



Vance County, NC Request for Proposals (RFP) Broadband Enhancement RFP

RFP Website:
www.kerrtarcog.org

Timeline

| | |
|-----------------|---|
| August 7, 2018 | Request for Proposals VCBI |
| August 16, 2018 | Franklin, Vance and Granville RFP Overview Meeting |
| August 22, 2018 | Questions from Vendors due |
| August 27, 2018 | Answers to vendor questions posted |
| October 4, 2018 | RFP responses due. Bids valid for a minimum of 180 days from deadline date. |

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Vance County History and Demographics

Once part of the [Vance](#), [Warren](#), and [Franklin](#) Counties, Vance County was established on May 5, 1881. Originally, two names were proposed in the General Assembly for the new county —“Gilliam” and “Dortch.” Yet, both of these names were dropped, and Vance County was named in honor of [Governor Zebulon B. Vance](#), the famous Civil War Governor of North Carolina. In 1841, the town of Henderson became Vance’s county seat, and it was named in memory of Leonard Henderson who served as Chief Justice of the North Carolina Supreme Court in the 1830s. Dabney, Kittrell, Middleburg, Sandy Creek, Townsville, Watkins and Williamsboro are other townships within Vance County. Some important physical traits include the Anderson, Island, and Tabbs Creeks and Roland Pond and Tar River.

The 2016 Population of the County was 44,508 with an annual decline rate of .7%. There are 19,964 housing units in Vance County up from 17,395 housing units in 2010. The home ownership rate is 59.9% and the median family income is \$42,520. The unemployment rate among county residents is 6.2% or above the national average. There are 788 total businesses and 635 residents consider themselves self-employed.

1. Project Overview

Vance County Government, is issuing this Request for Proposals (RFP) to develop the Vance County’s next-generation broadband infrastructure. This project will be referred to as the Vance County Broadband Initiative (VCBI). The focus will be to seek and implement solutions needed to meet the technological needs of current and future businesses, public institutions, educational institutions, and local residents. The VCBI seeks network solutions and business models that are innovative, preparing our region for the future while serving the needs of today, and seek opportunities to best use existing public investments in currently underutilized or planned government fiber and broadband assets to provide the maximum benefit to the public.

Vendors or coalitions of vendors are sought to achieve the following goals and objectives:

Goals

1. Create a scalable network solution to foster innovation, drive job creation, stimulate economic growth, and serve new areas of development in the community; by providing service for a minimum of twenty (20) years from the date of first operation.
2. VCBI prefers that the aggregation network proposed by the provider/vendor network be fiber based; however, **all technologies will be considered, especially in unserved/underserved areas.**
3. Provide a flexible menu of retail services, that improve service to the following eligible service areas:
 - a. Unserved/Underserved areas - Offer new or enhanced service in underserved and unserved areas of the county (Section 1.2.1)
 - b. Higher Density Economic Corridors - Offer enhanced service along key business and high density residential corridors in Vance County's higher residential population areas (Henderson, Kittrell, Middleburg) and connects broadband assets that serve remote areas of the county (Section 1.2.2)
 - c. Government facilities – Offer lit or dark fiber services to meet the administrative and public safety needs of Vance County Government and municipal governments. The county will consider new build lit and dark fiber services. The county will also consider owning its own fiber infrastructure along the route displayed in Map A, Google Map Link.

1.1 Eligible Service Areas

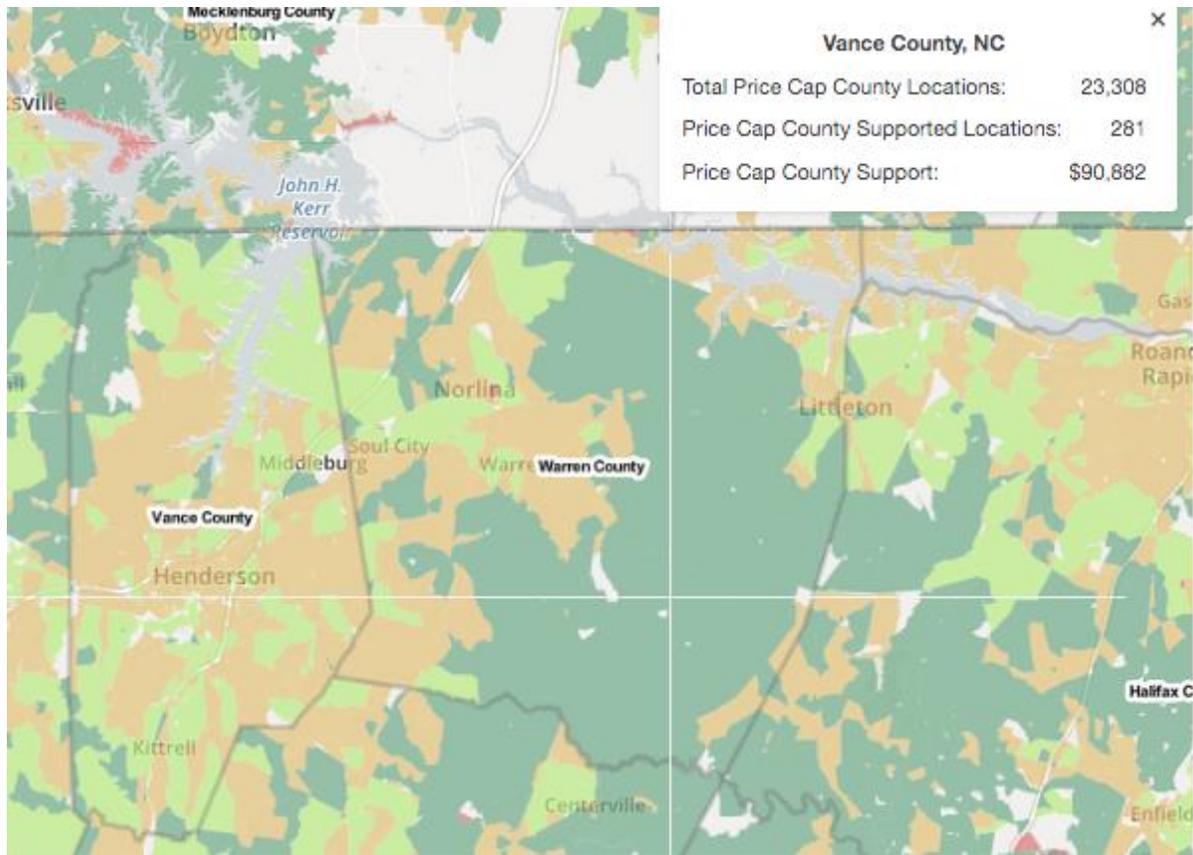
The VCBI has identified three areas in need of new or improved service –

- Unserved/Underserved areas (Mapped in section 1.2.1).
- High Population Density areas services residents and businesses (mapped in Section 1.2.2).
- Government facilities (Map A, Google Map Link) A single vendor or multiple vendors may submit proposals to serve all or some of the service areas.

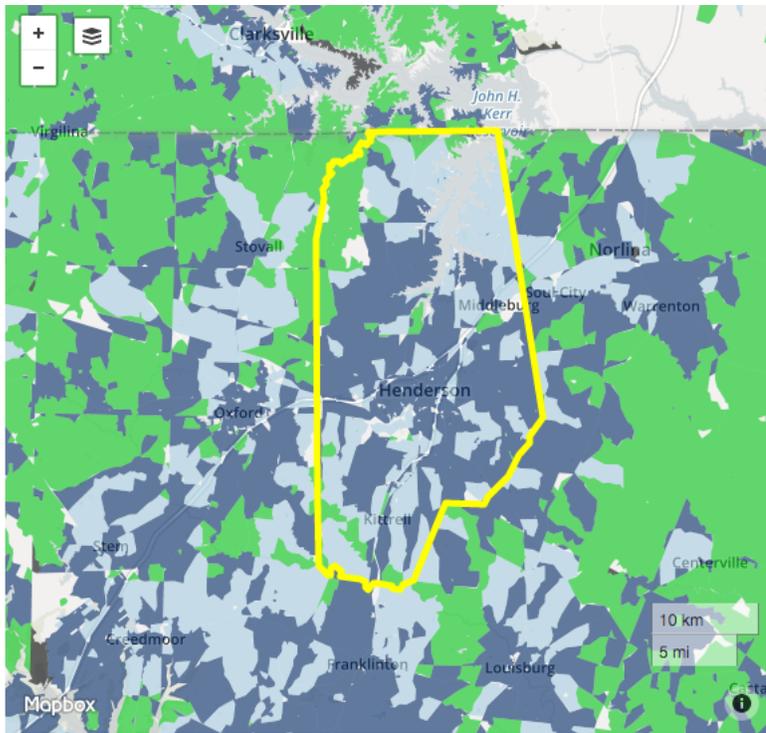
1.2 Service Area Specifications

1.2.1 Unserved/Underserved Areas Maps

According to the Federal Communications Commission's (FCC) Connect America Fund map the areas in light green in Vance County are underserved.



This represents 281 Price Cap Supported locations in Vance County with \$90,882 of Connect America Fund Subsidy Available.



County Summary

Vance County, NC

Total Price Cap (PC) County Locations: 23,308

| PC Carrier | State | Eligible Locations | Support Amount |
|--------------|-------|--------------------|-----------------|
| CenturyLink | NC | 281 | \$90,882 |
| Total | | 281 | \$90,882 |

North Carolina State Summary

| PC Carrier | Eligible Locations | Support Amount |
|---------------------------|--------------------|---------------------|
| AT&T | 13,139 | \$3,498,885 |
| CenturyLink | 36,159 | \$10,008,387 |
| Frontier Communications | 11,981 | \$3,596,158 |
| Verizon | 87 | \$30,184 |
| Windstream Communications | 6,988 | \$1,952,081 |
| Total | 68,354 | \$19,085,695 |

Map Legend

- Eligible
- Ineligible - Exceeds Threshold
- Ineligible - Below Benchmark
- Ineligible - Other
- Elected Frozen

The incumbent carrier in Vance County has accepted all the available Connect America Fund support available. This means these 281 locations will be served with 10 Mbps download and 1 Mbps upload service by 2021.

These accepted areas appear in green. The incumbent carriers have committed to supply 10 Mbps download and 1 Mbps upload broadband for all areas where Connect America Fund Subsidies are available. These areas shaded in green. Vance County is aware of the FCCs process for verification testing of the CAF acceptance areas and the recent updates by the commission. The County plans to monitor and make requests to view the verification information for Vance County.

1.2.1.1 – Unserved/Underserved Description of Services

Based on residential and business survey feedback, these Connect America Fund areas and other areas of the County appear to still lack appropriate broadband service, the County is seeking other options for service in unserved or underserved areas.

The provider(s) of the Network(s) in the unserved/underserved areas will take responsibility to design, engineer, construct, project manage and equip the Network(s). Network(s) access should include building up to the end user drop point or the end user Network(s) interface device. In addition, the Vendor(s) will bear all the operating and maintenance costs, including insurance costs and relevant taxes of the Network(s). Vendor(s) should also demonstrate a clear and continuous upgrade path for the Network(s) to meet future consumer demand, business demand, community anchor institution demand, and service developments.

A. SPEED: 25 mbps download (down) and 3 mbps upload (up) wired or wireless solutions, scaling to 100 mbps symmetrical over the majority of the VCBI geographical service area by 2022. Preference will be given to Vendors offering higher network speeds.

B. SERVICES REQUIRED: high quality voice, data, and video services, and tele-health solutions.

C. PREFERRED TECHNOLOGY: The VCBI espouses a technology neutral approach for these low-density areas of the county. The following are a list of common broadband infrastructure technologies that will be considered for service to these areas. Service Providers should not view this list as exhaustive but should propose technologies that they are certain can scale to the bandwidth and reliability needs outlined in this technical specification.

- **Lit fiber service** – realizing that many of these areas are rural and remote, fiber deployment may not be realistic, but for these areas, if a Fiber to the premise solution is considered the VCBI would prefer it be a fully managed, bundled (transport and access included) service at a minimum 25 Mbps download/3 Mbps upload initially scaling to 100 Mbps symmetrical service by 2022.

The VCBI is willing to consider grants or incentives (not more than a small percentage of the total capital investment) for fiber based last mile service offerings for a minimum of 25 Mbps download/3 Mbps upload initially scaling to 100 Mbps symmetrical service by 2022 in these lower density areas. The vendor should include a network diagram with each solution.

- **Lit terrestrial based service with last mile over a transport medium other than fiber (copper or coaxial) but fiber transport from a nearby node**– realizing that many of these areas are rural and remote, fiber deployment may not be realistic. For these areas, if existing or planned copper or coaxial service is available, the VCBI prefers it be delivered with current generation switching capability at Central Offices in area and fiber backhaul as near as possible to the local Central Offices. The vendor should include a network diagram with each solution showing the equipment used in each switching station and where the handoff to fiber based infrastructure will occur.

Note that the incumbent carrier has accepted Connect America Fund allocations to deploy 10 Mbps download and 1 Mbps upload in many of these areas in Vance County. The VCBI is willing to consider additional limited (not more than a small percentage of the total capital investment) grants or incentives to the incumbent or new grants or incentives to a competitive carrier to upgrade/or introduce new service offerings to a minimum of 25 Mbps download/3 Mbps upload initially scaling to 100 Mbps symmetrical service by 2022. If unlicensed spectrum is used, respondent must verify and display its plan to mitigate any interference.

- **Lit Point to Point Microwave service** - Service provider owned microwave with a fully managed, bundled (transport and access included) service at a minimum 25 Mbps download/3 Mbps upload initially scaling to 100 Mbps symmetrical service by 2022.

The vendor shall engineer, design, and implement high-availability microwave paths that have path reliabilities of not less than 99.95% and a fade margin of not less than 30 dB for all microwave paths. The contractor shall apply for, coordinate and obtain FCC licenses for all

microwave paths requiring licensing.

- **Mobile Broadband Service using existing wireless networks** – Preferred using LTE or other current generation fully managed, bundled (transport and access included) service at a minimum 25 Mbps download/3 Mbps upload initially scaling to 100 Mbps symmetrical service by 2022.

The vendor can propose to utilize an existing mobile network for delivery of last mile mobile to the premise solutions. An LTE platform or equivalent mobile wireless broadband technology should be proposed. The vendor should illustrate the existing capacity of the mobile network to be used for last mile broadband and the amount of oversubscription planned in the last mile, in the transport to a POP and at the POP.

- **Mesh mobile network solutions or other innovative solutions**-Given the rapid pace of innovation in the wireless space, VCBI and its affiliates are willing to consider other solutions for the last mile. In all proposals of this kind, the vendor(s) should illustrate the existing capacity of the mobile network to be used for last mile broadband and the amount of oversubscription planned in the last mile, in the transport to a POP and at the POP.

D. SERVICE SPECIFICATIONS – For wireless solutions, the VCBI prefers the following service standards. Respondents should indicate if these standards can be met in their proposal.

- 99.9% circuit uptime
- Frame/packet loss .50% commitment
- 50 ms Network Latency Commitment
- 10 ms Network Jitter Commitment
- Rate limiting and throttling will be reported to customer
- Credits for outages according to the following schedule:

| Length of Service Outage | Credit is the following percentage of Monthly Recurring Cost |
|---|--|
| Less than 2 hours | No Credit |
| Two (2) to four (4) hours | 5% |
| Greater than four (4) hours and less than eight (8) hours | 10% |
| Greater than eight (8) hours and less than twelve (12) hours | 15% |
| Greater than twelve (12) hours and less than sixteen (16) hours | 20% |

| | |
|---|-----|
| Greaterthansixteen(16) hours and less than twenty-four (24) hours | 35% |
| Greater than twenty-four (24) hours | 50% |

E. VCBI SUPPORT FOR BROADBAND AVAILABILITY: The Vance County Commissioners, the City of Henderson, other government entities and the VCBI may consider small amounts of subsidy funding for deployment of enhanced terrestrial or wireless service into these unserved and underserved areas of the county. For example, the county may offer a per household or per business subsidy for deployment of terrestrial service or **may** support service to underserved areas by providing or funding the construction of towers required to bring wireless signal coverage and service availability to these underserved areas of Vance County. Any subsidy is contingent upon approval and funding by the Vance County Commissioners, the City of Henderson, other government entities, and/or VCBI.

The amount of subsidy, if any, will be determined at the sole discretion of the VCBI and the Vance County Commissioners, the City of Henderson, other government entities and in no case will exceed a small percentage of the capital deployment costs (construction materials, construction labor, engineering, project management, core/edge/premise equipment) necessary to deliver broadband service to businesses and residences. Vendors requesting a subsidy, must provide detailed/line-item invoices of costs. Subsidies will be divided and paid on a per household or per business basis with proof of subscription.

F. SERVICE PERIOD: Up to 20 years from date of first operation

F. EXPANSION: Provides a comprehensive broadband infrastructure that can be expanded upon to serve other areas of Vance County when deemed practical.

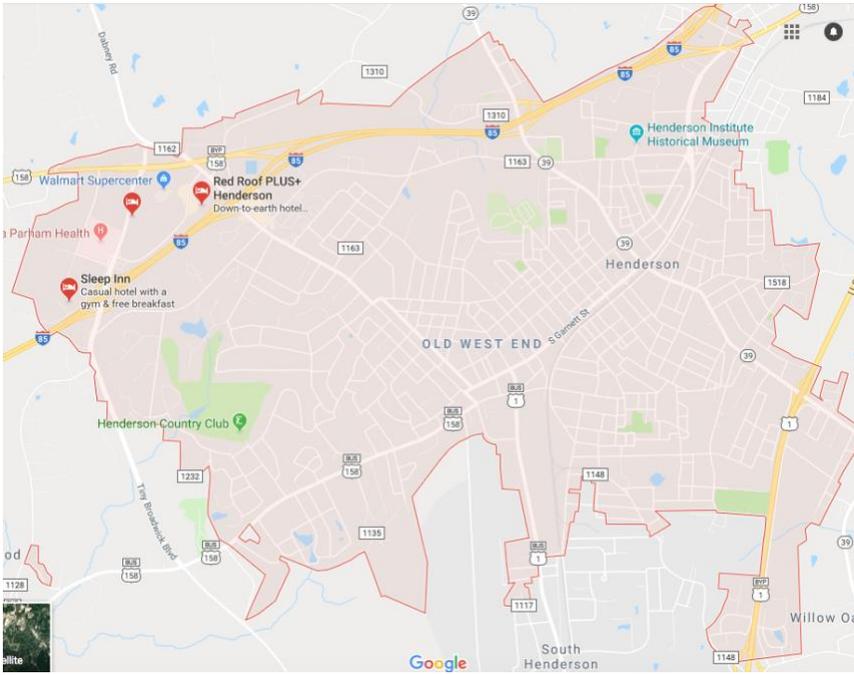
H. ACCESS TO ASSETS:

If permitted by state law, Vance County may offer, with the approval of its county commissioners, access to the following facilities on a competitively neutral basis to assist with the deployment of broadband in areas of Vance County.

1.2.2 High Density Areas of Vance County-High density areas of Vance County are as follows

Henderson, NC

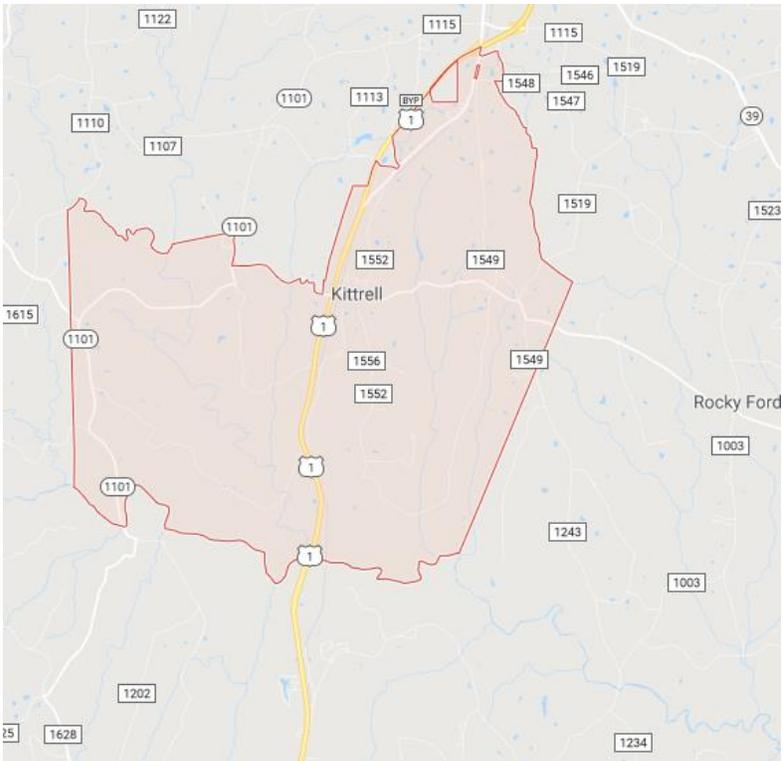
The City of Henderson population is 15,166 (2016) within the City limits.



The City of Henderson encompasses an area of about 13.5 square miles.

Town of Kittrell

The Town of Kittrell's population is 163 within the town's limits.



The Town of Kittrell, located within the Kittrell Township, has a total area of 0.2 square miles with the entire Kittrell Township, shown above encompassing approximately 20 square miles.

Middleburg

The Town of Middleburg’s population is 133



Middleburg Township encompasses an area of about 1.62 square miles.

1.2.2a – High Density Areas Description of Services

The provider(s) proposing to serve areas within the City of Henderson and the Towns of Kittrell and Middleburg (and areas/subdivisions/multi-dwelling units) outside of or adjacent to the Cities/Townships) will take responsibility to design, engineer, construct, project manage and equip the Network(s). Network(s) access should include building up to the end user drop point or the end user Network(s) interface device. In addition, the Vendor(s) will bear all the operating and maintenance costs, including insurance costs and relevant taxes of the Network(s). Vendor(s) should also demonstrate a clear and continuous upgrade path for the Network(s) to meet future consumer demand, business demand, community anchor institution demand, and service developments.

A. SPEED: Minimum 25 Mbps download /3 Mbps upload for business and consumers within the city limits with availability of service packages up to 1 Gbps symmetrical. As part of the respondent’s proposal, please outline how the service will scale to a minimum of 100 mbps symmetrical minimum service up to 10 Gbps maximum service by 2022.

B. SERVICE REQUIRED: For fiber-to-the-premise proposals, Active Ethernet, GPON, and/or WDM/PON technologies to provide services to households, businesses, governments, and institutions throughout the Service Area are all acceptable technologies. This Network(s) must include all active and passive infrastructure, including fiber cabling, active repeater equipment, uninterruptible power supplies, Network(s) cross-connections, software, and ancillary equipment.

C. PREFERRED TECHNOLOGY:

- **Lit Fiber Service**-Service provider owned fiber with a fully managed lit service at a minimum of 25 Mbps download /3 Mbps upload for business and consumers within the city limits with availability of service packages up to 1 Gbps symmetrical. As part of the respondent’s proposal, please outline how the service will scale to a minimum of 100 mbps symmetrical minimum service up to 10 Gbps maximum service by 2022.

D. OTHER TECHNOLOGY OPTIONS (VCBI would offer no incentive for these technologies):

- **Lit Point to Point Microwave service** - Service provider owned microwave with a fully managed, bundled (transport and access included) service at a minimum of 25 Mbps download /3 Mbps upload for business and consumers within the city limits with availability of service packages up to 1 Gbps symmetrical. As part of the respondent’s proposal, please outline how the service will scale to a minimum of 100 mbps symmetrical minimum service up to 10 Gbps maximum service by 2022.

If unlicensed spectrum is used, respondent must verify and display its plan to mitigate any interference.

- **Mobile Broadband Service** using existing wireless networks – Preferred using LTE or other current generation fully managed, bundled (transport and access included) service at a minimum of 25 Mbps download /3 Mbps upload for business and consumers within the city limits with availability of service packages up to 1 Gbps symmetrical. As part of the respondent’s proposal, please outline how the service will scale to a minimum of 100 mbps symmetrical minimum service up to 10 Gbps maximum service by 2022.
- Others proposed by vendors

E. SERVICE SPECIFICATIONS – For fiber and high density area solutions, the VCBI prefers the following service standards. Respondents should indicate if these standards can be met in their proposal.

- 99.99% circuit uptime
- Frame/packet loss .50% commitment
- 25 ms Network Latency Commitment
- 10 ms Network Jitter Commitment
- Rate limiting and throttling will be reported to customer
- Credits for outages according to the following schedule:

| Length of Service Outage | Credit is the following percentage of Monthly Recurring Cost |
|---|--|
| Less than 45 minutes | No Credit |
| 45 minutes to four (4) hours | 5% |
| Greater than four (4) hours and less than eight (8) hours | 10% |

| | |
|--|-----|
| Greater than eight (8) hours and less than twelve (12) hours | 15% |
| Greater than twelve (12) hours and less than sixteen (16) hours | 20% |
| Greater than sixteen (16) hours and less than twenty-four (24) hours | 35% |
| Greater than twenty-four (24) hours | 50% |

F. GRANTS or INCENTIVE CONSIDERATION FOR FIBER VENDORS ONLY: For a fiber to the premise (FTTP service), the Vance County Commissioners, the City of Henderson and Other Government Entities may consider the granting of grants or incentives as permitted by state law. These grants or incentives may include:

- Financial grants or incentives representing a small percentage of the provider’s capital investment.
 - Any County or VCBI offer of a subsidy may be on a per household or per business subsidy for deployment of a fiber-to-the-premise service. Any subsidy is contingent upon approval and funding by the Vance County Commissioners.
- The opportunity to provide service to the county and municipal government facilities listed in section 1.2.3
- Single point of contact for Vance County Right of Way permits and other administrative processes
- Promotion of the service by Vance County Economic Development and other local economic development and chamber of commerce organizations

G. GRANTS or INCENTIVE CONSIDERATIONS FOR ALL VENDORS FIBER OR WIRELESS:

If permitted by state law, Vance County may offer, with the approval of its county commissioners, access to the following facilities on a competitively neutral basis to assist with the deployment of broadband in areas of Vance County.

VCBI members are willing to consider offering the following assets:

No rental fee access to VCBI member owned or controlled towers, utility poles and buildings for attachment of fiber or antennas. This does not include access to third party owned utility poles.

H. SERVICE PERIOD: Up to 20 years from date of first operation

I. EXPANSION: Provides a comprehensive broadband infrastructure that can be expanded upon to serve other areas of Vance County, including those outside Henderson, Kittrell and Middleburg, when deemed practical

J. ACCESS TO ASSETS:

If permitted by state law, Vance County or VCBI affiliates may offer, with the approval of its County Commissioners or the owning entity’s governing body, access to facilities on a competitively neutral basis to assist with the deployment of broadband in areas of Vance County.

Access to other broadband delivery assets owned or controlled by Vance County, or Henderson, Kittrell and/or Middleburg, or other VCBI affiliates that are detailed in Section 4 and Appendix C. VCBI members may also consider entering into service contracts with prospective vendors. This means, Town and County facilities currently subscribing to broadband service will consider options for service proposed by respondents.

L. OPEN ACCESS: Open access solution is preferred; the main network vendor offers lit and dark fiber services to other service providers, but proposals that have some variance on this preferred solution may be considered.

M.PRICING:

Service may be priced as;

- Transport only
- Transport and access (bundled) package

1.2.3 Vance County and other municipal government services

The Vance County anticipates the following broadband needs (assume 60 month term of service):

Vance County

| Location Name | Street Address | Lat, Long |
|-----------------------------------|--|-----------------------|
| Dabney Elementary School | 150 Lanning Road, Henderson, NC 27537 | 36.330952, -78.481741 |
| Clarke Elementary School | 309 Mount Carmel Church Road Henderson, NC 27537 | 36.301347, -78.367174 |
| Zeb Vance Elementary School | 4800 Raleigh Road Kittrell, NC 27544 | 36.257691, -78.414285 |
| Aycock Elementary School | 305 Carey Chapel Road Henderson, NC 27537 | 36.320805, -78.361417 |
| E M Rollins Elementary School | 1600 South Garnett Street Henderson, NC 27536 | 36.320006, -78.415659 |
| Pinkston Street Elementary School | 855 Adams Street Henderson, NC 27536 | 36.324727, -78.386695 |
| Henderson Middle School | 219 Charles Street Henderson, NC 27536 | 36.327544, -78.399316 |
| Eaton-Johnson Middle School | 500 North Beckford Dr. Henderson, NC 27536 | 36.337359, -78.40307 |
| Vance County Middle School | 293 Warrenton Road Henderson, NC 27537 | 36.337359, -78.40307 |
| Vance County High | 925 Garrett Road Henderson, NC 27537 | 36.302557, - |

| | | |
|--|---|---------------------------|
| School | | 78.374598 |
| Vance County Early College Cohort IV | 200 Community College Road Henderson, NC 27537 | 36.324529, - 78.488515 |
| Western Vance High School | 2785 Poplar Creek Road Henderson, NC 27537 | 36.342847, - 78.49332 |
| Vance County Sheriff (Also E911 Center) | 156 Church St # 4, Henderson, NC 27536 | 36.329460, - 78.401659 |
| Vance County Tax Office | 122 Young St, Henderson, NC 27536 | 36.328632, - 78.40225 |
| Vance County ABC Board | 874 S Beckford Dr, Henderson, NC 27536 | 36.333800, - 78.433151 |
| Vance County Jail | 516 Breckenridge St, Henderson, NC 27536 | 36.330695, - 78.407122 |
| Henderson-Vance Economic Development Commission | 1775 Graham Ave, Henderson, NC 27536 | 36.325879, - 78.443577 |
| Granville-Vance Health Department (Vance Office) | 115 Charles Rollins Rd, Henderson, NC 27536 | 36.329547, - 78.449856 |
| Vance County Cooperative Extension | 305 Young St, Henderson, NC 27536 | 36.329475, - 78.403804 |
| Vance County Farmer's Market | 210 Southpark Dr., Henderson, NC 27536 | |
| | | |
| Vance County Veteran's Services | 300 S Garnett St # B, Henderson, NC 27536 | 36.325955, - 78.40493 |
| Vance County Tourism | 946 W Andrews Ave # T, Henderson, NC 27536 | 36.339360, - 78.408772 |
| Vance County Schools Transportation | 226 Welcome Ave, Henderson, NC 27536 | 36.300489, - 78.406692 |
| Vance-Granville Community College | 200 Community College Rd, Henderson, NC 27536 | 36.324529, - 78.488515 |
| Maria Parham Health | 566 Ruin Creek Rd, Henderson, NC 27536 | 36.331037, - 78.449185 |
| Vance County Animal Shelter | 1243 Brodie Road, Henderson, NC 27536 | 36.298763, - 78.413574 |
| Fire Station Company 9 (EMS Station) | 188 Bickett St., Henderson, NC 27536 | 36.345049, - 78.390427 |
| Fire Station Company 7 | 5021 Satterwhite Point Rd., Henderson, NC 27537 | 36.424123, - 78.369359 |
| EMS Station Medic 3 | 325 Bearpond Rd., Henderson, NC 27537 | 36.276689, - 78.400226 |

| | | |
|---|---|-----------------------|
| Vance County Solid Waste Site 1 | 3459 NC Highway 39 North, Henderson, NC 27537 | 36.286870, -78.376324 |
| Vance County Solid Waste Site 2 | 803 Warrenton, Henderson, NC 27537 | 36.349767, -78.364668 |
| Vance County Solid Waste Site 3 | 1825 Gun Club Road, Henderson, NC 27537 | 36.357358, -78.478966 |
| Vance County Solid Waste Site 4 | 300 Tungsten Mine Road, Bullock, NC 27507 | 36.498309, -78.431944 |
| Vance County Solid Waste Site 5 | 2689 Vicksboro Road, Henderson, NC 25737 | 36.318307, -78.333092 |
| Vance County Solid Waste Site 6 | 251 N. Chavis Road, Kittrell, NC 27544 | 36.243475, -78.42967 |
| Vance County Solid Waste Site 7 | 878 Manson-Drewry Road, Manson, NC 27553 | 36.458610, -78.307122 |
| Vance County Solid Waste Site 8 | 900 Brodie Road, Henderson, NC 27536 | 36.300937, -78.414842 |
| Perry Library | 205 Breckenridge St, Henderson, NC 27536 | 36.327633, -78.405293 |
| Vance County Social Services | 350 Ruin Creek Rd, Henderson, NC 27536 | 36.333868, -78.447600 |
| Vance County Water and Soil Conservation | 853 S. Beckford Drive Suite C, Henderson, NC 27536. | 36.334491, -78.43047 |
| City of Henderson-City Hall | 134 Rose Avenue, Henderson, NC 27536 | 36.329598, -78.400451 |
| City of Henderson-Public Works and Operations | 900 South Beckford Drive, Henderson, NC 27536 | 36.335556, -78.431687 |
| Kerr Lake Regional Water Plant | 280 Regional Water Ln, Henderson, NC 27537 | 36.432733, -78.353844 |
| Bearpond Fire Department | 325 Bearpond Rd., Henderson, NC 27537 | 36.276712, -78.400175 |
| Drewry Fire Department | 125 Firefighter Dr., Manson, NC 27553 | 36.460001, -78.307058 |
| Hicksboro Fire Department | 6595 Hicksoboro Rd, Oxford, NC 27565 | 36.430895, -78.501068 |
| Townsville Fire Department | 12729 NC 39 Hwy N, Henderson, NC 27537 | 36.495845, -78.421083 |
| Cokesbury Fire Department | 1516 S Cokesbury Rd, Henderson, NC 27536 | 36.335996, -78.301743 |
| Epsom Fire Department | 8064 NC 39 Hwy South, Henderson, NC 27537 | 36.435297, -78.435748 |
| Kittrell Fire Department | 54 West Main St., Kittrell, NC 27544 | 36.221874, -78.439617 |

| | | |
|-------------------------|--|-----------------------|
| Watkins Fire Department | 1590 Horseshoe Bend Rd., Henderson, NC 27537 | 36.284699, -78.481188 |
|-------------------------|--|-----------------------|

City and Town Needs

| Facility | Address | Speed | Monthly Price (60 months) |
|---|---|-------|---------------------------|
| City of Henderson-City Hall | 134 Rose Avenue, Henderson, NC 27536 | | |
| City of Henderson-Public Works and Operations | 900 South Beckford Drive, Henderson, NC 27536 | | |
| Kerr Lake Regional Water Plant | 280 Regional Water Ln, Henderson, NC 27537 | | |

The City of Henderson has two requirements outside of serving specific facilities that it encourages respondents to consider.

- In the City of Henderson, a large majority of downtown where public safety communications lack coverage. Solutions providers should contact the City IT department Paylor Spruill (pspruill@ci.henderson.nc.us) for more information.
- The City of Henderson desires to implement a WiFi cloud in and around the central business district. This would be an open access WiFi network for citizens. Solutions providers should contact the City IT department Paylor Spruill (pspruill@ci.henderson.nc.us) for more information.

Respondents to this RFP are may submit a bid to provide broadband service to these locations. RFP responses will be evaluated for pricing as well as the breadth of their response. While pricing will be a primary factor, meeting the requirements of more than one portion of the RFP will also be a primary consideration.

Fiber Construction- The county may also consider constructing County Owned fiber to serve the needs of County and municipal facilities. If permitted by state law, Vance County and other municipal governing bodies may offer, with the approval of its County Commissioners or the requisite governing body, access to county constructed or municipal constructed fiber assets on a competitively neutral basis to assist with the deployment of broadband in areas of Vance County.

Construction routes will terminate at the County demarcation (A location) and have node drops/handholes at the County and City facilities listed in section 1.2.3.

Construction specifications for new fiber are outlined in Appendix D.

Access to county assets:

If permitted by state law, Vance County may offer, with the approval of its county commissioners, access to the following facilities on a competitively neutral basis to assist with the deployment of broadband in areas of Vance County.

The County facilities listed above as well as county properties listed in Appendix C are considered “broadband assets” of the county and may be available for use by vendors upon negotiation of terms and conditions of access with the County.

A. SERVICE SPECIFICATIONS:– For services to government and public facilities, the VCBI prefers the following service standards. Respondents should indicate if these standards can be met in their proposal.

- 99.99% circuit uptime
- Frame/packet loss .50% commitment
- 25 ms Network Latency Commitment
- 10 ms Network Jitter Commitment
- Rate limiting and throttling will be reported to customer
- Credits for outages according to the following schedule:

| Length of Service Outage | Credit is the following percentage of Monthly Recurring Cost |
|--|---|
| Less than 45 minutes | No Credit |
| 45 minutes to four (4) hours | 5% |
| Greater than four (4) hours and less than eight (8) hours | 10% |
| Greater than eight (8) hours and less than twelve (12) hours | 15% |
| Greater than twelve (12) hours and less than sixteen (16) hours | 20% |
| Greater than sixteen (16) hours and less than twenty-four (24) hours | 35% |
| Greater than twenty-four (24) hours | 50% |

2. Survey Results

Business Survey Results: (9 Responses)

A recent survey of broadband demand among businesses found the following:

1. 33% of businesses in Vance County are very dissatisfied or somewhat dissatisfied with the service provided by their current broadband provider
2. 89% of businesses in Vance County reported they desired to upgrade their current broadband service. 89% showed a desire to have connections greater than or equal to 100 Mbps.
3. 67% of businesses in Vance County reported they experienced buffering delays either daily or weekly
4. 100% of Vance County businesses expressed that it would be a wise investment for Vance County Government to undertake efforts to attract better broadband service to the region

Residential Survey Results (708 responses)

1. 36% of respondents lacked high speed Internet access at their location
2. 47% of respondents said lack of affordability was the main reason for not subscribing to high speed Internet access.
3. 82% of Vance County respondents replied that they would pay \$25 or more for high speed Internet access; 42% of respondents replied they would pay \$50 or more.
4. 54% of Vance County respondents have K-12 school children at home.

3. Eligible Vendors

Eligible vendors will meet the following requirements:

- A Private For-Profit business licensed to operate in NC
- Vendors must have a minimum of three years of operations providing high-speed Internet service.
- Vendors must be in good financial standing. Vendors should have a positive cash flow, a positive credit history and must provide an audit. Financial documents that must be submitted along with this application are outlined in Section 11.4.

The VCBI reserves the right to reject all proposals and may select multiple vendors to provide service.

Each Vendor will be an independent contractor that provides all design, construction, and operation services for the Network(s). VCBI and its affiliates will have no ownership in the Vendor(s) that owns and operates the Network(s). VCBI and its affiliates' contract(s) with the Vendor(s) do not constitute franchise(s). VCBI and its affiliates do not plan to regulate generally Vendor(s)' business activities, nor to grant Vendor(s) a franchise for its activities and operations. VCBI and its affiliates expect that the contracts and property instruments associated with this effort shall establish terms and conditions governing the use of public assets that are utilized by Vendor(s) in its service delivery to its customers.

4. City and County Offerings

If permitted by state law, Vance County may offer, with the approval of its county commissioners, access to the following facilities on a competitively neutral basis to assist with the deployment of broadband in areas of Vance County.

VCBI members may provide access to assets, assistance generating demand, and grant funding.

4.1 County Asset Access Specifications

4.1.1 Fiber

City and County do not own fiber or empty conduit.

4.1.2 Conduit

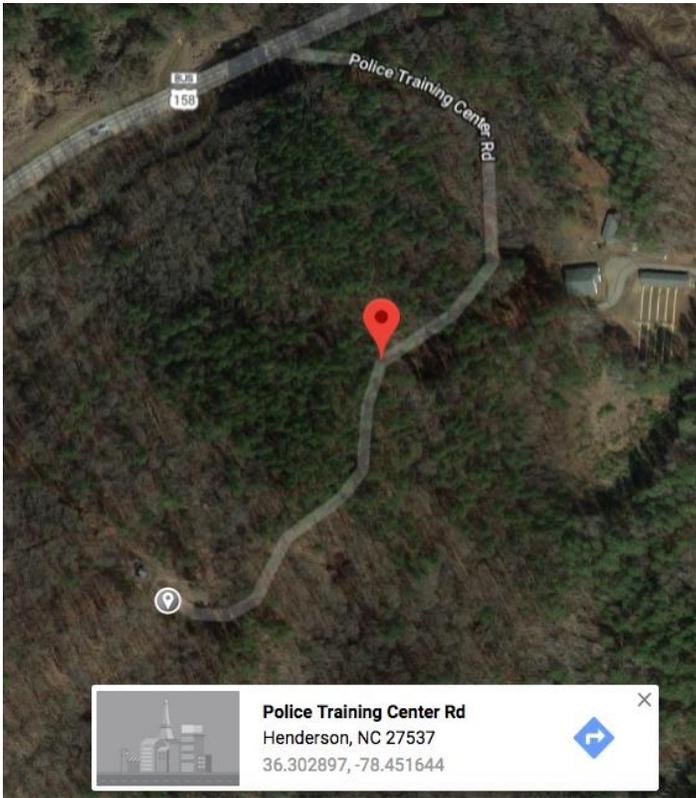
City and County do not own fiber or empty conduit.

4.1.3 Tower Access

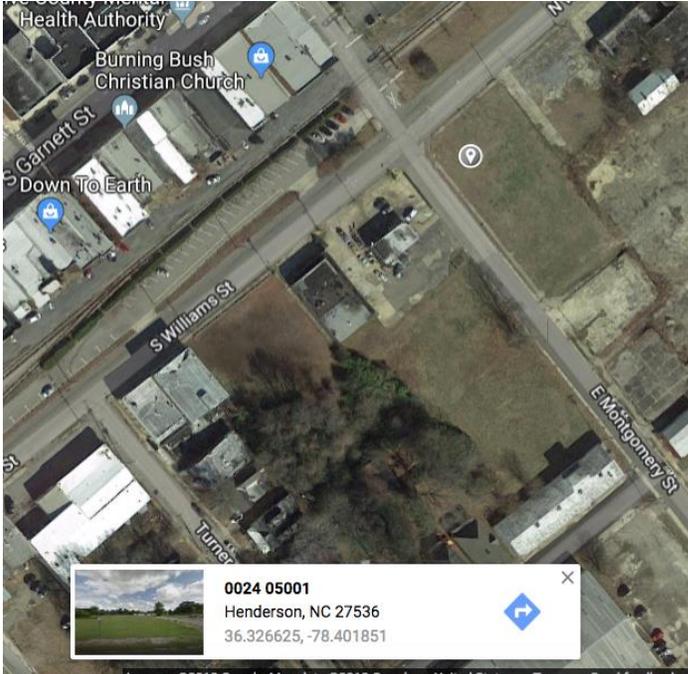
If permitted by state law, respondents may have access to space on towers that are owned by VCBI and/or its affiliates or are owned by entities that allow commercial providers to access them.. A tower map and additional information about tower locations can be found in Appendix B, Linked Google Map.

Note that the City of Henderson owns and unoccupied tower at the Henderson Police training site and land at the corner of Williams and Montgomery Streets in Henderson that can be utilized by respondents.

Police Training Site:



Williams and Montgomery Street Property



4.1.4 Rights of Way

If permitted by state law, construction and the installation of equipment in VCBI or its affiliate's rights-of-way will be subject to the applicable requirements and ordinances of VCBI and its affiliates. Subject to existing rights-of way

and easements, the VCBI and its affiliates will allow Vendor(s) to have access to necessary rights-of-way on property owned by VCBI and property on which it has an easement and authority to allow such access. Access will be provided in accordance with the applicable requirements or ordinances, but generally access will be provided during regular business hours for non-emergency work and 24 hours a day, 7 days a week in the event of an emergency. Access includes permission to perform construction work on VCBI and its affiliate's property, including construction in the streets as needed for the Network(s), subject to any permit requirements that the VCBI and its affiliates have. VCBI and its affiliates will assist in obtaining on a timely basis the required approvals to allow such work in said rights-of-way.

If requested, the VCBI and its affiliates will also cooperate with Vendor(s) in efforts to allow Vendor(s) to gain access to rights-of-way owned or controlled by third parties within the Service Area.

Planned street maintenance could be utilized to coordinate any proposed work with preexisting construction schedules and these schedules may have certain flexibility to align with a potential network rollout.

4.1.5 Pole Attachment Rights

If permitted by state law, VCBI and its affiliates may provide Vendor(s) with access to existing utility poles owned or controlled by the VCBI and its affiliates. The mechanisms by which VCBI and its affiliates will provide such access to the poles, along with fees that will be charged, are listed in the will be subject to negotiation with the pole owner. VCBI will help facilitate these conversations if requested by the vendor.

If requested, VCBI and its affiliates will cooperate with Vendor(s) in its efforts to gain access to poles owned or controlled by third parties within the Service Area.

4.1.6 Co-location Space and Power

If permitted by state law, VCBI and its affiliates may provide access to segregated, secured spaces for telecommunications and network equipment within facilities owned or leased by VCBI or its affiliates; this space may exist in telecom closets or equipment huts at tower sites, fire stations, municipal buildings, or other locations. This space is typically not tiered data center space, and is generally unconditioned beyond standard building climate control. Some locations may contain generator/UPS backup for electrical utility service, although VCBI and its affiliates are open to proposals from Vendor(s) to add redundant services. Vendor(s) may choose to segregate their equipment within the shared space. VCBI and its affiliates will provide reasonable 24x7 access to the space for equipment maintenance and repair. The intent of VCBI and its affiliates is to make space available through a leasehold interest that matches the term of service.

Access to a segregated, secured space within a data center facility or computer room owned or leased by VCBI or its affiliates used for servers, telecommunications, and/or network equipment may also be made available. VCBI or its affiliates may provide access to the space through routine IT operations processes or through accompanied access to the space; alternatively, Vendor(s) may choose to segregate Vendor(s) and VCBI and its affiliates' equipment from each other in order for VCBI and its affiliates to provide full access by Vendor(s) into the facility without escort. VCBI and its affiliates will ensure data center is capable of receiving electrical service, computer room air conditioning, and customary facility monitoring services. VCBI and its affiliates will provide reasonable

24x7 access to the space for equipment maintenance and repair. Vendor(s) will be required to adhere to municipal security policies and practices for working in such a space.

The common pricing schedule for co-location space and other municipal assets can be found in Appendix D.

4.2 Funding Available

Service to Unserved/Underserved Areas of Vance County- If permitted by state law, commissioners and the VCBI may consider small amounts of subsidy funding for deployment of enhanced terrestrial or wireless service into these unserved and underserved areas of the county. For example, the county may offer a per household or per business subsidy for deployment of terrestrial service or may support service to underserved areas by providing or funding the construction of towers required to bring wireless signal coverage and service availability to these underserved areas of Vance County. Any subsidy is contingent upon approval and funding by County commissioners and/or VCBI.

The amount of subsidy, if any, will be determined at the sole discretion of the VCBI and the Vance County Commissioners, the City of Henderson and Other Government Entities and in no case will exceed a small percentage of the capital deployment costs (construction materials, construction labor, engineering, project management, core/edge/premise equipment) necessary to deliver broadband service to businesses and residences. Vendors requesting a subsidy, must provide detailed/line-item invoices of costs. Subsidies will be divided and paid on a per household or per business basis with proof of subscription.

Fiber to the premise service to higher density residential areas including the City of Henderson and Kittrell and Middleburg Townships- For a fiber to the premise (FTTP service), the Vance County Commissioners, the City of Henderson and Other Government Entities are willing to consider offering the following grants or incentives if a bid meets the present and future bandwidth and service specifications:

- Serving Vance County Government administration locations. Current spend is approximately \$XXK per year
- County and Henderson, Kittrell, Middleburg will consider waiving franchise fees for up to the first 3 years of operation
- Single point of contact for Vance County Right of Way permits and other administrative processes
- Promotion of the service by Vance County Economic Development and Greater Vance County Chamber of Commerce members to businesses and residences
- Any County or VCBI offer of a subsidy may be on a per household or per business subsidy for deployment of a fiber-to-the-premise service. Any subsidy is contingent upon approval and funding by County Commissioners, the City of Henderson and Other Government Entities

4.2.1 Funding restrictions

VCBI will not award grants to substitute for lost government appropriations or cover pre-existing operating expenses for established organizations or pre-existing deployment to any of the Eligible Service Areas.

4.2.2 Federal, State, Private Grants and Loans

The Vance County Commissioners and the FCBI will assist respondents in seeking grants or financing to support the proposed broadband infrastructure deployments in Franklin County. This support can take the form of letters of support or participation in meetings/presentations to prospective grant-makers and financing entities.

4.3. Assistance in Identifying and Generating Demand

VCBI and its affiliates may negotiate individual commitments to purchase Network(s) services needed for VCBI or its affiliates operations (e.g., transmission capacity, Internet access, voice, video, security monitoring, cloud computing and storage) through the Network(s).

If requested, VCBI and its affiliates will provide Vendor(s) with publicly available information as to entities in the Service Area that are candidates to enter into contracts for fiber or Network(s) services. Such potential end-users may include educational institutions, large/medium/small employers, and governments. An initial list of such entities and contact information for key personnel may be listed in the Schedules for each individual community.

VCBI and its affiliates may each publicize the proposed Network offerings in the same manner as other private economic development announcements.

5. Vendor Services/Solutions

VCBI and its affiliates are looking for innovative solutions which may entail one or more Vendors collaborating to create a turn-key system.

Service descriptions must include complete system design, engineering, operations, monitoring, maintenance, customer support provisions, and enhancements. The Network(s) rollout will be based upon demonstrated demand by community residents, institutions, governments and businesses, and the availability of necessary infrastructure. The Network(s) design and operation should preferably provide an open access framework that maximizes wholesale and retail service delivery and competition.

6. Expected RFP Schedule

| | |
|-----------------|--|
| August 7, 2018 | Request for Proposals VCBI |
| August 16, 2018 | Franklin, Vance and Granville RFP Overview Meeting |
| August 22, 2018 | Questions from Vendors due |
| August 27, 2018 | Answers to vendor questions posted |
| October 4, 2018 | RFP responses due |

7. Application Submission Process

One electronic copy of this application, and all relevant materials, must be received by 5:00 PM on the deadline date. Faxes are not acceptable. The electronic copy should be submitted by e-mail to info@kerrtarcog.org When submitting materials by e-mail, you must have a reply from the VCBI representative acknowledging receipt of materials. The E-mail should be entitled "Vance County Broadband Enhancement RFP response".

8. Proprietary Information

Proprietary information may be submitted as part of the proposal. Please clearly mark only the pages that contain proprietary information with the word "CONFIDENTIAL."

9. Requesting Additional Information and Questions

VCBI will respond to questions submitted ONLY via e-mail to info@kerrtarcog.org The deadline for questions is 5:00 PM, August 22, 2018. The questions will be answered to the submitter and all questions and responses will be posted on the website <http://www.vancecounty.org> Neither VCBI staff nor county commissioners nor city council members will answer questions directly.

10. Application Requirements and Instructions

Vendors are required to complete and submit the following materials for their grant proposal application:

- (1) **Cover Sheet** (Section 11)
- (2) **The Project Proposal** (Section 12)
- (3) **Certification by Vendor** (Section 13)

11. Cover Sheet: VCBI Broadband RFP

General Information

Legal Name of Vendor Unit: _____

Name and Title of Manager or CEO: _____

Mailing Address: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ Fax: _____

Email: _____

Name and Title of Project Contact: _____

(This project contact should be the person who can best answer project questions)

Address: _____

Telephone: _____ Email: _____

Federal Tax ID Number: _____ Fiscal Year-End Date: _____

Project Information

Project Start Date: _____ Project Completion Date: _____

Service Area: Unserved Areas Vance County High Density Townships & other areas

Government Facilities

12. The Project Proposal

Vendor(s) shall design, build, install, operate, support, and manage the Network(s). Vendor(s) are encouraged to propose on all features with coverage over the full service Area. Vendors may bid on parts or the whole of the RFP. If a Vendor chooses to propose on less than the whole, Vendor must provide details as to which features and Service Area(s) for which it is proposing, including the use of maps or other diagrams as necessary to sufficiently allow VCBI and its affiliates to review Vendor's proposal. Vendor(s) should describe which, if any, of the turnkey services described below, it will provide. Vendor must explain or describe how it would allow for connection to other Service Areas in the event Vendor wishes to propose on less than the full service Area.

The following list of required information is offered to facilitate the preparation of the comprehensive proposal package that VCBI has to have in order to give each proposal fair and adequate consideration.

All submitted proposals must include the following components as outlined below:

12.1 Technical Plan for the Proposed Project

The technical plan must describe in detail how the proposed project will bring high-speed Internet services to the Eligible Service Area(s). Where relevant, provide accompanying documentation.

12.1.1 Broadband Coverage map

- A map and build out schedule (GIS shape file). If less than the entire Service Area is being proposed on, Vendor's portion of the Network(s) must provide for interconnection at no cost with other portions of the Network(s). An explanation as to how Vendor(s) expects to accomplish all interconnections should be included in Vendors' response.
- An explanation as to how Vendor(s) expects to accomplish interconnection.
- Detailed design for at least one multi-family dwelling (MDU), a Township business, and/or a residential neighborhood, if such feature is included in proposal.
- A discussion of the anticipated deployment strategy, scope, and timing of the proposed rollout, including if there would be multiple phases of the deployment and availability of services and, if so, what services would be made available during each phase. The discussion should identify the levels of committed demand necessary to trigger rollout obligations and any factors likely to influence the scope or timing of the rollout and explain how those factors impact the strategy.

12.1.2 Project Implementation Timeline and Performance Milestones*

The technical proposal must be accompanied by a proposed implementation timeline.

- The proposal must develop a detailed project schedule that indicates key events that are tied to the need for the release of funds and grants or incentives by the VCBI.
- The proposal must specify the projected date by which the project will be completed and the date service delivery will commence over the proposed infrastructure.

* The VCBI may choose to implement the project in a phased approach, starting with a pilot. If this option is chosen, the County will work with the vendor to adjust the timeline accordingly during the grant agreement discussion.

12.1.3 Service Offerings

A description of proposed wholesale or retail service offerings that the Vendor(s) anticipates offering to institutional, business, government, residential, and other potential customers. Response should address 1) pricing strategy, include anticipated rates for services and minimum time period those rates would remain in place without escalation, and limitations on increases in rates over time, and 2) an explanation of Vendor's willingness to work with the VCBI to develop unique pricing or packages for key community stakeholders and populations (e.g., government, K-12 facilities and economically distressed areas), and 3) customer support model for each service. Proposals must include a reduced rate option for qualifying economically distressed residents. Explanation of the qualifying standard, if available, should be included. The county can provide qualification requirements and determine eligibility, if desired.

Internet Services

- Residential
- Bulk internet to multi-dwelling units (MDUs)
- Dedicated business/institutional
- Wholesale Internet access

Service Circuits

- Point to Point
- Multipoint Optional Services
- VOIP services
- Wi-fi
- Video services

Vendors' response should include any other services that it will provide with its standard services or as optional services.

12.1.4 Technical system explanation

A description of the Network(s) technologies underlying the proposed Network(s) solution(s) included in the response. Each description should include the following information:

- Service Availability
 - Targets for uptime

- Redundancy
- Licensed spectrum used
- Unlicensed spectrum used
 - Mitigation plan for interference for unlicensed spectrum

- Design points for capacity
 - Capacity per customer
 - Number of fibers

- Maximum number of end point customers
- Verification of adherence to Service Level Agreement and Outage Reimbursement standards

12.2 Roles and Responsibilities

A description of the roles and responsibilities envisioned for Vendor, Vendor team members, VCBI and its affiliates, and subcontractors or third parties (if applicable) for each of the following:

- Network(s) design
- Network(s) construction
- Network(s) operations and management
- Customer support
- Publicly available information
- Marketing

Material Tasks/Components: Vendor shall provide a breakdown or outline of the material tasks or components of the design, construction, operation and management of the Network(s) and its rollout.

12.3 Management and Staffing

The proposal must describe the role of key project personnel (including job descriptions) and provide documentation of the ability of current management and staff to fulfill those responsibilities. Please attach resumes of key project personnel and a list of anticipated subcontractors.

Vendor's proposal shall include organizational documents filed with the applicable governmental agency (i.e., Articles of Incorporation or Articles of Organization) as well as a Certificate of Good Standing (or equivalent) from the applicable agency and any licenses to provide communications services that may be required by the North Carolina Public Utilities Commission, Federal Communications Commission, or any other applicable governmental agency. Additionally, Vendor shall provide a certificate that it is in good standing to do business in the State of North Carolina and that all of its business and regulatory registrations/filings/taxes are current, and all internal corporate documents, are up to date.

The proposal must disclose the relationships, if any, which exist between key personnel and investors in this project.

12.3.1 Contractors - Procurement/Deployment

- The proposal must explain what process will be followed in obtaining services required for the development of this project.
- The proposal must explain if small and historically underutilized firms will be given special consideration in the bid process.
- The proposal must explain if there is a performance bond executed with contractors and subcontractors.

12.4 Project Budget

Provide a copy of the proposed project budget by line item, along with a budget narrative. Sources of other grant or loan funds in the project should be clearly identified.

The project budget should include a pro forma financial statement, identifying projected capital outlays, ongoing operational costs, and expected revenues from wholesale and retail services for at least the first five years of construction and operation. The plan should identify and quantify all key assumptions underlying the calculations.

The financial projections should specify the matching fund support from VCBI that is assumed and the VCBI asset access that is assumed.

12.5 Organizational Information

12.5.1 Organizational Structure

- The vendor must be a Private For-Profit business licensed to operate in NC and must furnish proof of this designation.
- Briefly describe the ownership structure of your organization. Vendors must identify what type of business they are, where they are organized (what state) and where their principle office is located.
- Vendor should provide a statement of experience highlighting similar Network(s) systems that it has designed, constructed, and operated, including project name, location, size, technology used, and names and phone numbers for reference contacts. Also the proposal should indicate whether each system is owned by the Vendor(s) or another entity

12.5.2 Operating Finances

Vendor(s) shall submit 1) 2016/2017 Dun & Bradstreet information supplement and 2) the two most recent annual audited financial statements to permit analysis of financial resources. If Vendor is part of a project group, the audits and Dun & Bradstreet report for each principal group member should be submitted. If the Vendor(s)'s response includes Vendor financing or committed bank or other financing, the audits and Dun & Bradstreet reports of such Vendors and financial institutions should be submitted. Security in the form of a letter of credit, bond or other security in the amount determined by the VCBI and Vendor(s) after negotiation will be required of the successful Vendor(s) to guarantee completion of the Network(s), and shall be held by the VCBI until completion of the Network(s).

12.5.3 Ownership and Equity Conversion Issues

- The proposal must describe the ownership structure of this project, detailing the nature of equity distribution and its basis.
- The proposal must detail any non-financial investment for which equity has been given.

- Vendors must include a proposal for the disposition of assets created or acquired through use of VCBI funds in the event that the project dissolves or terminates. VCBI requires that such dispositions, transfers or assignments preserve the goals of VCBI and the purposes of this RFP.

13. Certification by Vendor

The attached statements and exhibits are hereby made part of this application and the undersigned representative of the vendor certifies that the information in this application and the attached statements and exhibits is true, correct and complete to the best of his/her knowledge and belief. He/She further certifies that:

1. As authorized representative, he/she has been authorized to file this application by formal action of the governing body;
2. That the governing body agrees that if a grant or award of contract from the VCBI is awarded, the vendor will provide proper and timely submittals of all documentation requested by the County;
3. That the governing body agrees to provide for proper operation and maintenance of the project after its completion;
4. That the vendor has substantially complied with or will comply with all federal, state and local laws, rules and regulations and ordinances as applicable to the project.

Signature of Grantee/Authorized Representative

Typed Name and Title

Date

Checklist for Additional Forms:

Please enclose the additional items before submitting:

- Cover Sheet Project Proposal (see guidelines in Section 12)

14. Application Selection Process

Applications will be reviewed to ensure that the application is received on time (by the RFP deadline), is substantially complete and meets other eligibility requirements. If these standards are not met, the application will not receive further consideration. Applications will not be returned to the vendor.

- (1) Timeliness. Applications will be reviewed to verify submission by the submission deadline. VCBI may reject applications that do not meet the submission deadline.
- (2) Completeness. Applications will be reviewed to verify completeness. VCBI may reject applications that do not address all items in these sections and are thus materially incomplete.
- (3) Eligible Service Area. Applications will be reviewed to ensure that proposed infrastructure projects will deliver services to areas designated in Section 1.
- (4) Eligible Vendor. Applications will be reviewed to verify the eligibility of the vendor. The vendor must be a private for-profit corporation.
- (5) Eligible Activities. Applications will be reviewed to ensure that the activities for which assistance is requested are eligible for funding.
- (6) Sustainability. Vendors' plans will be reviewed to ensure that the business plan will be sustainable over the long term.
- (7) Appeals Process: There will be no appeals process.

15. Corrections to Deficient Applications

After the application due date, no unsolicited information will be considered. However, VCBI staff may contact the vendor to correct non-substantive deficiencies. In each case of a completeness deficiency, the vendor will be notified by telephone or email documenting the deficiency. All supplemental information requested by the County must be received within five business days of the date of notice or the proposal will not be considered for funding.

16. Scoring for Proposals

Applications deemed complete will be reviewed and scored by the following criteria.

| Scoring Factor | Criteria | Max Points |
|-------------------------|--|------------|
| Breadth of the response | A. Number of the 4 core requirements met by the proposal B. Includes a well thought-out and realistic project implementation timeline C. Describes specific design and implementation methods and activities to be carried out as part of this project D. Ability to obtain financing | 25 |
| Cost | A. Includes a well thought-out and realistic quarterly operating and capital budget B. Total project costs C. Total grant/other funds D. Match required from VCBI | 25 |

| | | |
|----------------------------------|---|----|
| | E. Monthly cost to subscribers F. Monthly cost to low-income subscribers | |
| Long-term Sustainability | A. Includes a well thought-out and realistic explanation of how the provider will continue this project after this grant money has been expended B. Quality customer service offerings C. The solution will provide long-term upgradeability, business sustainability, and quality of service | 20 |
| Capacity to complete the project | A. Depth of past/current experience B. Staff capacity and experience, relevant job descriptions C. Financial documents are in good standing | 15 |
| Collaboration | A. Quality partnerships that may increase the success or impact of this project B. Experience or willingness to partner with the county to educate the public, especially low-income citizens | 10 |
| Marketing | A. Marketing plan and experience to ensure that target audience will be reached | 5 |

17. Ranking

Each service area proposal will be ranked separately. Scores for each rating factor will be added together for each application to obtain a total score for each proposal. Proposals will then be ranked from highest to lowest according to the total combined score.

VCBI may choose a single vendor or multiple vendors. VCBI reserves the right to reject all proposals.

18. Award Requirements

Each Vendor will be required to enter into a contract with VCBI before it can receive grant funds or begin project activity. VCBI may include requirements for job creation, CRM location, etc. in the grant agreement.

Some of the grant award requirements and conditions are outlined below.

- VCBI Broadband Grant funds and commitments of facility access can only be used for the purposes set forth in the contract.
- All recipients must submit regular progress and financial reports. Specific reporting requirements will be described in the contract.
- The project may be implemented in a phased manner, providing service to an area initially and resuming service provision to other areas after an evaluation period. The option of using a phased approach will be discussed as part of the contract process.

- VCBI staff will monitor the progress made as compared to the submitted project milestones. These milestone dates will be a part of the contract. Monitoring will include regularly scheduled staff reviews. Grant payments and facility access will be released/granted based on these reviews and the assessment of progress against project milestones.
- Grant funding may be paid out on a reimbursement basis, with the payment schedule to be outlined in the contract.
- Unless negotiated otherwise, intellectual property rights developed or created with Grant funds, if relevant, will be proportionately shared with VCBI.

19. Further Information

For further information about this program, please visit the VCBI website at www.kerrtarcog.org

Appendix A -Glossary of Terms

| | |
|--|---|
| <p>Vance County Broadband Initiative (VCBI)</p> | <p>An effort led by the Vance County Commissioners and supported by its citizens and business to bring faster, more reliable, higher value, scalable broadband service to Vance County, NC. VCBI includes affiliate organizations that have agreed to support the county’s effort to bring enhanced broadband service to VCBI.</p> <p>The goal of this effort is 3-fold:</p> <ol style="list-style-type: none"> 1. Reach underserved areas of the county with additional, better and affordable better broadband service 2. Provide scalable broadband infrastructure within Vance County that will allow private sector service providers to offer enhanced services to business and consumers within the city key economic corridors and relatively high density residential corridors 3. Meet VCBI member administrative, public safety, public health and other area needs for scalable broadband service for at least the next 20 years |
| <p>Advanced Network</p> | <p>A comprehensive approach to meeting the goals of</p> <ol style="list-style-type: none"> 1. Better broadband access for the underserved areas of VCBI 2. Enhanced broadband access for key business/economic development and high density residential corridors 3. An efficient way to meet the broadband needs of government, residents and businesses for the foreseeable future <p>Last mile solutions can be fiber, coax, mobile wireless or microwave. Solution that provide 25 mbps download/3 mbps upload immediately and 100 mbps symmetrical service by 2020 (in accordance with the National Broadband Plan). For last mile solutions in higher density areas the VCBI prefers fiber based solutions.</p> |

| | |
|----------------------|--|
| Open Access | VCBI's preference is that the chosen vendor (s), if the vendors operate a wholesale network (sell access to other service providers), will have reasonable and non- discriminatory access arrangements that (i) ensure equivalence of price and non-price terms and conditions for all retail service providers and (ii) permit such providers to differentiate their product offerings. In addition, the Vendor(s) may not limit the ability of retail service providers or their customers to run applications, use services, and connect devices of their choice to the Network(s). |
| Service Area: | The VCBI service area includes 1 city: Henderson and 2 Townships: Kittrell and Middleburg, and the outlying areas of Vance County, NC. |
| Vendor(s): | Business entity or entities which respond(s) to this RFP |

Appendix B – Service Area Maps

The data included in these maps are subject to change.

Google Map Link- Government Facilities and Telecommunications Assets

<https://www.google.com/maps/d/edit?mid=1EOWkghYLxsLXEnThRqHNVr7Ns1g&ll=36.359246098162956%2C-78.432029&z=10>

Includes list of facilities with Longitude and Latitude

Appendix C – Access to Assets

If permitted by state law, Vance County may offer, with the approval of its county commissioners, access to the following facilities on a competitively neutral basis to assist with the deployment of broadband in areas of Vance County.

VCBI may provide Vendor(s) with access to a common pool of the assets, services and infrastructure to the extent available and needed by the Vendor(s) for deployment of the Network(s). Infrastructure may include, but will not be limited to, conduit, fiber, poles, substations, rack space, nodes, buildings, facilities, central office or switch locations, available land, and other assets and services identified below. Ownership of any and all such assets used by the Vendor(s) shall remain with the owner unless provided for otherwise by contract. Any network elements added by the Vendor(s) shall belong to the Vendor(s) but may be purchased at the end of the term by VCBI or an affiliate at reasonable, depreciated market value. If such network elements are not so purchased and are no longer in use, the Vendor(s) shall remove such elements at VCBI/affiliates request. VCBI and their affiliates may also offer access to additional assets, services, and infrastructure at their discretion, this will be determined during the negotiation process with the vendor.

VCBI and its affiliates may charge Vendor(s) as may be authorized or required by law for access to VCBI assets and infrastructure as set forth herein or as otherwise may be required by law. If the response from the vendor indicates funds are required for the design, construction, engineering, project management of the aggregation network or last mile services, VCBI and its affiliate, subject to applicable North Carolina law, will consider provision of these funds.

The County owns several properties that are part of the available assets. These are attached at the end of the RFP.

Appendix D: Fiber Construction Specifications

The following are general terms that apply to the construction of fiber to the premise within the or in the area surrounding the City of Henderson and Kittrell and Middleburg Townships and for routes to connect Vance County Government Offices.

These build specifications apply to all new fiber builds contained in this RFP whether directly owned by the VCBI, leased dark strands by the VCBI or built within the City of Henderson and within the Township Limits of Kittrell and Middleburg and owned by a vendor to serve the citizens, businesses and government.

Colocation Space Availability

VCBI may decide lease rack or caged spaced at (interconnection address) to house electronics for traffic that will go upstream from the VCBI Hub. Fiber construction/self-provisioning vendors should provide detailed information on access and cross-connect policies and arrangements for power and telephone service at (interconnection address).

Meet-me Hole and Mid-Span Interconnection Splicing

It is possible that VCBI may want to interconnect with the existing or newly planned carrier facilities at meet-me manholes or mid- span splice locations. Vendors should detail policies and guidelines that document meet-me manhole and mid-span interconnection procedures along with detailed costs for these activities.

Dark Fiber Performance

VCBI prefers newly built fiber that contains a homogenous fiber type throughout the entire build. It is currently anticipated that fiber utilized for the self-provisioned fiber proposal will be G.652.D fiber.

Dark Fiber Maintenance

Operations and Maintenance Practices: VCBI will require on-going maintenance and operations of any VCBI IRU'd or owned fiber for at least the first 5 years of the life of the self-provisioned fiber. When pricing maintenance and operations, the vendor should include an overview of fiber maintenance practices including:

- Routine maintenance and inspection
- Scheduled maintenance windows and scheduling practices for planned outages
- Fiber monitoring including information on what fiber management software is used, what fiber monitoring system is used, and who performs the monitoring
- Handling of unscheduled outages and customer problem reports What service level agreement is included, and what alternative service levels may be available at additional cost
- What agreements are in place with applicable utilities and utility contractors for emergency restoration
- Repair of fiber breaks
- Replacement of damaged fiber
- Replacement of fiber which no longer meets specifications
- Policies for customer notification regarding maintenance
- Process for changing procedures, including customer notification practices

The pricing for dark fiber maintenance should include the annual cost per linear mile for dark fiber maintenance and operations.

NEW BUILD FIBER STATEMENT OF WORK

The Work is defined as:

Project Management

- Selected contractor and its subcontractors will provide all project management to accomplish the installation of all project work as outlined in the Statement of Work.
- Provide engineer(s), certified on selected fiber system specifications and procedures to manage all phases of project as outlined in this proposal. This includes ordering and managing the bill of materials as outlined below, directing and managing cable placement and restoration, directing and managing splicing crews and providing detailed documentation at the end of the project.
- Selected contractor and its subcontractors will develop a project management plan, which will include a milestone chart. The milestone chart will outline any critical path events and then track these with the appropriate agency/organization whether; selected contractor, a selected contractor subcontractor or (Vendor name)

Material Management

- Selected contractor and its subcontractors will provide all material management to ensure that the project remains on track according to the project milestones.
- Selected contractor and its subcontractors will develop in conjunction with selected contractor plants and other suppliers a material management plan.

Property Restoration

- All cable routes, which are plowed, will be restored to as near to original condition as possible.

Install overhead and underground fiber optic cable.

- Bore approximately (Number) feet of fiber optic cable through inner duct/conduit/hand hole system
- Plow approximately (Number) feet of fiber optic cable in accordance with selected contractor installation specifications.
- Install customer approved hand-holes and place marker/locator posts.
- Customer will provide entry/exit holes into buildings for routing cables to distribution frames unless otherwise noted.
- (Vendor name) will provide specific details of cable placement using aerial photography and cad drawings.

Install and Splice Hardware at Head Ends and in the Field

- Install optical hardware and splice field cable to equipment tail at head ends and splice tail to pre-stubbed hardware with SC pigtails.
- Prep closures, cables, fibers and splice fibers at all field locations
- Fiber to fiber fusion splicing of optical fibers at each point including head ends.
- Individual splice loss will be ≤ 0.10 dB for single-mode unless after 3 attempts these values cannot be achieved, then the fibers will be re-spliced until a splice loss within 0.05 dB of the lowest previous attempts is achieved. Splice loss acceptance testing will be based on the fusion splicer's splice loss estimator.

Total Project Splices: (number)

Final Testing

- In addition to splice loss testing, selected contractor will perform end-to-end insertion loss testing of single-mode fibers at 1310 nm and 1550 nm from one direction for each terminated fiber span in accordance with TIA/EIA-526-7 (OFSTP 7). For spans greater than 300 feet, each tested span must test to a value less than or equal to the value determined by calculating a link loss budget.
- Inspect each terminated single-mode fiber span for continuity and anomalies with an OTDR at 1550 nm from one direction in accordance with OTDR operating manual.

Documentation

- Provide final documentation consisting of:
 - o Route "As-Built" Maps/Diagrams
 - o End-to-End Insertion Loss Data
 - o OTDR Traces
 - o Individual Splice Loss Data

General Scope of Work (Description of all routes)

- Placing approximately (Number of Feet) of new (fiber count) SM cable to provide bored fiber connectivity in route that is used to provide connectivity to (Vendor's eligible facility).
- Placing approximately (Number of Feet) of (fiber count) SM underground cable along Wildlife Road from the route to Vendors Eligible Facility to reach (vendor eligible facility).
- Placing approximately (number of feet) of buried (fiber count) SM fiber from an existing handhold at (address) to vendor eligible facility.
- Placing approximately (number of feet) of buried (fiber count) SM fiber from an existing handhold at (address) to vendor eligible facility.
- Placing of associated hand holes, marker posts, locator posts, inner duct, and miscellaneous materials.
- Splicing of fiber optic cables as specified.
- Procuring and Provisioning of hand holes and miscellaneous materials required to accomplish the above.

Bid Specifications

- All fiber will be bid separately by the Owner in addition to turn-key including fiber and construction.
- All splicing shall be by the fusion method.
- All splicing enclosures and Hand Holes shall be of a type to be determined by the owner.
- All Hand Holes shall be (State) DOT approved, 45,000 lb. load rated CDR or comparable enclosures.
- All plowed cables shall be placed at a depth of 36" along roadways and 24" on private property.
- All road and driveway bores shall be at a depth of 36" and will have a 2" inner duct placed within.
- All buried splice locations will be marked with a locator post and a copper ground wire shall be attached to the splice closure/cable sheath.

- Buried marker posts shall be placed every 1500’.
- A warning tape shall be placed 12” above the buried cable.
- All highway shoulders, schoolyards, and ditch lines will be compacted and restored to satisfactory condition.
- All DOT encroachment permits, railroad encroachment permits, and National Park Service permits shall be submitted by (Vendor) in accordance with the permitting agency requirements.
- The vendor shall be responsible for the payment of any permitting fees and shall be the owner of said facilities.
- Contractor shall furnish an as-built drawing to the owner.
- Contractor shall perform an end-to-end continuity and loss test on each spliced fiber segment and provide the owner with the db loss of each fiber segment.
- Contractor shall be responsible for submitting the appropriate ULOCO locate requests.
- The vendor, the (Vendor) of (name) and the municipalities of (name) and (name) shall grant contractor right of way permission for municipal-owned properties and roadways.
- All cables to buildings shall be fusion spliced within a minimum of 50’ of entering a building at a location to be determined by the owner with an existing single mode fiber and terminated at customers rack.
- A minimum of 100’ coil of cable shall be left in each Hand Hole/Building for splicing use.
- The (Vendor) shall provide the contractor with secured space to store materials and equipment if needed.

Right-of-Way Acquisition & Permitting

- Vendor is responsible to ensure that all cable routes have approved access & rights-of-way for all proposed cables installations.
- Vendor will provide any information or points of contact to allow selected contractor and its subcontractors to facilitate the route prep “Make-ready” and actual cable installation.
- Vendor is responsible for pulling all required construction permits. Selected contractor and its subcontractors will provide officials at (Vendor) with any information necessary to pull these permits in a timely fashion.

Route Maps

- Vendor is responsible for providing; maps, drawings or aerial photographs of the route.

Termination and Splicing locations

- Vendor will in conjunction with selected contractor designate/decide on all termination locations, whether in-building, outside plant or in customer premises. This will include all hand-hole or manhole locations
- Vendor will in conjunction with selected contractor designate/decide on all field splice locations, in-building splice locations (if applicable), or other splice locations necessary to connect the network.

Cable and Hardware Approval

- Vendor will approve all cable and hardware prior to ordering or installation. Selected contractor will provide any required consultation to assist vendor in this effort.

- Vendor will approve all hand-hole or building entrance hardware prior to ordering or installation. Selected contractor will provide any required consultation to assist vendor in this effort.

Material Delivery, Receipt & Storage

- Vendor will provide warehouse or yard space to accommodate all materials provided by selected contractor to accomplish this project. Vendor will inspect, receive and issue any materials to provide accountability. This will reduce the overall cost to the vendor with no added costs being placed into the proposal to cover the receipt and storage.

Final Inspection

- Vendor will provide at their discretion a person(s) to witness any final testing or construction verification. The person designated by Vendor will be required to initial/provide acceptance of any results. This person(s) will represent Vendor during any and all acceptance testing. This does not relieve the selected contractor from providing agreed upon documentation or absolve the selected contractor of any warranty support.

Communications

- Vendor is responsible for all communications with its customers or other interested parties concerning the proposed construction. Notification of any person(s) affected by this construction is the responsibility of Vendor. Selected contractor will work directly with any persons designated to handle project communications to facilitate awareness and reduce turmoil in the Vendor. Selected contractor will provide consultation to assist in the development of a communications plan as required.

HENDERSON-VANCE COUNTY PROPERTY LISTING

Property listings for County-owned and joint City-County owned properties can be viewed at:

<http://www.vancecounty.org/property-listing/>

Access to these properties as part of specific need included in a broadband proposal may be obtained through the City-County. Examples of a specific need include proposal to place a communications tower, placement of a communications hut, etc.