

CONNECTING RURAL COMMUNITIES

CASE STUDY: Bringing Broadband Networks to Rural Tribal Nations



SUMMARY

CUSTOMER • Lower Brule Sioux Tribe Community

CHALLENGE

- Non-line of sight and network interference
- Unlicensed spectrum overuse
- Outdated existing network falls short of bandwidth requirements

SOLUTION

- KP Performance dual band antenna utilizes both 2.5 GHz and 5 GHz spectrum, adding additional capacity and clients to the network

RESULT

- 85% of the community has access to broadband network with 240 homes now being served by a next-generation network, delivered by KP's sector antenna

EQUIPMENT • KPP-2S5SX8-65 dual band, ProLine sector antenna

Breaking Through Barriers

Far too many rural Native communities lack reliable internet access and network infrastructure that should provide broadband access, allowing for participation in the digital age. Adequate network infrastructure would allow these Indigenous nations, opportunities to implement key activities such as home connectivity, remote learning, or irrigation automation for their farmlands.

The Federal Communications Commission (FCC) has recently granted over 250 licenses in the 2.5 GHz frequency band to bring upgraded internet infrastructure to rural tribal communities. The FCC awarded the Lower Brule Sioux Tribal community a grant and a portion of the 2.5 GHz licensed band, to upgrade their current network.

Their existing network did not meet today's bandwidth requirements because of challenges including non-line of site and network interference, due to unlicensed spectrum overuse.

Network Advancement

To upgrade the Lower Brule Sioux Tribe network, A Better Wireless acted as a network integrator to install Airspan's AirHarmony 4400 radio platform in combination with KP Performance Antennas' KPP-2S5SX8-65 dual band ProLine sector antenna.

The KPP-2S5 SX8-65 is a dual band sector antenna featuring two dual frequency sectors that combine two individual radiating systems with a single rugged radome. This unique arrangement allows for complete dual-spectrum coverage while reducing leased space on the tower as well as installation costs.

For the Lower Brule Sioux Tribe, the KP Performance ProLine sector antenna allowed the tribe to utilize the 5 GHz band with Ubiquiti's radio platform within the same antenna as the 2.5 GHz Airspan radio platform, adding additional capacity and clients to the existing network.



“The Lower Brule Sioux Tribe is leading the way to closing the Digital/Homework divide. This is thanks to the foresight of past Chairman Boyd Gourneau and School Superintendent Lance Witte, who spearheaded the project. I hope to help other Tribes build and own Sovereign networks to enable them to escape the high costs of local telcos.”

*- A Better Wireless Internet,
Mitch Koep*

Reaching Far and Wide

The Lower Brule Sioux Tribe has utilized additional government funding opportunities, to compliment existing assets, and build out upgraded network infrastructure. They envisioned how to move forward with reliable internet access and connected their rural community to wireless broadband and other advanced services, making that vision a reality.

Now, over 85% of the reservation has access to the upgraded broadband wireless network. In total, 240 homes are now being served by a next-generation network with stable performance, delivered by the KP Performance Antennas dual band, ProLine KPP-2S5SX8-65 sector antenna.