

AGENDA
NELSON COUNTY BROADBAND AUTHORITY
September 13, 2016

**THE MEETING CONVENES AT 1:00 P.M. IN THE
GENERAL DISTRICT COURTROOM, OF THE COURTHOUSE, LOVINGSTON**

- I. Call to Order**
- II. Public Comments**
- III. Consent Agenda**
 - A. Resolution – R2016-05** Minutes for Approval
- IV. Presentation –** Broadband Planning Project, Design Nine (A. Cohill)
- V. New/Unfinished Business**
 - A.** Network Operator’s Report
 - B.** Treasurer’s Report
 - C.** County Administrator’s Report
 - D.** Proposed Modifications to Wholesale Rate Structure
- VI. Other Business (As May Be Presented)**
- VII. Adjournment**

**RESOLUTION R2016-05
NELSON COUNTY BROADBAND AUTHORITY
APPROVAL OF MEETING MINUTES
(July 12, 2016)**

RESOLVED, by the Nelson County Broadband Authority that the minutes of said Board meeting conducted on **July 12, 2016** be and hereby are approved and authorized for entry into the official record of the Broadband Authority meetings.

Approved: September 13, 2016

Attest: _____, Secretary
Nelson County Broadband Authority

July 12, 2016

Virginia:

AT A REGULAR MEETING of the Nelson County Broadband Authority Board at 1:00 p.m. in the General District Courtroom located on the third floor of the Nelson County Courthouse, Lovingston Virginia.

Present: Thomas H. Bruguere, Jr. West District
Allen M. Hale – Chair
Thomas D. Harvey, North District – Vice Chair
Larry D. Saunders, South District – South
Gary W. Strong – Central District
Stephen A. Carter, County Administrator
Candice W. McGarry, Secretary
Debra K. McCann, Treasurer
Susan Rorrer, Director of Information Systems

Absent: None

I. Call to Order

Mr. Hale called the meeting to order at 1:00 PM with four (4) members present to establish a quorum and Mr. Harvey joining the meeting shortly thereafter.

II. Public Comments

1. Philip D'Ambola, Afton VA

Mr. D'Ambola inquired about the Ting 1GB service that had been previously discussed and Mr. Carter noted that it was still being worked on and took time to implement. Mr. D'Ambola stated that offering this service should be a no brainer since the cost was the same for 50MB service. He then asked if the cost of \$109.95 was set by the NCBA. Mr. Carter advised that this was not set per the NCBA and Mr. D'Ambola stated that the NCBA should go after this service offering.

Mr. Carter explained that the NCBA and staff were working on a planning project and an outcome of that was an overhaul of the rate structure that would encompass a 1GB service offering. Mr. Hale further explained that the NCBA owned the network; but was not the Internet service provider and they were the ones that set the prices. He added that the NCBA charged the service providers to use the network and the NCBA set those costs.

Mr. D'Ambola then stated that he was asking the NCBA to speed up this process so that the service provider can provide the 1GB service for \$20 less per month. He added that he was representing sixteen (16) other people in his area.

Mr. Carter noted that the NCBA was not endeavoring to hold it up. Mr. Hale then asked for clarification on the status regarding the 1GB service from Ting and Ms. Rorrer advised that part of the Design 9 work was to establish a new rate schedule that would allow for the sale of that particular product. She added that this

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needed to be finalized and moved to public hearing. She noted that in the past, use of the proposed rates had been authorized to be used prior to it being adopted by the NCBA. Mr. Carter added that staff had just gotten the new rate schedule proposed by the consultant and Ms. Rorrer noted that the new schedule would allow any provider to offer the 1GB service.

2. Joe Lee McClellan, Lovington

Mr. McClellan agreed that the situation was that the rates would not allow for the 1GB service. He added that he was not sure the network would allow for it and Ms. Rorrer noted that the network was capable of up to 1GB service.

Mr. McClellan then distributed his comments to the Authority members as follows:

- Nelson Cable, is continuing its effort to help the NCBA become self-sustaining.
- Nelson Cable continues to have its employees answer potential Internet customer's questions and to go door-to-door to solicit business and explain the NCBA Network procedure.
- We still need a 24/7 telephone number to call for support in the event of an outage.
- Foster Fuels was recently connected, but we still have many more NCBA Internet customers, who are waiting to be installed by the NCBA contractor. Two are the Calvary Baptist Church and the Ridgecrest Baptist Church, who we submitted several months ago and another is the Lovington Volunteer Fire Department. We do not charge for our portion of the monthly Internet cost to Churches and First Responders, only the NCBA's monthly portion.
- Nelson Cable needs to know of any Special Deals made in subdivisions and backbone extensions. We are having to refund \$2,848.00 to Internet customers who paid us for the installation, based on the NCBA Contractors quote, plus we added \$400.00 for the NCBA cost. We were not aware of the \$1,200.00 that had to be added for the NCBA Backbone. This makes us look bad, when we are not able to provide the correct installation information.
- Nelson Cable needs to know whenever there is a new Internet Provider or one leaves the NCBA Network. We inform potential Internet customers of all their options and we wish to provide complete accurate information.
- Nelson Cable would like to be able to utilize the NCBA's conduit, for its fiber, on the same terms and conditions as any other entity.

III. Consent Agenda

Mr. Strong moved to approve the consent agenda and Mr. Bruguire seconded the motion. There being no further discussion, Members voted unanimously (4-0) by roll call vote to approve the motion and the following resolution was adopted:

A. Resolution – R2016-04 Minutes for Approval

**RESOLUTION R2016-04
NELSON COUNTY BROADBAND AUTHORITY
APPROVAL OF MEETING MINUTES
(May 10, 2016)**

RESOLVED, by the Nelson County Broadband Authority that the minutes of said Board meeting conducted on **May 10, 2016** be and hereby are approved and authorized for entry into the official record of the Broadband Authority meetings.

IV. New/Unfinished Business

A. Network Operator's Report

Mr. Carter noted that Ms. Rorrer had prepared the following report:

I. Operational

Installations:

May	3
June	4

Active Circuits:

Ting	132
Shentel	3
Nelson Social Services	1
Nelson County Cable	23

TOTAL 159

In Process (Horizons Village) 18 (Service) and 3 (Backbone Only)

Other Pending Installations: 18

II. Administrative

Currently working with five neighborhoods that would add an estimated 100 customers on the initial neighborhood build as well as approximately 12 additional individuals seeking service.

III. Financial

Attached

Ms. Rorrer reviewed the report and noted that some of Horizons Village was turned up and the majority would be within the week. She noted that the eighteen pending installations had signed contracts, but the construction had not been done yet. Ms. Rorrer added that she was working with five neighborhoods and

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that would add about 100 new customers. She noted that she was also speaking with twelve others who wanted service. She note that there was a lot of activity and most of it was on the original build routes.

Mr. Strong asked if the new neighborhoods included Shannon Farms and Ms. Rorrer noted it did not and Mr. Strong advised he had referred them to her.

Ms. Rorrer then reported that another component of the rate structure overhaul included the use of all of the County's towers for a flat rate of \$2,000 per month. She added that SCS Broadband was interested in getting a sense of whether this would be offered by NCBA and would like NCBA to comment on that strategy. She noted that this change would also be subject to public hearing. Mr. Carter further explained that this would pertain only to wireless ISPs and the strategy was to encourage wireless internet service providers (WISPS) to use all of the towers to enhance the provision of services. He added that this would be cheaper for them as well and would allow them to start out with a fewer number of customers and build out. He noted that they would be limited to a certain space on the towers; however staff had not yet gotten into these details. He noted this was because space maybe reserved for public safety and cellular carriers.

Mr. Harvey asked what the normal rate was for a tower and Ms. Rorrer noted it to be around \$700 per month. It was noted that SCS Broadband claimed that tower rates had come down recently. Mr. Carter then noted having negotiated with AT&T on the Rockfish Tower and that would cost them about \$2,000-3,000 per month. Ms. Rorrer added that pricing was complicated because it was based on how many antennas you had and the cost declined as you moved lower down on the tower.

Mr. Hale noted that the planning work group had discussed this with Design 9 and noted he was in favor of anything that encouraged WISPS to provide services. He then noted that the Board of Supervisors would be asked to endorse this concept and a public hearing would be held.

Mr. Strong noted that any encouragement for WISPS to use more towers was a great opportunity and he saw no downside to it.

Ms. Rorrer advised that there were six or seven towers presently available and this included public safety towers, NCBA towers, and the Gladstone tower. She added that they would reserve the top for public safety and would have to decide if the next spot was saved for cellular carriers. Mr. Harvey noted he agreed with reserving the top for public safety; however he was not sure about reserving the next space for cellular carriers. He added that he did support the proposed concept.

Mr. Carter then advised that they were looking to schedule a workshop on all of these things in August and Mr. Hale noted that with the other things being so complicated, perhaps they could move forward separately on the towers. Members agreed by consensus and Mr. Carter noted that could be put together and advertised. He noted that Design 9's analysis showed that they would not recognize the same amount of revenue immediately, but would over time.

Mr. McClellan stated that they should be charged the same as the WISPS and Ms. Rorrer reiterated the proposed tower pricing strategy.

Mr. Harvey then noted that the Design 9 presentation was forthcoming and Members needed to be brought up to speed.

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B. Treasurer's Report

Ms. McCann reported the following:

BROADBAND FUND @ 6/30/16

OPERATIONS

Beginning Balance 7/1/2015	\$ 406,277.36
July-September 2015 Expenditures	\$ (79,119.71)
July-September 2015 Revenues	\$ 44,958.22
October-December 2015 Expenditures	\$ (92,258.60)
October-December 2015 Revenues	\$ 83,166.95
January-February 2016 Expenditures	\$ (34,346.27)
January-February 2016 Revenues	\$ 34,378.61
March-April 2016 Expenditures	\$ (69,618.62)
March-April 2016 Revenues	\$ 64,642.62
May-June Expenditures	\$ (123,678.77)
May-June Revenues	\$ 22,319.01
Subtotal	\$ 256,720.80
General Fund Transfer	\$ 150,000.00
Ending Balance 6/30/2016	\$ 406,720.80

Current Year Revenue Exceeds Expenses by \$ 443.44

EXPANSION PROJECT

Beginning Balance 7/1/2015	\$ 38,957.00
July-September 2015 Expenditures	\$ (137,192.00)
July-September 2015 Revenues	\$ 138,188.80
October-December 2015 Expenditures	\$ (14,237.50)
October-December 2015 Revenues	\$ 45,377.76
January –February 2016 Expenditures	\$ (26,708.50)
January-February 2016 Revenues	\$ 0.00
March-April 2016 Expenditures	\$ (70,366.50)
March-April 2016 Revenues	\$ 43,659.40
May-June 2016 Expenditures	\$ (44,760.20)
May-June 2016 Revenues	\$ 22,351.60
Ending Balance 6/30/2016	\$ (4,730.14)

SUMMARY OF FUND BALANCE

Project Funds	\$ (4,730.14)
Amortized Installation Fund	\$ 46,236.80
Operational Funds	\$ 360,484.00
Available Bank Balance @ 6/30/2016	\$ 401,990.66

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Note:	Grant Balance	\$50,422.44
	Project Budget Balance	<u>\$45,692.30</u>
		\$4,730.14

Ms. McCann noted that the May-June expenditures were higher due to installation expenses and the purchase of equipment. Mr. Hale then asked if it was safe to assume revenue will increase with new connections and it was noted that the year to date revenues included the transfer from the General Fund.

Ms. McCann also provided a report that showed the following regarding the Broadband Network Operating Fund:

The Broadband Network Operations report showed year-to-date expenditures (July – June) of \$399,021.97 for Network Operations, with there being an unencumbered balance of \$43,383.03 and a Contingency Reserve remaining of \$55,195.00. The Revenue Summary for Network Operations showed year-to-date revenues of \$249,465.41 and a balance of -\$28,615.41 meaning revenues came in that much more over the appropriated amount in the budget. The report also showed the revenues transferred in from the General Fund of \$150,000 and the transfer in from the CDBG fund of \$399,577.55 and a balance of \$50,422.44. The Year Ending Balance was shown at \$165,707.00.

C. County Administrator's Report

1. Broadband: A) Expansion Project - Phase 1 (Routes 6 & 151 at Martins Store to Routes 151 and 664) is completed (as of July 1st The project contractor, CCTS, is working to complete installations along Phase 1, including Horizons Village (17-21 connections), Devils Backbone Brewery (connected), Bold Rock Cider (connected). Permit applications to VDOT for Phase 2 (Route 151 north to Albemarle County Line) and Phase 3 (Routes 6 and 151 to Saddleback Lane on Rt. 6) have been submitted and VDOT review comments are being addressed. It is anticipated that work on Phase 2 will begin the week of July 11th. A potential issue with Phase 3 is VDOT may only have a 'prescriptive easement" in the Route 6 project area, which may require obtaining approvals from property owners along the project route.

There are currently 159 service connections, 34 service connections in process and a significant number of interest statements for service and requests for quotes that are also in process. The NCBA's FY 17 Budget projects the addition of 85 new connections. It is quite possible or probable that this is a conservative estimate!

Mr. Carter reported that VDOT approval had been obtained for Phase II, and the County would have to secure easements on Phase III because VDOT only had prescriptive easements there and not a Right of Way as researched by Mr. Payne. He added that if VDOT approved the project it would be with the County confirming that the easements were in place. Mr. Carter noted that documentation had been submitted to VDOT for relocation of the fiber network in that area and they have been asked to cover those expenses.

Mr. Harvey suggested they look at running fiber from where it ended on Route 151 and come down. He also suggested that they go through the old Critzer Family Farms to Saddleback Lane from Route 151.

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Mr. Carter then wanted to ask permission from NCBA to provide services to Albemarle customers not using the discount or amortization; as he had received several requests for services just across the line.

Mr. Hale suggested that if phase II was running to the County line, they could cut over to Route 6 from there and this should be evaluated to see if it would be quicker. Mr. Carter advised that there was a great deal of interest on Route 6 for service and Mr. Harvey agreed even though the route he suggested would be quicker. Mr. Carter reported that the run to the County line would take 2-3 days and the one up to Saddleback Lane would take a couple of weeks. He then added that staff had submitted plans to VDOT and have had to address comments three times; which took more time than if they provided all of their comments at once. Mr. Harvey added that this needed to be addressed with VDOT.

B) Broadband Planning Project - The project remains in process (longer than anticipated). Specific outcomes which will be action recommendations to the NCBA include: 1) re-structuring of the current fee/rate schedule, 2) improvements to the overall tower network, 3) market demand (based) growth model, 4) unbundling network operations from retail services.

The project may entail additional strategies as an outcome of 1) possible agreement with Shentel for the company's use of the local middle mile (fiber) network and 2) a forthcoming announcement from CVEC of the ability of broadband service providers to utilize the Cooperatives infrastructure free of make ready expenses (i.e. no cost) to deploy broadband services.

Mr. Carter noted that improvements to the overall tower network included adding some equipment that would cost about \$100,000. He also noted that Design 9 had outlined using a strategy of expanding where the demand was aggregated.

Mr. Carter noted that in terms of network operations, an RFP would likely be issued and Ting may or may not respond. Mr. Harvey then asked for clarification on the process of getting service. Mr. Carter noted that the Network Operator was supposed to handle this; however Ms. Rorrer took many calls and all inquiries coming in to the Tourism Office were sent to all of the ISPs. He added that Ting had an online system that took interest and then quotes were solicited from the installer, CCTS and they worked with the customer directly.

Mr. Carter emphasized that there were a lot of good things happening and it was a lot to keep up with. He added that Ting still had the largest customer base; however with the change in ownership they were being run from Canada.

Mr. Carter then reported that Shentel had approached the County several times with proposals and now they were proposing an IRU with the County to install their fiber in the County's conduit. He advised that the initial proposal was for \$2 per foot and now they were offering \$4 per foot; which was close to half a million dollars. He noted that he had submitted their proposition to NTIA and they had answered questions and sent back a list of things the County would need to address in order to seek either a waiver or approval to negotiate an agreement with Shentel. He added that staff would have to bring this back and he thought the offer should be increased; however it was subject to negotiation. He then supposed that if the offer was half a million or more, it may be worth entertaining and could be beneficial to expansion. He noted that there should be no disruption in service while they pulled their fiber into the conduit. He reiterated the need to evaluate the feasibility of the offer and to work on it with NTIA. He noted that Shentel wanted to be

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able to provide fiber connectivity to its newly acquired Ntelos towers, to its headquarters, and over to Amherst; serving larger clients on route.

Mr. Strong noted he would like to see NTIA's comments and Mr. Carter noted he would share them with the Members. Mr. Carter advised that if NTIA required details then Shentel will have to be specific about what they wanted to do.

Mr. Harvey suggested that they put as much effort into wireless as they have fiber since it was the fastest way to reach the most people and those that would never get fiber. Mr. Hale noted he agreed completely and he thought they should consider Shentel's offer so they could have the funding to expand. He added that he thought they should expand in Shipman and in Faber and noted that there was a wireless tower on the Shipman water tower now serving people that the fiber backbone would enhance.

Mr. Strong advised that a hybrid approach has been discussed with Design 9. He noted that SCS Broadband (wireless) could not provide services in heavily wooded areas and in some cases it may be possible that they could run fiber from the tower to those in areas with a lot of trees.

D. Approval of FY17 Budget

Ms. McCann reviewed the highlights of the FY17 NCBA Proposed Budget as follows. She noted that the overall budget proposed in FY17 reflected a decrease of \$296,329 of which \$288,957 was due to the substantial completion of the network expansion project.

Highlights of FY17 proposed expenditures:

- 1) The proposed budget anticipates only \$50,000 in remaining expense for the network expansion project.
- 2) The proposed budget includes an increase of Director fees and mileage in the amount of \$1,050 primarily due to more frequent meetings.
- 3) Professional Services reflects a budgetary increase of \$5,000 primarily due to legal expense.
- 4) The proposed budget includes \$4,000 for Advertising and marketing the network.
- 5) Utility expense reflects a budgetary increase of \$15,000. Utility expense includes locating services, electric, and VUPS (Miss Utility) costs. The actual expense in FY16 was approximately \$43,000 and we expect a similar trend in FY17.
- 6) Equipment expense in FY16 was approximately \$35,000 but with an increased customer base of approximately 85 customers from the network expansion, the FY17 proposed budget amount is \$45,000.
- 7) Installation expense includes \$25,000 for installations that will be paid upfront, \$86,549 for amortized installations (6/30 balance in the fund plus anticipated FY17 receipts of \$37,549), and \$63,750 for the discounted expense for which the Authority receives no reimbursement (85 installs at \$750 discount per end user). The overall installation expense reflects a reduction from FY16 of \$18,751 primarily due to reduction in the remaining funds allocated for amortized connections offset by anticipated 85 new

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installations. The balance in the amortized fund at 6/30/16 is approximately \$49,000 as compared to \$126,750 at 6/30/2015. In FY16, NCBA disbursed \$93,370 from the amortized connection fund. At some point in FY17, NCBA will likely need to consider other sources of funding to upfront the amortized costs or re-evaluate offering this connection incentive.

8) In FY16, the budget included \$50,000 for development of a network strategic plan. Approximately \$28,000 has been expended, and the remaining \$22,000 is included in the FY17 proposed budget.

9) The budget includes a contingency of \$69,524.

Highlights of FY17 revenue projections:

1) The budget incorporates a transfer from the CDBG Fund which reflects the remaining grant funds due the county (\$50,423).

2) The Transfer from the General fund includes \$100,000 for operations.

3) Network access charges are expected to increase by \$35,125. This is based on the current customer base and projects 85 new end user customer circuits.

4) The budget for Tower Leases is expected to increase by \$10,971 based on current leasing of tower space.

5) Installation reimbursement is expected to increase from the FY16 budget amount by \$22,249. The FY17 projected is based on 20 new upfront paid installations (\$25,000) and current amortized customers (\$28,800) with 65 anticipated new amortized installations (\$8,749).

6) Typically year ending balance represents the anticipated balance of the amortized connection funding. The balance of the fund as of June 30, 2016 is \$49,000. Additional fund balance of \$22,000 reflects funding for the strategic plan carried over to FY17. The remaining local match for the CDBG grant in the amount of \$29,611 is also included in the year ending balance. Total fund balance incorporated into the FY17 budget is \$100,611.

Ms. McCann then advised that the budget was a working document and did not require appropriation. She noted that any unforeseen budgetary matters could be addressed as the year progressed.

Mr. Hale then called for a motion to approve the budget and Mr. Bruguiere moved to approve the budget as presented. Mr. Strong seconded the motion and there being no further discussion, Members voted unanimously (4-0) by roll call vote to approve the motion.

E. Proposed Lease of County Owned Conduit Space

This subject was considered under the County Administrator's report.

V. Other Business (As May Be Presented)

Mr. Saunders inquired if staff had followed up on a service request from Centenary Road and Mr.

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Carter noted that Ms. Rorrer had been out of the office the previous week and Mr. Crane had left the person a message. He advised that he would follow up. Mr. Hale then noted that in follow up to the marketing effort, staff should endeavor to provide timely answers to questions. Ms. Rorrer and Mr. Carter noted that there was a lot of communication that went on and sometimes it was not a quick process.

VI. Adjournment (Possible Continuation for a Workshop with Design Nine)

Mr. Hale asked if Mr. Carter had a date to continue to and Mr. Carter advised that the meeting could take a couple of hours and he suggested the Authority have a called meeting after conferring with everyone and Design 9. He noted that the public hearing on the rates would not be the following month as it was a lengthier process. Mr. Strong then advised he would not be available from August 18th to August 26th. Mr. Carter noted he would speak to Dr. Cohill and see if he could include his presentation in the September meeting. Mr. Hale noted that they needed a time when the whole Board could be involved and he would look forward to a possible called meeting.

Mr. Saunders then moved to adjourn. There being no second, Mr. Hale called for the vote and at 2:05 pm, Members voted unanimously by voice vote to approve the motion and the meeting adjourned.

DRAFT

Executive Overview of Broadband Study

PRIORITIZED BUILD OUT PLAN

The existing fiber network (the original fiber build and the recent extensions) give the Nelson County Broadband Authority an opportunity to provide improved broadband to much larger areas of the county. Our recommendations are:

- Make any minor changes needed on existing county towers and adjust pricing to make tower access more affordable for wireless ISPs. This approach can quickly bring improved broadband to many areas of the county currently suffering from poor service. It may be desirable for NCBA/County to add new towers in areas of the county with very poor coverage. Any new tower expenditures should be closely coordinated with public safety tower needs to avoid duplication of tower assets.
- Use a market demand-based approach to accelerate fiber service to more areas of the county more quickly. NCBA should use an enhanced version of the current Web-based survey (demand based build out) to identify new fiber extension areas, coupled with increased marketing and awareness campaign. NCBA should use minimum threshold take rates in identified areas of demand to guarantee revenue prior to funding construction.
- Continue to use the one time construction fees to help finance the build out, coupled with increased marketing/awareness of the ability for new customers to pay this fee over time.
- Re-negotiate or re-bid the current operations contract to remove the conflict of interest with the operator also an ISP on the network (and competing with other providers).

RATE STRUCTURE ADJUSTMENTS

The current rate structure should be adjusted for both fiber services and tower access. NCBA's path to financial sustainability must be based on attracting more residential and business customers to the network. Providers are asking for more competitive rates, and lower wholesale rates should translate into more customers and higher revenue overall.

- Make adjustments to the fiber rate structure to focus on residential Gigabit wholesale service to give providers a “premium” service to market and to help highlight the higher quality of fiber-delivered services. Providers would continue to have the option to offer lower speed options (e.g. 25 Meg down, 5 meg up).
- Provide two types of “business class” (e.g. Tier Two) services that provide both higher speeds and more attractive pricing.
- Reduce the cost of Wide Area Network (WAN) services to make them more attractive options.
- Offer provider discounts based on total monthly volume to provide incentives for ISPs to market their services more vigorously.
- Offer a second tier of Tower Access prices that make WISP use of county towers more affordable (base pricing on antenna/radio weight to avoid provider discrimination).

NCBA Proposed Service Types				
	Service Class	Service Type	Recommended Wholesale Cost	Comment
Tier One	Residential GPON 1Gbps	1000/10 Mbps	\$27	Best Effort (maximum 32:1 split)
	Residential GPON 1Gbps	1000/10 Mbps	\$29	Best Effort, rate limited (e.g. 25/5)
	Residential GPON 1Gbps	1000/1000 Mbps	\$37	Best Effort, symmetric
Tier Two	Business GPON 100Mbps	100/50 Mbps	\$95	higher priority than Best Effort (maximum 16:1 split)
	Business GPON 250Mbps	250/100 Mbps	\$180	higher priority than Best Effort (maximum 16:1 split)
	Business GPON 500Mbps	500/250 Mbps	\$325	higher priority than Best Effort (maximum 16:1 split)
	Dedicated Business 250 Mbps	250/250 Mbps	\$275	Active Ethernet, higher priority than Best Effort
	Dedicated Business 500 Mbps	500/500 Mbps	\$425	Active Ethernet, higher priority than Best Effort
Tier Three	Wide Area LAN Service 250 Mbps	250/250 Mbps	\$325	Active Ethernet, highest priority, supports QinQ (two connections may be needed)
	Wide Area LAN Service 500 Mbps	500/500 Mbps	\$550	Active Ethernet, highest priority, supports QinQ (two connections may be needed)
	Wide Area LAN Service 1Gbps	1000/1000 Mbps	\$895	Active Ethernet, highest priority, supports QinQ (two connections may be needed)
Dark Fiber	Dark fiber pair	Two dedicated fibers	\$50/month/strand	Minimum distance charge and splicing charges apply.

NETWORK OPERATIONS AND OUTSIDE PLANT SERVICES

The current network operator is also a service provider, which creates a built in conflict of interest: the operator knows the status and service type of every competitor’s customers. This creates a disincentive for other providers to market vigorously. The kind and type of reporting currently provided by the operator does not give NCBA the right kind of information needed to track customers properly and to properly evaluate monthly revenue (amounts, type of customers, circuit types).

- Network operations should be re-bid at the expiration of the current contract. The operations Scope of Work should be re-written to ensure that the network operator is accountable for providing better detail on revenue, subscribers, outages, and other routine operations-related information.
- The new RFP should preclude selecting an on-network provider also serving as the network operator. The dual role (operator and provider) creates a conflict of interest that discourages

other providers from coming on the network. That is, the operator is also a competitor who knows every single customer of every competing provider.

LAST MILE INSTALLATION RECOMMENDATIONS

The Nelson County Broadband Authority currently provides discounts, amortization of costs and sharing of costs for both individual service connections and/or neighborhood builds that entail expansion of the middle mile network to serve the neighborhood. NCBA is already relatively sophisticated in this area. The continuous Web-based survey collects new customer prospects and is passed on to providers. NCBA is also providing a monthly payment option to new connections to make it easier for residents and businesses to pay the one time connection fee.

- The one time connection fee “payment over time” should be expanded with more marketing/awareness, especially as the new network extensions come online. Use the one time connection fee approach to develop an expanded line of credit with a local bank.
- Expand and market the current construction fee financing to make getting connected more affordable.
- Create and sustain a modest but steady awareness campaign about the availability of the network, using the Wild and Wired logo and brand name to encourage subscriber growth.
- NCBA should adopt a demand aggregation based expansion program that incentivizes whole neighborhoods to work together to bring fiber into a rural road area or a rural subdivision. NCBA can set take rates targets by neighborhood/rural road and tell residents that as soon as the target of 50% (as an example) of residents agree to the connection fee and to buy service, NCBA will expand the fiber network.
- The initial focus for last mile expansion should be the “easy” areas that are close to the existing fiber. But rural parts of the county farther from the fiber can be included by using a hybrid fiber-wireless design, with fiber in the local neighborhood/rural road and a wireless backhaul connection to a county tower.
- NCBA should continue to meet with CVEC (electric coop) to determine conditions of use for using CVEC’s “no charge annual pole attachment fees) offer. Large areas of the county are in CVEC territory, and fiber could be deployed in some of those areas at lower initial cost and lower ongoing expense by using an aerial design on CVEC poles.

AVAILABILITY OF CAF2 FUNDING

To qualify for CAF funds, NCBA would have to request classification by the Virginia SCC (State Corporation Commission) as an ETC (Eligible Telecommunications Carrier). The requirements and paperwork will require the assistance of a qualified telecom attorney.

To date, all CAF funds have been distributed to typically incumbent telco providers. Even “innovative” new CAF programs like the Rural Broadband Experiment make it difficult for efforts like NCBA to qualify (e.g. must be able to provide three to five years of audited financial statements).

The recent announcement by CVEC to provide no-fee pole attachments to any broadband provider is a more attractive option.

Other Federal programs like the USDA Community Connect were also evaluated and found to be problematic; grant conditions made it nearly impossible to identify an area of Nelson County that would qualify.

ISP AND WISP ATTRACTION

SCS, a local WISP, has joined the network and begun marketing fiber services. The company is also interested in affordable access to county tower space to offer their wireless broadband services over a larger area. Rockbridge Global Village, located in Lexington, has expressed interest in joining the network.

- Signing new providers will be easier if network operations are decoupled from the current service provider conflict.
- Providers are also interested in being able to offer a Gigabit residential service; adoption of a revised rate structure will be important in this regard. Ting has expressed a strong interest in offering a Gigabit residential service.

NCBA STAFFING AND OPERATIONS

The Authority is managed with a significant contribution from County staff, with some services outsourced to the private sector firms (e.g. break-fix, drop construction). The Authority is relatively well-managed but County staff are concerned that if the network begins to see significant customer growth (new providers and new fiber extensions bringing more customers on the network), they will not be able to keep up.

- A detailed ten year financial pro forma was developed with the proposed changes in rate structure. Multiple changes and revisions were made to the pro forma based on suggestions and comments received from County staff and NCBA. The pro forma does show a path to financial sustainability over time if NCBA is able to increase the rate of new customer connections.
- Separating the network operator function from the existing provider (Ting) and developing a revised Scope of Work for the network operator should provide significant relief to County staff.

REVIEW OF PRIORITY ACTIONS

CREATE A BUSINESS MODEL & PLAN FOR BROADBAND SERVICE

The recommended changes to the current NCBA business model include an updated rate structure, decoupling the network operator and service provider function, and using a demand aggregation-based build out strategy to accelerate network expansion. The ten year pro forma developed as part of this work does show a path to financial sustainability over time, but increased customer acquisition is critical.

CONSIDER COUNTY RUN OPERATIONS AND PRIVATIZATION OF OPERATIONS

An updated Scope of Work for network operations with a re-bid for a network operator would address many of the time and management issues currently creating a challenging workload for County staff.

While privatization of operations is possible (e.g. NCBA leases out the entire network to a single private entity), it would present some challenges.

The current cash flow and negative revenue situation would make it difficult to find a firm willing to take on the network.

The lease agreement would have to be written very carefully to ensure that the private firm continues to operate the network as a community asset. This would be difficult to achieve in the contract itself and difficult to enforce in practice.

PROMOTE AND MARKET CUSTOMER RECRUITMENT

An improved (e.g. Gigabit residential service) and simplified set of service offerings combined with the demand aggregation approach to identifying new service and expansion areas has to happen before any increased marketing and awareness.

A modest but consistent and regular marketing and awareness campaign will be needed. NCBA brand recognition and marketing has to be coupled with clearly described options for citizens, residents, and businesses to learn how they can get service.

INCREASE SERVICE AREA AS ECONOMIC DEVELOPMENT TOOL

Four changes are key to making NCBA an improved economic development tool:

- Improved and simplified rate structure that offers a residential/small business Gigabit service at an affordable price.
- Increased number of providers on the network which will lead to a wider variety of service options and increased competition.
- A well-defined build out strategy that is marketed clearly and plainly to citizens and businesses.
- Continued County financial support of NCBA until revenue exceeds costs (achievable by adding customers).

Report to Nelson County Broadband Authority

Meeting Date: 9/13/2016

Prepared by Susan Rorrer

I. Operational

Installations:

July	20
August	10
In Process	14

Active Circuits (includes July, August and In Process):

Ting	152
Shentel	3
Nelson Social Services	1
Nelson County Cable	29
SCS Broadband	18
 TOTAL	 203

II. Administrative

New Contracts 29

Currently working with two neighborhoods that would add an estimated 35 customers on the initial neighborhood builds.

III. Financial

attached

BROADBAND FUND @8/31/2016**OPERATIONS**

Beginning Balance 7/1/2016	\$ 406,720.80
July-August 2016 Expenditures	\$ (60,401.45)
July-August 2016 Revenues	\$ 42,493.00
Subtotal	\$ 388,812.35
General Fund Transfer	\$ 100,000.00
Ending Balance 8/31/2016	<u>\$ 488,812.35</u>
Current Year Revenue Exceeds Expense by	\$ 82,091.55

EXPANSION PROJECT

Beginning Balance 7/1/2016	\$ (4,730.14)
July-August 2016 Expenditures	\$ (18,244.75)
July-August 2016 Revenues	\$ 30,436.94
Ending Balance 8/31/2016	\$ 7,462.05

SUMMARY OF FUND BALANCE

Project Funds	\$ 7,462.05
Amortized Installation Fund	\$ 40,111.62
Operational Funds	<u>\$ 448,700.73</u>
Available Bank Balance @8/31/2016	\$ 496,274.40

MAJOR ACCT#	DESCRIPTION	BUDGET AMOUNT	APPR. AMOUNT	CURRENT AMOUNT	Y-T-D AMOUNT	BALANCE	REMAIN.
999	***Revenues-Broadband Network***						
1502	***Revenue from Use of Property***						
0020	Fiber Leases	4,000.00	4,000.00	1,000.95	1,000.95	2,999.05	74.97
0030	Tower Leases	88,521.00	88,521.00	1,525.00	3,050.00	85,471.00	96.55
	Revenue from Use of Property	92,521.00	92,521.00	2,525.95	4,050.95	88,470.05	95.62
1620	***Charges for Services***						
0001	Network Access Charges	118,125.00	118,125.00	5,698.34	23,261.01	94,863.99	80.30
0100	Other Network Charges	16,000.00	16,000.00	1,262.50	2,000.00	14,000.00	87.50
	Charges for Services	134,125.00	134,125.00	6,960.84	25,261.01	108,863.99	81.16
1803	***Charges for Services***						
0001	Expenditure Refunds	.00	.00	.00	1,292.56	1,292.56	100.00-
	Charges for Services	.00	.00	.00	1,292.56	1,232.56-	100.00-
1899	***Installation Reimbursements***						
0110	Installation Upfront Payments	25,000.00	25,000.00	3,422.50	3,422.50	21,577.50	86.31
0115	Installation Amortized Payments	37,549.00	37,549.00	3,011.20	8,465.98	29,083.02	77.45
	Installation Reimbursements	62,549.00	62,549.00	6,433.70	11,888.48	50,660.52	80.99
	Revenue from Use of Property	289,195.00	289,195.00	15,920.49	42,493.00	246,702.00	85.30
3201	***Grants & Transfers***						
4101	***Non-Revenue Receipts***						
4105	***Transfers***						
0100	Transfer from General Fund	100,000.00	100,000.00	100,000.00	100,000.00	.00	.00
0503	Transfer from CDBG Fund	50,422.00	50,422.00	30,436.94	30,436.94	19,985.06	39.63
	Transfers	150,422.00	150,422.00	130,436.94	130,436.94	19,985.06	13.28
	Non-Revenue Receipts	150,422.00	150,422.00	130,436.94	130,436.94	19,985.06	13.28
9999	***Year Ending Balance***						
0001	Year Ending Balance	100,611.00	100,611.00	.00	.00	100,611.00	100.00
	Year Ending Balance	100,611.00	100,611.00	.00	.00	100,611.00	100.00
	Year Ending Balance	100,611.00	100,611.00	.00	.00	100,611.00	100.00
	--FUND TOTAL--	540,228.00	540,228.00	146,357.43	172,929.94	367,298.06	67.98

MAJOR ACCT#	DESCRIPTION	BUDGET AMOUNT	APPR. AMOUNT	CURRENT AMOUNT	Y-T-D AMOUNT	ENCUMBRANCE AMOUNT	UNENCUMBERED BALANCE	% REMAIN.
94100	***Broadband Network***							
94200	***Network Operations***							
1011	Remuneration-Broadband Authority	2,625.00	2,625.00	375.00	375.00	.00	2,250.00	85.71
3002	Professional Services (NetOp)	81,600.00	81,600.00	340.00	6,680.00	.00	74,920.00	91.81
3003	Professional Services	15,000.00	15,000.00	3,712.50	6,052.50	.00	8,947.50	59.65
3004	Repair & Maintenance	7,400.00	7,400.00	2,562.42	2,562.42	.00	4,837.58	65.37
3005	Insurance	2,500.00	2,500.00	.00	2,357.00	.00	143.00	5.72
3006	Utilities Including Locates	45,000.00	45,000.00	10,760.13	11,003.77	.00	33,996.23	75.54
3007	Advertising	4,000.00	4,000.00	.00	.00	.00	4,000.00	100.00
3009	Installation Expense (Discount)	63,750.00	63,750.00	2,333.00	3,333.00	.00	60,417.00	94.77
3010	Installation Expense	25,000.00	25,000.00	.00	6,085.88	.00	18,914.12	75.65
3011	Installation Expense (Amortized)	86,549.00	86,549.00	5,229.02	10,590.16	.00	75,958.84	87.76
3012	Service Contracts	10,000.00	10,000.00	.00	.00	.00	10,000.00	100.00
5401	Office Supplies	300.00	300.00	.00	.00	.00	300.00	100.00
5501	Travel (Mileage)	450.00	450.00	19.76	19.76	.00	430.24	95.60
7007	Equipment	45,000.00	45,000.00	7,275.88	7,275.88	.00	37,724.12	83.83
8112	Tower Leases	9,530.00	9,530.00	.00	.00	.00	9,530.00	100.00
8500	Network Strategic Plan	22,000.00	22,000.00	4,066.08	4,066.08	.00	17,933.92	81.51
	Network Operations	420,704.00	420,704.00	36,673.79	60,401.45	.00	360,302.55	85.64
94500	***CDBG EXPANSION 2015***							
3140	Design Drawings	402.00	402.00	.00	.00	.00	402.00	100.00
3160	Construction	47,958.00	47,958.00	15,295.00	15,295.00	.00	32,663.00	68.10
3170	Permit Fees & Misc.	1,640.00	1,640.00	.00	.00	.00	1,640.00	100.00
8203	Materials	.00	.00	2,949.75	2,949.75	.00	2,949.75	100.00
	CDBG EXPANSION 2015	50,000.00	50,000.00	18,244.75	18,244.75	.00	31,755.25	63.51
	Broadband Network	470,704.00	470,704.00	54,918.54	78,646.20	.00	392,057.80	83.29
999000	***Contingency***							
9901	Contingency Reserve	69,524.00	69,524.00	.00	.00	.00	69,524.00	100.00
	Contingency*	69,524.00	69,524.00	.00	.00	.00	69,524.00	100.00
	Contingency	69,524.00	69,524.00	.00	.00	.00	69,524.00	100.00
	--FUND TOTAL--	540,228.00	540,228.00	54,918.54	78,646.20	.00	461,581.80	85.44

8 September, 2016

To: Nelson Count Broadband Authority
From: S. Carter, County Administrator
Re: Report for September 13, 2016 Meeting

Staff's brief report for the Authority's September 2016 meeting includes the following subjects:

1. Broadband Planning Project: The planning project is nearing completion. Specific outcomes/recommendations will be presented to the Authority on 9-13 by Dr. Andrew Cohill of Design Nine, the project's Blacksburg based consultant firm. The agenda includes a five page Executive Summary, which Dr. Cohill will reference in his presentation. The project has been a significant, multi-faceted undertaking. **It is recommended that the Authority schedule a work session(s) (through a continuation of the 9-13 meeting) to discuss in detail the project's recommendations and to provide County staff with direction/guidance on next steps associated with the completion of the planning project. The proposed work session is deemed a critical next step in completing the planning project and, more importantly, in the Authority's ensuing operations.**

2. Middle Mile Expansion (CDBG) Project: Phase 1 and, most recently, Phase 2 have been completed with requests for service being received and addressed. The VDOT permit for Phase 3 (Intersection of Route 6 and 151 at Avon west on Route (Afton Mountain Road) to Saddleback Farm (entrance to Veritas Winery and Saddleback Subdivision) was approved on 9-7. CCTS the project's installation contractor will begin work to complete Phase on 9-13. A 2 to 4 week completion schedule is anticipated.

3. Subscription Levels: Staff will endeavor to report on current and projected subscriber levels at the session on 9-13.

4. Shentel: The company has not provided any additional information on its previous phone and email inquiries proposing to lease space in the fiber network's conduit infrastructure. The most recent communication was 2+ weeks ago and pertained to input from Shentel staff that they would be conferring with CCTS, NCBA's Outside Plant Contractor, on the capacity of the conduit infrastructure to contain two additional 144 count fiber optic cables. Input from County staff to Shentel was to caution them on concluding that the company's proposal (a formal proposal has not been received) would be accepted and to remind Shentel staff that the amount of the cost per foot proposal to utilize the local network's conduit was much lower than what the County had proposed to Shentel.

5. CVEC RFI: The Central VA Electric Cooperative issues a Request for Information on July 25th to solicit input from providers of internet/broadband services for a possible partnership that would provide universal broadband network services "for the membership of CVEC" (some 38,000 possible subscribers within the Cooperative's multi-jurisdictional service area). County staff submitted on 9-8 the RFI's initial request for "Letters of Intent" from interested providers. The deadline for a full (and very detailed, in-depth) and final response to the RFI is November 11, 2016. The letter drafted by County staff included a request for a meeting with CVEC staff to discuss possible strategies for a partnership between NCBA and CVEC with the input received from the discussion a determining factor in a decision to submit a final response to the Cooperative's RFI, which is more than a significant undertaking. Next steps, if any, are TBD.

Code of Virginia
Title 15.2. Counties, Cities and Towns
Chapter 54.1. Virginia Wireless Service Authorities Act

§ 15.2-5431.25. Rates and charges.

A. The authority may fix and revise rates, fees and other charges (which shall include, but not be limited to, a penalty not to exceed 10 percent on delinquent accounts, and interest on the principal), subject to the provisions of this section, for the use of a project or any portion thereof and for the services furnished or to be furnished by the authority, or facilities incident thereto, owned, operated or maintained by the authority, or facilities incident thereto, for which the authority has issued revenue bonds as authorized by this chapter. Such rates, fees and charges shall be so fixed and revised as to provide funds, with other funds available for such purposes, sufficient at all times (i) to pay the cost of maintaining, repairing and operating the project or systems, or facilities incident thereto, for which such bonds were issued, including reserves for such purposes and for replacement and depreciation and necessary extensions, (ii) to pay the principal of and the interest on the revenue bonds as they become due and reserves therefor, and (iii) to provide a margin of safety for making such payments. The authority shall charge and collect the rates, fees and charges so fixed or revised.

B. No rates, fees or charges shall be fixed under subsection A until after a public hearing at which all of the users of such facilities; the owners, tenants or occupants of property served or to be served thereby; and all others interested have had an opportunity to be heard concerning the proposed rates, fees and charges. After the adoption by the authority of a resolution setting forth the preliminary schedule or schedules fixing and classifying such rates, fees and charges, notice of a public hearing, setting forth the proposed schedule or schedules of rates, fees and charges, shall be given by two publications, at least six days apart, in a newspaper having a general circulation in the area to be served by such systems at least 60 days before the date fixed in such notice for the hearing. The hearing may be adjourned from time to time. A copy of the notice shall be mailed to the governing bodies of all localities in which such systems or any part thereof is located. After the hearing the preliminary schedule or schedules, either as originally adopted or as amended, shall be adopted and put into effect.

C. A copy of the schedule or schedules of the final rates, fees and charges fixed in accordance with subsection B shall be kept on file in the office of the clerk or secretary of the governing body of the locality, and shall be open to inspection by all interested parties. The rates, fees or charges so fixed for any class of users or property served shall be extended to cover any additional properties thereafter served which fall within the same class, without the necessity of a hearing or notice. Any increase in any rates, fees or charges under this section shall be made in the manner provided in subsection B. Any other change or revision of the rates, fees or charges may be made in the same manner as the rates, fees or charges were originally established as provided in subsection B.

D. Connection fees established by any authority shall be fair and reasonable. Such fees shall be reviewed by the authority periodically and shall be adjusted, if necessary, to assure that they continue to be fair and reasonable. Nothing herein shall affect existing contracts with bondholders which are in conflict with any of the foregoing provisions.

2003, c. 643.