



**DATE:** March 6, 2014

**FROM:** Cloquet Valley Internet Initiative, Lake County Minnesota and Lake Communications

**TO:** Federal Communications Commission (FCC) Staff

**SUBJECT:** Expression of Interest – Rural Trials Docket No. 10-90

#### **Background**

The Cloquet Valley Internet Initiative (CVII) is a partnership of rural townships north of Duluth, MN that lack access to fixed broadband at speeds of at least 3 Mbps down/ 768 kbps up. In 2011, the townships came together in a grass-roots, citizen-driven effort to advance a strategy to bring broadband internet to their residents. The goal of the CVII is to attain for their citizens, businesses and anchor institutions a level of broadband at the Minnesota State Broadband Goal of 10+Mbps down / 6Mbps up. CVII conducted a survey of its residents to determine the demand for broadband services. The CVII also conducted a feasibility study to determine the best means of providing broadband services in the area and an approximate cost. The study determined CVII is encircled and in some areas penetrated by the municipal fiber optic broadband network being constructed by Lake County ("Lake Connections"), which is a Broadband Initiatives Program project. Tapping into the Lake County network would enable CVII to realize its goals for its citizens.

#### **Project Description**

Lake County will deploy FTTH technology to all the citizens and businesses of CVII. FTTH in this area will tap into Lake County's transport fiber which is currently in the area and additional transport cable, which will be constructed to Duluth to enhance service to the CVII and the rest of the Lake County network.

#### **Technology to be Deployed**

Lake County is deploying FTTH technology. The network includes fiber cable which typically has a 30-35 year life. The network architecture is Gigabit Passive Optical Network (GPON) based, which is capable of downstream speeds of 2.5 Gbps and upstream speeds of 1.25 Gbps split up by 64 customers per PON. Due to the demands of IP video bandwidth, Lake County will only split to a maximum of 32 customers and in some cases will split less as it extends its network farther. GPON is specified to go to 60 KM, but, due to limitations with lasers and the cost of the equipment, the County's system is designed for 40 KM with an 8-way split depending on cable loss. Unlike with DSL or wireless technologies, with GPON and Active Ethernet even the subscribers farthest out enjoy the same bandwidth and performance as the subscribers close to the electronics, meaning no limitations as distance increases.

#### **Locations to be Served**

The Cloquet Valley Internet Initiative is made up of townships – Alden, Ault, Fairbanks, Gnesen, North Star, Normanna, Pequaywan and two "unorganized townships" (without formal township governance) 53-15 and 54-13, and adjacent Lakewood Township.

These rural townships are typical of situations that lack broadband access, as they have limited "classical" anchor institutions, such as schools, libraries, medical facilities; residents reach these institutions in Duluth and Two Harbors, 20-35 miles away; everyone must drive to obtain these services. However, these rural townships have anchor institutions in the form of township government offices, fire / first responder departments, and one school.

The following is a list of anchor institutions in our geographic area (some town halls are collocated with fire departments):

- Alden Town Hall and Fire / First Responder Department
- Ault Town Hall and Fire / First Responder Department
- Fairbanks Town Hall and Fire/ First Responder Department
- Gnesen Town Hall
- Gnesen Fire / First Responder Department
- Lakewood Town Hall and Fire/First Responder Department
- Lakewood Elementary School
- North Star Town Hall and Fire/ First Responder Department
- Normanna Town Hall and Fire / First Responder Department
- Pequaywan Town Hall and Fire / First Responder Department

The township government offices and fire departments generally lack access to high speed internet, and the benefits that accrue. Fire departments are not able to conduct on-line training or use modern emergency tools. With broadband access, they would be able to integrate into FirstNet, the emerging emergency network.

**Census Blocks**

- Serving approximately 3,115 high-cost locations
- 27137010500
- 27137010600
- 27137011400

**Current Services**

The area is served by Frontier Communications and CenturyLink, which offer DSL services in nearby cities. The local electric cooperative is expanding its wireless system, that will provide incremental improvements to internet access; as our citizens learn what moderate speed (up to 7Mbps down/1Mbps up) can do, experience elsewhere tells us that they will want faster and more reliable service. The goal of the CVII is to attain for their citizens, businesses and anchor institutions a level of broadband at the Minnesota State Broadband Goal of 10+Mbps down / 6Mbps up.

**Services to be offered**

Lake Connections will offer broadband and video services over the proposed broadband network. Lake Communications will offer telephone services. Pricing will be competitive with services currently provided in Lake and St. Louis Counties. Representative pricing is as follows:

<b>Service</b>	<b>Residence</b>	<b>Business</b>
<b>Voice Service</b>	\$29.99	\$49.99

**Data Services**

30 Mbps/ 10 Mbps	\$59.99	\$79.99
50 Mbps/ 50 Mbps	\$109.99	\$139.99

**Video Services**

Basic (TBD channels) \$TBD

Residential Bundle: \$79.98

Voice Local telephone with, Caller ID, Call Waiting, Call Forwarding and 8 other features plus unlimited domestic long distance

Data 30 Mbps/10 Mbps

(Pricing for bundles with video has not been set)

**Funding**

Based upon the feasibility study and Lake County's experience in its network build, we ask for \$14,000,000 to construct the FTTH network in CVII.

**Project Timeline**

Lake County is currently building the final phases of its network, and could incorporate CVII construction to be completed December 31, 2016.



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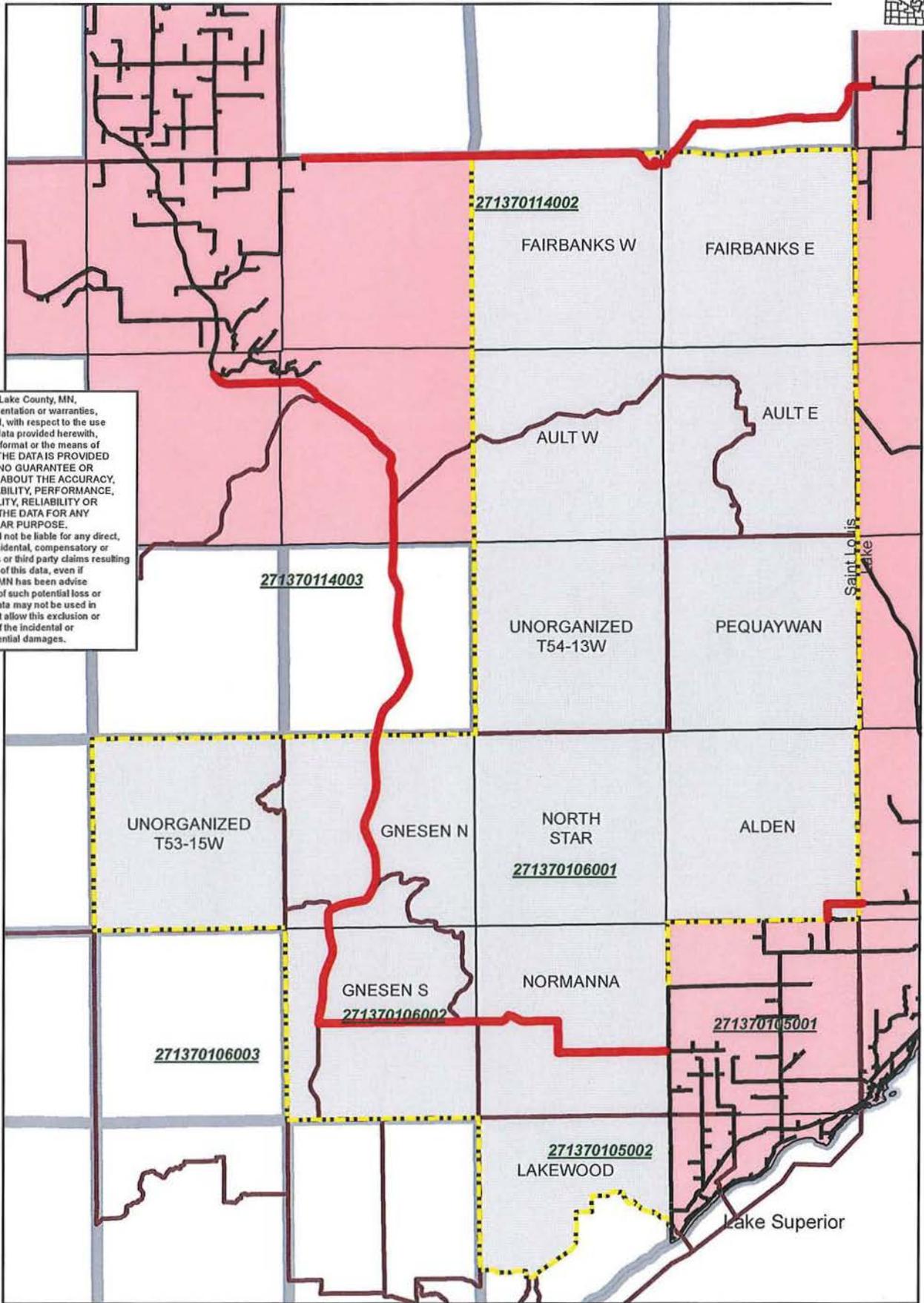
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# Lake County/CVII Experimental Trial



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## Legend

- FTTH Transmission Line
- Census Blocks
- FTTH Network Build Out
- FTTH Service Area
- CVII Twps Plus Part of Lakewood

