

# FCC Rural Broadband experiment

## Broadband Corp’s “Expression of Interest”

### Nature of the submitting entity:

Broadband Corp is a WISP filed as an S Corp in the state of Minnesota and has been in operation for almost 10 years. Broadband Corp operates out of Hutchinson MN and our focus is rural high speed internet. Broadband Corp provides Speeds to the home of up to 10 Meg along with voice and video services. Broadband Corp also provides connections faster than 10meg upon request.

### Identification of the proposed service area for the experiment and census block number, with any relevant information regarding the number of locations that could be served, including schools, libraries, and other anchor institutions.

Broadband Corp identifies the counties of Carver, Rice, Wright, Scott, Nicollet, Sibley, McLeod, Meeker, Kandiyohi, and LeSueur as Minnesota Counties in which we propose providing saturation and expansion of our robust and scalable wireless network to provide speeds greater than 10Meg, voice and video services. Please refer to the chart below for census tracts in these counties.

| County | Tract       | County   | Tract       | County | Tract       | County    | Tract       |
|--------|-------------|----------|-------------|--------|-------------|-----------|-------------|
| Carver | 27019090200 | Wright   | 27171100300 | Sibley | 27143170200 | Kandiyohi | 27067780200 |
|        | 27019090301 |          | 27171100400 |        | 27143170300 |           | 27067780100 |
|        | 27019090401 |          | 27171100500 |        | 27143170400 |           | 27067780600 |
|        | 27019090302 |          | 27171100703 |        | 27143170198 |           | 27067780400 |
|        | 27019091201 |          | 27171101300 | McLeod | 27085950200 |           | 27067781200 |
|        | 27019091202 |          | 27171101200 |        | 27085950500 |           | 27067781100 |
|        | 27019091100 |          | 27171101100 |        | 27085950100 | LeSueur   | 27067780200 |
| Rice   | 27131070602 |          | 27171101000 |        | 27085950600 |           | 27067780100 |
|        | 27131070200 | Scott    | 27139081300 | Meeker | 27093560500 |           | 27067780600 |
|        | 27131070300 |          | 27139081200 |        | 27093560100 |           | 27067780400 |
|        | 27131070400 | Nicollet | 27103480100 |        | 27093560400 |           | 27067781200 |
|        | 27131070901 |          | 27103480200 |        | 27093560200 |           | 27067781100 |
|        | 27131070700 |          | 27103480300 |        | 27093560300 |           |             |
|        | 27131070800 |          |             |        | 27093560600 |           |             |

Locations that can be served through the original deployment will be nearly 100% of the rural population in the noted census tracts. Schools in the network can be tied together with wireless fiber back hauls easily capable of 100MEG at far less cost than burying fiber in the ground and in a fraction of the time as well. Emergency services can share bandwidth and if not for primary services, back up services in the event of outages from primary providers due to road construction cutting lines or flooding or any number of issues that could affect land line communications. There are many schools in the 10 county areas that could benefit from Broadband Corps services. With the short time frame we had to prepare our letter of interest there was no way to contact all of them but we have had surface level conversations and there does appear to be some interest in pursuing something of that nature. There are many Libraries and other facilities such as small airports and fair grounds that can be provided service as well.

One of the many beneficial characteristics of this type of robust network is that is able to be deployed very quickly and is easily scalable to adjust to network needs.

Broadband has established ourselves as a trustworthy member of the community we serve. In the short time we had to prepare this letter of interest, we have obtained a few letters of reference from prominent individuals in the communities we serve. We hope to show that with more time to develop plans on how to directly enhance the community with our service that we have the support of key individuals in the community to assist us in reaching any goals set. Please refer to the attached letters.

**The broadband technology or technologies to be deployed:**

Broadband has deployed a hybrid network that extends fiber optic resources to remote end users. Currently our last mile solution is the Cambium PMP320 platform utilizing WiMAX technology in the 3650MHz band. Broadband Corp also utilizes fiber optic solutions, 18 GHz, 900 MHz, 5.8 GHz and 2.4 GHz RF solutions. Broadband Corp has and will continue to implement leading technology platforms to bring the fastest, most robust, scalable and reliable solutions to the communities we serve.

There is no better equipment that can be used for this type of application, it is manageable, expandable and allows for through put that exceeds today's requirements and only requires software downloads to increase capabilities. A wireless network has fewer points of failure than traditional land line systems which makes trouble shooting faster and repairs of would be outages quicker.

**Contemplated service offerings:**

It is Broadband Corp's desire to offer Internet plans that provide a minimum 5meg service up to 20meg or more with the capability of offering up to a Gig for rural businesses that may need it. Broadband Corp can also provide point to point products that accomplish one and two hundred Meg. Along with Broadband Corp's super-fast, reliable and robust internet service Broadband will continue to offer our VoIP and Video service as well.

Broadband has negotiated retransmission agreements with local television stations to deliver their content to the end user on the Broadband Network. As the Broadband network grows, we will continue to add local broadcasting stations to the channel lineup for the local populous.

The video product we feel has a strong local value with the reasoning that after the digital transition many rural people lost the ability to receive good over the air signals. We receive a good deal of individuals who express this to us. Broadband is committed to improving the lives of people in our communities through faster internet and the ability to receive information.

**If known, expected State and or local or tribal governmental participation in and/or support for the project.**

Broadband Corp is very active with our communities and strongly believes in supporting education. Below are listed several efforts Broadband Corp would like to implement, some are already underway.

Online schooling is an educational tool that is growing but those who are in rural areas with poor internet services lose out on even attempting to utilize this avenue of education. Broadband is in the process of contacting eMinnesota, Minnesota Virtual Academy, IQ Academy Minnesota, Insight school of Minnesota, Minnesota Online Academy, Vibe Academy, George Washington University, K12 International, Link 12 and the Keystone school in an effort to identify enrolled students that are in areas that have less than acceptable internet services. We will prioritize students according to their geographic location to our existing over 3,500 square mile service area and the planned expansion area.

Our hope would be to focus on providing true high speed internet to these areas and drive a system that allows for credits that users can "cash in" if they are students with one of the participating educational institutions.

4-H is another area of education run through the University of Minnesota that Broadband Corp finds itself uniquely qualified to benefit. In 2013 Broadband utilized processes developed from our remote solar powered Eagle cam research site to follow 4-H students at the local McLeod County fair and then to the State Fair. Broadband Fed a live streaming video of judging events to a website where 4-H family members or anyone who chose to could follow individuals and projects.

Broadband worked very closely with 4-H, members of the University of Minnesota, the McLeod County and State Fair grounds staff to make a very successful first year. It is Broadband Corps desire to expand this process and maybe call it "Fun From the Farm to the Fair, or 4-F". The idea would be to motivate students to get more involved with 4-H and technology. Broadband Corp plans to work with the McLeod County 4-H groups to identify students for the 2014 season as our second year trial. We would install cameras in carefully selected and approved areas barns to document births and the raising of all kinds of farm life.

In parallel Broadband Corp will continue working with the University of Minnesota to assist in the creation of the program in what can someday hopefully be a statewide tool for 4-H.

**Research** is something that Broadband also strongly believes in. Roughly 6 years ago we embarked on a mission to design and build a solar powered relay station that we could someday implement into our network making the first ever solar powered Wireless Internet Service. As this was a test location we could not use it to service customers so we decided to set up a camera on it. This eventually developed into an Eagle cam that we feed live streaming video from and broadcast on ustream. We have been able to attract a healthy following. We also have schools that sign up to do educational sessions on line with us. The class room watches the live feed and we answer their questions and move the camera around at their request.

With additional funding from the FCC to expand the network we are hoping to start implementing the solar design we have developed at base stations and even customer sites. This will initially take customers who want to be on the cutting edge but we already have several folks interested. Broadband believes that implementing solar systems that work at customer sites is a powerful step in introducing people to solar options with an actual dependable working example. As we are still developing this application, none of the projected required funds have any solar development in them.

Broadband has also worked in junction with the National Eagle Center in going to schools with live eagles to help educate students about the eagle.

**Rural airports**, there are many small airports in Minnesota both municipal and private that do not have adequate internet speeds or internet at all for that matter. Pilots are required to make flight plans and need to check weather but are unable to accomplish those very important tasks at some airport locations because the airports lack high-speed internet that allow the utilization of the heavy graphics needed in mapping and weather applications. Broadband Corp would like to continue our saturation and expansion plans to provide better services to the small rural airports in hopes of increasing flight safety. With FCC funding this would be realized in a considerably shorter time frame.

**Whether the proposal is expected to require one-time or continuing funding and a high level estimate of the amount of funding requested.**

In 2013 Broadband worked in detail with a wireless engineering firm for over 10 months to develop a plan for saturation and expansion. This plan was designed to provide saturation to our existing 3,500 square mile foot print and at the same time expand it to encompass a total of 10 counties in south central Minnesota. This plan is ready to implement now, tower sites have been identified and negotiated, equipment has been selected and quotes given. Spectrum analysis has been engineered and approved. Additional bandwidth connections have been negotiated. A Marketing plan has been developed and is ready to go. All we lack right now are the funds to accomplish it. Broadband Corp does fully intend to continue moving forward with our plan in an organic fashion to the best of our ability. FCC funding could conceivably accomplish this plan in as short as 12 months.

In building our saturation and expansion plan, Connect Minnesota's data was used to identify census blocks that were deemed to be underserved and were not being funded through the RUS program. Our intention was to apply for RUS funding but it was determined that we did not have enough cash on hand to qualify for the loan.

Our extensive research provided a robust and scalable network consisting of approximately 22 tower sites with three bandwidth injection points from two separate providers and complete redundancy to all towers. We were able to negotiate special rates with American Tower to implement this plan.

This plan was designed to require just over 3 million dollars in onetime funding with a 24 month execution cycle. The execution time for that plan was based on having to generate enough cash flow to make payments on the draws on the RUS funds. In an FCC rural experiment scenario, the execution time could probably be cut in half because we would not have to be obtaining revenue through the build out to service the accumulating debt for the build out.

If continued funding were made available by the FCC, Broadband Corp can envision a few scenarios on how to best apply it. The first would be to continue with identifying underserved pockets and plugging those holes. In junction, there needs to be continued explanation plans past our now 10 county plan. FCC funding would accomplish two major goals. One it would allow build out of an infrastructure capable of delivering 20 Meg or more to the rural homes in 10 South Central Minnesota counties in an accelerated rate and secondly once the network has been established it would keep prices lower by offsetting maintenance and upgrades guaranteeing the fastest speeds available.

Thank you for your time and consideration.



Mark Wegscheid

952.215.3809

Broadband Corp

[www.broadband-mn.com](http://www.broadband-mn.com)



February, 20, 2014

To whom it may concern:

My name is Scott Knight and I am a member of the Norwood Young America School Board. Broadband Corp has made me aware of the FCC rural broadband experiment and the good that is hoped to be achieved. A good deal of the students in our district are rural and have limited access to true high speed internet. Broadband Corp has been in the area for almost 10 years now and has done a great job organically growing the network bringing fast speeds to rural students but this type of assistance to Broadband Corp would clearly be a huge aid in faster deployments. Broadband Corp has always performed in a respectable and professional manor with community in mind and the Norwood Young America school board would certainly support Broadband Corps continued efforts. As a member of the school board I also support looking at any projects developed as a result of FCC funding to Broadband Corp in an effort to increase our students learning experience.

Sincerely,

A handwritten signature in black ink that reads "Scott E Knight". The signature is written in a cursive style with a large, stylized "S" and "K".

Scott Knight  
Norwood Young America School Board

# COLOGNE

February 21, 2014

To Whom it may concern:

Broadband Corp took over the operations of our municipal wireless internet service at the end of 2013. The city of Cologne and Broadband Corp worked together closely through this transition process for a time period of about six months. The staff at Broadband always performed in a professional manner and with best intentions for the network and community. While the City of Cologne now receives bandwidth through the county fiber ring, Broadband Corp is an organization that we would not hesitate to work with again should an opportunity ever arise. As Broadband Corps services reach far outside the city limits of Cologne, we support their continued efforts in bringing high speed internet to our rural families who so desperately need it.

Broadband Corp has informed us of the FCC rural experiment and we feel they would be a great fit for these funds to assist in faster deployment both within their existing network and to expand. They have proven to be a competent, resourceful and community oriented organization.

If there are any questions, please do not hesitate to contact me at the office, the number is 952-466-2064.

Sincerely,



Matt Lein  
Mayor  
City of Cologne

## City of Cologne

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