

## If They're Not Doing It for You, Do It Yourself



What Happens When Rural Users Find a Partner and Just Get on with It?

# The Tararua Experience

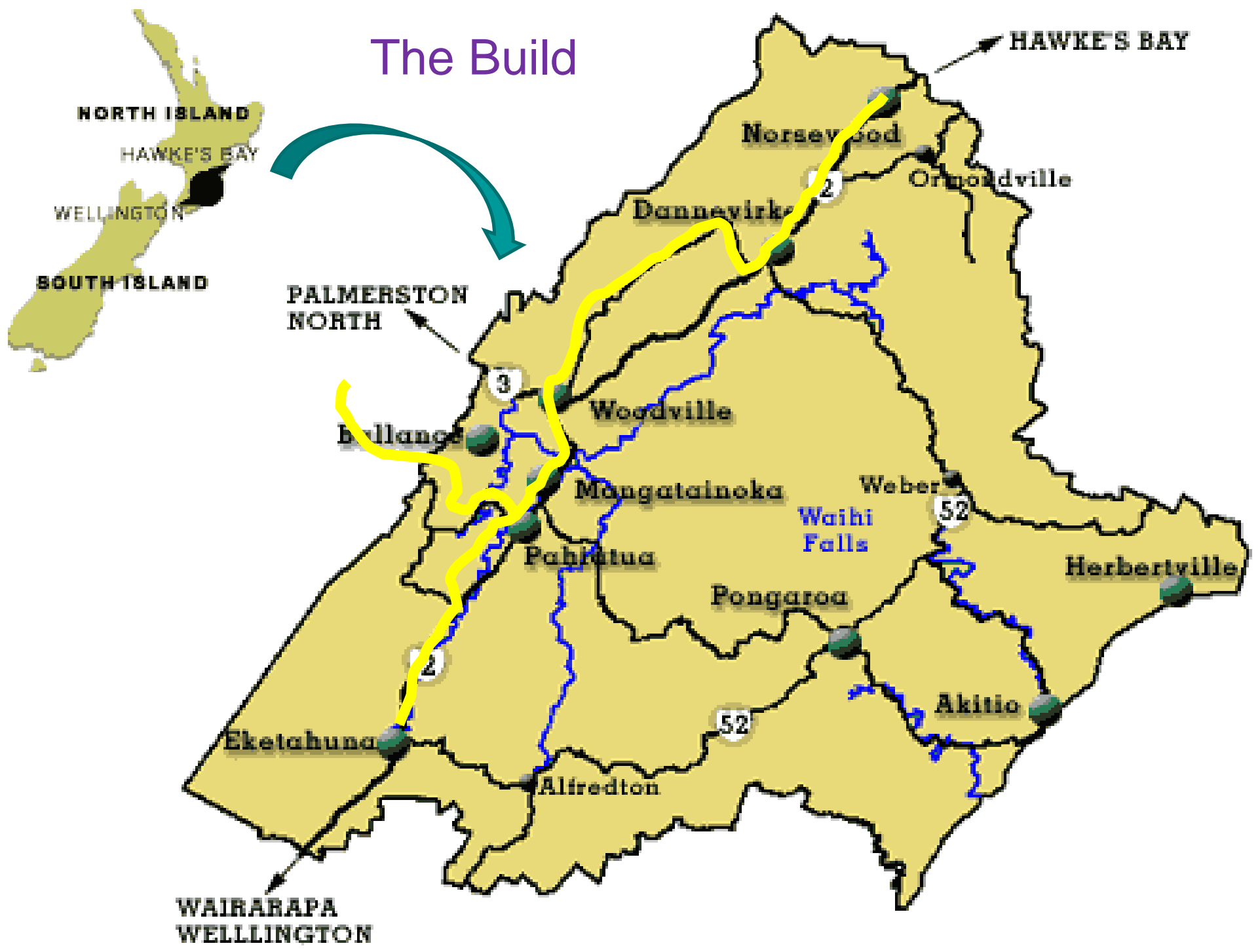
- n Partnered with Tararua District Council to lay fibre with them as the Anchor Tenant
- n Project made possible by a Trench Share agreement with FX Networks
- n 160km of Fibre backbone through Rural and Semi Rural areas



**FX**networks



# The Build



# What came after.....

- n Backbone in place allowed for creative last mile
- n Fibre to the Farm in partnership with Farmers (laying their own pipe / fibre)
- n Consolidation of Health services
- n Starting of a school loop project
- n Prototype of a cheap community wireless model

# Backbone in place

- n Fibre passed through many rural areas and as a partner we were willing to break it open for “interesting” trials
- n Fibre made it to each town allowing for connecting businesses and schools
- n Fibre passed by many rural towns / roads, allowing for wireless deployment with real world backhaul speeds

# Fibre to the Farm

- n We broke out a pair of fibre into a farmers garage, and allowed neighbours to connect by laying their own fibre to our joint pits or each other
- n This fibre was used to feed high speed backhaul up to a tower to provide internet to others not near the fibre cable





# Consolidation of Health Services

- n Health approached us for a solution
- n Fibre laid into Dannevirke Community Hospital, Local GP and Pahiatua Medical Centre
- n All servers and records centralised, lowering overheads and support costs, increasing service to end users
- n Now looking at using fibre to X-ray delivery to nearby Mid Central Health

# Start of a School Loop

- n We sponsored a second pair of fibre to create a School loop tied back to Palmerston North
- n Connected schools via Fibre and high speed wireless as we went
  - n Fibre to (100Mbit symmetrical minimum)
    - n Mangamaire Country School, Pahiatua Primary, Tararua College, Mangatainoka School, Woodville School
  - n Wireless to (10Mbit symmetrical minimum)
    - n Papatawa School, Ruahine School, St Josephs School
- n Loop presented in each town for other providers if required. Extending to Masterton.

# Economic for Schools

## n Simple Easy School Plans

n <100 Students \$100/month

n 50Gbytes of traffic + standard features

n 100-250 Students \$200/month

n 100Gbytes of traffic

n 250+ Students \$300/month

n 200Gbytes of traffic

## n All Schools get the following

n KAREN Aggregation, Watchdog filtering, Spam filtering, free traffic to all other schools on loop + free traffic to KAREN

26 August 2009

Her Worship the Mayor  
Tararua District Council  
26 Gordon Street  
**DANNEVIRKE**

133144

**Tararua College**  
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PAHIATUA  
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Dear Maureen

On behalf of Tararua College I would like to thank the Tararua District Council for their foresight and courage in putting in fibre optic cabling that meant we could use the cable for fast internet connections.

Today, we have been offered the opportunity to upgrade our network this year, with the Ministry of Education paying 80% of the cost. Without that cabling we would not have this opportunity that has only been offered to seven schools.

Again, thank you, I really appreciate your vision.

Yours faithfully

*Glynis De Castro*

# Community Wireless

- n Took our experience with farmers in Tararua and worked out how to scale it into an easy business model for small communities
- n Only possible where reasonable backhaul could be laid
- n Customers get low contention, fast wireless, no 32kbit CIR backhaul rubbish here !

# The Basic Model

- n Community Champion approaches Inspire
- n Inspire meets with community to discuss options
- n Community finds a minimum of 10 people to connect at \$300 each
- n Inspire works with locals to deploy wireless

# The Omatane Example

n Where the hell is Omatane ?



# The Omatane Example

- n Where the hell is Omatane ?
- n Who is the local Champion ?

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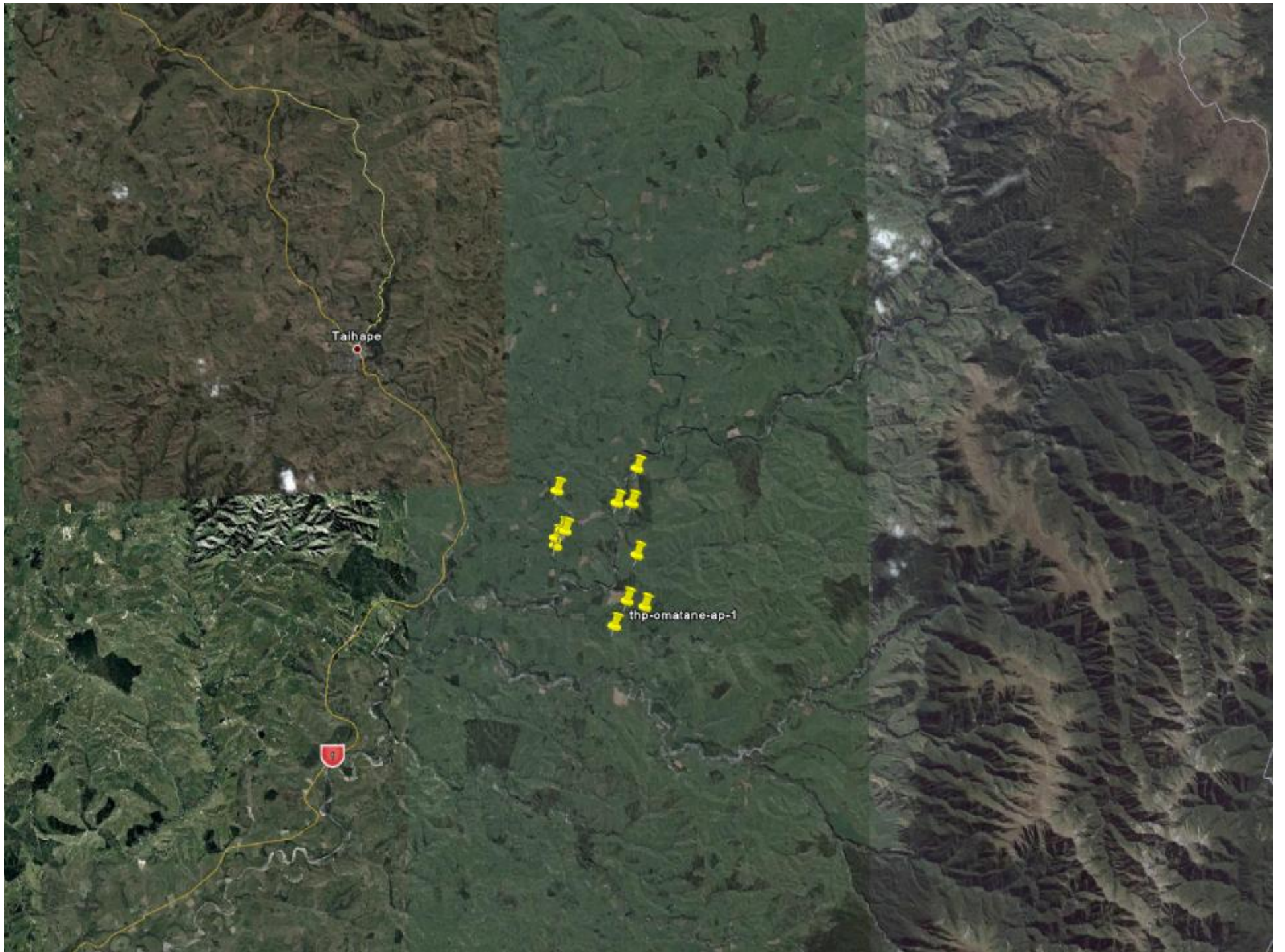
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# The Omatane Example

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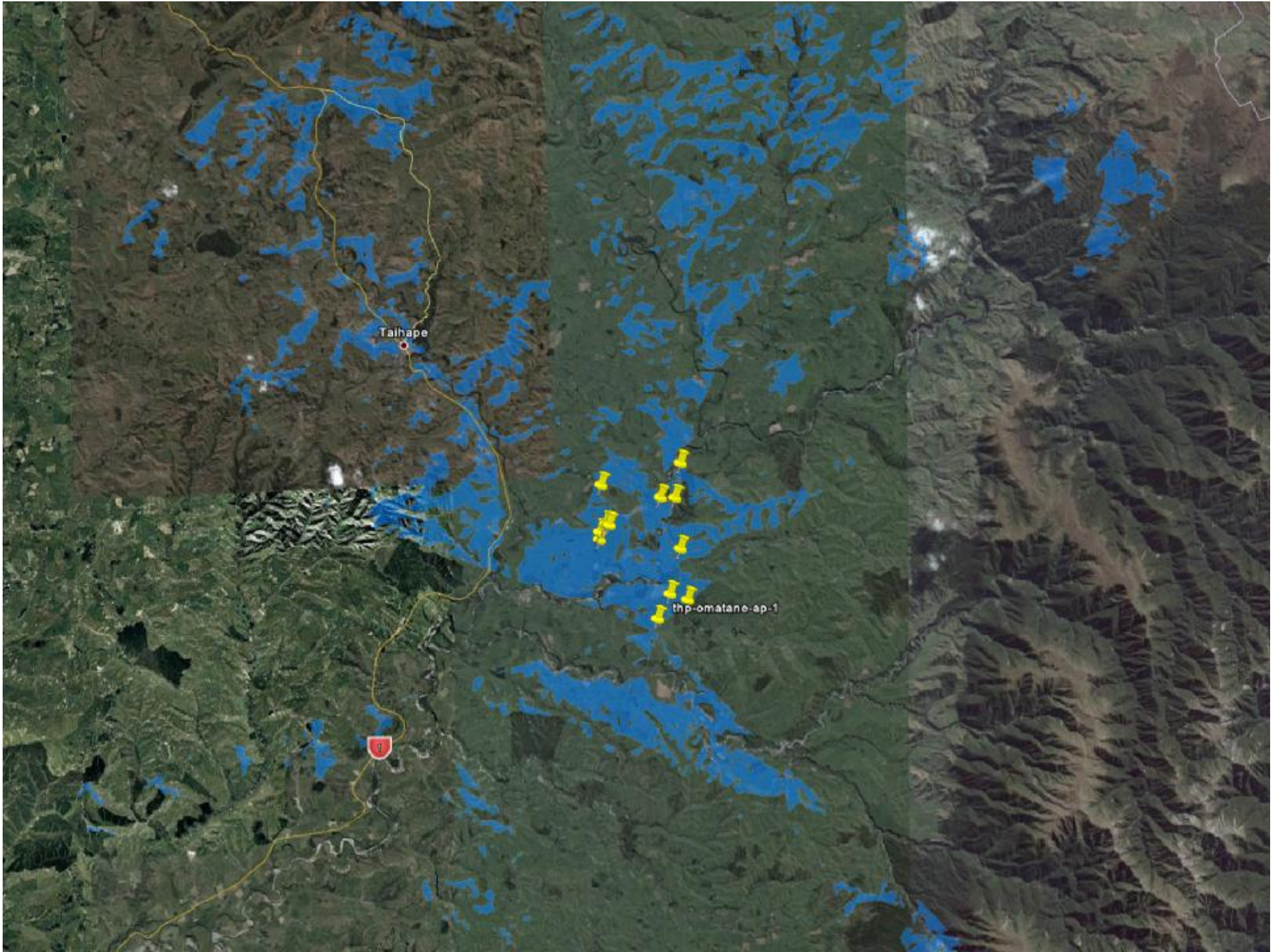


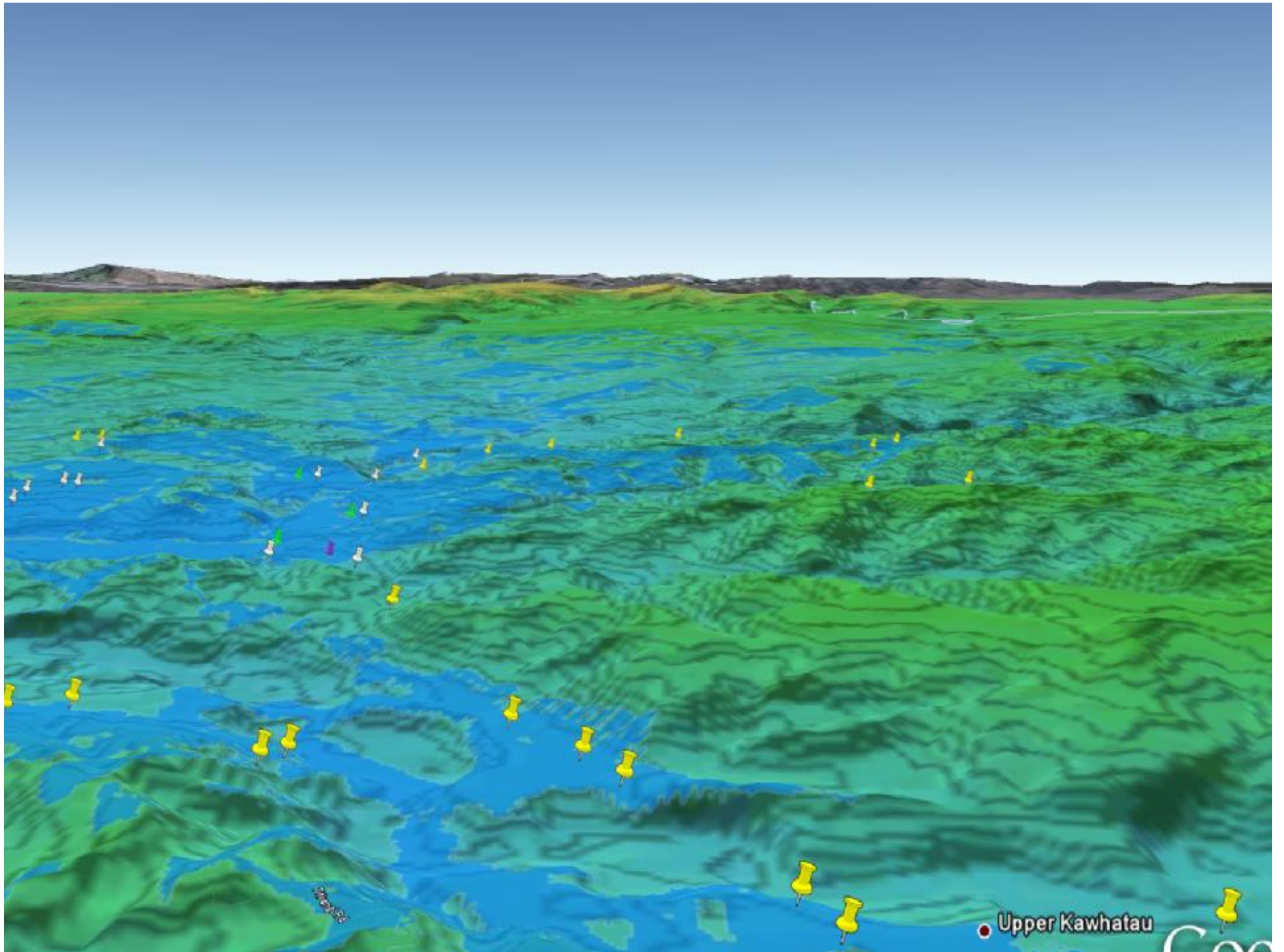


# The Omatane Example

- n Where the hell is Omatane ?
- n Who is the local Champion ?
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- n Do you have 10 people ?
- n Lets find a site to build a tower
  - n Used some cool Google tools to find a good spot



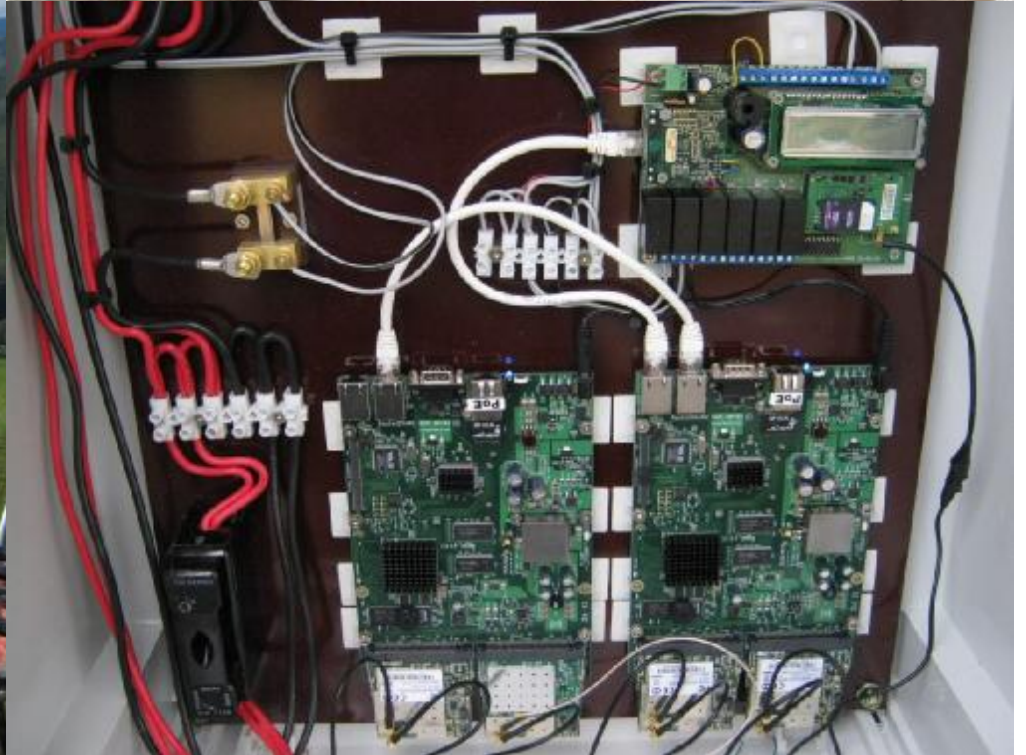




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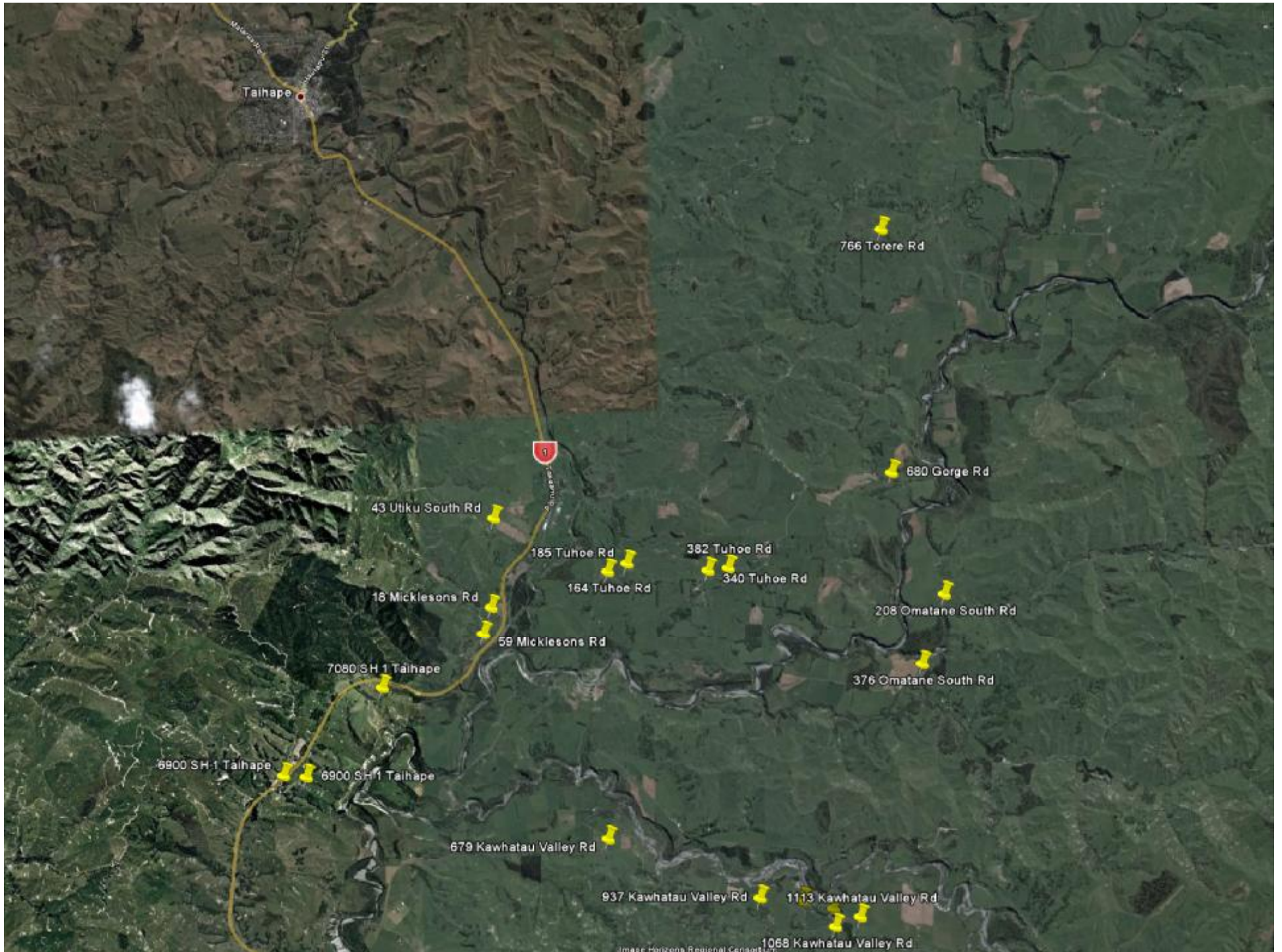
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- n Do you have 10 people ?
- n Lets find a site to build a tower
  - n Used some cool Google tools to find a good spot
- n Sort out permission and build tower
  - n We supply a pole, farmers concrete it in and fence it and we come and install equipment





# The Omatane Example

- n Site complete and tested
- n Connect the first 10
- n See who else it actually covers
  - n These are the extras from photos



Taihape

766 Torere Rd

680 Gorge Rd

43 Utiku South Rd

185 Tuhoi Rd

382 Tuhoi Rd

164 Tuhoi Rd

340 Tuhoi Rd

16 Micklesons Rd

208 Omatane South Rd

59 Micklesons Rd

376 Omatane South Rd

7080 SH 1 Taihape

6900 SH 1 Taihape

6900 SH 1 Taihape

679 Kawhatau Valley Rd

937 Kawhatau Valley Rd

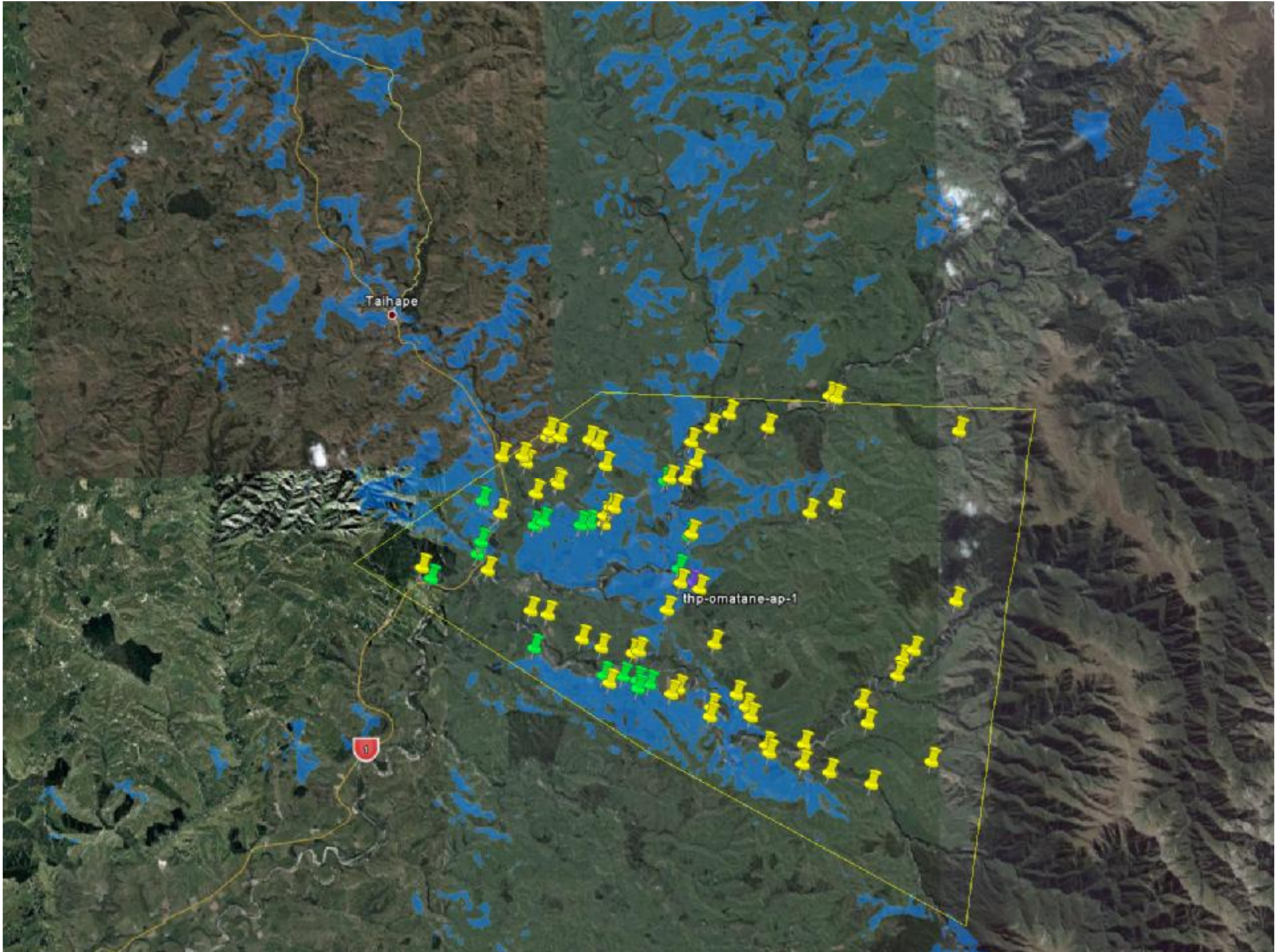
1113 Kawhatau Valley Rd

1068 Kawhatau Valley Rd

Image Horizons Regional Council

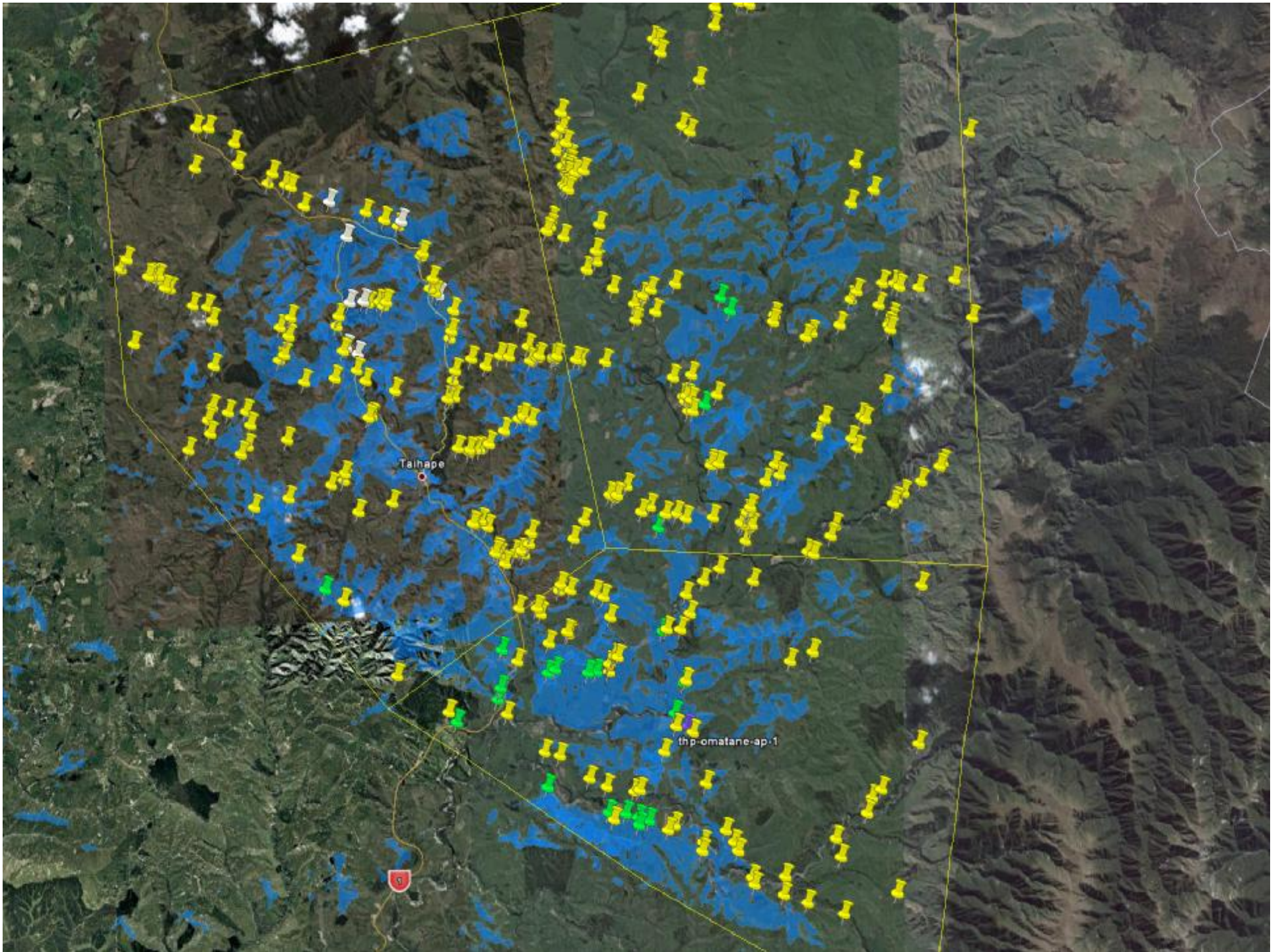
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  - n These are the extras from photos
  - n These are all the houses in the area
  - n These are the side effect customers
    - n (unplanned for coverage)



# The Maths.....

## n Site cost

Solar Panel (if required)	1800
Battery	500
Radio Equipment	750
Antennas	1000
Steelwork	500
Controller board / box etc	500
TOTAL	5050

## n Customers pay \$300 inc GST to install

- n Includes radio install + WIFI router for in house
- n Design Speed 4Mbit/1Mbit, with a CIR of 2Mbit/1Mbit
- n \$50/month for 1Gbyte, \$70 for 10Gbytes

## n Breakeven for us approx month 14 with 10 customers

# They can all look a little different

- n Each site is based on the same principal
- n Farmers quite often do more than just concrete in the poles
- n Community ownership ensures Solar Panels don't go "missing" or get shot







# The Killer App ?

- n Email – who would have thought
- n Online banking – paying bills / wages
- n Skype
- n Farmtown

# Some final thoughts

- n Whilst fibre is the dream to every home in New Zealand, we have spent an eternity talking about it instead of just doing it. Imagine if we had just got on with making a start while we discussed the fine points

# Some final thoughts

- n Consensus reflects \$1bill / annum in efficiencies
- n In theory that's mostly profit so you would expect approx \$250mill tax take
- n In the 3 or 4 years that we have been talking about this it would have been paid for already – what are we waiting for
- n For the farmers out there, if this is worth \$25k / annum to you, where's your money ?

# Some final thoughts

- n Wireless is not the end game, but it's a damn good filler technology for the next few years, we are expecting at least 5 years out of our equipment as "filler" technology

# Some final thoughts

- n The country needs to start talking about committed information rate (CIR)
- n ADSL seems to be legislated at 32kbit / user backhaul, congestion is terrible, and yet its marketed as up to 24Mbit
- n VDSL currently shares the same 32kbit best effort backhaul – contention of approx 1500:1

# Some final thoughts

- n If the government is going to fund fibre out into rural schools and communities, and choose Telecom as a partner, they have to set a price for access, otherwise there will be no competition to drive the market to make it affordable to use.
- n Its all great to have it there, but if its too expensive we have just wasted our time / money

# Bits that seem to be missing

- n Feilding is in an LFC area
  - n Town has 20k people
  - n Area scales 80km north, 40km south into areas not covered
  - n Where do they fit ?

# Bits that seem to be missing

## n Dannevirke

- n Dannevirke not covered but Tararua district is
  - n Dannevirke due to be cabinetised

## n Metalform

- n 45 staff, 24x7 Robotic Engineering
  - n Made NZ Sculpture gifted to Japan
  - n Hydraulic Wheel Chairs
    - n Life transforming for customers
    - n Export to North America and EU

# Where do we fit ?

- n We have an ISP and a Fibre company
  - n Not eligible for an LFC
- n We cover Urban and Rural
  - n One fund, both funds, no funds ?
- n We are the guys at the coal face actually getting this job done, will this process kill us off ?

# The M Effect

## n The M effect

- n In Auckland there are lots of M's due to the population base
- n M has lots of competitors
- n M makes a mediocre product that suits the masses, its not about innovation, its not about pushing the boundaries, its about making money
- n People don't have to travel far to get to an M
- n M is investing in growing their stores

# The M Effect

- n In Rural areas there are not a lot of M's
- n If rural people want to go to an M, they need to travel a good distance
- n M is never likely to build in these areas
  
- n Shouldn't this be where we apply funding to promote equality. Invest where competition is not likely to achieve the result

TALK  
TO  
THE  
PAW

