiber.
- ✓ Wireless internet solutions offer the advantage of quick deployment and a marginally lower cost; however, wireless is challenged in scalability, reliability, and security. Trees, buildings, and weather impact wireless service. Wireless internet can be compared to the reliability of your cell phone. Wireless may be good for mobility, but it does not offer competitive speeds or the unmatched reliability of wired connections.
- ✓ A fiber network provides the foundation for all wireless solutions.

When will construction begin and who will do the work?

Fiber construction has started from our central location in the Chase City Headquarters office to Highway 360. Lines will continue to be built both east and west. The installation of fiber directly connecting to homes and businesses will begin as early as August. The retail fiber deployment will be performed by contractors under the direction of MEC personnel. This method of deployment allows MEC crews to continue critical electric system construction and maintenance while also expediting the installation of FTTP.

How much will this service cost?

The 50 Mbps package will cost between \$65 and \$75 per month for a residential consumer, which also includes a WIFI enabled router. For less than \$100 per month, EMPOWER will also offer a bundle package to include home telephone service.

MORE THAN JUST INTERNET

ACCESS A WORLD OF OPPORTUNITIES

- Telephone
- Healthcare
- Television
- Gaming
- Education
- Security

May require additional subscriptions

PACKAGES
START AT JUST
\$69.95
PER MONTH

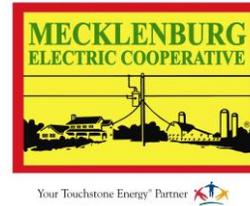
COMING SOON!

Your home is along our FIBER route and will be eligible to receive EMPOWER's *super-fast* internet service! Watch your mailbox for more exciting details.

EMPOWER Broadband, Inc.

434-372-6244 ~ empowermec.net ~ empower@meckelec.org





DATE

ADDRESS

Dear Resident,

This letter is to inform you that Mecklenburg Electric Cooperative's (MEC) fiber optic cable network has been installed within 1,000 feet of your home and you are eligible to receive high-speed internet and phone service from EMPOWER Broadband. Now you too can watch that new show on Netflix that everyone is talking about, and your kids or grandkids can do homework over the internet!

For months we've been touting MEC's fiber "backbone" as we sought approval from the Virginia State Corporation Commission (SCC) for our EMPOWER Broadband Fiber-To-The-Home subsidiary! On January 30, 2019, we cleared the final hurdle as the SCC granted the needed approvals.

GOOD NEWS!

For years, Mecklenburg Electric Cooperative has built and maintained its own complex communications network... our expertise is second to none! We'll use that expertise to build a robust fiber optic network to accommodate the growing need to transfer data between substations and offices. That need will be met through the deployment of fiber optic cable. This fiber "backbone" offers a great opportunity for those who live within 1,000 feet of the backbone to receive ultra-high-speed fiber broadband.

THE BEST NEWS!!

The days of settling for slow internet are over! You asked, and we listened. EMPOWER Broadband, a subsidiary of MEC, will bring you -- not just fast -- but THE FASTEST and most reliable internet available anywhere with the same great customer service you have come to expect from your electric cooperative!

Go Ahead...Get EXCITED!

Let's get started! Sign and return the attached 2-year Residential Service Contract for broadband internet by April 12 and we'll begin designing the fiber connection to your home. Act now and receive a limited-time offer for free installation! Bundle internet with a 2-year home telephone service contract and **we'll waive the \$100 broadband installation and the \$30 phone activation fees.**

Choose EMPOWER Broadband as your service provider today... it's backed by a team you know and trust and who has served Southside Virginia capably and responsibly since 1938. With residential speeds starting at 50 Megabits per second and **unlimited** data usage for \$69.95 a month, you don't have to settle for less anymore!

Sincerely,

David Lipscomb
VP Member & Energy Services

OPEN A WORLD OF OPPORTUNITY

with the fastest, most reliable internet available anywhere.

NO DATA CAPS

NO THROTTLING

NO LIMITS!



START AT JUST

\$69.95

PER MONTH

COMPLETE THE RESIDENTIAL SERVICE CONTRACT
FOR INTERNET SERVICE ONLY
BY APRIL 12

NEW
OFFER

SAVE \$50.00

Bundle EMPOWER BROADBAND'S
INTERNET AND HOME-TELEPHONE SERVICE
BY APRIL 12

SAVE \$100.00

EMPOWER Broadband, Inc.

434-372-6244 ~ empowermec.net ~ empower@meckelec.org

Sorry We Missed You!

EMPOWER

BROADBAND
Powered by MEC

**High-Speed Fiber
Internet is Available to You**

**LIMITED TIME FOR
SPECIAL DISCOUNTS**

COMPLETE THE
RESIDENTIAL SERVICE CONTRACT
FOR INTERNET SERVICE
BY APRIL 15

SAVE \$50
ON INSTALLATION

OR

BUNDLE
INTERNET AND
HOME-PHONE SERVICE
BY APRIL 15

SAVE \$100
ON FREE INSTALLATION

434-372-6244
www.empowermec.net

YOU ARE INVITED

Want to learn more about how **EMPOWER**
can help you **ACCESS THE WORLD?**

Come by our office on Wednesday, April 10
anytime between 3:00 p.m. – 7:00 p.m. for
refreshments and a quick demonstration
on how 50 Mbps can open up a world of
opportunity for you and your family and
SAVE YOU MONEY!

Mecklenburg Electric Cooperative
11633 Hwy 92
Chase City, VA 23924

MORE THAN JUST INTERNET

Come by and see the amazing opportunities
available to your home!

- Telephone
- Television
- Education
- Healthcare
- Gaming
- Security

May require additional subscriptions

PACKAGES START
AT JUST
\$69.95
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50

Congrats

years

TANGLEWOOD SHORES
GOLF AND COUNTRY CLUB



Empowering Southside Virginia...one fiber at time!

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INSTRUCTIONS
1. Peel off the top layer
at the bottom.

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