



## PROJECT PROFILE

# Rural Fiber Build Out and Make-Ready at Cumberland EMC

### About Cumberland EMC

Cumberland Electric Membership Corporation (CEMC) was formed in 1938 to construct, maintain, and operate a rural electric distribution system in Tennessee. The cooperative began with 610 members and 100 miles of overhead line. Today, their members exceed 101,000 served by 8,100 miles of overhead and underground line.

Cumberland Connect was formed following the establishment of the Broadband Accessibility Act to establish high-speed internet, phone, and television service over a state-of-the-art fiber optics network. It also provides CEMC a communication network infrastructure for future smart grid applications.

### The Situation

CEMC recognized a need for broadband services where members and others in the service area were underserved. CEMC knew high-speed internet could provide a great deal of local benefits.

The first phase of the project involved new fiber optic construction, which was primarily pole attachments, following National Electrical Safety Code (NESC) standards. CEMC's goal was to install the fiber optic cable for future smart grid technologies for their electric members, as well as providing the infrastructure for the broadband services.

Speed to market is a critical element for success. Cumberland needed to get ahead of their make-ready construction and mainline construction crews so the construction phase would not be postponed from poles requiring make-ready or replacements not being identified.

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Osmose has been a trusted partner of CEMC for many years. The project scope was very aggressive, and we weren't sure if any company could meet the objectives of the make-ready engineering. Osmose has met and exceeded those expectations in the first phase of our multi-phase project.

**Mark Cook,**  
Broadband Manager, CEMC

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1,377

miles of fiber optic cable construction completed in Phase 1

27,000

estimated number of pole attachments completed in Phase 1

## The Solution

The key to this undertaking was a partner that can efficiently evaluate the pole condition, verify available space exists to support the new fiber, and produce cost-effective engineering designs so construction crews are not waiting for work packages or surprised by additional effort needed at the pole before they can hang fiber. Osmose proposed and executed a solution for field verification of poles, make-ready review, deliverables, and reporting, as well as development of remedial make-ready designs to prepare the poles for fiber attachment.

Osmose designed the solution to work closely with CEMC and Conexon, the contractor CEMC hired to manage and engineer their project, to follow a structured and detailed methodology that met the project objectives.

## About Conexon

Conexon works with Rural Electric Cooperatives to bring fiber to the home in rural communities. The company is comprised of professionals who have worked in electric cooperatives and the telecommunications industry, and offer decades of individual experience in business planning, building networks, marketing, and selling telecommunications. Conexon offers its electric cooperative clients end-to-end broadband deployment and operations support, from a project's conception all the way through to its long-term sustainability. It works with clients to analyze economic feasibility, secure financing, design the network, manage construction, provide operational support, optimize business performance, and determine optimal partnerships. To date, Conexon has assisted more than 160 electric cooperatives, 40+ of which are deploying fiber networks, with more than 100,000 connected fiber-to-the-home subscribers across the U.S., and has secured more than \$250 million in federal and state grants for its clients.

“ The comprehensive and accurate evaluation of existing infrastructure, along with knowledgeable, efficient make-ready support are foundational for an electric cooperative's successful fiber-to-the-home network deployment. Osmose has proven itself to be a valued partner in this regard with the ability to mobilize and scale quickly and produce great work well ahead of schedule.

Randy Klindt, Conexon Partner

## Three key components Osmose provided for efficient and effective make-ready support:

- 1 Quickly mobilized experienced, make-ready resources which allowed for completion of 1,000 poles per week within two weeks and 3,000 poles per week within three and a half weeks. This allowed construction teams to meet their aggressive build schedule.
- 2 Utilized Digital Measurement Technology™ (DMT) to accurately capture and deliver field measurements as annotated images, providing all parties the opportunity to visualize current pole conditions from the office and save additional field visits.
- 3 Partnered with Cumberland to identify and complete communication and power make-ready in the most efficient way possible so construction was not delayed.

To learn more, contact your local Osmose professional, call 770.631.6995, or email [poleinfo@osmose.com](mailto:poleinfo@osmose.com).