



Tasman Global Access

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What is TGA?



- Telecom, Vodafone and Telstra announced in February 2013 a non-binding memorandum of understanding (MoU) to co-invest in the construction of a new submarine cable between Auckland and Sydney.
- The new cable will significantly improve New Zealand's international telecommunications connectivity as well as strengthen links into fast-growing Asian markets.
- This investment reflects the growing importance of trans-Tasman internet traffic and demand from corporate customers for route diversity: around 40% of both Telecom and Vodafone's international internet traffic is now Australia to New Zealand, versus just 10% in 2000.
- The Tasman Global Access cable will also enable New Zealand to better leverage the four additional international cable systems currently serving Australia, providing important redundancy for New Zealand.



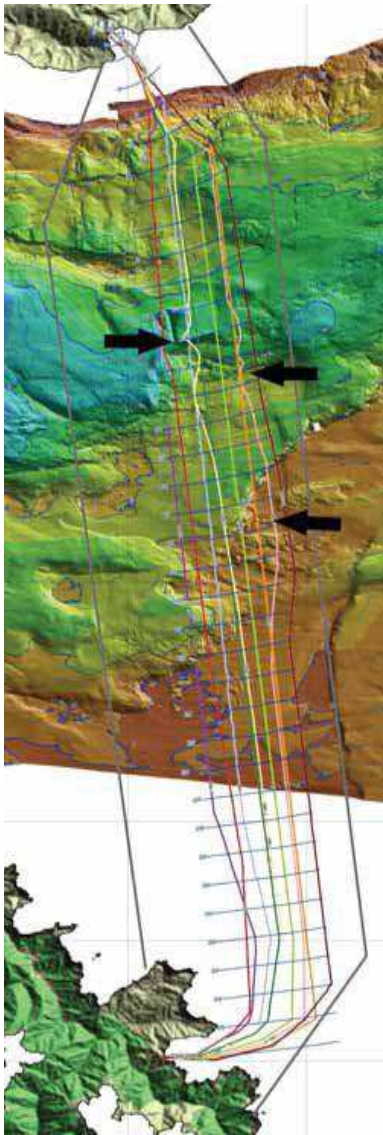
Telecommunications submarine cables



- 95 per cent of international communications traffic is routed via submarine fibre-optic cables.
- Data and voice transfer via these cables is not only cheaper, but also much quicker than via satellite.
- The first submarine cable – a copper-based telegraph cable – was laid across the Channel between the United Kingdom and France in 1850.
- Today, more than a million kilometres of state-of-the-art submarine fibre-optic cables span the oceans, connecting continents, islands and countries around the world.
- Arguably, the international submarine cable network provides one of the most important infrastructural foundations for the development of whole societies and nations within a truly global economy.



NZ international submarine cables

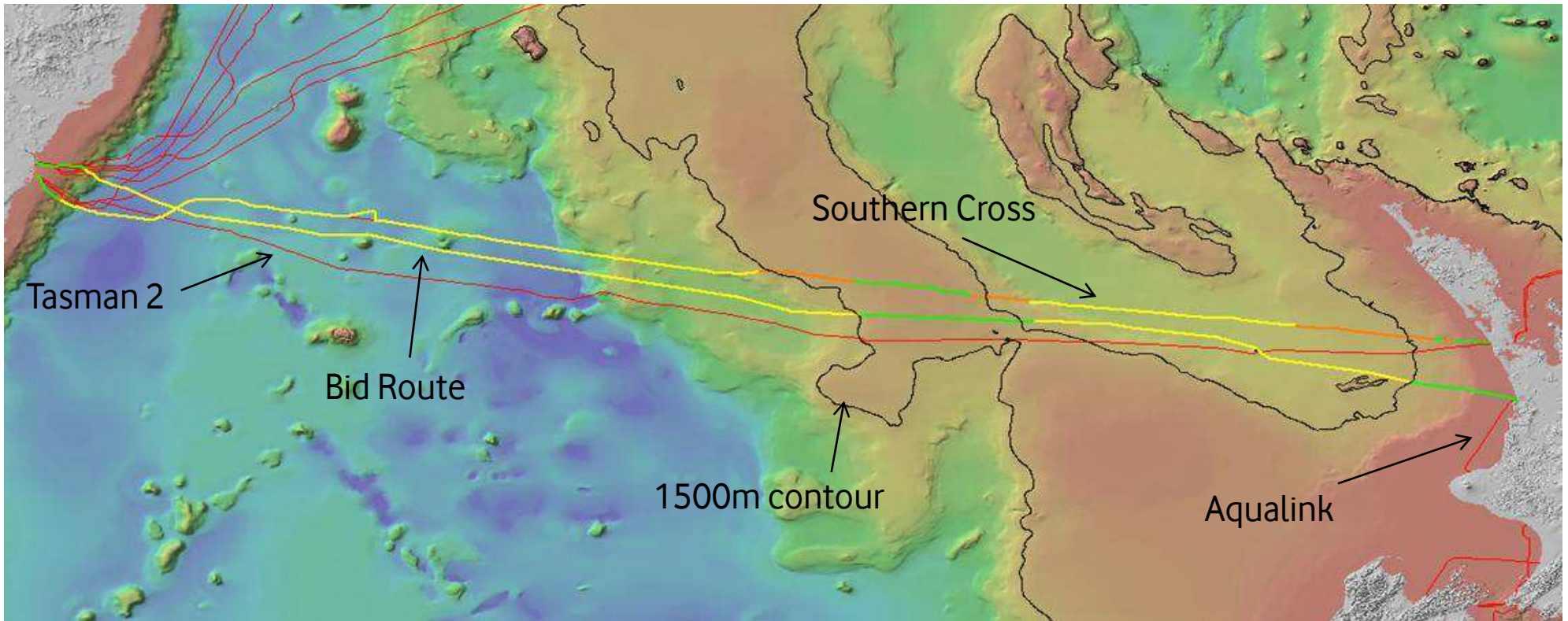


- Southern Cross Cable – the cable is owned by Telecom New Zealand (50.01%), SingTel (39.99%) and Verizon Business (10.00%).
- Tasman 2 – owned by Telecom and Telstra – this cable is likely to cease operation on its next failure – obsolescent system at “end of life”.
- Only one international cable system (Southern Cross cable) provides all the current internet access.
- NZ is at risk with just one cable system providing trans-Tasman and trans-Pacific connectivity.
- A second transTasman cable will provide low latency, high capacity path between NZ and Australia which will result in better pricing and cheaper international internet access.
- This project has very low environmental impact whilst delivering limitless opportunities for all of NZ.
- The cable will incorporate two fibre pairs with a current design capacity of 20 terabits per second – several hundred times the current internet data demand out of New Zealand.



TGA Nominal Route

Bathymetry Source: NZ 250m gridded bathymetric data set and imagery, CANZ (2008).



Legend

- Yellow – Unarmoured
- Brown- Armoured
- Green buried from the 1500m contour (approximately 150 kms off shore) to the cable landing station



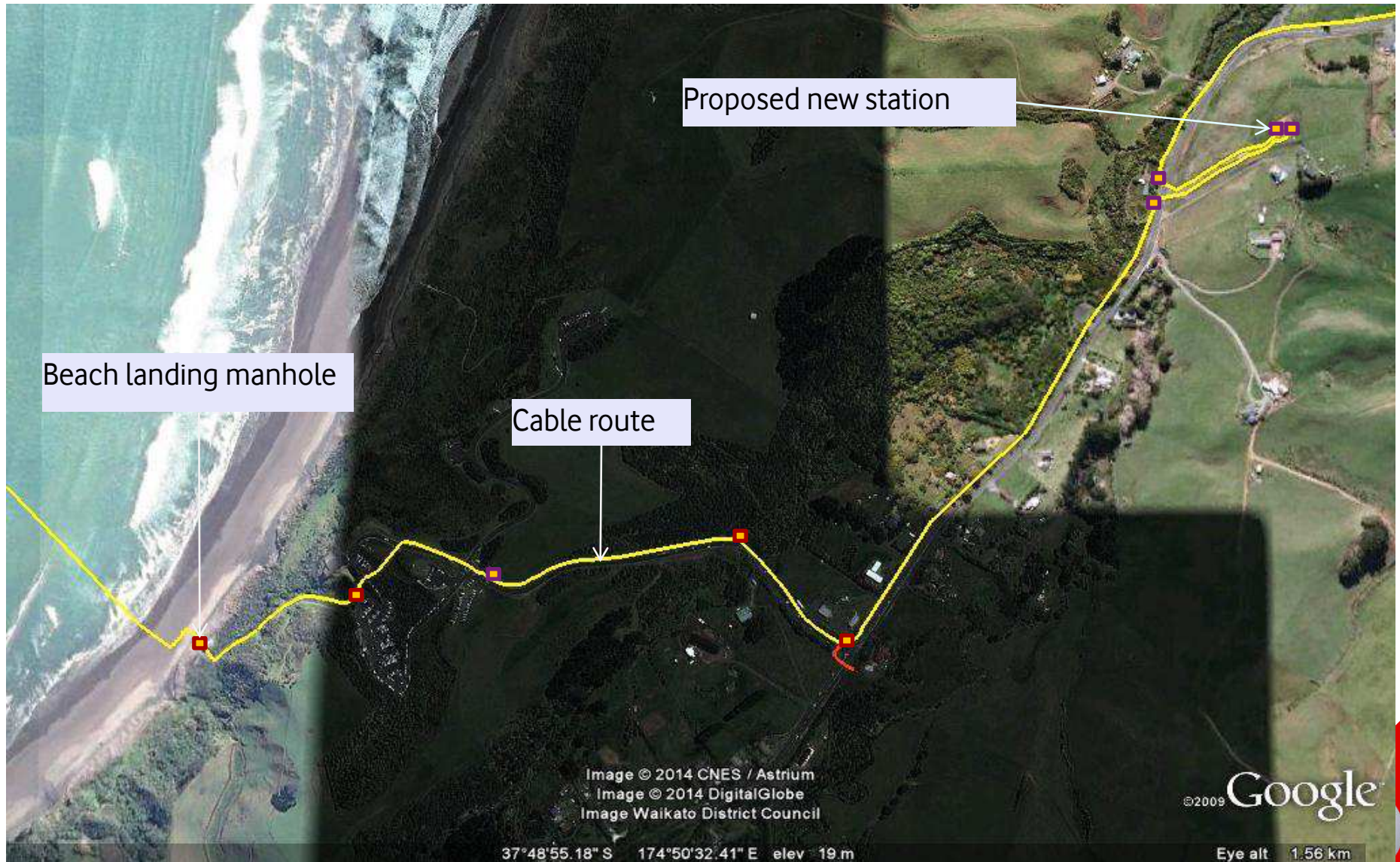
Why Raglan and when?



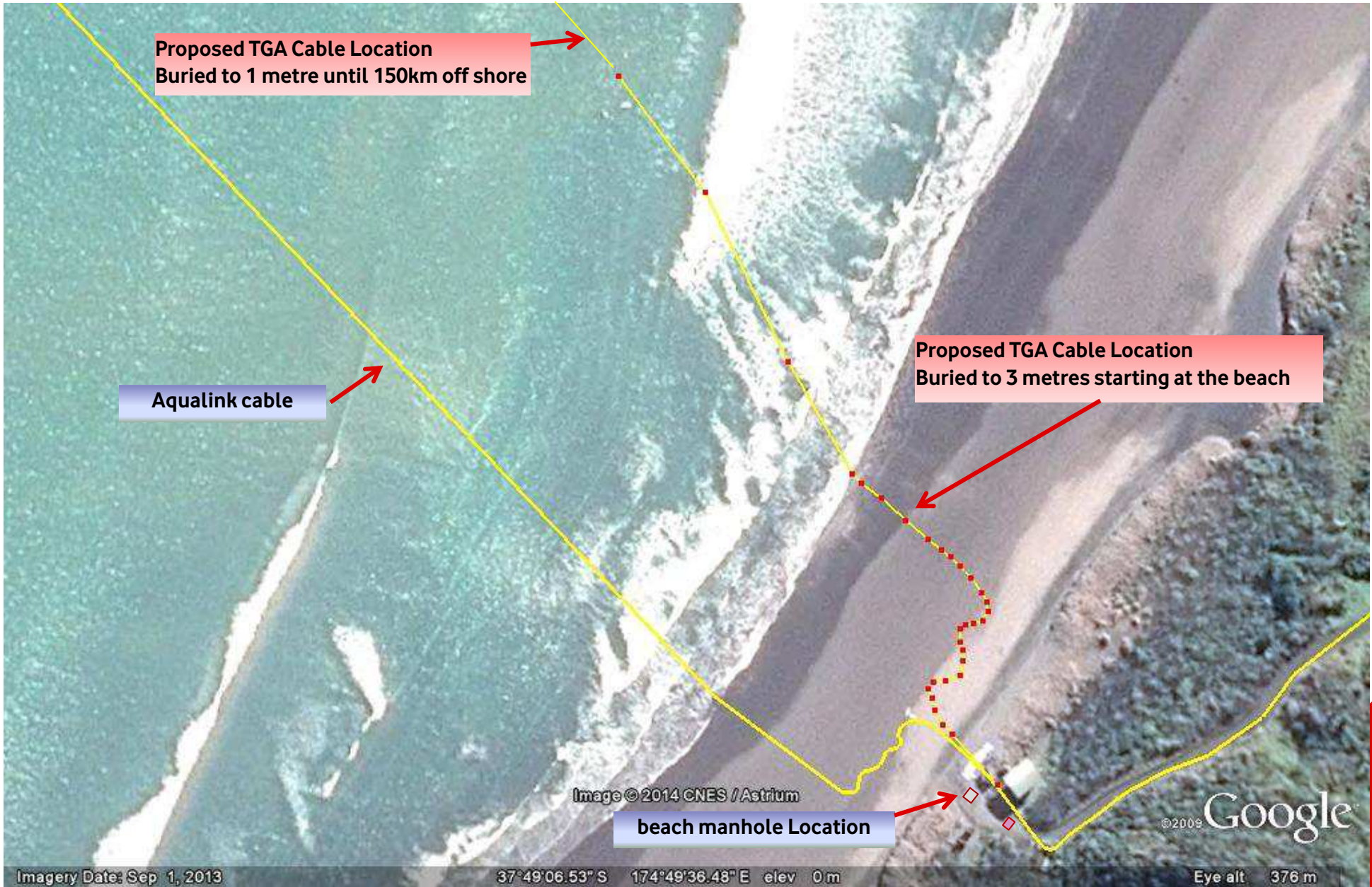
- Raglan already has critical infrastructure that can be utilised in the new project to provide connectivity for the TGA consortium between Sydney and Raglan.
- New Zealand will then benefit by using the existing Aqualink cable thus maximising existing infrastructure as much as possible and by keeping the impacts as minimal as possible.
- The TGA cable needs to be separate from the Southern Cross cable that lands at Muriwai to ensure there is separation of the cables for reasons of redundancy.
- The project is currently in feasibility stage with business case approval expected in September 2014.
- The consortium would like to develop the project;
Cable Landing Station built – Summer 2014 – Winter 2015
Civil work at Ngarunui Beach & Wainui Reserve - Autumn 2015
Cable haul and beach landing – Spring 2015
- Project completion 31 March 2016



Cable Route – Beach to Cable Landing Station

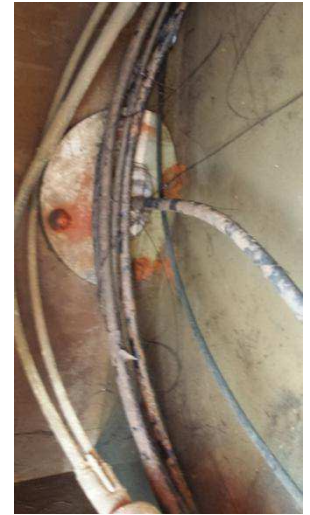


Cable Route – Ngarunui Beach



Beach Man Hole

- Existing man hole internal dimension is 1.2m * 1.2m Wide * 0.9m High
- Dual lid and brace, roadway strength construction above the mean high water spring mark
- Replace existing man hole with internal dimension 3m Wide * 2m Deep * 2m High
- New lid and brace, three 1.2m*0.6m, Aluminium lids with supports, of roadway strength construction
- All still above the mean high water spring mark



Methodology/Sequence of laying cable and burying cable



- **Cable Route Study** - selection of a safe and economic route for the cable.
- **Cable Route Survey** - marine/scientific survey of the route. The route is finalised to avoid sensitive marine environments.
- **Burial Assessment Survey** – where plough burial is planned and in water depths up to 1500m.
- **Route Clearance Operations** - conducted prior to the laying and burial operations along those sections of the route where burial is to be performed.
- **Cable Lay and Plough Burial** - The objective is to install the cable as close as possible to the planned route. The cable will be buried to a target depth of 1 metre as defined in the Route Engineering Report (burial plan).
- **Post Lay Inspection and Burial (PLIB)** - performed in a % of the planned plough buried areas.

[Cable Laying Video](#)



Permitting Requirements



- **Outside NZ Economic Exclusion Zone**
United Nations Convention on the Law of the Sea (1982)
Cable laid on the seabed
- **NZ Economic Exclusion Zone - 200NM to 12NM**
Environmental Protection Authority
Cable buried from the 1500m contour approximately 150 kms
- **12 NM to Beach Man Hole (BMH)**
Waikato Regional Council
Cable buried all the way to the beach man hole
- **BMH (Ngarunui Beach) to Cable Landing Station**
Waikato District Council
Easements in place for current Aqualink cable will cover the TGA activity required through Wainui Reserve.
- TGA will not be applying for any cable protection zones in New Zealand (as per Aqualink).
- Vodafone are committed to engaging with all appropriate parties to achieve a high level of understanding about the national significance of this project and the benefits to NZ.

Questions



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