

ANNEXURE A Preliminary site investigation report



Preliminary Site Investigation

State Highway 1 (SH1) Wellington Improvements Project

New Zealand Transport Agency Waka Kotahi

44 Bowen Street
Wellington

Prepared by:

SLR Consulting New Zealand

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Basis of Report

This report has been prepared by SLR Consulting New Zealand (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with New Zealand Transport Agency Waka Kotahi (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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Executive Summary

SLR Consulting New Zealand Limited (SLR) has completed a Preliminary Site Investigation (PSI) for New Zealand Transport Agency Waka Kotahi (NZTA) in relation to the State Highway 1 (SH1) Wellington Improvements project (the Project).

The Project comprises the construction of improvements to SH1 within Wellington City, extending over 5 km through the city from north of the Terrace Tunnel to south of the Mount Victoria Tunnel, extending to beyond Kilbirnie Park in the south. It is described in five sections: Section 1 Terrace Tunnel, Section 2 Te Aro, Section 3 Basin Reserve, Section 4 Mount Victoria Tunnel and Section 5 Eastern Connections.

The Project will be consented under the Fast Track Approvals Act (FTAA) to be lodged with the Environmental Protection Authority (EPA). This PSI has been prepared to support the consent application in relation to the effects of contaminated land on the Project during and following construction.

The purpose of the PSI was to gather information to identify the location, extent and nature of contaminated land affected by the Project, assess the potential effects of the Project in relation to risk to human health and the environment from contaminated land affected by the Project and to provide recommendations for the further assessment and the management of effects.

The PSI comprised an initial desktop review of publicly available information to identify contaminated land. This included review of Greater Wellington Regional Council (GWRC) Selected Land Use Register (SLUR) records of Hazardous Activity and Industries List (HAIL) sites, historical aerial imagery, Wellington City Council (WCC) property file records, EPA records, information provided by the NZTA, and targeted site inspections to identify contaminated land located within the Project alignment and within 100 m of the Project alignment.

An assessment of effects on human health and / or the environment of HAIL land and other contaminated land affected by the Project was then undertaken using the qualitative effects assessment terminology adapted from NZTA based on a generic Conceptual Site Model (CSM). A complete Source-Pathway-Receptor (SPR) linkage indicated potential effects on human health and / or the environment (Low to Very High). An incomplete pathway indicated Negligible effects. Complete SPR pathways required disturbance of contaminated during the Project.

HAIL land was identified at 65 locations comprising:

- Eleven HAIL sites from SLUR records within Section 1. Electrical transformers were also identified within the northern and southern tunnel control buildings for the Terrace Tunnel. No complete SPR linkages were identified. The qualitative assessment of effects for all HAIL land associated with SLUR sites within Project Section 1 are assessed as Negligible.
- Twenty-four HAIL sites from SLUR records within Section 2. Potential HAIL land was also identified from historical aerial photographs at one location and two berm side electrical transformers were identified during the site drive by / walkover inspection. No complete SPR linkages were identified. The qualitative assessment of effects for all HAIL land within Project Section 2 are assessed as Negligible.
- Eighteen HAIL sites from SLUR records within Section 3. HAIL land was also identified at one location (Bogarts Corner) which previously housed an underground storage tank (UST). One SLUR site SN/05/230/02 Kirk Motors Ltd (currently Gazley Mitsubishi) will be disturbed by the Project. SLUR site SN/05/230/02 is more likely



than not associated with HAIL F4 and F7. Contaminants of Potential Concern (CoPC) associated with these HAIL activities and industries include heavy metals, petroleum hydrocarbons and volatile and non-volatile organic compounds. A UST, likely for fuel storage, was formerly located at this site, which is currently use for vehicle servicing. It is expected that earthworks for the Project will require ground disturbance and dewatering within the Gazley Mitsubishi site. Contaminated soil and groundwater may be encountered during earthworks, resulting in potential discharges of contaminants to land and water and human exposure to contaminants.

The SPR linkage at SLUR site SN/05/230/02 was assessed as complete, with a Low to Moderate effects on human health and the environment for the Project. Earthworks controls will be required to manage the effects of contaminant discharges.

The remaining HAIL sites in Section 3 were assessed as having no complete SPR linkages and risk to human health and the environment from all other HAIL land in Section 3 were assessed as Negligible.

- No HAIL sites were identified within Section 4.
- Five HAIL sites were identified within Section 5 from SLUR records. Other HAIL land was also identified from historical aerial photographs on one of the SLUR sites. SLUR site (SN/05/012/02 Kilbirnie Park) was identified as likely to be directly affected by earthworks. SLUR (SN/05/012/02) is a closed landfill and is more likely than not associated with HAIL G3. Contaminants for closed landfills typically include heavy metals, polycyclic aromatic hydrocarbons (PAHs) and asbestos in soils. The SPR linkage for this site was assessed as complete, with the qualitative assessment of effects assessed as Low to Moderate.
- The remaining HAIL sites in Project Section 5 were assessed as having no complete SPR linkages and risk to human health and the environment from all other HAIL land in Project Section 5 was assessed as Negligible.

The PSI also identified non-HAIL land and other potentially contaminated land associated with:

- Buildings scheduled to be demolished that contain asbestos and lead based paint.
- Grass road berms which may be contaminated by metals and petroleum hydrocarbons from passing vehicles.
- The potential for unclassified fill associated for example with backfill for retaining walls and below pavements and reclamation fill.
- Localised ground contamination from minor discharges for example from migration of contaminants along preferential pathways.

The SPR linkage for these contaminated land sources was considered to be potentially complete, with a qualitative assessment of effects associated the discharge of contaminants to the environment was assessed as Negligible to Low.

The PSI also identified the potential for coal tar derived PAH to be present in existing roading materials within some locations, which may be disturbed during the Project. The SPR linkage for these CoPC is assessed as potentially complete. A qualitative assessment of effects associated with the discharge of contaminants to the environment was Low to Moderate.

Per and poly fluoroalkyl substances (PFAS) were not considered to be significant CoPC for the Project. Notwithstanding, owing to their emerging ubiquitous nature, low concentrations



(including anthropogenic background concentrations) of PFAS within parts of the Project cannot be ruled out.

Recommendations to further quantify the nature and extent of CoPC within HAIL land at Gazley Mitsubishi and Kilbirnie Park are proposed, comprising

- A Detailed Site Investigation (DSI) to collect soil and groundwater samples in advance of the construction works to confirm concentrations of CoPC and to develop Contaminated Site Management Plans (CSMPs) setting out requirements the management of contaminated soil and / or groundwater during construction of the Project. CSMPs should be prepared in accordance with New Zealand contaminated land management guidelines.

Recommendations for the management of contamination for other sources within the Project during construction are also proposed, comprising:

- All structures requiring demolition as part of the Project where asbestos is likely to be present are required to be surveyed for the presence of asbestos by a licensed asbestos assessor to meet statutory obligations set out in the Health and Safety at Work (Asbestos) Regulations 2016. Concentrations of asbestos and lead remaining in soils at these locations should be established following demolition.
- A Site Management Plan (SMP) should be developed to manage the environmental and potential human health risks from berm soils, unclassified fill and soils from demolition sites contaminated by asbestos and lead if present and contaminated land arising from minor discharges, to include a soil handling, management, re-use and disposal procedures and an accidental discovery protocol. The SMP should include an unexpected discovery protocol. Encountering coal tar should be included in the unexpected contamination discovery protocol. A coal tar specific management plan will be required to manage the effects of contaminant discharges from coal tar where encountered.



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- Attachment B Photolog**
- Attachment C General Arrangement Drawings**
- Attachment D GWRC SLUR Information**
- Attachment E Historical Aerial Imagery**
- Attachment F Additional Council Information**
- Attachment G List of Buildings to be Demolished**



Acronyms and Abbreviations

AEE	Assessment of Effects on the Environment
AST	Above Ground Storage Tank
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CEnvP SC	Certified Environmental Practitioner Site Contamination
CLMG	Contaminated Land Management Guidelines
CoPC	Contaminant of Potential Concern
DG	Dangerous Goods
DSI	Detailed Site Investigation
EPA	Environmental Protection Authority
FTAA	Fast-track Approvals Act 2024
GWRC	Greater Wellington Regional Council
HAIL	Hazardous Activities and Industries List
HSNO	Hazardous Substances and New Organisms
Laboratory LOR	Laboratory Limit of Reporting
m bgl	Metres Below Ground Level
MfE	Ministry for the Environment
NES-CS	National Environmental Standard for Managing Contaminants in Soil to Protect Human Health 2011
NRP	Operative Natural Resources Plan for the Wellington Region 2023
NZTA	New Zealand Transport Agency Waka Kotahi
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
POP	Persistent Organic Pollutants
the Project	State Highway 1 Wellington Improvements Project
Project area	The area within the proposed designation boundary, and immediate surrounds to the extent Project works extend beyond this boundary
PSI	Preliminary Site Investigation
SH1	State Highway 1
SLUR	Selected Land Use Register
SMP	Site Management Plan
SPR	Source-Pathway-Receptor
SQEP	Suitably Qualified and Experienced Practitioner
Town Belt	Wellington Town Belt
UST	Underground Storage Tank
WCC	Wellington City Council



1.0 Introduction

1.1 Report Context

This Preliminary Site Investigation (PSI) report has been prepared for the New Zealand Transport Agency Waka Kotahi (NZTA) by SLR Consulting New Zealand Limited (SLR). It presents a desk top assessment of the location, nature and potential effects of contaminated land within and adjacent to the alignment for the State Highway 1 (SH1) Wellington Improvements project (the Project).

The PSI report comprises **Annexure A** to the Statement of Evidence presented in the covering Contaminated Land Assessment Technical Specialist Report. The PSI provides technical information used to inform the Statement of Evidence and should be read in conjunction with the Contaminated Land Assessment Technical Specialist Report.

The Contaminated Land Assessment Technical Specialist Report will support the resource consent application for the Project under the Fast Track Approvals Act (FTAA), to be lodged with the Environmental Protection Authority (EPA). Approvals to be sought include:

- New designation / alteration to the existing Wellington City SH1 designation (NZTA1) for the new transport infrastructure.
- Resource consents under Greater Wellington Regional Council (GWRC) Natural Resources Plan/Plan Change 1 (NRP).
- Resource consents required by NZTA under the NES-CS which meet contaminated land objectives and policies of the Wellington City Council (WCC) District Plan 2024.

1.2 Objectives of the PSI

The objectives of this PSI are to:

- Gather information to identify the location and likely nature and extent of contaminated land affected by the Project.
- Assess the potential effects of the Project in relation to risk to human health and the environment from contaminated land affected by the Project.
- Provide recommendations for the further assessment and the management of effects.

Contaminated land affected by the Project is contaminated land within the Project alignment that will be subject to ground disturbance by earthworks for the Project and contaminated land adjacent to the Project alignment where construction related ground disturbance within the Project alignment causes the migration of contaminants into the Project alignment. Construction related contaminant migration applies principally to construction dewatering.

1.3 Scope of Work

The scope of work for the PSI comprised the following key tasks:

Project background information review

- Review of information provided by NZTA on the Project layout and extent.
- Review of the environmental setting of the Project based on publicly available information and information contained in other Technical Specialist Reports.



Identification of Hazardous Activities and Industries List (HAIL) land and other potentially contaminated land

- Site walkover/drive by inspections of the Project alignment.
- Identification of Hazardous Activities and Industries List (HAIL) land (MfE 2023) within the Project alignment and within 100 m of either side of the Project alignment based on review of Selected Land Use Register (SLUR) web map produced by GWRC.
- Review of SLUR records obtained from GWRC to assess contamination history and likely contaminants of potential concern (CoPCs) in each SLUR site.
- Review of further information including historical development plans and previous site investigations and other information as available for selected sites, obtained from NZTA, Wellington City Council (WCC), GWRC and publicly available sources.
- Review of publicly available historical aerial imagery, typically available from about 1940 to current, to identify potential HAIL land not captured on the GWRC SLUR, and other potentially contaminated land, based the interpreted development history of land within the Project alignment and within 100 m of either side of the Project.
- Review of EPA records available for the period July 2006 to December 2011, of reported incidents involving hazardous substances within the Project alignment or within 100 m of either side of the Project alignment.
- Review of information on the likely presence, location and nature of coal tar in existing roading materials within the Project, based on publicly available information and advice provided by NZTA.
- Assessment of the likelihood of contamination by Per- and Polyfluoroalkyl Substances (PFAS) from the use of PFAS containing fire fighting foams within the Terrace and Mount Victoria tunnels based on advice from NZTA following consultation with Fire and Emergency New Zealand (FENZ).
- Targeted walkover inspections of selected sites.

Identification of HAIL land and other potentially contaminated land affected by the Project

- Review of the location and nature of HAIL land and other potentially contaminated land likely to be affected by the Project.

Assessment of risk to human health and the environment

- Assessment of the likely effects of HAIL land or other potentially contaminated land affected by the Project on human health and the environment from ground disturbance associated with the Project.

Management and mitigation measures assessment

- Provision of recommendations for the further assessment and management of effects of HAIL land or other potentially contaminated land on human health and the environment from ground disturbance associated with the Project.

Note: The distance of 100 m either side of the Project alignment was selected to account for the possible presence of contamination in soil or groundwater below the Project alignment from the migration of contaminants in groundwater from HAIL land not directly within the Project alignment. Loss of petroleum hydrocarbons was considered to be the most likely and



significant source of offsite contamination. Owing to its high mobility in groundwater and its low Maximum Acceptable Limit (MAV) in drinking water (0.01 mg/L in New Zealand), benzene was considered to be primary risk driver associated with such losses. Numerous studies (e.g., Concawe 2018) have shown median plume lengths in groundwater under ambient (non-pumping) conditions of about 45 m for benzene plumes at 0.01 mg/L and 105 m at the 90th percentile. The 100 m buffer zone is therefore considered to be a reasonable assumption when considering the potential for contamination within the Project alignment from HAIL sites not directly within the Project alignment.

1.4 PSI Report Structure

The balance of the PSI is structured as follows:

Section 2.0 – Discussion of HAIL land, the SLUR and other contaminated land referenced in this PSI report.

Section 3.0 – Summary Description of the Project.

Section 4.0 – Description of the existing environment.

Section 5.0 – Description of the assessment of effects methodology.

Section 6.0 – Findings of the record Review to Identify HAIL Land and other Contaminated Land and qualitative assessment of effects of identified HAIL land.

Section 8.0 – Findings of the aerial photograph review and qualitative assessment of effects of identified HAIL land.

Section 9.0 – Summary of identified HAIL land and qualitative assessment of effects.

Section 11.0 – Further assessment of HAIL land identified as having potential effects.

Section 12.0 – Discussion of other potentially contaminated land.

Section 13.0 – Key conclusions and recommendations.

In text figures are presented throughout the body of the PSI report.

Supporting information comprises:

Attachment A – Plans showing general layout of the Project.

Attachment B - Photographs taken during the site walkover/inspection of the Project alignment.

Attachment C – General Arrangement drawings

Attachment D – Plans showing the locations of SLUR sites in relation to the Project alignment.

Attachment E – Aerial photograph review information and annotated historical aerial imagery.

Attachment F – Selected additional information used to inform the PSI report.

Attachment G – List of buildings to be demolished.



2.0 Description of Contaminated Land Referenced in this PSI

2.1 HAIL Land

The HAIL is a compilation of 53 activities and industries prepared by MfE that are considered likely to cause land contamination resulting from hazardous substance use, storage or disposal. The HAIL is intended to identify most situations in New Zealand where hazardous substances could cause, and in many cases have caused, land contamination, and serves as an indicator of the potential for contaminated land (MfE 2023).

The activities and industries are grouped into nine categories (A–I).

Categories A to G group together broadly similar industry and activity types. Land categorised as HAIL A to G is land that at some time, has more likely than not, hosted the activities of industries associated with their respective categories.

HAIL categories H and I cover land subject to the migration, or the intentional or accidental release of hazardous substances. These categories apply where no defined site use, activity or specific hazardous substance is identified as a common cause of contamination. HAIL Category H and I also include the requirement that the presence of hazardous substances in the land is in sufficient quantity that it could be a risk to human health or the environment.

The HAIL categories are:

- Category A – Chemical manufacture, application and bulk storage.
- Category B – Electrical and electronic works, power generation and transmission.
- Category C – Explosives and ordnance production, storage and use.
- Category D – Metal extraction, refining and reprocessing, storage and use.
- Category E – Mineral extraction, refining and reprocessing, storage and use.
- Category F – Vehicle refuelling, service and repair.
- Category G – Cemeteries and waste recycling, treatment and disposal.
- Category H – Land that has been subject to the migration of hazardous substances.
- Category I – Land that has been subject to the intentional or accidental release of a hazardous substance.

2.2 SLUR Sites

The GWRC SLUR is a database of HAIL sites within the Wellington Region compiled by GWRC, where hazardous substances are or have been used, stored or disposed of¹. SLUR site extent is linked to individual property identifiers and not necessarily the contaminating activity or industry. SLUR categories and descriptions are presented in **Table 1**.

¹ [Greater Wellington — Contaminated land - SLUR](#) (accessed 19 January 2026)



Table 1 SLUR Categories and Descriptions

Project Area	Initial Assessment of Impact to Project
I - Verified History of Hazardous Activity or Industry	A site for which a past or present use has been confirmed as falling within one of the definitions on the HAIL. Assignment to this category does not imply the site is contaminated, but merely that hazardous substances have been used, stored or disposed of on the site and therefore there is a potential for site contamination to have occurred.
II - Unverified History of Hazardous Activity or Industry	A site for which its past or present use is the subject of an unconfirmed report that indicates that it falls within one of the definitions on the HAIL. Assignment to this category does not imply the site is contaminated, but merely that there is a possibility that hazardous substances have been used, stored or disposed of on the site and site contamination may have occurred. The reports could be from an external source or from a general information search carried out by Greater Wellington. A site remains under this category until further information is available that enables it to be transferred to another category.
III - Contamination Confirmed	A site where there is evidence that hazardous substances exist above background concentrations AND it is a likely that adverse effects on human health (subject to exposure path) or the environment will occur based on the current or foreseeable site use. This category is for sites that the council holds information on, typically as a result of a site investigation that shows contaminants are present on the site at concentrations that exceed relevant guidelines. A site remains in this category until it is remediated or managed in such a way that it can be transferred to Category IV.
IV - Contamination Acceptable, Managed/Remediated	A site where there is clear evidence that residues of hazardous substances exist above background concentrations BUT the level of risk of adverse effects on human health or the environment is shown to be acceptable for the particular land use. Either the concentrations are below relevant guideline levels OR remedial or management action has been taken to reduce the risks to an acceptable level. Sites may be placed in this category either because an investigation report has been received that shows the site has contaminants present in environmental media but the concentrations are below relevant guideline values, or the site has previously been registered in Category I or III and further investigation or remediation has been undertaken.
V - No Identified Contamination	A site that has been classified under any other category, but subsequent investigation has found that the site has never been associated with any of the uses on the HAIL and there is no possibility of contamination of the site. This category is used for sites entered onto the SLUR or into the initial registration category as a result of incorrect information. The site is not removed from the register; it remains on SLUR to correctly record the sites history. The reasons for the original entry and reasons for the change to this category are recorded.



2.3 Other Contaminated Land

Other contaminated land referenced in this PSI is land within the Project alignment contaminated by hazardous substances that does not classify as HAIL land owing to:

- Activities and industries identified in the HAIL have not occurred within the land.
- The quantity hazardous substances within the land is not sufficient to pose a risk to human health or the environment (i.e., not HAIL H).

This land potentially includes:

- Land contaminated by lead and asbestos, including asbestos containing materials (ACM), commonly associated with the presence of ACM in older residential and commercial properties (circa 1940 to 2000).
- Grassed road berms impacted by contaminants including metals and petroleum hydrocarbons for example from vehicle exhausts and tyre and brake wear.
- Land containing unclassified fill.
- Land impacted by minor discharges of contaminants from adjacent contaminated land, including offsite migration of contaminants via passive discharges in groundwater and preferential pathways such as services trenches.
- Roading materials containing coal tar.
- Land impacted by PFAS.

Other potentially contaminated land is also referred to as non-HAIL contaminated land in this PSI.

2.4 Unidentified Contaminated Land

SLR has identified contaminated and potentially contaminated land through extensive review of information as described in Section 1.3. SLR has not reviewed the property files for all land parcels within 100 m of either side of the Project alignment to assess whether any potentially contaminating activities occurred at properties either not captured on the SLUR, not visible on aerial photographs, or that were short lived and occurred between the dates of reviewed aerial photographs.

It is assessed that the duration and scale of these activities is unlikely to significantly affect the findings of this PSI.



3.0 Project Description

The Project comprises the construction of improvements to SH1 within Wellington City, extending over 5 km through the city from north of the Terrace Tunnel to south of the Mount Victoria Tunnel, extending to beyond Kilbirnie Park to Evans Bay in the south.

For description purposes, the Project has been divided into the following five sections which are described in full in the substantive application:

- 1 Terrace Tunnel.
- 2 Te Aro.
- 3 Basin Reserve.
- 4 Mount Victoria Tunnel.
- 5 Eastern Connections.

The five sections are shown in **Figure 1** below and in **Attachment A Figure 1**. Photographs of Project alignment and surrounding land taken during preparation of the PSI are presented in **Attachment B. Figures B-1 to B-4 of Attachment B** shows the contextual location of where photographs were taken in each Project section.

The Project improvements will be undertaken mainly with the existing SH1 designation and within the current SH1 carriageway, as shown in **Attachment A, Figure 2 to Figure 5**. Main exceptions comprise the duplicated Terrace and Mount Victoria tunnels, improvements to the north of the Basin Reserve between Sussex Street and Cambridge Terrace, Hataitai Park access improvements including a new bridge over SH1 between Hataitai Park and Moxham Ave, and widening of SH1 at the northern end of Kilbirnie Park.

Key elements of the Project improvements relating to ground disturbance are described for each Project section below based on information presented in the substantive application and information contained in General Arrangement Drawings for the Project. Selected drawings are presented in **Attachment D**.

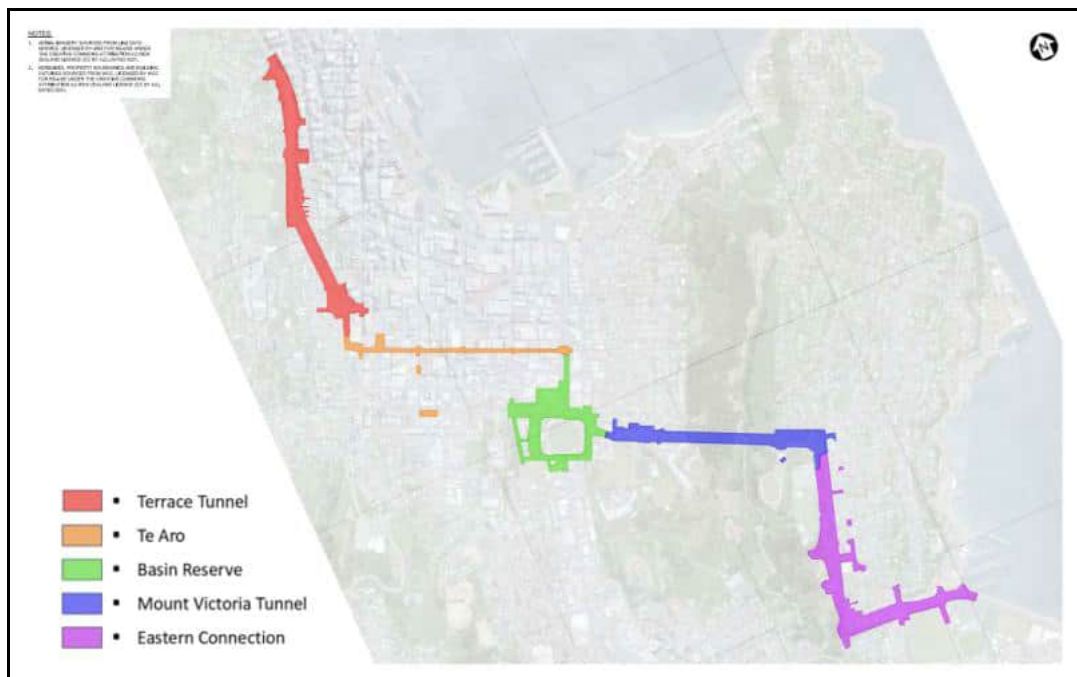


Figure 1 Project Layout and Extent (Image from NZTA)



3.1 Section 1 Terrace Tunnel

The Project alignment within Section 1 Terrace Tunnel showing the key development improvements is presented in **Attachment A, Figure 2**.

Key elements of the Project with respect to the main ground disturbance activities comprise:

- Duplication of the Terrace Tunnel to east of the existing tunnel to provide two southbound traffic lanes into the city. The tunnel duplication works lie outside the current SH1 designation. Works will include tunnelling through natural ground requiring dewatering, which will progressively increase as the tunnel construction advances. Permanent drainage will be installed during construction and will take over the dewatering post-construction. Disturbance of existing berm soils at the northern and southern portals will occur in conjunction with other works.
- Decommissioning of the existing Tunnel Control building located above the northern portal of the Terrace Tunnel. Two electrical transformers and two non-oil containing Ring Main Units (RMUs) are present within an engineered bunded compound outside the Control building, which will be decommissioned/removed.
- Demolition of the existing Tunnel Control building located at ground level immediately to the east of SH1 at the southern portal of the Terrace Tunnel. (**Attachment B, Photo 1 and 5**). There are two bunded electrical transformers located inside the Control building and two RMUs located outside on the northern side of the Control building, which will be decommissioned/removed.
- Construction of new tunnel control building, fire water and deluge water supply tanks and a deluge water pump building and hardstand over existing grassed and vegetated soil berm soils on eastern side of SH1 from Everton Terrace to the northern portal of the Terrace Tunnel, including new stormwater services within existing road berm on the eastern side of SH1. Disturbance of berm soils will be required.
- Construction of retaining structures along the eastern side of the SH1 southbound lane, including at the entrance and exits of the new Terrace Tunnel and around tunnel portals, including mechanically stabilised earth wall, soil nail cut slope treatment, and cut slope with erosion protection matting. Disturbance of berm soils will be required. Some of these works lie outside the current SH1 designation.
- Construction of new tunnel control building, inground fire hydrant and deluge water detention tanks, pump station and hardstand over existing grassed and vegetated soil berm soils on eastern side of SH1 between McDonald Crescent and Ghuznee Street at the southern portal of the Terrace Tunnel, and within part of the Upper Willis Street carpark to the east of the new tunnel control building to the rear of the St Peters Apartments (**Attachment B, Photos 1, 2 and 6**). Includes new stormwater services within existing road berm and the part of the Upper Willis Street carpark connecting to existing services in SH1 and in Willis Street and a short section of wastewater service from deluge tank valve chamber to wastewater in Willis Street. Disturbance of berm soils and potentially fill soils and underlying natural ground below part of the Upper Willis Street carpark and Willis near Ghuznee Street will be required. The works within the Upper Willis Street lie marginally outside the current SH1 designation.
- Construction works area on existing hardstand at the corner of Ghuznee and Willis Streets on existing berm soils south of McDonald Crescent and soft landscaping to the east of the new southbound carriageway and McDonald Street (**Attachment B, Photos 1, 3, 6 and 7**). Minor disturbance of berm soils will be required.



- Extension or removal and replacement of the existing Ghuznee Street bridge to allow SH1 southbound lanes beneath the Ghuznee Street bridge (**Attachment B, Photos 1, 2 and 3**). Disturbance of berm soils and natural ground will be required for lane widening.

Further details are provided in the General Arrangement drawings presented in **Attachment D**.

3.2 Section 2 Te Aro

The Project alignment within Section 2 Te Aro is shown in **Attachment A, Figure 3**. Photographs of the current alignment are presented in **Attachment B, Photos 10-13**.

Proposed works within the Te Aro section primarily comprise reconfiguring Vivian Street to accommodate additional traffic lanes within the existing road corridor, including resurfacing and some adjustments to existing verandas signals and kerbs. Works involving ground disturbance principally comprise changes to kerb and signal poles. In areas around kerb changes, excavation of 0.5 m or more may be required for formation of new kerb, new pavement layers, relocating catchpits and extending stormwater leads. These works are unlikely to encounter groundwater. Changes to signal poles require excavation for new poles which could be up to 2 m deep and could require a wider extent than the pole foundation, if existing underground utilities need to be relocated. Dewatering to facilitate the improvements is not anticipated.

Kerb and signal pole changes works are all within the current roading corridor and are located as follows:

- Intersection of Vivian Street and Willis Street.
- Intersection of Vivian Street and Victoria Street, part of eastern side of Victoria Street and southern side of Vivian Street between Victoria Street and Walter Street.
- Intersection of Vivian and Cuba Street
- Opposite 214 Cuba Street (to make Cuba Street one way).
- Northern side of Vivian Street between Taranaki Street and Tory Street.
- Intersection of Pirie Street and Cambridge Terrace (no access from Pirie Street).

Disturbance of existing roading materials, potentially extending into underlying fill or natural ground will be required.

No improvements as part of the Project involving ground disturbance are being undertaken on SH1 (Karo Drive /Arthur Street) between Victoria Street and Tasman Street/Tory Street, including within the SH1 Arras Tunnel which underlies Pukeahu National War Memorial Park, located between Taranaki Street and Tasman Street/Tory Street.

Further details are provided in the General Arrangement drawings presented in **Attachment D**.

3.3 Section 3 Basin Reserve

The Project alignment with Section 3 Basin Reserve is shown in **Attachment A, Figure 4**. Further details are provided in the General Arrangement drawings presented in **Attachment D**.

Key elements of the Project with respect to the main ground disturbance comprise:



- Reconfiguration of northbound SH1 traffic to travel around the northern side of the Basin Reserve.
- Grade separating SH1 northbound traffic from local north-south traffic; SH1 (Buckle Street) will pass over an extended Sussex Street, by constructing a road bridge that enables the SH1 grade separation, comprising a single span structure, approximately 28 m long and 10 m wide, with a minimum vertical clearance of 4.9 m.
- Construction of an extended Sussex Street which will be placed in a trenched section west of the Basin Reserve that will tie into Cambridge Terrace south of Barker Street (**Attachment B, Photos 25, 27 and 28**).
- The new trench will be excavated as a ramp below Sussex Street to a maximum depth of approximately 9.0 m (~5.2 m Reduced Level (RL)) at the intersection with Buckle Street. The trench will extend beyond the current designation to the north, below currently publicly accessible land in hard and soft landscaping at the eastern end of Pukeahu War Memorial Park, including the current location of part of the Commonwealth Walkway and the Queen Elizabeth II Education Centre (the Creche), which will be relocated to the east of its current location. This land lies within the current SH1 designation. The trench will also pass through an asphalt vehicle display and carpark and part of the property occupied by the Gazley Mitsubishi car dealership offices, workshop and vehicle display yard located at 75 to 78 Cambridge Terrace, rejoining Cambridge Terrace about 30 m south of Barker Street.
- The trench will be excavated into the shallow groundwater table and may partially be excavated in an underlying artesian aquifer. The sides of the excavation will be permanently stabilized with approximately 14 m deep piled retaining structures, and the base will be permanently drained from 0.5 m below the new road level. The trench will require temporary dewatering and depressurization during construction. A 0.5 m undercut will be incorporated at the base of the excavation to enable installation of the drainage system.
- The trench excavation and associated improvement will require substantial earthworks within both the existing road network to the west of the Basin Reserve, within the existing designation and new designation between Sussex Street and Cambridge Terrace. The works will include temporary and new permanent stormwater services.
- Provision of a single span land / green bridge across the Sussex Street trench adjacent to the SH1 road bridge to provide active mode connections and extend the landform between Pukeahu National War Memorial Park and Cambridge Terrace (**Attachment B, Photos 34 and 35**).
- Construction of bike paths and rain gardens with the medium berm between Cambridge and Kent Terraces and a new bike path within the existing landscaped area known as Bogarts Corner at corner of Kent Terrace and Hania Street.
- No works will be undertaken within the Basin Reserve.

The SH1 improvements in Project Section 3 are within the current SH1 designation except for the Sussex Street extension and for widening of Sussex Street to the west adjacent to the Basin Reserve, which will also include demolition of existing buildings. Further details are provided in the General Arrangement drawings presented in **Attachment D**.



3.4 Section 4 Mount Victoria Tunnel

The Project alignment within Section 4 Mount Victoria Tunnel is shown in **Attachment A, Figure 5**. Further details are provided in the General Arrangement drawings presented in **Attachment D**.

Key elements of the Project with respect to the main ground disturbance activities comprise:

- Duplicating the Mount Victoria Tunnel (approximately 620 m long and 15 m wide) to provide two southbound lanes and a separated shared use path on the northern side of the new tunnel. The tunnel duplication works lie outside the current SH1 designation. Works will include tunnelling through natural ground requiring dewatering, which will progressively increase as the tunnel construction advances. Permanent drainage will be installed during construction and will take over the dewatering post-construction. Disturbance of existing berm soils and natural ground at eastern portal will occur in conjunction with other works.
- Construction of new southbound carriageway to include excavating natural ground and fill soils below part of existing Patterson Street, which will be reconfigured as one way.
- Construction of a tunnel control building (including substations) on the western side of the new tunnel above the portal of the new tunnel. The existing tunnel control building on Patterson Street will be demolished.
- Construction of fire hydrant and water deluge detention tank below the southern carriageway to the west of the western portal of the new Mount Victoria Tunnel and associated stormwater and wastewater services within the existing and new carriageway.
- Construction of a tunnel control building (including substations) on hardstand on the eastern side of the new tunnel close to the current location of Hataitai Kindergarten off Taurima Street. The existing eastern tunnel control building will be demolished. These works lie outside the current SH1 designation.
- Fire hydrant and water deluge detention tank below the southern carriageway to the east of the eastern portal of the new Mount Victoria Tunnel and associated stormwater and wastewater services within the existing and new carriageway.
- Construction of new southbound carriageway on the eastern side of the tunnel to include excavating berm soils and other soils below current green space, connecting to the existing carriageway. These works lie outside the current SH1 designation.
- Construction of new northbound carriageway on the eastern side of the tunnel to include excavating existing berm soils adjacent to Hataitai Park. These works lie outside the current SH1 designation.
- Construction of retaining structures along Paterson Street and the SH1 carriageways entering and exiting the tunnel portals and surrounding the tunnel portals (**Attachment B, Photos 29-31**).

Further details are provided in the General Arrangement drawings presented in **Attachment D**.

3.5 Section 5 Eastern Connections

The Project alignment within Section 5 Eastern Connections is shown in **Attachment A, Figure 5**.



Key elements of the Project with respect to the main ground disturbance activities comprise:

- Widening of road corridor along Ruahine Street into the Town Belt (**Attachment B, Photos 46-49**) to provide two lanes of general traffic in each direction between the Mount Victoria tunnels and Wellington Road. Works will include construction of retaining structures along SH1 carriageways, including cut slopes and retaining wall structures along Ruahine Street. These works will require ground disturbance of berm soils on the eastern and western sides of Ruahine Street. Works on the western side of Ruahine extend outside the current SH1 designation.
- Construction of a grade separated local road connection across SH1 south of Goa Street from Moxham Avenue to Hataitai Park (**Attachment B, Photos 51-52**) to provide access to the park, including northbound and off-ramps between SH1 and the new connection to provide improved access into and out of Hataitai and the park. Works will include cut slopes and retaining wall along Ruahine Street, Wellington Road, and embankments for the new bridge which will occupy land currently in residential landuse and outside the current SH1 designation.
- Removal of the Badminton Hall building, which is located on Town Belt.
- These works will require ground disturbance of berm soils on the western side of Ruahine Road to reconfigure existing and /or form new carriageway berms soils on eastern side of Ruahine Road for construction of a shared path. The bridge will be constructed over land currently in residential use, requiring demolition of existing residential buildings.
- Widening of the road corridor along Wellington Road into the properties south of SH1 and Kilbirnie Park (**Attachment B, Photos 53-61**), to provide two or more lanes of general traffic in each direction between Ruahine Street and Cobham Drive. The works will be constructed over land currently in residential use, requiring demolition of existing residential buildings and also over potential fill soils in the northern part of Kilbirnie Park. The current cricket pavilion will also be demolished and rebuilt to the south of its current location. These works lie outside the current SH1 designation.
- A new stormwater pipe beneath Ruahine Street and Wellington Road from near the eastern portal of the Mount Victoria Tunnel, discharging to Evans Bay via an upgrade of the existing outfall to Evans Bay. Open trenching construction methods within the existing carriageway will be likely be used where the stormwater pipe is to be installed at shallow depth, generally requiring minimal dewatering during construction. Trenchless methods will be used for deeper sections of the pipe. Up to four launch/receiving pits will be installed for the trenchless pipe installation, with maximin excavation to 20 m below current ground level. The deepest pit is located near 72 Wellington Road on land currently in residential landuse.

Further details are provided in the General Arrangement drawings presented in **Attachment D**.



4.0 Site Description

4.1 Site Identification

The Project alignment encompasses the Wellington Urban motorway (SH1) from approximately the Aurora Terrace overbridge in the west through the Terrace Tunnel into Wellington City, from where it passes through the suburb of Te Aro, the Basin Reserve and the Mount Victoria Tunnel to Kilbirnie Park in the east, **Attachment A, Figure 1**.

4.2 Geology

The geological setting of the Project alignment is described in the GNS 250k geology web map (<https://data.gns.cri.nz/geology/>). It is underlain by Mesozoic greywacke basement, which is overlain in parts of the Terrace Tunnel, Te Aro, Basin and Eastern Connections Sections by Pleistocene to Holocene sedimentary deposits and Holocene human-made deposits (made ground) including reclamation fill, of varying thickness. The extent of these geological deposits is presented in **Figure 2**.

A full description of the geological setting of the Project is presented in concurrent Technical Assessment #15 Groundwater Assessment.



4.3 Groundwater

Groundwater is present within the greywacke basement and the overlying sediments at varying depths below the Project alignment.

Groundwater from these sources is not abstracted for public water supply owing to generally low yields from the greywacke, and quality issues, including the presence of contaminants in shallow groundwater within made ground and in natural sedimentary deposits underlying some developed areas of the central City. It is noted however that a deep bore into the greywacke (151 m deep) located at Moore Wilson supermarket on the corner of Tory Street and College Street has in the recent past been used for drinking water by supermarket customers. This bore is located some 90 m from Vivian Street and will not be affected by the Project.

Groundwater is expected to be encountered during tunneling works and during some earthworks, including the cut excavation associated with the Sussex Street extension.

A full description of the geological setting of the Project is presented in concurrent Technical Assessment #14 Groundwater Assessment.

4.4 Surface Water

The concurrent Technical Assessment #11 Freshwater and Wetland Ecology Assessment presents detailed information on surface water and streams within the Project area. It reports the presence of five freshwater streams (awa) within urban Wellington that potentially interact with the Project (**Figure 3**). These comprise:

- Kumutoto and Waikoukou Awa which flow eastwards through the Terrace Tunnel section and discharge to Wellington Harbour adjacent to Lambton Quay (Lambton Harbour).
- Waimapihi Awa which flow eastwards through the northern part of the Te Aro section and discharges to Lambton Harbour adjacent to Lambton Quay.
- Waitangi Awa which flows eastwards through the Basin and Mount Victoria sections and discharge to Lambton Harbour at Waitangi Park.
- Waipapa Awa on the eastern side of Mount Victoria which flows south and east under the suburb of Hataitai and beneath Moxham Ave to discharge at Evans Bay.

These awa are predominately piped with only a limited number of remaining open channels, reaches or tributaries. The freshwater environment is considered to be highly modified.



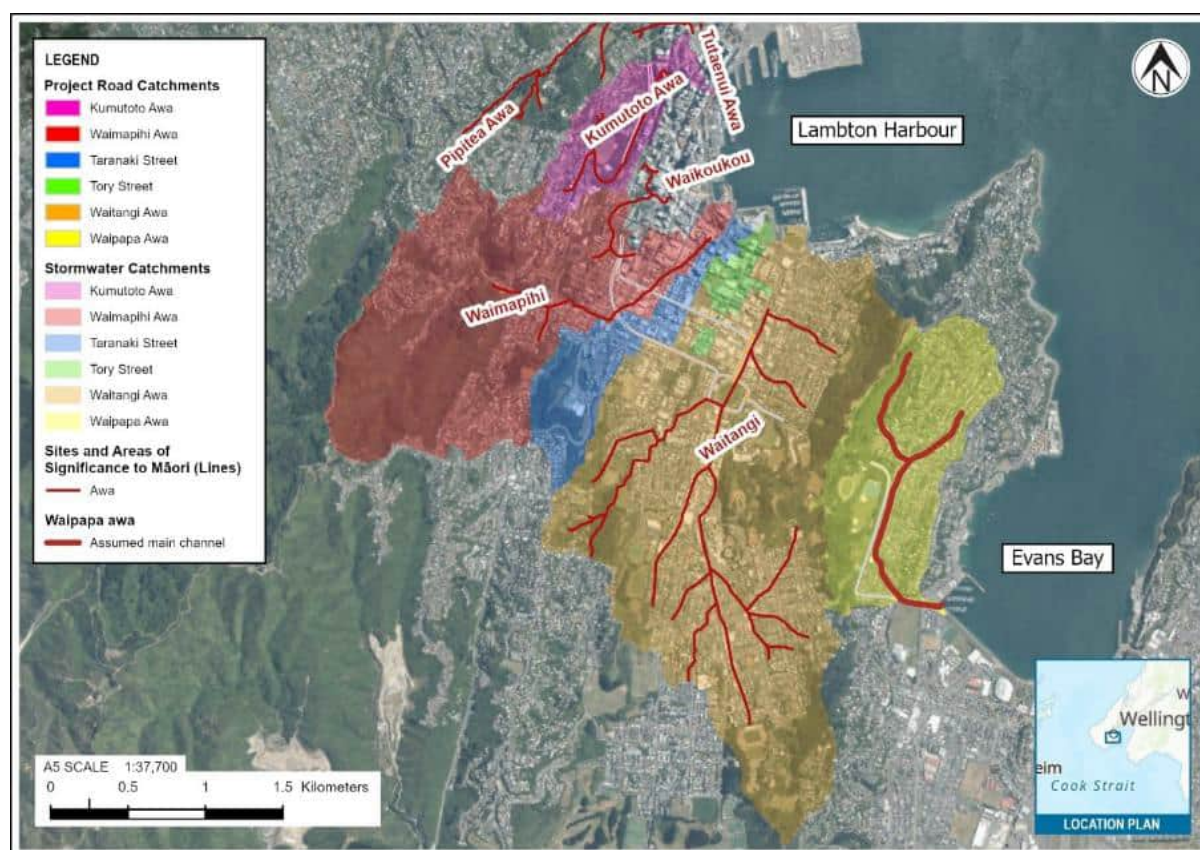


Figure 3 Overview of piped awa, stormwater catchments, and road catchments associated with the Project (from Technical Assessment #11 Freshwater and Wetland Ecology Assessment)

4.5 Existing Environment

4.5.1 Section 1 Terrace Tunnel

The **Terrace Tunnel** section includes the Wellington Urban motorway (SH1) from approximately the Aurora Terrace overbridge in the north, through the Terrace Tunnel, to Vivian Street within the suburb of Te Aro to the south (**Attachment B, Photos 1-7**). This section of SH1 was formed in the 1970s displacing mainly residential dwellings. The Terrace Tunnel opened in 1978.

The northern extent of SH1 to Boulcott Street SH1 forms the boundary between the central city to the east and the elevated residential suburb of Kelburn to the west. Land use in the central city includes commercial properties, comprising mainly multistorey offices between Aurora Terrace and Everton Terrace, also including Clifton Carpark adjoining the SH1 immediately north of Everton Terrace. This part of the Project lies predominately within existing SH1 designation, with NZTA and WCC owned land subject to temporary occupation on the eastern side of the existing corridor affecting Clifton Carpark.

Mainly residential properties are located on the elevated section of The Terrace to the east of SH1 from Everton Terrace to the northern portal of the Terrace Tunnel. Open Space zoning applies to Kelburn Park which adjoins the Project in the west and some land directly above the existing and proposed duplicate tunnels. South of Boulcott Street to the entrance of the Terrace Tunnel, proposed works are predominantly within the existing SH1



designation. There will be temporary occupation of 214 The Terrace, although the existing building will not be directly affected.

4.5.2 Section 2 Te Aro

The **Te Aro** section encompasses the Te Aro City centre and includes Vivian Street (SH1) to Cambridge Terrace and western part of Karo Drive (SH1) to near Kelvin Grove. Te Aro is a commercial centre well established by the turn of the 20th century, with predominant land uses comprising commercial and light industrial and residential land use, with increasing intensification to high density residential over time. Existing SH1 runs along Vivian Street and Karo Drive, which established as part of the Inner City Bypass project in about 2006. (**Attachment B, Photos 10-13**).

4.5.3 Section 3 Basin Reserve

The **Basin Reserve** section includes the Basin Reserve cricket ground and SH1 including Buckle, Sussex and Rugby Streets and the southern parts of Cambridge and Kent Terraces (SH1) (**Attachment B, Photos 14-28 and 34-43**). In addition to the recreational land associated with the Basin Reserve, land uses comprise of predominantly mixed use and commercial, including car sales yards, being the southern end of Wellington central city. On the eastern side of the Basin Reserve there are three schools and the southern end of the Mount Victoria suburb. Residential housing is present adjacent to Sussex Street and Pukeahu National War Memorial Park lies to the west and covers the SH1 Arras Tunnel connecting the Te Aro section to the Basin Reserve section. The northern side of Buckle St adjoins green space of the Pukeahu National War Memorial Park.

4.5.4 Section 4 Mount Victoria Tunnel

The **Mount Victoria Tunnel** section includes SH1 from east of the Basin Reserve through the Mount Victoria Tunnel to the suburb of Hataitai in the east. On the western side of the tunnel, the Project area includes predominantly residential properties on the northern side of Paterson Street, two properties with frontage to Brougham Street and one property with frontage to Austin Street. Wellington College lies to the south of SH1 (**Attachment B, Photos 29-31**).

The Mount Victoria Tunnel was officially opened in 1931 and passes below green belt (zoned Town Belt) emerging into the residential suburb of Hataitai. Hataitai Park lies immediately to the south of the of the eastern tunnel portal.

4.5.5 Section 5 Eastern Connections

The **Eastern Connections** section follows SH1 from eastern portal of the Mount Victoria Tunnel to east of Kilbirnie Park. Predominately residential properties lie on the eastern side of SH1, from the tunnel portal to the intersection with Wellington Street in the south. Mixed commercial and residential land use is present on Taurima Street in the north. Hataitai Park lies on the western side of SH1 to the intersection with Wellington Road (**Attachment B, Photos 44-61**).

Residential housing is also located to the north and south of SH1 from the SH1/Wellington Street intersection to Kilbirnie Crescent. To the east of Kilbirnie Crescent, residential housing lies to the north of SH1 and Kilbirnie Park lies to the south. Evans Bay marina and St Patricks College lie to the north and south respectively, at the eastern extent of Eastern Connections section.



5.0 Assessment of Effects Methodology

The assessment of effects on (potential risk to) human health and the environment of HAIL land and other contaminated land affected by the Project has been undertaken using the qualitative effects assessment terminology presented in **Table 2**. The assessment was informed by a generalised Conceptual Site Model (CSM) based on a qualitative risk based Source-Pathway-Receptor (SPR) linkage model applied to HAIL land and other contaminated land identified in the PSI using the methodology described in **Section 1.3**. The SPR model comprises the following elements:

- **Source** - The location, nature and concentration of contaminants in HAIL land and other contaminated land that will be subject to ground disturbance for the Project. This includes land contaminated as the result of the migration of contaminants from contaminated land adjacent to Project alignment into the Project alignment, which includes HAIL H land. Land subject to ground disturbance is based on the expected Project improvements involving ground disturbance summarise for each Project section in **Section 3.0** of the PSI.
- **Pathway** - Migration pathways to people and the environment resulting from ground disturbance for the Project within HAIL land and / or other contaminated land within the Project alignment. Pathways include dermal contact, ingestion and inhalation of contaminants in soil, groundwater and air by human receptors, and the discharge/migration of contaminants to the environment via groundwater, stormwater and streams. For a pathway to be present, ground disturbance for the Project must occur within affected HAIL land or other contaminated land.
- **Receptor** - Location and nature of human and environmental receptors that could be exposed to contaminants mobilised during ground disturbance for the Project. Human receptors principally comprise Project construction workers, with secondary receptors comprising members of the public in the vicinity of the ground disturbance works. Environmental receptors principally comprise streams, Wellington Harbour and Evans Bay from the discharge of contaminants in stormwater runoff or from discharges to the ground, passive discharges in groundwater and stormwater from dewatering activities as part of the Project.

Groundwater is not abstracted for potable use in the Project area. Groundwater is therefore not considered to be a potential source and or migration pathway in relation to potable water use and consumption.

A complete SPR linkage requires the presence of all of the SPR elements and indicates potential effects on (risk to) human health and / or the environment. These effects are characterised as Negligible to Very High using the assessment terminology adapted from NZTA, presented in **Table 2**. An incomplete SPR linkage indicates Negligible effects only.



Table 2 Qualitative Effects Assessment Terminology (adapted from NZTA)

Effect	Description of Effects
Very High	Total loss of, or very major alteration to, the existing baseline conditions, such that the environment post-development will be fundamentally changed. Longterm impacts that may be irreversible.
High	Major loss or major alteration to the existing baseline conditions such that the post-development environment will be fundamentally changed compared to the pre-development environment.
Moderate	Material change from existing baseline conditions in the short, medium or long term.
Low	Minor change from existing baseline conditions Temporary or short-term impacts or long term change will be noticeable but environment will be overall similar to pre-development conditions.
Negligible	Very slight change from the existing baseline conditions. Change not (or barely) discernible.



6.0 Identification and Assessment HAIL Land and Other Contaminated Land

6.1 SLUR Site Review

The identification and assessment of HAIL land registered on the SLUR is discussed in **Section 7.0**. It comprised an initial identification and assessment of HAIL land within the Project alignment and within 100 m of either side of the Project alignment carried from review of the GWRC SLUR web map and imbedded information. Figures showing the location of each identified SLUR site within each Project Section are presented in **Attachment D**.

Site walkovers/drive by inspections of the Project alignment were also undertaken to view current land uses and to identify potential HAIL land not identified on the SLUR. No private properties were entered as part of these inspections. Photographs from the inspections are presented in **Attachment B**.

An initial effects assessment to identify and screen out SLUR sites with Negligible effects was then undertaken based on SPR process described in **Section 5.0**.

Where summary information was considered to be insufficient for remaining SLUR sites, additional records held on the SLUR documenting contamination history and the likely CoPCs were obtained from GWRC and reviewed. WCC property file information was also obtained and reviewed for selected sites. Relevant, additional information reviewed for the PSI is presented in **Attachment F**.

A further effects assessment was then undertaken to identify potentially complete SPR linkages for the rationalised SLUR sites based on SPR process described in **Section 5.0**. This included assessment of land contamination as the result of the migration of contaminants from contaminated land adjacent to the Project alignment into the Project alignment, which could generate HAIL H land within the Project alignment or land impacted by localised, minor discharges of contaminants from adjacent contaminated land, typically via preferential pathways such as services trenches. Contaminated land arising from minor discharges is other contaminated land as described in **Section 2.3**.

This effects assessment for all SLUR sites is presented in summary and tabular form for each Project section in **Sections 7.1 to 7.5** of the PSI.

6.2 Review of publicly available historical aerial imagery

A review of publicly available historical aerial imagery covering the Project area, typically available from about 1940 to current, was also undertaken to further identify potential HAIL land not captured on the GWRC SLUR, based on the interpreted development history of Project area. This review is discussed in **Section 8.0** of the PSI and includes an assessment of effects of additional identified HAIL land based on SPR process described in **Section 5.0**.

6.3 Other Information Sources

Additional information on the likely presence and nature HAIL land and other contaminated land in the Project area reviewed as part of PSI comprised the following:

- Observations from site walkovers/drive by inspections of the Project alignment.
- Information from NZTA about the presence of electrical transformers within the current Terrace Tunnel and Mount Victoria Tunnel Control buildings.



- Advice from NZTA on use of PFAS containing fire fighting foams within the Terrace and Mount Victoria Tunnel deluge systems.
- EPA records available for the period July 2006 to December 2011, of reported incidents involving hazardous substances within the Project area.
- Publicly available information and advice provided by NZTA on the likely presence, location and nature of coal tar in existing roading materials within the Project alignment.
- Review of the following contaminated land related reports:
 - Mount Victoria Tunnel Duplication Project Technical Report No. 12 Assessment of contaminated land effects (SKM 2013a)
 - Basin Bridge Project Technical report 7 Assessment of contaminated land effects (SKM 2013b)
 - Basin Bridge Project AEE Chapter 18 Contaminated land (SKM 2013c)
 - Memorial Park (Arras Tunnel) Contaminated Land Management Plan, Enabling works, Underpass and Park (Memorial Park Alliance 2012). The plan is presented in **Attachment F**.
 - Underground storage tank (UST) removal report for 7 Ellis Street (Bogarts Corner) obtained from AECOM (AECOM 2012). The report is presented in **Attachment F**.

Additional HAIL land identified from these sources is discussed in **Section 9.0** and includes an assessment of effects of additional identified HAIL land based on SPR process described in **Section 5.0**.

The presence, nature and effects of other contaminated land is discussed in **Section 12.0**.



7.0 SLUR Sites

7.1 Project Section 1 Terrace Tunnel

Project Section 1 SLUR sites are presented in **Attachment D, Figures 1-1, 1-2 and 1-3**. A description and qualitative assessment of effects based of each SLUR site is presented in **Table 3**.

Principal ground disturbance works in Section 1 comprise duplication of the Terrace Tunnel to the east of the existing tunnel to provide two southbound traffic lanes into the city. Works will include tunnelling through natural ground. Disturbance of existing berm soils at the northern and southern portals will occur in conjunction for the construction of tunnel control buildings, water tanks and pump buildings. The works also include new stormwater services within existing road berm and part of the Upper Willis Street carpark connecting to existing services in SH1 and in Willis Street. Disturbance of berm soils and potentially fill soils and underlying natural ground below part of the Upper Willis Street carpark and Willis near Ghuznee Street will be required. Disturbance of berm soils will also be required for the addition southbound lanes beneath the extended or new Ghuznee Street bridge.

In summary:

- Eleven SLUR sites are listed in Section 1:
 - Ten category I Verified HAIL
 - One category IV Contamination acceptable, managed/remediated.
- Seven sites relate to the presence or former presence of an above or underground storage tank (AST/UST) for the storage of hydrocarbons, most likely as a source of fuel for a building boiler or backup generator (HAIL A17).
- Six of these SLUR sites are located along The Terrace. The seventh site (SN/05/905/02) located at the intersection of SH1 southbound with Willis Street, relates to a slurry filled UST (**Attachment B, Photo 8**).
- The four other SLUR sites are located within the suburb of Kelburn to the side of the Terrace Tunnel and relate to the presence of asbestos (HAIL E1), chemicals associated with embalming (HAIL G1 - historic Mount Street Cemetery), chemical storage and use associated with sports turf management (HAIL A10 – southern part of Kelburn Park) and landfill (HAIL G3 - Former Kelburn Park closed landfill).
- One location on Allenby Terrace relating to Fire damaged property and the presence of asbestos within the damaged property (HAIL E1).
- No SLUR sites will be disturbed by the Project.
- Although the potential for offsite migration of contaminants in groundwater was considered for some SLUR sites, distances from SLUR sites to ground disturbance works locations for the Project are assessed as sufficiently sufficient to rule out the migration of contaminants from the SLUR sites to land within the Project alignment, such that no HAIL H sites were identified by SLR.
- In all cases, at least one element of the SPR linkage for the SLUR sites is assessed as absent and all SPR pathways for SLUR sites in Section 1 are assessed to be incomplete.
- The qualitative assessment of effects for all HAIL land associated with SLUR sites within Project Section 1 are assessed as Negligible.



- No land within the Project alignment subject to ground disturbance for the Project was assessed as impacted by minor discharges of contaminants from adjacent contaminated land.



Table 3 Project Section 1 SLUR site description and effects assessment

SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/1069/02 1 Allenby Terrace Verified History Of Hazardous Activity Or Industry	1 Allenby Tce, Wellington City Lot 9 DP 1260	E1 Mineral extraction, refining and reprocessing, storage and use: Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition CoPC Asbestos.	2012: WCC notification (GW Ref: #1126029) reports that on 14 September 2011 a significant fire started at 1 Allenby Terrace, Wellington. The property had asbestos roofing which exploded during the fire resulting in blowing asbestos pieces and dust around the damaged property and the neighbouring properties. Asbestos removal contractors removed asbestos pieces from the outside areas (roofs, windows and gardens etc) of the properties. There is a potential for asbestos contamination within the damaged property as asbestos dust might have stayed within the property's garden soil and vegetation, and the building's walls and floors.	Located within area of established residential properties.	~180 m to northern portal earthworks.	- CoPC is asbestos. - Asbestos present likely be limited to surface soils in the immediate vicinity of the SLUR site. - Not soluble in groundwater. - SLUR site will not be disturbed by the Project. - Likelihood of offsite migration of CoPC to Project alignment is very low. - No HAIL H. - No pathways. - SPR linkage incomplete.	Negligible
SN/05/1190/02 Mount Street Cemetery Verified History Of Hazardous Activity Or Industry	2 Mckenzie Tce, Wellington City Lot 1 DP 8081	G1 Cemeteries and waste recycling, treatment and disposal: Cemeteries CoPC Heavy metals, Organic compounds associated with embalming.	September 2014: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for category G - Cemeteries and waste recycling, treatment and disposal, activity 1 - Cemeteries. Evidence of the HAIL activity was confirmed from aerial photographs, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [WGN document #1406705] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2012) requirements.	Current land use is historic cemetery. Cemetery closed. Last interment in circa 1954.	~ 95 m from duplicated Terrace Tunnel, ~ 200 m to northern portal earthworks	- CoPCs include nitrates, lead, mercury, formaldehyde, and biological hazards. - SLUR site will not be disturbed by the Project. - Potential for CoPCs to have migrated offsite in groundwater. - Based on date of closure and distance to tunnelling works it is considered unlikely that significant concentrations of CoPCs will be encountered in groundwater during tunnel boring works and northern portal earthworks. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/281/02 National Mutual Building Verified History Of Hazardous Activity Or Industry	80 The Terrace, Wellington City Lot 2 DP 59493 - Subj To & Int In Row DP 70535	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, hydrocarbon fuels, Benzene, Toluene, Ethylbenzene and Xylenes (BTEX).	Hydrocarbons are or have been stored in an underground storage tank (10,000 litres) on this site. Greater Wellington is not aware of any environmental investigation having taken place on this site.	Current land use is a multi-storey commercial building. East adjacent to Project alignment	~400 m to northern portal earthworks.	- CoPC inferred to be diesel hydrocarbons used for heating or back up generation. - Localised medium volume source. - SLUR site will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater in event of loss. - No soil disturbance within 100 m of the SLUR site. - HAIL H unlikely. - No pathways. - SPR linkage incomplete.	Negligible
SN/05/274/02 Sun Microsystems House Verified History Of Hazardous Activity Or Industry	70 The Terrace, Wellington City Lot 1 DP 50807 Pt Lot 1 DP A2193 Sec 1252 Town Of Wellington - 4 M2 Disabled Ramp & Planter Box On Road Reserve	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, hydrocarbon fuels, BTEX.	This site stores hydrocarbons (fuel) in bulk in an underground storage tank (4,550 litres) on site (2004 Dangerous Goods Licence). The 1991 Dangerous Goods Licence lists a large tank (13,000 litres). It is unclear whether this first listing was incorrect or if this tank has since been replaced. Greater Wellington has no record of any environmental investigations having been undertaken at the site.	Current land use is a multi-storey commercial building. ~30 east of Project alignment.	~440 m to northern portal earthworks.	- CoPC inferred to be diesel hydrocarbons used for heating or back up generation. - Localised small volume source. - SLUR site will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater in event of loss. - No soil disturbance within 100 m of the SLUR site. - HAIL H unlikely. - No pathways. - SPR linkage incomplete.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/262/02 James Cook Hotel Verified History Of Hazardous Activity Or Industry	147 The Terrace, Wellington City Lot 2 DP 64241 - Subj To & Int In Row On DP 311016 - Subj To Row & Eases On DP 54466 & 64241 - James Cook Hotel And Parking Building	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, hydrocarbon fuels, BTEX.	This site has a large above ground tank (AST) containing hydrocarbons presumably for a standby generator. The Wellington City Council 2004 Dangerous Goods licence also allows for up to 400 small containers (less than 60 litres) to be stored on site. No further information is held by Greater Wellington and therefore the extent of contamination, if any, is unknown.	Current land use is a multistorey hotel. ~30 m east of the Project alignment.	~140 m to northern portal earthworks.	- CoPC inferred to be diesel hydrocarbons used for heating or back up generation. - Localised small volume sources. - SLUR site will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater in event of loss. - No soil disturbance within 100 m of the SLUR site. - HAIL H unlikely. - No pathways. - SPR linkage incomplete.	Negligible
SN/05/404/02 Morrison Kent House Verified History Of Hazardous Activity Or Industry	206 Lambton Quay, Wellington City Lot 2 DP 71877 - Morrison Kent House	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, hydrocarbon fuels, BTEX.	2010: Wellington City Council Dangerous Goods records show that hydrocarbons were stored in three separate underground storage tanks (USTs) at this site. It is uncertain whether the USTs remain or whether they have been slurry filled etc. No further information is held by Greater Wellington.	Current land use is a multi-storey commercial building. ~70 m east of the Project alignment.	~340 m to northern portal earthworks.	- CoPC inferred to be diesel hydrocarbons used for heating or back up generation. - Localised small volume source. - SLUR site will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater in event of loss. - No soil disturbance within 100 m of the SLUR site. - HAIL H unlikely. - No pathways. - SPR linkage incomplete.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/406/02 155 The Terrace Verified History Of Hazardous Activity Or Industry	155 The Terrace, Wellington City Lot 1 DP 90891 - Up 90898	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, hydrocarbon fuels, BTEX.	Wellington City Council Dangerous Goods records (DG Licence No. 9800132) show that approximately 19,000 litres of hydrocarbons are stored in an aboveground tank at the site.	Current land use is a multi-storey commercial building. ~70 m east of the Project alignment.	~100 m to northern portal earthworks.	- CoPC inferred to be diesel hydrocarbons used for heating or back up generation. - Localised small volume source. - SLUR site will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater in event of loss. - No soil disturbance within 100 m of the SLUR site. - HAIL H unlikely. - No pathways. - SPR linkage incomplete.	Negligible
SN/05/884/02 175 The Terrace (SLR note: this site is located at 100 Boulcott Street) Verified History Of Hazardous Activity Or Industry	100 Boulcott St, Wellington City Lot 1 DP 33385	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, hydrocarbon fuels, BTEX.	The site contains a tank used for the storage of diesel. Information on file indicates that a 22,000 L tank was present historically and when the tank became disused in about 1991, the tank may have been slurry filled because of difficulties removing the tank. The site has a test certificate which expires in February 2010 for the storage of a 1,150 L diesel tank.	Current land use is a multi-storey commercial building ~20 m east of the Project alignment.	~60 m to northern portal earthworks.	- CoPC inferred to be diesel hydrocarbons used for heating or back up generation. - Localised source. Large UST slurry filled in 1991. Small volume UST may remain. - SLUR site will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater in event of loss. ~60 m to northern portal earthworks. - HAIL H unlikely. - No pathways. - SPR linkage incomplete.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/905/02 McKenzies Building Contamination Acceptable Managed/Remediated For	222 Willis St, Wellington City Lot 1 DP 41011 Pts Sec 141 Town Of Wellington (pt Defined On DP 11003)	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, hydrocarbon fuels, BTEX.	2011: The site has an unused underground storage tank (UST), which was used for storing petroleum, located in the south-western corner of the car park. Information received (MWH, 2009) shows that soil samples were collected by auger from an area surrounding the unused UST. No residual contamination was found in those samples. The unused UST's remain at the site, but have been slurry filled under approval from ERMA. 2014:	Current land use is a multi-storey 222 Willis Street Apartments Adjacent to Project alignment. Additional information received (#1317919) indicates that the site has been re-developed, subsequent to the May 2009 Site Investigation report by MWH. Correspondence indicated that as part of that re-development the UST has been removed.	~25 m north of curb works on northern side of Vivian/Willis Street. Groundwater unlikely to be encountered.	- CoPC inferred to be petroleum hydrocarbons, type uncertain. - Localised source, now removed. No residual contamination identified. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - Insufficient source concentrations, no pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (~25 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/03/2056/02 Hutt Bowling Club Verified History Of Hazardous Activity Or Industry	65 Salamanca Road, Kelburn Lot 1 DP 10086	A10 Chemical manufacture, application and bulk storage: Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds Heavy metals, Aldrin, Dieldrin, DDE-DDT compounds.	Background: The original Hutt Bowling and Lawn Tennis Club was created in 1903. In 1908 more land was purchased and in 1911 a croquet lawn opened. The tennis courts and croquet lawn have been replaced, with part now the Gibbes-Watson Conservatory. Sports turfs are often very intensively managed to control weeds, insect pests and fungal diseases. Historically DDT, dieldrin and arsenic-based pesticides were used to control insects in turf until the last remaining arsenic-based herbicide (methylarsenic acid MSMA) was deregistered in 2010. While the use of DDT to control grass grub in pasture was banned in 1970, DDT could still be used under permit to control grass grub in playing fields and bowling greens until 1989. Pentachlorophenol was used on turf to control moss and Endosulfan was used to kill earthworms, which was permitted for use in New Zealand until 2008. A range of mercury-based fungicides were also available in New Zealand and are likely to have been used to control fungal diseases in turf. Evidence of the HAIL activity was verified by reviewing historical images, NZ archives and the club's website. Greater Wellington holds no further information.	Current land use is a sports turf (Kelburn Park). ~80 west of the Project alignment.	~100 m west of Tunnelling work for the Terrace Tunnel duplication ~100 m west of northern portal earthworks.	- CoPCs include heavy metals, Aldrin, Dieldrin, DDE-DDT compounds. - Pesticide impact is typically limited to shallow soils and is not typically subject to horizontal migration. Low potential for CoPCs to migrate offsite in groundwater. - The SLUR site will not be disturbed by the Project. - HAIL H unlikely. - No pathways. - SPR linkage incomplete.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/021/02 Kelburn Park (ex landfill) Verified History Of Hazardous Activity Or Industry	65 Salamanca Road, Kelburn All DP 10086 Subj To Easements On DP 82407	G3: Landfill Sites Waste materials, leachate, landfill gas	This site has been used as a landfill and is now used for playing fields and a bowling green. Surrounding land uses are recreational, residential and Victoria University of Wellington. Prior to construction of the motorway there was a valley with a stream flowing through it which probably received leachate from this site. However, the site is now considered to be of low priority with respect to the discharge and generation of leachate and landfill gas (Landfills of the Wellington Region, 1998).	Current land use is hardstand tennis courts and club buildings. ~ 80 m west of the Project alignment. Information received (URS report, February 2007) shows that a soil contamination and leachate assessment was undertaken at the site. The surface of the site is predominantly sealed and used as tennis courts, so no soil samples were taken. The geophysics results indicate that there is a low likelihood of buried refuse at the site. This is based on low electrical conductivity levels across the site and results from the GPR survey. The low conductivity observed also indicates there is a low likelihood of concentrated leachate within the landfill.	~120 m west of Tunnelling work for the Terrace Tunnel duplication. ~140 m west of northern portal earthworks.	- CoPCs include heavy metals and organic compounds associated with landfill waste and leachate. - SLUR site will not be disturbed by the Project Previous reporting and site assessments have determined that the landfill operated between 1925 to 1935. With a risk priority ranking of low for leachate and landfill gas generation. - Very low potential for CoPCs to migrate offsite in groundwater. - HAIL H unlikely. - Insufficient source concentrations, no pathways. - SPR linkage incomplete.	Negligible



7.2 Project Section 2 Te Aro

Project Section 2 SLUR sites are presented in **Attachment D, Figures 2-1 and 2-2**. A description and qualitative assessment of effects based of each SLUR site is presented in **Table 4**.

Principal ground disturbance works are associated with kerb and signal pole changes within the current roading corridor at the following locations:

- Intersection of Vivian Street and Willis Street.
- Intersection of Vivian Street and Victoria Street, part of eastern side of Victoria Street and southern side of Vivian Street between Victoria Street and Walter Street.
- Intersection of Vivian and Cuba Street.
- Opposite 214 Cuba Street (to make Cuba Street one way).
- Northern side of Vivian Street between Taranaki Street and Tory Street.
- Intersection of Pirie Street and Cambridge Terrace (no access from Pirie Street).

Disturbance of existing roading materials to about 0.5 m, potentially extending into underlying fill or natural ground will be required. Groundwater is unlikely to be encountered. Changes to signal poles require excavation for new poles which could be up to 2 m deep and could require a wider extent than the pole foundation, if existing underground utilities need to be relocated. Dewatering to facilitate the improvements is not anticipated.

In summary:

- 24 SLUR sites were listed in Section 2:
 - 20 category I Verified HAIL
 - Three category IV Contamination acceptable, managed/remediated
 - One category V No contamination identified.
- 15 SLUR sites predominantly relate to vehicle mechanics workshops, depots or metal fabrication (HAIL F3, F4 and F8).
- Three sites are or were fuel service stations. The only current fuel service station is Z Vivian Street (SN/05/152/02), SLUR category IV (HAIL F4 and F7)
- Eight SLUR sites have or currently store chemicals and / or hydrocarbons on site in bulk (HAIL A17).
- Three SLUR sites were identified as HAIL D (Engineering workshops), one site labelled G4 (Scrap metal recycling).
- One SLUR site had an accidental release of asbestos containing material (ACM), labelled as HAIL E1.
- One SLUR site included HAIL B2 (Electrical transformers).
- More than one HAIL category was assigned to seven SLUR sites.
- No HAIL I or H sites were listed.
- No SLUR sites will be directly disturbed by the Project.
- Although the potential for offsite migration of contaminants in groundwater was identified for some SLUR sites, no potential HAIL H sites were identified in relation to



the ground disturbance works owing to the anticipated limited depth extent and the minor nature of the works.

- The qualitative assessment of effects for all HAIL land associated with SLUR sites within Project Section 2 are assessed as Negligible.

Seven SLUR sites were identified adjacent to, or within 10 m of proposed ground disturbance works:

- SN/05/270/02 81 Vivian Street
- SN/05/266/02 57 Vivian Street
- SN/05/235/02 102 Cuba Street
- SN/05/59/02 96 Vivian Street
- SN/05/1272/02 58-60 Vivian Street
- SN/05/1266/02 70 Vivian Street
- SN/05/1386/02 269 Willis Street

Owing to their proximity to ground disturbance works, minor discharges contaminants via services trenches was identified as possible. However, on the basis that the SLUR sites had undergone subsequent redevelopment involving soil remediation works and / or based on the type / volume / location of the contaminant source(s), no other contaminated land arising from minor discharges was identified.



Table 4 Project Section 2 SLUR site description and effects assessment

SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/277/02 Avery Ford LMVD Verified History of Hazardous Activity or Industry	97 U1 Taranaki St, Wellington City Lot 1 DP 560636 - Subj To And Int In Esmts	F4, F7 Vehicle refuelling, service and repair: Service stations including retail or commercial refuelling facilities, Motor vehicle workshops Heavy metals, hydrocarbon fuels, BTEX, lubricants and oils.	The Colonial Motor Company has operated from the site for about 70 years. This site was previously a service station and has stored hydrocarbons in bulk. Three underground fuel storage tanks were removed in July 1994. No tank pull report is held by Greater Wellington for this removal and it is unknown if any contamination has occurred. Six further underground storage tanks (of unknown age) and one concrete tank bund were removed in 2004. Soil sampling was undertaken and the residual hydrocarbon concentrations were compared to Tier 1 Soil Acceptance Criteria for commercial/industrial land use (Ministry for the Environment "Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand" 1999). Of the twenty-five samples submitted one sample exceeded the guidelines for xylene levels. This sample was highly localised and levels detected are expected to naturally attenuate over time. All other concentrations were below the applicable Oil Industry Guidelines. April 2015: Property owner confirmed that the tanks removed in 2004 were in the same location as those removed in 1994. July 2015: A motor vehicle workshop (Capital City Motors) operates from 5-11 Jessie Street, this activity has been included on this listing. The full details of this activity are in the file note held by the Greater Wellington Regional Council [WGN document #1505137] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2011) requirements.	Current land use is recently constructed residential apartments/townhouses (The Paddington).	~50 m north of curb works on northern side of Vivian Street	- CoPCs inferred to be heavy metals and petroleum hydrocarbons, type uncertain. - Localised source was removed in 2004, records indicate localised contamination onsite (GWRC record). - Site now fully redeveloped. Current land use is high-density residential. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - Insufficient source concentrations, no pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (50 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/270/02 Ricoh, MWH Verified History of Hazardous Activity or Industry	81 Vivian St, Wellington City Lot 3 DP 55416 & 1/3 Sh In Lot 2 DP 55416 - 126 M2 Verandah & Facade On Road Reserve - Subj To Row DP 558722	F7 Vehicle refuelling, service and repair: Service stations including retail or commercial refuelling facilities Heavy metals, hydrocarbon fuels, BTEX.	This site has stored hydrocarbons in bulk presumably for fuel. The Wellington City Council Dangerous Goods lists the site has having a 6,800 litre storage tank in 1991. This tank is not listed in the 2004 Dangerous Goods Licence and it is unknown by Greater Wellington if the tank has been removed. There are a number of smaller containers (80 x 60 litres maximum) storing Class 3 hazardous substances on site. Greater Wellington has no record of any environmental investigations having been undertaken. February 2019: This site is currently under review. Wellington City Council have advised that the underground storage tank has been located during works to redevelop the building and that the small containers noted in the 2004 Dangerous Goods Licence are no longer on the site. The tank is located within the foundation of the loading dock on the south eastern portion of the building. Due to accessibility reasons, the tank is to remain in situ and be filled with concrete. Further information will be provided once the works have been completed.	WCC records confirm former landuse as an engineering workshop (J. L. Kay & Co.) (doc: 00056_B26991, PDF pg. 7). No record of UST on factory plans dated 1978 (doc: 00056_B30209, PDF pg. 28). WCC record of application to demolish the factory buildings dated 1983 (doc: 00058_C61476) Property has been subsequently redeveloped into the Ramada Hotel ~2019 Site has a history of small quantities of fuel storage in a UST, subsequently removed. GWRC record update from 2019 states a UST present in basement of building is proposed to be filled and left in situ.	~10 m south of kerb works on the northern side of Vivian Street, from northern property boundary.	- CoPCs inferred to be petroleum hydrocarbons. - Localised source on the southeastern side of the structure on the property (GWRC record) set back from the property boundary. - Site now fully redeveloped. Current land use Ramada Hotel. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (10 m) possible. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/266/02 Cheops Holdings Vivian St Verified History of Hazardous Activity or Industry	57 Vivian St, Wellington City Lot 1 DP 517667 & 5/9 Sh In Lot 2 DP 55416	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, hydrocarbon fuels, BTEX.	This site has previously had two underground storage tanks containing hydrocarbons of an unknown quantity. These tanks were reportedly removed in 2000, however no tank pull report is held on file and Greater Wellington has no record of any environmental investigations having been undertaken at the site. A replacement underground storage tank (double skinned) was installed in 2003 on the Western side of the building. This SLUR entry refers to the property previously identified as Lot 1 DP 55416.	WCC records for property are amalgamated with 81 Vivian St, Wellington City above. J. L. Kay & Co. factory site formerly sat over both properties. No information available in relation to USTs. Current land use is a modern commercial building - Harcourts Carpets showrooms.	~10 m south of kerb works on the northern side of Vivian Street, from northern property boundary.	- CoPCs inferred to be petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - Previous UST removed, in 2000, no record of a site investigation to determine if wider impacts from UST. Current UST is located on west elevation of building, likely ~25 m away from closest ground disturbance. Soil contamination localised to the SLUR site possible. - HAIL H unlikely - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (10 m) possible. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/235/02 Logan Brown Restaurant & Bar Verified History of Hazardous Activity or Industry	192 Cuba St, Wellington City Lot 1 DP 83518 - Up 83628	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste. Heavy metals, hydrocarbon fuels, BTEX.	Hydrocarbon have been stored on this site. Greater Wellington has no record of any tanks being removed or environmental investigations.	Commercial building including Logan Brown restaurant WCC records show original boiler for building was specified for coal, dated 1916 (doc: 00053_10454, PDF pg. 61). WCC plans do not show specifications for storage tank. This is inferred to be located in the building basement in the location of the original boiler.	Adjacent to curb works on corner of Vivian Street and Cuba Street.	- CoPCs inferred to be petroleum hydrocarbons. - Current land cover is a multi-storey commercial building with ground floor restaurant. - Record of bulk storage. no further information available. Based on site use, storage volumes likely to small and located in building basement. - HAIL H possible. - Insufficient source concentrations - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (<5 m) possible. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/219/02 Murdoch A & Co Wgton Ltd Verified History of Hazardous Activity or Industry	129 Taranaki St, Wellington City Pt Sec 232 Town Of Wellington - Subj To Esmt DP 616201	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, hydrocarbon fuels, BTEX, lubricants and oils.	This site has been used for food manufacture. Our records show that hydrocarbons have been stored on the site in three underground storage tanks. No further information is held by Greater Wellington and therefore the extent of contamination on site, if any, is unknown. May 2017: Further information in received in March 2016 consisted of PDP tank removal soil validation and environmental site investigations and relative disposal certificates. This site is under review.	Property under redevelopment in 2024 Information received: PDP tank removal validation report confirmed that concentrations of CoPC outside the immediate former UST area were below the laboratory Limits of Reporting (LOR) and residual contamination was limited to within 2 m vertically and laterally from the tank pits.	~50 south of kerb works on the northern side of Vivian Street.	- CoPCs inferred to be petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - Site validation report confirms localised residual contamination with delineated vertical and lateral extent. - HAIL H unlikely. - Insufficient source concentrations, no pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (50 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/152/02 Former Shell Vivian St now Z Energy Contamination Acceptable Managed/Remediated	174 Vivian St, Wellington City Lot 1 DP 54050 Leased Areas A B On DP 56212	F4, F7 Vehicle refuelling, service and repair: Service stations including retail or commercial refuelling facilities, Motor vehicle workshops Heavy metals, hydrocarbon fuels, BTEX, lubricants and oils.	This site was a service station. A waste oil tank was removed in August 2003. This tank was thought to be approximately 40 years old. On removal a large amount of waste oil was on top of the tank. This product was removed off site. The subsequent tank pull report confirms that the residual contamination around the waste oil tank pit meets the industrial/commercial criteria in the 'Guidelines for Assessing and Managing Petroleum Hydrocarbons Contaminated Sites in New Zealand' (Ministry for the Environment August 1999). Information received (URS 2009) shows that site has been decommissioned by Shell. The underground petroleum storage system containing three underground storage tanks (USTs) and associated pipework was removed. Soil testing at the time of the UST removals found that generally soil remaining on the site is acceptable for a commercial/industrial land use, in relation to the MfE guidelines. However, one sample at a depth of 3.8m exceeded the guidelines for C7-C9 hydrocarbon range and total xylenes. The report states that this exceedance is assessed to be not significant given the likely limited extent that is indicated by the depth (3.8m) of contamination and the presence of the subterranean drain located to the northwest. All groundwater samples were found to comply with the relevant guidelines. Test pitting beneath the workshop and lube bay did not detect any residual petroleum hydrocarbons. 2014: Information received (PDP Ltd report dated 18 June 2013 #1233842) reported on pre-excavation soil sampling and validation investigation. The report indicated that the site is being redeveloped into a Z Energy service station (166-180 Vivian St). See report for further details.	Z Vivian Street GWRC has copies of multiple site investigations on file. Site investigations have not identified significant impact to soil or groundwater at this site. Groundwater depth during the most recent PDP investigation was 3.5 metres below ground level (m bgl) and expected direction of flow is north towards Wellington Harbour and away from the Project alignment. Potential for CoPCs to be present offsite in groundwater from previous losses is low.	~30 northwest of curb works on the western side of Cuba Street.	- CoPCs include petroleum hydrocarbons stored in USTs. - SLUR site will not be disturbed by the Project. - Current land cover is a retail refuelling facility. - Multiple site investigations confirm potential for CoPCs to be present offsite in groundwater from previous losses is low. - HAIL H unlikely. - No pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (service trenches) to closest ground disturbance (30 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/178/02 Ex Transalta Depot Verified History of Hazardous Activity or Industry178	71 Webb St, Wellington City Lot 10 DP 88911 - Subj To Row, Subj To & Int In Party Wall	A17, B2, F4 Vehicle refuelling, service and repair, Chemical manufacture, application and bulk storage, Electrical and electronic works, power generation and transmission: Motor vehicle workshops, Storage tanks or drums for fuel, chemicals or liquid waste, Electrical transformers including the manufacturing, repairing or disposing of electrical transformers or other heavy electrical equipment Heavy metals, hydrocarbon fuels, BTEX, lubricants, oils, transformer oils including PCBs.	This site has been used as a TransAlta Depot. Prior to 1989 several underground storage tanks were located in front of the old vehicle workshop. It is unknown if these tanks have been removed as their exact location was unable to be determined. It is thought likely however that these tanks would have been discovered however during excavation. Three (separate) underground storage tanks were removed from the site in 1997. An environmental assessment undertaken by Pattle Delamore Partners Ltd (1997) identified oil in the ground near the transformer oil storage tanks and slightly elevated concentrations of polycyclic aromatic hydrocarbons in coke-like waste under parts of the carpark. Excavation work identified further areas of oil - limited sampling undertaken in 1999 found that petroleum hydrocarbon levels were within acceptable residential guideline levels. Service trenches were to be sealed, covered with an impermeable layer and then topped with concrete. The site was therefore considered suitable for residential use. A site management plan may be required if further subsurface excavation work is undertaken. Information received (PDP Ltd report dated September 2010) documented soil sampling prior to proposed redevelopment. Soil samples were collected for landfill waste characterisation. The report also presents comparison of results of soil samples collected in 2010. It is proposed that the site is to be sealed and the majority of soil to 1m is to be removed. The report indicated one sample representative of remaining soil had TPH above the laboratory detection limit, but below limits considered a risk to human health. Based on average soil concentrations (lead, zinc, naphthalene, benzo(a)pyrene) across the site, the report indicated the soil is suitable for disposal at MfE class A and class B landfills. Further details are in the report.	Current land use is high-density residential. SLUR site is 90m south of project alignment.	~80 south of new seal on SH1.	- CoPCs include petroleum hydrocarbons previously stored in USTs and other chemicals including PCBs. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - Insufficient source concentrations, no pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (service trenches) to closest ground disturbance (>100 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/055/02 Ray Hartley Motors Ltd Verified History of Hazardous Activity or Industry	24 Haining St, Wellington City Lot 1 DP 569273 - Subj To Esmts	D5, F4 Vehicle refuelling, service and repair, Metal extraction, refining and reprocessing, storage and use: Motor vehicle workshops, Engineering workshops with metal fabrication Heavy metals, lubricants and oils.	This site has been developed in the early 1960s as an engineering workshop, becoming established in 1995 as an automotive workshop. Waste oil, oil and anti-freeze in above ground storage tanks are on site. In 2004, a Take Charge audit was completed by the Environment Regulation Department, the file note indicates that, at the time, the workshop contained a small amount of detergents and solvents for automotive works. The site is also recorded as being used in 1994 for wrought iron manufacture. No site investigation report is held on file for this site, the level of contamination, if any, is therefore unknown.	Now redeveloped as Whānau Mārama Apartments (Victoria University)	~95 m south of kerb works on northern side of Vivian Street	- CoPCs inferred to be small volumes of lubricants. - SLUR site will not be disturbed by the Project. - Current land use is a multi-storey residential building. - HAIL H unlikely. - Insufficient source concentrations, no pathways. SPR linkage incomplete. - Contaminant migration via preferential pathways (service trenches) to closest ground disturbance (95 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/399/02 NZ Lotteries Commission Verified History of Hazardous Activity or Industry	54 -56 Cambridge Tce, Wellington City Lot 1 DP 64548 - Nz Lotteries Commission Bldg -	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, hydrocarbon fuels, BTEX, lubricants and oils.	2007: The site has an aboveground tank (approximately 10,500L) in which hydrocarbons are or have been stored. No further information is held by Greater Wellington and therefore the extent of contamination, if any, is unknown. 2013: Tank Test Certificate issued in 2007 was received indicating the below ground diesel 10,000L tank was installed in 1992.	Current land use is a multi-storey commercial office building. Information received: WCC files for diesel tank installation, dated 1992 (doc: 00059_E26076, PDF pg. 104) specification for 10,000 litre direct fill above ground storage tank to be installed in the basement of the building. Tank is located on the southeast corner of the building within concrete lined chamber designed for containment of 100% spill volume from AST.	~30 m northwest of kerb works on Kent Terrace	- CoPC inferred to be diesel hydrocarbons used for heating or back up generation. - SLUR site will not be disturbed by the Project. - Current land use is a multi-storey commercial building. - HAIL H unlikely. - Insufficient source concentrations, no pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (service trenches) to closest ground disturbance (30 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/430/02 Cumberland House Contamination Acceptable Managed/Remediated	237 Willis St, Wellington City Lot 1 DP 433344	A17, F7 Chemical manufacture, application and bulk storage, Vehicle refuelling, service and repair: Storage tanks or drums for fuel, chemicals or liquid waste, Motor vehicle workshops Heavy metals, hydrocarbon fuels, BTEX, lubricants and oils.	This Victoria St section of the site has been used as a service station, and contained up to five underground storage tanks (USTs) which were used to store petroleum hydrocarbons. When the service station was decommissioned in the 1970s, the bowzers were removed but the USTs remained. Information received (MWH, 2009) shows that an environmental investigation was undertaken at the site. The investigation involved collecting soil samples from around the UST areas with an auger. Analysis of the soil samples found that no residual contamination was present in soil around the areas where the USTs are located. The unused UST remains at the site, but has been slurry filled under approval from ERMA.	Current is Avis car and truck rentals offices.	~35 m northwest of curb works on the eastern side of Victoria Street	- CoPCs inferred to be petroleum hydrocarbons previously stored in USTs. - SLUR site will not be disturbed by the Project. - Current land use is a car and rental vehicle office and carpark. - History of hydrocarbon storage as retail service station. USTs removed with one remaining being slurry filled. Site now redeveloped. Investigation reports indicate no significant contamination. Potential for CoPCs to be present offsite is in groundwater low. - HAIL H unlikely. - Insufficient source concentrations, no pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (35 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/559/02 Accrescent Engineering Ltd Verified History of Hazardous Activity or Industry	96 Vivian St, Wellington City Lot 12 Pt Lot 11 DP 322	D5 Metal extraction, refining and reprocessing, storage and use: Engineering workshops with metal fabrication Heavy metals, lubricants and oils.	Accrescent Engineering Ltd has occupied the site from the early 1970s. They used the site for the fabrication of tools and winches. Milling and turning of metal is undertaken on the site. Greater Wellington holds no record of any environmental investigations having been undertaken at the site.	The site is a former workshop that was redeveloped into a street level carpark. The property is currently vacant. Information received: Letter to GWRC from Tse Group Limited detailing the findings of soil test pits completed by MWH which confirmed that lead and zinc impacts to soil are limited to near surface soils. 100 mm of soils have been removed and disposed of to Class A landfill, remaining soils have been capped with geotextile cloth, imported basecourse and capped with concrete.	North adjacent to curb works on northern side of Vivian Street	- COPCs inferred to include heavy metals, small quantities of lubricants. - SLUR site will not be disturbed by the Project. - Current land cover is a vacant commercial parking lot. - Lead and zinc are not expected to have significant migration effects. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration of oils via preferential pathways (services trenches) to closest ground disturbance adjacent unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/583/02 Ex Wellington Operatic Society Contamination Acceptable Managed/Remediated	29 Vivian St, Wellington City Pt Sec 262 Town Of Wellington - Int In Esmts DP 80657	E1 Mineral extraction, refining and reprocessing, storage and use: Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition Asbestos.	The building was lined with asbestos and during the demolition of the building the asbestos lining was broken up and distributed across the site. Analysis of the soils showed chrysotile to be present across the site. Information received (Nikau Ltd, 2006) shows that all soil containing asbestos was removed from the site to a suitable landfill.	The site has been redeveloped and has a concreted surface finish.	~50 m southeast of curb works on the northern side of Vivian Street	- CoPC is asbestos - The SLUR site is adjacent to the Project alignment. - SLUR site will not be disturbed by the Project. - Current land use is a single storey commercial building. - Asbestos is not a vertically or horizontally mobile contaminant. - HAIL H unlikely. - No pathway. - SPR linkage incomplete. - Contaminant migration via preferential pathways(service trenches) to closest ground disturbance (50 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/783/02 Auto Smash Repairs Ltd Verified History of Hazardous Activity or Industry	12 Fifeshire Ave, Wellington City Lot 2 DP 58276 - Int In R/w	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, lubricants and oils.	The site is occupied by a spray painting business. Information received from Wellington City Council (WCC) shows that the site has historically had a dangerous goods license to store class 3a dangerous goods. Also, the site has a location test certificate for the storage of paints and class 3.1b dangerous goods. No further information or site investigation is held by Greater Wellington.	Current land use is commercial (automotive repair workshop).	~95 m west of curb works on western side of Ken Terrace.	- CoPCs inferred to be solvents, paints and heavy metals. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - No pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (service trenches) to closest ground disturbance (95 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/971/02 Screen Print Ltd Verified History of Hazardous Activity or Industry	2 College St, Wellington City Secs 1125 1126 1283 Town Of Wellington	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, lubricants and oils.	The site has stored chemicals in bulk. Documents from the Wellington City Council, including a Dangerous Goods License shows that the site stores various amounts of several types of chemicals on site.	Current land use is recently built or refurbished commercial (various tenancies, some vacant).	~75 m northwest of kerb works on Kent Terrace.	- CoPCs inferred to be solvents. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - No pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (75 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/449/02 166 Taranaki Street No Identified Contamination	166 Taranaki St, Wellington City Lot 2 DP 72482 - Hertz Bldg & Carpark	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, lubricants and oils.	2012. A Preliminary Site Investigation (PSI) by Opus (GW Ref #1127943) indicated that in 2007 the site had been used by a panel beater and spray painter but was believed to have been used for a period of less than four years. Various land uses had occupied the site at other times. The PSI revealed no known evidence of contaminants from spray painting. The new land use will be for a vehicle showroom and workshop.	Current land use is commercial – two storey commercial building, no industrial use (ground floor vehicle showroom).	~70 m southwest of curb works on Vivian Street.	- CoPCs include petroleum hydrocarbons including oils and solvents. - The SLUR category is assigned as no identified contamination. - SLUR site will not be disturbed by the Project. - Current land use is commercial – two storey commercial building, no industrial use (ground floor vehicle showroom). - HAIL H unlikely. - No pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (service trenches) to closest ground disturbance (70 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/441/02 Autobodies Wellington Limited Verified History of Hazardous Activity or Industry	46 Webb St, Wellington City Lot 1 DP 23536	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, lubricants and oils.	September 2014: This site meets the Ministry for the Environment Hazardous Activity and Industry List (HAIL) classification for category F - Vehicle Refuelling, Service and Repair, activity 4 - Motor Vehicle Workshops. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing from the yellow pages, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [WGN document #1310381] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2012) requirements.	Current land use is commercial (panel beater).	~50 m south of new seal on SH1 .	- CoPCs inferred to be heavy metals and petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - No pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (>100 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/391/02 Tony's Workshop, 15-17 Arthur Street Verified History of Hazardous Activity or Industry	15 -17 Arthur St, Wellington City All Plan A 200 & All DP 10626	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, lubricants and oils.	September 2014: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for category F - Vehicle refuelling, service and repair, activity 4 - Motor vehicle workshops. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing from the company website, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [WGN document #1406722] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2012) requirements.	Current land use is commercial (vehicle repairs).	~80 m southeast of new seal on SH1.	- CoPCs inferred to be heavy metals and petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - No pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (>100 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/1192/02 Armstrong Prestige, 12 Fifeshire Avenue Verified History of Hazardous Activity or Industry	12 Fifeshire Ave, Wellington City Lot 2 DP 58276 - Int In R/w	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, lubricants and oils.	2014: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for category F - Vehicle refuelling, service and repair, activity 4 - Motor vehicle workshops. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing from the company webpage, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [WGN document #1419321] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2012) requirements. Property (secondary unit) also listed as SN/05/783/02.	Current land use is commercial (vehicle repairs).	~105 m southeast of kerb works on Vivian Street, 95 m west of curb works on the west of Kent Terrace.	- CoPCs include petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - No pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (95 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/450/02 Chung Hing Panel Ltd, 12 Wigan Street Verified History of Hazardous Activity or Industry	12 Wigan St, Wellington City Pt Lots 7 8 DP 1903	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, lubricants and oils.	2014: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for category F - Vehicle refuelling, service and repair, activity 4 - Motor vehicle workshops. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing from the yellow pages, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [WGN document #1422303] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2012) requirements.	Current land use is commercial (vehicle repair) Chung Hing Panel Ltd.	~100 m south of curb works on north side of Vivian Street	- CoPCs include petroleum hydrocarbons and solvents. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - No pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (100 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/1200/02 Motordrome Auto Services, 264 Cuba Street Verified History of Hazardous Activity or Industry	264 Cuba St, Wellington City Lot 2 DP 52463	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, lubricants and oils.	2014: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for category F - Vehicle refuelling, service and repair, activity 4 - Motor vehicle workshops. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing from the company webpage, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [WGN document #1422534] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2012) requirements.	Site appears to have redeveloped as commercial offices.	~65 m north of new seal on SH1	- CoPCs include petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - No pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (150 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/1249/02 Wellington Scrap Metals Limited, 25 College Street Verified History of Hazardous Activity or Industry	34 Vivian St, Wellington City Sec 1135 Town Of Wellington	G4 Cemeteries and waste recycling, treatment and disposal: Scrap yards including automotive dismantling, wrecking or scrap metal yards Heavy metals, asbestos, fuel hydrocarbons, lubricants and oils.	July 2015: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for Category G - Cemeteries and waste recycling, treatment and disposal, Activity 4 - Scrap yards including automotive dismantling, wrecking or scrap metal yards. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing the company website and Google Earth Street View photographs by GWRC. The full details of the listing are in the file note held by GWRC [WGN document #1505303] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2011) requirements. Address also known as 25 College Street	Current land use is Car park and low rise commercial space.	~50 m east of kerb works at corner of Vivian and Tory Street	- COPCs include petroleum hydrocarbons and metals. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - No pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (50 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/1272/02 Metalworx, 58-60 Vivian Street, Te Aro Verified History of Hazardous Activity or Industry	58 Vivian St, Wellington City Pt Lot 14 DP 811	D5 Metal extraction, refining and reprocessing, storage and use: Engineering workshops with metal fabrication Heavy metals, lubricants and oils.	April 2016: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for Category D - Metal extraction, refining and reprocessing, storage and use, Activity 5 - Engineering workshops with metal fabrication. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing from the company website, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [Doc ID CNMG-8-128] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2011) requirements.	Low rise commercial building - vacant 2023	North adjacent to kerb works on northern side of Vivian Street	- COPCs include small volumes petroleum hydrocarbons and metals. - SLUR site will not be disturbed by the Project. - Storage of chemicals likely to have been in above ground drums or tanks. Potential for CoPCs to migrate offsite in groundwater from previous losses. Small volumes only. Concrete flooring. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (<5 m) possible. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/1266/02 70 Vivian Street, Te Aro Verified History of Hazardous Activity or Industry	68 Vivian St, Wellington City Lot 1 DP 40157 1/2 Sh Pt Lots 9 10 DP 811 (being 56 M2)	F3, F4 Vehicle refuelling, service and repair: Engine reconditioning workshops, Motor vehicle workshops Heavy metals, lubricants and oils	May 2016: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for Category F - Vehicle refuelling, service and repair, Activity 3 - Engine reconditioning workshops and Category F - Vehicle refuelling, service and repair, Activity 4 - Motor vehicle workshops. Evidence of the HAIL activity was confirmed by a 2012 Pattle Delamore Partners (PDP) Preliminary Site Investigation (Doc ID CNMG-8-281), aerial photographs, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [Document ID CNMG-8-280] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2011) requirements. The extent of this inclusion relates to the southern portion of the site which was investigated by Pattle Delamore Partners in 2012. GWRC holds no further information regarding any additional investigations undertaken on this site. This site is also known as 14 Jessie Street.	Redeveloped as low rise commercial space (restaurant). Information received: PDP PSI including sub-slab soil vapour assessment identified concentrations of VOCs above ambient ground conditions. Conservative worst case assessment of indoor air exposure scenario based on vapour readings were substantially below adopted protection of human health criteria.	Northern adjacent to curb works on northern side of Vivian Street.	- COPCs include soil vapour, petroleum hydrocarbons and metals. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (<5 m) possible. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/1386/02 Mid City Auto Repairs Verified History of Hazardous Activity or Industry	269 Willis St, Wellington City Lot 5 DP 6846 & Pt Sec 143 Town Of Wellington - Int In Row	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, lubricants and oils.	This site meets the Ministry for the Environment Hazardous Activity and Industry List (HAIL) classification for category F – Vehicle refuelling, service and repair, activity 4 - Motor vehicle workshops. Evidence of the HAIL activity was confirmed from Retrolens, aerial photographs, online directory listing from (the company website / advertisements etc.), and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [WGN document CLMG-6-311] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2011) requirements. Miro Street Limited commissioned HAIL Environmental Limited (HEL) to prepare a Detailed Site Investigation (DSI) and a Contaminated Site Management Plan (CSMP) to satisfy conditions 13 and 15 of Wellington City Council (WCC) consent SR454460. A copy of an interim DSI and a CSMP was provided to Greater Wellington by WCC (Ref: CNMG-6-312 and CNMG-6- 310). At the time of the DSI the workshop was still in place and therefore the DSI was considered 'interim' until the investigation had been completed under the workshop. There are several addresses in relation to this site, the interim DSI and CSMP refer to 188 Victoria Street and 263-269 Willis Street. It is proposed to add the site under the Willis Street location of the workshop. The workshop has a canopy at the front which strongly suggests that is was once a service station and there is the potential that the associated fuel storage systems (bulk fuel tanks, bowsers and fuel lines) have been on this site.	Medium/high density residential apartments with ground floor commercial office space Information received: HAIL Environmental undertook a site investigation that did not identify significant site contamination. Evidence of suspected gasworks waste was encountered in one test pit location. All soils were disposed to Southern Landfill. The site has subsequently been redeveloped into high density residential units. Certificates of title confirm development was completed in 2023.	Adjacent to curb works on corner of Vivan and Willis Street.	- COPCs include petroleum hydrocarbons, gasworks waste (oxides and PAH), and metals. - SLUR site will not be disturbed by the Project. - Property has been fully redeveloped and contaminated soils removed. - HAIL H unlikely, no source. - No source. - SPR linkage incomplete. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (<5 m) possible. No other contaminated land arising from minor discharges identified.	Negligible



7.3 Project Section 3 Basin Reserve

Project Section 3 SLUR sites are presented in **Attachment D, Figure 3-1**.

Principal ground disturbance works within the Basin Reserve section will primarily affect land owned by NZTA and by WCC. The Project designation lies in part outside the existing SH1 designation, encompassing residential properties bounding Sussex Street on the west and open space and commercial land to north, including the Gazley Mitsubishi property, which will be disturbed for construction of the Sussex Street extension to Cambridge Terrace, which will be placed in a trenched section west of the Basin Reserve that will tie into Cambridge Terrace south of Barker Street. The trench will extend beyond the current designation to the north, below currently publicly accessible land in hard and soft landscaping at the eastern end of Pukeahu War Memorial Park, including the current location of part of the Commonwealth Walkway and the Queen Elizabeth II Education Centre.

A description and qualitative assessment of effects based of each SLUR site is presented in **Table 5**. In summary:

- 18 SLUR sites were listed in Section 3:
 - 15 category I Verified HAIL
 - Three category IV Contamination acceptable, managed/remediated.
- Nine SLUR sites are located in the block to the north of the basin Reserve, between Fifehire Avenue, Tory Street, Cambridge Terrace and Buckle Street. These SLUR sites are generally related to motor vehicle workshops and the current or former bulk storage of hydrocarbons or chemicals (HAIL F4, F7 and A17), including SLUR site SN/05/881/02 which relates to a former HERTZ rental car site in the path of the proposed Sussex Street to Cambridge Terrace connection overbridge. This site is noted to have been significantly reworked as part of the Arras Tunnel alignment works in 2014.
- Five SLUR sites are located to the northeast of the Basin Reserve. Four of these relate to vehicle maintenance workshops and one to a fuel UST.
- The remaining four SLUR sites include engineering workshops (HAIL D5) and hydrocarbon storage (HAIL F7).
- More than one HAIL category was assigned to one SLUR site.
- No HAIL I or H sites were listed.
- Although the potential for offsite migration of contaminants in groundwater was identified for six SLUR sites, no HAIL H sites were identified by SLR on the basis of insufficient source concentrations. These SLUR sites comprised:
 - SN/05/4435/02 Vehicle fleet servicing, 8 Barker Street
 - SN/05/617/02 Vehicle fleet servicing, 20 Barker Street
 - SN/05/160/02 Former Caltex Basin Reserve service station, 28 Adelaide Road
 - SN/05/936/02 Hertz rental car depot, 36-42 Hania Street.
 - SN/05/206/02 Former Council depot, now Te Papa Wet Stores and WVCC archives, 169 Tory St,
 - SN05/225/02 Vehicle showroom, 64 Cambridge Terrace.



- 17 of the 18 SLUR sites will not be disturbed by the Project.
- One SLUR site SN/05/230/02 Kirk Motors Ltd (currently Gazley Mitsubishi) will be disturbed by the Project. The SPR linkage for this site was assessed as complete, with the qualitative assessment of effects of HAIL land in this SLUR site assessed as Low to Moderate.
- Risk to human health and the environment from all other HAIL land associated with SLUR sites within Project Section 3 is assessed as Negligible.

No other contaminated land arising from minor discharges was identified on the basis that the SLUR sites had undergone subsequent redevelopment involving soil remediation works and / or based on the type / volume / location of the contaminant source(s).



Table 5 Project Section 3 SLUR site description and effects assessment

SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/054/02 Ex Victor A I & Co Ltd Verified History of Hazardous Activity or Industry	11 Douglas St, Wellington City Pt Plan A 1804	D5 Metal extraction, refining and reprocessing, storage and use: Engineering workshops with metal fabrication Heavy metals and oxides, phenolics and hydrocarbons.	This site has been used for the manufacture of iron and steel products. Greater Wellington holds no further information for this site and the extent of contamination, if any, is unknown. Potential contaminants include metals and oxides, phenolics and hydrocarbons.	Current use appears to be residential Appears to have been a small scale business run from a residential property. Small volumes of stored chemicals is likely.	~100 m southwest of kerb works on Adelaide Road	- CoPCs include heavy metals and solvents. - The SLUR Site is 95 m south of the project alignment. - SLUR site will not be disturbed by the Project. - Potential for CoPCs from previous land use to migrate offsite in groundwater is low (small volumes). - HAIL H unlikely. - In sufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (100 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/294/02 Honda Cars Ltd Body Shop Verified History of Hazardous Activity or Industry	27 Hania St, Wellington City Lot 3 DP 70272	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, solvents and hydrocarbons.	This site is used for a spray painting business. Hydrocarbons (petrol) were previously stored in larger quantities (1000 litres) according to the Wellington City Council Dangerous Goods Licence (1991). The 2003 Wellington City Council Dangerous Goods Licence lists the Maximum quantity as 500 and the container as not exceeding 60 litres. No further information is held by Greater Wellington and therefore the extent of contamination, if any, is unknown. Potential contaminants include solvents, metals and hydrocarbons.	Current land use is a commercial body shop (Honda).	~80 m east of kerb works on Kent Terrace	- CoPCs include solvents. - SLUR site will not be disturbed by the Project. - Storage of chemicals likely to be in above ground drums or tanks. Potential for CoPCs to migrate offsite in groundwater from previous losses. - HAIL H unlikely. - In sufficient source concentrations, no pathway. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (80 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/1435/02 8 Barker Street, Te Aro Contamination Acceptable Managed/Remediated for	66 Cambridge Tce, Wellington City Lot 1 DP 48488 Lot 1 DP 73447 - Subj To Row - 139 M2 Commercial Carylard & Si Gnage On Road Reserve	A17, F7, H Chemical manufacture, application and bulk storage, Vehicle refuelling, service and repair, 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: Storage tanks or drums for fuel, chemicals or liquid waste, Service stations including retail or commercial refuelling facilities, 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 Heavy metals, fuel hydrocarbons, lubricants and oils.	2022: ENGEO Ltd was requested to undertake a detailed environmental site investigation (DSI) of the property at 8 Barker Street, Te Aro, Wellington. The site is currently commercial / industrial and is proposed to be redeveloped. During the PSI, HAIL activities were identified, and thus thirteen locations were systematically sampled from various depths to target fill material below the site. During the 2022 investigation, fill material was encountered in each of the nine window sampler holes. Heavy metals were detected above predicted background concentrations in the majority samples analysed and were above Landfill Class A acceptance criteria. No contaminants were detected at concentrations that exceed industrial / commercial human health criteria. Heavy metals were detected above Ecological Receptor Guidelines. The DSI recommended a site management plan (SMP) be prepared prior to any earthworks being undertaken to provide procedures to protect human health and the environment during construction works and for future residential site use. Asbestos was detected on-site, albeit below human health guidelines. Ground disturbing works at the site will need to be conducted in accordance with unlicensed asbestos works. Protocols associated with unlicensed asbestos work should be included in the SMP. The DSI also recommended consenting requirements be confirmed with the relative authorities.	Current use is vehicle fleet servicing. Site investigation identified the presence unclassified sandy gravel fill to about 0.5 m bgl, underlain by Silt. Groundwater was recorded at approximately 1.1 m - 2.1 bgl. Fill was contaminated by metals and polycyclic aromatic hydrocarbons (PAH). No risk to human health was identified. No groundwater sampling. No visual or olfactory indications of groundwater contamination.	~30 m northwest of Sussex Street extension works.	- CoPCs include petroleum hydrocarbons and solvents. - SLUR site will not be disturbed by the Project. - Concentrations of CoPC identified during site investigation were below the applicable commercial / industrial land use criteria. - Potential for CoPCs to migrate offsite in groundwater from losses. - No visual or olfactory indications of groundwater contamination. - HAIL H possible. - Potential groundwater pathway. - In sufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (30 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/160/02 Caltex Basin Reserve Verified History of Hazardous Activity or Industry	28 Adelaide Rd, Wellington City Lots 1 2 DP 11151 Pt Lot 2 DP 10531 Sec 1403 (so 23605) Town Of Wellington	F7 Vehicle refuelling, service and repair: Service stations including retail or commercial refuelling facilities Heavy metals, fuel hydrocarbons, BTEX.	This site is a service station. There has previously been one aboveground tank and two underground tanks containing hydrocarbons on site, it is unknown whether these tanks remain for if they have been replaced. No further information is held by Greater Wellington and therefore the extent of contamination, if any, is unknown.	Current land use is an empty commercial land and building (service station). Tank removal report prepared in 2021. All tanks removed. Concentrations of CoPC identified during site decommissioning were below the applicable commercial / industrial land use criteria	~100 m south of the Project alignment.	- CoPCs include petroleum hydrocarbons. - Site decommissioned. - SLUR site will not be disturbed by the Project. - The nearest bulk earthworks are over 100 m from the SLUR site. - HAIL H possible. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (100 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/210/02 Broadcast Communications Ltd Verified History of Hazardous Activity or Industry	147 Tory St Wellington City All DP 10769 & Lot 1 DP 33649 & All Plans A 1160 A 1659 & Pt Sec 259 Town Of Wellington - 22.2 M2 Corner Splay & Seismic Strengthening To Walls On Road Reserve	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, fuel hydrocarbons.	This site has stored fuel oil (containing hydrocarbons) to be used for heating. No further information is held by Greater Wellington and the extent of contamination, if any, is unknown.	Current landuse retail stores including appliance and food	110 m south of kerb works on northern side of Vivian Street	- CoPC inferred to be diesel hydrocarbons used for heating or back up generation. - SLUR site will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater in event of loss. - Small volume, no losses recorded. - HAIL H unlikely. - Insufficient source concentrations, no pathways. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (110 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/206/02 Te Papa's Natural Environment Wet Collection Verified History of Hazardous Activity or Industry	169 Tory St, Wellington City Pt Lot 1 DP 61434 Sec 1397 Town Of Wellington (so 34271) (499/268)	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, fuel hydrocarbons, lubricants and oils, isopropyl alcohol.	The site was used as a depot by Wellington City Council. As part of these activities bulk storage of hydrocarbon was undertaken at the site. The site is now used by Te Papa to store its natural environment wet collection. The collection is stored in alcohol/IPA preservatives (150,000 litres) following fixative process undertaken in formalin. No information is held on file by Greater Wellington regarding remediation of the site and it is unknown if the hydrocarbons which were stored on site have been removed.	Current landuse is the WCC archive building and TePapa Wet Stores. The SLUR Site was formerly a WCC depot. The property was significantly redeveloped between the depot land use and the construction of the store buildings. Chemical storage is expected to be in ASTs within the wet stores building and specimens on shelving/chillers. Potential for CoPCs to migrate offsite in groundwater from losses is low.	~60 m west of Sussex Street extension works.	- CoPCs include petroleum hydrocarbons and chemicals. - Site extensively developed. - SLUR site will not be disturbed by the Project. - HAIL H possible. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (60 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/225/02 Tony Jackson Cars Ltd Verified History of Hazardous Activity or Industry	64 Cambridge Tce, Wellington City Pt Sec 268 Town Of Wellington	F7 Vehicle refuelling, service and repair: Service stations including retail or commercial refuelling facilities Heavy metals, fuel hydrocarbons, BTEX.	This site is currently used as a car and truck dealer. It has been in the past used as a service station. From 1974-1977 two underground storage tanks were installed. Dangerous Goods licences were issued in 1990 and 1992. It is unknown if these tanks have been removed. No detailed site investigation is held by Greater Wellington and therefore the extent of contamination, if any, is unknown.	Current land use is commercial including car showroom.	~40 northwest of curb works on Kent Terrace. ~ 80 north of Sussex Street extension works.	- CoPCs include petroleum hydrocarbons. - Site extensively developed. - SLUR site will not be disturbed by the Project. - Former service station. Storage of fuels in USTs. Potential for CoPCs to migrate offsite in groundwater in event of past losses. - HAIL H possible. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (50 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/342/02 Mobil Buckle Street Verified History of Hazardous Activity or Industry	50 Buckle St, Wellington City Pt Secs 226 227 233 Town Of Wellington	F7 Vehicle refuelling, service and repair: Service stations including retail or commercial refuelling facilities Heavy metals, fuel hydrocarbons, BTEX.	The site is a service station with three underground storage tanks. Information received (URS report, June 2007) shows the underground petroleum storage system (UPSS) containing three underground storage tanks and all associated pipe work was removed from site in February, 2007. Samples representing soil remaining onsite all comply with the MfE guideline values for total petroleum hydrocarbons and BTEX. After the removal of the UPSS, the report indicates the site is no longer to be used for petroleum handling.	Service station decommissioned. Current land use is public recreational space.	~160 m west of Sussex Street extension works.	- CoPCs include petroleum hydrocarbons. - The SLUR Site is within the Project alignment. - SLUR site will not be disturbed by the Project. - Site extensively redeveloped. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (160 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/230/02 Kirk Motors Ltd Verified History of Hazardous Activity or Industry	76 Cambridge Tce, Wellington City Lot 1 DP 63531	F7 Vehicle refuelling, service and repair: Service stations including retail or commercial refuelling facilities Heavy metals, fuel hydrocarbons, BTEX.	This site has stored hydrocarbons in bulk. The tank was to be removed in 1998 by BP oil. No tank pull report however has been made available to Greater Wellington and therefore it is unknown if the tank has been removed. It is also therefore unknown if any contamination has occurred. The site is currently used as a motor vehicle workshop.	Current land use is a commercial car yard and vehicle workshop (Gazley Mitsubishi). See Section 11.1 for further information.	Will be disturbed by the Sussex Street extension works.	- CoPCs include petroleum hydrocarbons. - The SLUR Site is within the Project alignment. - Former land use included petrol storage in a UST, assumed removed in 1988. - The SLUR site will be directly impacted by bulk earthworks for the Sussex Street to Cambridge Terrace connection. - HAIL H not applicable. - Contaminant source, pathway and receptors present. - SPR linkage potentially complete.	Low to Moderate



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/370/02 Nissan New Zealand Ltd Contamination Acceptable Managed/Remediated for	35 Kent Tce, Wellington City Lots 1-6 DP 405 Lots 1 & 2 DP 1298 & Part Section 301 Town Of Wellington	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, fuel hydrocarbons, BTEX.	This site had an Underground Storage Tank (UST) for the purpose of storing 95-octane petrol installed in 1974. Information received (URS report, November 2007) shows that the UST was removed from the site in March 2007. The report found all soil samples representing soil remaining onsite were found to comply with guideline values for assessing and managing petroleum hydrocarbon contaminated sites in New Zealand (MfE, 1999), in terms of soil acceptance criteria for commercial/industrial land use. During works, approximately eleven cubic metres of contaminated bedding material was removed from site to landfill. The site is classified as contamination acceptable managed/remediated in relation to any contamination associated with the removal of the UST.	Current land use is commercial (car yard).	~100 m from kerb works at Pirie Street.	- CoPCs include petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - Site remediated. - HAIL H unlikely. - Insufficient contaminant source. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (100 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/783/02 Auto Smash Repairs Ltd Verified History of Hazardous Activity or Industry	12 Fifeshire Ave, Wellington City Lot 2 DP 58276 - Int In R/w	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, solvents, lubricants and oils.	The site is occupied by a spray painting business. Information received from Wellington City Council (WCC) shows that the site has historically had a dangerous goods license to store class 3a dangerous goods. Also, the site has a location test certificate for the storage of paints and class 3.1b dangerous goods. No further information or site investigation is held by Greater Wellington.	Current land use is commercial (panel beater and printing).	140 m south of kerb works on Vivian Street.	- CoPCs include petroleum hydrocarbons and solvents. - SLUR site will not be disturbed by the Project. - Workshop chemicals are stored onsite. Potential for CoPCs to migrate offsite in groundwater in event of loss. Small volumes only. - HAIL H unlikely. - Insufficient contaminant source. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (100 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/617/02 20 Barker St Verified History of Hazardous Activity or Industry	20 Barker St, Wellington City Lot 1 DP 43575	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, fuel hydrocarbons, BTEX.	The storage of hydrocarbons in underground tanks has been undertaken on the site. The tanks were removed in 1993. However, Greater Wellington has no record of any environmental investigations being undertaken at this site.	Current land use is commercial (vehicle service centre).	~40 m northwest of Sussex Street extension works.	- CoPCs include petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater from losses. Given UST removals occurred in 1993, significant contaminant plume currently in groundwater is unlikely. - HAIL H possible. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (40 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/936/02 36-42 Hania St - HERTZ Verified History of Hazardous Activity or Industry	75 Kent Tce, Wellington City Pt Lot 4 DP 15 Lots 1 2 DP 6598 Pt Lot 1 DP 7878 Lots 2 6 DP 9657 & 1/2 Sh I N Pt Lot 4 DP 15 Being 5 M2	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, fuel hydrocarbons, BTEX.	The site contains an underground storage tank which stores petrol. Information received from Wellington City Council shows the site has a current test certificate to certify the tank. It is believed the underground tank is located in the front yard of 36 Hania St. No further information is held by Greater Wellington.	UST for vehicle refuelling identified during site walkover.	~65 m east of kerb works on Kent Terrace. ~70 north of kerb works on Buckle Street.	- CoPCs include petroleum hydrocarbons. - Current land use is commercial (Hertz rental cars). - SLUR site will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater from losses, if occurred. Significant contaminant plume currently in groundwater is unlikely. - HAIL H possible. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (65 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/601/02 Arlington Motors Ltd Verified History of Hazardous Activity or Industry	8 Douglas St, Wellington City Pt Lot 1 DP 12167	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, solvents, lubricants and oils.	September 2014: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for category F - vehicle refuelling, service and repair, activity 4 - Motor vehicle workshops. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing from the company website, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [WGN document #1406345] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2012) requirements.	Current land use is commercial (motor vehicle servicing and repair workshop).	~70 m south of kerb works on Adelaide Road.	- CoPCs include petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - Workshop chemicals are stored onsite. Potential for CoPCs to migrate offsite in groundwater in event of loss. Small volumes only. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (70 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/1192/02 Armstrong Prestige, 12 Fifeshire Avenue Verified History of Hazardous Activity or Industry	12 Fifeshire Ave, Wellington City Lot 2 DP 58276 - Int In R/w	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, solvents, lubricants and oils.	2014: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for category F - Vehicle refuelling, service and repair, activity 4 - Motor vehicle workshops. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing from the company webpage, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [WGN document #1419321] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2012) requirements. Property (secondary unit) also listed as SN/05/783/02	Current land use is vehicle servicing and repair (Armstrong's). Modern workshop.	80 m east of kerb works on Cambridge Terrace.	- CoPCs include petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - Workshop chemicals are stored onsite. Potential for CoPCs to migrate offsite in groundwater in event of loss. Small volumes only. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (80 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/1145/02 Spot On Panel and Paint, 37 Home Street Verified History of Hazardous Activity or Industry	37 Home St Wellington City Lot 8 DP 1298	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, solvents, lubricants and oils.	2014: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for category F - Vehicle refuelling, service and repair, activity 4 - Motor vehicle workshops. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing from the company webpage, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [OurSpace Doc ENAR-12-39124] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2012) requirements.	Current land use is a commercial (Spot on Panel and Paint).	~90 northeast of kerb works on Pirie Street.	- CoPCs include petroleum hydrocarbons solvents and paint. - SLUR site will not be disturbed by the Project. - Workshop chemicals are stored onsite. Potential for CoPCs to migrate offsite in groundwater in event of loss. Small volumes only. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (90 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible
SN/05/359/02 14 Hania Street, Mount Victoria Verified History of Hazardous Activity or Industry	14 Hania St, Wellington City All DP 7989	F4 Vehicle refuelling, service and repair: Motor vehicle workshops Heavy metals, solvents, lubricants and oils.	April 2016: This site meets the Ministry for the Environment Hazardous Activity and Industry List classification for Category F - Vehicle refuelling, service and repair, Activity 4 - Motor vehicle workshops. Evidence of the HAIL activity was confirmed from aerial photographs, online directory listing from the company website, and Google Earth Street View photographs. The full details of the listing are in the file note held by the Greater Wellington Regional Council [Doc ID CNMG-8-122] and were confirmed as a HAIL site by a suitably qualified and experienced practitioner in accordance with NES (2011) requirements. A discussion with the property owner indicates that the motor vehicle workshop section of the automotive electrical business operated for 12-18 months on this site. Wellington Automotive and Electrical are no longer operating from this site. The site is fully sealed with no exposed soil.	Current land use is a commercial (Rutherford and Bond vehicle service workshop).	~50m east of kerb works on Pirie Street.	- CoPCs include petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - Workshop chemicals are stored onsite. Potential for CoPCs to migrate offsite in groundwater in event of loss. Small volumes only. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (50 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/881/02 48 Buckle St Contamination Acceptable Managed/Remediated for	-	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, fuel hydrocarbons, BTEX.	The site was occupied by the Hertz rental company, and contained an underground storage tank (UST), which stored petrol. Information received (URS report) shows that the UST was removed from the site. Soil samples were collected at the time of the UST removal, and the analysis of the samples showed that residual petroleum hydrocarbon concentrations of soil remaining onsite comply with the Oil Industry Guidelines soil acceptance criteria for a commercial/industrial landuse.	Current land use is public recreational space as part Pukeahu War Memorial Park. The URS tank pull report reported residual concentrations of CoPC complying with the relevant commercial / industrial land use criteria. The site has since been significantly reworked as part of the Arras Tunnel/Pukeahu War Memorial Park works in 2014 which now runs through the SLUR site.	~300 west of Sussex Street widening works.	- CoPCs include petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance (300 m) unlikely. No other contaminated land arising from minor discharges identified.	Negligible



7.4 Project Section 4 Mt Victoria and 5 Eastern Connections

Project Section 4 and 5 SLUR site are presented in **Attachment D, Figures 4-1 and 4-2**.

Principal ground disturbance works in Project section 4 are include duplicating the Mount Victoria Tunnel to provide two southbound lanes and a separated shared use path on the northern side of the new tunnel. The tunnel duplication works lie outside the current SH1 designation. Works will include tunnelling through natural ground requiring dewatering, which will progressively increase as the tunnel construction advances. Permanent drainage will be installed during construction and will take over the dewatering post-construction. Disturbance of fill soil, existing berms soils and natural ground at tunnels portals will occur in conjunction with other works.

Principal ground disturbance works in Project section 5 include corridor widening along Ruahine Street into the Town Belt to provide two lanes of general traffic in each direction between the Mount Victoria tunnels and Wellington Road, construction of a grade separated local road connection across SH1 south of Goa Street from Moxham Avenue to Hataitai Park to provide access to the park, including northbound and off-ramps between SH1 and the new connection to provide improved access into and out of Hataitai and the park. The improvements also include widening of the road corridor along Wellington Road into the properties south of SH1 and Kilbirnie Park to provide two or more lanes of general traffic in each direction between Ruahine Street and Cobham Drive. The works will be constructed over land currently in residential use, requiring demolition of existing residential buildings and also over potential fill soils in the northern part of Kilbirnie Park. The current cricket pavilion will also be demolished and rebuilt to the south of its current location. A new stormwater pipe beneath Ruahine Street and Wellington Road from near the eastern portal of the Mount Victoria Tunnel, discharging to Evans Bay via an upgrade of the existing outfall to Evans Bay.

A description and qualitative assessment of effects based of each SLUR site is presented in **Table 6**. In summary:

- No SLUR sites were listed in Project Section 4.
- Five SLUR sites were listed in Project Section 5:
 - Four category I
 - One category IV.
- Three SLUR sites (SN/05/184/02, SN/05/204/02, and SN/05/205/02) are related to the current or former bulk storage of hydrocarbons (HAIL F4, F and A17).
- SN/05/012/02 relates to the land reclamation and filling of Kilbirnie Park closed landfill (HAIL G3).
- SLUR site (SN/05/044/02) relates to a former timber treatment site that has since been developed into medium density residential housing (HAIL A18).
- More than one HAIL category was assigned to one SLUR site (Hataitai Auto Centre).
- No HAIL H or I sites were listed.
- Although the potential for offsite migration of contaminants in groundwater was identified for some SLUR sites, no HAIL H sites were identified by SLR.
- One SLUR site SN/05/012/02 Kilbirnie Park (Kilbirnie Park) will be disturbed by the Project. The SPR linkage for this site is assessed as complete, with the qualitative assessment of effects of HAIL land in this SLUR site assessed as Low to Moderate.



- Risk to human health and the environment associated with the other four SLUR sites (SN/05/204/02, SN/05/205/02, SN/05/012/02, and SN/05/184/02) is assessed as Negligible.
- Risk to human health and the environment from all other HAIL land associated with SLUR sites within Project Section 3 is assessed as Negligible.

No other contaminated land arising from minor discharges was identified on the basis that the SLUR sites had undergone subsequent redevelopment involving soil remediation works and / or based on the type / volume / location of the contaminant source(s).



Table 6 Project Section 4 and 5 SLUR site description and effects assessment

SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/204/02 Church of Latter Day Saints Verified History of Hazardous Activity or Industry	140 Moxham Ave, Wellington City Lots 1-3 DP 15177 Lot 1 DP 7575	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, fuel hydrocarbons, BTEX.	This site has a 4,300 litre diesel tank containing hydrocarbons. No further information is held by Greater Wellington and therefore the extent of contamination, if any, is unknown.	Current land is a church (Latter Day Saints), developed in the 1960s. A storage tank presence was inferred based on dangerous goods records and built plans situated below ground external to the building, immediately the north of the building. Plans dated 1973 for extension of the building to the north, document the intent to move the UST further to the north, to a location immediately to the west of the building extension. The presence of the UST, including the UST vent, are not visible on aerial imagery or from Ruahine Street and it is inferred that the UST has been removed. NZTA representatives met with church Elders church on 26 February 2026. The Elders have had a long association with church but had no recollection of any USTs being present. They confirmed that there are no USTs on the site currently. Based on this information, SLR infers that the UST was removed at least 20 to 30 years ago. The Elders noted that the site was formerly a Chinese market garden, also identified by SLR and discussed in Table 7 .	Adjacent to pedestrian access way to Moxham Ave to be constructed on the land adjacent to the northern site boundary. Bridge construction works including an embankment will be constructed within the adjacent properties to the north which have been present since at least 1938.	- CoPC inferred to be diesel hydrocarbons used for heating or back up generation. - SLUR site will not be disturbed by the Project although piling earthworks for bridge foundations will be occurring on the adjacent to the property to the north. - Potential for CoPCs to migrate offsite in groundwater from former losses. No record of losses. Based on the UST use history and likely removal date, significant contaminant plume currently in groundwater is unlikely. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/205/02 Park & Clarke Ltd Verified History of Hazardous Activity or Industry	22 Moxham Ave, Wellington City Pt Lot 71 DP 168	A17 Chemical manufacture, application and bulk storage: Storage tanks or drums for fuel, chemicals or liquid waste Heavy metals, fuel hydrocarbons, BTEX.	An underground storage tank containing hydrocarbons was installed in 1974. The underground tanks were removed from the site in November 2005 by MWH. Sampling undertaken indicates that the groundwater is contaminated. The analysis states ""the samples marked 'trench' contained so much petrol and oil (about 50%) that the samples were unsuitable for performing the usual tests. However the actual tank pull report is not held by Greater Wellington. It is unknown the extent of contamination that has occurred or if it was removed.	Current land use is multiple commercial properties. The MWH Tank pull report (2006) on file with GWRC indicates that approximately 14.68 tonnes of impacted soil and 3,000 litres of impacted perched water were removed from the Site. Two soil samples representing material remaining in situ complied with the relevant commercial / industrial criteria, but exceeded the protection of groundwater criteria. A subsequent UST decommissioning undertaken at the neighbouring property did not encounter any significantly impacted soils.	Adjacent to soft landscaping works on Ruahine Street.	- CoPCs include petroleum hydrocarbons. - SLUR site will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater from losses. Given UST removals occurred in 2005, significant contaminant plume currently in groundwater is unlikely. - Groundwater unlikely to be encountered during landscaping works. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SN/05/012/02 Kilbirnie Park Verified History of Hazardous Activity or Industry	55 Kilbirnie Cres, Wellington City Pt Lots 2 3 4 DP 11975 Pt Lots 1-5 DP 6069 - Subj To Electricity Supply Easement On DP 78340	G3 Cemeteries and waste recycling, treatment and disposal: Landfill sites Heavy metals, polycyclic aromatic hydrocarbons, asbestos	This site has been used as landfill in the past and is currently used as the Kilbirnie Aquatic Centre and a sports field. The site is to be redeveloped and an investigation undertaken in 2003 identified a layer of soil at shallow depth which contained elevated levels of PAH (Polycyclic Aromatic Hydrocarbons). The amount of contaminated material is approximately 25m³. The layer of contaminated soil was to be removed (Jan 2006). Information received (MWH, 2005) shows that a soil contamination and leachate characterisation project was undertaken at the site. Topsoil samples taken were found to contain slightly elevated concentrations of heavy metals in comparison to background values, but were below guideline values. No evidence of typical landfill refuse was found, but intrusive investigations were limited due to the hard ground. Leachate was found to be present in a monitoring well located on the site, which contained high concentrations of heavy metals, particularly arsenic, chromium, lead and zinc. Information received (Tonkin & Taylor, 2007) shows that excavation and development of a new pool were undertaken at the site in 2006. A soil disposal validation report was produced to validate the disposal of the impacted soil. The amount of material removed from the site was approximately 600m³ or 1,220 tonnes. All the soil removed from site was disposed of at Southern Landfill.	Current land use is Kilbirnie Park/playing fields. See Section 11.2 for further information.	Northern area of the SLUR site will be disturbed by SH1 widening works.	• CoPCs include heavy metals and organic compounds associated with landfill waste and leachate. • The SLUR Site is within the Project alignment. • SLUR site will be disturbed by the Project for widening of SH1, comprising the northern extent of Kilbirnie Park and the cricket club. Club building to be demolished. • Potential for CoPC in groundwater to migrate to Evans Bay. • HAIL H not applicable. • Contaminant source, pathway and receptors present. • SPR linkage complete.	Moderate
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SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/044/02 Ex Placemakers and Evans Bay Timber Company Ltd Contamination Acceptable Managed/Remediated for	40 Kilbirnie Cres, Wellington City Lot 3 DP 89525	A18 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 Heavy metals, PCPs	This site was previously used for timber treatment. For approximately ten years prior to 1987, the north-eastern area of the site was used for the treatment of timber by Copper, Chromium and Arsenic (CCA) preservatives. The remainder of the site comprised the hardware store and associated buildings and facilities. Woodward Clyde analysed soils samples in the timber treated storage area and around the former dip tank in 2001. Validation samples for copper, chromium and arsenic met residential criteria (10% produce, Health and Environmental Guidelines for Selected Timber Treatment Chemicals, MfE, MoH, June 1997) in the areas sampled, or 500 mm of soil was removed and replaced with cleanfill to meet the relevant criteria. Based on the information received, the site is to be reclassified as a remediated site suitable for residential use. The site has now been subdivided for residential properties.	Current land cover is medium-density residential properties.	~70m southwest of SH1 widening works.	- CoPCs potential include timber treatment chemicals. - SLUR site will not be disturbed by the Project. - The SLUR Site has been redeveloped into medium density residential land use. - Potential for CoPC to migrate in groundwater unlikely. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance unlikely. No other contaminated land arising from minor discharges identified.	Negligible



SLUR File No.	SLUR Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Site History as recorded on the SLUR	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
SN/05/184/02 Ex Hataitai Auto Centre Ltd Verified History of Hazardous Activity or Industry	12 Moxham Ave, Wellington City Pt Lots 70 71 DP 168	F4, F7 Vehicle refuelling, service and repair: Service stations including retail or commercial refuelling facilities, Motor vehicle workshops Heavy metals, fuel hydrocarbons, BTEX.	2006: This site was previously a service station and motor garage. An underground storage tank was removed in 2001. Hydrocarbon concentration in soil samples taken were below the 'Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand Ministry for the Environment (1999) guideline values for residential use. The tank pit can therefore be classified as 'remediated' with respect to the removed underground storage tank. However, the site remains recorded on the SLUR data base as a 'verified history of hazardous activity or industry' due to its use for automotive dismantling and a motor vehicle workshop. No detailed site investigation is held by Greater Wellington to assess the contamination, if any, from these land uses. 2014: A report (contaminated site management plan dated 8 November 2013) by Aurecon NZ Ltd was received. The report indicated that a full environmental site assessment had not been carried out. The report indicated that URS had collected soil samples during previous decommissioning of buried fuel storage tanks, and that the site had been occupied by an auto-repair shop.	Current land use is a commercial (fast food outlet). The SLUR Site has been subsequently developed into a Burger Fuel restaurant, soil sampling undertaken as part of the tank pull identified concentrations of the C7-C36 TPH fractionally above the laboratory LOR. Impacted bedding material was removed, no to moderate hydrocarbon odours were noted in material remaining. It is noted that this tank pull occurred after the Parke & Clarke site, which occurred in 2006 (SN/05/205/02), and no sheen/impact to groundwater was noted during the works.	~10 east of to soft landscaping works on Ruahine Street.	- CoPCs include petroleum hydrocarbons. - SLUR will not be disturbed by the Project. - Potential for CoPCs to migrate offsite in groundwater from losses. Given UST removals occurred in 2001, significant contaminant plume currently in groundwater is unlikely. - Groundwater unlikely to be encountered during landscaping works. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance unlikely. No other contaminated land arising from minor discharges identified.	Negligible



8.0 Aerial Photograph Review

Historical aerial photographs were sourced from Retrolens and the WCC local maps service. Orthorectified imagery and full descriptions of each image are presented in **Attachment E**. A summary of the development history and observations pertinent to potential HAIL land not currently identified on the SLUR within each Project section are presented in **Sections 8.1 to 8.4**. A description and qualitative assessment of effects for identified potential HAIL land not listed on the GWRC SLUR using the methodology described in **Section 5.0** is presented in **Table 7** in **Section 8.5**.

8.1 Project Section 1 Terrace Tunnel

Project Section 1 historical aerial images full descriptions are presented in **Attachment E**. Historical aerial images are presented in **Attachment E, Figures 1-1 to 1-12**. **Figure 3** below shows the location of all Features identified within the Project Section in the historical aerial review.

The earliest available imagery dates to 1938. Land cover of the Project alignment at this time is mostly residential dwellings along the northern and central portions of Section 1, with evidence of early phase development of the Wellington Botanic Gardens and Kelburn Park to the west of the Project alignment. A mixture of medium density residential and commercial property is located at what will be the southern portal of the Terrace Tunnel. Land cover in the northern portion of Section 1 remains consistent until 1969 when major earthworks associated with the construction of the Wellington Urban Motorway began. The southern portion of Section 1 transitions towards mostly commercial and light industrial properties. By 1978 the Wellington Urban Motorway and the Terrace Tunnel have been completed at their present-day alignment.

Feature 1-1 shown relates to SLUR site SN/05/905/02 located in Section 2.

No potential HAIL land not already listed on the GWRC SLUR was identified in Section 1. This includes the Wellington Botanic Gardens and northern part Kelburn Park which are not listed on the SLUR and do meet the requirements for classification as HAIL A10 (chemical storage and use associated with sports turf management).



8.2 Project Section 2 Te Aro

Project Section 2 historical aerial images full descriptions are presented in **Attachment E**. Historical aerial images are presented in **Attachment E, Figures 2-1 to 2-11**. **Figure 5** below shows the location of all Features identified within the Project Section in the historical aerial review.

The earliest available imagery dates to 1938. Vivian Street is visible in its current alignment. The structures along Vivian Street appear to be a mixture of commercial / light industrial and a mixture of medium and high density residential. The future alignments of Arthur Street and Karo Drive appear to be predominantly medium density residential housing. Subsequent development generally consists of the replacement of lower density residential houses with commercial developments and high density residential developments. Commercial lots appear to change specific land uses but remain in commercial use.

Potential HAIL land comprising outdoor timber storage and subsequent car parking/storage on land adjacent to the Karo Drive alignment was first observed in the 1945 image. This land use is labelled Feature 2-1 on the aerial photographs in **Attachment E** and is shown greater resolution on **Figure 6** (1945) and **Figure 7** (1971-74). This property is not listed on the GWRC SLUR. If the timber was treated, this would meet the definition of HAIL A18. The land was redeveloped for commercial use by 1986 (**Figure 8**) and is currently a brewery with attached carpark (**Figure 9**). The qualitative assessment of risk to the project of this HAIL site is presented in **Section 8.5**.

No other potential HAIL land not already listed on the GWRC SLUR was identified in Section 2.





Figure 6 Feature 2-1 (1945) showing suspected outdoor storage of timber

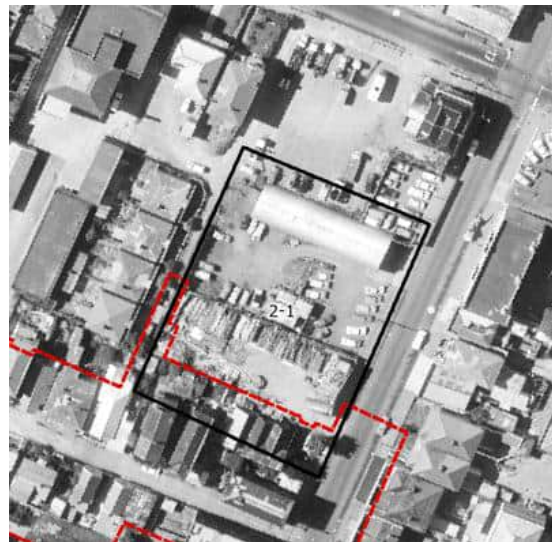


Figure 7 Feature 2-1 (1971-74) showing suspected outdoor storage of timber has ceased



Figure 8 Feature 2-1 (1986) showing commercial redevelopment of the property



Figure 9 Feature 2-1 (2021) showing the recent land use of the property



8.3 Project Section 3 Basin Reserve

Project Section 3 historical aerial images full descriptions are presented in **Attachment E**. Historical aerial images are presented in **Attachment E, Figures 3-1 to 3-11**. **Figure 10** below shows the location of all Features identified within the Project Section in the historical aerial review.

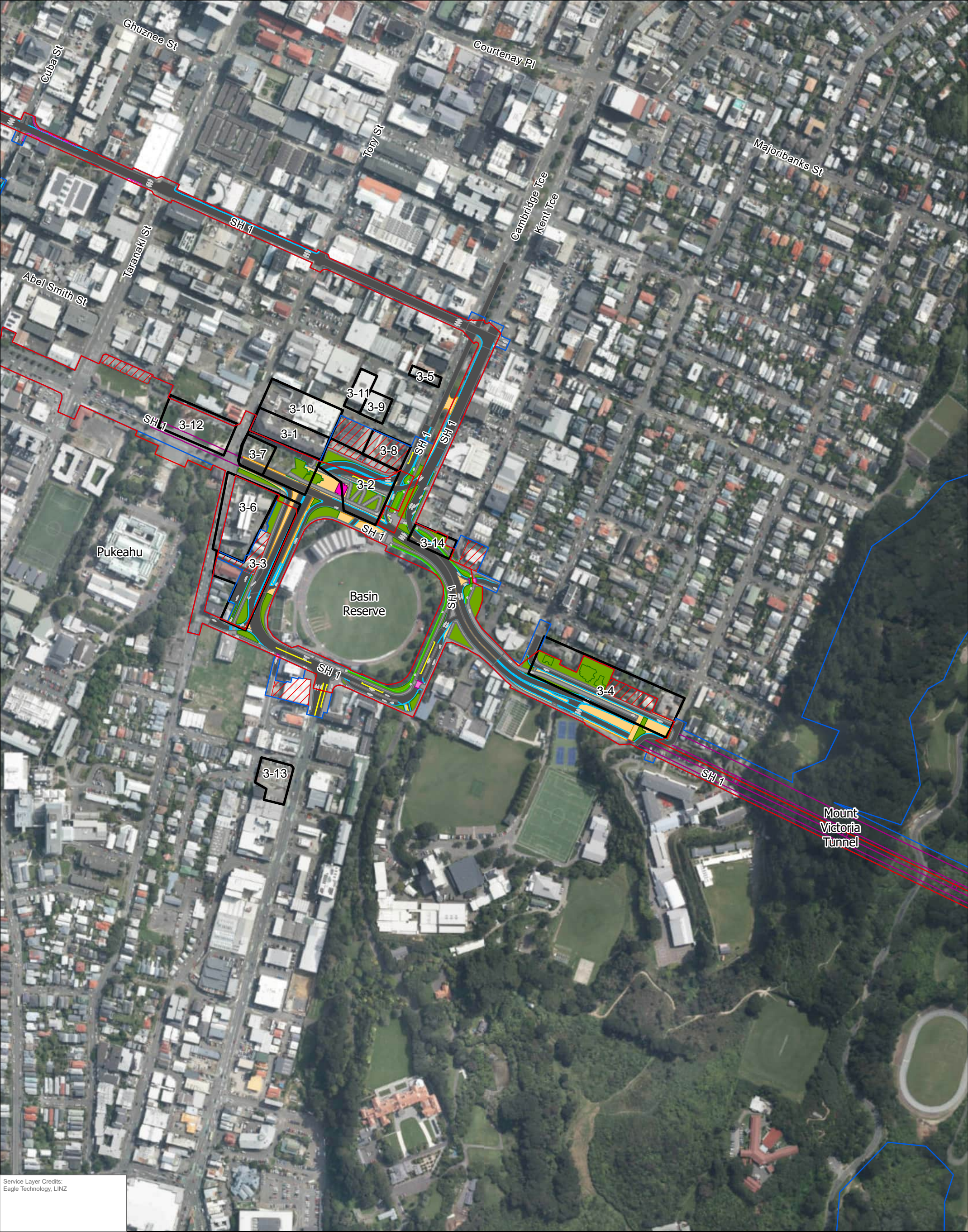
The earliest available imagery for the Basin Reserve Section dates to 1938. Cambridge and Kent Terraces, the Basin Reserve and the Mount Victoria Tunnel are present in approximately their current alignments. Early development of the current Wellington College grounds is event to the southeast of the Basin Reserve (mainly within Section 4).

The Basin Reserve is a national and international cricket ground. It is not listed as HAIL A10 on the GWRC SLUR, which includes activities of bulk storage, mixing and use of persistent pesticides and herbicides for commercial horticulture operations, also including for the maintenance of sports turf, typically applied to bowling greens which require frequent, intensive application of chemicals. HAIL A10 specifically excludes council and school sports fields and playgrounds. The Basin Reserve does not appear to meet the activities required for HAIL and is therefore not considered to be in HAIL in this PSI. Grounds associated with Wellington College are not HAIL A10.

Properties immediately adjacent to the Basin Reserve appear to be mainly residential. Properties along Cambridge Terrace appear to be a mixture of commercial and residential.

Land cover remained broadly consistent through to the 1951-54 imagery, with properties to the west of the Basin Reserve (Feature 3-3) in low density residential land use at this time (**Figure 11**), with further development to medium density residential land use over time, including the development of medium residential complex on Tasman Street (Feature 3-6) (**Figure 12 to Figure 16**). Low density residential land use (Feature 3-4) is also present on Patterson Street on the northern side of the Mount Victoria tunnel portal (**Figure 17**). Some structures within Feature 3-4 have been removed over time but the land use has remained mainly residential throughout (**Figure 18**).





Service Layer Credits:
Eagle Technology, LINZ

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:4,500 at A3
Project Number: 820.030609.00001
Date Drawn: 22/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Feature
- Construction Area
- Impacted Verandahs

- White Markings
- Green Markings
- Red Markings
- Seal
- Footpath

- New Bike Path
- Hard Landscape
- Soft Landscape
- Pukeahu
- Raised Table

- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line
- Kerb_Line

- Seal_Line
- Tracks_line
- Raised_Table
- Tunnel_line

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 3
- BASIN RESERVE
- IDENTIFIED FEATURES

Figure 10



Figure 11 Feature 3-3 (1954) showing residential land use

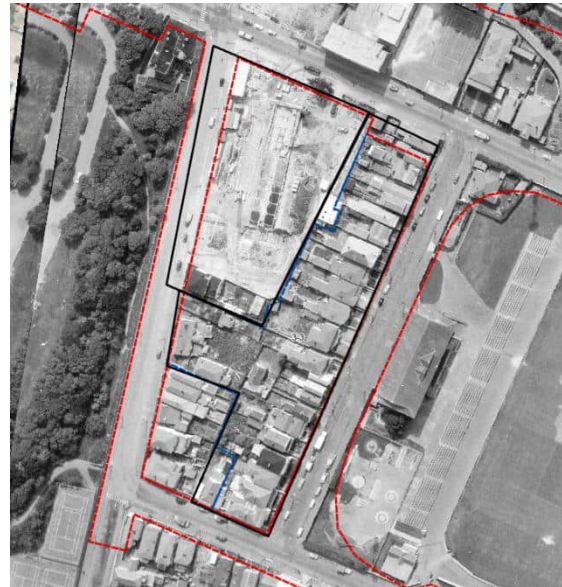


Figure 12 Features 3-3 and 3-6 (1961) showing commercial redevelopment of feature 3-6



Figure 13 Features 3-3 and 3-6 (1969) showing cleared houses and initial commercial development of Feature 3-3 and the completed commercial development of Feature 3-6



Figure 14 Features 3-3 and 3-6 (1985) showing continued commercial development of Feature 3-3





Figure 15 Features 3-3 and 3-6 (1996) showing continued commercial development of Feature 3-3



Figure 16 Features 3-3 and 3-6 (2013) showing completed commercial development of Feature 3-3 and Feature 3-6



Figure 17 Feature 3-4 (1954) showing residential land use



Figure 18 Feature 3-4 (2023) showing continued residential land use

The proposed alignment of the Sussex Street to Cambridge Terrace underpass has been under development throughout the imagery and incorporates Features 3-2 and 3-8 (**Figure 19** to **Figure 24**). The present-day structures currently occupied by Gazley Mitsubishi (Feature 3-8) were first observed in the 1996 imagery (**Figure 23**).

Features 3-7 and 3-12 outline the locations of SLUR sites SN/05/359/02 (Vehicle refuelling, service and repair) and SN/05/881/02 (former HERTZ rental car site), respectively. These SLUR sites were not directly observed in the aerial imagery prior to significant earthworks beginning in 2014 as part of the Arras Tunnel alignment works which resulted in the removal of these operations (**Figure 25**).

No specific HAIL was noted at Feature 3-14 prior to demolition of the buildings (**Figure 26** and **Figure 27**).



No other potential HAIL land not already listed on the GWRC SLUR was identified in Section 3.



**Figure 19 Feature 3-2 and 3-8 (1938)
showing the location of the
Proposed Sussex St to
Cambridge Tce Connection**



**Figure 20 Feature 3-2 and 3-8 (1945)
showing the removal of tennis
courts, structures and pathway**



**Figure 21 Feature 3-2 and 3-8 (1969)
showing the removal of
houses and establishment of
commercial buildings on
Barker St**



**Figure 22 Feature 3-2 and 3-8 (1985-86)
showing the removal of further
structures**





Figure 23 Feature 3-2 and 3-8 (1996) showing the redevelopment into structures generally consistent with the present-day



Figure 24 Feature 3-2 and 3-8 (2014) the property generally consistent with the present-day



Figure 25 Features 3-7 and 3-12 (2014) showing the significant reworking of these Features during the Arras Tunnel works

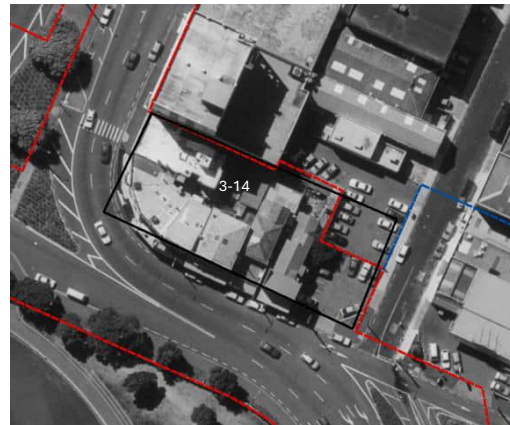


Figure 26 Feature 3-14 (1996) showing general commercial land use prior to building demolition at Bogarts corner





Figure 27 Feature 3-14 (2014) showing land use at Bogarts Corner following building demolition

8.4 Project Section 4 Mt Victoria Tunnel and Project Section 5 Eastern Connections

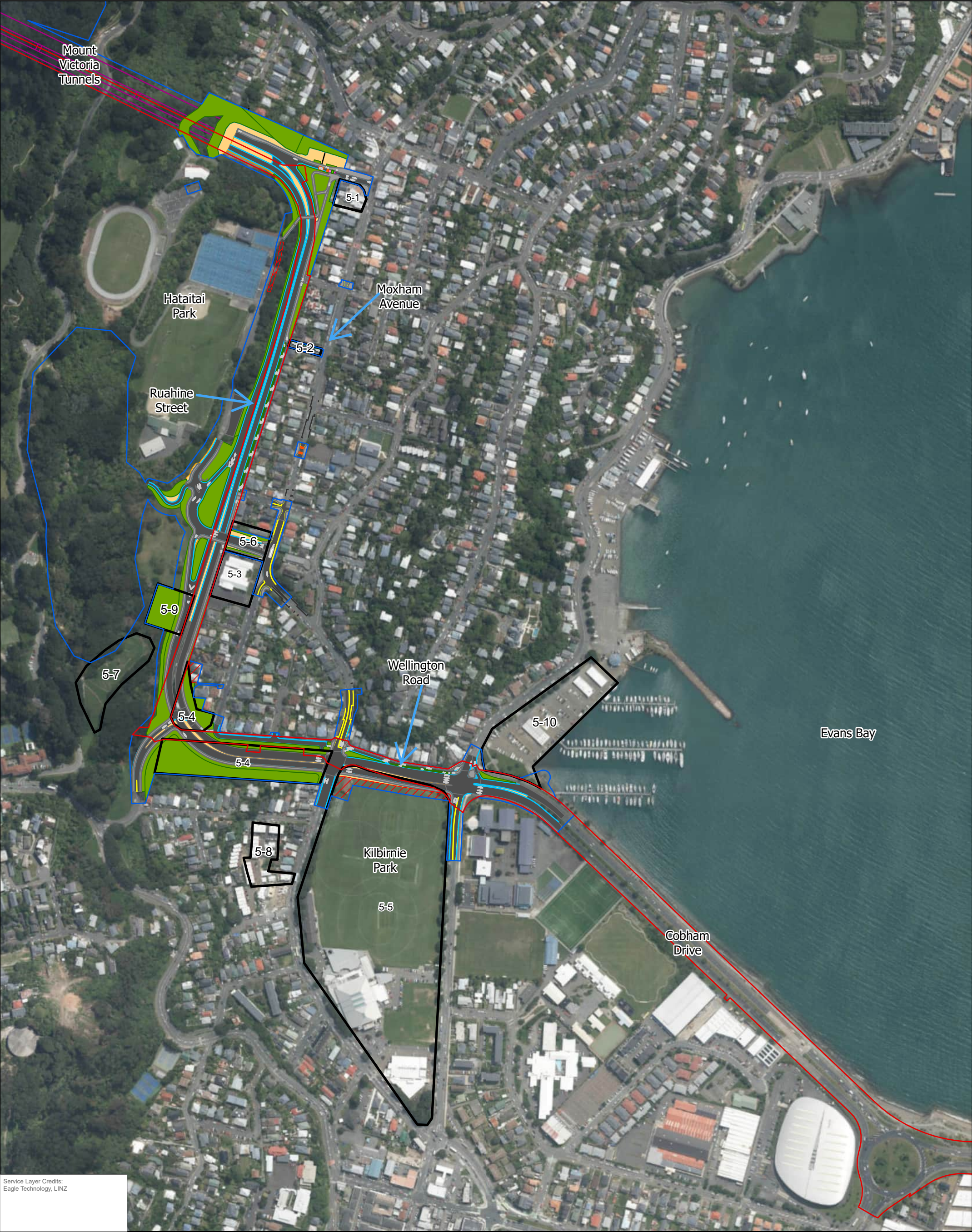
Project Section 4 and 5 historical aerial images full descriptions are presented in **Attachment E**. Historical aerial images are presented in **Attachment E, Figures 4-1 to 4-12**. **Figure 28** below shows the location of all Features identified within the Project Section in the historical aerial review.

The earliest available imagery dates to 1938. Land cover is broadly consistent within the suburbs of Hataitai and Kilbirnie, being medium density residential and light commercial. Hataitai Park is present in 1938 to the west of Ruahine Street in Section 5. The sports grounds associated with Hataitai Park are not considered to classify as HAIL A10.

The Mount Victoria tunnel was fully established in 1931, and the land use has not significantly changed to the present-day.

Feature 5-1 appears to be in residential land use and the eastern portal of the Mount Victoria Tunnel is present in its current day alignment (**Figure 29**). A structure consistent with a fuel service station was present in the 1945 image in the northeastern portion of Feature 5-1. This is presumed to be the former Hataitai Auto Centre referenced in SLUR SN/05/184/02 (**Figure 30**). By 1969 the structures of Feature 5-1 are broadly consistent with 2021 imagery and comprise commercial land use (**Figure 31** and **Figure 32**).





Service Layer Credits:
Eagle Technology, LINZ

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:5,000 at A3
Project Number: 820.030609.00001
Date Drawn: 22/06/2026
Drawn by: FP



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Feature
- Construction Area
- Impacted Verandahs

- White Markings
- Green Markings
- Red Markings
- Seal
- Footpath

- New Bike Path
- Soft Landscape
- Hard Landscape
- Pukeahu
- Raised Table

- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line
- Kerb_Line

- Raised_Table
- Seal_Line
- Tracks_line
- Tunnel_line

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 4
- MOUNT VICTORIA TUNNEL &
PROJECT SECTION 5
- EASTERN CONNECTIONS
- IDENTIFIED FEATURES

DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

Path: C:\Users\fraser.philip\Desktop\SLR jobs\NZ\SLUR sites\820.030609.00001 NZTA SH1 Improvements.aprx\Project Section 4 - Mount Victoria & Project Section 5 - Eastern Improvements -

Figure 28



Figure 29 Feature 5-1 (1938) Showing the eastern Mt Victoria tunnel portal and mixed commercial and residential land use of Feature 5-1



Figure 30 Feature 5-1 (1945) showing the establishment of the suspected Hataitai Auto site

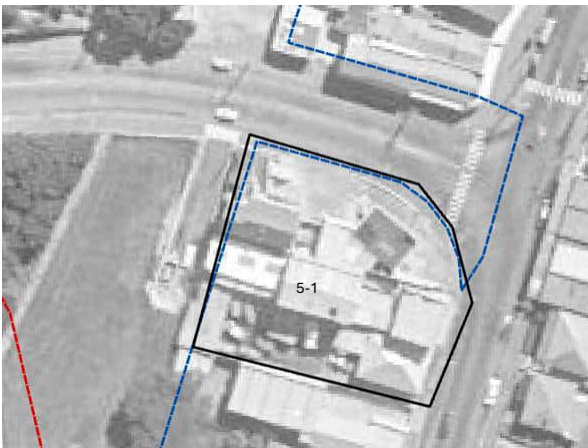


Figure 31 Feature 5-1 (1969) showing the development of buildings on the site broadly consistent with the 2021 imagery



Figure 32 Feature 5-1 (2021) showing the buildings of the site prior to the establishment of the Burger Fuel restaurant on the former Hataitai Auto site

Properties affected by the proposed connection from Moxham Avenue to Ruahine Street (Feature 5-2), bridge from Hataitai Park to Moxham Avenue (Feature 5-6) and road improvements (Feature 5-4) are residential in the 1938 image and this land use is still current, with only minor alterations to some properties (**Figure 33 to Figure 35**).





Figure 33 Feature 5-2 (1938) showing residential land use



Figure 34 Feature 5-4 (1938) showing residential land use



Figure 35 Feature 5-6 (1938) showing residential land use

Feature 5-3 incorporates the site of the current Church of the Latter Day Saints. The 1938 imagery appears to show this feature in use as a market garden (**Figure 36**). The [Heritage Help - Church of the Latter Day Saints](#) website details that the site of the church was a former Chinese market garden. This land use is potentially HAIL A10. The present-day church is visibly under construction in the 1960 image (**Figure 37**). The current SLUR reference SN/05/204/02 for this property relates only to the presence of a diesel tank.





Figure 36 Feature 5-3 (1938) showing suspected market garden land use.



Figure 37 Feature 5-3 (1960) showing the development of the present-day Church of the Latter Day Saints

The majority of Kilbirnie Park (Feature 5-5) is present as a sports field in the 1938 imagery (**Figure 38**). Land reclamation was completed through to 1957 of the area to the east of Kilbirnie Park, coinciding with the Wellington Regional Airport expansion (**Figure 39**).



Figure 38 Feature 5-5 (1938) showing in progress land reclamation in the southeast of Kilbirnie Park



Figure 39 Feature 5-5 (1957) showing the land reclamation adjacent to Kilbirnie Park that will include Cobham Drive

Land reclamation for the Evans Bay Marina is visible in the southern portion of Feature 5-10 in the 1961 imagery (**Figure 40**). This feature incorporates land that may be disturbed as part of the proposed upgrade of the stormwater outfall to Evans Bay. Land reclamation for this section of the marina is visibly consistent with the present-day from the 1969 imagery (**Figure 41**).



Apart from the market garden within Feature 5-3, no potential HAIL land not listed on the GWRC SLUR was identified within Section 4 and 5.



Figure 40 Feature 5-10 (1961) showing the Evans Bay Marina site prior to land reclamation

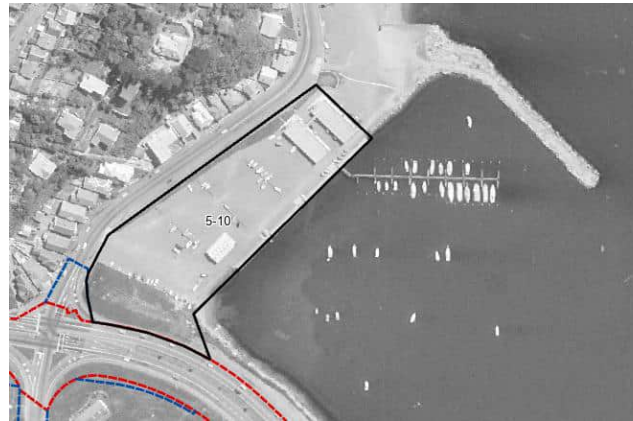


Figure 41 Feature 5-10 (1969) showing the Evans Bay Marina extent generally consistent with the present-day



8.5 Summary Description and Effects Assessment

Table 7 presents a description and risk assessment of potential HAIL land not already listed on the GWRC SLUR identified during the historical aerial review.

Table 7 Description and Effects Assessment for potential HAIL land not already listed on the GWRC SLUR

Feature	HAIL Site Address and Legal Description	HAIL Category(ies) and Key CoPC	Property details	Additional Information	Location and nature of nearest Ground Disturbance	SPR Assessment	Effects Assessment
2-1	Section 2 264 Cuba Street, Te Aro Lot 2 DP 52463	Potentially A18 Chemical manufacture, application and bulk storage: wood treatment or preservation, including the commercial use of antiseptant chemicals during milling, or bulk storage of treated timber outside Heavy metals particularly arsenic copper, and chromium, boron, pentachlorophenol (PCP).	Potential HAIL land comprising outdoor timber storage and subsequent car parking/storage on land adjacent to the Karo Drive alignment was first observed in the 1945 historical aerial image and last observed in the 1971-74 imagery. If the timber was treated, this would meet the definition of HAIL A18. The land was redeveloped for commercial use by 1986 and is currently a brewery with attached carpark.	Current land is a brewery with attached carpark. Timber treatment chemicals can leach off timber stored on open ground and be mobilised through rainfall events. The property was redeveloped in the 1980s and has appeared to have had a hard stand surface since the redevelopment.	~ 150 south of kerb works on Karo Drive in section 2	- CoPCs potential include timber treatment chemicals. - Site will not be disturbed by the Project. - Likelihood of offsite migration of contaminants to Project alignment is very low. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance unlikely. No other contaminated land arising from minor discharges identified.	Negligible
5-3	Section 5 140 Moxham Avenue, Hataitai Fee Simple, 1/1, Lot 1-3 Deposited Plan 15177 and Lot 1 Deposited Plan 7575	A10 Chemical manufacture, application and bulk storage: Persistent pesticide bulk storage or use, including sport turfs, market gardens, orchards, glass houses or spray sheds Heavy metals, organochlorine pesticides (OCPs), organophosphorus pesticides (OPPs), acidic herbicides.	Feature 5-3 incorporates the site of the current Church of the Latter Day Saints. The 1938 imagery appears to show this feature in use as a market garden. Heritage Help - Church of the Latter Day Saints website details that the site of the church was a former Chinese market garden. This landuse is HAIL A10. The present-day church is visibly under construction in the 1960 image. The current SLUR reference SN/05/204/02 for this property relates only to the presence of a diesel tank. The residential properties adjacent to the north of the feature were present in the 1938 historical imagery.	Current land is a church (Latter Day Saints), developed in the 1960s.	The site is adjacent to the Project alignment in Section 5. Pedestrian access way to Moxham Ave will be constructed on the land adjacent to the northern site boundary. Bridge construction works including an embankment will be constructed within the adjacent properties to the north which have been present since at least 1938.	- CoPCs potentially include pesticides and metals - No pesticide application since at least 1960. Source concentrations therefore likely to be very low. - Redevelopment for the current and use would have required soil disturbance. - Site will not be disturbed by the Project. - Significant offsite contamination is soil and groundwater unlikely. - HAIL H unlikely. - Insufficient source concentrations. - SPR linkage incomplete. - Contaminant migration via preferential pathways (services trenches) to closest ground disturbance unlikely. No other contaminated land arising from minor discharges identified.	Negligible



9.0 Additional Potential HAIL Land

9.1 Site Walkover/drive by Inspection

Electrical transformers in the road berm were identified at two locations during the site walkover/drive by inspection:

- Berm side electrical transformer located on a concrete plinth located immediately adjacent to the recently constructed apartment building Sunset West apartments at 251 Victoria Street in section 2 (**Figure 42**). The transformer is located approximately 50 m south of proposed kerb works on Karo Drive.



Figure 42 Berm side electrical transformer at 251 Victoria Street (western side of Karo Drive) 10/05/2026

- Berm side electrical transformer located on a hardstand at the Massey University Willis Street apartments at 222 Willis Street in section 2. This is also SLUR site SN05/905/02 which formerly contained a UST (**Photo 8 Attachment B**). The transformer is located approximately 25 m north of proposed curb works on northern side of Vivian/Willis Street.

Berm side electrical transformers are potentially HAIL B2 *Electrical transformers including the manufacturing, repairing or disposing of electrical transformers or other heavy electrical equipment*. HAIL B2 covers the manufacturing, repair or disposal of electrical transformers and other heavy electrical equipment, such as capacitors, that contain dielectric (non-conductive) oils or fluids (MfE 2023), in particular, polychlorinated biphenyls (PCB) which are persistent organic pollutants (POP). HAIL B2 also covers transformer yards that reduce the voltage for distribution to houses and commercial customers. PCB oils were banned in New Zealand in 2004 and replaced with low toxicity mineral oils or vegetable oil. It is unclear if HAIL B2 is intended to capture two the modern berm side transformers identified, which likely contain biodegradable oils.

Notwithstanding, the berm side electrical transformers will not be affected by ground disturbance for the Project. It is further assessed that in view of age and locations of the transformers, is it highly unlikely that ground disturbance locations would be affected by the migration of contaminants in groundwater or preferential pathways such a services trenches



to proposed ground disturbance locations, in the event of an oil loss. The SPR linkage is therefore incomplete and the effects are assessed as Negligible.

9.2 Tunnel Control Buildings

NZTA confirmed the presence of two electrical transformers within an engineered bunded compound above the northern portal of the Terrace Tunnel control building (**Figure 43**) and two electrical transformers located in the compound immediately north of the Terrace Tunnel control building at the southern portal (**Figure 44**), in Project section 1. These transformers were installed post 2016 and are expected to contain low toxicity mineral oils. They are potentially HAIL B2.



Figure 43 Electrical transformers at the Terrace Tunnel northern portal (image from NZTA)



Figure 44 Electrical transformers at the Terrace Tunnel southern portal (image from NZTA)



These transformers will be decommissioned and / or removed as part of the decommissioning and removal of the northern and southern Terrace Tunnel control buildings, respectively. The transformers are located within bunded compounds and will not be subject to ground disturbance during earthworks as part of the Project. It is further assessed that it is highly unlikely that ground disturbance locations would be affected by the migration of contaminants in groundwater or preferential pathways such as services trenches to proposed ground disturbance locations, in the event of an oil loss. The SPR linkage is therefore incomplete and the effects are assessed as Negligible.

No dedicated transformers are present at the Mount Victoria Tunnel.

9.3 Additional Contaminated Land Reports

9.3.1 SKM, 2013a. Basin Bridge Project: Technical Report No. 7

Contaminated land report SKM (2013a) was prepared as part of the Basin Bridge project. It provides a review of the likelihood of ground contamination being present within affected properties along the alignment of the proposed Basin Bridge project along SH1 from the western Mount Victoria Tunnel portal, around the Basin Reserve and through to Tasman and Tory Streets (parts of Project Sections 3 and 4).

The report is based on the review of WCC files, GWRC SLUR, and certificates of title, as well as a walk over of the project alignment. The review identified four specific sites where potential contamination could have occurred, as shown in **Figure 45** and **Figure 46**. Key findings are and summarised below:

- Site 1: 2 Buckle Street, adjacent to the current Gazley Mitsubishi property, associated with a certificate of title noting potential outdoor timber storage 'in the early 1800s' (Project Section 3). No further information was available to validate the risk posed by this activity. Site 1 covers part of the Gazley Mitsubishi site (SLUR site SN/05/230/02) currently used for vehicle storage and display. The balance of Site 1 overlies land redeveloped as part of the Arras Tunnel/ Memorial Park works in 2014.
- Site 2: 7 Ellice Street (Bogarts Corner), associated with the former presence of a 4,000 litre UST and previous land use as a dry cleaners (Project Section 3). The scale of drycleaning undertaken at the property was assessed in the report to have a reduced risk of major contamination and further investigation was not required.

The UST removal report (URS, 2012) was reviewed as part of the SKM report, which noted that the analytical results for all samples representing soil remaining onsite comply with the Oil Industry Guidelines Tier 1 Soil Acceptance Criteria for Commercial/Industrial and Residential Land Uses.

Further discussion of the UST removal report is provided in **Section 9.3.2**.

This site was redeveloped as a footpath and soft landscaped park as part of the Arras Tunnel/ Memorial Park works in 2014.

- Site 3: 1-7 Dufferin Street, was used as a laydown yard for material removed from the Mount Victoria tunnel upgrade works, specifically the plenum (component of ventilation system) which may have had residual vehicle exhaust particulates (Project Section 3). The level of risk posed by this contamination was assessed in the report as low.
- Site 4: 28 Ellice Street, associated with the risk from historic use of lead based paints for a building requiring removal as part of the Basin Bridge project (Project Section 3/4).



The report concluded that the risk posed by the identified sites was low, and that a contaminated land management plan (CLMP) should be developed detailing appropriate soil sampling, handling and management practices to be implemented.



Figure 45 Potential HAIL Site (Site 1) identified, from SKM (2013a)



Figure 46 Potential HAIL Sites (Sites 2-4) identified, from SKM (2013a)

These results indicate the potential for contamination of berm soils from vehicle particulates and other site specific sources and the presence of contaminated fill and soil below the sealed car park and vehicle display area to the south of Gazley Mitsubishi (Site 1). Ground disturbance for the Project will therefore need to consider the presence of non-HAIL contaminated land in these areas of the Project, including for Site 3 will be incorporated in the SH1 carriageway/bike improvement lane. Site 4 will not be disturbed for the Project.

With the exception of Site 2 (7 Ellis Street), no additional HAIL land was identified by SKM (2013a).

9.3.2 UST Removal at Bogarts Corner

URS (2012) documents the removal and soil validation for a 4,000 L diesel UST at 7 Ellice Street (Bogarts Corner), undertaken for Multi Civil Contractors by URS New Zealand Limited (URS). The diesel UST had been used to supply a diesel boiler for the heating of a site building demolished the week prior to the tank removal. The location of the former UST is shown in **Figure 47**.





Figure 47 Location of former UST at Bogarts Corner (from USR 2012)

Petroleum hydrocarbons ranging between <70 mg/kg and 144 mg/kg were detected in natural ground soils sampled to a depth of 2.4 m during soil validation works following the UST removal. Former tank pit bedding material returned to the base of the tank pit following the UST removal recorded 1,990 mg/kg of C10 to C36 range total petroleum hydrocarbons (TPH). The risk to the environment and human health from contamination in the remaining in bedding material soils was as assessed as very low by URS.

On the basis of the former presence of the UST, this site is considered to be HAIL A17 *Storage tanks or drums for fuel, chemicals or liquid waste*. The site is not listed on the GWRC SLUR.

The site is currently open space (**Attachment B, Photos 63-64**). Ground disturbance for the Project will be associated with the installation of a bike lane. Minimal ground disturbance is expected.

The tank removal report is presented in **Attachment G**.

9.3.3 SKM, 2013b. Mount Victoria Tunnel Duplication Project: Technical Report No. 12

Contaminated land report SKM (2013b) was prepared as part of the Victoria Tunnel duplication project. The report provides a review of the likelihood of ground contamination being present within affected properties along SH1 from the Basin Reserve through the Mount Victoria Tunnel and along Ruahine Street and Wellington Road.

The report is based on the review of review of WCC files, GWRC SLUR, and certificates of title, as well as a walk over of the project alignment, and limited soil sampling of grass verge along Ruahine Street and around the Mt Victoria Tunnel Vents.

The review identified four specific sites where potential contamination could have occurred, as summarised below:



- Sites 1 and 2: 138 Austin Street (Project Section 4) and 57 Wellington Road (Project Section 5), associated with unclassified fill in retaining walls (**Figure 45** and **Figure 46**).
- Site 3: Kilbirnie Park, (Project Section 4), associated with historic landfilling. This is SULR site SN/05/012/02.
- Site 4: Residential properties on the eastern side of Ruahine Street and the southern side of Wellington Road (Project Section 5), associated with lead paint on older buildings.
- Site 5: berm side soils on Ruahine Street and Wellington Road adjacent to Kilbirnie Park (Project Section 5) (**Figure 50**).



Figure 48 Site 1 Potential contaminated land Site 1, from SKM (2013b)

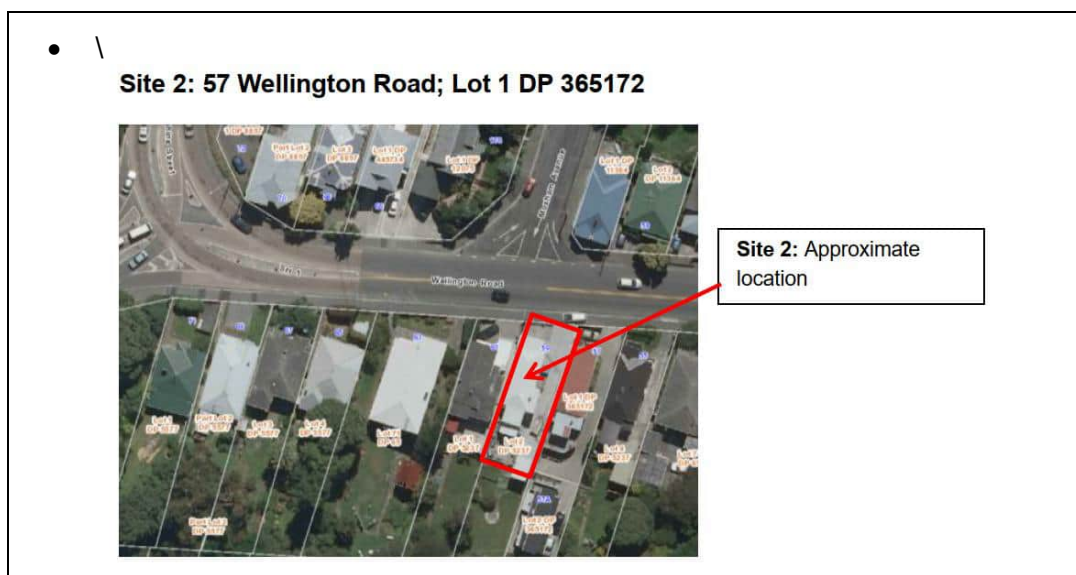
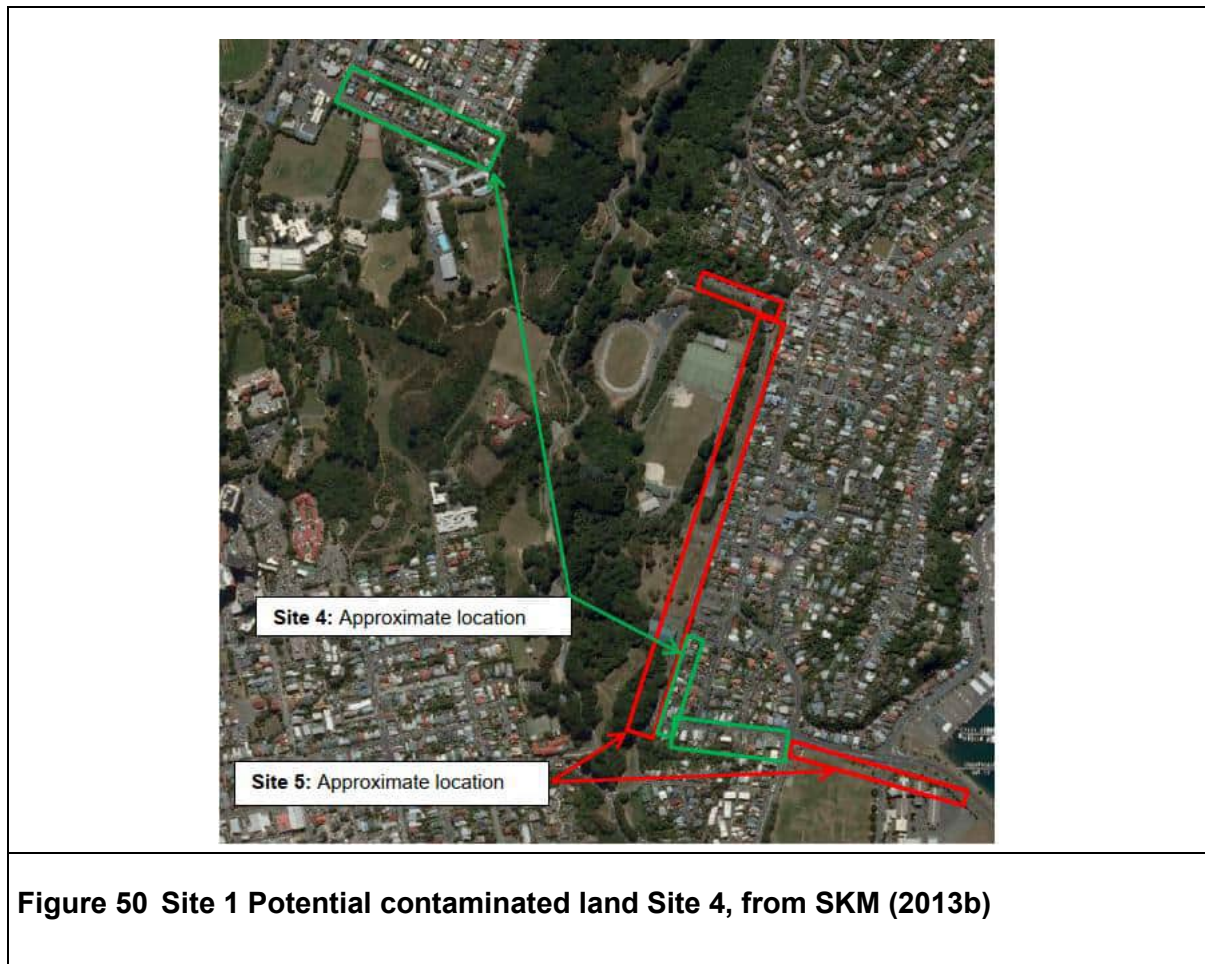


Figure 49 Potential contaminated land Site 2, from SKM (2013b)





Limited soil investigations were carried out around the Mt Victoria Tunnel vents and along the grassed area on the western side of Ruahine Street (Site 4) to assess contamination in soils associated with historic build-up of vehicle derived particulates. The sample locations are shown in **Figure 51** to **Figure 53**. The laboratory analysis identified concentrations of identified CoPCs (heavy metals and PAH) above predicted background concentrations, however at concentrations that would not pose a risk to human health. The report noted that “soil contamination is at a level that soils which will disturbed/excavated as part of the project will need to be managed and/or disposed of to appropriately licenced waste disposal site.”

The report concluded that the risk posed by the identified sites was low, and that a CLMP should be developed detailing appropriate soil sampling, handling and management practices to be implemented.





Figure 51 Map of sampling locations along Ruahine Street, from SKM (2013b)



Figure 52 Map of sampling locations around Vent 1 within the Town Belt on Mount Victoria, from SKM (2013b)





Figure 53 Map of sampling locations around Vent 2 within the Wellington East Girls' College grounds, from SKM (2013b)



These results indicate the potential for contamination of berm soils from vehicle particulates and the presence of lead and asbestos in soils associated with buildings (mainly Project Section 5), and unclassified fill associated with retaining walls in Project Section 4. Landfilling at Kilbirnie Park was also identified. Kilbirnie Park is SLUR site SN/05/012/02.

Ground disturbance for the Project will therefore need to consider the presence of non-HAIL contaminated land that will be disturbed in these areas of the Project.

No additional HAIL land was identified in SKM (2013b).

9.3.4 NZTA Memorial Park Alliance, 2014. Contaminated Land Management Plan

The Memorial Park Alliance CLMP (NZTA 2014) was developed to ensure contaminated soils disturbed as part of the Arras Tunnel project works (enabling works, underpass construction, and park development) were appropriately handled and / or disposed of. The CLMP was developed on desktop information from an earlier SKM report, titled Transport Improvements Around the Basin Reserve, Technical Report — Contaminated Land Investigations and subsequent intrusive ground and groundwater investigations. A copy of SKM report was not obtained for review.

Two SLUR sites directly affected by the Arras Tunnel works were identified from the SKM report:

- 50 Buckle Street (Project Section 3), associated with the former Mobil service station (SLUR SN/05/342/02). The report noted that the USTs were removed in 2007, and soil validation samples collected at the time complied with applicable residential land use Soil Contaminant Standards (SCS).
- Corner of Buckle and Tory Streets (Project Section 3), associated with the former Hertz rental car depot (SLUR SN/05/188/02). A UST was removed in 2008, and soil validation samples reported trace toluene in soil remaining below a former below a fuel dispenser.

These SLUR sites are shown on **Figure 54**, together with the locations of SLUR site SN/05/206/02 (Te Papa's Natural Environment Wet Collection) and SLUR site SN/05/230/02 (Kirk Motors Ltd; currently Gazley Mitsubishi) for reference.

Figure 54 also shows the locations of intrusive investigations within the Arras Tunnel project alignment to collect soil and groundwater samples. The soils results were used to prepare the CLMP Layout Plan presented **Figure 55**, which classifies the soils to be disturbed by the development works in terms of contamination status and subsequent management:

- Clean soils to be reused, including soil with SLUR sites SN/05/342/02 (located to the west of Tory Street) and SN/05/881/02 and adjacent to part of SLUR site SN/05/206/02.
- Contaminated fill to be taken to landfill, overlying clean natural ground, affecting soil adjacent to part of SLUR site SN/05/206/02 and soil located between Martin Square and Taranaki Street.
- A small area of fill between Martin Square and Taranaki Street suitable for use below paved areas.

Groundwater results for sampling locations within SLUR site SN/05/342/02 indicated no special controls were required for the management of groundwater.



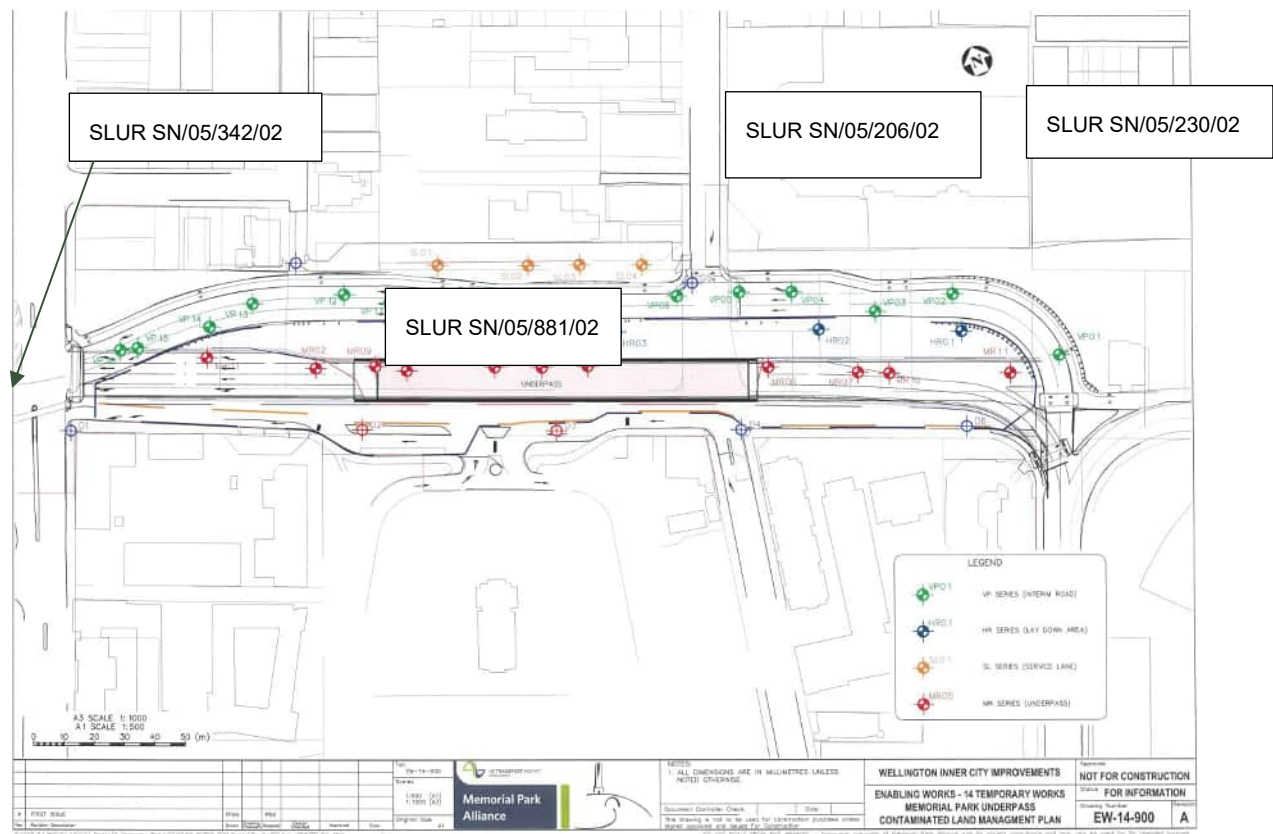
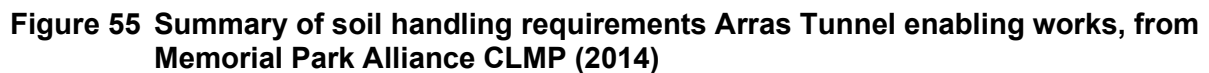


Figure 54 Intrusive investigations completed during Arras Tunnel enabling works, from Memorial Park Alliance CLMP (2014)





No additional HAIL land was identified in NZTA (2014).

9.4 Summary Description and Effects Assessment

Table 8 presents a description and risk assessment of potential additional HAIL land not already listed on the GWRC SLUR identified during the historical aerial review.

Table 8 Description and Effects Assessment for Additional HAIL Land

Location	HAIL Category(ies) and Key CoPC	Property details	Location and nature of nearest Ground Disturbance	SPR Linkage	Effects Assessment
Section 1 Terrace Tunnel North Portal Control Building	HAIL B2. Two electrical transformers present within an engineered bunded compound outside the Control building. Installed during tunnel upgrade in 2012. Post-dates use of Polychlorinated biphenyls (PCBs)	Control building above northern portal of the Terrace Tunnel constructed in 2012. Likelihood of PCB containing or PCB contaminated oils in transformers or surrounding soils is very low. Control building to be decommissioned.	Contained within tunnel control building. No interaction with Project earthworks.	- CoPCs likely to be mineral oil. No PCBs. - Site will not be disturbed by the Project. - Likelihood of offsite migration of contaminants to the Project alignment is very low. - No pathways, - SPR linkage incomplete.	Negligible



Location	HAIL Category(ies) and Key CoPC	Property details	Location and nature of nearest Ground Disturbance	SPR Linkage	Effects Assessment
Section 1 Terrace Tunnel South Portal Control Building	Potential HAIL B2. Two electrical transformers present within an engineered bunded compound outside the Control building. Installed during tunnel upgrade in 2012. Post-dates use of PCBs.	Control building at ground level adjacent to southern portal of the Terrace Tunnel constructed in 2012. Likelihood of PCB containing or PCB contaminated oils in transformers or surrounding soils is very low. Control building to be decommissioned	Contained within tunnel control building. No interaction with Project earthworks.	- CoPCs likely to be mineral oil. No PCBs. - Site will not be disturbed by the Project. - Likelihood of offsite migration of contaminants to the Project alignment is very low. - No pathways. - SPR linkage incomplete.	Negligible
Section 2 Sunset West apartments 251 Victoria Street (corner of Karo Drive). New transformer. No curb works-not affected	Potential HAIL B2. Electrical transformer located immediately adjacent recently constructed apartment building. Post-dates use of PCBs.	Electrical transformer on concrete plinth located immediately adjacent recently constructed apartment building, installed at time of apartment construction. Likelihood of PCB containing or PCB contaminated oils in transformers or surrounding soils is very low.	~180 m north of new seal n SH1.	- CoPCs likely to be mineral oil. No PCBs. - Site will not be disturbed by the Project. - Likelihood of offsite migration of contaminants to the Project alignment is very low.	Negligible



Location	HAIL Category(ies) and Key CoPC	Property details	Location and nature of nearest Ground Disturbance	SPR Linkage	Effects Assessment
				- No pathways. - SPR linkage incomplete.	
Section 2 Massey University Willis Street apartments -222 Willis St. Also SLUR site SN05/905/02 relating to the former presence of a UST.	Potential HAIL B2. Electrical transformer located immediately adjacent recently constructed apartment building.	Postdates use of PCBs. Electrical transformer on hardstand at ground level immediately adjacent apartment building recently app installed at time of apartment construction. Visual condition assessment indicates recent installation. Likelihood of PCB containing or PCB contaminated oils in transformer or surrounding soils is very low.)	~25 m north of proposed curb works on northern side of Vivian/Willis Street	- CoPCs likely to be mineral oil. No PCBs. - Site will not be disturbed by the Project. - Likelihood of offsite migration of contaminants to Project alignment is very low. - No pathways. - SPR linkage incomplete.	Negligible
Section 3 7 Ellice Street Bogarts Corner Part Lot 1 DP 62390	Formerly commercial building demolished in 2021. HAIL A17 Storage tanks or drums for fuel, chemicals or liquid waste. 4,000 L diesel tank removed in 2012. Low concentrations of TPH detected in one side wall and bedding material remaining. No groundwater encountered. No risk to human health.	Area extensively redeveloped in 2012, with soft landscaping and paved footpath following removal of existing commercial buildings prior the UST removal.	New bike facility to be constructed over location of former UST. Some shallow foundations works expected. Contaminated fill from remaining bedding material remaining.	- CoPC potentially low concentrations of C10 to C36 TPH in base of former tank pit (>1.5 depth). - Soil unlikely to be disturbed. - Small source.	Negligible



Location	HAIL Category(ies) and Key CoPC	Property details	Location and nature of nearest Ground Disturbance	SPR Linkage	Effects Assessment
				• Potential pathway to construction workers. • Insufficient source concentrations. • SPR linkage incomplete.	



10.0 HAIL Land and Qualitative Effects Summary

Table 9 summarises the identified HAIL land within the Project alignment and within 100 m either side of the Project alignment, the SPR linkage and the assessed qualitative effects on human health on the environment for each site. Two sites identified as has having Low to Moderate effects are discussed further in **Section 11.0**.

Table 9 HAIL Land Summary

SLUR Reference	Property	HAIL	Effects Assessment
Project Section 1			
SN/05/1069/02 1 Allenby Terrace Verified History Of Hazardous Activity Or Industry	1 Allenby Tce, Wellington City Lot 9 DP 1260	E1	Negligible.
SN/05/1190/02 Mount Street Cemetery Verified History Of Hazardous Activity Or Industry	2 Mckenzie Tce, Wellington City Lot 1 DP 8081	G1	Negligible.
SN/05/281/02 National Mutual Building Verified History Of Hazardous Activity Or Industry	80 The Terrace, Wellington City Lot 2 DP 59493 - Subj To & Int In Row DP 70535	A17	Negligible.
SN/05/274/02 Sun Microsystems House Verified History Of Hazardous Activity Or Industry	70 The Terrace, Wellington City Lot 1 DP 50807 Pt Lot 1 DP A2193 Sec 1252 Town Of Wellington - 4 M2 Disabled Ramp & Planter Box On Road Reserve	A17	Negligible.
SN/05/262/02 James Cook Hotel Verified History Of Hazardous Activity Or Industry	147 The Terrace, Wellington City Lot 2 DP 64241 - Subj To & Int In Row On DP 311016 - Subj To Row & Eases On DP 54466 & 64241 - James Cook Hotel And Parking Building	A17	Negligible.
SN/05/404/02 Morrison Kent House Verified History Of Hazardous Activity Or Industry	206 Lambton Quay, Wellington City Lot 2 DP 71877 -Morrison Kent House	A17	Negligible.
SN/05/406/02 155 The Terrace Verified History Of Hazardous Activity Or Industry	155 The Terrace, Wellington City Lot 1 DP 90891 - Up 90898	A17	Negligible.



SLUR Reference	Property	HAIL	Effects Assessment
SN/05/884/02 175 The Terrace Verified History Of Hazardous Activity Or Industry	100 Boulcott St, Wellington City Lot 1 DP 33385	A17	Negligible.
SN/05/905/02 McKenzies Building Contamination Acceptable Managed/Remediated For	222 Willis St, Wellington City Lot 1 DP 41011 Pts Sec 141 Town Of Wellington (pt Defined On DP 11003)	A17	Negligible.
SN/03/2056/02 Hutt Bowling Club Verified History Of Hazardous Activity Or Industry	65 Salamanca Road, Kelburn Lot 1 DP 10086	A10	Negligible.
SN/05/021/02 Kelburn Park (ex landfill) Verified History Of Hazardous Activity Or Industry	65 Salamanca Road, Kelburn All DP 10086 Subj To Easements On DP 82407	G3	Negligible.
Not listed on the SLUR	Section 1 Terrace Tunnel North Portal Control Building	B2	Negligible.
Not listed on the SLUR	Section 1 Terrace Tunnel South Portal Control Building	B2	Negligible.
Project Section 2			
SN/05/277/02 Avery Ford LMVD Verified History of Hazardous Activity or Industry	97 U1 Taranaki St, Wellington City Lot 1 DP 560636 - Subj To And Int In Esmts	F4, F7	Negligible.
SN/05/270/02 Ricoh, MWH Verified History of Hazardous Activity or Industry	81 Vivian St, Wellington City Lot 3 DP 55416 & 1/3 Sh In Lot 2 DP 55416 - 126 M2 Verandah & Facade On Road Reserve - Subj To Row DP 558722	F7	Negligible.
SN/05/266/02 Cheops Holdings Vivian St Verified History of Hazardous Activity or Industry	57 Vivian St, Wellington City Lot 1 DP 517667 & 5/9 Sh In Lot 2 DP 55416	A17	Negligible.
SN/05/235/02 Logan Brown Restaurant & Bar Verified History of Hazardous Activity or Industry	192 Cuba St, Wellington City Lot 1 DP 83518 - Up 83628	A17	Negligible.



SLUR Reference	Property	HAIL	Effects Assessment
SN/05/219/02 Murdoch A & Co Wgton Ltd Verified History of Hazardous Activity or Industry	129 Taranaki St, Wellington City Pt Sec 232 Town Of Wellington - Subj To Esmt DP 616201	A17	Negligible.
SN/05/152/02 Former Shell Vivian St now Z Energy Contamination Acceptable Managed/Remediated for	174 Vivian St, Wellington City Lot 1 DP 54050 Leased Areas A B On DP 56212	F4, F7	Negligible.
SN/05/178/02 Ex Transalta Depot Verified History of Hazardous Activity or Industry	71 Webb St, Wellington City Lot 10 DP 88911 - Subj To Row, Subj To & Int In Party Wall	A17, B2, F4	Negligible.
SN/05/055/02 Ray Hartley Motors Ltd Verified History of Hazardous Activity or Industry	24 Haining St, Wellington City Lot 1 DP 569273 - Subj To Esmts	D5, F4	Negligible.
SN/05/399/02 NZ Lotteries Commission Verified History of Hazardous Activity or Industry	54 -56 Cambridge Tce, Wellington City Lot 1 DP 64548 - Nz Lotteries Commission Bldg	A17	Negligible.
SN/05/430/02 Cumberland House Contamination Acceptable Managed/Remediated for	237 Willis St, Wellington City Lot 1 DP 433344	A17, F7	Negligible.
SN/05/559/02 Accrescent Engineering Ltd Verified History of Hazardous Activity or Industry	96 Vivian St, Wellington City Lot 12 Pt Lot 11 DP 322	D5	Negligible.
SN/05/583/02 Ex Wellington Operatic Society Contamination Acceptable Managed/Remediated for	29 Vivian St, Wellington City Pt Sec 262 Town Of Wellington - Int In Esmts DP 80657	E1	Negligible.
SN/05/783/02 Auto Smash Repairs Ltd Verified History of Hazardous Activity or Industry	12 Fifeshire Ave, Wellington City Lot 2 DP 58276 - Int In R/w	A17	Negligible.



SLUR Reference	Property	HAIL	Effects Assessment
SN/05/971/02 Screen Print Ltd Verified History of Hazardous Activity or Industry	2 College St, Wellington City Secs 1125 1126 1283 Town Of Wellington	A17	Negligible.
SN/05/449/02 166 Taranaki Street No Identified Contamination	166 Taranaki St, Wellington City Lot 2 DP 72482 - Hertz Bldg & Carpark	F4	Negligible.
SN/05/441/02 Autobodies Wellington Limited Verified History of Hazardous Activity or Industry	46 Webb St, Wellington City Lot 1 DP 23536	F4	Negligible.
SN/05/391/02 Tony's Workshop, 15-17 Arthur Street Verified History of Hazardous Activity or Industry	15 -17 Arthur St, Wellington City All Plan A 200 & All DP 10626	F4	Negligible.
SN/05/1192/02 Armstrong Prestige, 12 Fifeshire Avenue Verified History of Hazardous Activity or Industry	12 Fifeshire Ave, Wellington City Lot 2 DP 58276 - Int In R/w	F4	Negligible.
SN/05/450/02 Chung Hing Panel Ltd, 12 Wigan Street Verified History of Hazardous Activity or Industry	12 Wigan St, Wellington City Pt Lots 7 8 DP 1903	F4	Negligible.
SN/05/1200/02 Motordrome Auto Services, 264 Cuba Street Verified History of Hazardous Activity or Industry	264 Cuba St, Wellington City Lot 2 DP 52463	F4	Negligible.
SN/05/1249/02 Wellington Scrap Metals Limited, 25 College Street Verified History of Hazardous Activity or Industry	34 Vivian St, Wellington City Sec 1135 Town Of Wellington	G4	Negligible.



SLUR Reference	Property	HAIL	Effects Assessment
SN/05/1272/02 Metalworx, 58-60 Vivian Street, Te Aro Verified History of Hazardous Activity or Industry	58 Vivian St, Wellington City Pt Lot 14 DP 811	D5	Negligible.
SN/05/1266/02 70 Vivian Street, Te Aro Verified History of Hazardous Activity or Industry	68 Vivian St, Wellington City Lot 1 DP 40157 1/2 Sh Pt Lots 9 10 DP 811 (being 56 M2)	F3, F4	Negligible.
SN/05/1386/02 Mid City Auto Repairs Verified History of Hazardous Activity or Industry	269 Willis St, Wellington City Lot 5 DP 6846 & Pt Sec 143 Town Of Wellington - Int In Row	F4	Negligible.
Not listed on the SLUR	264 Cuba Street, Te Aro Lot 2 DP 52463	A18	Negligible.
Not listed on the SLUR	Section 2 Sunset West apartments 251 Victoria Street (corner of Karo Drive). New transformer.	B2	Negligible.
Not listed on the SLUR	Section 2 Massey University Willis Street apartments -222 Willis St. Also SLUR site SN05/905/02 relating to the former presence of a UST).	B2	Negligible.
Project Section 3			
SN/05/054/02 Ex Victor A I & Co Ltd Verified History of Hazardous Activity or Industry	11 Douglas St, Wellington City Pt Plan A 1804	D5	Negligible.
SN/05/294/02 Honda Cars Ltd Body Shop Verified History of Hazardous Activity or Industry	27 Hania St, Wellington City Lot 3 DP 70272	F4	Negligible.
SN/05/1435/02 8 Barker Street, Te Aro Contamination Acceptable Managed/Remediated for	66 Cambridge Tce, Wellington City Lot 1 DP 48488 Lot 1 DP 73447 - Subj To Row - 139 M2 Commercial Caryard & Si Gnage On Road Reserve	A17, F7, H	Negligible.
SN/05/160/02 Caltex Basin Reserve Verified History of Hazardous Activity or Industry	28 Adelaide Rd, Wellington City Lots 1 2 DP 11151 Pt Lot 2 DP 10531 Sec 1403 (so 23605) Town Of Wellington	F7	Negligible.



SLUR Reference	Property	HAIL	Effects Assessment
SN/05/210/02 Broadcast Communications Ltd Verified History of Hazardous Activity or Industry	147 Tory St Wellington City All DP 10769 & Lot 1 DP 33649 & All Plans A 1160 A 1659 & Pt Sec 259 Town Of Wellington - 22.2 M2 Corner Splay & Seismic Strengthening To Walls On Road Reserve	A17	Negligible.
SN/05/206/02 Te Papa's Natural Environment Wet Collection Verified History of Hazardous Activity or Industry	169 Tory St, Wellington City Pt Lot 1 DP 61434 Sec 1397 Town Of Wellington (so 34271) (499/268)	A17	Negligible.
SN/05/225/02 Tony Jackson Cars Ltd Verified History of Hazardous Activity or Industry	64 Cambridge Tce, Wellington City Pt Sec 268 Town Of Wellington	F7	Negligible.
SN/05/342/02 Mobil Buckle Street Verified History of Hazardous Activity or Industry	50 Buckle St, Wellington City Pt Secs 226 227 233 Town Of Wellington	F7	Negligible.
SN/05/230/02 Kirk Motors Ltd Verified History of Hazardous Activity or Industry	76 Cambridge Tce, Wellington City Lot 1 DP 63531	F7	Low to Moderate.
SN/05/370/02 Nissan New Zealand Ltd Contamination Acceptable Managed/Remediated for	35 Kent Tce, Wellington City Lots 1-6 DP 405 Lots 1 & 2 DP 1298 & Part Section 301 Town Of Wellington	A17	Negligible.
SN/05/783/02 Auto Smash Repairs Ltd Verified History of Hazardous Activity or Industry	12 Fifeshire Ave, Wellington City Lot 2 DP 58276 – Int In R/w	A17	Negligible.
SN/05/617/02 20 Barker St Verified History of Hazardous Activity or Industry	20 Barker St, Wellington City Lot 1 DP 43575	A17	Negligible.
SN/05/936/02 36-42 Hania St – HERTZ Verified History of Hazardous Activity or Industry	75 Kent Tce, Wellington City Pt Lot 4 DP 15 Lots 1 2 DP 6598 Pt Lot 1 DP 7878 Lots 2 6 DP 9657 & ½ Sh I N Pt Lot 4 DP 15 Being 5 M2	A17	Negligible.



SLUR Reference	Property	HAIL	Effects Assessment
SN/05/601/02 Arlington Motors Ltd Verified History of Hazardous Activity or Industry	45873 Douglas St, Wellington City Pt Lot 1 DP 12167	F4	Negligible.
SN/05/1192/02 Armstrong Prestige, 12 Fifeshire Avenue Verified History of Hazardous Activity or Industry	12 Fifeshire Ave, Wellington City Lot 2 DP 58276 – Int In R/w	F4	Negligible.
SN/05/1145/02 Spot On Panel and Paint, 37 Home Street Verified History of Hazardous Activity or Industry	37 Home St, Wellington City Lot 8 DP 1298	F4	Negligible.
SN/05/359/02 14 Hania Street, Mount Victoria Verified History of Hazardous Activity or Industry	14 Hania St, Wellington City All DP 7989	F4	Negligible.
SN/05/881/02 48 Buckle St Contamination Acceptable Managed/Remediated for	No address listed	A17	Negligible.
Not listed on the SLUR	Section 3 7 Ellis Street Bogarts Corner Part Lot 1 DP 62390	A17	Negligible.
Project Sections 4 and 5			
SN/05/204/02 Church of Latter Day Saints Verified History of Hazardous Activity or Industry	140 Moxham Ave, Wellington City Lots 1-3 DP 15177 Lot 1 DP 7575	A17	Negligible.
SN/05/205/02 Park & Clarke Ltd Verified History of Hazardous Activity or Industry	22 Moxham Ave, Wellington City Pt Lot 71 DP 168	A17	Negligible.
SN/05/012/02 Kilbirnie Park Verified History of Hazardous Activity or Industry	55 Kilbirnie Cres, Wellington City Pt Lots 2 3 4 DP 11975 Pt Lots 1-5 DP 6069 – Subj To Electricity Supply Easement On DP 78340	G3	Low to Moderate.



SLUR Reference	Property	HAIL	Effects Assessment
SN/05/044/02 Ex Placemakers and Evans Bay Timber Company Ltd Contamination Acceptable Managed/Remediated for	40 Kilbirnie Cres, Wellington City Lot 3 DP 89525	A18	Negligible.
SN/05/184/02 Ex Hataitai Auto Centre Ltd Verified History of Hazardous Activity or Industry	12 Moxham Ave, Wellington City Pt Lots 70 71 DP 168	F4, F7	Negligible.
Not listed on the SLUR	Section 2 140 Moxham Ave, Wellington City Lots 1-3 DP 15177 Lot 1 DP 7575	A10	Negligible.



11.0 Further Assessment of HAIL Land Identified as having Potential Effects

11.1 Former Kirk Motors SLUR site SN/05/230/02

The Sussex Street to Cambridge Terrace connection will require the demolition of the current Gazley Mitsubishi property as well as bulk earthworks to establish the overbridge connection for the northbound SH1 and the extended Sussex Street, part of which will be placed in a trenched section that will tie into Cambridge Terrace south of Barker Street.

Figure 56 shows the proposed road alignment in relation to the existing properties. Part of the Gazley Mitsubishi property incorporates the SLUR site SN/05/230/02 relating to the former Kirk Motors.



Figure 56 Sussex Street to Cambridge Terrace Connection

Figure 19 to Figure 24 of Section 8.3 show the development history this area. Kirk Motors (now Gazley Mitsubishi) appears to be first visible in the 1985 aerial imagery, located in the northeast portion of the property (Feature 3-8). The balance of what will become the Gazley Mitsubishi property (Feature 3-2) is developed by the 1996 imagery.

Property files held by WCC for the former Kirk Motors site were requested on 15 December 2025. The relevant provided files are discussed as follows:

- File 00059_D3726 shows the demolition plans for the structures presumed to be Kirk Motors in the northeastern portion of the property, there was no information relating to a fuel storage tank or related infrastructure.
- File 00059_D3360(1) shows development plans for the Kirk Motors workshop which details the specific location of a proposed direct fill underground storage tank, fuel supply line for a fuel bowser and a fuel fill line.

Based on the WCC file information, the buildings that comprise the current Gazley Mitsubishi dealership were originally developed for Kirk Motors. The underground fuel tank referenced



in SN/05/230/02 was located in the northwestern part of the property, not in the northeastern as inferred from the aerial imagery. It appears to have comprised a single petrol UST below the northwestern access to the building, with a pump/bowser located next to the western wall of the workshop building, within the building. A plan excerpt showing the UST and bowser location is presented in **Figure 57**. Further information is presented in **Attachment F**. The inferred former location of the UST is shown on **Figure 56**.

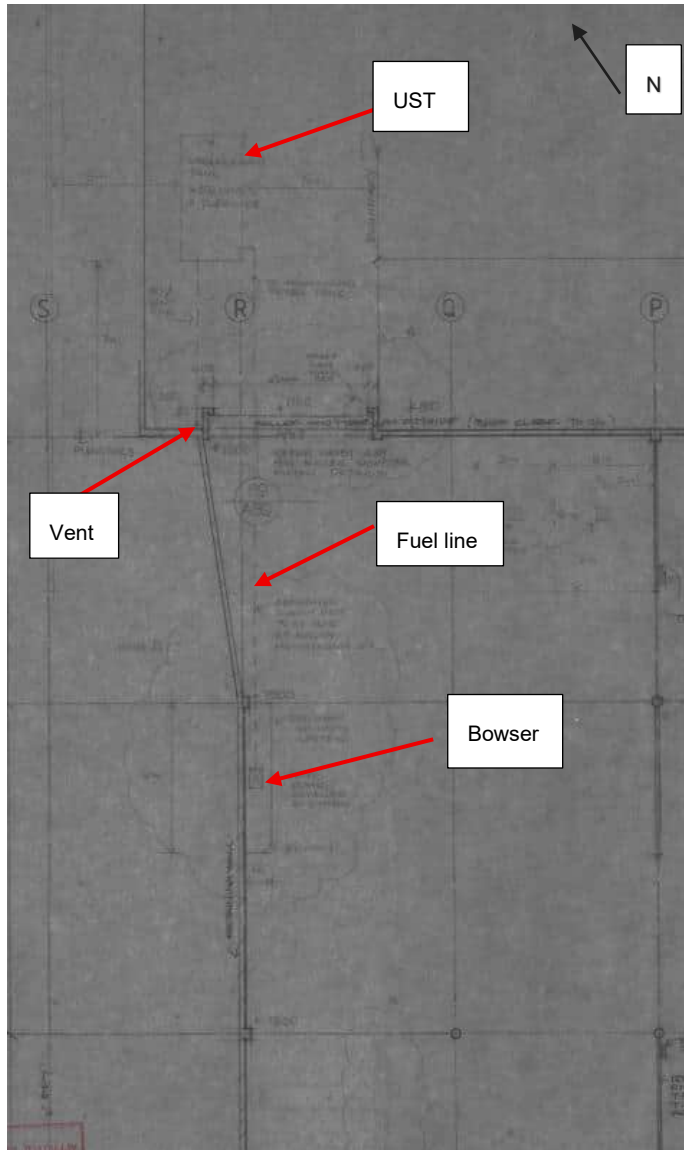


Figure 57 WCC document 19860530 00059_D3360 (1) pg. 428 Excerpt showing UST and related infrastructure location

Based on the letter between Mitsubishi Motors NZ Ltd and the then Wellington Regional Council, the underground fuel tank referenced in SN/05/230/02 was removed from the property around 1998.

A site walkover of the property was conducted on 22 January 2026. The current land use is as a car dealership and associated vehicle workshop. The workshop activities include the storage and use of new and used oils in above ground drums and tanks. Used oil is removed from site for treatment/disposal. The concrete flooring of the workshop appeared to be in good order with no excessive cracking or staining. No evidence of the UST or associated



infrastructure was observed. Myles Gazley (Dealership Owner) was interviewed as part of the walkover. Mr Gazley was not aware of a UST or fuel bowser ever being present within or around the workshop during their occupation (post 1998).

Photos 14-28, 34 and 35 of Attachment B show the present-day layout of the areas affected by the proposed Sussex Street to Cambridge Terrace connection. Photographs taken during the recent site walkover are presented in **Figure 58-Figure 60**.



Figure 58 Inferred location of former fuel tank indicated on 19860530 00059_D3360 (1) pg 428



Figure 59 Current workshop layout showing typical oil storage

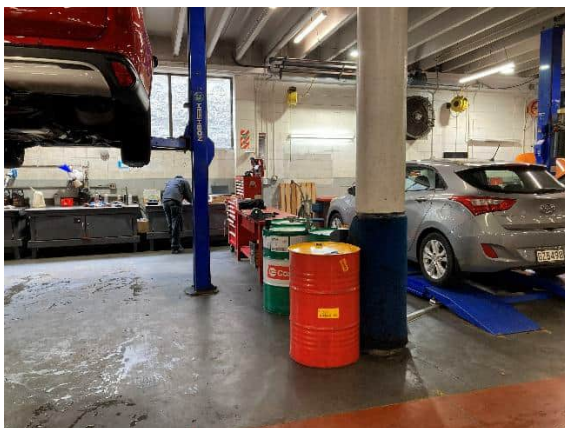


Figure 60 Current workshop showing typical oil storage.

11.1.1 Qualitative Assessment of Effects

SLUR site SN/05/230/02 is more likely than not associated with HAIL F7: *Vehicle refuelling, service and repair - Service stations, including retail or commercial refuelling facilities* and HAIL F4: *Vehicle refuelling, service and repair - Motor vehicle workshops*. CoPC associated with these HAIL activities and industries include heavy metals, petroleum hydrocarbons and volatile and non-volatile organic compounds.

Earthworks for the Project will require soil disturbance and dewatering within the Gazley Mitsubishi site. Contaminated soil and groundwater may be encountered during earthworks resulting in potential discharges of contaminants.



A preliminary CSM and qualitative assessment of effects based on the findings of the PSI is presented in **Table 10**.

Table 10 Gazley Mitsubishi Preliminary Conceptual Site Model and Qualitative Assessment of Effects

Source	Pathway	Receptor	SPR Linkage	Effect
CoPCs in soil	Direct contact, inhalation and/or ingestion	Human Health: Road Construction and maintenance/excavation workers	Potentially complete Source concentrations to be established	Low to Moderate
CoPCs in Groundwater	Direct contact, inhalation and/or ingestion	Human Health Road Construction and maintenance/excavation workers	Potentially complete Source concentrations to be established	Low to Moderate
	Groundwater ingress to surface water	Waitangi Awa	Incomplete Awa is piped. Ingress considered unlikely	Negligible
	Discharge to Wellington harbour via stormwater	Marine Environment	Potentially complete Potential discharge to stormwater and Wellington Harbour during dewatering for road construction	Low to Moderate

The SPR linkage at SLUR site SN/05/230/02 is assessed as complete, with a Low to Moderate effect on human health and the environment for the Project. Ground disturbance controls will be required to manage the effects of contaminant discharges. The controls should be informed by site specific soil and groundwater contamination data.

11.2 Kilbirnie Park SLUR site SN/05/012/02

The realignment and widening of SH1 prior to Cobham Drive will encroach onto the northern extent of Kilbirnie Park, including the demolition of the existing cricket club rooms. **Figure 61** shows the proposed road alignment in relation to Kilbirnie Park. **Photos 57-61** of **Attachment B** show the present-day layout of the northern portion of Kilbirnie Park and show that the existing SH1 road level is elevated relative to the turf level of Kilbirnie Park.



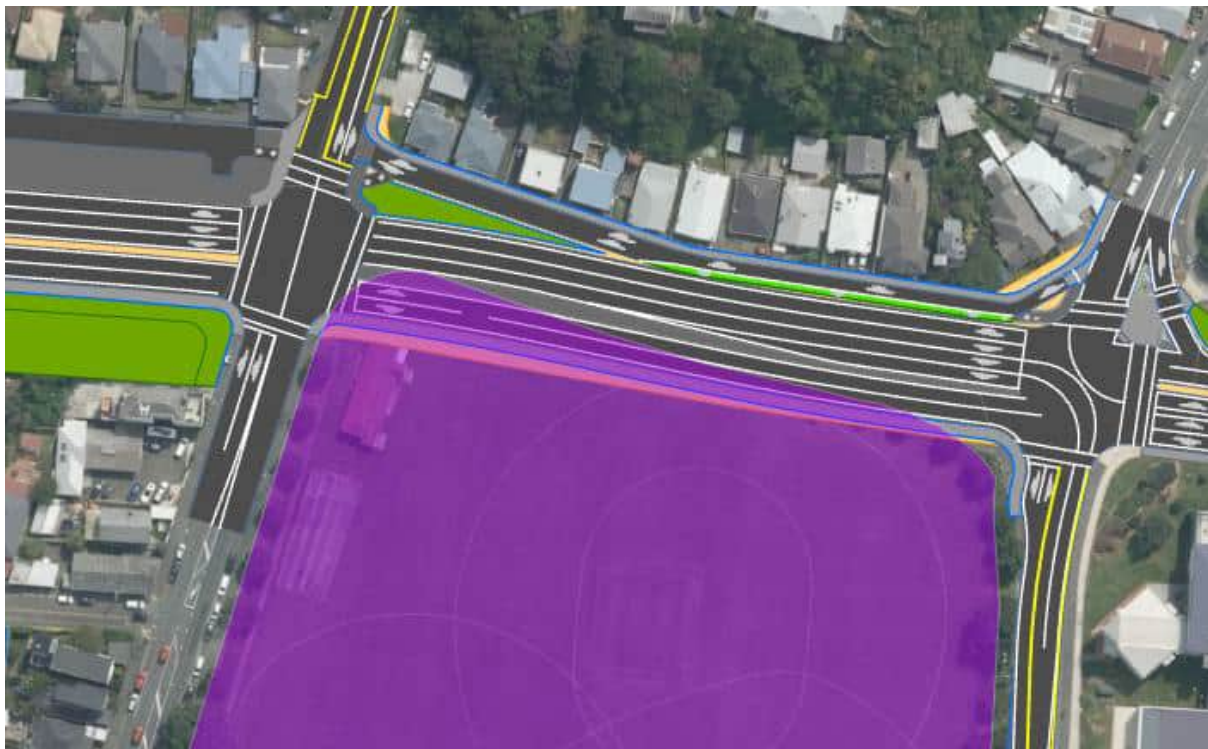


Figure 61 SH1 through the northern extent of Kilbirnie Park

Kilbirnie Park is listed on the GWRC SLUR (SN/05/012/02) under HAIL G3 Landfill sites and is documented as a closed landfill in Purchas (1998). The types and location of filling activities are not well documented (MWH, 2005). However, MWH (2005) reports that the landfill was only open for 2 years from 1937-1939, with a 1940 historical aerial image showing Kilbirnie Park in land use as a recreational park. The site is also shown to be filled and in use by 1945 in **Attachment E, Figure 4-2**.

MWH (2005) involved five hand auger holes advanced into the park and three boreholes advanced through the fill material into underlying natural ground (estuarine / marine sediment) which were encountered between 2.0-2.7 m bgl. Investigation locations are uncertain owing to unavailability of a sample location plan in the copy of the report reviewed. However, it is inferred from the report that investigation focused on the northern and central parts of Kilbirnie Park.

Fill materials encountered were classified as silty clay with siltstone gravels indicative of weathered greywacke. The estuarine / marine deposits comprised shelly sand and sandy gravel. No refuse material was encountered during the investigation.

Analytical results of heavy metals and TPH in soil samples are presented in **Figure 62**.



Table 1 Heavy metals and TPH in soil samples - Kilbirnie Park Closed Landfill

Sample Reference	KPHA1-a	KPHA2-a	KPHA2-b	KPHA3	KPHA4	KPBH1-a	KPBH1-b	NEPC Soil Guideline Park (a)
Sample Location	Hand Auger	Hand Auger	Hand Auger	Hand Auger	Hand Auger	Bore Hole	Bore Hole	
Sample Depth (m)	0.2	0.2	0.7	0.2	0.2	2.0	4.3	
Soil Type	Silt	Silt	Silt	Sandy Silt	Silt	Clay	Shelly Sand	
Landfill Horizon	Topsoil	Topsoil	Fill	Topsoil	Topsoil	Fill	'Bedrock'	
Parameters	Results in mg/kg dry weight							
Metals (total)								
Arsenic	3.79	3.42	3.11	6.10	5.54	4.34	4.04	200
Cadmium	0.13	0.20	0.03	0.17	0.20	0.05	0.04	40
Chromium	20.5	33.4	13.1	15.9	15.8	16.7	19.5	200 (b)
Copper	16.8	19.6	7.5	31.5	25.5	25.0	13.1	2,000
Lead	55.4	53.1	18.7	59.7	102	36.7	23.3	600
Nickel	11.0	14.7	8.7	12.5	11.4	8.9	11.2	600
Zinc	75	64	61	88	86	59	57	14,000
Petroleum Hydrocarbons								
Total C7-C35*	30.0	30.0	30.0	78.6	76.0	30.0	30.0	180 (c)

Table 1 (cont'd) Heavy metals and TPH in soil samples - Kilbirnie Park Closed Landfill

Sample Reference	KPBH2-a	KPBH2-b	KPBH3	NEPC Soil Guideline Park (a)
Sample Location	Bore Hole	Bore Hole	Bore Hole	
Sample Depth (m)	1.9	4.0	2.0	
Soil Type	Silty Clay	Sandy Gravel	Sandy Silt	
Landfill Horizon	Fill	'Bedrock'	Fill	
Parameters	Results in mg/kg dry weight			
Metals (total)				
Arsenic	5.18	5.60	3.32	200
Cadmium	0.17	0.04	0.02	40
Chromium	20.6	22.5	34.2	200 (b)
Copper	21.2	15.5	9.1	2,000
Lead	38.4	17.9	16.2	600
Nickel	23.4	14.0	14.8	600
Zinc	118	67	62	14,000
Petroleum Hydrocarbons				
Total C7-C35*	30.0	30.0	30.0	180 (c)

a) Parks, recreational open space and playing fields from Table 11-A (NEPC, 1999); b) Cr (VI); c) >C16-C35 aromatics
* Maximum level reported (assumed to be all aromatics)

Figure 62 Analytical results of heavy metals and TPH in soil samples (from MWH 2005)

MW (2005) compared the results to NEPC Soil Guidelines for Park (the investigation predated the NES-CS and Soil Contaminant Standards (SCS) from the NES-CS were not available), with all soil concentrations significantly less than the guideline values. The analytical results are also significantly less than the SCS for Recreation land use under the NES-CS.

The analytical results were not compared to 'Wellington background soil concentrations' described in URS (2003). Comparison with these soil background concentrations for Type 2 greywacke soils shows that background concentrations for metals (chromium, copper, lead, Nickel and zinc) in some samples exceeded their respective background soil concentration values. Exceedance of background soil concentration values on HAIL land is a trigger for consideration of the applicability of the NES-CS.

Concentrations of heavy metals, particularly iron, arsenic, nickel, lead and zinc from a shallow groundwater sample collected on the eastern boundary of the park were significantly elevated with respect to groundwater samples collected from other closed landfills in the Wellington Region, indicating the potential for leachate generation from unidentified contaminated fill not found during the intrusive investigation. The results for BH2 are presented in **Figure 63**. BH2 appears to be located close to the eastern boundary of the park, approximately 80 m south of the Project alignment. The schematic cross section developed by MWH (2005) is shown in **Figure 64**. The cross section indicates the discharge of potentially contaminated shallow groundwater from the park to Evans Bay.



Analyte	Units	BH2 (MW)	Average five landfills (a)
		KPL	
Iron	mg/L	1260	350
Manganese	mg/L	10.6	5.66
Arsenic	mg/L	0.284	0.06
Cadmium	mg/L	0.004	0.002
Chromium	mg/L	1.11	0.36
Nickel	mg/L	0.708	0.19
Lead	mg/L	1.67	0.96
Zinc	mg/L	4.31	1.92

a) This study (see text)

Figure 63 Heavy metals results, Kilbirnie Park (from MWH 2005)

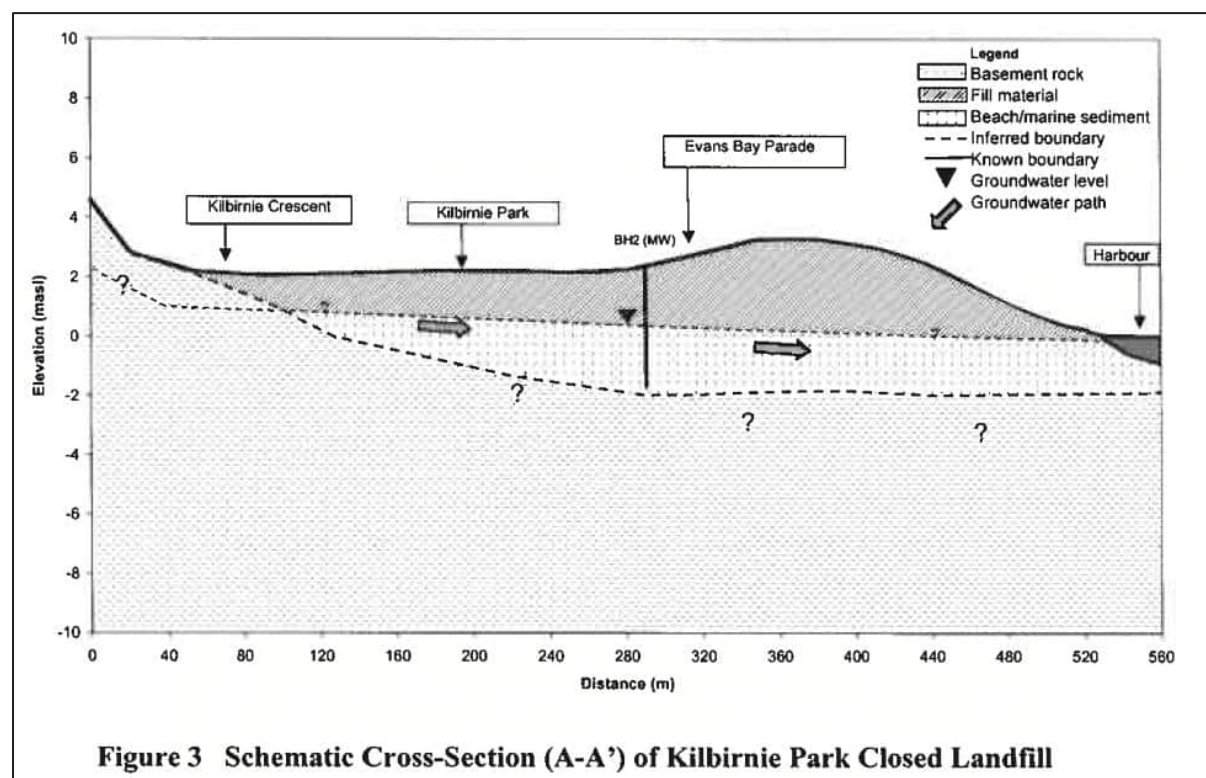


Figure 64 SW-NE Schematic cross section through Kilbirnie Park (from MWH2005)

Investigations in the southern area of the park include the following:

- Tonkin and Taylor (2007), which comprised a site investigation to support the off-site disposal of soils from the Wellington Regional Aquatic Centre at the southern end of Kilbirnie Park. The investigation identified contamination in deeper soils.
- SLR (2024), which comprised a DSI for the Kilbirnie skate park development, also at the southern end of Kilbirnie Park. The investigation encountered general refuse (bricks, glass bottles, scrap metal) and contaminated soil (**Figure 65**).





Figure 65 Waste encountered in TP3 (from SLR 2024)

11.2.1 Qualitative Assessment of Effects

SLUR (SN/05/012/02) is more likely than not associated with HAIL G3: *Cemeteries and waste recycling, treatment and disposal - Landfill sites*. CoPC associated with this HAIL are variable and would depend on the nature of material buried but would typically include heavy metals, polycyclic aromatic hydrocarbons and asbestos in soils.

Bulk earthworks will be required for widening of SH1 which will encroach on the northern area of Kilbirnie park. Contaminated soil, including anthropogenic wastes, and contaminated groundwater, may be encountered during earthworks, resulting in potential discharges of contaminants.

A preliminary CSM and qualitative assessment of effects based on the findings of the PSI is presented in **Table 11**.



Table 11 Kilbirnie Park Preliminary Conceptual Site Model and Qualitative Assessment of Risk

Source	Pathway	Receptor	SPR Linkage	Effect
CoPCs in soil	Direct contact, inhalation and/or ingestion	Human Health: Road Construction and maintenance/excavation workers	Potentially complete Source concentrations to be established	Low to Moderate
CoPCs in Groundwater	Direct contact, inhalation and/or ingestion	Human Health Road Construction and maintenance/excavation workers	Potentially complete Source concentrations to be established	Low to Moderate
	Groundwater ingress to surface water	Waipapa Awa	Incomplete Awa is piped. Ingress considered unlikely	Negligible
	Discharge to Evans Bay harbour via stormwater	Marine Environment	Potentially complete Potential discharge to stormwater and Evans Bay during dewatering for road construction, if required.	Low to Moderate

The SPR linkage for SLUR site (SN/05/012/02) is assessed complete, with a Low to Moderate effect on human health and the environment for the Project. Earthworks controls will be required to manage the effects of contaminant discharges. The controls should be informed by site specific soil and groundwater contamination data.



12.0 Non-HAIL Potentially Contaminated Land

12.1 Existing Structures Requiring Demolition

Portions of the proposed alignment will require the demolition of a range of commercial and residential buildings. A list of affected buildings including the decade built provided by NZTA is presented in **Attachment G**.

The buildings include the Gazley Mitsubishi offices and workshop built in 1986 and structures within Features 3-3, 3-4, 5-2, 5-4 and 5-6 and shown in **Figure 66** to **Figure 70** below. Based on the historical aerial review the residential dwellings of Features 3-4, 5-2, 5-4 and 5-6 were already established by 1938. The commercial structures of Feature 3-3 were established between the 1960s and 2010s. As noted in SKM (2013a, b), lead based paints have likely been used at some point on older structures. Maintenance or removal of old paint layers can result in elevated concentrations of lead in shallow soil (0 - 0.2 m depth) in the halo of structures.

In addition, asbestos containing building materials (ACM) were commonly used in New Zealand throughout the 20th century. These building potentially include the tunnel control buildings which are listed for demolition, NZTA has advised that the Asset owner manuals for the tunnel control buildings do not mention asbestos or asbestos registers. However, records may be incomplete, and the presence of asbestos cannot be ruled out.

Example photos of other structures affected are presented in **Photos 29-31, 36-43** and **52-56** of **Attachment B**.

The presence of lead paint or ACM in the built environment are not considered HAIL. However, the SPR linkage for land disturbed at building demolition sites is assessed as potentially complete, with the key pathways and receptors being dermal contact with lead contaminated soils and inhalation of asbestos during building demolition by road construction workers undertaking ground disturbance if elevated concentrations of lead and / or asbestos are present in soil following building demolition. Identification of affected buildings and management of the potential human health risks prior to and during demolition of buildings and subsequent earthworks will be required.

The qualitative assessment of effects of the discharge of contaminants associated with building demolition with mitigation is Negligible to Low.





Figure 66 Sussex Street buildings requiring demolition (Feature 3-3)



Figure 67 Patterson Street buildings requiring demolition (Feature 3-4)



Figure 68 Moxham Avenue buildings requiring demolition (Feature 5-2)



Figure 69 Moxham Avenue buildings requiring demolition (Feature 5-6)



Figure 70 Wellington Road buildings requiring demolition (Feature 5-4)

12.2 Grassed Road Berms

As discussed in **Section 9.3.3**, permeable surfaces such as unsealed berms provide a receptor for the buildup of vehicle particulates from exhausts, tyre and brake wear which can



contain a range of contaminants including heavy metals and PAH. Soil sampling along the Ruahine Street berm reported in SKM (2013b) identified concentrations of most heavy metals and PAHs above published background concentrations, with concentrations of all CoPC below the NES-CS SCS for commercial / industrial land use.

These soils include:

- Berm soils at the northern and southern portals of the Terrace Tunnel.
- Berm soils to be removed for the Ghuznee Street bridge.
- Berm soils at the western and eastern portals of the Mount Victora Tunnel.
- Berm soils on the western elevation of Ruahine Street to accommodate the re-alignment of SH1 along Ruahine Street and the Hataitai Park access improvements.

The berm soils are not considered to be HAIL land and the concentrations of contaminants in the soils are unlikely to pose a significant risk to human health. A qualitative assessment of effects associated with discharge of contaminants to the environment associated with soil disturbance is Negligible to Low. Notwithstanding, berm soils disturbed by the Project will need to be subject to earthworks management controls to minimise discharge to environment from stormwater runoff and dust and to ensure disposal to appropriately licenced waste disposal sites. Management controls should include further assessment of the locations of all affected berm soils.

12.3 Unclassified Fill

Unclassified fill is present at various locations within the Project alignment associated backfill for retaining walls and below pavements. The locations and contamination status of this type of unclassified fill have not been fully established.

Unclassified fill also includes reclamation fill, including reclamation fill within the area of the upgraded outfall to Evans Bay within Section 5 (Feature 5-10, **Figure 40** and **Figure 41**). Contaminated soils could therefore be encountered during the works during the stormwater realignment works to connect into the existing outfall at Evans Bay.

Land containing unclassified fill is not considered to be HAIL land and the concentrations of contaminants in the soils are unlikely to pose a significant risk to human health. A qualitative assessment of effects associated with discharge of contaminants to the environment associated with soil disturbance is Negligible to Low. Notwithstanding, unclassified fill disturbed by the Project will need to be subject to earthworks management controls to minimise discharge to environment from stormwater runoff and dust and to ensure disposal to appropriately licenced waste disposal sites. Management controls should include further assessment of the locations of unclassified fill. Chemical testing of fill samples for CoPCs prior to disturbance may be required in some cases.

12.4 Localised Ground Contamination

No other contaminated land arising from minor discharges into the Project alignment affecting proposed ground disturbance works, for example from migration of contaminants along preferential pathways (services trenches), were identified from the information reviewed. However, the presence of localised ground contamination from minor discharges within area of proposed ground disturbance cannot be ruled out. A qualitative assessment of effects associated with minor discharges is Negligible. An unexpected discovery protocol will be required to facilitate the identification and management of minor discharges.



12.5 Coal Tar Contaminated Roothing Materials

Roothing, pavements, and surfacing construction will be undertaken across the Project. Generally, these works will see milling back of the existing surfacing before any new pavement, kerbs, services etc. are installed before the surfacing and line marking is re-applied.

It is known that coal tar was used in road surface binders and road surface treatments around New Zealand until the 1970s and as up to as late as the 1980s. Coal tar contains high levels of polycyclic aromatic hydrocarbon (PAH) compounds, much higher than bitumen and these can present risks to human health and the environment if not managed appropriately. It is further stated that coal tar in road surfaces and impacted pavements is unlikely to present a significant risk to worker or public health in its undisturbed form. However, during maintenance and rehabilitation activities where coal tar is disturbed, contaminants may become exposed and mobilised through dust and other small particles. The key risk of coal tar to the environment is the discharge of particles of coal tar as sediment and deposition in streams, rivers and harbours. PAHs are toxic to animals as well as humans, so environmental controls should focus on preventing the generation of fine-grained particles and controlling the transport of sediment off-site (Waka Kotahi New Zealand Transport Agency 2023).

An assessment of the likely presence and significance of coal tar in roading materials within the Project was therefore undertaken in accordance with guidance set out Waka Kotahi New Zealand Transport Agency (2023). The likelihood of encountering coal tar in the NZTA roading network described in the guidance is presented in **Table 12**.

Table 12 Likelihood of encountering coal tar in the Waka Kotahi network (adapted from Table B1 Waka Kotahi New Zealand Transport Agency (2023)).

Likelihood of encountering coal tar	
Road built after 1980	Unlikely to be present
Older roads in urban areas, particularly near gasworks sites	Higer likelihood of encountering coal tar
Regional roading network	Lower likelihood in general, but increasing for roading near railway lines
Road built before 1980 with low disturbance – e.g., never repaved and low number of underground services	Possibly present with the distribution of coal tar relatively consistent
Road built before 1980 and significant disturbance (repaving, stripping, significant underground services)	Possibly present with the distribution of coal tar may be inconsistent

The assessment drew on the desktop review information described in **Section 1.3** of the PSI, a search and review of publicly available information, and information from NZTA about coal tar presence in SH1 within the Project.

Publicly available information sourced comprised a report by Milne (2010) which describes the investigation of PAH within marine sediments of Wellington Harbour and the likely contribution to the PAH load in sediment from PAH in coal tar. These studies conclude that marine sediments in Wellington Harbour likely contain some PAH associated with coal tar. The source(s) of coal tar PAH are not identified, although based on the understood widespread use of coal tar in New Zealand roads, Milne (2010) suggests that it would have been used in roads within catchments that discharge into Wellington Harbour. It is also



noted that the former Wellington gasworks was present until the early 1970s in Miramar, close to the southern extent of the Project.

No specific information on coal tar within the Project was available from NZTA.

On the basis of this information, it is concluded that:

- The road is a regional road formed before 1980.
- The road has been subject to significant disturbance and rehabilitation.
- No testing has been carried out to confirm that coal tar in roading material is not present.
- Coal tar PAH is likely present in Wellington harbour sediments deposited in stormwater runoff from roads
- Coal tar was manufactured at the Wellington gasworks until the early 1970s.

It is therefore considered that coal tar could possibly be present in parts of SH1 within the Project alignment and the distribution of coal tar may be inconsistent. PAH in coal tar is therefore a CoPC for the Project.

The SPR linkage for disturbed roading materials containing coal tar is assessed as potentially complete. A qualitative assessment of effects associated with discharge of contaminants to the environment associated with coal tar is Low to Moderate.

Encountering coal tar should be included in the unexpected contamination discovery protocol. A management plan will be required to manage the effects of contaminant discharges from coal where encountered.

12.6 Per- and Polyfluoroalkyl Substances (PFAS)

PFAS are emerging contaminants sometimes present in soil and groundwater. PFAS contamination is derived from many industrial sources and is commonly associated with the use of Class B firefighting foams previously used for extinguishing oil-based fires. Owing to the developing situation in respect of PFAS contamination, PFAS has been incorporated into the HAIL activity profiles by MfE.

On the basis of the information review for this PSI, it is assessed that owing to the scale and nature of hazardous substance storage and use within the Project alignment or within 100 m of the Project alignment, PFAS is unlikely to be a significant contaminant within the Project. In addition, no fire related incidents where PFAS based foam were used, were recorded in the EPA records available for the period July 2006 to December 2011.

NZTA also confirmed that the Terrace and Mount Victoria tunnels have water-based fire fighting systems and PFAS based foams have not been used.

The SPR linkage for PFAS in soil and groundwater is assessed as incomplete. A qualitative assessment of effects associated discharge of PFAS to the environment is Negligible. Notwithstanding, owing to its emerging ubiquitous nature, low concentrations (including anthropogenic background concentrations) of PFAS within parts of the Project cannot be ruled out.



13.0 Conclusions and Recommendations

13.1 Conclusions

- The PSI has identified HAIL land at 11 sites from GWRC SLUR records within the Project alignment or within 100 m either side of the Project alignment in Project section 1 (Terrace Tunnel). Electrical transformers (HAIL B2) were also identified within the northern and southern Terrace Tunnel control buildings. No complete SPR linkages were identified. The qualitative assessment of effects for all HAIL land associated with SLUR sites within Project Section 1 are assessed as Negligible.
- This PSI has identified HAIL land at 24 sites from GWRC SLUR records, at one site from historical aerial photograph review and at two sites (berm side electrical transformers) from the site inspection within Project alignment or within 100 m either side of the Project alignment in Project section 2 (Te Aro). No complete SPR linkages were identified. The qualitative assessment of effects for all HAIL land within Project Section 2 are assessed as Negligible.
- The PSI has identified HAIL land at 18 sites from GWRC SLUR records and at one site from review of other records within the within the Project alignment or within 100 m either side of the Project alignment in Project section 3 (Basin Reserve). One SLUR site SN/05/230/02 Kirk Motors Ltd (currently Gazley Mitsubishi) will be significantly disturbed by the Project. SLUR site SN/05/230/02 is more likely than not associated with HAIL F7: *Vehicle refuelling, service and repair - Service stations, including retail or commercial refuelling facilities* and HAIL F4: *Vehicle refuelling, service and repair - Motor vehicle workshops*. CoPC associated with these HAIL activities and industries include heavy metals, petroleum hydrocarbons and volatile and non-volatile organic compounds. A UST was formerly located at this site, which is currently use for vehicle servicing. It is expected that earthworks for the Project will require soil disturbance and dewatering within the Gazley Mitsubishi site. Contaminated soil and groundwater may be encountered during earthworks, resulting in potential discharges of contaminants to land and water and human exposure to contaminants.

The SPR linkage at SLUR site SN/05/230/02 is assessed as complete with a Low to Moderate effect on human health and the environment for the Project. Earthworks controls will be required to manage the effects of contaminant discharges.

The remaining HAIL sites in Project section 3 were assessed as having no complete SPR linkages and risk to human health and the environment from all other HAIL land in Project Section 3 is assessed as Negligible.

- The PSI has not identified any HAIL land within the Project alignment or within 100 m either side of the Project alignment in Project section 4 (Mount Victoria Tunnel).
- The PSI has identified HAIL land at five sites from GWRC SLUR records and at one site from historical aerial photograph review (also identified on the SLUR in relation to a different HAIL activity) the within the Project alignment or within 100 m either side of the Project alignment Project section 5 (Eastern Connections). One SLUR site (SN/05/012/02 Kilbirnie Park) was identified that is likely to be directly affected by earthworks. SLUR (SN/05/012/02) is a closed landfill and is more likely than not associated with HAIL G3: *Cemeteries and waste recycling, treatment and disposal - Landfill sites*. CoPC associated with this HAIL are variable and would depend on the



nature of material buried but would typically include heavy metals, polycyclic aromatic hydrocarbons and asbestos in soils.

Bulk earthworks will be required for widening of SH1 which will encroach on the northern area of Kilbirnie park. Contaminated soil, including anthropogenic wastes, and contaminated groundwater, may be encountered during earthworks, resulting in potential discharges of contaminants to land and water and human exposure to contaminants. The SPR linkage for this site is assessed as complete, with the qualitative assessment of effects of HAIL land in this SLUR site assessed as Low to Moderate.

The remaining HAIL sites in Project section 5 were assessed as having no complete SPR linkages and risk to human health and the environment from all other HAIL land in Project section 5 is assessed as Negligible.

- The PSI has also identified potential non-HAIL land and other potentially contaminated land associated with:
 - Buildings scheduled to be demolished that potentially contain ACM and / or lead based paint
 - Grassed road berms which are contaminated by metals and petroleum hydrocarbons from passing vehicles
 - The potential for unclassified fill associated for example with backfill for retaining walls and below pavements and unclassified fill from reclamation fill, including reclamation fill at Evans Bay marina.
 - Minor discharges, for example from migration of contaminants along preferential pathways (services trenches) affecting areas of ground disturbance.
 - Potential coal tar derived PAH in roading materials within some locations within the existing road.

SPR linkage for these CoPC in relation to discharges to the environment are assessed as potentially complete. A qualitative assessment of effects associated discharge of contaminants to the environment range from Negligible to Moderate. Management plans will be required to manage the effects of contaminant discharges.

- The SPR linkage for PFAS in soil and groundwater is assessed as incomplete. A qualitative assessment of effects associated discharge of PFAS to the environment is Negligible. Notwithstanding, owing to its emerging ubiquitous nature, low concentrations (including anthropogenic background concentrations) of PFAS within parts of the Project cannot be ruled out.

13.2 Recommendations

The following recommendations are made based on the findings of the PSI:

- Intrusive site investigation (DSI) to collect soil and groundwater samples in advance of the works of the Gazley Mitsubishi property is required to confirm concentrations of CoPC and develop a Contaminated Site Management Plan (CSMP) for appropriate soil and dewatering handling and management.
- If soil disturbance into the northern extent of Kilbirnie Park is required, intrusive investigation DSI will be required in advance of the works to confirm the presence and nature of any fill material and to confirm concentrations of CoPC and develop a CSMP for appropriate soil handling and management and for management of contaminated groundwater, if required.



- Coal tar identification and management plan (Coal Tar Management Plan) should be prepared in accordance with guidance prepared by Waste Management Institute New Zealand (2023), for use during construction.
- All structures built prior to the year 2000, or where ACM are likely to be present, requiring demolition as part of the Project are required to be surveyed for the presence of ACM by a licensed asbestos assessor to meet statutory obligations set out in the Health and Safety at Work (Asbestos) Regulation 2016. Concentrations of asbestos and lead in soils remaining should be established.
- An SMP should be developed to manage the environmental and potential human health risks from berm soils, unclassified fill, soils from demolition sites contaminated by asbestos and lead, if present, and minor discharges, to include soil handling, management, re-use and disposal procedures. The SMP should include an accidental discovery protocol to manage the unexpected discovery of contamination, also covering the discovery of coal tar. A coal tar specific management plan will be required.

SLR Consulting New Zealand



Michael King
Senior Project Consultant – Land Quality and Remediation



Kevin Tearney CEnvP SC
Technical Director – Land Quality and Remediation

14.0 Certifying Statement

This PSI has been prepared under the supervision of Kevin Tearney, a Certified Environmental Practitioner Site Contamination (CEnvP SC) # SC41072 and a Suitably Qualified and Experienced Practitioner (SQEP) as required under the NES-CS and as defined in the NES-CS Users' Guide 2012 (MfE 2012). It meets the requirements set out in the Ministry for the Environment (MfE) Contaminated Land Management Guideline (CLMG) No 1. Reporting on contaminated sites in New Zealand (MfE 2021a), CLMG No 5 Site investigation and analysis of soils (MfE 2021b) and as referenced in the NES-CS.

Kevin William Tearney CEnvP SC #SC41072



3 June 2026



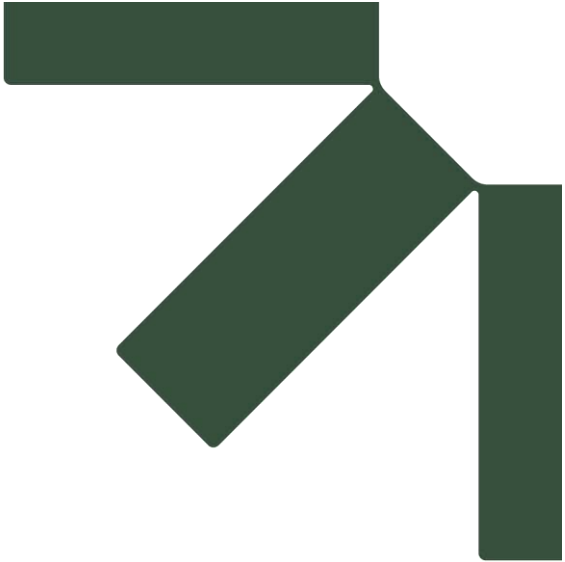
15.0 References

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Attachment A Figures

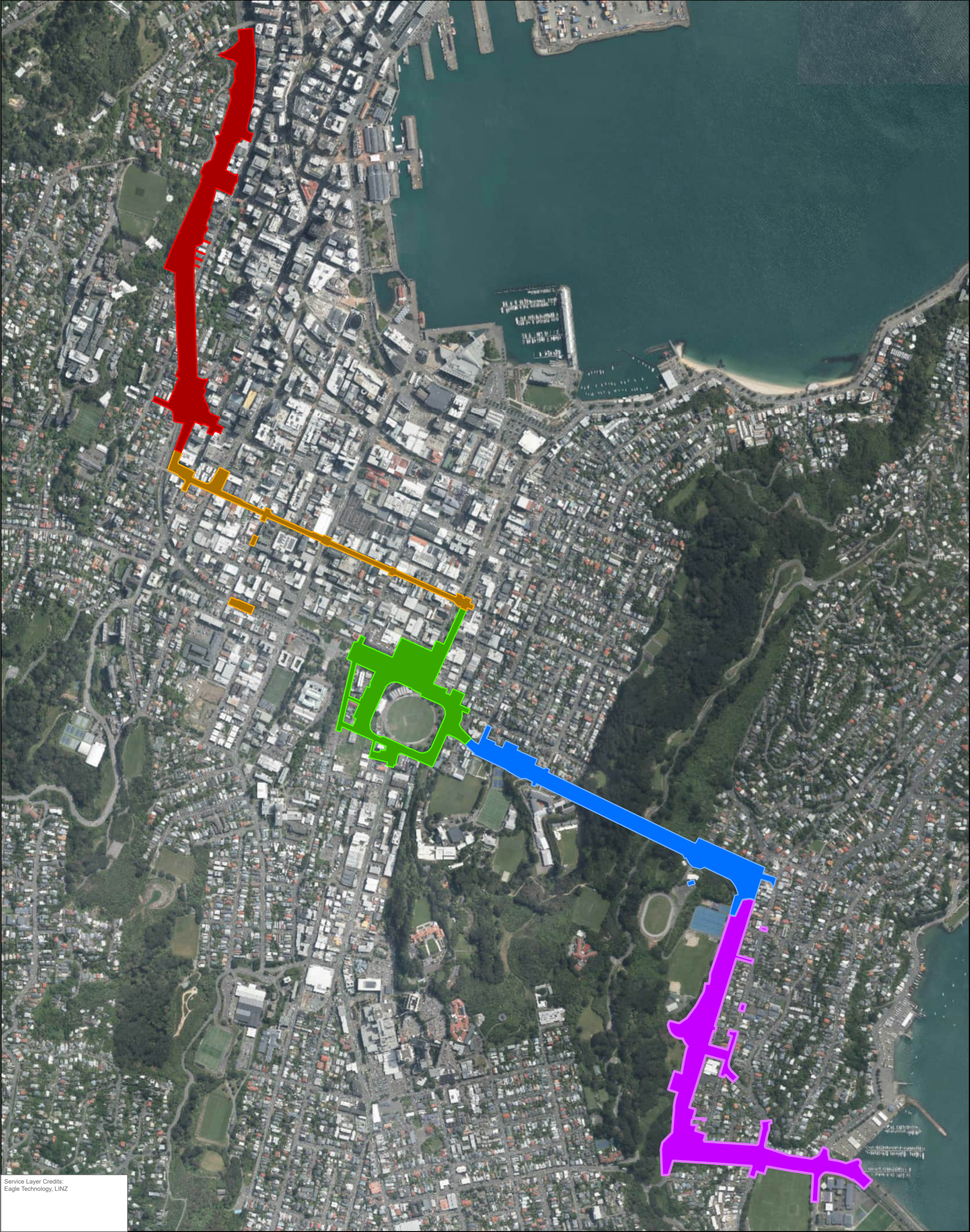
Preliminary Site Investigation

State Highway 1 (SH1) Wellington Improvements Project

New Zealand Transport Agency Waka Kotahi

SLR Project No.: 820.030609.00001

3 June 2026



Service Layer Credits:
Eagle Technology, LINZ



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Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

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Project Number:
820.030609.00001

Date Drawn:
15/06/2026

Drawn by:
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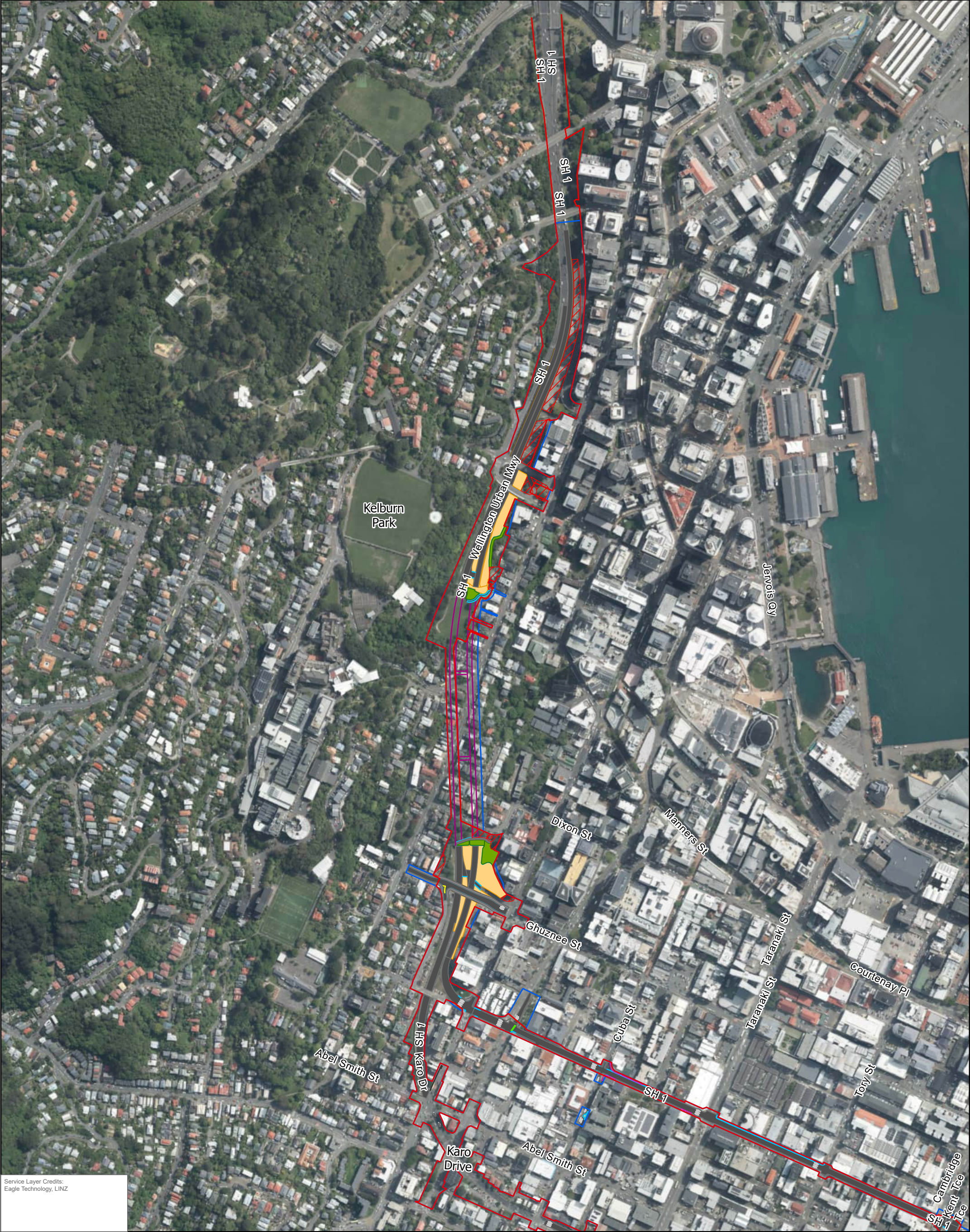
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KT



- Legend**
- 01 Terrace Tunnel
 - 02 Te Aro
 - 03 Basin
 - 04 Mount Victoria Tunnel
 - 05 Eastern Connections

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTIONS - DF3



Service Layer Credits:
Eagle Technology, LINZ

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0.1

0.2

km

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

Scale:
1:6,000 at A3

Project Number:
820.030609.00001

Date Drawn:
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Drawn by:
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Checked by:
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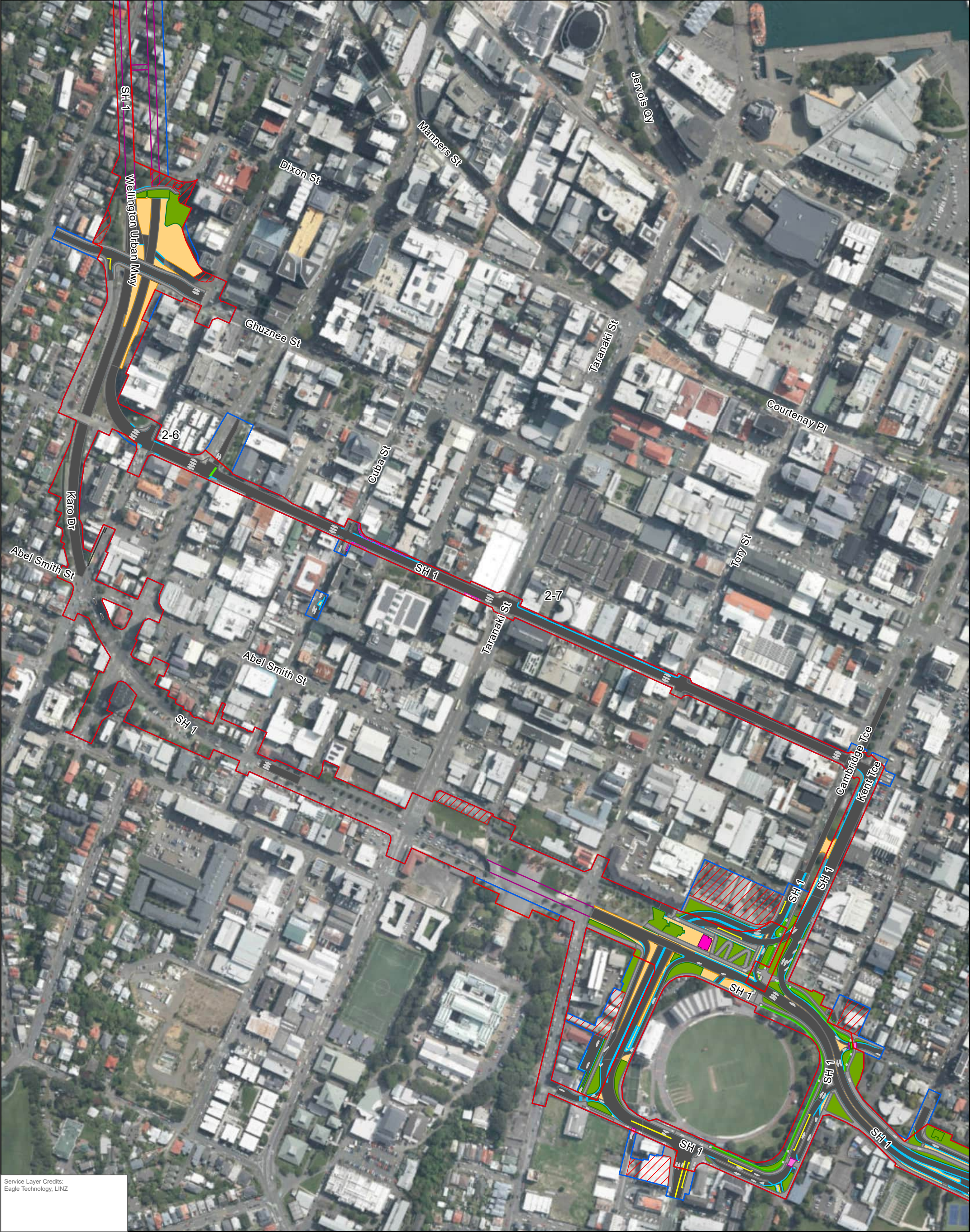
SLR

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Designation Boundaries					
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	NZTA_Designation_Proposed		Hard Landscape		Bridge_Deck_Line
	Construction Area		Pukeahu		Footpath_Line
	Impacted Verandahs		Raised Table		Kerb_Line
	Red Markings				Raised_Table
	Seal				Seal_Line
	Footpath				Tracks_line
					Tunnel_line

PROJECT SECTION 1
- TERRACE TUNNEL
- SITE LAYOUT

Attachment A - Figure 2

Path: C:\Users\fraser.philip\Desktop\SLR jobs\NZ\SLUR sites\820.030609.00001 NZTA SH1 Improvements.aprx\Project Section 1 - Terrace Tunnel -



Service Layer Credits:
Eagle Technology, LINZ

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Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:4,000 at A3
Project Number: 820/030609.00001
Date Drawn: 22/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Construction Area
- Impacted Verandahs

- White Markings
- Green Markings
- Red Markings
- Seal
- Footpath

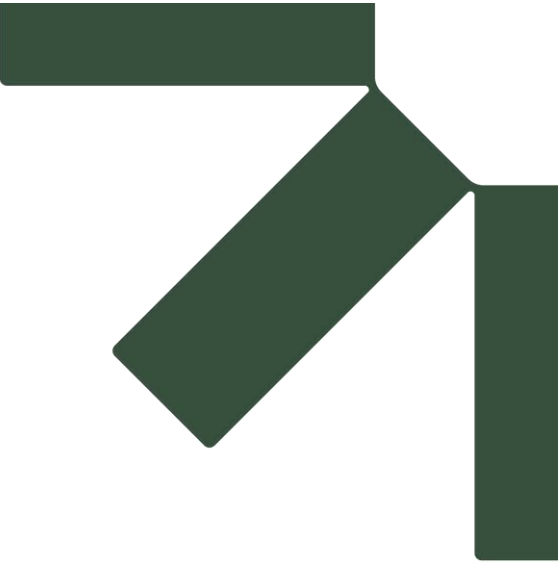
- New Bike Path
- Soft Landscape
- Hard Landscape
- Pukeahu
- Raised Table

- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line
- Kerb_Line

- Raised_Table
- Tracks_line
- Seal_Line
- Tunnel_line

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 2
- TE ARO
- SITE LAYOUT



Attachment B Photolog

Preliminary Site Investigation

State Highway 1 (SH1) Wellington Improvements Project

New Zealand Transport Agency Waka Kotahi

SLR Project No.: 820.030609.00001

3 June 2026



Service Layer Credits:
Eagle Technology, LINZ

00.10.2km

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

Scale:
1:6,000 at A3

Project Number:
820.030609.00001

Date Drawn:
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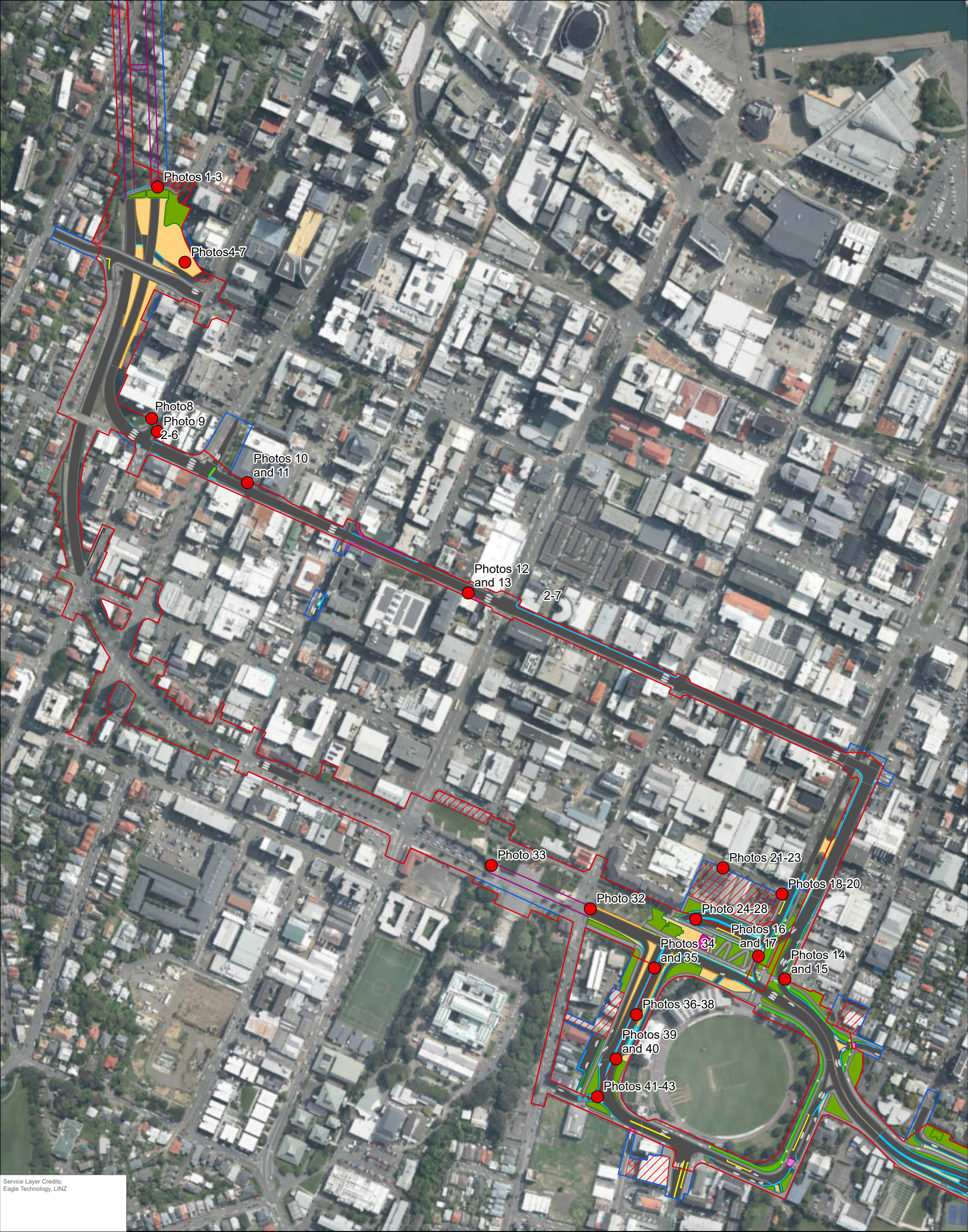
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FP

Checked by:
KT

LEGEND					
Designation Boundaries					
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	NZTA_Designation_Proposed		Green Markings		Soft Landscape
	Photo locations		Red Markings		Hard Landscape
	Construction Area		Seal		Pukeahu
	Impacted Verandahs		Footpath		Raised Table
			New_Kerb_Line		Bikepath_New_Line
			Bridge_Deck_Line		Footpath_Line
			Kerb_Line		Tunnel_line
			Seal_Line		Tracks_line

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 1
- TERRACE TUNNEL
- PHOTO LOCATIONS



Service Layer Credits:
Eagle Technology, LINZ

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Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:4,000 at A3
Project Number: 820/030609.00001
Date Drawn: 22/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Photo locations
- Construction Area
- Impacted Verandahs

- White Markings
- Green Markings
- Red Markings
- Seal
- Footpath

- New Bike Path
- Soft Landscape
- Hard Landscape
- Pukeahu
- Raised Table

- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line
- Kerb_Line

SH1 WELLINGTON IMPROVEMENTS

- Raised_Table
- Tracks_line
- Seal_Line
- Tunnel_line

PROJECT SECTION 2 - TE ARO - IDENTIFIED FEATURES



Service Layer Credits:
Eagle Technology, LINZ

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:4,500 at A3
Project Number: 820.030609.00001
Date Drawn: 22/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Photo locations
- Construction Area
- Impacted Verandahs

- White Markings
- Green Markings
- Red Markings
- Seal
- Footpath

- New Bike Path
- Hard Landscape
- Soft Landscape
- Pukeahu
- Raised Table

- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
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- Seal_Line
- Tracks_line
- Raised_Table
- Tunnel_line

SH1 WELLINGTON IMPROVEMENTS

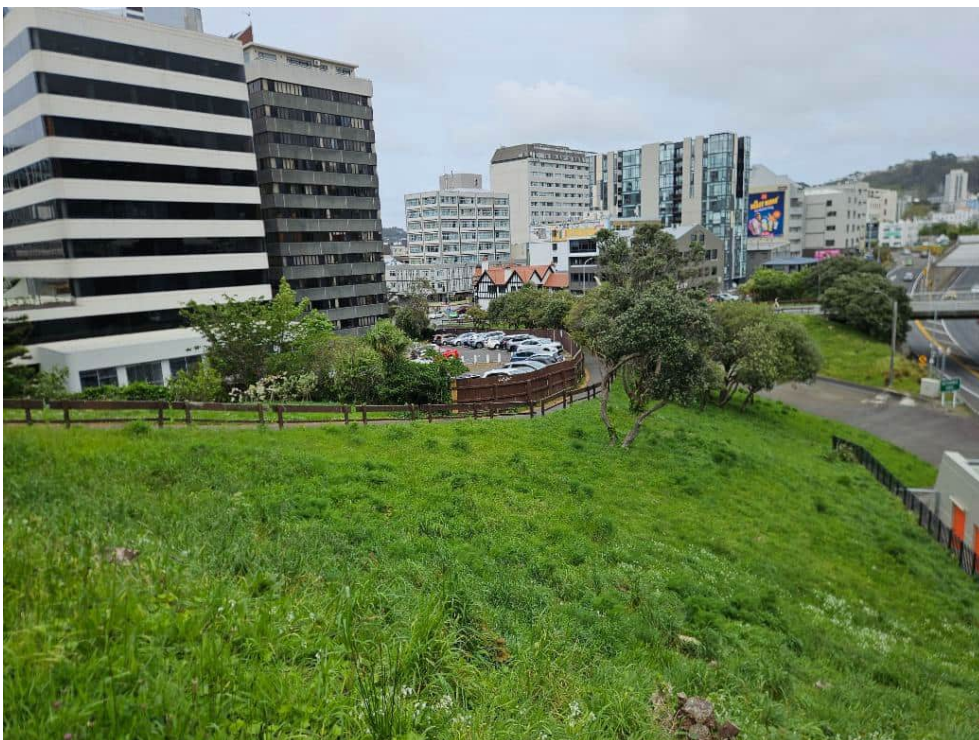
PROJECT SECTION 3 - BASIN RESERVE - IDENTIFIED FEATURES

SH1 Wellington Improvements

**Photo 1: Section 1 Showing Terrace Tunnel Southern portal, facing south
20-10-2025**



Photo 2: Section 1 Showing proposed alignment from Terrace Tunnel Southern portal, facing southeast 20-10-2025



**Photo 3: Section 1 View of Ghuznee Street bridge at The Terrace, facing south
20-10-2025**



**Photo 4: Section 1 Side view of Terrace Tunnel Southern portal, facing west
20-10-2025**



Photo 5: Section 1 Side view of Terrace Tunnel Southern portal and control building to be moved, facing west 20-10-2025



Photo 6: Section 1 view of Ghuznee Street bridge, facing west 20-10-2025



**Photo 7: Section 1 view of Ghuznee Street bridge at Willis Street, facing southeast
20-10-2025**



Photo 8: View of Feature 1-1 (SN/05/905/02 – former UST) showing current surface cover, facing west 20-10-2025



Photo 9: Feature 2-6 View of SLUR SN/05/1386/02 now high-density residential development, facing east 20-10-2025



Photo 10: Section 2 General view of Vivian Street, facing west 20-10-2025



Photo 11:Section 2 General view of Vivian Street, facing west 20-10-2025



Photo 12:Section 2 General view of Vivian Street at Taranaki Street intersection, facing east 20-10-2025

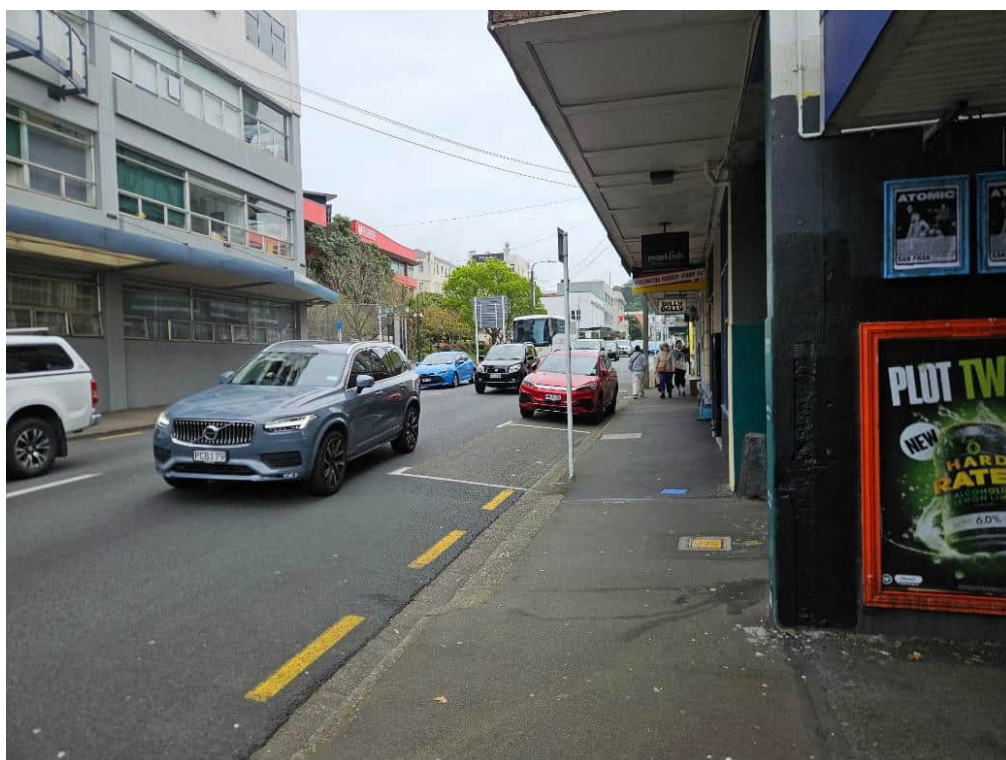


Photo 13: Section 2 General view of Vivian Street at Taranaki Street intersection, facing west 20-10-2025



Photo 14: Section 3 View of Feature 3-2 (Gazley Mitsubishi site), facing west 20-10-2025



Photo 15: Section 3 View of Features 3-2 and 3-8 (Gazley Mitsubishi site), facing northwest 20-10-2025



Photo 16: Section 3 Feature 3-2 (Gazley Mitsubishi site) looking towards proposed Sussex Street – Cambridge Terrace underpass, facing west 20-10-2025



Photo 17: Section 3 Feature 3-2 Gazley Mitsubishi view of central building, facing west 20-10-2025



Photo 18: Section 3 View from Barker Street over Feature 3-8 towards Feature 3-2 Gazley Mitsubishi, facing southwest 20-10-2025

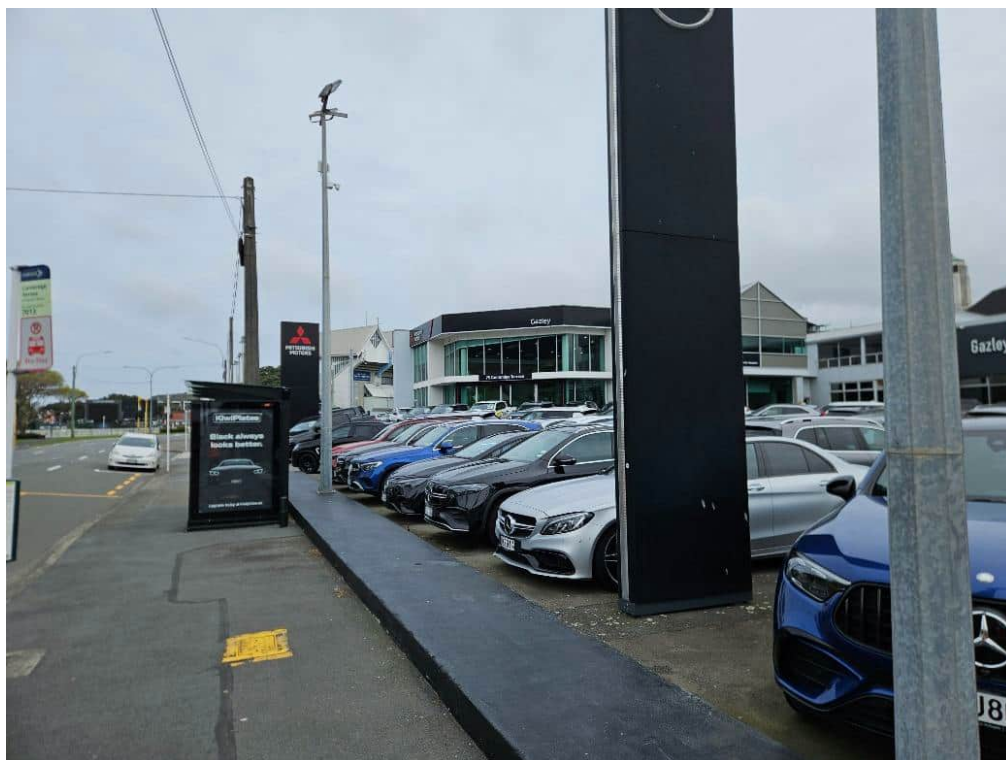


Photo 19: Section 3 View of Feature 3-8 Gazley Mitsubishi from Barker Street, facing west 20-10-2025



Photo 20: Section 3 View of Feature 3-9 from Barker Street and Cambridge Terrace, facing northwest 20-10-2025



Photo 21: Section 3 Feature 3-9 Armstrong's Service Centre, Barker Street facing north 20-10-2025



Photo 22: Section 3 Feature 3-9 Armstrong's Service Centre Barker Street, facing northeast 20-10-2025



Photo 23: Section 3 View of Feature 3-2 boundary with the Wellington City Council Archives, from Barker Street facing south 20-10-2025



Photo 24: Section 3 Feature 3-2 Gazley Mitsubishi showing adjacent Te Papa wet store building and Wellington City Council Archives, facing northwest 20-10-2025



**Photo 25: Section 3 Feature 3-2 View of elevation drop along Gazley Mitsubishi, facing east
20-10-2025**



Photo 26: Section 3 View from Feature 3-2 facing west to QEII Education Centre and Creche over Arras Tunnel 20-10-2025



Photo 27: Section 3 View from Feature 3-2 towards Sussex Street, facing south 20-10-2025



Photo 28: Section 3 View from Feature 3-2 towards the Basin Reserve, facing southeast 20-10-2025



Photo 29: Section 4 View of Feature 3-4 Patterson Street houses from Mount Victoria Tunnel western portal, facing northwest 20-10-2025



Photo 30: Section 4 Close view of Feature 3-4 Patterson Street houses from Patterson Street, facing north 20-10-2025



Photo 31: Section 4 Close view of Feature 3-4 Patterson Street houses from Patterson Street, facing west 20-10-2025



Photo 32: Section 3 View of former location of Feature 3-7 and general view of Arras Tunnel, facing east 20-10-2025



Photo 33: Section 3 View from former location of Feature 3-12 towards Karo Drive, facing west 20-10-2025



Photo 34: Section 3 View from Feature 3-3 towards proposed Sussex Street-Cambridge Terrace underpass, facing northeast 20-10-2025



Photo 35: Section 3 View from Feature 3-3 towards proposed Sussex Street-Cambridge Terrace underpass, facing north 20-10-2025



Photo 36: Section 3 View of Feature 3-3 Sussex Street building frontages, facing north 20-10-2025



Photo 37: Section 3 View of Feature 3-3 Sussex Street building frontages, facing west 20-10-2025



Photo 38: Section 3 View of Feature 3-3 Sussex Street building frontages, facing southwest 20-10-2025



Photo 39: Section 3 View of Feature 3-3 Sussex Street building frontages, facing west 20-10-2025



Photo 40: Section 3 View of Feature 3-3 Sussex Street building frontages, facing southwest 20-10-2025



Photo 41: Section 3 View of Feature 3-3 Sussex Street building frontages, facing northwest 20-10-2025



Photo 42: Section 3 View of Feature 3-3 Sussex Street building frontages, facing west 20-10-2025



Photo 43: Section 3 General view of Sussex Street, facing north 20-10-2025



Photo 44: Section 5 View towards Feature 5-1 Hataitai Corner from existing overbridge, facing northeast 20-10-2025



Photo 45: Section 5 Closer view towards Feature 5-1 Hataitai Corner from existing overbridge, facing northeast 20-10-2025

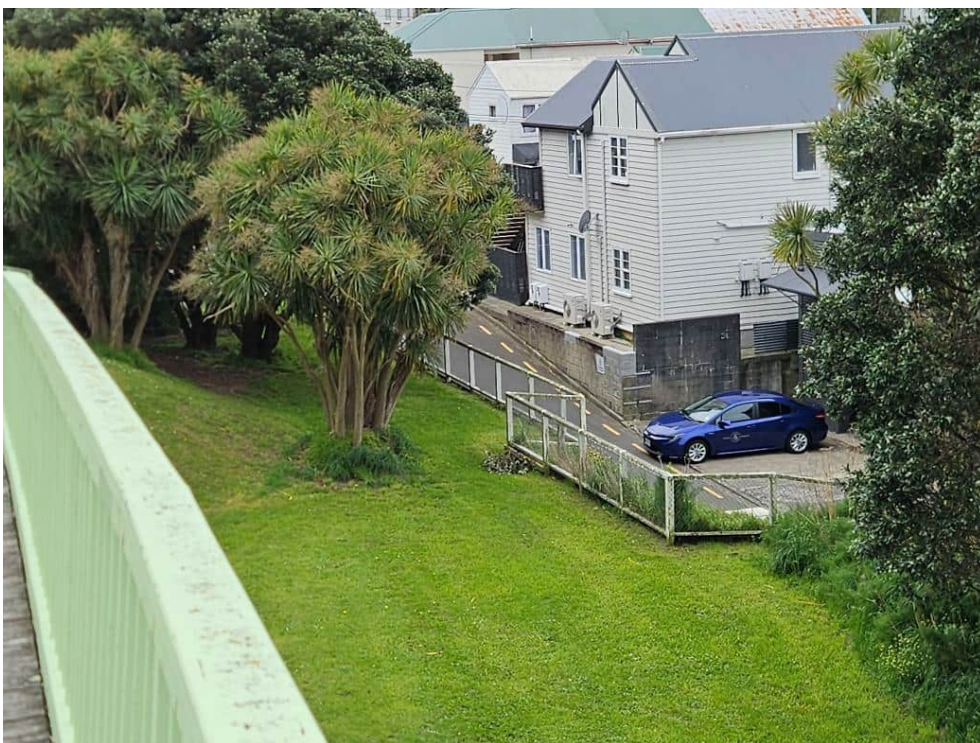


Photo 46: Section 5 View of proposed landscaping opportunity area from existing overbridge, facing north 20-10-2025



Photo 47: Section 5 View of proposed bulk earthworks and landscaping opportunity area from existing overbridge, facing northwest 20-10-2025



Photo 48: Section 5 View of current layout of Feature 5-1, facing southeast 20-10-2025



Photo 49: Section 5 View of boundary of proposed landscaping opportunity in relation to Feature 5-1, facing south 20-10-2025



Photo 50: Section 5 View of southern elevation of Feature 5-3, facing west 20-10-2025



Photo 51: Section 5 View of northern elevation of Feature 5-3 and boundary fence to Feature 5-6, facing west 20-10-2025



**Photo 52: Section 5 View of Feature 5-6 properties to be demolished, facing northwest
20-10-2025**



Photo 53: Section 5 General view of Feature 5-4 residential properties requiring demolition, facing east 20-10-2025



Photo 54: Section 5 General view of Feature 5-4 residential properties requiring demolition, facing south 20-10-2025



Photo 55: Section 5 General view of Feature 5-4 residential properties requiring demolition, facing southwest 20-10-2025



Photo 56: Section 5 General view of Feature 5-4 residential properties requiring demolition, facing west 20-10-2025



Photo 57: Section 5 Feature 5-5 View of northern end of Kilbirnie Park, facing east 20-10-2025



Photo 58: Section 5 Feature 5-5 View of cricket pavilion within Kilbirnie Park towards Kilbirnie Crescent intersection, facing west 20-10-2025



Photo 59: Section 5 Feature 5-5 View of cricket pavilion within Kilbirnie Park towards Kilbirnie Crescent intersection, facing northwest 20-10-2025



Photo 60: Section 5 Feature 5-5 View of Kilbirnie Park towards Wellington Regional Aquatic Centre, facing south 20-10-2025



Photo 61: Section 5 Feature 5-5 View of Kilbirnie Park towards Wellington Regional Aquatic Centre, facing southeast 20-10-2025



Photo 62: Section 3 View of Feature 3-14 (Bogarts Corner), facing northwest 19-04-2026



Photo 63: Section 3 View of Feature 3-14 (Bogarts Corner), facing northeast 19-04-2026



Photo 64: Section 3 View of Hertz Hania Street property, fuel dispenser and UST vent pipe visible, view northwest 10-05-2026

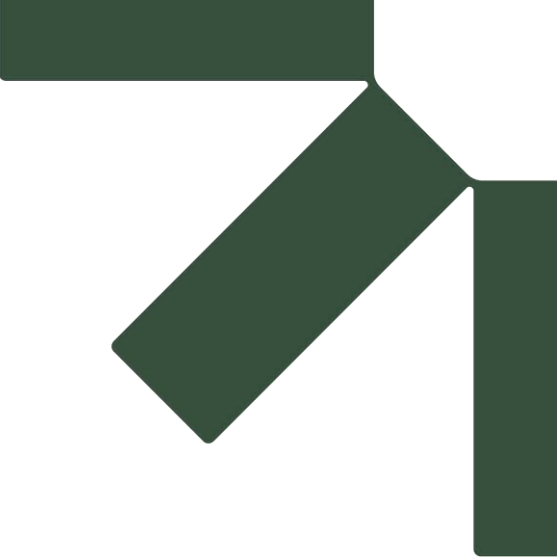


Photo 65: Section 2 View of Midas Te Aro located on Karo Drive, view facing south 10-05-2026



Photo 66: Section 2 Corner of Karo Drive and Cuba Street, facing southwest 10-05-2026





Attachment C General Arrangement Drawings

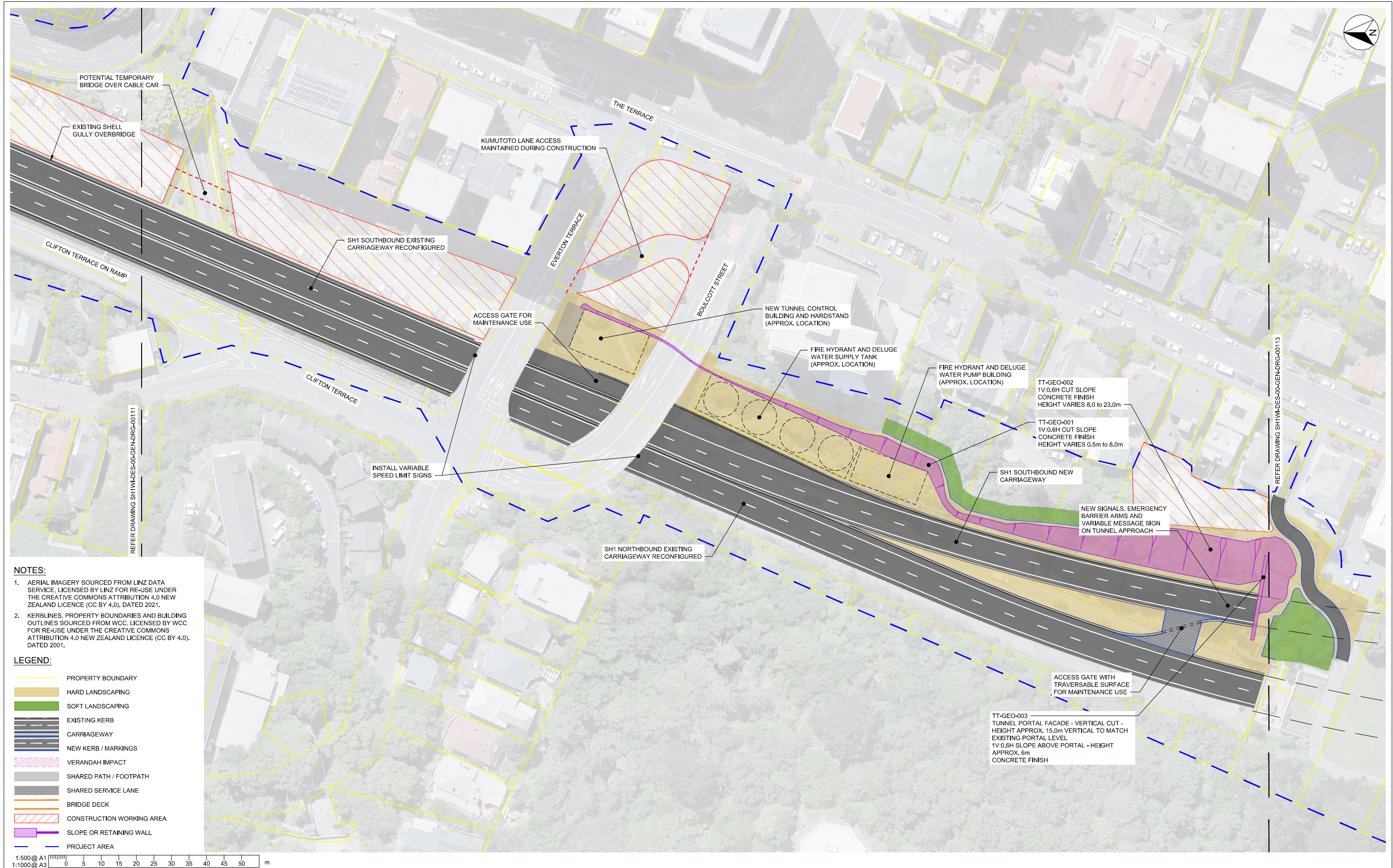
Preliminary Site Investigation

State Highway 1 (SH1) Wellington Improvements Project

New Zealand Transport Agency Waka Kotahi

SLR Project No.: 820.030609.00001

3 June 2026



REVISION	AMENDMENT	APPROVED	DATE

1:500 @ A1

1:1000 @ A3

0 5 10 15 20 25 30 35 40 45 50 m

SCALES

1:500 (A1) 1:1000 (A3)

ORIGINAL SIZE

A1

PROJECT

NZ TRANSPORT AGENCY

DESIGN FREEZE 3 - FOR SPECIALIST ASSESSMENT

GENERAL

CONSENT DESIGN

WSP PROJECT NO.

5-C4434.01

PROJ-ORIG-VOL-LOC-TYPE

SH1WI-DES-00-GEN-DRG

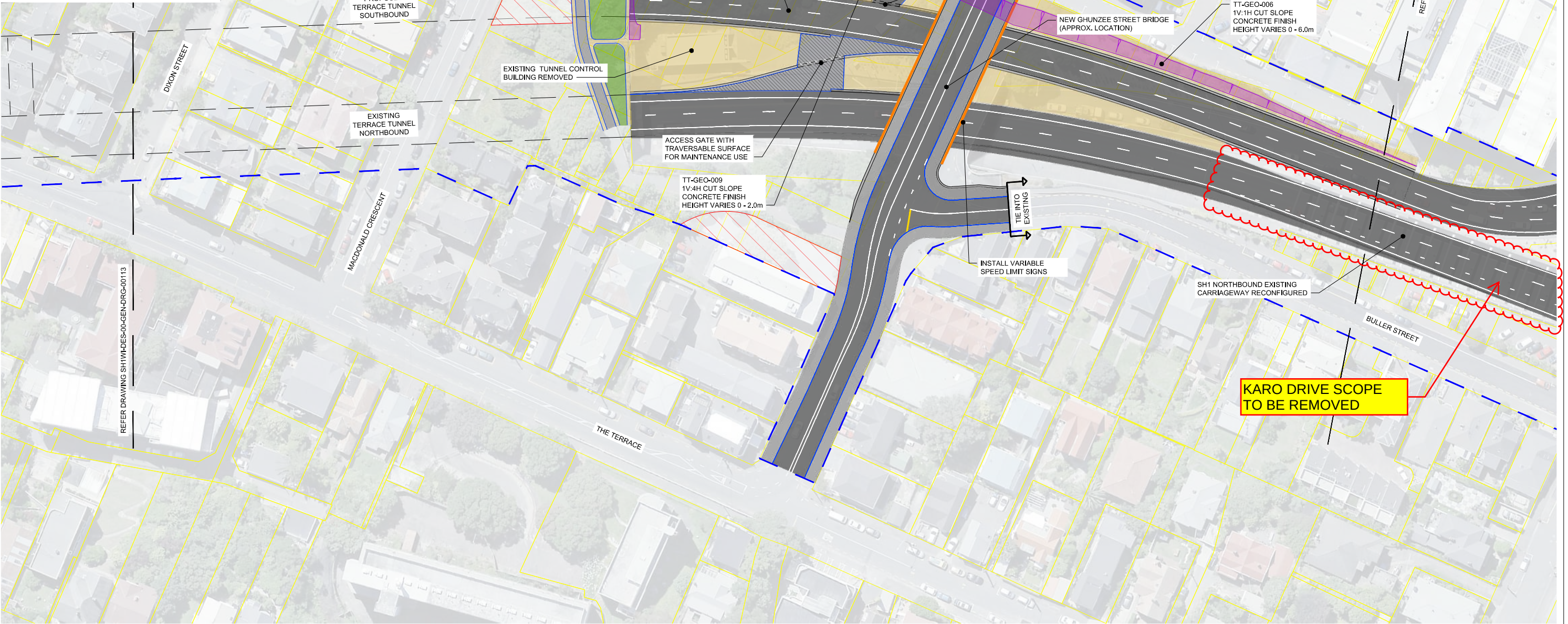
SHEET NO.

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 2. KERBLINES, PROPERTY BOUNDARIES AND BUILDING OUTLINES SOURCED FROM WCC, LICENSED BY WCC FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE (CC BY 4.0), DATED 2001.

LEGEND:

- PROPERTY BOUNDARY
- HARD LANDSCAPING
- SOFT LANDSCAPING
- EXISTING KERB
- CARRIAGEWAY
- NEW KERB / MARKINGS
- VERANDAH IMPACT
- SHARED PATH / FOOTPATH
- SHARED SERVICE LANE
- BRIDGE DECK
- CONSTRUCTION WORKING AREA
- SLOPE OR RETAINING WALL
- PROJECT AREA

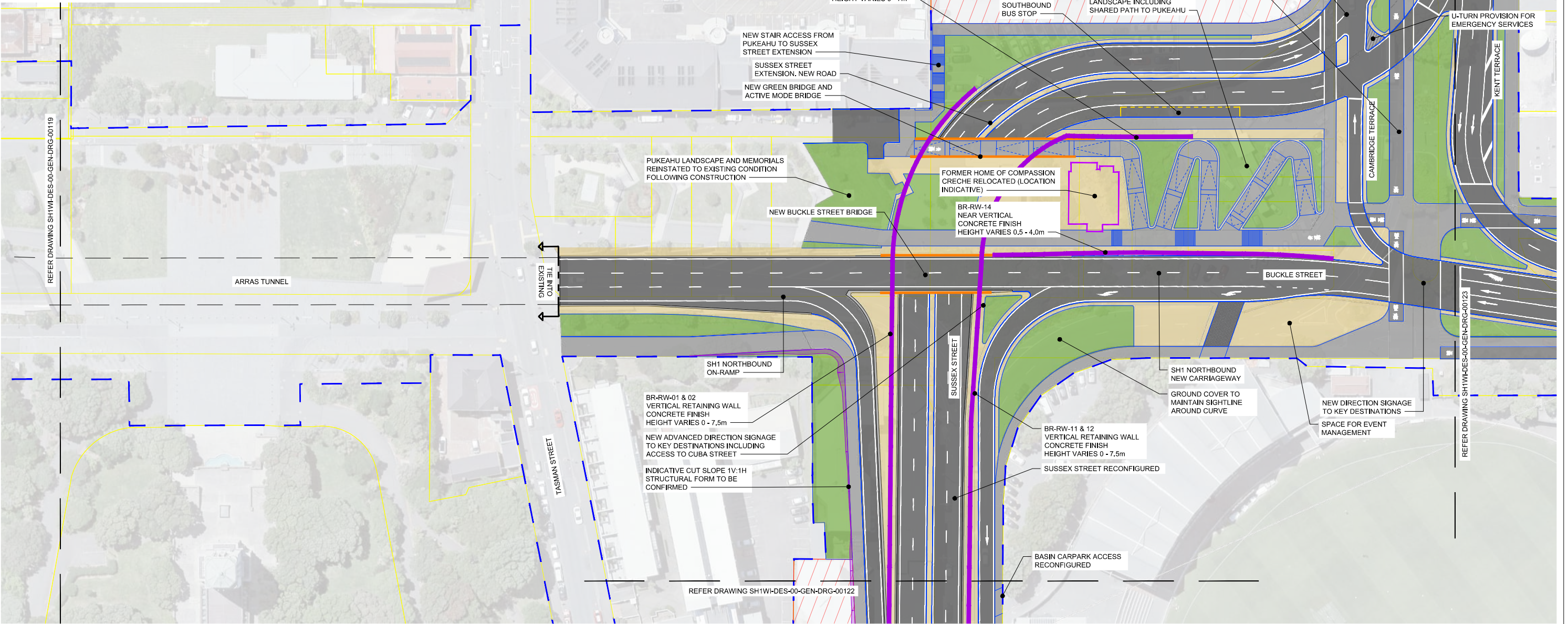


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REVISION		AMENDMENT		APPROVED		DATE		1:500 (A1) 1:1000 (A3)		A1		NZ TRANSPORT AGENCY							
DESIGN FREEZE 3 - FOR SPECIALIST ASSESSMENT																			
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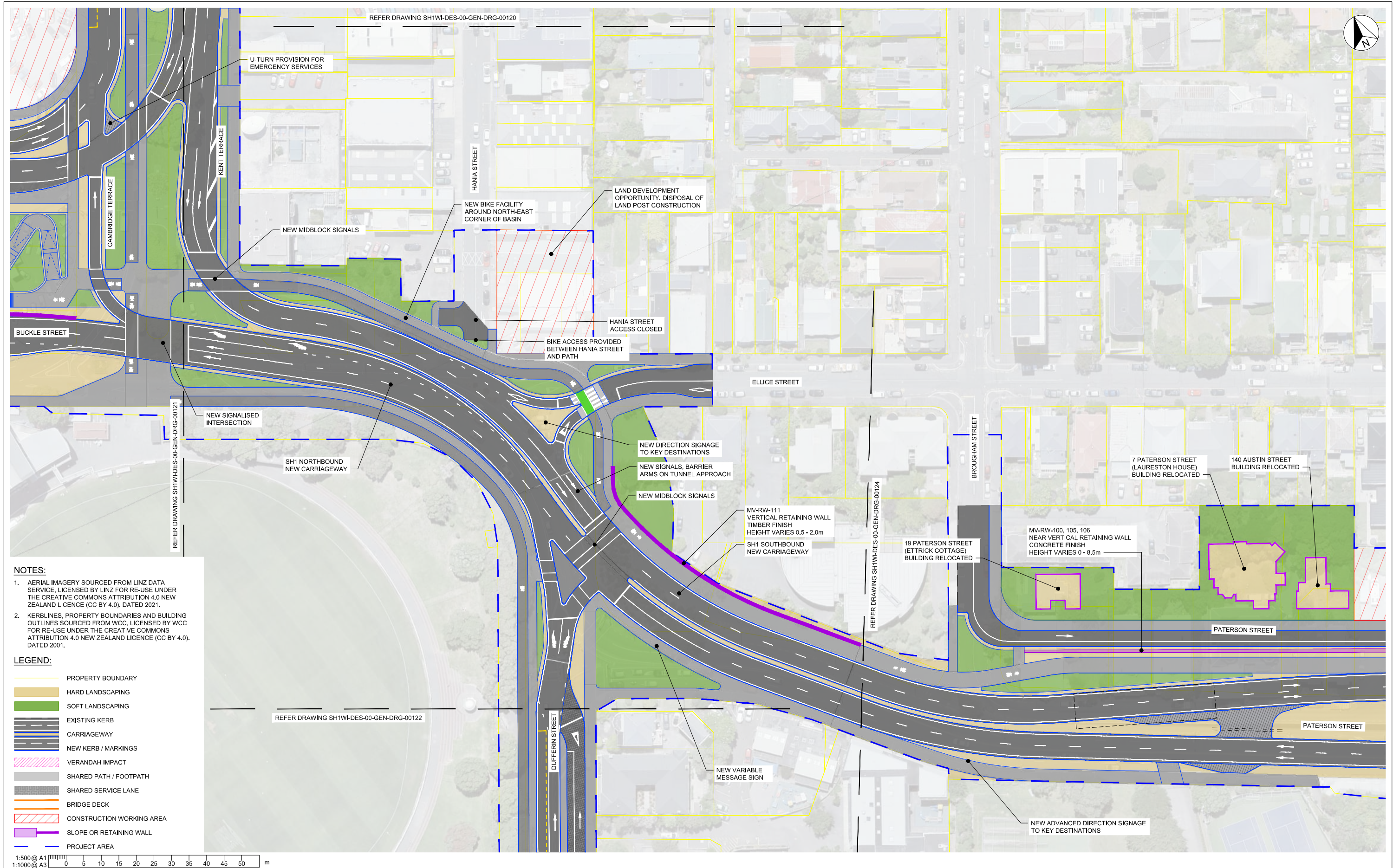
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- SOFT LANDSCAPING
- EXISTING KERB
- CARRIAGEWAY
- NEW KERB / MARKINGS
- VERANDAH IMPACT
- SHARED PATH / FOOTPATH
- SHARED SERVICE LANE
- BRIDGE DECK
- CONSTRUCTION WORKING AREA
- SLOPE OR RETAINING WALL
- PROJECT AREA



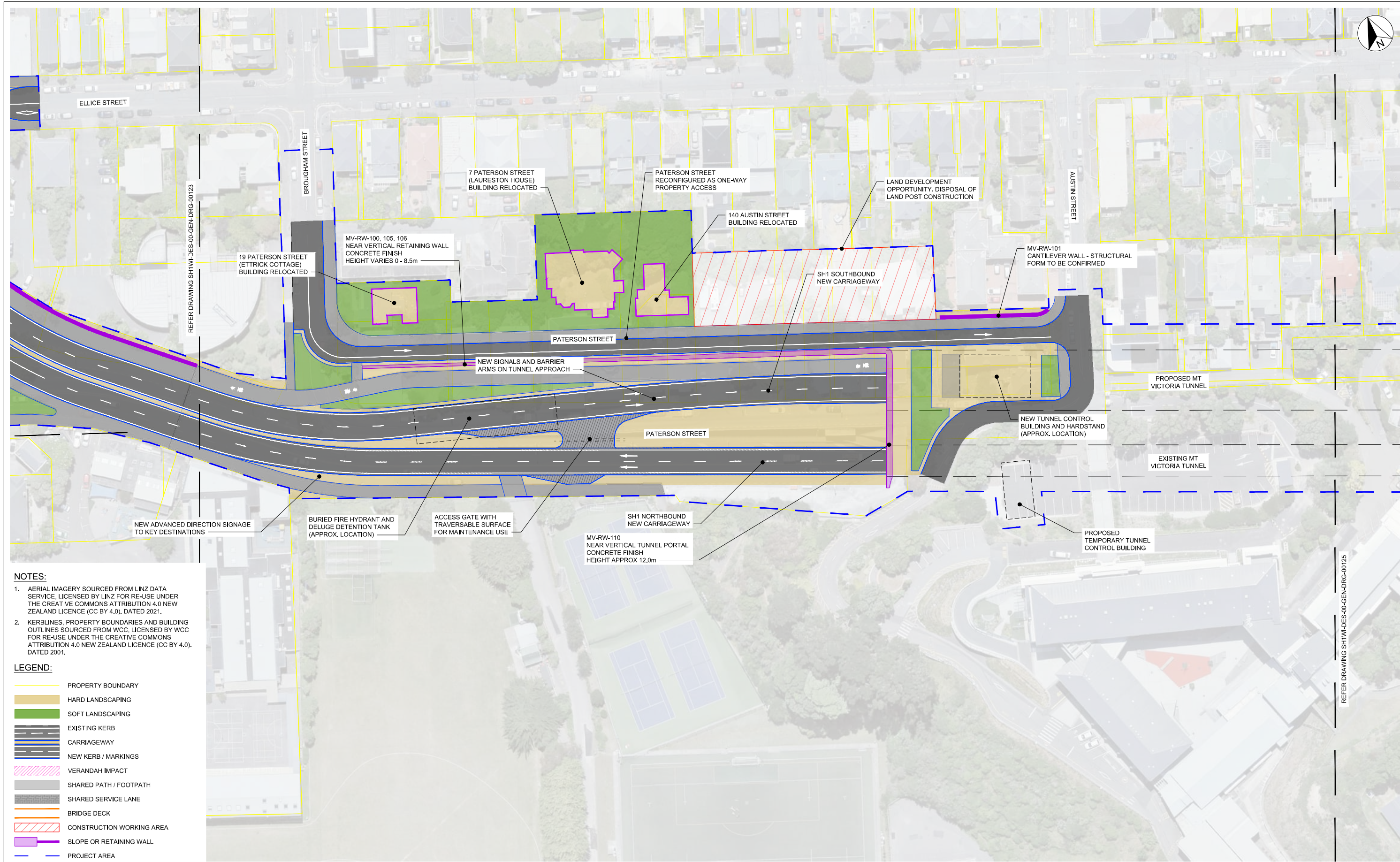
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				1:500 (A1) 1:1000 (A3)	A1	NZ TRANSPORT AGENCY							

DESIGN FREEZE 3 - FOR SPECIALIST ASSESSMENT

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REVISION		AMENDMENT	APPROVED	DATE	SCALES	ORIGINAL SIZE	PROJECT
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DESIGN FREEZE 3 - FOR SPECIALIST ASSESSMENT							
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						SHEET NO. 00123	



REVISION

AMENDMENT

APPROVED

DATE

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1:1000 @ A3

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SCALES

1:500 (A1) 1:1000 (A3)

ORIGINAL SIZE

A1

PROJECT

NZ TRANSPORT AGENCY

DESIGN FREEZE 3 - FOR SPECIALIST ASSESSMENT

GENERAL

CONSENT DESIGN

WSP PROJECT NO.

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PROJ-ORIG-VOL-LOC-TYPE

SH1WI-DES-00-GEN-DRG

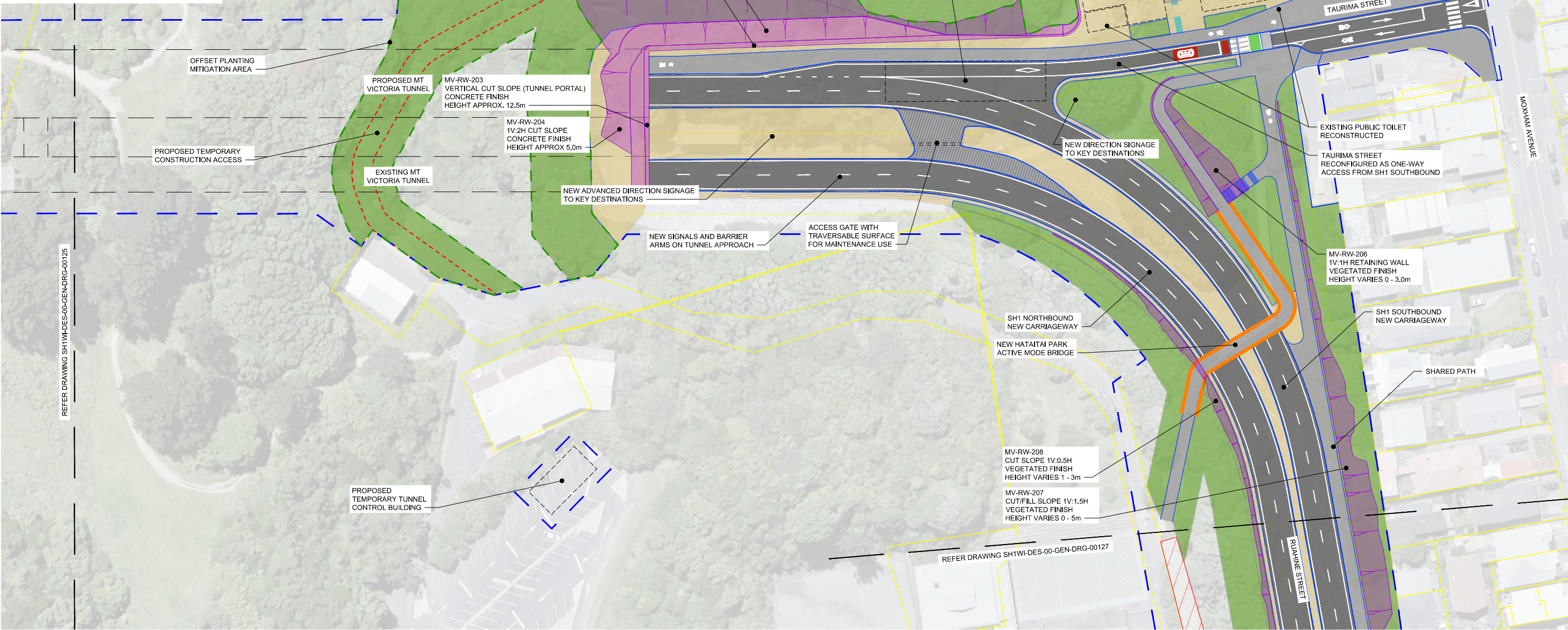
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 2. KERBLINES, PROPERTY BOUNDARIES AND BUILDING OUTLINES SOURCED FROM WCC, LICENSED BY WCC FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE (CC BY 4.0), DATED 2001.

LEGEND:

- PROPERTY BOUNDARY
- HARD LANDSCAPING
- SOFT LANDSCAPING
- EXISTING KERB
- CARRIAGEWAY
- NEW KERB / MARKINGS
- VERANDAH IMPACT
- SHARED PATH / FOOTPATH
- SHARED SERVICE LANE
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- CONSTRUCTION WORKING AREA
- SLOPE OR RETAINING WALL
- PROJECT AREA

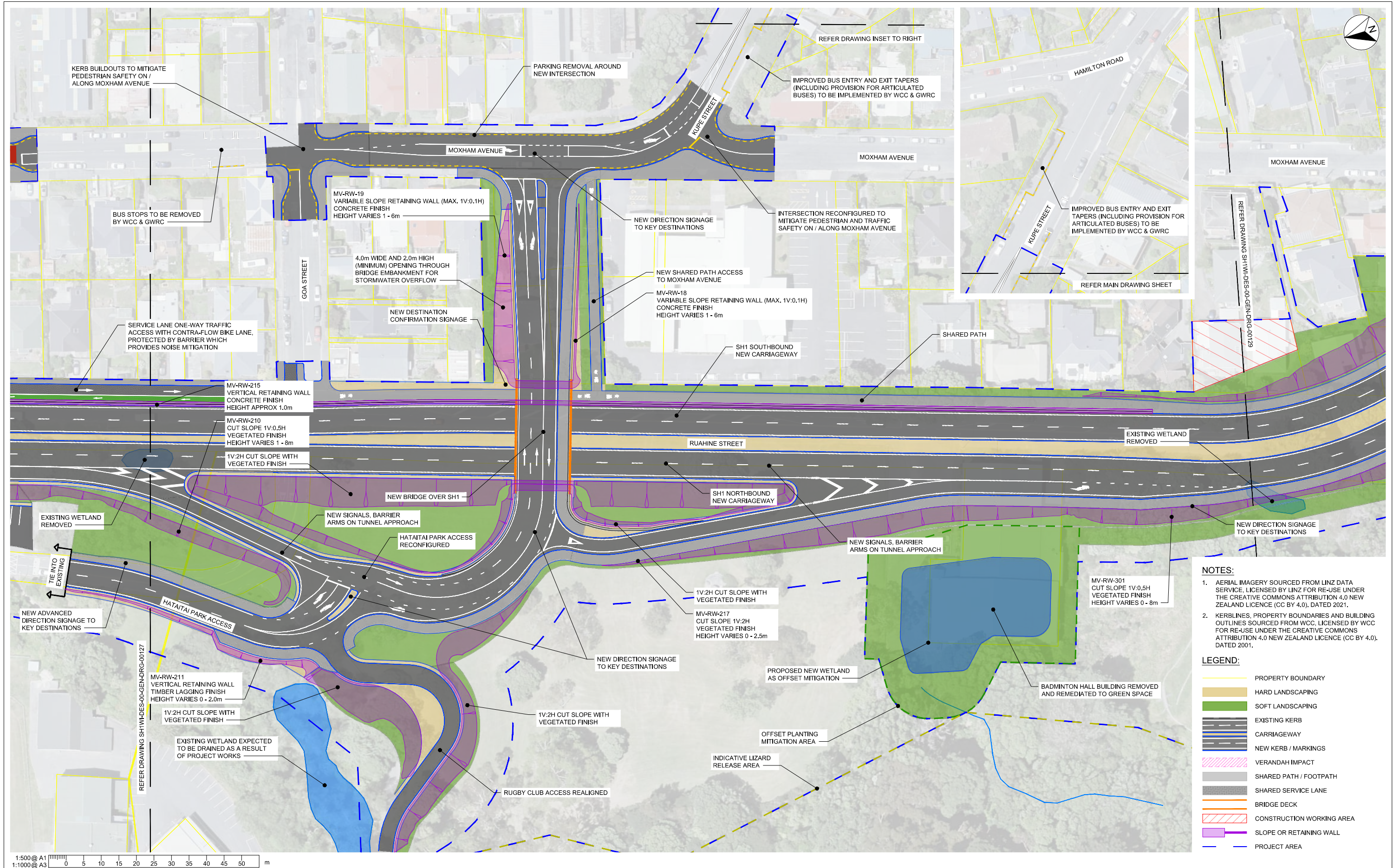


1:500 @ A1
1:1000 @ A3

REVISION	AMENDMENT	APPROVED	DATE	SCALES	ORIGINAL SIZE	PROJECT
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DESIGN FREEZE 3 - FOR SPECIALIST ASSESSMENT

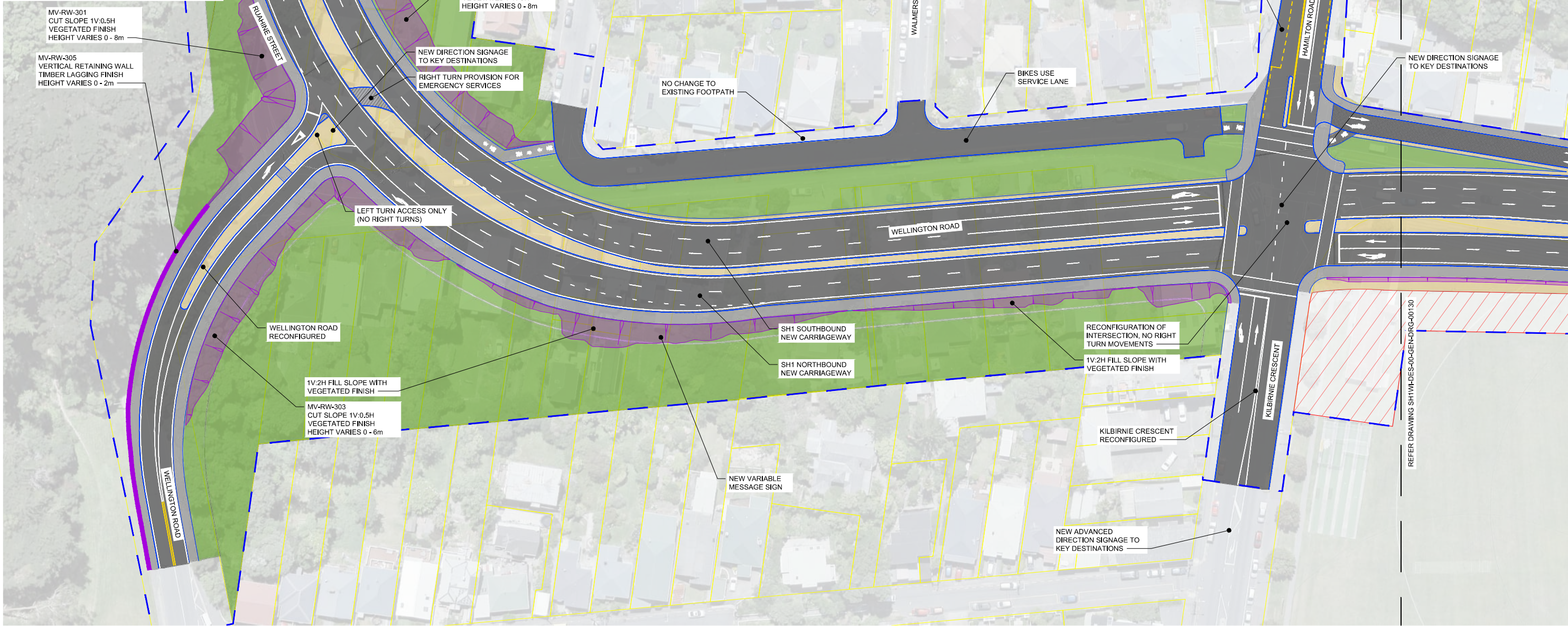
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DESIGN FREEZE 3 - FOR SPECIALIST ASSESSMENT

- NOTES:
1. AERIAL IMAGERY SOURCED FROM LINZ DATA SERVICE, LICENSED BY LINZ FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE (CC BY 4.0), DATED 2021.
 2. KERBLINES, PROPERTY BOUNDARIES AND BUILDING OUTLINES SOURCED FROM WCC, LICENSED BY WCC FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE (CC BY 4.0), DATED 2001.

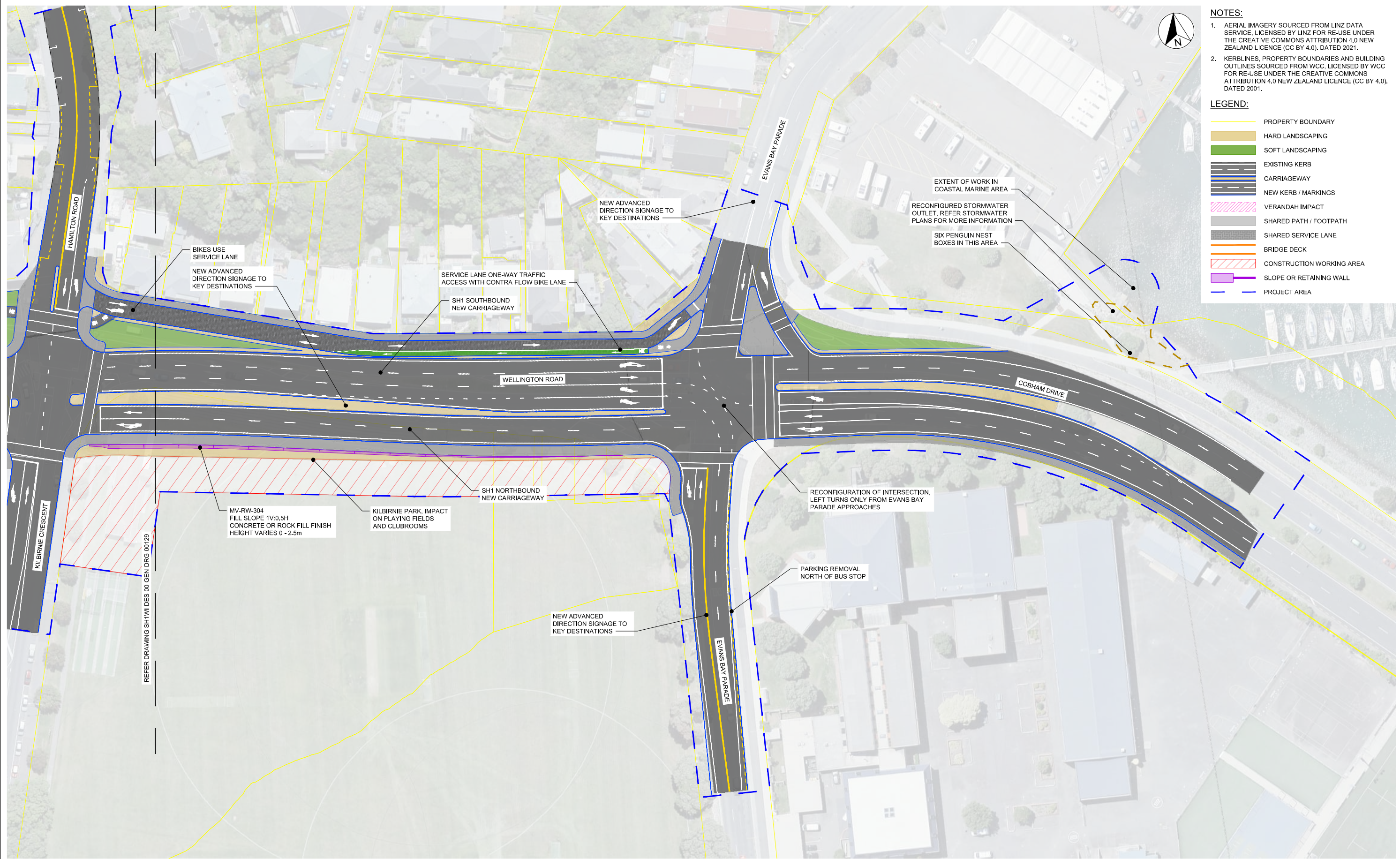
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- PROPERTY BOUNDARY
 - HARD LANDSCAPING
 - SOFT LANDSCAPING
 - EXISTING KERB
 - CARRIAGEWAY
 - NEW KERB / MARKINGS
 - VERANDAH IMPACT
 - SHARED PATH / FOOTPATH
 - SHARED SERVICE LANE
 - BRIDGE DECK
 - CONSTRUCTION WORKING AREA
 - SLOPE OR RETAINING WALL
 - PROJECT AREA



1:500 @ A1	1:1000 @ A3	0	5	10	15	20	25	30	35	40	45	50	m	SCALES	ORIGINAL SIZE	PROJECT
														1:500 (A1) 1:1000 (A3)	A1	NZ TRANSPORT AGENCY

DESIGN FREEZE 3 - FOR SPECIALIST ASSESSMENT

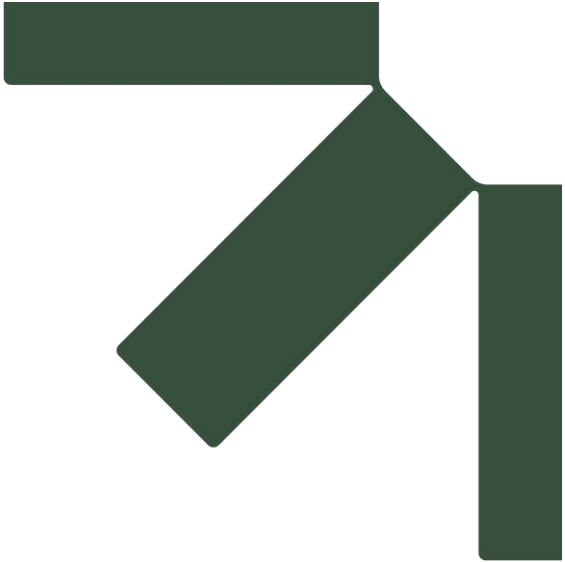
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- NOTES:**
1. AERIAL IMAGERY SOURCED FROM LINZ DATA SERVICE, LICENSED BY LINZ FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE (CC BY 4.0), DATED 2021.
 2. KERBLINES, PROPERTY BOUNDARIES AND BUILDING OUTLINES SOURCED FROM WCC, LICENSED BY WCC FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE (CC BY 4.0), DATED 2001.

- LEGEND:**
- PROPERTY BOUNDARY
 - HARD LANDSCAPING
 - SOFT LANDSCAPING
 - EXISTING KERB
 - CARRIAGEWAY
 - NEW KERB / MARKINGS
 - VERANDAH IMPACT
 - SHARED PATH / FOOTPATH
 - SHARED SERVICE LANE
 - BRIDGE DECK
 - CONSTRUCTION WORKING AREA
 - SLOPE OR RETAINING WALL
 - PROJECT AREA

REVISION	AMENDMENT	APPROVED	DATE	SCALES	ORIGINAL SIZE	PROJECT
DESIGN FREEZE 3 - FOR SPECIALIST ASSESSMENT				1:500 @ A1 1:1000 @ A3	A1	NZ TRANSPORT AGENCY
				GENERAL	CONSENT DESIGN	WSP PROJECT NO. 5-C4434.01
						PROJ-ORIG-VOL-LOC-TYPE SH1WI-DES-00-GEN-DRG
						SHEET NO. 00130



Attachment D GWRC SLUR Information

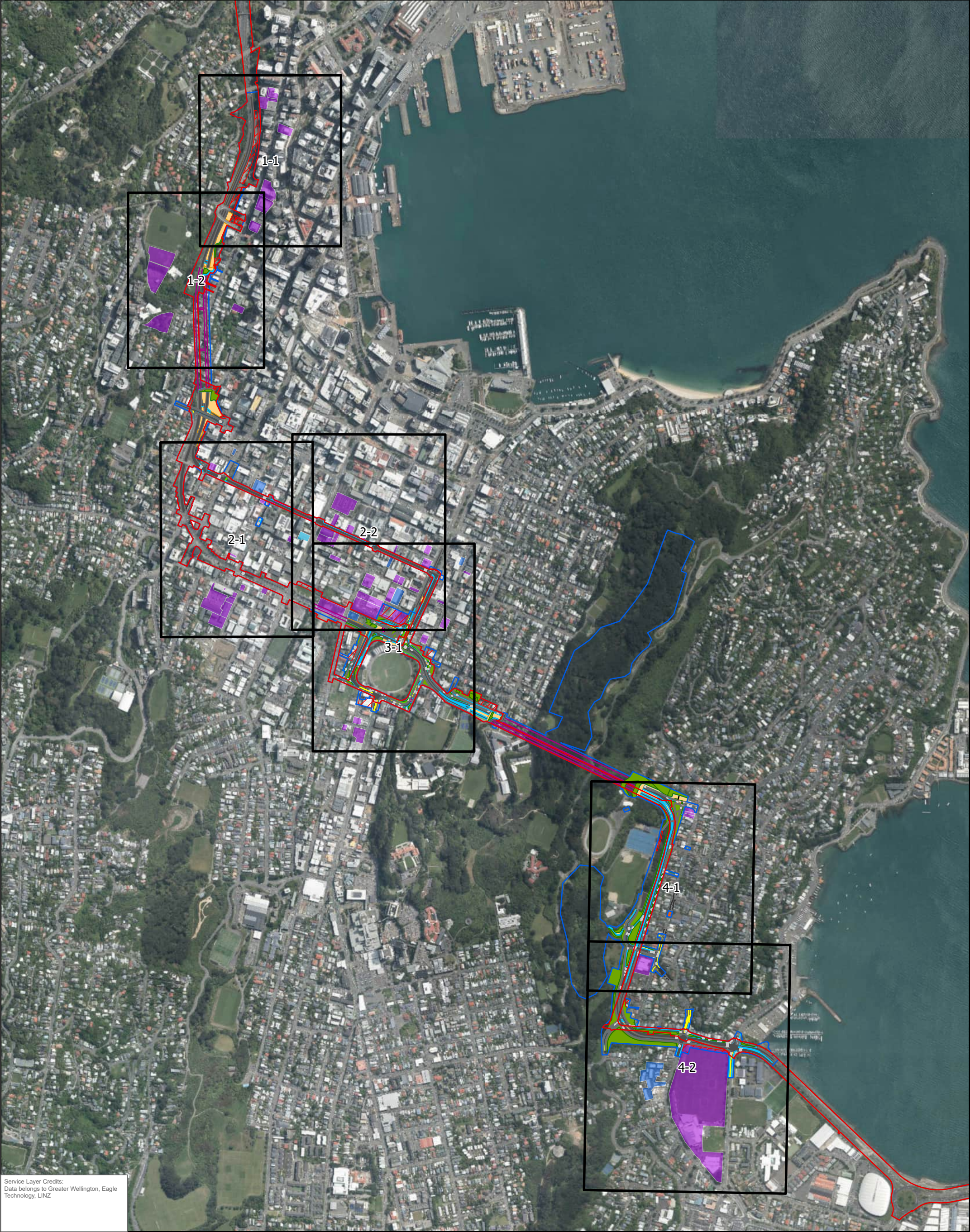
Preliminary Site Investigation

State Highway 1 (SH1) Wellington Improvements Project

New Zealand Transport Agency Waka Kotahi

SLR Project No.: 820.030609.00001

3 June 2026



Service Layer Credits:
Data belongs to Greater Wellington, Eagle
Technology, LINZ

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:12,500 at A3
Project Number: 820.030609.00001
Date Drawn: 23/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Construction Area
- Impacted Verandahs
- White Markings
- Green Markings

- Red Markings
- Seal
- Footpath
- New Bike Path
- Soft Landscape
- Hard Landscape

- Pukeahu
- Raised Table
- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line

- Kerb_Line
- Raised_Table
- Seal_Line
- Tunnel_line
- Tracks_line

SH1 WELLINGTON IMPROVEMENTS

IDENTIFIED SLUR SITES - Map Area



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Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:1,000 at A3
Project Number: 820.030609.00001
Date Drawn: 23/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Construction Area
- Impacted Verandahs
- White Markings
- Green Markings

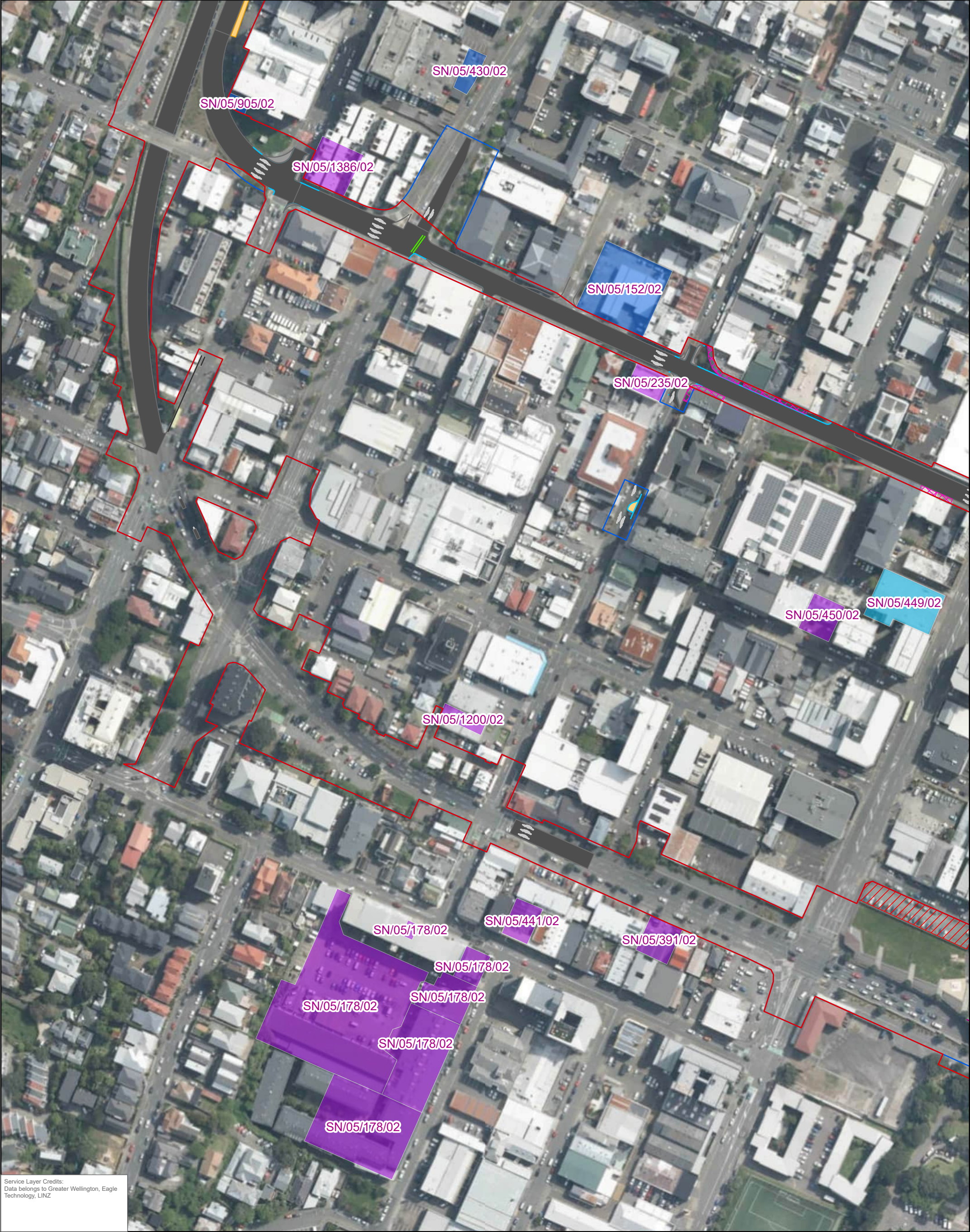
- Red Markings
- Seal
- Footpath
- New Bike Path
- Soft Landscape
- Hard Landscape

- Pukeahu
- Raised Table
- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line

- Kerb_Line
- Raised_Table
- Seal_Line
- Tunnel_line
- Tracks_line

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 1
- IDENTIFIED SLUR SITES



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Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:2,000 at A3
Project Number: 820.030609.00001
Date Drawn: 23/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Construction Area
- Impacted Verandahs
- White Markings
- Green Markings

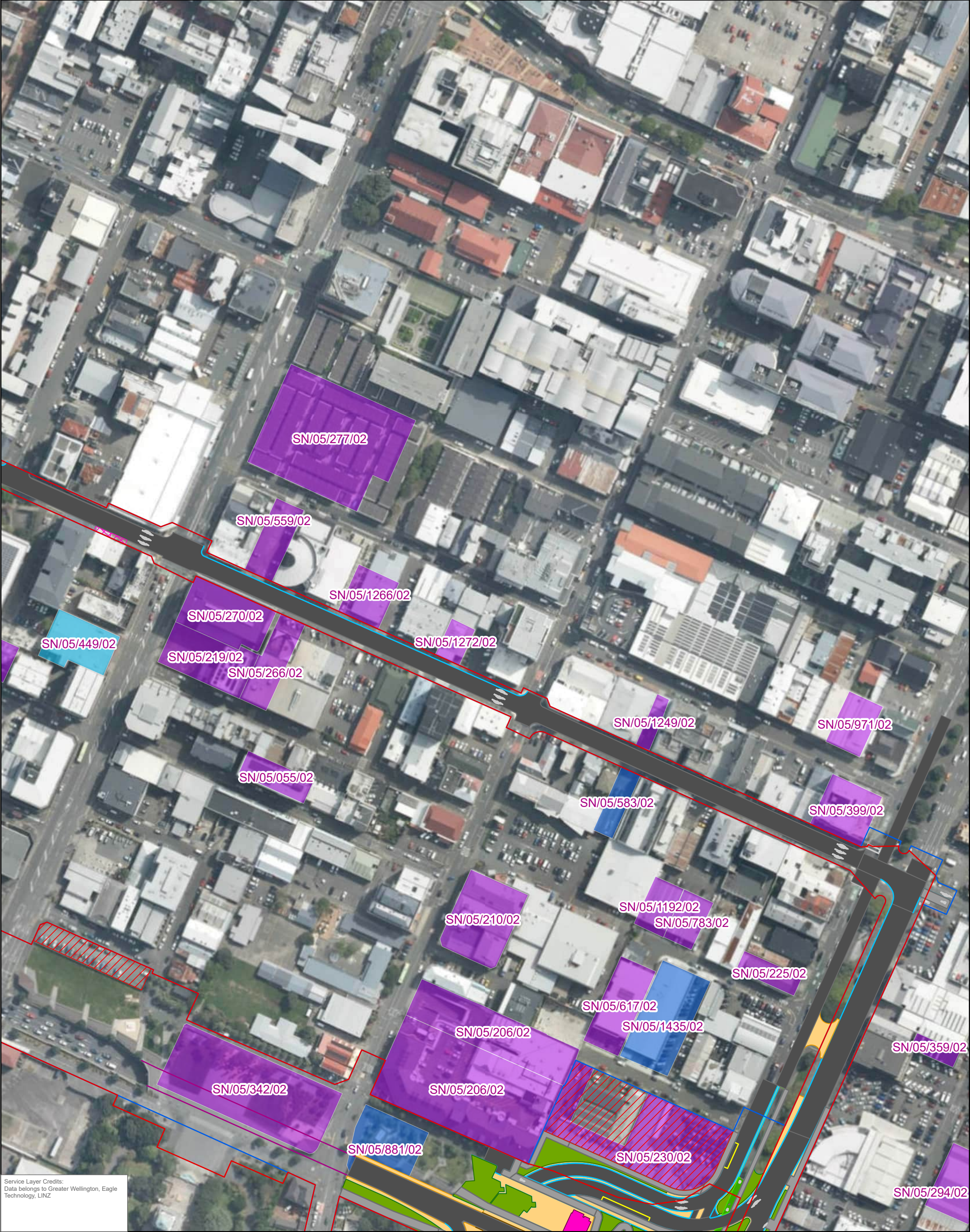
- Red Markings
- Seal
- Footpath
- New Bike Path
- Soft Landscape
- Hard Landscape

- Pukeahu
- Raised Table
- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line

- Kerb_Line
- Raised_Table
- Seal_Line
- Tunnel_line
- Tracks_line

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 2
- IDENTIFIED SLUR SITES



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Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:2,000 at A3
Project Number: 820.030609.00001
Date Drawn: 23/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Construction Area
- Impacted Verandahs
- White Markings
- Green Markings

- Red Markings
- Seal
- Footpath
- New Bike Path
- Soft Landscape
- Hard Landscape

- Pukeahu
- Raised Table
- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line

- Kerb_Line
- Raised_Table
- Seal_Line
- Tunnel_line
- Tracks_line

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 2
- IDENTIFIED SLUR SITES



Service Layer Credits:
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Technology, LINZ

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:2,100 at A3
Project Number: 820.030609.00001
Date Drawn: 23/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Construction Area
- Impacted Verandahs
- White Markings
- Green Markings

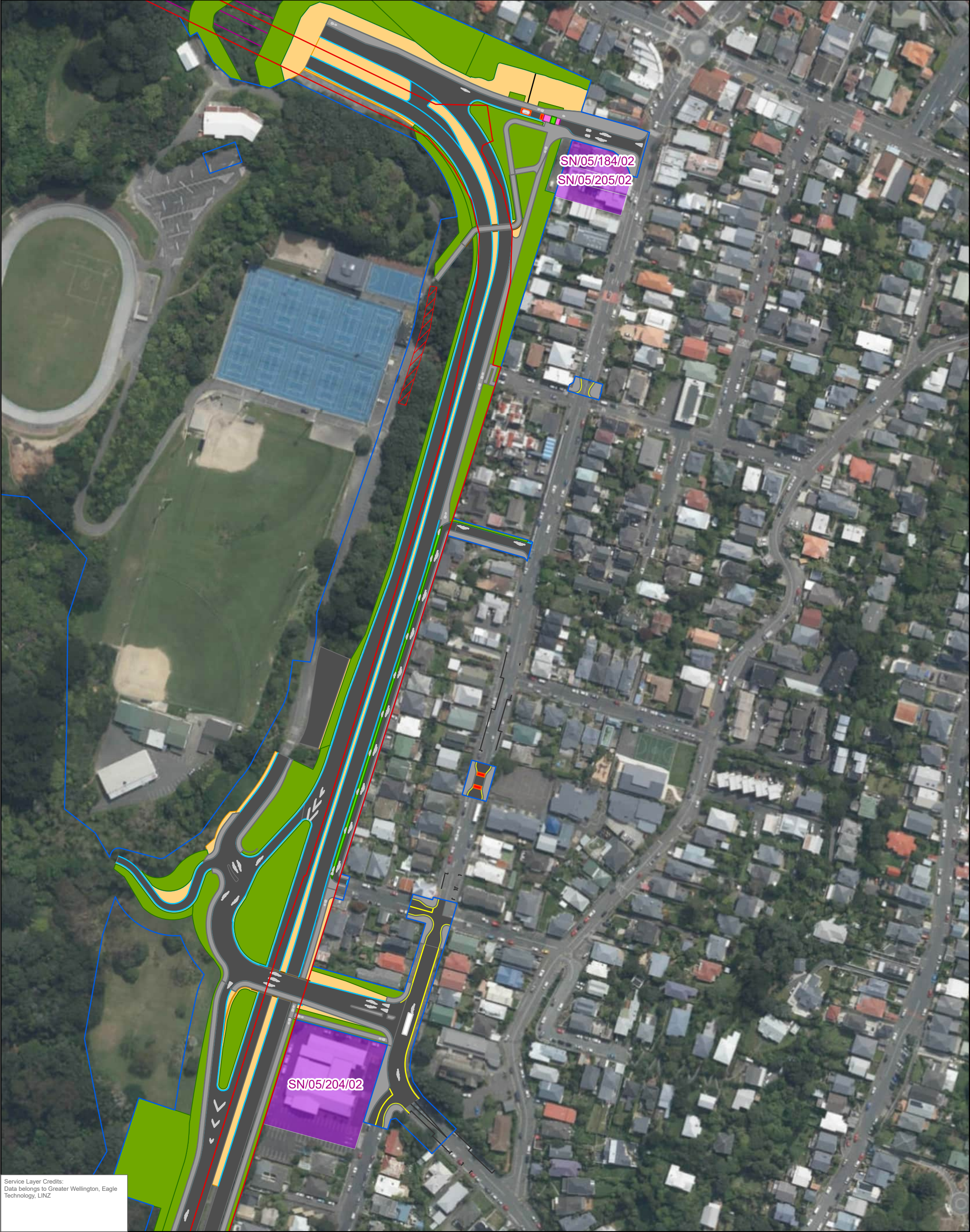
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- Footpath
- New Bike Path
- Soft Landscape
- Hard Landscape

- Pukeahu
- Raised Table
- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line

- Kerb_Line
- Raised_Table
- Seal_Line
- Tunnel_line
- Tracks_line

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 3
- IDENTIFIED SLUR SITES



Service Layer Credits:
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Coordinate System:
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Scale: 1:2,100 at A3
Project Number: 820.030609.00001
Date Drawn: 22/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

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- NZTA_Designation_Proposed
- Construction Area
- Impacted Verandahs
- White Markings
- Green Markings

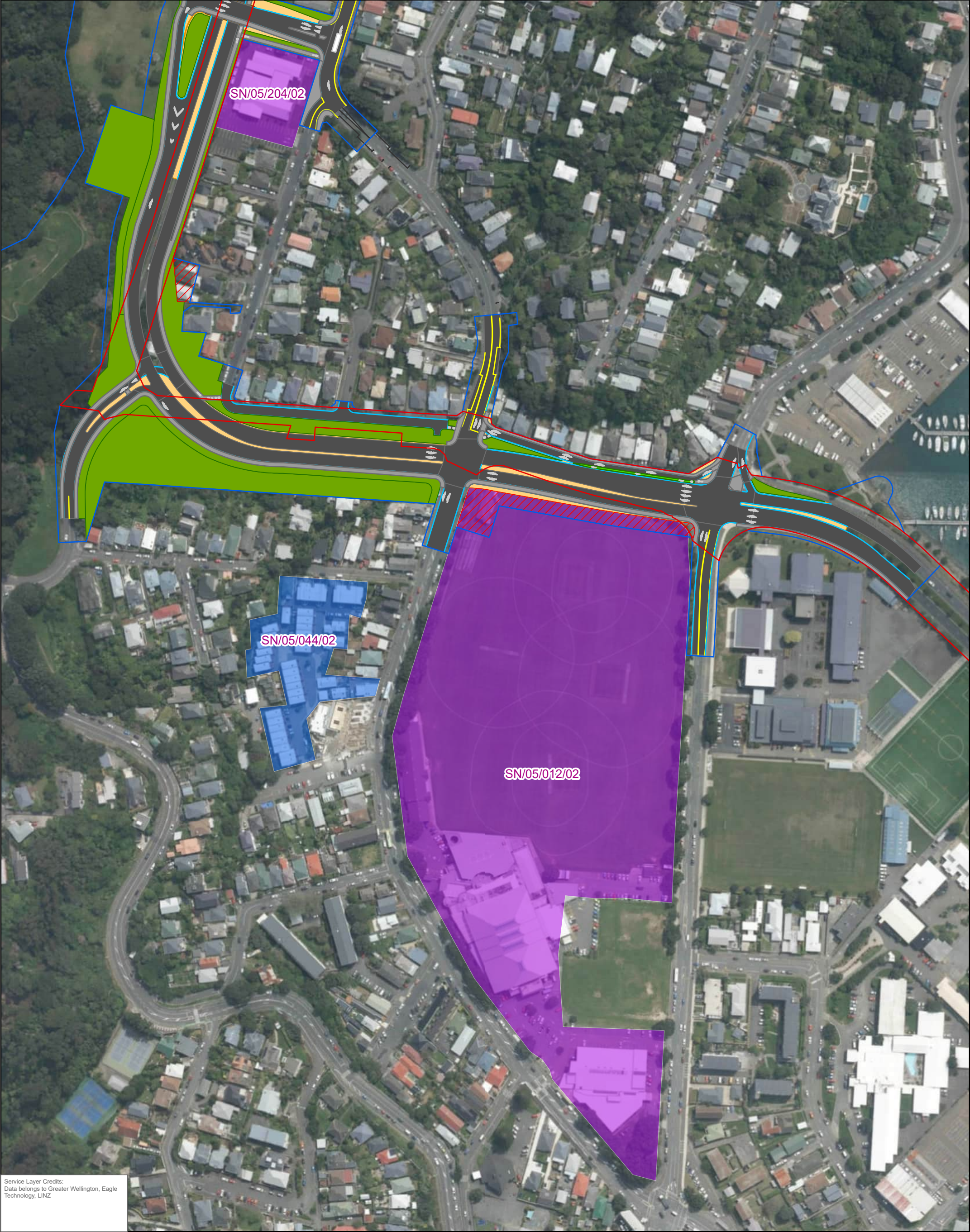
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- Seal
- Footpath
- New Bike Path
- Soft Landscape
- Hard Landscape

- Pukeahu
- Raised Table
- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line

- Kerb_Line
- Raised_Table
- Seal_Line
- Tunnel_line
- Tracks_line

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTIONS 4 & 5
- IDENTIFIED SLUR SITES



Service Layer Credits:
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Technology, LINZ

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Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:2,500 at A3
Project Number: 820.030609.00001
Date Drawn: 23/06/2026
Drawn by: FP
Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Construction Area
- Impacted Verandahs
- White Markings
- Green Markings

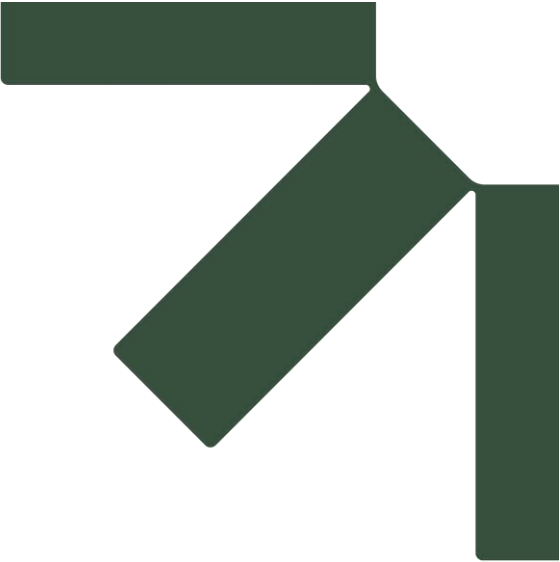
- Red Markings
- Seal
- Footpath
- New Bike Path
- Soft Landscape
- Hard Landscape

- Pukeahu
- Raised Table
- New_Kerb_Line
- Bikepath_New_Line
- Bridge_Deck_Line
- Footpath_Line

- Kerb_Line
- Raised_Table
- Seal_Line
- Tunnel_line
- Tracks_line

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTIONS 4 & 5
- IDENTIFIED SLUR SITES



Attachment E Historical Aerial Imagery

Preliminary Site Investigation

State Highway 1 (SH1) Wellington Improvements Project

New Zealand Transport Agency Waka Kotahi

SLR Project No.: 820.030609.00001

3 June 2026

Project Section 1

Year	Reference	Observations
1938	Retrolens (black & white earliest available images)	SH1 is yet to be developed in its current alignment. The future SH1 alignment is occupied generally by residential dwellings along the northern and central portions of Project Section 1 and a mixture of medium density residential and commercial property at what will be the southern portal of the Terrace Tunnel.
1945	Retrolens (black & white)	Land cover for the future SH1 alignment is still predominantly residential dwellings along the northern and central portions of Project Section 1 and a mixture of medium density residential and commercial property at what will be the southern portal of the Terrace Tunnel.
1951-54	Retrolens (black & white)	Land cover for the future SH1 alignment is still predominantly residential dwellings along the northern and central portions of Project Section 1 and a mixture of medium density residential and commercial property at what will be the southern portal of the Terrace Tunnel.
1960	Retrolens (black & white)	Land cover for the future SH1 alignment is still predominantly residential dwellings along the northern and central portions of Project Section 1 and a mixture of medium density residential and commercial property at what will be the southern portal of the Terrace Tunnel. The building associated with SN/05/905/02 is under construction (Feature 1-1)
1971-78	Retrolens (black & white)	1971 Significant earthworks for the northern portion of the Wellington Urban Motorway are evident. Some structures have been removed from what will be the southern portal of the Terrace Tunnel. 1974 All structures that were present in the path of the Wellington Urban Motorway and Terrace Tunnel northern and southern portals have been removed. 1978 (Limited coverage) The visible areas of the Wellington Urban Motorway and the Terrace Tunnel have been completed up to their present day alignment.
1986	Retrolens (black & white)	No significant changes to the Wellington Urban Motorway, or Terrace Tunnel northern and southern portals from previous 1978 image, including immediately adjacent properties.
1996	WCC (black and white)	No significant changes to the Wellington Urban Motorway, or Terrace Tunnel northern and southern portals from previous 1986 image, including immediately adjacent properties.
2014	WCC (colour)	No significant changes to the Wellington Urban Motorway. Southern portal of the Terrace Tunnel has been reconfigured and is now broadly consistent with the present-day layout.





Service Layer Credits:
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Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:6,000 at A3
Project Number: 820.030609.00001
Date Drawn: 19/06/2026
Drawn by: FP
Checked by: KT

LEGEND
Designation Boundaries
— NZTA_Designation_Existing
— NZTA_Designation_Proposed
□ Feature

SH1 WELLINGTON IMPROVEMENTS
PROJECT SECTION 1
- TERRACE TUNNEL
- 1938



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Service Layer Credits:
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Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:6,000 at A3
Project Number: 820.030609.00001
Date Drawn: 19/06/2026
Drawn by: FP
Checked by: KT

LEGEND
Designation Boundaries
— NZTA_Designation_Existing
— NZTA_Designation_Proposed
 Feature

SH1 WELLINGTON IMPROVEMENTS

**PROJECT SECTION 1
- TERRACE TUNNEL
- 1945**



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Service Layer Credits:
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Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:6,000 at A3
Project Number: 820.030609.00001
Date Drawn: 19/06/2026
Drawn by: FP
Checked by: KT

LEGEND
Designation Boundaries
— NZTA_Designation_Existing
— NZTA_Designation_Proposed
□ Feature

SH1 WELLINGTON IMPROVEMENTS

**PROJECT SECTION 1
- TERRACE TUNNEL
- 1951**



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Service Layer Credits:
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NZGD 2000 New Zealand Transverse Mercator
Scale: 1:6,000 at A3
Project Number: 820.030609.00001
Date Drawn: 19/06/2026
Drawn by: FP
Checked by: KT

LEGEND
Designation Boundaries
— NZTA_Designation_Existing
— NZTA_Designation_Proposed
 Feature

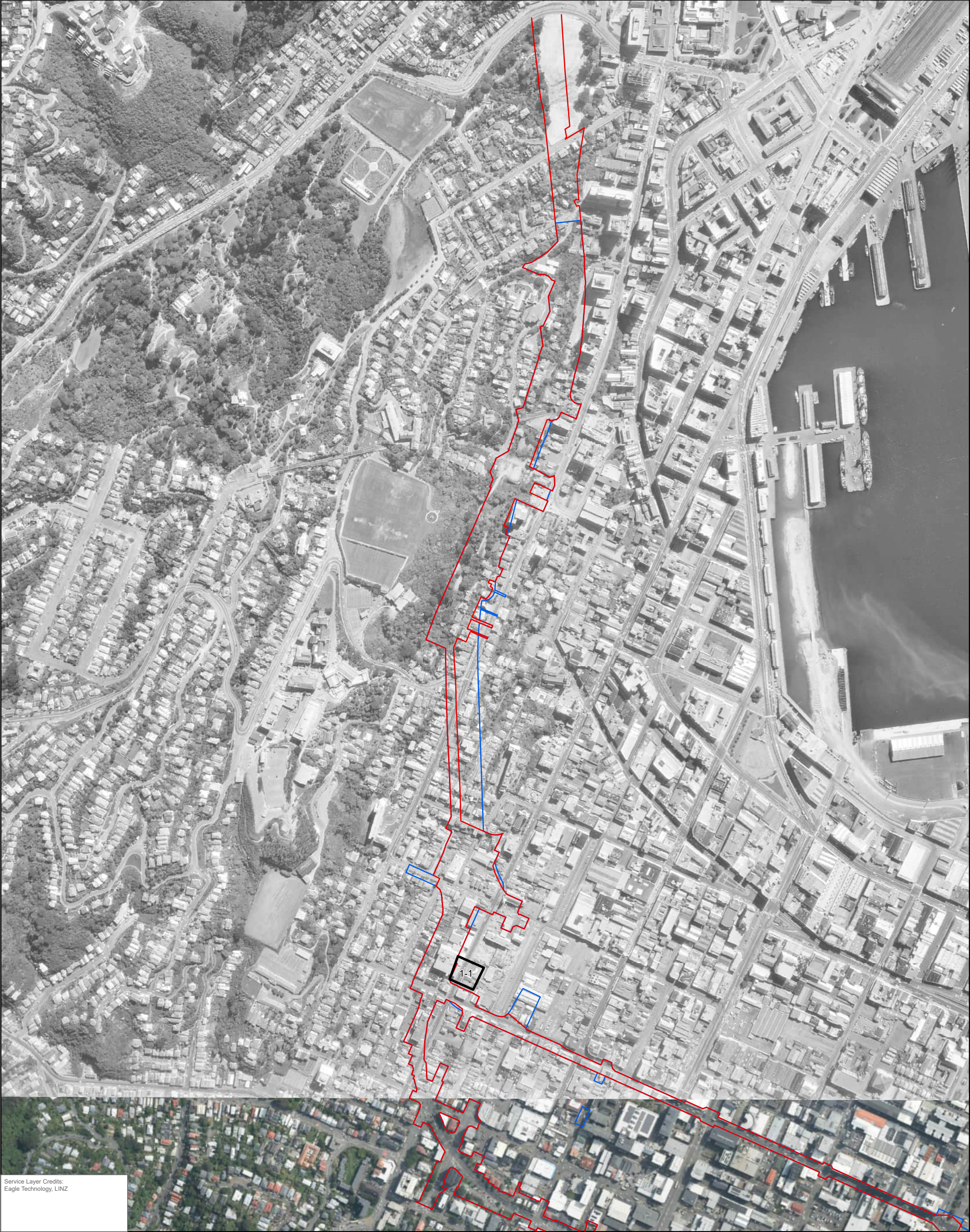
SH1 WELLINGTON IMPROVEMENTS

**PROJECT SECTION 1
- TERRACE TUNNEL
- 1960**



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00.10.2km

Coordinate System:
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Project Number:
820.030609.00001

Date Drawn:
19/06/2026

Drawn by:
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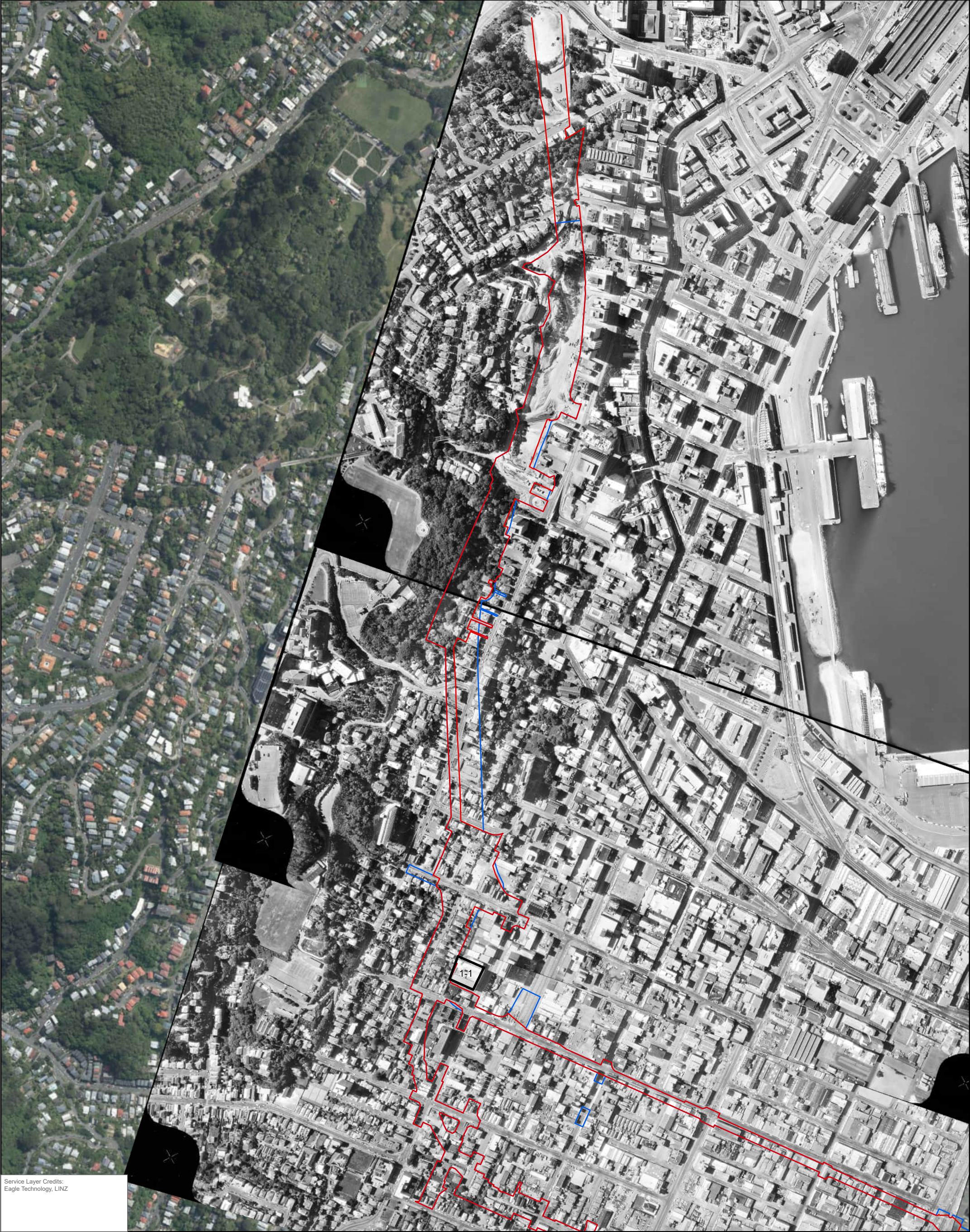
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KT



- LEGEND**
- Designation Boundaries**
- NZTA_Designation_Existing
 - NZTA_Designation_Proposed
 - Feature

SH1 WELLINGTON IMPROVEMENTS

**PROJECT SECTION 1
- TERRACE TUNNEL
- 1969**



Service Layer Credits:
Eagle Technology, LINZ



00.10.2km

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

Scale:
1:6,000 at A3

Project Number:
820.030609.00001

Date Drawn:
19/06/2026

Drawn by:
FP

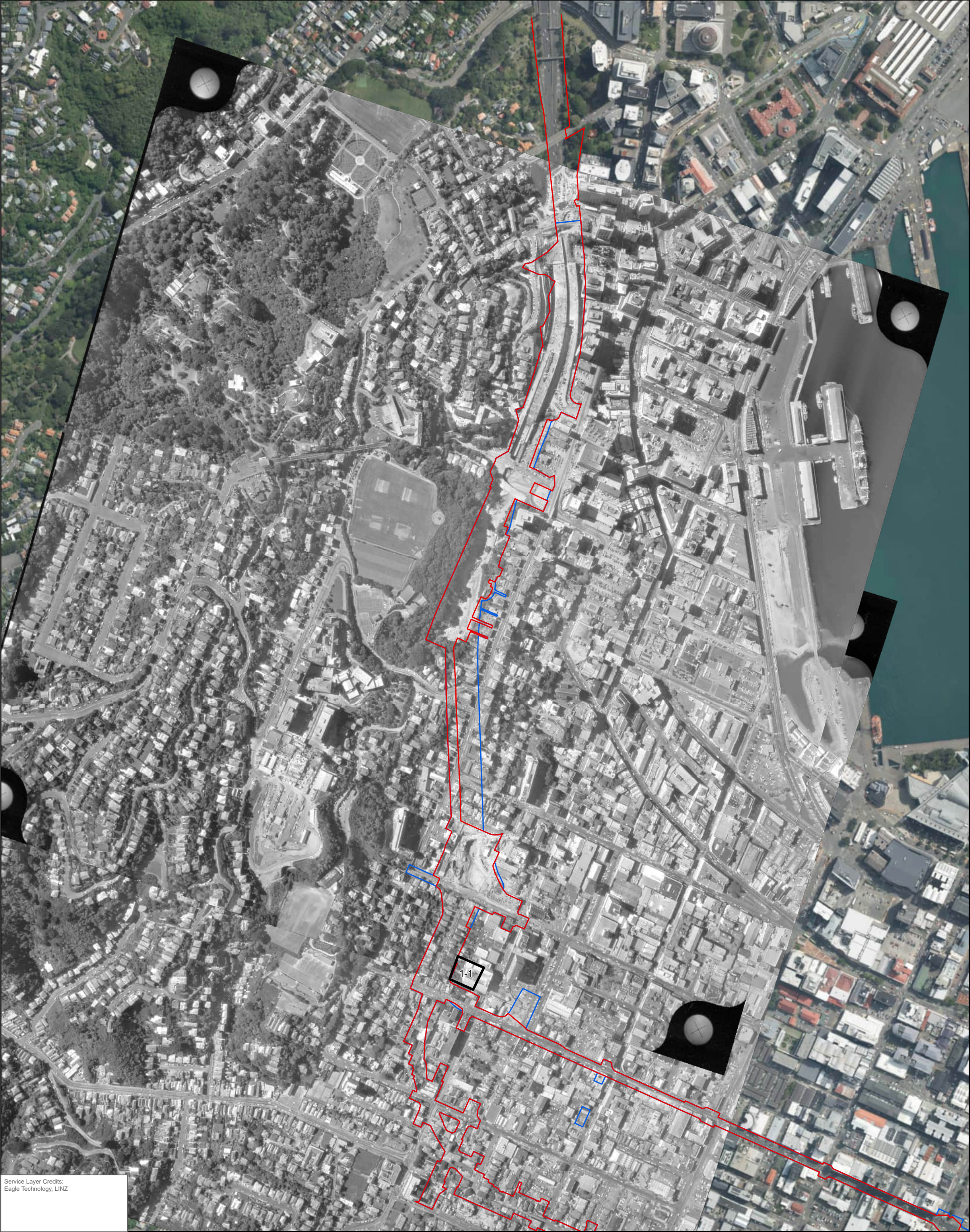
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- LEGEND**
- Designation Boundaries**
- NZTA_Designation_Existing
 - NZTA_Designation_Proposed
 - Feature

SH1 WELLINGTON IMPROVEMENTS

**PROJECT SECTION 1
- TERRACE TUNNEL
- 1971**



Service Layer Credits:
Eagle Technology, LINZ



00.10.2km

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

Scale:1:6,000 at A3

Project Number:820.030609.00001

Date Drawn:19/06/2026

Drawn by:FP

Checked by:KT



- LEGEND**
- Designation Boundaries**
- NZTA_Designation_Existing
 - NZTA_Designation_Proposed
 - Feature

SH1 WELLINGTON IMPROVEMENTS

**PROJECT SECTION 1
- TERRACE TUNNEL
- 1974**



Service Layer Credits:
Eagle Technology, LINZ



00.10.2km

Coordinate System:
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Scale:1:6,000 at A3

Project Number:820.030609.00001

Date Drawn:19/06/2026

Drawn by:FP

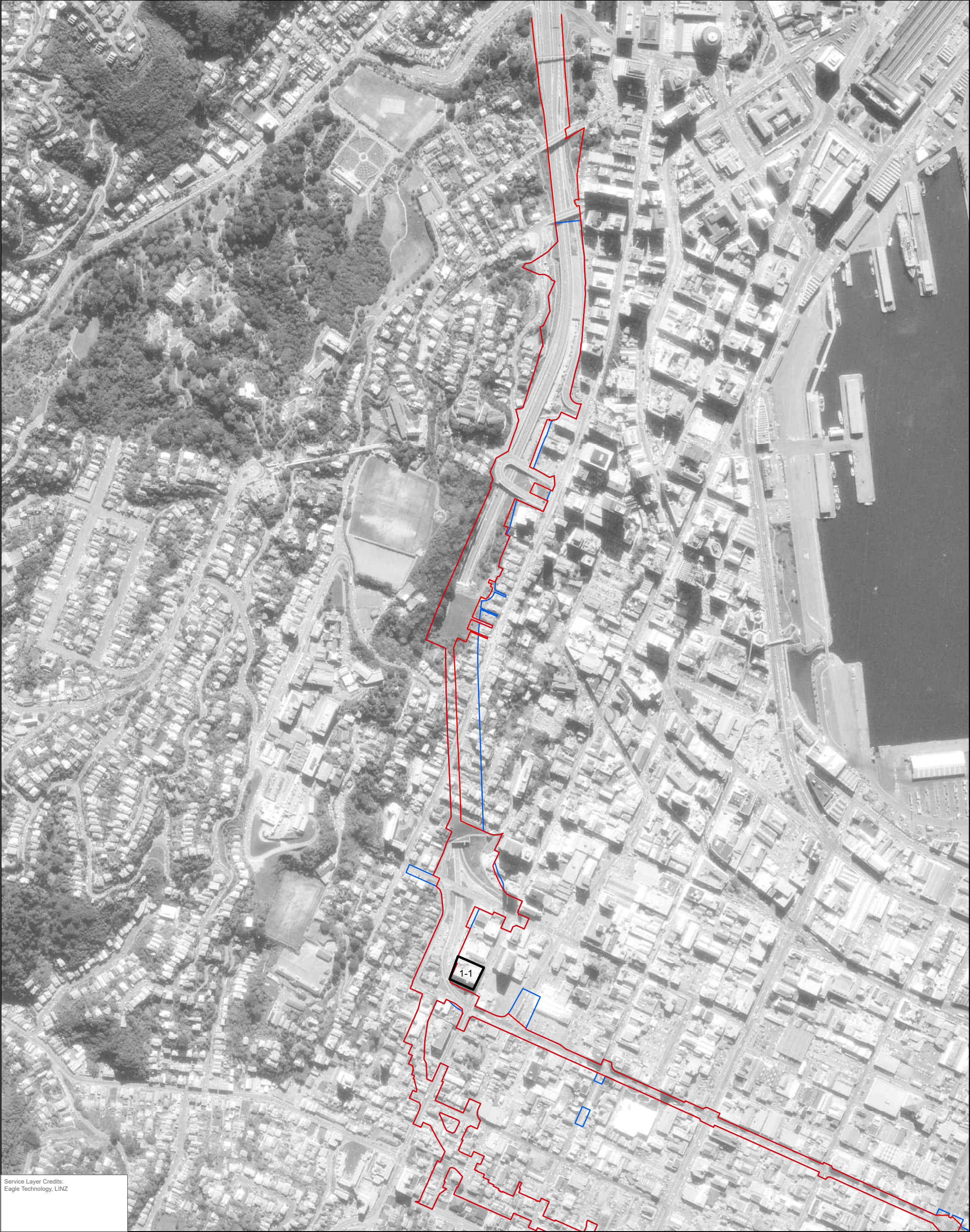
Checked by:KT



- LEGEND**
- Designation Boundaries**
- NZTA_Designation_Existing
 - NZTA_Designation_Proposed
 - Feature

SH1 WELLINGTON IMPROVEMENTS

**PROJECT SECTION 1
- TERRACE TUNNEL
- 1978**



Service Layer Credits:
Eagle Technology, LINZ



00.10.2km

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

Scale: 1:6,000 at A3

Project Number: 820.030609.00001

Date Drawn: 19/06/2026

Drawn by: FP

Checked by: KT



LEGEND

Designation Boundaries

- NZTA_Designation_Existing
- NZTA_Designation_Proposed
- Feature

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 1
- TERRACE TUNNEL
- 1986



Service Layer Credits:



00.10.2km

Coordinate System:

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Scale:

1:6,000 at A3

Project Number:

820.030609.00001

Date Drawn:

19/06/2026

Drawn by:

FP

Checked by:

KT

- LEGEND**
- Designation Boundaries**
- NZTA_Designation_Existing
 - NZTA_Designation_Proposed
 - Feature

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 1
- TERRACE TUNNEL
- 1996



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Service Layer Credits:



00.10.2km

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

Scale:
1:6,000 at A3

Project Number:
820.030609.00001

Date Drawn:
19/06/2026

Drawn by:
FP

Checked by:
KT

LEGEND

Designation Boundaries

NZTA_Designation_Existing

NZTA_Designation_Proposed

Feature

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 1
- TERRACE TUNNEL
- 2013



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Service Layer Credits:
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Coordinate System:
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Scale:1:6,000 at A3

Project Number:820.030609.00001

Date Drawn:19/06/2026

Drawn by:FP

Checked by:KT

LEGEND

Designation Boundaries

NZTA_Designation_Existing

NZTA_Designation_Proposed

Feature

SH1 WELLINGTON IMPROVEMENTS

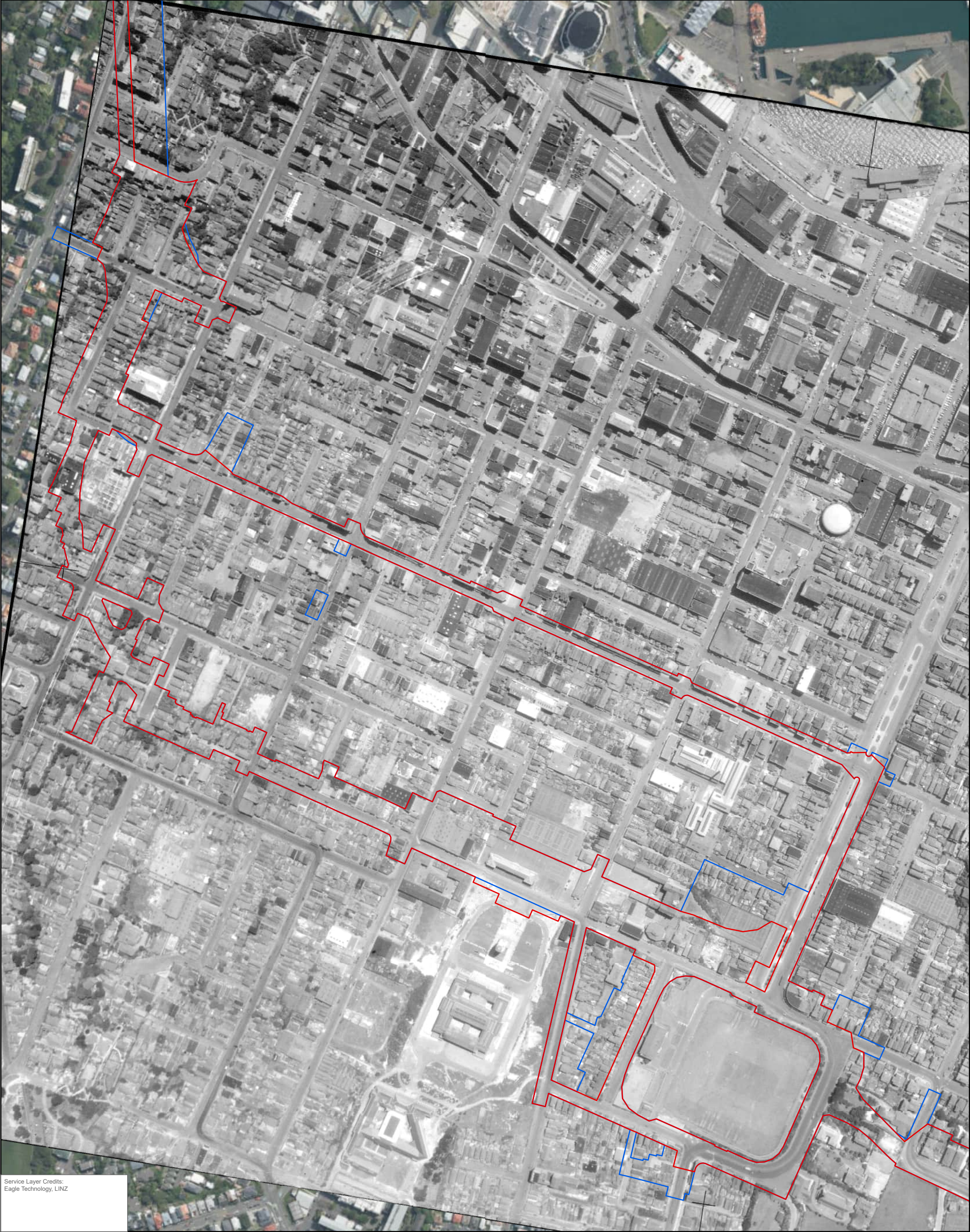
PROJECT SECTION 1
- TERRACE TUNNEL
- 2021



Project Section 2

Year	Reference	Observations
1938	Retrolens (black & white earliest available images)	Vivian Street is visible in its present day alignment, the structures along Vivian Street appear to be a mixture of commercial / industrial and medium and high density residential. The alignment of Arthur Street and Karo Drive appears to be predominantly medium density residential housing.
1945	Retrolens (black & white)	The land cover is broadly similar to the 1938 image. There is a commercial/industrial lot adjacent to the Karo Drive alignment that appears to have storage of raw timber directly on the ground (Feature 2-1).
1951-54	Retrolens (black & white)	Properties adjacent to Vivian Street and the future Arthur Street and Karo Drive alignment appear broadly consistent with previous imagery. Feature 2-1 has had a building added and continues to feature what appears to be outdoor storage of timber. Structures and yard in the location of SLUR file number SN/05/178/02 (71 Webb St, Wellington City) inferred to be the Transalta Depot are visible (Feature 2-2).
1960	Retrolens (black & white)	Multiple former residential lots have been cleared and re-developed for commercial landuse. Feature 2-1 no longer appears to be storing raw timber directly on the ground, it does feature multiple parked vehicles and a boat. Outdoor storage of bulk aggregates and what appear to be fuel points are visible at Feature 2-2.
1969	Retrolens (black & white)	Further building clearance has been undertaken adjacent to Vivian Street (Feature 2-3 and 2-4) and the Arthur Street and Karo Drive alignment (Feature 2-5).
1971-74	Retrolens (black & white)	A paving scar consistent with an underground storage tank and fuel lines are visible in Feature 2-3, this is inferred to be the Shell fuel station that predates the current Z Vivian fuel station detailed by SLUR file number SN/05/152/02 (174 Vivian St, Wellington City). Victoria street has been developed adjacent to Feature 2-4. The workshop associated with SLUR file number SN/05/1386/02 is now present (Feature 2-6).
1986	Retrolens (colour and black & white)	The fuel station of Feature 2-3 has been expanded and a canopy is visible over the forecourt. The site of Feature 2-1 has been redeveloped and now features a commercial building and hardstand ground cover.
1996	WCC (black and white)	No significant changes from the previous 1986 image.
2014	WCC (colour)	Arthur Street and Karo Drive are now present in their current alignment. The workshop associated with Feature 2-6 appears to have ceased operation. The fuel station of Feature 2-3 is undergoing refurbishment works. The building associated with SLUR file number SN/05/559/02 (96 Vivian St, Wellington City) has been demolished and replaced with a hardstand carpark (Feature 2-7). The buildings associated with SLUR file number SN/05/219/02 have been demolished and the lot is currently vacant (Feature 2-8).
2021	WCC (colour)	No significant changes from the previous 2014 image.





Service Layer Credits:
Eagle Technology, LINZ



00.070.15

km

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

Scale:
1:4,000 at A3

Project Number:
820/030609.00001

Date Drawn:
19/06/2026

Drawn by:
FP

Checked by:
KT



- LEGEND**
- Designation Boundaries**
- NZTA_Designation_Existing
 - NZTA_Designation_Proposed

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 2
- TE ARO
- 1938



Service Layer Credits:
Eagle Technology, LINZ

0 0.07 0.15 km
Coordinate System:
NZGD 2000 New Zealand Transverse Mercator
Scale: 1:4,000 at A3
Project Number: 820/030609.00001
Date Drawn: 19/06/2026
Drawn by: FP
Checked by: KT



LEGEND
Designation Boundaries
— NZTA_Designation_Existing
— NZTA_Designation_Proposed
□ Feature

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 2
- TE ARO
- 1945



Service Layer Credits:
Eagle Technology, LINZ



00.070.15

km

Coordinate System:

NZGD 2000 New Zealand Transverse Mercator

Scale:

1:4,000 at A3

Project Number:

820/030609.00001

Date Drawn:

19/06/2026

Drawn by:

FP

Checked by:

KT



- LEGEND**
- Designation Boundaries**
- NZTA_Designation_Existing
 - NZTA_Designation_Proposed
 - Feature

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 2
- TE ARO
- 1951



Service Layer Credits:
Eagle Technology, LINZ



00.070.15 km

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

Scale:
1:4,000 at A3

Project Number:
820/030609.00001

Date Drawn:
19/06/2026

Drawn by:
FP

Checked by:
KT



- LEGEND
- Designation Boundaries
- NZTA_Designation_Existing

NZTA_Designation_Proposed

Feature

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 2
- TE ARO
- 1960



Service Layer Credits:
Eagle Technology, LINZ



00.070.15

km

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

Scale:
1:4,000 at A3

Project Number:
820/030609.00001

Date Drawn:
19/06/2026

Drawn by:
FP

Checked by:
KT



- LEGEND**
- Designation Boundaries**
- NZTA_Designation_Existing
 - NZTA_Designation_Proposed
 - Feature

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 2
- TE ARO
- 1969



Service Layer Credits:
Eagle Technology, LINZ



00.070.15

km

Coordinate System:
NZGD 2000 New Zealand Transverse Mercator

Scale:
1:4,000 at A3

Project Number:
820/030609.00001

Date Drawn:
19/06/2026

Drawn by:
FP

Checked by:
KT



- LEGEND**
- Designation Boundaries**
- NZTA_Designation_Existing
 - NZTA_Designation_Proposed
 - Feature

SH1 WELLINGTON IMPROVEMENTS

PROJECT SECTION 2
- TE ARO
- 1974