



Case Study

**CONNECTIVITY AND RELIABILITY UPGRADE
FOR SOUTH-EAST NSW REGIONAL COUNCIL**

Bega Valley Shire Council



Customer

The Bega Valley Shire, also known as the Sapphire Coast, is located at the south-eastern extremity of coastal NSW. The Shire is predominantly rural, with many townships and villages.



Land is used primarily for conservation and timber production. The next biggest land use is agriculture, particularly dairy farming. Fishing, oyster harvesting, tourism and retail are also important industries.

The unique coastline abounds in deserted beaches, tranquil rainforests, serene rivers and lakes, and picturesque mountain backdrops. This is a land of natural beauty, abundant wildlife, cultural diversity and great food and wine.

Introduction

Bega Valley Shire Council operates a microwave-based WAN that connects Council's main office with numerous remote sites. In 2016 the Council identified a need to upgrade the network as their existing equipment was approaching the end of its support life. Failure rates increased in recent years, which adversely affected Council's day-to-day operations.

Bega Valley Shire Council published a Request For Quotation, scoping the following improvements:

- » Improve network reliability
- » Increase capacity to satisfy ongoing and growing communications requirements
- » Integration of four new network sites
- » Implement remote network monitoring system to reduce outages and improve fault reporting
- » Improve onsite support through a local support arrangement
- » Upgrade class-licensed links to licensed equipment to improve reliability and data speed



Project

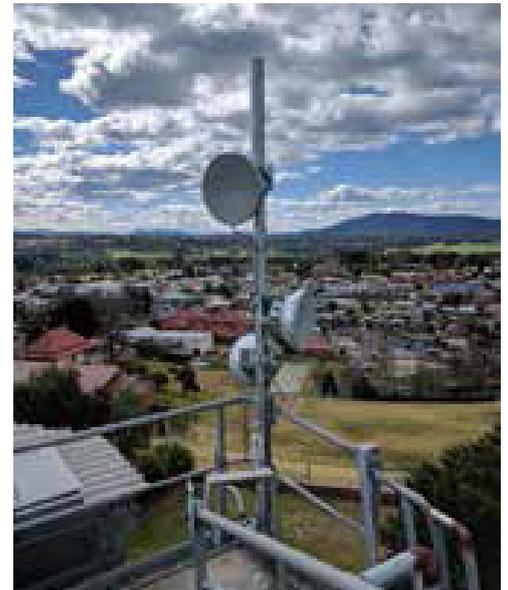
LOCATION:	Bega Valley Shire Council, NSW Australia
EQUIPMENT:	Integra G and GS radios, 18 links
LINK DISTANCES:	From 500 meters up to 52 kilometers
FREQUENCY BANDS:	Licensed 6GHz, 11GHz and 23GHz, Class-licensed 24GHz
DATA SPEEDS:	From 200Mbps to 472Mbps full duplex
ANTENNA SIZES:	30cm to 120cm

Key challenges

- » Years of tree growth created line-of-sight issues at key repeater sites
- » External processes limited access to a key repeater site, creating a major delay risk to the entire project
- » Council properties did not include a suitable location for providing connectivity to the Tura Beach Library
- » The existing, business critical, network needed to experience minimal down-time during the new network build

“SAF’s communication throughout the project gave us a level of confidence to trust them rolling out new infrastructure with minimal downtime...and no interruption to business activity.”

**- Thomas Lennon | Technology Services Coordinator
Bega Valley Shire Council**



Installation of SAF Microwave Radios for Bega Valley Shire Council

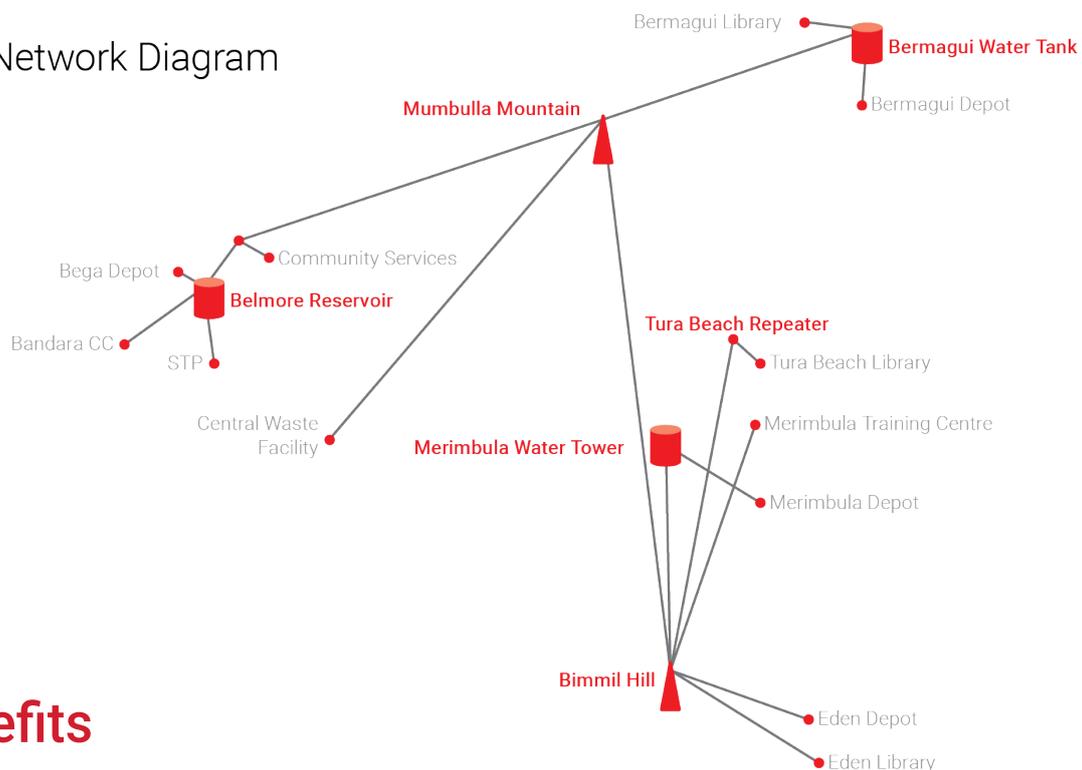
Solution

SAF Australia installed 14 licensed 6, 11 and 23 GHz links under the original contract. An additional four links were later installed, increasing the total network size to 18 links.

TO ADDRESS KEY CHALLENGES, SAF AUSTRALIA -

- » Identified pruning that would provide a long-term solution for line-of-sight
- » Split the project into two stages to work around limited site access and quickly progress with the new network implementation
- » Identified, and negotiated access to, a local repeater site, providing full remote site connectivity
- » Upgraded core parts of the network after-hours and on weekends to minimise business disruption

Network Diagram



Benefits

The new network now delivers:

- » 200Mbps full-duplex data speeds...double the fastest links in the previous network
- » Future-proof equipment via software upgradeable to 472Mbps full-duplex data speeds
- » High-reliability, carrier grade equipment (80+ years Mean Time Between Failure)
- » Local, level-one support and dedicated spares stored in the Bega area
- » 24/7 Network Management System with proactive scan remote monitoring