Application to DHCD Submitted through CAMS

Craig County

CBEC Fiber Phase 1 Reduced

Application ID: 86509092021150153

Application Status: Pending

Program Name: Virginia Telecommunications Initiative 2022

Organization Name: Craig County

Organization Address:

Profile Manager Name: Dan Collins

Profile Manager Phone:

Profile Manager Email: hokiedc@lumos.net

Project Name: CBEC Fiber Phase 1 Reduced

Project Contact Name: Trace Bellassai

Project Contact Phone: (540) 630-1625

Project Contact Email: tbellassai@craigcountyva.gov

Project Location: PO Box 308
New Castle, VA 24127-0308

Project Service Area: Craig County

Total Requested Amount: $607,846.59

Required Annual Audit Status: No Current Audits Found

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Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
Telecommunications	**$607,846.59**	**$335,948.86**	**$943,795.45**
Construction	$607,846.59	$335,948.86	$943,795.45
Total:	**$607,846.59**	**$335,948.86**	**$943,795.45**

Budget Narrative:

Questions and Responses:

1. **Project Description and Need**

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

Answer:

Project was selected as the first phase of a county wide fiber project. This was selected as the first phase for several reasons such as; 1. Craig Botetourt will be able to utilize existing facilities to equipment hosting, helping to reduce costs. 2. Much of the area included is served only by DSL offering 10/1 service.

Boundaries of the project:
The Fiber will come from the Mid Atlantic Broadband transport fiber into the office of Craig Botetourt at 26198 Craigs Creek Rd. It will then be ran to the Northeast adjoining Craigs Creek Rd. It will continue Northeast to Virginia Mineral Springs, branching off onto Camp Mitchell Rd, reaching the end of the road, and branching off to all of the sub roads along Camp Mitchell and along Craigs Creek Rd.

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

Answer:

Existing providers for the area include TDS telecom DSL service (which covers most of the county) and Citizens Cable, which serves the proposed area along SR615. TDS service varies in the proposed area, but in the majority of the proposed area, only provides 5/1 or 10/1 service. Citizens provides up to 50/5 service in some of their service area. Craig County is currently in the process of conducting a Broadband Survey and Feasibility Study with Design Nine which includes information such as existing service and speeds.

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

Answer:

No areas in the proposed phase have received federal funding.

4. Describe if any blocks awarded in Rural Digital Opportunity Fund (RDOF), excluding those awarded to satellite internet service providers, are included in the VATI application area. If RDOF areas awarded to terrestrial internet service providers are included in the VATI application, provide a map of these areas and include information on number of passings in RDOF awarded areas within the VATI application area, and Census Block Group ID number for each block group in the project area. Label Attachment: Attachment 3 – RDOF Awarded Areas Form in VATI Area

Answer:

No areas in the proposed phase have received RDOF funding.

5. Overlap: To be eligible for VATI, applicants must demonstrate that the proposed project area(s) is unserved. An unserved area is defined as an area with speeds below 25/3 mbps and with less than 25% service overlap within the project area for wireless projects and 10% for wireline projects. Describe any anticipated service overlap with current providers within the project area. Provide a detailed explanation as to how you determined the percentage overlap. Label Attachment: Attachment 4 – Documentation Unserved Area VATI Criteria.

Answer:

We are aware of some overlap with Citizens Broadband serving 25/3 in the proposed area. Approximately 23% of the passings in this proposed phase 1 are able to get service with Citizens Cable. We are awaiting data from Design Nine to complete our Broadband Survey and Feasibility Study to have exact percentages of overlap. TDS service in the area is less than 25/3. Current overlap estimates were determined by analyzing map data obtained from the Commonwealth of Virginia Maxar Technologies USDA Farm Service Agency Data.

6. Total Passings: Provide the number of total serviceable units in the project area. Applicants are encouraged to prioritize areas lacking 10 Megabits per second download and 1 Megabits per second upload speeds, as they will receive priority in application scoring. For projects with more than one service area, each service area must have delineated passing information. Label Attachment: Attachment 5 – Passings Form.
   a. Of the total number of VATI passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area. (Up to 10 points for businesses and community anchor institutions)

   b. If applicable, of the total number of RDOF passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area.

   c. If applicable, provide the number of passings that will require special construction costs, defined as a one-time fee above normal service connection fees required to provide broadband access to a premise . Describe the methodology used for these projections.

   d. If applicable, provide the number of passings included in the application that will receive broadband access because special construction costs have been budgeted in the VATI application. Describe the methodology used for determining which passings with special construction costs were budgeted in the application.

   e. Provide the number of passings in the project area that have 10/1 mbps or less. Describe the methodology used for these projections. (up to 15 points)

Answer:

A. 166 total passings.
Community Anchors: 7 (Elementary, Middle, and High School, School Board Office, Public Service Authority, Camp Mitchell Non-Profit Community Center, and Craig Botetourt Electrical Cooperative Headquarters and electrical substation)
Non-residential: 2
Businesses: 0
Residential: 157

B. N/A

C. 1. (PSA may require a trench, which the PSA has agreed to bear the cost of)

D. N/A

E. 128 (Determined by analyzing map data obtained from the Commonwealth of Virginia Maxar Technologies USDA Farm Service Agency Data in conjunction with Citizens Cable coverage area)

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

Answer:

N/A

8. Speeds: Describe the internet service offerings, including download and upload speeds, to be provided after completion of the proposed project. Detail whether that speed is based on dedicated or shared bandwidth, and detail the technology that will be used. This description can be illustrated by a map or schematic diagram, as appropriate. List the private co-applicant's tiered price structure for all speed offerings in the proposed project area, including the lowest tiered speed offering at or above 25/3 mbps. (up to 10 points)

Answer:

Speeds include packages between 50mbps symmetrical and 1gbps symmetrical and will utilize fiber. Packages will utilize shared bandwidth. CBEC is not currently offering 1gbps service, so they do not currently have pricing on 1gbps, but have announced their intention and ability to offer 1gbps service. Pricing on all other packages can be found in the attached document from CBEC.

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9. Network Design: Provide a description of the network system design used to deliver broadband service from the network's primary internet point(s) of presence to end users, including the network components that already exist and the ones that would be added by the proposed project. Provide a detailed explanation of how this information was determined with sources. Provide information on how capacity for scalability, or expansion, of how the network can adapt to future needs. If using a technology with shared bandwidth, describe how the equipment will handle capacity during peak intervals. For wireless projects, provide a propagation map for the proposed project area with a clearly defined legend for scale of map. Label Map: Attachment 6 – Propagation Map Wireless Project.

Answer:

GPON (gigabit passive optical Network) fiber Network. The network topology shows how the Nokia GPON system interconnects to Mid-Atlantic broadband as the transport, back to Rich web which handles our DNS server and manages our IP addresses. The actual design is produced off of 3-GIS FIBER NETWORK ENGINEERING MODEL.

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10. Explain how the proposed project achieves universal broadband coverage for the locality or fits into a larger plan to achieve universal broadband coverage for the locality. If applicable, explain the remaining areas of need in the locality and a brief description of the plan to achieve universal broadband coverage. (up to 50 points)

Answer:

This is the first phase of a project to provide coverage to all current Craig Botetourt electrical customers, and eventually coverage to the entire county outside of the current electric coverage of Craig Botetourt. Many areas will still need to be served in future phases, which are currently being planned by Craig Botetourt and the Craig County Broadband Committee.

Areas that coverage will be expanded in future phases within the CBEC current electrical coverage area include:
1. Sinking Creek/Simmonsville - Includes State Route 42 to the county line, and surround sub roads such as Little Mountain Rd, Big Mountain Rd, North Side Rd, etc and all "branching" roads from these roads. This will likely be seperated out into 2-3 phases and will not be one single project.
2. Upper Craigs Creek - Defined as the area between State Route 311 and the county line along Upper Craigs Creek Rd (State Route 621), to include all sub roads off of SR621.
3. Johns Creek - Defined as the area from SR311 from Johns Creek Rd through the end of the road and all sub roads to include Dicks Creek Rd and all sub roads and old Waiteville Rd. This would likely be split into 2 phases.
4. Paint Bank Rd. - Defined as the start of Paint Bank Rd at the intersection of SR615 and SR311 into the town of Paint Bank on SR311.
5. Red Brush - Defined as the area along Peaceful Valley Rd and all sub roads between SR311 and Barbours Creek Rd.
6. Barbours Creek - Defined as the area along Barbours Creek Rd and all sub roads to the county line.
7. Fenwick Mines - Defined as the area from SR615 (Craigs Creek Rd) to Barbours Creek Rd along Peaceful Valley Rd, to include all sub roads.
8. Eastern Craig - Defined as the area between Virginia Mineral Springs, and the Botetourt County line along SR615 (Craigs Creek Rd) to include all major and minor sub roads up to the Botetourt Count line.

Areas that coverage will be expanded in future phases outside of CBEC electric coverage area include:
1. The "Craig City" area, defined as between 2nd St to 11th St approximately, and Commerve Ave to Pine Land and surrounding area. The Broadband Committee and Craig Botetourt have had discussions with representatives of the Public Service Authority about using the right of way they have for buried utilities. This would allow costs to be kept at a minimum in this area as it is currently served by AEP electrically, and CBEC would need to pay a pole attachment feed to AEP if running the fiber on the electric poles. The PSA is receptive to an agreement whereby CBEC would provide connections for smart water meters in exchange for allowing CBEC to use their right away free of charge. This is still in discussions with the PSA board and has not been finalized.
2. State route 311 south of New Castle, including sub roads such as Hickory Brook Dr, Broad Run Rd, Mountain Breeze Ln, Sycamore Crossing, Craig Creek Estates, etc. This area is currently served by AEP electrically and CBEC will need an agreement with AEP for pole attachments. CBEC is interested in exploring this option, but has not yet approached AEP.
3. Town of New Castle - This area is currently served by AEP electrically and CBEC will need an agreement with AEP for pole attachments. CBEC is interested in exploring this option, but has not yet approached AEP.
4. "Scratch Ankle" - Defined as the area from town limits to Wagener St to the South, to include the Meadow Brook Ln area, and from town limits to Cumberland Ave in the West. This area is currently served by AEP electrically and CBEC will need an agreement with AEP for pole attachments. CBEC is interested in exploring this option, but has not yet approached AEP.

These areas are still a rough estimate and these have just been divided up logically. Some of these areas may be combined into a single phase, while other may possibly be split into multiple phases based on funding opportunities, timelines, and material availability.

11. **Project Readiness**

    Describe the current state of project development, including but not limited to: planning, preliminary engineering, identifying easements/permits, status of MOU or MOA, and final design. Prepare a detailed project timeline or construction schedule, identifying specific tasks, staff, contractor(s) responsible, collection of data, etc., and estimated start and completion dates. Applicants must include Memorandums of Understanding (MOUs) or Memorandums of Agreement (MOAs) between applicants (drafts are allowable). Label Attachments: Attachment 7 – Timeline/Project Management Plan; Attachment 8 – MOU/MOA between Applicant/Co-Applicant; (up to 20 points)

Answer:

Preliminary engineering and material list are complete. Easements are associated with existing cooperative facilities. MOU is currently in a draft state.

12. Has the applicant or co-applicant received any VATI grants? If so, provide a list of these grants, with a detailed summary of the status of each.

Answer:

Craig County has not received any VATI grants. CBEC has received a VATI grant for a project in another locality (59811132018142709) This project has been completed and is actively serving customers.

13. Matching funds: Complete the funding sources table indicating the cash match and inkind resources from the applicant, co-applicant, and any other partners investing in the proposed project (VATI funding cannot exceed 80 percent of total project cost). In-kind resources include, but are not limited to: grant management, acquisition of rights of way or easements, waiving permit fees, force account labor, etc. Please note that a minimum20% match is required to be eligible for VATI, the private sector provider must provide10% of the required match. If the private co-applicant cash match is below 10% of total project cost, applicants must provide financial details demonstrating appropriate private investment. Label Attachments: Attachment 9 - Funding Sources Table; Attachment 10 – Documentation of Match Funding

Answer:

Total project costs $943,795.45
Craig County Contribution $100,000
CBEC Contribution $235,948.86
VATI Request $607,846.59

14. Leverage: Describe any leverage being provided by the applicant, co-applicant, and partner(s) in support of the proposed project. (up to 10 points)

Answer:

CBEC is leveraging existing facilities to host required equipment and servers, as well as existing electrical infrastructure for pole attachments. This will allow CBEC to incur no additional deployment costs for pole attachment fees or construction fees required for Point of Presence equipment. CBEC is also a member of the UUS and TEMA purchasing cooperatives which they can leverage to acquire reduced pricing.

15. Marketing: Describe the broadband adoption plan.

    a. Explain how you plan to promote customer take rate, including marketing activities, outreach plan, and other actions to reach the identified serviceable units within the project area. Provide the anticipated take rate and describe the basis for the estimate. (up to 10 points)

    b. Describe any digital literacy efforts to ensure residents and businesses in the proposed project area sufficiently utilize broadband. Please list any partnering organizations for digital literacy, such as the local library or cooperative extension office.

Answer:

In addition to the marketing efforts of CBEC, the Craig County Broadband Committee will utilize print media in the form of press releases, digital media in the form of our social media assets, and reporting in public session to all local relevant boards and committees to be disseminated to interested constituents.

CBEC marketing effors include
A. CBEC will use it's social media accounts, websites, direct mailers, door hanger info sheet, Cooperative Living Magazine, News media, etc.
B. The Virginia, Maryland, and Delaware Association of Broadband Cooperatives (VMDABC) outreach, National Rural Telecommunications Council (NRTC) tutorial video library and its publications.

16. Project Management: Identify key individuals who will be responsible for the management of the project and provide a brief description of their role and responsibilities for the project. Present this information in table format. Provide a brief description of the applicant and co applicant’s history and experience with managing grants and constructing broadband communication facilities. Please attach any letters of support from stakeholders. If the applicant is not a locality(s) in which the project will occur, please provide a letter of support from that locality. Attachment 11 – Letters of Support.

Answer:

Name

Title

Project Role

Project Responsibilities

Jeff Ahearn

CEO, Craig-Botetourt Electric Cooperative

Project Manager CBEC

Overall manager of project

Mack McCaleb

Manager of Electric Distribution Services, Craig-Botetourt Electric Cooperative

Construction Coordinator

Coordinates construction of fiber facilities with Fujitsu

Tim Kaczmarski, CPA, CGMA

Director of Business Services, Craig-Botetourt Electric Cooperative

Grant Accounting

Tracks grant expenses and prepares reports

Mary Ann Gober

Cooperative Services Associate, Craig-Botetourt Electric Cooperative

Administrative

Performs administrative tasks as necessary

Anthony Bednarczyk

Broadband Executive Engagement Leader, Fujitsu

Construction Collaborator

Constructs fiber facilities

T.B.D.

Construction Project Manager

Fujitsu

Manager of the construction/sub-contractors

Dave Keller

Vice President of Sales & Business Development, Mid-Atlantic Broadband Communities Corporation

Construction Collaborator

Coordinates access to fiber backbone

Mark Lea

RichWeb/Pixel Factory

Access Lead

Coordinates internet access

17. **Project Budget and Cost Appropriateness**

    Budget: Applicants must provide a detailed budget that outlines how the grant funds will be utilized, including an itemization of equipment, construction costs, and a justification of proposed expenses. If designating more than one service area in a single application, each service area must have delineated budget information. For wireless projects, please include delineated budget information by each tower. Expenses should be substantiated by clear cost estimates. Include copies of vendor quotes or documented cost estimates supporting the proposed budget. Label Attachments: Attachment 12 – Derivation of Costs; Attachment 13 - Documentation of Supporting Cost Estimates. (up to 10 points)

Answer:

Please see attached documents.

18. The cost benefit index is comprised of state cost per unit passed. Individual cost benefit scores are calculated and averaged together to create a point scale for a composite score. Provide the following:
    a. Total VATI funding request

    b. Number of serviceable units
    (up to 125 points)

Answer:

A. VATI Request $607,846.59
B. 166

19. **Commonwealth Priorities (Up to 40 points)**

    Additional points will be awarded to proposed projects that reflect Commonwealth priorities. If applicable, describe the following:
    a. Businesses, community anchors, or other passings in the proposed project area that will have a significant impact on the locality or region because of access to broadband.

    b. Unique partnerships involved in the proposed project. Examples include electric utilities, universities, and federal/state agencies.

    c. Digital equity efforts to ensure low to moderate income households in the proposed project area will have affordable access to speeds at or above 25/3 mbps.

Answer:

A. Counties only Elementary, Middle, and High School, School Board Office, Public Service Authority, Camp Mitchell Non-Profit Community Center, Craig Botetourt Electrical Cooperative Headquarters and electrical substation.
B. Craig Botetourt Electric Cooperative will be the ISP and private partner for the project. We will also be partnering with the Public Service Authority for future phases.

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Craig County

CBEC Fiber Phase 1 Reduced

20. **Additional Information**

Provide the two most recent Form 477 submitted to the FCC, or equivalent, as well as point, polygon, and, for wireless providers, RSSI shapefiles for the project area **in .zip file form**. With attachments 17 through 20, attach any other information that the applicant desires to include. Applicants are limited to four additional attachments.

Label Additional Attachments as:
a. Attachment 14 – Two most recent Form 477 submitted to the FCC or equivalent

b. Attachment 15 - Point and Polygon shapefiles, in.zip file form, showing proposed passings and project area

c. Attachment 16 - For wireless applicants: shapefiles, in .zip file form, indicating RSSI projections in the application area

d. Attachment 17 – XXXXXXX

e. Attachment 18 – XXXXXXX

f. Attachment 19 – XXXXXXX

g. Attachment 20 – XXXXXXX

Answer:

See attached

Attachments:

Map(s) of project area, including proposed infrastructure

CraigCountysmallerproposal9142021104916.pdf

Passings Form (Use template provided)

VATIPassingsForm616202134537914202111848.docx

Timeline/Project Management Plan

timeline9142021111920.pdf

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

MOUsmall9142021113035.docx

Application to DHCD Submitted through CAMS

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CBEC Fiber Phase 1 Reduced

Funding Sources Table (Use template provided)

VATIFundingSourcesTablesmall9142021113844.docx

Letters of Support

MGCraigCountyVATILetterofSupport9142021113221.pdf

Derivation of Cost/Project Budget (Use template provided)

CBECAmendmentXCraigCountyReduced091021v3Prop19142021113245.pdf

Documentation of Supporting Cost Estimates

CostEstimatesJustification9142021113306.pdf

Two most recent Form 477 submitted to the FCC or equivalent

FCC477CBEC9142021113321.pdf

Optional

NetworkTopology9142021113408.pdf

Optional

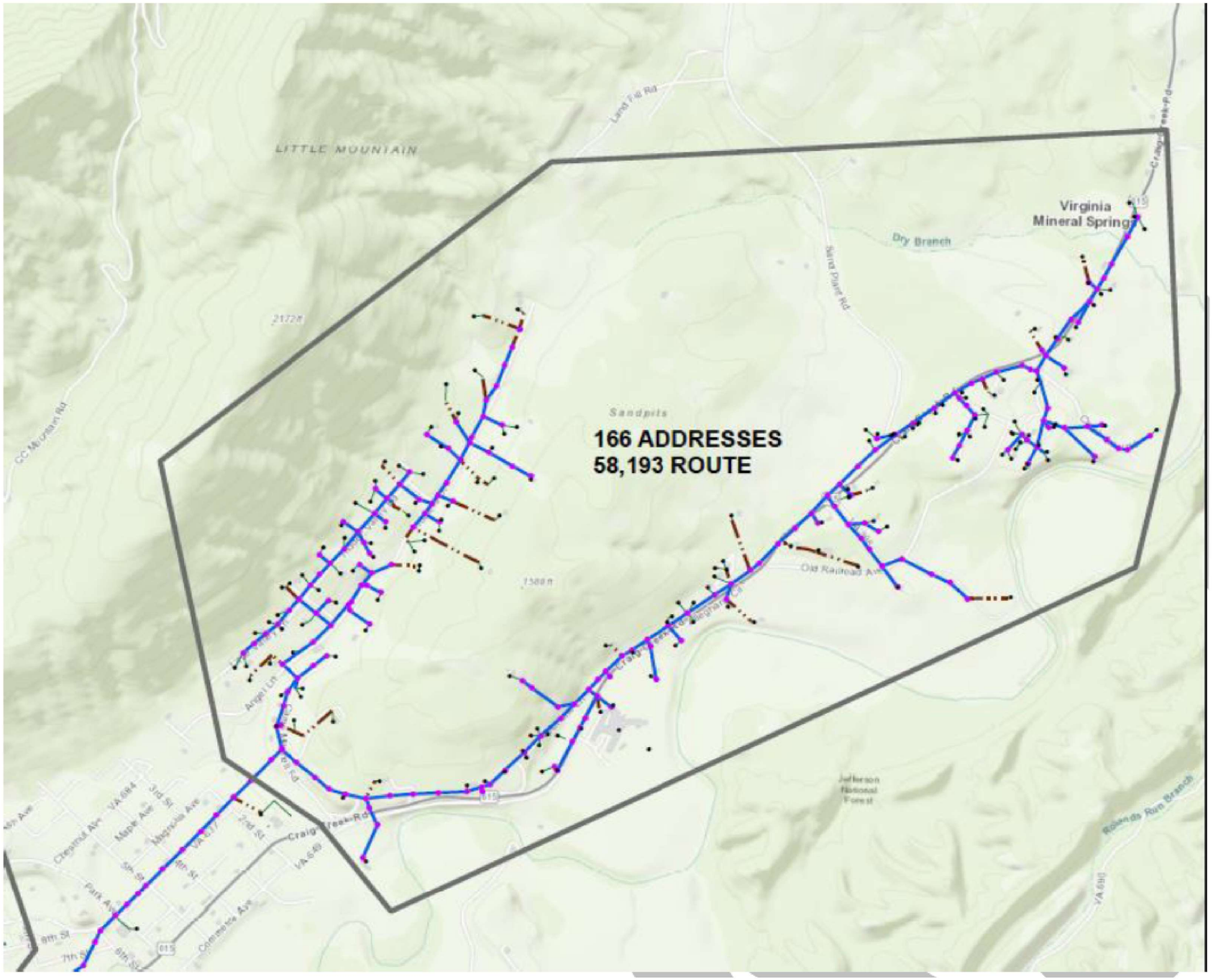
CraigCountyISPBOM9142021113427.pdf

Optional

NokiaWiFiGateway3DataSheetEN9142021113448.pdf

Optional

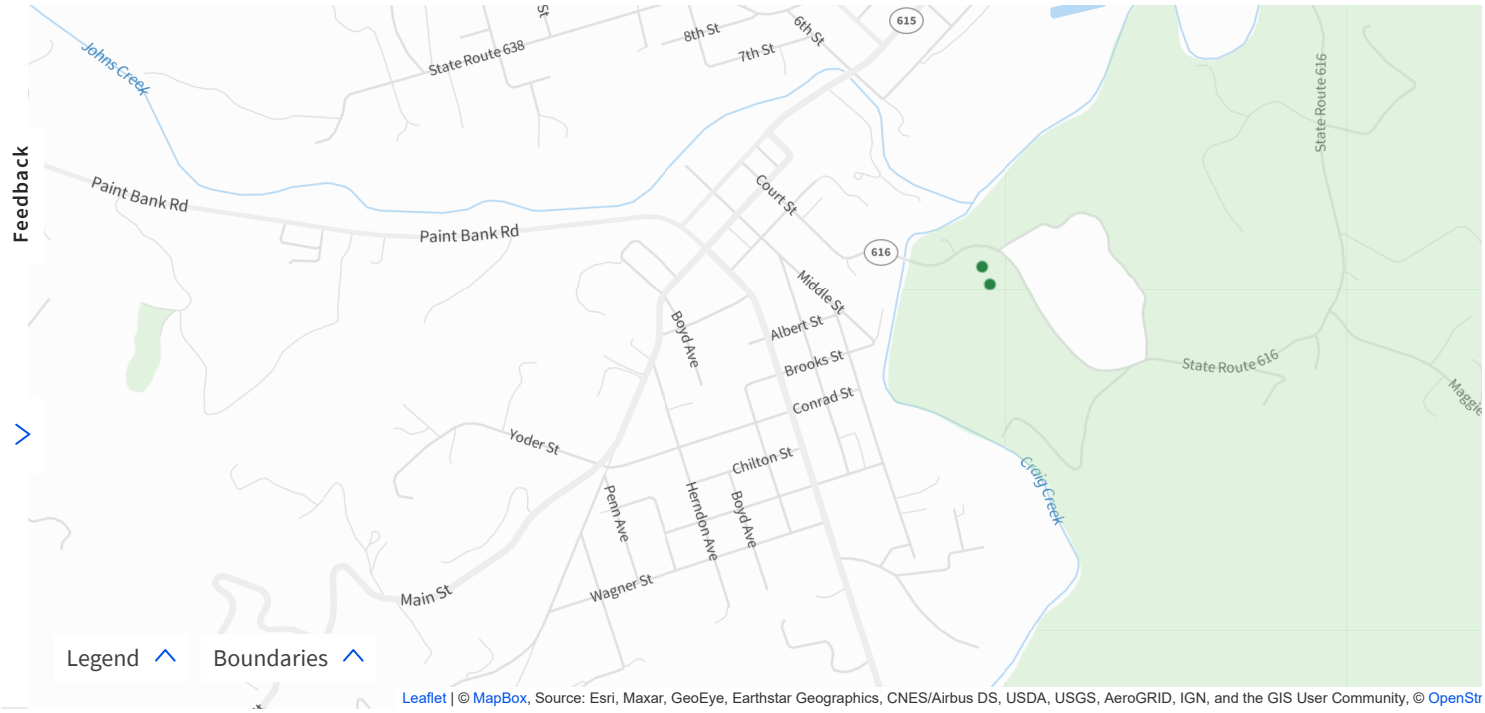
BEEONLINEadvOFFERINGS9142021113521.pdf



Reduced Craig County

Addresses	166
Poles	255
Overhead	47718
Underground	10475

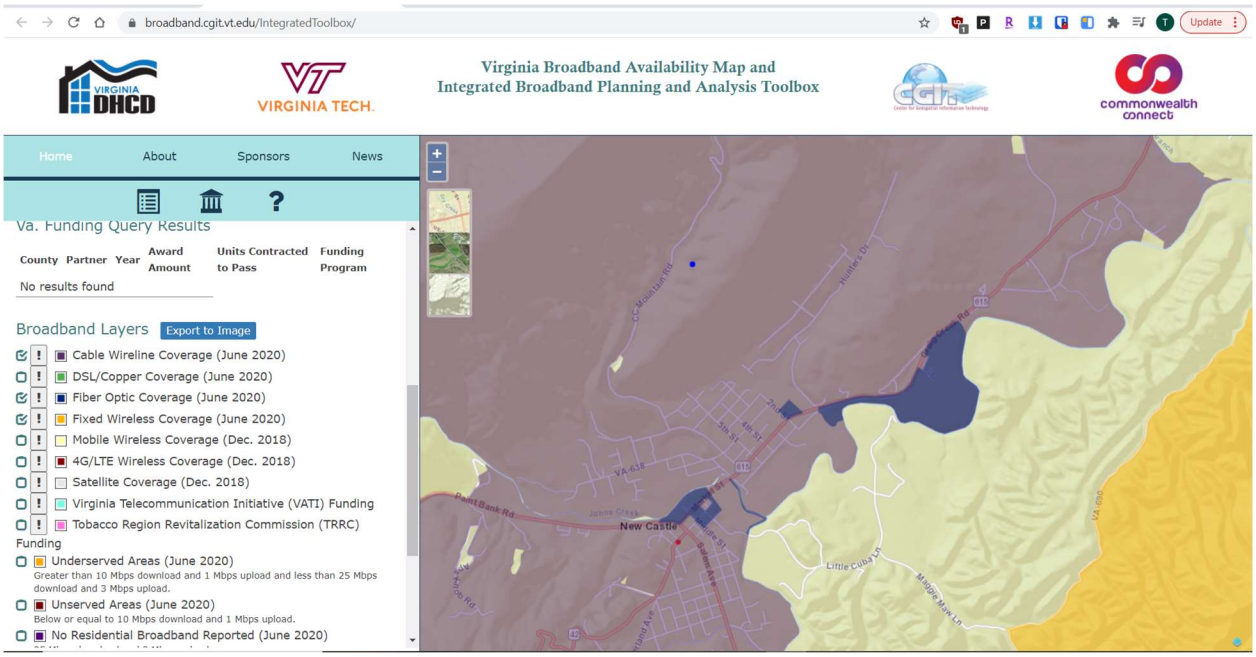
Connect America Fund Broadband Map



State Data | **Local Data** Filtered by: State

Fund ▲	Company Name	Deployment Address	Locations Deployed
ACAM	TELEPHONE AND DATA SYSTEMS, INC.	130 LITTLE CUBA LN, NEW CASTLE, VA, 24127	1
ACAM	TELEPHONE AND DATA SYSTEMS, INC.	32 LITTLE CUBA LN, NEW CASTLE, VA, 24127	1

Show 25 records/page



The Virginia Broadband Availability Map seems to be someone inaccurate. It shows several areas as having Cable service, that the Broadband Committee knows for a fact do not have Cable service, such as the entire area coming off of Camp Mitchell Rd. We have spoken with the engineers of the cable provider, and they indeed do not have service in that area. Additionally, some areas show fiber, but this fiber is made available only to businesses.

We are currently conducting a study with Design Nine and will be able to provide more accurate data in the future on Unserved/Underserved areas. Some of the areas we know as unserved/underserved currently, we know from our close ties to the community, but we are working on being able to provide hard evidence of that knowledge.

2022 Virginia Telecommunication Initiative (VATI)
Passing Form

Type of Passings	Total Number of Passings in the Project Area [1]	Passings in the Project Area, without Special Construction Costs Required[2]	Passings with Special Construction Costs budgeted in the Application [3]	Number of Passings with Speeds at 10/1 or below in Project Area [4]
Residential	157	157	0	127
Businesses (non-home based)	0	0	0	0
Businesses (home-based)	0	0	0	0
Community Anchors	7	6	1	1
Non-residential	2	2	0	0
Total	166	165	1	128

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

***Note**: Do not include passings in RDOF awarded areas that were awarded to the co-applicant; these passings should be included in the RDOF Passings Form. Passings included in this application in RDOF awarded areas that were not awarded to the co-applicant, unless successfully challenged, are considered unserved and should be counted as passings in this form.*

[1] The total number of structures in the project area that can receive service. See definition of passing below for more detail.
[2] The number of structures in the project area that will not require special construction costs to provide service to. These passings fall within the broadband provider's standard service connection drop length and do not require nonstandard equipment or any additional fees above normal service connection fees required to provide broadband access to a premise.
[3] The number of structures in the project area with all construction costs budgeted in the application. These passings will not require any additional special construction costs beyond those budgeted for in the VATI application.
[4] The number of structures in the project area that do not have access to internet at speeds of at least 10 mbps download and 1mbps upload.

Definitions

Passing – any structure that can receive service. Multi-unit structures may be counted as more than 1 passing, provided individual connections and account are planned at that structure.

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

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

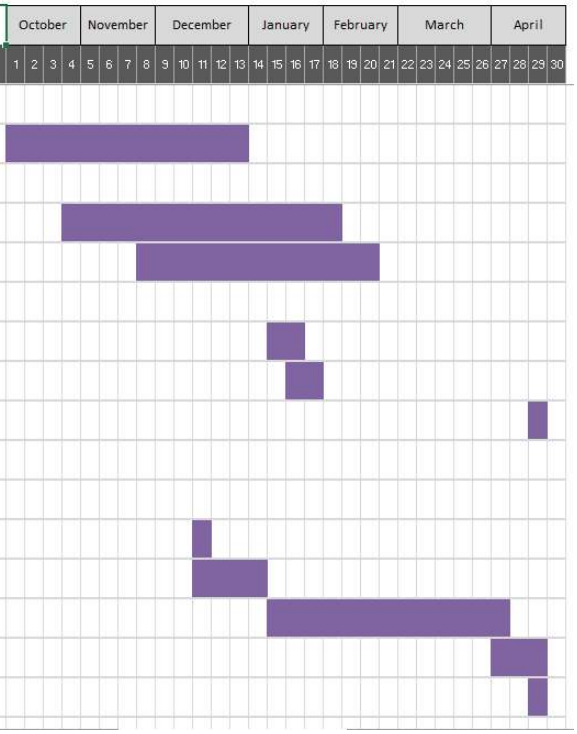
Non-Residential Passing – places of worship, federal, state, or local facilities or other potential customers that are neither a residence, business or a community anchor as defined above.

CBEC Phase 5 Craig County Project Plan

FNC
Daryl Brown

Project Start: Mon, 10/4/2021
Display Week: 1

TASK	ASSIGNED TO	PROGRESS	START	END	Weeks
Engineering					
Low Level Design	Name	0%	1	13	14
Material Acquistion					
Long Lead Time Material		0%	4	18	15
Other Material		0%	8	20	13
Data Center					
Run New Cable		0%	15	16	2
Installation of Supporting Material		0%	16	17	2
Splicing		0%	29	29	1
Testing		0%	30	30	1
Construction					
LCP Prep Work		0%	11	11	1
Make Ready Work		0%	11	14	4
Fiber and MST Construction		0%	15	27	13
Splicing		0%	27	30	4
Testing		0%	29	30	2



MEMORANDUM OF UNDERSTANDING BETWEEN THE COUNTY OF CRAIG, VIRGINIA, AND CRAIG-BOTETOURT ELECTRIC COOPERATIVE FOR APPLYING FOR VIRGINIA TELLECOMMUNICATIONS INITIATIVE FUNDING FOR PROVIDING BROADBAND SERVICES

I. PARTIES AND PURPOSE

This Memorandum of Understanding (MOU) is made and entered into as of the _____ day of September 2021, by and between Craig County, Virginia (the "County"), a political subdivision of the Commonwealth of Virginia, and the Craig-Botetourt Electric Cooperative ("CBEC"), a Virginia consumer utility cooperative, for the purpose of creating a partnership to prepare and submit an application for grant funding through the Virginia Telecommunications Initiative (VATI) the Virginia Department of Housing and Community Development in an effort to expand and improve broadband services to the citizens of Craig County, Virginia. The County recognizes that in order to attain and maintain a high-quality level of broadband service to the citizens of Craig County, a close working relationship with the private internet providers is desirable and will be made possible in large part through state and federal grant funding opportunities.

The County wishes to make certain funds available to make a grant to CBEC, for the purposes of incentivizing CBEC to expand its facilities in Craig County, increase jobs and employment, enhance learning opportunities for students, and otherwise expand the tax base of the County while simultaneously assisting in preserving public health in the midst of the COVID-19 crisis.

II. SCOPE OF WORK

The County, and CBEC desire to cooperatively work together to prepare and apply for grant funding through the 2021 Virginia Telecommunications Initiative (VATI) Funding Program managed by the Virginia DHCD to provide fiber broadband service in several areas of the County by extending their existing fiber network. The application for funding anticipates coverage to be made available to approximately 376 households and businesses in the County that are currently unserved/underserved. Service is envisioned to be provided through the following infrastructure improvements:

- Placement of approximately 10,475 linear feet of underground fiber optic cable.
- Placement of approximately 47,718 linear feet of aerial fiber optic cable.
- Associated construction and make-ready work.

The County and CBEC agree to provide the necessary funding to construct the projects above to deliver internet service to the homes/businesses in these areas by providing minimum average internet speeds ranging from 50 Mbps/10 Mbps to 1 Gbps. The total cost of these projects is estimated at $943,795.45 To obtain necessary project funding, the County agrees to complete a grant funding application, with assistance from CBEC through the DHCD VATI Funding Program requesting $607,846.59to be allocated to the above projects. The County will contribute not more than $100,000 toward completion of the projects. CBEC agrees to provide the remaining project funding to complete the above projects.

The parties confirm that a detailed agreement shall be executed if funding is approved to outline all the obligations of the County, Authority, and CBEC and providing performance guarantees for service delivery and maintenance. If funding is approved from DHCD, the parties confirm and understand that CBEC will be responsible for providing the remaining of the funding necessary to complete the project for which DHCD funding was received.

IN WITNESS WHEREOF, the parties have executed this Memorandum of Understanding on the day, month, and year indicated:

FOR Craig COUNTY, VIRGINIA:

By: _____

Robert Collins

County Administrator

COMMONWEALTH OF VIRGINIA

COUNTY OF CRAIG, to wit:

The foregoing instrument was acknowledged before me this ____ day of September 2021 by Robert Collins, on behalf of Craig County, Virginia.

My commission expires _____

Registration No. _____

Approved as to form:

By: _____

Peter S. Lubeck

County Attorney

FOR CRAIG-BOTETOURT ELECTRIC COOPERATIVE:

By: _____

[name]

[title]

COMMONWEALTH OF VIRGINIA

COUNTY OF XXXXXXX, to wit:

The foregoing instrument was acknowledged before me this ____ day of September 2021 by _____, on behalf of CBEC.

My commission expires _____

Registration No. _____

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	$ 607,846.59	64.5	Pending
CBEC	$ 235,948.86	25	APPROVED
CRAIG COUNTY	$ 100,000	10.5	APPROVED
	$		
	$		
	$		
	$		
TOTAL	**$ 943,795.45**	**0 %**	

CRAIG-BOTETOURT
ELECTRIC COOPERATIVE

September 7, 2021

Mr. Trace Bellassai
PO BOX 308,
New Castle, VA 24127.

Dear Mr. Bellassai,

We are pleased to partner with Craig County to apply for funding to extend broadbandand VoIP service to unserved residents through the VATI program.

Craig-Botetourt Electric Cooperative is a member/customer owned electric distribution utility licensed to provide electric service in Virginia and West Virginia. We serve over 7,200 meters in Allegheny, Botetourt, Roanoke, Giles, Montgomery, and Craig counties in Virginia. We also serve Monroe County in West Virginia. We are one of twelve electric cooperatives in Virginia. Craig-Botetourt is the smallest with the lowest density measured in member/customers per mile of line. The Cooperative was chartered in August of 1936. It was created under the Rural Electrification Act for providing electric service to rural areas. We are not only overseen by the Virginia State Corporation Commission but also the West Virginia Public Service Commission. We are also administrated by the U.S. Department of Agriculture (USDA), the Rural Utilities Service (RUS). As of July 31,2021, the Cooperative had a total utility plant of $47.9 million. We have annual electric distribution sales of around $12 million. We currently borrow from three different organizations Rural Utilities Service, National Rural Utilities Cooperative Finance Corporation, and CoBank. The Cooperative is governed by a six-member elected board of directors and managed by a CEO who reports to the board.
Craig-Botetourt Electric's wholly owned subsidiary, Craig-Botetourt Energy & Home Services, LLC, dba, Bee Online Advantage, is our broadband and VoIP service provider.

Please accept this letter, for our financial statement documentation.

Sincerely,

Jeff Ahearn
CEO, Craig-Botetourt Electric Cooperative &
Bee Online Advantage

H. MORGAN GRIFFITH
9TH DISTRICT, VIRGINIA

COMMITTEE ON
ENERGY AND COMMERCE
SUBCOMMITTEES:

ENERGY

HEALTH

OVERSIGHT AND INVESTIGATIONS

www.morgangriffith.house.gov

Congress of the United States
House of Representatives
Washington, DC 20515–4609

2202 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-3861 PHONE
(202) 225-0076 FAX

323 WEST MAIN STREET
ABINGDON, VA 24210
(276) 525-1405 PHONE
(276) 525-1444 FAX

17 WEST MAIN STREET
CHRISTIANSBURG, VA 24073
(540) 381-5671 PHONE
(540) 381-5675 FAX

September 14, 2021

Dr. Tamarah Holmes
Director, DHCD Office of Broadband
Virginia Department of Housing and Community Development
600 East Main Street, Suite 300
Richmond, VA 23219-2430

Dear Dr. Holmes,

I am writing to express my interest in the grant application for Virginia Telecommunication Initiative (VATI) submitted by Craig County in New Castle VA.

In preparing this grant application, Craig County cited many factors contributing to the need for this funding in my congressional district. I ask that you give this application your most thoughtful and serious consideration. If there is any additional information that my office can provide, please contact Cody Mumpower at my Abingdon office at (276) 525-1405.

I would very much appreciate it if you would acknowledge receipt of this letter and keep me apprised of your action regarding this application when review is complete. You should respond to Craig County in care of my Abingdon office at (276) 525-1405 by phone or by mail to 323 W. Main Street, Abingdon, Virginia 24210.

Thank you for your time and attention to this matter. I look forward to hearing from you. I remain

Sincerely yours,

H. MORGAN GRIFFITH
Member of Congress

Amendment Number TBD

To

Design, Engineering, Construction And Maintenance Agreement

Between

Craig-Botetourt Electric Cooperative

And

Fujitsu Network Communications, Inc.

This Amendment No. TBD ("Amendment") to the Design, Engineering, Construction and Maintenance Agreement dated June 18, 2019, (the "Agreement"), is between Fujitsu Network Communications, Inc., a California corporation, with offices at 2801 Telecom Parkway, Richardson, Texas 75082 ("FNC") and Craig-Botetourt Electric Cooperative, a Virginia corporation, having an office and principal place of business at 26198 Craigs Creek Road, PO Box 265, New Castle, VA 24127 ("Customer"), each a "Party" and collectively referred to as the "Parties". Capitalized terms used but not defined herein shall have the meanings as set forth in the Agreement. Unless otherwise stated herein, this Amendment shall take effect upon execution by the last signing party, (the "Amendment TBD Effective Date")

WHEREAS, the Parties wish to amend the Agreement to add the design, engineering and construction services to build the Craig County BroadBand (BB) path extension to the Customer's fiber network footprint which includes an 11.02 Mile broadband fiber buildout passing 166 potential subscriber addresses ("Craig County BB Path").

WHEREAS, the Parties wish to amend the Agreement to update quantities and pricing for the Craig County BB Path.

NOW, THEREFORE, in consideration of the above premises and the mutual promises and conditions set forth herein, receipt of which is hereby acknowledged, and intending to be legally bound, the Parties agree to modify the Agreement as follows:

1. The attached Craig County Boundary map is hereby added as **Attachment TBD of Exhibit 1** and illustrates the Craig county BB Path.

2. The Parties hereby agree to extend the Services defined in **Exhibit 1**; Design and Engineering Services, **Exhibit 2**; Program Management Office and **Exhibit 3**; Construction Services to include the Craig County BB Path. The number of potential addresses the engineering design and construction will pass is 166. Pricing for such Services to the Craig County BB Path are provided in **Exhibit 12**.

3. **Exhibit TBD**; Craig County BB Path is hereby added to the Agreement.

4. Add a new **BOND** Article TBD as follows:

   " TBD $878,500. Attachment TBD, Exhibit 1 – Craig County BB."

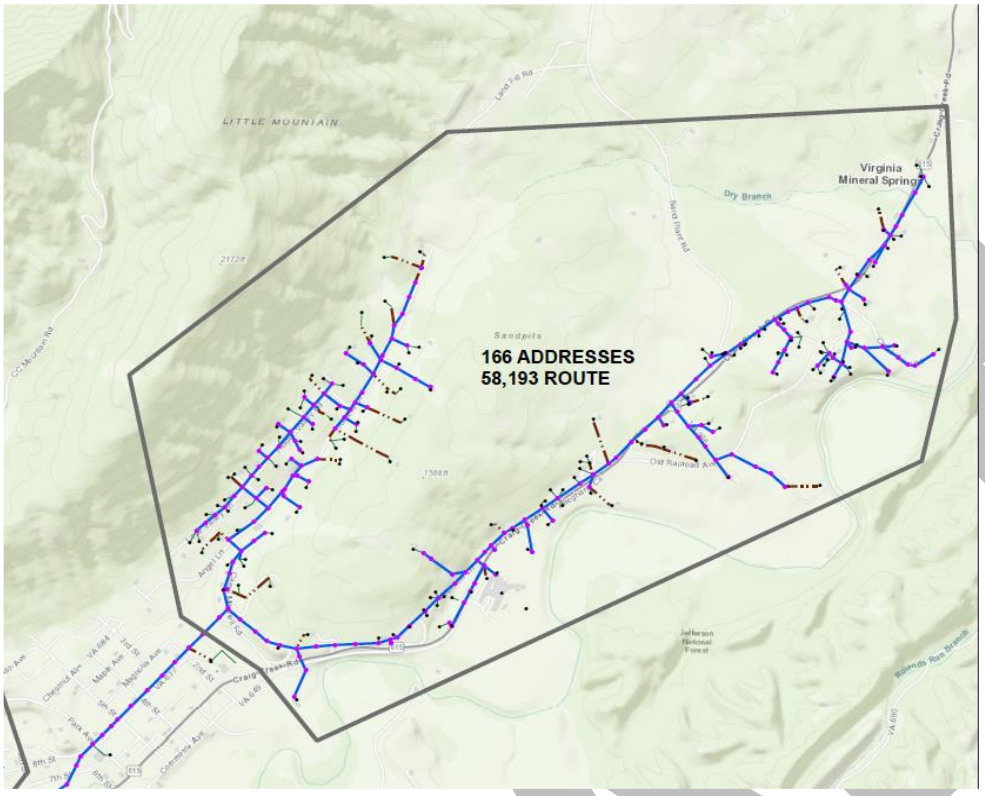
5. This Amendment is an integral part of the Agreement. If there are any inconsistencies between a specific term or condition of this Amendment and a specific term or condition of the Agreement, the specific term or condition of this Amendment shall control.

Except as amended hereby, the Agreement shall continue in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed by their duly authorized representatives as of the date set forth below.

Fujitsu Network Communications, Inc. 2801 Telecom Parkway, Richardson, TX 75082 Fax Number: 972-479-2992 (Legal Dept.)	Craig-Botetourt Electric Cooperative 26198 Craigs Creek Road, PO Box 265, New Castle, VA 24127 Fax Number:_____
By:_____	By: _____
Print Name: _____	Print Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

Attachment TBD to Exhibit 1



Reduced Craig County

Addresses	**166**
Poles	**255**
Overhead	**47718**
Underground	**10475**

Estimated breakout of the addresses within the Craig county BB path footprint:

Name of Boundary	# Residential addresses	Total Addresses	# of ONTs (50% take rate)
Craig County Mainline	166	166	83

Price Assumptions
Pricing includes ONT devices and materials

Construction Assumptions

58,193 feet (11.02 Miles) construction path footage

255 poles to attach

Total of 83 drops with a maximum of 500 feet

Make Ready is not included: Assumed CBEC will complete as required.

Assumes FNC will supply ONTs and drop material, CBEC will supply/perform drop installation labor for all drops.

EXHIBIT TBD

Craig County BB Path

1. INTRODUCTION

This **Exhibit** TBD; describes the updated unit pricing utilized to deliver to the Customer (also "CBEC") in support of Customer's Craig County BB Path project. The success of this SOW relies heavily upon key Customer employees and/or Customer advisor involvement as part of the engagement team.

2. TERM

The term of this **Exhibit** TBD begins from the **Amendment** TBD **Effective Date** and continues for 1 year or until the project is completed by FNC, whichever occurs later.

3. ACCEPTANCE

FNC will provide a Job Completion Notice ("JCN") monthly to Customer for Acceptance of the Services completed during the previous month. Customer will return the signed JCN to FNC or notify FNC of its rejection of a Deliverable within ten (10) days after FNC delivers the JCN to Customer. Any Deliverable not rejected within the 10-day period will be deemed accepted by Customer.

4. SCHEDULE

FNC and Customer will develop a mutually agreed detailed schedule for the Customer's services as defined in this SOW following receipt of Customer's purchase order. It is anticipated that the build will take approximately 7 months to complete depending upon moratoriums and material availability.

5. PRICING

FNC's fixed unit price for the Design and Engineering Services, Program Management Office, Construction and Additional Services for the Craig County BB Path project are provided in **Table 6-1** below. FNC will invoice Customer upon receipt of a signed JCN. The payment terms are defined in **Section 6** of the Agreement. The Work Unit quantities are budgetary estimates and are subject to change based on actual conditions found and on the duration of the project.

Table 6-1 – Craig County Pricing

Unit ID	Description	Short Description	Unit	Labor Unit Price	Material Unit Price	Qty Units	Total Price
Program Management							
PM-18-PMO1	Program Management– Full project management, construction management and engineering services	PMO	MON	$24,706.37		7	$172,944.62
PM-18-BOND	Performance Bond	Bond	EA	$10,134.89		1	$10,134.89
OSP Engineering							
TBD	includes all design detail to engineer a backbone, middle mile, or fiber to the home network for an assigned area in order to produce a constructible plant which may include, but not limited to updating high level design with as-found conditions from the field engineering and make ready engineering. Identify permitting required based on high level design, perform any	ENG-LLD-Detailed design	FT	$0.15		58193	$8,952.77

Table 6-1 – Craig County Pricing							
Unit ID	**Description**	**Short Description**	**Unit**	**Labor Unit Price**	**Material Unit Price**	**Qty Units**	**Total Price**
	environmental, historical or soil testing if required. Final design to include BOM, Splicing details, construction details, and all internal quality control is complete and the design is ready to hand over to construction teams for review.						
TBD	Standard Permitting - all efforts associated with preparing permit applications for the majority ROW owner contained within the project, typically a city or county where the fiber will be deployed: UG permits, temporary use of ROW, cabinet placement, excavation for vaults, placement or pole changeouts, or any permit required by legal body with jurisdiction in the area	ENG-SP-Standard Permitting and ROW	FT	$0.18		2095	$386.77
OSPE-11-1109	As-builting - redline conversion to GIS format, as-built validation, updated splice schematics, updated splicing sheets	As Builts	FT	$0.09		58193	$5,371.66
ISP Equipment							
EQP-11-OLT	**OLT 5 Chassis / Line Cards** 7360 ISAM FX-8 Shelf *(2) GPON SFP OLT (I-temp) Class B+,* *(5) GPON SFP C+ (I-temp) OLT*	OLT Equipment	EA		$28,069.33	1	$28,069.33
TBD	**Maintenance and RTU – 5** years ***(support + repair/return)*** *7360 ISAM FX-8 shelf* *(15) GPON SFP* ***(RTU License)*** *(83) ONTs*	Maint/RTU	EA		$15,174.45	1	$15,174.45
EFI-11-6101	Test and turn-up of OLT Cards	Test and Turn-up	EA	$15,565.29		1	$15,565.29
NDI-CONSULT	Professional Services *20-hour block*	Prof Svcs	EA	$7,684.62		4	$30,738.46
Drop Installation							
EQP-11-ONT	Residential Gateways	ONT	EA		$180.00	83	$14,940.00
TBD	DROP Installation**	ONT	EA	$0.00	$303.48	83	$25,188.67
OSP Construction							
OSP Construction - Aerial Construction							
OSPI-1-01003(1)	Installation of 2 inch riser to facilitate fiber optic cables making the transition from aerial to underground or installation of riser	Installation of 2 inch Riser	EA	$69.23	$138.46	26	$5,400.00
OSPI-6-06007(144)	Placement of all dielectric self-supporting fiber optic cable (ADSS) (144 count) aerial along with storage/risers with normal access to pole with equipment.	Place 144 ADSS FOC Aerial, Normal Access	FT	$1.92	$1.00	52490	$153,432.31
TBD	Tree Trimming	Tree Trimming	FT	$3.62		1432	$5,177.23
OSP Construction - Underground Construction							
OSPI-4a-04004(L)	Install 36" x 48" vault according to manufactures specifications and will placed flush with the ground.	Install Large Vault - Standard	EA	$1,076.92	$780.94	16	$29,725.75

Table 6-1 – Craig County Pricing							
Unit ID	**Description**	**Short Description**	**Unit**	**Labor Unit Price**	**Material Unit Price**	**Qty Units**	**Total Price**
	Standard vault - rated for pedestrian traffic						
OSPI-4a-04004(S)	Install 20" x 26" vault according to manufactures specifications and will placed flush with the ground. Standard vault - rated for pedestrian traffic	Install Small Vault - Standard	EA	$384.62	$299.33	10	$6,839.46
OSPI-8-08001	Includes the placement cabinet on existing XL vault along with all hardware need for securing the cabinet to the lid. LCP cabinet will be installed per manufacturer's specifications.	Install LCP Cabinet on a XL vault	EA	$2,307.69	$12,144.07	1	$14,451.76
TBD	Directional drilling Standard Conditions	Drilling	FT	$26.15	$0.69	1048	$28,136.35
TBD	BFO(XX)T-Trench standard conditions	Trenching	FT	$10.00	$2.14	9428	$114,464.34
TBD	Pulling fiber	Fiber Pull	FT	$1.46	$1.43	11523	$33,287.65
TBD	Placement of OLT integrated cabinet with FDH	OLT Place	EA	$4,307.69	$66,153.85	1	$70,461.54
OSPI-4a-04400	Rock Adder	Rock Adder	FT	$49.23		419	$20,627.69
OSP Construction - Fiber Splicing and Testing							
OSPI-7-07001(D)	Preparation of large sized splice enclosure used for large transition splicing (more than 96 splices).	Prep Small Splice Enclosure	EA	$284.62	$290.14	14	$8,046.54
OSPI-7-07001(D)	Preparation of large sized splice enclosure used for large transition splicing (more than 96 splices).	Prep Large Splice Enclosure	EA	$461.54	$461.54	$3.00	$2,769.23
OSPI-7-07004	Preparation of fiber cables into the LCP cabinet, along with the buffer tubes and fibers into the splice trays.	Prep of LCP Cabinet and Fibers	EA	$538.46	$7,692.31	8	$65,846.15
OSPI-7-07005	Preparation of fiber cables into a rack mount fiber termination panel.	Prep Fiber Termination Panel	EA	$307.69	$2,307.69	8	$20,923.08
OSPI-9-09001	Fusion splicing for up to 48 fibers at 1 location. Price per splice.	Splice 1 – 48 fibers	EA	$46.15	$0.49	249	$11,614.89
OSPI-9-09002	Fusion splicing for 49 to 144 fibers at 1 location. Price per splice.	Splice 49 – 144 fibers	EA	$38.46	$0.49	125	$4,869.23
OSPI-9-09003	Fusion splicing for 145 to 432 fibers at 1 location. Price per splice.	Splice 145 – 432 Fibers	EA	$30.77	$0.49	346	$10,816.49
TBD	MST Materials Cost	Material	EA		$592.73	7	$4,149.13
OSPI-10-10002	Perform power meter light source test on a fiber	Test Fiber Power Meter and Light Source	EA	$13.85		382	$5,289.23
					ESTIMATED GRAND TOTAL		**$943,794.98**

CRAIG-BOTETOURT
ELECTRIC COOPERATIVE

September 7, 2021

Mr. Trace Bellassai
PO BOX 308,
New Castle, VA 24127.

Dear Mr. Bellassai,

In reviewing the VATI grant application it has come to our attention that documents are required to verify or back up our cost estimates for the chosen project area(s).

As a Electric cooperative, Craig-Botetourt Electric uses internal employees and contracted resources to complete and perform the proposed works as outlined in this grant application. Craig-Botetourt Electric are members of two statewide procurement cooperatives (UUS and TEMA) and can leverage its scale when it comes to the purchasing of equipment and establishing reasonable contract rates for additional labor as needed.

It is our hope that this letter will be sufficient in demonstrating to the review boardthat our company has done its due diligence to negotiate rates that reflect a reasonable use of resources both for the planning and completion of these last mileprojects.

Please accept this letter as an explanation for the absence of attached documentation of supporting cost estimates as requested in the VATI grant application

Sincerely,

Jeff Ahearn
CEO, Craig-Botetourt Electric Cooperative &
Bee Online Advantage

PHONE: **(540) 864-5121** TOLL FREE: **(800) 760-2232**
FAX: **(540) 283-0585**

CRAIG-BOTETOURT
ELECTRIC COOPERATIVE

September 7, 2021

Mr. Trace Bellassai
PO BOX 308,
New Castle, VA 24127.

Dear Mr. Bellassai,

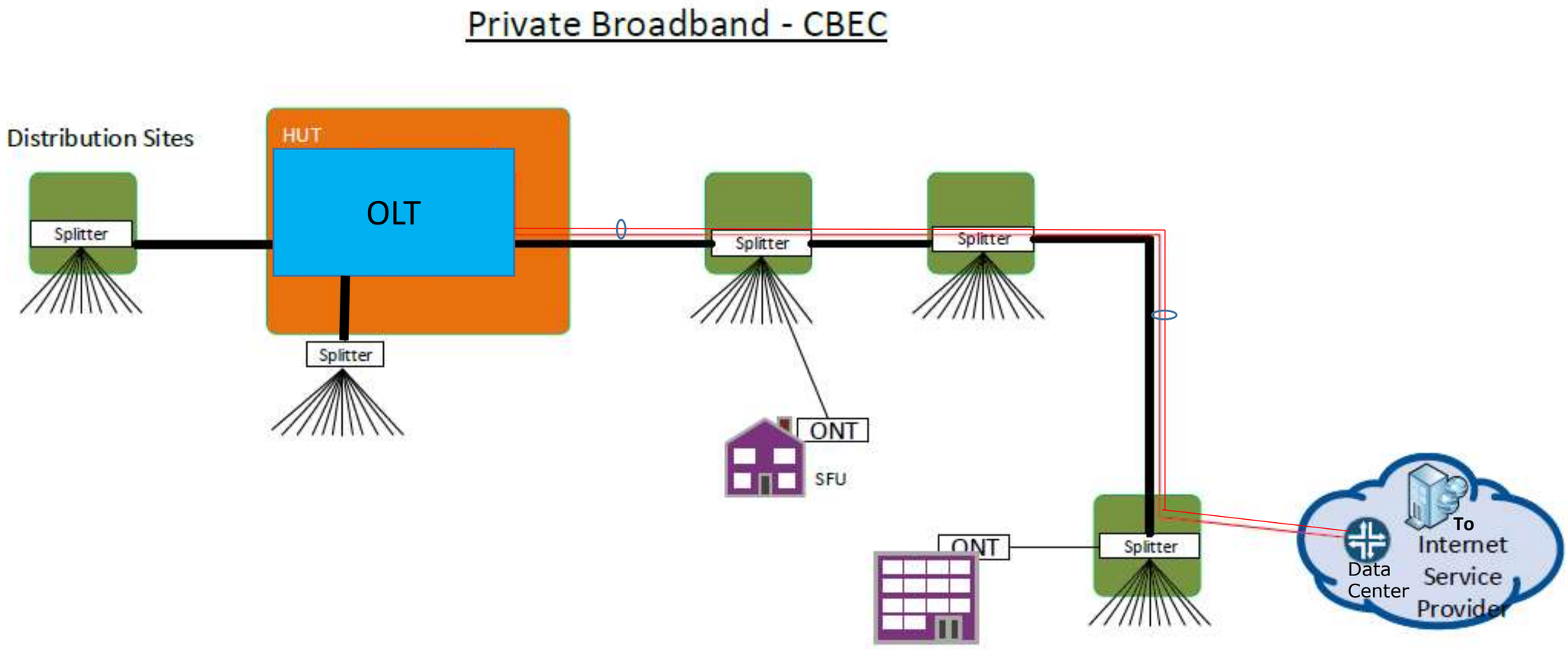
We are currently filing our first FCC 477 form. We connected our first customer in January of 2021 for the first VATI project (application #59811132018142709). The filing date for the first half of the 2021 has been extended due to Covid-19. We should have all documentation filed by the end of September 2021.

Please accept this letter, in leu of our FCC 477 filings.

Sincerely,

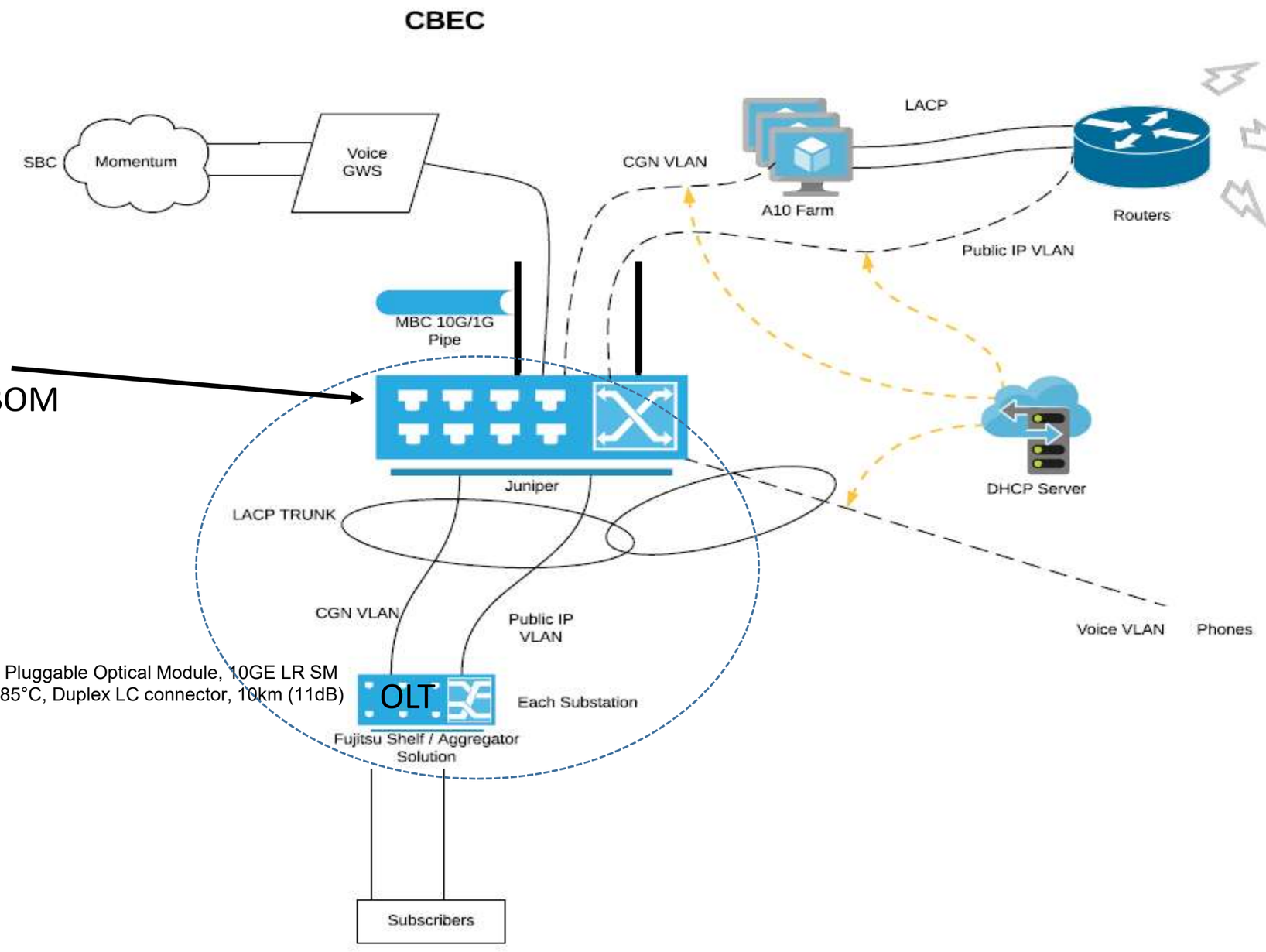
Jeff Ahearn
CEO, Craig-Botetourt Electric Cooperative &
Bee Online Advantage

PHONE: **(540) 864-5121** TOLL FREE: **(800) 760-2232**
FAX: **(540) 283-0585**



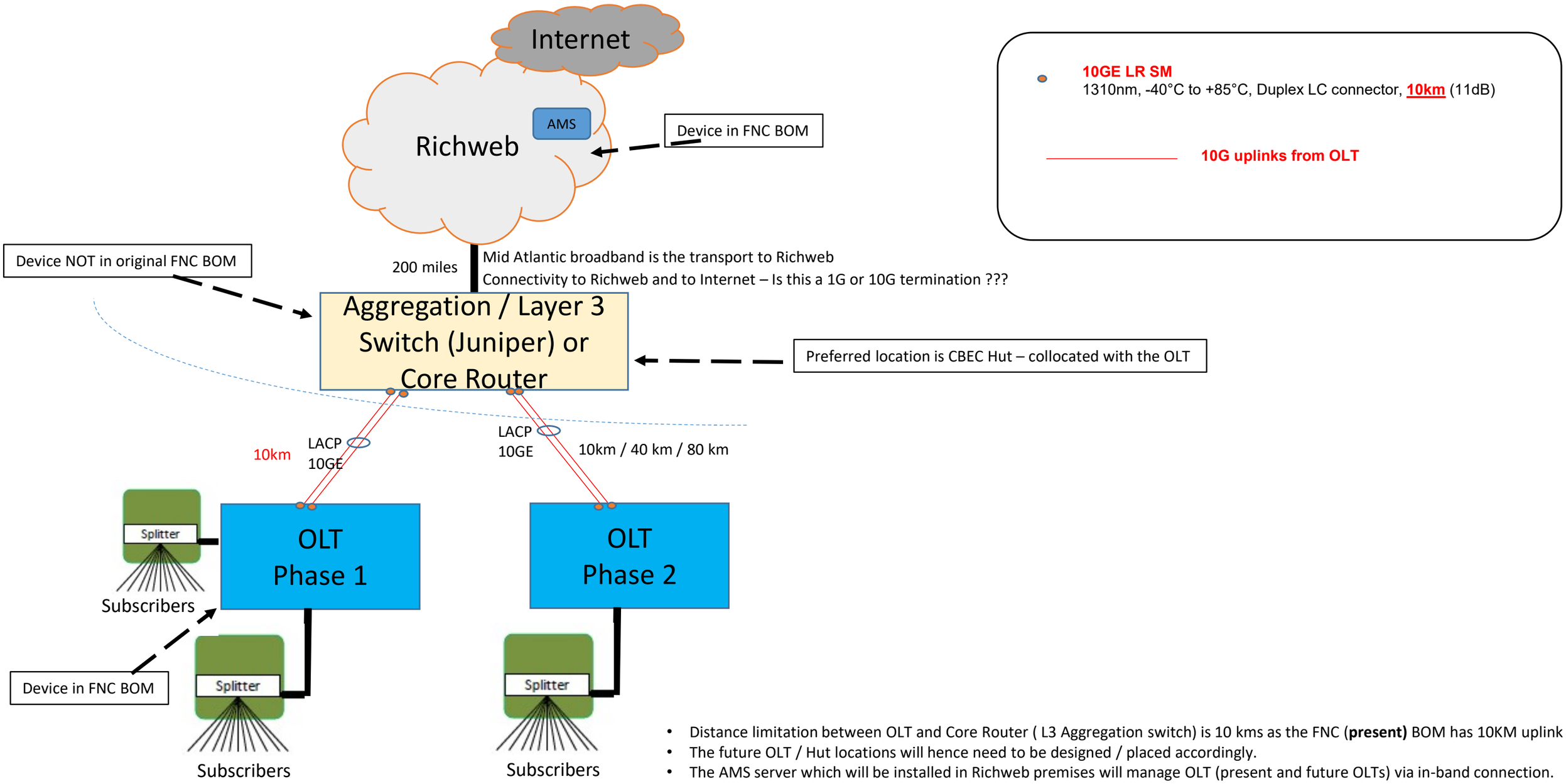
A typical FTTx Architecture

Original Richweb Design

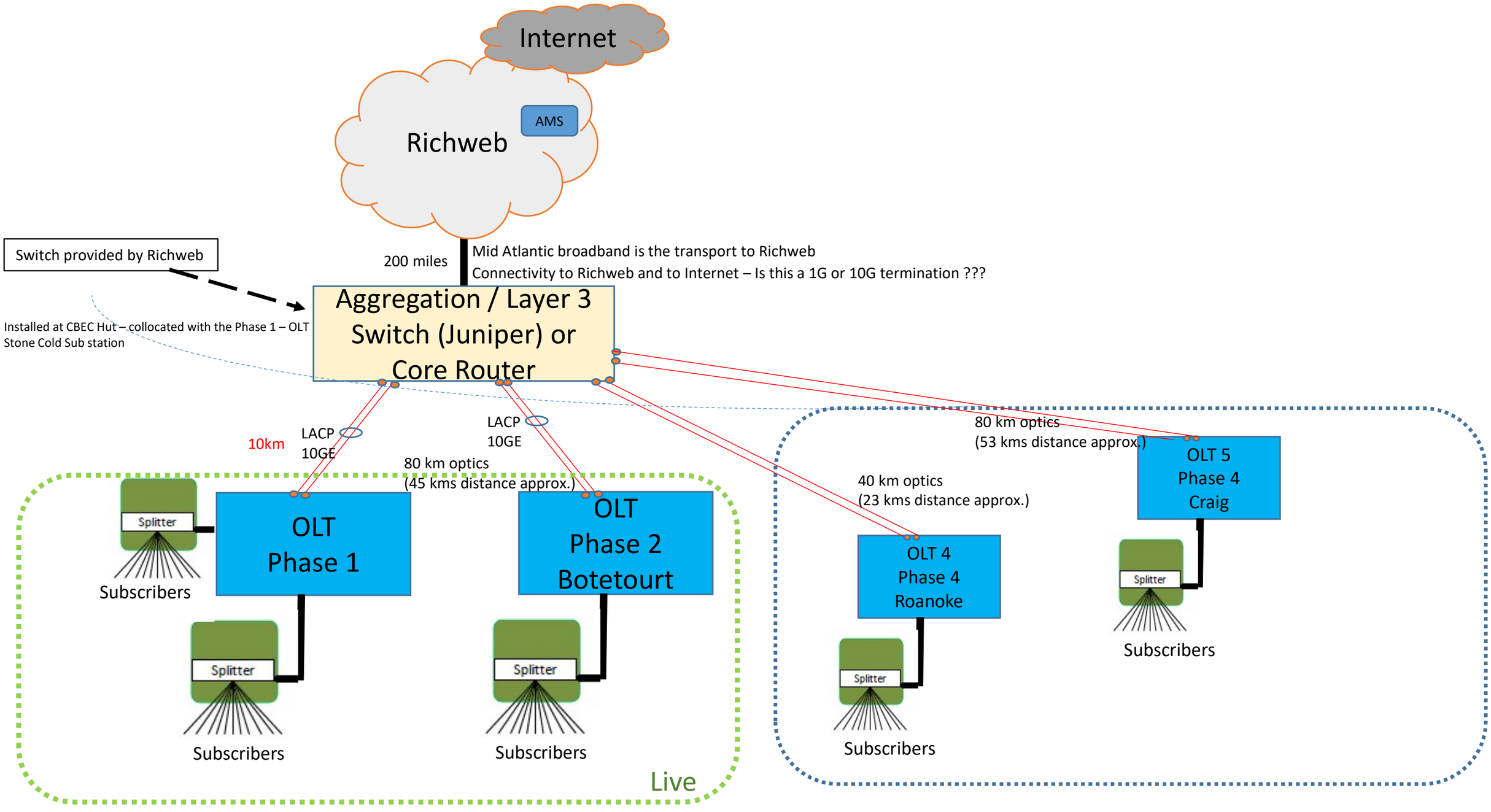


Device not in FNC BOM

3FE62600AA SFP+ Pluggable Optical Module, 10GE LR SM 1310nm, -40°C to +85°C, Duplex LC connector, 10km (11dB)



- Distance limitation between OLT and Core Router (L3 Aggregation switch) is 10 kms as the FNC (**present)** BOM has 10KM uplink optics.
- The future OLT / Hut locations will hence need to be designed / placed accordingly.
- The AMS server which will be installed in Richweb premises will manage OLT (present and future OLTs) via in-band connection.

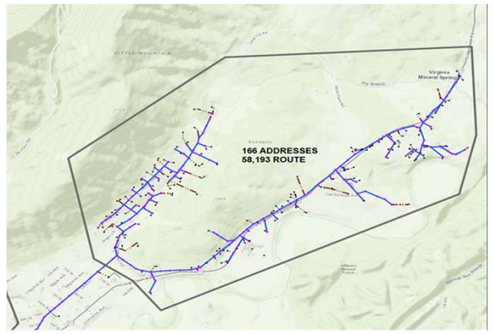


- The AMS server which is installed in Richweb premises will manage all OLT's via in-band connections.

CBEC Reduced Craig County ISP BOM

Customer: CBEC

Total		83	166
	TR	**50%**	



Reduced Craig County

Addresses	166
Poles	255
Overhead	47718
Underground	10475

Nokia FN Equipment Detail

Subs	83
Split	32

FN 7360 Production Equipment

Chassis Kits

Description	Total Quantity
Layer3/MPLS Redundant FX-4 Starter Kit (100G NT link capable). Each kit includes:	**1**
7360 ISAM FX-8 shelf (ANSI variant), 48V only, incl. BFAN unit	1
ISAM FX-4 Vertical mounting kit for 19" or 23" rack	1
7360 ISAM FX-4 Fiber Routing Kit	1
Qty (2) 7360 ISAM FX 1280Gbps NT with network clock synchronization capabilities, without SFPs (ANSI variant), without support for Packet Capture	2
Filler Panel for NTIO and LT, no pre-cabling	8
Drip Tray for 23" Rack	1
ISAM FX 16port GPON Line board	1
ISAM FD/FX GPON SFP OLT (I-temp) Class B+	1
SFP+ Pluggable Optical Module, 10GE LR SM 1310nm, -40°C to +85°C, Duplex LC connector, 10km (11dB)	**2**

Line Cards and Optics

Description	Total Quantity
ISAM FX 16port GPON Line board	0
ISAM FD/FX GPON SFP OLT (I-temp) Class B+	2
GPON SFP C+ (I-temp) OLT	5
SFP+ Pluggable Optical Module, 10GE SR MM 850nm, -40°C to +85°C, Duplex LC connector, 0,3km (5dB)	
SFP+ Pluggable Optical Module, 10GE LR SM 1310nm, -40°C to +85°C, Duplex LC connector, 10km (11dB)	2
SFP+ Pluggable Optical Module, 10GE ER SM 1550nm, -40°C to +85°C, Duplex LC connector, 40km (11dB)	2
SFP+ Pluggable Optical Module, 10GE ZR SM 1550nm, -40°C to +85°C, Duplex LC connector, 80km (24dB)	4
100G BASE-ER4 CFP4 C-temp SMF 40km	
100G BASE-LR4 CFP4 C-temp SMF 10km	

<<<<< Note: For subscriber distances greater than 10km and less than 20km from the OLT, GPON C+ SFP optics would be used (spares is 5 C+ optics)

Keep LR and/or ZR (2 each) for connecting to 2nd hut location - Future use.>>> Uplink to the Stone cold substation - to the Richweb Aggregation switch

23 KM distance to Stone cold from OLT 3 location , ER optics to be used

Keep LR and/or ZR (2 each) for connecting to 2nd hut location - Future use.>>> Uplink to the Stone cold substation - to the Richweb Aggregation switch

ONTs

Description	Total Quantity
Wi-Fi GPON residential gateway,2xPOTS,4xGE UNI,3x3 11n+4x4 11ac,US plug	83

Maintenance

Description	Quantity
Muni/IOC Remote Technical Support and Repair for Return - YR1	1
Muni/IOC Remote Technical Support and Repair for Return - YR2	1
Muni/IOC Remote Technical Support and Repair for Return - YR3	1
Muni/IOC Remote Technical Support and Repair for Return - YR4	1
Muni/IOC Remote Technical Support and Repair for Return - YR5	1
SSP-AMS, 7360, 7360/7368 per line RTU Year 1	83
SSP-AMS, 7360, 7360/7368 per line RTU Year 2	83
SSP-AMS, 7360, 7360/7368 per line RTU Year 3	83
SSP-AMS, 7360, 7360/7368 per line RTU Year 4	83
SSP-AMS, 7360, 7360/7368 per line RTU Year 5	83

Internet

Ultra Package
Starts at $149.95

Wifi Included!
The Ultra Package offers speeds
up to 300/300 Mbps.
Stream multiple high-definition movies
simultaneously,
as well as Netflix, and online gaming,
all at the same time!
****For a Limited Time Only****
Receive a FREE Roku Premiere When You Sign Up For This Package
Access to 500,000 movies & TV episodes from 5,000+ streaming channels.

Super Package
Starts at $129.95

Wifi Included!
The Super Package offers speeds
up to 200/200 Mbps.
Good for multi-device HD streaming, work from home,
download HD movies,
upload and transfer data, and online gaming.
****For a Limited Time Only****
Receive a FREE Roku Premiere When You Sign Up For This Package
Access to 500,000 movies & TV episodes from 5,000+ streaming channels.

Fast Package
Starts at $74.95

Wifi Included!
The Fast Package offers speeds
up to 100/100 Mbps.
Great for students or families who enjoy streaming video and downloading music.
This package allows the bandwidth needed to limit buffering and long wait times for your downloads.

Basic Package
Starts at $59.95

Wifi Included!
The Basic Internet Package offers speeds
up to 50/50 Mbps.
This is an Entry Level package that is good for email, web surfing, streaming small videos and basic web surfing.
May experience lag or buffering if streaming to multiple devices simultaneously.

Commercial 50 Mbps
Starts at $89.95

Wifi Included!
This internet Package offers speeds up to 50/50 Mbs.

Commercial 100 Mbps
Starts at $129.95

Wifi Included!
This internet package offers speeds up to 100/100 Mbs.

Commercial 200 Mbps
Starts at $239.95

Wifi Included!
This internet package offers speeds up to 200/200 Mbs.

Commercial 300 Mbps
Starts at $399.95

Wifi Included!
This internet package offers speeds up to 300/300 Mbs.

Internet Add-Ons

Nokia Modem (ONT)
Starts at $9.95

Monthly Equipment Rental

Roku Premiere
Starts at $34.79

4K and HDR Streaming made easy!
Access to 500,000 movies and TV episodes from 5,000+ streaming channels!
$34.79 Each
One time charge will appear in the cost of installation.

FREE Roku Premiere with Ultra or Super Package

4K and HDR Streaming made easy!
Access to 500,000 movies and TV episodes from 5,000+ streaming channels!

Telephone

Phone Service Only
Starts at $39.95

Phone Service Only
For Commercial Phone Service, contact Customer Service for Pricing

Phone Service added to Basic, Fast or Super Package
Starts at $29.95

For Commercial Phone Service, contact Customer Service for Pricing

Phone Service added to Ultra Package
Starts at $24.95

BEST DEAL BUNDLE
For Commercial Phone Service, contact Customer Service for Pricing

Commercial Phone Service

For Commercial Phone Service, contact Customer Service for Pricing

Nokia WiFi Gateway 3

Gateway for the intelligent mesh network – G-240W-E

The Nokia WiFi Gateway 3 is the most advanced solution for whole home Wi-Fi networking delivered by Gigabit Passive Optical Network (GPON). This premium class Nokia WiFi gateway operates seamlessly, together with the Nokia WiFi beacons, to create a whole home coverage mesh network backhauled by wired Ethernet or Wi-Fi. The end-user experience with the intelligent self-organizing mesh system is enhanced by a service provider's Wi-Fi care capabilities in the cloud and intuitive home user support using the Nokia mobile app.

The Nokia WiFi Gateway 3 is the optimal one-box solution integrating the optical network terminal (ONT) and Wi-Fi mesh functions to bring ultra-broadband service to and into the home. The device has Nokia state-of-the-art intelligent self-organizing mesh and built-in edge analytics over concurrent dual-band Wi-Fi that delivers a whole home optimal link to the connected equipment. It can provide triple play services with voice, video and data, while its unique spectrum monitoring and interference detection ensure an overall top quality experience.

In combination with the Nokia 7360 Intelligent Services Access Manager (ISAM)/7342 ISAM and Lightspan optical line terminals (OLTs), the gateway forms a uniform end-to-end industry-leading access network solution to ensure carriers deliver the highest satisfaction to their subscribers.

Next to the regular ONT management control interface (OMCI) and TR-069 remote device management, operators acquire control over the home Wi-Fi solution through the one-click Nokia WiFi home portal. The portal presents a holistic view of the in-home network to help desk agents, assisting them in easy identification and instantaneous resolution of issues as well as offering recommendations for operator upsell opportunities.

The Nokia WiFi mobile app provides home users with an intuitive and simplified interface for trouble-free management of their home network and Wi-Fi. It also provides advanced functions such as guest Wi-Fi management and parental controls.

NOKIA

Features

- GPON uplink, G.984, G.988 series standard compliant
- Bridge and router mode, TR-069 support
- Supports full triple play services including voice, video and high-speed internet access (HSIA)
- Dual-band concurrent IEEE 802.11b/g/n 3x3 2.4 GHz and 802.11ac 4x4 5 GHz
- Nokia intelligent mesh
- Embedded edge analytics
- Real-time wireless spectrum analysis

Benefits

- PHY rate up to 750 Mb/s for 2.4 GHz and 2170 Mb/s for 5 GHz (with 1024 QAM capable clients)
- Mesh topology and intelligent mesh routing
- Self-healing, self-optimizing network
- Band steering, channel optimization
- Seamless roaming for IEEE 802.11k/v/r capable or legacy clients
- Embedded range boost technology to significantly extend absolute range
- Insight on home network and recommendations for operator assisted care and end user self-care
- Real-time wireless spectrum scan and analysis
- Allows service per port configurations
- High quality of service (QoS) video over Wi-Fi
- Ease of setup and user intuitive information
- Optimized fiber routing and protection

Technical specifications

Physical

- Height: 200 mm (7.9 in)
- Diameter: 94 mm (3.7 in)
- Weight: 0.84 kg (1.9 lb)

Installation

- Desktop mounting

Operating environment

- Temperature: -5°C to 45°C (23°F to 113°F)
- Relative humidity: 5% to 95%, non-condensing

Power requirements

- Local powering with 12 V/3A DC input (external AC/DC adapter)
- Dying gasp support
- Power consumption: <36 W
- Uninterruptible power supply (UPS) connector

GPON uplinks

- Wavelength: 1490 nm downstream, 1310 nm upstream
- Line rate: 2.488 Gb/s downstream, 1.244 Gb/s upstream
- GPON Encapsulation Method (GEM) mode support for IP/Ethernet service traffic support
- ITU-T G.984.3-compliant dynamic bandwidth report (DBR)
- ITU-T G.984.3-compliant Advanced Encryption Standard (AES) in downstream
- ITU-T G.984.3-compliant forward error correction (FEC)
- ITU-T G.988 Appendix 1 and Appendix 2 OMCI
- Flexible software image management
- SC/APC connector

POTS interfaces

- Two FXS ports for voice over IP (VoIP) service with RJ-11 connectors
- Multiple codecs: ITU-T G.711, ITU-T G.729 (A and B)
- Session Initiation Protocol (SIP) (RFC 3261)
- ITU-T G.168 echo cancellation
- Services: caller ID, call waiting, call hold, 3-way call, call transfer, message waiting indication
- Maximum 5 ringer equivalency numbers (RENs) per line

- Dual-tone multi-frequency (DTMF) dialing
- Balanced sinusoidal ring signal, 55 V root mean square (RMS)

WLAN interfaces

- Supports 3x3 802.11b/g/n 2.4 GHz wireless LAN (WLAN) interface
- Supports 4x4 802.11ac 5 GHz WLAN interface with multi-user multiple input, multiple output (MU-MIMO)
- Maximum effective isotropic radiated power (EIRP) on 2.4 GHz up to 500 mW and 5 GHz up to 1 W
- 64-bit and 128-bit Wired Equivalent Privacy (WEP) support
- Wi-Fi Protected Access (WPA) support including Pre-Shared Key (WPA-PSK) and WPA2
- Media access control (MAC) filters

USB interface

- Two USB 2.0 interfaces support external disk drives and home network attached storage (NAS)

Residential gateway

- IPv4 and IPv6 connectivity: Dual stack and DS Lite, stateless and stateful auto-configuration, DHCPv6 prefix delegation
- Point-to-Point Protocol over Ethernet (PPPoE) and IP over Ethernet (IPoE)
- Network Address Translation (NAT), demilitarized zone (DMZ) and firewall
- Dynamic Host Configuration Protocol (DHCP) and domain name system (DNS) proxy
- Internet Group Management Protocol (IGMP) v2/v3 proxy/Multicast Listener Discovery (MLD) proxy
- Supports virtual private network (VPN) pass-through for Point-to-Point Tunneling Protocol (PPTP), Layer 2 Tunneling Protocol (L2TP) and IPSec
- Port forwarding and DMZ/dynamic domain name system (DDNS)
- Flexible video delivery options of Ethernet or wireless to set-top boxes (STBs)
- Dual TR-069 connectivity for independent remote device and Wi-Fi management

LEDs

- Simple and intuitive status indication by colored light on top of device
- GPON link status
- VoIP status

Safety and electromagnetic interference (EMI)

- Protection of over voltage/current

Regulatory compliances

- UL 62368-1
- CSA C22.2 No. 62368-1
- FCC
- CE
- FDA laser register
- Wi-Fi Alliance certified

About Nokia

We create the technology to connect the world. Powered by the research and innovation of Nokia Bell Labs, we serve communications service providers, governments, large enterprises and consumers, with the industry's most complete, end-to-end portfolio of products, services and licensing.

From the enabling infrastructure for 5G and the Internet of Things, to emerging applications in digital health, we are shaping the future of technology to transform the human experience. networks.nokia.com

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