

Assessment of Effects on the Environment: Realignment of the HAI-MTM-A Transmission Line, Maungatapu to Matapihi including Rangataua Bay, Tauranga

Transpower New Zealand Ltd

24 October 2017 Final

Keeping the energy flowing



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Limitations:

The report has been prepared for Transpower, according to their instructions, to support a resource consent application. This report has been prepared on the basis of information provided by Transpower and supporting technical specialist reports attached to this application. Incite has not independently verified the provided information and has relied upon it being accurate and sufficient for use by Incite in preparing the report. Incite accepts no responsibility for errors or omissions in the provided information.

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Glossary of Terms and Acronyms Used in this Document

Term/Acronym	Meaning/Full Notation
AEE	Assessment of Environmental Effects
CMA	Coastal Marine Area
CMP	Construction Management Plan
CTMP	Construction Traffic Management Plan
CTS	Cable Termination Structure
HAI-MTM A or A-Line	Hairini to Mt Maunganui A 110 kV transmission line
HAI-MTM B or B-Line	Hairini to Mt Maunganui B 110 kV transmission line
HNZPT	Heritage New Zealand Pouhere Taonga
IBDA	Indigenous Biodiversity Area (PRCEP)
NESCS	Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011
NESETA	Resource Management (National Environmental Standard for Electricity Transmission Activities) Regulations 2009
NPSET	National Policy Statement on Electricity Transmission 2008
NZAA	New Zealand Archaeological Association
NZTA	New Zealand Transport Agency
ORCEP	Bay of Plenty Operative Regional Coastal Environment Plan
PRCEP	Bay of Plenty Proposed Regional Coastal Environment Plan
SEA	Significant Ecological Area (TCP)
SMP	Site Management Plan
RMA	Resource Management Act 1991
TCP	Tauranga City Plan
WAP	Works Access Permit

1 Introduction

1.1 Purpose of this Assessment of Environmental Effects

This assessment of effects on the environment (AEE) is provided in accordance with the requirements of Section 88 of the Resource Management Act 1991 (RMA), and the Fourth Schedule to the RMA. It is in support of resource consent applications made by Transpower New Zealand Limited (Transpower) to the Bay of Plenty Regional Council and Tauranga City Council to realign the Hairini – Mt Maunganui A (HAI-MTM A) 110kV transmission line which currently traverses the Maungatapu Peninsula, Rangataua Bay Estuary and Matapihi. The line will in part be co-located with or positioned adjacent to the Hairini – Mt Maunganui B (HAI-MTM B) 110kV transmission line in and adjacent to the State Highway 29A corridor.

A summary of the resource consents being sought for this project is as follows:

Activity	Rule/ Regulation reference	Activity class
<i>Tauranga City Council</i>		
Relocation of transmission line support structures that meet all of the permitted activity standards. This only applies to Pole 128A.	Regulation 14 NESETA.	Permitted activity (included in table for completeness only)
Relocation of transmission line support structures that do not meet the permitted activity or controlled activity conditions. These include Poles 28A/28B (replacing a twin pi-pole structure 28), 29A, 30A, 31A, 32A, 38A, 43B, 47A, 48A, 48C, 48D and 48F.	Regulation 16 NESETA	Restricted Discretionary Activity
Willow removal within SEA 25	Regulation 31 NESETA	Controlled activity
Vegetation removal within SEA 25	Regulation 32 NESETA	Restricted Discretionary Activity
Construction of additional poles that are not relocations. These include Poles 33A, 33B, 33C, 33D, 33E, 39A, 40A, 41A, 42A, 43C, 44B, 45A, 48B, 48E and 127A.	Regulation 39 NESETA	Discretionary activity
<i>Bay of Plenty Regional Council</i>		
Earthworks within 20m of CMA (Pole 33C)	Regional Water and Land Plan, Rule 1C	Discretionary Activity
Disturbance of contaminated land (Poles 33E, 48C, 48D, 48A, 119, 120, 121, 122, 123, 124, 125, 126, 127 and 127A and related tracks).	Regional Water and Land Plan, Rule 35	Restricted Discretionary Activity
Drilling of foundations below ground water (Poles 33C and 33D)	Regional Water and Land Plan, Rule 40A	Controlled Activity

Modification of a wetland (Pole 128 removal, Pole 128A installation and associated access track, wiring site within Span 127A to 128A and associated access track, willow removal (as removal may require use of machinery within the wetland area)).	Regional Water and Land Plan Rule, Rule 85	Discretionary activity
Temporary discharge of a contaminant to land where the contaminant may enter the CMA associated with earthworks in coastal margins.	PRCEP Rule CD8	Discretionary Activity
Disturbance of seabed associated with removal of Tower 118	PRCEP Rule DD14	Discretionary Activity
Occupation of the CMA (conductors in air space)	Regulation 39 NESETA	Discretionary Activity

1.2 Project Background

Transpower plans, builds, maintains and operates New Zealand's high voltage electricity transmission network – the National Grid – which links generators to distribution companies and major industrial users. The National Grid comprises around 12,000 km of transmission lines and cables. It extends from Kaikohe in the North Island to Tiwai in the South Island, transporting electricity throughout New Zealand. As such Transpower plays a fundamental part in New Zealand's economy, with its principal role being to ensure a reliable supply of electricity throughout the country.

The HAI-MTM A transmission line (or A-Line) was built in 1958. This line starts at the Kaitimako Substation on Kaitimako Road, and terminates at the Mount Manganui Substation located at Matapihi Road. Part of the HAI-MTM-A line crosses residential and recreational areas on the Maungatapu Peninsula, including the sports field on Ngāti Hē land at the end of the peninsula (Te Ariki Park) before crossing Rangataua Bay in Tauranga Harbour. On the northern (Matapihi) side of Rangataua Bay, the line crosses a series of horticultural blocks owned by Māori trustees before ultimately terminating at the Mount Maunganui Substation. Due to the length of the span and size of support structures on either side of the waterway, the line is attached to a steel lattice tower in the Coastal Marine Area (CMA). This structure is known as Tower 118.

Ngāti Hē, Ngāi Tūkairangi and Māori trustees have been raising concerns in regard to the A-Line crossing their land since the line was installed in the 1950s. The two hapū and Māori trustees with land ownership interests have a long-standing belief that there was an undertaking to remove the transmission line and any redundant structures from their land when the HAI-MTM B transmission line (or B-Line) was constructed (discussed further below). Transpower has been in specific discussions with these parties regarding the project to realign the A-Line since March 2013.

Ngāti Hē have specifically cited concerns with the construction of the A-Line over their land under Treaty of Waitangi Claim WAI 215. There are two existing support structures (Poles 116 and 117) located on the recreational sports fields owned by Ngāti Hē at the end of the Maungatapu Peninsula which are approaching or at replacement criteria, and one of these support structures (Pole 117) has required temporary measures involving support guy wires and anchor blocks on the foreshore below the cliff to be implemented, as the structure is at significant risk from coastal erosion. The anchor

blocks were installed as emergency works in 2005. A suitable replacement structure for Pole 117 would need to be located approximately 20m back from the cliff edge further into the Ngāti Hē site. Ngāti Hē do not support the replacement of these structures on their land due to impacts on the utilisation of the sports fields and cultural concerns due to the history of the site as a Pa. Accordingly, in order to find a suitable long-term solution that will enable replacement of the existing structures and suitable ongoing maintenance and access arrangements, Transpower has agreed to realign the A-Line off their land to a new alignment generally co-located with or adjacent to the B-Line that runs along the State Highway 29A corridor.

In regard to the horticultural land on the Matapihi side of Rangataua Bay, the location of the line has also raised concerns from the land owners over impacts on the horticultural activities and in regard to establishing and maintaining access for ongoing maintenance and repairs. These have been documented in the Waitangi Tribunal claims WAI 211 and WAI 668.

In 1995, Transpower constructed the B-Line. In the project area on both the Maungatapu and Matapihi sides (see Figure 1), this line is located on poles within the road reserve of State Highway 29A. There is a termination structure at either end of the State Highway 29 bridge, and from these structures the line is located underground as a cable for a short distance and is attached to the State Highway 29A bridge to cross Rangataua Bay. The support poles for the B-Line were specially designed and constructed to be able to support another circuit with potential future realignment of the A-Line in mind given the historic grievances of the Māori communities as previously outlined¹. However, the current bridge configuration is not specially designed to accommodate a further transmission cable, and may also need to be replaced at some point in the future.

Ngāti Hē, Ngāi Tūkairangi and Māori trustee land owners have expressed their concerns on an ongoing basis that the A-Line has not been relocated off their land since the B-Line was installed. The Tauranga Moana Iwi Management Plan 2016-2026, is a joint environmental plan representing the collective voice of Ngāti Ranginui, Ngāi Te Rangi and Ngāti Pūkenga iwi. Ngāti Hē and Ngāi Tūkairangi are hapū affiliated to Ngāi Te Rangi iwi. The Management Plan includes the following relevant policy and relevant specific action:

Policy 15: Manage the effects of coastal structures (including moorings and jetties) and infrastructure in Tauranga Moana.

Action 15.2: Pylons are to be removed from Te Ariki Park and Opoopoti (Maungatapu) and rerouted along the main Maungatapu road and bridge. [Lead Agency: Transpower]

¹ More recent structural and blowout investigations have determined that a number of existing poles would require replacement and additional mid-span poles added to resolve structural and ‘blowout’ issues associated with adding a second circuit.

Transpower's project objectives of the realignment are to:

- Enable Transpower to provide for the long-term security of electricity supply into Mount Maunganui;
- Remove an existing constraint from an important cultural and social facility for the Maungatapu community; and from horticultural activities for the Matapihi community; and
- Honour a longstanding undertaking to the community/iwi to remove Tower 118 from the harbour.

Figure 1 below shows the current alignments of the HAI-MTM A ("A-line") and HAI-MTM B ("B-line") in the Maungatapu and Matapihi areas.

2 Description of Proposal

2.1 Site and Surrounds

The application site (outlined in Figure 1 below) consists of the following:

- State Highway 29A road reserve – new infrastructure, drilling below ground water and within 20m of CMA (Pole 33C).
- CMA (Rangataua Bay) – seabed disturbance and airspace occupation.
- Pt Te Ngaio No. 1 Block (Title ID 456072) – new infrastructure, drilling below ground water (Pole 33D).
- Part Ngāi Tūkairangi No. 2 Block (SA53C/196) – new infrastructure, land disturbance on potentially contaminated land. Works within and to adjacent SEA 25 (TCP)/IDBA B 23 (PRCEP)/wetland associated with wiring site and willow removal.
- Tumatanui 2B3A Block (Title ID 393312) – land disturbance on potentially contaminated land.
- Lot 2 DPS 78629 (SA62C/83) - land disturbance on potentially contaminated land.
- Part Ohuki No. 2D Block (Title ID 450875) – Pole 128 replacement and associated access track work on this title including associated earthworks within a wetland. Part wiring site within SEA 25 (TCP) /IDBA B 23 (PRCEP)/wetland.

Pole removal work on residential sites and Te Ariki Park (Poles 113A – 117) is assessed as a permitted activity under the relevant planning documents and accordingly these properties are not formally part of the site for which consents have been sought.

A detailed description of the landscape is included in the Landscape, Natural Character and Visual Assessment Report prepared by Isthmus Group included in Appendix E.

The application area includes the State Highway 29A corridor administered by the New Zealand Transport Agency (NZTA) at Maungatapu and Matapihi, Rangataua Bay estuary in CMA, and pastoral and horticultural land located adjacent to State Highway 29 through the Matapihi area. The B-Line,

located on single poles, runs along the western side of the State Highway 29A road corridor through the project area².

Along the Maungatapu Peninsula, land adjacent to State Highway 29A is primarily residential. The road reserve boundary is generally well vegetated to screen the road corridor from adjacent land uses. Rangataua Bay has a relatively narrow entrance between the ends of the Maungatapu and Matapihi peninsulas. In this area, the State Highway 29A two lane road bridge crosses the CMA, to which the B-line is attached, with termination structures of approximately 17.6m and 17.8m in height located at either shore end to transition the overhead line to an underground cable to enable it to be attached to the bridge.

To the west of the bridge, Tower 118, a lattice steel tower approximately 31m high above its foundation, is situated within the CMA. The A-line crosses the estuary via this tower located within the CMA. This line makes landfall on the Maungatapu side via pole 117 at the top of a coastal cliff on Te Ariki Park. This area is identified as a Significant Māori Area (M41) in the Tauranga City Plan, and is identified as Te Ariki Pa/Maungatapu. The line then crosses Te Ariki Park and numerous residential sites on pi-poles and single poles³ before meeting the B-line in the State Highway 29A road reserve at Pole 28.

The general area of the landfall on the Matapihi side is identified as a Significant Māori Area (M44) in the Tauranga City Plan, and is identified as Te Ngaio Pā. Land uses include pastoral land on the lower terrace adjacent to the end of the peninsular, and beyond that an elevated terrace characterised by horticultural blocks including shelter planting along the State Highway 29A road reserve boundary. The A-line crosses this pastoral and horticultural land on pi-poles.

² Pole 50 is located on the eastern side of State Highway 29A and will be replaced on the western side as part of this project.

³ 'pi' poles are double poles with a horizontal cross member giving the appearance of a pi symbol.

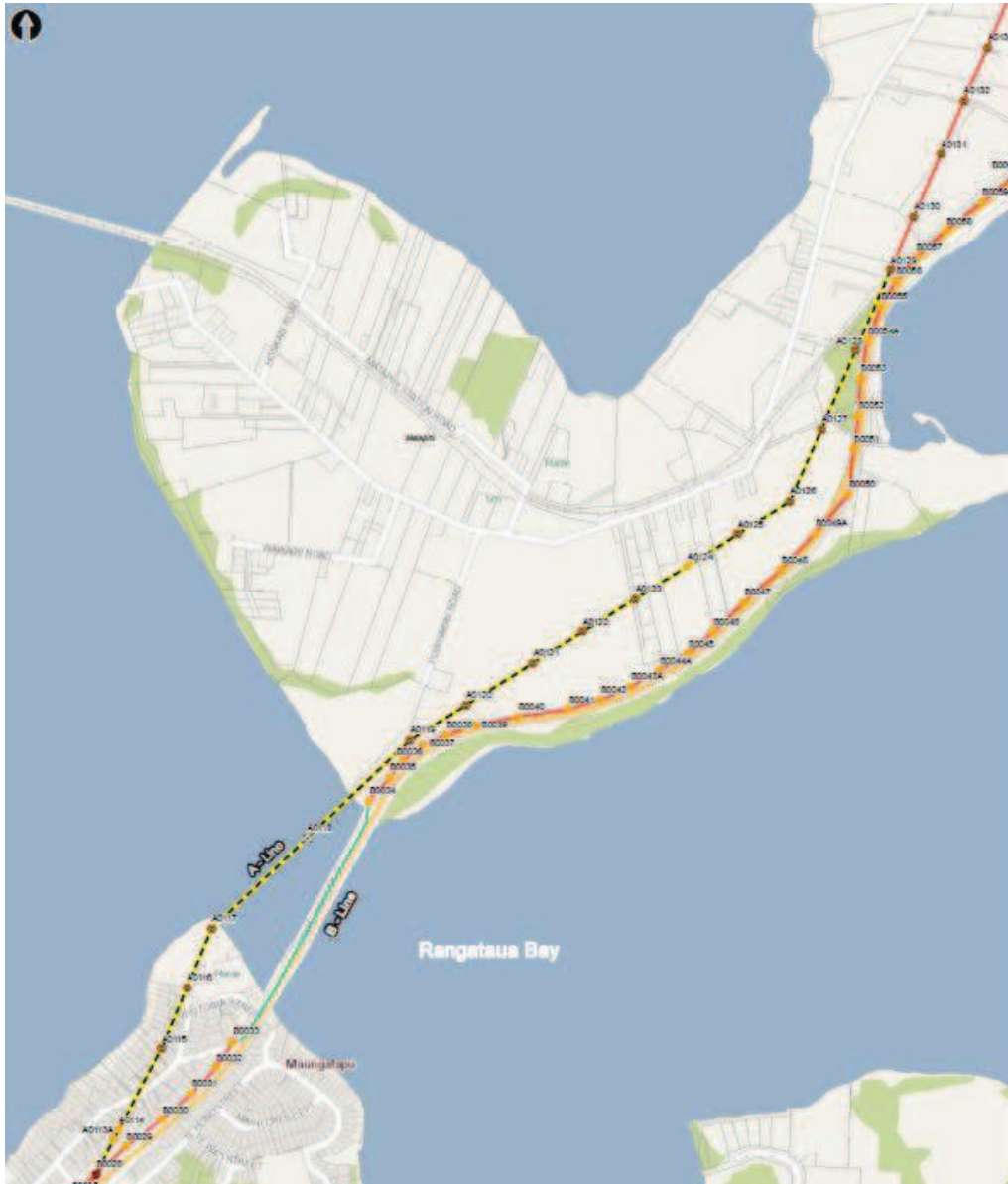


Figure 1: Location of the wider site area, sourced from Tauranga City Council Mapi GIS

The support poles for the B-Line that run along State Highway 29A were originally designed to take another circuit with a future realignment of the A-Line in mind. Further engineering investigations have determined that a number of existing poles require either replacement or supplementary poles installed to address structural issues, manage conductor ‘blowout’ on adjacent properties in high wind conditions and/or to minimise the extent of vegetation trimming or removal.

2.2 Existing Consents

The A-Line was established in 1958 under the relevant public works legislation in force at the time. Transpower records indicate that there was some discussion in 2003 and 2004 around the need for a retrospective consent for Tower 118 to occupy the CMA when the rules in the Regional Coastal Environment Plan became operative. However, Transpower’s legal advice at the time was that due to

the manner in which the transmission line was established under the relevant public works legislation, the structure had a deemed coastal permit, and no further consent for the structure was sought or pursued by the Bay of Plenty Regional Council. Transpower intends to remove Tower 118 as part of this project.

Temporary anchor blocks are located in the CMA at the bottom of the coastal cliffs at the end of the Maungatapu Peninsula to provide additional structural support to pole 117. These works were originally established as emergency works with a retrospective consent granted by the Bay of Plenty Regional Council in 14 August 2014 with a consent expiry date of 31 July 2017. Further resource consents for the anchor blocks structures and ongoing maintenance (ref: RM17-0028-CC.01 (coastal deposit substance), RM17-0028-CC.02 (occupy coastal space) and RM17-0028-CC.03 (coastal discharge)) were granted on 9 June 2017 for a further period of 3 years to enable sufficient time for the resource consent process for the realignment to be completed and the project constructed and commissioned. These resource consents will expire on 30 June 2020. Construction related consents being sought from the Bay of Plenty Regional Council include a proposed consent expiry on the same date.

A resource consent to undertake geotechnical investigations for the Pole 33C and 33D foundations was granted on 20 July 2017 (Council ref: RM17-0134).

The B-Line was constructed in 1995 following the issue of a certificate of compliance granted by the Tauranga City Council. Transpower also received written confirmation from Bay of Plenty Regional Council (dated 27 May 1994) confirming that installation of cables on the bridge over the CMA did not require a resource consent.

2.3 Proposal Description

Overview

In general terms, the proposal will consist of the following main components:

- Realign the A-Line from the point where the two transmission lines currently converge in the State Highway 29A road reserve in Maungatapu at Pole 28, to Pole 128 at Matapihi, and then continuing on existing poles to the Mount Maunganui Substation. This realignment will generally be on the B-Line alignment along the State Highway 29A corridor. This will involve a number of replacement and additional poles to manage structural loads and line swing ('blow out') and to reduce the need to trim or remove vegetation along the State Highway 29A boundary.
- Install two steel monopoles on either side of Rangataua Bay to enable the A-Line to cross the estuary in a single span.
- The removal of the A-Line including 5 existing structures from Te Ariki Park and residential areas on the Maungatapu side, and removal of this line including 9 structures from pastoral/horticultural land on the Matapihi Side.
- Removal of Tower 118 from the CMA.
- Replacement of suspension Pole 128 with a new 'strain' replacement structure immediately adjacent to it.

- Earthworks associated with the removal, replacement and installation of pole structures, access tracks and track upgrades for construction work, and the removal of Tower 118 from the CMA.

In total, 27 existing poles and one tower in the CMA will be removed (28 structures in total), and 28 new poles (including 13 replacement poles) will be installed, a neutral overall number of support structures.

Plans and a detailed schedule of the proposed pole works including all proposed heights and structure design types are included in Appendix B. All heights noted are approximate and are subject to final design.

For ease of description, the proposed line works description is broken up into the following project sectors:

- Maungatapu
- Rangataua Bay Crossing
- Matapihi

Maungatapu Sector

The A-Line including 5 poles crossing residential land and Te Ariki Park will be removed.

The A-Line will be integrated onto the same structures (replacement structures) as the B-Line from Pole 28 at the point where the two lines currently merge to the immediate north of the Taipari Street overbridge. The existing concrete pi-pole will be replaced with twin armless steel poles approximately 25.5m high (to be named 28A and 28B but functionally is a straight replacement structure for pi-pole 28). Due to the complexity of the two lines coming together at this location, a temporary bypass structure (28T) comprising a 19.4m high concrete pole will be erected within the road reserve on which conductors can be temporarily located during the integration of the conductors from the old structure to the new one.

From this point, both the A-Line and B-Line structures will run on the same support structures on the western side of the road (replacement 28.2m high single steel poles) within the grass berm area to Pole 32 (to be replaced with Pole 32A). The existing poles will need to be replaced with taller steel single poles approximately 28.2m high. As the new circuit will be placed on the road reserve boundary (western) side of the poles, the pole heights will need to be increased from existing to avoid substantial trimming of the adjacent road boundary screen vegetation. From replacement Pole 32A, the B-line will continue to the existing termination structure (33) and then continue underground to the bridge as it does at present. The A-Line will proceed via three new steel single poles in the road corridor, 33A (19.4m), 33B (22.4m) and 33C (34.7m monopole), to the CMA.

Rangataua Bay Crossing Sector

The A-Line will cross Rangataua Bay in a single span between new steel monopoles 33C and 33D. To achieve a single span crossing, the monopoles on each side will be approximately 34.7m above ground level on the Maungatapu side (Pole 33C), and 46.8m on the Matapihi side (Pole 33D). The pole at the Maungatapu side will be positioned within the road reserve. The pole on the Matapihi side will be

located on a block of Māori Trustee land affiliated to Ngāi Tūkairangi (with historical ties to Ngāti Hē that are acknowledged in the respective CIA reports). These two pole structures will remove the need for Tower 118, thus allowing it to be removed from the CMA.

Matapihi Sector

The realignment will enable the removal of 9 pi-pole structures on pastoral and horticultural land between and including existing poles 119 and 127.

Existing poles 34 (termination structure), 35 and 36 located within State Highway 29A carrying the existing B-Line only remain unchanged. The Rangataua Bay crossing (A-Line) makes its landfall at new monopole structure Pole 33D (46.8m high) before connecting to a new 24m high single steel pole (33E). The A-Line is then added to existing B-Line alignment from Poles 37 to 46. These works are a combination of using existing poles to which additional arms and insulators will be added to the western site to which the A-Line circuits will be attached, and adding 7 new intermediate structures (single poles) and two replacement single poles (for 39 and 43A) to manage 'blow-out' of the new A-Line circuits towards adjacent shelter plantings. The new and replacement poles in this section will be 19.4m high concrete poles.

From Pole 46, the two lines are attached to a new replacement single steel pole 47A (19.4m) in road reserve, and twin single steel poles (one replacement and one new) 48B (22.8m) in road reserve and 48A (22.8m) on immediately adjacent horticultural land adjacent to the road reserve, and new single poles 48C, 48D and 48E (22.8m high steel poles located on the horticultural land running adjacent to State Highway 29A), before both circuits diverge back to separate alignments.

From Pole 48E, the A-Line will connect to a new 19.4m high concrete pi-pole (127A) before connecting to a new 11.2m high concrete pi-pole (128A) to replace the immediately adjacent existing 12.6m high pi-pole 128. The A-Line then continues on its existing alignment to the Mt Maunganui Substation.

Pole 50 located on the opposite eastern side of State Highway 29A to the rest of the B-Line will be relocated to the western side of State Highway 29A and the B-Line will connect from Pole 48E to a new replacement single steel pole – Pole 48F (22.8m) in road reserve, and then continue on its existing alignment to the Mt Maunganui Substation.

Construction Works – all Sectors (Terrestrial)

Earthworks will be relatively minor and are limited to pole foundation construction, pole/foundation removal and minor works for temporary access tracks/wiring sites.

The estimated earthworks for pole construction and removal, mid-span wiring site in span 127A-128A and temporary access tracks is detailed in the table in Appendix C. This includes a breakdown (poles, and construction areas) of the estimated volumes for the purposes of determining which works require which specific regional earthworks consents. The table also outlines how the earthworks volumes have been estimated.

A summary of the estimated earthworks is as follows:

	Volume m ³
Total volume within potential contaminated land	345
Total volume within 20m of CMA	100
Total volume on land slopes greater than 15 degrees but less than 35 degrees	110
Total volume (other than as identified above)	1195
GRAND TOTAL VOLUME	1750

Table 1: Estimated Earthworks Volumes

Prior to construction, all new pole locations will be marked on the ground and the location of all existing utilities services will be confirmed. The works site will be marked out and work site access locations established. A Construction Traffic Management Plan (CTMP) will need to be in place to ensure all work within the State Highway 29A corridor and all construction access from roads is appropriately managed. A consent condition is proposed to ensure a CTMP is prepared and approved before work commences.

Pole foundations will be bored, and any spoil trucked away unless otherwise agreed by landowners that it can be respread following advice from an appropriately qualified person that such respread/fill activity is a permitted activity under the relevant statutory planning documents. A dewatering procedure for the foundations for Poles 33C and 33D is set out in the section below. Poles will then be lifted into place by crane or HiAb (depending on scale of poles) and concrete poured into the foundations.

Once the poles are established, it is expected that four wiring sites will be required. These will generally be in grassed road berm or open paddock areas, although one site (as shown on Sheet 8 of the application plans), will be required within SEA 25 (Tauranga City Plan) and IBDA B (Proposed Regional Coastal Environment Plan). This will require a clear area of approximately 30m x 25m, and a temporary access track, although it is noted that the majority of this area is already in grass cover with some wetland vegetation dominated by exotic wetland and weed species. The effects of this work and proposed mitigation is specifically addressed in the ecological assessment prepared by Tonkin and Taylor included in Appendix F. The affected area will be reinstated following the work. Stringing equipment will be set up in these wiring locations and the conductors will be strung by pulling a nylon pull rope and then the conductors themselves through blocks on the support poles.

Removal of existing conductors from redundant sections of the A-line will involve placing the conductors in running blocks on the existing structures and tension de-stringing using nylon rope and then retrieving using a reel winder. The nylon rope may be dragged through the CMA, but conductors will not be dragged through the CMA as part of this process.

Dewatering Procedure

The foundations for Poles 33C and 33D will involve drilled bore holes for pile foundations. Due to the low-lying nature of the land and the adjacent CMA, it is envisaged that dewatering from the pile foundations may be required.

For the boreholes, drillers will use water with the addition of biodegradable mud as required for drilling fluid. Sediment control measures are to be put in place to ensure any localised discharge to the surrounding area during drilling will be controlled. Casing will be installed as required.

Transpower has sought best practise advice from a high-profile drilling contractor to assist the detailed design and consent application preparation. The proposed methodology for installing the new piles is as follows: -

1. Use a steel liner during drilling the piles
2. Drive down the liner whilst drilling the piles
3. Use an excavator to remove spoil and load straight onto trucks
4. The worksite and the truck loading area can be bunded (sandbags and geofabric sausages as below) to ensure no discharge to the CMA

Depending on the amount of ground water encountered and dewatering required, any fluid, mud, silt or fine material (cuttings) generated during the course of the drilling will be contained within an above-ground storage pit ('mud tank'). The pit will be pumped out into a vacuum truck (or similar) periodically as required or upon completion of the hole. The cuttings will then be removed from site and disposed of at an approved facility.

Industry practice is to use geotextile and geofabric sausages or similar measures to create a temporary bund around the working end of the drill rig. In the unlikely event the steel mud tank was to rupture and fail, drill cuttings would be retained by this bund. The bund will be of adequate size to hold the entire mud tank capacity (worst case spill scenario). In a spill event, work would be stopped immediately. Drillers would suck up the spilt cuttings (using a trash pump/vacuum truck etc.) and a replacement mud tank would be sought before continuing with drilling.

Used silt matting and cuttings will be disposed of at a suitable facility at the completion of the works.

Figure 2 below illustrates a conceptual diagram of the works to be carried out.

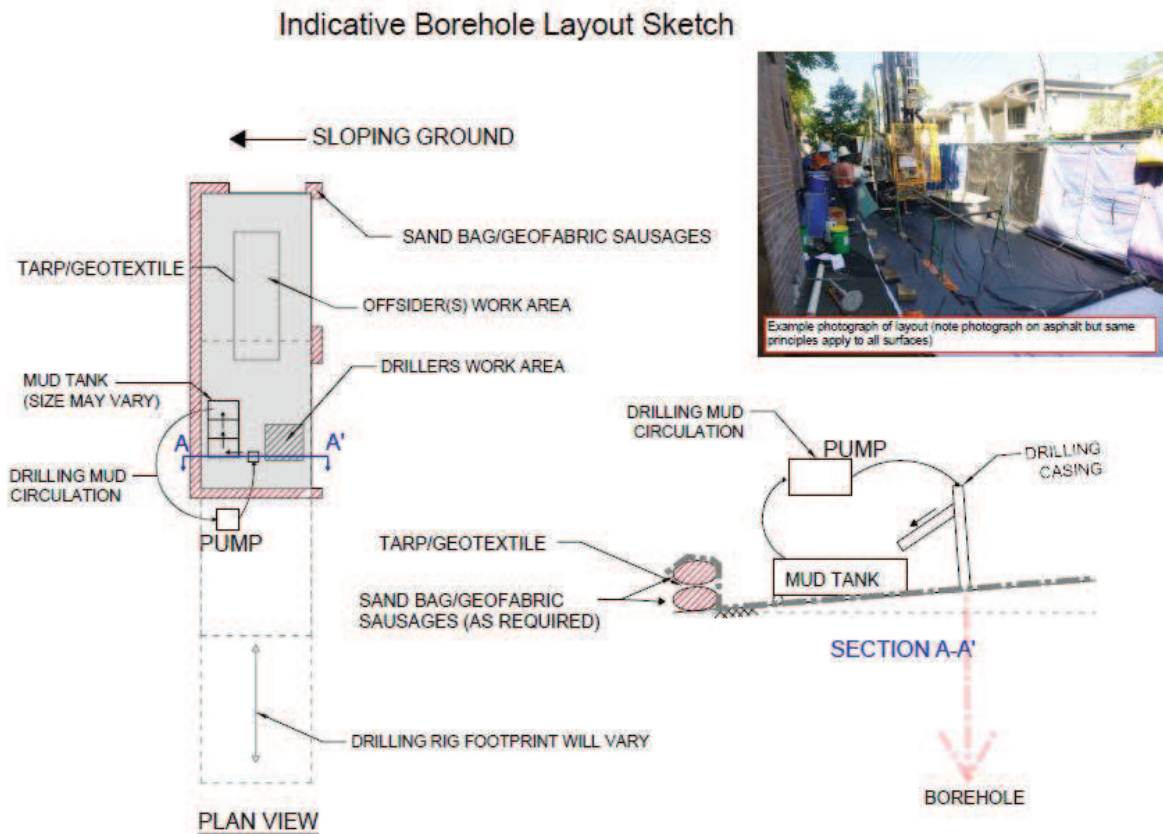


Figure 2: Conceptual diagram of borehole works

The remaining foundation works will not involve pile foundations and will only involve burying part of the end of the pole in the ground. The depths for these other works are not significant and will be undertaken in areas with elevations well above the CMA. Accordingly, it is not expected ground water will be encountered at other pole locations.

Construction Access

Access to the works sites will utilise existing access tracks on farm land where possible (some minor upgrading may be required including stabilising and adding metal to tracks and clearing vegetation), and in some instances some short sections of temporary access tracks may be installed. In the State Highway 29A road reserve, this will only involve a flattening of the land contour. Track work on farm land at Matapihi may include some widening and corner easing on existing farm tracks if works are required over the winter period (may not be required in dry summer months). Some short sections of new track will be required over farm land to provide construction access to some new pole and pole removal sites. The proposed access routes are all shown on the plans in Appendix A. A conservative worst-case estimate of earthworks required for the access tracks are quantified in the table in Appendix C. Some vegetation within the State Highway 29A road reserve and on the adjacent horticultural blocks may require trimming or removal to get access to work sites. Any vegetation within the State Highway 29A corridor that is removed for temporary access tracks will be reinstated at the completion of the works with equivalent types of vegetation.

A temporary track will also be required within and adjacent to the ecological area in the span between Poles 127A and 128A (SEA 25 (TCP)/IBDA B (PRCEP)). This will require earthworks and vegetation clearance and is assessed in the ecological assessment attached in Appendix F.

Vegetation Trimming and Removal (other than for temporary track work)

Some trimming of roadside vegetation and shelter belts is likely to be required to provide suitable clearances for line swing. The structure heights and use of some intermediate poles is designed to minimise the extent of any trimming. Some mid span vegetation in the road reserve in the berm area on the Matapihi side will require removal to ensure suitable line clearances are maintained when the A-Line circuit is installed (e.g. around Poles 39/40/41). As confirmed in the landscape and visual assessment, due to other vegetation on the road boundary, it is not proposed to reinstate this vegetation. The above described vegetation requiring trimming or removal is not protected by the Tauranga City Plan.

Some exotic willow trees located within SEA 25 (TCP)/IBDA B (PRCEP) and in the span between Poles 127A and 128B will require removal to provide suitable line clearances. This work is assessed in the ecological assessment attached in Appendix F.

Tower 118 Removal from CMA

The tower structure above the foundations will be removed by helicopter. The general methodology is as follows:

- Careful planning and liaison with both Civil Aviation Authority and Tauranga Airport will be required for helicopter use.
- Prior to tower removal, a robust engineering assessment of tower section weights will be undertaken to confirm tower section weights and splits for helicopter removal. Analysis will involve discussions with helicopter company, and consider constructability, stropping and safety especially, personnel location on tower when helicopter suspended loads are present.
- For establishment refuelling etc it is proposed that the helicopter will be based out of Tauranga airport 3.8km away from Tower 118.
- In the day(s) prior to helicopter establishment personnel will make their way across the foreshore on foot to the tower and prepare structure for removal. This may involve removal of some bolts, stropping and potentially the removal of some smaller tower members. These members and all bolts will be lowered from the tower by use of capstan winch and then either carried from site along foreshore, or bundled together on the foundation for removal by helicopter.
- With the assistance of the helicopter the tower will be dismantled in sections (approximately 7-15 sections). The helicopter will ferry these sections of tower approximately 250m to the open field adjacent from Pole 33D. Expected duration of this event is approximately 2-4 hours.
- The day after tower removal the tower sections (now located within the field adjacent to Pole 33D) will be dismantled into single steel members, possibly with the assistance of a Hiab. The individual steel members will then be bundled and loaded onto the Hiab truck and transported from the site along with all the removed tower bolts.

Following tower removal, the foundation will be removed using the following general methodology:

- If it is low tide as many pre-cuts as possible will be done.
- At high tide, the HiAb barge will be stationed alongside the tower base.
- Strops will be secured to the pre-cut members to support them for the final cuts.
- Once they are cut they will be loaded onto the HiAb barge.
- The HiAb will continue to hold the members being cut.
- When the tide is getting too low the barge will back off the sand bank and take the sections of the tower back to the load out area onshore.
- The removed sections will be loaded onto a HiAb truck and taken to a land fill or recycling facility as appropriate.
- When all of the horizontal members have been removed a dive team will excavate around the legs.
- Each leg will be excavated down to approximately 800 - 1000mm below sea level, to allow for it to be cut at 500mm below sea level. This will be done using a 4" hydraulic trash pump.
- The hydraulic power pack runs on Bio oil that is approved as environmentally friendly.
- The material will be excavated from the hole through a 4" hose to approximately 6 meters away from the existing tower base.
- The hose will be underwater at all times and will put off very little water discolouration, as the material is only being transferred from one place underwater to another.
- After the excavation has been completed, the HiAb will be connected to the leg.
- The diver will cut through the member using a hydraulic ring saw.
- The member will be loaded onto the barge.
- This will continue until all of the legs have been removed.
- The sand that has been removed from the excavations will then be re-pumped into the holes to leave the seabed flat
- All gear and debris will be removed from site.

The expected length of time to remove the foundation is approximately six days.

Construction Time Frame

The overall construction time frame for the proposed work is in the order of 3 months. However, depending on the time of year/weather, this may be undertaken in stages within an overall construction window of 9 months. An indicative construction start date is October 2018.

3 Reasons for Resource Consent

The following rules interpretation in this application is that of Incite, and is intended as a guide only and is not in substitution of the Council's own assessment of the proposal, nor is it a restriction on the matters resource consent is being sought for. Resource consent is applied for the proposal described in the "*Description of Proposal*" in Section 2 above, and the plans and other information submitted. Resource consent is applied for the rule infringements described in this application, and any other

resource consents necessary, whether specifically identified or not, to allow the proposal to be established, maintained and operated.

The proposal has been assessed as requiring resource consent for the reasons outlined below.

3.1 Tauranga City Plan - Operative

The majority of the application site is on land subject to the Tauranga City Plan (TCP).

Under the TCP, the application site (all locations where new structures are proposed) is zoned as Road (within State Highway 29A) or Rural (farm land on Matapihi side).

The locations of structures 33C and 33D (waterway crossing monopoles) are subject to the Flood Hazard Plan Area).

A portion of the northern section of the application area in the span between existing poles 127 and 128 and proposed Poles 127A and 128A is located within a *Special Ecological Area (Category 2)* – reference 25 in the TCP schedule and identified as containing wetland vegetation and significant wildlife value including North Island Fern Bird. A temporary access track and wiring site and some exotic tree removal will be required within SEA 25.

Both headland areas are identified as *Significant Māori Areas*. Site M41 on the Maungatapu side is identified in the TCP schedule as Te Ariki Pa/Maungatapu. Poles 116 and 117 and associated conductors will be removed from this area as part of the project. On the Matapihi side, the headland area is identified as M44 Te Ngaio Pā (new Pole 33E will be located within this area). Transpower is seeking an authority from Heritage New Zealand given the former Māori occupation in and around the project site.

The end of the Matapihi Peninsula where Pole 33D will be located is identified as an *Important Amenity Landscapes Plan Area*.

Areas of the project adjacent to or within State Highway 29A are located within the *NZTA Reverse Sensitivity Plan Area*.

The project traverses the area identified as a *Viewshaft Protection Area*, which is a viewshaft from the Welcome Bay area towards Mauao (Mount Maunganui). New and replacement poles will not penetrate the floor of this viewshaft (i.e. Viewshaft Protection Area Map 37 shows permitted building height limits being well above the proposed structure heights in this area).

All structures will comply with the airport height limits. Works in Rangataua Bay and Matapihi are subject to a horizontal surface height limit of 49m above mean sea level (AMSL). The critical structure to consider is Pole 33D which is approximately 46.8m above ground level and 48.4m AMSL. All other structures will have a greater clearance. The works on the Maungatapu side are subject to a horizontal surface of 154m AMSL which will be complied with by a wide margin.

The existing transmission lines are located within the *High Voltage Transmission Line Plan Area*. Following completion of the works, changes to the planning maps will be required in due course to remove this area from parts of the lines that have been removed, and relocate this area where lines are moved to new alignments. This will likely require a plan change in due course to correct the plans and apply any rules relating to the *High Voltage Transmission Line Plan Area* to new transmission line alignments. As noted later in this document, any new areas affected by the *High Voltage Transmission Line Plan Area* and associated planning restrictions will only apply to areas where easements are already being negotiated by Transpower to move the lines.

Works within the State Highway 29A corridor are subject to NZTA designation NZTA4. Transpower will obtain formal approval from NZTA under s176 of the RMA as a separate process.

No new structures will affect Kiwi Rail designation RC2 at the northern end of the works as this corridor passes in the span between the final structure to be upgraded (128A) and structure 129 further to the north. Transpower will ensure existing line clearances over the Kiwi Rail corridor are retained as part of the replacement of Pole 128. Pole 128 will act as a 'hurdle' while Pole A128 is constructed immediately adjacent to it, thus retaining suitable construction clearances over the Kiwi Rail corridor.

No resource consents are required under the TCP as the relocation of existing transmission lines is regulated under the *Resource Management (National Environmental Standard for Electricity Transmission Activities) Regulations 2009* (NESETA). As outlined below, resource consents will be required from the Tauranga City Council under the NESETA.

3.2 Proposed Bay of Plenty Regional Coastal Environment Plan

As the proposal relates to activities within the CMA, it is necessary to assess the relevant rules in the *Proposed Bay of Plenty Regional Coastal Environment Plan* (PRCEP). The PRCEP is currently going through an appeals process and as such there are a number of provisions which are now deemed operative and others that are awaiting appeals to be resolved. However, none of the rules applicable to this project are under appeal, and accordingly, the rules of the Operative Bay of Plenty Regional Coastal Environment Plan (ORCEP) have not been further assessed (the objectives and policies of this document have been assessed in the statutory assessment as a number of objectives and policies in the PRCEP are subject to appeals).

Works associated with relocation of a transmission line, including works within the CMA, are generally covered by the NESETA. However, earthworks (including disturbance of the foreshore and seabed) to the extent it is subject to a regional rule is not covered by the NESETA.

The CMA area where works will be undertaken includes the following notations:

- ONFL 3 (Outstanding Natural Features and Landscapes)
- ASCV 4 (Area of Significant Cultural Value)
- Area of High Natural Character (as specified in the Regional Policy Statement)
- Personal Water Craft Area (at the end of the Matapihi Peninsula – no physical disturbance to this area is proposed although it will be crossed by conductors in airspace)
- Airport horizontal surfaces (as per those described for the TCP above)

The terrestrial area where works will be undertaken is subject to the following notations:

- Indigenous Biodiversity Area B (IBDA B) - in the span between proposed Poles 127A and 128A. A temporary access track and wiring site and some exotic tree removal will be required within SEA 25.

An assessment of the relevant rules is carried out below.

Rule	Project Component Affected
<p>DD14: Disturbance of, deposition on, dredging of, or removal of sand, shingle and shell</p> <p>The:</p> <ol style="list-style-type: none"> 1 Disturbance of the foreshore or seabed. 2 Deposition of material on the foreshore or seabed, including disposal of spoil. 3 Removal of sand, shell, shingle and minerals from the foreshore or seabed. 4 Dredging of the foreshore or seabed. 5 Removal, damage, modification or destruction of indigenous vegetation that is growing in the foreshore or seabed. <p>that is not a permitted, controlled, restricted discretionary, noncomplying or prohibited activity under a rule in this Plan, is a discretionary activity.</p>	<p>Seabed and foreshore disturbance from the removal of Tower 118 – discretionary activity.</p>
<p>CD8: Discretionary – Discharges to Coastal Marine Area</p>	<p>Foundation and dewatering works near the coastal margins (e.g. Poles 33C and 33D) have the potential for temporary sediment discharge to the CMA discretionary activity.</p>

Table 2: PRCEP Rules Assessment

The rules in the PRCEP for structures in the CMA are not applicable as structures in the CMA are controlled by the NESETA.

3.3 Bay of Plenty Regional Land and Water Plan

Works associated with relocation of the transmission lines are generally covered by the NESETA. However, earthworks to the extent they are subject to a regional rule are not covered by the NESETA.

The proposal is subject to the rules within the Bay of Plenty Regional Land and Water Plan due to the proposed earthworks to be carried out.

The project area is located in the margins of the inner harbour and is not classified as *Sand Dune Country*.

Rule	Project Component Affected								
<p>1(c) Riparian Management Zone (wetlands)</p> <table border="1"> <tr> <td>0 to 7°</td><td>Between 0-5 horizontal metres from the edge of the water body</td></tr> <tr> <td>>7 to 15°</td><td>Between 0-10 horizontal metres from the edge of the water body</td></tr> <tr> <td>>15 to 25°</td><td>Between 0-20 horizontal metres from the edge of the water body</td></tr> <tr> <td>>25 to 35°</td><td>Between 0-25 horizontal metres from the edge of the water body</td></tr> </table> <p>Earthworks excluding stream crossings – exposed area not greater than 400m² and volume no greater than 200m³.</p>	0 to 7°	Between 0-5 horizontal metres from the edge of the water body	>7 to 15°	Between 0-10 horizontal metres from the edge of the water body	>15 to 25°	Between 0-20 horizontal metres from the edge of the water body	>25 to 35°	Between 0-25 horizontal metres from the edge of the water body	<p>Parts of the area in the span between Poles 127A and 128A fall within an IBDA B area which has been assessed by Tonkin and Taylor in the ecological report as in part being a wetland. The exact wetland boundaries have not been established, and these do not coincide with the IBDA mapped boundaries.</p> <p>Earthworks within or adjacent to the IBDA area are a maximum of approximately 135m³. Therefore, any elements of the work within the riparian margins, as opposed to those located within the wetland areas are assessed as complying with Rule 1(c) in relation to riparian margins and are permitted activities. For the avoidance of doubt, all work within or immediately adjacent to the wetland has been assessed under Rule 85 – Modification of Wetland.</p>
0 to 7°	Between 0-5 horizontal metres from the edge of the water body								
>7 to 15°	Between 0-10 horizontal metres from the edge of the water body								
>15 to 25°	Between 0-20 horizontal metres from the edge of the water body								
>25 to 35°	Between 0-25 horizontal metres from the edge of the water body								
1(g): Coastal Margin (no greater than 35 degrees, land between 20m and 40m horizontally as measured from CMA).	<p>Pole 33D is located approximately 30m from the MHWS on land that is less than 35 degrees. The amount of earthworks required to install this structure for foundations (bore hole and, pad for crane) is approximately 100m³ (access upgrading is approximately 150m³), although the majority of this work will occur more than 40m from the CMA. This will meet the permitted activity conditions of an exposed area not greater than 400m² and volume no greater than 200m³ between 20m and 40m from the CMA.</p>								
1(h): land not in areas covered by (a) to (e) and not in the Coastal Hazard Zone.	<p>0-15 degrees: exposed areas no greater than 1 hectare and volume no greater than 5000m³. Aside from the specific poles subject to Rule 1C as outlined below and Pole 33D as described above, all other poles are permitted activities under Rule 1(h) as the land slope does not exceed 15 degrees and the total earthworks for the project (pole and access track work) are approximately 1750m³.</p>								
1C: Earthworks and Quarries – Discretionary	<p>If earthworks are carried out in the Erosion Hazard Zone or on slopes greater than 35 degrees, or on coastal land within 0-50m of CMA on Sand Dune Country, or on coastal land within 20m of CMA.</p> <p>Earthworks within 20m of the CMA include:</p> <ul style="list-style-type: none"> new Pole 33C foundations and pad for crane (100m³). <p>These works require consent as a discretionary activity.</p>								
35: Remediation or Disturbance of Contaminated Land - Restricted Discretionary	<p>Land disturbance for pole construction or removal on horticultural blocks and any access track</p>								

	<p>construction or upgrading. The following poles and associated earthworks including track work have been identified on the PSI as being potentially subject to contamination and are thus restricted discretionary activities under Rule 35:</p> <p>Works affected include: (Poles 33E, 48C, 48D, 48A, 119, 120, 121, 122, 123, 124, 125, 126, 127 and 127A and related tracks).</p>
40: Drilling - Permitted	Bore holes for pile foundation construction where ground water is not intercepted. This applies to all poles other than Poles 33C and 33D.
40A: Drilling - Controlled	<p>Bore holes for pile foundation construction where ground water is intercepted. Consent as a controlled activity is required for the pile foundation works for Poles 33C and 33D.</p> <p>These works will be undertaken at the following approximate map references:</p> <ul style="list-style-type: none"> • Proposed Pole 33C: At or about map reference NZTM 1880955, 5821531; and • Proposed Pole 33D: At or about map reference NZTM: 1881249, 5822129.
42: Take of Water and Discharge of Sediment Contaminated Water from the Dewatering of Building and Construction Sites - Permitted	Dewatering for pile foundation construction not on contaminated land. As any water will be removed from the bore hole by sucker truck and not discharged to land, permitted activity conditions can be met for anticipated dewatering work to construct Poles 33C and 33D. This work is not on land identified in the PSI as being subject to potential contamination. Therefore, the scope of dewatering has been assessed as a permitted activity .
43: Take and Use of Water – Discretionary	Dewatering for pile foundation construction on contaminated land (horticultural land). No dewatering is expected to be required for structures on land identified in the PSI as being subject to potential contamination - NA
85: Modification of a Wetland - Discretionary	Pole 128 removal, Pole 128A installation and associated access track, wiring site within Span 127A to 128A and associated access track, willow removal (as removal may require use of machinery within the wetland area) – discretionary activity .

Table 3: Regional Land and Water Plan Rules Assessment

3.4 Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011

The *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011* (NESCO) is not applicable to the earthworks associated with the proposal. Regulation 5(4)(b) states that the NESCO is not applicable if the soil disturbance activity is on land to which Regulations 33(9) or 36 of the *Resource Management (National Environmental Standard for Electricity Transmission Activities) Regulations 2009* applies. This is discussed further below.

3.5 Resource Management (National Environmental Standard for Electricity Transmission Activities) Regulations 2009

The *Resource Management (National Environmental Standard for Electricity Transmission Activities) Regulations 2009* (NESETA) is applicable to the necessary works for the relocation of the A-Line, and any associated modifications to the B-Line, other than earthworks to the extent that they are subject to regional rules.

Regulations 4, 6, 8, 10, 14, 15, 16, 17, 19, 30, 31, 32, 33 and 39 of the NESETA apply directly to the proposal for the installation of new and replacement poles, removal of poles, occupation of CMA, adding circuits to existing poles, temporary structures and line diversions, existing Tower 118 removal, and trimming of vegetation and earthworks.

Regulation 4(1) states that the regulations apply only to an activity that relates to the operation, maintenance, upgrading, relocation or removal of an existing transmission line⁴, including any of the following activities that relate to those things:

- (a) A construction activity;
- (b) A use of land or occupation of the coastal marine area (within the meanings of use and occupy given by section 2(1) of the Act);
- (c) An activity relating to an access track to an existing transmission line;
- (d) Undergrounding an existing transmission line.

Accordingly, the regulations apply to the proposed transmission line including the use of land and occupation of the CMA and construction activity. However, Regulation 4(2)(f) confirms that the regulations do not apply to earthworks to the extent that they are subject to a regional rule.

Overhead Conductors

Regulation 6 states that adding an overhead conductor, or part of an overhead conductor, to an existing transmission line (except as part of adding an overhead circuit) is a permitted activity if both

⁴ As at 14 January 2010

of the conditions in sub clauses (4) (conductors must be configured so that there are not more than 2 conductors in the same phase) and (5) (diameter of a new conductor or new part of conductor must not exceed 50mm) are complied with and all of the applicable conditions in regulation 10 (2) to (8) are complied with (electric and magnetic fields – assessed as meeting these conditions below). This applies to the addition of any conductors to any new or replacement poles (including the conductors crossing the CMA between the new poles erected on either side of the waterway). Therefore, conductors added to all poles other than where an additional circuit is being added to existing B-Line poles not being replaced in terms of Regulation 8 is a **permitted activity**. This regulation does not apply to adding an additional circuit to existing poles (e.g. adding A-Line circuit conductors to existing B-Line circuit poles that do not require replacement).

Regulation 8 states that adding an overhead circuit to an existing transmission line is a permitted activity if the condition in subclause (2) is complied with, both the conditions in regulation 6(4) and (5) are complied with, and all of the applicable conditions in regulation 10 (2) to (8) are complied with. Subclause (2) states that the transmission line support structures of the transmission line must have been designed and built, at the commencement of these regulations, to carry the additional circuit. Compliance against Regulations 10(2) to (8) will be complied with as outlined below. A number of existing B-Line poles are structurally suitable to add the A-line circuit to without replacing the pole. This includes Poles 37, 38, 40, 41, 42, 44A, 45 and 46. Adding additional circuits to these existing poles is a **permitted activity**.

Electric and Magnetic Fields

The following table assesses compliance with Regulations 10(2) to (8):

Conditions	Compliance assessment
<p>(2) The electric and magnetic fields produced by the transmission of electricity at 50 Hz through overhead or underground alternating current transmission lines must, after being modelled in accordance with subclauses (4) to (7), be demonstrated to either—</p> <p>(a) not exceed the following reference levels for public exposure:</p> <p style="padding-left: 40px;">(i) electric field strength of 5 kV/m;</p> <p style="padding-left: 40px;">and</p> <p style="padding-left: 40px;">(ii) magnetic flux density of 100 microteslas; or</p> <p>(b) not exceed the basic restriction level of 2 mA/m² for the density of electric current induced in the body.</p>	<p>The electric field strength and magnetic field strength has been modelled to ensure the relevant conditions will be complied with.</p> <p>See Appendix K.</p>
<p>(3) The static electric field strength produced by the transmission of electricity through overhead direct current transmission lines must be demonstrated to have no likely adverse human health effects after—</p>	

Conditions	Compliance assessment
<p>(a) modelling the field strength in accordance with subclauses (4) to (6) as if references to electric field strength were references to static electric field strength; and</p> <p>(b) including the likely contribution to the field strength from the space charge around the transmission line caused by corona discharge.</p>	
<p>(4) The electric field strength and magnetic flux density of a transmission line must be modelled at whichever of the following locations is closest to the line:</p> <p>(a) 1 metre above the ground in an area above, below, or next to the line that is reasonably accessible to the public; or</p> <p>(b) 1 metre above the highest floor level of an occupied building.</p>	
<p>(5) The electric field strength and magnetic flux density of a transmission line may be modelled to take account of any shielding effect from buildings.</p>	
<p>(6) The electric field strength and magnetic flux density of an overhead transmission line must be modelled to result in the highest electric and magnetic fields likely under normal operating conditions using the following climatic conditions to determine conductor position:</p> <p>(a) ambient temperature of 20°C in winter and 30°C in summer:</p> <p>(b) maximum solar radiation of 1 000 W/m²:</p> <p>(c) dry conditions:</p> <p>(d) wind speed of 0.6 m/s.</p>	
<p>(7) The magnetic flux density of an underground transmission line must be modelled to result in the highest magnetic field likely under normal operating conditions.</p>	
<p>(8) The results of modelling the electric field strength, magnetic flux density, density of electric current induced in the body, or static electric field strength under this regulation must be provided to the relevant territorial authority if requested by the territorial authority.</p>	

Table 4: NESETA Regulation 10 Assessment

Pole Replacements and Relocations

Regulation 14(2) states that altering, relocating, or replacing a pole of an existing transmission line is a permitted activity if all of the applicable conditions in regulation 14(3), (4), (7) and (8) are complied with. The following table assesses compliance with the permitted activity conditions of Regulations 14(3), (4), (7) and (8):

Conditions	Compliance assessment																		
<p>(3) If a transmission line support structure is increased in height (including by being replaced with another structure), -</p> <p>(a) the structure may be made no more than 15% higher than its base height; and</p> <p>(b) the additional height must comply with any height restrictions for airport purposes, or any public view shafts, specified in a rule.</p>	<p>Pole 128A is the only replacement pole that will have a height increase of no greater than 15% (reduced in height by 1.4m).</p> <p>No poles exceed the Tauranga Airport approach slopes of horizontal surface controls. The floor of the view shaft to Mauao that traverses the Matapihi area is not penetrated by any of the poles.</p>																		
<p>(4) A transmission line support structure must not be relocated, or replaced with another transmission line support structure, so that any part of the structure at ground level is –</p> <p>(a) Within 12 metres of an occupied building (measured horizontally); or</p> <p>(b) Any closer to an occupied building, if the existing structure is within 12 metres of the building (measured horizontally)</p>	<p>No new poles will be placed within 12m of an existing habitable building. The approximate setbacks to dwellings for the new poles along SH29A at Maungatapu adjacent to residential properties are as follows:</p> <table border="1"> <thead> <tr> <th>New structure number</th><th>Distance pole nearest occupied dwelling(m)</th></tr> </thead> <tbody> <tr> <td>28A</td><td>27</td></tr> <tr> <td>29A</td><td>27</td></tr> <tr> <td>30A</td><td>16</td></tr> <tr> <td>31A</td><td>13</td></tr> <tr> <td>32A</td><td>19</td></tr> <tr> <td>33A</td><td>28</td></tr> <tr> <td>33B</td><td>22</td></tr> <tr> <td>33C</td><td>18</td></tr> </tbody> </table> <p>All structures (that are part of this project) on the Matapihi peninsular are greater than 100m from an occupied dwelling.</p>	New structure number	Distance pole nearest occupied dwelling(m)	28A	27	29A	27	30A	16	31A	13	32A	19	33A	28	33B	22	33C	18
New structure number	Distance pole nearest occupied dwelling(m)																		
28A	27																		
29A	27																		
30A	16																		
31A	13																		
32A	19																		
33A	28																		
33B	22																		
33C	18																		
<p>(7) A pole must not be replaced with a tower.</p>	<p>NA. No poles are being replaced by towers.</p>																		
<p>(8) A pole must not be relocated, or replaced with another pole, more than 5 metres from the pole's base position (measured horizontally).</p>	<p>Replacement Poles 28A, 29A, 30A, 31A, 32A, 43B, 48F and 128A will be moved no more than 5m from the existing pole's base position and will therefore comply with Regulation 14(8)</p>																		

Table 5: NESETA Regulation 14 Assessment

Accordingly, Pole 128A is a **permitted activity** as it can meet all of the applicable permitted activity conditions under Regulation 14. No other poles replacements can meet all of the permitted activity conditions in Regulation 14.

Regulation 15(2) states that altering, relocating, or replacing a pole of an existing transmission line is a controlled activity if:

- a) all of the applicable conditions in regulation 14(3), (4), and (7) are complied with; and
- b) If the condition in regulation 14(8) is breached; but
- c) the pole is not relocated, or replaced with another pole, more than 10 metres from the pole's base position (measured horizontally).

None of the pole replacements are controlled activities, as none of the pole replacements will move more than 5m but not more than 10m.

Regulation 16(2) states that altering, relocating, or replacing a pole of an existing transmission line is a restricted discretionary activity if:

- a) one or more of the conditions in regulation 14(3), (4) and (7) are breached; or
- b) both of the following apply:
 - i). the requirement described in regulation 15(2)(c) is breached; but
 - ii). all of the applicable conditions in regulation 10(2) to (8) are complied with.

Replacement Poles 28A/28B (twin single poles replacing twin pi-pole), 29A, 30A, 31A, 32A, 38A, 43B, 47A, 48A, 48C, 48D and 48F do not meet the permitted activity control in Regulation 14(3), (4) or (7), or the controlled activity control in Regulation 15(2)(c). That is, they are either increasing in height by more than 15% and/or are moving more than 10m from their current position.

Accordingly, Poles 28A/28B (replacing a twin pi-pole structure 28), 29A, 30A, 31A, 32A, 38A, 43B, 47A, 48A, 48C, 48D and 48F are a **restricted discretionary activity** under Regulation 16 and require resource consent from the **Tauranga City Council**. The matters to which discretion is restricted include:

- (a) visual, landscape and ecological effects; and
- (b) the effects on historic heritage; and
- (c) the effects on sensitive land uses; and
- (d) earthworks, clearance of trees and vegetation, and restoration of land; and
- (e) the effects and timing of construction works.

Temporary Structures and Temporary Line Deviations

Regulation 17 of the NESETA is applicable given that a temporary line deviation will be required (to be supported by temporary pole 28T) during the realignment work. These works are required to maintain the electricity supply of the existing transmission line during construction work associated with transitioning the line from its original alignment to the proposed realignment. The following conditions within Regulation 17 apply.

Any temporary structures must be—

- (a) erected no earlier than 20 working days before the start of the relevant maintenance or upgrading; and
- (b) removed no later than 20 working days after the end of the maintenance or upgrading.

Any structures involved in a temporary line deviation must be—

- (a) erected no earlier than 60 working days before the start of the relevant maintenance or upgrading; and
- (b) removed no later than 60 working days after the end of the maintenance or upgrading.

The erection of Pole 28T as part of the temporary line deviation will comply with the conditions requiring that it be erected no more than 60 working days before the work on the realignment project commences and will be removed not later than 60 working days after that work is completed. Accordingly, temporary pole 28T is a **permitted activity** under Regulation 17.

Removal of Existing Transmission Lines (Structures and Conductors)

Regulation 19 states that the removal of an existing transmission line, or part of an existing transmission line, is a permitted activity if both of the conditions in subclauses (2) and (3) are complied with. This is of relevance for the removal of parts of the existing transmission lines and their support structures e.g. the removal of existing poles and the removal of Tower A118. The following table assesses compliance with the permitted activity conditions of Regulation 19:

Conditions	Compliance assessment
(2) The transmission line, or the part of the transmission line, and any associated construction or demolition material must be removed from the land.	All removed structures and associated demolition materials will be removed from the site. Any Tower 118 pile foundations cut off below seabed and left insitu below the seabed are not considered to constitute demolition materials.
(3) Any ground that is disturbed from the removal must be restored in a way that minimises the risk of soil erosion, sediment run-off, and weed invasion.	Any ground disturbed by pole removal will be reinstated to a condition that minimises the risk of soil erosion, sediment run-off and weed invasion.

Table 6: NESETA Regulation 19 Assessment

Accordingly, the transmission line removal works are a **permitted activity** under Regulation 19.

Vegetation Removal

Regulation 30 sets out the permitted activity conditions for the trimming, felling or removal of any tree or vegetation.

Some vegetation trimming along the SH29A be required, and some vegetation will need to be removed near poles 39, 40 and 41. This vegetation will not infringe any of the permitted activity conditions in Regulation 30 which address:

- (2) trimming or removal where there are rules in a district plan that prohibit their trimming or removal; or the vegetation is in a *natural area*;
- (3) land the regional council controls for the purposes of soil conservation or flood mitigation;
- (4) land is administered by the Department of Conservation;
- (5) felling or removal will contribute to instability of land or erosion of the bank of a water body.
- (6) vegetation debris must not enter a water body.

Regulation 31 provides for the removal of willows from within SEA25 in the TCP, which is a *Natural Area* in terms of the NESETA, as a **controlled activity**, as the tree removal is required for electrical clearances. The relevant conditions in regulations 30(3) to (6) can all be met. Control is reserved over the following matters in relation to a controlled activity under this regulation:

- a) Replanting; and
- b) Disposal of trees and vegetation; and
- c) Visual, landscape and ecological effects.

Regulation 32 states that trimming, felling or removing any tree or vegetation, in relation to an existing transmission line, is a restricted discretionary activity if the condition in regulation 30(2) is breached. This condition states that any tree must not be trimmed, felled or removed if it is in a natural area. A natural area is defined as *an area that is protected by a rule because it has outstanding natural features or landscapes, significant indigenous vegetation, or significant habitats of indigenous fauna*. A Significant Ecological Area (Category 2) is shown in the District Plan to affect the northern part of the site at span 127A-128A (SEA 25). An Indigenous Biodiversity Area B (IBDA-B) is also shown in the PRCEP at span 127A-128A. As outlined in the proposal description above, some vegetation removal may be required for the wiring site and associated access track within SEA 25. Accordingly, resource consent is required as a **restricted discretionary activity** under the NESETA. Discretion is restricted to the following matters:

- a) Replanting; and
- b) Disposal of trees and vegetation; and
- c) Control of erosion and sediment; and
- d) Visual, landscape and ecological effects; and
- e) The effects on drainage, flooding, and overland flow paths.

Earthworks

Regulation 33 of the NESETA is applicable given the earthworks associated with the proposal. The following table assesses compliance with the permitted activity conditions of Regulation 33:

Conditions	Compliance assessment
(2) Earthworks in a natural area must not, in a calendar year, exceed – 50m ³ per transmission line support structure or 100m ³ per access track.	<p>Complies. Earthworks associated with a wiring site and associated access are located within a “natural area” as defined in the NESETA.⁵ This includes approximately 20m³ for the access track, and 25m³ for the wiring site in the span between structures 127A and 128A. In any case, regional consent is already required for these specific earthworks in regard to modification of a wetland which controls the same effects as the NESETA, and accordingly the NESETA does not apply (see Regulation 4(2)(f)).</p> <p>The <i>Important Amenity Landscapes Plan Area</i> in the TCP where Pole 33D will be constructed does not meet the NESETA definition of a natural area.</p>
(3) Erosion sediment control must be applied and maintained at the site of earthworks, during and after the earthworks, to avoid the adverse effects of sediment on water bodies and the coastal marine area.	<p>Complies.</p> <p>Suitable erosion and sediment controls will be in place.</p> <p>Earthworks involve either very localised foundation works or minor surface work to upgrade tracks. These works will not result in instability, subsidence or erosion of the bank of the CMA.</p>
(4) All areas of soil exposed by the earthworks must be stabilised against erosion as soon as practicable after the earthworks end to avoid the adverse effects of sediment on water bodies and the coastal marine area.	
(5) The earthworks must not create or contribute to—	
<ul style="list-style-type: none"> a. instability or subsidence of a slope or another land surface; or b. erosion of the bed or bank of a water body or the coastal marine area; or c. drainage problems or flooding of overland flow paths. 	
(6) soil or debris from the earthworks must not be placed where it can enter a water body or the coastal marine area.	Complies. No soil or debris will be placed in the CMA or any water body.
(7) Earthworks must not be carried out on the bed of a lake or river or in the coastal marine area.	N/A. Earthworks in the CMA are subject to regional rules in the PRCEP. Accordingly, these works are

⁵ NETSETA definition – *natural area means an area that is protected by a rule because it has outstanding natural features or landscapes, significant indigenous vegetation, or significant habitats of indigenous fauna.*

Conditions	Compliance assessment
	outside of the scope of the NESETA in terms of Regulation 4(2)(f).
(8) Earthworks must not be carried out in a historic heritage area unless they are carried out on an archaeological site in accordance with the Heritage New Zealand Pouhere Taonga Act 2014.	Will comply. Transpower will obtain an archaeological authority from Heritage New Zealand Pouhere Taonga for the project area. Transpower will seek this archaeological authority in parallel to the consents once detailed design has been completed. No earthworks will be undertaken until this authority is in place.
(9) Earthworks must not be carried out on land that a local authority has identified as containing, or possibly containing, contaminants that pose a risk to the environment.	NA. Whilst this regulation is relevant to consents required from the territorial authority (TCC), Transpower's interpretation and normal approach is that this regulation does not apply in terms of Regulation 4(2)(f) as there are relevant regional rules in the Regional Land and Water Plan in regard to earthworks on land subject to contamination. Regional resource consent has been sought for this scope of works.

Table 7: NESETA Regulation 33 Assessment

Accordingly, the proposed works are a **permitted activity** under Regulation 33.

New Poles and CMA Occupation (in air space)

Regulation 39 of the NESETA states “*an activity which these regulations apply (under regulation 4) is a discretionary activity if it is not described in these regulations as a permitted activity, controlled activity, restricted discretionary activity, or non-complying activity*”. New poles that are not replacements in terms of Regulations 14-16 are not described in the NESETA as a permitted, controlled, restricted discretionary or non-complying activity. Therefore, the installation of new poles is a **discretionary activity** under Rule 39, and requires consent from the **Tauranga City Council**. This includes Poles 33A, 33B, 33C, 33D, 33E, 39A, 40A, 41A, 42A, 43C, 44B, 45A, 48B, 48E and 127A.

Additionally, the occupation in airspace of the conductors over the CMA is assessed as a discretionary activity under Regulation 39 of the NESETA because it is an activity to which the regulations apply (under regulation 4) and is not described in NESETA as a permitted, controlled, restricted discretionary or non-complying activity. The occupation of the CMA can be argued to be a separate and distinct activity from the operation of a transmission line. Accordingly, the occupation of new conductors in the airspace within the CMA is assessed to be a **discretionary activity** under Regulation 39, and requires consent from the **Bay of Plenty Regional Council**.

Accordingly, the proposed works are a **discretionary activity** under Regulation 39.

3.6 Summary of Activity Status

In summary, the following table indicates the resource consents required for the proposal.

Activity	Rule/ Regulation reference	Activity class
<i>Tauranga City Council</i>		
Relocation of transmission line support structures that meet all of the permitted activity standards. This only applies to Pole 128A.	Regulation 14 NESETA.	Permitted activity (included in table for completeness only)
Relocation of transmission line support structures that do not meet the permitted activity or controlled activity conditions. These include Poles 28A/28B (replacing a twin pi-pole structure 28), 29A, 30A, 31A, 32A, 38A, 43B, 47A, 48A, 48C, 48D and 48F.	Regulation 16 NESETA	Restricted Discretionary Activity
Willow removal within SEA 25	Regulation 31 NESETA	Controlled activity
Vegetation removal within SEA 25	Regulation 32 NESETA	Restricted Discretionary Activity
Construction of additional poles that are not relocations. These include Poles 33A, 33B, 33C, 33D, 33E, 39A, 40A, 41A, 42A, 43C, 44B, 45A, 48B, 48E and 127A.	Regulation 39 NESETA	Discretionary activity
<i>Bay of Plenty Regional Council</i>		
Earthworks within 20m of CMA (Pole 33C)	Regional Water and Land Plan, Rule 1C	Discretionary Activity
Disturbance of contaminated land (Poles 33E, 48C, 48D, 48A, 119, 120, 121, 122, 123, 124, 125, 126, 127 and 127A and related tracks).	Regional Water and Land Plan, Rule 35	Restricted Discretionary Activity
Drilling of foundations below ground water (Poles 33C and 33D)	Regional Water and Land Plan Rule, Rule 40A	Controlled Activity
Modification of a wetland (Pole 128 removal, Pole 128A installation and associated access track, wiring site within Span 127A to 128A and associated access track, willow removal (as removal may require use of machinery within the wetland area)).	Regional Water and Land Plan Rule, Rule 85	Discretionary activity
Temporary discharge of a contaminant to land where the contaminant may enter the CMA associated with earthworks in coastal margins.	PRCEP Rule CD8	Discretionary Activity
Disturbance of seabed associated with removal of Tower 118	PRCEP Rule DD14	Discretionary Activity
Occupation of the CMA (conductors in air space)	Regulation 39 NESETA	Discretionary Activity

Table 8: Resource Consents Summary

4 Assessment of Environmental Effects

4.1 Approach to Effects Assessment

In assessing the effects on the environment for the purpose of this assessment, both the positive and adverse effects resulting from the proposal have been assessed. As the bundle of activities covered by this proposal is assessed as a discretionary activity in regard to both the Tauranga City Council and Bay of Plenty Regional Council consents sought, there are no restrictions on the matters the Councils' may consider. This assessment considers the effects that are assessed as being relevant to this particular proposal.

4.2 Landscape, Natural Character and Visual Effects

Rangataua Bay is included as part of an area of High Natural Character (HNC) in the Bay of Plenty RPS, and an Outstanding Natural Feature and Landscape (ONFL) in the Bay of Plenty PRCEP. Further, the coastal margin of the end of the Matapihi Peninsula is classed as an Important Amenity Landscape Plan Area in the TCP.

The landscape, natural character values of the Maungatapu and Matapihi Peninsulas and Rangataua Bay have been described and assessed in the Landscape, Natural Character and Visual Assessment Report prepared by Isthmus Group attached in Appendix E. These values are influenced by the extent of urban modification around the harbour edge and existing network utility infrastructure including the SH29A road and bridge, and the existing transmission lines. This is directly acknowledged in the description of the values of ONFL 3 in the PRCEP.

The Landscape, Natural Character and Visual Assessment Report presents a number of before and after visual simulations, and assesses the landscape, natural character and visual effects of the proposal. In addition to view-points taken from a range of publicly accessible locations, visual simulations were also taken from the Anglican Church at 111 Te Hono Street on the Maungatapu Peninsula, on Te Ariki Park, and the harbour edge directly in front of the Maungatapu (Opoopoti) Marae.

The overall conclusions of the Isthmus Group assessment are as follows (items in bold are emphasised as such in the conclusions of the Isthmus Group report):

- The removal of the A-Line line through Te Ariki Park and the surrounding residential neighbourhood on the western side of the Maungatapu Peninsula will be largely **positive**, as public infrastructure is removed from private land. Those properties where structures are removed will experience a significant positive visual effect from the realignment.
- The natural character values of the Maungatapu Peninsula section of the project area are **moderate/low** and for Matapihi are **moderate**. The adverse natural character effects on these values will be **low**.
- The landscape values of the project site are **moderate**. The adverse landscape effects on these values will be **low**.

- The **outstanding landscape values** of Tauranga Moana will **not be adversely affected** by the proposal due to the removal of the harbour floor lattice tower and some harbour edge structures and the replacement with structures that are connected and grounded in the adjacent landforms of the Maungatapu and Matapihi Peninsulas.
- The visual effects of the proposal on the residential and open spaces properties on the western side of the Maungatapu Peninsula will be largely **positive**. Some residential properties at Wikitoria Street and the north end of Maungatapu Road will experience **moderate** adverse visual effects as a result of the proposal.
- The visual effects of the proposal on residential properties on the eastern side of the Peninsula will generally be **low**. Some residential properties at the north end of Te Hono Street and Miriana Street will experience **moderate** adverse visual effects as a result of the proposal. Many of these properties will also experience some **positive** visual effects, with the removal of existing structures and conductors, particularly located within the harbour.
- The visual effects of the proposal on residential properties on the eastern side of the Peninsula will generally be **low**. Some residential properties at the north end of Te Hono Street and Miriana Street could experience **moderate** adverse visual effects as a result of the proposal. Many of these properties will also experience some **positive** visual effects, with the removal of existing structures and conductors, particularly located within the harbour.
- The Matapihi Peninsula section of the site will generally experience **positive** visual effects as a result of the proposal.
- Overall the proposed re-alignment removes existing adverse landscape and visual effects from a number of residential and open space properties on the western side of the Maungatapu Peninsula and generally relocates those effects to a less sensitive visual audience within the SH29A corridor. Some properties at the north end of the Maungatapu Peninsula could experience **moderate** adverse visual effects as a result of the proposal.

Further, whilst not specifically included in the summary of effects in the Isthmus Group report, the assessed visual effects from the harbour edge in front of the Maungatapu (Opoopoti) Marae as discussed within the body of the report is that, due to the replacement of one set of conductors and a structure with another set of conductors and a structure, the visual effects of the realignment will be neutral or **very low** at the highest when viewed from the Marae. For some viewers, the removal of Tower 118 from the harbour will be a significant positive outcome of the realignment.

Transpower has sought to minimise adverse visual effects experienced by properties at the end of the Maungatapu peninsula to the extent practical whilst still being able to meet the project objectives, enable the removal of Tower 118 from the CMA, and achieve necessary water way clearances through location of structures in an existing network utility corridor, and reducing the height of Pole 33C on the Maungatapu side by increasing the height of Pole 33D on the Matapihi side. It has also elected to utilise a horizontal conductor configuration for the two poles either side of the waterway, rather than a vertical configuration, to minimise overall height of the structures.

4.3 Ecological Effects

An ecological report prepared by Tonkin and Taylor is included in Appendix F. This report considers the removal of Tower 118 from the CMA, the proposed wiring site located generally adjacent to the CMA, and works within and adjacent to SEA25 (TCP) and the IBDA B 23 (PRCEP).

Tower 118

An assessment of the ecological effects from a benthic marine ecology and coastal bird perspective found that the impact of Tower 118 removal will have an overall low level of effect. This is based on the development of a works methodology that minimises disturbance to marine habitats, the expected rapid recovery rate of benthic fauna communities from short term disturbance, and no loss of foraging opportunities for any 'Threatened' or 'At Risk' coastal bird species present in Rangataua Bay.

Due to the relatively small affected area by the project footprint compared with the wider Rangataua Bay and Tauranga Harbour, and because the disturbed area will be re-colonised, Tonkin and Taylor consider that no specific mitigation, other than minimising the size of the works area, is necessary to mitigate against long-term effects on marine ecology. Short-term, construction related effects can be managed by standard construction management techniques, such as appropriate storage of environmentally hazardous substances and refuelling of machinery outside of the CMA so that they do not find their way into coastal environments.

Wiring Site adjacent to Pole 33D

Transpower has provisionally proposed a wiring site adjacent to Pole 33D which is located generally adjacent to the CMA. This is open pasture land and the ecological assessment concludes that there are no particular ecological values associated within the immediate footprint of the proposed wiring site.

Vegetation present along the northern shoreline of the harbour, above the medium coarse sandy beach habitat included a small area of rank grasses, the native spinifex sand dune grass (*Spinifex sericeus*), harakeke flax (*Phormium tenax*) and native coprosma shrubs (*Coprosma* sp.). Tall exotic trees are also present in the general vicinity. At the time of the site visit undertaken by Tonkin and Taylor on 9 August 2017 there were no visible signs that local trees were used as nesting or roost sites by coastal birds.

Accordingly, no specific mitigation is recommended in regard to a wiring site located adjacent to Pole 33D.

Works in and adjacent to SEA25/IBDA B23

Works in and adjacent to this area involve replacement of Pole 128 with 128A immediately adjacent to it and a temporary track to undertake these works (outside of the SEA/IBDA B23), and a mid-span wiring site and associated temporary access within SEA25/IBDA B 23.

SEA 25 comprises a large area on the eastern side of SH29A, as well as a smaller area on the western side. The ecological assessment noted that there is no obvious hydraulic connection between wetland areas on the eastern and western sides of SH29A. The wetland on the western side (and in the vicinity of the works) appears to be freshwater in nature and drains to the eastern side via an underpass when water levels are high. The wetland on the eastern side of SH 29A is coastal fringe wetland habitat.

The overall SEA is included in the “Category 2” (good-quality representative examples of indigenous flora and/or habitat of indigenous fauna) Schedule in the TCP and is described as a large, diverse area of wetland vegetation containing a range of estuarine vegetation types and limited examples of palustrine vegetation. The area is of significant wildlife value and banded rail and North Island fernbird are present. Both banded rail and North Island fernbird have a threat status of At Risk: Declining.

The IBDA B in the PRCEP is described as *IBDA – B23 – Estuarine wetlands of sea rush, oioi, saltmarsh ribbonwood, mangrove, Ficinia nodosa, Samolus repens and glasswort*. This spatially covers a similar but slightly smaller area than SEA 25 in the TCP.

A proposed wiring site and some tree clearance would impact on the freshwater wetland component of SEA 25 on the western side of SH29A. The SEA area includes an area of freshwater wetland in a local depression, steep banks around the edge of the wetland and some on higher ground around the wetland. Tonkin and Taylor consider that the current SEA 25 delineation does not appear to be related specifically to a habitat boundary or any particular vegetation of value. The freshwater wetland area appears to have come about as a result of highway construction bisecting the edge of what would have originally been coastal wetland habitat. The bisected area has become a swamp forest wetland over time and now supports large exotic trees (Willows). The wetland is dominated almost exclusively by exotic wetland weed species. Riparian and elevated areas within the SEA comprise terrestrial exotic habitat dominated by rank grass and exotic pampas. Overall, the wetland area in the vicinity of the works is characterised by low habitat quality. The wetland’s SEA status and significance relates to the potential presence or use of the site by banded rail and fernbird and the fact that wetlands are a threatened habitat type, with 9.4 % of original wetland habitats remaining nationally.

Vegetation clearance and works in and around SEA 25 have the potential to disturb breeding for ‘At Risk’ wetland bird species potentially present. The ecological assessment recommends that to avoid impacts on ‘At Risk’ birds, certain construction work should not take place during the bird breeding season to ensure chicks have fledged and can self-relocate if present, unless checked prior by a suitably qualified ecologist before works occur in that area.

In terms of habitat effects, most of the vegetation and habitat impacted by the proposed works is weed dominated and of low botanical value, and no specific mitigation is considered necessary by Tonkin and Taylor outside of normal erosion and sediment control practices. However, for the tree removal activities within the palustrine freshwater wetland component of SEA 25, Tonkin and Taylor recommend that an Ecological Management Plan is developed as a condition of consent covering the wetland area on the northern side of SH29A (this area is spatially defined in the ecological report, but is generally located in the span between proposed poles 127A and 128A). The report recommends that the consent holder be responsible for implementing Stage 1 of the Ecological Management Plan which would include the following:

- The use of a combination of methods to remove and/or control willows that minimises disturbance. This could comprise cutting and removal of the bulk of the trees while leaving the stumps in place and using poison to prevent re-growth. This is intended to minimise machinery access to the wetland and disturbance to wetland soils associated with removal of whole stumps and roots.

- Weed control around the margin of the wetland and establishment of a 15m wide native riparian buffer strip on the banks along the southern and western margins of the wetland, extending to the northern side of the wiring site (i.e. to the northern extent of site disturbance and around 150m in length, generally as shown in the ecological assessment report). This is intended to provide a buffer from human disturbance and improve terrestrial biodiversity values in and around the wetland for banded rail and fernbird but most notably to provide additional habitat for fernbird.

Conditions of consent are proposed to address the recommendations of the Tonkin and Taylor ecological assessment. The ecological assessment concludes that provided the recommended actions are implemented, the long-term effects on SEA 25 will be no more than minor.

4.4 Noise

A noise assessment for the construction and operation of the project prepared by Malcolm Hunt Associates is included in Appendix G. Assumptions used and detailed methodology for the assessment are set out in that report. The overall conclusions of the noise assessment are as follows:

- Noise associated with construction works (which includes establishing new structures, replacing some existing structures and removal of structures) have been predicted in accordance with the relevant standards and guidelines assuming equipment and procedures representative of this project. Predicted noise levels at dwellings or buildings housing noise sensitive activities are not likely to exceed the current levels of traffic noise currently experienced in the area. The highest levels predicted to be received at any dwellings are L_{Aeq} 69 dB and L_{AFMax} 72 dB. Being a daytime activity, these construction noise levels comply in all respects with the 'Long Term' construction noise limits recommended within NZS6803:1999.
- Based on the Electric Power Research Institute noise prediction approach and results of laboratory testing, operational noise due to electrical discharge (corona discharge) from the new and altered transmission lines is predicted to be low and well within guideline limits. The most affected site will receive noise from this source not greater than 32.2 dB when measured at 1.2 m above ground level. This is the highest level expected of any residentially zoned site or notional boundary to any dwelling in the rural area.
- Vibration effects of ground works associated with establishing Poles 33C and 33D have been specifically investigated with respect to expected effects at the closest dwelling (29 Wikitoria Street). Being located at least 15 metres from the location of the groundworks, this dwelling may be affected for limited (daytime) periods. The noise consultant has examined generic vibro-piling vibration results to inform the assessment of the likely effect of vibro-piling steel casings into the sub soil at the Pole 33C location. The threshold of peak particle velocity <1mm/sec referred to within ISO standards are not predicted to be exceeded at the closest dwelling.

The highest potential for adverse noise or vibration effects associated with this project are those likely to arise during the temporary construction phase. These potential noise or vibration effects are most effectively avoided by implementing practical management methods. Thus, conditions are recommended that require a Construction Noise & Vibration Management Plan (CNVMP) to be

prepared for the project and provided to the Tauranga City Council for certification. The conditions require the project to be operated in accordance with the certified CNVMP.

There are a small number of Maungatapu residential properties and the Ngāti Hē Marae and rugby club that may gain a marginal noise benefit of having the old A-Line removed. However, the noise consultant was not able to establish that this line generates any audible sound, meaning no changes in noise from this source will be detectable.

For construction noise, taking into account the limited duration of the works, the proposed re-location of the A-Line and decommissioning of the old infrastructure, noise from construction or demolition activities is expected to be detectable at times over significant areas, but received at dwellings at only moderate levels and only during the daytime. Daytime construction noise (worst case) ranging from L_{Aeq} 52 to 69 dB and L_{AFmax} 69 to 72 dB at sensitive receiver sites is unlikely to exceed the recommendations of NZS6803:1999 Acoustics – Construction Noise, the noise performance standard for construction activities set out within the NESETA. The construction programme may not be able to avoid weekend or public holiday work in all cases due to the need for electricity outages for some of the works. The construction noise condition proposes different noise conditions for weeks days, Saturdays and Sundays/public holidays.

The assessment of potential noise effects of the operation of the transmission assets present within the project area (once constructed) are considered by the noise consultant to be *di minimus*. Currently no transmission noise effects are detectable under either A-Line or B-Line. The acoustic effect of these two lines operating together on the same support structures has been fully analysed with a worse case received sound level of 32.2 dB predicted. On this basis, there is no recommended noise-related condition governing the operation of the transmission assets in the project area following completion of the project.

Overall, provided construction is managed according to the recommended CNVMP, noise and vibration effects are expected to be less than minor.

4.5 Heritage Effects

The general project area has a history of pre-European settlement and accordingly an archaeological assessment has been undertaken by CFG Heritage (see Appendix H).

The project area traverses or is near to a number of sites included in the New Zealand Archaeological Association (NZAA) site recording system.

U14/175 Te Pā o te Ariki

Existing Poles 116 and 117 to be removed and proposed Poles 33A, 33B and 33C are located within the extent of recorded site U14/175, Te Pā o te Ariki. CFG have assessed the overall Pā site as being in moderate condition with moderate to high rarity values. The Pā is assessed as having high context values due to its relationship to the natural landscape, particularly Tauranga Harbour. Remaining parts of the Pā were assessed as having high information values. It should be noted that the new poles will all be located within the modified SH29A corridor, while Poles 116 and 117 on the Te Ariki Park sports

fields will be removed. The surveyed areas for the new poles did not provide any visual or probing archaeological indicators during the site visit. A survey around pole 116 detected loosely packed midden 60mm below the ground surface, although probing around Pole 117 did not detect any midden. It was assessed that there are likely to be subsurface archaeological remains in the area around both poles 116 and 117.

While only one archaeological feature was detected within the footprint of the proposed works, it is likely there are more below the surface of the topsoil. The project works have the potential to damage archaeological deposits associated with U14/175, Te Pā o te Ariki, which remain beneath the current ground surface. These works will be small in scale, but given the damage that has already occurred to the site through the original pole installations, roads, housing, Ariki Park, and Wikitoria pump station, CFG concluded that there are grounds to be concerned about cumulative effects. Proposed mitigation is discussed below.

U14/201 Te Ngaio Pā

Proposed Poles 33D and 33E, and existing Poles 119 (to be removed), 37 and 38 (no changes proposed) and 39 (to be replaced by pole 38A) are located within the extent of recorded site U14/201 Te Ngaio Pā. This Pā is on a south facing spur bisected by State Highway 29A. CFG have assessed the overall Pā site as likely to be in moderate condition despite previous State Highway and transmission pole installation and agricultural/horticultural use as the Pā is large and there is likely to be much remaining subsurface archaeology. The Pā was also assessed as having moderate rarity values and high context values due to its relationship to the natural landscape, particularly Tauranga Harbour, and to other surrounding archaeological site remains, despite substantial modification to part of the landscape. Remaining parts of the Pā were assessed as having high information values.

Probing around Pole 33D provided evidence of subsurface shell at 70mm, although this may be a natural deposit considering proximity to the coastline. However, this cannot be confirmed without archaeological excavation. There was no visual evidence of archaeology immediately near this position because of the existing vegetation. Surveying near Pole 33E did not provide any evidence of subsurface or visual markers of archaeological remains. However, the pole is approximately 30m from a series of ditch and bank complexes and 10-15m from archaeological remains of the Pā found in 2005. No visual or subsurface archaeological indicators were found around any of the other existing or proposed pole works associated with Te Ngaio Pā, although it was noted that excavations in 2005 related to work on State Highway 29A confirmed archaeological activity running across the ridge as far back as Pole 39.

Whilst no archaeological features were observed within the footprint of the proposed works, these works have the potential to damage archaeological deposits associated with site U14/201 which remain beneath the current ground surface. These works will be small in scale, but given the damage that has already occurred to the site through the construction of SH 29A, transmission pole installation, subsurface cable laying, orchard and agricultural land use, and possible ploughing, CFG concludes that there are grounds to be concerned about cumulative effects. Proposed mitigation is discussed below.

U14/3226 Midden/Pits

Pole 41 is located approximately 20m north east of archaeological site U14/3226 which was recorded as part of State Highway construction works in 2004 as an exposed profile of post-holes, midden and rua pits. Given the proximity to a series of midden and oven pits around Rangataua Bay and the proximity to Te Ngaio Pā, it is possible that Poles 40-49 may be on or close to unrecorded pre-European Māori Archaeological remains, although no archaeological indicators were identified as being present through visual or probing investigations. A number of additional poles and pole replacements are proposed along this particular length of transmission line.

Despite previous State Highway and transmission pole installation, CFG have assessed the condition of the midden and pits as being likely to be moderate. The site has also been assessed as having moderate rarity values and high context values given its relationship to the natural landscape, particularly Tauranga Harbour. The remaining archaeology was assessed as having high information values.

Whilst no archaeological features were observed during the survey within the footprint of the proposed works, there is a risk that works could damage archaeological deposits associated with recorded site U14/3226 which remain beneath the current ground surface. These works will be small in scale, but given the damage that has already occurred to the site through the original pole and highway installation, CFG concludes that there are grounds to be concerned about cumulative effects. Proposed mitigation is discussed below.

Other Recorded and Unrecorded Archaeological Sites

Whilst other existing and proposed pole locations on the Matapihi side were located in the general vicinity of other recorded sites, no archaeological indicators were identified from visual observation or probing. However, there is a risk that site works in these areas could potentially disturb unrecorded archaeology.

Heritage Mitigation Recommendations

While the scale of effects is low and there is no opportunity for open area excavation, monitoring of works by a qualified archaeologist, and recording exposed features and sampling where required, is recommended by CFG as an appropriate level of mitigation. If the opportunity arises, obtaining datable material should be a priority.

CFG has recommended that an archaeological authority be obtained from Heritage New Zealand Pouhere Taonga (HNZPT) to modify recorded sites U14/175, U14/201 and U14/3226 and any other archaeological features that may be encountered during the works. This will be sought separately from HNZPT once resource consents are granted and the project design is confirmed. Any works authorised by the resource consents being sought cannot proceed until this authority is in place. The archaeological authority is likely to require monitoring by an archaeologist in areas where there is a high risk of encountering archaeological materials during earthworks.

As part of the resource consent conditions, Transpower proposes that accidental discovery protocol conditions be placed on any consents authorising earthworks to ensure that any accidental discovery of archaeological material is managed appropriately.

The cultural effects of the works and any recommended mitigations is separately assessed in the next section.

4.6 Cultural Effects

As an outcome of its consultation with tangata whenua, the following parties provided Cultural Impact Assessments (CIAs) on the project (see Appendix I).

- Ngāti Hē hapū
- Ngāi Tūkairangi hapū
- Matapihi Ohuki Trust (owner of Te Ngaio No. 1 and Ohuki No. 2D blocks where Transpower works are proposed)

The recommended outcomes of the various CIAs are that the project proceeds subject to various recommendations being implemented. These recommendations are discussed as follows.

Ngāti Hē

The Ngāti Hē CIA outlines the history of the installation of electricity transmission and State highway infrastructure on their land and describes the associated impacts. It acknowledges the benefits of the removal of infrastructure from the sports fields and Tower 118 from the CMA, but also outlines the adverse visual effects of Tower 33C in particular due to it impinging on views from the Marae to ancestral maunga. It further raises the importance of pāpaka (crabs) in the CMA that may be affected by removal of Tower 118, the need for a suitable discovery protocol and cultural monitoring of earthworks, and a desire that no new buildings or access (over and above those directly required for the Transpower project) are erected on the Te Ngaio block on the opposite side of the inlet to the Marae to preserve the existing passive and tranquil nature of the foreshore opposite the Marae.

The CIA makes the following specific recommendations to off-set the adverse cultural effects identified:

- An earthworks monitoring protocol is implemented.

Transpower comment: a discovery protocol and cultural monitoring is provided for in the proposed consent conditions.

- Slope Stability Options Report commissioned by independent suitably qualified engineer.

Transpower comment: this relates to removal of Pole 117 from above the coastal cliff and any implications of the existing pole or pole removal on slope stability. Transpower has already agreed to commission such a report during the temporary anchor blocks resource consent process, and it will be undertaken as part of the pole removal agreement to be entered into outside of the resource consent process.

- Marine monitoring and translocation protocol is implemented for pāpaka (crabs) present during tower structure removal with an amended monitoring protocol developed prior to commencement of work there.

Transpower comment: Whilst no significant marine ecology including crabs was identified around Tower 118 in the ecological assessment, Transpower has offered a consent condition requiring a

suitable protocol to be developed such that a Ngāti Hē representative(s) can undertake a walkover of the work area and relocate any pāpaka encountered prior to tower removal commencing.

- Waharoa Marae entrance designed and established to counter visual impact from the new monopole structure.

Transpower comment: Ngāti Hē has identified that the location of Pole 33C will result in adverse effects due to the pole impinging on views of ancestral maunga. To mitigate this effect, Transpower has agreed to make a contribution towards a Waharoa or carved entrance to the Marae, which will be undertaken as a side agreement outside of the resource consent process.

- Funding assistance for Maungatapu Marae and Rangataua Sports and Cultural Club from Transpower's community fund. A process of assistance to apply for the grants on the contestable funds provision.

Transpower comment: The Community Fund is administered by a body independent of Transpower. However, Transpower has agreed with Ngāti Hē that it will assist them in applying for a Community Care Fund grant. This will occur outside of the resource consent process.

- A plan is developed for site reinstatement for removal of Poles 116 and 117 on the Maungatapu Reservation. To ascertain if the poles shall remain in whole or part and any immediate planting and information panels are required.

Transpower comment: a removal plan will be developed in consultation with Ngāti Hē as part of the pole removal agreement that will be entered into outside of the resource consent process.

- A memorandum of understanding is developed.

Transpower comment: Transpower has agreed to enter into a memorandum of understanding (MoU) with Ngāti Hē setting out how these parties will work with each other on an ongoing basis.

- No other buildings or access infrastructure to be erected at Te Ngaio end monopole structure. The existing passive and tranquil nature of the foreshore of Te Ngaio opposite the Marae must be maintained.

Transpower comment: No structures other than Pole 33D are being sought on the Te Ngaio block as part of Transpower's resource consent application. It is noted that the Matapihi Ohuki Trust who are the land owners have identified in their CIA (see below) that they would like a small shelter for their own use to be erected on this block. Transpower considers that this is a matter to resolved between the Maori trustee land owners and Ngāti Hē. Some farm track upgrades may be required to allow for construction of Pole 33D.

Ngāi Tūkairangi

The Ngāi Tūkairangi CIA outlines the history of how transmission lines were established on land at Matapihi, and acknowledges that the transmission line alteration helps bring a sense of justice and relief back to the hapū and people who have been trying for many years to remove the lines. It notes that landowners will be able to utilise the free land to increase orchard operation.

The CIA outlines the largest benefit of the project as a sense of relief felt by Māori that land unfairly taken for development, will be returned and can be used effectively for cultural growth. Notwithstanding specific recommendations for mitigating risks as outlined in the report, the hapū are largely supportive of the alteration plans, and seek ongoing input into the project to address the recommendations suggested.

The CIA makes the following specific recommendations:

- It is recommended that Ngāi Tūkairangi members are included in as many remedial considerations as possible.

Transpower comment: Transpower will maintain an ongoing relationship with Ngāi Tūkairangi throughout the life of the project and has offered consent conditions in relation to accidental discovery, cultural monitoring and providing the opportunity for tangata whenua to undertake karakia.

- It is recommended that trees are planted in empty spaces that transmission poles used to occupy or to provide an opportunity for Ngāi Tūkairangi to engage in a planting exercise, where appropriate, and with support by landowners.

Transpower comment: Transpower will confirm appropriate reinstatement planting for any pole removals with the relevant Māori trustee landowners.

- It is recommended that karakia is practiced. Karakia is a cultural practice that acknowledges ancestors and as this project is a small segment of what Māori ancestors tried to prevent. This will only make it more relevant to have a karakia before or after the process has completed.

Transpower acknowledges the desire of Ngāi Tūkairangi to undertake karakia and proposes consent conditions to ensure such opportunities are provided.

- It is recommended that cultural monitoring should be incorporated in the Project to ensure cultural values are not overlooked and that environmental havoc that might occur, through land being unearthed with human remains, or more recently, significant archaeological value can be preserved.

Transpower comment: a discovery protocol and cultural monitoring is provided for in the proposed consent conditions.

- It is recommended that legally, for damages to Māori land, compensation must be paid. Negotiations around if compensation is still viable should still continue.

Transpower comment: Transpower is not in a position to address any historic compensation issues. Property agreements are being sought for directly affected land owners in relation to removal and location of new infrastructure. These matters fall outside of the resource consent process.

- It is recommended that Transpower support the removal of the transmissions lines from all of the blocks if possible.

Transpower comment: Whilst it is acknowledged that the hapū would prefer the extent of the realignment to go further than what is proposed (i.e. remove for other blocks further to the north), this falls outside the scope of this realignment project.

- It is recommended that young people are included in this Project. Therefore, it is a good idea to keep the younger generation amongst significant projects to ensure they learn and have the potential to do it better with their peers in the future. Providing internship opportunities will benefit future growth of our hapū members.

Transpower comment: Transpower is happy to continue a conversation with Ngāi Tūkairangi about this issue outside of the resource consent process.

- It is recommended that Transpower and local hapū representatives collaborate on projects that could benefit both sides their whanau members.

Transpower comment: Transpower is happy to continue a conversation with Ngāi Tūkairangi about this issue outside of the resource consent process.

Matapihi Ohuki Trust

The Matapihi Ohuki Trust is the owner of land directly affected by the proposed works (owner of Te Ngaio No. 1 and Ohuki No. 2D blocks where Transpower works are proposed). The CIA outlines some of the history of the establishment of transmission lines on land in the Matapihi area. The CIA acknowledges the benefits of removal of the tower from the CMA and outlines some of the direct effects of the pole removal and establishment works on Trust land. A number of recommendations are made in regard to mitigating cultural effects and landowner agreement matters associated with physical project works and the required easements.

The overall conclusion of the CIA is that the Matapihi Ohuki Trust agrees to provide support to the resource consent application for the proposed realignment project pending agreements on recommendations being formally reached. The specific recommendations in the CIA are summarised and commented on as follows:

Removal of power line from CMA

- The plethora of bridges, causeways, and other man-made structures scattered throughout Tauranga harbour has altered the natural flow of the tide, creating unnatural sand banks. This has become a deterrence to marine mammals visiting the way once did in the past. Dolphins and other marine mammals no longer enter the Rangataua regularly as they once did.
- Removal of power line structure from the Coastal Marine Area that has ONFL status is supported by the trust, the Tauranga Moana Iwi Management Plan and the Ngāi Tūkairangi, Ngāti Tapu Hapū Management Plan.
- Disturbance of foreshore and seabed will cause temporary disruption to the environment. However, the long-term effects are positive. Potentially reducing sediment build up and improving access to the Rangataua for marine animals feeding.

Transpower comment: Tower 118 is to be removed from the CMA.

Placement of New Transmission Structure on Te Ngaio Block (Pole 33D)

- Te Ngaio Pā site viewed as area which has significant cultural, spiritual and historical values.
- In light of this, the Trust would like to see enhancement and cultural recognition of this area. This would suitably provide for ecological enhancement of the area.
 - Removal of pest plants and replanting of natives;
 - Pou and korero – interpretation panels outlining the cultural significance;
- This has also been highlighted by Ngāti Hē as an aspiration within the Matapihi Land Use Plan 2008.

Transpower comment: As outlined in the ecological report, specific mitigation is proposed around the SEA area in the vicinity of Pole 128/128A, the wiring site in the adjacent span and associated access. Any planting initiatives on Trust land in addition to the recommendations of the ecological report, and Pou and korero, are being discussed with the Trust as part of the Access and Construction Assessment (ACA) agreement required to undertake works on Trust land.

Access Road to Te Ngaio Block

- The access track into this block would need to be upgraded to prevent damage to the property from heavy vehicles accessing the site to complete works. Construction of tracks typically involves removal of topsoil or placement of a geotextile fabric and installation of hard fill. Less earthworks may be required if construction is undertaken when ground conditions are firm. Stormwater control measures and scouring prevention must be in place.

- Surplus excavated material will be used as fill elsewhere on the property as agreed with the landowner. If unsuitable, the material will be removed.
- The Trust will require cultural monitors on site for any earthworks activity.
- Trees that will be necessary to remove will be limbed and cut into logs for use if agreeable to the land owners.
- A 400V power supply (pillar box) and a water supply (tap) will be provided near the location of the existing Powerco owned 11kV pole.
- Access from Station 355 is across pasture along an existing fence line for a distance of approximately 45m to the north-western boundary of the property adjacent to the harbours edge. It will be necessary to create an all-weather track in this section that will remain in place at the completion of the project at the landowner's request.
- Trees along this fence line may need to be trimmed.
- Access from Station 400 is across pasture along an existing fence line for a distance of approximately 30m to Pole 33D. It will be necessary to create an all-weather track in this section that will be uplifted and the pasture suitably reinstated when construction is complete.
- At Station 400, a shelter will be provided (approximately 4m x 6m) on a concrete base including seating around 2 of its sides.
- The low-profile shelter and construction materials will ensure that it will have minimal visual impact and the shelter will not have walls.
- This space is intended as a quiet land-owners space and not available for use, so appropriate signage needs to be in place at the entrance.
- The gates to the property will continue to be locked so that unauthorised access will not be permitted.

Transpower comment: A number of these items are relevant to the ACA agreement required for removal and addition of infrastructure and related tracks/track upgrades on Trust land, and these matters will be addressed outside of the resource consent process. However, consent conditions are proposed that will provide the Trust with the opportunity to undertake cultural monitoring during site works. Surplus excavated material will only be re-spread on other parts of Trust land if this is specifically permitted in under the relevant planning documents. Otherwise any surplus material will be removed from the site.

In regard to erecting a small shelter as requested by the owners, Transpower acknowledges that the Ngāti Hē CIA (as summarised above) does not favour any other buildings or access infrastructure being erected on the Te Ngaio block in addition to monopole structure 33D. The reason given in the CIA is to ensure that the existing passive and tranquil nature of the foreshore of Te Ngaio opposite the Marae is maintained. Transpower's resource consent application is not seeking approval for any structures other than those directly required for the relocation of the A-Line (i.e. poles and conductors only), and therefore any such shelter would need to be a permitted activity under the Tauranga District Plan to proceed without further RMA authorisation. It is understood that any shelter would be low profile with minimal visual impact and would be intended for the use of the owners as a quiet picnic area, and not for public use. Transpower considers that this is a matter to be resolved between the Maori trustee land owners and Ngāti Hē. However, if it can be satisfactorily resolved between these parties, Transpower is happy to assist the Trust with funding to erect this structure outside of the resource consent process.

Replacement of Existing Structure (128A) – Ohuki No. 2

- Transpower will commission a landscaping report for managing the land interest near 128A (at the northern end of the alteration). However, Transpower are not committed to fund the landscaping. This is the Ohuki No 2 block which is noted as a significant ecological area. See figure 2 [of CIA report] for the location of this part of the works.
- Given the new route of the line to A128A is different from the current one, there are exotics trees that would need to be removed and the project would undertake to replant with suitable natives.

Transpower comment: These items align with the proposed Ecological Management Plan recommended in the ecological report and included in the proposed consent conditions.

Track upgrades

- Any damages to property or existing tracks during construction will be repaired.
- Any new gates are requested to remain in place where appropriate.

Transpower comment: These items are relevant to the ACA agreement required for removal and addition of infrastructure and related tracks/track upgrades on Trust land, and these matters will be addressed outside of the resource consent process.

Earthworks

- There is much heritage in these lands and tangata whenua must ensure the correct processes are followed to ensure the whenua is treated with respect.
- Any earthworks require cultural monitor onsite.
- Accidental discovery protocol in place.
- Should any taonga be found during works, discussion with relative hapū representatives must occur to ensure that tikanga Māori is applied to its whereabouts at all times.

Transpower comment: a discovery protocol and cultural monitoring is provided for in the proposed consent conditions.

4.7 Contaminated Soil Disturbance

A Preliminary Site Investigation (PSI) for the project has been undertaken by Tonkin and Taylor (see Appendix J).

The work undertaken by Tonkin and Taylor involved undertaking a review of available Council information including reviewing historic aerial photographs and a BOPRC site contamination enquiry. The review identified a number of transmission pole sites which have the potential to contain fill materials but this does not necessarily trigger the requirement for a consent under the contaminated land rules of the BOPRP. The results of the potential for contamination are presented in Table 9 below and are summarised as follows:

- Fourteen (14) sites were assessed as having either a low or moderate potential for contamination, based on evidence on the BOPRC Selected Land Use Register, Tauranga City Council aerial photographs, and based on our inspection showing evidence of HAIL activities (orchards or significantly filled ground) on or immediately surrounding the site of the towers. Accordingly, these

sites are considered to have the potential to be contaminated and, therefore, require resource consent under Rule 35 of the BOPRP as a restricted discretionary activity;

- Seven (7) of the sites, located in the B-Line, were assessed as having negligible potential for contamination and, therefore, do not require a contaminated land consent under Rule 35 of the BOPRP;
- Twenty nine (29) structures have a low potential for contamination (i.e. where there has been minor surface disturbance and low level adjacent site activity). These sites are considered unlikely to pose a risk to human health or the environment and, therefore, do not require a contaminated land consent under Rule 35 of the BOPRP. The Bay of Plenty Region specific Site Management Plan (SMP)⁶ prepared for Transpower will be appropriate for use on these sites in terms of undertaking best practice during project construction; and
- Tower 118 is located within the Tauranga Harbour. Sampling of the sediment in the Tauranga Harbour has been undertaken by BOPRC which shows that metal and hydrocarbon concentrations are generally below the ANZECC interim sediment quality guidelines.

Potential for Contamination	Consent Requirement	Structures
Negligible	Do not require consent under BOPRP Rule 35	28A, 29A, 30A, 31A, 32A, 33A 33B
Low	Do not require consent under BOPRP Rule 35 but recommend controls (BOP specific SMP) in place	33C, 33D, 33D, 38A, 39, 39A, 40A, 41A, 42A, 43A, 43B, 44C, 44B, 45A, 47, 47A, 48, 48A, 48B, 48E, 49A, 50, 51, 113A, 114, 115, 116, 117, 128 ⁷
Moderate	Restricted Discretionary consent required (BOPRP Rule 35)	33E, 48C, 48D, 48A, 119, 120, 121, 122, 123, 124, 125, 126, 127 and 127A

Table 9: Summary of Potential for Contamination

Recommended Mitigation

For structures where the site is not potentially contaminated, the works should be undertaken in accordance with standard earthworks controls.

For the 29 structures (refer Table above) where there has been minor soil disturbance in the past, on or adjacent to the land, it would be prudent (best practice) for the Transpower generic SMP for “*small scale works within the Bay of Plenty region*” to be provided to the Contractors in the event that visual or olfactory evidence of contamination is identified during the works. This document has been provided to the Bay of Plenty Regional Council as part of a global consent application for Transpower work in the Bay of Plenty Region.

For the 14 sites where some degree of contamination is likely present, the key issues for the

⁶ T+T, 2017: Site Management Plan for ground contamination, Small scale works – Bay of Plenty Region.

⁷ Whilst not specifically recorded in the PSI report, new pole 128A is immediately adjacent to existing Pole 128 so would have the same soil contamination potential.

refurbishment/replacement works are potential for:

- Skin contact and ingestion of contaminated soil by workers;
- Discharges such as dust that may affect adjacent site workers, neighbouring residents and the general public;
- Discharges that may affect the environment, in particular surface water, sediment and dust; and
- Inappropriate disposal of surplus soil offsite.

For these 14 sites a works specific SMP will be required to support application for consent under Rule 35 of the BOPRC. We suggest the SMP is based on the requirements of the Transpower generic SMP for the Bay of Plenty Region, but with works specific information around the nature of the works.

A condition has been provided requiring a site specific SMP to be prepared for any pole works and related access tracks associated with these 14 sites.

4.8 Construction Effects

The construction will be of a temporary nature (approximately 3-9 months).

Construction noise is addressed in Section 4.4 above.

Pole 28T within the road reserve of State Highway 29A will be located nearer to adjacent residential land for the duration of the construction period, but will be removed at the end of the project. While conductors are attached to this temporary structure, the A-Line conductors will still cross adjacent residential land on essentially the same alignment, and will be permanently removed from crossing that land at the completion of the project. This will result in a net benefit to affected land at the completion of construction work. Further, the temporary deviation of the conductors and associated Pole 28T during construction is a permitted activity under the NESETA.

No work can be undertaken within the State Highway 29A corridor until a Works Access Permit (WAP) has been granted by the NZTA, including approval of a Construction Traffic Management Plan (CTMP). Undertaking construction works in accordance with the WAP and CTMP will ensure that any adverse effects on State Highway 29A are appropriately and safely managed. Formal approval will be sought by the successful contractor following the award of the contract and completion of detailed project design. Transpower proposes that the Tauranga City Council imposes a condition requiring a CTMP be prepared and approved by the NZTA prior to any construction activity occurring within State Highway 29A.

As outlined in Section 2.3, any mud and water from drilling and dewatering activity will be suitably controlled to avoid discharge of sediment to the CMA. Any fluid, mud, silt or fine material (cuttings) generated during the course of the drilling will be contained within an above-ground storage pit ('mud tank'). The pit will be pumped out into a vacuum truck (or similar) periodically as required or upon completion of the hole. The cuttings will then be removed from site and disposed of at an approved facility.

In regard to track work, if work is undertaken in summer the extent of any earthworks will be minimal and in some cases not required (e.g. machinery will be able to drive over unformed grass paddocks etc.). The areas are well separated from waterways such that in dry summer conditions no specific mitigation is proposed. If undertaken over the winter works period, mitigation measures such as silt fences will be put in place to filter any mobilised sediment from stormwater. Specific sediment measures proposed will be included in a Construction Management Plan (CMP) which will need to be supplied to each council and approved before works authorised by the resource consents sought can commence.

As outlined in Section 4.7, earthworks undertaken on potentially contaminated land will be undertaken in accordance with an approved SMP to ensure the handling of soils in these areas is appropriately managed.

Potential construction effects from the removal of Tower 118 from the CMA are assessed in Section 4.3 (Ecological Effects) and Section 4.10 (Recreation and Navigation) respectively. Construction effects from works in and adjacent to the ecological area in the span between Poles 127A and 18A are assessed in Section 4.3 (Ecological Effects).

Any machinery refuelling activity will generally be required to be located at least 20m from the CMA. However, the drilling rig for the Pole 33C foundation will be located within 20m of the CMA and may potentially require refuelling during its drilling activity. To avoid having to move it to refuel and then re-establish it, an exception is proposed in the condition for refuelling in this particular instance to be able to occur within 20 of the CMA provided that suitable spill containment procedures are in place.

4.9 Services and Infrastructure Effects

Transpower works in the SH 29A road corridor cannot occur until a Works Access Permit and CTMP have been approved by the NZTA.

Existing services will initially be identified via the *Before U Dig* service and contacting utility operators with services in the area. All services locations will be confirmed physically on the ground where located near any locations where earthworks are proposed.

An existing 11kV overhead power line owned by Powerco traverses the area between proposed poles 33D and 33E at Matahipi. This line will either be permanently undergrounded in the affected Powerco span, or will be temporarily located as a ground mounted cable with appropriate protection in place during Transpower construction work, and then reinstated as an overhead line once the Transpower works are completed. Transpower will work with Powerco to confirm the solution to be implemented, and has initiated contact with them to work through this process.

Transpower has confirmed that no new structures will penetrate the Airport horizontal surfaces and has consulted the Airport Company to confirm any special requirements during construction. The Airport confirmed that there is no issue with the height of the final structures. Transpower will work with the Airport to ensure appropriate processes are followed in regard to programming and undertaking any helicopter or crane constructions in and around the approach slopes.

The realignment ends at Pole 128 prior to the A-Line crossing the Kiwi Rail corridor in the span between 128 and 129. Whilst Pole 128 will be replaced, the new structure (128A) will be located immediately adjacent to the existing pole, with the existing pole acting as a temporary support structure until the conductors are integrated onto the new structure. Whilst the new structure is approximately 1.4m shorter overall above ground level than the structure it replaces, the existing conductor clearance over the rail line will be maintained. This is because the existing suspension structure will be replaced with a strain structure, with attachment points for the conductors at the same height.

4.10 Effects on Recreation and Navigation in the CMA

Transpower has consulted the Harbourmaster who did not raise any concerns regarding the designed waterway clearances provided (noting that the adjacent bridge limits the practical size of boats traversing the area). The components of Tower 118 above the seabed will be removed, eliminating this structure as a potential navigation hazard.

There may be temporary impacts on use of the boat ramp on the Maungatapu side adjacent to the bridge and personal water craft and water skiing on the Matapihi side during the period when construction activity is occurring (e.g. removal of Tower 118 and stringing or removing conductors over the CMA). Transpower will work with the Harbourmaster to ensure suitable notice can be provided via the Harbourmaster to boating user groups and appropriate signage and management measures are in place, to ensure the public is properly informed and protected during short term construction activity in and over the CMA.

4.11 Property Effects

When Transpower relocates transmission lines or alters them such that additional areas are affected by line swing in airspace (technically known as conductor blowout), it requires easements (other than where in a road). Easements will be required for Tauranga City Council land containing a pump station near pole 33C at Maungatapu (airspace swing only), and areas at Matapihi where the alignment of the A-line has been altered. Transpower is negotiating these easements in parallel with the resource consent process. The effects on these properties will be mitigated by the easements that will be negotiated. The project cannot proceed until these easements are in place.

Conversely, support structures and overhead conductors will be removed from numerous properties, or in the case of horticultural land in many instances to a peripheral rather than a mid-block location, which will result in significant positive effects on these properties in terms of amenity and/or practical utilisation.

The existing transmission lines are located within the *High Voltage Transmission Line Plan Area* in the Tauranga City Plan. This is a mapped overlay within which there are certain restrictions on land uses and earthworks to enable the ongoing operation, maintenance and upgrading of the Transmission lines and to protect these from the adverse effects of the activities of other parties including reverse sensitivity and effects that may adversely affect the health and safety of the public and resilience of the electricity supply. Following completion of the works, changes to the planning maps will be

required in due course to remove the overlay from areas where lines have been relocated. The overlay will need to be transferred to the new alignment of the transmission line.

Where the lines have been removed, updating of the maps by removing the overlay could occur as an RMA 'Clause 16' amendment without any formal plan change. However, where the alignment has moved, this will likely require a formal district plan change in due course to correct the plans and apply any rules relating to the *High Voltage Transmission Line Plan Area* to new transmission line alignments. Any new areas affected by the *High Voltage Transmission Line Plan Area* and associated planning restrictions will only apply to areas where easements are already being negotiated by Transpower to move the lines, and accordingly the affected landowners will agree to any ongoing restrictions on use via the process of establishing the easements. Transpower's assets will be protected by restrictions in the easements until such time that the *High Voltage Transmission Line Plan Area* is re-established.

4.12 Electric and Magnetic Fields

Electric and magnetic fields are produced by all systems involving the transmission, transformation and use of electricity.

Policy 9 of the NPSET states:

"Provisions dealing with electric and magnetic fields associated with the electricity transmission network must be based on the International Commission on Non-ionising Radiation Protection Guidelines for limiting exposure to time varying electric and magnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494-522) and recommendations from the World Health Organisation monograph Environment Health Criteria (No. 238, June 2007) or revision thereof⁸ and any applicable New Zealand standards or national environmental standard".

Transpower is designing all equipment to ensure it is operated in compliance with the International Commission on Non-ionising Radiation Protection (ICNIRP) Guidelines under normal operating conditions. Transpower considers that compliance with the ICNIRP Guidelines reliably provides for the health and safety of public health with regard to electric and magnetic fields.

The statement attached in Appendix M confirms that the transmission lines will operate in accordance with permitted activity conditions of Regulation 10 of the NESETA, which is based on the ICNIRP guidelines.

The project enables the removal of transmission lines from crossing residential properties which are defined in the NPSET as "*Sensitive Activities*". Accordingly, the proposal will have positive effects in reducing existing adverse effects on *Sensitive Activities*.

4.13 Positive Effects

There will be a number of positive effects resulting from the proposed work including the following:

⁸ The ICNIRP standards were updated in 2010. The proposed consent conditions reflect the updated standards.

- Removal of transmission lines from Te Ariki Park and residential areas (*Sensitive Activities* in terms of the NPSET) at Maunagtapu.
- Removal or more efficient alignment of transmission lines over horticultural land at Matapihi.
- Removal of Tower 118 from the CMA, resulting in no Transpower support structures being located within Rangataua Bay.
- Improved transmission network resilience/security of supply through resolving maintenance issues with structures on Te Ariki Park, and in particular pole 117 located adjacent to eroding cliffs.
- Removal of temporary anchor block structures from the CMA located on the foreshore at the foot of the cliffs below Te Ariki Park.
- Address longstanding community commitments to realign the transmission lines.

5 Statutory Assessment

5.1 Section 104 Assessment

Matters to be considered by the Council when assessing an application for resource consent under s104(1) of the Act include, subject to Part 2, any actual and potential effects on the environment and any relevant provisions of a plan or proposed plan, amongst other matters. These are discussed further below.

5.2 Resource Management Act (RMA)

Section 104 of the RMA sets out the matters a consent authority must, subject to Part 2, have regard to. These matters are as follows:

- a) *“any actual and potential effects on the environment of allowing the activity; and*
- b) *any relevant provisions of-*
 - i). *a national environmental standard:*
 - ii). *other regulations:*
 - iii). *a national policy statement:*
 - iv). *a New Zealand coastal policy statement*
 - v). *a regional policy statement or proposed regional policy statement*
 - vi). *a plan or proposed plan; and*
- c) *any other matter the consent authority considers relevant and reasonably necessary to determine the application.”*

Regarding section 104, the statutory assessment for this proposal considers the following matters relevant:

- RMA Part 2 (Purpose and Principles)
- National Policy Statement on Electricity Transmission
- New Zealand Coastal Policy Statement
- Proposed Bay of Plenty Regional Coastal Environment Plan

- Operative Bay of Plenty Regional Coastal Environment Plan
- Regional Land and Water Plan
- Tauranga City Plan
- Tauranga Moana Iwi Management Plan

Section 5 - Purpose

The purpose of the RMA is to “*promote the sustainable management of natural and physical resources*” (s5(1)). Under section 5(2) “*sustainable management*” means:

“managing the use, development, and protection of natural and physical resources in a way or at a rate, which enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety while –

- a) sustaining the potential natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- b) safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*
- c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.”*

With regard to section 5(2), the proposal:

- Provides for a more efficient use of land currently traversed by transmission lines through relocation of these lines generally to a road corridor environment.
- Allows for the efficient and effective operation of Transpower’s National Grid transmission network, particularly through improved arrangements for access for future maintenance activities.
- Provides for the cultural wellbeing of Māori through the aspirations of Tangata Whenua to relocate Transpower infrastructure off their land, particularly in relation to Te Ariki Park.
- Avoids, remedies or mitigates adverse effects to the extent practicable whilst meeting the project objectives. Whilst there will be some localised adverse effects, there will be significant benefits achieved by removing lines and support structures from private property, and Te Ariki Park, and removal of a structure from the CMA.

Section 6 – Matters of national importance

Matters of national importance, to which the consent authority shall recognise and provide for, include:

- a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development*
- b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development*

...

- c) *The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga*

...

The proposal has adequately taken into account the status of Tauranga Moana as an ONFL, area of High Natural Character and Area of Significant Cultural Value, as well as the cultural heritage and landscape values of the land based elements of the project and aspirations of tangata whenua to relocate Transpower infrastructure off their land.

Section 7 – Other matters

In achieving the purpose of the RMA it is stated that all persons exercising functions and powers under it shall recognise and provide for additional matters with regard to managing the use, development, and protection of natural and physical resources. The following are considered of relevance to this application:

- a) *Kaitiakitanga*
- aa) *The ethic of stewardship*
- b) *the efficient use and development natural and physical resources*
- c) *the maintenance and enhancement of amenity values*
- ...
- f) *maintenance and enhancement of the quality of the environment*
- ...

With regard to section 7, the proposal:

The proposal has adequately considered the aspirations of tangata whenua to relocate Transpower infrastructure off their land and allows for the removal of the temporary anchor blocks at the end of the Maungatapu peninsular, and the existing tower from the Tauranga Moana. The project has sought to co-locate the A-Line with the B-Line in an existing utility corridor to minimise adverse effects on amenity and the quality of the environment.

Section 8 – Treaty of Waitangi

In achieving the purpose of the RMA, the principles of the Treaty of Waitangi must be taken into account by all persons exercising functions and powers under it in relation to managing the use, development and protection of natural and physical resources. Treaty of Waitangi claims by Ngāti Hē and Ngāi Tūkairangi have cited the construction of the transmission line over their land as being in breach of the Crown's obligations under the Treaty. That matter will be addressed by this project.

5.3 National Policy Statement on Electricity Transmission

The *National Policy Statement on Electricity Transmission* (the NPSET) sets out objectives and policies to enable the management of the effects of the electricity transmission network under the RMA. Overall the proposal is consistent with the objectives and policies of the NPSET.

The objective of the NPSET is as follows:

To recognise the national significance of the electricity transmission network by facilitating the operation, maintenance and upgrade of the existing transmission network and the establishment of new transmission resources to meet the needs of present and future generations, while:

- *managing the adverse environmental effects of the network; and*
- *managing the adverse effects of other activities on the network.*

The project will address current issues relating to replacement structures approaching end of life on Te Ariki Park, and improve access to other structures (e.g. those on residential sites and horticultural land) and therefore will assist in the operation, maintenance and upgrading of the transmission line. The design of the realignment removes existing 'underbuild' by sensitive activities and seeks to minimise adverse effects on other parties by aligning the A-Line with the B-Line in a road corridor. There are also significant positive effects. Accordingly, the project is considered to be well aligned with the objective of the NPSET.

Policy 1 of the NPSET is of relevance and is as follows:

In achieving the purpose of the Act, decision-makers must recognise and provide for the national, regional and local benefits of sustainable, secure and efficient electricity transmission. The benefits relevant to any particular project or development of the electricity transmission network may include:

- i). maintained or improved security of supply of electricity; or*
- ii). efficient transfer of energy through a reduction of transmission losses; or*
- iii). the facilitation of the use and development of new electricity generation, including renewable generation which assists in the management of the effects of climate change; or*
- iv). enhanced supply of electricity through the removal of points of congestion.*

The above list of benefits is not intended to be exhaustive and a particular policy, plan, project or development may have or recognise other benefits.

Realignment of the A-Line will resolve issues with being able to replace structures on Te Ariki Park thus assisting with the security of supply, particularly in regard to coastal erosion near pole 117. An aerial solution over the CMA as opposed to a bridge or seabed cable solution also minimises risk to security of supply such as from seismic events.

Policies 2 to 9 of the NPSET generally address the management of environmental effects of transmission. As demonstrated above in the Assessment of Environment Effects section, it has been concluded that any environmental effects will be appropriately managed, and there are significant positive effects. In particular, the project enables a reduction in existing adverse environmental effects in terms of Policy 6 through the removal of lines and structures from the CMA, residential areas and Te Ariki Park, and off or to the periphery of horticultural blocks. It also minimises adverse effects on urban amenity and adverse effects on existing sensitive activities in terms of Policy 7 through removal

of lines form residential areas in Maungatapu. Whilst there will be new adverse visual effects on some properties, these have been minimised to the extent practicable whilst meeting the objectives of the project and minimising risks on security of supply by utilising an aerial crossing option of Rangataua Bay.

Policies 10 and 11 relate to managing the adverse effects of third parties on the transmission network. Relocating lines off sites that have been developed for urban purposes including housing will minimise risks to the A-line in regard to reverse sensitivity and practical access for ongoing operation, maintenance and upgrading. Transpower will obtain easements for any new areas affected by line swing in airspace, and in due course will seek that the mapped *High Voltage Transmission Plan Area* in the TCP is relocated on the planning maps to the new A-Line alignment (where this departs from the B-Line alignment) to ensure ongoing protection of the line from the activities of third parties.

Policy 12 requires territorial authorities to identify the electricity transmission network on their relevant planning maps, whether or not the network is designated. Following the realignment, Transpower will work with the TCC, if necessary via a plan change process, to relocate the mapped *High Voltage Transmission Plan Area* in the TCP to the new A-line alignment (where this departs from the B-line alignment).

Policy 13 requires that decision makers recognise that the designation process can facilitate long term planning for electricity transmission infrastructure. Transpower will not be seeking a designation to facilitate the realignment works.

Policy 14 requires regional councils to include objectives, policies and methods to facilitate long term planning for investment in transmission infrastructure and its integration with land uses. This is primarily relevant to preparing policy statements and plans and is not directly relevant to the resource consent applications being sought.

Overall the project is assessed as being consistent with the NPSET.

5.4 New Zealand Coastal Policy Statement

The *New Zealand Coastal Policy Statement 2010* (NZCPS) came into effect on 3rd December 2010. The NZCPS contains objectives and policies relating to the coastal environment of New Zealand. As the project is occurring within the coastal environment, the NZCPS must be considered. Overall the proposal is assessed as being consistent with the relevant provisions of the NZCPS. A full assessment of the relevant objectives and policies is included in Appendix L. A summary of that assessment is set out as follows:

Objective 1 of the NZCPS is of relevance and is as follows:

Objective 1. To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land, by:

- *maintaining or enhancing natural biological and physical processes in the coastal environment and recognising their dynamic, complex and interdependent nature;*
- *protecting representative or significant natural ecosystems and sites of biological importance and maintaining the diversity of New Zealand's indigenous coastal flora and fauna; and*
- *maintaining coastal water quality, and enhancing it where it has deteriorated from what would otherwise be its natural condition, with significant adverse effects on ecology and habitat, because of discharges associated with human activity.*

The project will result in the removal of a structure within the CMA, and no new structures will be installed in the CMA. While an identified SEA (TCP) and IBDA B (PRCEP) is affected by some work in one span, the ecological assessment has concluded that the area is weed dominated and ecological values in this area are related to the potential presence of at risk wetland birds and a small area of palustrine wetland. Mitigation measures in this scenario will be adopted. The removal of Tower 118 will have an overall low impact.

Objective 2 of the NZCPS relates to the preservation of the natural character of the coastal environment and protection of natural features and landscape values. As the project involves removing overhead conductors and a tower from the CMA in one location, and relocating the conductors to a road corridor, adverse effects on overall natural character and natural features and landscape will be neutral if not reduced.

Objective 3 and Policy 2 of the NZCPS recognises the importance of the principles of the Treaty of Waitangi and recognising the roles of tangata whenua. The principles of the treaty of Waitangi have been taken into account through ongoing tangata whenua engagement, with the project ultimately realigning the transmission line off Māori land.

Objective 6 of the NZCPS relates to the enabling of people and communities to provide for their social, economic and cultural wellbeing and health and safety in relation to the coastal environment. The project removes transmission lines from land and realigns generally within the State Highway road reserve. This project also addresses security of supply issues as existing structures located in Te Ariki Park and the subsequent replacement of these structures. The removal of Tower 118 also reduces any physical effects.

Policy 6 of the NZCPS relates to activities in the coastal environment. This proposal is consistent with this policy as it recognises the importance of the provision of infrastructure in relation to the coastal environment to provide for the well-being of communities. The long-term security of electricity to Mount Maunganui is embedded within this proposal, as well as the removal of structures from Māori land and the removal of a structure from the CMA.

Policies 11, 13 and 15 of the NZCPS generally address indigenous biological diversity, the preservation of natural character and natural features and natural landscapes. As discussed above, the proposed works within the SEA and IBDA B are weed dominated, thus their overall botanical and habitat values are limited. Any adverse natural character effects on Rangataua Bay are considered low, and the

relocation of the transmission line and removal of a structure within the CMA will ensure any outstanding natural landscape values of Tauranga Moana will not be adversely affected.

Policy 25 of the NZCPS relates to subdivision, use and development in areas of coastal hazard risk. Pole 117 is being removed from Te Arika Park, which is an area that has experienced coastal erosion on the headland.

5.5 Bay of Plenty Operative Regional Policy Statement

The *Bay of Plenty Operative Regional Policy Statement* provides a framework for sustainably managing the region's natural and physical resources, setting our policies and methods for managing the region's significant resource management issues. Overall the proposal is assessed as being consistent the relevant provisions of the Operative Regional Policy Statement. A full assessment of the relevant objectives and policies is included in Appendix L. A summary of that assessment is set out as follows:

Objective 2 and 4 generally relate to the preservation, restoration and enhancement of the coastal environment and the enabling of development in the coastal environment. The project is removing structures from the CMA which will produce a low level of effects. Ecological values within SEA 25 (TCP) and IBDA B 23 (PRCEP) will not be compromised and mitigation measures will be adopted to ensure any risk to birdlife in particular will be mitigated. Furthermore, the works are generally being carried out in and adjacent to an existing road corridor and influenced by existing transmission line infrastructure.

Policies CE 2B, CE 3A and CE 8B generally relate to the management of adverse effects on natural character and development within the coastal environment. Any outstanding landscape values of Tauranga Harbour will not be compromised by the removal of Tower 118 and the addition of other harbour edge structures. The replacement structures are grounded in landforms with a single span crossing Rangataua Bay. This project clusters network utility development in adjacent corridors, and removes a significant structure from the CMA.

Policy CE 5A relates to the provision of sustainable use and development of the CMA. The work is being carried out in an area already influenced by existing network utility infrastructure, and allows for the removal of an existing tower from the CMA.

Policy CE 11B relates to allocating public space within the CMA. The conductors in airspace will not limit the public use of the CMA more than what currently occurs.

5.6 Proposed Bay of Plenty Regional Coastal Environment Plan

The *Proposed Bay of Plenty Regional Coastal Environment Plan* (the PRCEP) sets out the region's resource management strategy to control the effects of activities and development within the Region. Overall the proposal is assessed as being consistent with the relevant provisions of the Proposed Plan. A full assessment of the relevant objectives and policies is included in Appendix L. A summary of that assessment is set out as follows:

Objectives 2 and 2A of the PRCEP generally relate to the protection of natural heritage features and the safeguarding of ecosystems. The values of ONFL 3 and the High Natural Character values of this

part of Tauranga Harbour are appropriately protected as indicated in the Landscape and Visual Assessment. As indicated previously, the areas within SEA 25 and the IBDA B area have been assessed as being weed dominated. Mitigation measures will be adopted to ensure that any at risk bird life and wetlands will be protected.

Policies NH1 to NH14 generally relate to managing activities within natural heritage areas of the coastal environment. In general, the project involves removing an existing structure from the CMA and realigning a transmission line within a road corridor utilising more modified parts of the natural heritage areas. Ecological interconnections will be sustained in any recognised areas of importance through the project design and mitigation measures proposed. Furthermore, Māori cultural values and traditions in relation to natural heritage have been recognised and provided through consultation with tangata whenua, project design and the proposed mitigation measures.

Objectives 12, 15 and 17 and Policies IW 1 to IW 10 of the PRCEP relate to iwi resource management within the coastal environment. Transpower has undertaken extensive engagement with tangata whenua throughout the development of the project, with the project allowing the removal of Transpower infrastructure off ancestral lands or in the case of some horticultural blocks to more convenient locations in regard to utilisation of the land. Cultural impact assessments have been prepared by relevant tangata whenua groups, and specific mitigation measures developed to address matters raised.

Objective 18 and Policy HH 1 of the PRCEP relate to the protection of historical heritage values and resources in the coastal environment. An archaeological assessment has been prepared and authority from HNZPT will be sought for terrestrial aspects of the project likely to encounter any archaeology.

Objective 20 and Policies CH 2 and CH 2A of the PRCEP relate to development within areas susceptible to coastal hazards. The project enables the removal of Pole 117 which is at risk from coastal erosion.

Objectives 23, 25A, 25B and 26 and Policies SO 1, 2, 3 and 4 relate to activities in the coastal marine area. The conductor in air space will not place any more restrictions on public access than what is already existing. Furthermore, the transmission line realignment will provide a more resilient electricity supply to Mount Maunganui and allow infrastructure to be moved off ancestral land and removal of a tower from within the CMA.

Policy DD 7 relates to any disturbance, deposition and extraction proposed within the project that is occurring within the CMA. The only disturbance of the CMA will be in relation to the removal of the existing tower. This removal has been assessed as having an overall low level of impact.

Policies CD 1, 3A, 4 and 5 relate to coastal discharges. Any sediment from drilling and dewatering activity associated with installing structures adjacent to the CMA will be suitably controlled to avoid the discharge of sediment to the coastal marine area.

5.7 Operative Bay of Plenty Regional Coastal Environment Plan

The *Operative Bay of Plenty Regional Coastal Environment Plan* (the ORCEP) sets out the region's resource management strategy to control the effects of activities and development within the Region. Overall the proposal is consistent with the relevant provisions of the ORCEP that still have legal effect. A full assessment of the relevant objectives and policies is included in Appendix L. A summary of that assessment is set out as follows:

Objective 4.2.1 and Policies 4.2.3(b), (c) and (f) of the ORCEP relates to development in areas recognised to have natural character. A portion of the project area in the CMA includes an area identified as High Natural Character in the RPS. The Landscape and Visual Assessment has confirmed that there are no significant adverse effects on these values.

Objective 5.2.2 and Policies 5.2.3(a), (c) and (d) relate to the maintenance of natural features and landscapes. The Landscape and Visual Assessment has confirmed there are no significant effects on the values of natural features and landscapes from the transmission line crossing the CMA.

Objectives 8.2.2(a), (b) and (c) and Policies 8.2.3(a) and (c) relate to the involvement of tangata whenua within the management of the coastal environment. Transpower has undertaken extensive engagement with tangata whenua throughout the development of the project, and the proposed new alignment allows Transpower infrastructure to be removed from ancestral lands. Other mitigation measures to address cultural effects during construction are also proposed.

Objectives 11.2.2 and Policy 11.2.3(d) relate to coastal hazards. The project removes Pole 117 from land which is at risk from coastal erosion. Pole 33C and 33D are within low lying areas adjacent to the CMA, but facilitate a single span crossing of the CMA.

Objective 13.2.2 and Policies 13.2.3(e), (g), (h) and (i) relate to structures in the CMA. The conductors in airspace allow the continuation of electricity to Mount Maunganui, and enable the removal of a tower from the CMA which will reduce the extent of structures in the CMA. Suitable waterway clearances will be retained, and any noise nuisance from the conductors will be maintained at acceptable levels.

Objective 14.2.2(a) and Policy (14.2.3(f) relates to disturbance, deposition and extraction within the CMA. The only disturbance of the CMA will be in relation to the removal of the existing tower, which will have an overall low level of impact according to the ecological assessment.

Objective 18.2.2 and Policies 18.2.3(a) and (e) relate to historic and cultural heritage in the CMA. An archaeological assessment has been prepared and authority from HNZPT will be sought for terrestrial aspects of the project. No specific items of historic heritage are known to be located within the area of the CMA affected by the project.

Objective 9.2.2 and Policies 9.2.3(b), (c) and (j) relate to coastal discharges. Any sediment from drilling and dewatering activity will be suitably controlled to avoid the discharge of sediment to the coastal marine area.

5.8 Regional Land and Water Plan

The *Regional Land and Water Plan* sets out policies, methods and rules to address issues of use, development and protection of land resources, geothermal resources and freshwater resources, including the beds and margins of water bodies. Overall the proposal is assessed as being consistent with the relevant provisions of the Regional Land Water Plan. A full assessment of the relevant objectives and policies is included in Appendix L. A summary of that assessment is set out as follows:

Objectives 9, 10 and 19 and Policy 21 relate to the integrated management of land and water. Overall, the design of the project has sought to minimise terrestrial and CMA environmental effects. Furthermore, no high erosion areas are affected by the proposal. The temporary dewatering of Poles 33C and 33D foundations will not adversely affect potable water or aquifer recharge areas due to the minor and temporary nature of the works.

Objective 26 and Policies 43 and 44 relate to discharges to water and land. Sediment control measures are proposed around the Pole 33C and 33D construction sites, and other earthworks are minor, localised and not near waterways. Furthermore, any earthworks on potentially contaminated land will be undertaken in accordance with a Site Management Plan.

Objectives 73 and 76 and Policies 133, 134, 135 and 143 relate to wetlands. The project has minor effects on a degraded wetland area in the span between Poles 127A and 128A. The area is dominated by weed and exotic plant species but has some habitat value for bird breeding. The ecological assessment concludes that provided recommended mitigation measures are implemented, the long-term effects on the wetland area will be less than minor.

5.9 Tauranga City Plan

The *Tauranga City Plan* (the TCP) sets out the city's resource management strategy to control the effects of activities and development within the City. Overall the proposal is assessed as being consistent with the relevant provisions of the TCP. A full assessment of the relevant objectives and policies is included in Appendix L. A summary of that assessment is set out as follows:

Objective 4C.1.1 and Policies 4C.1.1.1, 4C.1.1.3, 4C.1.1.4 and 4C.1.1.6 relate to the management of earthworks. The earthworks associated with the project are relatively minor and relate to pole foundations, pole removal and minor access track works. Any earthworks are localised to structures and minor track works will not cause instability. Areas within SEA 25 impacted by the proposal works are mainly weed dominated, and mitigation measures will be adopted to ensure the potential presence of at risk wetland birds and palustrine wetland will not be compromised. An authority from HNZPT will be sought in regard to historic Māori occupation of the area, and any earthworks on potentially contaminated land will be managed under a Site Management Plan.

Objective 4E.1.1 and Policy AE.1.1.1 relate to the management of noise. The noise assessment concludes that operational noise will be de minimis. Provided noise and vibration effects are managed

according to the recommended management plan, construction effects are expected to be less than minor.

Objective 5A.3.2 and Policy 5A.3.2.2 relate to the management of the natural environment. Areas within SEA 25 impacted by the proposal works are mainly weed dominated, and mitigation measures will be adopted to ensure the potential presence of at risk wetland birds and palustrine wetland will not be compromised.

Objectives 6A.1.2, 6A.1.3 and 6A.1.10 and Policies 6A.1.2.2, 6A.1.3.2 and 6A.1.10.1 relate to the management of natural features and landscapes. The coastal edge and rural landscape on the Matapihi Peninsula have been identified as having natural feature and landscape values. The existing A-line already traverses this area and the works are primarily a relocation of infrastructure in the same locality within this landscape. Furthermore, the removal of a tower within the CMA adjacent to this Amenity Landscape provides a broader landscape benefit. The Landscape and Visual Assessment confirms there are no significant effects on the values of natural features and landscapes.

Objectives 7A.1.1 and 7C.4.3 and Policies 7A.1.1.2 and 7C.4.3.1 relate to heritage values within the area. An archaeological assessment has been undertaken and an authority for the project will be sought from HNZPT. Additionally, the project allows the enhancement of significant Māori Areas through the removal of infrastructure from M41 Te Ariki Pā on the Maungatapu side, and minimises any additional effects on M44 Te Ngaio Pā. The project has been developed in consultation with local hapū and Māori landowners.

Objectives 8A.1.1 and 8A.1.3 and Policies 8A.1.1.1 and 8A.1.3.1 relate to the management of land located within areas subject to natural hazards. The location of Poles 33C and 33D while located in low lying flood prone areas, will not exacerbate any flood risks. Furthermore, Pole 117 is being removed from the eroding cliff top at Mangatapu.

Objectives 10A.3.1, 10A.3.3, 10A.3.4 and 10B.1.1 and Policies 10A.3.1.1 through to 10B.1.1.4 relate to the management of network utilities. Overall, the proposal supports a sustainable and secure electricity supply to Mount Maunganui. This proposal will ensure protection of the ongoing operation of the high-voltage transmission line. The project has been designed to minimise adverse environmental effects to a practicable extent whilst meeting the project objectives. Where practicable, the A-line has been co-located onto the B-line alignment and the overhead crossing will replace and existing overhead crossing in the same locality. Whilst there may be some increased adverse visual effects in localised areas, these areas are already modified by network utility infrastructure, and other areas will experience a reduction in any adverse effects. Undergrounding was not considered feasible given the technical, operational and cost implications. However, as mentioned above, the realignment will be located within an existing utility corridor and co-located or located adjacent to the B-line.

Objectives 16A.3.1 and 16A.3.3 relate to the management of activities within the rural zone. The extent of works in the rural parts of Matapihi appropriately considers rural amenity by generally concentrating the existing A-line and B-line infrastructure along the SH29A corridor, and removal of the A-line from 'mid-block' parts of affected rural properties.

5.10 Tauranga Moana Iwi Management Plan

The Tauranga Moana Iwi Management Plan is a long-term development approach to building the capacity of Tauranga Moana. It is designed to enhance Tauranga Moana iwi participation in resource and environmental management and provide clear high-level guidance on their objectives and policies in relation to the environment. The Plan identifies strategic objectives including tribal identity and integrity.

The Management Plan includes the following relevant policy and specific action:

Policy 15: Manage the effects of coastal structures (including moorings and jetties) and infrastructure in Tauranga Moana.

Action 15.2: Pylons are to be removed from Te Arika Park and Opoopoti (Maungatapu) and rerouted along the main Maungatapu road and bridge. [Lead Agency: Transpower]

The project is fully consistent with the policy and related action.

6 Alternatives Considered

While there is no specific requirement under the RMA to assess alternatives as the effects of the proposal are not significant, a report summarising the options considered by Transpower and the reasons for selecting the preferred option is attached in Appendix N. Transpower has assessed a number of realignment options to resolve issues with the existing assets on and crossing Ngāti Hē land at Maungatapu. In general, these involve variants to a relocation of the A-Line circuit onto the B-Line line support structures (noting that some upgrades to or supplementary structures would be required due to engineering requirements), with the main differences between the options relating to the method for crossing Rangataua Bay and the associated treatment at each shore end. One further option to underground solely within the Ngāti Hē land was also considered.

A summary of the principal options considered is set out in the following table.

Option Number	Option Description	Comments
1	Do Nothing.	Poles 116 and 117 will still require replacement. Ongoing maintenance and access issues will remain. Does not resolve historic grievances with local hapū and Māori landowners.
2	Underground cable between Poles A116 and A117 on Ngāti Hē land (sports field).	Would require two new cable termination structures to replace Poles 116 and 117. Ongoing maintenance and access issues will remain. Does not resolve historic grievances with local hapū and Māori landowners.

Option Number	Option Description	Comments
All remaining options below involve relocation of the circuit onto or adjacent to the B-Line support poles between poles 28 and 48, and removal of redundant A-Line poles from Te Ariki Park, residential and horticultural land.		
3(a)	Aerial crossing of Rangataua Bay in a single span.	Requires two monopoles of approximately 34.5m on the Maungatapu side and 46.5m high on the Matapihi side, and removal of the existing Tower 118 from the CMA.
3(b)	Aerial crossing of Rangataua Bay utilising a strengthened or replacement Tower 118 in the CMA.	Requires one monopole of up to 40m high on the Maungatapu side of the harbour and a 12m to 17m high concrete pi-pole on the Matapihi side. Existing Tower 118 in the CMA is retained.
4(a)	Integrate a cable into a potential future replacement road bridge.	New cable termination structures required on either side in the order of 15m to 20m high. New bridge would need to be designed to accommodate an additional transmission cable.
4(b)	Cable across estuary on a new standalone footbridge or cable bridge.	New cable termination structures required on either side in the order of 15m to 20m high. New bridge structure required.
4(c)	Cable across existing bridge – east side.	New cable termination structures required on either side in the order of 15m to 20m high. Terminate on west side adjacent to Marae, but then cross to east side (opposite side to existing cable) as soon as practicable. Thrust bore under road required.
4(d)	Cable across existing bridge – west side.	New cable termination structures required on either side in the order of 15m to 20m high. Attach cable to same side as existing cable. No space in existing electricity duct.
5	Seabed cable.	New cable termination structures required on either side in the order of 15m to 20m high. Cable thrust bored under the seabed.

Table 10: Summary of Options - Long List

These options have been considered on an iterative basis over several years with inputs from the Transpower environmental team, feedback from ongoing iwi consultation (relevant hapū and Māori land owners at both sides of the waterway) and inputs from external visual/landscape, planning and engineering consultants.

Undergrounding of the line across the Ngāti Hē land (Te Ariki Park) was rejected on the basis that it did not resolve long term grievances of iwi, has issues of cultural acceptability due to the burial history

on the Ngāti Hē land, and also does not provide any wider benefits such as removal of the lines from other land that is crossed by the transmission line.

The support poles for the B-Line transmission line that runs along State Highway 29A were originally designed to take another circuit with a future realignment of the A-Line in mind. Accordingly, a number of options were developed around use of these structures, with variation in the methods to cross Rangataua Bay being investigated. Further engineering investigations have determined that a number of existing poles will require replacement or supplementary poles to address structural issues, manage conductor blowout and minimise the extent of vegetation trimming or removal where it is proposed to combine both circuits onto a single set of support structures on the current B-Line alignment.

Options involving attaching the cable to the existing State Highway 29A bridge, use of a new cable/foot bridge or a cable thrust beneath the seabed are considered by Transpower to have operational and security of supply risks (network resilience), and unacceptable costs due to hardware and engineering considerations, and would not eliminate the need for substantial termination structures on either side of the waterway, while there is no road bridge replacement project forecast in the foreseeable future that a new cable crossing could be integrated into. Accordingly, two aerial crossing options were shortlisted for further consideration, with the preferred option involving a single span aerial crossing of Rangataua Bay adjacent to the State Highway 29A bridge.

Option 3(a) (single aerial span of Rangataua Bay) was confirmed as the preferred option to take forward to community consultation following a Transpower workshop including engineering, environmental/planning and community relations participants. Following key stakeholder consultation and community open days held in May 2017, the preferred option was confirmed to take forward to the resource consent phase.

7 Communication and Consultation

A summary of stakeholder and community engagement undertaken by Transpower and its representatives, prepared by Transpower's Stakeholder Engagement Manager, is included in Appendix O. Transpower has engaged with the Bay of Plenty Regional Council and Tauranga City Council as the project was developed to confirm relevant stakeholders. A formal pre-application meeting was held with Bay of Plenty Regional Council and Tauranga City Council officers on 19 May 2017.

Specific stakeholder engagement has included the following parties:

- Ngāti Hē hapū
- Ngāi Tūkairangi hapū
- Ngāti Tapu hapū
- Ngāti Pūkenga iwi
- Ngāti Ranginui iwi
- Ngāi Te Rangi iwi
- Tauranga Moana Collective

- Land owners directly affected by works or line swing in airspace (including Matapihi Ohuki Trust, Ngāi Tūkairangi No.2 Block Trust and Tauranga City Council)
- New Zealand Transport Agency
- Kiwi Rail
- Tauranga Airport
- Harbourmaster
- Heritage New Zealand Pouhere Taonga (via the project archaeologist)

Feedback from these parties has helped inform the final project design and proposed mitigation.

Transpower has also made contact with Powerco to consult over the detailed solution for their 11kV line where crossed by the relocated Transpower transmission line.

Engagement with relevant iwi, hapū and Māori trusts with land ownership interests has resulted in the preparation of three Cultural Impact Assessments by Ngāti Hē and Ngāi Tūkairangi hapū and Matapihi Ohuki Trust (see cultural effects section above).

Community engagement has included a local area letter drop and newspapers advertisements inviting the community to open days that were held at the Maungatapu School on Friday 19 May and Saturday 20 May 2017. 27 people registered attendance to these open days.

Public notices and letter drops to the local community were also used to enable the local community to directly obtain information and updates.

Project briefings were also provided to local MPS, and MP Todd Muller attended one of the open days.

Transpower is requesting public notification of the project to ensure the community can fully participate in the resource consent process and ensure that all relevant issues are addressed through the consent process.

8 Conclusions

This HAI-MTM A Realignment has been designed to address multiple objectives as follows:

- Enable Transpower to provide for the long-term security of electricity supply into Mount Maunganui;
- Remove an existing constraint from an important cultural and social facility for the Maungatapu community; and
- Honour a longstanding undertaking to the community/iwi to remove Tower 118 from the harbour.

A number of alternatives were considered, and the final project design selected was considered to best achieve the objectives of the project whilst managing any adverse environmental effects to the extent practicable. The project will result in significant benefits in regard to removing a tower from the CMA, removing constraints from private and Māori trustee owned land by removing infrastructure on and crossing this land, and addressing existing adverse cultural effects. Some localised adverse effects in the immediate vicinity of the new poles may occur, but these are generally limited to an existing infrastructure corridor and have been minimised to the extent practicable.

Overall it is considered that the project promotes the sustainable management of natural and physical resources as embodied in Part 2 of the RMA, and is not contrary to the objectives and policies of the relevant statutory planning documents. The project also directly supports the aspirations of the Tauranga Moana Iwi Management Plan in regard to removing transmission lines from Te Akiri Park and relocating these to the alignment of the SH29A road bridge.

To ensure the wider community has the opportunity to participate in the resource consent process for this project, particularly given that works are proposed within and adjacent to Tauranga Harbour, Transpower requests that the applications be publicly notified.