Rules Assessment

Proposal: Taumarere to Ōpua Cycle Trail

Address: Taumarere to Ōpua Rail Designation

District Plan: Operative Far North District Plan (ODP)

Site Zoning	
Zone	Split zoning across the General Coastal, Rural Production and Conservation Zone.
Overlays/Controls	Te Raupo /Pumuka's Pa & Waahi Tapu (MS10-09)
Designations	New Zealand Railways Corporation

Rule	Compliance	Non-Compliance
General Coastal Zone - 10.6.5.1 PERMITTED ACTIVITIES		
10.6.5.1.1 VISUAL AMENITY The following are permitted activities in the General Coastal Zone: (a) any new building(s) not for human habitation provided that the gross floor area of any new building permitted under this rule, does not exceed 50m² or for human habitation provided that the gross floor area does not exceed 25m^2; and (b) the exterior is coloured within the BS5252 standard colour palette range with a reflectance value of 30% or less or are constructed of natural materials which fall within this range; or (c) any alteration/addition to an existing building which does not exceed 50m^2, provided that any alteration/ addition does not exceed the height of the existing building and that any alteration/addition is to a building that existed at 28 April 2000; or (d) renovation or maintenance of any building.	Complies. No buildings with a GFA are proposed. Any buildings i.e., retaining wall greater than 2m in height will be constructed of natural materials which comply with the colour palette range.	
10.6.5.1.2 RESIDENTIAL INTENSITY	N/A	
10.6.5.1.3 SCALE OF ACTIVITIES The total number of people engaged at any one period of time in activities on a site, including employees and persons making use of any facilities, but excluding people who normally reside on the site or are members of the household shall not exceed 4 persons per site or 1 person per 1ha of net site area whichever is the greater.	N/A	

Rule	Compliance	Non-Compliance
10.6.5.1.4 BUILDING HEIGHT The maximum height of any building shall be 8m.	Complies as indicated in sections provided as part of **Appendix 4**.	
10.6.5.1.5 SUNLIGHT No part of any building shall project beyond a 45 degree recession plane as measured inwards from any point 2m vertically above ground level on any site boundary (refer to definition of Recession Plane in Chapter 3 - Definitions), except where a site boundary adjoins a legally established entrance strip, private way, access lot, or access way serving a rear site, the measurement shall be taken from the farthest boundary of the entrance strip, private way, access lot, or access way.		The combined height of structures (retaining walls + safety rails) is likely to exceed 2m for buildings referred to as 'treatments D-G'. Due to the irregular boundaries and varying topography it is likely that in various locations across the cycle trail these structures will infringe the recession plane. **Restricted Discretionary Activity.**
10.6.5.1.6 STORMWATER MANAGEMENT The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 10%.	Will comply. The site it in excess of 56ha of which 10% is 5.6ha. At a length of 6km with a maximum width (existing rail and proposed cycle trail) of 8m the impervious surfaces are anticipated to be approximately 4.8ha, noting that boardwalks are not defined as impermeable surfaces.	
10.6.5.1.7 SET BACK FROM BOUNDARIES (a) no building shall be erected within 10m of any site boundary, except that on any site with an area of less than 5,000m², this setback shall be 3m from any site boundary; (b) no building for residential purposes shall be erected closer than 100m from the boundary of the Minerals Zone.		The combined height of structures (retaining walls + safety rails) is likely to exceed 2m for treatments D-G. Due to the irregular boundaries it is likely that in various locations across the cycle trail these structures will infringe the 10m boundary setback. **Restricted Discretionary Activity.**
10.6.5.1.8 TRANSPORT Refer to Chapter 15 – Transportation for Traffic, Parking and Access rules.	See below	

Rule	Compliance	Non-Compliance
10.6.5.1.9 KEEPING OF ANIMALS Any building, compound or part of a site used for factory farming, boarding kennels or a cattery shall be located no closer than 50m from any site boundary except for a boundary which adjoins the Residential, Coastal Residential or Russell Township Zones where the distance shall be a minimum of 600m.	N/A	
10.6.5.1.10 NOISE All activities shall be so conducted as to ensure that noise from the site shall not exceed the following noise limits at or within the boundary of any other site in this zone, or at any site zoned Residential, Russell Township or Coastal Residential, or at or within the notional boundary of any dwelling in any other rural or coastal zone: 0700 to 2200 hours 55 dBA L_{10} 2200 to 0700 hours 45 dBA L_{10} and 70 dBA L_{max}	Will comply.	
10.6.5.4.5 HELICOPTER LANDING AREA A helicopter landing area shall be at least 200m from the nearest boundary of any of the Residential, Coastal Residential, Russell Township or Point Veronica Zones.	Helicopter landing area is not proposed	
RURAL PRODUCTION Zone - 8.6.5.1 PERMITTED ACTIVITIES		
8.6.5.1.1 RESIDENTIAL INTENSITY	N/a	
8.6.5.1.2 SUNLIGHT No part of any building shall project beyond a 45 degree recession plane as measured inwards from any point 2m vertically above ground level on any site boundary (refer to definition of Recession Plane in Chapter 3 - Definitions), except where a site boundary adjoins a legally established entrance strip, private way, access lot, or access way serving a rear site, the measurement shall be taken from the farthest boundary of the entrance strip, private way, access lot, or access way.		The combined height of structures (retaining walls + safety rails) is likely to exceed 2m for treatments D-G. Due to the irregular boundaries and varying topography it is likely that in various locations across the cycle trail these structures will infringe the recession plane. **Restricted Discretionary Activity.**
8.6.5.1.3 STORMWATER MANAGEMENT The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%.	Will comply. The site it in excess of 56ha of which 15% is 8.4ha. At a length of 6km with a maximum width (existing rail and proposed cycle trail) of	

Rule	Compliance	Non-Compliance
	8m the impervious surfaces are anticipated to be approximately 4.8ha	
8.6.5.1.4 SETBACK FROM BOUNDARIES No building shall be erected within 10m of any site boundary		The combined height of structures (retaining walls + safety rails) is likely to exceed 2m for treatments D-G. Due to the irregular boundaries it is likely that in various locations across the cycle trail these structures will infringe the 10m boundary setback. **Restricted Discretionary Activity.**
8.6.5.1.5 TRANSPORTATION	N/A	
8.6.5.1.6 KEEPING OF ANIMALS	N/A	
8.6.5.1.7 NOISE All activities except Temporary Military Training Activities shall be so conducted as to ensure that noise from the site shall not exceed the following noise limits as measured at or within the boundary of any other site in this zone, or at any site in the Residential, Coastal Residential or Russell Township Zones, or at or within the notional boundary of any dwelling in any other rural or coastal zone: 0700 to 2200 hours 65 dBA L_{10} 2200 to 0700 hours 45 dBA L_{10} and 70 dBA L_{max}	Will comply	
8.6.5.1.8 BUILDING HEIGHT The maximum height of any building shall be 12m.	Complies as indicated in sections provided as part of **Appendix 4**.	
8.6.5.1.9 HELICOPTER LANDING AREA	N/A	
8.6.5.1.10 BUILDING COVERAGE Any new building or alteration/addition to an existing building is a permitted activity if the total Building Coverage of a site does not exceed 12.5% of the gross site area.	N/A	
8.6.5.1.11 SCALE OF ACTIVITIES For activities other than those provided for in the exemptions below, the total number of people engaged at any one period of time in activities on a site, including employees and persons making use of any facilities, but excluding people who	N/A	

Rule	Compliance	Non-Compliance
normally reside on the site or are members of the household shall not exceed i. For activities ancillary to farming or plantation forestry activities, 8 persons per site or 2 person per 1 hectare of net site area, whichever is the greater ii. ii. For all other activities, 4 persons per site or 1 person per 1 hectare of net site area, whichever is the greater.		
8.6.5.1.12 TEMPORARY EVENTS	N/A	
Conservation Zone 9.7.5.1– PERMITTED ACTIVITES		
9.7.5.1.1 PURPOSE OF BUILDINGS All new buildings shall be directly for, or ancillary to, the principal conservation activities of the site.	Complies. No buildings are proposed in this location. Refer to Plan 03B, Sheet 03 of Appendix 4.	
9.7.5.1.2 SCALE OF ACTIVITIES The total number of people engaged in any activities on a site, which involves overnight accommodation, whether or not they are employed in the activity, making use of any facilities, but excluding people who normally reside on the site or are members of the household shall not exceed 8 persons per 20ha of net site area. Provided that: (a) this number may be exceeded for a period totalling not more than 60 days in any 12 month period where the increased number of persons is a direct result of activities ancillary to the primary activity on the site; and (b) this number may be exceeded where persons are engaged in constructing or establishing an activity (including environmental enhancement) on the site; and (c) this number may be exceeded where persons are visiting marae. In determining the total number of people engaged at any one period to time, the Council will consider the maximum capacity of the facility (for instance, the number of beds in visitors accommodation, the number of seats in a restaurant or theatre), the number of staff needed to cater for the maximum number of guests, and the number and nature of the vehicles	N/A	

Rule	Compliance	Non-Compliance
that are to be accommodated on site to cater for those engaged in the activity. Exemptions: The foregoing limits shall not apply to activities of a limited duration required by normal farming and plantation forestry activities, provided that the activity shall comply with the requirements of s16 of the Act.		
9.7.5.1.3 BUILDING HEIGHT The maximum height of any building shall be 8m.	N/A	
9.7.5.1.4 SUNLIGHT No part of any building shall project beyond a 45 degree recession plane as measured inwards from any point 2m vertically above ground level on any site boundary (refer to definition of Recession Plane in Chapter 3 - Definitions), except where a site boundary adjoins a legally established entrance strip, private way, access lot, or access way serving a rear site, the measurement shall be taken from the farthest boundary of the entrance strip, private way, access lot, or access way.	N/A	
9.7.5.1.5 STORMWATER MANAGEMENT The maximum proportion or amount of the gross site area covered by buildings and other impermeable surfaces shall be 10% or 1,000m², whichever is the lesser.	N/A	
9.7.5.1.6 SCREENING FOR NEIGHBOURS Except along boundaries adjoining a Commercial or Industrial zone, outdoor areas providing for activities such as parking, loading, outdoor storage and other outdoor activities associated with non-residential activities on the site shall be screened from adjoining sites in the Residential, Conservation, Russell Township and Coastal Residential Zones by landscaping, wall/s, close boarded fence/s or trellis/es or a combination thereof. They shall be of a height sufficient to wholly or substantially separate these areas from the view of neighbouring properties. Structures shall be at least 1.8m in height, but no higher than 2.0m, along the length of the outdoor area. Where such screening is by way of landscaping it shall be a strip of vegetation which has or will attain a minimum height of 1.8m for a minimum depth of 2m.	The land north of the Conservation Zone is zoned Rural Production, and is heavily vegetated such that it is will not be visible from adjoining properties.	
9.7.5.1.7 KEEPING OF ANIMALS No site shall be used for factory farming, or boarding or breeding kennel or a cattery.	N/A	
9.7.5.1.8 NOISE	Compliance anticipated.	

Rule	Compliance	Non-Compliance
All activities shall be conducted so as to ensure that noise from the site shall not exceed the following noise limits as measured at or within the boundary of any site in the Residential, Coastal Residential or Russell Township Zones, or at or within the notional boundary of any dwelling in any other rural or coastal zone. 0700 to 2200 hours 55 dBA L10 2200 to 0700 hours 45 dBA L10 and 70 dBA Lmax Exemptions: The foregoing limits shall not apply to activities of a restricted duration required by normal farming and plantation forestry activities. Provided that the activity shall comply with the requirements of section 16 of the Act.		
9.7.5.1.9 HELICOPTER MOVEMENTS There shall be no landing or takeoff of any helicopter except: (a) in accordance with a resource consent; or (b) in the case of a medical or other emergency; or (c) where it is necessary for the management of the land.	N/A	
9.7.5.1.10 SETBACK FROM BOUNDARIES No building for residential purposes shall be erected closer than 100m from any zone boundary with the Minerals Zone. Attention is also drawn to the setback from Lakes, Rivers, Wetlands and the Coastline provisions in Chapter 12.7. Note: This rule does not apply to the below ground components of wastewater disposal systems. However, provisions in Chapter 12.7 – Lakes Rivers Wetlands and the Coastline still apply to below ground components of wastewater treatment systems. Attention is also drawn to the TP58 On-site Wastewater Systems: Design and Management Manual and the Regional Water and Soil Plan for Northland, as consent may be required.	N/A	
9.7.5.1.11 BUILDING COVERAGE Any new building or alteration/addition to an existing building is a permitted activity if the total Building Coverage of a site does not exceed 8% or 800m2, whichever is the lesser, of the gross site area.	N/A	
Natural and Physical Resource 12.2 Indigenous Flora and Fauna – PERMITTED ACTIVITES		
12.2.6.1.1 INDIGENOUS VEGETATION CLEARANCE PERMITTED THROUGHOUT THE DISTRICT Notwithstanding any rule in the Plan to the contrary but subject to Rules 12.5.6.1.1, 12.5.6.1.3 and 12.5.6.2.2 in the Heritage section of this Plan, indigenous vegetation clearance is		Does not comply. The vegetation clearance proposed is not for any of the listed purposes.

Rule	Compliance	Non-Compliance
permitted throughout the District where the clearance is for any of the following purposes: (a) clearance of indigenous vegetation 10 years old or less to establish new exotic plantation forest; (b) to provide clearance for existing overhead power and telephone lines, provided that no more vegetation is cleared or trimmed than is necessary for the safe operation of the utility service; or (c) the removal of trees and other vegetation which, as a result of old age or a natural event such as a storm or erosion, are a risk to the safety of people or property; or (d) the maintenance of existing roads, and private accessways and walkways including for the purposes of visibility and road safety; or (e) the formation and maintenance of walking tracks less than 1.2m wide using manual methods which do not require the removal of any tree over 300mm in girth; or (f) the maintenance of existing open space within 20m of an existing building; or (g) the removal of dead trees, provided that no more vegetation is cleared or trimmed than is necessary for safe removal; or (h) the sustainable harvest of plant material for rongoa Maori (customary medicine); or (i) the maintenance of existing fence lines, provided that the clearance does not exceed 3.5m in width either side of the fence line; or (j) normal gardening activities which result from the maintenance of lawn and gardens; or (k) the removal is in accordance with an existing use right; or (l) the removal is for a new fence where the purpose of the new fence is to exclude stock and/or pests from the area provided that the clearance does not exceed 3.5m in width either side of the fence line; or (m) creation and maintenance of firebreaks provided that no more vegetation is cleared than is necessary to achieve the practical purpose of the firebreak; or (n) vegetation clearance of land which has been previously cleared and where the vegetation to be cleared is less than 10 years old. (o) it involves the felling, trimming, damaging or removal of a tree or group of trees in an urban		

Rule	Compliance	Non-Compliance
environment unless the tree or group of trees is— (Subclauses not applicable)		
12.2.6.1.2 INDIGENOUS VEGETATION CLEARANCE IN THE RURAL PRODUCTION AND MINERALS ZONES Clearance of indigenous vegetation in the Rural Production and Minerals Zones which is more than 10 years old is a permitted activity where: (a) it is not in a remnant forest, not within 20m of a lake (as scheduled in Appendix 1C), indigenous wetland or continually flowing river, and the clearance does not exceed 2ha per site existing as at 1 February 2005 in any 10 year period while this rule is in force; or (b) if in a remnant forest, it is not within 20m of a lake (as scheduled in Appendix 1C), indigenous wetland or continually flowing river, and the clearance does not exceed 500m2 per site existing as at 1 February 2005 in any 10 year period while this rule is in force.	Complies. No vegetation clearance is proposed in the rural production zone.	
12.2.6.1.3 INDIGENOUS VEGETATION CLEARANCE IN THE GENERAL COASTAL ZONE The clearance of indigenous vegetation is a permitted activity in the General Coastal Zone, provided that: (a) the vegetation is less than 6m in height or 600mm in girth (measured at a height of 1.5m); and (b) the clearance is not within 20m of a lake (as scheduled in Appendix 1C), coastal marine area, indigenous wetland or continually flowing river; and (c) any clearance involving remnant forest does not exceed 500m2 ; and (d) in relation to the total area of any site existing as at 1 February 2005 which has more than 50% of that area in indigenous vegetation, the total clearance does not exceed 1ha or 15% of that area, whichever is the lesser, in any 10 year period; or (e) in relation to the total area of any site existing as at 1 February 2005 which has less than 50% of that area in indigenous vegetation, the total clearance does not exceed 1,000m2 of that area in any 10 year period.		Does not comply. Approximately 774m^2 of Kanuka is proposed to be removed some of which will be within 20m of the CMA. Discretionary Activity.
Natural and Physical Resource 12.3 Soils and Minerals – PERMITTED ACTIVITES		
Rule 12.3.6.1.1 EXCAVATION AND/OR FILLING, EXCLUDING MINING AND QUARRYING, IN THE		Does not comply.

Rule	Compliance	Non-Compliance
RURAL PRODUCTION ZONE OR KAURI CLIFFS ZONE Excavation and/or filling, excluding mining and quarrying, on any site in the Rural Production Zone or Kauri Cliffs Zone is permitted, provided that: (a) it does not exceed 5,000m^3 in any 12 month period per site; and (b) it does not involve a continuous cut or filled face exceeding an average of 1.5m in height over the length of the face i.e. the maximum permitted average cut and fill height may be 3m.		The total volume of works proposed across the site (both zones) is 21,750m^3 with cuts in excess of 1.5m. Discretionary Activity.
12.3.6.1.2 EXCAVATION AND/OR FILLING, INCLUDING OBTAINING ROADING MATERIAL BUT EXCLUDING MINING AND QUARRYING, IN THE RURAL LIVING, COASTAL LIVING, SOUTH KERIKERI INLET, GENERAL COASTAL, RECREATIONAL ACTIVITIES, CONSERVATION, WAIMATE NORTH AND POINT VERONICA ZONES Excavation and/or filling, excluding mining and quarrying, on any site in the Rural Living, Coastal Living, South Kerikeri Inlet Zone, General Coastal, Recreational Activities, Conservation, Waimate North and Point Veronica Zones is permitted, provided that: (a) it does not exceed 300m³ in any 12 month period per site; and (b) it does not involve a cut or filled face exceeding 1.5m in height i.e. the maximum permitted cut and fill height may be 3m.		Does not comply. The total volume of works proposed across the site (both zones) is 21,750m^3 with cuts in excess of 1.5m. Discretionary Activity.
Natural and Physical Resource 12.4 NATURAL HAZARDS – PERMITTED ACTIVITES		
12.4.6.1.1 COASTAL HAZARD 2 AREAS On land identified on the Coastal Hazard maps (Maps CH 1 - 17) as lying within a Coastal Hazard 2 Area, excavation and filling, and alterations to existing buildings/ structures, may be carried out as a permitted activity if they are associated with: (a) the maintenance of flood protection works or existing drains, buildings/structures; or (b) the establishment, repair or replacement of any permitted utilities; or (c) the erection of fences; or (d) the planting of trees and plants. Provided that, in the case of buildings/structures, no changes are made to the external dimensions.	N/A	
12.7.6.1.1 SETBACK FROM LAKES, RIVERS AND THE COASTAL MARINE AREA	The application site is not located near to any lakes or rivers.	Does not comply. The proposal includes structures and

Rule	Compliance	Non-Compliance
Any building and any impermeable surface must be set back from the boundary of any lake (where a lake bed has an area of 8ha or more), river (where the average width of the riverbed is 3m or more) or the boundary of the coastal marine area, except that this rule does not apply to man-made private water bodies other than the Manuwai and Waingaro Reservoirs. The setback shall be: (a) a minimum of 30m in the Rural Production, Waimate North, Rural Living, Minerals, Recreational Activities, Conservation, General Coastal, South Kerikeri Inlet and Coastal Living Zones; (b) a minimum of 26m in the Residential, Coastal Residential and Russell Township Zones; (c) a minimum of 20m in the Commercial and Industrial Zones.		impervious surfaces within 30m of the CMA. **Discretionary Activity.**
12.7.6.1.2 SETBACK FROM SMALLER LAKES, RIVERS AND WETLANDS Any building and any impermeable surface must be set back from the boundary of lakes (where the lake bed has an area of less than 8ha) smaller continually flowing rivers (where the average width of the river bed is less than 3m) and wetlands except that this rule does not apply to man-made private water bodies. (c) 30m for any wetland of 1ha or more in area.		Does not comply. The proposal includes structures and impervious surfaces within 30m of mangrove wetlands exceeding 1ha in area. **Discretionary Activity.**

District Plan: Proposed Far North District Plan 'PDP'

Site Zoning	
Zone	**Rural Production and Conservation Zones**
Overlays/Controls	Coastal Environment, MS/09, HNC536, HNC522
Designations	KiwiRail – KRN'X'

Rule	Compliance	Non-Compliance
Rules and Standards That Have Immediate Legal Effect under the PDP		
Part 2 – District Wide Matters /Hazards and Risks / Hazardous Substances		
Hazardous Substances	N/A The proposal does not involve any hazardous substances.	
Part 2 – District Wide Matters / Historical and Cultural Values		
Heritage Areas	N/A	

Rule	Compliance	Non-Compliance
	The proposal is not located in a Heritage Area.	
Historic Heritage	N/A The proposal does not involve any scheduled heritage resources.	
Notable Trees	N/A The proposal does not involve any notable trees.	
Sites and Areas of Significance to Māori	N/A The application site is not located within and sites or areas of significance to Māori.	
Part 2 – District Wide Matters / National Environment Values		
Ecosystems and Indigenous Biodiversity	N/A There is no vegetation clearance proposed.	
Part 2 – District Wide Matters / Subdivision		
Subdivision	N/A No Subdivision rules with legal effect apply to the proposal.	
Part 2 – District Wide Matters / General District Wide Matters		
Activities on the Surface of Water	N/A No activities on the surface of water are proposed.	
Earthworks		
EW-R12 Earthworks and the Discovery of Suspected Sensitive Material	Complies Accidental discovery protocols will be followed as necessary.	
EW-R13 Earthworks and Erosion and Sediment Control	Complies All necessary erosion and sediment control guidelines.	
Signs	N/A No signs are proposed.	
Part 3 – Area Specific Matters / Special Purpose Zones / Orongo Bay		
OBZ-R14 Comprehensive Development Plan	N/A	

NZ Environmental Management

TAUMARERE TO OPUA RAIL CORRIDOR

(including PT NGAMAHANGA BLOCK, PT LOT 1 DP 183897)

PRELIMINARY SITE INVESTIGATION

Job number 2023 26

Consultation

HAIL Reports

Ecological Assessments

Resource Consent Applications

Compliance Monitoring

Water Quality Monitoring

Environmental Management

Pest Reduction Advice

Enrichment Planting

Restoration Advice

Prepared for

FAR NORTH DISTRICT COUNCIL

NZE Quality System:

Document Reference	:	HAIL Projects/ 2023/ 2023 26 Opua Cycleway
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Reviewed by	:	D Richards
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SECTIONS

APPENDICES:

AUTHORS:

Danette Richards – Environmental Geologist

Danette holds a BSc (Geology) and an MSc (Hons) in Environmental Science. Danette had seven years' experience in exploration mining for base metals in Western Australia prior to returning to New Zealand in 2000 and studying for her Masters (Environmental Science). Her contaminated site investigations work since 2003 includes petroleum storage facilities, timber treatment plants, landfills, agricultural chemical stores, horticultural and agricultural sites. Danette has been working with the current National Environmental Standards (NESCS) since their inception in January 2011. Danette is a member of NZIPIM.

Heather Windsor – Earth Scientist (CEnvP)

Heather holds a BSc in Earth Sciences and Biology and is a Certified Environmental Practitioner. Heather has more than 20 years' experience with work including testing for contaminants in ground and surface waters, coastal, riverine and ground water quality sampling and data processing. Heather's work includes monitoring of groundwater, geothermal, lakes, springs and rivers, as well as soil and vegetation sampling for hydrocarbon, heavy metals and other contaminants. Heather has been working in the assessment and remediation of soils on HAIL or contaminated sites since the inception of the current National Environmental Standards (NESCS) in January 2011 undertaking assessments on a wide variety of sites, including orchards, commercial and industrial sites. Heather is a member of WasteMINZ and ALGA and holds a Contaminated Site Safety Certificate.

EXECUTIVE SUMMARY

The Site is located within the rail corridor linking Taumarere and Opua, Bay of Island and has a land use history as a rail corridor carrying freight and passengers. The rail line was opened in 1884 for the transportation of coal from Kawakawa to Opua port and was closed to commercial rail by NZ Rail in 2000.

This report goes in support of a Resource Consent application for construction of the Taumarere to Opua cycleway which will run within the existing rail line corridor.

The Bay of Islands Vintage Railway currently uses the southern 2.5 km of the Site to run scenic train trips using either a diesel or steam engine. It is proposed to extend the length of the train run closer to Opua and as such, for safety reasons much of the proposed cycleway will be located on the inland side of the rail line. It is likely that only about 450m of the proposed cycle way will run on historic train tracks, within the Site.

Judgemental sampling was carried out along a ~ 7 km length of the proposed cycle trail from the Taumarere train station until ~265m south of the terminus of the existing cycle trail at Baffin Street (the entrance to the Opua boat yard).

The HAIL category considered were:

A 18 - Wood treatment or preservation, including the commercial use of antisapstain chemicals during milling, or bulk storage of treated timber outside

F 6 - Vehicle refuelling, service and repair - Railway yards including goods-handling yards, workshops, refuelling facilities or maintenance areas.

E 5 - Mineral extraction, refining and reprocessing, storage and use, Coal or coke yards.

I - *Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.*

None of these categories were found to be applicable to the Site.

A review of the conceptual site model shows the source – pathway – receptor linkage to be incomplete as no source contamination is considered to be present.

The investigation concludes that pursuant to regulation 6 (3) - *it is highly unlikely that an activity or industry described in the HAIL has been undertaken on the Site and the likelihood that the soil is contaminated as a result of an activity or industry occurring is low.*

The NESCS does not apply.

1. INTRODUCTION

1.1 INVESTIGATION OBJECTIVES

NZ Environmental Management Ltd (NZEM) was engaged by Far North District Council to undertake a Preliminary Site Investigation (PSI) on the route of the proposed Taumarere to Opua cycleway. The PSI was undertaken in accordance with the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health, 2011 (NESCS). The investigation serves to support of a Resource Consent by assessing whether there is any risk to human health on the property if cycleway is built along or beside historic train lines. The PSI provides information on:

a) Site information (history and use),

b) Any likely contaminants from current and historical chemical use, and

c) Information concerning the location, nature, level and extent of any contamination (i.e. site characterisation).

Information gathered as part of this PSI found that the proposed cycleway will pass along an existing ~7200 m long rail corridor (approximately 546,600 m^2 including areas of wetland and coastal water margins). This report covers the southern ~6950 m (excluding ~265 m northern end of existing cycle trail which is under different ownership). Hereafter this length of rail corridor will be referred to as the Site.

FNDC zoning for the southern ~6650 m is General Coastal with the northern ~300m zoned as Industrial.

1.2 SITE IDENTIFICATION

Seven parcels of land cover the Site and are designated as the rail corridor. The southern entrance to the site is located at latitude -35.360586 and longitude 174.094587. The northern most extent of the Site is located at latitude -35.319409 and longitude 174.116458.

The two largest parcels do not have an appellation or title reference. The smaller lots are covered by Pt Ngamahanga Block and Pt Lot 1 DP 18389.

The site is located from just south of the Kawakawa River at Taumarere to just south of Baffin Road in Opua, Northland (Appendix A 1).

Aerial photographs are included in Appendix C.

Certificate of Titles are given in Appendix H.

1.3 PROPOSED SITE USE

It is proposed to construct a cycleway adjacent to, or along the historic rail line within the existing rail corridor. At the present time, the Bay of Islands Vintage Railway trains run approximately 2.5 km past Taumarere train station at the southern end of the Site toward Opua. The remainder of the old rail line is currently used as a cycle trail, however there are plans to extend the trainline north as far as the Colenso triangle area near Opua. For safety reasons the cycle trail and train traffic need to be separated and it is proposed to construct a cycle trail on the inland side of the train line within the existing train corridor (Appendix A). Approximately 450 m of the existing rail line will be used for the cycle trail at the northern end where the train will not run.

At time of writing the cycle way plan was not finalised, with the location of the cycle trail in the tunnel area and around proposed future train terminus not confirmed (Appendix A 3 – A 6[1]).

[1] Note: Appendix A 5 indicates cycle trail entering Colenso Triangle industrial area to avoid crossing rail lines if a train station is constructed. This investigation does not cover off the cycleway if it enters this area and further investigation may be required.

2. SITE DESCRIPTION

2.1 ENVIRONMENTAL SETTING

2.1.1 Site Inspection

A site inspection (walkover) was carried out by Heather Windsor on 4 July 2023. Weather conditions at the time of inspection was overcast. Photographs were taken and shown in Appendix D with a photo location plan shown in Appendix D 9.

An aerial photo showing the extent of the site is given in Appendix A 1.

2.1.2 Site Condition and Surrounding Environment

The Site is a historic rail corridor which largely follows the coast from Taumarere to Opua. Rails remain along most of the length of the Site with ~2.5km of the southern end used by the Bay of Islands Vintage Railway for tourism purposes. Beyond this distance, the sleepers and most of the rails are covered or near covered in gravels for its contemporary use as a cycleway.

Surrounding land is predominantly flat on the eastern side, with steeper sections in the western side. Some bank collapse has occurred around the tunnel and access through the tunnel is restricted. The steeper area is mostly covered in regenerative native species such as manuka. Wetland areas, mangrove estuaries and open water also lie within the rail corridor. The rail corridor crosses three bridges. Restricted vehicle access to a number of houses occurs in a section south of the Whangae River bridge.

No staining or odour was noted during the site visit.

Surrounding land use is predominantly in native vegetation but includes a small amount of pastoral use and an area of industrial use within the Colenso triangle.

2.1.3 Geology and Hydrology

Soil onsite is predominantly an albic ultic [2] soil which is mapped as Marua suite soil [3]. These soils are generally leached and have developed from sedimentary Greywacke[4] rocks (Waipapa Group).

The contour along the existing rail line is flat but the greater rail corridor includes steeper sections through which the line was cut. Any by-pass route around the tunnel will likely be moderately steep.

The Site is located in the Bay of Islands Coast catchment. No groundwater bores are located along the length of the Site[5].

The Kawakawa River bounds the eastern side of the Site and also crosses the Whangae River (Appendix A 2).

According to the NRC and FNDC flood mapping, the property could be impacted by coastal flooding[6] (Appendix A 8).

[2] https://soils-maps.landcareresearch.co.nz/
[3] https://nrcgis.maps.arcgis.com/apps/webappviewer/index.html?id=fd6bac88893049e1beae97c3467408a9
[4] https://data.gns.cri.nz/geology/
[5] https://localmaps.nrc.govt.nz/localmapsviewer/?map=b1bce4c2e2f940288c1f7f679b2ac7b7
[6] https://nrcgis.maps.arcgis.com/apps/webappviewer/index.html?id=81b958563a2c40ec89f2f60efc99b13b

2.1.4 Site Layout

The Site follows the Kawakawa River north for a length of ~6.85 km along an existing rail corridor which averages about 90 m wide along its length (Appendix A 2). No title exists for much of the rail corridor, however two small areas within the length have title; Pt Ngamahanga Block is located at Te Akeake, which is positioned ~2.5km north of the Taumarere train station and is where the current train line terminates (Lone Cow Station). Pt Lot 1 DP 183897 is located at the northern end of the Site between the Whangae River and the Colenso triangle.

2.1.5 Current Site Uses

The property is currently mixed use. The southern 2.5 km is used by the Bay of Islands Vintage Railway for tourism purposes. The remaining 4.45 km is used as a cycle trail.

3. HISTORICAL SITE USE

3.1 SUMMARY OF SITE HISTORY

The history of the land was obtained by reviewing publications, council property files, aerial photographs, and title information.

Information regarding the title information is summarised in Appendix E 1. Aerial photographs are provided in Appendix C with a summary of aerial photographs given in Appendix C 19.

The rohe map on Te Puni Kokiri show the location of the property as being within the Ngāpuhi rohe.

Taumarere township was founded in the nineteenth century and at one time up to 2000 people lived there, mostly located south-west of the existing Taumarere train station location. In 1864, coal was discovered in Kawakawa and this sparked a movement of people away from Taumarere to Kawakawa.

Coal from Kawakawa was initially transported by horse wagons, then on a wooden tramway to Taumarere where it was loaded onto barges on the Kawakawa River before being floated to Opua for export. The wooden tramway was located to the west and north of the existing rail line and connected to landings on the Kawakawa River (Appendix D 7 & D 8, Appendix A 7).

In 1886 the train line was constructed from Taumarere through to Opua. The Taumarere train station at that time was located approximately 700m to the south-west of its present location. The rail line was used to transport coal to Opua port, until the Kawakawa coal mine closed in 1912 (Leadley, 2010). The line stayed in use by NZ Railways until 2000 with trains transporting passengers, dairy products, and meat with the first load of frozen meat from the Moerewa freezing works being exported from Opua in 1924 (Boese, 1977). In 1997 the historic Taumarere train station building was moved from a temporary storage location in Kawakawa to its present location on the south side of Long Bridge at Taumarere.

In 2009 the Bay of Islands Vintage Railway ran the first tourist train using either a steam or diesel engine from Kawakawa to the position of the relocated Taumarere train station, just south of the Kawakawa River crossing at Long bridge (Leadley, 2010). The length of rail line from Taumarere to Opua was opened in 2017 as part of the 85km cycle trail, connecting Opua to Horeke in the Hokianga.

Long bridge over the Kawakawa River was upgraded in 2021 and since then the train has used the Site to travel to a terminus 2.5 km along the line to Te Akeake (Lone Cow) station. The length of rail line unused by the tourist train is utilised as a cycle trail with cyclist having to travel on the train across the section from Taumarere station to Lone Cow.

The 6.95 km length of line covered by this investigation (Taumarere train station to north of the Colenso triangle area; Opua) did not include any maintenance or switch yards. The location of the present Taumarere train station is not historic but does include a small passing loop to allow the engine to be switched.

At the time of writing, the steam engine, Gabriel, has just re-entered service after a major renovation with most of the recent train trips undertaken by diesel engines. It is understood that Gabriel is fired by wood rather than coal fuel.

The Site is not listed on the NRC selected land use register. No incidents have been reported at the Taumarere Station end of the Site (although there have been reports in vicinity of the Kawakawa River down gradient of the Site - Appendix F). At the north end of

the site one incident of fly-tipping is recorded and two of boat cleaning/antifouling[7],[9]. The locations of the incidents are not defined, and any boat cleaning or antifouling activities would have taken place on the water's edge east of the existing rail trail and therefore away from the proposed new rail trail route which will be on the western side of the existing rail trail, or on it (northern end only).

Due to all the Site historically being railway, and with most of the Site not having title, little information was available in FNDC property files, with only the file for Pt Lot 1 DP 183897 containing any information (the construction of a haybarn on the edge of Beaufort Street).

3.2 REVIEW OF OTHER INFORMATION

A Resource consent was applied for by the Bay of Islands Vintage Railway Trust in 2016 to establish a terminus for the rail line in the Colenso Triangle area. Information provided to the council included:

- A Preliminary Site Investigation[8] undertaken by 4Sight Consulting. The report concluded that: *the site is suitable for the proposed use, being the construction and development of Vintage Railway facility.*
- 4Sight Consulting also provided an Ecological and Water Quality Report[9].
- Haigh Workman undertook a Geotechnical Report in vicinity of Colenso Triangle area[10].

[7] Antifoul is usually only applied to larger boats which are permanently left in the water. Most boats which require antifouling are removed from the water on a trailer at a boat ramp or are lifted by a travel lift at a boat yard. No boat ramp is located in this area. As such it is likely that any boat cleaning or antifouling work that was undertaken occurred within the tidal zone.

[8] 4Sight Consulting, 2016. Preliminary Site Investigation Report (PSI).

[9] 4Sight Consulting, 2016. Ecological and Water Quality Assessment.

[10] Haigh Workman Ltd, 2016. Factual Geotechnical Report.

4. SAMPLING

4.1 SAMPLING DESIGN PLAN

Sampling was carried out along the length of the Site on land either adjacent to the existing train tracks and on the inland side, or on area of train track where trains will not use in the future, and which will be part of cycle trail.

Sampling and analysis (of the identified contaminants of concern) was undertaken as part of the PSI. The aim of the sampling is to:

- determine the presence of and/or general extent of any soil contamination and the potential adverse impact of such contamination on human health, and
- obtain sufficient information to make an estimate of risk posed by contamination to human health.

As per NESCS 2012 requirements, standards only need to be developed for the contaminants of interest (COI) for the piece of land, given the activities and industries that have occurred or likely to have occurred. Based on the land use summary, the following NESCS priority contaminants were considered as potential COI for the Site.

- Metals (including arsenic, lead, copper and zinc)
- Hydrocarbons (TPH, PAH)

NZEM utilise a qualitative screening approach to the selection of the COI that although does not guarantee that other hazardous substances are not present in the land, it does indicate a lower probability that those contaminants will occur in the soil (MfE 2011).

The land-use history obtained as part of this investigation indicates that potential contaminants would likely be heterogeneous in distribution and confined to the area of use.

- Judgemental sampling was utilised to inform the conceptual site model and the risk assessment.
- Locations selected for sampling included;
    - on the track line,
    - beside the track line,
    - at Taumarere train station (where train could be stationary (modern only)),
    - at tunnel location (where smoke-stack emissions could be concentrated),
    - and where aerial photos indicated earthworks, and/or where fill may have been imported or fly tipping carried out.
- The Soil Investigation Design Plan is shown in Appendix I.
- Sampling was carried out using a stainless-steel spade (grab technique) for surface samples and auger for depth samples.
- Surface samples were collected from a depth of between 0-70mm. Depth samples were collected at 0.3m and 0.5m bgl.

- Where gravels were present on sample locations, samples were collected at shallowest depth where enough soil was present for lab analysis.

- Field screening techniques were not utilised.

- Background samples were not collected.

4.2 FIELD AND LABORATORY QUALITY ASSURANCE/ QUALITY CONTROL

To avoid cross contamination, disposable nitrile gloves were worn during sampling and changed between every sample. Sampling equipment was cleaned between each sample as per section 5.3 of MfE 2021, Contaminated Land Management Guidelines No 5.

The labelled samples were couriered to Hill Laboratories under chain of custody documentation (Appendix G). As per the contaminants of interest identified as part of the PSI, the laboratory was instructed, where applicable, to analyse the sample for NESCS metals.

- Fourteen of the field samples were sent to the laboratory for analysis of heavy metals.

- Eight of the field samples were sent to the laboratory for analysis of total petroleum hydrocarbons (TPH).

- Three of the field samples were sent to the laboratory for analysis of total polycyclic aromatic hydrocarbons (PAH).

All samples are kept in storage for two months by the laboratory in case re-analysis of the samples is required.

Laboratory testing was carried out by Hills Laboratories Ltd. The lab is an NZS/ISO/IEC 17025:2005 accredited laboratory which incorporates the aspects of ISO 9000 relevant to testing laboratories. Original laboratory transcripts are attached to this report (Appendix G).

No duplicates were collected as part of this PSI.

5. SAMPLING RESULTS

5.1 SOIL SAMPLING

A total of fourteen samples were collected over the Site. Samples were collected by H. Windsor on the 12th and 18th July 2023. Samples were collected as targeted samples as per Soil Investigation Design Plan (Appendix I).

- Soils were collected as per the plan.

5.2 FIELD OBSERVATIONS

A table showing the GPS location and description of sampled soils is shown in Appendix E 2.

5.3 BASIS FOR GUIDELINE VALUES

The laboratory results are compared to the Soil Contaminant Standards, ($SCSs_{health}$), at which exposure is judged to be acceptable because any adverse effects on human health for most people are likely to be no more than minor. The $SCSs_{health}$, have been calculated for five generic land-use exposure types to reflect different land use scenarios.

The scenario used for assessing $SCSs_{health}$ in this PSI was: Parks / Recreation - Public and private green areas and reserves used for active sports and recreation. (NESCS 2012).

$SCSs_{(health)}$, have two functions:

1) Health-based trigger values - $SCSs_{health}$, represent a human health risk threshold above which:

   a) The effects on human health may be unacceptable over time;

   b) Further assessment of a site is required to be undertaken.

2) Remediation targets - $SCSs_{health}$, represent the maximum concentrations of contaminants at or beneath which land is considered 'safe for human use' and the risk to people is considered to be acceptable.

5.4 RESULTS

The laboratory tests undertaken show the concentrations of the selected NESCS analytes. The results are summarised in Tables 1 - 3. All values are mg/kg dry weight. The laboratory report is given in Appendix G.

The laboratory results were compared to the NESCS 2012 soil contaminant guideline values (or other applicable guideline), at which exposure is judged to be acceptable because any adverse effects on human health for most people are likely to be no more than minor.

- Soil chemistry showed all values for metal COI well below the applicable guideline values (Table 1).

- Soil chemistry showed all values for TPH well below the Tier 1 soils acceptance criteria for Commercial/Industrial use and also the more conservative Residential use (Table 2). Three samples returned low levels of TPH in the heavier C 15 – C 36 range indicative of the presence of petrogenic hydrocarbons such as from diesel or oils with all other results below laboratory detection limits.

- Soil chemistry showed all values for PAH were well below the Tier 1 soils acceptance criteria for Commercial/Industrial use and also the more conservative Residential use (Table 3)[11]. BaP results were well below the applicable NESCS guideline value. One sample showed some low-level PAH, it was noted in the field that the sample included coal or charcoal. PAH's are found naturally in coal.

Table 1 Summary of laboratory results for heavy metals

12 & 18/7/23	Total Recoverable Arsenic	Total Recoverable Cadmium	Total Recoverable Chromium	Total Recoverable Copper	Total Recoverable Lead
	As	Cd	Cr	Cu	Pb
All values reported as dry weight	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Detection limit	**2**	**0.1**	**0.4**	**2**	**0.4**
2601	11	<0.10	5	21	49
2602	23	<0.10	23	50	450
2603	4	<0.10	5	6	8
2604	13	0.14	8	33	39
2605	6	<0.10	7	21	11
2606	9	<0.10	9	24	13
2607	11	<0.10	14	40	36
2608	2	0.12	4	10	8
2609	8	0.13	10	24	28
2610	10	0.11	10	19	22
2611	7	0.10	10	19	17
2612	6	0.16	9	22	21
2613	6	<0.10	12	23	19
2614	9	<0.10	12	26	22
NES Soil Guideline Values April 2012					
Recreation	80	400	2700	>10000	880

[11] Also referenced in Table 3 are the *Users' Guide to the Guidelines for Assessing and Managing Contaminated Gasworks Sites in New Zealand (MfE, 1997), Recreational land use* and the Australian *NEPM 2013 HILS. Criteria for Human Health, Recreational land use.*

Table 2 Summary of laboratory results for TPH

TPH				
All values reported as dry weight	C7 - C9	Total (C10-C14)	Total (C15-C36)	Total (C7 - C36)
	mg/kg	mg/kg	mg/kg	mg/kg
2602	<20	<20	78	87
2603	<30	<20	121	135
2605	<30	<20	<40	<90
2606	<30	<20	<40	<90
2609	<20	<20	220	220
2610	<20	<20	<40	<80
2611	<30	<30	<50	<100
2613	<20	<20	<40	<80
Tier 1 Soil acceptance criteria Commercial/Industrial use(1,3,5,6) ALL PATHWAYS				
Clay Surface (<1m)	NA(2)	(1,900)(7,x)	NA(2)	
Tier 1 Soil acceptance criteria Residential use(1,3,6) ALL PATHWAYS				
Clay Surface (<1m)	(15,000)(7,v)	(570)(7,x)	NA(2)	

Table 3 Summary of laboratory results for PAH

PAH				
All values reported as dry weight	Napthalene	Pyrene	Benzo(a) pyrene	Total reported
	mg/kg	mg/kg	mg/kg	
2602	0.07	0.23	0.106	2
2605	<0.08	<0.015	<0.015	<0.4
2610	<0.06	<0.012	<0.012	<0.3
NES Soil Guideline Values April 2012				
Recreation			40	
Tier 1 Soil acceptance criteria Commercial/Industrial use(1,3,6) ALL PATHWAYS				
(Clay) surface <1 m	(230)v	NA	(11)d	
Tier 1 Soil acceptance criteria Residential use(1,3,6) ALL PATHWAYS				
(Clay) surface <1 m	71v	(1600)p	0.27p	
NEPM 2013 HILS. Criteria for Human Health, Recreational land use				
				300
Guidelines for Assessing and Managing Contaminated Gasworks Sites in NZ (MfE, 1997). Recreational land use				
	200			

NA indicates estimated criterion exceeds 20,000 mg/kg. At 20,000 mg/kg residual separate phase is expected to have formed in soil matrix. Some aesthetic impact may be noted.
Brackets denote values exceed threshold likely to correspond to formation of residual separate phase hydrocarbons.
v - Volatilisation
m - Maintenance/Excavation
p - Produce
x - PAH surrogate
d - dermal

6. RISK ASSESSMENT

The NESCS identifies contaminants as a problem when the contaminants are at a concentration and a place where they have, or are reasonably likely to have, an adverse effect on human health and the environment (NESCS 2012). The NESCS 2012 further states that a key decider under the NESCS is whether, under the intended land-use, the exposure to soil is reasonably likely to harm human health.

6.1 CONCEPTUAL SITE MODEL

A Conceptual Site Model (CSM) was developed and shown in Appendix B.

The CSM for the Site was based on a review of available title information, aerial photographs, the Site history, council records, a Site inspection and soil sampling results.

Land use across the Site comprises:

a)	**Pre 1884**	Wetland, coastal margin, native vegetation	-	NA
b)	**1884 - 2000**	Rail corridor	-	Consider leaching from sleepers (A18, I), spilled fuel or cargo (E5,F6,I), fly tipping (I).
c)	**2000 - 2017**	Unused	-	Consider leaching from sleepers (I), fly tipping (I)
d)	**2017 - 2021**	Cycle trail	-	Consider leaching from sleepers (I), fly tipping (I)
e)	**2021 - present**	Cycle trail with 2.5 km of railway operational at southern end.	-	Consider leaching from sleepers (I), spilled fuel (F6, I).

The potential pathways considered are outlined in Section 6.4 and Appendix B.

Much of the Site is located very close to sea level and passes along coastal margins and through wetland areas making these waterways potential priority pathways.

6.2 HAIL CATEGORIES CONSIDERED

6.2.1 **A 18 -** *Chemical manufacture, application, and bulk storage - Wood treatment or preservation including the commercial use of anti-sapstain chemicals during milling, or bulk storage of treated timber outside.*

- In relation to use of creosote treated sleepers along historic and existing rail line. Not considered to be applicable as not the site of timber preservation or area of bulk storage[12].

6.2.2 **E 5 -** *Mineral extraction, refining and reprocessing, storage and use, Coal or coke yards.*

- In relation to historic use of train track to transport coal from Kawakawa to Opua. No yards were located on the stretch of track covered by this investigation. Historic loading points for coal at Taumarere are not located within the Site. Haulage of coal on the line ceased in 1912. Contemporary steam engine uses wood fuel. This category is not considered applicable as doesn't fit criteria[13].

6.2.3 **F 6 -** *Vehicle refuelling, service and repair - Railway yards including goods-handling yards, workshops, refuelling facilities or maintenance areas.*

- In relation to use of train track by diesel and steam engines. Not considered to be applicable as no historic or contemporary yards exist along this stretch of rail line[14].

6.2.4 **I -** *Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.*

- Not considered applicable as this standard can only be applied if: *the contamination is likely to be, or have been, at or above the applicable soil contaminant standard and environmental guideline value for the land*[15] . This requirement was not met as no contaminant was found to be present in the soil above the guideline values.

6.3 CONTAMINANT PROBABILITY

This PSI was undertaken to ascertain if there is any potential contamination from past HAIL land use in the soil. No evidence for past HAIL activity was found for the Site.

It was noted that the majority of the existing cycleway was covered by fresh gravel in ~2017 to provide a flat surface for cycling, hence any potential contaminants are more than likely covered by at least 15cm[16] of material uncontaminated by historic railway use. The likelihood that any contaminant poses a risk to any receptor is considered low.

[12] Hazardous Activities and Industries List guidance, 2023: Identifying HAIL land page 102.
[13] Hazardous Activities and Industries List guidance: Identifying HAIL land, page 195
[14] Hazardous Activities and Industries List guidance, 2023: Identifying HAIL land page 239.
[15] Hazardous Activities and Industries List guidance: Identifying HAIL land, 2023, pg 279
[16] Gravel depth of >0.7m was observed on rail line at sample site 2610. Top 15cm lighter grey colour (Appendix D 6)

6.4 CHARACTERISATION OF POTENTIAL PATHWAYS

- Direct dermal contact with chemicals in soil through play (eg children playing within rail corridor) or through contact with soil by cyclist falling off bikes (likely to be uncommon and of limited duration).
- Direct dermal contact with chemicals in soil through contact with soil during maintenance.
- Accidental ingestion of chemicals in soil during play or maintenance.
- Inhalation of chemicals from dust, considered unlikely due to cover of gravel over Site.

6.5 RISK SUMMARY

The risk to human health on the Site is assessed in the context of the proposed site use: that of a cycleway.

- Pursuant to regulation 6 (3) - *it is highly unlikely that an activity or industry described in the HAIL has been undertaken on the piece of land and the likelihood that the soil is contaminated as a result of activity or industry occurring is low.*
- A review of the Conceptual Site Model shows the source – pathway – receptor linkage to be incomplete as no source contamination is considered to be present.
- The soil samples collected were considered to adequately represent the soils present to adequately inform to the CSM.

7. DISCUSSION & CONCLUSION

This PSI was undertaken to determine if soil on the Site is contaminated, and information contained within this report is considered appropriate to the nature of the proposed activity, the level of certainty and availability of information about the past use of the land, the contaminants present (or potentially present), and the level of risk posed.

The information collated in this PSI indicates the following results:

- The land has a history as a rail corridor and cycle trail.
- The Site is not listed on NRC Selected Land Use Register.
- HAIL categories A18, E5 & F6 were considered but not found to be applicable.
- A total of fourteen samples were collected in soils at the Site to inform the conceptual site model and identify if HAIL category I could be applicable. As per the identified contaminants of interest, metals, TPH and PAH were analysed by Hill Laboratories.
- The potentially applicable standard is Parks / Recreation - Public and private green areas and reserves used for active sports and recreation. (NESCS 2012).
- The soil chemistry shows all results well below the applicable guideline values and as such HAIL category I was not found to be applicable.
- A review of the conceptual site model following this investigation shows that the source – exposure – receptor linkages are incomplete, with no source contamination considered present.
- Pursuant to regulation 6 (3) - *it is highly unlikely that an activity or industry described in the HAIL has been undertaken on the Site and the likelihood that the soil is contaminated as a result of an activity or industry occurring is low.*
- The NESCS does not apply[17].

[17] Contaminated land management guidelines No 1: Reporting on contaminated sites in New Zealand, Appendix A1

8. REPORT LIMITATIONS

The report was based on evidence gathered during a Site walkover, by indicative soil sampling, by studying council and historic records and publications. The information in this document is based on publicly available documents which were assumed to be accurate.

Judgemental soil sampling of surface soils and some sub-surface soils was carried out to inform the conceptual site model. The presence of thick gravels on the train line meant some samples were collected below the surface where there was enough “soil” in the gravel to allow laboratory analysis.

The laboratory test results are subject to the limitations inherent to the laboratory techniques used.

With time the Site conditions and applicable environmental standards may change and as such the report conclusions may not apply at a future date.

Any future land use change on the area of the Site may require further investigation.

NZ Environmental Management will not be held liable for any future discovery of isolated hot spots or discharge unknown at the time of sampling, such as buried drums of chemicals

9. SQEP CERTIFICATE OF REPORT

PRELIMINARY SITE INVESTIGATION CERTIFYING STATEMENT

I Heather Windsor of NZ Environmental certify that:

1. This preliminary site investigation meets the requirements of the Resource Management (National Environmental Standard for assessing and managing contaminants in soil to protect human health) Regulations 2011 because it has been:

a. done by a suitably qualified and experienced practitioner, and

b. reported on in accordance with the current edition of Contaminated Land Management Guidelines No 1 – Reporting on contaminated sites in New Zealand, and

c. the report is certified by a suitably qualified and experienced practitioner.

Evidence of the qualifications and experience of the suitably qualified and experienced practitioner(s) who have done this investigation and have certified this report is appended to the preliminary site investigation report in Appendix J.

Signed and dated:  7 August 2023

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11. GLOSSARY

Area of Interest An area or target within the piece of land identified as having hazardous substances on or in it at elevated levels or above background. Reported concentrations are below the soil contaminant standards for the applicable land use scenario with in-situ soils unlikely to pose a risk to human health. May require further investigation, management, or remediation for more conservative land use scenarios (largely applicable to soil removal offsite).

Area of Investigation Location within a Piece of Land upon which there is a proposed change in land use.

Control Area An investigated and defined area of contaminated soil on a piece of land, with hazardous substances in or on it that are above the soil contaminant standards for the applicable land use scenario and where the contaminants are reasonably likely to have adverse effects on the human health. The control area is reported as an area requiring remediation or management.

COI Contaminants of Interest

CSM Conceptual Site Model

DSI Detailed Site Investigation

FNDC Far North District Council

HAIL Hazardous Activities and Industries List

mg/kg Milligrams per kilogram

NES National Environmental Standard

NESCS The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

NZMS New Zealand Map Series

NRC Northland Regional Council

OCP Organochlorine Pesticides

Piece of Land The NESCS applies to any “piece of land” on which an activity or industry described in the current edition of the Hazardous Activities and Industries List (HAIL) is being undertaken, has been undertaken or is more likely than not to have been undertaken (see regulation 5(7)).

PSI Preliminary Site Investigation

RAP Remediation Action Plan

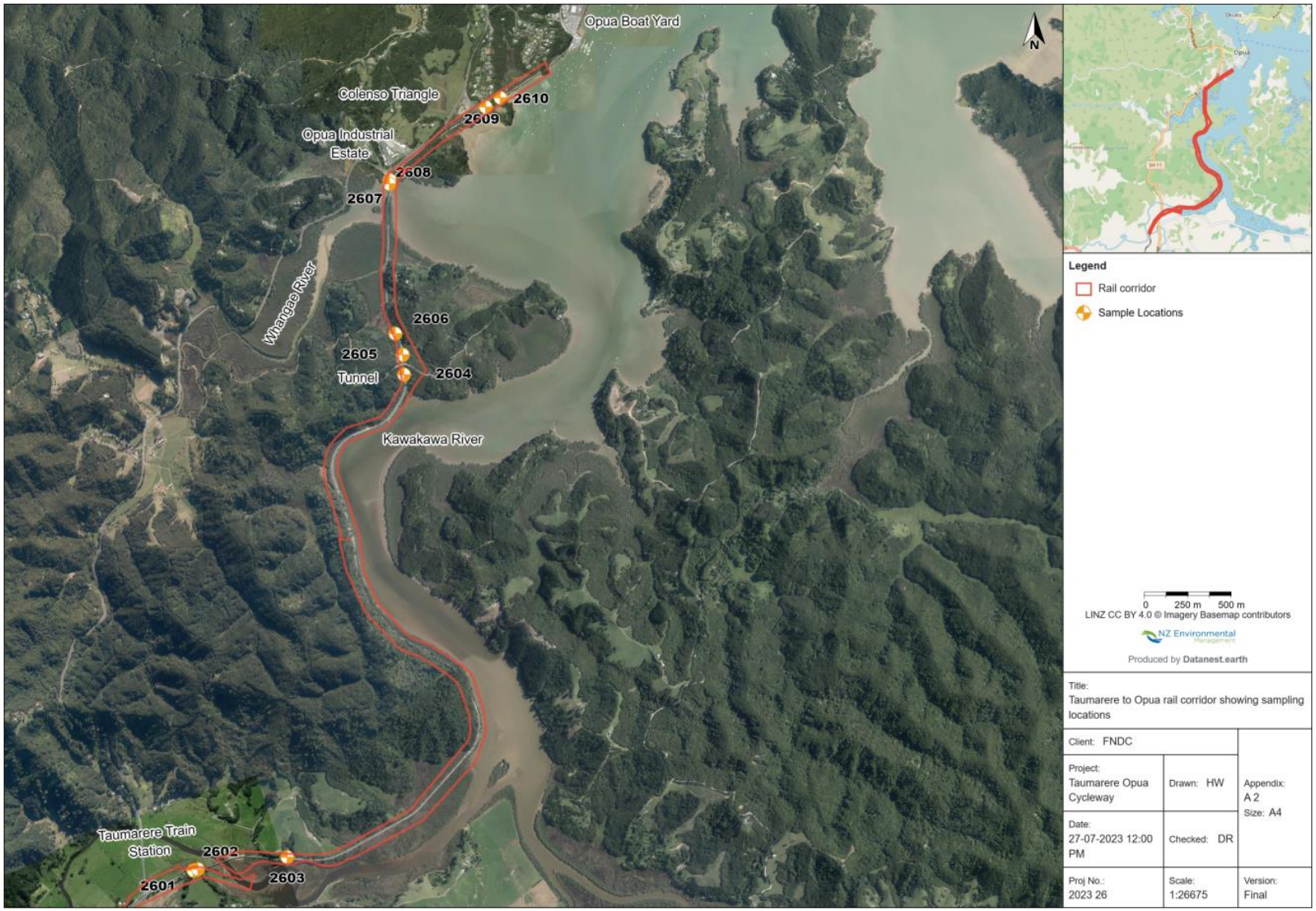
SVR Site Validation Report

Target Area An area or target within the piece of land identified as potentially having hazardous activities or industries resulting in contaminants to be present at elevated levels or above background.

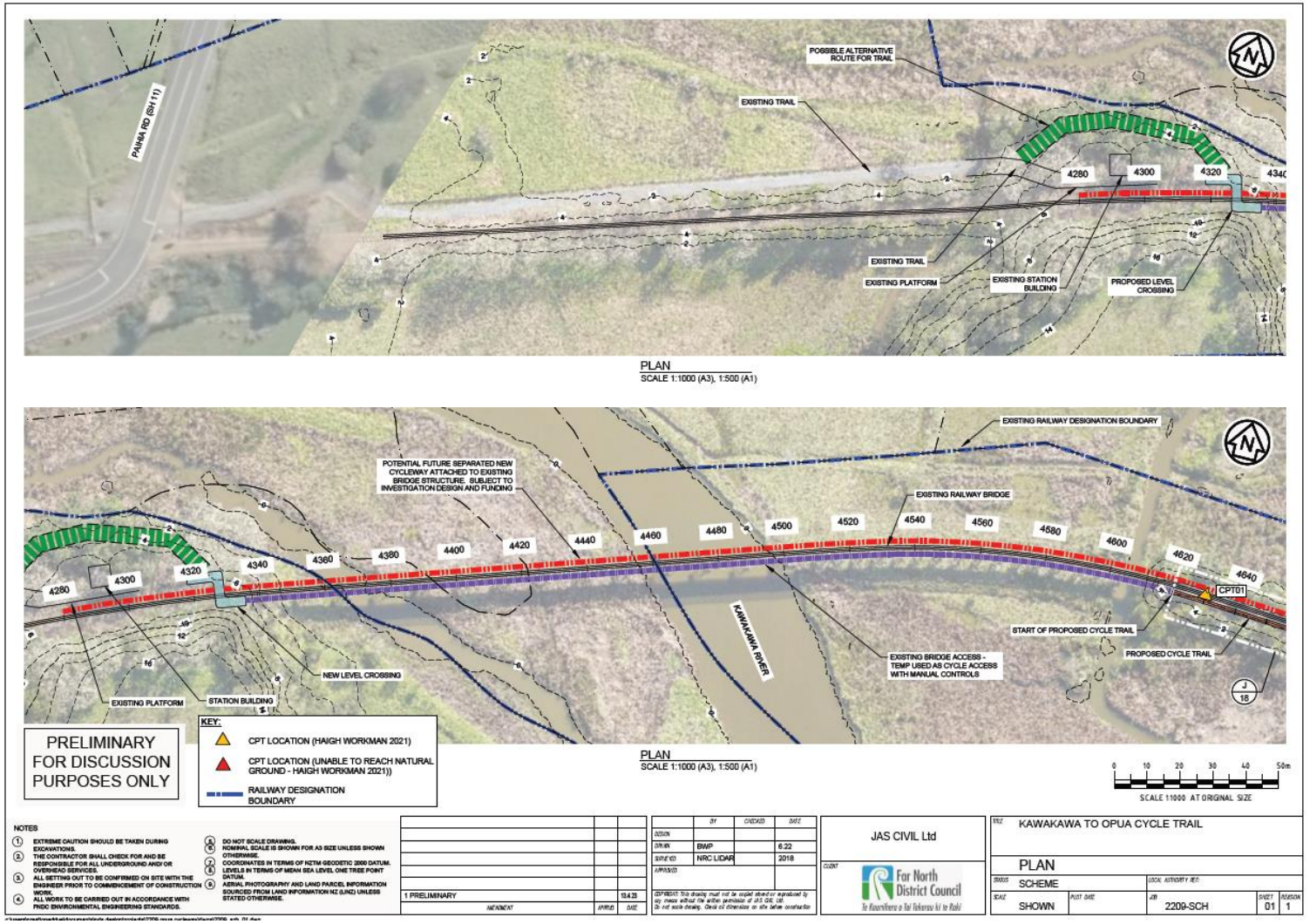
UCL Upper Confidence Limit

APPENDIX A
Figures

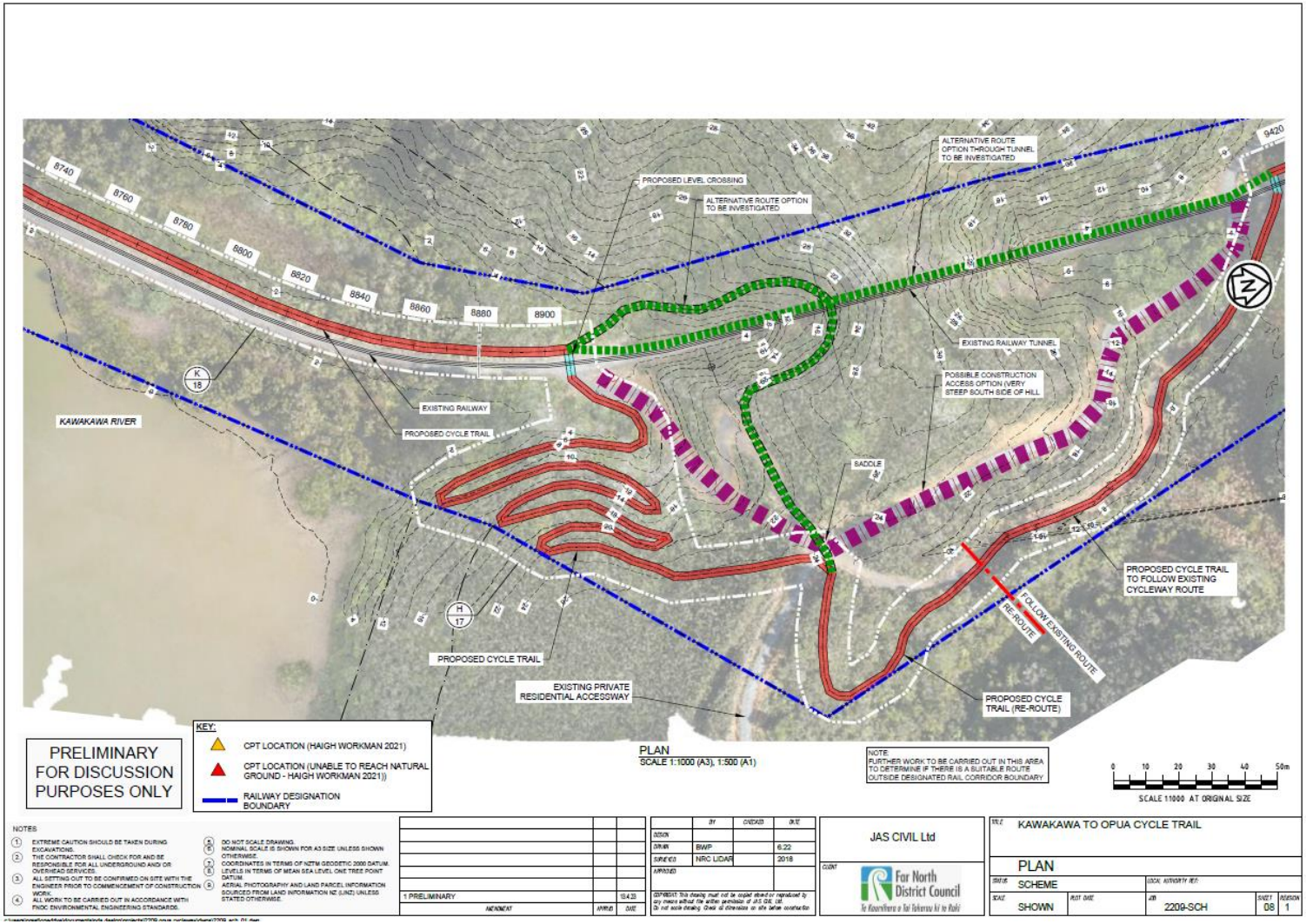
A 1 Site Location (dotted yellow line)



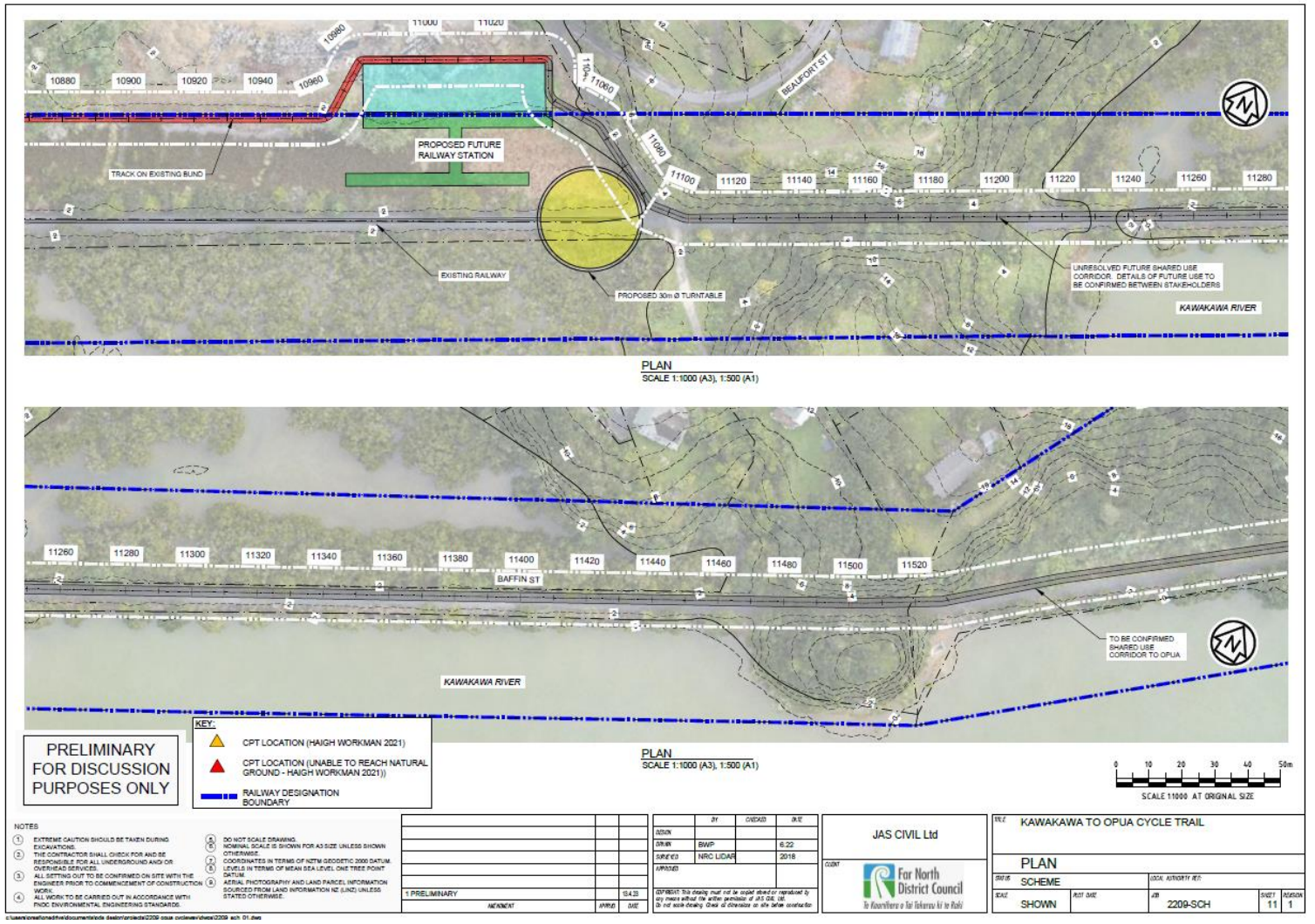
A 2 Sample collection locations on Site



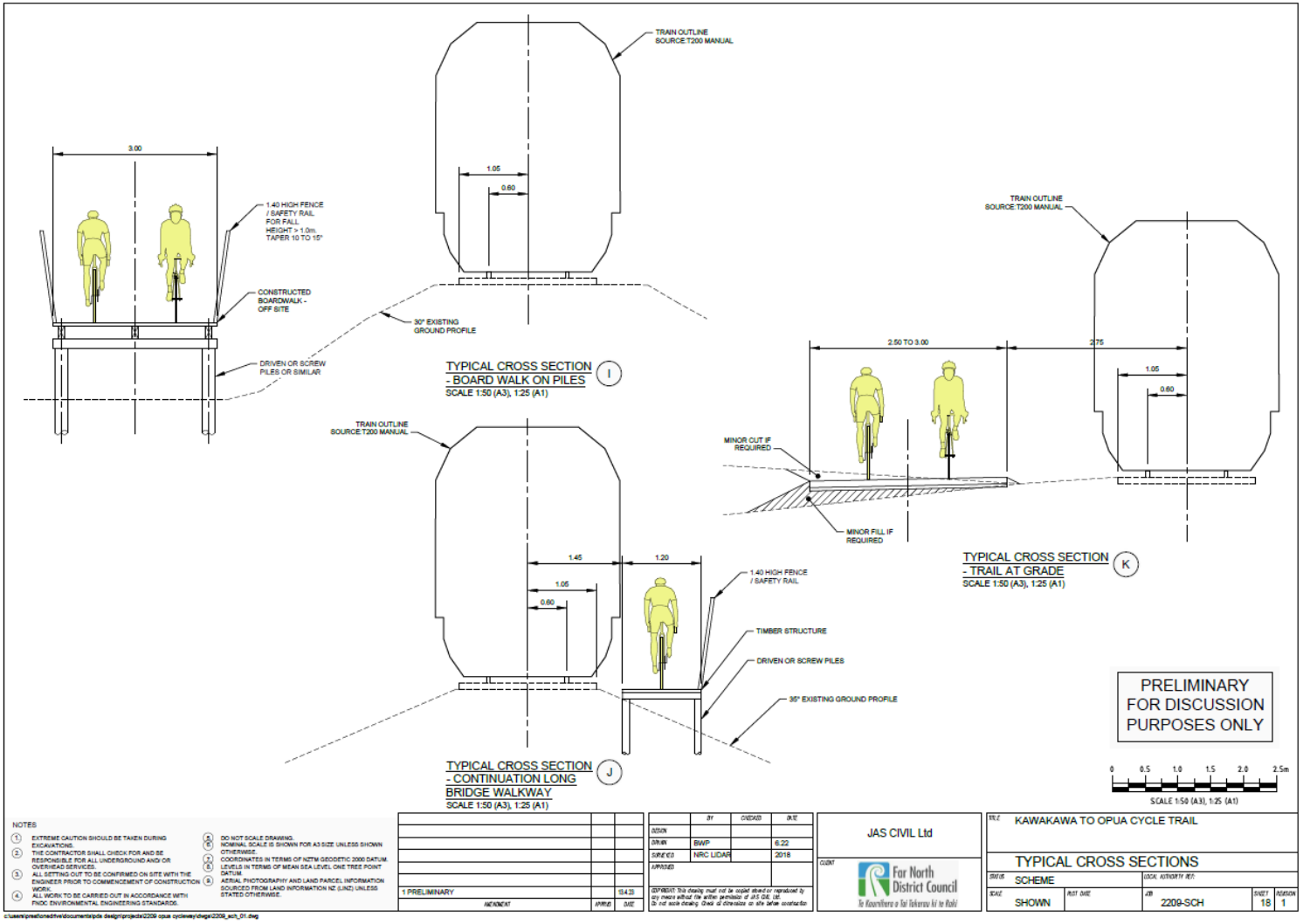
A 3 Discussion Plan for route of cycleway at Taumarere station (south) end



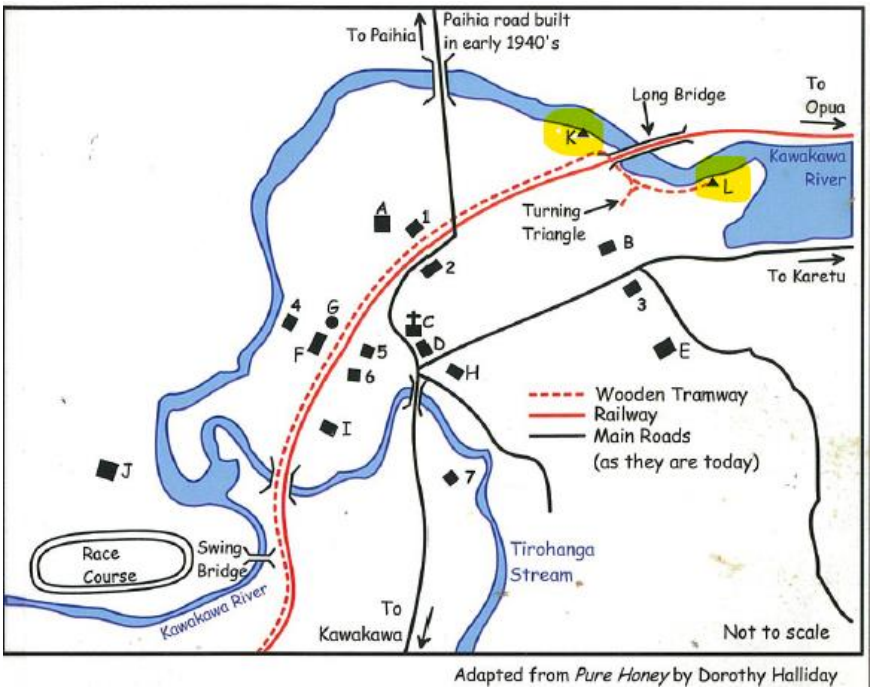
A 4 Discussion Plan for route of cycleway at tunnel area



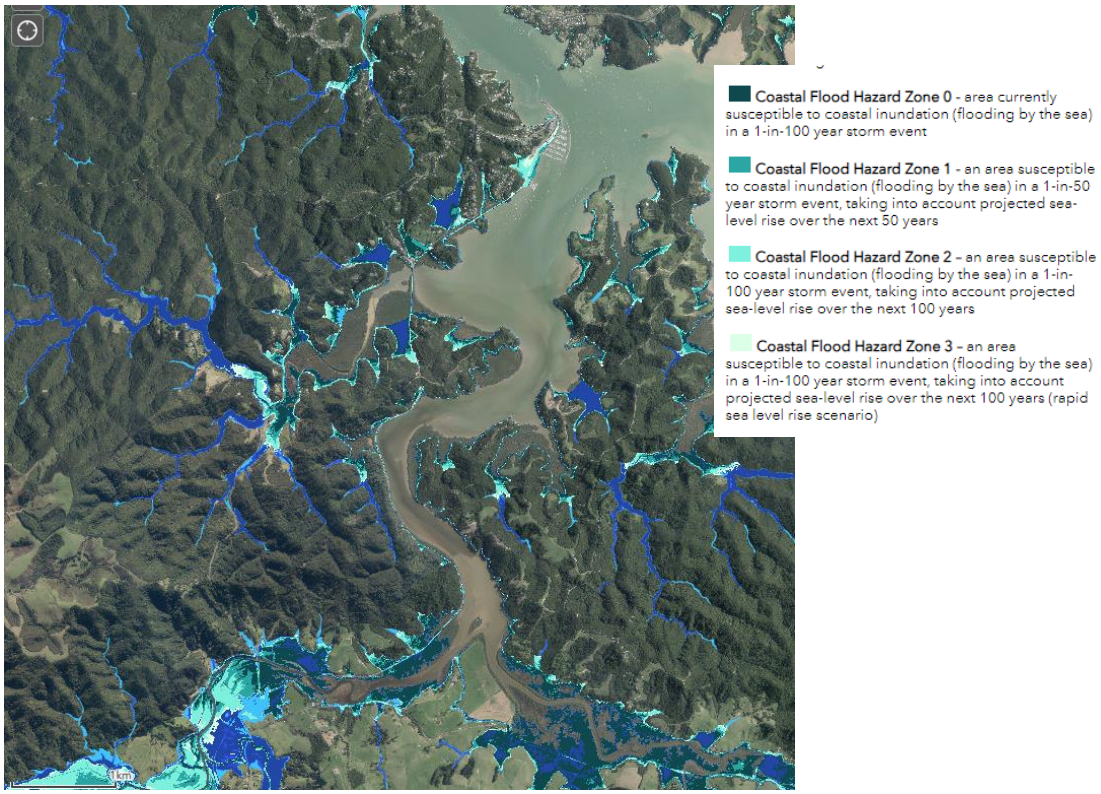
A 5 Discussion Plan for route of cycleway near proposed train terminus (Colenso triangle area)



A 6 Discussion Plan for some construction options of cycleway beside rail line



A 7 – Location of historic coal tram line and coal loading locations (highlighted yellow) with respect to current train line (Source: Leadley, 2010)

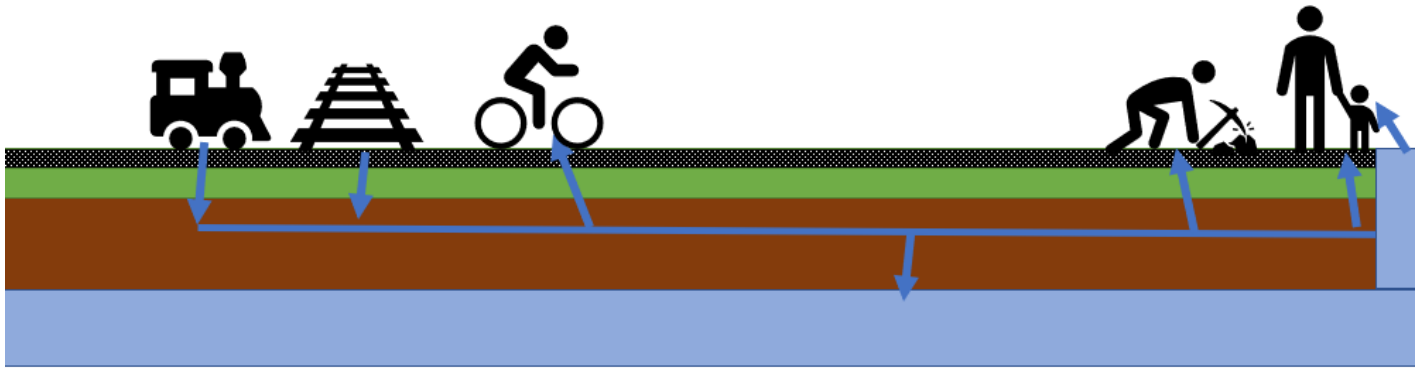


A 8 – NRC flood map

APPENDIX B
Conceptual Site Model

Conceptual Model Pre-Investigation– Cycleway / Rail line

Contemporary & Proposed Land-use



- Leaching from chemical treatment of track sleepers to ground, or waterways
- Leaking from historic train movements to ground or waterways (no switch or loading yards)

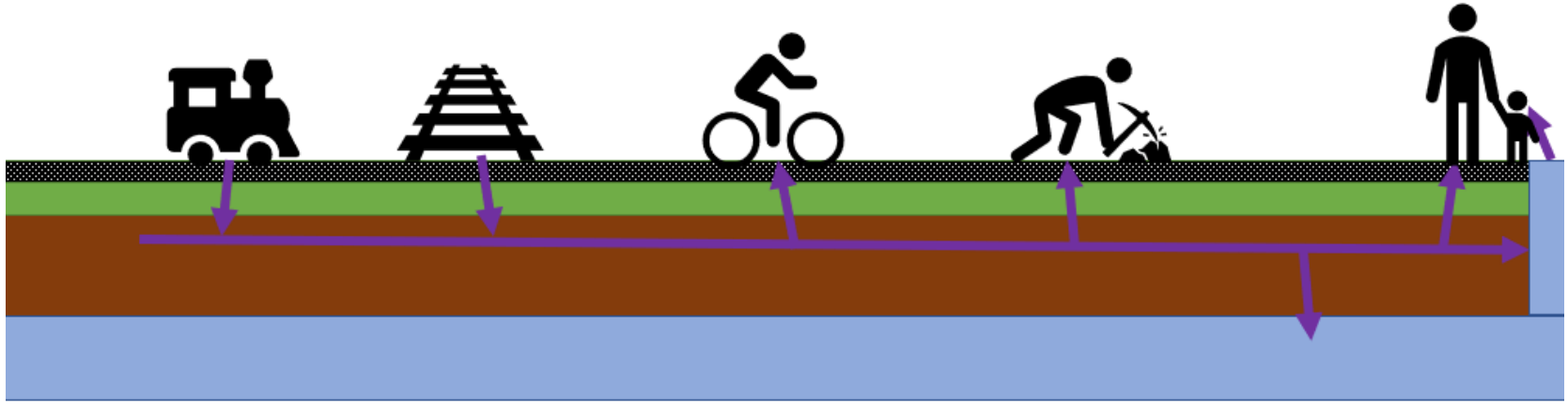
- Potentially complete
- Potentially complete

Potentially Complete pathway

Incomplete pathway

Conceptual Model – Cycleway / Rail line

Reviewed Post PSI, proposed land-use



- Leaching from chemical treatment of track sleepers to ground, or waterways
- Leaking from historic train movements to ground or waterways (no switch or loading yards)

- incomplete
- in complete

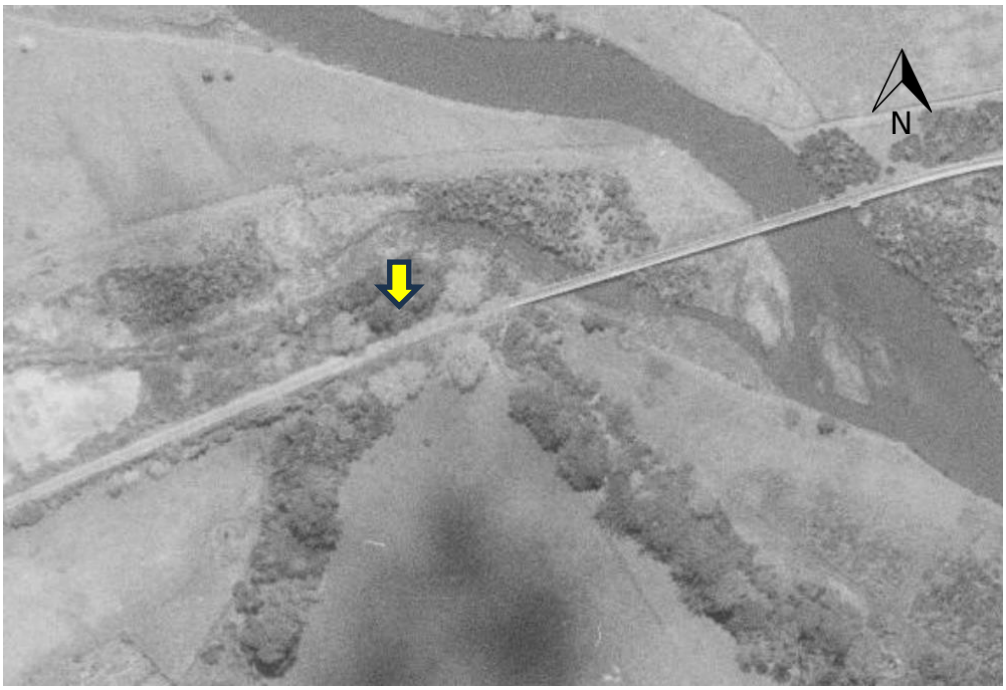
Incomplete pathway

APPENDIX C
Aerial Photographs and Documentation

Taumarere – South End of Site

C 1 Aerial photograph taken in 1957 with approximate location current Taumarere train station arrowed (Source: Retrolens)

C 2 Aerial photograph taken in 1971 with approximate location current Taumarere train station arrowed (Source: Retrolens)



C 3 Aerial photograph taken in 1981 with approximate location current Taumarere train station arrowed (Source: Retrolens)

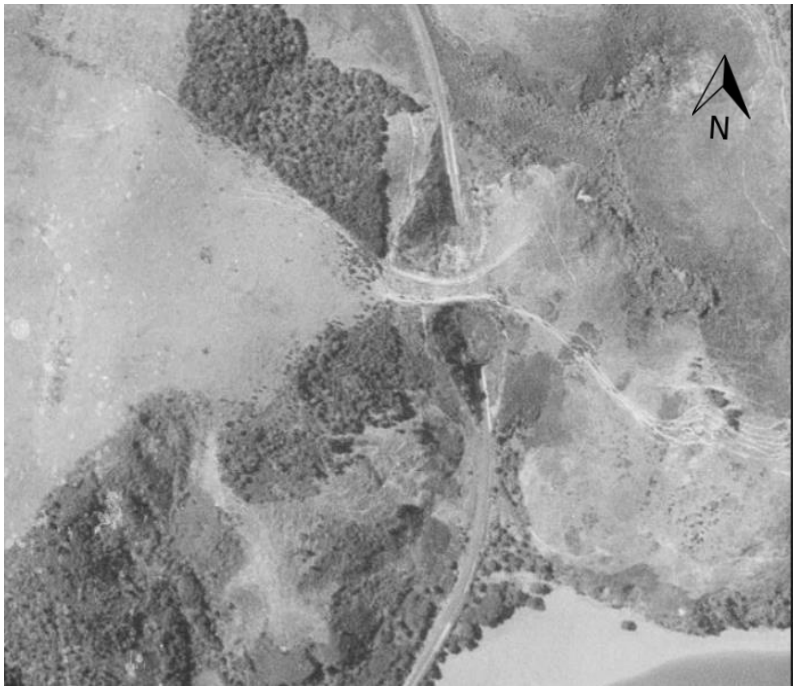
C 4 Aerial photograph taken in 2000 with Taumarere train station resited to current location (Source: LINZ)

C 5 Aerial photograph taken in 2004 with station visible. (Source: Google Earth)

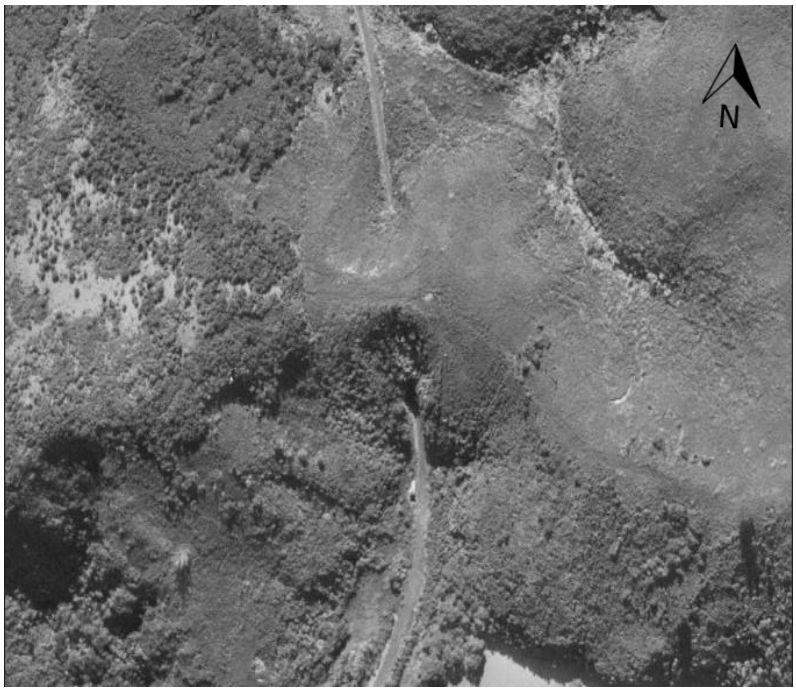
C 6 Aerial photograph taken in 2014-2016 showing bridge repair works (Source: LRIS)

C 7 Aerial photograph taken in 2022. Contemporary use with train parked at station (Source: Google Earth)

Tunnel – Mid Site



C 8 Aerial photograph taken in 1953. (Source: Retrolens)



C 9 Aerial photograph taken in 1972. (Source: Retrolens)

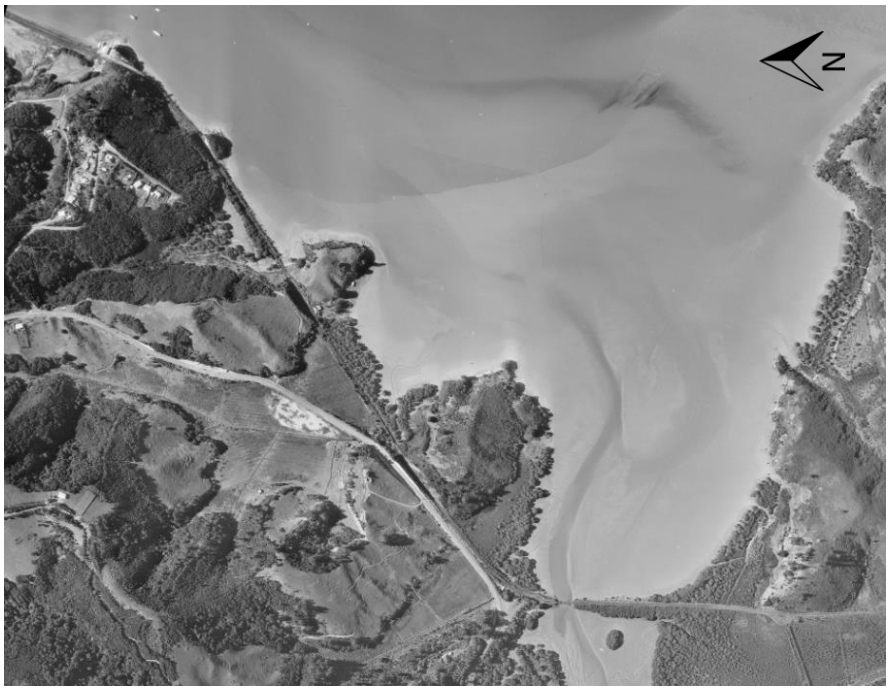
C 10 Aerial photograph taken in 2004. (Source: Google Earth)

C 11 Aerial photograph taken in 2016 showing slip movement at north end of tunnel. (Source: Google Earth)

C 12 Aerial photograph taken in 2022 showing current cycleway bi-pass. (Source: Google Earth)

North End

C 13 Aerial photograph taken in 1953. (Source: Retrolens)



C 14 Aerial photograph taken in 1972. (Source: Retrolens)

C 15 Aerial photograph taken in 1981. (Source: Retrolens)

C 16 Aerial photograph taken in 2000. (Source: LINZ)

C 17 Aerial photograph taken in 2011. (Source: LINZ)

C 18 Aerial photograph taken in 2022. (Source: Google Earth)

Photograph number	Year of photograph	Landuse on Area of Investigation
Taumarere Station End of Site (south)		
C 1	1957	Rail corridor, pasture sand shrubs/trees on sidings
C 2	1971	Rail corridor, pasture sand shrubs/trees on sidings
C 3	1981	Rail corridor, pasture sand shrubs/trees on sidings
C 4	2000	Rail corridor, pasture sand shrubs/trees on sidings. Station building at Taumarere now located on present site
C 5	2004	Rail corridor, pasture sand shrubs/trees on sidings. Station building at Taumarere now located on present site
C 6	2014-2016	Rail corridor, pasture sand shrubs/trees on sidings. Station building at Taumarere now located on present site. Work happening to re-pile Long bridge.
C 7	2022	Rail corridor, pasture sand shrubs/trees on sidings. Station building at Taumarere now located on present site. Train stopped at station.
Tunnel location mid Site		
C 8	1953	Rail corridor. Farm access way over tunnel, bush vegetation at ends
C 9	1972	Rail corridor.Bush vegetation extending
C 10	2004	Unused rail corridor. Bush vegetation extensive, road still across top of tunnel
C 11	2016	Cycle trail being prepared within rail corridor. Bush vegetation extensive, road cut across top of tunnel, some collapse at north end of tunnel
C 12	2022	Cycle way within rail corridor. Bush vegetation extensive, road cut across top of tunnel, other access road on east side of tunnel with cycleway by-pass on east side of tunnel as tunnel closed.
North End of Site		
C 13	1953	Rail corridor, pastoral, scrub and wetland vegetation on margins
C 14	1972	Rail corridor, pastoral, scrub and wetland vegetation on margins
C 15	1981	Rail corridor, pastoral, scrub and wetland vegetation on margins. Earthworks within neighbouring Colenso triangle area.
C 16	2000	Rail corridor, pastoral, scrub and wetland vegetation on margins. Earthworks within neighbouring Colenso triangle area.
C 17	2011	Unused rail corridor, earthworks near Whangae river bridge.wetland vegetation on margins
C 18	2022	Cycleway within rail corridor, pastoral, scrub and wetland vegetation on margins. Industrail use within neighbouring Colenso triangle area.

C 19 Summary of Aerial photographs

APPENDIX D
Contemporary Site Photographs

Plate no. D1	**Date: 12 July 2023**
Description: North end of cycle/rail trail looking north. Area where cycleway will follow existing track line.	

Plate no. D2	**Date: 12 July 2023**
Description: Mid north track between Opua Industrial estate and tunnel. Cycleway will be located to right hand side.	

Plate no. D3	**Date: 12 July 2023**
Description: South end of tunnel. Cycleway will likely skirt tunnel to right.	

Plate no. D4	**Date: 4 July 2023**
Description: Taumarere train station (museum). Cycleway will likely pass behind building to avoid proximity to tracks.	

Plate no. D5	**Date: 12 July 2023**
Description: Picnic area at Taumarere train station with access to proposed cycleway through gates.	

Plate no. D6	**Date: 12 July 2023**
Description: Depth of gravel under tracks north end. Top grey layer ~20cm deep.	

Plate no. D7	**Date: 4 July 2023**
Description: Mound of historic tram line to north-west of existing train line	

Plate no. D8	**Date: 4 July 2023**
Description: Location of historic Derrik Landings on Kawakawa River for loading coal prior to 1886.	 

D 9 Photo locations

APPENDIX E
Supporting Tables

Certificate of Title	From	Registered Owners	Designation	Area
NA76/292	13/01/1896	Her Majesty the Queen	Rail corridor	4.6159ha
NA125B/736	12/10/1999	Her Majesty the Queen	Rail corridor	7.1997ha

E 1 Landowner summary

PSI			Location	
Site	**Location**	**Description**	**Latitude**	**Longitude**
2601	Between Taumarere train station and earth bank	Red brown SAND topsoil + 10% medium sub-angular gravels	-35.360651°	174.094163°
2602	In picnic area, Taumarere train station	Sticky brown silty CLAY under 10cm medium gravels + coal/charcoal	-35.360585°	174.094457°
2603	In grass on side of track @500m from Taumarere long bridge	Dark brown/black humic rich SAND topsoil	-35.359969°	174.100086°
2604	South end of tunnel, edge of cutting side of track	Brown silty CLAY + 5% medium sub-angular gravels	-35.335167°	174.107454°
2605	North end of tunnel, side of track clear of landslip area	Brown silty CLAY	-35.334150°	174.107378°
2606	In grass area beside track, north of tunnel	Yellow CLAY under thin humic layer	-35.333060°	174.106905°
2607	Earthworks area by industrial park carpark, on carpark side of gate by fence	Brown sandy CLAY topsoil, disturbed	-35.325168°	174.106545°
2608	Earthworks area by industrial park carpark, on cycleway side of gate near bride west side	Grey SAND + <5% medium sub-angular gravels	-35.325359°	174.106531°
2609	Corner of road by Colenso triangle and cycle track. Edge of gravel. Possible fly tipping area.	Dark brown silty SAND topsoil over large sub-angular gravels	-35.321407°	174.112602°
2610	100m north of Calenso triange in gravel between sleepers. Taken at 0.7m depth below gravel.	Yellow red CLAY	-35.320937°	174.113528°
2611	0.3m depth sample under location 2605	Brown silty CLAY	-35.334150°	174.107378°
2612	0.5m depth sample under location 2605	Brown silty CLAY and yellow SAND	-35.334150°	174.107378°
2613	0.3m depth sample under location 2609	Yellow white silty SAND with <5% small sub-angular gravels	-35.321407°	174.112602°
2614	0.5m depth sample under location 2609	Yellow white silty SAND	-35.321407°	174.112602°

E 2 Sample location and description

APPENDIX F
Selected Land Use Register & NRC Property File

Neither of the properties that you have enquired about are listed on the NRC Selected Land-use Register (SLR) for any current or historical Hazardous Activities and Industries List (HAIL) activities. Please note that the SLR is not a comprehensive list of all sites that have a HAIL land use history. It is a live record and therefore continually being updated.

Regarding the property near Beaufort Street, Opua (being Pt Lot 1 DP 183897), see the summary of incidents below.

Date	IRIS ID	Subject	Description
24/2/2015	REQ.576207	Coastal discharge	Boat cleaning @ Opua
21/7/2015	REQ.577744	Other coastal incident	Alleged antifoul preparation @ Opua
23/12/2016	REQ.582949	Other landuse incident	Rubbish beside cycleway @ Opua

Regarding the land where the Taumarere train station is located, there are no environmental incidents in the immediate vicinity. However, a summary of the three incidents East of the train station are in a table below.

Date	IRIS ID	Subject	Description
29/9/1995	REQ.401430	Hazardous substances spills and refuse	Oil in river.
2/7/2016	REQ.581021	Earthworks and vegetation clearance	Silt control concerns @ Railway Overbridge, Taumarere
4/12/2017	REQ.587391	Earthworks and vegetation clearance	Earthworks @ SH11, Kawakawa

Kind regards,

Ngā mihi

Megan Evans
Environmental Monitoring Officer – Coastal and Contaminated Land
DDI 027 245 3846

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

APPENDIX G
Laboratory Results and Chain of Custody Documentation

Hill Labs

ANALYSIS REQUEST

R J Hill Laboratories Limited
28 Duke Street Frankton 3204
Private Bag 3205
Hamilton 3240 New Zealand

0508 HILL LAB (44 555 22)
+64 7 858 2000
mail@hill-labs.co.nz
www.hill-labs.co.nz

Job No: 332 5481
Date Recv: 20-Jul-23 10:32
Received by: Ben Kingston

CHAIN OF CUSTODY RECORD

Quote No 125128

Primary Contact Heather Windsor 293087

Submitted By

Client Name NZ Environmental Management Limited 293085

Address 350 Kerikeri Road, Kerikeri 0230

Phone Mobile 021 075 1959

Email

Charge To NZ Environmental Management Limited 293085

Client Reference Cycleway

Order No

Results To Reports will be emailed to Primary Contact by default. Additional Reports will be sent as specified below.

☑ Email Primary Contact ☐ Email Submitter ☐ Email Client
☐ Email Other
☐ Other

Dates of testing are not routinely included in the Certificates of Analysis. Please inform the laboratory if you would like this information reported.

ADDITIONAL INFORMATION / KNOWN HAZARDS

Sent to Hill Labs
Date & Time: 18/7/23
☐ Tick if you require COC to be emailed back
Name: Heather Windsor
Signature:

Received at Hill Labs
Date & Time:
Name:
Signature:

Condition ☐ Room Temp ☐ Chilled ☐ Frozen
Temp: 12.1

☐ Sample & Analysis details checked
Signature:

Priority ☐ Low ☐ Normal ☑ High
☐ Urgent (ASAP, extra charge applies, please contact lab first)

NOTE: The estimated turnaround time for the types and number of samples and analyses specified on this quote is by 4:30 pm, 10 working days following the day of receipt of the samples at the laboratory.

Requested Reporting Date:

Quoted Sample Types

Soil (Soil)

No.	Sample Name	Sample Date/Time	Sample Type	Tests Required
1	2601	18/7/23	soil	Heavy metals
2	2602			Heavy metals, TPHOIPAH
3	2603			Heavy metals, TPH
4	2604	12/7/23		Heavy metals
5	2605			Heavy metals, TPHOIPAH
6	2606			Heavy Metals, TPH
7	2607			Heavy metals
8	2608			Heavy metals
9	2609			Heavy Metals, TPH
10	2610			Heavy metals, TPHOIPAH

Hill Labs

ANALYSIS REQUEST

R J Hill Laboratories Limited
28 Duke Street Frankton 3204
Private Bag 3205
Hamilton 3240 New Zealand

0508 HILL LAB (44 555 22)
+64 7 858 2000
mail@hill-labs.co.nz
www.hill-labs.co.nz

Office use only (Job No)

Quote No 125128

Primary Contact Heather Windsor 293087

Submitted By

Client Name NZ Environmental Management Limited 293085

Address 350 Kerikeri Road, Kerikeri 0230

Phone Mobile 021 075 1959

Email

Charge To NZ Environmental Management Limited 293085

Client Reference Cycleway

Order No

Results To *Reports will be emailed to Primary Contact by default. Additional Reports will be sent as specified below.*

☑ Email Primary Contact ☐ Email Submitter ☐ Email Client
☐ Email Other
☐ Other

Dates of testing are not routinely included in the Certificates of Analysis. Please inform the laboratory if you would like this information reported.

ADDITIONAL INFORMATION / KNOWN HAZARDS

CHAIN OF CUSTODY RECORD

Sent to Hill Labs Date & Time: 18/7/23

☐ Tick if you require COC to be emailed back

Name: Heather Windsor

Signature:

Received at Hill Labs Date & Time:

Name:

Signature:

Condition ☐ Room Temp ☐ Chilled ☐ Frozen Temp:

☐ Sample & Analysis details checked

Signature:

Priority ☐ Low ☐ Normal ☑ High

☐ **Urgent** (ASAP, extra charge applies, please contact lab first)

NOTE: The estimated turnaround time for the types and number of samples and analyses specified on this quote is by 4:30 pm, 10 working days following the day of receipt of the samples at the laboratory.

Requested Reporting Date:

Quoted Sample Types

Soil (Soil)

No.	Sample Name	Sample Date/Time	Sample Type	Tests Required
11	2611	12/7/23	soil	Heavy metals, TPH
12	2612	↓	↓	Heavy metals
13	2613	↓	↓	Heavy metals, TPH
14	2614	↓	↓	Heavy metals
5				
6				
7				
8				
9				
10				

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28 Duke Street Frankton 3204
Private Bag 3205
Hamilton 3240 New Zealand

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mail@hill-labs.co.nz
www.hill-labs.co.nz

Job Information Summary

Client:	NZ Environmental Management Limited	Lab No:	3325481
Contact:	Heather Windsor	Date Registered:	21-Jul-2023 11:10 am
	C/- NZ Environmental Management Limited	Priority:	High
	350 Kerikeri Road	Quote No:	125128
	Kerikeri 0230	Order No:	
		Client Reference:	Cycleway
		Add. Client Ref:	
		Submitted By:	Heather Windsor
		Charge To:	NZ Environmental Management Limited
		Target Date:	24-Jul-2023 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	2601 18-Jul-2023	Soil	PSoil250	Heavy Metals, Screen Level
2	2602 18-Jul-2023	Soil	GSoil300, PSoil250	Heavy Metals, Screen Level; TPH Oil Industry Profile + PAHscreen
3	2603 18-Jul-2023	Soil	GSoil300, PSoil250	Heavy Metals, Screen Level; Total Petroleum Hydrocarbons in Soil
4	2604 12-Jul-2023	Soil	PSoil250	Heavy Metals, Screen Level
5	2605 12-Jul-2023	Soil	GSoil300, PSoil250	Heavy Metals, Screen Level; TPH Oil Industry Profile + PAHscreen
6	2606 12-Jul-2023	Soil	GSoil300, PSoil250	Heavy Metals, Screen Level; Total Petroleum Hydrocarbons in Soil
7	2607 12-Jul-2023	Soil	PSoil250	Heavy Metals, Screen Level
8	2608 12-Jul-2023	Soil	PSoil250	Heavy Metals, Screen Level
9	2609 12-Jul-2023	Soil	GSoil300, PSoil250	Heavy Metals, Screen Level; Total Petroleum Hydrocarbons in Soil
10	2610 12-Jul-2023	Soil	GSoil300, PSoil250	Heavy Metals, Screen Level; TPH Oil Industry Profile + PAHscreen
11	2611 12-Jul-2023	Soil	GSoil300, PSoil250	Heavy Metals, Screen Level; Total Petroleum Hydrocarbons in Soil
12	2612 12-Jul-2023	Soil	PSoil250	Heavy Metals, Screen Level
13	2613 12-Jul-2023	Soil	GSoil300, PSoil250	Heavy Metals, Screen Level; Total Petroleum Hydrocarbons in Soil
14	2614 12-Jul-2023	Soil	PSoil250	Heavy Metals, Screen Level

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Environmental Solids Sample Drying	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-14
Total of Reported PAHs in Soil	Sonication extraction, GC-MS/MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	2, 5, 10
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	2-3, 5-6, 9-11, 13

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	BaP Potency Equivalence calculated from; Benzo(a) anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j) fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a) pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.024 mg/kg dry wt	2, 5, 10
Benzo[a]pyrene Toxic Equivalence (TEF)	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.024 mg/kg dry wt	2, 5, 10
TPH Oil Industry Profile + PAHscreen	Sonication extraction, GC-FID and GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8015 and US EPA 8270.	0.010 - 70 mg/kg dry wt	2, 5, 10
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	1-14
Total Petroleum Hydrocarbons in Soil			
Client Chromatogram for TPH by FID	Small peaks associated with QC compounds may be visible in chromatograms with low TPH concentrations. QC peaks are as follows: one peak in the C12 - 14 band, the C21 - 25 band and the C30 - 36 band. All QC peaks are corrected for in the reported TPH concentrations.	-	2-3, 5-6, 9-11, 13
C7 - C9	Solvent extraction, GC-FID analysis. In-house based on US EPA 8015.	20 mg/kg dry wt	2-3, 5-6, 9-11, 13
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	2-3, 5-6, 9-11, 13
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	2-3, 5-6, 9-11, 13
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	2-3, 5-6, 9-11, 13

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mail@hill-labs.co.nz
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Certificate of Analysis

Client:	NZ Environmental Management Limited	Lab No:	3325481	SPv1
Contact:	Heather Windsor	Date Received:	20-Jul-2023	
	C/- NZ Environmental Management Limited	Date Reported:	25-Jul-2023	
	350 Kerikeri Road	Quote No:	125128	
	Kerikeri 0230	Order No:		
		Client Reference:	Cycleway	
		Submitted By:	Heather Windsor	

Sample Type: Soil

Sample Name:		2601 18-Jul-2023	2602 18-Jul-2023	2603 18-Jul-2023	2604 12-Jul-2023	2605 12-Jul-2023
Lab Number:		3325481.1	3325481.2	3325481.3	3325481.4	3325481.5
Individual Tests						
Dry Matter	g/100g as rcvd	-	70	60	-	67
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	11	23	4	13	6
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	< 0.10	0.14	< 0.10
Total Recoverable Chromium	mg/kg dry wt	5	23	5	8	7
Total Recoverable Copper	mg/kg dry wt	21	50	6	33	21
Total Recoverable Lead	mg/kg dry wt	49	450	7.6	39	11.0
Total Recoverable Nickel	mg/kg dry wt	4	20	< 2	17	11
Total Recoverable Zinc	mg/kg dry wt	33	90	10	128	58
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	2.0	-	-	< 0.4
1-Methylnaphthalene	mg/kg dry wt	-	0.158	-	-	< 0.015
2-Methylnaphthalene	mg/kg dry wt	-	0.140	-	-	< 0.015
Acenaphthylene	mg/kg dry wt	-	< 0.014	-	-	< 0.015
Acenaphthene	mg/kg dry wt	-	< 0.014	-	-	< 0.015
Anthracene	mg/kg dry wt	-	0.037	-	-	< 0.015
Benzo[a]anthracene	mg/kg dry wt	-	0.095	-	-	< 0.015
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	0.106	-	-	< 0.015
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	0.156	-	-	< 0.035
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	0.154	-	-	< 0.035
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	-	0.128	-	-	< 0.015
Benzo[e]pyrene	mg/kg dry wt	-	0.071	-	-	< 0.015
Benzo[g,h,i]perylene	mg/kg dry wt	-	0.071	-	-	< 0.015
Benzo[k]fluoranthene	mg/kg dry wt	-	0.049	-	-	< 0.015
Chrysene	mg/kg dry wt	-	0.109	-	-	< 0.015
Dibenzo[a,h]anthracene	mg/kg dry wt	-	< 0.014	-	-	< 0.015
Fluoranthene	mg/kg dry wt	-	0.21	-	-	< 0.015
Fluorene	mg/kg dry wt	-	< 0.014	-	-	< 0.015
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	0.071	-	-	< 0.015
Naphthalene	mg/kg dry wt	-	0.07	-	-	< 0.08
Perylene	mg/kg dry wt	-	0.023	-	-	< 0.015
Phenanthrene	mg/kg dry wt	-	0.38	-	-	< 0.015
Pyrene	mg/kg dry wt	-	0.23	-	-	< 0.015

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.
The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

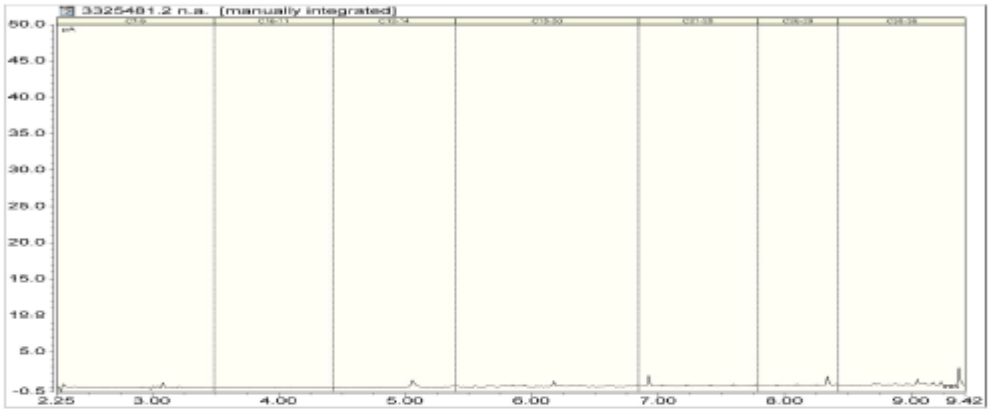
Sample Type: Soil						
	Sample Name:	2601 18-Jul-2023	2602 18-Jul-2023	2603 18-Jul-2023	2604 12-Jul-2023	2605 12-Jul-2023
	Lab Number:	3325481.1	3325481.2	3325481.3	3325481.4	3325481.5
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	< 20	< 30	-	< 30
C10 - C14	mg/kg dry wt	-	< 20	< 20	-	< 20
C15 - C36	mg/kg dry wt	-	78	121	-	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	87	135	-	< 90

	Sample Name:	2606 12-Jul-2023	2607 12-Jul-2023	2608 12-Jul-2023	2609 12-Jul-2023	2610 12-Jul-2023
	Lab Number:	3325481.6	3325481.7	3325481.8	3325481.9	3325481.10
Individual Tests						
Dry Matter	g/100g as rcvd	64	-	-	70	84
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	9	11	2	8	10
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	0.12	0.13	0.11
Total Recoverable Chromium	mg/kg dry wt	9	14	4	10	10
Total Recoverable Copper	mg/kg dry wt	24	40	10	24	19
Total Recoverable Lead	mg/kg dry wt	13.4	36	7.8	28	22
Total Recoverable Nickel	mg/kg dry wt	9	13	7	10	7
Total Recoverable Zinc	mg/kg dry wt	86	104	37	159	55
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	-	-	< 0.3
1-Methylnaphthalene	mg/kg dry wt	-	-	-	-	< 0.012
2-Methylnaphthalene	mg/kg dry wt	-	-	-	-	< 0.012
Acenaphthylene	mg/kg dry wt	-	-	-	-	< 0.012
Acenaphthene	mg/kg dry wt	-	-	-	-	< 0.012
Anthracene	mg/kg dry wt	-	-	-	-	< 0.012
Benzo[a]anthracene	mg/kg dry wt	-	-	-	-	< 0.012
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	-	-	< 0.012
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	-	-	< 0.029
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	-	-	< 0.029
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	-	-	-	-	< 0.012
Benzo[e]pyrene	mg/kg dry wt	-	-	-	-	< 0.012
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	-	-	< 0.012
Benzo[k]fluoranthene	mg/kg dry wt	-	-	-	-	< 0.012
Chrysene	mg/kg dry wt	-	-	-	-	< 0.012
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	-	-	< 0.012
Fluoranthene	mg/kg dry wt	-	-	-	-	< 0.012
Fluorene	mg/kg dry wt	-	-	-	-	< 0.012
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	-	-	< 0.012
Naphthalene	mg/kg dry wt	-	-	-	-	< 0.06
Perylene	mg/kg dry wt	-	-	-	-	< 0.012
Phenanthrene	mg/kg dry wt	-	-	-	-	< 0.012
Pyrene	mg/kg dry wt	-	-	-	-	< 0.012
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 30	-	-	< 20	< 20
C10 - C14	mg/kg dry wt	< 20	-	-	< 20	< 20
C15 - C36	mg/kg dry wt	< 40	-	-	220	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 90	-	-	220	< 80

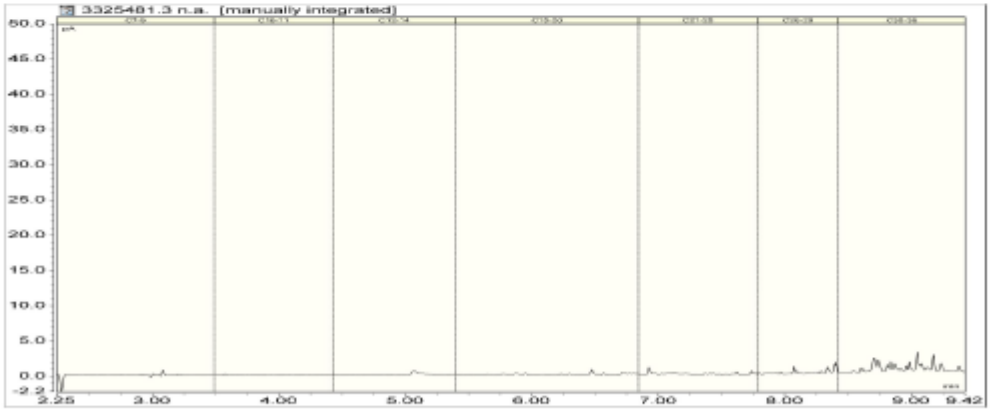
	Sample Name:	2611 12-Jul-2023	2612 12-Jul-2023	2613 12-Jul-2023	2614 12-Jul-2023
	Lab Number:	3325481.11	3325481.12	3325481.13	3325481.14
Individual Tests					
Dry Matter	g/100g as rcvd	54	-	83	-
Heavy Metals, Screen Level					
Total Recoverable Arsenic	mg/kg dry wt	7	6	6	9
Total Recoverable Cadmium	mg/kg dry wt	0.10	0.16	< 0.10	< 0.10

Sample Type: Soil					
Sample Name:		2611 12-Jul-2023	2612 12-Jul-2023	2613 12-Jul-2023	2614 12-Jul-2023
Lab Number:		3325481.11	3325481.12	3325481.13	3325481.14
Heavy Metals, Screen Level					
Total Recoverable Chromium	mg/kg dry wt	10	9	12	12
Total Recoverable Copper	mg/kg dry wt	19	22	23	26
Total Recoverable Lead	mg/kg dry wt	17.4	21	19.0	22
Total Recoverable Nickel	mg/kg dry wt	7	9	12	12
Total Recoverable Zinc	mg/kg dry wt	49	124	125	96
Total Petroleum Hydrocarbons in Soil					
C7 - C9	mg/kg dry wt	< 30	-	< 20	-
C10 - C14	mg/kg dry wt	< 30	-	< 20	-
C15 - C36	mg/kg dry wt	< 50	-	< 40	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 100	-	< 80	-

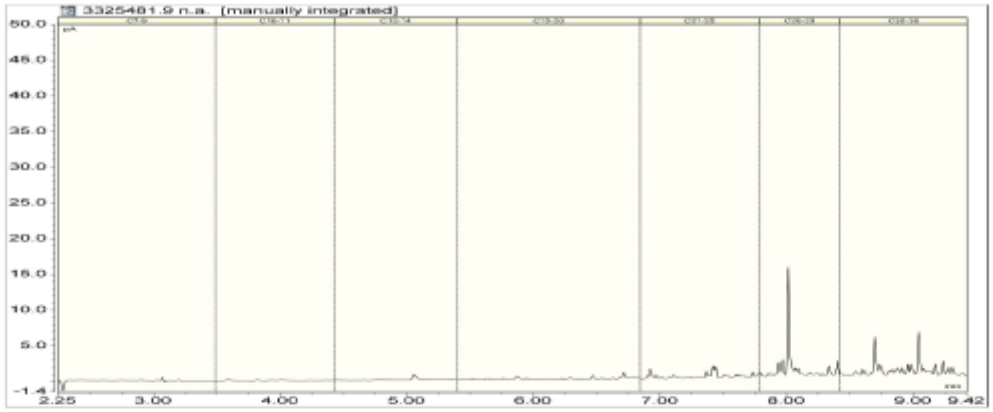
3325481.2
2602 18-Jul-2023
Client Chromatogram for TPH by FID



3325481.3
2603 18-Jul-2023
Client Chromatogram for TPH by FID



3325481.9
2609 12-Jul-2023
Client Chromatogram for TPH by FID



Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request.
Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Individual Tests			
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-14
Total of Reported PAHs in Soil	Sonication extraction, GC-MS/MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	2, 5, 10
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	2-3, 5-6, 9-11, 13
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	BaP Potency Equivalence calculated from; Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.024 mg/kg dry wt	2, 5, 10
Benzo[a]pyrene Toxic Equivalence (TEF)*	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b) fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.024 mg/kg dry wt	2, 5, 10
TPH Oil Industry Profile + PAHscreen	Sonication extraction, GC-FID and GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8015 and US EPA 8270.	0.010 - 70 mg/kg dry wt	2, 5, 10
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	1-14
Total Petroleum Hydrocarbons in Soil			
Client Chromatogram for TPH by FID	Small peaks associated with QC compounds may be visible in chromatograms with low TPH concentrations. QC peaks are as follows: one peak in the C12 - 14 band, the C21 - 25 band and the C30 - 36 band. All QC peaks are corrected for in the reported TPH concentrations.	-	2-3, 9
C7 - C9	Solvent extraction, GC-FID analysis. In-house based on US EPA 8015.	20 mg/kg dry wt	2-3, 5-6, 9-11, 13
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	2-3, 5-6, 9-11, 13

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	2-3, 5-6, 9-11, 13
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	2-3, 5-6, 9-11, 13

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 21-Jul-2023 and 25-Jul-2023. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

Kim Harrison MSc
Client Services Manager - Environmental

APPENDIX H
Property Title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**NA76/292**
Land Registration District	**North Auckland**
Date Issued	13 January 1906

Prior References
PROC 1130

Estate	Fee Simple
Area	4.6159 hectares more or less
Legal Description	Part Ngamahanga Block and Part Te Raupo Block

Registered Owners
Her Majesty the Queen

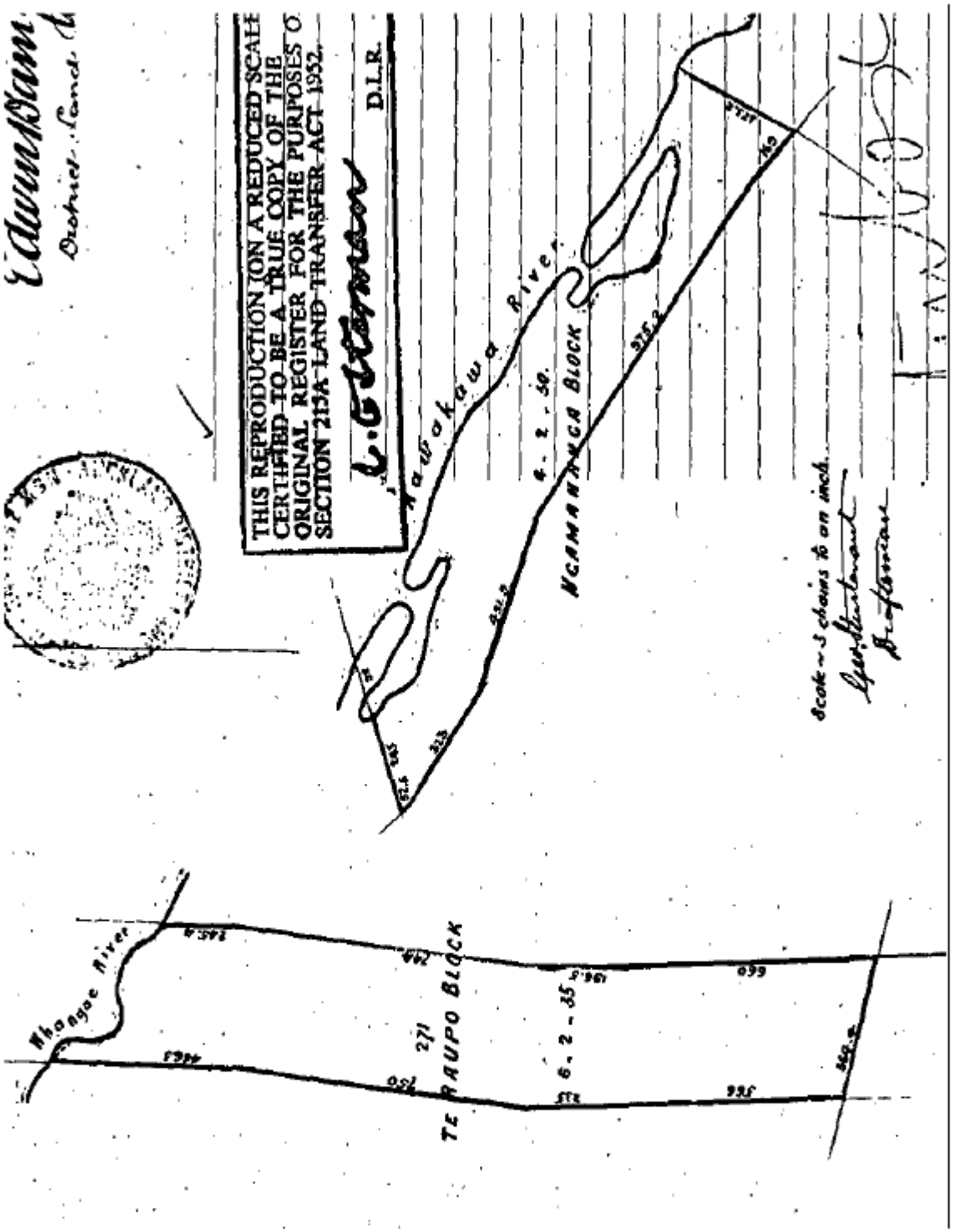
Interests

8373543.2 Gazette Notice 1890 page 1343 taking part Te Raupo coloured pink on ML 271 for railway - 14.12.2009 at 9:00 am

Transaction ID 1280020
Client Reference

Search Copy Dated 05/07/23 12:47 pm, Page 1 of 2
Register Only

Identifier **NA76/292**



RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**NA125B/736**
Land Registration District	**North Auckland**
Date Issued	12 October 1999

Prior References
NA119D/852

Estate	Fee Simple
Area	7.1997 hectares more or less
Legal Description	Lot 1-2 Deposited Plan 147225 and Part Lot 1 Deposited Plan 183897
Purpose	Railway purposes (rail corridor)

Registered Owners
Her Majesty the Queen

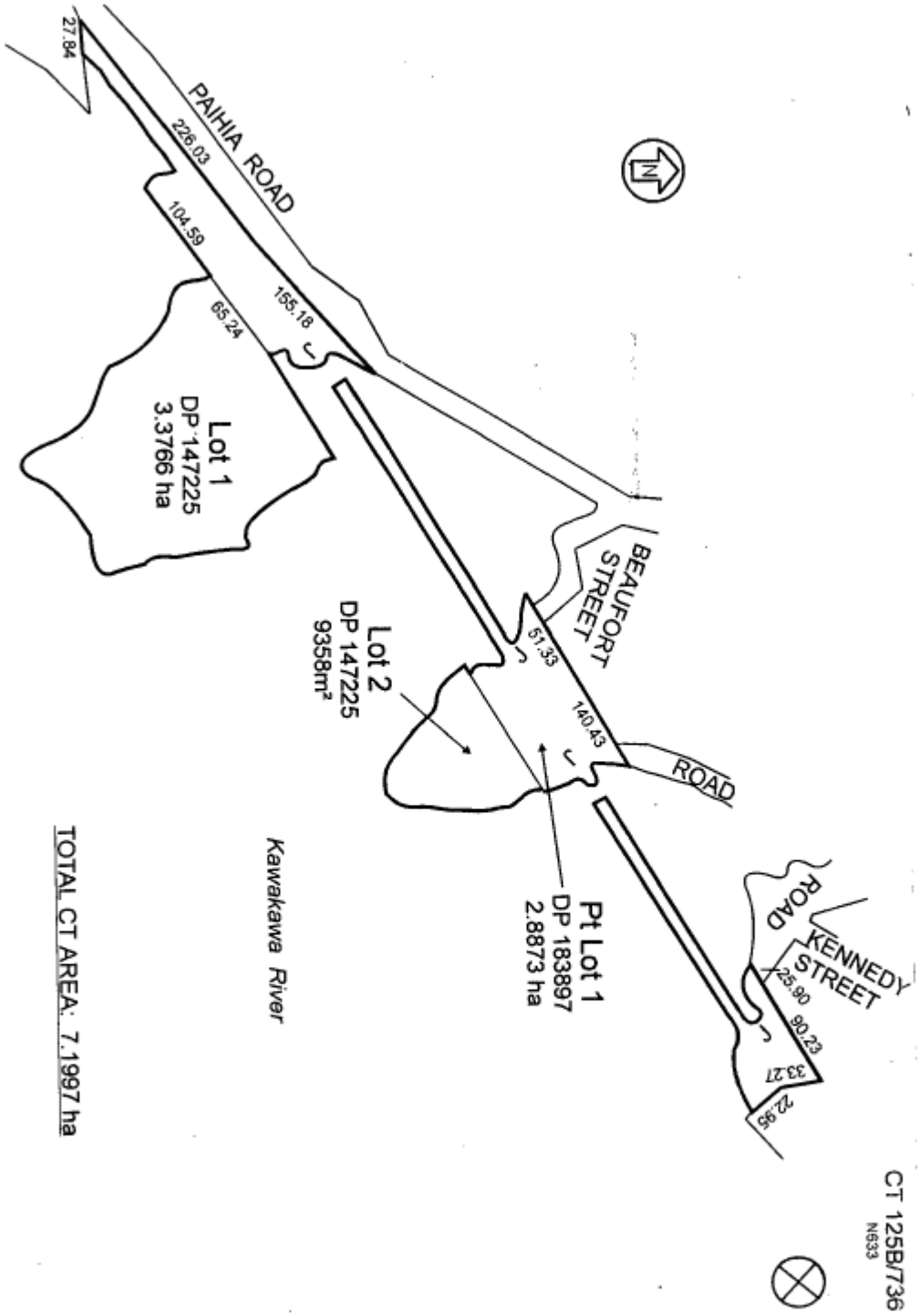
Interests

D574559.1 Gazette Notice declaring the adjoining State Highway No.11 to be a limited access road - 25.1.2001 at 12.09 pm

Transaction ID 1279851
Client Reference

Search Copy Dated 05/07/23 12:35 pm, Page 1 of 2
Register Only

Identifier **NA125B/736**



Transaction ID 1279851
Client Reference

Search Copy Dated 05/07/23 12:35 pm, Page 2 of 2
Register Only

APPENDIX I
Soil Investigation Design Plan

Sampling and Analysis Plan - Job # 2023 26		Date: July 2023
Site Location:	Address:	Grid Reference:
	Taumarere - Opua Cycle Trail	(-35.360675° 174.094349°) - (-35.319600° 174.116080°)
Objectives:	Investigation Objectives: To identify if any risk to human health resulting from using old rail line for use as a cycleway, or by placing cycleway proximate to old rail line.	
	Sampling Objectives: Identify if any source COI present along rail line that could find pathway to cycleway users.	
Site History:	Rail line connecting Taumarere to Opua opened in 1884 initially hauling coat to deep water port. Later line also carried passengers and meat works freight. Line closed commercially in 2000. Used as a cycle trial with south portion reopened in ~ 2018 as tourist train.	
Current Landuse:	rail line south end, rest cycle trail.	
Intended Landuse:	Shared use within rail corridor for tourist train and rail trail.	
CSM Summary: Refer CSM:	Source	Pathway / Receptor
	heavy metals from coal ash, hydrocarbons from spills and sleeper preservation and combustion	dermal, dust, accidental ingestion / Adult and child recreations user. Maintenance worker adult.
Media investgated:	soil	
Analytes:	Heavy metals, TPH, PAH,	
Reference Background Concentration:	Cavanagh, J E, 2016. User Guide: Background soil concentrations and soil guidelinevalues for the protection of ecological receptors (Eco-SGVs) –Consultation Draft	
	https://lris.scinfo.org.nz/layer/48470-pbc-predicted-background-soil-concentrations-new-zealand/	
Sampling Pattern:	Judgemental	
Sample Depths:	Surface (0 - 7cm), some depth 0.3m & 0.5m	
Composites:	No	
Quality Assurance/Quality Control:	NA	
Sampling Method & Equipment:	shovel and auger	
	Additional detail:	
Decontamination:		
	Spade/auger:	As per section 5.3 Contaminated land management guidelines No 5, 2021

Soil Investigation Design Plan:				
Sampling preferred order:	NA			
Lab Details:	Name of Lab: Hills	Containers required: PSoil250, Glass300	Analysis required: HM, TPH, PAH	Other:
Courier Details:	Name of Courier: Aramex	Date sent: 18 July 2023	Container used: Chilibin	Track Number:

APPENDIX J
Statement of Qualification as a SQEP

As per the NESCS User Guide Suitably Qualified and Experienced Practitioner requirements Heather Windsor holds a Bachelor of Science degree. She has over 10 years experience investigating and reporting on contaminated land and is a Certified Environmental Practioner (CEnvP).

Contents	Required	Required if relied on*
Introduction	✓	
- Investigation objectives	✓	
- Site Identification	✓	
- Proposed site use		✓
Site Description	✓	
- Environmental setting		✓
- Site layout	✓	
- Current site uses	✓	
- Surrounding land uses	✓	
- Site inspection		✓
Historical Site use	✓	
- Summary of site history	✓	
review of council records		✓
review of aerial photographs		✓
interviews		
review of other historical information		✓
- Preliminary sampling if carried out		✓
Risk Assessment	✓	
- Evaluate the probability that pursuant to regulation 6 (3) :	✓	
- an activity or industry described in the HAIL is, or is not, being undertaken on the piece of land, or		
- an activity or industry described in the HAIL has,or has not, been undertaken on the piece of land, or		
- the likelihood of an activity or industry described in the HAIL being undertaken,or having been undertaken, on the piece of land		
- Evaluate the probability that pursuant to regulation 6(3):	✓	
-the likelihood that the soil is contaminated as a result of activity or industry occurring		
- Description of the limitations of the data collected and the assumptions and uncertainties inherent in the data and models used	✓	
Conclusions	✓	
Recommendations if relevant to report purpose	✓	
Report Limitations	✓	
SQEP Certificate of Report	✓	
References	✓	

Twin Coast Cycleway trail permanent route Construction report.

Client Background

Council is on the planning and design phase for a new permanent cycle trail route between Taumarere Station and Opua. The new route is required to replace the existing trail which uses the railway embankment. The current rail operator Keteriki are uncovering tracks between Akeake and the old tunnel just south of Te Raupo, as a result the link between Taumarere and Opua needs to move from its current alignment. The majority of the proposed new alignment remains within the existing rail corridor which traverses a number of significant ecological areas, which has resulted in a number of treatments being designed to best suit the area in which the new cycle trail takes.

To enable the project to progress an understanding of the likely construction methodologies and temporary effects to the ecological areas are needed to inform the Resource Consent process and permit territorial and regional consenting authorities to issue a consent for the proposed works.

Client Objectives

A construction report is compiled to help inform the consenting and planning team to make assessment against the relevant regulatory planning rules. The report is to explore likely construction methodologies for each of the proposed treatments and at minimum include:

- Likely Environment and sediment control measures to be employed for the protection of each treatment type and the location in which the construction is undertaken. Ie wetland, CMA, piling operations, exposed earthworks etc.
- The extent of works undertaken at any one time, how it could be staged to minimise amount of exposed earthworks, reduce impact to the ecologically sensitive areas and consideration for significant periods local wildlife breeding and migration seasons.
- The temporary effected areas during construction of each treatment. This will include likely construction methodology, vegetation clearance areas around the permanent alignment for construction, laydown areas, use of high rail equipment, barges, access points, bridge construction and machinery control areas for washdown, fuel and lubricant replenishment etc.
- An estimated programme for completion of the works including establishing on site to the reestablishment of disturbed areas post the main construction period.
- Likely methods to construct boardwalks, bridges, piling, tied back retaining walls, cut and fill of slopes, track surfaces etc.
- Likely machinery required to undertake the construction.

Introduction

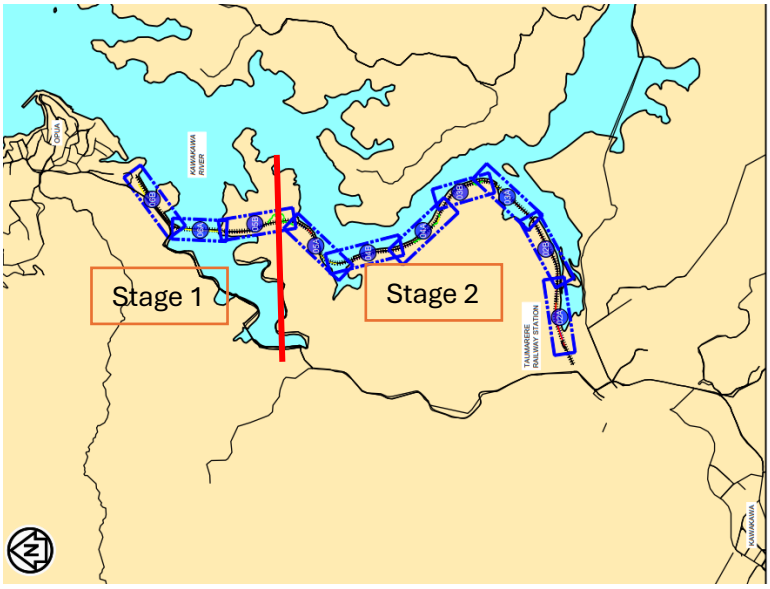
Ventia is pleased to undertake the constructability report for the new permanent cycle trail route between Taumarere Station and Opua, currently in the planning and design phase under the direction of the council. This project is necessitated by the ongoing activities of the current rail operator, Keteriki, who are exposing tracks between Akeake and the old tunnel south of Te Raupo. Consequently, the existing cycle trail utilizing the railway embankment must be relocated.

The proposed new alignment predominantly follows the existing rail corridor, which traverses several significant ecological areas. To ensure the project aligns with environmental best practices, a variety of treatments have been designed to suit these specific ecological contexts.

Ventia's role in preparing the constructability report is crucial for progressing the project. This report will provide a understanding of the likely construction methodologies and the temporary effects on the ecological areas. This information is essential for informing the Resource Consent process and enabling the relevant territorial and regional consenting authorities to issue the necessary consents for the proposed works.

By undertaking this task, Ventia aims to facilitate the smooth progression of this important infrastructure project while ensuring that environmental considerations are meticulously addressed throughout the planning and construction phases.

This report will outline the possibility to construct the new cycleway trail in two stages. The separate stages will accommodate the inactive rail section and active rail section. Stage one(1) effectively from the tunnel towards Opua, end point at Colenso Triangle. The contractor will have the opportunity to work on the trail with less disturbances to workflow. Stage two will be from the tunnel back toward Kawakawa start point at Kawakawa River.



Establishment for Construction Activities

Construction of stage 1, viable laydown could be Colenso Triangle with the possibility of material storage on the corner of Te Raupo and Paihia road. These areas have already been disturbed with access roads created.

Construction of stage 2, gain access through local properties next to Taumarere station CH4200 and possibly the property leading to CH5500. These areas are close to the rail and would need minimal access roads and then clearing for say 100m x 100m laydown. To barge material in and out would be an option to further explore by the contractor, hightide operations will also place some limitations on the work. Contractor could seek further suitable laydown for site establishment and material storage.

Environmental and Sediment Control: Prior to commencing construction activities, implement stringent environmental and sediment control measures to mitigate impacts on sensitive habitats and water bodies. Install erosion control barriers, sediment traps, and silt fences around work areas, particularly in wetlands and Coastal Management Areas (CMA). Ensure all controls comply with GD05 and are inspected regularly and maintained throughout the construction phase to prevent sediment runoff and maintain water quality.

Vegetation Clearing: Coordinate vegetation clearing activities in accordance with approved plans and permits. Clear vegetation only within designated areas necessary for construction, avoiding unnecessary disturbance to surrounding habitats. Utilize qualified personnel and appropriate equipment to minimize collateral damage to flora and fauna, adhering to ecological protection guidelines.

Temporary Earthworks (Access and Egress): Establish temporary access and egress points to the construction site using stabilized surfaces such as track mats or gravel. Ensure access routes are designed to minimize environmental impact and prevent soil erosion. Implement proper signage and traffic management protocols to ensure safety for all site personnel and minimize disruption to local communities.

Laydown Areas (Materials, Stockpiles, and Spoiled Material): Identify suitable locations for laydown areas based on proximity to construction activities and accessibility for delivery vehicles. Designate separate areas for storing materials, stockpiling excavated soil or spoil, and managing waste materials. Implement measures to prevent contamination of adjacent land or water bodies, including covering stockpiles and utilizing impermeable liners where necessary.

Site Facilities: Establish essential site facilities to support construction operations and ensure the well-being of personnel. This includes providing temporary offices or trailers for project management and administrative staff, as well as welfare facilities such as restrooms, changing areas, and break rooms. Ensure facilities comply with health and safety regulations, are accessible, and maintained in a clean and functional condition throughout the project duration.

Plant and Equipment: The cycleway trail will be constructed from the rail. Making use of high rail equipment to travel to and from and work on each treatment A to M. Where access allows, conventional plant will be used. Contractor will washdown, service and repair any plant off site. Fuelling, replenishment of lubricant and emergency repairs on site to be conducted in laydown area, within an impermeable, sealed and bunded area. Contractor will have a minimum 120L spill kit, fit for use. Any spills will be notified, and all contaminated material scooped up and dispose off site.

Disestablishment for Construction Activities

Environmental and Sediment Control:

1. **Inspect and Remove Controls:** Conduct a thorough inspection of all environmental and sediment control measures to ensure they are intact and effective.

2. **Remove Erosion Control Barriers:** Safely remove erosion control barriers, sediment traps, and silt fences, ensuring any accumulated sediment is properly disposed of according to environmental regulations.

3. **Restore Natural Conditions:** Rehabilitate disturbed areas by reseeding with native vegetation or implementing erosion control blankets where necessary to stabilize soils and prevent erosion post-construction.

Vegetation Clearing:

1. **Evaluate Cleared Areas:** Assess the extent of vegetation cleared during construction activities.

2. **Restore Vegetation:** Where feasible and appropriate, undertake re-vegetation efforts to restore cleared areas with native species, ensuring biodiversity and habitat continuity are maintained.

3. **Address Ecological Impacts:** Mitigate any adverse ecological impacts resulting from vegetation clearing, such as invasive species management or habitat restoration as required by environmental permits.

Temporary Earthworks (Access and Egress):

1. **Remove Temporary Access Routes:** Safely dismantle and remove temporary access and egress routes used during construction, restoring affected areas to their pre-construction conditions.

2. **Restore Surfaces:** Restore disturbed ground surfaces using appropriate techniques to minimize soil compaction and promote natural regeneration.

3. **Address Drainage:** Ensure drainage features affected by temporary earthworks are restored to function effectively and prevent erosion or water pooling.

Laydown Areas (Materials, Stockpiles, and Spoiled Material):

1. **Clear Laydown Areas:** Remove all materials, stockpiles, and spoiled materials from designated laydown areas, ensuring proper disposal or recycling according to waste management guidelines.

2. **Restore Ground Conditions:** Re-grade and stabilize disturbed ground surfaces to blend with surrounding terrain and promote natural regeneration.

3. **Inspect for Contamination:** Conduct inspections to ensure no contaminants remain in soil or groundwater, addressing any issues promptly and transparently.

Site Facilities:

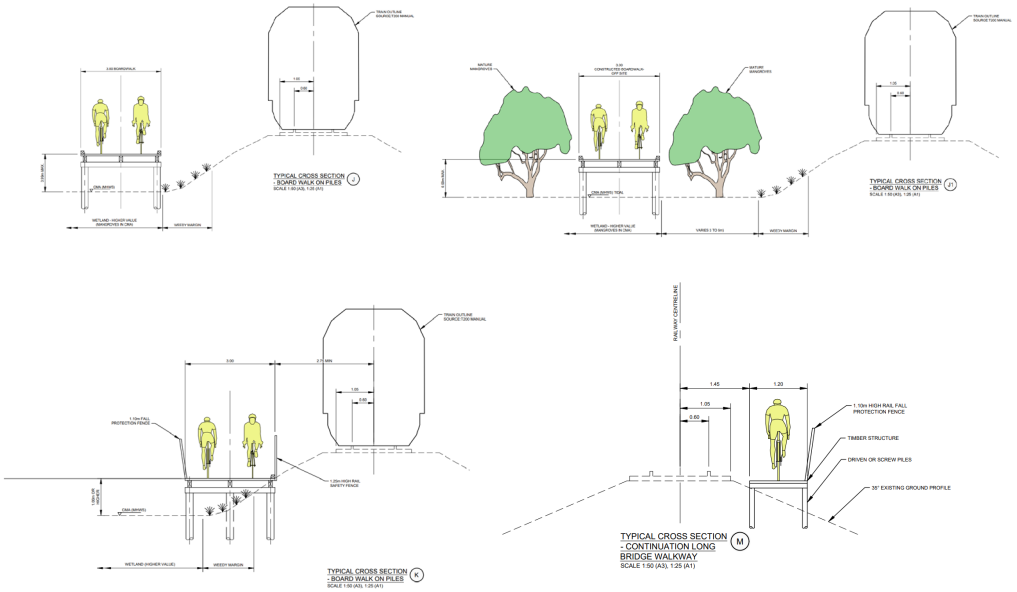
1. **Dismantle Temporary Structures:** Disassemble and remove temporary site facilities, including offices, trailers, and welfare amenities.

2. **Restore Site Access:** Restore site access points and parking areas to their original condition, removing any temporary infrastructure or signage.

3. **Leave No Trace:** Conduct a final inspection to ensure the site is clean, free of debris, and restored to its pre-construction state, meeting environmental and regulatory standards.

By implementing these measures during the establishment and disestablishment phase, construction activities can proceed and conclude responsibly while minimizing environmental impacts, ensuring compliance with regulatory requirements, and leaving the site in a condition that supports natural recovery and habitat restoration.

CONSTRUCTION FOR PROPOSED TREATMENT 1 - BOARDWALK (J)(J1)(K)(M)



Construction Methodology:

- Working from the rail where possible with long reach piling equipment and small plant off rail where possible, to minimize earthworks.
- Depending on pile requirements, piling could be performed from the deck level of structure.
- Work off rail and on ground level, samp mats to distribute load for off rail excavator to pile. Clear only width of excavator say 3.5m work area.
- Contractor to work on sections that could be completed daily.
- Clear and grub vegetation in CMA where needed.

Quality Assurance:

- Contractor to submit a Quality Management Plan.
- Contractor to conduct regular inspections and testing of subgrade surfaces.
- All materials to ensure compliance with design specifications and regulatory requirements.

Environmental and sediment:

- Contractor to submit a Environmental and Sediment Control Management Plan.
- Contractor to comply and follow GD05 regulations.
- If drilling and driving drill spoil carted away daily.
- Spoil drill cuttings in rail cart to not contaminate ground, thus have dirty water runoff.
- Remove temporary control measured after section work completed.

Plant and equipment:

Contractor will washdown, service and repair any plant off site. Fuelling, replenishment of lubricant and emergency repairs on site to be conducted in laydown area, within an impermeable, sealed and bunded area. Contractor will have a mobile minimum 120L spill kit, fit for use. Any spills will be notified, and all contaminated material scooped up and dispose off site.

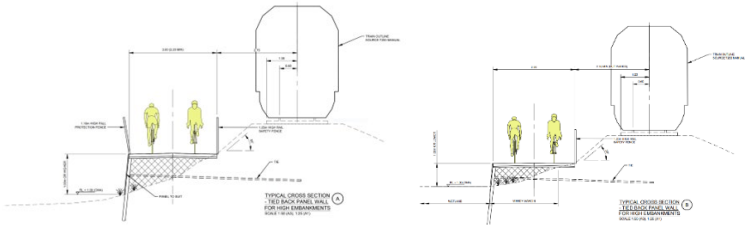
- High rail equipment:
  - 14 ton Excavators
  - Drill and driving quick attachments.
  - CD60 Crawler Carriers
  - Side-Load Rail Carts
- Off Rail:
  - 14- 23 ton Excavator at dumpsite/laydown.
  - 7 – 2.5 ton Excavators
  - 1 -2 ton Twin Drum Compactors
  - 450 kg Plat Compactors

Health and Safety:

- Contractor to submit a Health and Safety Plan.
- Implement Health and Safety protocols.

Acquire the necessary permits and approval for working near active railway lines, including signal coordination with railway authorities and adherence to railway safety stand

CONSTRUCTION FOR PROPOSED TREATMENT 2 – RETAINED WITHIN RAIL EMBANKMENT (A)(B)



Construction Methodology:

- Working from the rail and small plant off rail where possible, to minimize earthworks.
- Contractor to work on sections that could be completed daily.
- Clear and grub all topsoil and vegetation on bank and spoil excess to dumpsite.
- Clear to 500mm outside work area to allow for survey and setout.
- Stockpile needed topsoil for reinstatement end of the working day.
- Drill/Drive vertical piles, Horizontal ties and construct timber wall.
- Reinstate topsoil to batter face, seed and coconut mat cover.
- Backfill and construct fill layer.
- Construct cycleway pavement layers. Import from laydown.
- Longer stretches of Safety Fence to follow at a later stage or ongoing following construction crew.

Quality Assurance:

- Contractor to submit a Quality Management Plan.
- Contractor to conduct regular inspections and testing of subgrade surfaces.
- All materials to ensure compliance with design specifications and regulatory requirements.

Environmental and sediment:

- Contractor to submit a Environmental and Sediment Control Management Plan.
- Contractor to comply and follow GD05 regulations.
- Progressive stabilizing is recommended.
- Metal cover, enviro-cloth cover etc. areas that could not be closed out in same day.
- For large open areas, cloth and ensure silt dropout pits formed or small decant earth bunds(DEB's).
- Clean and dirty water runoff leaving site is controlled.
- Topsoil spread, seed and groundcover needed on same day, options for hay mulch, coconut mat, hydroseed etc.
- Remove temporary control measured after section work completed.

Plant and equipment:

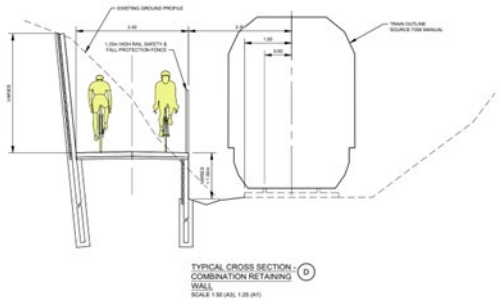
Contractor will washdown, service and repair any plant off site. Fuelling, replenishment of lubricant and emergency repairs on site to be conducted in laydown area, within an impermeable, sealed and bunded area. Contractor will have a mobile minimum 120L spill kit, fit for use. Any spills will be notified, and all contaminated material scooped up and dispose off site.

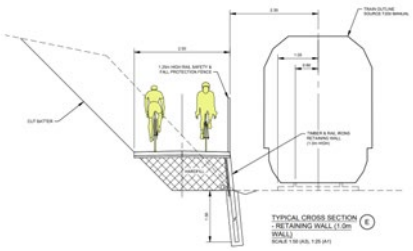
- High rail equipment:
  - 14-ton Excavators
  - Drill and driving quick attachments.
  - CD60 Crawler Carriers
  - Side-Load Rail Carts
- Off Rail:
  - 14 - 23-ton Excavator at dumpsite/laydown.
  - 7 - 2.5-ton Excavators
  - 1 - 2-ton Twin Drum Compactors
  - 450 kg Plat Compactors

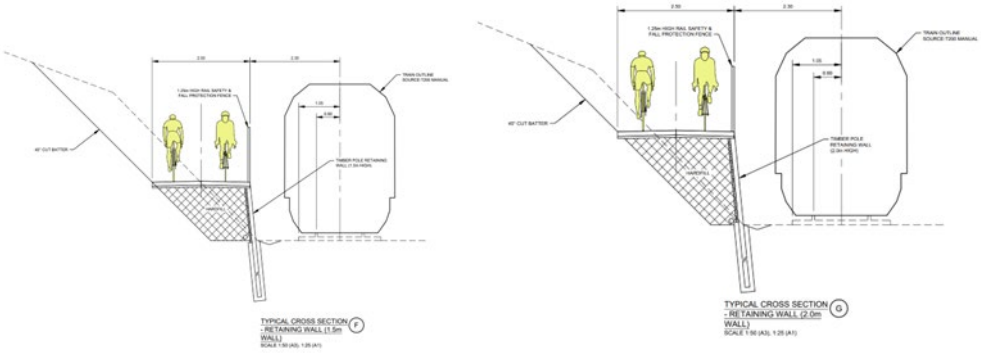
Health and Safety:

- Contractor to submit a Health and Safety Plan.
- Implement Health and Safety protocols.
- Acquire the necessary permits and approval for working near active railway lines, including signal coordination with railway authorities and adherence to railway safety standards.

CONSTRUCTION FOR PROPOSED TREATMENT 3 – RETAINED ADJOINING NATURAL SURFACES (D)(E)(F)(G)







Construction Methodology:

- Working from the rail and small plant off rail where possible, to minimize earthworks.
- Contractor to work on sections that could be completed daily.
- Clear and grub all topsoil and vegetation on bank and spoil excess to dumpsite.
- Clear to 500mm outside work area to allow for survey and setout.
- Stockpile needed topsoil for reinstatement end of the working day.
- Drill/Drive vertical piles, and construct timber walls.
- Reinstate topsoil to batter face, seed and coconut mat cover.
- Backfill and construct fill layer.
- Construct cycleway pavement layers. Import from laydown.
- Clear and form drainage.
- Longer stretches of Safety Fence to follow at a later stage or ongoing following construction crew.

Quality Assurance:

- Contractor to submit a Quality Management Plan.
- Contractor to conduct regular inspections and testing of subgrade surfaces.
- All materials to ensure compliance with design specifications and regulatory requirements.

Environmental and sediment:

- Contractor to submit a Environmental and Sediment Control Management Plan.
- Contractor to comply and follow GD05 regulations.
- Progressive stabilizing is recommended.
- Metal cover, enviro-cloth cover etc. areas that could not be closed out in same day.
- For large open areas, cloth and ensure silt dropout pits formed or small decant earth bunds(DEB's).
- Clean and dirty water runoff leaving site is controlled.
- Topsoil spread, seed and groundcover needed on same day, options for hay mulch, coconut mat, hydroseed etc.
- Remove temporary control measured after section work completed.

Plant and equipment:

Contractor will washdown, service and repair any plant off site. Fuelling, replenishment of lubricant and emergency repairs on site to be conducted in laydown area, within an impermeable, sealed and bunded area. Contractor will have a minimum 120L spill kit, fit for use. Any spills will be notified, and all contaminated material scooped up and dispose off site.

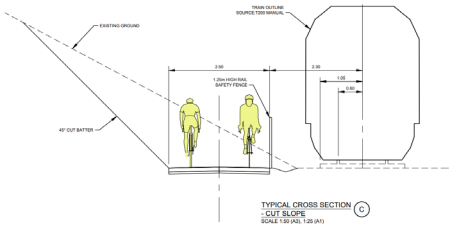
- High rail equipment:
  - 14 ton Excavators
  - CD60 Crawler Carriers
  - Side-Load Rail Carts

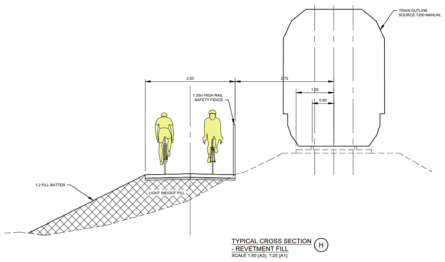
- Off Rail:
    - 14- 23 ton Excavator at dumpsite/laydown.
    - 7 – 2.5 ton Excavators
    - 1 -2 ton Twin Drum Compactors
    - 450 kg Plat Compactors

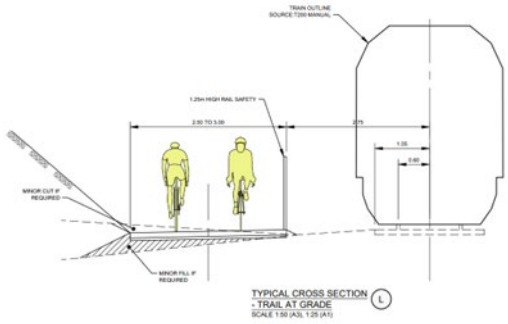
Health and Safety:

- Contractor to submit a Health and Safety Plan.
- Implement Health and Safety protocols.
- Acquire the necessary permits and approval for working near active railway lines, including signal coordination with railway authorities and adherence to railway safety standards.

CONSTRUCTION FOR PROPOSED TREATMENT 4 - ON GRADE, BATTERED SLOPES -NO STRUCTURES (C)(H)(L)







Construction Methodology:

- Working from the rail and small plant off rail where possible, to minimize earthworks.
- Contractor to work on sections that could be completed on a daily basis.
- Clear and grub all topsoil and vegetation on bank and spoil excess to dumpsite.
- Stockpile needed topsoil for reinstatement end of the working day.
- Cut batter and spoil to dumpsite.
- Reinstate topsoil to batter face, seed and coconut mat cover.
- Construct cycleway pavement layers. Import from laydown.
- Clear and form drainage.
- Longer stretches of Safety Fence to follow at a later stage or ongoing following construction crew.

Quality Assurance:

- Contractor to submit a Quality Management Plan.
- Contractor to conduct regular inspections and testing of subgrade surfaces.
- All materials to ensure compliance with design specifications and regulatory requirements.

Environmental and sediment:

- Contractor to submit a Environmental and Sediment Control Management Plan.
- Contractor to comply and follow GD05 regulations.
- Progressive stabilizing is recommended.
- Metal cover, enviro-cloth cover etc. areas that could not be closed out in same day.
- For large open areas, cloth and ensure silt dropout pits formed or small decant earth bunds(DEB's).
- Clean and dirty water runoff leaving site is controlled.
- Topsoil spread, seed and groundcover needed on same day, options for hay mulch, coconut mat, hydroseed etc.
- Remove temporary control measured after section work completed.

Plant and equipment:

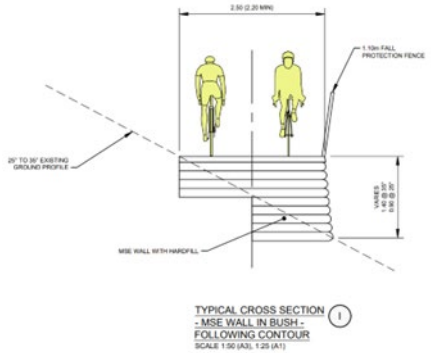
Contractor will washdown, service and repair any plant off site. Fuelling, replenishment of lubricant and emergency repairs on site to be conducted in laydown area, within an impermeable, sealed and bunded area. Contractor will have a minimum 120L spill kit, fit for use. Any spills will be notified, and all contaminated material scooped up and dispose off site.

- High rail equipment:
  - 14 ton Excavators
  - CD60 Crawler Carriers
  - Side-Load Rail Carts
- Off Rail:
  - 14- 23 ton Excavator at dumpsite/laydown.
  - 7 – 2.5 ton Excavators
  - 1 -2 ton Twin Drum Compactors
  - 450 kg Plat Compactors

Health and Safety:

- Contractor to submit a Health and Safety Plan.
- Implement Health and Safety protocols.
- Acquire the necessary permits and approval for working near active railway lines, including signal coordination with railway authorities and adherence to railway safety standards.

CONSTRUCTION FOR PROPOSED TREATMENT 5 - MTB STYLETRACK IN BUSH, CUTS, FILLS & MSE SLOPES ①



Construction Methodology:

- Working with small plant off rail where possible, to minimize earthworks.

- Power Barrows and Front dumpers to transport off rail materials on narrow track.
- Contractor to work on sections that could be completed daily.
- Clear and grub all topsoil and vegetation on bank and spoil excess to dumpsite.
- Stockpile needed topsoil for reinstatement end of the working day.
- Cut batter to form level bench and spoil to dumpsite.
- Reinstate topsoil to batter face, seed and coconut mat cover.
- Construct cycleway pavement layers. Import from laydown.
- Clear and form drainage.
- Longer stretches of Safety Fence to follow at a later stage or ongoing following construction crew.

Quality Assurance:

- Contractor to submit a Quality Management Plan.
- Contractor to conduct regular inspections and testing of subgrade surfaces.
- All materials to ensure compliance with design specifications and regulatory requirements.

Environmental and sediment:

- Contractor to submit a Environmental and Sediment Control Management Plan.
- Contractor to comply and follow GD05 regulations.
- Progressive stabilizing is recommended.
- Metal cover, enviro-cloth cover etc. areas that could not be closed out in same day.
- For large open areas, cloth and ensure silt dropout pits formed or small decant earth bunds(DEB's).
- Clean and dirty water runoff leaving site is controlled.
- Topsoil spread, seed and groundcover needed on same day, options for hay mulch, coconut mat, hydroseed etc.
- Remove temporary control measured after section work completed.

Plant and equipment:

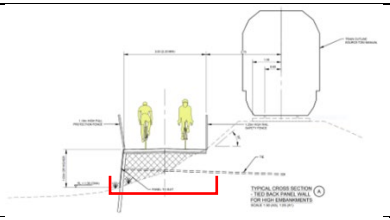
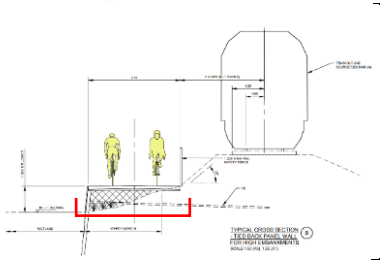
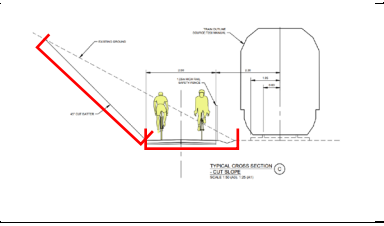
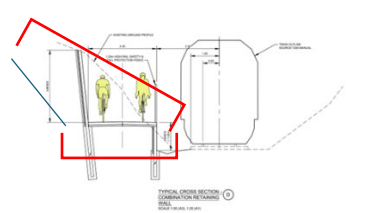
Contractor will washdown, service and repair any plant off site. Fuelling, replenishment of lubricant and emergency repairs on site to be conducted in laydown area, within an impermeable, sealed and bunded area. Contractor will have a minimum 120L spill kit, fit for use. Any spills will be notified, and all contaminated material scooped up and dispose off site.

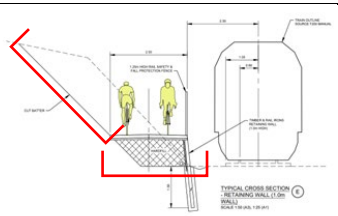
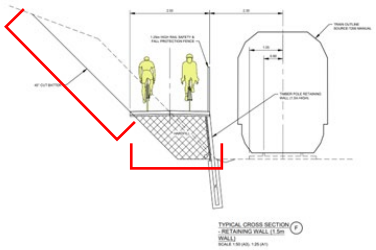
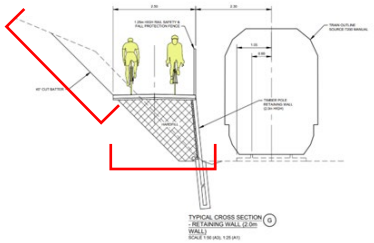
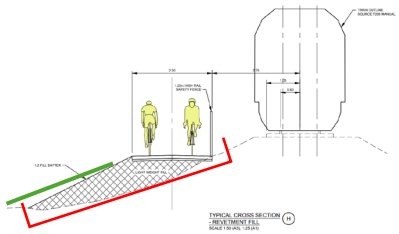
- High rail equipment:
    - 14 ton Excavators
    - CD60 Crawler Carriers
    - Side-Load Rail Carts
- Off Rail:
    - 14- 23 ton Excavator at dumpsite/laydown.
    - 7 – 2.5 ton Excavators
    - 1 -2 ton Twin Drum Compactors
    - Power Barrows
    - 2-ton Small front dumpers
    - 450 kg Plat Compactors

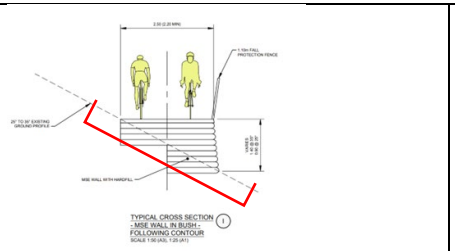
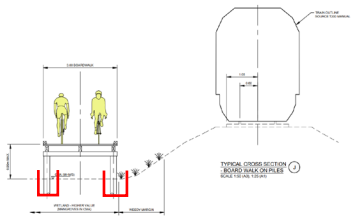
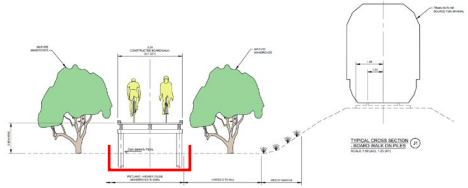
Health and Safety:

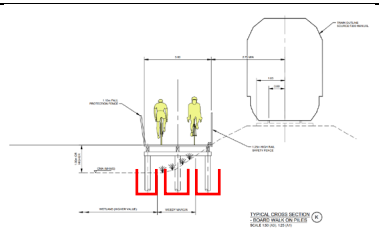
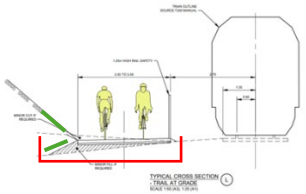
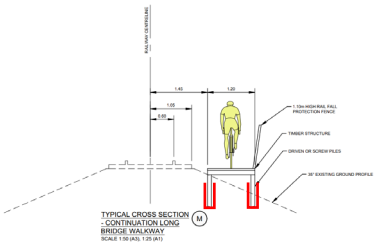
- Contractor to submit a Health and Safety Plan.
- Implement Health and Safety protocols.
- Acquire the necessary permits and approval for working near active railway lines, including signal coordination with railway authorities and adherence to railway safety standards.

Table 1: Construction Area Affected

	Cross Section	Construction Work Area	Total Length	Temporary area
TYPICAL CROSS SECTION A:		**Construction area:** From rail side (metal stabilized) to 0.5m outside permanent constructed cycleway.	**1585m**	**792.5 m2**
TYPICAL CROSS SECTION B:		**Construction area:** From rail side (metal stabilized) to 0.5m outside permanent constructed cycleway.		
TYPICAL CROSS SECTION C:		**Construction area**: From toe of batter to an average 3m width outside cycleway. No disturbance above cut face.	**0m**	**0m2**
TYPICAL CROSS SECTION D:		**Construction area:** From toe of batter to 2.5m outside top of wall. Contractor should look at safe work method for 1:1 slope batter outside wall to enable construction work. Backfill and reinstate after timber rail installed.	**3050m**	**7625m2**

TYPICAL CROSS SECTION E:		**Construction area:** From toe of batter to an average 2.5m width outside cycleway. Ground stability will determine cut face. No disturbance above cut face.		
TYPICAL CROSS SECTION F:		**Construction area:** From toe of batter to an average 2.5m width outside cycleway. Ground stability will determine cut face. No disturbance above cut face.		
TYPICAL CROSS SECTION G:		**Construction area:** From toe of batter to an average 2.5m width outside cycleway. Ground stability will determine cut face. No disturbance above cut face.		
TYPICAL CROSS SECTION H:		**Construction area:** From rail side (metal stabilized) to toe of fill. Average 3m width outside cycleway. Suggest rehab/topsoil on top of hard-filled batter to 0.5m away from track.	**0m**	**0m2**

TYPICAL CROSS SECTION I:		**Construction area:** Average 4.5m width for construction, with 2.5m constructed cycleway centred.	**600m**	**1200m2**
TYPICAL CROSS SECTION J:		**Construction area:** Contractor to construct from rail and drill/drive only at pile locations. Say 0.09m2 at each pile.	**50m**	**2.25m2 (pile base disturbance**
TYPICAL CROSS SECTION J1:		**Construction area:** Where swamp mats are need. Only clear equipment width and allow for minimum radius turning. 4m width clearing. 0.5m outside footprint.	**180m**	**180m2**

TYPICAL CROSS SECTION K:		**Construction area:** Contractor to construct from rail and dill/drive only at pile locations. Say 0.09m2 at each pile.	**190m**	**12.83m2 (pile base disturbance)**
TYPICAL CROSS SECTION L:		**Construction area:** From rail side (metal stabilized) to 0.5m outside permanent constructed footprint. Suggest to rehab/topsoil cut and fill batters.	**1040m**	**520m2**
TYPICAL CROSS SECTION M:		**Construction area:** Contractor to construct from rail and dill/drive only at pile locations. Say 0.09m2 at each pile. No earthworks.	**110m**	**4.95m2 (pile base disturbance)**
		Total Construction	**6,805m**	**10,337.53m2**
				1.04 Ha

Notes:

1. Construction areas have been calculated as that area beyond the finished trail alignment and does not take into consideration previous cleared areas such as existing Rail Embankment.

2. Pile clearance areas is the circumference around the Pile diameter and has been calculated of an assumed 200mm SED Pile at 4m spacing.

3. Two Lay down areas have been identified one already formed at Colenso Triangle and the other would clear an area of paddock to create temporary stockpile area and create access road covering approximately 1 Ha at adjacent property at Chainage 4200 or 5500.

Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

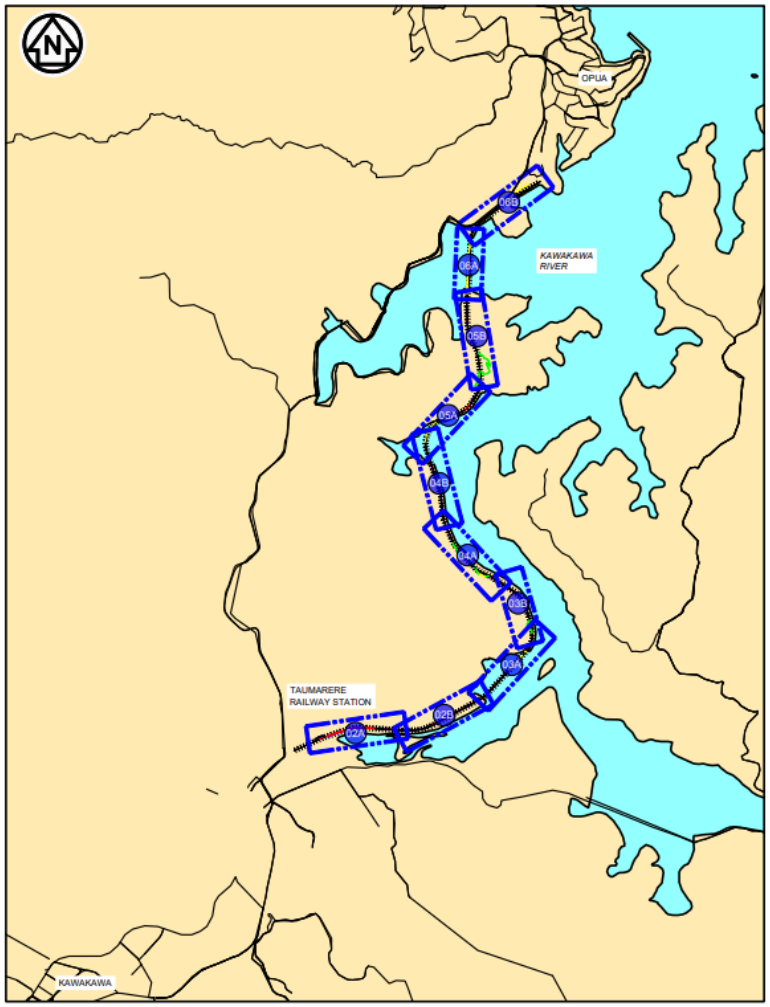
KAWAKAWA TO OPUA CYCLE TRAIL

CONSENT DRAWINGS

LOCALITY PLAN
NTS

VISUALISATION

DATE: MAY 2024
JAS CIVIL LTD
2209-RC-00



INDEX PLAN
SCALE: NOT TO SCALE

DRAWING LIST

DRAWING No: 2209 **JOB NUMBER: 2209-RC**

SHEET No.	SHEET TITLE	REVISION
		DAY 21
		MONTH 05
		YEAR 24
00	COVER SHEET, LOCALITY PLAN	1
01	INDEX PLAN & SHEET LIST	1
02	CONSENT DRAWINGS - CHN 4620 TO 5590	1
04	CONSENT DRAWINGS - CHN 5590 TO 6770	1
05	CONSENT DRAWINGS - CHN 6770 TO 8130	1
06	CONSENT DRAWINGS - CHN 8130 TO 9870	1
07	CONSENT DRAWINGS - CHN 9870 TO 10940	1
08	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'A' & VISUALISATION	1
09	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'B' & VISUALISATION	1
10	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'C'	1
11	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'D' & VISUALISATION	1
12	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'E' & VISUALISATION	1
13	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'F' & VISUALISATION	1
14	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'G' & VISUALISATION	1
15	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'H'	1
16	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'I' & VISUALISATION	1
17	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'J' & VISUALISATION	1
18	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'J1' & VISUALISATION	1
19	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'K' & VISUALISATION	1
20	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'L' & VISUALISATION	1
21	CONSENT DRAWINGS - TYPICAL CROSS SECTION 'M' & VISUALISATION	1

AMENDMENT	APPRD	DATE
1 ISSUED TO FNDC FOR RESOURCE CONSENT		?? ?? ??

	BY	CHECKED	DATE
DESIGN	BWP		5.24
DRAWN	BWP		5.24
SURVEYED	LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL
CONSENT DRAWINGS

INDEX PLAN & SHEET LIST

STATUS	LOCAL AUTHORITY REF:				
RESOURCE CONSENT					
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	01	1

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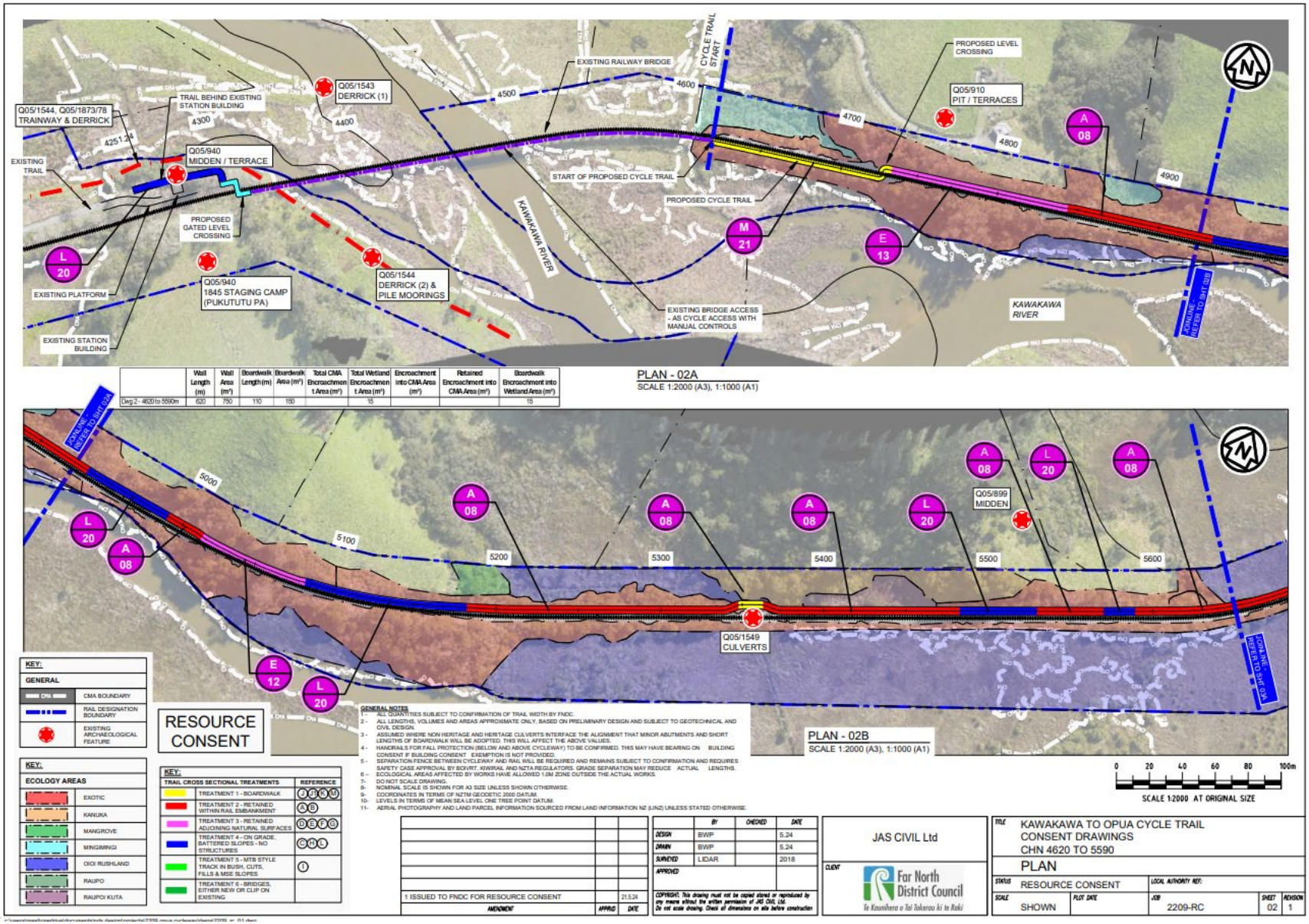
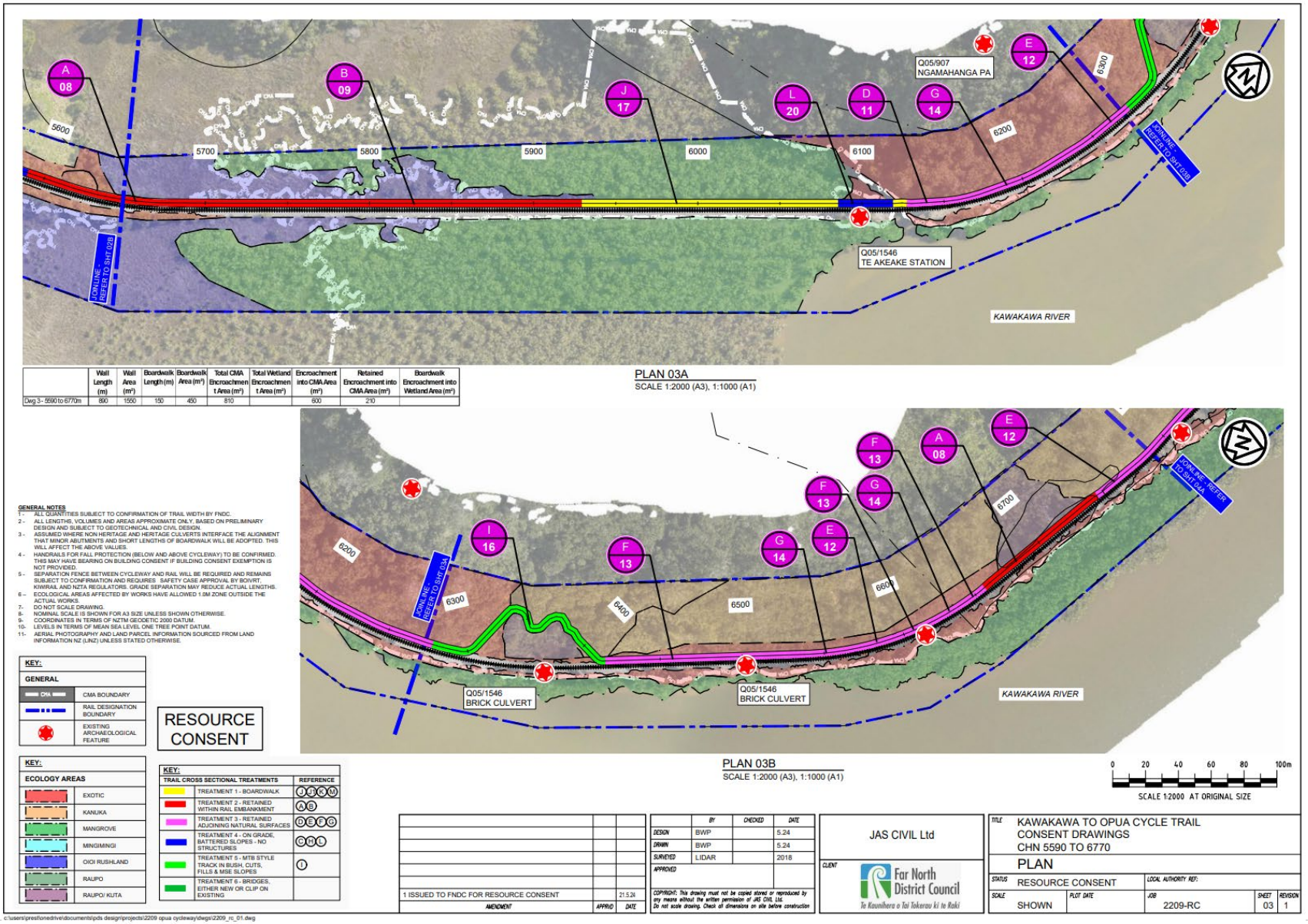


	Wall Length (m)	Wall Area (m²)	Boardwalk Length (m)	Boardwalk Area (m²)	Total CMA Encroachment Area (m²)	Total Wetland Encroachment Area (m²)	Encroachment into CMA Area (m²)	Retained Encroachment into CMA Area (m²)	Boardwalk Encroachment into Wetland Area (m²)
Dwg 2 - 4620 to 5590m	620	750	110	180		15			15



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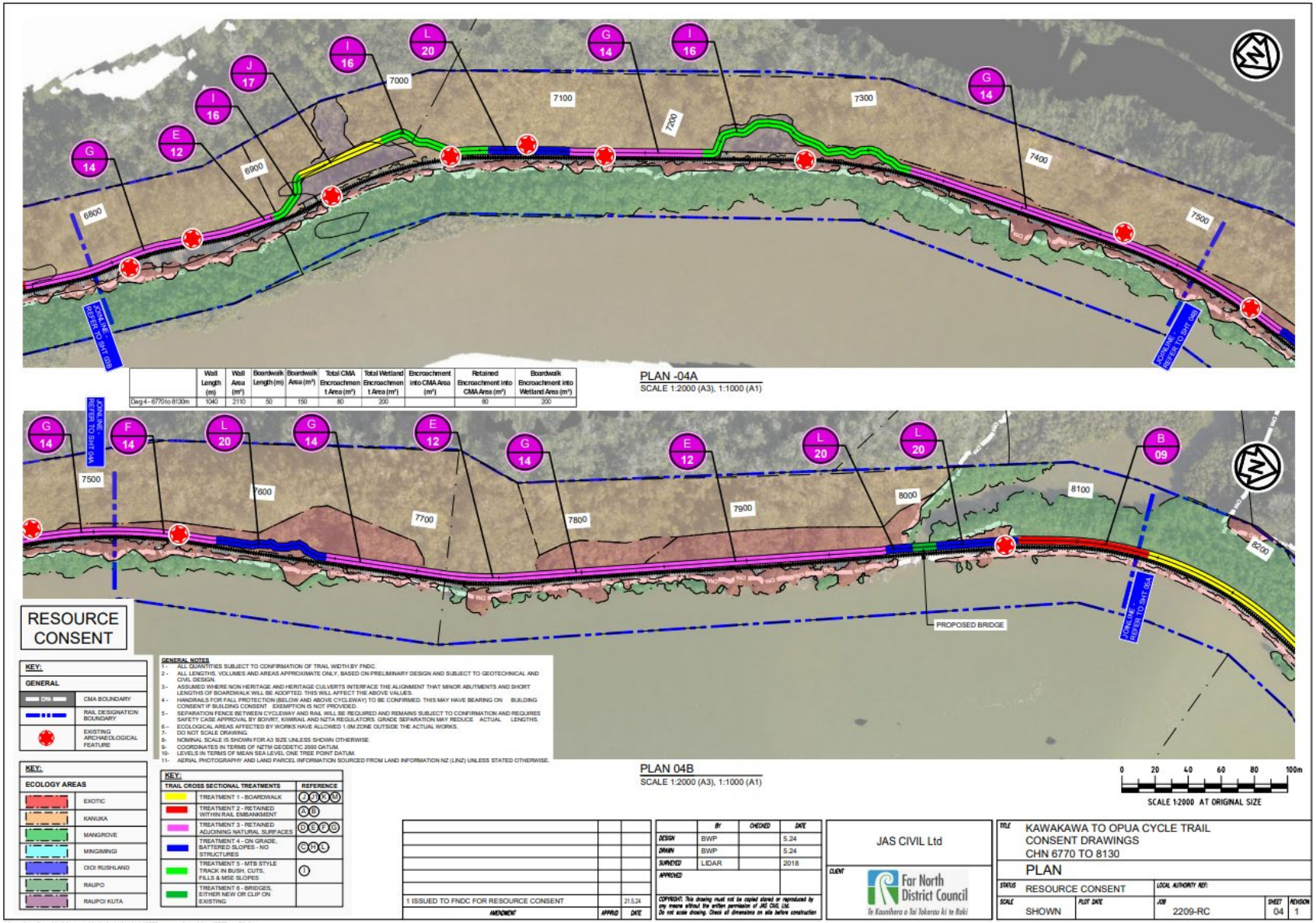
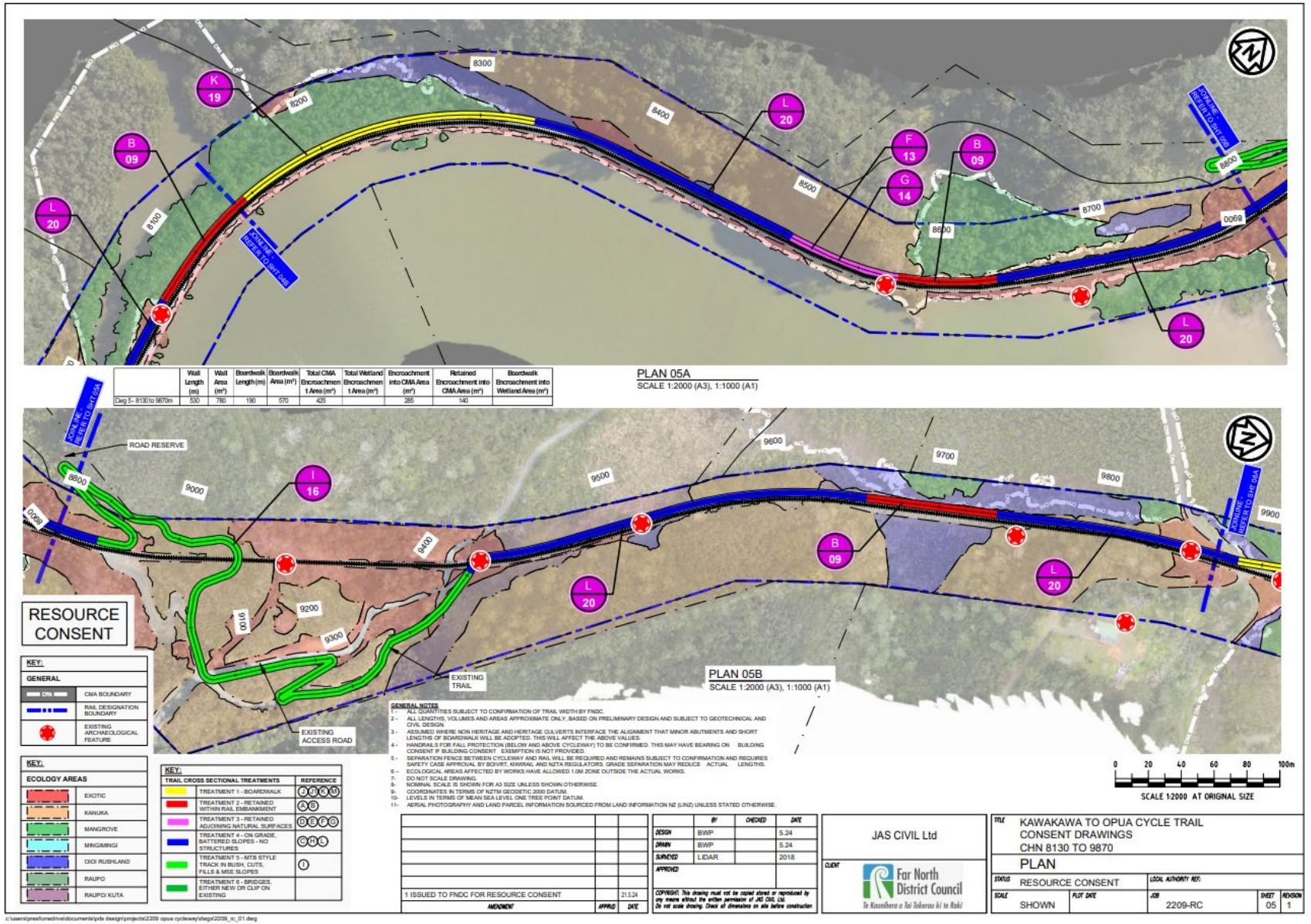
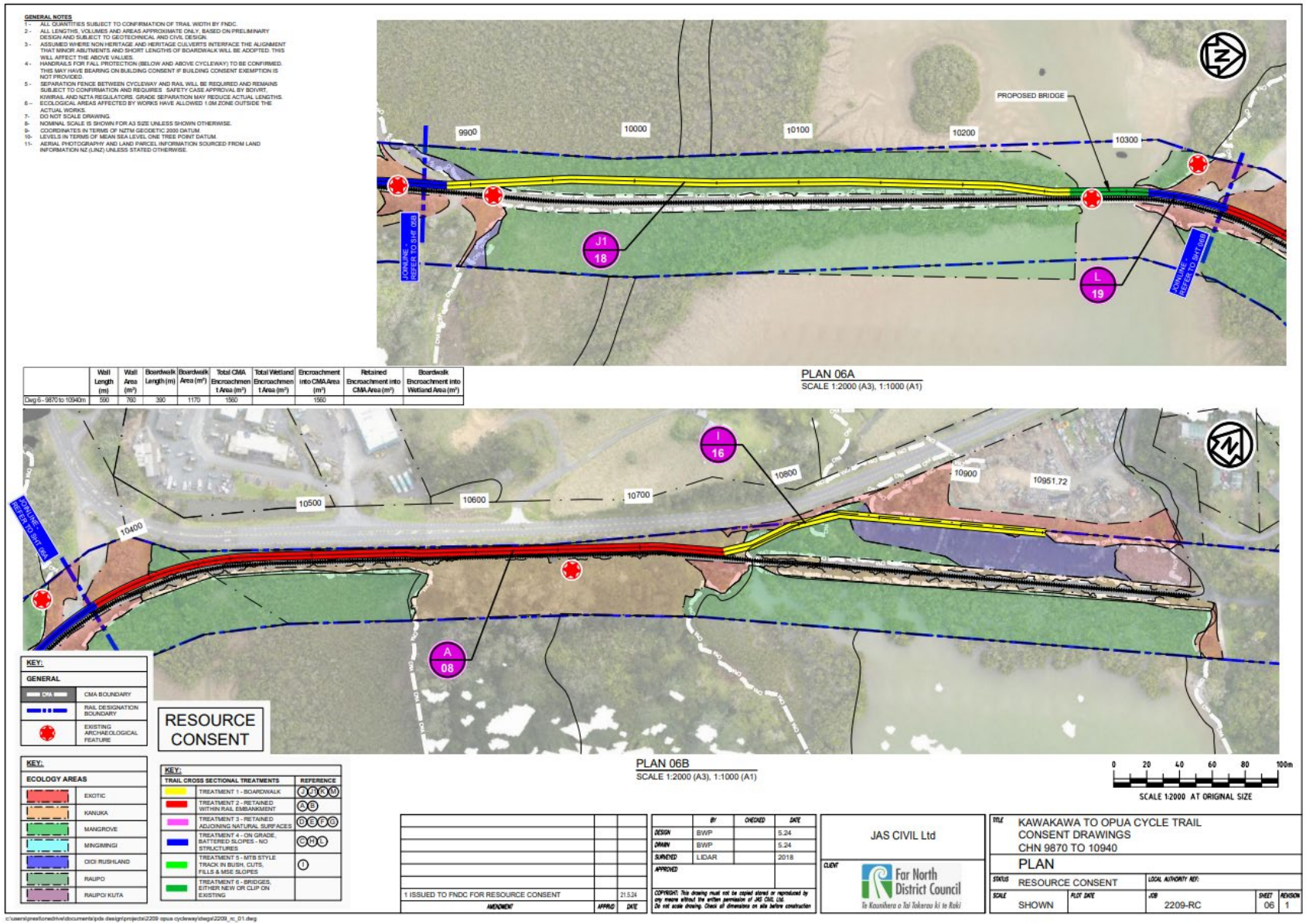
Dwg 3 - 5590 to 6770m	890	1550	150	450	810		600	210	






GENERAL NOTES
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PROPOSED BRIDGE
9900
10000
10100
10200
10300
J1 18
L 19
CONTINUE REFER TO SHT 05B
CONTINUE REFER TO SHT 06B
PLAN 06A
SCALE 1:2000 (A3), 1:1000 (A1)
Wall Length (m)
Wall Area (m²)
Boardwalk Length (m)
Boardwalk Area (m²)
Total CMA Encroachment Area (m²)
Total Wetland Encroachment Area (m²)
Encroachment into CMA Area (m²)
Retained Encroachment into CMA Area (m²)
Boardwalk Encroachment into Wetland Area (m²)
Dwg 6 - 9870 to 10940m
550
760
390
1170
1560
1560
I 16
A 08
10400
10500
10600
10700
10800
10900
10951.72
CONTINUE REFER TO SHT 06A
PLAN 06B
SCALE 1:2000 (A3), 1:1000 (A1)
0 20 40 60 80 100m
SCALE 1:2000 AT ORIGINAL SIZE
KEY:
GENERAL
CMA BOUNDARY
RAIL DESIGNATION BOUNDARY
EXISTING ARCHAEOLOGICAL FEATURE
RESOURCE CONSENT
KEY:
ECOLOGY AREAS
EXOTIC
KANUKA
MANGROVE
MINGIMINGI
OIOI RUSHLAND
RAUPO
RAUPOI KUTA
KEY:
TRAIL CROSS SECTIONAL TREATMENTS
REFERENCE
TREATMENT 1 - BOARDWALK
TREATMENT 2 - RETAINED WITHIN RAIL EMBANKMENT
TREATMENT 3 - RETAINED ADJOINING NATURAL SURFACES
TREATMENT 4 - ON GRADE, BATTERED SLOPES - NO STRUCTURES
TREATMENT 5 - MTB STYLE TRACK IN BUSH, CUTS, FILLS & MSE SLOPES
TREATMENT 6 - BRIDGES, EITHER NEW OR CLIP ON EXISTING
1 ISSUED TO FNDC FOR RESOURCE CONSENT 21.5.24
AMENDMENT APPRD DATE
DESIGN BWP 5.24
DRAWN BWP 5.24
SURVEYED LIDAR 2018
APPROVED
JAS CIVIL Ltd
CLIENT
Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki
TITLE KAWAKAWA TO OPUA CYCLE TRAIL
CONSENT DRAWINGS
CHN 9870 TO 10940
PLAN
STATUS RESOURCE CONSENT
LOCAL AUTHORITY REF:
SCALE SHOWN
PLOT DATE
JOB 2209-RC
SHEET 06
REVISION 1

KEY:	
GENERAL	
CMA	CMA BOUNDARY
	RAIL DESIGNATION BOUNDARY
	EXISTING ARCHAEOLOGICAL FEATURE

KEY:	
ECOLOGY AREAS	
	EXOTIC
	KANUKA
	MANGROVE
	MINGIMINGI
	OIOI RUSHLAND
	RAUPO
	RAUPO/ KUTA

KEY:		
TRAIL CROSS SECTIONAL TREATMENTS		REFERENCE
	TREATMENT 1 - BOARDWALK	(J)(J1)(K)(M)
	TREATMENT 2 - RETAINED WITHIN RAIL EMBANKMENT	(A)(B)
	TREATMENT 3 - RETAINED ADJOINING NATURAL SURFACES	(D)(E)(F)(G)
	TREATMENT 4 - ON GRADE, BATTERED SLOPES - NO STRUCTURES	(C)(H)(L)
	TREATMENT 5 - MTB STYLE TRACK IN BUSH, CUTS, FILLS & MSE SLOPES	(I)
	TREATMENT 6 - BRIDGES, EITHER NEW OR CLIP ON EXISTING	

SCHEDULE OF ECOLOGICAL AREAS AFFECTED BY PROPOSED WORKS		
TYPE OF VEGETATION	AREA(m²)	%OF TOTAL EARTHWORKS AREA
EXOTIC	13,650	37.6%
KANUKA	8,300	22.8%
MANGROVE	2,710	7.5%
MINGIMINGI	0	0.0%
OIOI RUSHLAND	1,320	3.6%
RAUPO/KUTA	1,520	4.2%
NO VEGETATION	8,840	24.3%
TOTAL EARTHWORKS AREA	36,340	100.0%

PROJECT QUANTITY SUMMARY

Earthworks	Volume (m³)
Fill (solid)	6340
Cut (solid)	4520
Import Fill (solid)	1820

	Wall Length (m)	Wall Area (m²)	Boardwalk Length (m)	Boardwalk Area (m²)	Total CMA Encroachment Area (m²)	Total Wetland Encroachment Area (m²)	Boardwalk Encroachment into CMA Area	Retained Encroachment into CMA Area (m²)	Boardwalk Encroachment into Wetland Area (m²)
Dwg 2 - 4620 to 5590m	620	750	110	150		15			15
Dwg 3 - 5590 to 6770m	890	1550	150	450	810		600	210	
Dwg 4 - 6770 to 8130m	1040	2110	50	150	80	200		80	200
Dwg 5 - 8130 to 9870m	530	780	190	570	425		285	140	
Dwg 6 - 9870 to 10940m	590	760	390	1170	1560		1560		

RESOURCE CONSENT

GENERAL NOTES

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AMENDMENT	APPRD	DATE
1 ISSUED TO FNDC FOR RESOURCE CONSENT		21.5.24

	BY	CHECKED	DATE
DESIGN	BWP		5.24
DRAWN	BWP		5.24
SURVEYED	LIDAR		2018
APPROVED			

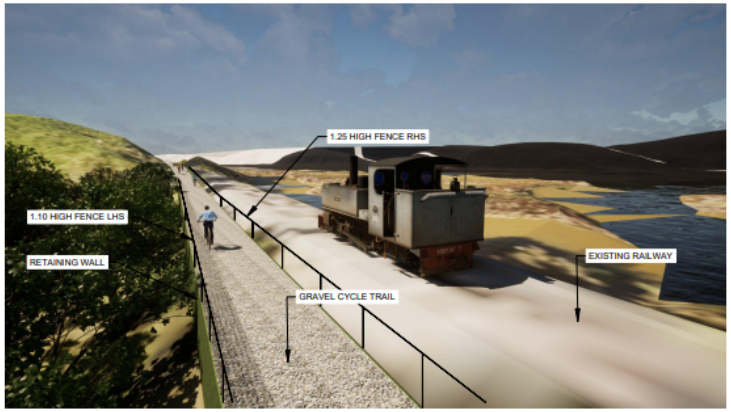
JAS CIVIL Ltd

CLIENT: Far North District Council — Te Kaunihera o Tai Tokerau ki te Raki

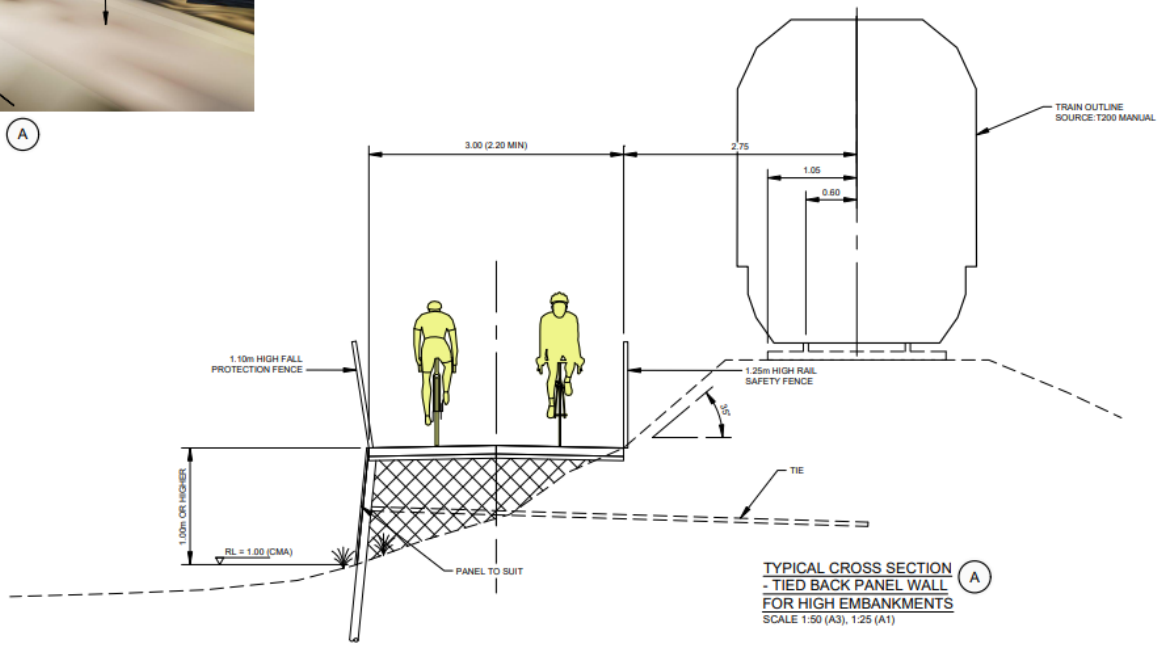
TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

KEY & PROJECT IMPACT SUMMARIES

STATUS	LOCAL AUTHORITY REF:			
RESOURCE CONSENT				
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	07	1



VISUALISATION - TIED BACK PANEL WALL FOR HIGH EMBANKMENTS (A)
NTS



TYPICAL CROSS SECTION - TIED BACK PANEL WALL FOR HIGH EMBANKMENTS (A)
SCALE 1:50 (A3), 1:25 (A1)

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AMENDMENT	APPRD	DATE
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	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 (A3), 1:25 (A1)

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS
TYPICAL CROSS SECTION 'A' & VISUALISATION

STATUS	LOCAL AUTHORITY REF:			
RESOURCE CONSENT				
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	08	1

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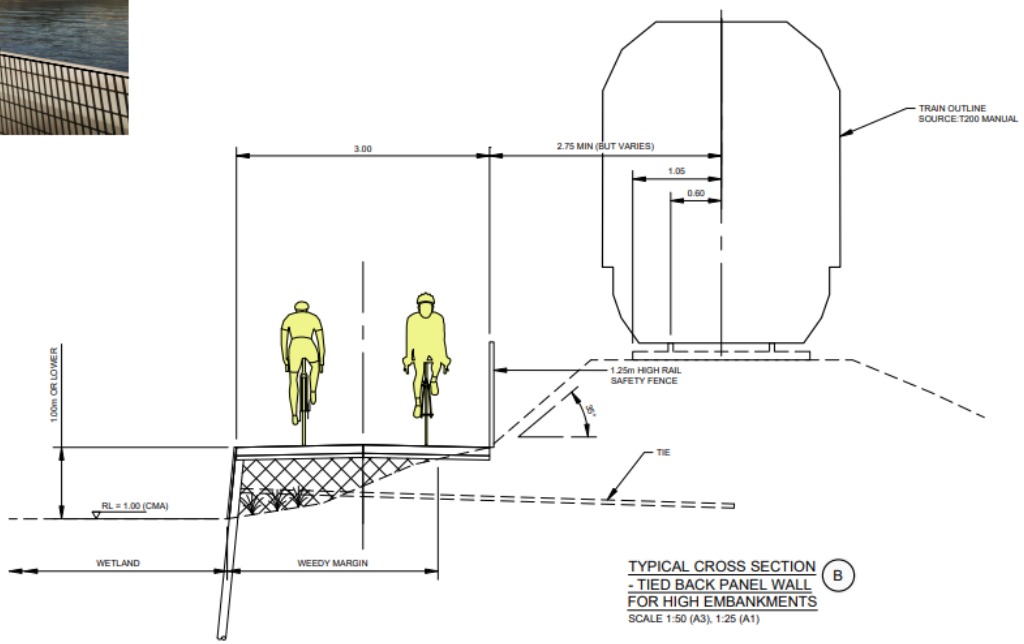
VISUALISATION - TIED BACK PANEL WALL FOR HIGH EMBANKMENTS (B)
NTS



TYPICAL CROSS SECTION - TIED BACK PANEL WALL FOR HIGH EMBANKMENTS (B)
SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

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	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 (A3), 1:25 (A1)

TITLE	KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS
	TYPICAL CROSS SECTION 'B' & VISUALISATION
STATUS	RESOURCE CONSENT
LOCAL AUTHORITY REF:	
SCALE	SHOWN
PLOT DATE	
JOB	2209-RC
SHEET	09
REVISION	1

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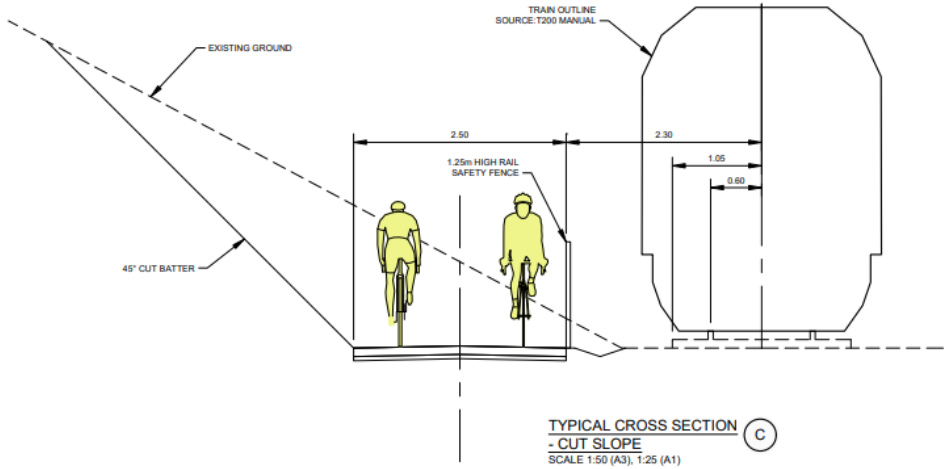

TYPICAL CROSS SECTION (C)
- CUT SLOPE
SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

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AMENDMENT	APPRD	DATE
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	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 (A3), 1:25 (A1)

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION `C'

STATUS	LOCAL AUTHORITY REF:				
RESOURCE CONSENT					
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	10	1

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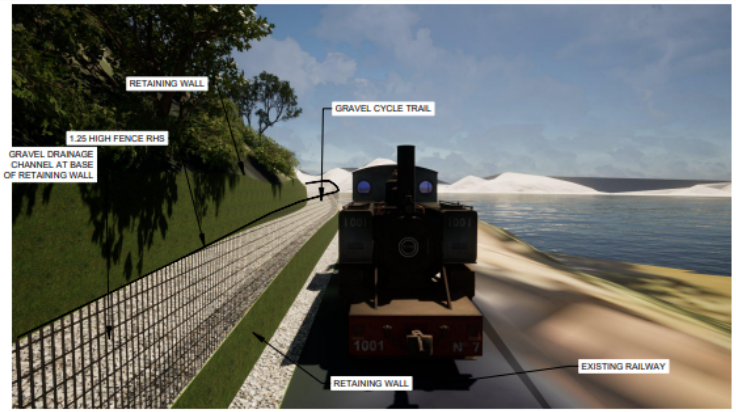
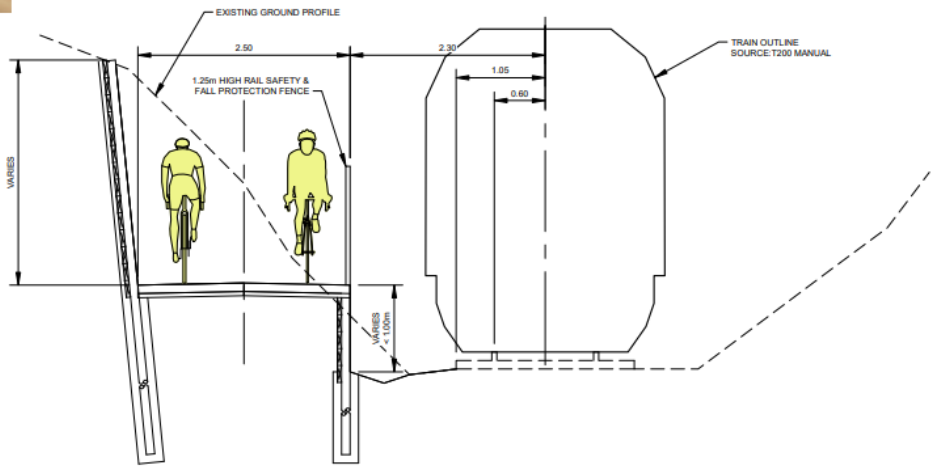


VISUALISATION - COMBINATION RETAINING WALL (D)
NTS



TYPICAL CROSS SECTION - COMBINATION RETAINING WALL (D)
SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

0 0.5 1.0 1.5 2.0 2.5m
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SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

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Te Kaunihera o Tai Tokerau ki te Raki

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION `D' & VISUALISATION

STATUS	LOCAL AUTHORITY REF:			
RESOURCE CONSENT				
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	11	1

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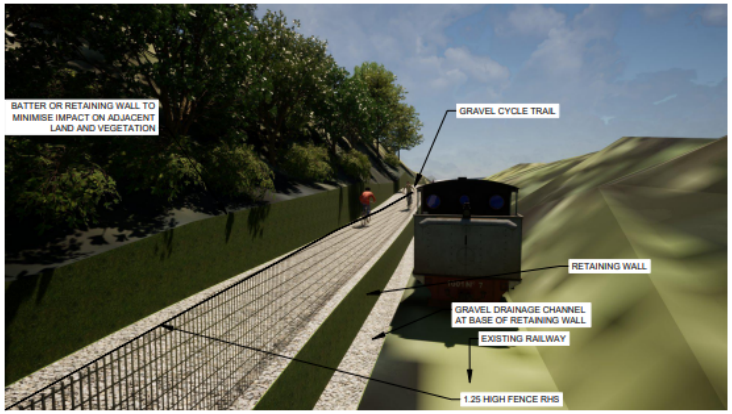
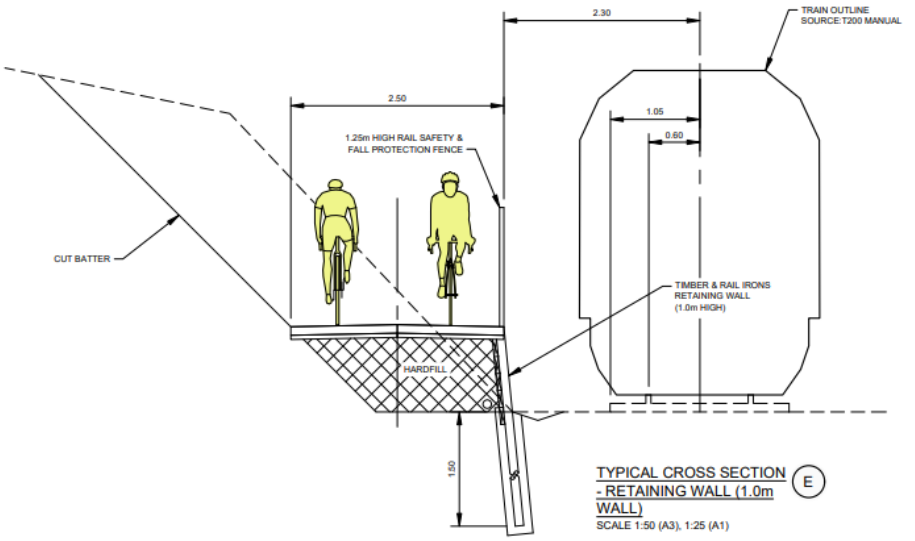


VISUALISATION - RETAINING WALL - RAIL IRONS (1.0m WALL) (E)

NTS



TYPICAL CROSS SECTION - RETAINING WALL (1.0m WALL) (E)

SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

0 0.5 1.0 1.5 2.0 2.5m

SCALE 1:50 (A3), 1:25 (A1)

GENERAL NOTES

1- ALL QUANTITIES SUBJECT TO CONFIRMATION OF TRAIL WIDTH BY FNDC.
2- ALL LENGTHS, VOLUMES AND AREAS APPROXIMATE ONLY, BASED ON PRELIMINARY DESIGN AND SUBJECT TO GEOTECHNICAL AND CIVIL DESIGN.
3- ASSUMED WHERE NON HERITAGE AND HERITAGE CULVERTS INTERFACE THE ALIGNMENT THAT MINOR ABUTMENTS AND SHORT LENGTHS OF BOARDWALK WILL BE ADOPTED. THIS WILL AFFECT THE ABOVE VALUES.
4- HANDRAILS FOR FALL PROTECTION (BELOW AND ABOVE CYCLEWAY) TO BE CONFIRMED. THIS MAY HAVE BEARING ON BUILDING CONSENT IF BUILDING CONSENT EXEMPTION IS NOT PROVIDED.
5- SEPARATION FENCE BETWEEN CYCLEWAY AND RAIL WILL BE REQUIRED AND REMAINS SUBJECT TO CONFIRMATION AND REQUIRES SAFETY CASE APPROVAL BY BOVRT, KIWIRAIL AND NZTA REGULATORS. GRADE SEPARATION MAY REDUCE ACTUAL LENGTHS.
6- ECOLOGICAL AREAS AFFECTED BY WORKS HAVE ALLOWED 1.0M ZONE OUTSIDE THE ACTUAL WORKS.
7- DO NOT SCALE DRAWING.
8- NOMINAL SCALE IS SHOWN FOR A3 SIZE UNLESS SHOWN OTHERWISE.
9- COORDINATES IN TERMS OF NZTM GEODETIC 2000 DATUM.
10- LEVELS IN TERMS OF MEAN SEA LEVEL ONE TREE POINT DATUM.
11- AERIAL PHOTOGRAPHY AND LAND PARCEL INFORMATION SOURCED FROM LAND INFORMATION NZ (LINZ) UNLESS STATED OTHERWISE.

AMENDMENT	APPRD	DATE
1 ISSUED TO FNDC FOR RESOURCE CONSENT		21.5.24

	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council, Te Kaunihera o Tai Tokerau ki te Raki

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION `E' & VISUALISATION

STATUS	LOCAL AUTHORITY REF:			
RESOURCE CONSENT				
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	12	1

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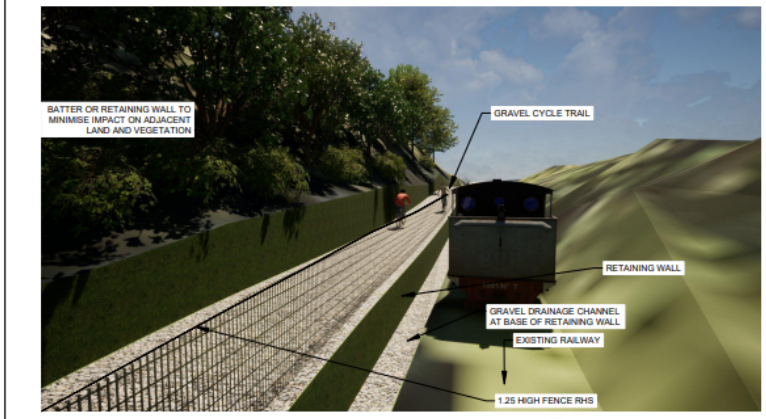
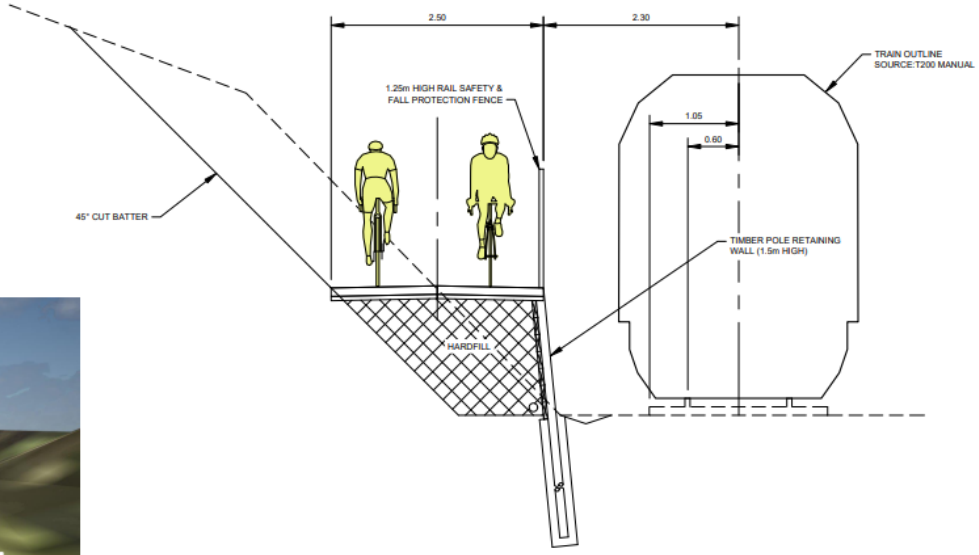


VISUALISATION - RETAINING WALL - RAIL IRONS (1.5m WALL) (F)

NTS



TYPICAL CROSS SECTION - RETAINING WALL (1.5m WALL) (F)

SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

GENERAL NOTES

1- ALL QUANTITIES SUBJECT TO CONFIRMATION OF TRAIL WIDTH BY FNDC.
2- ALL LENGTHS, VOLUMES AND AREAS APPROXIMATE ONLY, BASED ON PRELIMINARY DESIGN AND SUBJECT TO GEOTECHNICAL AND CIVIL DESIGN.
3- ASSUMED WHERE NON HERITAGE AND HERITAGE CULVERTS INTERFACE THE ALIGNMENT THAT MINOR ABUTMENTS AND SHORT LENGTHS OF BOARDWALK WILL BE ADOPTED. THIS WILL AFFECT THE ABOVE VALUES.
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7- DO NOT SCALE DRAWING.
8- NOMINAL SCALE IS SHOWN FOR A3 SIZE UNLESS SHOWN OTHERWISE.
9- COORDINATES IN TERMS OF NZTM GEODETIC 2000 DATUM.
10- LEVELS IN TERMS OF MEAN SEA LEVEL ONE TREE POINT DATUM.
11- AERIAL PHOTOGRAPHY AND LAND PARCEL INFORMATION SOURCED FROM LAND INFORMATION NZ (LINZ) UNLESS STATED OTHERWISE.

0 0.5 1.0 1.5 2.0 2.5m

SCALE 1:50 (A3), 1:25 (A1)

AMENDMENT	APPRD	DATE
1 ISSUED TO FNDC FOR RESOURCE CONSENT		21.5.24

	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council — Te Kaunihera o Tai Tokerau ki te Raki

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION 'F' & VISUALISATION

STATUS	LOCAL AUTHORITY REF:			
RESOURCE CONSENT				
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	13	1

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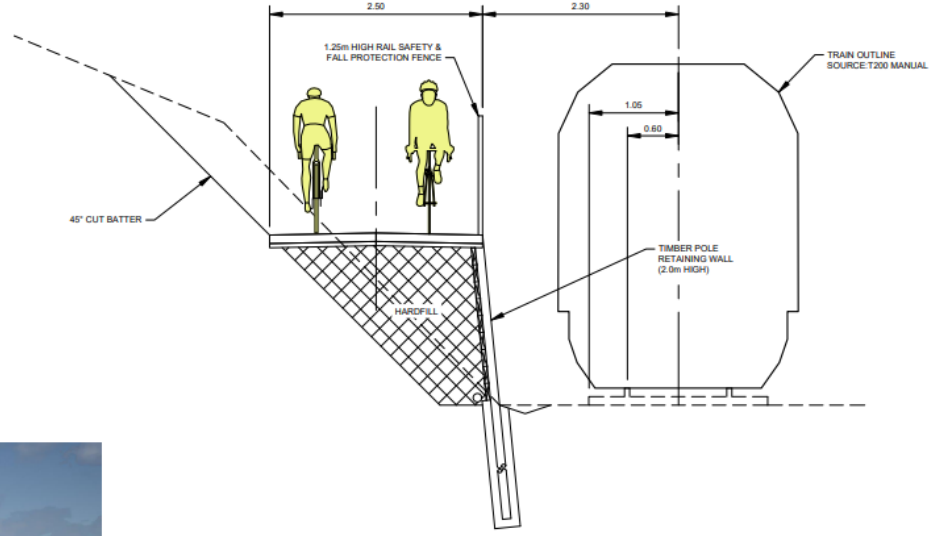
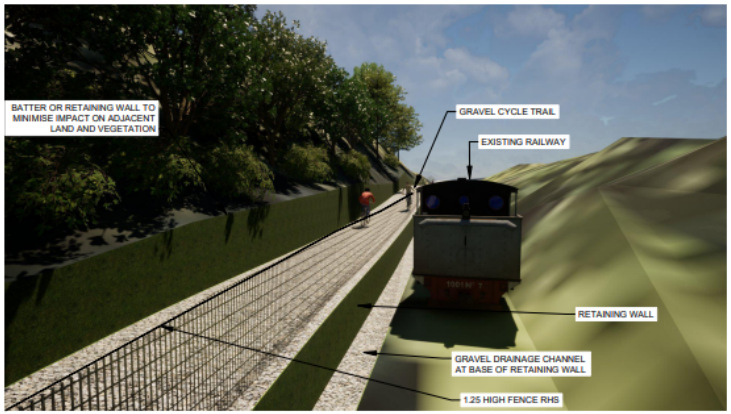


TYPICAL CROSS SECTION - RETAINING WALL (2.0m WALL) (G)

SCALE 1:50 (A3), 1:25 (A1)



VISUALISATION - RETAINING WALL - RAIL IRONS (2.0m WALL) (G)

NTS

RESOURCE CONSENT

PRELIMINARY FOR DISCUSSION PURPOSES ONLY

0 0.5 1.0 1.5 2.0 2.5m

SCALE 1:50 (A3), 1:25 (A1)

GENERAL NOTES

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AMENDMENT	APPRD	DATE
1 ISSUED TO FNDC FOR RESOURCE CONSENT		21.5.24

	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council – Te Kaunihera o Tai Tokerau ki te Raki

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION `G' & VISUALISATION

STATUS	LOCAL AUTHORITY REF:			
RESOURCE CONSENT				
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	14	1

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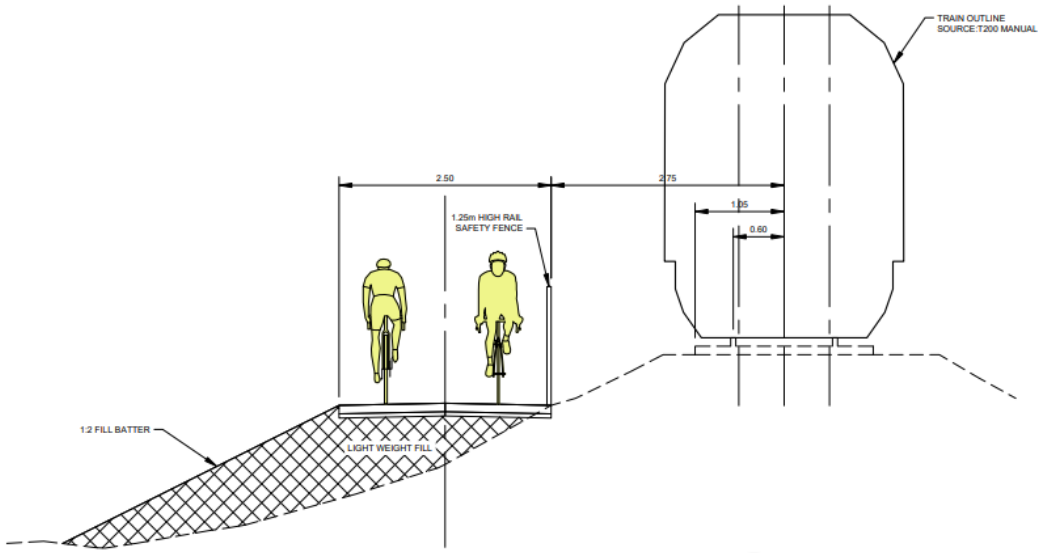

TYPICAL CROSS SECTION - REVETMENT FILL (H)
SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

GENERAL NOTES
1- ALL QUANTITIES SUBJECT TO CONFIRMATION OF TRAIL WIDTH BY FNDC.
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0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 (A3), 1:25 (A1)

AMENDMENT	APPRD	DATE
1 ISSUED TO FNDC FOR RESOURCE CONSENT		21.5.24

	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION `H'

STATUS	LOCAL AUTHORITY REF:			
RESOURCE CONSENT				
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	15	1

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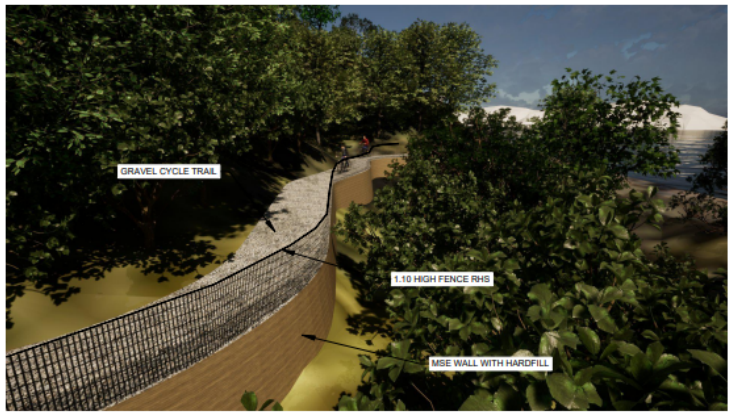
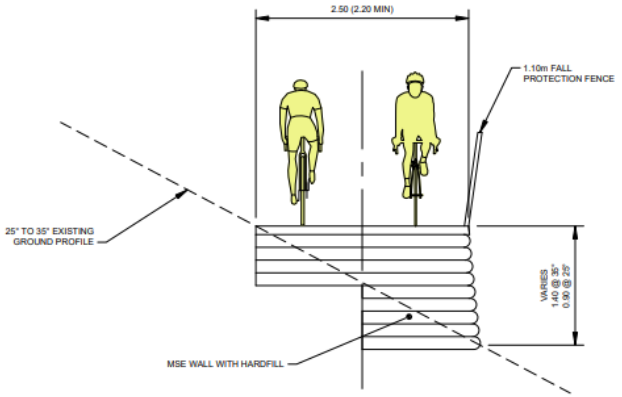


VISUALISATION - MSE WALL IN BUSH - FOLLOWING CONTOUR (1)
NTS



TYPICAL CROSS SECTION - MSE WALL IN BUSH - FOLLOWING CONTOUR (1)
SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

GENERAL NOTES
1- ALL QUANTITIES SUBJECT TO CONFIRMATION OF TRAIL WIDTH BY FNDC.
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0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 (A3), 1:25 (A1)

AMENDMENT	APPRD	DATE
1 ISSUED TO FNDC FOR RESOURCE CONSENT		21.5.24

	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council, Te Kaunihera o Tai Tokerau ki te Raki

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION 'I' & VISUALISATION

STATUS	LOCAL AUTHORITY REF:			
RESOURCE CONSENT				
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	16	1

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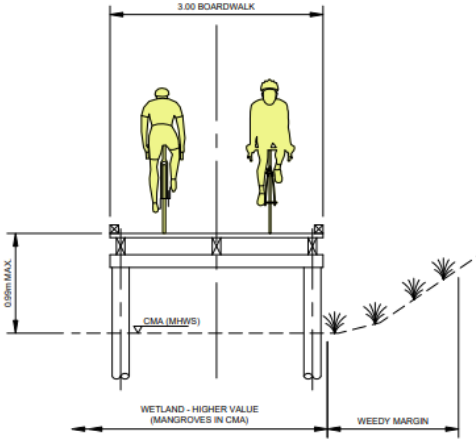
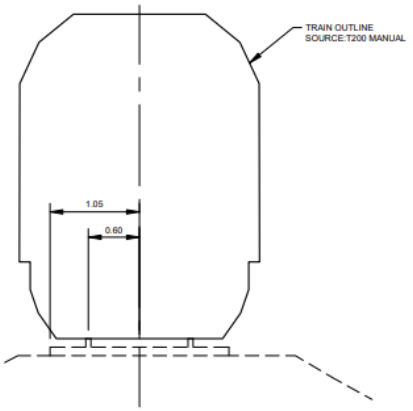
VISUALISATION - BOARD WALK ON PILES (J)
NTS





TYPICAL CROSS SECTION - BOARD WALK ON PILES (J)
SCALE 1:50 (A3), 1:25 (A1)

0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

GENERAL NOTES
1- ALL QUANTITIES SUBJECT TO CONFIRMATION OF TRAIL WIDTH BY FNDC.
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AMENDMENT	APPRD	DATE
1 ISSUED TO FNDC FOR RESOURCE CONSENT		21.5.24

	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council – Te Kaunihera o Tai Tokerau ki te Raki

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION `J' & VISUALISATION

STATUS: RESOURCE CONSENT | LOCAL AUTHORITY REF:
SCALE: SHOWN | PLOT DATE: | JOB: 2209-RC | SHEET: 17 | REVISION: 1

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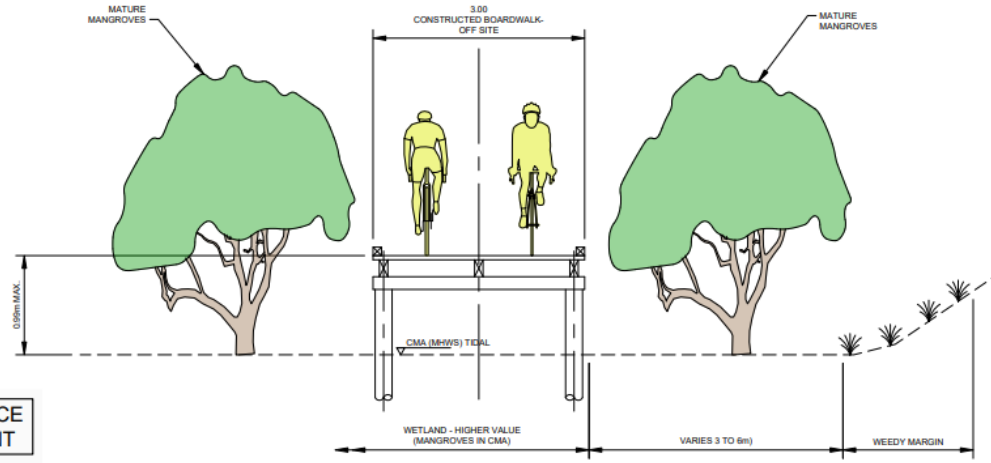
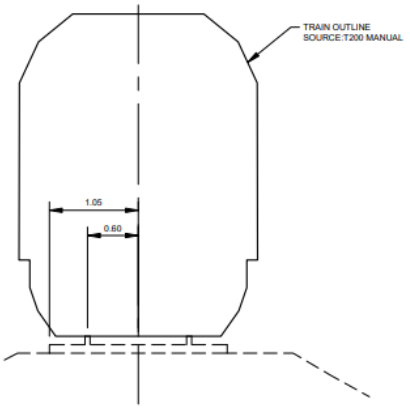
VISUALISATION - BOARD WALK ON PILES J1
NTS





TYPICAL CROSS SECTION - BOARD WALK ON PILES J1
SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 (A3), 1:25 (A1)

GENERAL NOTES
1- ALL QUANTITIES SUBJECT TO CONFIRMATION OF TRAIL WIDTH BY FNDC.
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1 ISSUED TO FNDC FOR RESOURCE CONSENT		21.5.24
AMENDMENT	APPRVD	DATE

	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION `J1' & VISUALISATION

STATUS	LOCAL AUTHORITY REF:				
RESOURCE CONSENT					
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	18	1

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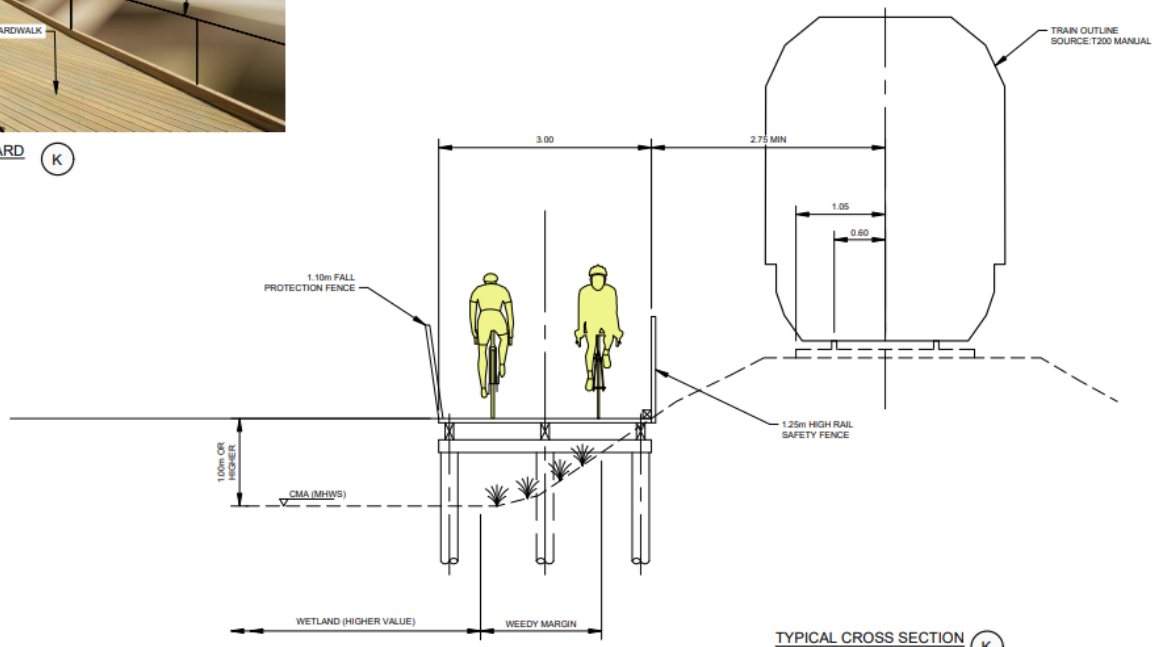
VISUALISATION - BOARD WALK ON PILES (K)
NTS



TYPICAL CROSS SECTION - BOARD WALK ON PILES (K)
SCALE 1:50 (A3), 1:25 (A1)

0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

GENERAL NOTES
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AMENDMENT	APPRD	DATE
1 ISSUED TO FNDC FOR RESOURCE CONSENT		21.5.24

	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

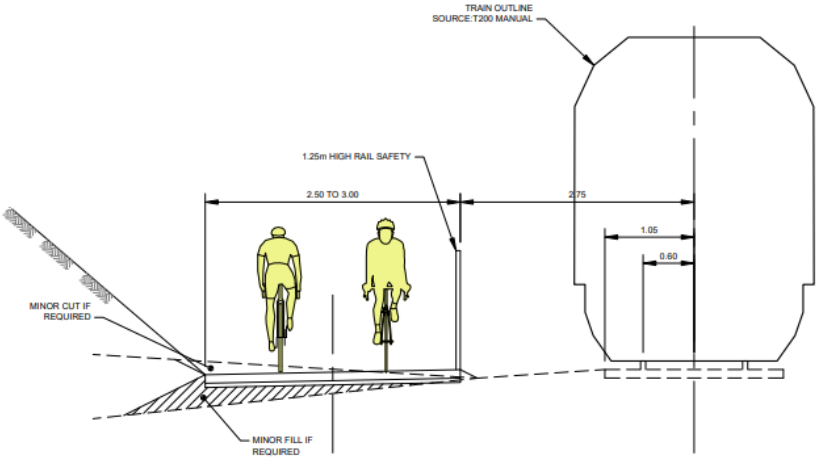
TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION 'K' & VISUALISATION

STATUS	LOCAL AUTHORITY REF:			
RESOURCE CONSENT				
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	19	1

c:\users\jmeallorednrivel\documents\pds design\projects\2209 opua cycleway\dwgs\2209_rc_05.dwg

VISUALISATION - TRAIL AT GRADE (L)
NTS



TYPICAL CROSS SECTION - TRAIL AT GRADE (L)
SCALE 1:50 (A3), 1:25 (A1)

0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

GENERAL NOTES
1 - ALL QUANTITIES SUBJECT TO CONFIRMATION OF TRAIL WIDTH BY FNDC.
2 - ALL LENGTHS, VOLUMES AND AREAS APPROXIMATE ONLY, BASED ON PRELIMINARY DESIGN AND SUBJECT TO GEOTECHNICAL AND CIVIL DESIGN.
3 - ASSUMED WHERE NON HERITAGE AND HERITAGE CULVERTS INTERFACE THE ALIGNMENT THAT MINOR ABUTMENTS AND SHORT LENGTHS OF BOARDWALK WILL BE ADOPTED. THIS WILL AFFECT THE ABOVE VALUES.
4 - HANDRAILS FOR FALL PROTECTION (BELOW AND ABOVE CYCLEWAY) TO BE CONFIRMED. THIS MAY HAVE BEARING ON BUILDING CONSENT IF BUILDING CONSENT EXEMPTION IS NOT PROVIDED.
5 - SEPARATION FENCE BETWEEN CYCLEWAY AND RAIL WILL BE REQUIRED AND REMAINS SUBJECT TO CONFIRMATION AND REQUIRES SAFETY CASE APPROVAL BY BOIVRT, KIWIRAIL AND NZTA REGULATORS. GRADE SEPARATION MAY REDUCE ACTUAL LENGTHS.
6 - ECOLOGICAL AREAS AFFECTED BY WORKS HAVE ALLOWED 1.0M ZONE OUTSIDE THE ACTUAL WORKS.
7 - DO NOT SCALE DRAWING.
8 - NOMINAL SCALE IS SHOWN FOR A3 SIZE UNLESS SHOWN OTHERWISE.
9 - COORDINATES IN TERMS OF NZTM GEODETIC 2000 DATUM.
10 - LEVELS IN TERMS OF MEAN SEA LEVEL ONE TREE POINT DATUM.
11 - AERIAL PHOTOGRAPHY AND LAND PARCEL INFORMATION SOURCED FROM LAND INFORMATION NZ (LINZ) UNLESS STATED OTHERWISE.

AMENDMENT	APPRD	DATE
1 ISSUED TO FNDC FOR RESOURCE CONSENT		21.5.24

	BY	CHECKED	DATE
DESIGN	SG/BWP		5.24
DRAWN	BWP		5.24
SURVEYED	NRC LIDAR		2018
APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

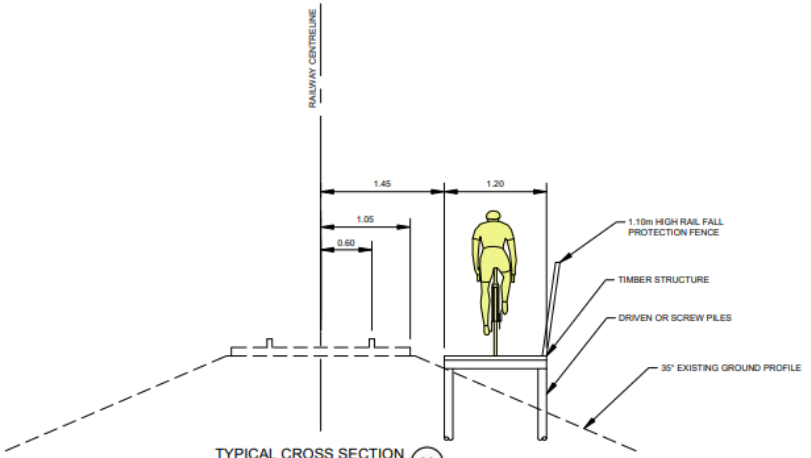
TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION 'L' & VISUALISATION

STATUS	LOCAL AUTHORITY REF:			
RESOURCE CONSENT				
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	20	1

c:\users\jmeller\onedrive\documents\pds design\projects\2209 opua cycleway\dwgs\2209_rc_08.dwg

VISUALISATION - CONTINUATION LONG BRIDGE WALKWAY (M)
NTS



TYPICAL CROSS SECTION - CONTINUATION LONG BRIDGE WALKWAY (M)
SCALE 1:50 (A3), 1:25 (A1)

RESOURCE CONSENT

GENERAL NOTES
1- ALL QUANTITIES SUBJECT TO CONFIRMATION OF TRAIL WIDTH BY FNDC.
2- ALL LENGTHS, VOLUMES AND AREAS APPROXIMATE ONLY, BASED ON PRELIMINARY DESIGN AND SUBJECT TO GEOTECHNICAL AND CIVIL DESIGN.
3- ASSUMED WHERE NON HERITAGE AND HERITAGE CULVERTS INTERFACE THE ALIGNMENT THAT MINOR ABUTMENTS AND SHORT LENGTHS OF BOARDWALK WILL BE ADOPTED. THIS WILL AFFECT THE ABOVE VALUES.
4- HANDRAILS FOR FALL PROTECTION (BELOW AND ABOVE CYCLEWAY) TO BE CONFIRMED. THIS MAY HAVE BEARING ON BUILDING CONSENT IF BUILDING CONSENT EXEMPTION IS NOT PROVIDED.
5- SEPARATION FENCE BETWEEN CYCLEWAY AND RAIL WILL BE REQUIRED AND REMAINS SUBJECT TO CONFIRMATION AND REQUIRES SAFETY CASE APPROVAL BY BOVRT, KIWIRAIL AND NZTA REGULATORS. GRADE SEPARATION MAY REDUCE ACTUAL LENGTHS.
6- ECOLOGICAL AREAS AFFECTED BY WORKS HAVE ALLOWED 1.0M ZONE OUTSIDE THE ACTUAL WORKS.
7- DO NOT SCALE DRAWING.
8- NOMINAL SCALE IS SHOWN FOR A3 SIZE UNLESS SHOWN OTHERWISE.
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APPROVED			

JAS CIVIL Ltd

CLIENT: Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki

0 0.5 1.0 1.5 2.0 2.5m
SCALE 1:50 (A3), 1:25 (A1)

TITLE: KAWAKAWA TO OPUA CYCLE TRAIL CONSENT DRAWINGS

TYPICAL CROSS SECTION 'M' & VISUALISATION

STATUS	LOCAL AUTHORITY REF:				
RESOURCE CONSENT					
SCALE	PLOT DATE	JOB	SHEET	REVISION
SHOWN		2209-RC	21	1

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1.0 Introduction

The purpose of this memo is to outline the engagement process that has been followed in the preparation of this resource consent application. B&A was engaged by the Far North District Council (FNDC) in June 2023 to provide professional planning services to prepare the Assessment of Environmental Effects Report (AEE) and undertake consultation with hapū for the purposes of resource consent. This included preliminary planning advice, input in concept design, and carrying engagement with hapū during the course of resource consent preparation.

This memo does not focus on the details of the proposal or evaluate the actual or potential effects of the proposal on the natural and physical environment (including Māori cultural values); rather, it focusses on the key engagement steps taken during the pre-commencement and design phase of the proposal through to lodgement.

1.1 Background

Prior to B&A's engagement, the Hoskin Civil (on behalf of FNDC) and Pou Herenga Tai Twin Coast Cycle Trail Trust (Cycle Trail Trust) had initiated engagement with representatives of Ngāti Hine and Te Roroa hapū. This followed advice from the Cycle Trusts hapū representatives for the Kawakawa – Opua sections of the Cycle Trail. An outcome of this initial meeting was that hapū confirmed a Cultural Impact Assessment (CIA) would be required to assess the potential adverse effects of the proposal on Māori cultural values present in the area.

Initial advice from those Te Roroa and Ngāti Hine hapū was that engagement may also be required with other hapū. Following B&A's engagement, advice from FNDC's Te Hono – Māori Relationships was sought to provide further advice of the relevant hapū for this rohe (area). As such, the following hapū were identified as the relevant tangata whenua groups to initiate engagement with:

- Te Roroa;
- Ngāti Hine;
- Ngāti Manu; and
- Te Kapotai.

With respect to Te Kapotai hapū, a number of attempts were made to initiate engagement by email and phone. These attempts were unsuccessful; however, we were verbally advised by Ngāti Hine that discussions had by them and they were comfortable to allow engagement with the other hapū to continue. Refer to **Attachment 1** for a record of email correspondence.

2.0 Engagement Approach

The following section outlines the key engagement steps undertaken with Te Roroa, Ngāti Hine and Ngāti Manu hapū representatives.

2.1 Te Roroa

As outlined above, engagement with Te Roroa began in early 2023 and was initiated by Hoskin Civil and the Cycle Trail Trust on behalf of FNDC. Initially, engagement was undertaken with Tony Williams as the hapū representative on the Cycle Trail Trust. Polly Tana was then formally engaged as the Kaitiaki representative for Te Roroa. Since this time, engagement with Te Roroa has been iterative and ongoing. The key steps of engagement with Te Roroa are summarised below in **Table 1**.

Table 1: Key Steps of Engagement - Te Roroa

Engagement Step / Date	Description / Feedback	Response / Comment
Preliminary Design Phase – June 2023	Meeting with Te Roroa (Polly Tana) to provide an overview of concept design, scope of proposal and outcomes of draft CIA. Next steps: • In principle, Te Roroa does not oppose the proposal and supports the development of the cycle trail; • Ongoing engagement required to provide project updates and enable the continued input via their CIA; • Preliminary recommendations that kaitiaki monitoring would be required; • Needs to minimise impact on rongoa species, freshwater and marine environment.	• Commitment to continue engagement, including sharing of information as it is prepared; • Commitment to continue communication and consider changes as required to address potential adverse effects Māori cultural values, and the natural environment. • Ecologist engaged to assess ecological values and provide design input to minimise potential adverse effects on high/significant value flora, fauna and habitats.
Preliminary Design Phase – July 2023	Meeting with Te Roroa (Polly Tana) to discuss draft CIA, overarching tangata whenua engagement approach, detailed overview of concept plans, and agree next steps.	• Provide draft Ecological Values Report and updated set of plans.
Preliminary Design Phase – March 2024	• Meeting with Te Roroa (Polly Tana and Tony Williams) to provide an update on concept design and changes; • Te Roroa reiterates that they support the Cycle Trail proposal in principle subject to appropriate construction mitigation measures to manage potential adverse effects on rongoa species, freshwater and coastal marine habitats and species; • Ongoing engagement required; • Continue to prepare CIA; • Kaitiaki monitoring will be required.	• Noted and agreed to continue engagement through to delivery. Including, for kaitiaki monitoring. •

Pre-lodgement / Final Design – November 2024	• Meeting with Te Roroa (Polly Tana) to provide project update, confirm lodgement timeframes and finalisation of CIA. • Agreement that a joined up hapū engagement approach will be needed for the next phase, including to finalise an a culturally appropriate package of conditions to address Māori cultural matters. • Te Roroa continue to support the project in principle.	• Comprehensive Ecological Impacts Assessment Report, and include conditions as part of proposal; • Incorporate draft conditions to address cultural matters in RC package. • Continue to engage with Te Roroa, Ngati Hine, Ngati Manu to finalise an appropriate set of conditions and establish a kaitiaki forum with those groups to agree on involvement at the time of construction.

2.2 Ngāti Hine

Engagement with Ngāti Hine began in early 2023 and was initiated by Hoskin Civil and the Cycle Trail Trust on behalf of FNDC. Engagement was initiated directly with Pita Tipene, Chair of Ngāti Hine. Following B&A's engagement a further meeting was held to provide an overview of the resource consent strategy and approach, with a process for engagement agreed in the early stages of pre-commencement and the design phase.

Engagement with Ngāti Hine has been iterative and ongoing; the key steps of engagement are summarised below in Table 2.

Table 2: Key Steps of Engagement – Ngāti Hine

Engagement Step / Date	Description / Feedback	Response / Comment
Pre-commencement Phase – February 2024.	The purpose of this meeting was to provide Ngāti Hine (Pita Tipene) an overview of the project and agree the process for engagement moving forward. A copy of the presentation to Ngāti Hine is provided as Attachment 2. During this meeting, it was confirmed a CIA would be required noting that there was broad support for the project subject to appropriate environmental management, ongoing engagement with hapū and avoidance of adverse effects of Māori cultural values.	• Commitment to continue engagement, including sharing of information as it is prepared; • Commitment to continue communication and consider changes as required to address potential adverse effects Māori cultural values,

		and the natural environment. • Agreement to CIA for project.
Preliminary Design / CIA – July 2024	Ngāti Hine confirmed scope of CIA, and Jaycee Tipene-Thomas was commissioned to prepare a CIA on behalf of Nga Tangariki o Ngāti Hine.	• B&A provided plans, ecological assessment, construction methodology report.
AEE Preparation / Draft CIA – November 2024	• Meeting with Jaycee to discuss pre-liminary findings of CIA and confirm next steps for ongoing engagement that will form the basis for kaitiaki monitoring. • The findings of the CIA conclude that in some instances (sites of significance to Ngāti Hine and mahinga kai) adverse effects of the proposal on Māori cultural values would be minor or more. The project team clarified if these conclusions took into account implementation of the recommendations or not. As set out in the notes also enclosed as **Attachment 2**, these findings do not take into account implementation of their recommendations. • Next steps of engagement and kaitiaki monitoring was discussed during this meeting, as all hapū have recommended that this be a requirement to during construction as an appropriate means of mitigation to manage potential adverse effects on Māori cultural. B&A raised whether a 'joined up' approach would be acceptable. There was agreement that a hapū hui would be required to agree the next steps, but in general this was considered a rationale next step.	• Further discussions required will all hapū to agree on this engagement approach. • With respect to the 'minor or more adverse cultural effects conclusions', the AEE sets out a suite of construction and ecological conditions that are proposed to manage potential adverse effects of earthworks, vegetation clearance, erosion and sediment control measures and habitat translocation. With respect to managing effects on Māori cultural values, including waahi tapu and mahinga kai, A suite of cultural conditions have also been proposed.

2.3 Ngāti Manu

Engagement with Ngāti Manu was initiated in June 2024. This resulted in the preparation of CIA prepared by Peter Van Kampen. A summary of the key steps of engagement are summarised in **Table 3** below.

Table 3: Key Steps of Engagement – Ngāti Manu

Engagement Step / Date	Description / Feedback	Response / Comment
Pre-lodgement – June 2024.	A hui was held at Karetu Marae, with representatives of the hapū present. This meeting was also attended by representatives of the Cycle Trail, including their Ngāti Manu hapū representative. Copies of the notes presentation and notes are provided as Attachment 3. The key issues arising at this hui were: • Ngāti Manu have sites of cultural significance, including waahi tapū along the Kawakawa River. • While Ngāti Manu do not oppose the Cycle Trail in of itself, the hapū has a starting position that they 'oppose all resource consents' within their rohe as a starting point. As set out in the minutes, this proposal had to be discussed at a hapū meeting where a decision would be made on whether further engagement would progress, and / or whether they would amend this position.	• Following Ngāti Manu's hapū who; it was advised that they would like to prepare a CIA for the proposal.
Draft CIA – October 2024	• Once the Draft CIA was received, a follow up meeting was held with representatives of Ngāti Manu and Peter Van Kampen. The purpose of this was to under the findings and recommendations of the CIA, and agree on the next stages of engagement. • The collective hapū approach was discussed, where they advised that they are open to this approach. However, it was a advised that Ngāti Manu would have initial discussions with the other hapū first without our involvement.	• B&A provided plans, ecological assessment, construction methodology report.
AEE Preparation / Draft CIA – November 2024	• Meeting with Jaycee to discuss pre-liminary findings of CIA and confirm next steps for ongoing engagement that will form the basis for kaitiaki monitoring. • Next steps of engagement and kaitiaki monitoring was discussed during this meeting, as all hapū have recommended that this be a requirement to during construction as an appropriate means of mitigation to manage potential adverse effects on Māori cultural. B&A raised whether a 'joined up'	• Further discussions required will all hapū to agree on this engagement approach.

	approach would be acceptable. There was agreement that a hapū hui would be required to agree the next steps, but in general this was considered a rationale next step.	
Pre-lodgement / Final Design – December 2024	• Receipt of Final CIA.	• Update AEE to reflect CIA and incorporate a suite of conditions as part of the propose. • Continue to engage with Te Roroa, Ngati Hine, Ngati Manu to finalise an appropriate set of conditions and establish a kaitiaki forum with those groups to agree on involvement at the time of construction.

3.0 Conclusions

Te Roroa, Ngāti Manu and Ngāti Hine provided CIA reports. In all instances, none of the hapū have expressed opposition to the Cycle Trail. While all hapū consider that there are important waahi tapu adjacent to the proposal these are generally outside of the application site. All hapū sought that best practice construction management (including spill management) and erosion and sediment control measures be incorporated to adequately manage potential effects on water quality and ecological values (flora and fauna). In terms of ecological values, the concept design of the cycle trail has evolved as more detailed assessment has occurred. Key design changes include reducing the trail width, proposing mountain bike trails, and proposing more boardwalk structures to avoid reclamation of the CMA and natural inland wetlands.

In summary, a suite of environmental and cultural conditions is proposed to manage the actual and potential adverse effects arising from the proposal. Notwithstanding the conditions put forward, a 'new' phase of engagement will be required to inform construction phases and the design of kaitiaki conditions.

New Zealand Coastal Policy Statement 2010

New Zealand Coastal Policy Statement		Comment
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 proposal has been supported by a detailed, integrated, and appropriately scaled assessments of effects on indigenous biodiversity by NZ Environmental Management that recognise the dynamic, complex, and interrelated nature of the environment in this locality. The various assessments have concluded that the overall effects on ecological values, and on the diversity of indigenous coastal flora and fauna, will be low subject to the implementation of mitigation measures. Overall, the proposal is considered to align with Objective 1. Policy 11 contains more specific direction to avoid adverse effects on endangered and threatened indigenous flora and fauna, and significant effects on other indigenous biodiversity and related habitat. No threatened plant species were recorded in the project footprint. A number of threatened bird species may be present in the project area and as such works are proposed outside of breading seasons to avoid significant adverse effects on these species. The various ecological assessments have concluded that all other effects in respect to these matters are also low subject to the implementation of mitigation measures. Accordingly, the proposal aligns with Policy 11.
Policy 11 Indigenous biological diversity (biodiversity)	To protect indigenous biological diversity in the coastal environment: a. avoid adverse effects of activities on: i. indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists; ii. taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened; iii. indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare; iv. habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare; v. areas containing nationally significant examples of indigenous community types; and vi. areas set aside for full or partial protection of indigenous biological diversity under other legislation; and	

New Zealand Coastal Policy Statement		Comment
	b. avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on: i. areas of predominantly indigenous vegetation in the coastal environment; ii. habitats in the coastal environment that are important during the vulnerable life stages of indigenous species; iii. indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh; iv. habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes; v. habitats, including areas and routes, important to migratory species; and vi. ecological corridors, and areas important for linking or maintaining biological values identified under this policy.	
Objective 2	To preserve the natural character of the coastal environment and protect natural features and landscape values through: • recognising the characteristics and qualities that contribute to natural character, • natural features and landscape values and their location and distribution; • identifying those areas where various forms of subdivision, use, and development would be inappropriate and protecting them from such activities; and encouraging restoration of the coastal environment.	Objective 2 seeks the preservation of the natural character of the coastal environment, and the protection of natural features and landscapes. The application site is identified as having areas of High and Outstanding Natural Character. The assessment of effects on character values contained within the AEE recognises the characteristics and qualities that contribute to the natural character of the environment along the application site.

New Zealand Coastal Policy Statement		Comment
Policy 1 Extent and characteristics of the coastal environment	1. Recognise that the extent and characteristics of the coastal environment vary from region to region and locality to locality; and the issues that arise may have different effects in different localities. 2. Recognise that the coastal environment includes: (a) the coastal marine area; (b) islands within the coastal marine area; (c) areas where coastal processes, influences or qualities are significant, including coastal lakes, lagoons, tidal estuaries, saltmarshes, coastal wetlands, and the margins of these; (d) areas at risk from coastal hazards; (e) coastal vegetation and the habitat of indigenous coastal species including migratory birds; (f) elements and features that contribute to the natural character, landscape, visual qualities or amenity values; (g) items of cultural and historic heritage in the coastal marine area or on the coast; (h) inter-related coastal marine and terrestrial systems, including the intertidal zone; and (i) physical resources and built facilities, including infrastructure, that have modified the coastal environment.	The proposal is located in a highly modified coastal environment. The proposed works are considered in keeping with the existing character of the coastline in this locality and the adverse effects on character are assessed as being less than minor. Overall, it is concluded that the proposal is acceptable in terms of natural character terms, in alignment with Objective 2 and Policies 1, 13 & 15. Further, the proposal seeks to restore and rehabilitate the natural character of the coastal environment through extensive revegetation and enhancement of coastal wetlands. The restoration works are proposed to be undertaken in accordance with a Wetland Reinstatement and Monitoring Plan to be prepared and approved by council. Upon completion it is considered that the proposal will be consistent with the intentions of Policy 14.
Policy 13	1. To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development: a. avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and b. avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment; including by:	

New Zealand Coastal Policy Statement		Comment
	c. assessing the natural character of the coastal environment of the region or district, by mapping or otherwise identifying at least areas of high natural character; and d. ensuring that regional policy statements, and plans, identify areas where preserving natural character requires objectives, policies and rules, and include those provisions. 2. Recognise that natural character is not the same as natural features and landscapes or amenity values and may include matters such as: a. natural elements, processes and patterns; b. biophysical, ecological, geological and geomorphological aspects; c. natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks; d. the natural movement of water and sediment; e. the natural darkness of the night sky; f. places or areas that are wild or scenic; g. a range of natural character from pristine to modified; and h. experiential attributes, including the sounds and smell of the sea; and their context or setting.	
Policy 14	Promote restoration or rehabilitation of the natural character of the coastal environment, including by : (a) identifying areas and opportunities for restoration or rehabilitation; (b) providing policies, rules and other methods directed at restoration or rehabilitation in regional policy statements, and plans; (c) where practicable, imposing or reviewing restoration or rehabilitation conditions on resource consents and designations, including for the continuation of activities; and recognising that where degraded areas of the coastal environment require restoration or rehabilitation, possible approaches include:	

New Zealand Coastal Policy Statement		Comment
	(i) restoring indigenous habitats and ecosystems, using local genetic stock where practicable; or (ii) encouraging natural regeneration of indigenous species, recognising the need for effective weed and animal pest management; or (iii) creating or enhancing habitat for indigenous species; or (iv) rehabilitating dunes and other natural coastal features or processes, including saline wetlands and intertidal saltmarsh; or (v) restoring and protecting riparian and intertidal margins; or (vi) reducing or eliminating discharges of contaminants; or (vii) removing redundant structures and materials that have been assessed to have minimal heritage or amenity values and when the removal is authorised by required permits, including an archaeological authority under the Historic Places Act 1993; or (viii) restoring cultural landscape features; or (ix) redesign of structures that interfere with ecosystem processes; or (x) decommissioning or restoring historic landfill and other contaminated sites which are, or have the potential to, leach material into the coastal marine area	
Policy 15	To protect the natural features and natural landscapes (including seascapes) of the coastal environment from inappropriate subdivision, use, and development: (a) avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment; and (b) avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment; including by: (c) identifying and assessing the natural features and natural landscapes of the coastal environment of the region or district, at minimum by land typing, soil characterisation and landscape characterisation and having regard to:	

New Zealand Coastal Policy Statement		Comment
	(i) natural science factors, including geological, topographical, ecological and dynamic components; (ii) the presence of water including in seas, lakes, rivers and streams; (iii) legibility or expressiveness—how obviously the feature or landscape demonstrates its formative processes; (iv) aesthetic values including memorability and naturalness; (v) vegetation (native and exotic); (vi) transient values, including presence of wildlife or other values at certain times of the day or year; (vii) whether the values are shared and recognised; (viii) cultural and spiritual values for tangata whenua, identified by working, as far as practicable, in accordance with tikanga Māori; including their expression as cultural landscapes and features; (ix) historical and heritage associations; and (x) wild or scenic values; (d) ensuring that regional policy statements, and plans, map or otherwise identify areas where the protection of natural features and natural landscapes requires objectives, policies and rules; and including the objectives, policies and rules required by (d) in plans.	
Objective 3	To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment by: • recognising the ongoing and enduring relationship of tangata whenua over their lands, rohe and resources; • promoting meaningful relationships and interactions between tangata whenua and persons exercising functions and powers under the Act;	Objective 3 of the NZCP seeks to take account of the principles of the Treaty of Waitangi by recognising tangata whenua as kaitiaki through the management of the coastal environment. The objective recognises that tangata whenua have an ongoing and enduring relationship with their lands, rohe and resources and by promoting meaningful relationships. Further the

New Zealand Coastal Policy Statement		Comment
	• incorporating mātauranga Māori into sustainable management practices; and recognising and protecting characteristics of the coastal environment that are of special value to tangata whenua.	objective provides for the incorporation of mātauranga Māori into sustainable management practices and the protection of the coastal environment where there are special tangata whenua values. The role of tangata whenua has been recognised through meaningful and ongoing engagement with mana whenua. Cultural values and cultural effects assessments have been prepared in respect of the application in order to identify those characteristics that are of special value, and how they may be affected by the proposal. Understanding the relationship of tangata whenua over their lands, rohe and resources and the related effects of the proposal on this relationship continues to be a key focus for the Applicant as it continues its proactive engagement through to, and post, lodgement. It is considered that the objectives of the proposal align with and achieves expected outcomes of Objective 3 of the NZCPS.
Policy 2 The Treaty of Waitangi, tangata whenua and Māori heritage	In taking account of the principles of the Treaty of Waitangi (Te Tiriti o Waitangi), and kaitiakitanga, in relation to the coastal environment: (e) recognise that tangata whenua have traditional and continuing cultural relationships with areas of the coastal environment, including places where they have lived and fished for generations; (f) involve iwi authorities or hapū on behalf of tangata whenua in the preparation of regional policy statements, and plans, by undertaking effective consultation with tangata whenua; with such consultation to be early, meaningful, and as far as practicable in accordance with tikanga Māori; (g) with the consent of tangata whenua and as far as practicable in accordance with tikanga Māori, incorporate mātauranga Māori regional policy statements, in plans, and in the consideration of applications for resource consents, notices of requirement for designation and private plan changes; (h) provide opportunities in appropriate circumstances for Māori involvement in decision making, for example when a consent application or notice of requirement is dealing with cultural localities or issues of cultural significance, and Māori experts, including pūkenga, may have knowledge not otherwise available; (i) take into account any relevant iwi resource management plan and any other relevant planning document recognised by the appropriate iwi authority or hapū and lodged with the council, to the extent that its content has a bearing on resource management issues in the region or district; and	

New Zealand Coastal Policy Statement		Comment
	(i) where appropriate incorporate references to, or material from, iwi resource management plans in regional policy statements and in plans; and (ii) consider providing practical assistance to iwi or hapū who have indicated a wish to develop iwi resource management plans; (j) provide for opportunities for tangata whenua to exercise kaitiakitanga over waters, forests, lands, and fisheries in the coastal environment through such measures as: (i) bringing cultural understanding to monitoring of natural resources; (ii) providing appropriate methods for the management, maintenance and protection of the taonga of tangata whenua; (iii) having regard to regulations, rules or bylaws relating to ensuring sustainability of fisheries resources such as taiāpure, mahinga mātaitai or other non commercial Māori customary fishing; and (k) in consultation and collaboration with tangata whenua, working as far as practicable in accordance with tikanga Māori, and recognising that tangata whenua have the right to choose not to identify places or values of historic, cultural or spiritual significance or special value: (i) recognise the importance of Māori cultural and heritage values through such methods as historic heritage, landscape and cultural impact assessments; and (ii) provide for the identification, assessment, protection and management of areas or sites of significance or special value to Māori, including by historic analysis and archaeological survey and the development of methods such as alert layers and predictive methodologies for identifying areas of high potential for undiscovered Māori heritage, for example coastal pā or fishing villages.	

New Zealand Coastal Policy Statement		Comment
Objective 4	To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by: • recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy; • maintaining and enhancing public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not practicable providing alternative linking access close to the coastal marine area; and • recognising the potential for coastal processes, including those likely to be affected by climate change, to restrict access to the coastal environment and the need to ensure that public access is maintained even when the coastal marine area advances inland.	The proposed cycle trail aims to improve public access to the coastal environment through provision of a safe means of access for pedestrians and cyclist. Wi the proposed reinstatement of the adjacent railway and operation of this line, public access would be limited to those utilising the rail service. Public safety effects are too great to enable public access alongside the existing railway without the construction of an additional dedicated and segregated cycleway. While the cycle way is primarily designed for cyclists it is also to be used by pedestrians and will improve the overall connectivity to the coastline in this location. The proposal responds to this objective and the supporting Policies 18 and 19 by providing and enhancing public access through to the application site.
Policy 18 Public open space	Recognise the need for public open space within and adjacent to the coastal marine area, for public use and appreciation including active and passive recreation, and provide for such public open space, including by: a. ensuring that the location and treatment of public open space is compatible with the natural character, natural features and landscapes, and amenity values of the coastal environment; b. taking account of future need for public open space within and adjacent to the coastal marine area, including in and close to cities, towns and other settlements; c. maintaining and enhancing walking access linkages between public open space areas in the coastal environment; d. considering the likely impact of coastal processes and climate change so as not to compromise the ability of future generations to have access to public open space; and e. recognising the important role that esplanade reserves and strips can have in contributing to meeting public open space needs.	

New Zealand Coastal Policy Statement		Comment
Policy 19 Walking access	1. Recognise the public expectation of and need for walking access to and along the coast that is practical, free of charge and safe for pedestrian use. 2. Maintain and enhance public walking access to, along and adjacent to the coastal marine area, including by: a. identifying how information on where the public have walking access will be made publicly available; b. avoiding, remedying or mitigating any loss of public walking access resulting from subdivision, use, or development; and c. identifying opportunities to enhance or restore public walking access, for example where: i. connections between existing public areas can be provided; or ii. improving access would promote outdoor recreation; or iii. physical access for people with disabilities is desirable; or iv. the long-term availability of public access is threatened by erosion or sea level rise; or v. access to areas or sites of historic or cultural significance is important; or vi. subdivision, use, or development of land adjacent to the coastal marine area has reduced public access, or has the potential to do so. 3. Only impose a restriction on public walking access to, along or adjacent to the coastal marine area where such a restriction is necessary: a. to protect threatened indigenous species; or b. to protect dunes, estuaries and other sensitive natural areas or habitats; or c. to protect sites and activities of cultural value to Māori; or d. to protect historic heritage; or	

New Zealand Coastal Policy Statement		Comment
	e. to protect public health or safety; or f. to avoid or reduce conflict between public uses of the coastal marine area and its margins; or g. for temporary activities or special events; or h. for defence purposes in accordance with the Defence Act 1990; or i. to ensure a level of security consistent with the purpose of a resource consent; or j. in other exceptional circumstances sufficient to justify the restriction. Before imposing any restriction under (3), consider and where practicable provide for alternative routes that are available to the public free of charge at all times.	
Objective 5	To ensure that coastal hazard risks taking account of climate change, are managed by: • locating new development away from areas prone to such risks; • considering responses, including managed retreat, for existing development in this situation; and • protecting or restoring natural defences to coastal hazards.	Objective 5 and Policies 24-27 seek to manage the risks of natural hazards, taking account of climate change. All of the boardwalk structures are mapped by NRC as being subject to coastal flood hazards, these areas correspond with low lying areas near the coast and shorelines. Policy 25 encourages (but does direct) the location of infrastructure away from areas of hazard risk where practicable. However, while the structures may at times be susceptible to coastal inundation in the future, the structures themselves are considered to be structurally resilient to the natural hazard risk. Furth the proposed structures are not considered to exacerbate the natural hazard risk to any other persons, property or land in the wider environment and as such it is considered that the proposed use I this location is appropriate and accords with the Objective 5 and Policies 24-27.
Policy 24 Identification of coastal hazards	1. Identify areas in the coastal environment that are potentially affected by coastal hazards (including tsunami), giving priority to the identification of areas at high risk of being affected. Hazard risks, over at least 100 years, are to be assessed having regard to: a. physical drivers and processes that cause coastal change including sea level rise; b. short-term and long-term natural dynamic fluctuations of erosion and accretion; c. geomorphological character;	

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	d. the potential for inundation of the coastal environment, taking into account potential sources, inundation pathways and overland extent; e. cumulative effects of sea level rise, storm surge and wave height under storm conditions; f. influences that humans have had or are having on the coast; g. the extent and permanence of built development; and h. the effects of climate change on: i. matters (a) to (g) above; ii. storm frequency, intensity and surges; and iii. coastal sediment dynamics; taking into account national guidance and the best available information on the likely effects of climate change on the region or district.	
Policy 25 Subdivision, use and development in areas of coastal risk	In areas potentially affected by coastal hazards over at least the next 100 years: a. avoid increasing the risk of social, environmental and economic harm from coastal hazards; b. avoid redevelopment, or change in land use, that would increase the risk of adverse effects from coastal hazards; c. encourage redevelopment, or change in land use, where that would reduce the risk of adverse effects from coastal hazards, including managed retreat by relocation or	

New Zealand Coastal Policy Statement		Comment
	removal of existing structures or their abandonment in extreme circumstances, and designing for relocatability or recoverability from hazard events; d. encourage the location of infrastructure away from areas of hazard risk where practicable; e. discourage hard protection structures and promote the use of alternatives to them, including natural defences; and f. consider the potential effects of tsunami and how to avoid or mitigate them.	
Policy 26 Natural defences against natural hazards	1. Provide where appropriate for the protection, restoration or enhancement of natural defences that protect coastal land uses, or sites of significant biodiversity, cultural or historic heritage or geological value, from coastal hazards. 2. Recognise that such natural defences include beaches, estuaries, wetlands, intertidal areas, coastal vegetation, dunes and barrier islands.	
Policy 27 Strategies for protecting significant existing development from coastal hazard risk	1. In areas of significant existing development likely to be affected by coastal hazards, the range of options for reducing coastal hazard risk that should be assessed includes: a. promoting and identifying long-term sustainable risk reduction approaches including the relocation or removal of existing development or structures at risk; b. identifying the consequences of potential strategic options relative to the option of "do-nothing"; c. recognising that hard protection structures may be the only practical means to protect existing infrastructure of national or regional importance, to sustain the	

New Zealand Coastal Policy Statement		Comment
	potential of built physical resources to meet the reasonably foreseeable needs of future generations; d. recognising and considering the environmental and social costs of permitting hard protection structures to protect private property; and e. identifying and planning for transition mechanisms and timeframes for moving to more sustainable approaches. 2. In evaluating options under (1): a. focus on approaches to risk management that reduce the need for hard protection structures and similar engineering interventions; b. take into account the nature of the coastal hazard risk and how it might change over at least a 100-year timeframe, including the expected effects of climate change; and c. evaluate the likely costs and benefits of any proposed coastal hazard risk reduction options. 3. Where hard protection structures are considered to be necessary, ensure that the form and location of any structures are designed to minimise adverse effects on the coastal environment. 4. Hard protection structures, where considered necessary to protect private assets, should not be located on public land if there is no significant public or environmental benefit in doing so.	

New Zealand Coastal Policy Statement		Comment
Objective 6	To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that: • • the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits; • • some uses and developments which depend upon the use of natural and physical resources in the coastal environment are important to the social, economic and cultural wellbeing of people and communities; • • functionally some uses and developments can only be located on the coast or in the coastal marine area; • • the coastal environment contains renewable energy resources of significant value; • the protection of habitats of living marine resources contributes to the social, economic and cultural wellbeing of people and communities; • the potential to protect, use, and develop natural and physical resources in the coastal marine area should not be compromised by activities on land; • the proportion of the coastal marine area under any formal protection is small and therefore management under the Act is an important means by which the natural resources of the coastal marine area can be protected; and	The proposed cycle trail is considered to enable people and communities to provide for their social and cultural well being by providing informal recreation space along the coastline. The trail site is rich in ecological and cultural values and will enable this to be experienced by the community through provision of public access. The proposal is considered to align strongly with the policy direction of Policy 6.

New Zealand Coastal Policy Statement		Comment
	• historic heritage in the coastal environment is extensive but not fully known, and vulnerable to loss or damage from inappropriate subdivision, use, and development.	
Policy 6 Activities in the coastal environment	1. In relation to the coastal environment: a. recognise that the provision of infrastructure, the supply and transport of energy including the generation and transmission of electricity, and the extraction of minerals are activities important to the social, economic and cultural wellbeing of people and communities; b. consider the rate at which built development and the associated public infrastructure should be enabled to provide for the reasonably foreseeable needs of population growth without compromising the other values of the coastal environment; c. encourage the consolidation of existing coastal settlements and urban areas where this will contribute to the avoidance or mitigation of sprawling or sporadic patterns of settlement and urban growth; d. recognise tangata whenua needs for papakāinga3, marae and associated developments and make appropriate provision for them; e. consider where and how built development on land should be controlled so that it does not compromise activities of national or regional importance that have a functional need to locate and operate in the coastal marine area; f. consider where development that maintains the character of the existing built environment should be encouraged, and where development resulting in a change in character would be acceptable; g. take into account the potential of renewable resources in the coastal environment, such as energy from wind, waves, currents and tides, to meet the reasonably foreseeable needs of future generations; h. consider how adverse visual impacts of development can be avoided in areas sensitive to such effects, such as headlands and prominent ridgelines, and as far as practicable and reasonable apply controls or conditions to avoid those effects; i. set back development from the coastal marine area and other water bodies, where practicable	

New Zealand Coastal Policy Statement		Comment
	and reasonable, to protect the natural character, open space, public access and amenity values of the coastal environment; and j. where appropriate, buffer areas and sites of significant indigenous biological diversity, or historic heritage value. 2. Additionally, in relation to the coastal marine area: a. recognise potential contributions to the social, economic and cultural wellbeing of people and communities from use and development of the coastal marine area, including the potential for renewable marine energy to contribute to meeting the energy needs of future generations; b. recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area; c. recognise that there are activities that have a functional need to be located in the coastal marine area, and provide for those activities in appropriate places; d. recognise that activities that do not have a functional need for location in the coastal marine area generally should not be located there; and e. promote the efficient use of occupied space, including by: i. requiring that structures be made available for public or multiple use wherever reasonable and practicable; ii. requiring the removal of any abandoned or redundant structure that has no heritage, amenity or reuse value; and iii. considering whether consent conditions should be applied to ensure that space occupied for an activity is used for that purpose effectively and without unreasonable delay	
Objective 7	To ensure that management of the coastal environment recognises and provides for New Zealand's international obligations regarding the coastal environment, including the coastal marine area.	The proposed cycle trail does not compromise any of New Zealand's international obligations in respect to the coastal environment.
Policy 3 Precautionary approach	1. Adopt a precautionary approach towards proposed activities whose effects on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse.	The effects of the proposal are well understood, and conditions of consent will manage those effects appropriately.

New Zealand Coastal Policy Statement		Comment
	2. In particular, adopt a precautionary approach to use and management of coastal resources potentially vulnerable to effects from climate change, so that: a. avoidable social and economic loss and harm to communities does not occur; b. natural adjustments for coastal processes, natural defences, ecosystems, habitat and species are allowed to occur; and c. the natural character, public access, amenity and other values of the coastal environment meet the needs of future generations.	
Policy 4	Provide for the integrated management of natural and physical resources in the coastal environment, and activities that affect the coastal environment. This requires: a. co-ordinated management or control of activities within the coastal environment, and which could cross administrative boundaries, particularly: i. the local authority boundary between the coastal marine area and land; ii. local authority boundaries within the coastal environment, both within the coastal marine area and on land; and iii. where hapū or iwi boundaries or rohe cross local authority boundaries; b. working collaboratively with other bodies and agencies with responsibilities and functions relevant to resource management, such as where land or waters are held or managed for conservation purposes; and c. particular consideration of situations where:	The application involves activities and effects that fall within the respective jurisdictions of the FNDC and the NRC including works which occur above and below MHWS. In this instance it is considered appropriate for the respective consents to be processed separately as the proposed works in each location are able to be easily distinguished. Regarding hapu or iwi interests, a collaborative approach to consulting with the various parties is being pursued, consistent with this policy. This is reflected by the consultation record and by the ongoing meaningful engagement programme which will continue post-lodgement.

New Zealand Coastal Policy Statement		Comment
	i. subdivision, use, or development and its effects above or below the line of mean high water springs will require, or is likely to result in, associated use or development that crosses the line of mean high water springs; or ii. public use and enjoyment of public space in the coastal environment is affected, or is likely to be affected; or iii. development or land management practices may be affected by physical changes to the coastal environment or potential inundation from coastal hazards, including as a result of climate change; or iv. land use activities affect, or are likely to affect, water quality in the coastal environment and marine ecosystems through increasing sedimentation; or v. significant adverse cumulative effects are occurring, or can be anticipated.	
Policy 17 Historic heritage identification and protection	Protect historic heritage in the coastal environment from inappropriate subdivision, use, and development by: (a) identification, assessment and recording of historic heritage, including archaeological sites; (b) providing for the integrated management of such sites in collaboration with relevant councils, heritage agencies, iwi authorities and kaitiaki; (c) initiating assessment and management of historic heritage in the context of historic landscapes; (d) recognising that heritage to be protected may need conservation; (e) facilitating and integrating management of historic heritage that spans the line of mean high water springs;	Geometria were engaged to prepare an Archaeological Assessment to support the proposal. Geometria's Archaeological Assessment identifies and assesses the value of the known and recorded archaeological features within the application site. Geometria acknowledge that there is potential for additional archaeological features to be found within the site. Geometria further acknowledge that in preparing their Archaeological Assessment they did not engage with Mana Whenua. In response to this, Geometria have identified a number of archaeological authorities which will be required prior to commencement of works and recommended that a comprehensive archaeological and historic heritage

New Zealand Coastal Policy Statement		Comment
	(f) including policies, rules and other methods relating to (a) to (e) above in regional policy statements, and plans; (g) imposing or reviewing conditions on resource consents and designations, including for the continuation of activities; (h) requiring, where practicable, conservation conditions; and considering provision for methods that would enhance owners' opportunities for conservation of listed heritage structures, such as relief grants or rates relief.	management plan is prepared and adhered to throughout the duration of works and includes and education element to support the public use of the trail. With respect to Mana Whenua, the Applicant has and continues to engage with Mana Whenua and seeks to adhere to accidental discovery protocols and engage kaitiaki for cultural monitoring or works. It is considered that the proposal appropriately identifies and assesses potential adverse effects, and includes appropriate methods to ensure works are carried out in accordance with the recommendations of Geometria. On this basis, it is considered that the proposed cycle trail is appropriate and accords with the directions of Policy 17 of the NZCPS.

National Policy Statement for Indigenous Biodiversity 2023

National Policy Statement – Indigenous Biodiversity		Comment
(1) The objective of this National Policy Statement is: (a) to maintain indigenous biodiversity across Aotearoa New Zealand so that there is at least no overall loss in indigenous biodiversity after the commencement date; and (b) to achieve this: (i) through recognising the mana of tangata whenua as kaitiaki of indigenous biodiversity; and (ii) by recognising people and communities, including landowners, as stewards of indigenous biodiversity; and (iii) by protecting and restoring indigenous biodiversity as necessary to achieve the overall maintenance of indigenous biodiversity; and (iv) while providing for the social, economic, and cultural wellbeing of people and communities now and in the future.		
Policy 1	Indigenous biodiversity is managed in a way that gives effect to the decision making principles and takes into account the principles of the Treaty of Waitangi.	Policies 1 & 2 of the NPS-IB seek to take account of the principles of the Treaty of Waitangi by recognising tangata whenua as kaitiaki through the management of the indigenous biodiversity. The Policies recognises that tangata whenua have an ongoing and enduring relationship with their lands, rohe and resources and by promoting meaningful relationships. The role of tangata whenua has been recognised through meaningful and ongoing engagement with mana whenua. Cultural impact assessments have been prepared in respect of the application in order to identify those indigenous species, populations and ecosystems
Policy 2	Tangata whenua exercise kaitiakitanga for indigenous biodiversity in their rohe, including through: (a) managing indigenous biodiversity on their land; and (b) identifying and protecting indigenous species, populations and ecosystems that are taonga; and (c) actively participating in other decision-making about indigenous biodiversity.	

National Policy Statement – Indigenous Biodiversity		Comment
		that are taonga, and how they may be affected by the proposal. Understanding the relationship of tangata whenua over their lands, rohe and resources and the related effects of the proposal on this relationship continues to be a key focus for the Applicant as it continues its proactive engagement through to, and post, lodgement. In particular through this engagement mana whenua have requested cultural monitoring is undertaken during works including vegetation clearance to ensure that adverse cultural effects can be appropriately managed throughout the process. It is considered that the objectives of the proposal align with and achieves expected outcomes of Policies 1& 2 of the NPS-IB.
Policy 3	A precautionary approach is adopted when considering adverse effects on indigenous biodiversity.	The effects of the proposal are well understood, and conditions of consent will manage those effects appropriately.
Policy 4	Indigenous biodiversity is managed to promote resilience to the effects of climate change.	Many ecosystems throughout the site remain relatively intact and where works are proposed, will be restored and enhanced to ensure their ongoing resilience. The edges of these ecosystems, vegetation and the habitats they provide, have the greatest potential to be affected and as such careful ongoing management is proposed beyond completion of the restoration works to ensure edges are reestablished to be resilient to changing climatic conditions. Further wetland planting will be designed to ensure restoration plant species are resilient to changing conditions and in particular an increase in

National Policy Statement – Indigenous Biodiversity		Comment
		salinity of these environments with sea level rise and coastal inundation. Overall the proposal is considered to accord with Policy 4.
Policy 5	Indigenous biodiversity is managed in an integrated way, within and across administrative boundaries.	A comprehensive ecological effects management plan and an ecological restoration plan is proposed across the entire subject site, including across administrative boundaries from FNDC and NRC ensuring that the management of effects is well integrated in accordance with Policy 5.
Policy 6	Significant indigenous vegetation and significant habitats of indigenous fauna are identified as SNAs using a consistent approach.	There are no areas within the site specifically identified as SNAs although at the time of commencement of the NPS-IB there are a number of areas identified in the Regional Plan for Northland as areas of significant indigenous vegetation or significant habitat of indigenous fauna which are to be treated as SNAs (unless determined otherwise). Of note these include significant bird areas and areas of critical bird habitat and together cover all coastal waters adjoining the application site. Significant adverse effects on biodiversity in these areas are largely avoided through careful planning of seasonal times for works to take place which are outside of breading and nesting seasons for species which these environments provide habitat for. Where effects are not avoided such as the areas of vegetation clearance, appropriate management measures will be implemented including pre works surveys and checks for fauna species and avoidance or temporary relocation of these where found. A comprehensive ecological effects management plan and an ecological restoration plan is proposed across the entire subject site to ensure that
Policy 7	SNAs are protected by avoiding or managing adverse effects from new subdivision, use and development.	
Policy 8	The importance of maintaining indigenous biodiversity outside SNAs is recognised and provided for.	
Policy 15	Areas outside SNAs that support specified highly mobile fauna are identified and managed to maintain their populations across their natural range, and information and awareness of highly mobile fauna is improved.	

National Policy Statement – Indigenous Biodiversity		Comment
		any loss in flora biodiversity and the habitat it provides is temporary in nature. To support Policy 7, Clause 3.10(2) requires any new subdivision, use, or development to avoid adverse effects on an SNA. As the proposal is for regional significant infrastructure, the proposal is exclude from this clause and instead effects are to be managed by applying the effects management hierarchy. The ecological assessment from NZ Environmental Management has clearly demonstrated how the effects management hierarchy has been applied and concludes that adverse effects on indigenous biodiversity across the application site are proposed to be managed in such a way that all adverse effects can be managed to a low level and in the cases of wetland ecosystems have potential to result in positive effects overall. The proposal is considered to accord with Polices 6, 7, 8 & 15.
Policy 10	Activities that contribute to New Zealand's social, economic, cultural, and environmental wellbeing are recognised and provided for as set out in this National Policy Statement.	The proposed cycle trail is considered to enable people and communities to provide for their social and cultural wellbeing by providing informal recreation space along the natural coastline. The trail site is rich in ecological and cultural values and will enable this to be experienced by the community through provision of public access. The proposal is considered to align with Policy 10.
Policy 13	Restoration of indigenous biodiversity is promoted and provided for.	A comprehensive restoration planting plan is proposed as pert of the mitigation package of this proposal. Upon completion of works the proposal will result in approximately 7,000m^2 of wetland restoration in
Policy 14	Increased indigenous vegetation cover is promoted in both urban and nonurban environments.	

National Policy Statement – Indigenous Biodiversity		Comment
		addition to revegetation of works areas throughout the site. The proposal is considered to adequately provide for positive restoration opportunities.

National Policy Statement for Freshwater Management 2020

National Policy Statement – Freshwater Management		Comment
(1) The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises: (a) first, the health and well-being of water bodies and freshwater ecosystems (b) second, the health needs of people (such as drinking water) (c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.		
Policy 1	Freshwater is managed in a way that gives effect to Te Mana o te Wai.	Te Mana o te Wai is a concept that recognizes the importance of water and the need to protect the health of freshwater ecosystems and the communities that depend on them. The Applicant has values the importance of this concept and has ensured that the health of freshwater ecosystems has remained a priority throughout the development of this proposal and will continue to be a key focus throughout the implementation and ongoing management of this project. The project has responded to sensitive freshwater environments through avoidance of wetlands where practical and careful selection of trail treatments to minimise effects on the health of these systems. Best practice erosion and sediment controls will also be implemented to ensure that the health of the surrounding waterways will be protected during works. The proposal is considered to give effect to Te Mana o te Wai.

National Policy Statement – Freshwater Management		Comment
Policy 2	Tangata whenua are actively involved in freshwater management (including decision making processes), and Māori freshwater values are identified and provided for.	Policy 2 of the NPS-FM recognises tangata whenua as kaitiaki through the management of freshwater. The role of tangata whenua has been recognised through meaningful and ongoing engagement with mana whenua. Cultural impact assessments have been prepared in respect of the application in order to identify those areas and ecosystems that are taonga, and how they may be affected by the proposal. Understanding the relationship of tangata whenua over their lands, rohe and resources and the related effects of the proposal on this relationship continues to be a key focus for the Applicant as it continues its proactive engagement through to, and post, lodgement. In particular through this engagement mana whenua have requested cultural monitoring is undertaken during works including wetland works to ensure that adverse cultural effects on water can be appropriately managed throughout the process. It is considered that the objectives of the proposal align with and achieves expected outcomes of Policy 2 of the NPS-FW.
Policy 3	Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.	The comprehensive ecological assessment by NZ Environmental Management has considered assessments at the catchment, regional, ecological district and national scales to inform the conclusions drawn.

National Policy Statement – Freshwater Management		Comment
		It is considered that the proposal has considered the whole-of-catchment environment and accords with Policy 3.
Policy 4	Freshwater is managed as part of New Zealand's integrated response to climate change.	The proposed cycle trail does not compromise any of New Zealand's integrated response to climate change.
Policy 5	Freshwater is managed (including through a National Objectives Framework) to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.	Throughout the development of the proposal health and well-being of degraded water bodies has been a key focus for the Applicant and presents a significant opportunity for the Cycle Trail. The application site includes a number of degraded wetland features as well as intact wetlands with degraded edges and margins. Works areas have been largely refined to the most degraded areas allowing intact features to remain untouched. The loss of wetland extent on the margins of these features is estimated to be approximately 0.04ha and is proposed to be offset with approximately 0.7ha of wetlands to be reinstated including removal of sediment built up and invasive weed species. Overall it is considered that the proposal accords with Policy 5 through substantial wetland restoration to improve the health and well-being of degraded water bodies and freshwater ecosystems across the project footprint.
Policy 6	There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.	Policy 6 is supported by Clause 3.22 of the NPS-FW requiring in essence that the loss of extent of natural inland wetlands is avoided. An exception to this is made in Clause 3.22(1)(b) where the activity is necessary for the purpose of the construction of specified infrastructure. The Cycle Trail has been identified in the Regional Policy Statement for Northland as regionally significant infrastructure and has been mapped to follow

National Policy Statement – Freshwater Management		Comment
		the coastline in this location. The Cycle Trail is considered to provide significant regional benefits through ensuring Northland can attract business and investment that contributes to the function of its communities. As such it is considered that loss of wetlands is not required to be avoided for the purpose of this piece of infrastructure and instead the effects can be managed through the use of the effects management hierarchy. The ecological assessment from NZ Environmental Management has clearly demonstrated how the effects management hierarchy has been applied and concludes that adverse effects on freshwater across the application site are proposed to be managed in such a way that all adverse effects can be managed to a low level and in the cases of wetland ecosystems have potential to result in positive effects overall. The proposal is considered consistent with Policy 6.
Policy 7	The loss of river extent and values is avoided to the extent practicable.	No loss of river extent is proposed as part of this proposal.
Policy 8	The significant values of outstanding water bodies are protected.	The project site and associated catchment does not contain any outstanding water bodies. The cycle trail does not effect any significant values of outstanding water bodies.
Policy 9	The habitats of indigenous freshwater species are protected.	Through careful construction methodologies including minimal disturbance within wetlands it is proposed that habitats of indigenous freshwater species will be protected. The works in these areas have been minimised to significantly limit the extent of works required in areas that provide habitat to indigenous freshwater species. Where works is required this will largely involve the removal of exotic and pest plant

National Policy Statement – Freshwater Management		Comment
		species. It is recognised that these environment still hold important habitat values but measures will be taken to ensure indigenous fauna injury and death is avoided a far as practical during works. Any loss of habitat will be offset by the proposed reinstatement of 0.7ha of wetland environments. Overall the proposal provides for the protection of habitats of indigenous freshwater species in accordance with Policy 9.
Policy 15	Communities are enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with this National Policy Statement.	The proposed cycle trail is considered to enable people and communities to provide for their social and cultural wellbeing by providing informal recreation space along the natural coastline. The trail site is rich in ecological and cultural values and will enable this to be experienced by the community through provision of public access. The proposal is considered to align with Policy 15.

Regional Policy Statement for Northland 2016

Regional Policy Statement for Northland		Comment
Objective 3.1 Integrated catchment management	Integrate the management of freshwater and the subdivision, use and development of land in catchments to enable catchment-specific objectives for fresh and associated coastal water to be met.	N/A
Objective 3.2 Region wide water quality	Improve the overall quality of Northland's fresh and coastal water with a particular focus on: (a) Reducing the overall Trophic Level Index status of the region's lakes; (b) Increasing the overall Macroinvertebrate Community Index status of the region's rivers and streams; (c) Reducing sedimentation rates in the region's estuaries and harbours; (d) Improving microbiological water quality at popular contact recreation sites, recreational and cultural shellfish gathering sites, and commercial shellfish growing areas to minimise risk to human health; and (e) Protecting the quality of registered drinking water supplies and the potable quality of other drinking water sources.	The various technical assessments recommend a full suite of mitigation recommendations including construction methodologies and management plans to ensure that the proposed works will not adversely affect overall water quality in the adjoining estuarine environments. Mitigation measures are proposed to further minimise sedimentation during construction (land disturbance and vegetation removal). A comprehensive suite of recommendations is proposed to be adopted as conditions of consent and will provide for monitoring, response and reporting and will be developed in consultation with council. Accordingly, the proposal aligns with this objective. Potential sediment loads during construction will also be controlled by implementing best practice construction management measures, as provided for by conditions of consent. The proposal involves the reinstatement and enhancement of 0.7ha of wetland environments which will also aid in improving water quality I these areas in accordance with Policy 4.2.1(c). Overall, the proposal aligns with this policy.
Policy 4.2.1 Improving overall water quality	Improve the overall quality of Northland's water resources by: (a) Establishing freshwater objectives and setting region-wide water quality limits in regional plans that give effect to Objective 3.2 of this regional policy statement. (b) Reducing loads of sediment, nutrients, and faecal matter to water from the use and development of land and from poorly treated and untreated discharges of wastewater; and (c) Promoting and supporting the active management, enhancement and creation of vegetated riparian margins and wetlands.	

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Objective 3.3 Ecological Flows and water levels.	Maintain flows, flow variability and water levels necessary to safeguard the life supporting capacity, ecosystem processes, indigenous species and the associated ecosystems of freshwater.	The proposed wetland works will result in approximately 420m^2 of wetland environments losing partial hydrology. This will occur across three wetland types and the affected area will equate to approximately 0.00287% of these wetland types across the project area and will occur at the edges of these wetlands only. Due to the small percentage of affected area it is considered that each of these wetlands will be able to maintain hydrology levels similar to the existing levels and the life supporting capacity of these environments will be retained.
Objective 3.4	Safeguard Northland's ecological integrity by: a) Protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna; b) Maintaining the extent and diversity of indigenous ecosystems and habitats in the region; and c) Where practicable, enhancing indigenous ecosystems and habitats, particularly where this contributes to the reduction in the overall threat status of regionally and nationally threatened species.	Objective 3.4 and Policy 4.4.1 give effect to Objective 1 and Policy 11 of the NZCPS. The proposal has been the subject of detailed, integrated, and appropriately scaled assessments of effects on indigenous biodiversity that recognise the dynamic, complex, and interrelated nature of the environment in this locality. The various technical assessments conclude that the overall effects on ecological values, and on the diversity of indigenous coastal flora and fauna, will be low subject to the implementation of mitigation measures. In addition, coastal water quality has been determined to be unlikely to be affected by run-off from the construction works or the resulting increase in impermeable surfaces along the trial. The proposal aligns with Objective 3.4 and Policy 4.4.1.
Policy 4.4.1 Maintaining and protecting significant ecological areas and habitats	(1) In the coastal environment, avoid adverse effects, and outside the coastal environment avoid, remedy or mitigate adverse effects of subdivision, use and development so they are no more than minor on: (a) Indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists; (b) Areas of indigenous vegetation and habitats of indigenous fauna, that are significant using the assessment criteria in Appendix 5; (c) Areas set aside for full or partial protection of indigenous biodiversity under other legislation. (2) In the coastal environment, avoid significant adverse effects and avoid, remedy,	

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	or mitigate other adverse effects of subdivision, use and development on: (a) Areas of predominantly indigenous vegetation; (b) Habitats of indigenous species that are important for recreational, commercial, traditional or cultural purposes; (c) Indigenous ecosystems and habitats that are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass, northern wet heathlands, coastal and headwater streams, floodplains, margins of the coastal marine area and freshwater bodies, spawning and nursery areas and saltmarsh. (3) Outside the coastal environment and where clause (1) does not apply, avoid, remedy or mitigate adverse effects of subdivision, use and development so they are not significant on any of the following: (a) Areas of predominantly indigenous vegetation; (b) Habitats of indigenous species that are important for recreational, commercial, traditional or cultural purposes; (c) Indigenous ecosystems and habitats that are particularly vulnerable to modification, including wetlands, dunelands, northern wet heathlands, headwater streams, floodplains and margins of freshwater bodies, spawning and nursery areas. (4) For the purposes of clause (1), (2) and (3), when considering whether there are any adverse effects and/or any significant adverse effects: (a) Recognise that a minor or transitory effect may not be an adverse effect; (b) Recognise that where the effects are or maybe irreversible, then they are likely to be more than minor; (c) Recognise that there may be more than minor cumulative effects from minor or transitory effects. (5) For the purpose of clause (3) if adverse effects cannot be reasonably avoided, remedied or mitigated then it may be appropriate to consider the next steps in the mitigation hierarchy i.e. biodiversity offsetting followed by environmental	

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	biodiversity compensation, as methods to achieve Objective 3.4.	
Objective 3.5 Enabling economic wellbeing	Northland's natural and physical resources are sustainably managed in a way that is attractive for business and investment that will improve the economic wellbeing of Northland and its communities.	The purpose of the proposed cycle trail is to improve the social and economic well-being of Northland and its communities through providing a key piece of tourism infrastructure which connects the local area with the wider Northland and Nationwide cycle trails ensuring a robust network. The tourism infrastructure will not only service the local community but will provide attraction to the region and enabling opportunities for economic wellbeing of people and communities. The proposal therefore aligns with this objective.
Objective 3.7 Regionally significant infrastructure	Recognise and promote the benefits of regionally significant infrastructure, (a physical resource), which through its use of natural and physical resources can significantly enhance Northland's economic, cultural, environmental, and social wellbeing.	The importance of regionally significant infrastructure, and economic development in general is one of the key themes of the Regional Policy Statement. The proposed cycle trail is identified as regionally significant infrastructure in the RPS as forming part of the National Cycleway Proposal. The proposed construction of the trial will enhance Northland's economic and social well-being. Objective 3.7 is supported by Policies 5.3.1, 5.3.2, and 5.3.3. Policy 5.3.1 expressly identifies proposed Taumarere to Ōpua Cycle Trail Route as regionally significant infrastructure. Policy 5.3.2 requires particular regard to be had to the significant social, economic, and cultural benefits of
Policy 5.3.1 Identifying regionally significant infrastructure	The regional and district councils shall recognise the activities identified in Appendix 3 of this document as being regionally significant infrastructure.	
Policy 5.3.2 Benefits of regionally significant infrastructure	Particular regard shall be had to the significant social, economic, and cultural benefits of regionally significant infrastructure when considering and determining resource consent applications or notices of requirement for regionally significant infrastructure.	
Policy 5.3.3 Managing adverse effects arising from regionally significant infrastructure	(1) Allow adverse effects arising from the establishment and operation of new regionally significant infrastructure and the re-consenting of existing operations where: (a) The proposal is consistent with Policies 4.4.1(1), 4.4.1(2). 4.6.1(1)(a), 4.6.1(1)(b), 4.6.1(2) and 4.6.2(1);	

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	(b) The proposal does not result in established water quality limits or environmental flows and / or levels being exceeded or otherwise could lead to the over-allocation of a catchment (refer to Policy 4.1.1); (c) Damage to and / or loss of the relationship of iwi with ancestral sites, sites of significance, wāhi tapu, customary activities and / or taonga is avoided or otherwise agreed to by the affected iwi or hapū; and (d) In addition to the matters outlined in 1) (a) – (c) above, other adverse effects are avoided, remedied or mitigated to the extent that they are no more than minor. (2) Allow adverse effects arising from the maintenance and upgrading of established regionally significant infrastructure wherever it is located, where: (a) The adverse effects whilst the maintenance or upgrading is being undertaken are not significant; and (b) The adverse effects after the conclusion of the maintenance or upgrading are the same or similar to before the activity being undertaken. (3) When managing the adverse effects of regionally significant infrastructure decision makers will give weight to: (a) The benefits of the activity in terms of Policy 5.3.2; (b) Whether the activity must be recognised and provided for as directed by a national policy statement; (c) Any constraints that limit the design and location of the activity, including any alternatives that have been considered which have proven to be impractical, or have greater adverse effects; (d) Whether the proposal is for regionally significant infrastructure which is included in Schedule 1 of the Civil Defence Emergency Management Act as a lifeline utility and meets the reasonably foreseeable needs of Northland. (e) The extent to which the adverse effects of the activity can be practicably reduced. Such an assessment shall also take into account appropriate measures, when offered, to provide positive effects, either within the subject site or elsewhere provided that the positive effects accrue to the community of interest and / or	regionally significant infrastructure when determining resource consent applications for such proposals. Policy 5.3.3 a recognises that the establishment and operation of new regionally significant infrastructure, and the maintenance and upgrading of established regionally significant infrastructure, may have adverse effects which should be allowed and/or managed. The proposal is consistent with the policies referred to in 5.3.3(1)(a) as covered elsewhere in this assessment. Furthermore, all effects are avoided, remedied, or mitigated, noting that the effects relating to mana whenua continue to be assessed. Policy 5.3.3(3) sets out matters that are to be assigned weight by decision makers when managing the adverse effects of regionally significant infrastructure. These include the benefits of the proposed cycle trail in accordance with Policy 5.3.2. In addition to social and economic wellbeing opportunities the cycle trail provides for improved public access to the coast in line with the NZCPS. Further, the effects of the proposal can be avoided or otherwise mitigated. For the reasons outlined above, the proposal aligns with Objective 3.7 and the supporting policies 5.3.1, 5.3.2, and 5.3.3.

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	resource affected; and (f) Whether a monitoring programme for any identified significant adverse effects with unknown or uncertain outcomes could be included as a condition of consent and an adaptive management regime (including modification to the consented activity) is used to respond to such effects. (g) Whether the infrastructure proposal helps to achieve consolidated development and efficient use of land.	
Objective 3.8 Efficient and effective infrastructure	Manage resource use to: (a) Optimise the use of existing infrastructure; (b) Ensure new infrastructure is flexible, adaptable, and resilient, and meets the reasonably foreseeable needs of the community; and (c) Strategically enable infrastructure to lead or support regional economic development and community wellbeing.	The proposal aligns with Objective 3.8 for the following reasons: (a) The cycle trail had until recently utilised the existing railway infrastructure in this location to provide a cycle trail over the length of the application site. Following the expiry of the lease, the use of the land returned to the current leaseholders, Keteriki Ltd, who began progressively uncovering the tracks to operate a vintage passenger train service. Due to the operation of the railway in this location it is no longer safe to use the existing infrastructure and as such a separated purpose-built trail is proposed. The proposal continues to utilise existing infrastructure where possible, which is mainly limited to existing bridge structures. (b) It will enable flexibility to adapt to the changing environment to meet the reasonably foreseeable needs of the community. (c) It will enable the cycle network to remain connected across Northland and support economic development and community wellbeing across the region. Objective 3.8 is supported by policies 5.2.2, and 5.2.3, which collectively recognise the importance of
Policy 5.2.2 Future-proofing infrastructure	Encourage the development of infrastructure that is flexible, resilient, and adaptable to the reasonably foreseeable needs of the community.	
Policy 5.2.3 Infrastructure, growth and economic development	Promote the provision of infrastructure as a means to shape, stimulate and direct opportunities for growth and economic development.	

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		infrastructure to the economic wellbeing of the region. These policies emphasise the importance of flexibility, resilience, and adaptability for infrastructure to meet the foreseeable needs of future generations. The proposal is consistent with these policies, the core project purposes being to provide connectivity, and to facilitate economic growth in the region. The provisions of these policies are reinforced by the Regionally Significant Infrastructure provisions (Objective 3.7 supported by Policies 5.3.1, 5.3.2, and 5.3.3). The proposal aligns with all of these provisions.
Objective 3.10 Use and allocation of common resources	Efficiently use and allocate common natural resources, with a particular focus on: (a) Situations where demand is greater than supply; (b) The use of freshwater and coastal water space; and (c) Maximising the security and reliability of supply of common natural resources for users.	Objective 3.10 is relevant with respect to occupation of coastal water space and is supported by Policies 4.8.1 and 4.8.3. There is a functional need for portions of the trail to be located in the coastal area where coastal water bisects sections of the existing alignment. The design and location of the proposal is constrained by the existing railway designation and availability of public land on which the cycle trail can be located. Where occupation of the CMA is proposed this is limited to boardwalk structures only to avoid earthworks or reclamation of the CMA which would be required to extent the existing rail embankment in these areas. Further it is noted elsewhere in this assessment that the proposal will support local, regional and national tourism and increase public accessibility to the coast.
Policy 4.8.1 Demonstrate the need to occupy space in the common marine and coastal area	(1) Only consider allowing structures, the use of structures and other activities that occupy space in the common marine and coastal area where: (a) They have a functional need to be located in the common marine and coastal area, unless the structure, use or activity is consistent with Policy 4.8.1(2); (b) It is not feasible for the structure, the use or the occupation of space to be undertaken on dry land (land outside the common marine and coastal area), unless it is consistent with Policy 4.8.1(2); (c) It is not feasible to use an existing authorised structure; and (d) The area occupied is necessary to provide for or undertake the intended use. (2) Occupation of space and structures (and their use) that are contrary to Policy 4.8.1(1) (a) and (b) may be appropriate where they will make a significant positive contribution to the local area or the region.	

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	(3) If the public are excluded from using a structure or common marine and coastal area, the exclusion is: (a) Only for the time period(s) and the area necessary to provide for or undertake the intended use ;or (b) Necessary to ensure the integrity of the structure; or (c) Necessary to ensure the health and safety of the public.	The consents sought from Northland Regional Council seek a 35 year duration. The coastal structures will be used in conjunction with the rest of the Te Pou Herenga Tai Twin Coast Cycle Trail and connectivity to this existing network is a key requirement for this section of the trail to achieve the regionally significant opportunities it is proposed to provide. The land is held in a designation with KiwiRail and will occur alongside the existing railway. As such there are considered to be no foreseeable demand for occupation of this area for any other use. Further, the effects of the proposal are well understood and appropriately addressed meaning there is no need to shorten the consent duration as a means of managing effects or uncertainty of such.
Policy 4.8.3 Coastal permit duration	When determining the expiry date for coastal permits to occupy space in the common marine and coastal area, particular regard will be had to: (a) The security of tenure for investment (the larger the investment, the longer the consent duration); (b) Aligning the expiry date with other coastal permits to occupy space in the surrounding common marine and coastal area; (c) The reasonably foreseeable demands for the occupied water space by another type of activity (the greater the demands, the shorter the consent duration); and (d) Certainty of effects (the less certain the effects the shorter the consent duration).	
Objective 3.11 Regional Form	Northland has sustainable built environments that effectively integrate infrastructure with subdivision, use and development, and have a sense of place, identity and a range of lifestyle, employment and transport choices.	The purpose of the proposed cycle trail is to improve the economic well-being of Northland and its communities, consistent with the intent of this policy. It achieves this by: (a) Consolidating the proposed infrastructure within the footprint of the existing railway. (b) Retaining public access to the coast and improving public amenities including a purpose-built cycling and walking trail.
Policy 5.1.2 Development in the coastal environment	Enable people and communities to provide for their wellbeing through appropriate subdivision, use, and development that: (a) Consolidates urban development1 within or adjacent to existing coastal settlements and avoids sprawling or sporadic patterns of development; (b) Ensures sufficient development setbacks from the coastal marine area to; (i) maintain and enhance public access, open space, and amenity values; and (ii) allow for natural functioning of coastal processes and ecosystems; (c) Takes into account the values of adjoining or adjacent land and established activities (both within the coastal marine area and on land);	

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	(d) Ensures adequate infrastructure services will be provided for the development; and (e) Avoids adverse effects on access to, use and enjoyment of surf breaks of national significance for surfing.	(c) Minimising effects on the functioning of coastal processes and ecosystems and the adjoining private land. (d) Compatibility with existing development in the surrounding environment including the existing railway. There are no significant surf breaks within the vicinity of the site.
Objective 3.12 Tangata whenua role in decision making	Tangata whenua kaitiaki role is recognised and provided for in decision-making over natural and physical resources.	The role of tangata whenua in decision-making has been recognised in the Northland and Far North contexts through regional and district plan provisions, including iwi management plans, and through meaningful and ongoing engagement with mana whenua on this proposal. Understanding the relationship of tangata whenua over their lands, rohe and resources and the related effects of the proposal on this relationship continues to be a key focus for the Applicant. The Applicant has carried out meaningful engagement with mana whenua, and this will continue post lodgement.
Policy 8.1.1 Tangata whenua participation	The regional and district councils shall provide opportunities for tangata whenua to participate in the review, development, implementation, and monitoring of plans and resource consent processes under the Resource Management Act 1991.	
Objective 3.13 Natural hazard risk	The risks and impacts of natural hazard events (including the influence of climate change) on people, communities, property, natural systems, infrastructure and our regional economy are minimised by: (a) Increasing our understanding of natural hazards, including the potential influence of climate change on natural hazard events;	Objective 3.13, supported by policies 7.1.1, 7.1.3, 7.1.5 and 7.1.6, is aimed at minimising the risks and impacts of natural hazards.

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	(b) Becoming better prepared for the consequences of natural hazard events; (c) Avoiding inappropriate new development in 10 and 100 year flood hazard areas and coastal hazard areas; (d) Not compromising the effectiveness of existing defences (natural and manmade); (e) Enabling appropriate hazard mitigation measures to be created to protect existing vulnerable development; and (f) Promoting long-term strategies that reduce the risk of natural hazards impacting on people and communities. (g) Recognising that in justified circumstances, critical infrastructure may have to be located in natural hazard-prone areas.	It is noted that the proposed boardwalk structures will be subject to areas of known coastal hazards, mainly coastal flooding. However, while the structures may at times be susceptible to coastal inundation in the future, the structures themselves are considered to be structurally resilient to the natural hazard risk. Further the proposed structures are not considered to exacerbate the natural hazard risk to the wider environment and as such it is considered that the proposed use in this location is appropriate and accords with these policies.
Policy 7.1.1 General risk Management approach	Subdivision, use and development of land will be managed to minimise the risks from natural hazards by: (a) Seeking to use the best available information, including formal risk management techniques in areas potentially affected by natural hazards; (b) Minimising any increase in vulnerability due to residual risk; (c) Aligning with emergency management approaches (especially risk reduction); (d) Ensuring that natural hazard risk to vehicular access routes and building platforms for proposed new lots is considered when assessing subdivision proposals; and (e) Exercising a degree of caution that reflects the level of uncertainty as to the likelihood or consequences of a natural hazard event.	
Policy 7.1.3 New subdivision, use and development within areas potentially affected by coastal hazards	Within areas potentially affected by coastal hazards over the next 100 years (including high risk coastal hazard areas), the hazard risk associated with new use and development will be managed so that: (a) Redevelopment or changes in land use that reduce the risk of adverse effects from coastal hazards are encouraged; (b) Subdivision plans are able to identify that building platforms are located outside	

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(including high risk coastal hazard areas)	high risk coastal hazard areas and these building platforms will not be subject to inundation and / or material damage (including erosion) over a 100-year timeframe; (c) Coastal hazard risk to vehicular access routes for proposed new lots is assessed; (d) Any use or development does not increase the risk of social, environmental or economic harm (from coastal hazards); (e) Infrastructure should be located away from areas of coastal hazard risk but if located within these areas, it should be designed to maintain its integrity and function during a hazard event; (f) The use of hard protection structures is discouraged and the use of alternatives to them promoted; and (g) Mechanisms are in place for the safe storage of hazardous substances.	
Policy 7.1.5 Regionally Significant infrastructure and critical infrastructure	New regionally significant infrastructure and critical infrastructure: (1) Must be designed to maintain, as far as practicable, its integrity and function during natural hazard events; and (2) May be considered appropriate to locate within flood and coastal hazard areas, even if it cannot meet policies 7.1.2 or 7.1.3 provided: (a) There is a need to be located within the flood hazard and / or coastal hazard area; and (b) infrastructure providers have demonstrated that the proposed location within the hazard area is the most appropriate (taking into account social, cultural, and economic costs and benefits) to service the needs of the community; and (c) An engineer's assessment identifies the potential for the infrastructure to exacerbate flood and erosion hazard risk on neighbouring properties, and where the assessment shows that risk will be exacerbated; the assessment must outline ways this risk can be minimised.	
Policy 7.1.6 Climate change and development	When managing subdivision, use and development in Northland, climate change effects will be included in all estimates of natural hazard risk, taking into account the scale and type of the proposed development and using the latest guidance and	

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	best available information on the likely effects of climate change on the region or district.	
Objective 3.14 Natural character, outstanding natural features, outstanding natural landscapes and historic heritage	Identify and protect from inappropriate subdivision, use and development; (a) The qualities and characteristics that make up the natural character of the coastal environment, and the natural character of freshwater bodies and their margins; (b) The qualities and characteristics that make up outstanding natural features and outstanding natural landscapes; (c) The integrity of historic heritage.	Objective 3.14 and Policy 4.6.1 give effect to Objective 2 and Policies 13 and 15 of the NZCPS. The application site is identified as having areas of High and Outstanding Natural Character. The assessment of effects on character values contained within the AEE recognises the characteristics and qualities that contribute to the natural character of the environment along the application site. The proposal is located in a highly modified coastal environment. The proposed works are considered in keeping with the existing character of the coastline in this locality and the adverse effects on character are assessed as being less than minor. Overall, it is concluded that the proposal is acceptable in terms of natural character and is in alignment with Objective 3.14. Further, the proposal seeks to restore and rehabilitate the natural character of the coastal environment through extensive revegetation and enhancement of coastal wetlands. The restoration works are proposed to be undertaken in accordance with a Wetland Reinstatement and Monitoring Plan to be prepared and approved by council. Upon completion it is considered that the proposal will be consistent with the intentions of these supporting policies.
Policy 4.5.2 Application of the Regional Policy Statement – Maps	The Regional Policy Statement Maps of high and outstanding natural character and outstanding natural features and outstanding natural landscapes identify areas that are sensitive to subdivision, use and development. The maps of these areas identify where caution is required to ensure activities are appropriate. However, suitably qualified assessment at a site or property-specific level can be used to demonstrate lesser (or greater) sensitivity to particular subdivision, use and development proposals given the greater resolution provided.	
Policy 4.5.3 Assessing, identifying, and recording historic heritage	Historic heritage resources (areas, places, sites, buildings, or structures either individually or as a group) are identified taking into account one or more of the following criteria: (a) Archaeological and / or scientific importance: the resource contributes significantly to our understanding of human history or archaeological research; (b) Architecture and technology: the structure or building is significant due to design, form, scale, materials, style, period, craftsmanship, construction technique or other unique element / characteristic; (c) Rarity: the resource or site is unique, uncommon or rare at a district, regional or national level; (d) Representativeness: the resource is an excellent example of its class in terms of design, type, use, technology, time period or other characteristic;	

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	(e) Integrity: the resource retains a high proportion of its original characteristics and integrity compared with other examples in the district or region; (f) Context: the resource forms part of an association of heritage sites or buildings which, when considered as a whole, become important at a district, regional or national scale; (g) People and events: the resource is directly associated with the life or works of a well-known or important individual, group or organisation and / or is associated with locally, regionally or nationally significant historic events; (h) Identity: the resource provides a sense of place, community identity or cultural or historical continuity; (i) Tangata whenua: the resource place or feature is important to tangata whenua for traditional, spiritual, cultural or historic reasons; and (j) Statutory: the resource or feature is recognised nationally or internationally, including: a World Heritage Site under the World Heritage Convention 1972; is registered under the Historic Places Act 1993; or is recognised as having significant heritage value under a statutory acknowledgement or other legislation.	Further to this, policies 4.5.3 and 4.6.2 seek to protect heritage resources and their values. Geometria were engaged to prepare an Archaeological Assessment to support the proposal. Geometria's Archaeological Assessment identifies and assesses the value of the known and recorded archaeological features within the application site. Geometria acknowledge that there is potential for additional archaeological features to be found within the site and further acknowledge that in preparing their Archaeological Assessment they did not engage with Mana Whenua. In response to this, Geometria have identified a number of archaeological authorities which will be required prior to commencement of works and recommended that a comprehensive archaeological and historic heritage management plan is prepared and adhered to throughout the duration of works and includes and education element to support the public use of the trail. With respect to Mana Whenua, the Applicant has and continues to engage with Mana Whenua and seeks to adhere to accidental discovery protocols and engage kaitiaki for cultural monitoring or works. It is considered that the proposal appropriately identifies and assesses potential adverse effects, and
Policy 4.6.1 Managing effects on the characteristics and qualities (sic) natural character, natural features and landscapes	(1) In the coastal environment: a) Avoid adverse effects of subdivision use, and development on the characteristics and qualities which make up the outstanding values of areas of outstanding natural character, outstanding natural features and outstanding natural landscapes. b) Where (a) does not apply, avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of subdivision, use and development on natural character, natural features and natural landscapes. Methods which may achieve this include: (i) Ensuring the location, intensity, scale and form of subdivision and built development is appropriate having regard to natural elements, landforms and processes, including vegetation patterns, ridgelines, headlands, peninsulas, dune systems, reefs and freshwater bodies and their margins; and	

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	(ii) In areas of high natural character, minimising to the extent practicable indigenous vegetation clearance and modification (including earthworks / disturbance, structures, discharges and extraction of water) to natural wetlands, the beds of lakes, rivers and the coastal marine area and their margins; and (iii) Encouraging any new subdivision and built development to consolidate within and around existing settlements or where natural character and landscape has already been compromised. (2) Outside the coastal environment avoid significant adverse effects and avoid, remedy or mitigate other adverse effects (including cumulative adverse effects) of subdivision, use and development on the characteristics and qualities of outstanding natural features and outstanding natural landscapes and the natural character of freshwater bodies. Methods which may achieve this include: a) In outstanding natural landscapes, requiring that the location and intensity of subdivision, use and built development is appropriate having regard to, natural elements, landforms and processes, including vegetation patterns, ridgelines and freshwater bodies and their margins; b) In outstanding natural features, requiring that the scale and intensity of earthworks and built development is appropriate taking into account the scale, form and vulnerability to modification of the feature; c) Minimising, indigenous vegetation clearance and modification (including earthworks / disturbance and structures) to natural wetlands, the beds of lakes, rivers and their margins. (3) When considering whether there are any adverse effects on the characteristics and qualities of the natural character, natural features and landscape values in terms of (1)(a), whether there are any significant adverse effects and the scale of any adverse effects in terms of (1)(b) and (2), and in determining the character, intensity and scale of the adverse effects: a) Recognise that a minor or transitory effect may not be an adverse effect;	includes appropriate methods to ensure works are carried out in accordance with the recommendations of Geometria. On this basis, it is considered that the proposed cycle trail is appropriate and accords with the directions of policies 4.5.3 and 4.6.2.

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	b) Recognise that many areas contain ongoing use and development that: (i) Were present when the area was identified as high or outstanding or have subsequently been lawfully established (ii) May be dynamic, diverse or seasonal; c) Recognise that there may be more than minor cumulative adverse effects from minor or transitory adverse effects; and d) Have regard to any restoration and enhancement on the characteristics and qualities of that area of natural character, natural features and/or natural landscape.	
Policy 4.6.2 Maintaining the integrity of heritage resources	(1) Protect the integrity of historic heritage resources that have been identified in plans in accordance with Policy 4.5.3 and Method 4.5.4(3): a) By avoiding significant adverse effects of subdivision, use and development and avoiding, remedying or mitigating other adverse effects (including cumulative adverse effects) on historic heritage in the following way: (i) Requiring careful design and location of subdivision, use and development to retain heritage buildings and other physical elements of historic heritage and where practical enhance public use and access; (ii) Restricting the demolition / relocation of and / or inappropriate modifications, additions or alterations to physical elements of historic heritage; (iii) Recognising that the integrity of many historic heritage resources relies on context and maintain these relationships in the design and location of subdivision, use and development; (iv) Recognising the collective value of groups of heritage buildings, structures and/ or places, particularly where these are representative of Northland's historic settlements, architecture or periods in history and maintain the wider character of such areas; and (v) Restricting activities that compromise important spiritual or cultural values held by Māori / Mana Whenua and / or the wider community in association with	

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	particular heritage places or features. (2) Despite the above: a) Clause 1 does not apply where natural hazards threaten the viability of regionally significant infrastructure and / or public health and safety; or b) Regionally significant infrastructure proposals that cannot meet 4.6.2(1) may still be appropriate after assessment against the matters in Policy 5.3.3(3).	
Objective 3.15 Active Management	Maintain and / or improve; (a) The natural character of the coastal environment and freshwater bodies and their margins; (b) Outstanding natural features and outstanding natural landscapes; (c) Historic heritage; (d) Areas of significant indigenous vegetation and significant habitats of indigenous fauna (including those within estuaries and harbours); (e) Public access to the coast; and (f) Fresh and coastal water quality by supporting, enabling and positively recognising active management arising from the efforts of landowners, individuals, iwi, hapū and community groups.	As assessed in relation to Objective 3.14 the natural character of the application site will be maintained and improved upon completion of the ecological restoration works. The proposal incorporates mitigation measures in relation to indigenous biodiversity, maintaining and enhancing public open space and access, and water quality in line with this objective. Additional restoration and enhancement measures that accord with Policy The proposal will result in a number of positive effects outcomes, including outcomes that align with relevant aspects of policies 4.7.1 and 4.7.3 as follows: • Effects on indigenous biodiversity are low and in some cases, positive. • Effects on ONLAs, and ONFs are avoided and effects on ONCAs appropriately managed. • Additional natural habitat (revegetation) is being created to support indigenous biodiversity.
Policy 4.7.1 Promote active management	In plan provisions and the resource consent process, recognise and promote the positive effects of the following activities that contribute to active management: a) Pest control, particularly where it will complement an existing pest control project / programme; b) Soil conservation / erosion control; c) Measures to improve water quality in parts of the coastal marine area where it has deteriorated and is having significant adverse effects, or in freshwater bodies targeted for water quality enhancement; d) Measures to improve flows and / or levels in over allocated freshwater bodies; e) Re-vegetation with indigenous species, particularly in areas identified for natural character improvement;	

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	f) Maintenance of historic heritage resources (including sites, buildings and structures); g) Improvement of public access to and along the coastal marine area or the margins of rivers or lakes except where this would compromise the conservation of historic heritage or significant indigenous vegetation and / or significant habitats of indigenous fauna; h) Exclusion of stock from waterways and areas of significant indigenous vegetation and / or significant habitats of indigenous fauna; i) Protection of indigenous biodiversity values identified under Policy 4.4.1, outstanding natural character, outstanding natural landscapes or outstanding natural features either through legal means or physical works; j) Removal of redundant or unwanted structures and / or buildings except where these are of historic heritage value or where removal reduces public access to and along the coast or lakes and rivers; k) Restoration or creation of natural habitat and processes, including ecological corridors in association with indigenous biodiversity values identified under Policy 4.4.1, particularly wetlands and / or wetland sequences; l) Restoration of natural processes in marine and freshwater habitats	• Heritage features will be retained and protected including with signage to support public education. • Public access is being improved along the coastline. • The existing pest control programme on the existing port will be expanded to include the expanded port. • Restoration of natural processes through substantial wetland restoration. Overall the proposal is considered to have adopted a comprehensive, integrated and active approach management and accords with Objective 3.15 and associated policies.
Policy 4.7.3 Improving natural character	Except where in conflict with established uses promote rehabilitation and restoration of natural character in the manner described in Policy 4.7.1 in the following areas: (a) Wetlands, rivers, lakes, estuaries, and their margins; (b) Undeveloped or largely undeveloped natural landforms between settlements, such as coastal headlands, peninsulas, ridgelines, dune systems; (c) Areas of high natural character; (d) Land adjacent to outstanding natural character areas, outstanding natural features, and outstanding natural landscapes;	

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	(e) Remnants of indigenous coastal vegetation particularly where these are adjacent to water or can be linked to establish or enhance ecological corridors; and (f) The areas or values identified in Policy 4.4.1 (protecting significant areas and species).	