

Application to DHCD Submitted through CAMS

HALIFAX COUNTY

Halifax County Broadband - SCS Broadband 2019

Application ID: 59812062018133129
Application Status: In Progress - DHCD
Program Name: Virginia Telecommunications Initiative 2019
Organization Name: HALIFAX COUNTY
Organization Address: 134 S MAIN STREET
HALIFAX, VA 24558-0699
Profile Manager Name: STEPHANIE JACKSON
Profile Manager Phone: (434) 830-3302
Profile Manager Email: SCJ@CO.HALIFAX.VA.US

Project Name: Halifax County Broadband - SCS Broadband 2019
Project Contact Name: Kimley Blanks
Project Contact Phone: (434) 476-3300
Project Contact Email: kimley.blanks@co.halifax.va.us
Project Location: P.O. Box 699
Halifax, VA 24558-3213
Project Service Area: Halifax County, Virginia Town

Total Requested Amount: \$296,320.00

Required Annual Audit Status: Accepted

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Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
Telecommunications	\$296,320.00	\$211,500.00	\$507,820.00
Other: Total	\$296,320.00	\$211,500.00	\$507,820.00
Total:	\$296,320.00	\$211,500.00	\$507,820.00

Budget Narrative:

This projects itemization of equipment and construction costs is presented in the attachment, "Figure 12.1 Derivative of Costs", which contains web links to pricing for all material, and a list of all construction costs such as labor and leasing fees.

Questions and Responses:

1. Project Area

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

Answer:

Halifax County and its private partner SCS Broadband have developed a plan to expand broadband service significantly in the county. SCS Broadband has a partnership to lease up to nine commercial towers while the county is building three towers. This grant request is for installing broadband service equipment on five of these towers. The five towers were selected based on service requests received in these areas, along with meeting the DHCD rules for unserved and non-CAFII funded areas. Four of the towers selected are commercial towers to be leased but which have had a preliminary evaluation for availability by owner of the tower. The fifth tower is being built by the county within the time frame of the DHCD requirements.

The grant funding requested here is to significantly expedite the expansion of SCS Broadband's existing system into Halifax. SCS Broadband will also be able to add their highspeed LTE equipment and VOIP phone product to the new network extensions as a result of this funding. Halifax County and SCS Broadband are requesting VATI funding to cover the labor and materials cost of mounting telecom broadcasting equipment to the towers that SCS Broadband will lease. In addition, the funding will cover wireless backhaul as needed for each tower. Comsearch will be contracted to perform all required FCC engineering and licensing processes for all licensed backhaul 1Gbps 11Ghz radios. SCS Broadband has already applied for all the licenses for 3.65Ghz LTE systems. The project area will include the following regions:

- Acorn
- Nathalie
- Republican Grove

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- Volens Road
- Cody Road
- Boxwood Road
- Leda Grove Road
- Virgilina
- Cluster Springs
- Horseshoe Trail
- Old Roxboro Road
- Dennison Road
- Turbeville
- Piney Grove Road
- New Bethel Road
- Wilkens Road
- Mount Carmel Road

This project area was also selected based on the census blocks and groups that were not awarded CAFII funding. The actual project map was used to determine that SCS Broadband's funding request would not overlap any other project more than 10 percent as required by DHCD rules. There are five towers in the plan. Four of the towers are existing county towers that SCS Broadband will lease from respective owners, SBA Corp and American Tower Corporation. A fifth county tower will be leased from the County of Halifax.

2.

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

Answer:

The project area chosen for this VATI grant submission currently does not have any provider that offers high-speed service as set out by DHCD at <10 Mbps/1Mbps. The area selected and tailored with specific sectorization from the towers do have CAFII or have areas which overlap more than 20% of any competitor with actual speeds greater than 10Mbps. Although some DSL providers advertise speeds greater than 10Mbps, BroadbandNow.com runs a continuous service which captures the actual statistics supplied by speed tests of citizens which documents otherwise.

There are no other ISPs in the project area that meet the speed requirements of 10Mbps or greater in advertised speeds. The attachment, "Figure 2.1 - Existing ISP and CAFII Funding Map", depicts the areas for funding, as well as the existing unqualified ISP and CAFII funding areas.

3. Project Need/Description

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

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service overlap with current providers within the project area.

Answer:

There are no Wireless ISPs with 10Mbps or greater other than SCS Broadband in other areas of the county. Those areas according to BroadbandNow.com's citizen speed checking program, only provide speeds less than 10Mbps. These areas are also less than 10% of any tower coverage presented. This was confirmed as of 12/12/2018 and the results are included in this application.

Sources used to determine what Internet Service Providers used were:

1. Halifax County Administration
2. Public Surveys
3. Web searches
 - a. Broadbandnow.com
 - b. Broadbandsearch.net
4. FCC ISP Registration Database for Form 477

None of these sources listed a wireline or wireless ISP with 10Mbps or more speed.

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

Answer:

The proposed project area is made up of rural homes and communities. If the VATI grant is obtained, the number of citizens that can be served is 11,907. This number was determined using the U.S. Postal mailing routes which fell into the project area. See attachment "Figure 4.1 – U.S. Postal Routes Statistics of Area to be Served". This is a snapshot of the online tool provided by the EDDM service of the U. S. Postal Service. This tool lists a total of 6,375 addresses, 1,612 of which are out of the service range of the tower or is in CAFII area. This leaves a total estimate of 4,763 addresses, with 126 of these addresses being businesses and 4,637 being homes. The breakdown of the U. S. Postal Service mapping was accomplished using the SCS Propagation Mapping tool which shows the number of people served in the proposed service area.

In summary, 4,637 homes and 126 businesses can be served in the area to be funded. This equates to a population estimate of 11,907 citizens.

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

Answer:

As indicated in the previous section, there are 4,637 households and 126 businesses that can be served in the project area. In addition to these 126 businesses, there are non-profits and government institutions which also can be serviced by this funding. These include the various government departments and agencies such as Post Offices, Volunteer Fire Departments, and social clubs such as 4H, Rotary Club, and others.

Although not all-inclusive, these are some other businesses and non-profits which have been analyzed to be in the service area of these towers:

1. Volens Income Tax and Bookkeeping
2. Ed Hodnett Jr. General Contracting
3. Town and Country Heating and Air

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4. Dollar General Volens
5. MV Cunningham Inc.
6. Slick Rock Lumber
7. Nathalie Metals
8. Tri-County insulation
9. Austin Excavating Land
10. Guill's Hardwood Floors
11. Carrington Brothers, Inc
12. Michael E. Day, Inc.
13. Standard Exterminating Co.
14. Walton's Electric Co.
15. Southside Mechanical Inc.

In addition, the following non-profits would be eligible for SCS Broadband's Non-Profit Program, with services from \$17.50 per month:

1. 29 Churches
2. Environmental Honey Bee Study
3. Patrick Henry Boys Home
4. North Halifax Vol. Fire department

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

Answer:

There is a possibility of 4,763 installations based on the previous analysis if SCS achieved a 100% take rate. From SCS's experience, the estimated take rate is a maximum of 2,382 installations or 50% of those who can receive the service signal in the territorial environment of this county. This considers hill heights and foliage, as topography varies greatly from county to county. The difference is due to several factors:

1. Elderly people who do not use the Internet
2. Extreme low-income people who cannot afford the Internet
3. Abandoned houses and business locations
4. People on long-term contracts with other providers such as satellite
5. People satisfied with less than 10Mbps service due to low Internet demands

Using 2,382 as an estimated number for take rate, and the time frame of one year for the project, all 2,382 would be able to be installed within 36 months. This is based on the installations to be handled by the SCS Broadband Southern Virginia Regional installation team over the course of 2019-2021. These two teams must average six installs a day. There are 260 weekdays in a year which we subtract out these numbers:

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1. Holidays
2. Sick Leave
3. Vacation Leave
4. Poor Weather

SCS Broadband estimates 160 weekday installation days a year, plus another 48 Saturdays, giving us 208 installation days a year. This would leave a total of up to 1,191 installations a year for the installation teams, or approximately 2 years to reach the installation of all 2,382 estimated take rate. This may be shortened with additional personnel once the number of installs reaches a certain percentage creating the cash flow for an additional team.

The process to obtain this take rate will be through SCS Broadband established marketing procedures and policies. Marketing is accomplished by these means:

1. Paid Social Media Advertising (Facebook & Instagram)
2. Paid Search Engine Google
3. Google AdWords
4. Yard Signs
5. Local Online News Media
6. Local Printed News Media
7. Customer Recommendation Programs
8. Phone Calling
9. SCS Broadband Website Promoting

Figure 6.1 – “Sample Marketing Results”, depicts actual results of a counties’ continual marketing results. All service requests are automatically placed onto a map, and all service signal statistics and installation information are sent to SCS Broadband’s Service and Installation management.

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

Answer:

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VATI funding for this project would provide an important enhancement of the existing partnership between SCS Broadband and Halifax County. This project is a last-mile only project using LTE wireless technology at broadband speeds up to 50Mbps. Included are several licensed 1Gbps wireless backhaul links.

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

Answer:

One of Halifax County towers for this grant request is owned by the County, three by American Tower Corporation and a fifth tower by SBA Inc. SCS Broadband will own and maintain all the equipment to be loaded onto these towers. The company has three certified tower crews, and also contracts out tower climbing subcontracts when required to meet project deadlines. This tower is part of a complete county-wide wireless network being extended in 2019-2020. Attachment, "Figure 8.1 - Halifax County Wireless Network Plan", depicts the entire network's goal.

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

Answer:

The system will be a last-mile deployment to homes and businesses, using LTE and WIFI technology with a speed range between 10Mbps and 50Mbps with pricing starting at \$35. The system uses a proprietary shared polling software system, which keeps an effective service level while preventing overloading on the base stations. Each LTE base station can handle up to 96 last mile sessions, and the new WIFI base stations can handle 60 last mile sessions each. There are four base stations per tower for LTE and four WIFI base stations allowing for a total of 624 sessions, or connections to homes for the tower. This is twice the number expected, reducing the load by 50% of the maximum stated by the manufacturers. All plans are set to burst up to 10% higher than plan speed, used when the system detects the availability of backhaul bandwidth. Dedicated services will be offered in the business plan product line up to 500Mbps. Upload speeds will be open to availability by location, with a minimum of 8Mbps. All plans have uncapped, unlimited data. This is possible due to the bandwidth of the wireless and fiber backhauled.

VOIP phone service will be available for an additional \$15 a month for unlimited U.S. calling. The phone service can be used at home through any type of phone, landline or cellular, and can be used away from home with smartphones connected to WIFI anywhere in the continental United States.

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

Answer:

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The funds from this grant will be used to add on to an existing SCS Broadband/Halifax County network. The current network is still in the early stages of deployment. Two towers, one in Pittsylvania County where SCS Broadband has a county partnership, and one in Campbell County are being used to service Halifax with last mile service and wireless backhaul to the Internet. These towers are close in proximity to Halifax borders and have allowed a low-cost access to the Internet for the Halifax Wireless Network. The current network consists of a fiber backhaul to the SCS Broadband Richmond Exchange and to Ashburn Virginia for final Internet connection. This funding request to DHCD/VATI is for loading five new towers for the network. This is a critical network build-out due to the population and businesses that will be affected which do not have speeds above 10Mbps. Below is a detailed description of the existing network and what the funding would be used for in adding to this existing network.

This project is for tower equipment and labor for loading on five existing towers, and six new 1Gbps 11Ghz licensed backhauls. Presented earlier in Project Description, is a map, "Figure 1.1 - Maps of Project Area", which includes the propagation of service signal (presented in green) which the new towers will cover. This propagation comes from an automated propagation tool which SCS Broadband uses for determining a tower's service area. The tool is directly connected to marketing through the company's website and allows every submission for service from citizens to be automatically mapped and sent to main office staff for processing.

SCS has a fiber backhaul located at one existing tower which will be upgraded for the new bandwidth requirements for this new expansion. An additional fiber connection is in process in the Town of Halifax from Mid-Atlantic Broadband. These backhaul fiber connections are leased by SCS Broadband in a five-year contract and routes through other SCS Broadband fiber leases to our Richmond Exchange equipment. If the content a user is searching for is not available at the Richmond Exchange, SCS Broadband's leased dedicated fiber to Ashburn, VA directs the user's request to the Internet. This routing is in place for many counties in Virginia by SCS Broadband which leads to the best performance for high bandwidth usage applications. Some of these applications on the SCS Broadband network as examples are Netflix, Apple TV, DropBox and Facebook... among the 40+ applications.

11. Project Readiness

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

Answer:

Halifax County and SCS Broadband have already cooperated to provision up to nine commercial towers in the county with broadband Internet equipment. The county is also building in partnership with SCS Broadband, three more towers they will own and lease to SCS Broadband. One of those three is part of this grant as it will be completed within the timeframe constraints of the DHCD rules, whereas the other two are uncertain.

This VATI request for a five of these towers which will allow deep extensions into new territory or territory <10Mbps. The next step is to submit a lease request and pay for engineering analysis to add the SCS Broadband equipment on the tower. Once the lease is completed, SCS Broadband will be able to immediately load all required equipment onto the tower and turn on service to the communities previously listed. All county towers will also have wind load engineering as well as analysis done by the owners of the towers, as required. Although VATI allows for a year to complete a funded project, this project is scheduled to be completed within one year of start date for loading the towers and having them operational. This is shown in the attachment "Project Management

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Plan”.

12. Matching funds: Provide a description of the matching funds the applicant and co-applicant will invest in the proposed project, (VATI funding cannot exceed 80% of total project cost). The Funding Sources Table should be completed.
- i. For each element of matching funds in the description, indicate the type of match (cash, salary expense, or in-kind contribution).
 - ii. Identify whether the applicant or co-applicant is responsible for providing each element of the proposed matching funds.
 - iii. Include copies of vendor quotes or documented cost estimates supporting the proposed budget.

Answer:

SCS Broadband and the County of Halifax will cover the 5% of the project with In-Kind contributions. SCS Broadband will invest \$187,500 in matching funds to the project’s total cost of \$507,820 and Halifax County will add in \$24,000 of In-Kind funding. The attachment “Figure 12.2 - VATI Funding Sources,” shows the breakdown of these funds and the details of the budget with documentation per line item.

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

Answer:

HALIFAX COUNTY STAFF		
Name	Title	Grant Role
Kimley Blanks	Special Projects Manager Halifax County Community Development	Will act as grant coordinator for Halifax County
SCS BROADBAND STAFF (internet provider)		
Lon Whelchel	CEO, SCS Broadband	Overseeing entire SCS Broadband side of the project
Clay Stewart	COO, SCS Broadband	Will work with the Halifax grant coordinator to implement broadband services in the Halifax project area
Gerri Stewart, CPA	CFO, SCS Broadband	Will provide oversight of the financial aspect of the project on SCS Broadband’s side
Jared Noel	Southern Operations Manager, SCS Broadband	Day-to-day management of project construction

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14. Applicant and Co-Applicant: A description of the public-private partnership involved in the project. Detail the local government assistance: Local government co-applicants should demonstrate assistance to project that will lower overall cost and further assist in the timely completion of construction, including assistance with permits, rights of way, easement and other issues that may hinder or delay timely construction and increase cost.
- i. If the partnership is formalized in a written agreement provide a copy of that agreement.
 - ii. If the partnership has not been formalized, provide a short description of the project management role, financial commitment, or other contribution to the project for the applicant and co-applicant and any additional partners.

Answer:

The SCS Broadband and County of Halifax broadband project was launched in 2018 with a partnership whereas three county towers are to be built by the county and SCS Broadband is to lease commercial tower to build a county wide wireless network based on a Wireless Network Design accomplished in partnership in 2017. The county is providing all the towers at a nominal monthly fee for five years as In-Kind funding to help the original county-wide project to be successful. One of those county towers will be ready and has been included in this grant request. All four other towers are towers which were identified as best suited from the original design for this grant request. This partnership is documented in a Lease Agreement attachment, "Figure 14.1 - Applicant and Co-applicant Contract".

SCS Broadband has leased towers in Pittsylvania county which is currently feeding to Halifax via wireless backhaul. A water tower in Brookneal, just across the Staunton River is providing last mile service into Halifax as part of the existing partnership. These towers will provide direct backhaul into the northern towers in this grant proposal. The southern towers in This grant proposal will be backhauls into the town of Halifax, and into another Pittsylvania tower, the first part of the partnership with Halifax County, and the latter part of the partnership with Pittsylvania County. The long-term leases for those backhaul towers and the five-year lease obligations for these new towers and fiber backhauls, show proof of SCS Broadband's commitment to Halifax County.

Halifax County Administration supports this grant request partnership and posted the proper public notice. SCS Broadband will be responsible for at least 20% of the required matching funds which includes the leasing required for all the four commercial towers. The County will be responsible for monitoring of the project to completion. Completion will be the day all the towers have started provisioning broadband, having been completed.

15. Project Budget and Cost Appropriateness

Applicants shall provide a detailed budget as to how the grant funds will be utilized, including an itemization of equipment and construction costs and a justification of proposed expenses. Expenses should be substantiated by clear

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cost estimates.

Answer:

This project's itemization of equipment and construction costs is presented in the attachment, "Figure 12.1 Derivative of Costs", which contains web links to pricing for all material, and a list of all construction costs such as labor and leasing fees.

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

Answer:

The DHCD share for the cost of this project will be 58% of the total project cost of \$507,820 or \$211,500.

The estimated take rate is 2,382 homes including 126 businesses. Dividing this into the total cost of the project gives the figure of \$213 as the "cost per unit passed". That includes both SCS Broadband and Halifax County contributions and the funding from DHCD.

Citizens and businesses will be able to choose one of 5 plans, switching for free at the 1st of any month, up or down. The speeds of each tier are 10Mbps, 20Mbps, 30Mbps, 40Mbps, and 50Mbps down. The upload speed for each plan will be 8Mbps or greater.

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

Answer:

SCS Broadband is a premier Internet Service Provider (ISP), specializing in offering service in rural communities for over 13 years. In 2005, SCS Broadband began building a wireless network using both commercial towers and private structures, water towers and light poles throughout Nelson, Amherst and Buckingham counties of Virginia. In 2016, SCS Broadband created a five-year plan to deploy throughout Central Virginia in rural counties. SCS Broadband has expanded to these counties, many in partnerships of PPEA and other agreements:

- Nelson
- Amherst
- Bedford
- Pittsylvania
- Halifax
- Buckingham
- Albemarle
- Louisa
- Charles City
- Surry

In addition, SCS broadband has worked with New Kent, Hanover and Goochland counties for future deployments. SCS Broadband leases many commercial and county owned towers, as well as private structures.

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In March 2018, SCS Broadband won two Tobacco Region Revitalization Commission (TRRC) in partnerships with Halifax and Pittsylvania Counties.

In addition, SCS Broadband has applied for DHCD/VATI grants for three years in a row in partnership with several counties. As a result of the efforts of writing grants, and in performing grant projects, SCS Broadband has become very experienced in working with grantors, such as DHCD.

Surry County, Virginia is the Applicant for this grant application submittal which includes SCS Broadband, Inc., as the Co-Applicant.

Ms. Rhonda L. Russell, Surry County Planning & Community Development Director, will serve as the Grant Administrator for the project. Ms. Russell has extensive public service and management experience amassed over a twenty-year local government career where she has managed as many as thirteen employees and departmental budgets of more than \$500,000.00. She has written, received, and implemented multiple grant awards for housing rehabilitation, broadband and sewer infrastructure and lead abatement projects, totaling more than \$6 million. Additionally, Ms. Russell's noteworthy academic preparation includes an undergraduate Planning Degree, Va. Tech, Blacksburg, VA, a Master of Public Administration degree, Old Dominion University, Norfolk, VA, and a terminal degree in Organizational Leadership with a concentration in Human Services Administration, Nova Southeastern University, Fort Lauderdale, FL.

SCS Broadband's CEO Mr. Lon Whelchel has more than twenty years of experience in the areas of technology and leading professional service organizations.

Clay Stewart is the COO for SCS Broadband, and he brings more than 40 years of IT experience. He has served as a system support analyst and designer for corporations such as AT&T, MCI, WorldCom, UUNET, The Harris Corporation and Tyco Electronic communication companies.

Gerri Stewart is the CFO for SCS Broadband and brings more than 18 years as a Virginia Certified Public Accountant having served for the County of Henrico and as CFO for private schools, including the Miller School of Albemarle. Gerri and her staff provide for the effective and efficient financial processing for SCS Broadband.

18. Service

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

Answer:

The SCS Broadband network will be built with security, redundancy and future bandwidth requirements as priority network functions. Internet service plans will be part of the open market architecture. A simple set of pricing plans will allow anyone, home or business, to choose an uncapped, unlimited, cost-effective plan. Homes and businesses will have the advantage of having many plans to choose from, not being locked into a plan that does not meet future needs. Any subscriber may change plans at any time, effective on the 1st of any month, without charge or penalty. Onsite call maintenance for any equipment is done free of charge as stated on the Terms of Service Contract. Two types of Terms of Service Contracts will be offered. Every subscriber will have the choice of a Month-to-Month Service Contract or a Two-Year Service Contract. Two-year contracts will have additional discounting to the subscriber, and any subscriber can switch to a Two-Year Contract at any time.

Payment for services is to be set up to make it as easy as possible, but to meet the different needs of subscribers. They are to be allowed to prepay in advance for a year and receive an additional discount. Payment can be done by mail, phone or website; or any subscriber can easily set up a secured, automatic ACH account to a credit card or bank account.

SCS Broadband will offer 5 tiers of service for residential customers in the project area:

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- 10 Mbps for \$34.95/month
- 20 Mbps for \$54.95/month
- 30 Mbps for \$74.95/month
- 40 Mbps for \$94.95/month
- 50 Mbps for \$114.95/month

These prices will be for a 2-Year contract. SCS will also offer a month-to-month contract option which adds an additional \$5/month onto these listed prices.

SCS Broadband will offer 3 tiers of service for businesses, with a required 2-Year Contract for all business plans (Businesses are defined as businesses working from a county zone defined for a business entity, home businesses are exempt):

- 10-15 Mbps for \$150/month
- 15-20 Mbps for \$200/month
- 20-25 Mbps for \$300/month

VOIP phone service will be offered at \$15 for unlimited continental United States calling. The phone system can be used at home with any type phone, including line or smartphone. It can be used away from home with a smartphone attached to WIFI Internet.

19. Additional Information

Any other equitable factor that the applicant desires to include.

Answer:

These funds will greatly expedite the expansion project which Halifax County and SCS Broadband have partnered on December 2018. Well over 11,000 citizens can be affected and have the choice to subscribe to broadband speeds from 10Mbps to 50Mbps who currently have less than 10Mbps service or none in wired or wireless. Along with the 126 estimated businesses and non-profits, this set of rural communities and townships will be able to perform any needed function on the Internet. From multiple streaming, telecommuting, education and health access to home business startups, all known type of Internet usage can be accomplished on this network.

The optional low-cost VOIP phone service is also a major financial help to these citizens. The economic impact for the region will be great based on home value increases and growth in jobs at businesses which rely on Internet communications and access. The logistics of these towers, on the highest mountain ranges in the region, along with our existing network of seven other sites already deploying in nearby areas, is adding Halifax County to the Commonwealth of Virginia's list of rural areas served with broadband Internet.

Attachments:

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Derivation of Cost (Project Budget)

Figure121DerivativeofCosts1214201822752.pdf

Project Management Plan

ProjectManagementPlan1214201823524.xlsx

Supporting documentation for costs estimates

Figure122SupportingCostDocumentation1214201823738.pdf

Map(s) of project area, including proposed infrastructure

Figure11MapsofProjectArea1214201824106.docx

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

Figure21ExistingISPandUnservedAreasFundingMap1214201835736.pdf

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

LetterfromCountyAdministrator1214201834854.pdf

Two most recent Form 477 submitted to FCC

Form477s11214201840218.pdf

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

SourceofInKindFunds11214201835440.pdf

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

Figure122SupportingCostDocumentation1214201830022.xlsx

Documentation of source of match funding

SourceofMatchingFunds11214201835335.pdf

Documentation that proposed project area is unserved based on VATI criteria

Figure21ExistingISPandUnservedAreasFundingMap1214201830326.pdf

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

Figure11MapsofProjectArea1214201830426.docx

Funding Sources Table

Figure123VATIFundingSources1214201830607.pdf

(Optional) || US Postal Routes Statistics of Area to be Served

Figure41USPostalRoutesStatisticsofAreatobeServed1214201831048.pdf

(Optional) || Sample Marketing Results

Figure61SampleMarketingResults1214201831213.pdf

(Optional) || County Wireless Network Plan Map

Figure81CountyWirelessNetworkPlanMap1214201832624.pdf

Notes:

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Derivative of Costs

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Halifax County

GRAND Summary for Project, rolled up from five individual towers detailed below:

			Project Total	\$507,820
			Match and In-Kind	\$211,500
SCS Broadband - Match	\$187,500	37%	VATI	\$296,320
County of Halifax - In-Kind	\$24,000	5%	VATI Percentage	58%
			Match Percentage	42%
* Fiber and Tower Lease, and Tower Design				

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Volens Tower

* Commercial Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	3	8,400	8,400	0	Amazon.com	12/10/2018
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018

Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standard)	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				<u>\$44,742</u>	<u>\$44,742</u>	<u>\$0</u>		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	2	\$3,670	\$3,670			
Total Labor Estimate				<u>\$19,170</u>	<u>\$17,670</u>	<u>\$1,500</u>		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	American Tower Corp	12/12/2018
Total Leases				<u>\$45,000</u>	<u>\$0</u>	<u>\$45,000</u>		
Total Estimate Tower				\$108,912	\$62,412	\$46,500		\$108,912

High Peak Tower Summary

SCS Broadband	\$46,500	43%
County of Halifax	\$0	0%

Project Total	\$108,912
Match and In-Kind	\$46,500
VATI	\$62,412
VATI Percentage	57%
Match Percentage	43%
* Fiber and Tower Lease, and Tower Design	

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Derivative of Costs

12/14/2018

Nathalie Tower

* Commercial Tower New to LTE Project

Product		Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
Equipment	Description							
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	<u>12/10/2018</u>
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	<u>12/10/2018</u>
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	<u>12/10/2018</u>
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	<u>12/10/2018</u>
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	2	5,600	5,600	0	Amazon.com	<u>12/10/2018</u>
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	<u>12/10/2018</u>
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	<u>12/10/2018</u>
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	<u>12/10/2018</u>
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	<u>12/10/2018</u>
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	<u>12/1/2018</u>
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	<u>12/10/2018</u>
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	<u>12/10/2018</u>
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	<u>12/10/2018</u>
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	<u>12/10/2018</u>
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	<u>12/10/2018</u>
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	<u>12/10/2018</u>
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	<u>12/10/2018</u>

Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standard)	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				\$41,942	\$41,942	\$0		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	1	\$1,835	\$1,835			
Total Labor Estimate				\$17,335	\$15,835	\$1,500		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	SBA Towers	12/12/2018
Total Leases				\$45,000	\$0	\$45,000		
Total Estimate Tower				\$104,277	\$57,777	\$46,500		\$104,277

High Peak Tower Summary

SCS Broadband	\$46,500	45%
County of Halifax	\$0	0%

Project Total	\$104,277
Match and In-Kind	\$46,500
VATI	\$57,777
VATI Percentage	55%
Match Percentage	45%
* Fiber and Tower Lease, and Tower Design	

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Derivative of Costs

12/14/2018

Dan River Tower

* Commercial Tower New to LTE Project

Product		Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
Equipment	Description							
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	<u>12/10/2018</u>
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	<u>12/10/2018</u>
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	<u>12/10/2018</u>
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	<u>12/10/2018</u>
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	2	5,600	5,600	0	Amazon.com	<u>12/10/2018</u>
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	<u>12/10/2018</u>
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	<u>12/10/2018</u>
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	<u>12/10/2018</u>
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	<u>12/10/2018</u>
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	<u>12/1/2018</u>
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	<u>12/10/2018</u>
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	<u>12/10/2018</u>
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	<u>12/10/2018</u>
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	<u>12/10/2018</u>
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	<u>12/10/2018</u>
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	<u>12/10/2018</u>
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	<u>12/10/2018</u>
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	<u>12/10/2018</u>
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	<u>12/10/2018</u>

APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	<u>12/10/2018</u>
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	<u>12/10/2018</u>
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	<u>12/10/2018</u>
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	<u>12/10/2018</u>
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	<u>12/10/2018</u>
PE Structural	Tower Structural Analysis (ATC Standard)	2,900	1	2,900	2,900	0	Griswold Tower Software	<u>12/10/2018</u>
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	<u>12/10/2018</u>
Total Part Estimate				<u>\$41,942</u>	<u>\$41,942</u>	<u>\$0</u>		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	1	\$1,835	\$1,835			
Total Labor Estimate				<u>\$17,335</u>	<u>\$15,835</u>	<u>\$1,500</u>		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	SBA Towers	<u>12/12/2018</u>
Total Leases				<u>\$45,000</u>	<u>\$0</u>	<u>\$45,000</u>		
Total Estimate Tower				\$104,277	\$57,777	\$46,500		\$104,277

High Peak Tower Summary

SCS Broadband	\$46,500	45%
County of Halifax	\$0	0%

Project Total	\$104,277
Match and In-Kind	\$46,500
VATI	\$57,777
VATI Percentage	55%
Match Percentage	45%
* Fiber and Tower Lease, and Tower Design	

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Derivative of Costs

12/14/2018

Cluster Tower

* Commercial Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	4	11,200	11,200	0	Amazon.com	12/10/2018
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018

MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standar	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All item	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				\$47,542	\$47,542	\$0		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	2	\$3,670	\$3,670			
Total Labor Estimate				\$19,170	\$17,670	\$1,500		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	American Tower Corp	12/12/2018
Total Leases				\$45,000	\$0	\$45,000		
Total Estimate Tower				\$111,712	\$65,212	\$46,500		\$111,712

High Peak Tower Summary

SCS Broadband	\$46,500	42%
County of Halifax	\$0	0%

Project Total	\$111,712
Match and In-Kind	\$46,500
VATI	\$65,212
VATI Percentage	58%
Match Percentage	42%
* Fiber and Tower Lease, and Tower Design	

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Derivative of Costs

[12/14/2018](#)

Virgilina Tower

* County Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	1	2,800	2,800	0	Amazon.com	12/10/2018
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018

Permits	Tower Permitting Fee Estimates	200	1	200	200	0 Experience	<u>12/10/2018</u>
PE Structural	Tower Structural Analysis (ATC Standard)	2,900	1	2,900	2,900	0 Griswold Tower Software	<u>12/10/2018</u>
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0 Estimated all parts	<u>12/10/2018</u>
Total Part Estimate				\$39,142	\$39,142	\$0	
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0 Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500 Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0 Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	0	\$0	\$0		
Total Labor Estimate				\$15,500	\$14,000	\$1,500	
	Tower Lease (Five Year Contract)			\$24,000	\$0	\$24,000 County of Halifax	<u>12/12/2018</u>
Total Leases				\$24,000	\$0	\$24,000	
Total Estimate Tower				\$78,642	\$53,142	\$25,500	\$78,642

High Peak Tower Summary

SCS Broadband	\$1,500	2%
County of Halifax	\$24,000	31%

Project Total	\$78,642
Match and In-Kind	\$25,500
VATI	\$53,142
VATI Percentage	68%
Match Percentage	32%
* Fiber and Tower Lease, and Tower Design	

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Quote



Eupen Cable, Inc.
 5181 110th Ave N
 Unit D
 Clearwater, FL 33760
 Phone: (800) 419-5100
 Fax: (727) 528-0751

Order Number: 0121708
 Order Date: 12/01/2018
 Expiration Date: 1/01/2019
 Salesperson: SE
 Customer Number: 10-CREDIT
 Warehouse: MTX

Sold To:
 SCS Broadband
 604 Thomas Nelson Hwy

Ship To:
 SCS Broadband
 604 Thomas Nelson Hwy

Arrington, VA 22922

Arrington, VA 22922

Confirm To:

Contact:

Customer P.O.		Ship VIA	Freight Terms	Payment Terms		
Quote	BEST WAY	PREPAY AND ADD	Credit Card			
Line	Item Code	Unit	Ordered	Price	Amount	
1	H51206S08C200 Hybrid Cable 7/8", (6) pairs of 6 mm ² power cables and (4) pairs of single mode fibers, 200 foot length with both ends terminated with LC connectors	EACH	1	1,938.42	1,938.42	
2	REKDC9234PF48 Junction Box with (3) OVPs and (3) discrete circuits for (1) 1-1/4" or (2) 7/8" hybrid feeder cables, (6) 11 mm power cables and (9) 6 mm fiber jumpers	EACH	1	1,164.00	1,164.00	
3	HF2S914LCLC-A/B Fiber jumper, with 2 single mode fibers, 30 foot, with duplexed LC to LC connectors, outdoor rated jacket, clipped A/B and B/A	EACH	3	50.29	150.87	
4	HP16/2C Power cable (2) 16 AWG copper conductors	FT	150	0.69	103.50	
5	HG-78 Hoisting Grip, Lace-up, 7/8"	EA	1	15.75	15.75	
6	SH-S78 Snap Hanger, Stackable, for 7/8" corrugated coax	K010	7	13.89	97.23	
7	GK-C78T Ground Kit, Clip on, Tinned, for 7/8" corrugated coax	EA	3	11.20	33.60	
8	VT-50 Cable ties, Velcro 3/4" x 8" black, kit of 10	K010	1	8.00	8.00	
Lead Time: 3 Weeks to Ship						
				Net Order:	3,511.37	
				Less Discount:	0.00	
				Freight:	0.00	
				Sales Tax:	0.00	
				Order Total	3,511.37	

Supporting Documentation of Costs

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Volens Tower

* Commercial Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	3	8,400	8,400	0	Amazon.com	12/10/2018
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018

Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standard I	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				\$44,742	\$44,742	\$0		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	2	\$3,670	\$3,670			
Total Labor Estimate				\$19,170	\$17,670	\$1,500		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	American Tower Corp	12/12/2018
Total Leases				\$45,000	\$0	\$45,000		
Total Estimate Tower				\$108,912	\$62,412	\$46,500		\$108,912

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Nathalie Tower

* Commercial Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018

NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	2	5,600	5,600	0	Amazon.com	12/10/2018
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standard I	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				<u>\$41,942</u>	<u>\$41,942</u>	<u>\$0</u>		

Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	1	\$1,835	\$1,835			
	Total Labor Estimate			\$17,335	\$15,835	\$1,500		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	SBA Towers	<u>12/12/2018</u>
	Total Leases			\$45,000	\$0	\$45,000		
	Total Estimate Tower			\$104,277	\$57,777	\$46,500		\$104,277

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Dan River Tower

* Commercial Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	<u>12/10/2018</u>
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	<u>12/10/2018</u>
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	<u>12/10/2018</u>
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	<u>12/10/2018</u>
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	2	5,600	5,600	0	Amazon.com	<u>12/10/2018</u>
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	<u>12/10/2018</u>
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	<u>12/10/2018</u>
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	<u>12/10/2018</u>
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	<u>12/10/2018</u>
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	<u>12/1/2018</u>
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	<u>12/10/2018</u>
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	<u>12/10/2018</u>

Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standard I	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				\$41,942	\$41,942	\$0		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	1	\$1,835	\$1,835			
Total Labor Estimate				\$17,335	\$15,835	\$1,500		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	SBA Towers	12/12/2018
Total Leases				\$45,000	\$0	\$45,000		
Total Estimate Tower				\$104,277	\$57,777	\$46,500		\$104,277

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Cluster Tower

* Commercial Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	4	11,200	11,200	0	Amazon.com	12/10/2018
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018

Permits	Tower Permitting Fee Estimates	200	1	200	200	0 Experience	<u>12/10/2018</u>
PE Structural	Tower Structural Analysis (ATC Standard I	2,900	1	2,900	2,900	0 Griswold Tower Software	<u>12/10/2018</u>
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0 Estimated all parts	<u>12/10/2018</u>
Total Part Estimate				<u>\$47,542</u>	<u>\$47,542</u>	<u>\$0</u>	
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0 Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500 Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0 Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	2	\$3,670	\$3,670		
Total Labor Estimate				<u>\$19,170</u>	<u>\$17,670</u>	<u>\$1,500</u>	
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000 American Tower Corp	<u>12/12/2018</u>
Total Leases				<u>\$45,000</u>	<u>\$0</u>	<u>\$45,000</u>	
Total Estimate Tower				\$111,712	\$65,212	\$46,500	\$111,712

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Virgilina Tower

* County Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	<u>500</u>	4	2,000	2,000	0	<u>KP Performance</u>	<u>12/10/2018</u>
NOVAR-9302	3Ghz LTE BaiCel Base Station	<u>3,800</u>	4	15,200	15,200	0	<u>Double Radius</u>	<u>12/10/2018</u>
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	<u>300</u>	4	1,200	1,200	0	<u>Double Radius</u>	<u>12/10/2018</u>
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	<u>80</u>	4	320	320	0	<u>Double Radius</u>	<u>12/10/2018</u>
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	<u>2,800</u>	1	2,800	2,800	0	<u>Amazon.com</u>	<u>12/10/2018</u>
POE inserter/Switch	UBNT EdgePoint 16 Port	<u>530</u>	1	530	530	0	<u>Double Radius</u>	<u>12/10/2018</u>

Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0 Double Radius	<u>12/10/2018</u>
CWT01 SitePro1	Dual Mounting Steel Arms	<u>456</u>	4	1,824	1,824	0 SitePro1	<u>12/10/2018</u>
P2110 SitePro1	2 3/8"x10' Mount Poles	<u>61</u>	4	244	244	0 SitePro1	<u>12/10/2018</u>
Fiber/Power Cable	Fiber/Power/Conduit Package *	<u>3,511</u>	1	3,511	3,511	0 Eupen *	<u>12/11/2018</u>
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0 Eupen *	<u>12/10/2018</u>
Traco 48VDC PS	Traco Power Supply	<u>248</u>	2	496	496	0 Mouser	<u>12/10/2018</u>
Traco Battery	Traco Battery Switch/Charger	<u>215</u>	2	430	430	0 Mouser	<u>12/10/2018</u>
Tower Battery Backup	12VDC Battery 37AH	<u>280</u>	4	1,120	1,120	0 Mouser	<u>12/10/2018</u>
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0 SCS Broadband	<u>12/10/2018</u>
Cutoff Switch	AC Master Cutoff Switch	<u>198</u>	1	198	198	0 ElvesSupply.com	<u>12/10/2018</u>
Break Box	100Amp Breaker Box w/Breakers	<u>308</u>	1	308	308	0 ElvesSupply.com	<u>12/10/2018</u>
Surge Protector	AC Surge Protection	<u>170</u>	1	170	170	0 Google Express	<u>12/10/2018</u>
444APC-HV	APC Modular CAT5 Surges	<u>17</u>	12	204	204	0 Amazon.com	<u>12/10/2018</u>
APC Surge	APC Surge Chassis for 444APC-HV	<u>24</u>	1	24	24	0 Amazon.com	<u>12/10/2018</u>
Surge Case	Equipment Outdoor NEMA Box	<u>439</u>	1	439	439	0 Amazon.com	<u>12/10/2018</u>
MER8-P SitePro1	H-Frame Rack Mount Hardware	<u>565</u>	1	565	565	0 SitePro1.com	<u>12/10/2018</u>
ER-PRO-8	Edge Router	<u>399</u>	1	399	399	0 Double Radius	<u>12/10/2018</u>
Permits	Tower Permitting Fee Estimates	200	1	200	200	0 Experience	<u>12/10/2018</u>
PE Structural	Tower Structural Analysis (ATC Standard I	2,900	1	2,900	2,900	0 Griswold Tower Software	<u>12/10/2018</u>
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0 Estimated all parts	<u>12/10/2018</u>
	Total Part Estimate			<u>\$39,142</u>	<u>\$39,142</u>	<u>\$0</u>	
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0 Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500 Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0 Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	0	\$0	\$0		
	Total Labor Estimate			<u>\$15,500</u>	<u>\$14,000</u>	<u>\$1,500</u>	

Tower Lease (Five Year Contract)	\$24,000	\$0	\$24,000	County of Halifax	<u>12/12/2018</u>
Total Leases	<u>\$24,000</u>	<u>\$0</u>	<u>\$24,000</u>		
Total Estimate Tower	\$78,642	\$53,142	\$25,500		\$78,642

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP ** Cost and Source Columns hyperlinks to source of cost website

¹ This tower will have only 1/4 funded by grant as the direction of the other radios feed into CAFII Funded areas, only Non-CAFII direction requested

Quote

Page: 1



Eupen Cable, Inc.
 5181 110th Ave N
 Unit D
 Clearwater, FL 33760
 Phone: (800) 419-5100
 Fax: (727) 528-0751

Order Number: 0121708
 Order Date: 12/01/2018
 Expiration Date: 1/01/2019
 Salesperson: SE
 Customer Number: 10-CREDIT
 Warehouse: MTX

Sold To:	Ship To:
SCS Broadband 604 Thomas Nelson Hwy Arrington, VA 22922	SCS Broadband 604 Thomas Nelson Hwy Arrington, VA 22922
Confirm To:	Contact:

Customer P.O.	Ship VIA	Freight Terms	Payment Terms
Quote	BEST WAY	PREPAY AND ADD	Credit Card

Line	Item Code	Unit	Ordered	Price	Amount
1	H51206S08C200 Hybrid Cable 7/8", (6) pairs of 6 mm ² power cables and (4) pairs of single mode fibers, 200 foot length with both ends terminated with LC connectors	EACH	1	1,938.42	1,938.42
2	REKDC9234PF48 Junction Box with (3) OVPs and (3) discrete circuits for (1) 1-1/4" or (2) 7/8" hybrid feeder cables, (6) 11 mm power cables and (9) 6 mm fiber jumpers	EACH	1	1,164.00	1,164.00
3	HF2S914LCLC-A/B Fiber jumper, with 2 single mode fibers, 30 foot, with duplexed LC to LC connectors, outdoor rated jacket, clipped A/B and B/A	EACH	3	50.29	150.87
4	HP16/2C Power cable (2) 16 AWG copper conductors	FT	150	0.69	103.50
5	HG-78 Hoisting Grip, Lace-up, 7/8"	EA	1	15.75	15.75
6	SH-S78 Snap Hanger, Stackable, for 7/8" corrugated coax	K010	7	13.89	97.23
7	GK-C78T Ground Kit, Clip on, Tinned, for 7/8" corrugated coax	EA	3	11.20	33.60
8	VT-50 Cable ties, Velcro 3/4" x 8" black, kit of 10	K010	1	8.00	8.00
Lead Time: 3 Weeks to Ship					

Net Order: 3,511.37
 Less Discount: 0.00

Less Credit:	0.00
Freight:	0.00
Sales Tax:	0.00
Order Total	3,511.37

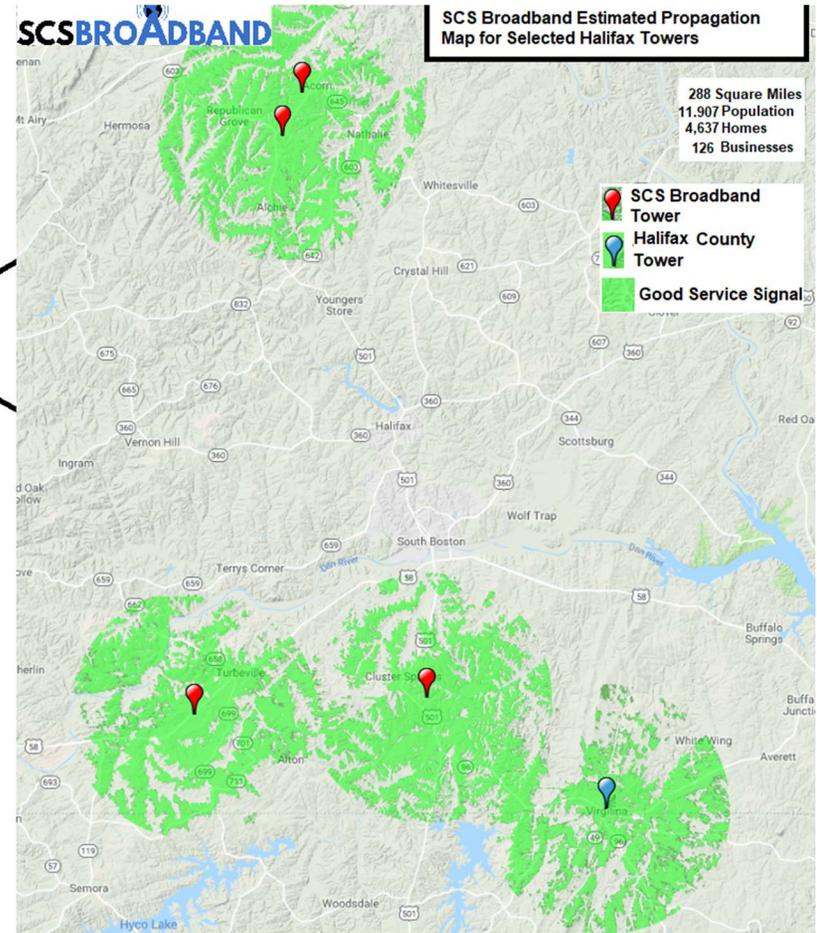
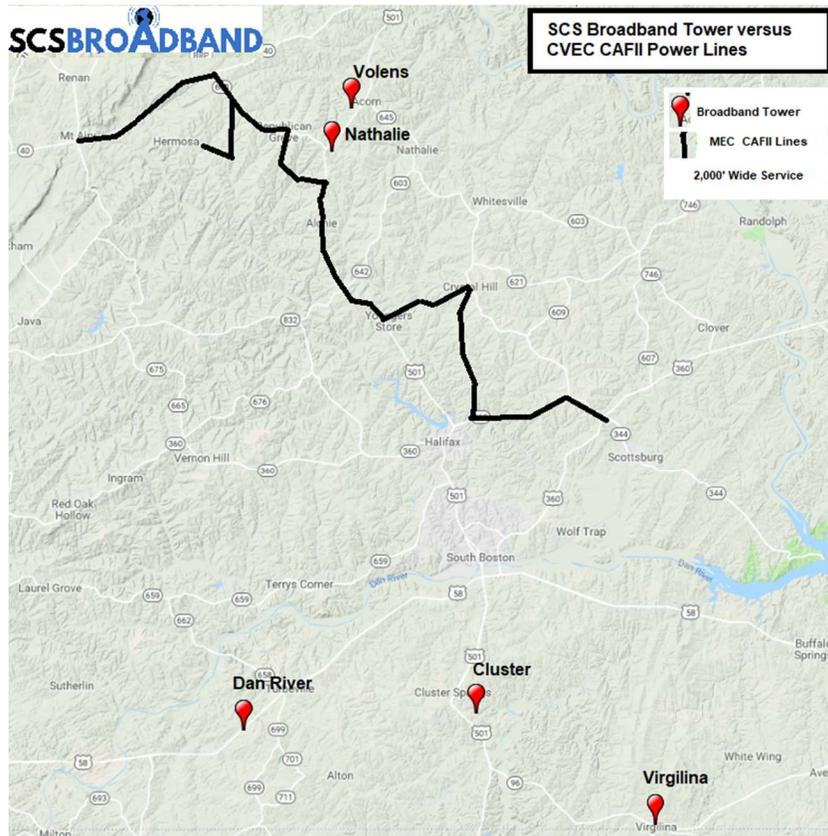
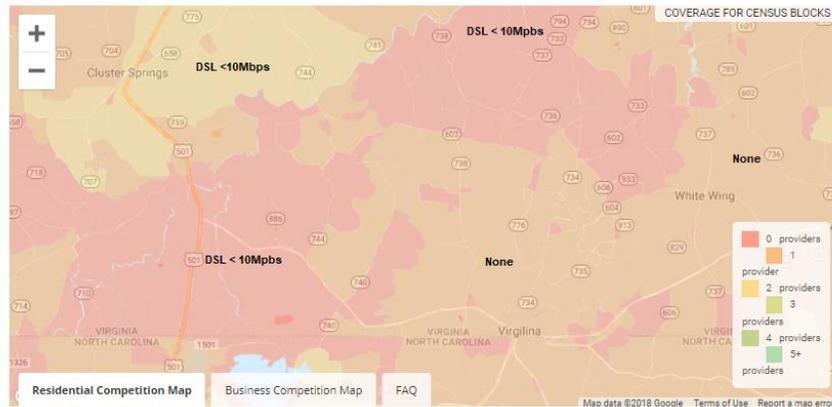


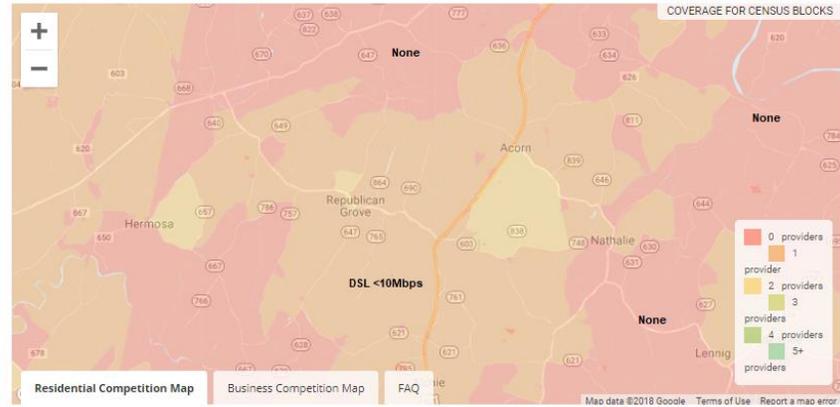
Figure 1.1 - Maps of Project Area

Proof of Halifax ISP Coverage - Halifax County Areas of Grant Request

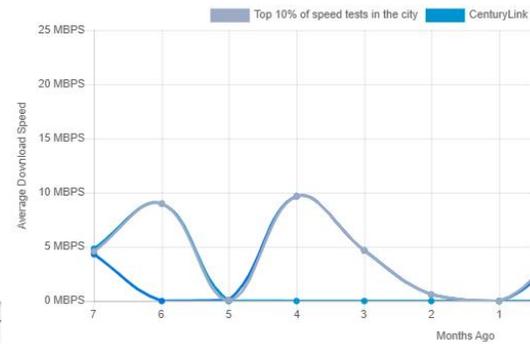
INTERNET PROVIDER COMPETITION MAP FOR VIRGINIA



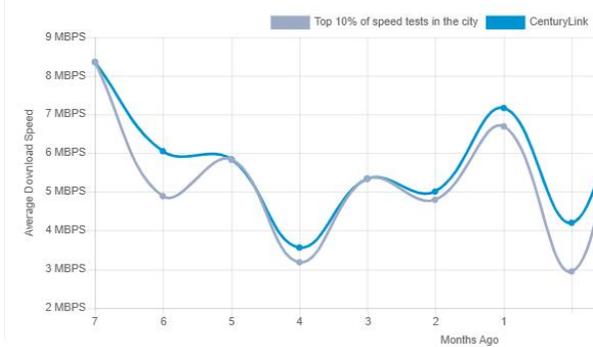
INTERNET PROVIDER COMPETITION MAP FOR NATHALIE



DOWNLOAD SPEEDS IN VIRGINIA



DOWNLOAD SPEEDS IN NATHALIE





WILLIAM D. SLEEPER
Interim County Administrator
wds@co.halifax.va.us

HALIFAX COUNTY BOARD OF SUPERVISORS

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December 12, 2018

Mr. Lon Whelchel
AceleNet / SCS Broadband, LLC
604 Thomas Nelson Highway
Arrington, VA 22922

Re: DHCD VATI Grant Applications

Dear Mr. Whelchel:

At the request of SCS Broadband, the Halifax County Board of Supervisors has approved the submission of a Virginia Telecommunication Initiative (VATI) grant application being offered through the Department of Housing and Community Development (DHCD) at the December 3, 2018 regular monthly meeting.

Per our agreement, the preparation and completion of grant documentation will be supplied to Halifax County in a timely manner in order to meet the grant deadline of December 14, 2018. Additionally, per our agreement SCS Broadband will cover all costs for the grant application and for the implementation of the grant projects with the exception of the \$24,000 in-kind contribution from county owned towers.

I look forward to a successful outcome for our grant application. Please let me know if you have any questions.

Sincerely,

William D. Sleeper
Interim County Administrator



(RETAIN FOR YOUR RECORDS)Form 477 Filing Summary

FRN:

0016948093

Data as of:

Jun 30, 2018

Operations:

Non-ILEC

Submission Status:

Original - Submitted

Last Updated:

Sep 4, 2018 23:27:00

Filer Identification

Section	Question	Response
Filer Information	Provider Name	Acelanet LLC
	Holding Company Name	Acelanet LLC
	SAC ID	

Section	Question	Response
	499 ID	
Data Contact Information	Data Contact Name	Clay Stewart
	Data Contact Phone Number	(434) 942-6510
	Data Contact E-mail	cstewart@scsbroadband.com
Emergency Operations Contact Information	Emergency Operations Name	Clay Stewart
	Emergency Operations Phone Number	(434) 942-6510
	Emergency Operations E-mail	cstewart@scsbroadband.com
Certifying Official Contact Information	Certifying Official Name	Clay Stewart
	Certifying Official Phone Number	(434) 942-6510
	Certifying Official E-mail	cstewart@scsbroadband.com

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	AllCensusBlocksCSV.csv	Sep 4, 2018 23:24:57	5283
Fixed Broadband Subscription	Interactive data entry		106

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Virginia	SCS Broadband	Terrestrial Fixed Wireless	5283
Total			5283

Fixed Broadband Subscription

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

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Virginia	Optical Carrier/Fiber to the End User	6	225	21	246
	Terrestrial Fixed Wireless	100	1297	16	1313
Total		106	1522	37	1559



(RETAIN FOR YOUR RECORDS) Form 477 Filing Summary

FRN:

0016948093

Data as of:

Dec 31, 2017

Operations:

Non-ILEC

Submission Status:

Original - Submitted

Last Updated:

Mar 1, 2018 22:51:17

Filer Identification

Section	Question	Response
Filer Information	Provider Name	Acelanet LLC
	Holding Company Name	Acelanet LLC
	SAC ID	
	499 ID	

Section	Question	Response
Data Contact Information	Data Contact Name	Clay Stewart
	Data Contact Phone Number	(434) 942-6510
	Data Contact E-mail	cstewart@scsbroadband.com
Emergency Operations Contact Information	Emergency Operations Name	Clay Stewart
	Emergency Operations Phone Number	(434) 942-6510
	Emergency Operations E-mail	cstewart@scsbroadband.com
Certifying Official Contact Information	Certifying Official Name	Clay Stewart
	Certifying Official Phone Number	(434) 942-6510
	Certifying Official E-mail	cstewart@scsbroadband.com

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	NelsonCensusBlockCSVFinal.csv	Mar 1, 2018 22:26:44	4013
	CharlesCityCensusBlockCSVFinal.csv	Mar 1, 2018 22:26:43	635
	LouisaCensusBlockCSVFinal.csv	Mar 1, 2018 22:26:43	635
Fixed Broadband Subscription	Interactive data entry		95

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Virginia	SCS Broadband	Terrestrial Fixed Wireless	5283
Total			5283

Fixed Broadband Subscription

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

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Virginia	Optical Carrier/Fiber to the End User	5	73	3	76
	Terrestrial Fixed Wireless	90	1351	20	1371
Total		95	1424	23	1447

The In-Kind funds are:

1. \$24,000 from Halifax County for reducing lease obligations for five years on one tower designated for this grant is considered In-Kind as discussed with the DHCD. This is calculated from 60 months at \$400 a month for 1 tower.

This amount is the In-Kind reduction to the project by Halifax County.

Supporting Documentation of Costs

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Volens Tower

* Commercial Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	3	8,400	8,400	0	Amazon.com	12/10/2018
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standard f	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				\$44,742	\$44,742	\$0		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	2	\$3,670	\$3,670			
Total Labor Estimate				\$19,170	\$17,670	\$1,500		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	American Tower Corp	12/12/2018
Total Leases				\$45,000	\$0	\$45,000		
Total Estimate Tower				\$108,912	\$62,412	\$46,500		\$108,912

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Nathalie Tower

* Commercial Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	2	5,600	5,600	0	Amazon.com	12/10/2018
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standard f	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				\$41,942	\$41,942	\$0		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	1	\$1,835	\$1,835			
Total Labor Estimate				\$17,335	\$15,835	\$1,500		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	SBA Towers	12/12/2018
Total Leases				\$45,000	\$0	\$45,000		
Total Estimate Tower				\$104,277	\$57,777	\$46,500		\$104,277

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Dan River Tower

* Commercial Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018

PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	2	5,600	5,600	0	Amazon.com	12/10/2018
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standard f	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				\$41,942	\$41,942	\$0		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	1	\$1,835	\$1,835			
Total Labor Estimate				\$17,335	\$15,835	\$1,500		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	SBA Towers	12/12/2018
Total Leases				\$45,000	\$0	\$45,000		
Total Estimate Tower				\$104,277	\$57,777	\$46,500		\$104,277

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Cluster Tower

* Commercial Tower New to LTE Project

Product	Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
	KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018
	NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
	PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018
	PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
	AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	4	11,200	11,200	0	Amazon.com	12/10/2018
	POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
	Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
	CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
	P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018
	Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018

UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018
Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standard f	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				\$47,542	\$47,542	\$0		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	2	\$3,670	\$3,670			
Total Labor Estimate				\$19,170	\$17,670	\$1,500		
	Tower Lease (Five Year Contract)			\$45,000	\$0	\$45,000	American Tower Corp	12/12/2018
Total Leases				\$45,000	\$0	\$45,000		
Total Estimate Tower				\$111,712	\$65,212	\$46,500		\$111,712

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

Virgilina Tower

* County Tower New to LTE Project

Product								
Equipment	Description	Cost **	Qty	Total	VATI	NON-VATI	Source of Estimate	Date
KP-3DP65S-45	Dual Band Sector 3.65Ghz 65 deg	500	4	2,000	2,000	0	KP Performance	12/10/2018
NOVAR-9302	3Ghz LTE BaiCel Base Station	3,800	4	15,200	15,200	0	Double Radius	12/10/2018
PS-5AC	AIRMAX 5 GHZ AC PRISMSTATION	300	4	1,200	1,200	0	Double Radius	12/10/2018
PRISMAP-5-60	AC ISOLATION ANTENNA HORN	80	4	320	320	0	Double Radius	12/10/2018
AF11Ghz	Air Fiber Licensed 11Ghz PtP Radio	2,800	1	2,800	2,800	0	Amazon.com	12/10/2018
POE inserter/Switch	UBNT EdgePoint 16 Port	530	1	530	530	0	Double Radius	12/10/2018
Cabling/Ends	Cat5 Double Shield Jumper Cables	200	1	200	200	0	Double Radius	12/10/2018
CWT01 SitePro1	Dual Mounting Steel Arms	456	4	1,824	1,824	0	SitePro1	12/10/2018
P2110 SitePro1	2 3/8"x10' Mount Poles	61	4	244	244	0	SitePro1	12/10/2018
Fiber/Power Cable	Fiber/Power/Conduit Package *	3,511	1	3,511	3,511	0	Eupen *	12/1/2018
UVP Lightning Protector	Lightning Protect * See Below	120	10	1,200	1,200	0	Eupen *	12/10/2018
Traco 48VDC PS	Traco Power Supply	248	2	496	496	0	Mouser	12/10/2018
Traco Battery	Traco Battery Switch/Charger	215	2	430	430	0	Mouser	12/10/2018
Tower Battery Backup	12VDC Battery 37AH	280	4	1,120	1,120	0	Mouser	12/10/2018
Voltage Stepup Trans	48 to 54 VDC Stepup Transformer	80	2	160	160	0	SCS Broadband	12/10/2018

Cutoff Switch	AC Master Cutoff Switch	198	1	198	198	0	ElvesSupply.com	12/10/2018
Break Box	100Amp Breaker Box w/Breakers	308	1	308	308	0	ElvesSupply.com	12/10/2018
Surge Protector	AC Surge Protection	170	1	170	170	0	Google Express	12/10/2018
444APC-HV	APC Modular CAT5 Surges	17	12	204	204	0	Amazon.com	12/10/2018
APC Surge	APC Surge Chassis for 444APC-HV	24	1	24	24	0	Amazon.com	12/10/2018
Surge Case	Equipment Outdoor NEMA Box	439	1	439	439	0	Amazon.com	12/10/2018
MER8-P SitePro1	H-Frame Rack Mount Hardware	565	1	565	565	0	SitePro1.com	12/10/2018
ER-PRO-8	Edge Router	399	1	399	399	0	Double Radius	12/10/2018
Permits	Tower Permitting Fee Estimates	200	1	200	200	0	Experience	12/10/2018
PE Structural	Tower Structural Analysis (ATC Standard f	2,900	1	2,900	2,900	0	Griswold Tower Software	12/10/2018
Shipping and Handling	Shipping and Handling Estimate All items	2,500	1	2,500	2,500	0	Estimated all parts	12/10/2018
Total Part Estimate				\$39,142	\$39,142	\$0		
Electrician	Licensed Electrician Estimate			\$2,000	\$2,000	\$0	Experience	
Tower Design	Frequency Application, Analysis and Tower Design			\$1,500	\$0	\$1,500	Experience	
Installers	Tower Equipment Installers			\$12,000	\$12,000	\$0	Experience	
Comsearch Licensing	11Ghz Licensed Link Engineering	1,835	0	\$0	\$0			
Total Labor Estimate				\$15,500	\$14,000	\$1,500		
	Tower Lease (Five Year Contract)			\$24,000	\$0	\$24,000	County of Halifax	12/12/2018
Total Leases				\$24,000	\$0	\$24,000		
Total Estimate Tower				\$78,642	\$53,142	\$25,500		\$78,642

* Quote/Order Sample Eupen 150' Hybrid Fiber/Power Cable with UVP

** Cost and Source Columns hyperlinks to source of cost website

¹ This tower will have only 1/4 funded by grant as the direction of the other radios feed into CAFII Funded areas, only Non-CAFII direction requested

Quote



Eupen Cable, Inc.
5181 110th Ave N
Unit D
Clearwater, FL 33760
Phone: (800) 419-5100
Fax: (727) 528-0751

Order Number: **0121708**
Order Date: **12/01/2018**
Expiration Date: **1/01/2019**
Salesperson: SE
Customer Number: 10-CREDIT
Warehouse: MTX

Page: 1

Sold To:		Ship To:	
SCS Broadband 604 Thomas Nelson Hwy Arrington, VA 22822			
Confirm To:		Contact:	
Customer P.O.	Ship VIA	Freight Terms	Payment Terms
Quote	BEST WAY	PREPAY AND ADD	Credit Card

Line	Item Code	Unit	Ordered	Price	Amount
1	H51206S08C200 Hybrid Cable 7/8", (6) pairs of 6 mm ² power cables and (4) pairs of single mode fibers, 200 foot length with both ends terminated with LC connectors	EACH	1	1,938.42	1,938.42
2	REKDC9234PF48 Junction Box with (3) OVFPs and (3) discrete circuits for (1) 1-1/4" or (2) 7/8" hybrid feeder cables, (6) 11 mm power cables and (8) 6 mm fiber jumpers	EACH	1	1,164.00	1,164.00
3	HF2S914LCLC-A/B Fiber jumper, with 2 single mode fibers, 30 foot, with duplexed LC to LC connectors, outdoor rated jacket, clipped A/B and B/A	EACH	3	50.29	150.87
4	HP16/2C Power cable (2) 16 AWG copper conductors	FT	150	0.69	103.50
5	HG-78 Hoisting Grip, Lase-up, 7/8"	EA	1	15.75	15.75
6	SH-S78 Snap Hanger, Stackable, for 7/8" corrugated coax	K010	7	13.89	97.23
7	GK-C78T Ground Kit, Clip on, Tinned, for 7/8" corrugated coax	EA	3	11.20	33.60
8	VT-50 Cable ties, Velcro 3/4" x 8" black, kit of 10	K010	1	8.00	8.00

Lead Time: 3 Weeks to Ship

Net Order:	3,511.37
Less Discount:	0.00
Freight:	0.00
Sales Tax:	0.00
Order Total	3,511.37

The matching funds are:

1. \$9,000 from SCS Broadband for Tower Analysis, Load Design, Frequency Analysis which is calculate as 138 hours for a Sr. Tower Engineer at \$65 per hour.
2. \$176,500 from SCS Broadband for 60 Month tower leases to American Tower Corp and SBA Corp for a total of four towers.

These amounts are to be paid by SCS broadband as considered as matching funds.

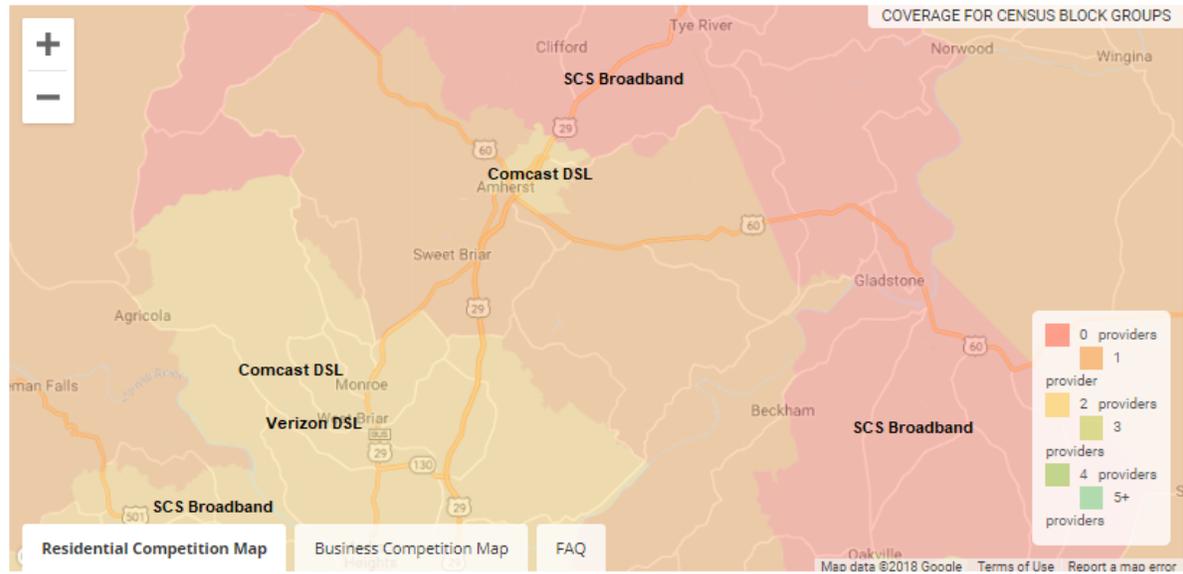
Last Updated on 12/11/2018.

Competition Map

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INTERNET PROVIDER COMPETITION MAP FOR AMHERST



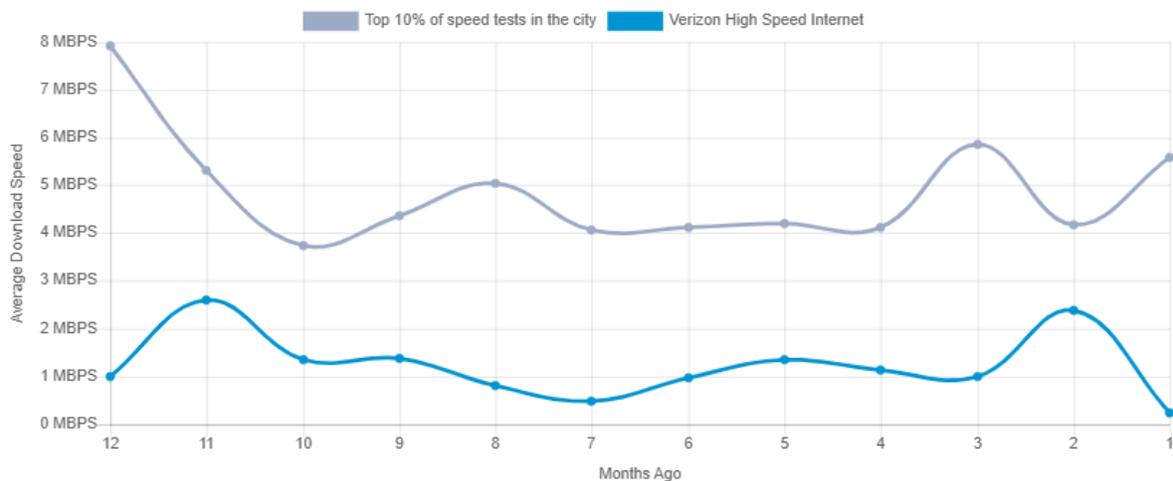
Last Updated on 12/11/2018.

Download Speeds

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DOWNLOAD SPEEDS IN AMHERST



This analysis is based on 8,508 speed tests from IP verified users who took speed tests from an IP address in Amherst between December 2017 and November 2018. National statistics are calculated across 314,082,195 over the same time range.

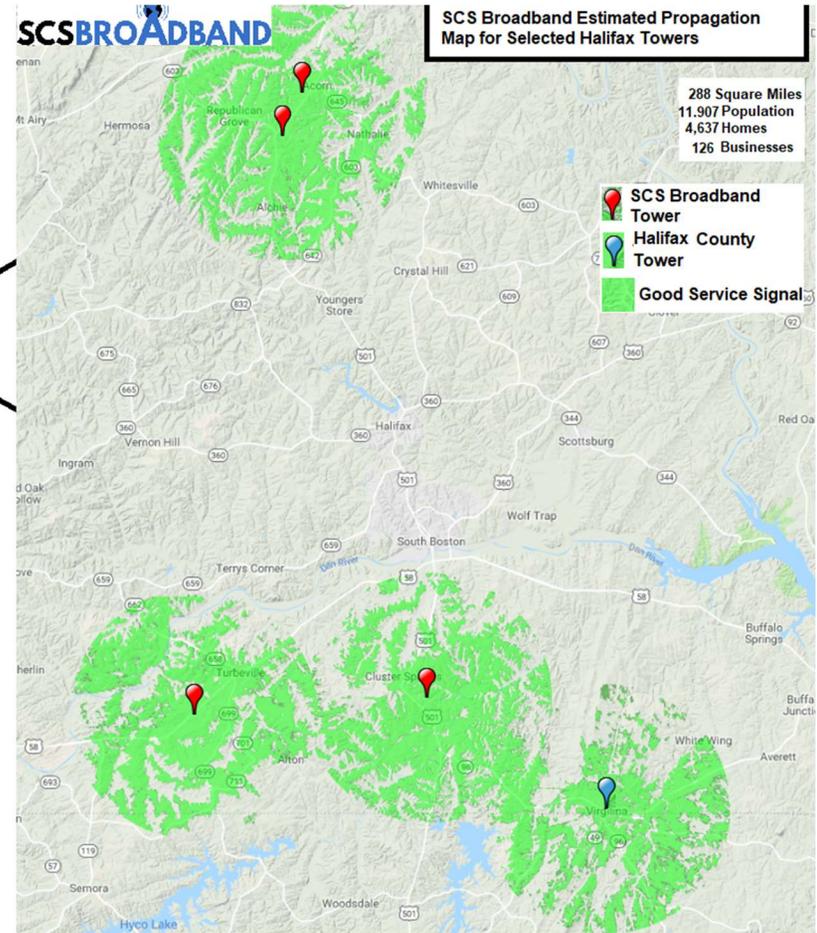
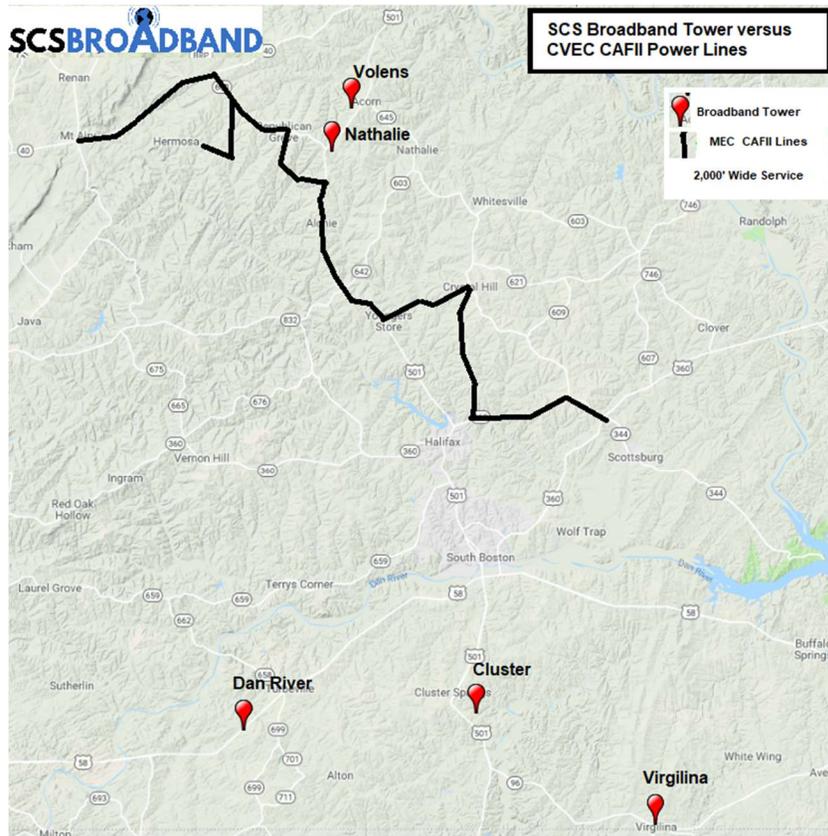


Figure 1.1 - Maps of Project Area

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	\$ 296,320	58	Pending
HALIFAX COUNTY	\$24,000	37	Pending
SCS BROADBAND	\$ 187,500	5	Pending
	\$		
	\$		
	\$		
	\$		
TOTAL	\$ 507,820	100 %	

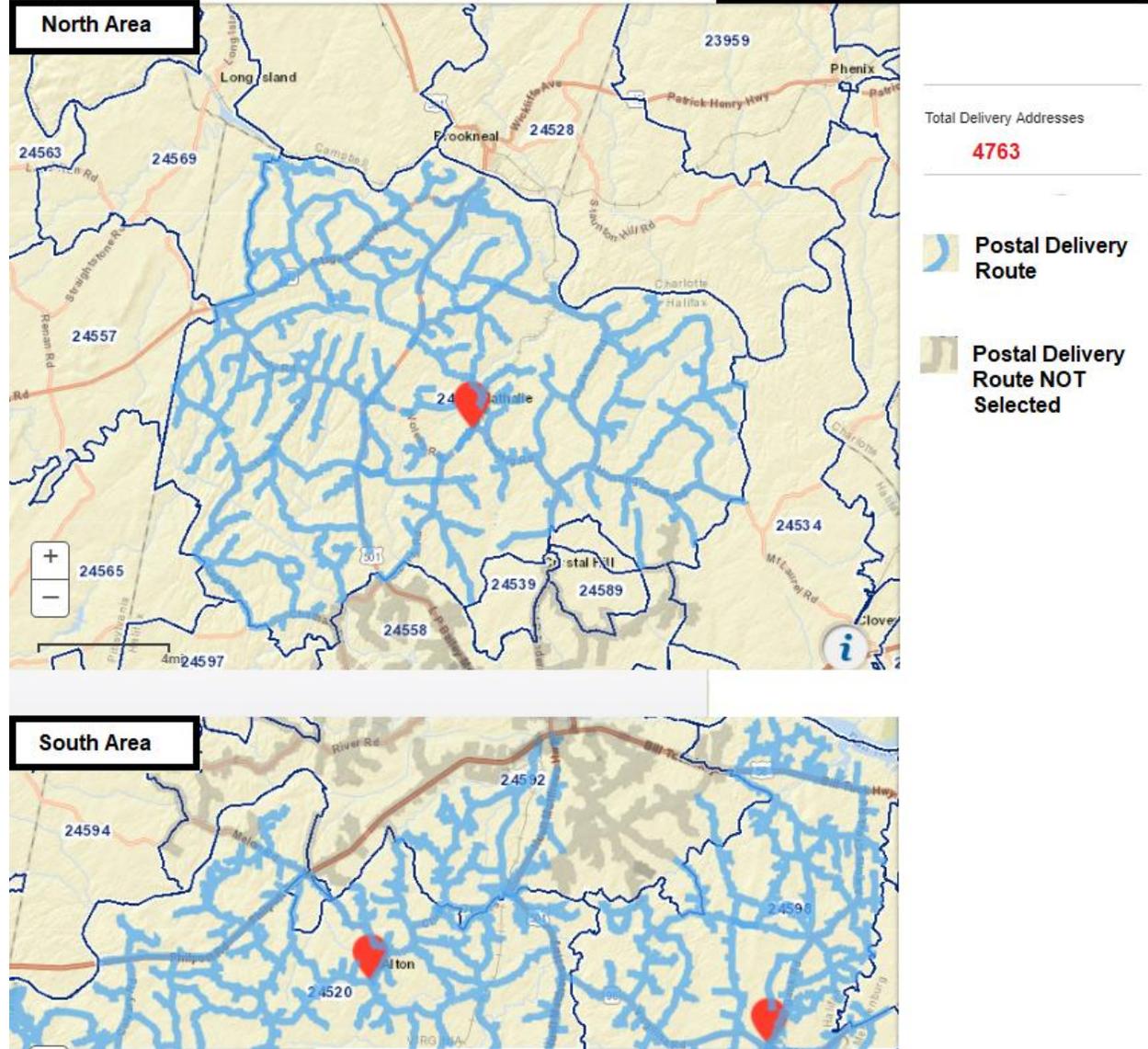


Figure 4.1 – U.S. Postal Routes Statistics of Area to be Served



Sample Marketing Results SCS Automatic Marketing Results Map

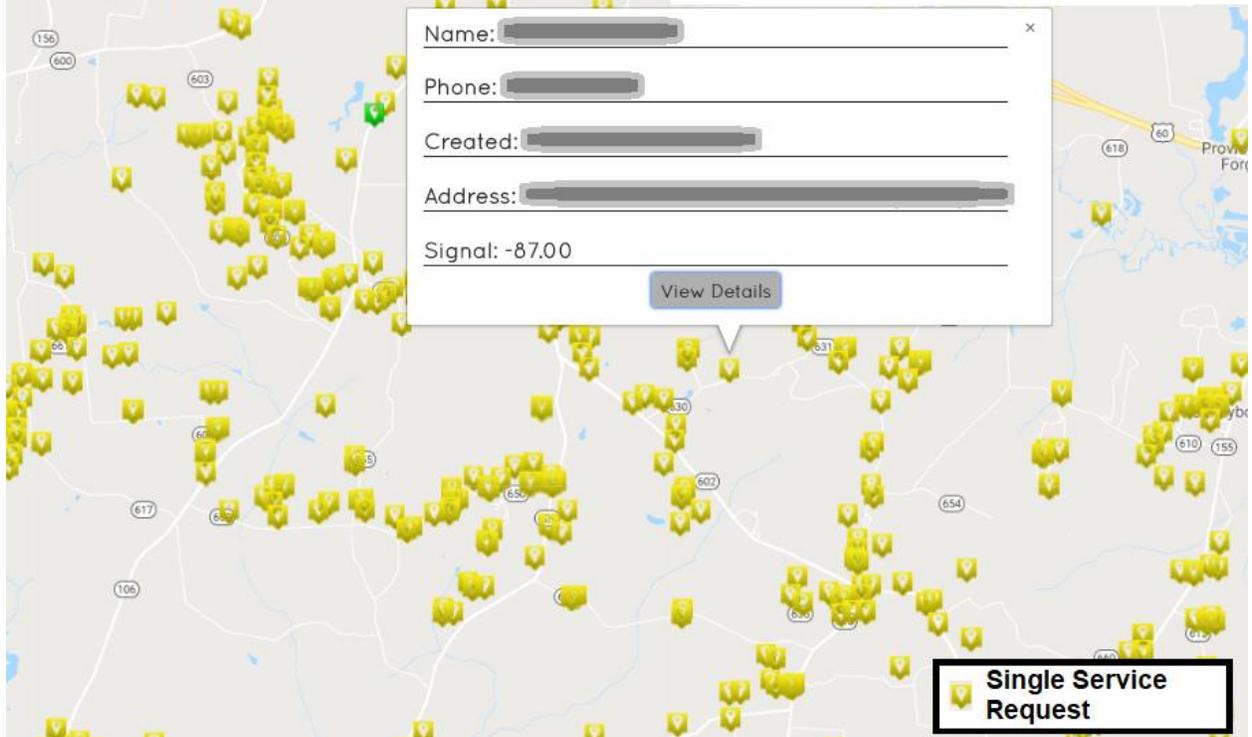


Figure 1- Sample Service Requests Map

Figure 8.1 - Halifax County Wireless Network Plan Map

