

Contaminated Land Management Plan

Ngā Ūranga ki Pito-One (NKP-TAT-APW-MPN-GV-NS-000035)

Document Control Table

Date	Version	Prepared by:	Reviewed by:	Authorised by:	Authorised by:
07/02/23	B	R. Edwards	C. Hillman	E. Breese	E. Anand
17/03/23	1	R. Edwards	C. Hillman	E. Breese	E. Anand

Background – the Project

Waka Kotahi NZ Transport Agency (Waka Kotahi) has established the Te Ara Tupua Alliance (the Alliance) that will deliver a safe and connected walking and cycling route between Ngā Ūranga and Pito-One. The Alliance is comprised of HEB Construction, Downer NZ, Tonkin + Taylor and Waka Kotahi. The shared path will be located on the seaward side of the existing transport corridor.

The purpose of this CLMP is to detail contaminated land-related procedures and controls to be implemented during the Main Works of the Project in the Project areas detailed below.

An Enabling Works CLMP was previously prepared for the Project and is now superseded by this CLMP. This CLMP details procedures to be implemented to control the disturbance and movement of contaminated, or potentially contaminated soils.

This CLMP has been prepared in accordance with Conditions CL.1 – CL.3 (summary of conditions can be found in Appendix B). It should be submitted to the consent Manager for certification at least twenty (20) working days prior to the anticipated start of the excavations covered in the CLMP.

A Construction Environmental Management Plan (CEMP) has been prepared to complement this CLMP. The purpose of the CEMP is to provide the framework, methods and tools for how environmental effects should be managed, remedied, or mitigated during the enabling works in accordance with Condition CC.1(b) of the Resource Consent. The CEMP will provide the framework for the management of effects associated with the works referred to within this report, except for contamination, which is covered by this CLMP.

Areas to which this CLMP Applies

The Project areas are shown in Appendix A, Figure 1. This CLMP applies to the following areas where potential sources of contamination were identified, and soil disturbance activities will be occurring:

- Ngā Ūranga Construction Yard (KiwiRail Laydown Area (**Figure C1**); and
- Honiana Te Puni Reserve (**Figure C2**).

The Shared Pathway Footprint between Ngā Ūranga and Pito-One will be subject to shallow earthworks and minimal soil disturbance and therefore only the protocols outlined in the Accidental/Unexpected Discovery section should be adhered to within this area.

Contamination Investigations

Contaminated land investigations have been undertaken for the Project. The key assessments relevant to the work covered by this CLMP are summarised in Appendix C of this CLMP.

Proposed Development

Within the Honiana Te Puni Reserve the proposed development activities will generally include shallow excavations, piling and drilling. This will be to enable the construction of the proposed integrated clubs building (ICB), shared pathway, vegetation removal and planting, the permanent placement of the Tāwharau Pods and associated ancillary activities. The Pito-One construction yard will also operate out of Honiana Te Puni Reserve throughout construction. Within the Ngā Ūranga Construction Yard excavations may occur across the area and material will also be stockpiled here during works.

Works along the shared pathway and in the coastal marine area for the construction of the shared pathway footprint will be subject to shallow earthworks and minimal soil disturbance. Appendix C outlines the key elements of the Project. Information pertaining to the construction methodology is available in the CEMP and more information will be provided in the Site Specific Erosion and Sediment Control Plans (SSESCPs).

Roles and Responsibilities

The table below provides a summary of the key personnel and responsibilities in terms of contaminated land soil disturbance activities.

Organisation	Role	Responsibilities
Waka Kotahi	Consent Holder	<ul style="list-style-type: none"> Overall responsibility for Project compliance and performance in relation to environment, quality assurance and incident management.
The Alliance	Alliance Manager	<ul style="list-style-type: none"> Overall responsibility for Project and ensuring all processes are followed.
	Partnerships, Environment, Planning and Communications (PEP-C) Manager	<ul style="list-style-type: none"> Review of CLMP. Review of JSEA and Work Packs. Inspections and audits. Incident and compliant management. Record keeping. Reporting.
	Environmental Advisor	<ul style="list-style-type: none"> Review of JSEA and Work Packs. Inspections and audits. Incident and compliant management. Record keeping. Reporting.
	Construction Manager	<ul style="list-style-type: none"> Review and approval of JSEA and Work Packs.
	Project Engineers / Staff	<ul style="list-style-type: none"> Overall responsibility for site environmental management. Ensuring site personnel are familiar with the contents of this CLMP. Implementing the controls outlined in this CLMP, including installation and maintenance of sediment control measures in general accordance with the Site Specific Erosion Sediment Control Plan (SSESCP). Providing records of works completed.
	Superintendent / Site Supervisors	<ul style="list-style-type: none"> Adherence to the CLMP. Keeping a copy of the CLMP onsite at all times. Providing a copy of the CLMP to any subcontractors and ensuring subcontractors adhere to CLMP.
	Health and Safety Lead	<ul style="list-style-type: none"> Review of JSEA and Work Packs Ensuring an appropriate level of health and safety is always adhered to.
	Suitably Qualified and Experienced Practitioner (SQEP)	<ul style="list-style-type: none"> Responding to unexpected contamination discoveries.

A key contact list for the Project will be maintained for the duration of the Project and provided to the Councils. Any updates to the key contacts list will be sent to the Councils and other key stakeholders as required.

Management Method and Controls

Excavation

Excavations in areas known to be contaminated should be minimised as far as practicable. However, if excavations in contaminated soils do occur, the following should be adhered to:

- Where practical, soil disturbance activities should be done during periods of settled weather to minimise the generation of dust and stormwater runoff.
- Excavated soils being removed from the site should be placed directly into trucks, where possible.
- Allow wet soil to drain back to the excavation prior to stockpiling or loading for offsite disposal.
- Minimise the duration of open excavations. If excavations are to be left open, they should be covered with impermeable polyethylene sheeting (or similar) to prevent ingress of rainfall.
- Minimise stormwater run-on by installing diversions around excavation areas where required.
- Visual monitoring of dust should be undertaken by the contractor at all times during earthworks. If dust is being generated, the soil should be covered or dampened sufficiently to minimise dust generation without generating runoff.

Stockpiling

Temporary stockpiling of excavated soil may be required. To minimise the potential for cross-contamination, dust generation, erosion, or runoff of sediment-laden water, the following measures should be implemented during stockpiling:

- Establishment of erosion and sediment controls in accordance with the CEMP.
- Locating stockpiles in areas not subject to stormwater run-on/surface flooding and where runoff will not enter drains or the Wellington Harbour. Bunds or filter socks may be required to divert surface water from stockpiles.
- Minimising the duration of stockpiling.
- Minimising the height of stockpiles and providing a stable stockpile slope.
- Covering and/or wetting of stockpiles as required to minimise dust generation.
- To minimise the risk of cross-contamination, stockpiles of contaminated soil should be positioned on an impermeable material (e.g., hardstand, polythene sheeting etc.). If this is not possible and stockpiles are placed directly on the ground surface, the top 100 mm of soil underlying the stockpile should be considered contaminated and managed in the same way as the contaminated stockpile.

Dewatering

It is not expected that dewatering will be required during the works; however, there is a potential that it may be required for the piling associated with the shared path bridge. If dewatering is required, the SQEP will be consulted in advance to determine if water sampling and testing is needed.

Dust control – Dust and Odour Management

Significant odour is not anticipated to be generated during the works covered by this CLMP and no odour management controls are likely to be required.

Dust control measures should be implemented as required in accordance with the Construction Air Quality Management Plan (CAQMP) and the CEMP. Visual monitoring of dust should be undertaken by the contractor during earthworks. If dust is generated, or likely to be generated, mitigation measures should be implemented in accordance with the CAQMP.

Offsite Soil Transport and Disposal

Any soil removed from the site is required to be disposed of at an appropriately licenced facility. Testing undertaken indicates that soil onsite is unlikely to be suitable for disposal at a cleanfill facility without further testing. Soil is likely to be accepted at a Class A landfill.

Approval for disposal of soil should be obtained from the receiving facility in advance. The acceptance of soil is at the discretion of the receiving facility and



additional testing may be required. Any additional testing should be undertaken under the guidance of the SQEP.

The following general procedures apply to the transport of soil offsite:

Records should be kept of soil disposal receipts and truck movements to and from the site.

- Soil trucked offsite should be covered or sufficiently damp to prevent dust generation during transport.
- Vehicles should not track soil off site. The use of a wheel wash or visual inspection and manual cleaning may be required to prevent this. Access tracks should be maintained in good condition to minimise the tracking of soil.

Onsite Reuse of Soil and Acceptance Criteria

Where no soil contamination, or contamination risk, has been identified in the PSI or Soil Quality Assessment, soil may be reused onsite provided it is visually inspected and approved by the SQEP before reuse. Of the works covered by this CLMP the Ngā Ūranga Construction Yard and Honiana Te Puni Reserve have been identified as potentially contaminated and further testing may be required prior to reuse on site.

Table 1 includes maximum soil concentrations; these criteria are based on either the Recreational or Commercial/Industrial Outdoor Worker Soil Contaminant Standards (SCSs), whichever is lower for a specific contaminant. The Recreational SCS has been adopted for the protection of shared path users and the Commercial/Industrial Outdoor Worker SCS for the protection of workers during construction.

Table 1 also includes maximum concentrations in leachate generated using a Synthetic Precipitation Leaching Procedure (SPLP). These criteria are intended to protect marine life from potential leaching of contaminants to the harbour. The SPLP leachate criteria are based on the ANZG marine water quality Default Guideline Values (DGV) for a 95% level of species protection, multiplied by a factor of 20 to account for mixing in the harbour.

Table 1. Soil Reuse Acceptance Criteria

Contaminant of concern	Acceptance criteria for reuse onsite	
	Maximum soil concentration (mg/kg)	Maximum SPLP leachate concentration (mg/L)
Arsenic	70	0.26*
Cadmium	400	0.11
Chromium	2,700	0.088
Copper	NL	0.026
Lead	880	0.088
Nickel	NL	1.4
Zinc	NL	0.16

NL = No Limit, acceptance is based on leachability criteria only.
* Freshwater DGV adopted as no ANZG marine guideline exists.

The bund material in the Ngā Ūranga Construction Yard has been tested and assessed as meeting the reuse acceptance criteria outlined above by the SQEP. It is therefore suitable for reuse onsite, provided contamination beyond what is already known is not discovered.

Personal Protection and Monitoring

The health and safety requirements outlined in this section relate to the hazard of site contamination only. A separate works specific health and safety plan should also be prepared for other hazards.

The following general site controls should be implemented:

- All personnel should be inducted prior to beginning work on site. This induction should include information on the presence of contaminated soil and the health and safety protocols outlined in this CLMP. It should also include information on the identification of common asbestos containing materials.

- Contaminated soil should be listed as a hazard on site hazard boards.
- Running water and facilities for washing hands should be available onsite.

The following PPE, at a minimum, should be used when workers are working with or handling soil:

- Nitrile gloves / cut resistant gloves.
- Safety boots (steel capped with non-slip durable soles).
- Safety glasses.
- Long sleeved shirts and long pants or coveralls.
- P2 dust masks are not required to be worn generally but should be kept onsite and used if unexpected contamination is identified or dusty conditions occur.

Accidental/Unexpected Contamination Discovery

In the event of the discovery of contaminated beyond what is already known within the Ngā Ūranga Construction Yard and Honiana Te Puni Reserve. Or that accidental/unexpected contamination (e.g., odour, discolouration of soils, asbestos containing materials) is identified during the works within the Shared Pathway or an uncontrolled discharge of potentially contaminated soil or water to the environment has been identified, the first response procedures in Table 2 will be followed.

Table 2. Potential Contaminated Material First Response Checklist

Stop work in the immediate vicinity of the contamination discovery and isolate the area by taping, coning, or fencing off.	<input type="checkbox"/>
Advise the Site Construction Manager and the Project Engineer.	<input type="checkbox"/>
Implement contaminated soil Health and Safety procedures as appropriate.	<input type="checkbox"/>
Update the site Hazard Board/Register and prevent access to the area by unnecessary personnel.	<input type="checkbox"/>
If ACM is observed provide P2 dust masks to all staff entering the isolated area and keep the area damp or covered.	<input type="checkbox"/>
If odours are present cover the material with non-odorous soil or hay/straw and lime to prevent nuisance odour.	<input type="checkbox"/>
The Site Construction Manager and/or the Project Engineer should consult with the SQEP to inspect and advise of specific controls if appropriate.	<input type="checkbox"/>
Implement contaminated material handling procedures and any other health and safety measures as directed by the SQEP.	<input type="checkbox"/>
All details of the unexpected discovery (volume, type, location) and procedures taken are to be recorded.	<input type="checkbox"/>

Asbestos-Related Controls

Ngā Ūranga Construction Yard

The following additional Unlicensed Asbestos Works controls should be implemented in the Ngā Ūranga Construction Yard area:

- Asbestos should be listed as a hazard on site hazard boards.
- The site induction for the Ngā Ūranga Construction Yard should include information on the presence of asbestos in soil at the site and information on the identification of common asbestos containing materials.
- A foot wash and used PPE collection area should be established and used to minimise transport of contaminated soil offsite. Note that no asbestos-specific PPE is required providing dust control measures are implemented.
- Vehicles/plant should be inspected and cleaned of dirt prior to leaving the site. Cleaning may be done with a brush or low-pressure water spray.
- Notification of WorkSafe is not required.

Honiana Te Puni Reserve

The results of additional sampling indicate that soil disturbance works within the Honiana Te Puni Reserve, including within the proposed location of the ICB, can be completed as 'unlicensed asbestos works' under BRANZ Guidelines (see bullet points above). However, given that ACM fragments were identified within the test

pits this level of control is assessed assuming that **asbestos air monitoring undertaken during initial soil disturbance activities** across the Reserve detects asbestos below trace levels.

Sampling at the Wellington Water Ski Club identified concentrations of asbestos which exceeded the BRANZ Guidelines for all land uses, soil disturbance within this area requires **Class B asbestos related controls**. Table 3 below outlines the required controls for Class B asbestos related controls.

Table 3. Asbestos Controls

Control	Requirement
Class of asbestos removal works	Class B Asbestos Works
Supervision	Class B Removalist
Asbestos Removal Control Plan	Required – to be prepared by a Licenced Asbestos Removalist
WorkSafe notification	Required
General PPE	Disposable coveralls rated type 5, category 3, nitrile gloves, steel toe gumboots or safety footwear with disposable overshoes
Respiratory protection	Personnel – Half-face respirator with particulate filter. Equipment - HEPA filter system to be used for all occupied vehicles in the asbestos area
Dust/asbestos fibre suppression	Water and asbestos encapsulating polymer emulsion before starting work and during
Decontamination	Personnel - basic disposable decontamination tent and foot wash. Vehicles and equipment - wash (low pressure) soil from trucks and vehicles in dedicated decontamination area before leaving site (or crossing over into the uncontaminated area) – visual inspection by competent person* before excavation equipment leaves site
Air Monitoring	Air monitoring is not required but shall be considered particularly for works near sensitive receptors (schools etc.). Needs to be undertaken by an independent competent person*
Transportation	Trucks should be covered during transport. Heavy-duty (>200 micron) polyethylene used to line trays and wrapped to cover soil.
Disposal	To a facility licensed as asbestos contaminated special waste

*A competent person must meet the requirements of regulation 41(3) of the Asbestos Regulations. An independent person, who must not be otherwise involved in the project, is required to undertake air monitoring and clearance inspections (where required).

Audits

Site works will be audited against the CLMP on six occasions during the construction of the Project (once every six months).

Post Construction Controls

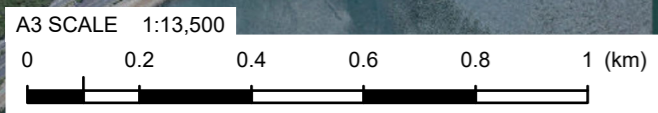
Based on the testing undertaken to date, post construction contamination-related controls are unlikely to be required. If unexpected contamination is identified during the works, the SQEP should assess if post-construction controls are needed. Long term management plans are required for areas where any asbestos remains present in the ground.

Within three months of the Completion of Construction, a validation report will be prepared detailing the results of the audits and also collate the source and testing results (where available) for imported materials.

Review of this CLMP

This CLMP should be implemented and maintained throughout the works and will be updated on an as required basis. The CLMP may be updated in response to the identification of new methods and knowledge obtained from JSEA reviews, site inspections and audits.





Exceptional thinking together www.tonkintaylor.co.nz

NOTES:
 Basemap NZ Navigation Map: Eagle Technology, LINZ, StatsNZ, NIWA, Natural Earth, © OpenStreetMap contributors.. NZ Imagery: Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors

0	First version	XXXX	YYYY	D/M/Y
REV	DESCRIPTION	GIS	CHK	DATE



PROJECT No. 1015190.1000		
DESIGNED	RUGR	JAN.23
DRAWN	RUGR	JAN.23
CHECKED		
APPROVED		
DATE		

CLIENT	WAKA KOTAHĪ NZ TRANSPORT AGENCY
PROJECT	NGĀ ŪRANGA KI PITO-ONE – CONTAMINATED LAND MANAGEMENT PLAN
TITLE	SITE LOCATION AND AREAS TO WHICH THE CLMP APPLIES
SCALE (A3)	1:13,500
FIG No.	FIGURE 1.
REV	0



Te Ara Tupua Alliance
Shifting gear to connect past, present and future

Appendix B: Consent Requirements



Condition requirement		Location in this CLMP where addressed
CL.1	(a) Prior to excavation in areas of known or potentially contaminated land, a Suitably Qualified Environmental Practitioner (SQEP) shall be engaged to prepare a Contaminated Land Management Plan (CLMP).	Robyn Edwards has prepared this CLMP and will act as SQEP for field-based activities during the works (e.g., site inspections and soil/groundwater sampling). Robyn is based in Wellington and a Contaminated Land Consultant and has over 5 years of professional experience in field geological and environmental sampling and site investigations. Robyn also has experience in remediation, monitoring and reporting for a range of contaminated sites, including work for clients in the private sector, district and regional councils, and various governments agencies.
	(b) The purpose of the CLMP is to detail the procedures to be implemented during Construction Works to control the disturbance and movement of identified contaminated, or potentially contaminated soils. These procedures shall cover management of health, safety and potential environmental risk from contaminated land associated with the Project.	Throughout CLMP
	(c) The CLMP shall be submitted to the Manager for certification at least twenty (20) working days prior to the anticipated start of excavation of known or potentially contaminated land in accordance with the process set out in Condition PC.5.	Background – the Project
CL.2	The CLMP shall include:	Appendix C
	(a) A summary of Preliminary Site Investigation information and overview of the Project methodology as relevant to works in known or potentially contaminated sites;	Appendix C
	(b) Summary of any soil sampling works undertaken;	Appendix C
	(c) Roles and responsibilities of the parties involved in the land disturbance activities, including the SQEP;	Roles and Responsibilities
	(d) Methods for soil testing at potentially contaminated sites;	Onsite Reuse of Soil and Acceptance Criteria
	(e) Potential and known hazards arising from contamination (if present);	Appendix C
	(f) Specific management methods developed for construction earthworks in potentially contaminated soils including; <ul style="list-style-type: none"> i. On site soil management practices; ii. Off-site soil transport and disposal; iii. Personal protection and monitoring; and iv. Management of dust and odour including details of where measures are covered in other plans. 	Management Method and Controls
	(g) Contingency measures in the event of accidental/unexpected discovery (asbestos, unknown fill, odour, staining etc); and	Accidental/Unexpected Contamination Discovery
(h) Post-construction controls (if required).	Post Construction Controls	



CL.3	Any sampling and testing of contamination on the site shall be overseen by a SQEP. All sampling shall be undertaken in accordance with the Ministry for the Environment's Contaminated Land Management Guidelines No. 5 Site Investigation and Analysis of Soils (Revised 2011).	Onsite Reuse of Soil and Acceptance Criteria
------	--	--



Appendix C: Summary of Previous Contaminated Land Investigations

Previous contaminated land investigations have been undertaken for the Project footprint. A Preliminary Site Investigation (PSI) was undertaken for the Project by AECOM in 2020¹. This PSI involved a desktop review to assess the likelihood of ground contamination across the Project footprint which was divided into three areas: Ngā Ūranga Construction Yard, Honiana Te Puni Reserve, and the Shared Pathway in between. The PSI reviewed and reported on each area separately, identifying specific potential sources of contamination across the Project Footprint of the proposed shared pathway. A Soil Quality Assessment, including soil sampling and laboratory analysis for contaminants of concern (CoC), was carried out for the Project in 2021 by AECOM². This assessment focused on shallow soils that are likely to be disturbed during construction. The assessment intended to characterise soil disposal/reuse options, but also compared results to human health guidelines. This investigation did not fully meet the requirements of a Detailed Site Investigation as defined in MfE guidelines but was designed to provide a general contamination assessment of the areas of the Project where potentially contaminating activities had been identified during the PSI. The tables below summarise the investigations undertaken in each area of the Project which include the Ngā Ūranga Construction Yard (KiwiRail Laydown Area), Hōniana Te Puni Reserve and the shared pathway footprint. For an in details descriptions of the proposed works and information pertaining to the construction methodology is available in the CEMP.

Ngā Ūranga Construction Yard (KiwiRail Laydown Area)

Proposed Development Plans

Within the Ngā Ūranga Construction Yard shallow excavations between 0.1 and 0.5 m bgl may occur across the area and material will also be stockpiled here during works. There is potential that the proposed earthworks will disturb contaminated soils and therefore the CLMP applies to this area.

Contamination Summary from Previous Investigations

The Ngā Ūranga Construction Yard is approximately 40,000 m² and is identified on the GWRC SLUR. GWRC reported that indiscriminate filling may have taken place in this area. Potential contaminants of concern associated with unknown materials used during filling include petroleum hydrocarbons, heavy metals, asbestos.

Soil sampling across the yard was undertaken by AECOM (2021)² and additional soil sampling was undertaken on a 250 m long and 2-3 m high bund in the northern areas of the yard by T+T (2022)³ to determine potential contamination concentrations and suitability for reuse of soil onsite. The sampling and results of the sampling are summarised below:

- Soil samples were collected from five test pits advanced within the yard, a composite sample was collected from a stockpile onsite and sample of building material was collected. Selected samples were analysed for TPH, heavy metals and asbestos (semi-quantitative). TCLP testing was undertaken on two samples for copper and lead.
- Ten soil samples were collected from the bund. All ten samples were analysed for asbestos (semi-quantitative), heavy metals, and PAHs. SPLP testing was also conducted on four samples. The leachate generated by these SPLP tests was analysed for heavy metals.
- Heavy metal concentrations from samples collected from the test pits, stockpile and bunds complied with the NESCS (commercial/industrial land use)⁴. Concentrations of heavy metals variously exceeded the Wellington Background Criteria⁵ within the majority of samples collected.
- Samples from the test pits generally complied with Landfill Acceptance Class A Screening Criteria⁶. Further TCLP analysis was undertaken on soil samples with elevated metals and subsequent results complied with the Landfill Acceptance Concentration in Leachate Criteria⁶.
- Concentrations of TPH and PAHs were detected in three samples collected, however these results complied with the Petroleum Hydrocarbon Guidelines⁷.
- Asbestos was detected in the sample of building material (fragment of fibre cement sheet).
- Asbestos was not detected in the soil samples collected from the test pits; however, asbestos was detected within one sample collected from the bund, below the BRANZ guidelines for human health⁸.



Figure C1. Location of Ngā Ūranga Construction Yard (KiwiRail Laydown Area)

Hōniana Te Puni Reserve

Proposed Development Plans

Within the Hōniana Te Puni Reserve, the proposed development activities will generally include shallow excavations to depths between 0.1 and 0.6 m bgl, piling and drilling. This will be to enable the construction of the proposed integrated clubs building (ICB), shared pathway, vegetation removal and planting, the permanent placement of the Tāwharau Pods and associated ancillary activities. A construction yard will also operate out of Hōniana Te Puni Reserve throughout construction. There is potential that the proposed developments will disturb contaminated soils and therefore the CLMP applies to this area.

Contamination Summary from Previous Investigations

Within the Hōniana Te Puni Reserve, areas of potential sources of contamination were identified by the PSI. This included reclamation fill across the Reserve and a former foundry. The contaminants of concern associated with these identified sources include petroleum hydrocarbons, heavy metals, oxides, fluorides (including per and polyfluoroalkyl substances (PFAS) and chlorides, cyanide compounds asbestos. Additionally, two buildings referred to as the Wellington Water Ski Club and Wellington Rowing Association were identified as a concern for containing asbestos and lead (from paint).

Soil sampling across the Reserve was undertaken by AECOM (2021)² and additional soil sampling was undertaken by T+T (2023), of which a report is currently being prepared. The sampling and results of the sampling are summarised below:

Proposed Integrated Clubs Building

Two soil samples were collected from a geotechnical bore by AECOM². The samples were analysed for heavy metals and asbestos. Two test pits were advanced by T+T to a depth of 2.7 m bgl and soil samples collected.

Former Foundry

Two test pits were advanced to depths of 0.5 m bgl within the former foundry footprint. Soil samples collected were analysed for heavy metals, TPH and asbestos. Concentrations of heavy metals detected in the samples complied with the NESCS⁴ (commercial/industrial land use).

Wellington Water Ski Club Building

Three surface soil samples were collected from the periphery of the Wellington Water Ski Club Building and one test pit was advanced adjacent to the building. Five test pits were excavated to the east and west of the building across part of the Reserve.

Wellington Rowing Association Building

Two surface soil samples were collected from the periphery of the Wellington Rowing Association Building and one test pit was advanced to a depth of 0.5 m bgl.

Soil samples collected from Hōniana Te Puni Reserve and from around the Wellington Rowing Association building were submitted to Hill Laboratories and analysed for the following:

- Samples were analysed for asbestos (semi-quantitative);
- Heavy metals (arsenic, cadmium, chromium, copper, lead, nickel, and zinc);
- TPH and PAHs
- Samples of anthropogenic/building material encountered across the site during intrusive works and suspected to be comprised of ACM, were submitted for bulk material identification.

The soil sample results collected from across the reserve showed that heavy metal concentrations complied with the NESCS⁴ (commercial/industrial land use) and samples analysed for petroleum hydrocarbons complied with the applicable Oil Industry Guidelines⁷. Concentrations of heavy metals variously exceeded the Wellington Background Criteria⁵ within the majority of samples collected. Samples generally complied with Landfill Acceptance Class A Screening Criteria⁶, with various exceedances. Further TCLP analysis was undertaken on soil samples with elevated metals and subsequent results complied with the Landfill Acceptance Concentration in Leachate Criteria⁶.

Asbestos was detected in samples collected from across the reserve at various depths. Asbestos concentrations were below the BRANZ Guidelines⁸ for the majority of samples. However, select samples collected from the proposed ICB location, Wellington Water Ski Club and Wellington Rowing Association exceeded the BRANZ Guidelines⁸ for all land uses. Additionally, asbestos was identified in bulk material collected from the site.



Figure C2. Location of Hōniana Te Puni Reserve and the former foundry.

Shared Pathway Footprint

Proposed Development Plans

Works in this area and in the coastal marine area for the construction of the shared pathway footprint will be subject to shallow earthworks between 0.1 and 0.4 m bgl and minimal soil disturbance. The majority of works will include reclaiming parts of the harbour adjacent to the rail corridor.

Contamination Summary from Previous Investigations

The PSI¹ identified that much of the shared path between Ngā Ūranga and Pito-One (excluding Honiana Te Puni Reserve) runs adjacent to the location of the current rail corridor established in 1874 from reclamation fill. The alignment runs through the area known as 'Rocky Point' where a KiwiRail Traction Switching Station containing electrical equipment is located. The PSI noted that contaminants associated with this include Polychlorinated biphenols (PCB's), heavy metals, petroleum hydrocarbons, and asbestos.

Due to accessibility issues only one sample was collected from the seaward side of Rocky Point and was analysed for TPH, heavy metals and Semi-volatile Organic Compounds (SVOCs). Concentrations of heavy metals, TPH and SVOCs detected in the sample collected from Rocky Point comply with the NESCS⁴ (commercial/industrial land use), Oil Industry Guidelines⁷ and Landfill Acceptance Class A Screening Criteria⁶.

Due to accessibility issues the majority of the shared pathway could not be sampled. However, the PSI concluded that given that the majority of the shared pathway will be subject to minimal soil disturbance and reclamation will be extended into the harbour to form the pathway, it is unlikely that potential contamination will be disturbed however, protocols outlined in the Accidental/Unexpected Discovery section should be adhered to within this area.

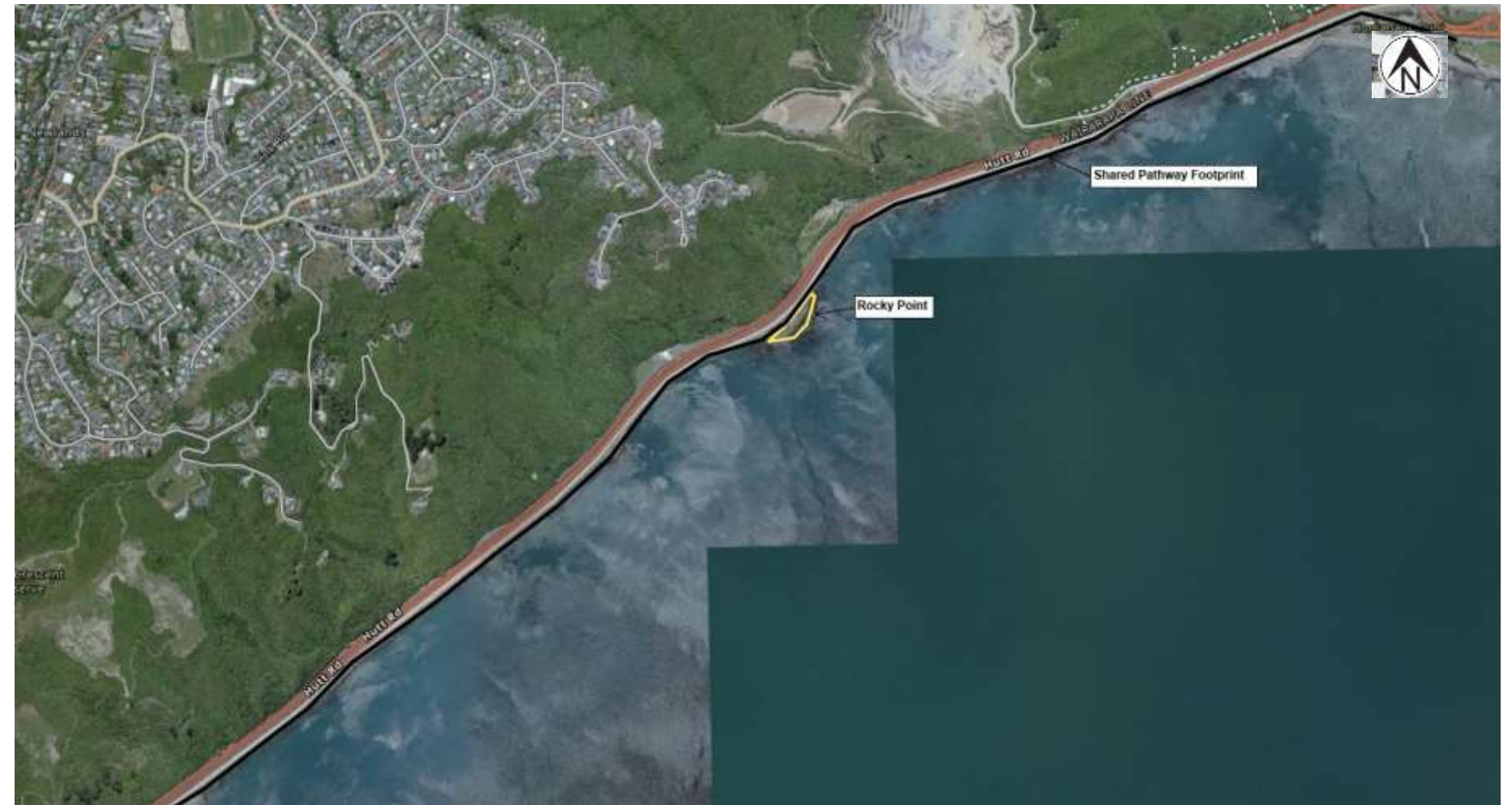


Figure C3. Location of the shared pathway footprint and Rocky Point.

References:

- ¹ AECOM, May 2021. Te Ara Tupua, Ngā Ūranga ki Pito-One Soil Quality Assessment. Draft. Report prepared for Waka Kotahi.
- ² AECOM, September 2020. Ngā Ūranga ki Pito-One: Preliminary Site Investigation. Report prepared for Waka Kotahi.
- ³ T+T, November 2022. Ngauranga Laydown Yard Bund Contamination Investigation. Report Prepared for KiwiRail Ltd. T+T Ref: 1019166.
- ⁴ NESCS, 2011. Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.
- ⁵ URS, 2003. Determination of Common Pollutant Background Soil Concentrations for the Wellington Region. Prepared for Greater Wellington Regional Council.
- ⁶ MfE, 2004. Hazardous Waste Guidelines. Landfill Waste Acceptance Criteria and Landfill Classification. MfE, Wellington.
- ⁷ MfE, 1999. Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand. MfE, Wellington.
- ⁸ BRANZ, 2017. New Zealand Guidelines for Assessing and Managing Asbestos in Soil.

