

Middle Road Transmitter Site

Trees vs Satellite Signal

Request to remove trees

EMF Broadcasting

- K~LOVE & Air1 Radio Networks
- Positive Encouraging Contemporary Christian Programming
- Over 950 radio signals throughout the US
- Delivered from main studios in Rocklin CA via satellite
- Monitored and controlled by our Network Operations Center

Rocket Science

- Geostationary satellite 22,500 miles from Earth
- Orbits the Earth at the same rate as the Earth rotates
- Maintains the same location in the sky
- Fun facts:
 - Satellite travels 6858 miles per hour / 1.9 miles per second
 - Programming from studio reaches listener in about 1.2 seconds

The Problem @ Middle Road

- Several trees are in the receive path causing signal degradation
- As signal degrades, command and control is lost first
- Audio signal is more forgiving, but becomes intermittent
- Transmitter shuts off automatically when audio signal is lost, turns back on when audio returns
- A less than stellar listening experience

The solution

Request permission to remove offending trees

- No need to clear cut a big swath of trees
- Dish has a 15° offset





15 degree offset from center of dish

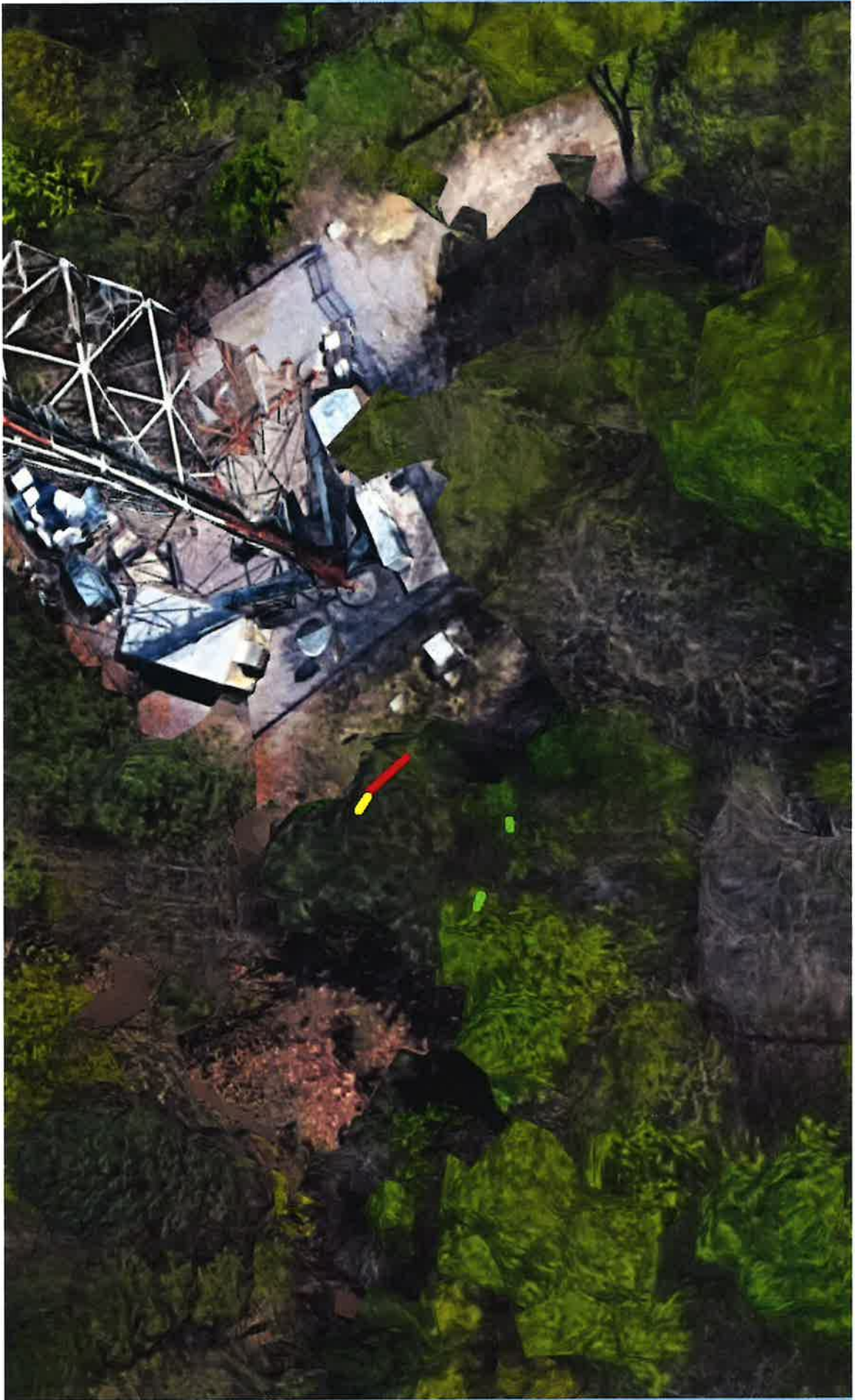




The solution

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- No need to clear cut a big swath of trees
- Dish has a 15° offset
- Proof of concept
 - Most offending tree pulled slightly to the side with ratcheting cargo straps
 - Observed a significant improvement in signal quality
- 4 trees marked with orange tape are the biggest offenders
- 2 trees marked with yellow tape are infringing
- 2 trees marked with green tape are likely to cause problems in the future



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- 2 trees marked with green tape are likely to cause problems in the future
- EMF will cover all costs of removal and cleanup

Thank you!