



Attachment E

Technical Capability Statement

Vyve Broadband is a highly skilled telecommunications provider in Nebraska that specializes in connecting rural communities by providing high-speed, reliable hybrid fiber-coaxial and fiber optic service to residents and businesses. Vyve operates in 16 states across the country, and we currently serve approximately 18,000 households in Nebraska throughout our systems in Columbus, Schuyler, Central City, Bellwood, Alma, and more. Recent investments have brought gigabit download speeds to all of our residential customers in the state, with speeds of up to 10 Gbps symmetrical available to some commercial customers. Vyve has a proven track record constructing industry standard fiber networks and bridging the digital divide.

At Vyve, we know the needs of rural communities first-hand. Our executive team is well-seasoned with decades of industry experience designing and building broadband networks to be resilient and reliable. Our backbone and middle-mile transports leverage diverse paths with redundant sources and utilize automatic failover tools to maintain network integrity in the event of upstream provider outages or severe weather events. Vyve's network operations center (NOC) is staffed 24/7 by a team of 30 NOC engineers who constantly monitor changing conditions to minimize network impairments. Vyve's regional operations team will be responsible for the day-to-day maintenance of the network and currently consists of 1 director of construction, 3 construction coordinators, 2 technical operations managers, 4 technical support supervisors, and 42 broadband technicians. All members of our local technician workforce are trained by regional trainers and are certified through the Society of Cable Telecommunications Engineers (SCTE). We also maintain close business relationships with a number of licensed and qualified telecommunications contractors for construction, maintenance, and installation.

The Genoa East Expansion project proposes the construction of approximately 5.6 miles of new fiber to serve 28 homes using a radio frequency over glass (RFoG) network architecture. This point-to-multipoint model bridges traditional hybrid fiber-coaxial (HFC) systems with contemporary fiber networks. At the headend, downstream traffic from the internet arrives at a cable modem terminations system (CMTS). The signals are first converted using quadrature



amplitude modulation (QAM), and then converted to light before being transmitted from the headend to a fiber passive optical network (PON) via optical splitters. At the customer premises, the conversion is reversed back to QAM and finally to ethernet. We have chosen to use RFoG as it is a cost-effective way of extending a traditional HFC system as existing headend equipment can be used to provide a FTTP experience. The passive fiber topology enables much higher downstream spectrum and upstream bandwidth than HFC as well as a higher quality of service with fewer maintenance costs, power requirements, and points of failure (nodes and amplifiers). Further, by swapping in next generation electronics, RFoG is expected to be scalable to symmetrical 10G without constructing any new facilities.

In terms of reliability and maintenance, the facilities are expected to have a useful life of over 20 years, and the FTTH passive equipment will last the life of the plant with no routine maintenance needed. The project is designed to be 100% underground, which greatly reduces the impact of weather, tear downs, pole replacements, and other outside factors. The electronic equipment will be proactively monitored for stability by our operations team and will be supplied with redundant input sources and power generation to maximize uptime in the event of damage to the plant.

We plan to utilize the following equipment:

- Casa Systems C40G CMTS
- Harmonic and AARIS Transmitters and Receivers
- Cisco ASR Network Routers
- ADTRAN/Lindsay/ARRIS Mini Nodes

The mini nodes are the only components that may need occasional repair or replacement, as they are located at the customer premises and are therefore exposed to outside factors such as the power grid or customer tampering. Ultimately, passive FTTH is an inherently reliable technology that requires minimal routine intervention.

In summary, Vyve is more than capable of meeting the technical requirements of the Nebraska CPF Grant Program by providing speeds far above the 100/100 Mbps minimum backed by a proven track record that demonstrates our commitment to serve the community for years to come.



Figure 1. Overview of Vyve’s presence in Nebraska.

<h3>Quick Nebraska Facts</h3> <ul style="list-style-type: none"> • 17.8K NE Homes with Access to Vyve • Local Nebraska Employees • Local Retail Store in Central City, NE • Local Care/Tech Jobs Available • www.vyvebroadband.com 	<h3>Our NE Network</h3> <ul style="list-style-type: none"> • 157 Miles of Fiber Deep Network in NE • Statewide Fiber Ring Architecture • Redundancy Auto Failover • Peering -Google, Netflix, Akamai, & More • 99.9% Network Reliability
<h3>Nebraska Services</h3> <ul style="list-style-type: none"> • 100% Availability to 1Gbps Speeds • 24/7 Local On-Call Technicians • 10G Business Services • High Speed Data, Phone, HD Video 	<h3>Our Motto</h3> <ul style="list-style-type: none"> • 100% Responsibility/Zero Excuses • Our Communities Connected
<h3>Currently Serving Many NE Markets</h3> <p>Including but not limited to: Albion, Alma, Bellwood, Cedar Rapids, Central City, Columbus, Franklin, Fullerton, Genoa, Hamilton County, Humphrey, Monroe, Newman Grove, Osceola, Palmer, Platte Center, Polk, Red Cloud, Richland, Rising City, Schuyler, Shelby, Silver Creek, Spalding, St. Edwards, and Stromsburg</p>	

Figure 2. Map showing Vyve’s national footprint.

