REPORT TO

HEALTH INFRASTRUCTURE

ON

REMEDIATION ACTION PLAN

FOR

HOSPITAL REDEVELOPMENT

AT

TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Date: 13 November 2024
Ref: E35822PRrpt4-RAP

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Executive Summary

Health Infrastructure ('the client') commissioned JK Environments (JKE) to prepare a Remediation Action Plan (RAP) for the hospital redevelopment at Temora Hospital, 169-189 Loftus Street, Temora, NSW ('the site'). The site location is shown on Figure 1 in Appendix A. The RAP has been prepared to outline the remediation process for the hospital redevelopment to support the lodgement of a Development Application (DA), with regards to Chapter 4 of State Environmental Planning Policy (Resilience and Hazards) 2021.

The Temora Hospital is classified as a Small Community Hospital with Surgery, with services currently operating as Role Delineation Level (RDL) 1-3. The hospital has 28 inpatient beds providing medical, surgical, maintenance and rehabilitation services (22 beds) and maternity (six beds). It has a small emergency department (ED), outpatient services, medical imaging (generally x-ray), community health, mental health and drug and alcohol services, allied health and aboriginal health.

JKE understand that the proposed development includes the demolition of all existing buildings and structures, and construction of a single-storey hospital building within the northern portion of the site. A loading dock area and staff parking is proposed to the north of the site, with public parking to the south-west and west of the proposed building. The southern extent of the existing driveway is proposed to be retained and incorporated into the new development. The southern portion of the site, and the areas surrounding the new building and carparks, are to be landscaped. Based on the provided drawings, bulk earthworks (cut/fill) will be required to accommodate the proposed development, with excavation to depths of approximately 2-3m below ground level (BGL) anticipated. Similar extents of filling are also anticipated. Selected schematic design drawings provided to JKE are attached in the appendices.

JKE has previously undertaken a Preliminary Site Investigation (PSI) and a Detailed Site Investigation (DSI) at the site. Previous investigations have identified bonded asbestos (asbestos containing material - ACM) in soil at one location (BH4) at a concentration that exceeded the adopted Site Assessment Criteria (SAC). Additionally, the DSI identified various data gaps due to access constraints. A summary of relevant information from these investigations is included in Section 2.

The goal of the remediation is to reduce contamination-related risks to human health and the environment, and to render the site suitable for the proposed development from a contamination viewpoint. The primary aim of the remediation is to mitigate risks from the occurrence of asbestos and other contamination in soil.

This RAP has been prepared to outline remediation of localised impacts of asbestos-contaminated fill, and the requirements for pre-remediation data gap investigation. The RAP also provides contingencies for additional remediation, should the pre-remediation investigation identify a need for additional remediation.

The proposed remediation strategy for the asbestos-impacted fill in the vicinity of BH4 includes excavation and disposal of the excavated material to a licensed landfill facility. The extent of remediation will be confirmed via the validation process. The remedial contingencies in this RAP for other contaminated areas (if identified) include 'excavation and off-site disposal' of contaminated soil, or 'cap and containment' of contaminated soil. Depending on the nature and extent of such remediation, we consider that the 'excavation and off-site disposal' option would most likely be applicable for small quantities of contaminated soils, and the 'cap and containment' option would be applicable for larger quantities of contaminated soils. Capping and containing contaminated soils on site would trigger a requirement for long-term management of the site via an Environmental Management Plan (EMP). The RAP also includes validation requirements for imported materials.

We are of the opinion that the site can be made suitable for the proposed development via the implementation of this RAP. The remediation and validation can be staged where required, to align with the development staging. A validation report is to be prepared on completion of any remediation/validation activities and submitted to the consent authority to demonstrate that the site is suitable for the proposed use following completion of remediation/validation. If contaminated material is capped on site (e.g. if the capping contingency needs to be implemented), a long-term EMP will also be prepared as part of the validation documentation.

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Abbreviations

Asphaltic Concrete	**AC**
Added Contaminant Limits	**ACL**
Asbestos Containing Material	**ACM**
Areas of Environmental Concern	**AEC**
Asbestos Fines/Fibrous Asbestos	**AF/FA**
Australian Height Datum	**AHD**
Asbestos Management Plan	**AMP**
Asbestos Removal Control Plan	**ARCP**
Below Ground Level	**BGL**
Benzene, Toluene, Ethylbenzene, Xylene	**BTEX**
Contaminated Land Management	**CLM**
Contaminant(s) of Potential Concern	**CoPC**
Chain of Custody	**COC**
Conceptual Site Model	**CSM**
Development Application	**DA**
Data Quality Indicator	**DQI**
Data Quality Objective	**DQO**
Detailed Site Investigation	**DSI**
Emergency Department	**ED**
Ecological Investigation Level	**EIL**
Environmental Management Plan	**EMP**
Excavated Natural Material	**ENM**
Environmental Risk Sciences	**EnRiskS**
Environment Protection Authority	**EPA**
Environment Protection Licence	**EPL**
Ecological Screening Level	**ESL**
Fibre Cement Fragment(s)	**FCF**
Human Health and Ecological Risk Assessment	**HHERA**
Health Investigation Level	**HIL**
Health Screening Level	**HSL**
JK Environments	**JKE**
Licensed Asbestos Assessor	**LAA**
Lab Control Spike	**LCS**
Map Grid of Australia	**MGA**
National Association of Testing Authorities	**NATA**
National Environmental Protection Measure	**NEPM**
Organochlorine Pesticides	**OCP**
Organophosphate Pesticides	**OPP**
Polycyclic Aromatic Hydrocarbons	**PAH**
Polychlorinated Biphenyls	**PCB**
Photo-ionisation Detector	**PID**
Protection of the Environment Operations	**POEO**
Practical Quantitation Limit	**PQL**
Quality Assurance	**QA**
Quality Control	**QC**
Remediation Action Plan	**RAP**
Role Delineation Level	**RDL**
Relative Percentage Difference	**RPD**
Site Assessment Criteria	**SAC**
Sampling, Analysis and Quality Plan	**SAQP**
State Environmental Planning Policy	**SEPP**
Total Recoverable Hydrocarbons	**TRH**
Validation Assessment Criteria	**VAC**

Virgin Excavated Natural Material	**VENM**
Work Health and Safety	**WHS**

Units

Litres	**L**
Metres BGL	**mBGL**
Metres	**m**
Millilitres	**ml or mL**
Milligrams per Kilogram	**mg/kg**
Milligrams per Litre	**mg/L**
Parts Per Million	**ppm**
Percentage	**%**
Percentage weight for weight	**%w/w**

1 INTRODUCTION

Health Infrastructure ('the client') commissioned JK Environments (JKE) to prepare a Remediation Action Plan (RAP) for the Hospital redevelopment at Temora Hospital, 169-189 Loftus Street, Temora, NSW ('the site'). The site location is shown on Figure 1 in Appendix A.

The RAP has been prepared to outline the remediation process for the hospital redevelopment to support the lodgement of a Development Application (DA), with regards to Chapter 4 of State Environmental Planning Policy (Resilience and Hazards) 2021[1].

JKE has previously undertaken a Preliminary Site Investigation (PSI) and a Detailed Site Investigation (DSI) at the site. The investigations identified fill soils impacted by lead, total recoverable hydrocarbons (TRH) and carcinogenic polycyclic aromatic hydrocarbons (PAHs), and the presence of asbestos in soils. Data gaps also exist due to access constraints associated with the existing buildings. A summary of relevant information from these investigations is included in Section 2 and data gaps are to be addressed under the framework of this RAP.

1.1 Proposed Development Details and Background

The Temora Hospital is classified as a Small Community Hospital with Surgery, with services currently operating as Role Delineation Level (RDL) 1-3. The hospital has 28 inpatient beds providing medical, surgical, maintenance and rehabilitation services (22 beds) and maternity (six beds). It has a small emergency department (ED), outpatient services, medical imaging (generally x-ray), community health, mental health and drug and alcohol services, allied health and aboriginal health.

JKE understand that the proposed development includes the demolition of all existing buildings and structures, and construction of a single-storey hospital building within the northern portion of the site. A loading dock area and staff parking is proposed to the north of the site, with public parking to the south-west and west of the proposed building. The southern extent of the existing driveway is proposed to be retained and incorporated into the new development. The southern portion of the site, and the areas surrounding the new building and carparks, are to be landscaped.

Based on the provided drawings, bulk earthworks (cut/fill) will be required to accommodate the proposed development, with excavation to depths of approximately 2-3m below ground level (BGL) anticipated. Similar extents of filling are also anticipated.

Selected schematic design drawings provided to JKE are attached in the appendices.

[1] *State Environmental Planning Policy (Resilience and Hazards) 2021* (NSW) (referred to as SEPP Resilience and Hazards 2021)

1.2 Remediation Goals, Aims and Objectives

The goal of the remediation is to reduce contamination-related risks to human health and the environment, and to render the site suitable for the proposed development from a contamination viewpoint. The primary aim of the remediation is to mitigate risks from the occurrence of asbestos or other contamination in soil.

The objectives of this RAP are to:

- Document the requirements for pre-remediation (data gap) investigation;
- Provide a rationale to support the extent of the proposed remediation and the remedial/site validation approach based on the current dataset;
- Document a methodology that is to be implemented to remediate and validate the site; and
- Document a strategy that can be implemented in the event of uncovering any unexpected, contamination-related finds, and provide other relevant contingency plans.

1.3 Scope of Work

The RAP was prepared generally in accordance with a JKE proposal (Ref: EP58924PR) of 28 June 2023, the agreed consultancy agreement (HI22656) and written acceptance from the client of the variation dated 2 August 2023. The scope of work included a review of the previous JKE reports, review of the available proposed development details, consultation with the client and their nominated project manager, and preparation of a RAP.

The scope of work was undertaken with reference to the National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended (2013)[2], Consultants Reporting on Contaminated Land (2020)[3] guidelines, other guidelines made under or with regards to the Contaminated Land Management Act (1997)[4] and SEPP Resilience and Hazards 2021. A list of reference documents/guidelines is included in Appendix G.

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[2] National Environment Protection Council (NEPC), (2013). *National Environmental Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013).* (referred to as NEPM 2013)

[3] NSW EPA, (2020). *Consultants reporting on contaminated land, Contaminated Land Guidelines.* (referred to as Consultants Reporting Guidelines)

[4] Contaminated Land Management Act 1997 (NSW) (referred to as CLM Act 1997)

2 SITE INFORMATION

2.1 Previous Investigations

JKE has undertaken several phases of investigation on the site. Environmental Risk Sciences (EnRiskS) has also prepared a Human Health and Ecological Risk Assessment (HHERA) for the proposed development. Relevant information from these investigations is summarised in the table below.

Table 2-1: Summary of Previous Investigations and Relevant Findings

Investigation phase	Relevant findings to the site
PSI, JKE 2023[5]	JKE previously prepared a PSI for the proposed hospital redevelopment at the site in 2023. The scope of work included a desktop review of historical information, a site walkover inspection, and soil sampling from 12 locations (BH1 to BH8 inclusive, and TP13 to TP16 inclusive) as shown on the figures attached in the appendices. The site history indicated that the site was historically used for residential and agricultural (grazing) purposes until the late 1930's, and has been used for a hospital since. The PSI identified the following potential contamination sources/areas of environmental concern (AEC): • Historic filling activities; • Historic agricultural activities; • Use of pesticides; • Hazardous building materials present within existing and/or former structures; • On-site generator and associated fuel storage; • Maintenance workshop; and • On-site incinerator and hospital activities. The investigation identified fill soils impacted by asbestos and PAHs at concentrations that were above the adopted human health-based site assessment criteria (SAC). Elevated copper concentrations above the ecological SAC were also identified in the majority of the analysed fill, natural soil and rock samples though were considered to be representative of the regional conditions. Fibre cement fragments (FCF)/asbestos containing material (ACM) was observed in surficial fill in BH4. The concentration of asbestos at this location exceeded the Health Screening Level (HSL) SAC. JKE concluded that the site could be made suitable for the proposed development via remediation and the following was recommended to better assess the risks associated with potential site contamination: • A surface walkover and 'emu picking' of all visible FCF/ACM from the site surface should be undertaken and an asbestos clearance certificate obtained from a SafeWork NSW licensed asbestos assessor (LAA); • Interim management of the site was to occur under an asbestos management plan (AMP), until remediation occurs; • The earthworks and any re-use of material was to adequately consider the presence of copper in the soil in relation to waste classification and potential ecological risks; • Undertake a DSI to better assess the risks associated with the potential sources of contamination and inform preparation of a RAP; • A RAP was to be prepared to address the contamination issues identified at the site; and • The site was to be managed, remediated and validated in accordance with the RAP and AMP.

[5] JKE, (2023a). *Report to Health Infrastructure on Preliminary (Stage 1) Site Investigation for Proposed Alterations and Additions at Temora Hospital, 169-189 Loftus Street, Temora, NSW.* (Ref: E35822PRrpt, dated 8 June 2024) (referred to as PSI)

Investigation phase	Relevant findings to the site
DSI, JKE 2024[6]	The DSI included a review of existing project information, a site inspection and soil sampling from 63 locations. The DSI was revised in 2024 to account for minor updates to the development details. The investigation identified fill and/or clay soils to depths of approximately 0.1m to 1.2mBGL, underlain by andesite bedrock. The maximum depth of fill encountered during the DSI was 0.9m. Fill was encountered to a maximum depth of 1.1m during the PSI. Groundwater was not encountered during the investigation. The fill typically comprised of silty clay with inclusions of ash, slag, gravel, cobbles, boulders, volcanic breccia, building rubble (concrete, asphaltic concrete [AC], ceramic, metal, plastic and glass fragments), roots and root fibres. The DSI identified fill soils impacted by lead, TRHs and PAHs at concentrations that were above the nominated SAC. A subsurface asbestos pipe was identified at TP153 during the DSI. Elevated copper concentrations above the SAC were also identified in several of the analysed fill, natural soil and rock samples though were considered to be representative of the regional conditions. Based on the findings of the investigation, JKE was of the opinion that the site could be made suitable for the proposed development via remediation. JKE recommended that a site-specific HHERA be undertaken by a specialist consultant. The SAC adopted for the PSI and DSI were considered to be relatively conservative for a hospital land use scenario, and the DSI stated that further consideration of the specific proposed development details may enable site specific criteria to be developed or alternative Tier 1 criteria to be adopted. We indicated that this has the potential to substantially reduce the scope of remediation, or potentially eliminate the need for remediation altogether. Additionally, the following was recommended: • Prepare/update an AMP to outline the management strategy for addressing the potential risks posed by asbestos. This should be prepared by an LAA; • Following the HHERA, evaluate the need for any additional data collection, reassess the data gaps of the DSI, and (where required) prepare the RAP; and • The earthworks and any re-use of material is to adequately consider the copper in the soil in relation to waste classification and potential ecological risks.
HHERA, EnRiskS 2024[7]	EnRiskS prepared a HHERA for the proposed development. The objective of the HHERA was to determine whether the soil impacts identified in the JKE PSI and DSI posed an unacceptable risk to human health or ecosystems at the site. The HHERA identified the following groups of people as being potentially present at the site: • Construction workers during the redevelopment; • Intrusive maintenance workers following the redevelopment; • Site gardeners and landscapers; • Hospital staff during and after the redevelopment; • Patients and visitors (including volunteers) who may walk in the hospital grounds during and after the redevelopment; and • The local community (including residents of the adjacent residential care facility) who may walk through the hospital grounds during and after the redevelopment. The HHERA identified the relevant exposure pathways for human receptors to be direct exposure to soils, and exposure to vapours (for relevant volatile chemicals). The HHERA also assessed the potential ecological risks for terrestrial organisms.

[6] JKE, (2023b). *Report to Health Infrastructure on Detailed Site Investigation for Proposed Hospital Redevelopment at Temora Hospital, 169-189 Loftus Street, Temora, NSW.* (Ref: E35822PRrpt3Rev1, dated 9 May 2024).

[7] EnRiskS, (2024). *Temora Hospital redevelopment: Human health and ecological risk assessment. Prepared for Capital Insight and NSW Health Infrastructure.* (Ref: HI/24/TEMR001, Revision B Final, dated 17 October 2024) (referred to as HHERA)

Investigation phase	Relevant findings to the site
	Based on the available data for the site, and the site-specific risk assessment process, EnRiskS concluded: • The human health risks were low and acceptable for all groups listed above; • Ecological risks were low and acceptable; and • Risk management actions and a RAP were not warranted for the site. We note that the HHERA did not consider asbestos, as this was to be managed separately. Therefore, the conclusions of the HHERA do not apply to asbestos, and management and remediation of asbestos at BH4 is required.

A copy of the soil laboratory data summary tables and boreholes logs from the previous investigations, is attached in Appendix C. SAC exceedances from the PSI and DSI are shown on Figures 3 and 4 in Appendix A.

JKE note that the HHERA concluded that risk management and a RAP were not required for the site, in relation to heavy metals, TRH and PAHs in soil. This RAP has been prepared to provide the framework for the data gap investigation, remediation of the known localised asbestos impacts at BH4, and remediation approaches as a contingency in the event that soil contamination that poses a potentially unacceptable risk to receptors is identified through the data gap investigation process.

2.2 Summary of Site History

A time line summary of the historical land uses and activities is presented in the table below. The information presented in the table is based on a weight of evidence assessment of the site history documentation and observations made by JKE during the previous investigations.

Table 2-2: Summary of Historical Land Uses / Activities

Year(s)	On-site - Potential Land Use / Activities	Off-site - Potential Land Use / Activities
Prior to 1938	Residential and possibly agricultural (grazing).	Residential and agricultural (grazing).
1930 – 1940	Temora Hospital was constructed.	Residential and agricultural (grazing).
1940 - present	Hospital and associated activities.	Residential and agricultural (grazing). 2010s: Vocational education centre (TAFE) was constructed to the north of the site.

2.3 Site Identification

Table 2-3: Site Identification

Current Site Owner (certificate of title):	Health Administration Corporation
Site Address:	169-189 Loftus Street, Temora, NSW
Lot & Deposited Plan:	Lot 2 DP 582392
Current Land Use:	Hospital
Proposed Land Use:	Hospital
Local Government Area:	Temora Shire Council
Current Zoning:	SP2: Infrastructure
Site Area (m^2) (approx.):	31,770
Geographical Location (decimal degrees) (approx.):	Latitude: -34.44276 Longitude: 147.5434
Site Plans:	Appendix A

2.4 Summary of Site Setting and Description

The site is located in a predominantly residential and rural area of Temora and is bound by Loftus Street to the south and Gloucester Street to the west. The site is located approximately 4km to the south-east of Lake Centenary (a man-made lake across Trigalong Creek). The regional topography is characterised by gently undulating terrain. The site is located towards the crest of a gently undulating slope which grades down towards the south-west at approximately 5°. Parts of the site appear to have been levelled to account for the slope and accommodation the existing development.

A walkover inspection of the site was undertaken by JKE on 2 May 2023 for the PSI. The walkover inspections during the course of the DSI confirmed that the site remained generally unchanged since the PSI. The site was not re-inspected at the time of preparing this RAP. A summary of the key observations is provided below:

- At the time of the inspection, the majority of the site was utilised as a hospital with associated accommodation and maintenance areas;
- The buildings were mostly located within the northern and central portions of the site and appeared to generally be in good condition based on a cursory inspection. The buildings included:
    - A three-storey main hospital building of brick and fibre-cement construction;
    - A two-storey nurses' accommodation building of brick and metal construction; and
    - Several single-storey buildings (ancillary services, maintenance, workshop) typically of brick and metal construction;
- An AC paved driveway provided vehicular access to the site from Loftus Street in the south-west of the site, and extended to the north-east to and around the main hospital building, connecting with another AC paved driveway providing vehicular egress from the site to Gloucester Street in the north-west of

the site. Several on-grade carparks and concrete pathways were observed across the site. The pavement conditions varied from moderate to poor condition based on a cursory inspection, with several cracks, potholes and repaired patches observed;

- Fuels, oils and lubricants were typically stored within the maintenance building. The products were stored in appropriate containers;
- An incinerator was located within the boiler room in the north-west of the site;
- Medium to large trees were observed along the site boundaries. Smaller shrubs and trees were located within the courtyard to the north and south of the main building as well as in other formed gardens across the site. The vegetation appeared to be generally healthy based on a cursory inspection; and
- Sensitive environments such as wetlands, ponds, creeks or extensive areas of native vegetation were not observed on site or in the immediate surrounds.

During the site inspection, JKE observed the following land uses in the immediate surrounds:

- North – Low-density residential, the Temora campus of TAFE NSW and residential care facility (Whiddon Group);
- South – Loftus Street with low-density residential beyond;
- East – Utilities infrastructure (transmission tower, substation, pumping station and reservoirs) with vacant agricultural land (possibly grazing) beyond; and
- West – Residential care facility (Whiddon Group) with Gloucester Street beyond.

3 SUMMARY OF GEOLOGY AND HYDROGEOLOGY

3.1 Regional Geology and Subsurface Conditions

Regional geological information reviewed for the PSI indicated that the site is underlain by Temora Volcanics comprising andesite, trachyandesite, latite and basaltic andesite, though may be obscured by quaternary aged alluvial soils. The alluvial soils are likely present on the lower slopes and toe of the hillside, and not within the site boundaries.

A summary of the subsurface conditions encountered during the previous investigations is presented in the following table:

Table 3-1: Summary of Subsurface Conditions – PSI & DSI

Profile	Description
Pavement	AC pavement was encountered at the surface in BH7, BH8, BH126, BH155, BH157, BH158 and BH162. The pavement ranged in thickness from approximately 20mm to 50mm.
Fill	Fill was encountered at the surface or directly beneath the pavement in the majority of boreholes and test pits, and extended to depths of approximately 0.05m to 1.1mBGL. Fill depths are presented on Figure 4 attached in Appendix A. TP105, TP109, TP148 and TP156 were terminated in the fill at maximum depths ranging from approximately 0.35m to 0.5mBGL, due to obstructions (i.e. underground services). The fill typically comprised of silty and/or sandy clay and silty sand, with inclusions of ash, slag, gravel, cobbles, boulders, volcanic breccia, building rubble (concrete, AC, ceramic, metal, plastic and glass fragments), roots and root fibres. No stained or odorous fill was encountered. FCF/ACM were encountered in the surficial fill material (0-0.2m) in BH4, and a suspected asbestos cement pipe was encountered in TP153 at a depth of approximately 0.3mBGL (see Figures 3 and 4 in Appendix A). The FCF/ACM in BH4 (BH4-FCF1 and BH4-FCF2), and a sample of the pipe (FCF101) were collected and submitted for laboratory analysis. The laboratory analysis confirmed the presence of asbestos in all three samples.
Natural Soil	Residual silty clay and sandy silty clay was encountered at the surface in BH1, BH5, BH9 to BH12, TP16, TP110 and TP123, and generally beneath the fill in the majority of the sampling locations. The residual soils were observed to include traces of sand and igneous, ironstone, quartz and andesite gravel and cobbles. No stained or odorous soils were encountered during the investigation.
Bedrock	Andesite bedrock was encountered beneath the fill in BH7, TP124, TP131, TP132, TP152, BH158 and TP159 at depths of approximately 0.1m to 0.5mBGL. Andesite bedrock was encountered beneath the residual clays in numerous locations at depths of approximately 0.4m to 2.1mBGL. The bedrock was typically extremely weathered on first contact.
Groundwater	Groundwater seepage was not encountered during drilling and test pitting. All boreholes and test pits remained dry on completion of and a short time after drilling and excavation.

A copy of the borehole logs from the PSI and DSI is included in Appendix C.

3.2 Acid Sulfate Soil (ASS) Risk and Planning

ASS information reviewed for the PSI indicated that the site is not located in an ASS risk area.

3.3 Hydrogeology and Surface Water Bodies

Hydrogeological information presented in the PSI indicated that:

- The subsurface conditions at the site consist of relatively low permeability (residual) soils overlying shallow bedrock. The potential for viable groundwater abstraction and use of groundwater under these conditions is considered to be low. There is a reticulated water supply in the area and consumption of groundwater is not expected to occur;
- There nearest registered bore was located 330m to the west of the site and was registered for recreational purposes;
- Considering the local topography and surrounding land features, JKE anticipate groundwater flow towards the north-west.

Surface water bodies were not identified in the immediate vicinity of the site. The closest surface water body is an unnamed dam approximately 320m to the north-east of the site. This is up-gradient and is not considered to be a potential receptor.

4 CONCEPTUAL SITE MODEL / SITE CHARACTERISATION

NEPM (2013) defines a Conceptual Site Model (CSM) as a representation of site related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The CSM for the site is presented in the following sub-sections and is based on the site information and investigation data to date. Reference should also be made to the figures attached in the appendices.

4.1 Review of CSM and Data Gap Assessment

Table 4-1: Review of CSM and Data Gap Assessment

Source/AEC	Review of CSM and Data Gap Assessment
Fill material	Fill ranging in depth between approximately 0.05m to 1.1mBGL was encountered across the site. The fill contained anthropogenic inclusions such as AC, concrete, ceramic, metal, plastic and glass fragments. Further investigation of the fill will be required following demolition of the buildings/structures. However, in our opinion, we consider it is likely that the fill conditions beneath the buildings will be broadly consistent with those encountered in the previous boreholes and test pits. Asbestos (as bonded ACM) is a contaminant of concern in fill. The following contaminants of potential concern (CoPC) also apply to fill in areas where data gaps remain due to access limitations: heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc); TRH; benzene, toluene, ethylbenzene and xylene (BTEX); PAHs; organochlorine pesticides (OCPs); organophosphate pesticides (OPPs); and polychlorinated biphenyls (PCBs); and asbestos.
Use of Pesticides	Pesticides have not been detected to date. However, sampling has not occurred in the building footprints and further sampling/analysis of soils in these areas will be required. CoPC include: Heavy metals (primarily arsenic, lead and cadmium); OCPs; and OPPs.
Hazardous Building Materials	Previous identification of asbestos (as bonded ACM) in surficial fill soils in the vicinity of BH4 and inclusions in fill soils were indicative of former demolition/construction activities (i.e. concrete and ceramic fragments). The buildings and structures on the site are of an age indicative of housing hazardous building materials, and such materials were identified by others as summarised within the PSI report. Further investigation of the fill beneath the buildings/structures will be required to assess the full extent of contamination risks on site as noted above. CoPC include asbestos/ACM; lead; and PCBs.
Maintenance workshop	A maintenance workshop is located within the site. It is possible that leaks/spills and or releases of oils, solvents and fluids (e.g. turpentine/mineral spirits associated with typical painting activities) may have occurred. Based on the existing data, any leaks/spills are considered likely to be localised in extent. Due to access constraints, investigation has not been undertaken in the immediate vicinity of the maintenance workshop and further investigation will be required once access is available. CoPC include: heavy metals; TRHs; and PAHs.

The RAP includes provisions for a pre-remediation (data gap) investigation which is to occur after demolition. The outcome of these data gap investigation works will be used to reassess, and where required, identify the need for any further remediation. Notwithstanding, the remedial/management actions proposed in this RAP focus on the following:

- Localised excavation of surficial fill in the vicinity of BH4 to remove the soil impacted by ACM at a concentration that exceeded the HSL; and
- Management of potential asbestos risks during construction based on the potential occurrence of additional asbestos in/on soil elsewhere on site (additional asbestos remediation may also be required depending on the outcome of the additional investigation).

Based on the available data, we consider it possible that further occurrences of asbestos will be identified and the RAP includes contingencies to address this. However, at this stage the RAP has been prepared on the basis that fill containing asbestos concentrations in exceedance of the HSLs is localised in the vicinity of BH4. The RAP does not propose any removal of the asbestos pipe and this pipe will need to be managed if any works occur in the area or if the pipe is found to extend elsewhere.

In addition to the asbestos finds, the previous investigations identified lead, TRH and carcinogenic PAH exceedances of the health-based SAC, and copper and TRH exceedances of the ecological-based SAC. The copper exceedances were in the majority of fill, natural soil and rock samples and JKE considered these concentrations to be representative of the regional conditions.

The HHERA reviewed the exceedances and prepared adjusted SAC based on alternative assumptions relating to exposure risks and use of the site. The HHERA concluded that the concentrations of metals, TRHs and carcinogenic PAHs recorded in the soils did not pose an unacceptable risk to human health or ecological receptors. On this basis, remediation is not proposed for these contaminants.

4.2 Mechanism for Contamination, Affected Media, Receptors and Exposure Pathways

The mechanisms for contamination, affected media, receptors and exposure pathways relevant to remediation are outlined in the following CSM table:

Table 4-2: CSM for RAP

Potential mechanism for contamination	The mechanisms for contamination include 'top-down' impacts and spills. To date, contamination impacts from asbestos have been limited to surficial fill soils in one location (BH4).
Affected media	Soil has been identified as affected medium in the context of the RAP. Asbestos fibres can also mobilise to air. Groundwater is not being considered further in the context of the RAP. However, this will need to be reassessed in the event that significant contamination (i.e. high concentrations of mobile contaminants) is found in soil during the pre-remediation (data gap) investigation.
Receptor identification	Human receptors include: • Construction workers and intrusive maintenance workers; • Site gardeners and landscapers;

	• Hospital staff, patients (adults and children) and visitors (including volunteer workers and children); and • The local community who may use the hospital grounds. Ecological receptors include terrestrial organisms and plants within unpaved areas (including any proposed landscaped areas).
Potential exposure pathways and mechanisms	Potential exposure pathways relevant to the human receptors include ingestion, dermal absorption and inhalation of dust, asbestos fibres and vapours. The potential for exposure would typically be associated with the construction and excavation works, and future use of the site. Potential exposure pathways for ecological receptors include primary contact and ingestion. Exposure during future site use could occur via direct contact with soil in unpaved areas such as gardens/open space, inhalation of airborne asbestos fibres during soil disturbance, or inhalation of vapours within enclosed spaces such as buildings. The following have been identified as potential exposure mechanisms in the context of the RAP: • Contact (dermal, ingestion or inhalation) with soils during construction or with exposed soils in landscaped areas and/or unpaved areas; and • Vapour intrusion and inhalation of vapours within the proposed buildings.
Presence of preferential pathways for contaminant movement	None identified. To be reviewed in the event mobile contamination impacts are encountered during the pre-remediation (data gap) investigation.

5 EXTENT OF REMEDIATION AND REMEDIATION OPTIONS

5.1 Extent of Remediation

As the RAP includes provisions for managing unexpected finds and completing further investigation, the RAP applies to the whole site and all proposed development works.

Based on the current dataset, the asbestos remediation area has been confined to a nominal 20m x 20m ($400m^2$) area approximately centred on BH4, as shown on Figure 6 in Appendix A. Additional testing may be undertaken as part of the pre-remediation (data gap) investigation process, using a step-out approach (say, starting at 10m x 10m grid centred on BH4) to refine the expected lateral extent of remediation. The vertical extent of remediation will extend to the depth of fill in this area, which is expected to be in the order of 0.2m deep. The final extent of remediation will ultimately be guided by the validation process.

A review of the remediation extent and the need for any additional remedial actions is to occur as part of the pre-remediation (data gap) investigation process. The RAP includes a suitable contingency remedial actions framework to address any additional risks that may be identified in this context.

5.2 Soil Remediation Options Assessment

The NSW EPA follows the hierarchy set out in NEPM 2013 for the remediation of contaminated sites. The preferred order for soil remediation and management is as follows:

1. On-site treatment of soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level;
2. Off-site treatment of excavated material so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which the soil is returned to the site;

Or if the above are not practicable:

3. Consolidation and isolation of the soil by on-site containment within a properly designed barrier; and
4. Removal of contaminated material to an approved site or facility, followed where necessary by replacement with clean material; or
5. Where the assessment indicates that remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

For simplicity herein, the above hierarchy are respectively referred to as Option 1, Option 2, Option 3 etc.

The NEPM 2013 and the associated Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2021)[8] prefer the following asbestos remediation hierarchy:

1. Minimisation of public risk;
2. Minimisation of contaminated soil disturbance; and
3. Minimisation of contaminated material/soil moved to landfill.

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[8] Western Australian (WA) Department of Health (DoH), (2021). *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*. (referred to as WA DoH 2021)

The NSW EPA Contaminated Land Management Guidelines for the NSW Site Auditor Scheme (3rd Edition) (2017)[9] provides the following additional requirements to be taken into consideration:

- Remediation should not proceed in the event that it is likely to cause a greater adverse effect than leaving the site undisturbed; and
- Where there are large quantities of soil with low levels of contamination, alternative strategies should be considered or developed.

The table below discusses a range of remediation options:

Table 5-1: Consideration of Soil Remediation Options

Option	Discussion	Applicability
<u>**Option 1**</u> **On-site treatment of contaminated soil**	On-site treatment can provide a mechanism to reuse the processed material, and in some instances, avoid the need for large scale earthworks. Treatment options are contaminant-specific and can include bio-remediation, soil washing, air sparging and soil vapour extraction and thermal desorption. Depending on the treatment option, licenses may be necessary for specific individual waste streams due to the potential for air pollution and the formation of harmful by-products during incineration processes. Licences for re-use of treated material/waste may also be required.	Treatment of soils impacted with bonded ACM is applicable for surficial impacts and may also be applicable for small quantities of soils, such as the suspected localised impacts in the vicinity of BH4. Treatment of soils impacted with friable asbestos (if encountered) is not applicable. On-site treatment of soil is unlikely to be applicable for the remaining CoPC.
<u>**Option 2**</u> **Off-site treatment of contaminated soil**	Contaminated soils are excavated, transported to an approved/licensed treatment facility, treated to remove/stabilise the contaminants then returned to the subject site, transported to an alternative site or disposed to an approved landfill facility. This option is also contaminant-specific. The cost per tonne for transport to and from the site and for treatment is considered to be relatively high. The material would also have to be assessed in terms of suitability for reuse as part of the proposed development works under the waste and resource recovery regulatory framework.	Not applicable for asbestos in soil and would also not likely be viable or practicable for small quantities of soils impacted by the other CoPC.
<u>**Option 3**</u> **Consolidation and isolation of impacted soil by cap and containment**	This would include capping material in-situ beneath appropriate barriers, or the consolidation of contaminated soil within an appropriately designed cell, followed by the placement of an appropriate barrier over the material to reduce the potential for future disturbance. The capping and/or containment must be appropriate for the specific contaminants of concern. Depending on the concentrations of contaminants being	Applicable for asbestos where the asbestos concentrations exceed the Health Screening Levels (HSLs), and also applicable for the other CoPC provided there is no migration risk to groundwater. This option may have limited applicability for volatile CoPC. This generally would not be the preferred method if relatively small

9 NSW EPA, (2017). *Contaminated land Management, Guidelines for the NSW Site Auditor Scheme (3rd ed.).* (referred to as Site Auditor Guidelines 2017)

Option	Discussion	Applicability
	encapsulated, an ongoing Environmental Management Plan (EMP) may be required and an EMP would need to be publicly notified and made to be legally enforceable (e.g. via listings in the Section 10.7 planning certificate and on the land title).	quantities if contaminated soils are involved.
<u>**Option 4**</u> **Removal of contaminated material to an appropriate facility and reinstatement with clean material**	Contaminated soils would be classified in accordance with NSW EPA guidelines for waste disposal, excavated and disposed of off-site to a licensed landfill. The material would have to meet the requirements for landfill disposal. Landfill gate fees would apply in addition to transport costs.	This option is applicable to the asbestos in the BH4 remediation area and may also be applicable for all other CoPC. The strategy is easy to implement, particularly for small quantities of contaminated soils. This may not be economically viable for larger quantities of material due to costs for disposal.
<u>**Option 5**</u> **Implementation of management strategy**	Contaminated soils would be managed in such a way to reduce risks to the receptors and monitor the conditions over time so that there is an on-going minimisation of risk. This may occur via the implementation of monitoring programs, potentially also involving capping systems.	This is a potential option for managing low concentrations of asbestos (below the HSL) in soil, or for managing capped contamination in conjunction with Option 3.

5.3 Rationale for the Preferred Option for Remediation

The preferred remedial option for the asbestos remediation at BH4 is Option 4, excavation and off-site disposal to a licensed facility. This is considered to be the preferred option as the investigation data suggests that the impacts are localised, and the approach requires a short program of works. This strategy also avoids the burden of long-term management of the site via an EMP.

Should the pre-remediation (data gap) investigation identify the need for further remedial actions, the preferred remedial contingency options include:

- Option 4 excavation and off-site disposal to a licensed landfill facility; and
- A combination of Option 3 cap and containment, and Option 5 long-term management.

In relation to the potential for additional occurrences of asbestos in fill, a management approach is to be implemented to manage risks to workers during construction. The findings of the pre-remediation (data gap) investigation will establish whether there are any asbestos concentrations in soil that exceed the HSL (or any other contaminants exceed the HSLs/health investigation levels - HILs) that warrant remediation. Depending on the nature and extent of such remediation, we consider that Option 4 would most likely be applicable for small quantities of contaminated soils, and a combination of Options 3 and 5 would be applicable for larger quantities of contaminated soils, should contamination impacts be identified.

The appropriateness of which contingency to be implemented would be assessed subsequent to completion of the pre-remediation (data gap) investigation as outlined in Section 6.3.

We have considered the potential cost benefits of remediating the ACM in fill within the nominated BH4 remediation area via treatment. Whilst treatment may be possible, in our opinion it is not preferred due to the following:

- The estimated quantity of fill in the nominated BH4 remediation area is approximately 80m^3 (this should be confirmed by the client's quantity surveyor), assuming that no further occurrences of ACM are identified that exceed the HSL. The cost benefit for treating and then validating the treatment process for such a small quantity of soil is not likely to be substantial in comparison to the preferred option of excavation and off-site disposal; and
- The fill in BH4 includes cohesive clayey soils. Treatment of ACM via physical removal (i.e. 'emu picking') in clayey soils is more difficult, time consuming and can be less effective compared to sandy soils.

Should treatment of ACM impacted fill be considered as an option, a Remediation Work Plan (RWP) or an addendum RAP must be prepared to outline the process and validation requirements, and must be submitted to the consent authority.

6 REMEDIATION DETAILS

Prior to commencement of demolition and any soil disturbance, the client, project manager and remediation contractor must review and make arrangements to meet the remediation site management requirements for the project as outlined in Section 9 of this RAP.

The following general sequence of works is anticipated:

- Pre-commencement meeting;
- Site establishment and demolition;
- Pre-remediation (data gap) investigation and any additional associated reporting;
- Remediation and validation of remedial works (where applicable); and
- Validation of remedial works and validation of imported soil materials. This includes materials imported to reinstate the remedial excavations, together with engineering material such as sub-base and drainage materials (e.g. recovered aggregate etc), landscaping materials or any other materials imported for service trenches etc, to the point in time that the validation report is issued.

Validation of the works will occur progressively throughout the remediation and construction program.

Details in relation to the above are outlined in the respective subsection below.

6.1 Roles and Responsibilities

Table 6-1: Roles and Responsibilities

Role	Responsibility
Developer/ client	Health Infrastructure The client (or their nominated project manager) is required to appoint the project team for the remediation/validation and must provide all investigation reports including this RAP to the project manager, remediation contractor/principal contractor, and any other relevant parties involved in the project.
Project Manager	Capital Insight The project manager is required to review all documents prepared for the project and manage the implementation of the procedures outlined in this RAP. The project manager is to take reasonable steps so that the remediation contractor and others have understood the RAP and will implement it in its totality. The project manager will review the RAP and other documents and will update the parties involved of any changes to the development or remediation sequence (in consultation with the validation consultant).
Principal Contractor / Remediation Contractor	To be confirmed. The principal contractor is required to review all documents prepared for the project and manage the implementation of the procedures outlined in this RAP. The principal contractor is to take reasonable steps so that the remediation contractor and others have understood the RAP and will implement it in its totality. With regards to the need for a construction/remediation phase AMP, the principal contractor/remediation contractor must engage a (and/or engage with a) suitably qualified consultant to prepare the AMP required in accordance with Section 9.1 of this RAP.

Role	Responsibility
	The principal contractor will review the RAP and other documents and will update the parties involved of any changes to the development or remediation sequence (in consultation with the validation consultant).
Remediation Contractor	To be confirmed. The remediation contractor (this may be the same entity as the principal contractor) is required to review all relevant documents prepared for the project, apply for any relevant removal licences or permits and implement the remediation requirements and relevant validation requirements (that are the remediation contractor's responsibility) outlined in this RAP. The remediation contractor should be, or must subcontract, a Class B licensed asbestos removalist to manage and undertake any works associated with the removal/disturbance of asbestos. The Class B contractor will need to submit the required notification to SafeWork NSW for asbestos removal works associated with the remediation of the BH4 area. With regards to the need for a construction/remediation phase AMP, the remediation contractor must engage a (and/or engage with a) suitably qualified consultant to prepare the AMP required in accordance with Section 9.1 of this RAP, unless this responsibility is already addressed by the principal contractor as noted above. The remediation contractor is required to collect all documentation associated with the remediation activities and forward this documentation onto the principal contractor, client and project manager as they become available.
Validation Consultant	To be confirmed. The validation consultant provides consulting advice and validation services in relation to the remediation. The validation consultant undertakes the pre-remediation (data gap) investigation(s) and prepares the validation report (and EMP where applicable), as required. The validation consultant is required to review any deviation to this RAP or any unexpected finds if and when encountered during the site work. It is recommended that the validation consultant should have an LAA on staff. The validation consultant is required to liaise with the principal contractor, client, project manager and remediation contractor on all matters pertaining to the site contamination, remediation and validation, carry out the required pre-remediation (data gap) investigation, validation sampling and inspections.

6.2 Pre-commencement Meeting

The project team is to have a pre-commencement meeting to discuss the sequence of remediation, and the remediation and validation tasks. The site management plan for remediation works (see Section 9) must be reviewed by project manager and remediation contractor, and appropriate steps are to be taken to ensure the adequate implementation of the plan.

6.3 Pre-remediation (Data Gap) Investigation and Reporting

Prior to the commencement of the pre-remediation (data gap) investigation, the validation consultant must prepare a detailed Sampling, Analysis and Quality Plan (SAQP) in accordance with the Consultants Reporting Guidelines and NEPM (2013). Where the investigation is staged to align with the demolition or development staging, a separate SAQP can be prepared for each stage, or alternatively, a single/overarching SAQP can be prepared to account for the staging.

Reference is to be made to Figure 6 in Appendix A for the proposed investigation locations.

The investigation(s) must include the following as a minimum:

- An initial inspection following the demolition of buildings/structures and removal of pavements to assess the site conditions and any potential unexpected finds. The site conditions must be documented with photographs;
- Preparation and implementation of a suitable Work Health and Safety (WHS) plan that considers the potential for identifying asbestos during the sampling;
- Soil sampling from test pits from the proposed locations presented on Figure 6 in Appendix A. The test pits must be excavated to the base of the fill and into the natural ground (where possible) so that the depth of fill is confirmed;
- Soil samples must be collected from each fill profile for laboratory analysis, and one sample from each location should be collected from the underlying natural soil/bedrock if possible. If there are any indicators of contamination in the natural soil (e.g. staining or odours) then deeper sampling should occur;
- Bulk (10L) field asbestos quantification must occur in accordance with the NEPM (2013) requirements;
- A sample from each fill profile is to be analysed for the CoPC for fill as nominated in the CSM. Any FCF identified in the bulk samples are also to be analysed for asbestos;
- If there is a to be a surplus of materials on the project, or if waste is to be disposed off-site, additional analysis for waste classification purposes must occur;
- Appropriate QA/QC samples are to be obtained and analysed for soil, with regards to the NEPM (2013) requirements; and
- Use of appropriate SAC for the Tier 1 risk assessment, as outlined below.

For the investigation(s), the following SAC are to be adopted:

- Analytical results for CoPC (with the exception of carcinogenic PAHs) are to be compared to the relevant HILs for a 'recreational and public open space' exposure scenario (HIL-C) as presented in Schedule B1 of the NEPM (2013);
- Analytical results for carcinogenic PAHs are to be compared to the HIL-D criteria, as presented in Schedule B1 of the NEPM (2013). JKE note that the HHERA derived a site-specific criterion of 80mg/kg for carcinogenic PAHs. However, considering the assumptions and uncertainties outlined in the HHERA, a revised criterion of 40mg/kg was nominated. The revised site-specific criterion aligns with the HIL-D criterion;
- Analytical results for volatile CoPC are to be compared to the relevant HSLs for 'commercial/industrial' exposure scenario (HSL-D), as presented in Schedule B1 of the NEPM (2013). The criteria for 'sandy' type soils and a depth interval of 0m to <1m are to be adopted;
- Analytical results for ACM in soil are to be compared to the HSL-C criterion for soils presented in Schedule B1 (Table 7) of NEPM 2013. No visible FCF/ACM is to be present at the site surface;
- Analytical results for asbestos fines/fibrous asbestos (AF/FA) in soil are to be compared to the HSL criterion for soils presented in Schedule B1 (Table 7) of NEPM 2013; and

- Analytical results for CoPC are to be compared to the respective ecological investigation level (EILs) and ecological screening level (ESLs) for an 'urban residential and public open space' (URPOS) scenario as presented in Schedule B1 of NEPM 2013. The EILs for selected metals may be adjusted based on soil-specific parameters in accordance with Schedule B1 of NEPM 2013. The ESL criterion for benzo(a)pyrene has been increased to 20mg/kg, based on the Canadian Soil Quality Guidelines[10].

Additional sampling in the vicinity of BH4 could also be undertaken in a step-out approach, to refine the approximate lateral extent of remediation in this area. As the contaminant of concern in this area is limited to bonded ACM, the additional analysis of samples in this area could be limited to asbestos (500mL quantification samples), and 10L bulk field screening for visible ACM.

On completion of the investigation, a report is to be prepared by the validation consultant in accordance with the Consultants Reporting Guidelines and is to include a Tier 1 risk assessment and review of the CSM.

In conjunction with the above, the validation consultant is to confirm whether the investigation has identified any triggers for further remediation. If a trigger is identified, the pre-remediation investigation report is to include a discussion and details regarding the extent of remediation, and provide an addendum to the RAP specifying/confirming the remediation and validation requirements. It is expected this will align with the RAP framework and consultation will occur between the validation consultant, client and principal contractor as part of this process.

In the event that there is a need for remediation that falls outside the scope of contingency remedial actions outlined in this RAP, a new RAP must be prepared and submitted to the client/consent authority, principal contractor and remediation contractor etc (as applicable). The client/consent authority and project manager must then establish the appropriate course of action in relation to any additional planning/consent requirements prior to making arrangements to carry out the additional works.

The project team must factor the above requirements into the project timeline so that all of the above can be closed out/finalised prior to the commencement of earthworks/construction.

6.4 Site Establishment and Demolition

The remediation contractor is to establish on site as required to facilitate the remediation and validation works. Consideration must be given to the work sequence and extent of remediation/excavation so that the site establishment (e.g. site sheds, fencing, access points etc) does not inhibit the required works. Any soil/gravel-type materials imported during the site establishment (e.g. DGB, 40/70 etc) must be validated in accordance with Section 7 of this report.

The demolition of buildings/structures etc must occur with regards to the findings of the hazardous building materials survey report.

[10] Canadian Council of Ministers of the Environment, (1999). *Canadian soil quality guidelines for the protection of environmental and human health: Benzo(a)Pyrene (1997)* (referred to as the Canadian Soil Quality Guidelines)

As part of the demolition process, all visible FCF/ACM must be removed from the ground surface across the entire site prior to any works that disturb the existing pavements/soils. An asbestos surface clearance for the ground surface across the entire site must be provided by a LAA to demonstrate this has occurred. This ground surface clearance will be in addition to any specific clearances associated with the demolition works.

All waste from the demolition is to be disposed to facilities that are licenced by the NSW EPA to accept the waste. The demolition contractor is to maintain adequate records and retain all documentation for such activities including:

- A summary register including details such as waste disposal dates, waste materials descriptions, disposal locations (i.e. facility details) and reconciliation of this information with waste disposal docket numbers;
- Waste tracking records and transport certificates (where waste is required to be tracked/transported in accordance with the regulations); and
- Disposal dockets for the waste. Legible dockets are to be provided for all waste materials so they can be reconciled with the register.

The above information is to be supplied to the validation consultant for assessment and inclusion in the site validation report.

6.5 Remedial Actions – Remediation of Asbestos Contaminated Fill at BH4

This remedial action applies to the BH4 remediation area (as shown on Figure 6 in the appendices), and any other areas of asbestos-contaminated fill identified during the pre-remediation (data gap) investigation process.

Prior to commencement of excavation work, a waste classification must occur for the material to be excavated and removed from the remediation area (this may occur during the data gap investigation process as noted previously). The classification must occur with regards to the NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (2014)[11] and the NSW EPA Sampling Design Part 1 – Application (2022)[12]. A waste classification report must be prepared and the receiving landfill facility should be contacted to obtain disposal approval. This waste classification documentation should be arranged at least 3-4 weeks prior to commencement of any excavation works in order to avoid unnecessary delays.

The procedure for excavation and disposal of asbestos-contaminated fill at BH4 is outlined in the following table:

Table 6-2: Remediation Details – Excavate and Dispose Contaminated Fill – Asbestos impacted

Step	Primary Role/ Responsibility	Procedure
1.	Remediation contractor	Address Stability Issues and Underground Services: Geotechnical advice must be sought regarding the stability of adjacent structures and/or adjacent areas prior to commencing remediation (as required). Stability issues are to be addressed to the satisfaction of a suitably qualified geotechnical engineer. This may require the installation of temporary shoring, if specified by the engineer.

[11] NSW EPA, (2014). *Waste Classification Guidelines, Part 1: Classifying Waste.* (referred to as Waste Classification Guidelines 2014)
[12] NSW EPA, (2022). *Sampling design part 1 - application.* (referred to as EPA Sampling Design Guidelines 2022)

Step	Primary Role/ Responsibility	Procedure
		All underground services are to be appropriately disconnected or rerouted to facilitate the works.
2.	Remediation contractor (or nominated licenced sub-contractor)	<u>Establish Asbestos Related Controls and Arrange Licences and Tracking Requirements:</u> Prior to the commencement of any excavation of asbestos impacted fill/soil, asbestos related controls, licences and tracking requirements should be implemented as outlined in the AMP (refer to Section 9 of this RAP).
3.	Remediation contractor (or nominated Class B licensed sub-contractor) Validation consultant (inspections)	<u>Excavation and Disposal of Contaminated Fill:</u> Remediation will be undertaken as follows: • Submit an application to dispose of the fill (in accordance with the assigned waste classification) to a facility that is appropriately licensed by the NSW EPA to receive the waste, and obtain authorisation to dispose. Establish the required waste tracking using the EPA-endorsed waste tracking system; • Contact the validation consultant to arrange for the consultant to be present to witness the remedial excavation works; • The excavation and removal of contaminated soil must be completed in accordance with the construction phase AMP; • The area where fill is to be removed must be marked out using an appropriate method (i.e. star pickets), so the extent of remediation is clear to the excavator operator and other relevant parties; • Excavate the fill from the remediation area, down to the surface of the underlying soil/bedrock (whichever is shallower); • Load the fill directly into trucks and dispose of the soil to a facility licensed by the NSW EPA to receive the waste; and • All documents including landfill disposal dockets must be retained by the remediation contractor/asbestos removal contractor and forwarded to the client and validation consultant. This documentation forms a key part of the validation process and is to be included in the validation report.
4.	Validation consultant	<u>Validation of Excavation:</u> Once all fill is removed to required levels, the base and walls of the excavation are to be validated in accordance with the validation plan outlined in Section 7, which includes bulk field screening and completion of a surface asbestos clearance by a LAA.
5.	Remediation contractor and validation consultant	<u>Backfilling/Reinstatement of Excavation:</u> Where required, the remedial excavation is to be reinstated with clean (validated) materials, to meet the geotechnical and landscape requirements of the project. Imported materials must be validated in accordance with the validation plan outlined in Section 7.

Part 7 of the Protection of the Environment (POEO) Waste Regulation (2014)[13] sets out the requirements for the transportation and management of asbestos waste and Clause 79 of the POEO Waste Regulation requires waste transporters to provide information to the NSW EPA regarding the movement of any load in NSW of more than 10m^2 of asbestos sheeting, or 100 kilograms of asbestos waste. To fulfil these legal obligations, asbestos waste transporters must use the EPA-endorsed waste tracing system.

Clause 78 of the POEO Waste Regulation requires that a person who transports asbestos waste must ensure that:

[13] *Protection of the Environment Operations (Waste) Regulation 2019* (NSW). (referred to as POEO Waste Regulation)

- Any part of any vehicle in which the person transports the waste is covered, and leak-proof, during the transportation; and
- If the waste consists of bonded asbestos material—it is securely packaged during the transportation; and
- If the waste consists of friable asbestos material—it is kept in a sealed container during transportation; and
- If the waste consists of asbestos-contaminated soils—it is wetted down.

Asbestos waste cannot be re-used or recycled.

6.6 Remedial Actions – Excavate and Dispose Contingency

In the event that the pre-remediation (data gap) investigation identifies additional non-asbestos related soil contamination that is to be remediated via the excavation and off-site disposal method, this is to occur via the implementation of the following contingency.

Prior to commencement of excavation work, a waste classification must occur for the material to be excavated and removed from the remediation area (this should occur during the data gap investigation process as noted previously). The classification must occur with regards to the Waste Classification Guidelines 2014 and the EPA Sampling Design Guidelines 2022. A waste classification report must be prepared and the receiving landfill facility should be contacted to obtain disposal approval. This waste classification documentation should be arranged at least 3-4 weeks prior to commencement of any excavation works in order to avoid unnecessary delays.

Reference is to be made to the procedure outlined in Section 6.5 for the excavation and disposal of asbestos impacted fill. The procedure for excavation and disposal of non-asbestos impacted soil is outlined in the following table:

Table 6-3: Remediation Details – Excavate and Dispose Contaminated Soil – Non-Asbestos Impacted

Step	Primary Role/ Responsibility	Procedure
1.	Remediation contractor	Address Stability Issues and Underground Services: Geotechnical advice must be sought regarding the stability of adjacent structures and/or adjacent areas prior to commencing remediation (as required). Stability issues are to be addressed to the satisfaction of a suitably qualified geotechnical engineer. This may require the installation of temporary shoring, if specified by the engineer. All underground services are to be appropriately disconnected or rerouted to facilitate the works.
2.	Remediation contractor Validation consultant (inspections)	Excavation and Disposal of Contaminated Fill: Remediation will be undertaken as follows: • Submit an application to dispose of the soil (in accordance with the assigned waste classification) to a facility that is appropriately licensed by the NSW EPA to receive the waste, and obtain authorisation to dispose; • Contact the validation consultant to arrange for the consultant to be present to witness the remedial excavation works; • The area where fill is to be removed must be marked out using an appropriate method (i.e. star pickets), so the extent of remediation is clear to the excavator operator and other relevant parties; • Excavate the fill from the remediation area, down to the surface of the underlying soil/bedrock (whichever is shallower); • Load the fill directly into trucks and dispose of the soil to a facility licensed by the NSW EPA to receive the waste; and • All documents including landfill disposal dockets must be retained by the remediation contractor and forwarded to the client and validation consultant. This documentation forms a key part of the validation process and is to be included in the validation report.
3.	Validation consultant	Validation of Excavation: Once all contaminated soil is removed to required levels, the base and walls of the excavation are to be validated in accordance with the validation plan outlined in Section 7.
4.	Remediation contractor and validation consultant	Backfilling/Reinstatement of Excavation: Where required, the remedial excavation is to be reinstated with clean (validated) materials, to meet the geotechnical and landscape requirements of the project. Imported materials must be validated in accordance with the validation plan outlined in Section 7.

6.7 Remedial Actions - Capping Contingency

In the event that contaminated soil cannot be practicably removed, or if the quantity of contaminated material is cost-prohibitive to dispose of, an assessment must be made by the validation consultant regarding the risks posed by this material in the context of the proposed development, should it remain on site and be capped. For hydrocarbon impacted material, it may not be possible to simply cap/contain and manage this material if it poses an unacceptable vapour risk beneath a proposed building. Therefore, further sampling, analysis and risk assessment will be required in this scenario in order to establish a suitable course of action. This contingency is well suited to asbestos contamination and other non-volatile contaminants, provided they are confirmed to not be mobile (i.e. do not present a risk of migration).

In the event that this contingency is to be implemented, a rationale for applying the contingency must be documented, the details below must be reviewed and updated for the situation, and approval must be sought from the project manager/client and the consent authority prior to proceeding with the remedial works (i.e. within an addendum RAP). A validation plan must also be documented.

If all contaminated fill cannot be practicably removed and disposed off-site, the contaminated fill must be capped with a robust capping layer and consequently the site and this area will be managed under a long-term EMP. This can occur in-situ, or within a suitably designed cell. The minimum capping requirements in such a circumstance are as follows:

- Installation of a brightly coloured (i.e. orange) geotextile marker layer over the contaminated fill;
- Installation of a minimum of 500mm of clean (validated) materials if the area is to be landscaped, and all landscaping must be shallow and must not penetrate the geotextile. If shallow landscaping is not achievable, then the capping thickness must be increased accordingly to meet this requirement; and
- In areas that are to be paved with hardstand (e.g. pavements, new building slabs etc), there is no need for 500mm of clean material and the pavements can be constructed directly over the top of the geotextile marker in accordance with the engineering requirements for the project.

The proposed remediation and validation steps associated with in-situ capping are outlined in the following table.

Table 6-4: Remediation Details – Capping Contingency

Step	Primary Role/ Responsibility	Procedure
1.	Remediation contractor/principal contractor	Service Trenching, Piling/Footing Excavations and Establishment of Pre-Capping Site Levels: The principal contractor/remediation contractor are to undertake the relevant site preparation works, piling/footing excavations and any excavations required to facilitate the capping procedures. Any surplus excavated materials must be managed and (if required) disposed off-site appropriately in accordance with the relevant requirements outlined previously in this RAP applicable to an excavation/disposal procedure.
2.	Remediation contractor	Installation of Marker Layers and Survey of site levels: After the bulk excavation levels are achieved to facilitate the minimum capping requirements, the geotextile marker is to be installed over the fill and secured appropriately using 'U' nails, pegs or other means. A pre-capping levels survey is to be completed by the remediation contractor prior to the placement of any overlying clean capping layers or construction of pavements etc. The purpose of the survey is to provide factual information of the site levels, and the horizontal extent of the geotextile marker, prior to installation of the clean capping layers. Survey points must be taken at appropriate frequencies (say every 5m lineal for narrow areas, a 5m grid for broader areas, at the corners/edges of the geotextile, and more frequently for significant change in surface elevation. The pre-capping levels survey is to be provided to the client/project manager and the validation consultant prior to any further capping works commencing.

Step	Primary Role/ Responsibility	Procedure
3.	Validation consultant and remediation contractor	Importation of Capping Materials: Imported materials are to be validated in accordance with Section 7. Validated materials can then be used to achieve the minimum capping requirements for the project.
4.	Remediation contractor	Post-Capping Survey of site levels: After completion of capping, a post-capping levels survey is to be completed by the remediation contractor. The purpose of the survey is to provide factual information regarding the capping thickness and confirm that the minimum capping requirements have been achieved. Survey points must be taken at appropriate frequencies as noted for the pre-capping survey. The post-capping levels survey is to be provided to the client/project manager and the validation consultant.

Where contaminated soil is capped on site, a long-term EMP will be required to manage the contamination capped at the site and the long-term EMP will be documented as part of the overall validation process. Public notification and enforcement mechanisms for the long-term EMP are to be arranged and the consent authority (and local council, if applicable) is to be provided with a draft copy of the long-term EMP for consultation prior to finalisation of the document.

The notification and enforcement mechanisms are to include notation on the planning certificate under Section 10.7 of the Environmental Planning and Assessment Act (1979) and a covenant registered on the title to land under Section 88B of the Conveyancing Act (1919).

The long-term EMP will include requirements for passive management of the capping system that will focus on maintaining the capping layers to minimise the potential of exposure to the underlying contaminated soil. The long-term EMP will also include contingencies for managing minor intrusive works in the event that the capping system is breached.

6.8 Remediation Documentation

The remediation contractor must retain all documentation associated with the site management and remediation, including but not limited to:

- Asbestos management documentation, including all relevant notifications and monitoring reports, and clearance certificates where applicable (additional details in this regard are to be outlined in the construction-phase AMP);
- Photographs of remediation works;
- Waste disposal dockets and waste tracking documentation (see below and the example waste tracking form in Appendix D); and
- Imported materials documentation (see below and the example imported material tracking form in Appendix D).

Copies of these documents must be forwarded to the project manager and the validation consultant for assessment and inclusion in the validation report.

6.8.1 Waste

All waste removed from the site is to be appropriately classified, tracked and managed in accordance with the relevant guidelines and regulations. The remediation contractor (and/or their nominated licensed asbestos removalist) is to maintain adequate records and retain all documentation for waste disposal activities including:

- A summary register (in Microsoft Excel format) including details such as waste disposal dates, waste materials descriptions, disposal locations (i.e. facility details) and reconciliation of this information with the associated waste classification documentation and the waste disposal docket numbers;
- Waste tracking records and transport certificates (where waste is required to be tracked/transported in accordance with the regulations). This includes consignment details via the EPA-endorsed waste tracking system for asbestos waste; and
- Disposal dockets for the waste (i.e. weighbridge dockets for each load).

Any soil waste classification documentation is to be prepared in accordance with the reporting requirements specified by the NSW EPA.

A review of the disposal facility's Environment Protection Licence (EPL) issued under the Protection of the Environment Operations (POEO) Act (1997)[14] is to be undertaken to assess whether the facility is appropriately licensed to receive the waste.

The above information is to be provided to the validation consultant for inclusion in the validation report. The register must be set up at the beginning of the project and provided to the validation consultant regularly so the details can be checked and any rectification of the record keeping process can occur in a timely manner.

An example template for the register is provided in Appendix D.

6.8.2 Imported Materials Register

The remediation contractor (and/or their nominated construction contractor) is to maintain, for the duration of the project, an imported material register. This must include a register (in Microsoft Excel format) with details of each imported material type, supplier details, summary record of where the imported materials were placed on site, and importation docket numbers and a tally of quantities (separated for each import stream). Dockets for imported materials are to be provided electronically so these can be reconciled with the register.

Examples of imported materials for this project may include but would not be limited to: site preparation materials (e.g. DGB, 40/70, material to create the pavement base or piling platforms etc); clean capping or backfill material such as virgin excavated natural material (VENM); and landscaping materials such as topsoil garden mixes, mulches etc.

[14]NSW Government, (1997). *Protection of Environment Operations Act.* (referred to as POEO Act 1997)

The above information is to be provided to the validation consultant for inclusion in the validation report. The register be set up at the beginning of the project and provided to the validation consultant regularly so the details can be checked and any rectification of the record keeping process can occur in a timely manner.

An example template for the register is provided in Appendix D.

7 VALIDATION PLAN

Validation is necessary to demonstrate that remedial measures described in the RAP have been successful and that the site is suitable for the intended land use. The sampling program for the validation is outlined in Section 7.1. This is the minimum requirement based on the remedial strategies provided. Additional validation sampling may be required based on observations made during remediation.

7.1 Validation Sampling and Documentation

The validation requirements for the site are outlined below:

7.1.1 Validation of Excavation of Contamination Fill – Asbestos Impacted

The validation requirements for excavation of asbestos contaminated fill within the BH4 remediation area, and any other areas of asbestos impacted fill requiring remediation, are outlined in the following table:

Table 7-1: Validation Requirements – Asbestos Impacted Fill

Aspect	Sampling	Analysis	Observations and Documentation
Validation sampling for asbestos contaminated fill following removal of fill.	No sampling required at the base of the excavation (visual validation only), provided the excavation extends to natural ground. One sample per exposed fill profile along the/each excavation wall (minimum one sample per 5m lineal), and per vertical metre where a single fill profile extends beyond 1m deep (though we note that fill is not expected to be this deep based on the current dataset). Where the asbestos impacted is associated with bonded ACM, sampling is to included bulk sampling (10L field screening) for asbestos, excluding natural soil. Where natural soil is confirmed, a visual surface clearance for asbestos is sufficient. For AF/FA impacts (i.e. relating to a contingency remediation scenario), sampling (500ml NEPM 2013 method) is required. Bulk (10L) field screening is not proposed in this instance. Sampling is to include fill soil only.	Any ACM to be analysed for asbestos. For AF/FA impacts, analysis of samples for asbestos (500ml NEPM 2013 method) is required.	Observations to be recorded by the validation consultant to document fill/soil lithology on the base and walls of the excavation. Each bulk sample is to be weighed (in kg) using an accurate scale to two decimal places. A sample location plan is to be prepared by the validation consultant, documenting the sample locations and final extent of the remediation area. Photographs are to be taken by the validation consultant. LAA to provide asbestos surface clearance for the base and walls of the remedial excavation. Air monitoring results to be reviewed (where air monitoring is specified under the AMP). Disposal dockets to be retained by the remediation contractor and forwarded to validation consultant for inclusion in the validation report.

7.1.2 Validation of Excavation of Contamination Soil – Non-Asbestos Impacted

Table 7-2: Validation Requirements – Non-Asbestos Impacted Soil

Aspect	Sampling	Analysis	Observations and Documentation
Validation sampling (non-asbestos) for removal of contaminated soil, excavation base	Sampling density to meet minimum number recommended in the NSW EPA Sampling Design Guidelines (2022) for larger areas of 400m^2 or greater. For smaller areas, the higher density of either: - An 8m by 8m square grid plan; or - At least two judgmental locations for areas that are less than 8m by 8m in area.	Contaminant of concern to be identify as part of pre-remediation (data gap) investigation process.	Observations to be recorded by the validation consultant to confirm soil removal is acceptable. Observations to be recorded by the validation consultant to document fill/soil lithology on the base and walls of the excavation. A sample location plan is to be prepared by the validation consultant, documenting the sample locations and final extent of the remediation area. Photographs to be taken. Samples to be screened using photo-ionisation detector (PID). Observations of staining and odour to be recorded. Disposal dockets to be retained by the remediation contractor and forwarded to validation consultant for inclusion in the validation report.
Validation sampling (non-asbestos) for removal of contaminated soil, excavation walls	One sample per exposed fill profile along the/each excavation wall (minimum one sample per 5m lineal), and per vertical metre where a single fill profile extends beyond 1m deep. One sample per exposed natural soil profile along the/each excavation wall (minimum one sample per 5m lineal), and per vertical metre where a single profile extends beyond 1m deep.	As above	As above

7.1.3 Validation of Cap and Containment

Table 7-3: Validation Requirements – Capping

Aspect	Sampling	Analysis	Observations and Documentation
Survey of site levels.	NA	NA	Remediation contractor to obtain the survey as required in Section 6. It is also expected that the remediation contractor or their nominated construction contractor will provide as-built drawings for the project which document the capping layers.
Inspections.	NA	NA	Validation consultant to carry out inspections to document the installation of the cap. Key hold points for inspections include: - Geotextile installation; - During importation of materials used to construct the cap; and - Finished surface levels. A photographic record is to be maintained by the remediation contractor and validation consultant.
Validation of imported materials.	As indicated below in Section 7.1.4	As indicated below in Section 7.1.4.	As indicated below in Section 7.1.4

7.1.4 Imported Materials

The table below outlines the validation requirements for material imported onto the site:

Table 7-4: Validation Requirements – Imported Materials

Aspect	Sampling	Analysis	Observations and Documentation
Imported VENM backfill (if required)	Minimum of three samples per 75m^3, with one sample per additional 25m^3 (per source) for smaller volumes. For larger volumes (i.e. greater than 250m^3 from a single source), a reduced sampling frequency may be adopted (as a minimum, 10 samples per source), at the discretion of the validation consultant.	Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), TRHs, BTEX, PAHs, OCPs, PCBs and asbestos (500ml NEPM 2013 analysis). Additional analysis, such as PFAS, may be required depending on the site history of the source property.	**Remediation contractor** to supply existing VENM documentation/report (report to be prepared in accordance with the NSW EPA waste classification reporting requirements). A hold point remains until the **validation consultant** approves the material for importation or advises on the next steps. Material is to be inspected upon importation by the **validation consultant** to confirm it is free of visible/olfactory indicators of contamination and is consistent with documentation. Photographic documentation and an inspection log are to be maintained.

Aspect	Sampling	Analysis	Observations and Documentation
			Where check sampling occurs by the **validation consultant** due to deficiencies or irregularities in existing VENM documentation, the following is required: - Date of sampling and description of material sampled; - An estimate of the volume of material imported at the time of sampling; - Sample location plan; and - Analytical reports and tabulated results with comparison to the Validation Assessment Criteria (VAC).
Imported engineering materials such as recycled aggregate, road base etc	Minimum of three samples per $75m^3$, with one sample per $25m^3$. Except for coarse 40/70 materials which will only be visually inspected for FCF and other indicators of contamination.	Heavy metals (as above), TRHs, BTEX, PAHs, OCPs, PCBs and asbestos (500ml quantification).	**Remediation contractor** to provide product specification and documentation to confirm the material has been classified with reference to a relevant Resource Recovery Order/Exemption. A hold point remains until the **validation consultant** approves the material for importation or advises on the next steps. Review of the facility's EPL, where applicable.
Excavated Natural Material (ENM)	ENM testing must meet the specification within the ENM Order. If the analysis is not compliant, the validation consultant must carry out an ENM assessment and prepare a report in accordance with the ENM Order/Exemption prior to material being imported.	As required in the ENM Order.	Material is to be inspected by the **validation consultant** upon importation to confirm it is free of visible/olfactory indicators of contamination and is consistent with documentation. Where check sampling occurs by the **validation consultant** due to deficiencies or irregularities in existing documentation, the following is required: - Date of sampling and description of material sampled; - An estimate of the volume of material imported at the time of sampling; - Sample location plan; and - Analytical reports and tabulated results with comparison to the VAC.
Imported engineering materials comprising only natural quarried products.	At the validation consultant's discretion based on robustness of supplier documentation.	At the validation consultant's discretion based on robustness of supplier documentation.	**Remediation contractor** to provide documentation from the supplier confirming the material is a product comprising only natural quarried material. A hold point remains until the **validation consultant** approves the material for importation or advises on the next steps. Review of the quarry's EPL. Material is to be inspected by the **validation consultant** upon importation to confirm it is free of anthropogenic

Aspect	Sampling	Analysis	Observations and Documentation
			materials, visible and olfactory indicators of contamination, and is consistent with documentation. Where check sampling occurs by the **validation consultant** due to deficiencies or irregularities in existing documentation, the following is required: - Date of sampling and description of material sampled; - An estimate of the volume of material imported at the time of sampling; - Sample location plan; and - Analytical reports and tabulated results with comparison to the VAC.
Imported mulch, garden mix/turf underlay/topsoil	Minimum of three samples per $75m^3$, with one sample per additional $25m^3$. Bulk sampling (10L field screening) for asbestos is to occur along with the collection of samples for laboratory analysis.	Heavy metals (as above), TRHs, BTEX, PAHs, OCPs & OPPs, PCBs, PFAS and asbestos (500ml NEPM 2013 analysis). Analysis of mulch can be limited to asbestos (500ml) and visual observations to confirm there are no anthropogenic materials. Any observed FCF to be analysed for asbestos.	**Remediation contractor** to provide documentation from the supplier confirming the product specification. This must include a description of the Australian Standard or other relevant product specification under which the material is produced, and the components. A hold point remains until the **validation consultant** approves the material for importation or advises on the next steps. Material is to be inspected by the **validation consultant** upon importation to confirm it is free of anthropogenic materials, visible and olfactory indicators of contamination, and is consistent with documentation. The validation consultant is to review any existing/available analysis results for the materials. A minimum of one batch for each imported material type (from each individual supplier) must be inspected by the validation consultant. This inspection must be repeated for each material type from each supplier, a minimum of once per month thereafter. Where check sampling occurs by the **validation consultant** due to deficiencies or irregularities in existing documentation, the following is required: - Date of sampling and description of material sampled; - An estimate of the volume of material imported at the time of sampling; - Sample location plan; and - Analytical reports and tabulated results with comparison to the VAC.

7.2 Validation Assessment Criteria and Data Assessment

The VAC to be adopted for the validation assessment are outlined in the table below:

Table 7-5: Validation Assessment Criteria (VAC)

Validation Aspect	VAC
Waste classification	In accordance with the procedures and criteria outlined in the NSW EPA Waste Classification Guidelines 2014 and any other exemptions/approvals as required.
Soil validation	The VAC for soil validation are based on the DSI and consider the findings of the HHERA. The VAC are as follows: • Analytical results for contaminants of concern (with the exception of carcinogenic PAHs) to be below the respective HIL-C criteria presented in Schedule B1 of NEPM (2013); • Analytical results for carcinogenic PAHs to be <40mg/kg, based on the HHERA prepared by EnRiskS; • Analytical results for contaminants of concern (with the exception of asbestos) to be below the respective HSL-D criteria as presented in Schedule B1 of NEPM (2013). The criteria for 'sand' type soils and a depth interval of 0m to <1m, are to be adopted; • Analytical results for contaminants of concern to be below the respective EILs and ESLs for an URPOS scenario, as presented in Schedule B1 of NEPM (2013). The EILs for selected metals may be adjusted based on soil-specific parameters in accordance with Schedule B1 of NEPM 2013. The ESL criterion for benzo(a)pyrene has been increased to 20mg/kg, based on the Canadian Soil Quality Guidelines; • Analytical results for AF/FA in soil <0.001%w/w, based on the HSL criterion for soils presented in Schedule B1 (Table 7) of NEPM (2013); • Analytical results for ACM in soil <0.02%w/w, based on the HSL-C criterion for soils presented in Schedule B1 (Table 7) of NEPM (2013); and • No visible FCF at the site surface and/or within base of exposed excavations.
Validation of capping	Validation of capping will occur via a review of survey information, as-built drawings and via the inspection process. The validation report is to include cross-sections documenting the completed capping details for the various areas of the site.
Imported materials	Material imported as general fill must only be VENM or ENM. VENM is defined in the POEO Act 1997 as material: • That has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial mining or agricultural activities; • That does not contain sulfidic ores or other waste; and • Includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved from time to time by a notice published in the NSW Government Gazette. ENM and recycled materials are to meet the criteria of the relevant exemption/order under which they are produced. Analytical results for VENM and other imported materials will need to be consistent with expectations for those materials. For VENM, it is expected that: - Heavy metal concentrations are to be less than the most conservative added contaminant limit (ACL) concentrations for an URPOS exposure setting presented in Schedule B1 of the NEPM (2013), except for lead which should nominally be less than 100mg/kg; and

	- Organic compounds are to be less than the laboratory PQLs and asbestos to be absent. All materials imported onto the site must also be adequately assessed as being appropriate for the final use of the site, including ecological considerations. A risk-based assessment approach is to be adopted with regards to the tier 1 screening criteria presented in Schedule B1 of NEPM (2013). Aesthetics: all imported materials are to be free of staining and odours.

Laboratory data are to be assessed as above or below the VAC. Statistical analysis is not proposed. Notwithstanding, statistical analysis can be applied by the validation consultant if deemed appropriate and if the analysis occurs with regards to the relevant guidelines.

7.3 Validation Sampling, Analysis and Quality Plan (SAQP)

Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs) should be clearly outlined and assessed as part of the validation process. A framework for the DQO and DQI process is outlined below and should be reflected in the validation report. These relate to the remediation only and it is anticipated that the SAQP(s) for the pre-remediation (data gap) investigation(s) will include this information in the context of those works.

DQOs have been broadly established for the validation with regards to the seven-step process outlined NEPM (2013). The seven steps include the following which are detailed further in the following subsections:

- State the problem;
- Identify the decisions/goal of the study;
- Identify information inputs;
- Define the study boundary;
- Develop the analytical approach/decision rule;
- Specify the performance/acceptance criteria; and
- Optimise the design for obtaining the data.

DQIs are to be assessed based on field and laboratory considerations for precision, accuracy, representativeness, completeness and comparability.

7.3.1 Step 1 - State the Problem

Validation data is required to demonstrate that the remediation is successful and that the site is suitable for the proposed land use described in Section 1.1.

7.3.2 Step 2 - Identify the Decisions of the Study

The remediation goal, aims and objectives are defined in Section 1.1. The decisions to be made reflect these objectives and are as follows:

- Were the relevant reports prepared prior to commencement of the remediation (e.g. pre-remediation data gap investigation reports, revised/addendum RAP where applicable, waste classification, AMP, etc)?

- Was the remediation undertaken in accordance with the RAP and any supplementary reports?
- If there were any deviations, what were these and how do they impact the outcome of the validation?
- Are any of the validation results above the VAC and what is the implication of this in relation to the remediation/validation and future site management?
- Is the site suitable for the proposed development from a contamination viewpoint?

7.3.3 Step 3 - Identify Information Inputs

The primary information inputs required to address the decisions outlined in Step 2 include the following:

- Existing relevant data from previous reports;
- Site information, including site observations, inspections, asbestos clearance certificates, waste and imported materials registers;
- Validation sampling and laboratory analysis results for the remedial excavation and for imported materials;
- Laboratory analysis (as required); and
- Field and laboratory QA/QC data.

7.3.4 Step 4 - Define the Study Boundary

The remediation and validation will be confined to the RAP site boundaries as shown in Figure 2 in Appendix A. The final remediation extent will be confirmed via the pre-remediation (data gap) investigation and validation process.

7.3.5 Step 5 - Develop an Analytical Approach (or Decision Rule)

7.3.5.1 VAC

The validation data will be assessed in accordance with the requirements outlined in Section 7.1.

7.3.5.2 Field and Laboratory QA/QC

Field QA/QC is required for imported materials. This is to include:

- Analysis of inter-laboratory duplicates (5% frequency) and intra-laboratory duplicates (5% frequency), analysed for the same analytical suite as the primary samples;
- Trip blank samples (one per batch/day of sampling), analysed for the same analytical suite as the primary samples excluding asbestos;
- Trip spike samples (one per batch/day of sampling), analysed for BTEX, only where samples within that batch have been scheduled for analysis of TRH or BTEX; and
- Rinsate samples (one per batch), analysed for the same analytical suite as the primary samples excluding asbestos, only where re-usable sampling equipment is utilised.

DQIs for field and laboratory QA/QC samples are defined below:

Field Duplicates

Acceptable targets for precision of field duplicates will be 30% or less, consistent with NEPM (2013). RPD failures will be considered qualitatively on a case-by-case basis taking into account factors such as the concentrations used to calculate the RPD (i.e. RPD exceedance where concentrations are close to the PQL are typically not as significant as those where concentrations are reported at least five or 10 times the PQL), sample type, collection methods and the specific analyte where the RPD exceedance was reported.

Trip Blanks
Acceptable targets for trip blank samples will be less than the PQL.

Trip Spikes
Acceptable targets for trip spike samples will be 70% to 130%.

Laboratory QA/QC
The suitability of the laboratory data will be assessed against the laboratory QA/QC criteria. These criteria are developed and implemented in accordance with the laboratory's NATA accreditation and align with the acceptable limits for QA/QC samples as outlined in NEPM (2013) and other relevant guidelines.

A summary of the typical limits is provided below:

RPDs
- Results that are <5 times the PQL, any RPD is acceptable; and
- Results >5 times the PQL, RPDs between 0-50% are acceptable.

Laboratory Control Samples (LCS) and Matrix Spikes
- 70-130% recovery acceptable for metals and inorganics; and
- 60-140% recovery acceptable for organics.

Surrogate Spikes
- 60-140% recovery acceptable for general organics.

Method Blanks
- All results less than PQL.

In the event that acceptable limits are not met by the laboratory analysis, other lines of evidence will be reviewed (e.g. field observations of samples, preservation, handling etc) and, where required, consultation with the laboratory is to be undertaken in an effort to establish the cause of the non-conformance. Where uncertainty exists, the validation consultant is to adopt the most conservative concentration reported.

7.3.5.3 Appropriateness of PQLs

The PQLs of the analytical methods are to be considered in relation to the VAC to confirm that the PQLs are less than the VAC. In cases where the PQLs are greater than the VAC, a discussion of this is to be provided.

7.3.6 Step 6 – Specify Limits on Decision Errors

To limit the potential for decision errors, a range of quality assurance processes are adopted. A quantitative assessment of the potential for false positives and false negatives in the analytical results is to be undertaken with reference to Schedule B(3) of NEPM (2013) using the data quality assurance information collected. Data will be assessed as above or below the VAC. Statistical analysis is not proposed, therefore there have been no limits on decision errors set for validation purposes.

7.3.7 Step 7 - Optimise the Design for Obtaining Data

The design is to be optimised via the collection of validation data to demonstrate the success of the key aspects of the remediation. Data collection will be via various methods including inspections and sampling.

The proposed sampling plan for the validation is described in Section 7.1.

7.4 Validation Report

As part of the site validation process, a site validation report will be prepared by the validation consultant. The report will present the results of the validation assessment and will be prepared in accordance with the Consultants Reporting Guidelines.

Where staged validation is required to enable staged development and occupation/use of parts of the site, the validation consultant is to assess this in consultation with the project stakeholders. JKE see no impediment to staged validation, should it be necessary to facilitate the proposed development works. A validation report must be issued for each stage prior to use of the land/area applicable to each stage.

It should also be noted that any material changes to the remediation or validation strategy will require an updated or addendum RAP, which in turn must be approved by the consent authority.

The need for a post-remediation (i.e. long-term) AMP must be assessed based on the outcome of the validation, as discussed in Section 9.1.

8 CONTINGENCY PLAN

The contingency plan for the project in the context of the site remediation is provided in the following sub-sections:

8.1 Unexpected Finds

Residual hazards that may exist at the site would generally be expected to be detectable through visual or olfactory means. At this site, these types of hazards may include suspected friable types of asbestos such as rope or lagging, stained or odorous soils etc. The potential extent of the asbestos pipe identified in the northern section of the site is also unknown and there is a potential that the proposed works could disturb this pipe. The procedure to be followed in the event of an unexpected find is presented below:

- In the event of an unexpected find, all work in the immediate vicinity should cease and the remediation contractor must contact the validation consultant and the client/project manager;
- Temporary barricades should be erected to isolate the area from access to workers;
- The validation consultant is to attend the site to inspect the find;
- The validation consultant is to adequately characterise the contamination and provide advice in relation to site management and remediation. In the event that remediation differs from that outlined in this RAP, an addendum RAP must be prepared in consultation with the project stakeholders and submitted to the consent authority; and
- Contamination is to be remediated and validated in accordance with the advice provided, and the results are to be included in the validation report.

Reference is to be made to the UFP attached in Appendix F.

8.2 Validation Failure for Excavate and Dispose

In the event of a validation failure during excavate and dispose, additional material is to be 'chased out' from the area that failed and disposed off-site, then the area re-validated. Due to the potential cost implications for disposal of additional materials, the client and project manager must be informed in the event of a validation failure, an estimate of the additional waste quantity must be provided, and approval must be sought from the client/project manager prior to any off-site disposal of waste.

8.3 Importation Failure for VENM or other Imported Materials

Where material to be imported onto the site does not meet the importation VAC, the material should not be imported. Alternative material must be sourced that meets the importation requirements.

8.4 Remediation Strategy Changes

Any material change to the proposed remediation strategy will require an addendum to or a revision of the RAP. This must not occur without appropriate consultation and approvals from the client/consent authority and other relevant parties.

9 SITE MANAGEMENT PLAN FOR REMEDIATION WORKS

The information outlined in this section of the RAP is for the remediation work only. The client and project manager must also make reference to the development consent for specific site management requirements for the overall development of the site.

9.1 Asbestos Management Plan

A construction/remediation-phase AMP must be prepared for the site and implemented for the site remediation and development works. The AMP must include the minimum PPE, WHS and other requirements outlined in the documents published by Safe Work Australia, WorkCover Authority of NSW, National Occupational Health and Safety Commission, and other relevant authorities as applicable. An asbestos removal control plan (ARCP) should be prepared by the remediation contractor and issued to SafeWork, and notification of asbestos removal is to be provided to SafeWork at least five days prior to commencement of works.

The client and project team must consider the need for a post-remediation AMP for the site to fulfil the obligations under Clause 429 of the Work Health and Safety Regulation (2017). The need for a post-remediation AMP must be assessed based on the outcome of the validation.

9.2 Interim Site Management

As previously recommended in the investigation reports, an interim AMP is to be prepared and implemented to manage asbestos occurrences associated with BH4 and the asbestos pipe.

9.3 Project Contacts

Emergency procedures and contact telephone numbers should be displayed in a prominent position at the site entrance gate and within the main site working areas. The contact details of key project personnel are summarised in the following table:

Table 9-1: Project Contacts

Role	Company	Contact Details
Client	Health Infrastructure	Katrina Walsh katrina.walsh@health.nsw.gov.au 0438 645 463
Project Manager	Capital Insight	Louise Coote louise.coote@capitalinsight.com.au 0429 400 404
Principal Contractor	To be appointed	-
Remediation Contractor	To be appointed	-
Validation Consultant	To be appointed	-

Certifier	To be appointed	-
NSW EPA	Pollution Line	131 555
Emergency Services	Ambulance, Police, Fire	000

9.4 Security

Appropriate fencing should be installed as required to secure the site and to isolate the remediation areas. Warning signs should be erected, which outline the PPE required for remediation work.

9.5 Timing and Sequencing of Remediation Works

The anticipated sequence of remediation works is outlined at the beginning of Section 6 of this RAP. Remediation and validation activities, including the data gap investigation, will occur concurrently with the demolition/development works to facilitate the implementation of the requirements under this RAP.

9.6 Site Soil and Water Management Plan

The remediation contractor should prepare a detailed soil and water management plan prior to the commencement of site works and this must consider the requirements of the AMP. Silt fences should be used to control the surface water runoff at all appropriate locations of the site and appropriate measures are to be implemented to manage soil/water disturbance to the satisfaction of the regulator/consent authority. Reference should be made to the DA approval conditions for further details.

All stockpiled materials should be placed within an erosion containment boundary with silt fences and sandbags employed to limit sediment movement. The containment area should be located away from drainage lines/low-points, gutters, stormwater pits and inlets and the site boundary. No liquid waste or runoff should be discharged to the stormwater or sewerage system without the approval of the appropriate authorities.

9.7 Noise and Vibration Control Plan

The guidelines for minimisation of noise on construction sites outlined in AS-2460 (2002)[15] should be adopted. Other measures specified in the consent conditions should also be complied with. Noise producing machinery and equipment should only be operated between the hours approved by the consent authority (refer to DA approval).

All practicable measures should be taken to reduce the generation of noise and vibration to within acceptable limits. In the event that short-term noisy operations are necessary, and where these are likely to affect residences, notifications should be provided to the relevant authorities and the residents by the project manager, specifying the expected duration of the noisy works.

[15] Australian Standard, (2002). *AS2460: Acoustics - Measurement of the Reverberation Time in Rooms.*

9.8 Dust Control Plan

All practicable measures should be taken to reduce dust emanating from the site. Factors that contribute to dust production are:

- Wind over a cleared surface;
- Wind over stockpiled material; and
- Movement of machinery in unpaved areas.

Visible dust should not be present at the site boundary. Measures to minimise the potential for dust generation include:

- Use of water sprays on unsealed or exposed soil surfaces;
- Covering of stockpiled materials and excavation faces (particularly during periods of site inactivity and/or during windy conditions) or alternatively the erection of hessian fences around stockpiled soil or large exposed areas of soil;
- Establishment of dust screens consisting of a 2m high shade cloth or similar material secured to a chain wire fence;
- Maintenance of dust control measures to keep the facilities in good operating condition;
- Stopping work during strong winds;
- Loading or unloading of dry soil as close as possible to stockpiles to prevent spreading of loose material around the development area; and
- Geofabric could be placed over exposed soils in the event that excavation is staged.

If stockpiles are to remain on-site or soil remains exposed for a period of longer than several days, dust monitoring should be undertaken at the site. If excessive dust is generated all site activities should cease until either wind conditions are more acceptable or a revised method of excavation/remediation is developed.

Dust is also produced during the transfer of material to and from the site. All material should be covered during transport and should be properly disposed of on delivery. No material is to be left in an exposed, un-monitored condition.

All equipment and machinery should be brushed or washed down before leaving the site to limit dust and sediment movement off-site. In the event of prolonged rain and lack of paved areas all vehicles should be washed down prior to exit from the site, and any soil or dirt on the wheels of the vehicles removed. Water used to clean the vehicles should be collected and tested prior to appropriate disposal under the relevant waste classification guidelines.

Reference is also to be made to the AMP in this regard.

9.9 Dewatering

Temporary dewatering is not anticipated to be required as part of the scope of remediation works. If a rain event occurs during the construction, this water should be managed appropriately on site in accordance with the remediation contractor’s soil and water management plan. This water should not be pumped to stormwater or sewer unless a prior application is made and this is approved by the relevant authorities.

9.10 Air Monitoring

Air monitoring details must be outlined as part of the AMP to be prepared for the construction/remediation works. Air monitoring must only be carried out by personnel registered and accredited by NATA (National Association of Testing Authorities). Filter analysis must only be carried out within a NATA certified laboratory. The monitoring results must conform to the requirements of the NOHSC Guidance note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003 (2005)].

A monitoring program will be used to assess whether the control procedures being applied are satisfactory and that criteria for airborne asbestos fibre levels are not being exceeded. The following levels will be used as action criteria during the air monitoring:

- <0.01 Fibres/ml: Work procedures deemed to be successful;
- 0.01 to 0.02 Fibres/ml: Inspection of the site and review of procedures; and
- >0.02 Fibres/ml: Stop work, inspection of the site, review of procedures, clean-up, rectification works where required and notify the relevant regulator.

9.11 Odour Control Plan

All activities undertaken at the site should be completed in a manner that minimises emissions of smoke, fumes and vapour into the atmosphere and any odours arising from the works or stockpiled material should be controlled. Control measures may include:

- Maintenance of construction equipment so that exhaust emissions comply with the Clean Air Regulations issued under the POEO Act 1997;
- Demolition materials and other combustible waste should not be burnt on site;
- The spraying of a suitable proprietary product to suppress any odours that may be generated by excavated materials; and
- Use of protective covers (e.g. builder's plastic).

All practicable measures should be taken to reduce fugitive emissions emanating from the site so that associated odours do not constitute a nuisance and that the ambient air quality is not adversely impacted.
The following odour management plan should be implemented to limit the exposure of site personnel and surrounding residents to unpleasant odours:

- Excavation and stockpiling of material should be scheduled during periods with low winds if possible;
- A suitable proprietary product could be sprayed on material during excavation and following stockpiling to reduce odours (subject to an appropriate assessment of the product by the validation consultant);
- All complaints from workers and neighbours should be logged and a response provided. Work should be rescheduled as necessary to minimise odour problems;
- The site foreman should consider the following odour control measures as outlined in NEPM:
  - reduce the exposed surface of the odorous materials;
  - time excavation activities to reduce off-site nuisance (particularly during strong winds); and
  - cover exposed excavation faces overnight or during periods of low excavation activity.
- If continued complaints are received, alternative odour management strategies should be considered and implemented.

9.12 WHS Plan

A site specific WHS plan must be prepared by the remediation contractor for all work to be undertaken at the site. The WHS plan should meet all the requirements outlined in SafeWork NSW WHS regulations.

As a minimum requirement, personnel must wear appropriate protective clothing, including long sleeve shirts, long trousers, steel cap boots and hard hats. Additional asbestos-related PPE will be required and this will be specified in the AMP. Washroom and lunchroom facilities should also be provided to allow workers to remove potential contamination from their hands and clothing prior to eating or drinking.

9.13 Waste Management

Prior to commencement of remedial works and excavation for the proposed development, the remediation contractor should develop a waste management plan to minimise the amount of waste produced from the site and promote recycling of building materials such as concrete pavement to the extent practicable.

9.14 Incident Management Contingency

The validation consultant should be contacted if any unexpected conditions are encountered at the site. This should enable the scope of remedial/validation works to be adjusted as required. Similarly, if any incident occurs at the site (e.g. a fuel spill during refuelling of machinery), the validation consultant should be advised to assess potential impacts on contamination conditions and the remediation/validation timetable.

9.15 Hours of Operation

Hours of operation should be between those approved by the consent authority under the development approval process (refer to the DA approval).

9.16 Community Consultation and Complaints

The remediation contractor should provide details for managing community consultation and complaints within their construction plans.

10 CONCLUSIONS

Previous investigations have identified bonded asbestos (ACM) in soil at one location (BH4) at a concentration that exceeded the adopted SAC. Additionally, the DSI identified various data gaps due to access constraints. Therefore, this RAP has been prepared to outline remediation of localised impacts of asbestos-contaminated fill at BH4, and also the contingencies for additional remediation and requirements for pre-remediation data gap investigation. The pre-remediation investigation will be used to establish whether contamination is present in previously inaccessible areas that requires remediation and implementation of the contingencies outlined in this RAP.

The proposed remediation strategy for asbestos-contaminated fill in the vicinity of BH4 includes excavation and disposal of the excavated material to a licensed landfill facility. The extent of remediation will be confirmed via the validation process.

The remedial contingencies in this RAP for other contaminated areas (if identified), include 'excavation and off-site disposal' of contaminated soil, or 'cap and containment' of contaminated soil. Depending on the nature and extent of such remediation, we consider that the 'excavation and off-site disposal' option would most likely be applicable for small quantities of contaminated soils, and the 'cap and containment' option would be applicable for larger quantities of contaminated soils. Capping and containing contaminated soils on site would trigger a requirement for long-term management of the site via an EMP. The RAP also includes validation requirements for imported materials.

We are of the opinion that the site can be made suitable for the proposed development via the implementation of this RAP. The remediation and validation can be staged where required, to align with the development staging. A validation report is to be prepared on completion of any remediation/validation activities and submitted to the consent authority to demonstrate that the site is suitable for the proposed use following completion of remediation/validation. If contaminated material is capped on site (e.g. if the capping contingency needs to be implemented), a long-term EMP will also be prepared as part of the validation documentation.

The RAP has met the objectives outlined in Section 1.1.

10.1 Remediation Category

JKE has undertaken a preliminary assessment of the remediation Category with regards to the Category 1 remediation triggers in Clause 4.8 of SEPP Resilience and Hazards 2021. We consider that as the site in its entirety is heritage listed under the Temora Local Environment Plan (LEP) 2010, the Category 1 triggers have been met and therefore we have assessed that the remediation falls within Category 1. This should be confirmed by the client's expert planner.

10.2 Regulatory Requirements

The regulatory requirements applicable for the remediation are discussed in the following table:

Table 10-1: Regulatory Requirement

Guideline / Legislation / Policy	Applicability
SEPP Resilience and Hazards 2021	A notice of completion of remediation work is to be given to the local council within 30 days of completion of the work, in accordance with Clauses 4.14 and 4.15 of SEPP Resilience and Hazards 2021.
POEO Act 1997	Section 143 of the POEO Act 1997 states that if waste is transported to a place that cannot lawfully be used as a waste facility for that waste, then the transporter and owner of the waste are each guilty of an offence. The transporter and owner of the waste have a duty to ensure that the waste is disposed of in an appropriate manner. Appropriate waste tracking is required for all waste that is disposed off-site. Activities should be carried out in a manner which does not result in the pollution of waters.
POEO (Waste) Regulation 2014	Part 7 of the POEO Waste Regulation 2014 set outs the requirements for the transportation and management of asbestos waste and Clause 79 of the POEO Waste Regulation requires waste transporters to provide information to the NSW EPA regarding the movement of any load in NSW of more than 10 square meters of asbestos sheeting, or 100 kilograms of asbestos waste. To fulfil these legal obligations, asbestos waste transporters must use the EPA-endorsed waste tracking system.
Work Health and Safety Regulation (2017)	Sites with asbestos become a 'workplace' when work is carried out there and require a register and AMP. Appropriate SafeWork NSW notification will be required for licensed (Class B) asbestos removal works or handling. Reference is to be made to the remediation/construction-phase AMP for further details regarding the regulatory requirements for managing asbestos during remediation.
SafeWork NSW Code of Practice: How to manage and control asbestos in the workplace (2019)	Sites with asbestos become a 'workplace' when work is carried out there and require a register and AMP. Appropriate SafeWork NSW notification will be required for licensed asbestos removal works or handling (e.g. Class B for non-friable asbestos removal).
NSW EPA Guidelines on the Duty to Report Contamination under Section 60 of the CLM Act 1997	The requirement to notify the EPA should be assessed as part of the site validation process. The need to notify will be largely dependent on the asbestos air monitoring results during remediation, where applicable. In our opinion the results obtained by JKE to date do not trigger a need to notify the EPA.

11 LIMITATIONS

The report limitations are outlined below:

- JKE accepts no responsibility for any unidentified contamination issues at the site. Any unexpected problems/subsurface features that may be encountered during development works should be inspected by an environmental consultant as soon as possible;
- Previous use of this site may have involved excavation for the foundations of buildings, services, and similar facilities. In addition, unrecorded excavation and burial of material may have occurred on the site. Backfilling of excavations could have been undertaken with potentially contaminated material that may be discovered in discrete, isolated locations across the site during construction work;
- This report has been prepared based on site conditions which existed at the time of the investigation; scope of work and limitation outlined in the JKE proposal; and terms of contract between JKE and the client (as applicable);
- The conclusions presented in this report are based on investigation of conditions at specific locations, chosen to be as representative as possible under the given circumstances, visual observations of the site and immediate surrounds and documents reviewed as described in the report;
- Subsurface soil and rock conditions encountered between investigation locations may be found to be different from those expected. Groundwater conditions may also vary, especially after climatic changes;
- The investigation and preparation of this report have been undertaken in accordance with accepted practice for environmental consultants, with reference to applicable environmental regulatory authority and industry standards, guidelines and the assessment criteria outlined in the report;
- Where information has been provided by third parties, JKE has not undertaken any verification process, except where specifically stated in the report;
- JKE has not undertaken any assessment of off-site areas that may be potential contamination sources or may have been impacted by site contamination, except where specifically stated in the report;
- JKE accept no responsibility for potentially asbestos containing materials that may exist at the site. These materials may be associated with demolition of pre-1990 constructed buildings or fill material at the site;
- JKE have not and will not make any determination regarding finances associated with the site;
- Additional investigation work may be required in the event of changes to the proposed development or land use. JKE should be contacted immediately in such circumstances;
- Material considered to be suitable from a geotechnical point of view may be unsatisfactory from a soil contamination viewpoint, and vice versa; and
- This report has been prepared for the particular project described and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose.

Important Information About This Report

These notes have been prepared by JKE to assist with the assessment and interpretation of this report.

The Report is based on a Unique Set of Project Specific Factors
This report has been prepared in response to specific project requirements as stated in the JKE proposal document which may have been limited by instructions from the client. This report should be reviewed, and if necessary, revised if any of the following occur:

- The proposed land use is altered;
- The defined subject site is increased or sub-divided;
- The proposed development details including size, configuration, location, orientation of the structures or landscaped areas are modified;
- The proposed development levels are altered, eg addition of basement levels; or
- Ownership of the site changes.

JKE will not accept any responsibility whatsoever for situations where one or more of the above factors have changed since completion of the investigation. If the subject site is sold, ownership of the investigation report should be transferred by JKE to the new site owners who will be informed of the conditions and limitations under which the investigation was undertaken. No person should apply an investigation for any purpose other than that originally intended without first conferring with the consultant.

Changes in Subsurface Conditions
Subsurface conditions are influenced by natural geological and hydrogeological process and human activities. Groundwater conditions are likely to vary over time with changes in climatic conditions and human activities within the catchment (e.g. water extraction for irrigation or industrial uses, subsurface waste water disposal, construction related dewatering). Soil and groundwater contaminant concentrations may also vary over time through contaminant migration, natural attenuation of organic contaminants, ongoing contaminating activities and placement or removal of fill material. The conclusions of an investigation report may have been affected by the above factors if a significant period of time has elapsed prior to commencement of the proposed development.

This Report is based on Professional Interpretations of Factual Data
Site investigations identify actual subsurface conditions at the actual sampling locations at the time of the investigation. Data obtained from the sampling and subsequent laboratory analyses, available site history information and published regional information is interpreted by geologists, engineers or environmental scientists and opinions are drawn about the overall subsurface conditions, the nature and extent of contamination, the likely impact on the proposed development and appropriate remediation measures.

Actual conditions may differ from those inferred, because no professional, no matter how qualified, and no subsurface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than an investigation indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated, but steps can be taken to help minimise the impact. For this reason, site owners should retain the services of their consultants throughout the development stage of the project, to identify variances, conduct additional tests which may be needed, and to recommend solutions to problems encountered on site.

Investigation Limitations
Although information provided by a site investigation can reduce exposure to the risk of the presence of contamination, no environmental site investigation can eliminate the risk. Even a rigorous professional investigation may not detect all contamination on a site. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas which showed no signs of contamination when sampled. Contaminant analysis cannot possibly cover every type of contaminant which may occur; only the most likely contaminants are screened.

Misinterpretation of Site Investigations by Design Professionals

Costly problems can occur when other design professionals develop plans based on misinterpretation of an investigation report. To minimise problems associated with misinterpretations, the environmental consultant should be retained to work with appropriate professionals to explain relevant findings and to review the adequacy of plans and specifications relevant to contamination issues.

Logs Should not be Separated from the Investigation Report

Borehole and test pit logs are prepared by environmental scientists, engineers or geologists based upon interpretation of field conditions and laboratory evaluation of field samples. Logs are normally provided in our reports and these should not be re-drawn for inclusion in site remediation or other design drawings, as subtle but significant drafting errors or omissions may occur in the transfer process. Photographic reproduction can eliminate this problem, however contractors can still misinterpret the logs during bid preparation if separated from the text of the investigation. If this occurs, delays, disputes and unanticipated costs may result. In all cases it is necessary to refer to the rest of the report to obtain a proper understanding of the investigation. Please note that logs with the 'Environmental Log' header are not suitable for geotechnical purposes as they have not been peer reviewed by a Senior Geotechnical Engineer.

To reduce the likelihood of borehole and test pit log misinterpretation, the complete investigation should be available to persons or organisations involved in the project, such as contractors, for their use. Denial of such access and disclaiming responsibility for the accuracy of subsurface information does not insulate an owner from the attendant liability. It is critical that the site owner provides all available site information to persons and organisations such as contractors.

Read Responsibility Clauses Closely

Because an environmental site investigation is based extensively on judgement and opinion, it is necessarily less exact than other disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, model clauses have been developed for use in written transmittals. These are definitive clauses designed to indicate consultant responsibility. Their use helps all parties involved recognise individual responsibilities and formulate appropriate action. Some of these definitive clauses are likely to appear in the environmental site investigation, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to any questions.

Appendix A: Report Figures

AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM	Title: **SITE LOCATION PLAN**	
	Location: 169-189 LOFTUS STREET, TEMORA, NSW	
	Project No: E35822PR	Figure No: 1
This plan should be read in conjunction with the Environmental report.	**JKEnvironments**	

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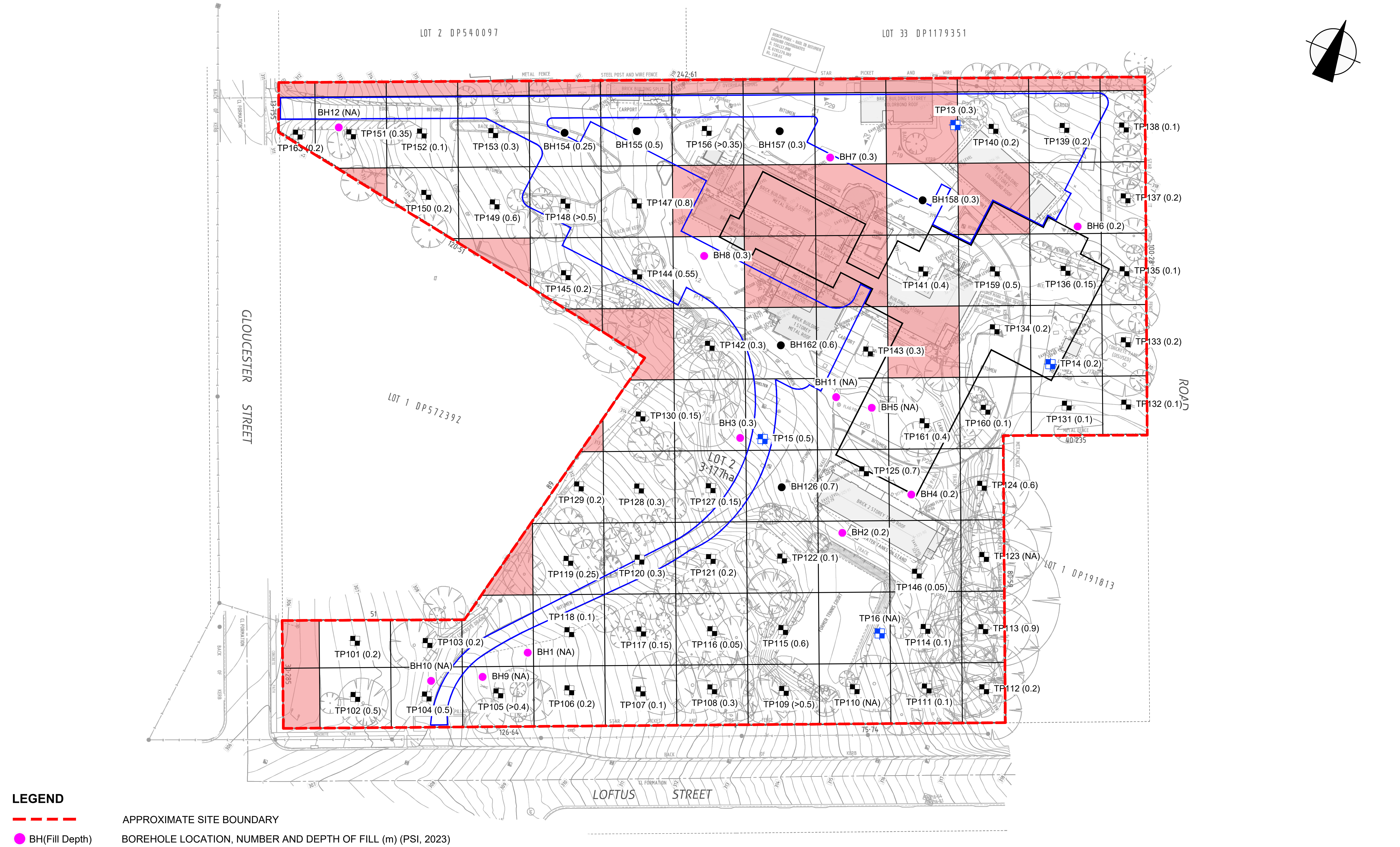

LEGEND

- APPROXIMATE SITE BOUNDARY
- BH(Fill Depth) — BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m) (PSI, 2023)
- TP(Fill Depth) — TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m) (PSI, 2023)
- BH154 — BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m) (JKE, DSI)
- TP101 — TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m) (JKE, DSI)
- INACCESSIBLE AREA
- APPROXIMATE OUTLINE OF PROPOSED BUILDING FOOTPRINT
- APPROXIMATE OUTLINE OF PROPOSED DRIVEWAYS AND CARPARKS

0 10 20 30 40 50
SCALE 1:1000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title:	SAMPLE LOCATION PLAN
Location:	169-189 LOFTUS STREET, TEMORA, NSW
Project No:	E35822PR
Figure No:	2

JKEnvironments

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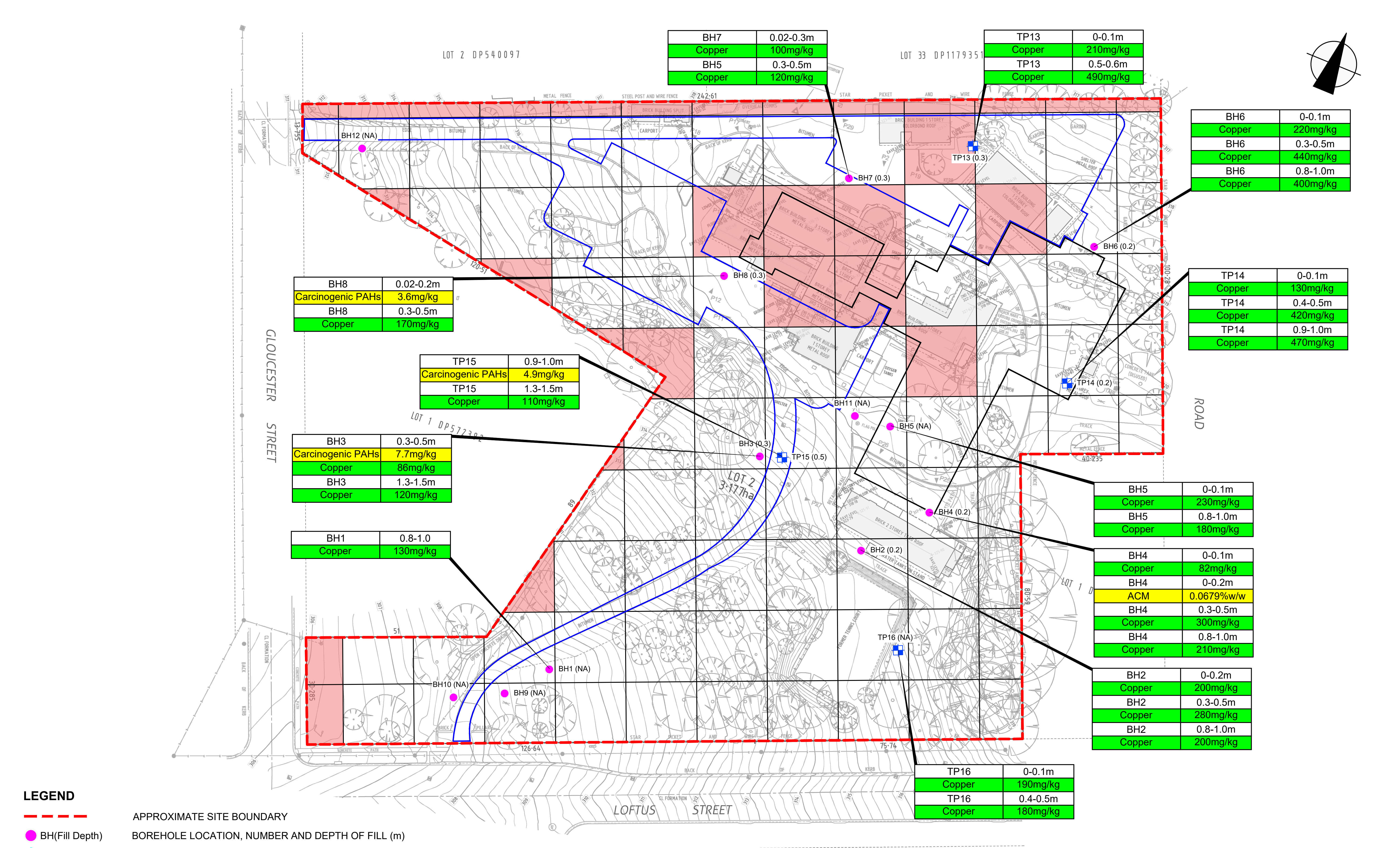

LEGEND

- APPROXIMATE SITE BOUNDARY
- BH(Fill Depth) — BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m)
- BH/MW(Fill Depth) — BOREHOLE AND GROUNDWATER MONITORING WELL LOCATION, NUMBER AND DEPTH OF FILL (m)
- APPROXIMATE OUTLINE OF PROPOSED BUILDING FOOTPRINT
- APPROXIMATE OUTLINE OF PROPOSED DRIVEWAYS AND CARPARKS

SAMPLE ID	DEPTH (metres)
CHEMICAL	CONCENTRATION

SOIL/SURFACE SAMPLE EXCEEDANCE

- (yellow) SOIL/SURFACE CONTAMINATION ABOVE SAC FOR HUMAN HEALTH RISK
- (green) SOIL/SURFACE CONTAMINATION ABOVE SAC FOR ECOLOGICAL RISK

0 10 20 30 40 50
SCALE 1:1000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **PSI SAC EXCEEDANCE PLAN**

Location: 169-189 LOFTUS STREET, TEMORA, NSW

Project No: E35822PR

Figure No: 3

JKEnvironments

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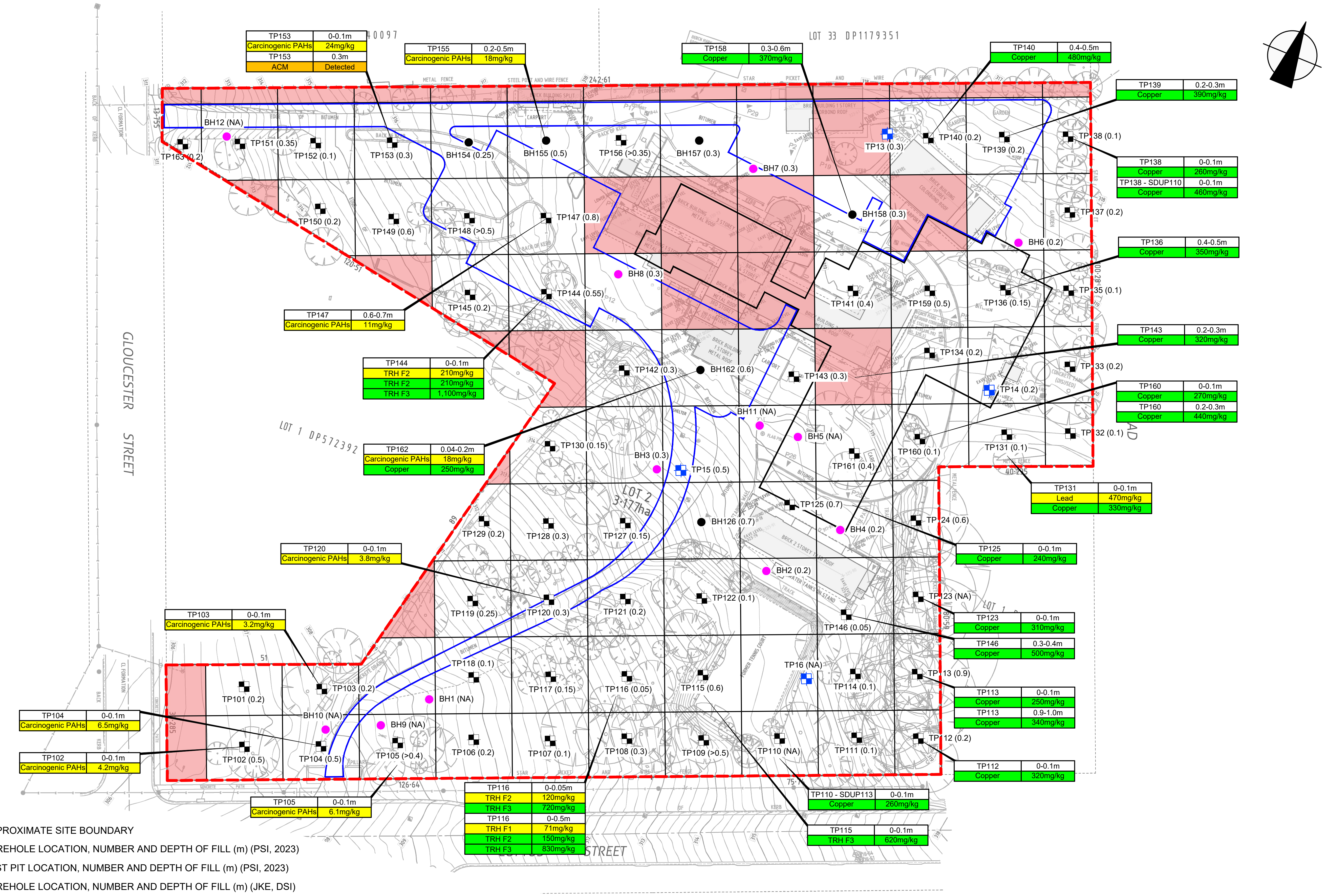

LEGEND

- APPROXIMATE SITE BOUNDARY
- BH(Fill Depth) — BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m) (PSI, 2023)
- TP(Fill Depth) — TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m) (PSI, 2023)
- BH154 — BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m) (JKE, DSI)
- TP101 — TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m) (JKE, DSI)
- INACCESSIBLE AREA
- APPROXIMATE OUTLINE OF PROPOSED BUILDING FOOTPRINT
- APPROXIMATE OUTLINE OF PROPOSED DRIVEWAYS AND CARPARKS

SAMPLE ID	DEPTH (metres)	
CHEMICAL	CONCENTRATION	SOIL/SURFACE SAMPLE EXCEEDANCE

- SOIL/SURFACE CONTAMINATION ABOVE SAC FOR HUMAN HEALTH RISK
- SOIL/SURFACE CONTAMINATION ABOVE SAC FOR ECOLOGICAL RISK

SCALE 0 10 20 30 40 50 METRES 1:1000 @A3

This plan should be read in conjunction with the Environmental report.

Title: **DSI SAC EXCEEDANCE PLAN**

Location: 169-189 LOFTUS STREET, TEMORA, NSW

Project No: E35822PR

Figure No: 4

JKEnvironments

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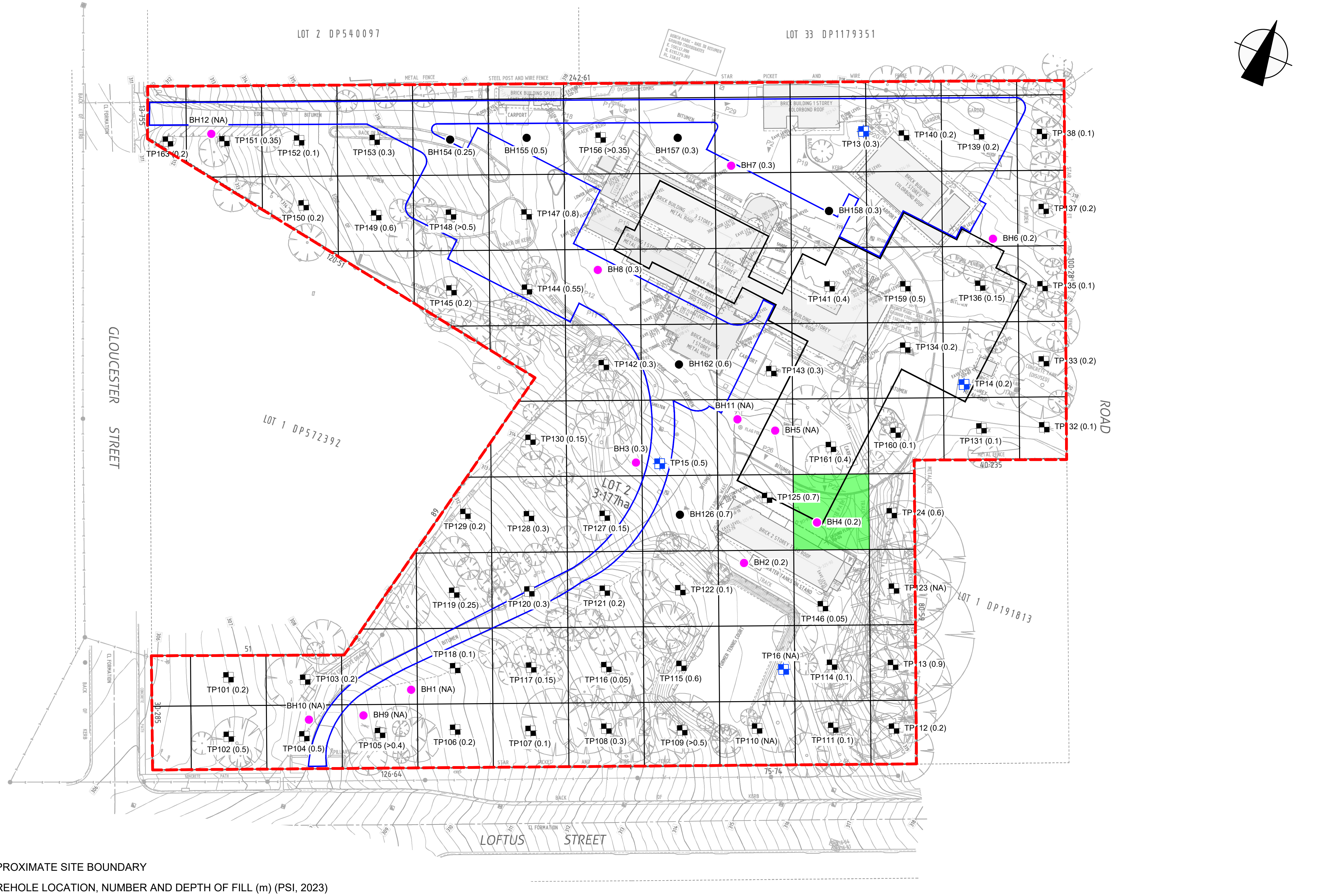

LEGEND

(red dashed line)	APPROXIMATE SITE BOUNDARY
BH(Fill Depth)	BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m) (PSI, 2023)
TP(Fill Depth)	TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m) (PSI, 2023)
BH154	BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m) (JKE, DSI)
TP101	TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m) (JKE, DSI)
(black line)	APPROXIMATE OUTLINE OF PROPOSED BUILDING FOOTPRINT
(blue line)	APPROXIMATE OUTLINE OF PROPOSED DRIVEWAYS AND CARPARKS
(green box)	APPROXIMATE REMEDIATION EXTENT

0 10 20 30 40 50
SCALE 1:1000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title:	APPROXIMATE REMEDIATION AREAS PLAN
Location:	169-189 LOFTUS STREET, TEMORA, NSW
Project No:	E35822PR
Figure No:	5

JKEnvironments

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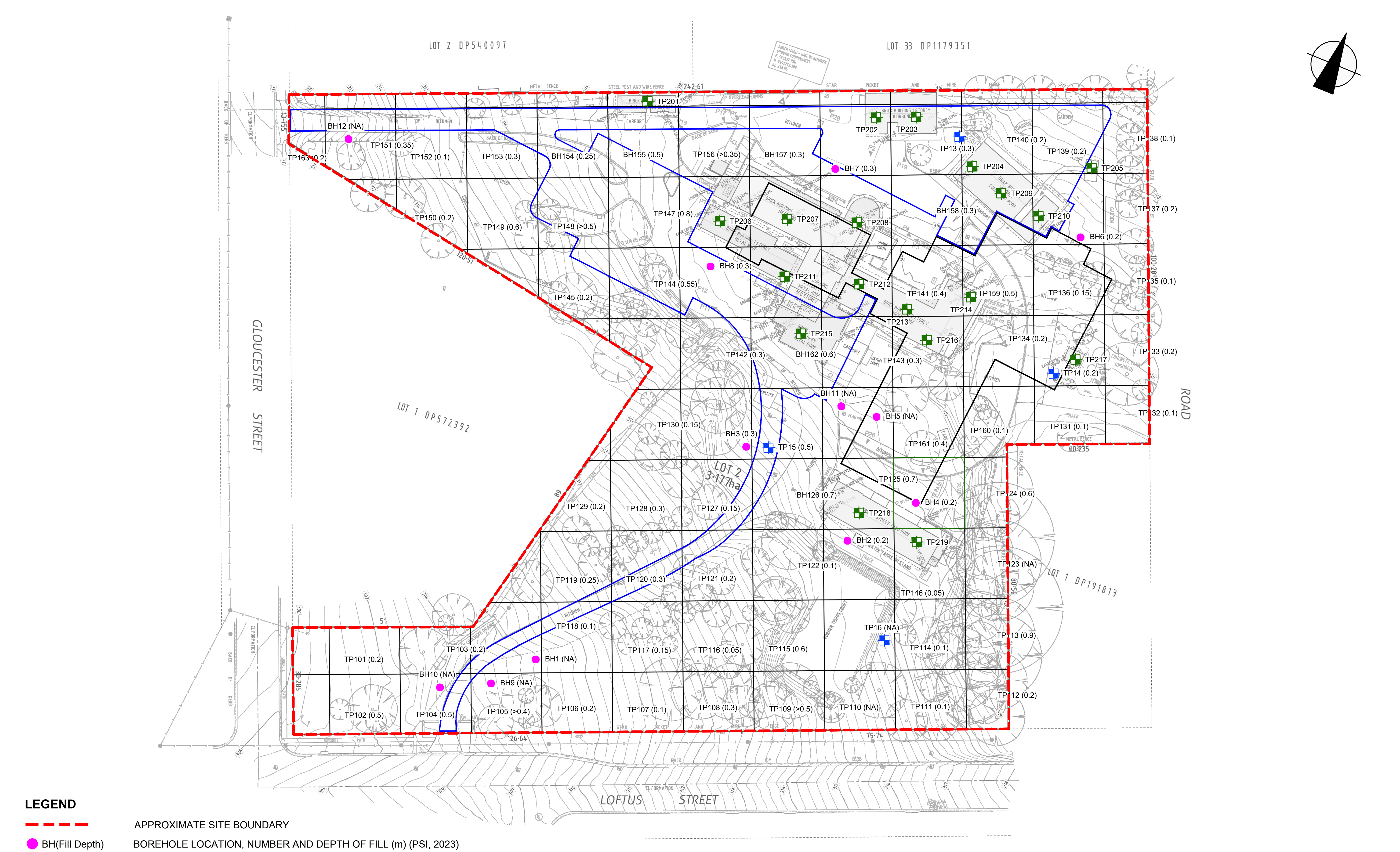

LEGEND

(red dashed line)	APPROXIMATE SITE BOUNDARY
BH(Fill Depth)	BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m) (PSI, 2023)
TP(Fill Depth)	TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m) (PSI, 2023)
BH154	BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m) (JKE, DSI)
TP101	TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m) (JKE, DSI)
TP201	PROPOSED TEST PIT LOCATION AND NUMBER
(black line)	APPROXIMATE OUTLINE OF PROPOSED BUILDING FOOTPRINT
(blue line)	APPROXIMATE OUTLINE OF PROPOSED DRIVEWAYS AND CARPARKS

0 10 20 30 40 50
SCALE 1:1000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **PROPOSED DGI SAMPLE LOCATION PLAN**

Location: 169-189 LOFTUS STREET, TEMORA, NSW

Project No: E35822PR

Figure No: 6

JKEnvironments

PLOT DATE: 8/11/2024 1:37:55 PM DWG FILE: K:\5C EIS JOBS\35000'S\E35822PR TEMORA\CAD\E35822PR.DWG

Appendix B: Selected Development Plans

Level 24, 25 Martin Place, Sydney NSW, 2000, Australia
+61 2 9956 2666 | hdrinc.com
HDR Pty. Limited ABN 76 158 075 220 trading as HDR

NOMINATED ARCHITECT: Cate Cowlishaw 10786 (NSW)

NORTH POINT

KEY PLAN

REV	DESCRIPTION OF CHANGE	DATE	CHECKED	ISSUED
0	PRELIMINARY	13/10/23	HDR	
1	PRELIMINARY	16/10/23	HDR	
2	FOR INFORMATION	21/12/23	HDR	
3	PRELIMINARY	31/01/24	HDR	

DRAWING LEGEND

- SITE BOUNDARY
- LOT BOUNDARY
- EXISTING BUILDING/ROOF/DRIVEWAYS TO BE DEMOLISHED
- EXISTING TREES TO BE REMOVED
- EXISTING SURROUNDING BUILDINGS
- EXISTING ROADS
- EXISTING TREES TO BE RETAINED

CLIENT

PROJECT
TEMORA HOSPITAL REDEVELOPMENT TEMORA NSW 2666

DRAWING TITLE
SITE PLAN - DEMOLITION

SCALE
1 : 500 @ A1

PROJECT NUMBER
130908

DRAWING NUMBER
130908-HDR-AR-DWG-1201

ISSUE
3

PROJECT STATUS
PRELIMINARY

31/01/2024 3:40:00 PM

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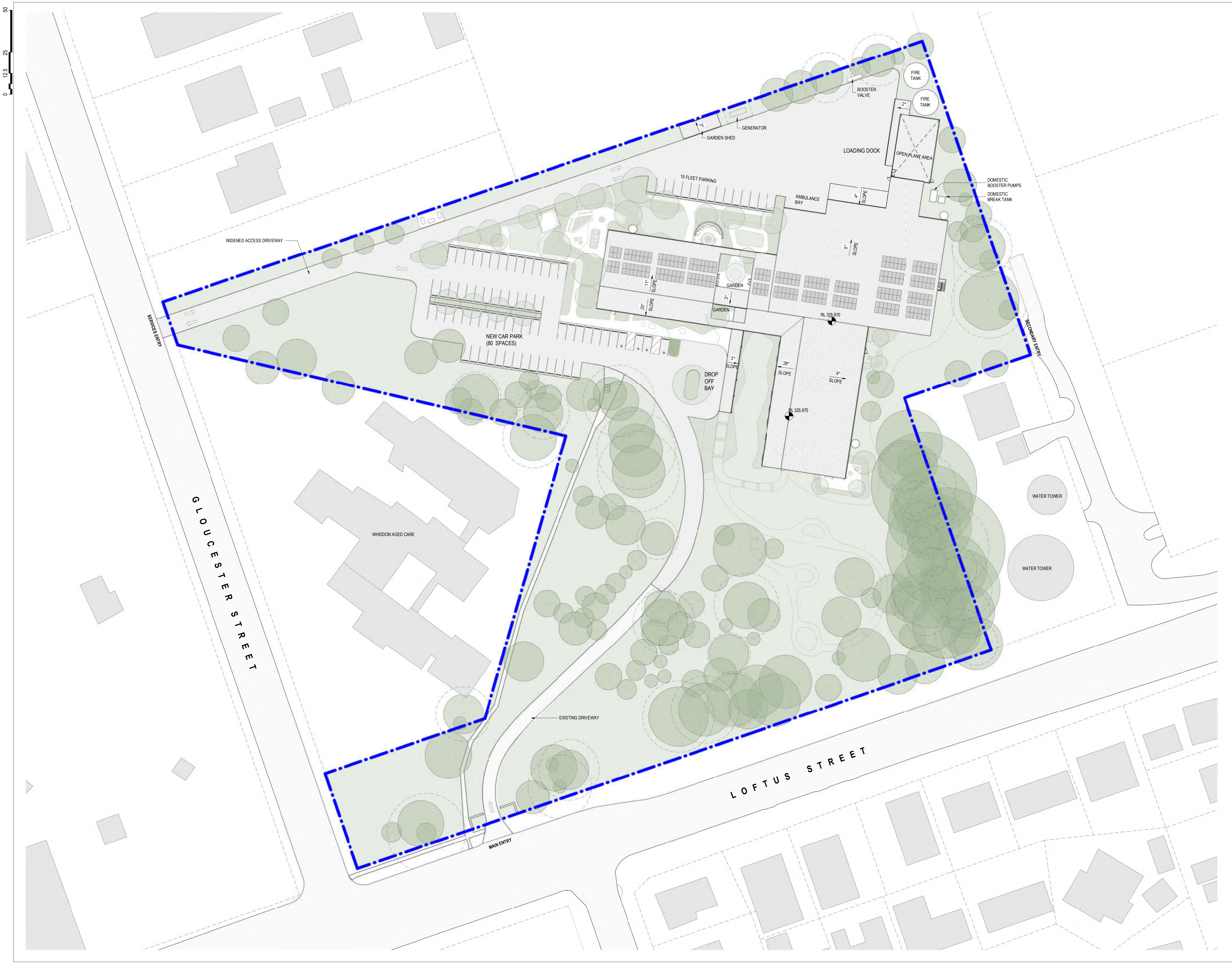

HDR

Level 24, 25 Martin Place, Sydney NSW, 2000, Australia
+61 2 9956 2666 | hdrinc.com
HDR Pty. Limited ABN 76 158 075 220 trading as HDR

NOMINATED ARCHITECT: Cate Cowlishaw 10786 (NSW)

NORTH POINT

KEY PLAN

TREE PROTECTION ZONE FOR HIGHER RETENTION VALUE TREES

REV	DESCRIPTION OF CHANGE	DATE	CHECKED	ISSUED
0	PRELIMINARY	13/10/23	HDR	
1	PRELIMINARY	16/10/23	HDR	
2	FOR INFORMATION	14/12/23	HDR	
3	FOR INFORMATION	21/12/23	HDR	
4	FOR INFORMATION	10/01/24	HDR	
5	PRELIMINARY	31/01/24	HDR	

DRAWING LEGEND

- SITE BOUNDARY
- LOT BOUNDARY
- PROPOSED HOSPITAL BUILDING - ROOF
- PROPOSED CARPARK / DRIVEWAYS / WALKWAYS
- EXISTING CARPARK / DRIVEWAYS / WALKWAYS
- TREES RETAINED
- PROPOSED TREES
- PROPOSED LANDSCAPE AREAS
- TREE PROTECTION ZONE FOR HIGHER RETENTION VALUE TREES

CLIENT

NSW GOVERNMENT | Health Infrastructure

PROJECT

TEMORA HOSPITAL REDEVELOPMENT TEMORA NSW 2666

DRAWING TITLE

SITE PLAN - PROPOSED

SCALE 1 : 500 @ A1

PROJECT NUMBER 130908

DRAWING NUMBER **130908-HDR-AR-DWG-1301**

ISSUE **5**

PROJECT STATUS

PRELIMINARY

31/01/2024 3:41:03 PM

Autodesk Docs://10355504_Temora Hosp Redevelopment_2022/HDR-TEM-AR-BASEBUILD.rvt

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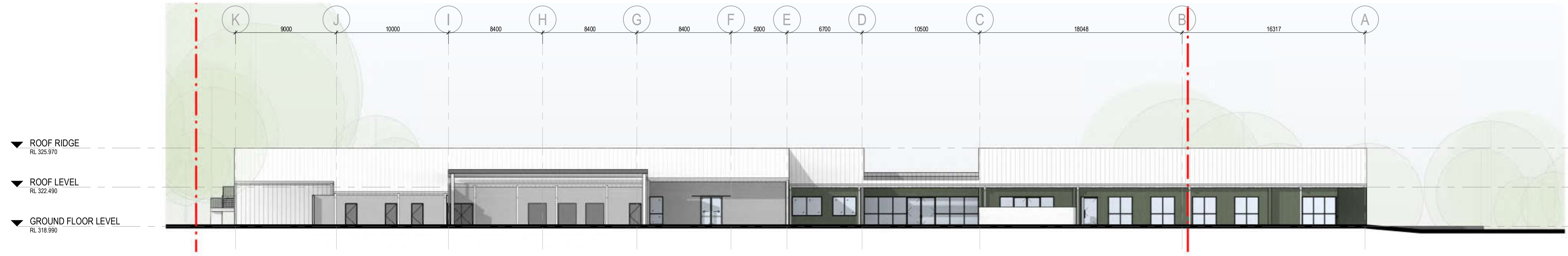
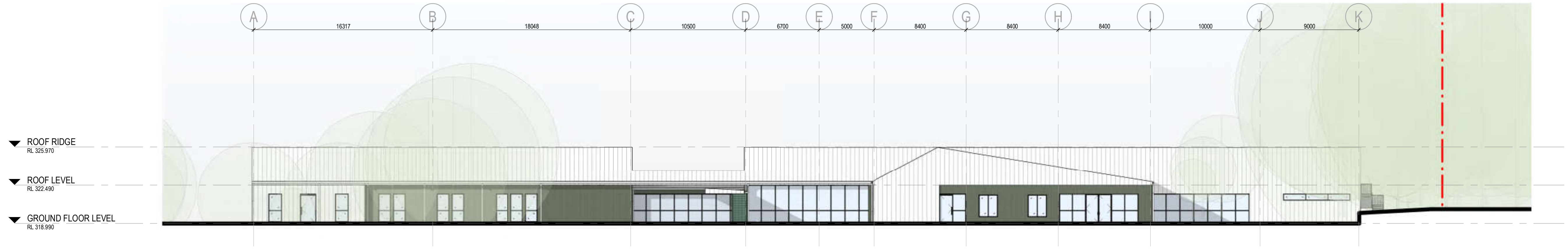


1 **ELEVATION NORTH (SD)**
1 : 200



2 **ELEVATION SOUTH (SD)**
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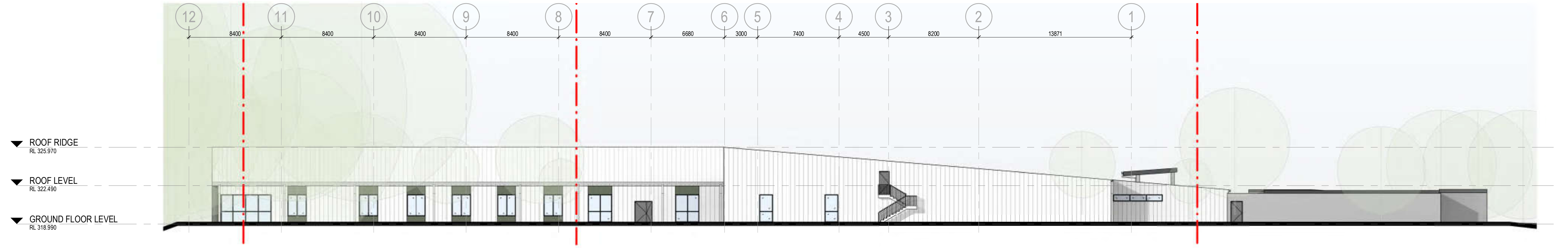

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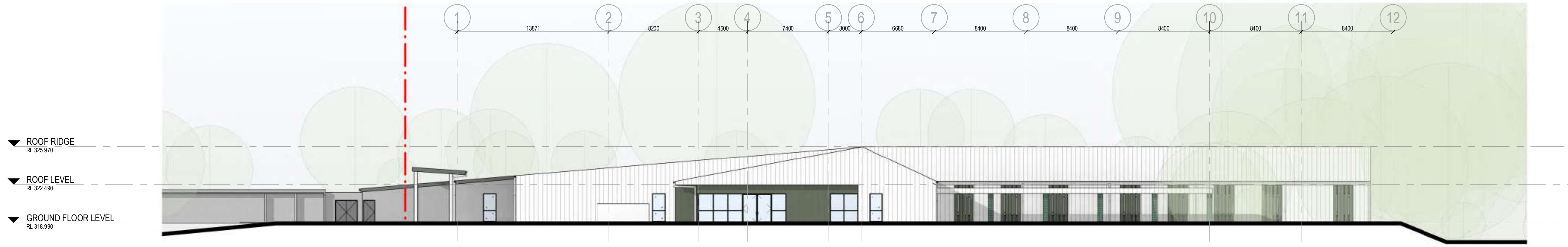

4 **ELEVATION WEST (SD)**
1 : 200

HDR

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HDR Pty. Limited ABN 76 158 075 220 trading as HDR

NOMINATED ARCHITECT: Cate Cowlishaw 10786 (NSW)

KEY PLAN

REV	DESCRIPTION OF CHANGE	DATE	CHECKED	ISSUED
0	FOR INFORMATION	18/12/23	HDR	
1	FOR INFORMATION	21/12/23	HDR	
2	FOR INFORMATION	10/01/24	HDR	
3	PRELIMINARY	31/01/24	HDR	

DRAWING LEGEND

- SITE BOUNDARY
- WHITE METAL STANDING SEAM
- GREEN FIBRE CEMENT PANELS
- GLAZING
- GLAZED BRICK / TILE

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PROJECT

TEMORA HOSPITAL REDEVELOPMENT TEMORA NSW 2666

DRAWING TITLE

ELEVATIONS

SCALE
As indicated @ A1

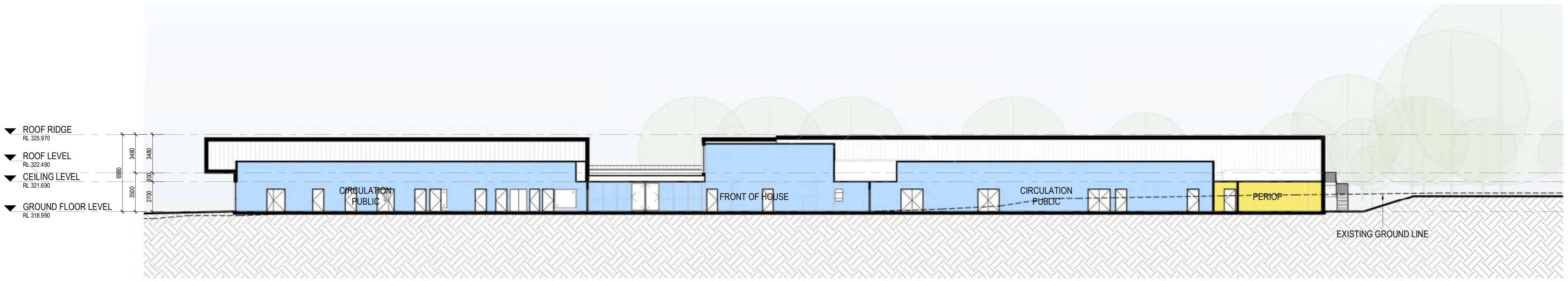
PROJECT NUMBER
130908

DRAWING NUMBER
130908-HDR-AR-DWG-3010

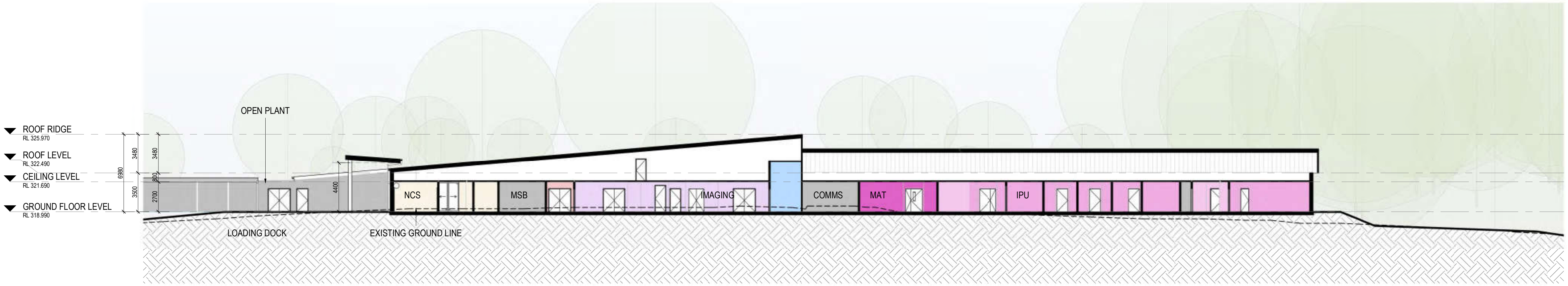
ISSUE
3

PROJECT STATUS
PRELIMINARY

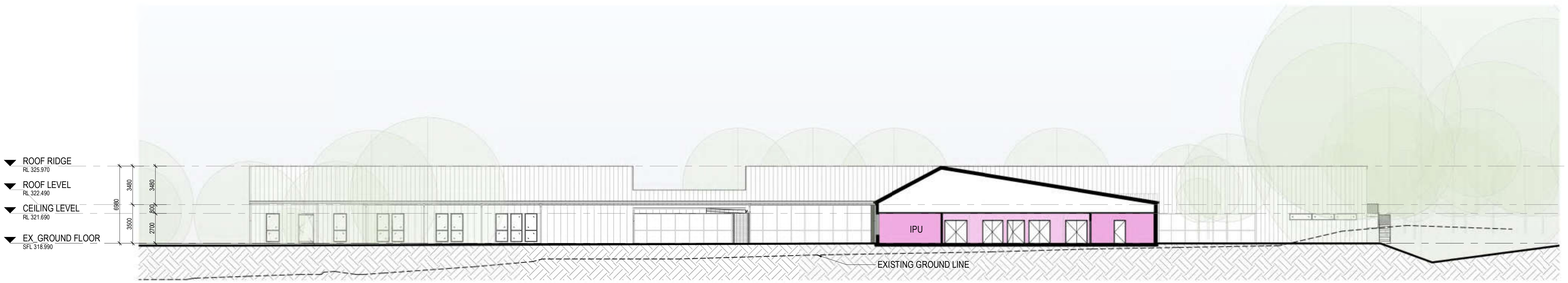
31/01/2024 3:48:47 PM



SECTION A-A
1 : 200



SECTION B-B
1 : 200



SECTION C-C
1 : 200

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KEY PLAN

REV	DESCRIPTION OF CHANGE	DATE	CHECKED	ISSUED
0	PRELIMINARY	13/10/23	HDR	
1	PRELIMINARY	16/10/23	HDR	
2	FOR INFORMATION	14/12/23	HDR	
3	FOR INFORMATION	21/12/23	HDR	
4	PRELIMINARY	31/01/24	HDR	

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TEMORA HOSPITAL REDEVELOPMENT TEMORA NSW 2666

DRAWING TITLE
GENERAL ARRANGEMENT SECTIONS - 1

SCALE
1 : 200 @ A1

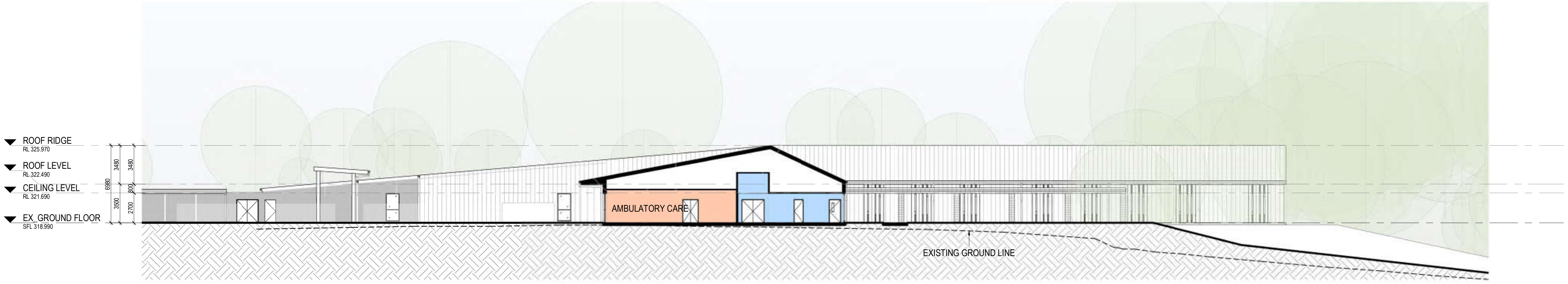
PROJECT NUMBER
130908

DRAWING NUMBER
130908-HDR-AR-DWG-3111

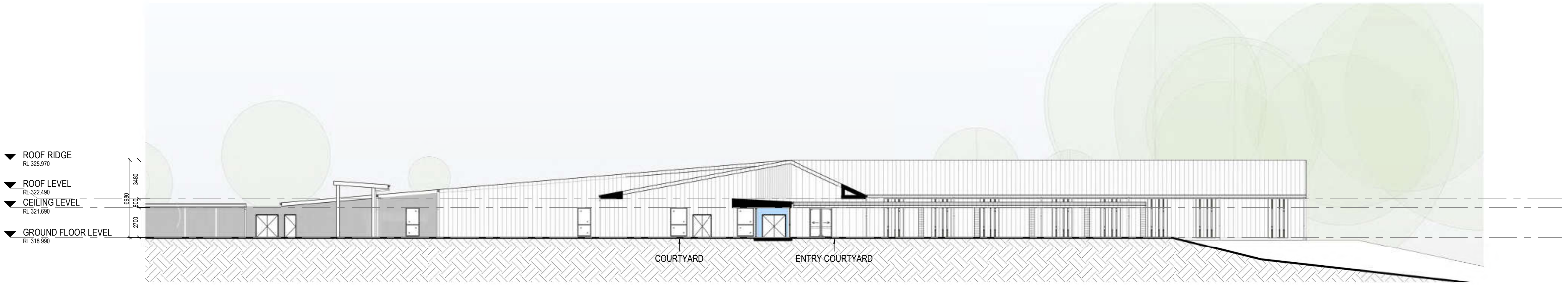
ISSUE
4

PROJECT STATUS
PRELIMINARY

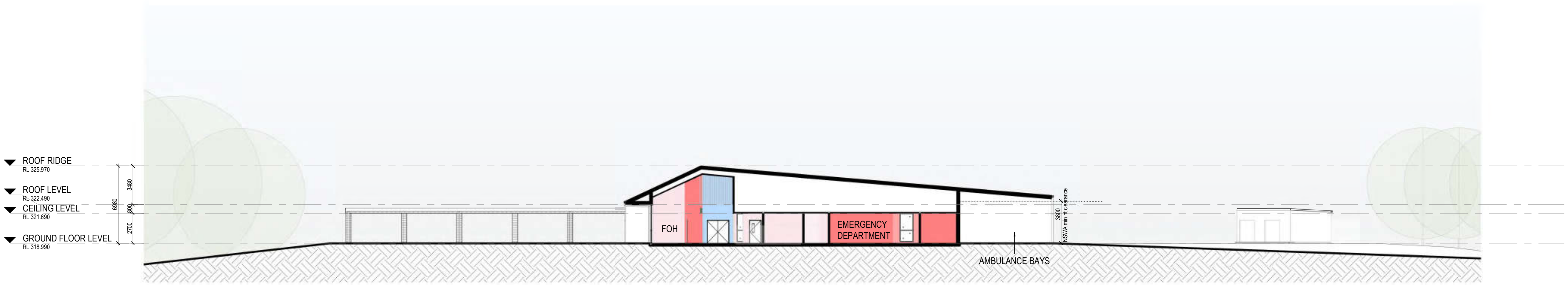
31/01/2024 3:49:25 PM



D **SECTION D-D**
1 : 200



E **SECTION E-E**
1 : 200



F **SECTION F-F**
1 : 200

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NOMINATED ARCHITECT: Cate Cowlishaw 10786 (NSW)

KEY PLAN

REV	DESCRIPTION OF CHANGE	DATE	CHECKED	ISSUED
0	PRELIMINARY	13/10/23	HDR	
1	PRELIMINARY	16/10/23	HDR	
2	FOR INFORMATION	14/12/23	HDR	
3	FOR INFORMATION	21/12/23	HDR	
4	PRELIMINARY	31/01/24	HDR	

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PROJECT
TEMORA HOSPITAL REDEVELOPMENT TEMORA NSW 2666

DRAWING TITLE
GENERAL ARRANGEMENT SECTIONS - 2

SCALE
1 : 200 @ A1

PROJECT NUMBER
130908

DRAWING NUMBER
130908-HDR-AR-DWG-3112

ISSUE
4

PROJECT STATUS
PRELIMINARY

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Appendix C: Laboratory Summary Tables and Logs

PSI Laboratory Summary Tables

JKEnvironments

ABBREVIATIONS AND EXPLANATIONS

Abbreviations used in the Tables:

ABC: Ambient Background Concentration
ACM: Asbestos Containing Material
ADWG: AustralianDrinking Water Guidelines
AF: Asbestos Fines
ANZG Australian and New Zealand Guidelines
B(a)P: Benzo(a)pyrene
CEC: Cation Exchange Capacity
CRC: Cooperative Research Centre
CT: Contaminant Threshold
EILs: Ecological Investigation Levels
ESLs: Ecological Screening Levels
FA: Fibrous Asbestos
GIL: Groundwater Investigation Levels
GSW: General Solid Waste
HILs: Health Investigation Levels
HSLs: Health Screening Levels
HSL-SSA: Health Screening Level-SiteSpecific Assessment
kg/L kilograms per litre
NA: Not Analysed
NC: Not Calculated
NEPM: National Environmental Protection Measure
NHMRC: National Health and Medical Research Council
NL: Not Limiting
NSL: No Set Limit
OCP: Organochlorine Pesticides
OPP: Organophosphorus Pesticides
PAHs: Polycyclic Aromatic Hydrocarbons
%w/w: weight per weight
ppm: Parts per million
PCBs: Polychlorinated Biphenyls
PCE: Perchloroethylene (Tetrachloroethylene or Teterachloroethene)
pH_{KCL} : pH of filtered 1:20, 1M KCL extract, shaken overnight
pH_{ox} : pH of filtered 1:20 1M KCl after peroxide digestion
PQL: Practical Quantitation Limit
RS: Rinsate Sample
RSL: Regional Screening Levels
RSW: Restricted Solid Waste
SAC: Site Assessment Criteria
SCC: Specific Contaminant Concentration
S_{Cr}: Chromium reducible sulfur
S_{POS}: Peroxide oxidisable Sulfur
SSA: Site Specific Assessment
SSHSLs: Site Specific Health Screening Levels
TAA: Total Actual Acidity in 1M KCL extract titrated to pH6.5
TB: Trip Blank
TCA: 1,1,1 Trichloroethane (methyl chloroform)
TCE: Trichloroethylene (Trichloroethene)
TCLP: Toxicity Characteristics Leaching Procedure
TPA: Total Potential Acidity, 1M KCL peroxide digest
TS: Trip Spike
TRH: Total Recoverable Hydrocarbons
TSA: Total Sulfide Acidity (TPA-TAA)
UCL: Upper Level Confidence Limit on Mean Valu
USEPA United States Environmental Protection Agency
VOCC: Volatile Organic Chlorinated Compounds
WHO: World Health Organisation

Table Specific Explanations:

HIL Tables:

- The chromium results are for Total Chromium which includes Chromium III and VI. For initial screening purposes, we have assumed that the samples contain only Chromium VI unless demonstrated otherwise by additional analysis.
- Carcinogenic PAHs is a toxicity weighted sum of analyte concentrations for a specific list of PAH compounds relative to B(a)P. It is also refered to as the B(a)P Toxic Equivalence Quotient (TEQ).

EIL/ESL Table:

- ABC Values for selected metals have been adopted from the published background concentrations presented in Olszowy et. al., (1995), Trace Element Concentrations in Soils from Rural and Urban New South Wales (the 25th percentile values for old suburbs with low traffic have been quoted).

Waste Classification and TCLP Table:

- Data assessed using the NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (2014).
- The assessment of Total Moderately Harmful pesticides includes: Dichlorovos, Dimethoate, Fenthion, Fenitrothion, Ethion, Malathion, Methidathion and Parathion Methyl.
- Assessment of Total Scheduled pesticides include: HBC, alpha-BHC, gamma-BHC, beta-BHC, Heptachlor, Aldrin, Heptachlor Epoxide, gamma-Chlordane, alpha-chlordane, pp-DDE, Dieldrin, Endrin, pp-DDD, pp-DDT, Endrin Aldehyde.

QA/QC Table:

- Field blank, Inter and Intra laboratory duplicate results are reported in mg/kg.
- Trip spike results are reported as percentage recovery.
- Field rinsate results are reported in µg/L.

TABLE S1
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013.
HIL-A: 'Residential with garden/accessible soils; children's day care centers; preschools; and primary schools'

All data in mg/kg unless stated otherwise			HEAVY METALS								PAHs		ORGANOCHLORINE PESTICIDES (OCPs)							OP PESTICIDES (OPPs)	TOTAL PCBs	ASBESTOS FIBRES
			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	Carcinogenic PAHs	HCB	Endosulfan	Methoxychlor	Aldrin & Dieldrin	Chlordane	DDT, DDD & DDE	Heptachlor	Chlorpyrifos		
PQL - Envirolab Services			4	0.4	1	1	1	0.1	1	1	-	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	100
Site Assessment Criteria (SAC)			100	20	100	6000	300	40	400	7400	300	3	10	270	300	6	50	240	6	160	1	Detected/Not Detected
Sample Reference	**Sample Depth**	**Sample Description**																				
BH1	0-0.3	Silty Clay	<4	<0.4	**37**	**70**	**7**	<0.1	**10**	**22**	**0.2**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH1 - [LAB_DUP]	0-0.3	Laboratory Duplicate	<4	<0.4	**38**	**70**	**9**	<0.1	**10**	**25**	**0.55**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
BH1	0.8-1.0	XW Andersite	<4	<0.4	**62**	**130**	**9**	<0.1	**14**	**31**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH2	0-0.2	F: Gravelly Sandy Clay	**6**	<0.4	**38**	**200**	**8**	<0.1	**11**	**36**	**6.9**	**1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH2	0.3-0.5	Sandy Silty Clay	**6**	<0.4	**91**	**280**	**5**	<0.1	**18**	**37**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH2	0.8-1.0	Silty Clay	**6**	<0.4	**63**	**200**	**6**	<0.1	**13**	**30**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH3	0-0.1	F: Silty Clay	**7**	<0.4	**23**	**57**	**12**	<0.1	**9**	**24**	**0.64**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH3	0.3-0.5	F: Sandy Silty Clay	**8**	<0.4	**47**	**86**	**15**	**0.2**	**11**	**33**	**85**	**7.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH3	1.3-1.5	Sandy Silty Clay	**4**	<0.4	**72**	**120**	**9**	<0.1	**12**	**22**	**3.3**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH4	0-0.1	F: Silty Clay	**5**	<0.4	**30**	**82**	**28**	<0.1	**7**	**53**	**0.66**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH4 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**5**	<0.4	**28**	**80**	**26**	<0.1	**6**	**53**	**0.5**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
BH4	0.3-0.5	Sandy Silty Clay	**7**	<0.4	**18**	**300**	**3**	<0.1	**11**	**31**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH4	0.8-1.0	XW Andersite	**6**	<0.4	**16**	**210**	**2**	<0.1	**9**	**24**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH5	0-0.1	Silty Clay	**9**	<0.4	**26**	**230**	**13**	<0.1	**9**	**30**	**2.9**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH5	0.8-1.0	Silty Clay	**4**	<0.4	**52**	**180**	**7**	<0.1	**12**	**20**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH6	0-0.1	F: Silty Clay	<4	<0.4	**22**	**220**	**17**	<0.1	**9**	**54**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH6	0.3-0.5	Sandy Silty Clay	<4	<0.4	**19**	**440**	**3**	<0.1	**10**	**51**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH6	0.8-1.0	XW Andersite	<4	<0.4	**16**	**400**	**1**	<0.1	**9**	**55**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH7	0.02-0.3	F: Gravelly Silty Sand	**7**	<0.4	**36**	**94**	**24**	<0.1	**9**	**36**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH7 - [LAB_DUP]	0.02-0.3	Laboratory Duplicate	**6**	<0.4	**51**	**100**	**20**	<0.1	**11**	**34**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
BH7	0.3-0.5	F: Silty Sand	**7**	<0.4	**66**	**120**	**10**	**0.6**	**13**	**29**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH8	0.02-0.2	F: Silty Sand	<4	<0.4	**13**	**12**	**7**	<0.1	**2**	**7**	**27**	**3.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH8	0.3-0.5	Sandy Silty Clay	<4	<0.4	**53**	**170**	**7**	<0.1	**15**	**42**	**3.3**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP13	0-0.1	F: Silty Clay	**5**	<0.4	**20**	**210**	**22**	**0.1**	**8**	**59**	**0.2**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP13	0.5-0.6	Silty Clay	**7**	<0.4	**24**	**490**	**4**	<0.1	**11**	**28**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP14	0-0.1	F: Silty Clay	**15**	<0.4	**31**	**99**	**120**	**0.1**	**3**	**88**	**1.1**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP14	0.4-0.5	Silty Clay	<4	<0.4	**17**	**420**	**6**	<0.1	**10**	**57**	**0.5**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP14	0.9-1.0	XW Andersite	<4	<0.4	**10**	**470**	**2**	<0.1	**10**	**47**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP15	0-0.1	F: Silty Clay	**6**	<0.4	**21**	**34**	**12**	<0.1	**7**	**30**	**0.3**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP15 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**5**	<0.4	**19**	**29**	**12**	<0.1	**7**	**30**	**0.2**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
TP15	0.9-1.0	F: Sandy Silty Clay	**7**	<0.4	**24**	**32**	**14**	<0.1	**5**	**11**	**43**	**4.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP15	1.3-1.5	Silty Clay	<4	<0.4	**52**	**110**	**7**	**0.7**	**9**	**18**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP16	0-0.1	Silty Clay	**10**	<0.4	**56**	**190**	**25**	<0.1	**14**	**61**	**1.4**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP16	0.4-0.5	Silty Clay	**5**	<0.4	**74**	**180**	**4**	<0.1	**15**	**27**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP1	0-0.1	Duplicate of TP16	**10**	<0.4	**55**	**190**	**25**	<0.1	**14**	**66**	**1.7**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
SDUP2	0-0.1	Duplicate of TP15	**6**	<0.4	**20**	**31**	**12**	<0.1	**7**	**29**	**0.1**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP3	0-0.1	Duplicate of TP14	**11**	<0.4	**22**	**130**	**170**	<0.1	**6**	**140**	**0.86**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
SDUP4	0-0.1	Duplicate of TP13	**5**	<0.4	**16**	**160**	**24**	<0.1	**7**	**67**	**0.3**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP4 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**5**	<0.4	**15**	**170**	**19**	<0.1	**7**	**60**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH4-FCF1	0-0.2	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
BH4-FCF2	0-0.2	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
Total Number of Samples			39	39	39	39	39	39	39	39	38	38	20	20	20	20	20	20	20	20	20	16
Maximum Value			15	<PQL	91	490	170	0.7	18	140	85	7.7	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	Detected

Concentration above the SAC — **VALUE**
Concentration above the PQL — **Bold**

TABLE S2
SOIL LABORATORY RESULTS COMPARED TO HSLs
All data in mg/kg unless stated otherwise

					C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Field PID Measurement
PQL - Envirolab Services					25	50	0.2	0.5	1	1	1	ppm
NEPM 2013 HSL Land Use Category					**HSL-A/B: LOW/HIGH DENSITY RESIDENTIAL**							
Sample Reference	**Sample Depth**	**Sample Description**	**Depth Category**	**Soil Category**								
BH1	0-0.3	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.5
BH1 - [LAB_DUP]	0-0.3	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
BH1	0.8-1.0	XW Andersite	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.3
BH2	0-0.2	F: Gravelly Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.3
BH2	0.3-0.5	Sandy Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.9
BH2	0.8-1.0	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.8
BH3	0-0.1	F: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.6
BH3	0.3-0.5	F: Sandy Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	**2**	0.7
BH3	1.3-1.5	Sandy Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.5
BH4	0-0.1	F: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.2
BH4 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
BH4	0.3-0.5	Sandy Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2
BH4	0.8-1.0	XW Andersite	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3.8
BH5	0-0.1	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.6
BH5	0.8-1.0	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.6
BH6	0-0.1	F: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.4
BH6	0.3-0.5	Sandy Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.1
BH6	0.8-1.0	XW Andersite	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.1
BH7	0.02-0.3	F: Gravelly Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.8
BH7 - [LAB_DUP]	0.02-0.3	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
BH7	0.3-0.5	F: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2
BH8	0.02-0.2	F: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH8	0.3-0.5	Sandy Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.3
TP13	0-0.1	F: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.6
TP13	0.5-0.6	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.3
TP14	0-0.1	F: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1
TP14	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.5
TP14	0.9-1.0	XW Andersite	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.1
TP15	0-0.1	F: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.3
TP15 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP15	0.9-1.0	F: Sandy Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.4
TP15	1.3-1.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.5
TP16	0-0.1	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.2
TP16	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.2
SDUP1	0-0.1	Duplicate of TP16	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP2	0-0.1	Duplicate of TP15	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP3	0-0.1	Duplicate of TP14	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP4	0-0.1	Duplicate of TP13	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
Total Number of Samples					38	38	38	38	38	38	38	30
Maximum Value					<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	2	3.8

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**
The guideline corresponding to the concentration above the SAC is highlighted in grey in the Site Assessment Criteria Table below

HSL SOIL ASSESSMENT CRITERIA

Sample Reference	Sample Depth	Sample Description	Depth Category	Soil Category	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
BH1	0-0.3	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH1 - [LAB_DUP]	0-0.3	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH1	0.8-1.0	XW Andersite	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH2	0-0.2	F: Gravelly Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH2	0.3-0.5	Sandy Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH2	0.8-1.0	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH3	0-0.1	F: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH3	0.3-0.5	F: Sandy Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH3	1.3-1.5	Sandy Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH4	0-0.1	F: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH4 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH4	0.3-0.5	Sandy Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH4	0.8-1.0	XW Andersite	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH5	0-0.1	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH5	0.8-1.0	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH6	0-0.1	F: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH6	0.3-0.5	Sandy Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH6	0.8-1.0	XW Andersite	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH7	0.02-0.3	F: Gravelly Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH7 - [LAB_DUP]	0.02-0.3	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH7	0.3-0.5	F: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH8	0.02-0.2	F: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH8	0.3-0.5	Sandy Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP13	0-0.1	F: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP13	0.5-0.6	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP14	0-0.1	F: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP14	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP14	0.9-1.0	XW Andersite	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP15	0-0.1	F: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP15 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP15	0.9-1.0	F: Sandy Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP15	1.3-1.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP16	0-0.1	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP16	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP1	0-0.1	Duplicate of TP16	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP2	0-0.1	Duplicate of TP15	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP3	0-0.1	Duplicate of TP14	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP4	0-0.1	Duplicate of TP13	0m to <1m	Sand	45	110	0.5	160	55	40	3

TABLE S3
SOIL LABORATORY RESULTS COMPARED TO MANAGEMENT LIMITS
All data in mg/kg unless stated otherwise

			C_6-C_{10} (F1) plus BTEX	>C_{10}-C_{16} (F2) plus napthalene	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)
PQL - Envirolab Services			25	50	100	100
NEPM 2013 Land Use Category			**RESIDENTIAL, PARKLAND & PUBLIC OPEN SPACE**			
Sample Reference	**Sample Depth**	**Soil Texture**				
BH1	0-0.3	Coarse	<25	<50	<100	<100
BH1 - [LAB_DUP]	0-0.3	Coarse	<25	<50	<100	<100
BH1	0.8-1.0	Coarse	<25	<50	<100	<100
BH2	0-0.2	Coarse	<25	<50	<100	<100
BH2	0.3-0.5	Coarse	<25	<50	<100	<100
BH2	0.8-1.0	Coarse	<25	<50	<100	<100
BH3	0-0.1	Coarse	<25	<50	**130**	**230**
BH3	0.3-0.5	Coarse	<25	<50	**320**	**120**
BH3	1.3-1.5	Coarse	<25	<50	<100	<100
BH4	0-0.1	Coarse	<25	<50	<100	<100
BH4 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
BH4	0.3-0.5	Coarse	<25	<50	<100	<100
BH4	0.8-1.0	Coarse	<25	<50	<100	<100
BH5	0-0.1	Coarse	<25	<50	<100	<100
BH5	0.8-1.0	Coarse	<25	<50	<100	<100
BH6	0-0.1	Coarse	<25	<50	<100	<100
BH6	0.3-0.5	Coarse	<25	<50	<100	<100
BH6	0.8-1.0	Coarse	<25	<50	<100	<100
BH7	0.02-0.3	Coarse	<25	<50	<100	<100
BH7 - [LAB_DUP]	0.02-0.3	Coarse	<25	<50	<100	<100
BH7	0.3-0.5	Coarse	<25	<50	<100	<100
BH8	0.02-0.2	Coarse	<25	<50	<100	<100
BH8	0.3-0.5	Coarse	<25	<50	<100	<100
TP13	0-0.1	Coarse	<25	<50	<100	<100
TP13	0.5-0.6	Coarse	<25	<50	<100	<100
TP14	0-0.1	Coarse	<25	<50	<100	<100
TP14	0.4-0.5	Coarse	<25	<50	<100	<100
TP14	0.9-1.0	Coarse	<25	<50	<100	<100
TP15	0-0.1	Coarse	<25	<50	<100	<100
TP15 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP15	0.9-1.0	Coarse	<25	<50	<100	<100
TP15	1.3-1.5	Coarse	<25	<50	<100	<100
TP16	0-0.1	Coarse	<25	<50	<100	<100
TP16	0.4-0.5	Coarse	<25	<50	<100	<100
SDUP1	0-0.1	Coarse	<25	<50	<100	<100
SDUP2	0-0.1	Coarse	<25	<50	<100	<100
SDUP3	0-0.1	Coarse	<25	<50	<100	<100
SDUP4	0-0.1	Coarse	<25	<50	<100	<100
Total Number of Samples			38	38	38	38
Maximum Value			<PQL	<PQL	320	230

Concentration above the SAC	**VALUE**
Concentration above the PQL	**Bold**

MANAGEMENT LIMIT ASSESSMENT CRITERIA

Sample Reference	**Sample Depth**	**Soil Texture**	C_6-C_{10} (F1) plus BTEX	>C_{10}-C_{16} (F2) plus napthalene	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)
BH1	0-0.3	Coarse	700	1000	2500	10000
BH1 - [LAB_DUP]	0-0.3	Coarse	700	1000	2500	10000
BH1	0.8-1.0	Coarse	700	1000	2500	10000
BH2	0-0.2	Coarse	700	1000	2500	10000
BH2	0.3-0.5	Coarse	700	1000	2500	10000
BH2	0.8-1.0	Coarse	700	1000	2500	10000
BH3	0-0.1	Coarse	700	1000	2500	10000
BH3	0.3-0.5	Coarse	700	1000	2500	10000
BH3	1.3-1.5	Coarse	700	1000	2500	10000
BH4	0-0.1	Coarse	700	1000	2500	10000
BH4 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
BH4	0.3-0.5	Coarse	700	1000	2500	10000
BH4	0.8-1.0	Coarse	700	1000	2500	10000
BH5	0-0.1	Coarse	700	1000	2500	10000
BH5	0.8-1.0	Coarse	700	1000	2500	10000
BH6	0-0.1	Coarse	700	1000	2500	10000
BH6	0.3-0.5	Coarse	700	1000	2500	10000
BH6	0.8-1.0	Coarse	700	1000	2500	10000
BH7	0.02-0.3	Coarse	700	1000	2500	10000
BH7 - [LAB_DUP]	0.02-0.3	Coarse	700	1000	2500	10000
BH7	0.3-0.5	Coarse	700	1000	2500	10000
BH8	0.02-0.2	Coarse	700	1000	2500	10000
BH8	0.3-0.5	Coarse	700	1000	2500	10000
TP13	0-0.1	Coarse	700	1000	2500	10000
TP13	0.5-0.6	Coarse	700	1000	2500	10000
TP14	0-0.1	Coarse	700	1000	2500	10000
TP14	0.4-0.5	Coarse	700	1000	2500	10000
TP14	0.9-1.0	Coarse	700	1000	2500	10000
TP15	0-0.1	Coarse	700	1000	2500	10000
TP15 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP15	0.9-1.0	Coarse	700	1000	2500	10000
TP15	1.3-1.5	Coarse	700	1000	2500	10000
TP16	0-0.1	Coarse	700	1000	2500	10000
TP16	0.4-0.5	Coarse	700	1000	2500	10000
SDUP1	0-0.1	Coarse	700	1000	2500	10000
SDUP2	0-0.1	Coarse	700	1000	2500	10000
SDUP3	0-0.1	Coarse	700	1000	2500	10000
SDUP4	0-0.1	Coarse	700	1000	2500	10000

TABLE S4
SOIL LABORATORY RESULTS COMPARED T0 DIRECT CONTACT CRITERIA
All data in mg/kg unless stated otherwise

Analyte		C_6-C_{10}	>C_{10}-C_{16}	>C_{16}-C_{34}	>C_{34}-C_{40}	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	PID
PQL - Envirolab Services		25	50	100	100	0.2	0.5	1	1	1	
CRC 2011 -Direct contact Criteria		4,400	3,300	4,500	6,300	100	14,000	4,500	12,000	1,400	
Site Use		RESIDENTIAL WITH ACCESSIBLE SOIL- DIRECT SOIL CONTACT									
Sample Reference	**Sample Depth**										
BH1	0-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.5**
BH1 - [LAB_DUP]	0-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
BH1	0.8-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.3**
BH2	0-0.2	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.3**
BH2	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.9**
BH2	0.8-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.8**
BH3	0-0.1	<25	<50	**130**	**230**	<0.2	<0.5	<1	<1	<1	**0.6**
BH3	0.3-0.5	<25	<50	**320**	**120**	<0.2	<0.5	<1	<1	**2**	**0.7**
BH3	1.3-1.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.5**
BH4	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.2**
BH4 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
BH4	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2**
BH4	0.8-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3.8**
BH5	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.6**
BH5	0.8-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.6**
BH6	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.4**
BH6	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.1**
BH6	0.8-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.1**
BH7	0.02-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.8**
BH7 - [LAB_DUP]	0.02-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
BH7	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2**
BH8	0.02-0.2	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH8	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.3**
TP13	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.6**
TP13	0.5-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.3**
TP14	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1**
TP14	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.5**
TP14	0.9-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.1**
TP15	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.3**
TP15 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP15	0.9-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.4**
TP15	1.3-1.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.5**
TP16	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.2**
TP16	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.2**
SDUP1	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP2	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP3	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP4	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
Total Number of Samples		38	38	38	38	38	38	38	38	38	30
Maximum Value		<PQL	<PQL	320	230	<PQL	<PQL	<PQL	<PQL	2	3.8

Concentration above the SAC	**VALUE**
Concentration above the PQL	**Bold**

TABLE S5
ASBESTOS QUANTIFICATION - FIELD OBSERVATIONS AND LABORATORY RESULTS
HSL-A: Residential with garden/accessible soils; children's day care centers; preschools; and primary schools

FIELD DATA															LABORATORY DATA											
Date Sampled	Sample reference	Sample Depth	Visible ACM in top 100mm	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass ACM <7mm (g)	Mass Asbestos in ACM <7mm (g)	[Asbestos from ACM <7mm in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Lab Report Number	Sample refeference	Sample Depth	Sample Mass (g)	Asbestos ID in soil (AS4964) >0.1g/kg	Trace Analysis	Total Asbestos (g/kg)	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation (g)	FA and AF Estimation (g)	ACM >7mm Estimation %(w/w)	FA and AF Estimation %(w/w)
SAC			**No**					**0.01**			**0.001**			**0.001**											**0.01**	**0.001**
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3/05/2023	BH2	0-0.2	No	10	12,490	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--		BH2	0-0.2		No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
4/05/2023	BH3	0-0.1	No	10	10,180	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--		BH3	0-0.1		No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
4/05/2023	BH3	0.1-0.3	NA	2	2,240	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4/05/2023	BH3	0.3-1.1	NA	8	8,960	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--		BH3	0.3-0.5		No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
4/05/2023	BH4	0-0.2	Yes	10	10,670	48.3	7.2495	0.0679	No ACM <7mm observed	--	--	No FA observed	--	--		BH4	0-0.1		No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
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2/05/2023	BH6	0-0.2	No	10	10,440	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--		BH6	0-0.1		No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
2/05/2023	BH7	0.02-0.3	NA	1.7	1,880	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--		BH7	0.02-0.3		No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
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4/05/2023	TP13	0-0.1	No	10	10,520	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--		TP13	0-0.1		No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
4/05/2023	TP13	0.1-0.3	NA	10	10,220	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4/05/2023	TP14	0-0.2	No	10	12,310	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--		TP14	0-0.1		No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
4/05/2023	TP15	0-0.1	No	10	10,290	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--		TP15	0-0.1		No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
4/05/2023	TP15	0.1-0.5	NA	10	10,340	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4/05/2023	TP15	0.5-1.1	NA	10	12,520	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--		TP15	0.9-1.0		No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
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Concentration above the SAC **VALUE**

TABLE S6
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013 EILs AND ESLs
All data in mg/kg unless stated otherwise

Land Use Category				URBAN RESIDENTIAL AND PUBLIC OPEN SPACE																			
							AGED HEAVY METALS-EILs						EILs		ESLs								
				pH	CEC (cmolc/kg)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
PQL - Envirolab Services				-	1	-	4	1	1	1	1	1	1	0.1	25	50	100	100	0.2	0.5	1	1	0.05
Ambient Background Concentration (ABC)				-	-	-	NSL	8	18	104	5	77	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL
Sample Reference	Sample Depth	Sample Description	Soil Texture																				
BH1	0-0.3	Silty Clay	Fine	NA	NA	NA	<4	37	70	7	10	22	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH1 - [LAB_DUP]	0-0.3	Laboratory Duplicate	Fine	NA	NA	NA	<4	38	70	9	10	25	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.1
BH1	0.8-1.0	XW Andersite	Fine	NA	NA	NA	<4	62	130	9	14	31	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH2	0-0.2	F: Gravelly Sandy Clay	Fine	NA	NA	NA	6	38	200	8	11	36	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.69
BH2	0.3-0.5	Sandy Silty Clay	Fine	NA	NA	NA	6	91	280	5	18	37	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH2	0.8-1.0	Silty Clay	Fine	NA	NA	NA	6	63	200	6	13	30	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH3	0-0.1	F: Silty Clay	Fine	NA	NA	NA	7	23	57	12	9	24	<1	<0.1	<25	<50	130	230	<0.2	<0.5	<1	<1	0.09
BH3	0.3-0.5	F: Sandy Silty Clay	Fine	NA	NA	NA	8	47	86	15	11	33	2	<0.1	<25	<50	320	120	<0.2	<0.5	<1	<1	5.4
BH3	1.3-1.5	Sandy Silty Clay	Fine	NA	NA	NA	4	72	120	9	12	22	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
BH4	0-0.1	F: Silty Clay	Fine	NA	NA	NA	5	30	82	28	7	53	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.1
BH4 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	NA	NA	NA	5	28	80	26	6	53	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.09
BH4	0.3-0.5	Sandy Silty Clay	Fine	NA	NA	NA	7	18	300	3	11	31	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH4	0.8-1.0	XW Andersite	Coarse	NA	NA	NA	6	16	210	2	9	24	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH5	0-0.1	Silty Clay	Fine	NA	NA	NA	9	26	230	13	9	30	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.3
BH5	0.8-1.0	Silty Clay	Fine	NA	NA	NA	4	52	180	7	12	20	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH6	0-0.1	F: Silty Clay	Fine	NA	NA	NA	<4	22	220	17	9	54	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH6	0.3-0.5	Sandy Silty Clay	Fine	NA	NA	NA	<4	19	440	3	10	51	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH6	0.8-1.0	XW Andersite	Fine	NA	NA	NA	<4	16	400	1	9	55	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH7	0.02-0.3	F: Gravelly Silty Sand	Coarse	NA	NA	NA	7	36	94	24	9	36	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH7 - [LAB_DUP]	0.02-0.3	Laboratory Duplicate	Coarse	NA	NA	NA	6	51	100	20	11	34	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH7	0.3-0.5	F: Silty Sand	Coarse	NA	NA	NA	7	66	120	10	13	29	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH8	0.02-0.2	F: Silty Sand	Coarse	NA	NA	NA	<4	13	12	7	2	7	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	2.6
BH8	0.3-0.5	Sandy Silty Clay	Fine	NA	NA	NA	<4	53	170	7	15	42	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.3
TP13	0-0.1	F: Silty Clay	Fine	NA	NA	NA	5	20	210	22	8	59	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.05
TP13	0.5-0.6	Silty Clay	Fine	NA	NA	NA	7	24	490	4	11	28	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP14	0-0.1	F: Silty Clay	Fine	NA	NA	NA	15	31	99	120	3	88	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.1
TP14	0.4-0.5	Silty Clay	Fine	NA	NA	NA	<4	17	420	6	10	57	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.06
TP14	0.9-1.0	XW Andersite	Coarse	NA	NA	NA	<4	10	470	2	10	47	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP15	0-0.1	F: Silty Clay	Fine	NA	NA	NA	6	21	34	12	7	30	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.05
TP15 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	NA	NA	NA	5	19	29	12	7	30	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.05
TP15	0.9-1.0	F: Sandy Silty Clay	Fine	NA	NA	NA	7	24	32	14	5	11	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	3.4
TP15	1.3-1.5	Silty Clay	Fine	NA	NA	NA	<4	52	110	7	9	18	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP16	0-0.1	Silty Clay	Fine	NA	NA	NA	10	56	190	25	14	61	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.1
TP16	0.4-0.5	Silty Clay	Fine	NA	NA	NA	5	74	180	4	15	27	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP1	0-0.1	Duplicate of TP16	Fine	NA	NA	NA	10	55	190	25	14	66	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
SDUP2	0-0.1	Duplicate of TP15	Fine	NA	NA	NA	6	20	31	12	7	29	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP3	0-0.1	Duplicate of TP14	Fine	NA	NA	NA	11	22	130	170	6	140	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.08
SDUP4	0-0.1	Duplicate of TP13	Fine	NA	NA	NA	5	16	160	24	7	67	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.05
SDUP4 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	NA	NA	NA	5	15	170	19	7	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Number of Samples				0	0	0	39	39	39	39	39	39	38	20	38	38	38	38	38	38	38	38	38
Maximum Value				NA	NA	NA	15	91	490	170	18	140	2	<PQL	<PQL	<PQL	320	230	<PQL	<PQL	<PQL	<PQL	5.4

Concentration above the SAC — VALUE
Concentration above the PQL — **Bold**
The guideline corresponding to the elevated value is highlighted in grey in the EIL and ESL Assessment Criteria Table below

EIL AND ESL ASSESSMENT CRITERIA

Sample Reference	Sample Depth	Sample Description	Soil Texture	pH	CEC (cmolc/kg)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
BH1	0-0.3	Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
BH1 - [LAB_DUP]	0-0.3	Laboratory Duplicate	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
BH1	0.8-1.0	XW Andersite	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
BH2	0-0.2	F: Gravelly Sandy Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
BH2	0.3-0.5	Sandy Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
BH2	0.8-1.0	Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
BH3	0-0.1	F: Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
BH3	0.3-0.5	F: Sandy Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
BH3	1.3-1.5	Sandy Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
BH4	0-0.1	F: Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
BH4 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
BH4	0.3-0.5	Sandy Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
BH4	0.8-1.0	XW Andersite	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH5	0-0.1	Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
BH5	0.8-1.0	Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
BH6	0-0.1	F: Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
BH6	0.3-0.5	Sandy Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
BH6	0.8-1.0	XW Andersite	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
BH7	0.02-0.3	F: Gravelly Silty Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH7 - [LAB_DUP]	0.02-0.3	Laboratory Duplicate	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH7	0.3-0.5	F: Silty Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH8	0.02-0.2	F: Silty Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH8	0.3-0.5	Sandy Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
TP13	0-0.1	F: Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
TP13	0.5-0.6	Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
TP14	0-0.1	F: Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
TP14	0.4-0.5	Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
TP14	0.9-1.0	XW Andersite	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP15	0-0.1	F: Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
TP15 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
TP15	0.9-1.0	F: Sandy Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
TP15	1.3-1.5	Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
TP16	0-0.1	Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
TP16	0.4-0.5	Silty Clay	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
SDUP1	0-0.1	Duplicate of TP16	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
SDUP2	0-0.1	Duplicate of TP15	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
SDUP3	0-0.1	Duplicate of TP14	Fine	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	1300	5600	65	105	125	45	20
SDUP4	0-0.1	Duplicate of TP13	Fine	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	1300	5600	65	105	125	45	20
SDUP4 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	NA	NA	NA	100	200	80	1200	35	150	--	--	--	--	--	--	--	--	--	--	--

TABLE S7
SOIL LABORATORY RESULTS COMPARED TO WASTE CLASSIFICATION GUIDELINES
All data in mg/kg unless stated otherwise

			HEAVY METALS								PAHs		OC/OP PESTICIDES				Total PCBs	TRH					BTEX COMPOUNDS				ASBESTOS FIBRES
			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	B(a)P	Total Endosulfans	Chloropyrifos	Total Moderately Harmful	Total Scheduled		C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	Total C_{10}-C_{36}	Benzene	Toluene	Ethyl benzene	Total Xylenes	
PQL - Envirolab Services			4	0.4	1	1	1	0.1	1	1	-	0.05	0.1	0.1	0.1	0.1	0.1	25	50	100	100	50	0.2	0.5	1	1	100
General Solid Waste CT1			100	20	100	NSL	100	4	40	NSL	200	0.8	60	4	250	50	50	650		NSL		10,000	10	288	600	1,000	-
General Solid Waste SCC1			500	100	1900	NSL	1500	50	1050	NSL	200	10	108	7.5	250	50	50	650		NSL		10,000	18	518	1,080	1,800	-
Restricted Solid Waste CT2			400	80	400	NSL	400	16	160	NSL	800	3.2	240	16	1000	50	50	2600		NSL		40,000	40	1,152	2,400	4,000	-
Restricted Solid Waste SCC2			2000	400	7600	NSL	6000	200	4200	NSL	800	23	432	30	1000	50	50	2600		NSL		40,000	72	2,073	4,320	7,200	-
Sample Reference	Sample Depth	Sample Description																									
BH1	0-0.3	Silty Clay	<4	<0.4	37	70	7	<0.1	10	22	0.2	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH1 - [LAB_DUP]	0-0.3	Laboratory Duplicate	<4	<0.4	38	70	9	<0.1	10	25	0.55	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH1	0.8-1.0	XW Andersite	<4	<0.4	62	130	9	<0.1	14	31	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH2	0-0.2	F: Gravelly Sandy Clay	6	<0.4	38	200	8	<0.1	11	36	6.9	0.69	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH2	0.3-0.5	Sandy Silty Clay	6	<0.4	91	280	5	<0.1	18	37	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH2	0.8-1.0	Silty Clay	6	<0.4	63	200	6	<0.1	13	30	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH3	0-0.1	F: Silty Clay	7	<0.4	23	57	12	<0.1	9	24	0.64	0.09	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	180	180	<0.2	<0.5	<1	<1	Not Detected
BH3	0.3-0.5	F: Sandy Silty Clay	8	<0.4	47	86	15	0.2	11	33	85	5.4	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	170	200	370	<0.2	<0.5	<1	<1	Not Detected
BH3	1.3-1.5	Sandy Silty Clay	4	<0.4	72	120	9	<0.1	12	22	3.3	0.2	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH4	0-0.1	F: Silty Clay	5	<0.4	30	82	28	<0.1	7	53	0.66	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH4 - [LAB_DUP]	0-0.1	Laboratory Duplicate	5	<0.4	28	80	26	<0.1	6	53	0.5	0.09	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH4	0.3-0.5	Sandy Silty Clay	7	<0.4	18	300	3	<0.1	11	31	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH4	0.8-1.0	XW Andersite	6	<0.4	16	210	2	<0.1	9	24	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH5	0-0.1	Silty Clay	9	<0.4	26	230	13	<0.1	9	30	2.9	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH5	0.8-1.0	Silty Clay	4	<0.4	52	180	7	<0.1	12	20	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH6	0-0.1	F: Silty Clay	<4	<0.4	22	220	17	<0.1	9	54	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH6	0.3-0.5	Sandy Silty Clay	<4	<0.4	19	440	3	<0.1	10	51	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH6	0.8-1.0	XW Andersite	<4	<0.4	16	400	1	<0.1	9	55	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH7	0.02-0.3	F: Gravelly Silty Sand	7	<0.4	36	94	24	<0.1	9	36	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH7 - [LAB_DUP]	0.02-0.3	Laboratory Duplicate	6	<0.4	51	100	20	<0.1	11	34	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH7	0.3-0.5	F: Silty Sand	7	<0.4	66	120	10	0.6	13	29	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH8	0.02-0.2	F: Silty Sand	<4	<0.4	13	12	7	<0.1	2	7	27	2.6	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH8	0.3-0.5	Sandy Silty Clay	<4	<0.4	53	170	7	<0.1	15	42	3.3	0.3	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP13	0-0.1	F: Silty Clay	5	<0.4	20	210	22	0.1	8	59	0.2	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP13	0.5-0.6	Silty Clay	7	<0.4	24	490	4	<0.1	11	28	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP14	0-0.1	F: Silty Clay	15	<0.4	31	99	120	0.1	3	88	1.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP14	0.4-0.5	Silty Clay	<4	<0.4	17	420	6	<0.1	10	57	0.5	0.06	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP14	0.9-1.0	XW Andersite	<4	<0.4	10	470	2	<0.1	10	47	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP15	0-0.1	F: Silty Clay	6	<0.4	21	34	12	<0.1	7	30	0.3	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP15 - [LAB_DUP]	0-0.1	Laboratory Duplicate	5	<0.4	19	29	12	<0.1	7	30	0.2	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP15	0.9-1.0	F: Sandy Silty Clay	7	<0.4	24	32	14	<0.1	5	11	43	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP15	1.3-1.5	Silty Clay	<4	<0.4	52	110	7	0.7	9	18	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP16	0-0.1	Silty Clay	10	<0.4	56	190	25	<0.1	14	61	1.4	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP16	0.4-0.5	Silty Clay	5	<0.4	74	180	4	<0.1	15	27	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP1	0-0.1	Duplicate of TP16	10	<0.4	55	190	25	<0.1	14	66	1.7	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP2	0-0.1	Duplicate of TP15	6	<0.4	20	31	12	<0.1	7	29	0.1	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP3	0-0.1	Duplicate of TP14	11	<0.4	22	130	170	<0.1	6	140	0.86	0.08	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP4	0-0.1	Duplicate of TP13	5	<0.4	16	160	24	<0.1	7	67	0.3	0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP4 - [LAB_DUP]	0-0.1	Laboratory Duplicate	5	<0.4	15	170	19	<0.1	7	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH4-FCF1	0-0.2	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
BH4-FCF2	0-0.2	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
Total Number of Samples			39	39	39	39	39	39	39	39	38	38	20	20	20	20	20	38	38	38	38	38	38	38	38	38	16
Maximum Value			15	<PQL	91	490	170	0.7	18	140	85	5.4	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	170	200	370	<PQL	<PQL	<PQL	<PQL	Detected

Concentration above the CT1	VALUE
Concentration above SCC1	VALUE
Concentration above the SCC2	VALUE
Concentration above PQL	**Bold**

TABLE S8
SOIL LABORATORY TCLP RESULTS
All data in mg/L unless stated otherwise

			Lead	B(a)P
PQL - Envirolab Services			0.03	0.001
TCLP1 - General Solid Waste			5	0.04
TCLP2 - Restricted Solid Waste			20	0.16
TCLP3 - Hazardous Waste			>20	>0.16
Sample Reference	**Sample Depth**	**Sample Description**		
BH3	0.3-0.5	F: Sandy Silty Clay	NA	**0.0086**
BH8	0.02-0.2	F: Silty Sand	NA	<0.001
TP14	0-0.1	F: Silty Clay	**0.07**	NA
TP15	0.9-1.0	F: Sandy Silty Clay	NA	<0.001
SDUP3	0-0.1	Duplicate of TP14	**0.3**	NA
Total Number of samples			2	3
Maximum Value			0.30	0.0086

General Solid Waste	**VALUE**
Restricted Solid Waste	**VALUE**
Hazardous Waste	**VALUE**
Concentration above PQL	**Bold**

JKEnvironments

TABLE Q1
SOIL QA/QC SUMMARY

			TRH C6 - C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	m+p-xylene	o-Xylene
	PQL Envirolab SYD		*25*	*50*	*100*	*100*	*0.2*	*0.5*	*1*	*2*	*1*
	PQL Envirolab VIC		*25*	*50*	*100*	*100*	*0.2*	*0.5*	*1*	*2*	*1*
Intra	TP16	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1
laboratory	SDUP1	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra	TP15	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1
laboratory	SDUP2	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP14	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1
laboratory	SDUP3	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP13	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1
laboratory	SDUP4	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc
Field	TB-S1	-	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1
Blank	2/05/23										
Field	FR-SPT	µg/L [1]	26	<50	<100	<100	<1	<1	<1	<2	<1
Rinsate	3/05/23										
Trip	TS-S1		-	-	-	-	97%	97%	97%	97%	98%
Spike	2/05/23										

			Naphthalene	Acenaphthylene	Acenaph-thene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b,j+k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthra-cene	Benzo(g,h,i)perylene
	PQL Envirolab SYD		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.05*	*0.1*	*0.1*	*0.1*
	PQL Envirolab VIC		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.05*	*0.1*	*0.1*	*0.1*
Intra	TP16	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.3	<0.1	0.1	0.2	0.1	0.1	<0.1	0.1
laboratory	SDUP1	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.4	0.1	0.1	0.3	0.2	0.1	<0.1	0.2
duplicate	MEAN		nc	nc	nc	nc	nc	nc	0.35	0.35	0.075	0.1	0.25	0.15	0.1	nc	0.15
	RPD %		nc	nc	nc	nc	nc	nc	29%	29%	67%	0%	40%	67%	0%	nc	67%
Intra	TP15	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.2	0.05	<0.1	<0.1	<0.1
laboratory	SDUP2	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	0.1	0.075	nc	nc	nc	0.0375	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	0%	67%	nc	nc	nc	67%	nc	nc	nc
Inter	TP14	0-0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.3	0.3	0.1	0.1	<0.2	0.1	<0.1	<0.1	0.1
laboratory	SDUP3	0-0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.2	0.08	0.1	<0.1	0.1
duplicate	MEAN		nc	nc	nc	nc	0.1	nc	0.25	0.25	0.075	0.075	nc	0.09	0.075	nc	0.1
	RPD %		nc	nc	nc	nc	0%	nc	40%	40%	67%	67%	nc	22%	67%	nc	0%
Inter	TP13	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.2	0.05	<0.1	<0.1	<0.1
laboratory	SDUP4	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.2	0.05	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	0.075	0.1	nc	nc	nc	0.05	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	67%	0%	nc	nc	nc	0%	nc	nc	nc
Field	TB-S1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1
Blank	2/05/23																
Field	FR-SPT	µg/L [1]	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1
Rinsate	3/05/23																
Trip	TS-S1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spike	2/05/23																

			HCB	alpha- BHC	gamma- BHC	beta- BHC	Heptachlor	delta- BHC	Aldrin	Heptachlor Epoxide	Gamma- Chlordane	alpha- chlordane	Endosulfan I	pp- DDE	Dieldrin	Endrin	pp- DDD	Endosulfan II	pp- DDT	Endrin Aldehyde	Endosulfan Sulphate	Methoxychlor
	PQL Envirolab SYD		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
	PQL Envirolab VIC		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
Intra	TP16	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP1	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra	TP15	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP2	0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP14	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP3	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP13	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP4	0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Field	TB-S1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	2/05/23																					
Field	FR-SPT	µg/L [1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	3/05/23																					
Trip	TS-S1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spike	2/05/23																					

			Azinphos-methyl (Guthio	Bromophos-ethyl	Chlorpyriphos	Chlorpyriphos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenitrothion	Malathion	Parathion	Ronnel	Total PCBS	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
	PQL Envirolab SYD		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*4*	*0.4*	*1*	*1*	*1*	*0.1*	*1*	*1*
	PQL Envirolab VIC		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*4*	*0.4*	*1*	*1*	*1*	*0.1*	*1*	*1*
Intra	TP16	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	10	<0.4	56	190	25	<0.1	14	61
laboratory	SDUP1	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	10	<0.4	55	190	25	<0.1	14	66
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	10	nc	55.5	190	25	nc	14	63.5
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0%	nc	2%	0%	0%	nc	0%	8%
Intra	TP15	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	<0.4	21	34	12	<0.1	7	30
laboratory	SDUP2	0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<0.4	20	31	12	<0.1	7	29
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	6	nc	20.5	32.5	12	nc	7	29.5
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0%	nc	5%	9%	0%	nc	0%	3%
Inter	TP14	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	15	<0.4	31	99	120	0.1	3	88
laboratory	SDUP3	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11	<0.4	22	130	170	<0.1	6	140
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	13	nc	26.5	114.5	145	0.075	4.5	114
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	31%	nc	34%	27%	34%	67%	67%	46%
Inter	TP13	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5	<0.4	20	210	22	0.1	8	59
laboratory	SDUP4	0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	5	<0.4	16	160	24	<0.1	7	67
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	5	nc	18	185	23	0.075	7.5	63
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0%	nc	22%	27%	9%	67%	13%	13%
Field	TB-S1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<4	<0.4	7	1	3	<0.1	5	12
Blank	2/05/23																						
Field	FR-SPT	µg/L [1]	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.01	<0.01	0.3	<0.03	<0.0005	<0.02	0.2
Rinsate	3/05/23																						
Trip	TS-S1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spike	2/05/23																						

Result outside of QA/QC acceptance criteria (highlighted)
1. Heavy metal concentrations reported in mg/L

DSI Laboratory Summary Tables

ABBREVIATIONS AND EXPLANATIONS

Abbreviations used in the Tables:

ABC:	Ambient Background Concentration
ACM:	Asbestos Containing Material
ADWG:	AustralianDrinking Water Guidelines
AF:	Asbestos Fines
ANZG	Australian and New Zealand Guidelines
B(a)P:	Benzo(a)pyrene
CEC:	Cation Exchange Capacity
CRC:	Cooperative Research Centre
CT:	Contaminant Threshold
EILs:	Ecological Investigation Levels
ESLs:	Ecological Screening Levels
FA:	Fibrous Asbestos
GIL:	Groundwater Investigation Levels
GSW:	General Solid Waste
HILs:	Health Investigation Levels
HSLs:	Health Screening Levels
HSL-SSA:	Health Screening Level-SiteSpecific Assessment
kg/L	kilograms per litre
NA:	Not Analysed
NC:	Not Calculated
NEPM:	National Environmental Protection Measure
NHMRC:	National Health and Medical Research Council
NL:	Not Limiting
NSL:	No Set Limit
OCP:	Organochlorine Pesticides
OPP:	Organophosphorus Pesticides
PAHs:	Polycyclic Aromatic Hydrocarbons
%w/w:	weight per weight
ppm:	Parts per million
PCBs:	Polychlorinated Biphenyls
PCE:	Perchloroethylene (Tetrachloroethylene or Teterachloroethene)
pH_{KCL} :	pH of filtered 1:20, 1M KCL extract, shaken overnight
pH_{ox} :	pH of filtered 1:20 1M KCl after peroxide digestion
PQL:	Practical Quantitation Limit
RS:	Rinsate Sample
RSL:	Regional Screening Levels
RSW:	Restricted Solid Waste
SAC:	Site Assessment Criteria
SCC:	Specific Contaminant Concentration
S_{Cr}:	Chromium reducible sulfur
S_{POS}:	Peroxide oxidisable Sulfur
SSA:	Site Specific Assessment
SSHSLs:	Site Specific Health Screening Levels
TAA:	Total Actual Acidity in 1M KCL extract titrated to pH6.5
TB:	Trip Blank
TCA:	1,1,1 Trichloroethane (methyl chloroform)
TCE:	Trichloroethylene (Trichloroethene)
TCLP:	Toxicity Characteristics Leaching Procedure
TPA:	Total Potential Acidity, 1M KCL peroxide digest
TS:	Trip Spike
TRH:	Total Recoverable Hydrocarbons
TSA:	Total Sulfide Acidity (TPA-TAA)
UCL:	Upper Level Confidence Limit on Mean Valu
USEPA	United States Environmental Protection Agency
VOCC:	Volatile Organic Chlorinated Compounds
WHO:	World Health Organisation

Table Specific Explanations:

HIL Tables:

- The chromium results are for Total Chromium which includes Chromium III and VI. For initial screening purposes, we have assumed that the samples contain only Chromium VI unless demonstrated otherwise by additional analysis.
- Carcinogenic PAHs is a toxicity weighted sum of analyte concentrations for a specific list of PAH compounds relative to B(a)P. It is also refered to as the B(a)P Toxic Equivalence Quotient (TEQ).
- Statistical calculations are undertaken using ProUCL (USEPA). Statistical calculation is usually undertaken using data from fill samples.

EIL/ESL Table:

- ABC Values for selected metals have been adopted from the published background concentrations presented in Olszowy et. al., (1995), Trace Element Concentrations in Soils from Rural and Urban New South Wales (the 25th percentile values for old suburbs with low traffic have been quoted).

Waste Classification and TCLP Table:

- Data assessed using the NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (2014).
- The assessment of Total Moderately Harmful pesticides includes: Dichlorovos, Dimethoate, Fenitrothion, Ethion, Malathion and Parathion.
- Assessment of Total Scheduled pesticides include: HBC, alpha-BHC, gamma-BHC, beta-BHC, Heptachlor, Aldrin, Heptachlor Epoxide, gamma-Chlordane, alpha-chlordane, pp-DDE, Dieldrin, Endrin, pp-DDD, pp-DDT, Endrin Aldehyde.

QA/QC Table:

- Field blank, Inter and Intra laboratory duplicate results are reported in mg/kg.
- Trip spike results are reported as percentage recovery.
- Field rinsate results are reported in µg/L.

TABLE S1
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013.
HIL-A: 'Residential with garden/accessible soils; children's day care centers; preschools; and primary schools'

All data in mg/kg unless stated otherwise			HEAVY METALS									PAHs		ORGANOCHLORINE PESTICIDES (OCPs)							OP PESTICIDES (OPPs)		
			Arsenic	Cadmium	Chromium (Total)	Chromium VI	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	Carcinogenic PAHs	HCB	Endosulfan	Methoxychlor	Aldrin & Dieldrin	Chlordane	DDT, DDD & DDE	Heptachlor	Chlorpyrifos	TOTAL PCBs	ASBESTOS FIBRES
PQL - Envirolab Services			4	0.4	1	1	1	1	0.1	1	1	-	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	100
Site Assessment Criteria (SAC)			100	20	NSL	100	6000	300	40	400	7400	300	3	10	270	300	6	50	240	6	160	1	Detected/Not Detected
Sample Reference	**Sample Depth**	**Sample Description**																					
TP101	0-0.1	Fill: Silty Clay	**6**	<0.4	**40**	NA	**65**	**21**	**0.2**	**11**	**36**	**19**	**2.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP101	0.4-0.5	Silty Clay	**6**	<0.4	**51**	NA	**72**	**13**	<0.1	**12**	**26**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP102	0-0.1	Fill: Silty Clay	**6**	<0.4	**34**	NA	**58**	**20**	<0.1	**10**	**36**	**34**	**4.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP102 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**6**	<0.4	**35**	NA	**60**	**20**	<0.1	**10**	**38**	**32**	**3.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
TP103	0-0.1	Fill: Silty Clay	**5**	<0.4	**37**	NA	**43**	**28**	<0.1	**9**	**32**	**24**	**3.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP104	0-0.1	Fill: Silty Clay	**5**	<0.4	**34**	NA	**58**	**21**	<0.1	**10**	**39**	**59**	**6.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP105	0-0.1	Fill: Silty Clay	**4**	<0.4	**26**	NA	**52**	**21**	<0.1	**8**	**38**	**54**	**6.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP106	0-0.1	Fill: Silty Clay	**5**	<0.4	**33**	NA	**72**	**18**	<0.1	**11**	**43**	**5.3**	**0.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP106	0.4-0.5	Silty Clay	**5**	<0.4	**44**	NA	**100**	**8**	<0.1	**9**	**24**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP107	0-0.1	Fill: Silty Clay	**6**	<0.4	**39**	NA	**74**	**14**	<0.1	**10**	**39**	**2.8**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP108	0-0.1	Fill: Silty Clay	**11**	<0.4	**46**	NA	**81**	**21**	**0.2**	**11**	**49**	**2**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP108	0.4-0.5	Silty Clay	**8**	<0.4	**46**	NA	**100**	**9**	<0.1	**10**	**30**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP109	0-0.1	Fill: Silty Clay	**8**	<0.4	**57**	NA	**140**	**10**	<0.1	**13**	**30**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP110	0-0.1	Silty Clay	**10**	<0.4	**59**	NA	**190**	**10**	**0.1**	**12**	**30**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
TP110 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**9**	<0.4	**64**	NA	**200**	**8**	<0.1	**12**	**30**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
TP111	0-0.1	Fill: Silty Clay	**5**	<0.4	**25**	NA	**100**	**12**	<0.1	**7**	**33**	**3.6**	**0.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP112	0-0.1	Fill: Silty Clay	**6**	<0.4	**21**	NA	**320**	**35**	<0.1	**10**	**68**	**1.3**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP113	0-0.1	Fill: Silty Clay	**7**	<0.4	**47**	NA	**250**	**9**	<0.1	**13**	**53**	**2.9**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP113	0.9-1.0	Silty Clay	**7**	<0.4	**29**	NA	**340**	**21**	<0.1	**11**	**280**	**14**	**1.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP114	0-0.1	Fill: Silty Clay	**8**	<0.4	**33**	NA	**170**	**79**	<0.1	**15**	**77**	**6**	**0.8**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP115	0-0.1	Fill: Silty Sand	**23**	<0.4	**27**	NA	**56**	**32**	**0.5**	**11**	**140**	**2.5**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP116	0-0.05	Fill: Silty Sand	**5**	<0.4	**29**	NA	**61**	**19**	**0.1**	**9**	**44**	**3.1**	**0.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP116	0.4-0.5	Silty Clay	**5**	<0.4	**40**	NA	**110**	**6**	<0.1	**10**	**27**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP117	0-0.1	Fill: Silty Clay	**5**	<0.4	**36**	NA	**66**	**16**	<0.1	**10**	**38**	**2.4**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP117 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**5**	<0.4	**38**	NA	**67**	**15**	<0.1	**11**	**39**	**2.9**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
TP118	0-0.1	Fill: Silty Clay	**5**	<0.4	**36**	NA	**62**	**21**	<0.1	**10**	**42**	**13**	**1.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP119	0-0.1	Fill: Silty Clay	**4**	<0.4	**44**	NA	**43**	**14**	<0.1	**10**	**37**	**2.1**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP120	0-0.1	Fill: Silty Clay	**5**	<0.4	**37**	NA	**54**	**44**	**0.1**	**9**	**36**	**27**	**3.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP120	0.4-0.5	Silty Clay	**5**	<0.4	**45**	NA	**80**	**11**	<0.1	**8**	**19**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP121	0-0.1	Fill: Silty Clay	**5**	<0.4	**40**	NA	**64**	**14**	<0.1	**10**	**38**	**3.5**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP122	0-0.1	Fill: Silty Clay	**6**	<0.4	**40**	NA	**86**	**18**	<0.1	**9**	**42**	**3.4**	**0.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP123	0-0.1	Silty Clay	**12**	<0.4	**140**	<1	**310**	**6**	<0.1	**30**	**64**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP124	0-0.1	Fill: Silty Clay	**10**	<0.4	**13**	NA	**120**	**9**	<0.1	**5**	**27**	<0.05	<0.5	<0.1	<0.1	<0.1	**0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP124 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**12**	<0.4	**26**	NA	**180**	**12**	<0.1	**9**	**42**	<0.05	<0.5	<0.1	<0.1	<0.1	**0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	NA
TP124 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	**11**	<0.4	**17**	NA	**140**	**11**	<0.1	**6**	**33**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP125	0-0.1	Fill: Silty Clay	**19**	<0.4	**31**	NA	**240**	**21**	<0.1	**11**	**54**	**2.8**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP125	0.7-0.8	Silty Clay	**9**	<0.4	**61**	NA	**210**	**10**	<0.1	**12**	**22**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH126	0.02-0.2	Fill: Sandy Silty Clay	**4**	<0.4	**11**	NA	**4**	**4**	<0.1	**1**	**3**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP127	0-0.1	Fill: Silty Clay	**6**	<0.4	**35**	NA	**84**	**34**	**0.1**	**9**	**59**	**1.5**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP127	0.3-0.4	Silty Clay	**6**	<0.4	**71**	NA	**120**	**12**	<0.1	**11**	**23**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP128	0-0.1	Fill: Silty Clay	**7**	<0.4	**45**	NA	**69**	**11**	<0.1	**13**	**30**	**0.4**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP129	0-0.1	Fill: Silty Clay	**6**	<0.4	**53**	NA	**60**	**18**	**0.1**	**12**	**35**	**2.9**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP130	0-0.1	Fill: Silty Clay	**9**	<0.4	**56**	NA	**80**	**14**	<0.1	**15**	**31**	**3.4**	**0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP130	0.4-0.5	Silty Clay	**8**	<0.4	**110**	<1	**160**	**12**	<0.1	**19**	**24**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP131	0-0.1	Fill: Silty Clay	**6**	<0.4	**18**	NA	**330**	**470**	<0.1	**9**	**190**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP131	0.2-0.3	XW Andesite	NA	NA	NA	NA	NA	**9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP132	0-0.1	Fill: Silty Clay	**5**	<0.4	**16**	NA	**210**	**32**	<0.1	**8**	**68**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP133	0-0.1	Fill: Silty Clay	<4	**0.4**	**25**	NA	**220**	**120**	<0.1	**9**	**290**	**3.8**	**0.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP134	0-0.1	Fill: Clayey Silt	**5**	<0.4	**22**	NA	**160**	**44**	<0.1	**8**	**120**	**12**	**1.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP135	0-0.1	Fill: Silty Clay	<4	<0.4	**25**	NA	**190**	**37**	<0.1	**9**	**71**	**7**	**1.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP135 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**5**	<0.4	**31**	NA	**230**	**32**	<0.1	**11**	**90**	**16**	**2.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
TP136	0-0.1	Fill: Silty Clay	**5**	<0.4	**15**	NA	**95**	**37**	<0.1	**7**	**100**	**0.4**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP136	0.4-0.5	XW Andesite	**5**	<0.4	**26**	NA	**350**	**15**	<0.1	**11**	**93**	**0.4**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP137	0-0.1	Fill: Silty Clay	**5**	<0.4	**20**	NA	**210**	**26**	<0.1	**9**	**67**	**0.4**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP138	0-0.1	Fill: Silty Clay	**5**	<0.4	**26**	NA	**260**	**43**	<0.1	**11**	**100**	**0.2**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP139	0-0.1	Fill: Silty Clay	**5**	<0.4	**21**	NA	**210**	**98**	**0.1**	**8**	**230**	**2.2**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP139	0.2-0.3	Silty Clay	**9**	<0.4	**37**	NA	**390**	**180**	**0.2**	**15**	**400**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP140	0-0.1	Fill: Silty Clay	**13**	<0.4	**21**	NA	**96**	**23**	<0.1	**8**	**76**	**0.05**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP140	0.4-0.5	Silty Clay	**5**	<0.4	**20**	NA	**480**	**6**	<0.1	**12**	**51**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP141	0-0.1	Fill: Clayey Silt	<4	<0.4	**12**	NA	**28**	**32**	<0.1	**5**	**46**	**2**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP142	0-0.1	Fill: Silty Clay	**6**	<0.4	**31**	NA	**54**	**27**	<0.1	**7**	**29**	**19**	**2.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP142	0.4-0.5	Silty Clay	**7**	<0.4	**110**	<1	**150**	**14**	<0.1	**16**	**23**	**0.07**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP143	0-0.1	Fill: Clayey Silt	**5**	<0.4	**20**	NA	**150**	**15**	<0.1	**7**	**40**	**6.1**	**0.8**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP143 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**6**	<0.4	**23**	NA	**140**	**17**	<0.1	**7**	**41**	**6.8**	**1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
TP143	0.2-0.3	Fill: Silty Clay	**7**	<0.4	**37**	NA	**320**	**11**	<0.1	**12**	**32**	**0.4**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP144	0-0.1	Fill: Silty Sand	**5**	<0.4	**27**	NA	**50**	**54**	<0.1	**8**	**32**	**0.4**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP144	0.2-0.3	Fill: Silty Clayey Sand	**14**	<0.4	**10**	NA	**6**	**6**	<0.1	**3**	**5**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP145	0-0.1	Fill: Silty Gravelly Clay	**6**	<0.4	**44**	NA	**58**	**18**	<0.1	**10**	**26**	**0.3**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP145	0.4-0.5	Silty Clay	**6**	<0.4	**81**	NA	**94**	**12**	<0.1	**13**	**20**	**0.4**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP146	0-0.05	Fill: Gravelly Silty Clay	**7**	<0.4	**53**	NA	**170**	**14**	<0.1	**13**	**51**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP146	0.3-0.4	Silty Clay	**8**	<0.4	**21**	NA	**500**	**4**	<0.1	**10**	**25**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP147	0-0.1	Fill: Clayey Silt	<4	<0.4	**19**	NA	**15**	**13**	<0.1	**4**	**26**	**2.9**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP147 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	<0.4	**14**	NA	**13**	**12**	<0.1	**4**	**25**	**1.5**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
TP147	0.6-0.7	Fill: Sandy Clay	**7**	<0.4	**28**	NA	**130**	**48**	<0.1	**18**	**170**	**95**	**11**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP148	0-0.1	Fill: Clayey Silt	<4	<0.4	**12**	NA	**14**	**8**	<0.1	**3**	**25**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP149	0-0.1	Fill: Silty Clay	**8**	<0.4	**19**	NA	**25**	**48**	<0.1	**6**	**57**	**1**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP149	0.5-0.6	Fill: Silty Clay	**12**	<0.4	**62**	NA	**120**	**29**	<0.1	**24**	**68**	**9.8**	**1.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP149	0.7-0.8	Silty Clay	**9**	<0.4	**110**	<1	**180**	**14**	<0.1	**22**	**30**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP150	0-0.1	Fill: Silty Clay	**8**	<0.4	**46**	NA	**86**	**17**	<0.1	**14**	**36**	**4.1**	**0.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP151	0-0.1	Fill: Silty Clay	**7**	<0.4	**21**	NA	**11**	**15**	<0.1	**6**	**19**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP152	0-0.1	Fill: Silty Clay	**14**	<0.4	**34**	NA	**57**	**14**	<0.1	**17**	**44**	**2.9**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP153	0-0.1	Fill: Silty Sandy Clay	**5**	<0.4	**29**	NA	**39**	**20**	<0.1	**8**	**34**	**190**	**24**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP153	0.6-0.7	Silty Clay	**9**	<0.4	**120**	<1	**160**	**11**	<0.1	**16**	**23**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP154	0-0.1	Fill: Gravelly Clayey Sand	**5**	<0.4	**18**	NA	**27**	**11**	<0.1	**5**	**21**	**15**	**2.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP154 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**6**	<0.4	**22**	NA	**32**	**13**	<0.1	**6**	**24**	**19**	**2.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
BH155	0.05-0.2	Fill: Silty Sand	**10**	<0.4	**13**	NA	**12**	**5**	<0.1	**2**	**6**	**19**	**2.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
BH155	0.2-0.5	Fill: Silty Clay	**7**	<0.4	**62**	NA	**140**	**77**	**0.2**	**19**	**110**	**200**	**18**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
BH155	0.5-0.8	Silty Clay	**7**	<0.4	**110**	<1	**160**	**13**	<0.1	**21**	**25**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP156	0-0.1	Fill: Silty Clay	**8**	<0.4	**48**	NA	**140**	**39**	<0.1	**14**	**110**	**9.2**	**1.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
BH157	0.03-0.3	Fill: Silty Clay	**10**	<0.4	**12**	NA	**21**	**16**	<0.1	**8**	**290**	**4.2**	**0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH158	0.04-0.3	Fill: Silty Sandy Clay	**10**	<0.4	**19**	NA	**230**	**26**	<0.1	**9**	**39**	**3.5**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
BH158	0.3-0.6	XW Andesite	**6**	<0.4	**15**	NA	**370**	**3**	<0.1	**10**	**33**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP159	0-0.1	Fill: Clayey Silt	<4	<0.4	**11**	NA	**19**	**13**	<0.1	**4**	**37**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
TP159 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	<0.4	**14**	NA	**19**	**14**	<0.1	**4**	**35**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
TP160	0-0.1	Fill: Silty Clay	**5**	<0.4	**19**	NA	**270**	**69**	<0.1	**8**	**77**	**2.8**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP160	0.2-0.3	Silty Clay	**6**	<0.4	**18**	NA	**440**	**5**	<0.1	**10**	**22**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP161	0-0.1	Fill: Silty Clay	**7**	<0.4	**21**	NA	**160**	**35**	<0.1	**7**	**57**	**8.6**	**1.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
BH162	0.04-0.2	Fill: Silty Clay	**7**	<0.4	**17**	NA	**250**	**6**	<0.1	**8**	**26**	**120**	**18**	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
BH162	1.2-1.4	Silty Clay	**7**	<0.4	**74**	NA	**130**	**12**	<0.1	**11**	**21**	**2.8**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP163	0-0.1	Fill: Silty Clay	**7**	<0.4	**61**	NA	**66**	**13**	<0.1	**14**	**22**	**5**	**0.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
SDUP101	0-0.1	Duplicate of TP112	**6**	<0.4	**22**	NA	**290**	**39**	<0.1	**10**	**71**	**1.6**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
SDUP101- [LAB_DUP]	0-0.1	Laboratory Duplicate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
SDUP102	0-0.1	Duplicate of TP111	**5**	<0.4	**21**	NA	**120**	**7**	<0.1	**8**	**34**	**3.4**	**0.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP103	0-0.1	Duplicate of TP110	**16**	<0.4	**61**	NA	**260**	**3**	<0.1	**14**	**36**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
SDUP104	0-0.1	Duplicate of TP109	**8**	<0.4	**63**	NA	**140**	**5**	<0.1	**14**	**33**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP105	0-0.1	Duplicate of TP107	**5**	<0.4	**39**	NA	**69**	**15**	<0.1	**11**	**41**	**2.5**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP106	0-0.1	Duplicate of TP102	**5**	<0.4	**32**	NA	**52**	**18**	<0.1	**9**	**31**	**23**	**3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP107	0-0.05	Duplicate of TP116	**6**	<0.4	**33**	NA	**80**	**21**	**0.1**	**10**	**49**	**3.1**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP108	0-0.1	Duplicate of TP145	**8**	<0.4	**49**	NA	**65**	**21**	<0.1	**10**	**27**	**0.5**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
SDUP109	0-0.1	Duplicate of TP143	**5**	<0.4	**20**	NA	**130**	**16**	<0.1	**7**	**39**	**8.1**	**1.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
SDUP109 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**5**	<0.4	**20**	NA	**140**	**16**	<0.1	**7**	**40**	**7.4**	**1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
SDUP110	0-0.1	Duplicate of TP138	**7**	<0.4	**40**	NA	**460**	**67**	**0.1**	**16**	**150**	**0.3**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FCF101	-	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
Total Number of Samples			110	110	110	6	110	111	110	110	110	109	109	46	46	46	46	46	46	46	47	44	67
Maximum Value			23	0.4	140	<PQL	500	470	0.5	30	400	200	24	<PQL	<PQL	<PQL	0.5	<PQL	<PQL	<PQL	<PQL	<PQL	Detected

Concentration above the SAC	VALUE
Concentration above the PQL	**Bold**

TABLE S2
SOIL LABORATORY RESULTS COMPARED TO HSLs
All data in mg/kg unless stated otherwise

Sample Reference	Sample Depth	Sample Description	Depth Category	Soil Category	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Field PID Measurement
PQL - Envirolab Services					25	50	0.2	0.5	1	1	1	ppm
NEPM 2013 HSL Land Use Category					HSL-A/B: LOW/HIGH DENSITY RESIDENTIAL							
TP101	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.7
TP101	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.6
TP102	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.5
TP102 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP103	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	**56**	<0.2	<0.5	<1	<1	<1	1.4
TP104	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2
TP105	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.4
TP106	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.3
TP106	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.9
TP107	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.4
TP108	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.8
TP108	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	22.5
TP109	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.4
TP110	0-0.1	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2
TP110 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP111	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.2
TP112	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1
TP113	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	6.4
TP113	0.9-1.0	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	7.9
TP114	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.7
TP115	0-0.1	Fill: Silty Sand	0m to <1m	Sand	<25	**73**	<0.2	<0.5	<1	<1	<1	2.8
TP116	0-0.05	Fill: Silty Sand	0m to <1m	Sand	<25	**120**	<0.2	<0.5	<1	<1	<1	4.3
TP116	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	9.5
TP117	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.4
TP117 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP118	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.5
TP119	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	4.3
TP120	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	5.2
TP120	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	8.6
TP121	0-0.1	Fill: Silty Clay	0m to <1m	Sand	**37**	<50	<0.2	<0.5	<1	<1	<1	4.3
TP122	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.4
TP123	0-0.1	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	4.2
TP124	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1
TP124 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP125	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.1
TP125	0.7-0.8	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.7
BH126	0.02-0.2	Fill: Sandy Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.5
TP127	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	5.9
TP127	0.3-0.4	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	8.7
TP128	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	6
TP129	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	7.5
TP130	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	9.8
TP130	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	6.2
TP131	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.8
TP132	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.1
TP133	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.1
TP134	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.3
TP135	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3
TP135 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP136	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.9
TP136	0.4-0.5	XW Andesite	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.2
TP137	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.8
TP138	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.8
TP139	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.2
TP139	0.2-0.3	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.9
TP140	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.4
TP140	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3.5
TP141	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.7
TP142	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	4.2
TP142	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	7.3
TP143	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.9
TP143 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP143	0.2-0.3	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3.6
TP144	0-0.1	Fill: Silty Sand	0m to <1m	Sand	<25	**210**	<0.2	<0.5	<1	<1	<1	1.7
TP144	0.2-0.3	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2
TP145	0-0.1	Fill: Silty Gravelly Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.1
TP145	0.4-0.5	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.5
TP146	0-0.05	Fill: Gravelly Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	7.2
TP146	0.3-0.4	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	7.4
TP147	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.5
TP147 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP147	0.6-0.7	Fill: Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.8
TP148	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.8
TP149	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.4
TP149	0.5-0.6	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.8
TP149	0.7-0.8	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.9
TP150	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.3
TP151	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.2
TP152	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.7
TP153	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3.2
TP153	0.6-0.7	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3.5
TP154	0-0.1	Fill: Gravelly Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	4
TP154 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
BH155	0.05-0.2	Fill: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	4.3
BH155	0.2-0.5	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	4.1
BH155	0.5-0.8	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3.9
TP156	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.4
BH157	0.03-0.3	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	4.1
BH158	0.04-0.3	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	4.6
BH158	0.3-0.6	XW Andesite	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	8.1
TP159	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.9
TP159 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP160	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.6
TP160	0.2-0.3	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	5.8
TP161	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.4
BH162	0.04-0.2	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	6
BH162	1.2-1.4	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3.5
TP163	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0.7
SDUP101	0-0.1	Duplicate of TP112	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP102	0-0.1	Duplicate of TP111	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP103	0-0.1	Duplicate of TP110	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP104	0-0.1	Duplicate of TP109	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP105	0-0.1	Duplicate of TP107	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP106	0-0.1	Duplicate of TP102	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP107	0-0.05	Duplicate of TP116	0m to <1m	Sand	**71**	**150**	<0.2	<0.5	<1	<1	<1	NA
SDUP108	0-0.1	Duplicate of TP145	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP109	0-0.1	Duplicate of TP143	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP109 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP110	0-0.1	Duplicate of TP138	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
Total Number of Samples					109	109	109	109	109	109	109	89
Maximum Value					71	210	<PQL	<PQL	<PQL	<PQL	<PQL	22.5

Concentration above the SAC — **VALUE** (highlighted)
Concentration above the PQL — **Bold**
The guideline corresponding to the concentration above the SAC is highlighted in grey in the Site Assessment Criteria Table below

HSL SOIL ASSESSMENT CRITERIA

Sample Reference	Sample Depth	Sample Description	Depth Category	Soil Category	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
TP101	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP101	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP102	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP102 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP103	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP104	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP105	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP106	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP106	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP107	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP108	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP108	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP109	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP110	0-0.1	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP110 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP111	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP112	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP113	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP113	0.9-1.0	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP114	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP115	0-0.1	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP116	0-0.05	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP116	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP117	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP117 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP118	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP119	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP120	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP120	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP121	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP122	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP123	0-0.1	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP124	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP124 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP125	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP125	0.7-0.8	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH126	0.02-0.2	Fill: Sandy Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP127	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP127	0.3-0.4	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP128	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP129	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP130	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP130	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP131	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP132	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP133	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP134	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP135	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP135 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP136	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP136	0.4-0.5	XW Andesite	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP137	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP138	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP139	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP139	0.2-0.3	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP140	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP140	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP141	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP142	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP142	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP143	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP143 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP143	0.2-0.3	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP144	0-0.1	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP144	0.2-0.3	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP145	0-0.1	Fill: Silty Gravelly Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP145	0.4-0.5	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP146	0-0.05	Fill: Gravelly Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP146	0.3-0.4	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP147	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP147 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP147	0.6-0.7	Fill: Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP148	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP149	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP149	0.5-0.6	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP149	0.7-0.8	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP150	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP151	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP152	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP153	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP153	0.6-0.7	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP154	0-0.1	Fill: Gravelly Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP154 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH155	0.05-0.2	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH155	0.2-0.5	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH155	0.5-0.8	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP156	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH157	0.03-0.3	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH158	0.04-0.3	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH158	0.3-0.6	XW Andesite	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP159	0-0.1	Fill: Clayey Silt	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP159 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP160	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP160	0.2-0.3	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP161	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH162	0.04-0.2	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH162	1.2-1.4	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP163	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP101	0-0.1	Duplicate of TP112	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP102	0-0.1	Duplicate of TP111	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP103	0-0.1	Duplicate of TP110	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP104	0-0.1	Duplicate of TP109	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP105	0-0.1	Duplicate of TP107	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP106	0-0.1	Duplicate of TP102	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP107	0-0.05	Duplicate of TP116	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP108	0-0.1	Duplicate of TP145	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP109	0-0.1	Duplicate of TP143	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP109 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP110	0-0.1	Duplicate of TP138	0m to <1m	Sand	45	110	0.5	160	55	40	3

TABLE S3
SOIL LABORATORY RESULTS COMPARED TO MANAGEMENT LIMITS
All data in mg/kg unless stated otherwise

			C_6-C_{10} (F1) plus BTEX	>C_{10}-C_{16} (F2) plus napthalene	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)
PQL - Envirolab Services			25	50	100	100
NEPM 2013 Land Use Category			**RESIDENTIAL, PARKLAND & PUBLIC OPEN SPACE**			
Sample Reference	**Sample Depth**	**Soil Texture**				
TP101	0-0.1	Coarse	<25	<50	<100	<100
TP101	0.4-0.5	Coarse	<25	<50	<100	<100
TP102	0-0.1	Coarse	<25	<50	**210**	<100
TP102 - [LAB_DUP]	0-0.1	Coarse	<25	<50	**210**	<100
TP103	0-0.1	Coarse	<25	**56**	**340**	**160**
TP104	0-0.1	Coarse	<25	<50	**140**	<100
TP105	0-0.1	Coarse	<25	<50	**180**	<100
TP106	0-0.1	Coarse	<25	<50	<100	<100
TP106	0.4-0.5	Coarse	<25	<50	<100	<100
TP107	0-0.1	Coarse	<25	<50	<100	<100
TP108	0-0.1	Coarse	<25	<50	<100	<100
TP108	0.4-0.5	Coarse	<25	<50	<100	<100
TP109	0-0.1	Coarse	<25	<50	<100	<100
TP110	0-0.1	Coarse	<25	<50	<100	<100
TP110 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP111	0-0.1	Coarse	<25	<50	**230**	<100
TP112	0-0.1	Coarse	<25	<50	<100	<100
TP113	0-0.1	Coarse	<25	<50	<100	<100
TP113	0.9-1.0	Coarse	<25	<50	**100**	<100
TP114	0-0.1	Coarse	<25	<50	<100	<100
TP115	0-0.1	Coarse	<25	**73**	**620**	**250**
TP116	0-0.05	Coarse	<25	**120**	**720**	**240**
TP116	0.4-0.5	Coarse	<25	<50	<100	<100
TP117	0-0.1	Coarse	<25	<50	<100	<100
TP117 - [LAB_DUP]	0-0.1	Coarse	<25	<50	**120**	<100
TP118	0-0.1	Coarse	<25	<50	**140**	<100
TP119	0-0.1	Coarse	<25	<50	<100	<100
TP120	0-0.1	Coarse	<25	<50	**130**	<100
TP120	0.4-0.5	Coarse	<25	<50	<100	<100
TP121	0-0.1	Coarse	**37**	<50	**170**	<100
TP122	0-0.1	Coarse	<25	<50	**160**	<100
TP123	0-0.1	Coarse	<25	<50	<100	<100
TP124	0-0.1	Coarse	<25	<50	<100	<100
TP124 - [LAB_DUP]	0-0.1	Coarse	<25	<50	**100**	<100
TP125	0-0.1	Coarse	<25	<50	**150**	<100
TP125	0.7-0.8	Coarse	<25	<50	<100	<100
BH126	0.02-0.2	Coarse	<25	<50	<100	<100
TP127	0-0.1	Coarse	<25	<50	<100	<100
TP127	0.3-0.4	Coarse	<25	<50	<100	<100
TP128	0-0.1	Coarse	<25	<50	<100	<100
TP129	0-0.1	Coarse	<25	<50	<100	<100
TP130	0-0.1	Coarse	<25	<50	<100	<100
TP130	0.4-0.5	Coarse	<25	<50	<100	<100
TP131	0-0.1	Coarse	<25	<50	<100	<100
TP132	0-0.1	Coarse	<25	<50	**130**	<100
TP133	0-0.1	Coarse	<25	<50	<100	<100
TP134	0-0.1	Coarse	<25	<50	**100**	<100
TP135	0-0.1	Coarse	<25	<50	<100	<100
TP135 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP136	0-0.1	Coarse	<25	<50	**230**	**240**
TP136	0.4-0.5	Coarse	<25	<50	<100	<100
TP137	0-0.1	Coarse	<25	<50	<100	<100
TP138	0-0.1	Coarse	<25	<50	<100	<100
TP139	0-0.1	Coarse	<25	<50	<100	<100
TP139	0.2-0.3	Coarse	<25	<50	<100	<100
TP140	0-0.1	Coarse	<25	<50	<100	<100
TP140	0.4-0.5	Coarse	<25	<50	<100	<100
TP141	0-0.1	Coarse	<25	<50	<100	<100
TP142	0-0.1	Coarse	<25	<50	<100	<100
TP142	0.4-0.5	Coarse	<25	<50	<100	<100
TP143	0-0.1	Coarse	<25	<50	<100	<100
TP143 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP143	0.2-0.3	Coarse	<25	<50	<100	<100
TP144	0-0.1	Coarse	<25	**210**	**1100**	**440**
TP144	0.2-0.3	Coarse	<25	<50	<100	<100
TP145	0-0.1	Coarse	<25	<50	**100**	<100
TP145	0.4-0.5	Coarse	<25	<50	<100	<100
TP146	0-0.05	Coarse	<25	<50	<100	<100
TP146	0.3-0.4	Coarse	<25	<50	<100	<100
TP147	0-0.1	Coarse	<25	<50	<100	<100
TP147 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP147	0.6-0.7	Coarse	<25	<50	**160**	<100
TP148	0-0.1	Coarse	<25	<50	<100	<100
TP149	0-0.1	Coarse	<25	<50	**160**	**260**
TP149	0.5-0.6	Coarse	<25	<50	<100	<100
TP149	0.7-0.8	Coarse	<25	<50	<100	<100
TP150	0-0.1	Coarse	<25	<50	<100	<100
TP151	0-0.1	Coarse	<25	<50	<100	<100
TP152	0-0.1	Coarse	<25	<50	<100	<100
TP153	0-0.1	Coarse	<25	<50	**400**	**160**
TP153	0.6-0.7	Coarse	<25	<50	<100	<100
TP154	0-0.1	Coarse	<25	<50	<100	<100
TP154 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
BH155	0.05-0.2	Coarse	<25	<50	<100	<100
BH155	0.2-0.5	Coarse	<25	<50	**400**	**120**
BH155	0.5-0.8	Coarse	<25	<50	<100	<100
TP156	0-0.1	Coarse	<25	<50	<100	<100
BH157	0.03-0.3	Coarse	<25	<50	<100	<100
BH158	0.04-0.3	Coarse	<25	<50	<100	<100
BH158	0.3-0.6	Coarse	<25	<50	<100	<100
TP159	0-0.1	Coarse	<25	<50	<100	<100
TP159 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP160	0-0.1	Coarse	<25	<50	<100	<100
TP160	0.2-0.3	Coarse	<25	<50	<100	<100
TP161	0-0.1	Coarse	<25	<50	**140**	<100
BH162	0.04-0.2	Coarse	<25	<50	**220**	<100
BH162	1.2-1.4	Coarse	<25	<50	<100	<100
TP163	0-0.1	Coarse	<25	<50	<100	<100
SDUP101	0-0.1	Coarse	<25	<50	<100	<100
SDUP102	0-0.1	Coarse	<25	<50	<100	<100
SDUP103	0-0.1	Coarse	<25	<50	<100	<100
SDUP104	0-0.1	Coarse	<25	<50	<100	<100
SDUP105	0-0.1	Coarse	<25	<50	<100	<100
SDUP106	0-0.1	Coarse	<25	<50	**180**	<100
SDUP107	0-0.05	Coarse	**71**	**150**	**830**	**240**
SDUP108	0-0.1	Coarse	<25	<50	<100	<100
SDUP109	0-0.1	Coarse	<25	<50	**140**	<100
SDUP109 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
SDUP110	0-0.1	Coarse	<25	<50	<100	<100
Total Number of Samples			109	109	109	109
Maximum Value			71	210	1100	440

Concentration above the SAC — **VALUE**
Concentration above the PQL — **Bold**

MANAGEMENT LIMIT ASSESSMENT CRITERIA

Sample Reference	**Sample Depth**	**Soil Texture**	C_6-C_{10} (F1) plus BTEX	>C_{10}-C_{16} (F2) plus napthalene	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)
TP101	0-0.1	Coarse	700	1000	2500	10000
TP101	0.4-0.5	Coarse	700	1000	2500	10000
TP102	0-0.1	Coarse	700	1000	2500	10000
TP102 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP103	0-0.1	Coarse	700	1000	2500	10000
TP104	0-0.1	Coarse	700	1000	2500	10000
TP105	0-0.1	Coarse	700	1000	2500	10000
TP106	0-0.1	Coarse	700	1000	2500	10000
TP106	0.4-0.5	Coarse	700	1000	2500	10000
TP107	0-0.1	Coarse	700	1000	2500	10000
TP108	0-0.1	Coarse	700	1000	2500	10000
TP108	0.4-0.5	Coarse	700	1000	2500	10000
TP109	0-0.1	Coarse	700	1000	2500	10000
TP110	0-0.1	Coarse	700	1000	2500	10000
TP110 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP111	0-0.1	Coarse	700	1000	2500	10000
TP112	0-0.1	Coarse	700	1000	2500	10000
TP113	0-0.1	Coarse	700	1000	2500	10000
TP113	0.9-1.0	Coarse	700	1000	2500	10000
TP114	0-0.1	Coarse	700	1000	2500	10000
TP115	0-0.1	Coarse	700	1000	2500	10000
TP116	0-0.05	Coarse	700	1000	2500	10000
TP116	0.4-0.5	Coarse	700	1000	2500	10000
TP117	0-0.1	Coarse	700	1000	2500	10000
TP117 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP118	0-0.1	Coarse	700	1000	2500	10000
TP119	0-0.1	Coarse	700	1000	2500	10000
TP120	0-0.1	Coarse	700	1000	2500	10000
TP120	0.4-0.5	Coarse	700	1000	2500	10000
TP121	0-0.1	Coarse	700	1000	2500	10000
TP122	0-0.1	Coarse	700	1000	2500	10000
TP123	0-0.1	Coarse	700	1000	2500	10000
TP124	0-0.1	Coarse	700	1000	2500	10000
TP124 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP125	0-0.1	Coarse	700	1000	2500	10000
TP125	0.7-0.8	Coarse	700	1000	2500	10000
BH126	0.02-0.2	Coarse	700	1000	2500	10000
TP127	0-0.1	Coarse	700	1000	2500	10000
TP127	0.3-0.4	Coarse	700	1000	2500	10000
TP128	0-0.1	Coarse	700	1000	2500	10000
TP129	0-0.1	Coarse	700	1000	2500	10000
TP130	0-0.1	Coarse	700	1000	2500	10000
TP130	0.4-0.5	Coarse	700	1000	2500	10000
TP131	0-0.1	Coarse	700	1000	2500	10000
TP132	0-0.1	Coarse	700	1000	2500	10000
TP133	0-0.1	Coarse	700	1000	2500	10000
TP134	0-0.1	Coarse	700	1000	2500	10000
TP135	0-0.1	Coarse	700	1000	2500	10000
TP135 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP136	0-0.1	Coarse	700	1000	2500	10000
TP136	0.4-0.5	Coarse	700	1000	2500	10000
TP137	0-0.1	Coarse	700	1000	2500	10000
TP138	0-0.1	Coarse	700	1000	2500	10000
TP139	0-0.1	Coarse	700	1000	2500	10000
TP139	0.2-0.3	Coarse	700	1000	2500	10000
TP140	0-0.1	Coarse	700	1000	2500	10000
TP140	0.4-0.5	Coarse	700	1000	2500	10000
TP141	0-0.1	Coarse	700	1000	2500	10000
TP142	0-0.1	Coarse	700	1000	2500	10000
TP142	0.4-0.5	Coarse	700	1000	2500	10000
TP143	0-0.1	Coarse	700	1000	2500	10000
TP143 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP143	0.2-0.3	Coarse	700	1000	2500	10000
TP144	0-0.1	Coarse	700	1000	2500	10000
TP144	0.2-0.3	Coarse	700	1000	2500	10000
TP145	0-0.1	Coarse	700	1000	2500	10000
TP145	0.4-0.5	Coarse	700	1000	2500	10000
TP146	0-0.05	Coarse	700	1000	2500	10000
TP146	0.3-0.4	Coarse	700	1000	2500	10000
TP147	0-0.1	Coarse	700	1000	2500	10000
TP147 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP147	0.6-0.7	Coarse	700	1000	2500	10000
TP148	0-0.1	Coarse	700	1000	2500	10000
TP149	0-0.1	Coarse	700	1000	2500	10000
TP149	0.5-0.6	Coarse	700	1000	2500	10000
TP149	0.7-0.8	Coarse	700	1000	2500	10000
TP150	0-0.1	Coarse	700	1000	2500	10000
TP151	0-0.1	Coarse	700	1000	2500	10000
TP152	0-0.1	Coarse	700	1000	2500	10000
TP153	0-0.1	Coarse	700	1000	2500	10000
TP153	0.6-0.7	Coarse	700	1000	2500	10000
TP154	0-0.1	Coarse	700	1000	2500	10000
TP154 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
BH155	0.05-0.2	Coarse	700	1000	2500	10000
BH155	0.2-0.5	Coarse	700	1000	2500	10000
BH155	0.5-0.8	Coarse	700	1000	2500	10000
TP156	0-0.1	Coarse	700	1000	2500	10000
BH157	0.03-0.3	Coarse	700	1000	2500	10000
BH158	0.04-0.3	Coarse	700	1000	2500	10000
BH158	0.3-0.6	Coarse	700	1000	2500	10000
TP159	0-0.1	Coarse	700	1000	2500	10000
TP159 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP160	0-0.1	Coarse	700	1000	2500	10000
TP160	0.2-0.3	Coarse	700	1000	2500	10000
TP161	0-0.1	Coarse	700	1000	2500	10000
BH162	0.04-0.2	Coarse	700	1000	2500	10000
BH162	1.2-1.4	Coarse	700	1000	2500	10000
TP163	0-0.1	Coarse	700	1000	2500	10000
SDUP101	0-0.1	Coarse	700	1000	2500	10000
SDUP102	0-0.1	Coarse	700	1000	2500	10000
SDUP103	0-0.1	Coarse	700	1000	2500	10000
SDUP104	0-0.1	Coarse	700	1000	2500	10000
SDUP105	0-0.1	Coarse	700	1000	2500	10000
SDUP106	0-0.1	Coarse	700	1000	2500	10000
SDUP107	0-0.05	Coarse	700	1000	2500	10000
SDUP108	0-0.1	Coarse	700	1000	2500	10000
SDUP109	0-0.1	Coarse	700	1000	2500	10000
SDUP109 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
SDUP110	0-0.1	Coarse	700	1000	2500	10000

TABLE S4
SOIL LABORATORY RESULTS COMPARED T0 DIRECT CONTACT CRITERIA
All data in mg/kg unless stated otherwise

Analyte		C_6-C_{10}	>C_{10}-C_{16}	>C_{16}-C_{34}	>C_{34}-C_{40}	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	PID
PQL - Envirolab Services		25	50	100	100	0.2	0.5	1	1	1	
CRC 2011 -Direct contact Criteria		4,400	3,300	4,500	6,300	100	14,000	4,500	12,000	1,400	
Site Use		**RESIDENTIAL WITH ACCESSIBLE SOIL- DIRECT SOIL CONTACT**									
Sample Reference	**Sample Depth**										
TP101	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.7**
TP101	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.6**
TP102	0-0.1	<25	<50	**210**	<100	<0.2	<0.5	<1	<1	<1	**1.5**
TP102 - [LAB_DUP]	0-0.1	<25	<50	**210**	<100	<0.2	<0.5	<1	<1	<1	NA
TP103	0-0.1	<25	**56**	**340**	**160**	<0.2	<0.5	<1	<1	<1	**1.4**
TP104	0-0.1	<25	<50	**140**	<100	<0.2	<0.5	<1	<1	<1	**2**
TP105	0-0.1	<25	<50	**180**	<100	<0.2	<0.5	<1	<1	<1	**1.4**
TP106	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.3**
TP106	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.9**
TP107	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.4**
TP108	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.8**
TP108	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**22.5**
TP109	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.4**
TP110	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2**
TP110 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP111	0-0.1	<25	<50	**230**	<100	<0.2	<0.5	<1	<1	<1	**1.2**
TP112	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1**
TP113	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**6.4**
TP113	0.9-1.0	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<1	**7.9**
TP114	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.7**
TP115	0-0.1	<25	**73**	**620**	**250**	<0.2	<0.5	<1	<1	<1	**2.8**
TP116	0-0.05	<25	**120**	**720**	**240**	<0.2	<0.5	<1	<1	<1	**4.3**
TP116	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**9.5**
TP117	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.4**
TP117 - [LAB_DUP]	0-0.1	<25	<50	**120**	<100	<0.2	<0.5	<1	<1	<1	NA
TP118	0-0.1	<25	<50	**140**	<100	<0.2	<0.5	<1	<1	<1	**1.5**
TP119	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**4.3**
TP120	0-0.1	<25	<50	**130**	<100	<0.2	<0.5	<1	<1	<1	**5.2**
TP120	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**8.6**
TP121	0-0.1	**37**	<50	**170**	<100	<0.2	<0.5	<1	<1	<1	**4.3**
TP122	0-0.1	<25	<50	**160**	<100	<0.2	<0.5	<1	<1	<1	**2.4**
TP123	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**4.2**
TP124	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1**
TP124 - [LAB_DUP]	0-0.1	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<1	NA
TP125	0-0.1	<25	<50	**150**	<100	<0.2	<0.5	<1	<1	<1	**1.1**
TP125	0.7-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.7**
BH126	0.02-0.2	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.5**
TP127	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**5.9**
TP127	0.3-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**8.7**
TP128	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**6**
TP129	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**7.5**
TP130	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**9.8**
TP130	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**6.2**
TP131	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.8**
TP132	0-0.1	<25	<50	**130**	<100	<0.2	<0.5	<1	<1	<1	**1.1**
TP133	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.1**
TP134	0-0.1	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<1	**2.3**
TP135	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3**
TP135 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP136	0-0.1	<25	<50	**230**	**240**	<0.2	<0.5	<1	<1	<1	**1.9**
TP136	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.2**
TP137	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.8**
TP138	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.8**
TP139	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.2**
TP139	0.2-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.9**
TP140	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.4**
TP140	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3.5**
TP141	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.7**
TP142	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**4.2**
TP142	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**7.3**
TP143	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.9**
TP143 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP143	0.2-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3.6**
TP144	0-0.1	<25	**210**	**1100**	**440**	<0.2	<0.5	<1	<1	<1	**1.7**
TP144	0.2-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2**
TP145	0-0.1	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<1	**2.1**
TP145	0.4-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.5**
TP146	0-0.05	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**7.2**
TP146	0.3-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**7.4**
TP147	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.5**
TP147 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP147	0.6-0.7	<25	<50	**160**	<100	<0.2	<0.5	<1	<1	<1	**2.8**
TP148	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.8**
TP149	0-0.1	<25	<50	**160**	**260**	<0.2	<0.5	<1	<1	<1	**0.4**
TP149	0.5-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.8**
TP149	0.7-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.9**
TP150	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.3**
TP151	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.2**
TP152	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.7**
TP153	0-0.1	<25	<50	**400**	**160**	<0.2	<0.5	<1	<1	<1	**3.2**
TP153	0.6-0.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3.5**
TP154	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**4**
TP154 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
BH155	0.05-0.2	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**4.3**
BH155	0.2-0.5	<25	<50	**400**	**120**	<0.2	<0.5	<1	<1	<1	**4.1**
BH155	0.5-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3.9**
TP156	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.4**
BH157	0.03-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**4.1**
BH158	0.04-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**4.6**
BH158	0.3-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**8.1**
TP159	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.9**
TP159 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP160	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.6**
TP160	0.2-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**5.8**
TP161	0-0.1	<25	<50	**140**	<100	<0.2	<0.5	<1	<1	<1	**2.4**
BH162	0.04-0.2	<25	<50	**220**	<100	<0.2	<0.5	<1	<1	<1	**6**
BH162	1.2-1.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3.5**
TP163	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.7**
SDUP101	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP102	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP103	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP104	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP105	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP106	0-0.1	<25	<50	**180**	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP107	0-0.05	**71**	**150**	**830**	**240**	<0.2	<0.5	<1	<1	<1	NA
SDUP108	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP109	0-0.1	<25	<50	**140**	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP109 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP110	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA

JKEnvironments

TABLE S5
ASBESTOS QUANTIFICATION - FIELD OBSERVATIONS AND LABORATORY RESULTS
HSL-A: Residential with garden/accessible soils; children's day care centers; preschools; and primary schools

FIELD DATA															LABORATORY DATA											
Date Sampled	Sample reference	Sample Depth	Visible ACM in top 100mm	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass ACM <7mm (g)	Mass Asbestos in ACM <7mm (g)	[Asbestos from ACM <7mm in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Lab Report Number	Sample refeference	Sample Depth	Sample Mass (g)	Asbestos ID in soil (AS4964) >0.1g/kg	Trace Analysis	Total Asbestos (g/kg)	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation (g)	FA and AF Estimation (g)	ACM >7mm Estimation %(w/w)	FA and AF Estimation %(w/w)
SAC			**No**					**0.01**			**0.001**			**0.001**											**0.01**	**0.001**
6/09/2023	TP101	0-0.1	No	10	11,360	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP101	0-0.1	715.87	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP101	0.1-0.2	NA	10	10,240	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/09/2023	TP102	0-0.1	No	10	10,230	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP102	0-0.1	677.2	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP102	0.1-0.5	NA	10	10,060	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/09/2023	TP103	0-0.1	No	10	10,510	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP103	0-0.1	616.35	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP103	0.1-0.1	NA	10	10,780	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/09/2023	TP104	0-0.1	No	10	10,740	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP104	0-0.1	855.4	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP104	0.1-0.5	NA	10	11,920	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/09/2023	TP105	0-0.1	No	10	11,340	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP105	0-0.1	620.18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP105	0.1-0.4	NA	10	10,820	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/09/2023	TP106	0-0.1	No	10	11,200	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP106	0-0.1	636.54	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP106	0.1-0.2	NA	10	10,110	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/09/2023	TP107	0-0.1	No	10	11,360	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP107	0-0.1	670.01	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP108	0-0.1	No	10	11,800	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP108	0-0.1	771.96	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP108	0.1-0.3	NA	10	10,050	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/09/2023	TP109	0-0.1	No	10	11,270	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP109	0-0.1	647.93	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP109	0.1-0.5	NA	10	10,340	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/09/2023	TP111	0-0.1	No	10	10,230	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP111	0-0.1	567.65	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP112	0-0.1	No	10	10,230	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP112	0-0.1	741.87	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP112	0.1-0.2	NA	10	10,520	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/09/2023	TP113	0-0.1	No	10	11,670	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP113	0-0.1	896.09	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP113	0.1-0.9	NA	10	12,200	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/09/2023	TP114	0-0.1	No	10	13,330	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP114	0-0.1	649.12	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP115	0-0.1	No	10	10,060	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP115	0-0.1	332.35	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP115	0.1-0.6	NA	10	11,240	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/09/2023	TP116	0-0.05	No	10	10,100	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP116	0-0.05	615.67	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP117	0-0.15	No	10	10,720	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP117	0-0.1	723.37	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
6/09/2023	TP118	0-0.1	No	10	11,120	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP118	0-0.1	744.22	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP119	0-0.1	No	10	12,770	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP119	0-0.1	764.18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP119	0.1-0.25	NA	10	11,500	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/09/2023	TP120	0-0.1	No	10	11,570	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP120	0-0.1	764.18	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP120	0.1-0.3	NA	10	11,820	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/09/2023	TP121	0-0.1	No	10	11,280	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP121	0-0.1	715.84	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP121	0.1-0.2	NA	10	10,560	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP122	0-0.1	696.58	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP122	0-0.1	No	10	11,830	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/09/2023	TP124	0-0.1	No	10	10,580	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP124	0-0.1	975.25	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP124	0.1-0.3	NA	10	10,930	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/09/2023	TP125	0-0.1	No	10	10,100	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP125	0-0.1	614.93	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP125	0.1-0.6	NA	10	10,760	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
13/09/2023	BH126	0.02-0.2	No	2	1,940	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	BH126	0.02-0.2	1081.34	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
13/09/2023	BH126	0.2-0.7	NA	7	7,700	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/09/2023	TP127	0-0.15	No	10	10,250	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP127	0-0.1	704	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP128	0-0.1	No	10	11,920	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP128	0-0.1	635.01	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP128	0.1-0.3	NA	10	11,310	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/09/2023	TP129	0-0.1	No	10	12,260	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP129	0-0.1	607.03	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP129	0.1-0.2	NA	10	12,370	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/09/2023	TP130	0-0.15	No	10	12,120	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP130	0-0.1	791.73	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP131	0-0.1	No	10	10,430	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP131	0-0.1	685.76	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP132	0-0.1	No	10	10,810	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP132	0-0.1	914.66	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP133	0-0.1	No	10	10,290	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP133	0-0.1	546.94	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP133	0.1-0.2	NA	10	10,080	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11/09/2023	TP134	0-0.1	No	10	10,400	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP134	0-0.1	554.32	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP134	0.1-0.2	NA	10	10,110	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11/09/2023	TP135	0-0.1	No	10	10,320	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP135	0-0.1	733.34	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP136	0-0.15	No	10	10,540	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP136	0-0.1	826.25	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP137	0-0.1	No	10	10,370	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP137	0-0.1	700.59	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP137	0.1-0.2	NA	10	10,060	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11/09/2023	TP138	0-0.1	No	10	10,190	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP138	0-0.1	668.4	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP139	0-0.1	No	10	10,310	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP139	0-0.1	668.93	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP139	0.1-0.2	NA	10	10,970	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11/09/2023	TP140	0-0.1	No	10	10,070	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP140	0-0.1	644.86	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP140	0.1-0.2	NA	10	10,250	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12/09/2023	TP141	0-0.1	No	10	10,960	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP141	0-0.1	546.29	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
12/09/2023	TP141	0.1-0.4	NA	10	10,450	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/09/2023	TP142	0-0.1	No	10	12,100	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP142	0-0.1	732.78	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
7/09/2023	TP142	0.1-0.3	NA	10	11,780	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11/09/2023	TP143	0-0.1	No	10	10,260	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP143	0-0.1	514.9	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP143	0.1-0.3	NA	10	10,810	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP143	0.2-0.3	754.51	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP144	0-0.05	No	10	10,230	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP144	0-0.1	580.86	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP144	0.05-0.55	No	10	12,200	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP144	0.2-0.3	1000.43	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP145	0-0.1	No	10	11,260	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP145	0-0.1	638.36	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP145	0.1-0.2	NA	10	11,850	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/09/2023	TP146	0-0.05	No	10	10,270	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP146	0-0.05	1040.96	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP147	0-0.1	No	10	10,830	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP147	0-0.1	627.24	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP147	0.1-0.4	NA	10	10,390	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/09/2023	TP147	0.4-0.8	NA	10	12,170	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP147	0.6-0.7	549.41	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP148	0-0.1	No	10	10,060	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP148	0-0.1	739.81	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP148	0.1-0.4	NA	10	10,350	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/09/2023	TP148	0.4-0.5	NA	10	10,490	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/09/2023	TP149	0-0.1	No	10	11,210	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP149	0-0.1	721.53	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP149	0.1-0.3	NA	10	11,520	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/09/2023	TP149	0.3-0.6	NA	10	10,810	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP149	0.5-0.6	694.43	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP150	0-0.1	No	10	11,720	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP150	0-0.1	771.92	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP150	0.1-0.2	NA	10	10,400	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/09/2023	TP151	0-0.1	No	10	11,850	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP151	0-0.1	700.91	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP151	0.1-0.35	NA	10	10,100	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/09/2023	TP152	0-0.1	No	10	10,760	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP152	0-0.1	826.89	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
12/09/2023	TP153	0-0.1	No	10	10,770	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP153	0-0.1	739	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
12/09/2023	TP153	0.1-0.3	NA	10	10,110	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12/09/2023	TP154	0-0.1	No	10	10,670	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP154	0-0.1	941.02	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
12/09/2023	TP154	0.1-0.25	NA	10	10,200	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
13/09/2023	BH155	0.05-0.2	No	2	1,800	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	BH155	0.05-0.2	861.6	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
13/09/2023	BH155	0.2-0.5	NA	3	3,720	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	BH155	0.2-0.5	736.86	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP156	0-0.1	No	10	11,280	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP156	0-0.1	645.52	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP156	0.1-0.15	NA	10	10,290	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
13/09/2023	BH157	0.03-0.3	No	2	1,900	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	BH157	0.03-0.3	963.6	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
13/09/2023	BH158	0.04-0.3	No	1	1,450	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	BH158	0.04-0.3	932.77	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP159	0-0.15	No	10	10,520	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP159	0-0.1	817.12	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP159	0.15-0.3	NA	10	10,720	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11/09/2023	TP159	0.3-0.5	NA	10	10,700	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11/09/2023	TP160	0-0.1	No	10	10,410	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP160	0-0.1	804.28	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP161	0-0.1	No	10	10,720	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP161	0-0.1	732.73	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
11/09/2023	TP161	0.1-0.4	NA	10	10,320	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
13/09/2023	BH162	0.04-0.2	No	1	1,100	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	BH162	0.04-0.2	973.2	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
13/09/2023	BH162	0.2-0.6	NA	5	5,700	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/09/2023	TP163	0-0.1	No	10	11,300	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	333165	TP163	0-0.1	759.72	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
8/09/2023	TP163	0.1-0.2	NA	10	10,290	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Concentration above the SAC VALUE

JK Environments

TABLE S6
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013 EILs AND ESLs
All data in mg/kg unless stated otherwise

Land Use Category				URBAN RESIDENTIAL AND PUBLIC OPEN SPACE																			
							AGED HEAVY METALS-EILs						EILs		ESLs								
				pH	CEC (cmolc/kg)	Clay Content (% clay)	Arsenic	Chromium (Total)	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
PQL - Envirolab Services				-	1	-	4	1	1	1	1	1	1	0.1	25	50	100	100	0.2	0.5	1	1	0.05
Ambient Background Concentration (ABC)				-	-	-	NSL	8	18	104	5	77	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL
Sample Reference	Sample Depth	Sample Description	Soil Texture																				
TP101	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	6	40	65	21	11	36	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	1.8
TP101	0.4-0.5	Silty Clay	Fine	7.3	20	39	6	51	72	13	12	26	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP102	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	6	34	58	20	10	36	<1	<0.1	<25	<50	210	<100	<0.2	<0.5	<1	<1	2.9
TP102 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	6	35	60	20	10	38	<1	<0.1	<25	<50	210	<100	<0.2	<0.5	<1	<1	2.7
TP103	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	37	43	28	9	32	<1	NA	<25	56	340	160	<0.2	<0.5	<1	<1	2.3
TP104	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	34	58	21	10	39	<1	<0.1	<25	<50	140	<100	<0.2	<0.5	<1	<1	4.6
TP105	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	4	26	52	21	8	38	<1	NA	<25	<50	180	<100	<0.2	<0.5	<1	<1	4.5
TP106	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	33	72	18	11	43	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.5
TP106	0.4-0.5	Silty Clay	Fine	7.3	20	39	5	44	100	8	9	24	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP107	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	6	39	74	14	10	39	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.3
TP108	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	11	46	81	21	11	49	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
TP108	0.4-0.5	Silty Clay	Fine	7.3	20	39	8	46	100	9	10	30	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP109	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	8	57	140	10	13	30	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP110	0-0.1	Silty Clay	Fine	7.3	20	39	10	59	190	10	12	30	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP110 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	9	64	200	8	12	30	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP111	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	25	100	12	7	33	<1	NA	<25	<50	230	<100	<0.2	<0.5	<1	<1	0.4
TP112	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	6	21	320	35	10	68	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
TP113	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	7	47	250	9	13	53	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
TP113	0.9-1.0	Silty Clay	Fine	7.3	20	39	7	29	340	21	11	280	<1	NA	<25	<50	100	<100	<0.2	<0.5	<1	<1	0.93
TP114	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	8	33	170	79	15	77	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.53
TP115	0-0.1	Fill: Silty Sand	Coarse	7.3	20	39	23	27	56	32	11	140	<1	<0.1	<25	73	620	250	<0.2	<0.5	<1	<1	0.2
TP116	0-0.05	Fill: Silty Sand	Coarse	7.3	20	39	5	29	61	19	9	44	<1	NA	<25	120	720	240	<0.2	<0.5	<1	<1	0.3
TP116	0.4-0.5	Silty Clay	Fine	7.3	20	39	5	40	110	6	10	27	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP117	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	36	66	16	10	38	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
TP117 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	5	38	67	15	11	39	<1	<0.1	<25	<50	120	<100	<0.2	<0.5	<1	<1	0.2
TP118	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	36	62	21	10	42	<1	NA	<25	<50	140	<100	<0.2	<0.5	<1	<1	1.3
TP119	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	4	44	43	14	10	37	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
TP120	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	37	54	44	9	36	<1	NA	<25	<50	130	<100	<0.2	<0.5	<1	<1	2.8
TP120	0.4-0.5	Silty Clay	Fine	7.3	20	39	5	45	80	11	8	19	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP121	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	40	64	14	10	38	<1	<0.1	37	<50	170	<100	<0.2	<0.5	<1	<1	0.3
TP122	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	6	40	86	18	9	42	<1	NA	<25	<50	160	<100	<0.2	<0.5	<1	<1	0.4
TP123	0-0.1	Silty Clay	Fine	7.3	20	39	12	140	310	6	30	64	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP124	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	10	13	120	9	5	27	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP124 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	12	26	180	12	9	42	<1	<0.1	<25	<50	100	<100	<0.2	<0.5	<1	<1	<0.05
TP124 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	Fine	7.3	20	39	11	17	140	11	6	33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP125	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	19	31	240	21	11	54	<1	NA	<25	<50	150	<100	<0.2	<0.5	<1	<1	0.3
TP125	0.7-0.8	Silty Clay	Fine	7.3	20	39	9	61	210	10	12	22	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH126	0.02-0.2	Fill: Sandy Silty Clay	Fine	7.3	20	39	4	11	4	4	1	3	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP127	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	6	35	84	34	9	59	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
TP127	0.3-0.4	Silty Clay	Fine	7.3	20	39	6	71	120	12	11	23	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP128	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	7	45	69	11	13	30	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.06
TP129	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	6	53	60	18	12	35	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
TP130	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	9	56	80	14	15	31	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.3
TP130	0.4-0.5	Silty Clay	Fine	7.3	20	39	8	110	160	12	19	24	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP131	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	6	18	330	470	9	190	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP131	0.2-0.3	XW Andesite	Fine	7.3	20	39	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP132	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	16	210	32	8	68	<1	<0.1	<25	<50	130	<100	<0.2	<0.5	<1	<1	<0.05
TP133	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	<4	25	220	120	9	290	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.3
TP134	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	5	22	160	44	8	120	<1	NA	<25	<50	100	<100	<0.2	<0.5	<1	<1	1.2
TP135	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	<4	25	190	37	9	71	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.71
TP135 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	5	31	230	32	11	90	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	1.7
TP136	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	15	95	37	7	100	<1	NA	<25	<50	230	240	<0.2	<0.5	<1	<1	0.08
TP136	0.4-0.5	XW Andesite	Coarse	7.3	20	39	5	26	350	15	11	93	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.07
TP137	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	20	210	26	9	67	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.08
TP138	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	26	260	43	11	100	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP139	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	21	210	98	8	230	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
TP139	0.2-0.3	Silty Clay	Fine	7.3	20	39	9	37	390	180	15	400	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP140	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	13	21	96	23	8	76	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.05
TP140	0.4-0.5	Silty Clay	Fine	7.3	20	39	5	20	480	6	12	51	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP141	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	<4	12	28	32	5	46	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
TP142	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	6	31	54	27	7	29	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	2
TP142	0.4-0.5	Silty Clay	Fine	7.3	20	39	7	110	150	14	16	23	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.07
TP143	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	5	20	150	15	7	40	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.56
TP143 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	6	23	140	17	7	41	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.67
TP143	0.2-0.3	Fill: Silty Clay	Fine	7.3	20	39	7	37	320	11	12	32	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.06
TP144	0-0.1	Fill: Silty Sand	Coarse	7.3	20	39	5	27	50	54	8	32	<1	NA	<25	210	1100	440	<0.2	<0.5	<1	<1	0.07
TP144	0.2-0.3	Fill: Silty Clayey Sand	Coarse	7.3	20	39	14	10	6	6	3	5	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP145	0-0.1	Fill: Silty Gravelly Clay	Fine	7.3	20	39	6	44	58	18	10	26	<1	<0.1	<25	<50	100	<100	<0.2	<0.5	<1	<1	0.06
TP145	0.4-0.5	Silty Clay	Fine	7.3	20	39	6	81	94	12	13	20	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP146	0-0.05	Fill: Gravelly Silty Clay	Fine	7.3	20	39	7	53	170	14	13	51	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP146	0.3-0.4	Silty Clay	Fine	7.3	20	39	8	21	500	4	10	25	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP147	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	<4	19	15	13	4	26	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.3
TP147 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	<4	14	13	12	4	25	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.1
TP147	0.6-0.7	Fill: Sandy Clay	Fine	7.3	20	39	7	28	130	48	18	170	<1	NA	<25	<50	160	<100	<0.2	<0.5	<1	<1	6.8
TP148	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	<4	12	14	8	3	25	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP149	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	8	19	25	48	6	57	<1	NA	<25	<50	160	260	<0.2	<0.5	<1	<1	0.1
TP149	0.5-0.6	Fill: Silty Clay	Fine	7.3	20	39	12	62	120	29	24	68	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.87
TP149	0.7-0.8	Silty Clay	Fine	7.3	20	39	9	110	180	14	22	30	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP150	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	8	46	86	17	14	36	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.4
TP151	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	7	21	11	15	6	19	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP152	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	14	34	57	14	17	44	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.3
TP153	0-0.1	Fill: Silty Sandy Clay	Fine	7.3	20	39	5	29	39	20	8	34	<1	NA	<25	<50	400	160	<0.2	<0.5	<1	<1	15
TP153	0.6-0.7	Silty Clay	Fine	7.3	20	39	9	120	160	11	16	23	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP154	0-0.1	Fill: Gravelly Clayey Sand	Coarse	7.3	20	39	5	18	27	11	5	21	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	1.5
TP154 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	7.3	20	39	6	22	32	13	6	24	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	1.8
BH155	0.05-0.2	Fill: Silty Sand	Coarse	7.3	20	39	10	13	12	5	2	6	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	2.1
BH155	0.2-0.5	Fill: Silty Clay	Fine	7.3	20	39	7	62	140	77	19	110	<1	NA	<25	<50	400	120	<0.2	<0.5	<1	<1	12
BH155	0.5-0.8	Silty Clay	Fine	7.3	20	39	7	110	160	13	21	25	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP156	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	8	48	140	39	14	110	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.81
BH157	0.03-0.3	Fill: Silty Clay	Fine	7.3	20	39	10	12	21	16	8	290	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.3
BH158	0.04-0.3	Fill: Silty Sandy Clay	Fine	7.3	20	39	10	19	230	26	9	39	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.3
BH158	0.3-0.6	XW Andesite	Coarse	7.3	20	39	6	15	370	3	10	33	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP159	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	<4	11	19	13	4	37	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP159 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	<4	14	19	14	4	35	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP160	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	5	19	270	69	8	77	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.3
TP160	0.2-0.3	Silty Clay	Fine	7.3	20	39	6	18	440	5	10	22	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP161	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	7	21	160	35	7	57	<1	<0.1	<25	<50	140	<100	<0.2	<0.5	<1	<1	0.87
BH162	0.04-0.2	Fill: Silty Clay	Fine	7.3	20	39	7	17	250	6	8	26	<1	NA	<25	<50	220	<100	<0.2	<0.5	<1	<1	11
BH162	1.2-1.4	Silty Clay	Fine	7.3	20	39	7	74	130	12	11	21	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.2
TP163	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	7	61	66	13	14	22	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.5
SDUP101	0-0.1	Duplicate of TP112	Fine	7.3	20	39	6	22	290	39	10	71	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.15
SDUP102	0-0.1	Duplicate of TP111	Fine	7.3	20	39	5	21	120	7	8	34	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.38
SDUP103	0-0.1	Duplicate of TP110	Fine	7.3	20	39	16	61	260	3	14	36	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP104	0-0.1	Duplicate of TP109	Fine	7.3	20	39	8	63	140	5	14	33	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP105	0-0.1	Duplicate of TP107	Fine	7.3	20	39	5	39	69	15	11	41	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.21
SDUP106	0-0.1	Duplicate of TP102	Fine	7.3	20	39	5	32	52	18	9	31	<1	NA	<25	<50	180	<100	<0.2	<0.5	<1	<1	2.1
SDUP107	0-0.05	Duplicate of TP116	Coarse	7.3	20	39	6	33	80	21	10	49	<1	NA	71	150	830	240	<0.2	<0.5	<1	<1	0.3
SDUP108	0-0.1	Duplicate of TP145	Fine	7.3	20	39	8	49	65	21	10	27	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.09
SDUP109	0-0.1	Duplicate of TP143	Fine	7.3	20	39	5	20	130	16	7	39	<1	<0.1	<25	<50	140	<100	<0.2	<0.5	<1	<1	0.76
SDUP109 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	5	20	140	16	7	40	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.71
SDUP110	0-0.1	Duplicate of TP138	Fine	7.3	20	39	7	40	460	67	16	150	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	0.08
Total Number of Samples				111	111	111	110	110	110	111	110	110	109	46	109	109	109	109	109	109	109	109	109
Maximum Value				7.3	20	39	23	140	500	470	30	400	<PQL	<PQL	71	210	1100	440	<PQL	<PQL	<PQL	<PQL	15

Concentration above the SAC — VALUE
Concentration above the PQL — **Bold**
The guideline corresponding to the elevated value is highlighted in grey in the EIL and ESL Assessment Criteria Table below

EIL AND ESL ASSESSMENT CRITERIA

Sample Reference	Sample Depth	Sample Description	Soil Texture	pH	CEC (cmolc/kg)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
TP101	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP101	0.4-0.5	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP102	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP102 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP103	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP104	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP105	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP106	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP106	0.4-0.5	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP107	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP108	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP108	0.4-0.5	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP109	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP110	0-0.1	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP110 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP111	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP112	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP113	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP113	0.9-1.0	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP114	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP115	0-0.1	Fill: Silty Sand	Coarse	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	300	2800	50	85	70	105	20
TP116	0-0.05	Fill: Silty Sand	Coarse	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	300	2800	50	85	70	105	20
TP116	0.4-0.5	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP117	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP117 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP118	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP119	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP120	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP120	0.4-0.5	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP121	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP122	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP123	0-0.1	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP124	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP124 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP124 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	Fine	7.3	20	39	100	410	230	1200	280	780	--	--	--	--	--	--	--	--	--	--	--
TP125	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP125	0.7-0.8	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
BH126	0.02-0.2	Fill: Sandy Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP127	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP127	0.3-0.4	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP128	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP129	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP130	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP130	0.4-0.5	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP131	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP131	0.2-0.3	XW Andesite	Fine	7.3	20	39	--	--	--	1200	--	--	--	--	--	--	--	--	--	--	--	--	--
TP132	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP133	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP134	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP135	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP135 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP136	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP136	0.4-0.5	XW Andesite	Coarse	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	300	2800	50	85	70	105	20
TP137	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP138	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP139	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP139	0.2-0.3	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP140	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP140	0.4-0.5	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP141	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP142	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP142	0.4-0.5	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP143	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP143 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP143	0.2-0.3	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP144	0-0.1	Fill: Silty Sand	Coarse	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	300	2800	50	85	70	105	20
TP144	0.2-0.3	Fill: Silty Clayey Sand	Coarse	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	300	2800	50	85	70	105	20
TP145	0-0.1	Fill: Silty Gravelly Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP145	0.4-0.5	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP146	0-0.05	Fill: Gravelly Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP146	0.3-0.4	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP147	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP147 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP147	0.6-0.7	Fill: Sandy Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP148	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP149	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP149	0.5-0.6	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP149	0.7-0.8	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP150	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP151	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP152	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP153	0-0.1	Fill: Silty Sandy Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP153	0.6-0.7	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP154	0-0.1	Fill: Gravelly Clayey Sand	Coarse	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	300	2800	50	85	70	105	20
TP154 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	300	2800	50	85	70	105	20
BH155	0.05-0.2	Fill: Silty Sand	Coarse	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	300	2800	50	85	70	105	20
BH155	0.2-0.5	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
BH155	0.5-0.8	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP156	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
BH157	0.03-0.3	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
BH158	0.04-0.3	Fill: Silty Sandy Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
BH158	0.3-0.6	XW Andesite	Coarse	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	300	2800	50	85	70	105	20
TP159	0-0.1	Fill: Clayey Silt	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP159 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
TP160	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP160	0.2-0.3	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP161	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
BH162	0.04-0.2	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
BH162	1.2-1.4	Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
TP163	0-0.1	Fill: Silty Clay	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
SDUP101	0-0.1	Duplicate of TP112	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
SDUP102	0-0.1	Duplicate of TP111	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
SDUP103	0-0.1	Duplicate of TP110	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
SDUP104	0-0.1	Duplicate of TP109	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
SDUP105	0-0.1	Duplicate of TP107	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
SDUP106	0-0.1	Duplicate of TP102	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20
SDUP107	0-0.05	Duplicate of TP116	Coarse	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	300	2800	50	85	70	105	20
SDUP108	0-0.1	Duplicate of TP145	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
SDUP109	0-0.1	Duplicate of TP143	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
SDUP109 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Fine	7.3	20	39	100	410	230	1200	280	780	170	180	180	120	1300	5600	65	105	125	45	20
SDUP110	0-0.1	Duplicate of TP138	Fine	7.3	20	39	100	410	230	1200	280	780	170	--	180	120	1300	5600	65	105	125	45	20

TABLE S7
SOIL LABORATORY RESULTS COMPARED TO WASTE CLASSIFICATION GUIDELINES
All data in mg/kg unless stated otherwise

Sample Reference	Sample Depth	Sample Description	HEAVY METALS Arsenic	Cadmium	Chromium (Total)	Chromium VI	Copper	Lead	Mercury	Nickel	Zinc	PAHs Total PAHs	B(a)P	OC/OP PESTICIDES Total Endosulfans	Chloropyrifos	Total Moderately Harmful	Total Scheduled	Total PCBs	TRH C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	Total C_{10}-C_{36}	BTEX COMPOUNDS Benzene	Toluene	Ethyl benzene	Total Xylenes	ASBESTOS FIBRES
PQL - Envirolab Services			4	0.4	1	1	1	1	0.1	1	1	-	0.05	0.1	0.1	0.1	0.1	0.1	25	50	100	100	50	0.2	0.5	1	1	100
General Solid Waste CT1			100	20	NSL	100	NSL	100	4	40	NSL	200	0.8	60	4	250	50	50	650		NSL		10,000	10	288	600	1,000	-
General Solid Waste SCC1			500	100	NSL	1900	NSL	1500	50	1050	NSL	200	10	108	7.5	250	50	50	650		NSL		10,000	18	518	1,080	1,800	-
Restricted Solid Waste CT2			400	80	NSL	400	NSL	400	16	160	NSL	800	3.2	240	16	1000	50	50	2600		NSL		40,000	40	1,152	2,400	4,000	-
Restricted Solid Waste SCC2			2000	400	NSL	7600	NSL	6000	200	4200	NSL	800	23	432	30	1000	50	50	2600		NSL		40,000	72	2,073	4,320	7,200	-
TP101	0-0.1	Fill: Silty Clay	6	<0.4	40	NA	65	21	0.2	11	36	19	1.8	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP101	0.4-0.5	Silty Clay	6	<0.4	51	NA	72	13	<0.1	12	26	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP102	0-0.1	Fill: Silty Clay	6	<0.4	34	NA	58	20	<0.1	10	36	34	2.9	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	110	150	260	<0.2	<0.5	<1	<1	Not Detected
TP102 - [LAB_DUP]	0-0.1	Laboratory Duplicate	6	<0.4	35	NA	60	20	<0.1	10	38	32	2.7	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	110	160	270	<0.2	<0.5	<1	<1	NA
TP103	0-0.1	Fill: Silty Clay	5	<0.4	37	NA	43	28	<0.1	9	32	24	2.3	NA	NA	NA	NA	NA	<25	<50	190	240	430	<0.2	<0.5	<1	<1	Not Detected
TP104	0-0.1	Fill: Silty Clay	5	<0.4	34	NA	58	21	<0.1	10	39	59	4.6	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP105	0-0.1	Fill: Silty Clay	4	<0.4	26	NA	52	21	<0.1	8	38	54	4.5	NA	NA	NA	NA	NA	<25	<50	<100	120	120	<0.2	<0.5	<1	<1	Not Detected
TP106	0-0.1	Fill: Silty Clay	5	<0.4	33	NA	72	18	<0.1	11	43	5.3	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP106	0.4-0.5	Silty Clay	5	<0.4	44	NA	100	8	<0.1	9	24	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP107	0-0.1	Fill: Silty Clay	6	<0.4	39	NA	74	14	<0.1	10	39	2.8	0.3	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP108	0-0.1	Fill: Silty Clay	11	<0.4	46	NA	81	21	0.2	11	49	2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP108	0.4-0.5	Silty Clay	8	<0.4	46	NA	100	9	<0.1	10	30	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP109	0-0.1	Fill: Silty Clay	8	<0.4	57	NA	140	10	<0.1	13	30	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP110	0-0.1	Silty Clay	10	<0.4	59	NA	190	10	0.1	12	30	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP110 - [LAB_DUP]	0-0.1	Laboratory Duplicate	9	<0.4	64	NA	200	8	<0.1	12	30	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP111	0-0.1	Fill: Silty Clay	5	<0.4	25	NA	100	12	<0.1	7	33	3.6	0.4	NA	NA	NA	NA	NA	<25	<50	150	130	280	<0.2	<0.5	<1	<1	Not Detected
TP112	0-0.1	Fill: Silty Clay	6	<0.4	21	NA	320	35	<0.1	10	68	1.3	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP113	0-0.1	Fill: Silty Clay	7	<0.4	47	NA	250	9	<0.1	13	53	2.9	0.2	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP113	0.9-1.0	Silty Clay	7	<0.4	29	NA	340	21	<0.1	11	280	14	0.93	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP114	0-0.1	Fill: Silty Clay	8	<0.4	33	NA	170	79	<0.1	15	77	6	0.53	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP115	0-0.1	Fill: Silty Sand	23	<0.4	27	NA	56	32	0.5	11	140	2.5	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	340	450	790	<0.2	<0.5	<1	<1	Not Detected
TP116	0-0.05	Fill: Silty Sand	5	<0.4	29	NA	61	19	0.1	9	44	3.1	0.3	NA	NA	NA	NA	NA	<25	77	450	440	967	<0.2	<0.5	<1	<1	Not Detected
TP116	0.4-0.5	Silty Clay	5	<0.4	40	NA	110	6	<0.1	10	27	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP117	0-0.1	Fill: Silty Clay	5	<0.4	36	NA	66	16	<0.1	10	38	2.4	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP117 - [LAB_DUP]	0-0.1	Laboratory Duplicate	5	<0.4	38	NA	67	15	<0.1	11	39	2.9	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP118	0-0.1	Fill: Silty Clay	5	<0.4	36	NA	62	21	<0.1	10	42	13	1.3	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP119	0-0.1	Fill: Silty Clay	4	<0.4	44	NA	43	14	<0.1	10	37	2.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP120	0-0.1	Fill: Silty Clay	5	<0.4	37	NA	54	44	0.1	9	36	27	2.8	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP120	0.4-0.5	Silty Clay	5	<0.4	45	NA	80	11	<0.1	8	19	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP121	0-0.1	Fill: Silty Clay	5	<0.4	40	NA	64	14	<0.1	10	38	3.5	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	100	110	210	<0.2	<0.5	<1	<1	Not Detected
TP122	0-0.1	Fill: Silty Clay	6	<0.4	40	NA	86	18	<0.1	9	42	3.4	0.4	NA	NA	NA	NA	NA	<25	<50	<100	140	140	<0.2	<0.5	<1	<1	Not Detected
TP123	0-0.1	Silty Clay	12	<0.4	140	<1	310	6	<0.1	30	64	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP124	0-0.1	Fill: Silty Clay	10	<0.4	13	NA	120	9	<0.1	5	27	<0.05	<0.05	<0.1	<0.1	<0.1	0.4	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP124 - [LAB_DUP]	0-0.1	Laboratory Duplicate	12	<0.4	26	NA	180	12	<0.1	9	42	<0.05	<0.05	<0.1	<0.1	<0.1	0.5	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP124 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	11	<0.4	17	NA	140	11	<0.1	6	33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP125	0-0.1	Fill: Silty Clay	19	<0.4	31	NA	240	21	<0.1	11	54	2.8	0.3	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP125	0.7-0.8	Silty Clay	9	<0.4	61	NA	210	10	<0.1	12	22	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH126	0.02-0.2	Fill: Sandy Silty Clay	4	<0.4	11	NA	4	4	<0.1	1	3	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP127	0-0.1	Fill: Silty Clay	6	<0.4	35	NA	84	34	0.1	9	59	1.5	0.2	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP127	0.3-0.4	Silty Clay	6	<0.4	71	NA	120	12	<0.1	11	23	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP128	0-0.1	Fill: Silty Clay	7	<0.4	45	NA	69	11	<0.1	13	30	0.4	0.06	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP129	0-0.1	Fill: Silty Clay	6	<0.4	53	NA	60	18	0.1	12	35	2.9	0.2	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP130	0-0.1	Fill: Silty Clay	9	<0.4	56	NA	80	14	<0.1	15	31	3.4	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP130	0.4-0.5	Silty Clay	8	<0.4	110	<1	160	12	<0.1	19	24	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP131	0-0.1	Fill: Silty Clay	6	<0.4	18	NA	330	470	<0.1	9	190	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP131	0.2-0.3	XW Andesite	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP132	0-0.1	Fill: Silty Clay	5	<0.4	16	NA	210	32	<0.1	8	68	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	120	120	<0.2	<0.5	<1	<1	Not Detected
TP133	0-0.1	Fill: Silty Clay	<4	0.4	25	NA	220	120	<0.1	9	290	3.8	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP134	0-0.1	Fill: Clayey Silt	5	<0.4	22	NA	160	44	<0.1	8	120	12	1.2	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP135	0-0.1	Fill: Silty Clay	<4	<0.4	25	NA	190	37	<0.1	9	71	7	0.71	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP135 - [LAB_DUP]	0-0.1	Laboratory Duplicate	5	<0.4	31	NA	230	32	<0.1	11	90	16	1.7	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP136	0-0.1	Fill: Silty Clay	5	<0.4	15	NA	95	37	<0.1	7	100	0.4	0.08	NA	NA	NA	NA	NA	<25	<50	110	200	310	<0.2	<0.5	<1	<1	Not Detected
TP136	0.4-0.5	XW Andesite	5	<0.4	26	NA	350	15	<0.1	11	93	0.4	0.07	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP137	0-0.1	Fill: Silty Clay	5	<0.4	20	NA	210	26	<0.1	9	67	0.4	0.08	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP138	0-0.1	Fill: Silty Clay	5	<0.4	26	NA	260	43	<0.1	11	100	0.2	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP139	0-0.1	Fill: Silty Clay	5	<0.4	21	NA	210	98	0.1	8	230	2.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP139	0.2-0.3	Silty Clay	9	<0.4	37	NA	390	180	0.2	15	400	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP140	0-0.1	Fill: Silty Clay	13	<0.4	21	NA	96	23	<0.1	8	76	0.05	0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP140	0.4-0.5	Silty Clay	5	<0.4	20	NA	480	6	<0.1	12	51	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP141	0-0.1	Fill: Clayey Silt	<4	<0.4	12	NA	28	32	<0.1	5	46	2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP142	0-0.1	Fill: Silty Clay	6	<0.4	31	NA	54	27	<0.1	7	29	19	2	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP142	0.4-0.5	Silty Clay	7	<0.4	110	<1	150	14	<0.1	16	23	0.07	0.07	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP143	0-0.1	Fill: Clayey Silt	5	<0.4	20	NA	150	15	<0.1	7	40	6.1	0.56	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP143 - [LAB_DUP]	0-0.1	Laboratory Duplicate	6	<0.4	23	NA	140	17	<0.1	7	41	6.8	0.67	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP143	0.2-0.3	Fill: Silty Clay	7	<0.4	37	NA	320	11	<0.1	12	32	0.4	0.06	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP144	0-0.1	Fill: Silty Sand	5	<0.4	27	NA	50	54	<0.1	8	32	0.4	0.07	NA	NA	NA	NA	NA	<25	120	660	770	1550	<0.2	<0.5	<1	<1	Not Detected
TP144	0.2-0.3	Fill: Silty Clayey Sand	14	<0.4	10	NA	6	6	<0.1	3	5	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP145	0-0.1	Fill: Silty Gravelly Clay	6	<0.4	44	NA	58	18	<0.1	10	26	0.3	0.06	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP145	0.4-0.5	Silty Clay	6	<0.4	81	NA	94	12	<0.1	13	20	0.4	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP146	0-0.05	Fill: Gravelly Silty Clay	7	<0.4	53	NA	170	14	<0.1	13	51	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP146	0.3-0.4	Silty Clay	8	<0.4	21	NA	500	4	<0.1	10	25	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP147	0-0.1	Fill: Clayey Silt	<4	<0.4	19	NA	15	13	<0.1	4	26	2.9	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP147 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	<0.4	14	NA	13	12	<0.1	4	25	1.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP147	0.6-0.7	Fill: Sandy Clay	7	<0.4	28	NA	130	48	<0.1	18	170	95	6.8	NA	NA	NA	NA	NA	<25	<50	110	<100	110	<0.2	<0.5	<1	<1	Not Detected
TP148	0-0.1	Fill: Clayey Silt	<4	<0.4	12	NA	14	8	<0.1	3	25	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP149	0-0.1	Fill: Silty Clay	8	<0.4	19	NA	25	48	<0.1	6	57	1	0.1	NA	NA	NA	NA	NA	<25	<50	<100	150	150	<0.2	<0.5	<1	<1	Not Detected
TP149	0.5-0.6	Fill: Silty Clay	12	<0.4	62	NA	120	29	<0.1	24	68	9.8	0.87	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP149	0.7-0.8	Silty Clay	9	<0.4	110	<1	180	14	<0.1	22	30	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP150	0-0.1	Fill: Silty Clay	8	<0.4	46	NA	86	17	<0.1	14	36	4.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP151	0-0.1	Fill: Silty Clay	7	<0.4	21	NA	11	15	<0.1	6	19	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP152	0-0.1	Fill: Silty Clay	14	<0.4	34	NA	57	14	<0.1	17	44	2.9	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP153	0-0.1	Fill: Silty Sandy Clay	5	<0.4	29	NA	39	20	<0.1	8	34	190	15	NA	NA	NA	NA	NA	<25	<50	270	210	480	<0.2	<0.5	<1	<1	Not Detected
TP153	0.6-0.7	Silty Clay	9	<0.4	120	<1	160	11	<0.1	16	23	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP154	0-0.1	Fill: Gravelly Clayey Sand	5	<0.4	18	NA	27	11	<0.1	5	21	15	1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP154 - [LAB_DUP]	0-0.1	Laboratory Duplicate	6	<0.4	22	NA	32	13	<0.1	6	24	19	1.8	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH155	0.05-0.2	Fill: Silty Sand	10	<0.4	13	NA	12	5	<0.1	2	6	19	2.1	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH155	0.2-0.5	Fill: Silty Clay	7	<0.4	62	NA	140	77	0.2	19	110	200	12	NA	NA	NA	NA	NA	<25	<50	310	170	480	<0.2	<0.5	<1	<1	Not Detected
BH155	0.5-0.8	Silty Clay	7	<0.4	110	<1	160	13	<0.1	21	25	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP156	0-0.1	Fill: Silty Clay	8	<0.4	48	NA	140	39	<0.1	14	110	9.2	0.81	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH157	0.03-0.3	Fill: Silty Clay	10	<0.4	12	NA	21	16	<0.1	8	290	4.2	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH158	0.04-0.3	Fill: Silty Sandy Clay	10	<0.4	19	NA	230	26	<0.1	9	39	3.5	0.3	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH158	0.3-0.6	XW Andesite	6	<0.4	15	NA	370	3	<0.1	10	33	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP159	0-0.1	Fill: Clayey Silt	<4	<0.4	11	NA	19	13	<0.1	4	37	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP159 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	<0.4	14	NA	19	14	<0.1	4	35	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP160	0-0.1	Fill: Silty Clay	5	<0.4	19	NA	270	69	<0.1	8	77	2.8	0.3	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP160	0.2-0.3	Silty Clay	6	<0.4	18	NA	440	5	<0.1	10	22	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP161	0-0.1	Fill: Silty Clay	7	<0.4	21	NA	160	35	<0.1	7	57	8.6	0.87	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	150	150	<0.2	<0.5	<1	<1	Not Detected
BH162	0.04-0.2	Fill: Silty Clay	7	<0.4	17	NA	250	6	<0.1	8	26	120	11	NA	NA	NA	NA	NA	<25	<50	140	130	270	<0.2	<0.5	<1	<1	Not Detected
BH162	1.2-1.4	Silty Clay	7	<0.4	74	NA	130	12	<0.1	11	21	2.8	0.2	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP163	0-0.1	Fill: Silty Clay	7	<0.4	61	NA	66	13	<0.1	14	22	5	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
SDUP101	0-0.1	Duplicate of TP112	6	<0.4	22	NA	290	39	<0.1	10	71	1.6	0.15	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP101- [LAB_DUP]	0-0.1	Laboratory Duplicate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.1	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP102	0-0.1	Duplicate of TP111	5	<0.4	21	NA	120	7	<0.1	8	34	3.4	0.38	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP103	0-0.1	Duplicate of TP110	16	<0.4	61	NA	260	3	<0.1	14	36	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP104	0-0.1	Duplicate of TP109	8	<0.4	63	NA	140	5	<0.1	14	33	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP105	0-0.1	Duplicate of TP107	5	<0.4	39	NA	69	15	<0.1	11	41	2.5	0.21	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP106	0-0.1	Duplicate of TP102	5	<0.4	32	NA	52	18	<0.1	9	31	23	2.1	NA	NA	NA	NA	NA	<25	<50	<100	140	140	<0.2	<0.5	<1	<1	NA
SDUP107	0-0.05	Duplicate of TP116	6	<0.4	33	NA	80	21	0.1	10	49	3.1	0.3	NA	NA	NA	NA	NA	<25	120	530	490	1140	<0.2	<0.5	<1	<1	NA
SDUP108	0-0.1	Duplicate of TP145	8	<0.4	49	NA	65	21	<0.1	10	27	0.5	0.09	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP109	0-0.1	Duplicate of TP143	5	<0.4	20	NA	130	16	<0.1	7	39	8.1	0.76	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	100	100	<0.2	<0.5	<1	<1	NA
SDUP109 - [LAB_DUP]	0-0.1	Laboratory Duplicate	5	<0.4	20	NA	140	16	<0.1	7	40	7.4	0.71	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP110	0-0.1	Duplicate of TP138	7	<0.4	40	NA	460	67	0.1	16	150	0.3	0.08	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
FCF101	-	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
Total Number of Samples			110	110	110	6	110	111	110	110	110	109	109	46	47	47	47	44	109	109	109	109	109	109	109	109	109	67
Maximum Value			23	0.4	140	<PQL	500	470	0.5	30	400	200	15	<PQL	<PQL	<PQL	0.5	<PQL	<PQL	120	660	770	1550	<PQL	<PQL	<PQL	<PQL	Detected

Concentration above the CT1	VALUE
Concentration above SCC1	VALUE
Concentration above the SCC2	VALUE
Concentration above PQL	**Bold**

TABLE S8
SOIL LABORATORY TCLP RESULTS
All data in mg/L unless stated otherwise

			Arsenic	Cadmium	Chromium	Lead	Mercury	Nickel	B(a)P
PQL - Envirolab Services			0.05	0.01	0.01	0.03	0.0005	0.02	0.001
TCLP1 - General Solid Waste			5	1	5	5	0.2	2	0.04
TCLP2 - Restricted Solid Waste			20	4	20	20	0.8	8	0.16
TCLP3 - Hazardous Waste			>20	>4	>20	>20	>0.8	>8	>0.16
Sample Reference	**Sample Depth**	**Sample Description**							
TP101	0-0.1	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP102	0-0.1	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP103	0-0.1	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP104	0-0.1	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP105	0-0.1	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP113	0.9-1.0	Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP118	0-0.1	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP120	0-0.1	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP131	0-0.1	Fill: Silty Clay	NA	NA	NA	**0.2**	NA	NA	NA
TP133	0-0.1	Fill: Silty Clay	NA	NA	NA	**0.04**	NA	NA	NA
TP134	0-0.1	F: Clayey Silt	NA	NA	NA	NA	NA	NA	<0.001
TP139	0-0.1	Fill: Silty Clay	NA	NA	NA	<0.03	NA	NA	NA
TP142	0-0.1	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP142 - [LAB_DUP]	0-0.1	Laboratory Duplicate	NA	NA	NA	NA	NA	NA	<0.001
TP147	0.6-0.7	F: Sandy Clay	NA	NA	NA	NA	NA	NA	<0.001
TP149	0.5-0.6	F: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP153	0-0.1	F: Silty Sandy Clay	NA	NA	NA	NA	NA	NA	<0.001
TP154	0-0.1	F: Gravelly Clayey Sand	NA	NA	NA	NA	NA	NA	<0.001
BH155	0.05-0.2	F: Silty Sand	NA	NA	NA	NA	NA	NA	<0.001
BH155	0.2-0.5	F: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP156	0-0.1	F: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
TP161	0-0.1	F: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
BH162	0.04-0.2	F: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
Total Number of samples			0	0	0	3	0	0	20
Maximum Value			NA	NA	NA	0.20	NA	NA	<PQL

General Solid Waste	**VALUE**
Restricted Solid Waste	**VALUE** (orange)
Hazardous Waste	**VALUE** (red)
Concentration above PQL	**Bold**

JKEnvironments

TABLE Q1
SOIL QA/QC SUMMARY

Group	Sample	Depth	TRH C6 - C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	m+p-xylene	o-Xylene	Naphthalene	Acenaphthylene	Acenaph-thene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b,j+k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene
	PQL Envirolab SYD		25	50	100	100	0.2	0.5	1	2	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.05	0.1	0.1	0.1
	PQL Envirolab VIC		25	50	100	100	0.2	0.5	1	2	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.05	0.1	0.1	0.1
Intra	TP102	0-0.1	<25	<50	210	<100	<0.2	<0.5	<1	<2	<1	<0.1	0.2	0.2	0.1	3.2	0.3	7	6.8	2.1	2.1	4.8	2.9	1.9	0.3	2.6
laboratory	SDUP106	0-0.1	<25	<50	180	<100	<0.2	<0.5	<1	<2	<1	<0.1	0.1	<0.1	<0.1	1.7	0.4	4.5	4.4	1.4	1.5	3.3	2.1	1.4	0.2	1.9
duplicate	MEAN		nc	nc	195	nc	nc	nc	nc	nc	nc	nc	0.15	0.125	0.075	2.45	0.35	5.75	5.6	1.75	1.8	4.05	2.5	1.65	0.25	2.25
	RPD %		nc	nc	15%	nc	nc	nc	nc	nc	nc	nc	67%	120%	67%	61%	29%	43%	43%	40%	33%	37%	32%	30%	40%	31%
Intra	TP116	0-0.05	<25	120	720	240	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.6	0.6	0.2	0.2	0.5	0.3	0.2	<0.1	0.2
laboratory	SDUP107	0-0.05	71	150	830	240	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	0.6	0.5	0.2	0.2	0.5	0.3	0.2	<0.1	0.2
duplicate	MEAN		41.75	135	775	240	nc	nc	nc	nc	nc	nc	nc	nc	0.125	0.25	nc	0.6	0.55	0.2	0.2	0.5	0.3	0.2	nc	0.2
	RPD %		140%	22%	14%	0%	nc	nc	nc	nc	nc	nc	nc	nc	120%	40%	nc	0%	18%	0%	0%	0%	0%	0%	nc	0%
Intra	TP145	0-0.1	<25	<50	100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.2	0.06	<0.1	<0.1	<0.1
laboratory	SDUP108	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.2	0.09	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	75	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.15	0.15	nc	nc	nc	0.075	nc	nc	nc
	RPD %		nc	nc	67%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	67%	67%	nc	nc	nc	40%	nc	nc	nc
Intra	TP143	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	1.2	1.2	0.4	0.4	0.9	0.56	0.4	<0.1	0.5
laboratory	SDUP109	0-0.1	<25	<50	140	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.6	0.1	1.6	1.6	0.5	0.6	1	0.76	0.5	<0.1	0.7
duplicate	MEAN		nc	nc	95	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.55	0.075	1.4	1.4	0.45	0.5	0.95	0.66	0.45	nc	0.6
	RPD %		nc	nc	95%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	18%	67%	29%	29%	22%	40%	11%	30%	22%	nc	33%
Intra	TP138	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1
laboratory	SDUP110	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.2	0.08	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.1	0.1	nc	nc	nc	0.0525	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0%	0%	nc	nc	nc	105%	nc	nc	nc
Inter	TP112	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.3	0.3	<0.1	0.1	0.2	0.2	<0.1	<0.1	0.1
laboratory	SDUP101	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.4	0.3	<0.1	0.1	0.2	0.15	0.2	<0.1	0.2
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.1	nc	0.35	0.3	nc	0.1	0.2	0.175	0.125	nc	0.15
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0%	nc	29%	0%	nc	0%	0%	29%	120%	nc	67%
Inter	TP111	0-0.1	<25	<50	230	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.7	0.7	0.2	0.3	0.6	0.4	0.2	<0.1	0.3
laboratory	SDUP102	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.6	0.6	0.2	0.3	0.6	0.38	0.3	<0.1	0.3
duplicate	MEAN		nc	nc	140	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.25	nc	0.65	0.65	0.2	0.3	0.6	0.39	0.25	nc	0.3
	RPD %		nc	nc	129%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	40%	nc	15%	15%	0%	0%	0%	5%	40%	nc	0%
Inter	TP110	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1
laboratory	SDUP103	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP109	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1
laboratory	SDUP104	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP107	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.6	0.6	0.1	0.2	0.4	0.3	0.2	<0.1	0.2
laboratory	SDUP105	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.5	0.5	0.1	0.1	0.4	0.21	0.2	<0.1	0.2
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.2	nc	0.55	0.55	0.1	0.15	0.4	0.255	0.2	nc	0.2
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0%	nc	18%	18%	0%	67%	0%	35%	0%	nc	0%
Field Blank	TB-S101 6-8/09/2023	-	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1
Field Blank	TB-S102 11-13/09/2023	-	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1
Field Rinsate	FR-101 7/09/23	µg/L	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1
Field Rinsate	FR-102 13/09/23	µg/L	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1
Trip Spike	TS-S101 6-8/09/2023		-	-	-	-	86%	86%	87%	86%	86%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip Spike	TS-S102 11-13/09/2023		-	-	-	-	99%	99%	99%	99%	98%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Group	Sample	Depth	HCB	alpha- BHC	gamma- BHC	beta- BHC	Heptachlor	delta- BHC	Aldrin	Heptachlor Epoxide	Gamma- Chlordane	alpha- chlordane	Endosulfan I	pp- DDE	Dieldrin	Endrin	pp- DDD	Endosulfan II	pp- DDT	Endrin Aldehyde	Endosulfan Sulphate	Methoxychlor
	PQL Envirolab SYD		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	PQL Envirolab VIC		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Intra	TP102	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP106	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra	TP116	0-0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
laboratory	SDUP107	0-0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra	TP145	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP108	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra	TP143	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP109	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra	TP138	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
laboratory	SDUP110	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP112	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP101	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP111	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
laboratory	SDUP102	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP110	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP103	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP109	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
laboratory	SDUP104	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP107	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
laboratory	SDUP105	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Field Blank	TB-S101 6-8/09/2023	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Blank	TB-S102 11-13/09/2023	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Rinsate	FR-101 7/09/23	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Rinsate	FR-102 13/09/23	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trip Spike	TS-S101 6-8/09/2023		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip Spike	TS-S102 11-13/09/2023		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Group	Sample	Depth	Azinphos-methyl (Guthion)	Bromophos-ethyl	Chlorpyriphos	Chlorpyriphos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenitrothion	Malathion	Parathion	Ronnel	Total PCBS
	PQL Envirolab SYD		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	PQL Envirolab VIC		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Intra	TP102	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP106	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra	TP116	0-0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
laboratory	SDUP107	0-0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra	TP145	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP108	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra	TP143	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP109	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra	TP138	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
laboratory	SDUP110	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP112	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP101	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP111	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
laboratory	SDUP102	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP110	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
laboratory	SDUP103	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP109	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
laboratory	SDUP104	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter	TP107	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
laboratory	SDUP105	0-0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Field Blank	TB-S101 6-8/09/2023	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Blank	TB-S102 11-13/09/2023	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Rinsate	FR-101 7/09/23	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field Rinsate	FR-102 13/09/23	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trip Spike	TS-S101 6-8/09/2023		-	-	-	-	-	-	-	-	-	-	-	-	-
Trip Spike	TS-S102 11-13/09/2023		-	-	-	-	-	-	-	-	-	-	-	-	-

Group	Sample	Depth	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
	PQL Envirolab SYD		4	0.4	1	1	1	0.1	1	1
	PQL Envirolab VIC		4	0.4	1	1	1	0.1	1	1
Intra	TP102	0-0.1	6	<0.4	34	58	20	<0.1	10	36
laboratory	SDUP106	0-0.1	5	<0.4	32	52	18	<0.1	9	31
duplicate	MEAN		5.5	nc	33	55	19	nc	9.5	33.5
	RPD %		18%	nc	6%	11%	11%	nc	11%	15%
Intra	TP116	0-0.05	5	<0.4	29	61	19	0.1	9	44
laboratory	SDUP107	0-0.05	6	<0.4	33	80	21	0.1	10	49
duplicate	MEAN		5.5	nc	31	70.5	20	0.1	9.5	46.5
	RPD %		18%	nc	13%	27%	10%	0%	11%	11%
Intra	TP145	0-0.1	6	<0.4	44	58	18	<0.1	10	26
laboratory	SDUP108	0-0.1	8	<0.4	49	65	21	<0.1	10	27
duplicate	MEAN		7	nc	46.5	61.5	19.5	nc	10	26.5
	RPD %		29%	nc	11%	11%	15%	nc	0%	4%
Intra	TP143	0-0.1	5	<0.4	20	150	15	<0.1	7	40
laboratory	SDUP109	0-0.1	5	<0.4	20	130	16	<0.1	7	39
duplicate	MEAN		5	nc	20	140	15.5	nc	7	39.5
	RPD %		0%	nc	0%	14%	6%	nc	0%	3%
Intra	TP138	0-0.1	5	<0.4	26	260	43	<0.1	11	100
laboratory	SDUP110	0-0.1	7	<0.4	40	460	67	0.1	16	150
duplicate	MEAN		6	nc	33	360	55	0.075	13.5	125
	RPD %		33%	nc	42%	56%	44%	67%	37%	40%
Inter	TP112	0-0.1	6	<0.4	21	320	35	<0.1	10	68
laboratory	SDUP101	0-0.1	6	<0.4	22	290	39	<0.1	10	71
duplicate	MEAN		6	nc	21.5	305	37	nc	10	69.5
	RPD %		0%	nc	5%	10%	11%	nc	0%	4%
Inter	TP111	0-0.1	5	<0.4	25	100	12	<0.1	7	33
laboratory	SDUP102	0-0.1	5	<0.4	21	120	7	<0.1	8	34
duplicate	MEAN		5	nc	23	110	9.5	nc	7.5	33.5
	RPD %		0%	nc	17%	18%	53%	nc	13%	3%
Inter	TP110	0-0.1	10	<0.4	59	190	10	0.1	12	30
laboratory	SDUP103	0-0.1	16	<0.4	61	260	3	<0.1	14	36
duplicate	MEAN		13	nc	60	225	6.5	0.075	13	33
	RPD %		46%	nc	3%	31%	108%	67%	15%	18%
Inter	TP109	0-0.1	8	<0.4	57	140	10	<0.1	13	30
laboratory	SDUP104	0-0.1	8	<0.4	63	140	5	<0.1	14	33
duplicate	MEAN		8	nc	60	140	7.5	nc	13.5	31.5
	RPD %		0%	nc	10%	0%	67%	nc	7%	10%
Inter	TP107	0-0.1	6	<0.4	39	74	14	<0.1	10	39
laboratory	SDUP105	0-0.1	5	<0.4	39	69	15	<0.1	11	41
duplicate	MEAN		5.5	nc	39	71.5	14.5	nc	10.5	40
	RPD %		18%	nc	0%	7%	7%	nc	10%	5%
Field Blank	TB-S101 6-8/09/2023	-	<4	<0.4	3	1	2	<0.1	<1	1
Field Blank	TB-S102 11-13/09/2023	-	<4	<0.4	3	<1	3	<0.1	<1	1
Field Rinsate	FR-101 7/09/23	µg/L	<0.05	<0.01	<0.01	0.07	<0.03	<0.0005	<0.02	<0.02
Field Rinsate	FR-102 13/09/23	µg/L	<0.05	<0.01	<0.01	0.07	<0.03	<0.0005	<0.02	<0.02
Trip Spike	TS-S101 6-8/09/2023		-	-	-	-	-	-	-	-
Trip Spike	TS-S102 11-13/09/2023		-	-	-	-	-	-	-	-

Result outside of QA/QC acceptance criteria (highlighted)

Rinsate metals results in mg/L

Borehole and Test Pit Logs

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BOREHOLE LOG

Borehole No. 1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~309.2 m
Date: 4/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	Field Tests	RL (m AHD)	Depth (m)	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION		309	0	CL	Silty CLAY: low plasticity, red brown, trace of fine to medium grained quartz and igneous gravel, and root fibres.	w>PL / w<PL	Hd	>600 >600 >600	GRASS COVER
	N > 17 11,17/ 150mm REFUSAL	308	1	-	Extremely Weathered andesite: sandy silty CLAY, low plasticity, red brown, fine to medium grained sand, with fine to medium grained quartz and igneous gravel.	XW	Hd		TEMORA VOLCANICS VERY LOW TO LOW 'V' BIT RESISTANCE
					as above, but brown.				
	N=SPT 10/ 50mm REFUSAL	307	2						
		306	3		ANDESITE: grey, with quartz inclusions.	DW	L - M		LOW RESISTANCE
		305	4						LOW TO MODERATE RESISTANCE GROUNDWATER MONITORING WELL INSTALLED TO 6m. CLASS 18 MACHINE SLOTTED 50mm DIA. PVC STANDPIPE 6m TO 0.12m. 2mm SAND FILTER PACK 6m TO 0.12m. BACKFILLED WITH SAND TO THE SURFACE. COMPLETED WITH A CONCRETED GATIC COVER.
		304	5						MODERATE RESISTANCE
		303	6		END OF BOREHOLE AT 6.00 m				

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BOREHOLE LOG

Borehole No.
2
1 / 1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~317.2 m
Date: 3/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	Field Tests	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION			FILL: Gravelly sandy clay, low plasticity, red brown, fine to coarse grained sand, fine to medium grained igneous gravel.	w<PL			GRAVEL AND GRASS COVER SCREEN: 12.49kg 0-0.2m, NO FCF
	N = 3 1,1,2	CL	Sandy Silty CLAY: low plasticity, brown, fine to medium grained sand, trace of fine to medium grained igneous gravel.	w<PL	F - St		RESIDUAL
		CI	Silty CLAY: medium plasticity, red brown, with fine to medium grained sand, trace of fine grained igneous gravel.		(F - St)		TOO FRIABLE FOR HP TESTING
			as above, but brown.		(St - VSt)		
	N=SPT 12/ 50mm REFUSAL	-	Extremely Weathered andesite: silty clayey SAND, fine to coarse grained, brown, trace of fine grained andesite gravel.	XW	(D)		TEMORA VOLCANICS
			ANDESITE: brown, with quartz inclusions.	DW	EL - VL		VERY LOW 'V' BIT RESISTANCE
			as above, but trace of medium to high strength bands.		VL - L		VERY LOW RESISTANCE
			END OF BOREHOLE AT 5.50 m				

RL (m AHD): 317, 316, 315, 314, 313, 312, 311
Depth (m): 1, 2, 3, 4, 5, 6

Samples: ES, U50, DB, DS

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BOREHOLE LOG

Borehole No. 3

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~316.3 m
Date: 4/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	Field Tests	Depth (m)	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION		0 – 0.3		FILL: Silty clay, medium plasticity, brown and red brown, trace of quartz, igneous and ironstone gravel and root fibres.	w>PL			GRASS COVER APPEARS MODERATELY COMPACTED SCREEN: 10.18kg 0-0.1m, NO FCF SCREEN:2.24kg 0.1-0.3m, NO FCF
	N = 7 2,5,2	0.3 – 1.1		FILL: Sandy silty clay, low to medium plasticity, brown and red brown, fine to coarse grained sand, trace of quartz and igneous gravel and boulders.				SCREEN: 8.96kg 0.3-1.1m, NO FCF
		1.1 – 1.9	CI	Sandy Silty CLAY: medium plasticity, red brown, fine to coarse grained sand, trace of fine to coarse grained quartz and igneous gravel.	w<PL	VSt - Hd	>600 >600 >600	RESIDUAL
	N = 31 4,15,16	1.9 – 3.95	-	Extremely Weathered andesite: sandy silty CLAY, low to medium plasticity, brown, fine to coarse grained sand, with fine grained igneous and quartz gravel.	XW	Hd		TEMORA VOLCANICS VERY LOW 'V' BIT RESISTANCE
		3.95 – 6.00		Extremely Weathered andesite: silty clayey SAND, fine to coarse grained, brown, low plasticity, trace of fine to medium grained quartz and igneous gravel.				LOW RESISTANCE MODERATE RESISTANCE LOW RESISTANCE
		6.00		END OF BOREHOLE AT 6.00 m				

RL (m AHD) scale: 316, 315, 314, 313, 312, 311, 310

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BOREHOLE LOG

Borehole No.
4

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~318.0 m
Date: 4/5/23 TO 5/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	Field Tests	RL (m AHD)	Depth (m)	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION OF AUGERING					FILL: Silty clay, low to medium plasticity, brown, trace of fine grained igneous gravel, and root fibres.	w>PL			GRASS COVER
				CL-CI	Sandy Silty CLAY: low to medium plasticity, brown, fine to coarse grained sand, trace of fine grained igneous and andesite gravel.	w<PL			SCREEN: 10.67kg 0-0.2m, FCF1 & FCF2
	N = 21 4,8,13	317	1	-	Extremely Weathered andesite: gravelly clayey sand, fine to coarse grained, brown, low plasticity, fine to coarse grained igneous gravel.	XW	D		TEMORA VOLCANICS MODERATE 'V' BIT RESISTANCE
					ANDESITE: grey.	DW	L - M		HIGH RESISTANCE 'V' BIT REFUSAL
					REFER TO CORED BOREHOLE LOG				GROUNDWATER MONITORING WELL INSTALLED TO 6m. CLASS 18 MACHINE SLOTTED 50mm DIA. PVC STANDPIPE 6m TO 0.12m. 2mm SAND FILTER PACK 6m TO 0.12m. BACKFILLED WITH SAND TO THE SURFACE. COMPLETED WITH A CONCRETED GATIC COVER.
		316	2						
		315	3						
		314	4						
		313	5						
		312	6						

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CORED BOREHOLE LOG

Borehole No.
4
2 / 2

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF	**Core Size:** NMLC	**R.L. Surface:** ~318.0 m
Date: 4/5/23 TO 5/5/23	**Inclination:** VERTICAL	**Datum:** AHD
Plant Type: HANJIN DB8	**Bearing:** N/A	**Logged/Checked By:** C.S.Y./O.F.

Water Loss\Level	RL (m AHD)	Depth (m)	CORE DESCRIPTION (Rock Type, grain characteristics, colour, texture and fabric, features, inclusions and minor components)	Weathering	Strength	POINT LOAD STRENGTH INDEX $I_s(50)$	Formation
		1.30	START CORING AT 1.30m				
80% RETURN		1.30	Extremely Weathered andesite: gravelly silty CLAY, low to medium plasticity, brown, fine to coarse grained andesite and ironstone gravel.	XW	Hd		Temora Volcanics
		1.50	ANDESITE: grey and brown.	HW	L - M		
	316	2		MW	M - H		
50% RETURN		2.50	Extremely Weathered andesite: gravelly silty CLAY, low to medium plasticity, brown, fine to coarse grained andesite and ironstone gravel.	XW	Hd		
	315	3	ANDESITE: fine grained, grey, trace of light grey speckles and gas bubbles.	SW	VH	7.7	
0% RETURN	314	4					
	313	5					
	312	6	END OF BOREHOLE AT 6.00 m				
	311	7					

Point load strength index scale: VL -0.1, L -0.3, M -1, H -3, VH -10, EH

SPACING (mm): 600, 200, 60, 20

DEFECT DETAILS — DESCRIPTION (Type, orientation, defect shape and roughness, defect coatings and seams, openness and thickness)

Specific	General
(1.50m) Cr, 0°, 110 mm.t	
(1.65m) J, 55°, P, Vr, Fe Sn	
(1.65m) Cr, 55°, 70 mm.t	
(1.73m) J, 70°, P, Vr, Fe Sn	
(1.76m) J, 60°, P, R, Fe Sn	
(1.80m) J, 50°, P, Vr, Fe Sn	
(1.80m) J x3, P, Vr, Fe Sn	
(1.86m) J, 60°, P, R, Fe Sn	
(1.87m) J, 80°, P, S, Clay Vn	
(1.92m) J, 65°, P, Vr, Fe Sn	
(2.00m) J, 50°, P, Vr, Fe Sn	
(2.10m) Cr, 50°, 180 mm.t	
(2.21m) J, 60°, P, Vr, Fe Sn	
(2.27m) J, 60°, P, Vr, Fe Sn	
(2.28m) J, 80°, P, Vr, Fe Sn	
(2.33m) J, 80°, P, R, Fe Sn	
(2.34m) Cr, 80°, 10 mm.t	
(2.38m) Cr, 80°, 20 mm.t	
(2.45m) Cr, 80°, 90 mm.t	
(2.70m) Cr, 20°, 100 mm.t	
(2.83m) J, 70°, P, Vr, Fe Sn	
(3.00m) J, 50°, P, R, Fe Sn, & Clay, Vn	
(3.10m) Be, 5°, Cr, S, Clay FILLED, 2 mm.t	
(3.16m) J, 25°, Cr, S, Clay Vn	
(3.22m) Be, 5°, Cr, R, Cn	
(3.33m) J, 55°, P, R, Fe Sn	
(3.50m) J, 55°, P, R, Fe Sn	
(3.65m) J, 45°, St, Vr, Fe Sn	
(3.68m) J, 10°, Ir, Vr, Fe Sn	
(3.80m) Cr, 15°, 100 mm.t, associated with J at 4.38m	
(3.88m) J, 70°, P, S, Clay Vn	
(3.89m) J, 15°, P, Vr, Cn	
(3.95m) J, 10°, P, S, Clay Vn	
(4.00m) Ji, 70°, P, Vr, Fe Sn	
(4.04m) J, 50°, P, Vr, Fe Sn	
(4.10m) Cr, 50°, 100 mm.t	
(4.16m) J, 50°, P, R, Fe Sn	
(4.23m) Be, 10°, P, S, Clay FILLED, 2 mm.t	
(4.25m) J, 60°, P, Vr, Fe Sn	
(4.40m) J, 70°, P, S, Clay Vn	
(4.47m) Be, 10°, P, S, Clay Vn	
(4.51m) J, 85°, P, S, Clay Vn	
(4.53m) J, 80°, P, S, Clay Vn	
(4.65m) J, 50°, P, Vr, Fe Sn	
(4.72m) Be, 85°, P, S, Clay Vn	
(4.80m) J, 20°, St, Vr, Fe Sn	
(4.83m) J, 80°, P, R, Fe Sn	
(5.06m) J, 10°, P, R, Fe Sn	
(5.12m) J, 50°, P, R, Fe Sn	
(5.27m) J, 30°, St, Vr, Fe Sn	
(5.48m) J, 50°, P, R, Clay Vn	
(5.56m) Be, 80°, P, S, Clay FILLED, 5 mm.t	
(5.61m) J, 60°, P, Vr, Fe Sn	
(5.76m) Cr, 50°, 5 mm.t	
(5.77m) CS, 50°, 5 mm.t	
(5.85m) J, 40°, P, Vr, Fe Sn	
(5.93m) J, 20°, P, R, Fe Sn	

FRACTURES NOT MARKED ARE CONSIDERED TO BE DRILLING AND HANDLING BREAKS

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BOREHOLE LOG

Borehole No.
5
1 / 1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~318.2 m
Date: 3/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	Field Tests	RL (m AHD)	Depth (m)	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION		318		CL-CI	Silty CLAY: low to medium plasticity, brown, trace of fine to medium grained igneous gravel, and root fibres.	w>PL	(St)		GRASS COVER RESIDUAL
	N = 12 3,6,6		1	CI	Silty CLAY: medium plasticity, red brown, trace of fine to medium grained andesite gravel.	w~PL	Hd		
		317		-	Extremely Weathered andesite: silty clayey SAND, fine to coarse grained, brown, trace of fine grained igneous gravel.	XW	(D)		TEMORA VOLCANICS
	N=SPT 5/ 0mm REFUSAL	316	2		ANDESITE: brown and grey, fine to medium grained, trace of fine to medium grained quartz gravel, trace of high strength bands.	DW	L - M		LOW TO MODERATE 'V' BIT RESISTANCE
		315	3						
		314, 313, 312	4, 5, 6		END OF BOREHOLE AT 3.30 m				'V' BIT REFUSAL

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BOREHOLE LOG

Borehole No.
6
1 / 1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~319.1 m
Date: 2/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	Field Tests	RL (m AHD)	Depth (m)	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION		319			FILL: Silty clay, low to medium plasticity, red brown, with fine to coarse grained quartz and igneous gravel, trace of root fibres.	w>PL			GRASS COVER SCREEN: 10.44kg 0-0.2m, NO FCF
	N > 14 11,14/ 100mm REFUSAL			CL-CI	Sandy Silty CLAY: low to medium plasticity, brown, fine to coarse grained sand, trace of fine to medium grained granite gravel.	w<PL	(VSt - Hd)		RESIDUAL
		318	1	-	Extremely Weathered andesite: gravelly sandy SILT, low plasticity, brown and light brown, fine to coarse grained igneous gravel.	XW	(Hd)		TEMORA VOLCANICS
					ANDESITE: grey.	DW	H		HIGH 'V' BIT RESISTANCE 'V' BIT REFUSAL
					END OF BOREHOLE AT 1.30 m				GROUNDWATER MONITORING WELL INSTALLED TO 1.3m. CLASS 18 MACHINE SLOTTED 50mm DIA. PVC STANDPIPE 1.3m TO 0.12m. 2mm SAND FILTER PACK 1.3m TO 0.12m. BACKFILLED WITH SAND TO THE SURFACE. COMPLETED WITH A CONCRETED GATIC COVER.
		317	2						
		316	3						
		315	4						
		314	5						
		313	6						

SAMPLES: ES, U50, DB, DS

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BOREHOLE LOG

Borehole No.
7

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~318.8 m
Date: 2/5/23 TO 3/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	SAMPLES (ES, U50, DB, DS)	Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION OF AUGERING				0		-	ASPHALTIC CONCRETE: 20mm.t	M			SCREEN: 1.88kg 0.02-0.3m, NO FCF
							FILL: Gravelly silty sand, fine to medium grained, brown, fine to coarse grained quartz and igneous gravel.				POSSIBLY NATURAL
		N > 11 13,11/ 80mm REFUSAL	318			-	FILL: Silty sand, fine to coarse grained, red brown, trace of fine grained quartz gravel.	XW	(Hd)		TEMORA VOLCANICS
				1			Extremely Weathered andesite: gravelly sandy SILT, low plasticity, brown, fine to coarse grained sand, fine grained igneous gravel.				VERY LOW 'V' BIT RESISTANCE
			317	2			REFER TO CORED BOREHOLE LOG				MODERATE TO HIGH RESISTANCE
			316	3							
			315	4							
			314	5							
			313	6							
			312								

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CORED BOREHOLE LOG

Borehole No. 7

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF	**Core Size:** NMLC	**R.L. Surface:** ~318.8 m
Date: 2/5/23 TO 3/5/23	**Inclination:** VERTICAL	**Datum:** AHD
Plant Type: HANJIN DB8	**Bearing:** N/A	**Logged/Checked By:** C.S.Y./O.F.

Water Loss\Level	Barrel Lift	RL (m AHD)	Depth (m)	Graphic Log	CORE DESCRIPTION Rock Type, grain characteristics, colour, texture and fabric, features, inclusions and minor components	Weathering	Strength	POINT LOAD STRENGTH INDEX $I_s(50)$ (VL -0.1, L -0.3, M -1, H -3, VH -10, EH)	SPACING (mm) (600, 200, 60, 20)	DEFECT DETAILS DESCRIPTION Type, orientation, defect shape and roughness, defect coatings and seams, openness and thickness (Specific / General)	Formation
					START CORING AT 1.40m						
90% RETURN		317, 316	2, 3		NO CORE 1.82m					(3.22m) Cr, 10°, 30 mm.t	
					ANDESITE: fine to coarse grained, grey, with quartz inclusions.	SW	VH	4.1		(3.33m) J, 40°, P, R, Fe Sn (3.39m) J, 35°, P, Vr, Cn (3.43m) Jh, 45°, P, S, Cn (3.48m) Be, 15°, P, Vr, Cn (3.50m) J, 60°, P, R, Cn (3.55m) Be, 10°, Cr, Vr, Cn (3.60m) Be, 20°, Cr, Vr, Fe Sn (3.70m) J, 70°, P, Vr, Fe Sn, & Gravel FILLED	Temora Volcanics
		315, 314, 313, 312, 311	4, 5, 6, 7		END OF BOREHOLE AT 3.80 m						

FRACTURES NOT MARKED ARE CONSIDERED TO BE DRILLING AND HANDLING BREAKS

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BOREHOLE LOG

Borehole No.
8
1 / 1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~318.3 m
Date: 5/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	Field Tests	RL (m AHD)	Depth (m)	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION				-	ASPHALTIC CONCRETE: 20mm.t	M			APPEARS POORLY COMPACTED
		318			FILL: Silty sand, fine to medium grained, red brown, with fine to coarse grained igneous gravel.				INSUFFICIENT RETURN FOR BULK SCREEN SAMPLE
	N = 3 1,1,2		1	CL	Sandy Silty CLAY: low plasticity, red brown, fine to coarse grained sand, trace of fine grained igneous and quartz gravel.	w<PL	(Hd)	>600 >600 >600	RESIDUAL
	N = 25 5,11,14	317		-	Extremely Weathered andesite: sandy silty CLAY or silty clayey SAND, low plasticity, brown, fine to coarse grained sand, trace of fine grained quartz gravel.	XW	Hd		TEMORA VOLCANICS
		316	2						
		315	3						
	N > 11 2,11/ 150mm REFUSAL								NO SPT RECOVERY FROM AUGER
		314	4		Extremely Weathered andesite: gravelly silty SAND, fine to coarse grained, brown, fine to medium grained igneous gravel.		VD		
		313	5		ANDESITE: grey, trace of high strength bands.	DW	L		VERY LOW TO LOW 'V' BIT RESISTANCE
		312	6		END OF BOREHOLE AT 6.00 m				

Samples: ES, U50, DB, DS

JK 9.02.4 LIB.GLB Log JK AUGERHOLE - MASTER 35822BF TEMORA.GPJ <<DrawingFile>> 25/05/2023 13:11 10.01.00.01 Datgel Lab and In Situ Tool - DGD | Lib: JK 9.02.4 2019-05-31 Prj: JK 9.01.0 2018-03-20

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BOREHOLE LOG

Borehole No. 9

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~308.5 m
Date: 3/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	SAMPLES (ES / U50 / DB / DS)	Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION	DB (0–1.1 m)		308	0–1.1		CL-CI	Silty CLAY: low to medium plasticity, red brown, trace of quartz gravel and root fibres.	w<PL	(St - VSt)		GRASS COVER RESIDUAL TOO FRIABLE FOR HP TESTING
				1.1–1.2		-	ANDESITE: brown.	DW	H		TEMORA VOLCANICS MODERATE TO HIGH 'V' BIT RESISTANCE
			307	1.2			END OF BOREHOLE AT 1.20 m				'V' BIT REFUSAL
			306	2							
			305	3							
			304	4							
			303	5							
			302	6							

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BOREHOLE LOG

Borehole No.
10
1 / 1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~307.8 m
Date: 3/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	SAMPLES (ES / U50 / DB / DS)	Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION	DB		307	1		CL-CI	Silty CLAY: low to medium plasticity, red brown, trace of fine to medium grained quartz gravel and fine to coarse grained andesite gravel.	w>PL w<PL	(St - VSt)		GRASS COVER RESIDUAL TOO FRIABLE FOR HP TESTING
	DB						as above, but brown.				
			306	2			END OF BOREHOLE AT 1.50 m				
			305	3							
			304	4							
			303	5							
			302	6							
			301								

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BOREHOLE LOG

Borehole No.
11
1 / 1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~318.1 m
Date: 3/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	SAMPLES (ES / U50 / DB / DS)	Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION	DB		318			CL-CI	Silty CLAY: low to medium plasticity, red brown, trace of fine to medium grained igneous gravel, and root fibres.	w~PL			GRASS COVER RESIDUAL TOO FRIABLE FOR HP TESTING
	DB		317	1		-	Extremely Weathered andesite: sandy silty CLAY, low to medium plasticity, red brown, trace of fine to coarse grained igneous gravel.	XW	(Hd)		TEMORA VOLCANICS
			316	2			END OF BOREHOLE AT 1.50 m				
			315	3							
			314	4							
			313	5							
			312	6							

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BOREHOLE LOG

Borehole No.
12
1 / 1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: 35822BF **Method:** SPIRAL AUGER **R.L. Surface:** ~312.6 m
Date: 3/5/23 **Datum:** AHD
Plant Type: HANJIN DB8 **Logged/Checked By:** C.S.Y./O.F.

Groundwater Record	SAMPLES ES	U50	DB	DS	Field Tests	RL (m AHD)	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel Density	Hand Penetrometer Readings (kPa)	Remarks
DRY ON COMPLETION						312			CL-CI	Silty CLAY: low to medium plasticity, red brown, with fine to coarse grained quartz gravel, trace of quartz boulder, fine grained igneous gravel, and root fibres.	w~PL			GRASS COVER RESIDUAL
							1			Sandy Silty CLAY: low to medium plasticity, brown, fine to medium grained sand, trace of fine grained igneous and ironstone gravel.	w<PL			
						311				END OF BOREHOLE AT 1.50 m				
						310	2							
						309	3							
						308	4							
						307	5							
						306	6							

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ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. **TP13**

1/1

SDUP4: 0-0.1m

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED ALTERATIONS AND ADDITIONS

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** STRIP TRENCH **R.L. Surface:** ≈ 319.3m

Date: 4/5/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./T.H.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL:Silty clay, low to medium plasticity, brown, trace of quartz gravel and root fibres.	w≈PL			GRASS COVER SCREEN: 10.52kg 0-0.1m, NO FCF SCREEN: 10.22kg 0.1-0.3m, NO FCF
			0.5 1		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of volcanic breccia.	w≈PL			RESIDUAL
			1.5 2 2.5 3 3.5			END OF BOREHOLE AT 1.05m				

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ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. **TP14** 1/1

SDUP3: 0-0.1m

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED ALTERATIONS AND ADDITIONS

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** STRIP TRENCH **R.L. Surface:** ≈ 320.5m

Date: 4/5/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./T.H.

Groundwater Record	Depth (m)	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Remarks
DRY ON COMPLETION	0		FILL: Silty clay, low to medium plasticity, brown, trace of igneous and quartz gravel, volcanic breccia, metal fragments and root fibres.	w≈PL	GRASS COVER SCREEN: 12.31kg 0-0.2m, NO FCF
		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz and volcanic breccia.	w≈PL	RESIDUAL
	0.5	-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown.	XW	TEMORA VOLCANICS
	1		END OF BOREHOLE AT 1.0m		

Samples columns: ES, ASS, ASB, SAL, DB. Other columns: Field Tests, Graphic Log, Strength/ Rel. Density, Hand Penetrometer Readings (kPa.)

Depth scale: 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5

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ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. **TP15** 1/1

SDUP2: 0-0.1m

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED ALTERATIONS AND ADDITIONS

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** STRIP TRENCH **R.L. Surface:** ≈ 316.7m

Date: 4/5/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./T.H.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, low to medium plasticity, brown, trace of quartz gravel, and root fibres.	w≈PL			GRASS COVER SCREEN: 10.29kg 0-0.1m, NO FCF SCREEN: 10.34kg 0.1-0.5m, NO FCF
			0.5			FILL: Sandy silty clay, low to medium plasticity, red brown, trace of volcanic breccia.	w≈PL			SCREEN: 12.52kg 0.5-1.1m, NO FCF
			1		CL-CI	Silty CLAY: low to medium plasticity, red brown, trace of quartz gravel.	w≈PL			RESIDUAL
			1.5			END OF BOREHOLE AT 1.5m				
			2							
			2.5							
			3							
			3.5							

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ENVIRONMENTAL LOG

Log No. **TP16** 1/1

Environmental logs are not to be used for geotechnical purposes

SDUP1: 0-0.1m

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED ALTERATIONS AND ADDITIONS
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** STRIP TRENCH **R.L. Surface:** ≈ 316.6m
Date: 4/5/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./T.H.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0		CL-CI	Silty CLAY: low to medium plasticity, brown, trace of quartz gravel, and root fibres.	w≈PL			GRASS COVER RESIDUAL
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of volcanic breccia.	w≈PL			
					-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown.	XW			TEMORA VOLCANICS
			1			END OF BOREHOLE AT 1.0m				
			1.5							
			2							
			2.5							
			3							
			3.5							

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ENVIRONMENTAL LOG

Log No. TP101 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 306.8m

Date: 6/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES: ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0			FILL: Silty clay, medium plasticity, brown, trace of sand, igneous gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 11.36kg 0-0.1m, NO FCF
	■		■				0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz gravel, roots and root fibres.	w≈PL			SCREEN: 10.24kg 0.1-0.2m, NO FCF RESIDUAL
							1 1.5 2 2.5 3 3.5			END OF TEST PIT AT 0.7m				

JKEnvironments

ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. **TP102**
1/1
SDUP106: 0-0.1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 306.8m
Date: 6/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium to high plasticity, brown, trace of igneous and ironstone gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 10.33kg 0-0.1m, NO FCF SCREEN: 10.06kg 0.1-0.5m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz gravel and andesite cobbles.	w<PL			RESIDUAL
			1			END OF TEST PIT AT 1.0m				
			1.5							
			2							
			2.5							
			3							
			3.5							

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ENVIRONMENTAL LOG

Log No. **TP103**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 307.8m
Date: 6/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium to high plasticity, brown, trace of sand, igneous gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 10.51kg 0-0.1m, NO FCF
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz and ironstone gravel, roots and root fibres.	w≈PL			SCREEN: 10.78kg 0.1-0.2m, NO FCF RESIDUAL
			0.5							
						END OF TEST PIT AT 0.75m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

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ENVIRONMENTAL LOG

Log No. **TP104** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 307.8m
Date: 6/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium to high plasticity, brown, trace of igneous gravel, sand, plastic and glass fragments, and root fibres.	w<PL			GRASS COVER SCREEN: 10.74kg 0-0.1m, NO FCF SCREEN: 11.92kg 0.1-0.5m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of ironstone gravel and root fibres.	w<PL			PVC PIPE AT 0.4m DEPTH RESIDUAL
			1			END OF TEST PIT AT 1.0m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP105** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 308.7m

Date: 6/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES / ASS / ASB / SAL / DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	ES, ASB, DB		0			FILL: Silty clay, medium to high plasticity, brown, trace of igneous gravel, sand and root fibres.				GRASS COVER SCREEN: 11.34kg 0-0.1m, NO FCF SCREEN: 10.82kg 0.1-0.4m, NO FCF
			0.5			END OF TEST PIT AT 0.4m				PVC PIPE AT 0.3m DEPTH TEST PIT TERMINATED DUE TO SERVICES
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

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ENVIRONMENTAL LOG

Log No. **TP106** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 309.8m

Date: 6/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION							0			FILL: Silty clay, medium to high plasticity, brown, trace of roots and root fibres.	w<PL			GRASS COVER SCREEN: 11.20kg 0-0.1m, NO FCF
									CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of root fibres.	w≈PL			SCREEN: 10.11kg 0.1-0.2m, NO FCF RESIDUAL
							0.5							
										END OF BOREHOLE AT 0.7m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. **TP107** 1/1

SDUP105: 0-0.1

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 310.9m

Date: 6/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES: ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0			FILL: Silty clay, medium plasticity, brown, trace of quartz gravel.	w<PL			GRASS COVER SCREEN: 11.36kg 0-0.1m, NO FCF
									CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of andesite gravel and root fibres.	w≈PL			RESIDUAL
	■		■				0.5							
										END OF TEST PIT AT 0.7m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No.
TP108
1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 312.2m
Date: 6/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION							0			FILL: Silty clay, medium to high plasticity, brown, trace of ironstone and andesite gravel, sand, roots and root fibres.	w<PL			GRASS COVER SCREEN: 11.80kg 0-0.1m, NO FCF
									CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of ironstone gravel.	w<PL			SCREEN: 10.50kg 0.1-0.3m, NO FCF RESIDUAL
							0.5							
										END OF BOREHOLE AT 0.8m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP109**

1/1

Environmental logs are not to be used for geotechnical purposes

SDUP104: 0-0.1

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 313.8m

Date: 6/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium plasticity, red brown, trace of ironstone and andesite gravel, and root fibres.	w≈PL			GRASS COVER SCREEN: 11.27kg 0-0.1m, NO FCF SCREEN: 10.34kg 0.1-0.5m, NO FCF
			0.5			END OF BOREHOLE AT 0.5m				HP GAS PIPEWORK AT 0.5m DEPTH TEST PIT TERMINATED DUE TO UNDERGROUND SERVICES
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. TP110 1/1

Environmental logs are not to be used for geotechnical purposes

SDUP103: 0-0.1

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 315.6m

Date: 6/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■				0		CI	Silty CLAY: medium plasticity, red brown, trace of ironstone, quartz and andesite gravel, roots and root fibres.	w<PL			GRASS COVER
										as above.	w≈PL			RESIDUAL
	■		■				0.5							
										END OF TEST PIT AT 0.5m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No.
TP111
1/1

Environmental logs are not to be used for geotechnical purposes

SDUP102: 0-0.1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 317.5m
Date: 6/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES: ES	SAMPLES: ASS	SAMPLES: ASB	SAMPLES: SAL	SAMPLES: DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0			FILL: Silty clay, low to medium plasticity, brown, trace of ironstone gravel, and root fibres.	w<PL			GRASS COVER SCREEN: 10.23kg 0-0.1m, NO FCF
	■		■				0.5		CI	Silty CLAY: medium plasticity, red brown, trace of sand, andesite gravel and cobbles, ironstone gravel, roots and root fibres.				RESIDUAL
										END OF TEST PIT AT 0.55m				

Depth scale: 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP112**

1/1

Environmental logs are not to be used for geotechnical purposes

SDUP101: 0-0.1

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 319.0m

Date: 6/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, low to medium plasticity, brown, trace of sand, ironstone and igneous gravel, slag, ash and root fibres.	w<PL			LEAF LITTER COVER SCREEN: 10.23kg 0-0.1m, NO FCF SCREEN: 10.52kg 0.1-0.2m, NO FCF
					CL-CI	Silty CLAY: low to medium plasticity, red brown and yellow, trace of ironstone and igneous gravel, roots and root fibres.	w<PL			RESIDUAL
			0.5							
			1			END OF TEST PIT AT 1.0m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP113** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 319.0m
Date: 7/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium to high plasticity, brown and red brown, trace of andesite boulders and cobbles, igneous and ironstone gravel, plastic fragments, roots and root fibres.	w<PL			LEAF LITTER COVER SCREEN: 11.67kg 0-0.1m, NO FCF SCREEN: 12.20kg 0.1-0.9m, NO FCF
			0.5							
			1		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of andesite gravel.	w<PL			RESIDUAL
					-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
			1.5			END OF TEST PIT AT 1.5m				
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP114** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 318.0m

Date: 7/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	ES, ASB, DB (0-0.1m)		0			FILL: Silty clay, medium to high plasticity, brown, trace of sand, igneous gravel, ash and root fibres.	w≈PL			GRASS COVER SCREEN: 13.33kg 0-0.1m, NO FCF
	ES, ASB (~0.3-0.4m)				CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of sand, andesite gravel, roots and root fibres.	w≈PL			RESIDUAL
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
						END OF TEST PIT AT 0.6m				

Depth scale: 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP115** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 314.0m
Date: 7/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty sand, fine to medium grained, brown, trace of quartz cobble and gravel, glass fragments and root fibres.	D			GRASS AND MULCH COVER SCREEN: 10.06kg 0-0.1m, NO FCF
			0.5			FILL: Silty clay, medium plasticity, light brown and red brown, trace of volcanic breccia, igneous gravel, quartz cobbles and gravel, sand, roots and root fibres.	w<PL			SCREEN: 11.24kg 0.1-0.6m, NO FCF
			1		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of andesite and quartz gravel, roots and root fibres.	w<PL			RESIDUAL
			1.5			END OF TEST PIT AT 1.3m				
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. **TP116** **1/1**

SDUP107: 0-0.05

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 312.7m

Date: 7/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty sand, fine to medium grained, brown, trace of clay nodules and root fibres.	D			GRASS COVER SCREEN: 10.10kg 0-0.05m, NO FCF
					CI	Silty CLAY: medium plasticity, red brown, trace of roots and root fibres.	w<PL			RESIDUAL
			0.5							
						END OF TEST PIT AT 0.8m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP117**

1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 311.4m

Date: 6/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium to high plasticity, brown, trace of quartz gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 10.72kg 0-0.15m, NO FCF
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz gravel.	w<PL			RESIDUAL
			0.5							
						END OF TEST PIT AT 0.7m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP118** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 310.0m

Date: 6/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES: ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0			FILL: Silty clay, medium plasticity, brown, trace of quartz gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 11.12kg 0-0.1m, NO FCF
	■		■				0.5		CL-CI	Silty CLAY: low to medium plasticity, red brown, trace of quartz gravel and root fibres.	w≈PL			RESIDUAL
										END OF TEST PIT AT 0.7m				

Depth scale: 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP119** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 311.0m
Date: 7/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES / ASS / ASB / SAL / DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium to high plasticity, brown, trace of sand, igneous gravel and root fibres.	w≈PL			GRASS COVER SCREEN: 12.77kg 0-0.1m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of sand, quartz and ironstone gravel, roots and root fibres.	w≈PL			SCREEN: 11.50kg 0.1-0.25m, NO FCF RESIDUAL
			1 1.5 2 2.5 3 3.5			END OF TEST PIT AT 0.7m				

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP120** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 312.2m
Date: 7/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, low to medium plasticity, brown, trace of sand, igneous gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 11.57kg 0-0.1m, NO FCF
			0.5		CI	Silty CLAY: medium plasticity, red brown, trace of quartz gravel, roots and root fibres.	w≈PL			SCREEN: 11.82kg 0.1-0.3m, NO FCF RESIDUAL
			1			END OF BOREHOLE AT 0.8m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP121** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 313.4m

Date: 7/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium to high plasticity, brown, trace of ironstone gravel and root fibres.	w<PL			GRASS COVER SCREEN: 11.28kg 0-0.1m, NO FCF SCREEN: 10.56kg 0.1-0.2m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of andesite and ironstone gravel, roots and root fibres.	w<PL			RESIDUAL
			1			END OF TEST PIT AT 0.9m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP122** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 314.9m
Date: 7/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0			FILL: Silty clay, medium plasticity, brown, trace of quartz gravel and root fibres.	w<PL			GRASS COVER SCREEN: 11.83kg 0-0.1m, NO FCF
	■		■				0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz cobbles and gravel, roots and root fibres.	w<PL			RESIDUAL
										END OF TEST PIT AT 0.7m				

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP123** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 319.7m

Date: 7/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION							0		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of andesite gravel and root fibres.	w<PL			GRASS COVER RESIDUAL
									-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
							0.5			END OF TEST PIT AT 0.5m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP124** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 320.0m

Date: 8/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0			FILL: Silty clay, low to medium plasticity, brown, trace of sand, andesite gravel and cobbles, and root fibres.				SCREEN: 10.58kg 0-0.1m, NO FCF SCREEN: 10.93kg 0.1-0.3m, NO FCF
									-	ANDESITE: grey and brown.	DW			TEMORA VOLCANICS
							0.5			END OF TEST PIT AT 0.5m				

Depth scale: 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP125** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 317.9m

Date: 8/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, low to medium plasticity, brown, trace of sand, igneous and quartz gravel, andesite cobbles and root fibres.	w<PL w≈PL			GRASS COVER SCREEN: 10.10kg 0-0.1m, NO FCF SCREEN: 10.76kg 0.1-0.6m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of root fibres.	w≈PL			RESIDUAL
			1							
						END OF BOREHOLE AT 1.2m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **BH126** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR | **Method:** PUSHTUBE / SPIRAL AUGER | **R.L. Surface:** ≈ 315.4m
Date: 13/9/23 | **Datum:** AHD
Plant Type: EZIPROBE | **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0		-	ASPHALT: 20mm.t				
						FILL: Sandy silty clay, low plasticity, brown and grey, with fine to coarse grained igneous gravel, trace of asphalt fragments.	w<PL			SCREEN: 1.94kg 0.02-0.2m, NO FCF
			0.5			FILL: Clayey silt, fine grained, grey, trace of igneous gravel.	w<PL			SCREEN: 7.70kg 0.2-0.7m, NO FCF
			1		CI	Silty CLAY: medium plasticity, red brown, trace of andesite gravel and root fibres.	w<PL			RESIDUAL
			1.5			END OF BOREHOLE AT 1.5m				
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No.
TP127
1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 314.5m
Date: 7/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, low to medium plasticity, brown, trace of sand, quartz gravel, volcanic breccia and root fibres.				GRASS COVER SCREEN: 10.25kg 0-0.15m, NO FCF
			0.5		CI	Silty CLAY: medium plasticity, red brown, trace of sand, quartz and andesite gravel, roots and root fibres.	w≈PL			RESIDUAL
						END OF TEST PIT AT 0.8m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP128**
1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 313.0m
Date: 7/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION							0			FILL: Silty clay, medium to high plasticity, brown, trace of sand, quartz gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 11.92kg 0-0.1m, NO FCF
							0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz boulders, cobbles and gravel, roots and root fibres.	w≈PL			SCREEN: 11.31kg 0.1-0.3m, NO FCF RESIDUAL IRRIGATION PIPE AT 0.3m
							1			END OF TEST PIT AT 0.9m				
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP129** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 312.0m

Date: 7/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION							0			FILL: Silty clay, low to medium plasticity, brown, trace of sand, quartz gravel, roots and root fibres.	w≈PL			GRASS COVER SCREEN: 12.26kg 0-0.1m, NO FCF
									CI	Silty CLAY: medium plasticity, red brown, trace of quartz and andesite gravel, roots and root fibres.	w≈PL			SCREEN: 12.37kg 0.1-0.2m, NO FCF RESIDUAL
							0.5							
										END OF TEST PIT AT 0.75m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP130** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 314.1m
Date: 7/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	ES, ASB, DB (0–0.15m); ES, ASB (~0.4–0.5m)		0			FILL: Silty clay, medium to high plasticity, brown, trace of sand, quartz and ironstone gravel, roots and root fibres.	w≈PL			GRASS COVER SCREEN: 12.12kg 0-0.15m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of sand, quartz and andesite gravel, roots and root fibres.	w≈PL			RESIDUAL
			1			END OF TEST PIT AT 0.8m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP131** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 320.8m
Date: 11/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium to high plasticity, brown and red brown, trace of andesite and quartz gravel, and root fibres.	w<PL			GRASS COVER SCREEN: 10.43kg 0-0.1m, NO FCF
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
						END OF TEST PIT AT 0.7m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP132** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 320.6m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES SAL	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION							0			FILL: Silty clay, medium to high plasticity, brown and red brown, trace of greenstone gravel and cobbles, and root fibres.	w<PL			GRASS COVER SCREEN: 10.81kg 0-0.1m, NO FCF
							0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
										END OF TEST PIT AT 0.6m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP133** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 319.9m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium to high plasticity, grey and brown, trace of igneous and quartz gravel.	w<PL			GRASS COVER SCREEN: 10.29kg 0-0.1m, NO FCF SCREEN: 10.08kg 0.1-0.2m, NO FCF
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of ironstone and andesite gravel and root fibres.	w<PL			
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			RESIDUAL TEMORA VOLCANICS
						END OF TEST PIT AT 0.6m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP134** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 320.2m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Clayey silt, fine grained, brown, trace of root fibres.	M			GRASS COVER SCREEN: 10.40kg 0-0.1m, NO FCF SCREEN: 10.11kg 0.1-0.2m, NO FCF
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of sand, andesite gravel and cobbles, and root fibres.	w≈PL			RESIDUAL
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
						END OF TEST PIT AT 0.7m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP135** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 319.1m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	ES, ASB, DB (0–0.1m); ES, ASB (0.3–0.4m)		0			FILL: Silty clay, medium to high plasticity, red brown, trace of igneous gravel and root fibres.	w<PL			GRASS COVER SCREEN: 10.32kg 0-0.1m, NO FCF
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of andesite gravel, roots and root fibres.	w<PL			RESIDUAL
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
						END OF TEST PIT AT 0.6m				

Depth scale: 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP136** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 319.4m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, low to medium plasticity, brown and grey, with sub-angular, igneous gravel, trace of asphalt fragments.	w<PL			GRASS COVER
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of andesite gravel, roots and root fibres.	w<PL			SCREEN: 10.54kg 0-0.15m, NO FCF RESIDUAL
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
						END OF BOREHOLE AT 0.7m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP137** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 318.3m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium plasticity, brown, trace of igneous gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 10.37kg 0-0.1m, NO FCF
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of sand, andesite gravel and root fibres.	w<PL			SCREEN: 10.06kg 0.1-0.2m, NO FCF
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, with iron indurated bands.	XW			RESIDUAL TEMORA VOLCANICS
			1 1.5 2 2.5 3 3.5			END OF TEST PIT AT 0.7m				

JKEnvironments

ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. **TP138** 1/1

SDUP110: 0-0.1

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 317.3m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium plasticity, brown, trace of igneous gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 10.19kg 0-0.1m, NO FCF
					CI	Silty CLAY: medium plasticity, red brown and yellow brown, trace of andesite gravel and root fibres.	w<PL			
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			RESIDUAL TEMORA VOLCANICS
						END OF TEST PIT AT 0.65m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP139** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 317.8m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium plasticity, brown, trace of sand, quartz gravel, glass fragments and root fibres.	W			GRASS COVER SCREEN: 10.31kg 0-0.1m, NO FCF
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of andesite cobbles and gravel, and root fibres.	w<PL			SCREEN: 10.97kg 0.1-0.2m, NO FCF RESIDUAL
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
						END OF TEST PIT AT 0.5m				REFUSAL ON ANDESITE

Depth scale: 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP140** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 318.4m
Date: 11/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium plasticity, brown, trace of sand, ironstone and igneous gravel, glass fragments and root fibres.	w≈PL			GRASS COVER; SCREEN: 10.07kg 0-0.1m, NO FCF
							w≈PL			
					CI-CH	FILL: Silty sandy clay, low to medium plasticity, red brown, yellow brown and grey, fine to medium grained sand, trace of igneous gravel and root fibres.	w≈PL			SCREEN: 10.25kg 0.1-0.2m, NO FCF
			0.5		-	Silty CLAY: medium to high plasticity, red brown, trace of ironstone and andesite gravel.	XW			RESIDUAL TEMORA VOLCANICS
						Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.				
			1			END OF TEST PIT AT 0.7m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. **TP141** 1/1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 319.0m
Date: 12/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Clayey silt, fine grained, brown, trace of quartz gravel, roots and root fibres.	M			GRASS COVER SCREEN: 10.96kg 0-0.1m, NO FCF SCREEN: 10.45kg 0.1-0.4m, NO FCF
					CL-CI	Silty CLAY: low to medium plasticity, brown and red brown, with fine to coarse grained andesite gravel, trace of sand, andesite cobbles, and root fibres.	w<PL			RESIDUAL
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
						END OF TEST PIT AT 0.7m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. TP142 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 316.3m

Date: 7/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES / ASS / ASB / SAL / DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium plasticity, brown, trace of sand, quartz gravel, roots and root fibres.	w≈PL			GRASS COVER SCREEN: 12.10kg 0-0.1m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz and ironstone gravel, roots and root fibres.	w≈PL			SCREEN: 11.78kg 0.1-0.3m, NO FCF RESIDUAL PVC IRRIGATION PIPE AT 0.3m
			1			END OF TEST PIT AT 0.8m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. TP143
1/1
SDUP109: 0-0.1

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 318.9m
Date: 11/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES / ASS / ASB / SAL / DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Clayey silt, fine grained, brown, with root fibres, trace of quartz gravel.	M			GRASS COVER
						FILL: Silty clay, medium to high plasticity, brown, trace of sand, quartz and andesite gravel, roots and root fibres.	w≈PL			SCREEN: 10.26kg 0-0.1m, NO FCF SCREEN: 10.81kg 0.1-0.3m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of sand, andesite gravel, roots and root fibres.	w≈PL			RESIDUAL
			1			END OF TEST PIT AT 0.8m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP144** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 317.0m

Date: 8/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION							0			FILL: Silty sand, fine to medium grained, brown, with root fibres, trace of igneous and quartz gravel.	D			GRASS COVER SCREEN: 10.23kg 0-0.05m, NO FCF
										FILL: Silty clayey sand, fine to coarse grained, grey, trace of igneous gravel and cobbles, ironstone gravel, roots and root fibres.	D			SCREEN: 12.20kg 0.05-0.55m, NO FCF
							0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz gravel, roots and root fibres.	w<PL			RESIDUAL
							1							
										END OF TEST PIT AT 1.1m				
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. **TP145** **1/1**

SDUP108: 0-0.1

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 315.8m

Date: 8/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES / ASS / ASB / SAL / DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty gravelly clay, low to medium plasticity, brown, fine to coarse grained quartz gravel, trace of sand, igneous gravel and root fibres.	w<PL			GRASS/LEAF LITTER COVER SCREEN: 11.26kg 0-0.1m, NO FCF
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz and ironstone gravel, roots and root fibres.	w<PL			SCREEN: 11.85kg 0.1-0.2m, NO FCF RESIDUAL
			0.5							
						END OF TEST PIT AT 0.8m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP146** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 317.2m

Date: 7/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES / ASS / ASB / SAL / DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	ES, ASB, DB		0			FILL: Gravelly silty clay, low to medium plasticity, brown and red brown, fine to coarse grained igneous gravel, trace of sand, ironstone gravel, and root fibres.	w<PL			SCREEN: 10.27kg 0-0.05m, NO FCF
	ES, ASB				CI	Silty CLAY: medium plasticity, red brown, with fine to coarse grained ironstone gravel, trace of sand and root fibres.	w<PL			RESIDUAL
			0.5			END OF TEST PIT AT 0.4m				REFUSAL ON INFERRED BEDROCK
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP147** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 317.7m

Date: 8/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Depth (m)	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	0		FILL: Clayey silt, fine grained, brown, with fine to coarse grained quartz gravel, trace of quartz gravel and root fibres.	M			GRASS COVER SCREEN: 10.83kg 0-0.1m, NO FCF
			FILL: Clayey silt, fine grained, light brown, trace of root fibres.	M			PLASTIC SHEET AT 0.1m DEPTH SCREEN: 10.39kg 0.1-0.4m, NO FCF
	0.5		FILL: Silty sandy clay, low to medium plasticity, grey, red brown and brown, fine to medium grained sand, trace of ceramic fragments, ash, roots and root fibres.	w≈PL			SCREEN: 12.17kg 0.4-0.8m, NO FCF
	1	CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of sand, quartz and andesite gravel, roots and root fibres.	w≈PL			RESIDUAL
	1.5		END OF TEST PIT AT 1.4m				
	2						
	2.5						
	3						
	3.5						

Samples columns: ES, ASS, ASB, SAL, DB. Field Tests. Graphic Log.

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP148** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 316.4m

Date: 8/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Clayey silt, fine grained, brown, trace of igneous and quartz gravel, glass fragments, roots and root fibres.	D			GRASS COVER SCREEN: 10.06kg 0-0.1m, NO FCF SCREEN: 10.35kg 0.1-0.4m, NO FCF
						FILL: Silty clay, medium to high plasticity, red brown, trace of igneous and quartz gravel, roots and root fibres.	w<PL			PVC IRRIGATION PIPE AT 0.3m DEPTH SCREEN: 10.49kg 0.4-0.5m, NO FCF REWORKED NATURAL CONCRETE PIPE AT 0.5m DEPTH
			0.5			END OF TEST PIT AT 0.5m				TEST PIT TERMINATED DUE TO SERVICES
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP149** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 315.2m
Date: 8/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium plasticity, brown, trace of sand, igneous and quartz gravel, plastic fragments and root fibres.	w<PL			GRASS COVER
							M			SCREEN: 11.21kg 0-0.1m, NO FCF
						FILL: Silty sand, fine to medium grained, brown, with fine to coarse grained igneous gravel, trace of quartz gravel, roots and root fibres.	w<PL			SCREEN: 11.52kg 0.1-0.3m, NO FCF
			0.5			FILL: Silty clay, low to medium plasticity, brown, trace of sand, quartz gravel and cobbles, ironstone gravel, concrete fragments, roots and root fibres.				SCREEN: 10.81kg 0.3-0.6m, NO FCF
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz gravel and root fibres.	w≈PL			RESIDUAL
			1							
						END OF TEST PIT AT 1.1m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP150** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 314.3m
Date: 8/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0			FILL: Silty clay, medium to high plasticity, red brown and brown, trace of quartz gravel and root fibres.	w<PL			GRASS COVER SCREEN: 11.72kg 0-0.1m, NO FCF
					■				CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz gravel and cobbles, roots and root fibres.	w≈PL			SCREEN: 10.40kg 0.1-0.2m, NO FCF RESIDUAL
	■		■				0.5							
										END OF TEST PIT AT 0.7m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Environmental logs are not to be used for geotechnical purposes

Log No. **TP151** 1/1

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 313.0m

Date: 8/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, low to medium plasticity, brown and red brown, trace of quartz gravel and root fibres.	w<PL			GRASS COVER SCREEN: 11.85kg 0-0.1m, NO FCF SCREEN: 10.10kg 0.1-0.35m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of sand, quartz gravel and cobbles, roots and root fibres.	w≈PL			RESIDUAL
			1			END OF TEST PIT AT 0.9m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP152** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 314.6m
Date: 8/9/23 **Datum:** AHD
Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES: ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0		-	FILL: Silty clay, low to medium plasticity, brown and red brown, trace of andesite and quartz gravel, and root fibres.	w<PL			GRASS COVER SCREEN: 10.76kg 0-0.1m, NO FCF
										Extremely Weathered andesite: silty SAND, fine to coarse grained, grey brown.	XW			TEMORA VOLCANICS
							0.5			END OF TEST PIT AT 0.3m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP153**

1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 315.8m

Date: 12/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty sandy clay, low to medium plasticity, brown, fine to medium grained sand, trace of igneous and quartz gravel, asphalt fragments and root fibres.	w≈PL			MULCH COVER SCREEN: 10.77kg 0-0.1m, NO FCF SCREEN: 10.11kg 0.1-0.3m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of sand, quartz and andesite gravel and root fibres.	w≈PL			CEMENT PIPE AT 0.3m DEPTH - SUSPECTED ACM RESIDUAL
						END OF TEST PIT AT 0.7m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

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ENVIRONMENTAL LOG

Log No. **TP154** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 316.7m

Date: 12/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Gravelly clayey sand, fine to coarse grained, brown, trace of igneous and quartz gravel and asphalt fragments.	M			MULCH COVER SCREEN: 10.67kg 0-0.1m, NO FCF
					CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of quartz gravel and cobbles.	w≈PL			SCREEN: 10.20kg 0.1-0.25m, NO FCF RESIDUAL
			0.5							
						END OF TEST PIT AT 0.8m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. BH155 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE
Project: PROPOSED HOSPITAL REDEVELOPMENT
Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** PUSHTUBE / SPIRAL AUGER **R.L. Surface:** ≈ 317.6m
Date: 13/9/23 **Datum:** AHD
Plant Type: EZIPROBE **Logged/Checked by:** A.D./M.D.

Groundwater Record	Depth (m)	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	0		ASPHALT: 50mm.t				
		-	FILL: Silty sand, fine to medium grained, brown and red brown, trace of igneous gravel and asphalt fragments.	M			SCREEN: 1.80kg 0.05-0.2m, NO FCF
			FILL: Silty clay, low to medium plasticity, brown, with fine to medium grained sand, trace of igneous and quartz gravel.	w<PL			SCREEN: 3.72kg 0.2-0.5m, NO FCF
	0.5	CI	Silty CLAY: medium plasticity, red brown, trace of quartz and andesite gravel.	w<PL			RESIDUAL
	1	-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
	1.5		END OF BOREHOLE AT 1.4m				
	2						
	2.5						
	3						
	3.5						

Columns also shown: SAMPLES (ES, ASS, ASB, SAL, DB), Field Tests, Graphic Log

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ENVIRONMENTAL LOG

Log No. **TP156** **1/1**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 318.3m

Date: 8/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0			FILL: Silty clay, medium to high plasticity, brown, trace of sandstone, quartz and igneous gravel, metal fragments, quartz cobbles and root fibres.	w≈PL			GRASS COVER SCREEN: 11.28kg 0-0.1m, NO FCF SCREEN: 10.29kg 0.1-0.25m, NO FCF COPPER PIPE AT 0.2m DEPTH
							0.35			END OF TEST PIT AT 0.35m				TEST PIT TERMINATED DUE TO SERVICES
							0.5							
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **BH157** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** PUSH TUBE **R.L. Surface:** ≈ 318.9m

Date: 13/9/23 **Datum:** AHD

Plant Type: EZIPROBE **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			ASPHALT: 30mm.t				
					-	FILL: Silty clay, low to medium plasticity, brown and grey, with fine to medium grained sand, trace of quartz and siltstone gravel.	w<PL			SCREEN: 1.90kg 0.03-0.3m, NO FCF
			0.5		CI	Silty CLAY: medium plasticity, red brown, trace of sand and quartz gravel.	w<PL			RESIDUAL
					-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
			1			END OF BOREHOLE AT 1.0m				REFUSAL
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **BH158** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** PUSH TUBE / SPIRAL AUGER **R.L. Surface:** ≈ 318.9m

Date: 13/9/23 **Datum:** AHD

Plant Type: EZIPROBE **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			ASPHALT: 40mm.t				
					-	FILL: Silty sandy clay, low to medium plasticity, red brown and brown, fine to medium grained sand, trace of quartz, igneous and andesite gravel, and asphalt fragments.	w<PL			SCREEN: 1.45kg 0.04-0.3m, NO FCF
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
						END OF BOREHOLE AT 0.6m				REFUSAL
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP159**

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 319.2m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Clayey silt, fine grained, brown, trace of root fibres.	D			GRASS COVER
						as above, but grey.	D			SCREEN: 10.52kg 0-0.15m, NO FCF
						FILL: Silty sandy clay, low to medium plasticity, light brown, fine to medium grained sand, trace of igneous gravel and root fibres.	w<PL			SCREEN: 10.72kg 0.15-0.3m, NO FCF SCREEN: 10.70kg 0.3-0.5m, NO FCF
			0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
						END OF TEST PIT AT 0.8m				
			1							
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP160** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 320.0m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES ES	ASS	ASB	SAL	DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0			FILL: Silty clay, medium to high plasticity, brown and red brown, trace of andesite and igneous gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 10.41kg 0-0.1m, NO FCF
	■		■						CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of andesite gravel and cobbles, roots and root fibres.	w<PL			RESIDUAL
							0.5		-	Extremely Weathered andesite: silty SAND, fine to coarse grained, brown, with iron indurated bands.	XW			TEMORA VOLCANICS
										END OF TEST PIT AT 0.7m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP161** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 318.6m

Date: 11/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES (ES / ASS / ASB / SAL / DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, medium to high plasticity, brown, trace of sand, quartz, igneous and andesite gravel, ceramic fragments, roots and root fibres.	w<PL			GRASS COVER SCREEN: 10.72kg 0-0.1m, NO FCF SCREEN: 10.32kg 0.1-0.4m, NO FCF
			0.5		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of andesite gravel, roots and root fibres.	w<PL			RESIDUAL
			1			END OF BOREHOLE AT 0.9m				
			1.5							
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **BH162** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR
Method: PUSH TUBE / SPIRAL AUGER
R.L. Surface: ≈ 318.2m

Date: 13/9/23
Datum: AHD

Plant Type: EZIPROBE
Logged/Checked by: A.D./M.D.

Groundwater Record	Samples (ES, ASS, ASB, SAL, DB)	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			ASPHALT: 40mm.t				
					-	FILL: Silty clay, low to medium plasticity, brown, with fine to medium grained sand, trace of igneous gravel.	w<PL			SCREEN: 1.10kg 0.04-0.2m, NO FCF
			0.5			FILL: Silty sandy clay, medium plasticity, yellow brown and red brown, fine to medium grained sand, trace of andesite and ironstone gravel.	w<PL			SCREEN: 5.70kg 0.2-0.6m, NO FCF
			1		CI-CH	Silty CLAY: medium to high plasticity, red brown, trace of sand.	w<PL			RESIDUAL
			1.5			END OF BOREHOLE AT 1.4m				
			2							
			2.5							
			3							
			3.5							

JKEnvironments

ENVIRONMENTAL LOG

Log No. **TP163** 1/1

Environmental logs are not to be used for geotechnical purposes

Client: HEALTH INFRASTRUCTURE

Project: PROPOSED HOSPITAL REDEVELOPMENT

Location: TEMORA HOSPITAL, 169-189 LOFTUS STREET, TEMORA, NSW

Job No.: E35822PR **Method:** TEST PIT **R.L. Surface:** ≈ 311.7m

Date: 8/9/23 **Datum:** AHD

Plant Type: 3T EXCAVATOR **Logged/Checked by:** A.D./M.D.

Groundwater Record	SAMPLES: ES / ASS / ASB / SAL / DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION			0			FILL: Silty clay, low to medium plasticity, brown and red brown, trace of quartz gravel, roots and root fibres.	w<PL			GRASS COVER SCREEN: 11.30kg 0-0.1m, NO FCF SCREEN: 10.29kg 0.1-0.2m, NO FCF
			0.5		CL-CI	Silty CLAY: low to medium plasticity, red brown, trace of quartz gravel, roots and root fibres.	w<PL			RESIDUAL
			1			END OF TEST PIT AT 0.75m				
			1.5							
			2							
			2.5							
			3							
			3.5							

ENVIRONMENTAL LOGS EXPLANATION NOTES

INTRODUCTION

These notes have been provided to amplify the environmental report in regard to classification methods, field procedures and certain matters relating to the logging of soil and rock. Not all notes are necessarily relevant to all reports.

Where geotechnical borehole logs are utilised for environmental purpose, reference should also be made to the explanatory notes included in the geotechnical report. Environmental logs are not suitable for geotechnical purposes.

The ground is a product of continuing natural and man-made processes and therefore exhibits a variety of characteristics and properties which vary from place to place and can change with time. Environmental studies include gathering and assimilating limited facts about these characteristics and properties in order to understand or predict the behaviour of the ground on a particular site under certain conditions. This report may contain such facts obtained by inspection, excavation, probing, sampling, testing or other means of investigation. If so, they are directly relevant only to the ground at the place where and time when the investigation was carried out.

DESCRIPTION AND CLASSIFICATION METHODS

The methods of description and classification of soils and rocks used in this report are based on Australian Standard 1726:2017 *'Geotechnical Site Investigations'*. In general, descriptions cover the following properties – soil or rock type, colour, structure, strength or density, and inclusions. Identification and classification of soil and rock involves judgement and the Company infers accuracy only to the extent that is common in current geoenvironmental practice.

Soil types are described according to the predominating particle size and behaviour as set out in the attached soil classification table qualified by the grading of other particles present (eg. sandy clay) as set out below:

Soil Classification	Particle Size
Clay	< 0.002mm
Silt	0.002 to 0.075mm
Sand	0.075 to 2.36mm
Gravel	2.36 to 63mm
Cobbles	63 to 200mm
Boulders	> 200mm

Non-cohesive soils are classified on the basis of relative density, generally from the results of Standard Penetration Test (SPT) as below:

Relative Density	SPT 'N' Value (blows/300mm)
Very loose (VL)	< 4
Loose (L)	4 to 10
Medium dense (MD)	10 to 30
Dense (D)	30 to 50
Very Dense (VD)	> 50

Cohesive soils are classified on the basis of strength (consistency) either by use of a hand penetrometer, vane shear, laboratory testing and/or tactile engineering examination. The strength terms are defined as follows.

Classification	Unconfined Compressive Strength (kPa)	Indicative Undrained Shear Strength (kPa)
Very Soft (VS)	≤ 25	≤ 12
Soft (S)	> 25 and ≤ 50	> 12 and ≤ 25
Firm (F)	> 50 and ≤ 100	> 25 and ≤ 50
Stiff (St)	> 100 and ≤ 200	> 50 and ≤ 100
Very Stiff (VSt)	> 200 and ≤ 400	> 100 and ≤ 200
Hard (Hd)	> 400	> 200
Friable (Fr)	Strength not attainable – soil crumbles	

Rock types are classified by their geological names, together with descriptive terms regarding weathering, strength, defects, etc. Where relevant, further information regarding rock classification is given in the text of the report. In the Sydney Basin, 'shale' is used to describe fissile mudstone, with a weakness parallel to bedding. Rocks with alternating inter-laminations of different grain size (eg. siltstone/claystone and siltstone/fine grained sandstone) are referred to as 'laminite'.

INVESTIGATION METHODS

The following is a brief summary of investigation methods currently adopted by the Company and some comments on their use and application. All methods except test pits, hand auger drilling and portable Dynamic Cone Penetrometers require the use of a mechanical rig which is commonly mounted on a truck chassis or track base.

Test Pits: These are normally excavated with a backhoe or a tracked excavator, allowing close examination of the insitu soils and 'weaker' bedrock if it is safe to descend into the pit. The depth of penetration is limited to about 3m for a backhoe and up to 6m for a large excavator. Limitations of test pits are the problems associated with disturbance and difficulty of reinstatement and the consequent effects on close-by structures. Care must be taken if construction is to be carried out near test pit locations to either properly recompact the backfill during construction or to design and construct the structure so as not to be adversely affected by poorly compacted backfill at the test pit location.

Hand Auger Drilling: A borehole of 50mm to 100mm diameter is advanced by manually operated equipment. Refusal of the hand auger can occur on a variety of materials such as obstructions within any fill, tree roots, hard clay, gravel or ironstone, cobbles and boulders, and does not necessarily indicate rock level.

Continuous Spiral Flight Augers: The borehole is advanced using 75mm to 115mm diameter continuous spiral flight augers, which are withdrawn at intervals to allow sampling and insitu testing. This is a relatively economical means of drilling in clays and in sands above the water table. Samples are returned to the surface by the flights or may be collected after withdrawal of the auger flights, but they can be very disturbed and layers may become mixed. Information from the auger sampling (as distinct from specific sampling by SPTs or undisturbed samples) is of limited reliability due to mixing or softening of samples by groundwater, or uncertainties as to the original depth of the samples. Augering below the groundwater table is of even lesser reliability than augering above the water table.

Rock Augering: Use can be made of a Tungsten Carbide (TC) bit for auger drilling into rock to indicate rock quality and continuity by variation in drilling resistance and from examination of recovered rock cuttings. This method of investigation is quick and relatively inexpensive but provides only an indication of the likely rock strength and predicted values may be in error by a strength order. Where rock strengths may have a significant impact on construction feasibility or costs, then further investigation by means of cored boreholes may be warranted.

Wash Boring: The borehole is usually advanced by a rotary bit, with water being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be assessed from the cuttings, together with some information from "feel" and rate of penetration.

Mud Stabilised Drilling: Either Wash Boring or Continuous Core Drilling can use drilling mud as a circulating fluid to stabilise the borehole. The term 'mud' encompasses a range of products ranging from bentonite to polymers. The mud tends to mask the cuttings and reliable identification is only possible from intermittent intact sampling (eg. from SPT and U50 samples) or from rock coring, etc.

Continuous Core Drilling: A continuous core sample is obtained using a diamond tipped core barrel. Provided full core recovery is achieved (which is not always possible in very low strength rocks and granular soils), this technique provides a very reliable (but relatively expensive) method of investigation. In rocks, NMLC or HQ triple tube core barrels, which give a core of about 50mm and 61mm diameter, respectively, is usually used with water flush. The length of core recovered is compared to the length drilled and any length not recovered is shown as NO CORE. The location of NO CORE recovery is determined on site by the supervising engineer; where the location is uncertain, the loss is placed at the bottom of the drill run.

Standard Penetration Tests: Standard Penetration Tests (SPT) are used mainly in non-cohesive soils, but can also be used in cohesive soils, as a means of indicating density or strength and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289.6.3.1–2004 (R2016) *'Methods of Testing Soils for Engineering Purposes, Soil Strength and Consolidation Tests – Determination of the Penetration Resistance of a Soil – Standard Penetration Test (SPT)'*.

The test is carried out in a borehole by driving a 50mm diameter split sample tube with a tapered shoe, under the impact of a 63.5kg hammer with a free fall of 760mm. It is normal for the tube to be driven in three successive 150mm increments and the 'N' value is taken as the number of blows for the last 300mm. In dense sands, very hard clays or weak rock, the full 450mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form:

- In the case where full penetration is obtained with successive blow counts for each 150mm of, say, 4, 6 and 7 blows, as

  N = 13
  4, 6, 7

- In a case where the test is discontinued short of full penetration, say after 15 blows for the first 150mm and 30 blows for the next 40mm, as

  N > 30
  15, 30/40mm

The results of the test can be related empirically to the engineering properties of the soil.

A modification to the SPT is where the same driving system is used with a solid 60° tipped steel cone of the same diameter as the SPT hollow sampler. The solid cone can be continuously driven for some distance in soft clays or loose sands, or may be used where damage would otherwise occur to the SPT. The results of this Solid Cone Penetration Test (SCPT) are shown as 'N_c' on the borehole logs, together with the number of blows per 150mm penetration.

LOGS

The borehole or test pit logs presented herein are an interpretation of the subsurface conditions, and their reliability will depend to some extent on the frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will enable the most reliable assessment, but is not always practicable or possible to justify on economic grounds. In any case, the boreholes or test pits represent only a very small sample of the total subsurface conditions.

The terms and symbols used in preparation of the logs are defined in the following pages.

Interpretation of the information shown on the logs, and its application to design and construction, should therefore take into account the spacing of boreholes or test pits, the method of drilling or excavation, the frequency of sampling and testing and the possibility of other than 'straight line' variations between the boreholes or test pits. Subsurface conditions between boreholes or test pits may vary significantly from conditions encountered at the borehole or test pit locations.

GROUNDWATER

Where groundwater levels are measured in boreholes, there are several potential problems:

- Although groundwater may be present, in low permeability soils it may enter the hole slowly or perhaps not at all during the time it is left open.
- A localised perched water table may lead to an erroneous indication of the true water table.
- Water table levels will vary from time to time with seasons or recent weather changes and may not be the same at the time of construction.
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must be washed out of the hole or 'reverted' chemically if reliable water observations are to be made.

More reliable measurements can be made by installing standpipes which are read after the groundwater level has stabilised at intervals ranging from several days to perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from perched water tables or surface water.

FILL

The presence of fill materials can often be determined only by the inclusion of foreign objects (eg. bricks, steel, etc) or by distinctly unusual colour, texture or fabric. Identification of the extent of fill materials will also depend on investigation methods and frequency. Where natural soils similar to those at the site are used for fill, it may be difficult with limited testing and sampling to reliably assess the extent of the fill.

The presence of fill materials is usually regarded with caution as the possible variation in density and material type is much greater than with natural soil deposits. Consequently, there is an increased risk of adverse environmental characteristics or behaviour. If the volume and nature of fill is of importance to a project, then frequent test pit excavations are preferable to boreholes.

LABORATORY TESTING

Laboratory testing has not been undertaken to confirm the soil classification and rock strengths indicated on the environmental logs unless noted in the report.

SYMBOL LEGENDS

SOIL

- FILL
- TOPSOIL
- CLAY (CL, CI, CH)
- SILT (ML, MH)
- SAND (SP, SW)
- GRAVEL (GP, GW)
- SANDY CLAY (CL, CI, CH)
- SILTY CLAY (CL, CI, CH)
- CLAYEY SAND (SC)
- SILTY SAND (SM)
- GRAVELLY CLAY (CL, CI, CH)
- CLAYEY GRAVEL (GC)
- SANDY SILT (ML, MH)
- PEAT AND HIGHLY ORGANIC SOILS (Pt)

ROCK

- CONGLOMERATE
- SANDSTONE
- SHALE/MUDSTONE
- SILTSTONE
- CLAYSTONE
- COAL
- LAMINITE
- LIMESTONE
- PHYLLITE, SCHIST
- TUFF
- GRANITE, GABBRO
- DOLERITE, DIORITE
- BASALT, ANDESITE
- QUARTZITE

OTHER MATERIALS

- BRICKS OR PAVERS
- CONCRETE
- ASPHALTIC CONCRETE

CLASSIFICATION OF COARSE AND FINE GRAINED SOILS

Major Divisions		Group Symbol	Typical Names	Field Classification of Sand and Gravel	Laboratory Classification	
Coarse grained soil (more than 65% of soil excluding oversize fraction is greater than 0.075mm)	GRAVEL (more than half of coarse fraction is larger than 2.36mm	GW	Gravel and gravel-sand mixtures, little or no fines	Wide range in grain size and substantial amounts of all intermediate sizes, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	$C_u > 4$ $1 < C_c < 3$
		GP	Gravel and gravel-sand mixtures, little or no fines, uniform gravels	Predominantly one size or range of sizes with some intermediate sizes missing, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	Fails to comply with above
		GM	Gravel-silt mixtures and gravel-sand-silt mixtures	'Dirty' materials with excess of non-plastic fines, zero to medium dry strength	≥ 12% fines, fines are silty	Fines behave as silt
		GC	Gravel-clay mixtures and gravel-sand-clay mixtures	'Dirty' materials with excess of plastic fines, medium to high dry strength	≥ 12% fines, fines are clayey	Fines behave as clay
	SAND (more than half of coarse fraction is smaller than 2.36mm)	SW	Sand and gravel-sand mixtures, little or no fines	Wide range in grain size and substantial amounts of all intermediate sizes, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	$C_u > 6$ $1 < C_c < 3$
		SP	Sand and gravel-sand mixtures, little or no fines	Predominantly one size or range of sizes with some intermediate sizes missing, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	Fails to comply with above
		SM	Sand-silt mixtures	'Dirty' materials with excess of non-plastic fines, zero to medium dry strength	≥ 12% fines, fines are silty	N/A
		SC	Sand-clay mixtures	'Dirty' materials with excess of plastic fines, medium to high dry strength	≥ 12% fines, fines are clayey	

Major Divisions		Group Symbol	Typical Names	Field Classification of Silt and Clay			Laboratory Classification
				Dry Strength	Dilatancy	Toughness	% < 0.075mm
ine grained soils (more than 35% of soil excluding oversize fraction is less than 0.075mm)	SILT and CLAY (low to medium plasticity)	ML	Inorganic silt and very fine sand, rock flour, silty or clayey fine sand or silt with low plasticity	None to low	Slow to rapid	Low	Below A line
		CL, CI	Inorganic clay of low to medium plasticity, gravelly clay, sandy clay	Medium to high	None to slow	Medium	Above A line
		OL	Organic silt	Low to medium	Slow	Low	Below A line
	SILT and CLAY (high plasticity)	MH	Inorganic silt	Low to medium	None to slow	Low to medium	Below A line
		CH	Inorganic clay of high plasticity	High to very high	None	High	Above A line
		OH	Organic clay of medium to high plasticity, organic silt	Medium to high	None to very slow	Low to medium	Below A line
	Highly organic soil	Pt	Peat, highly organic soil	–	–	–	–

Laboratory Classification Criteria

A well graded coarse grained soil is one for which the coefficient of uniformity $Cu > 4$ and the coefficient of curvature $1 < C_c < 3$. Otherwise, the soil is poorly graded. These coefficients are given by:

$$C_U = \frac{D_{60}}{D_{10}} \quad and \quad C_C = \frac{(D_{30})^2}{D_{10}\,D_{60}}$$

Where D_{10}, D_{30} and D_{60} are those grain sizes for which 10%, 30% and 60% of the soil grains, respectively, are smaller.

NOTES:

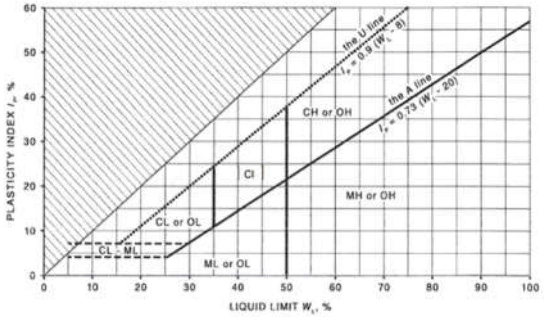
1 For a coarse grained soil with a fines content between 5% and 12%, the soil is given a dual classification comprising the two group symbols separated by a dash; for example, for a poorly graded gravel with between 5% and 12% silt fines, the classification is GP-GM.

2 Where the grading is determined from laboratory tests, it is defined by coefficients of curvature (C_c) and uniformity (C_u) derived from the particle size distribution curve.

3 Clay soils with liquid limits > 35% and ≤ 50% may be classified as being of medium plasticity.

4 The U line on the Modified Casagrande Chart is an approximate upper bound for most natural soils.

Modified Casagrande Chart for Classifying Silts and Clays according to their Behaviour



LOG SYMBOLS

Log Column	Symbol	Definition
Groundwater Record	▼	Standing water level. Time delay following completion of drilling/excavation may be shown.
	C	Extent of borehole/test pit collapse shortly after drilling/excavation.
	▶	Groundwater seepage into borehole or test pit noted during drilling or excavation.
Samples	ES	Sample taken over depth indicated, for environmental analysis.
	U50	Undisturbed 50mm diameter tube sample taken over depth indicated.
	DB	Bulk disturbed sample taken over depth indicated.
	DS	Small disturbed bag sample taken over depth indicated.
	ASB	Soil sample taken over depth indicated, for asbestos analysis.
	ASS	Soil sample taken over depth indicated, for acid sulfate soil analysis.
	SAL	Soil sample taken over depth indicated, for salinity analysis.
	PFAS	Soil sample taken over depth indicated, for analysis of Per- and Polyfluoroalkyl Substances.
Field Tests	N = 17 4, 7, 10	Standard Penetration Test (SPT) performed between depths indicated by lines. Individual figures show blows per 150mm penetration. 'Refusal' refers to apparent hammer refusal within the corresponding 150mm depth increment.
	N_c = 5 7 3R	Solid Cone Penetration Test (SCPT) performed between depths indicated by lines. Individual figures show blows per 150mm penetration for 60° solid cone driven by SPT hammer. 'R' refers to apparent hammer refusal within the corresponding 150mm depth increment.
	VNS = 25	Vane shear reading in kPa of undrained shear strength.
	PID = 100	Photoionisation detector reading in ppm (soil sample headspace test).
Moisture Condition (Fine Grained Soils)	w > PL	Moisture content estimated to be greater than plastic limit.
	w ≈ PL	Moisture content estimated to be approximately equal to plastic limit.
	w < PL	Moisture content estimated to be less than plastic limit.
	w ≈ LL	Moisture content estimated to be near liquid limit.
	w > LL	Moisture content estimated to be wet of liquid limit.
(Coarse Grained Soils)	D	DRY – runs freely through fingers.
	M	MOIST – does not run freely but no free water visible on soil surface.
	W	WET – free water visible on soil surface.
Strength (Consistency) Cohesive Soils	VS	VERY SOFT – unconfined compressive strength ≤ 25kPa.
	S	SOFT – unconfined compressive strength > 25kPa and ≤ 50kPa.
	F	FIRM – unconfined compressive strength > 50kPa and ≤ 100kPa.
	St	STIFF – unconfined compressive strength > 100kPa and ≤ 200kPa.
	VSt	VERY STIFF – unconfined compressive strength > 200kPa and ≤ 400kPa.
	Hd	HARD – unconfined compressive strength > 400kPa.
	Fr	FRIABLE – strength not attainable, soil crumbles.
	( )	Bracketed symbol indicates estimated consistency based on tactile examination or other assessment.

Density Index/ Relative Density (Cohesionless Soils)	Symbol		Density Index (I_D) Range (%)	SPT 'N' Value Range (Blows/300mm)
	VL	VERY LOOSE	≤ 15	0 – 4
	L	LOOSE	> 15 and ≤ 35	4 – 10
	MD	MEDIUM DENSE	> 35 and ≤ 65	10 – 30
	D	DENSE	> 65 and ≤ 85	30 – 50
	VD	VERY DENSE	> 85	> 50
	( )	Bracketed symbol indicates estimated density based on ease of drilling or other assessment.		

Log Column	Symbol	Definition
Hand Penetrometer Readings	300 250	Measures reading in kPa of unconfined compressive strength. Numbers indicate individual test results on representative undisturbed material unless noted otherwise.
Remarks	'V' bit	Hardened steel 'V' shaped bit.
	'TC' bit	Twin pronged tungsten carbide bit.
	T_{60}	Penetration of auger string in mm under static load of rig applied by drill head hydraulics without rotation of augers.
	Soil Origin	The geological origin of the soil can generally be described as: RESIDUAL – soil formed directly from insitu weathering of the underlying rock. No visible structure or fabric of the parent rock. EXTREMELY WEATHERED – soil formed directly from insitu weathering of the underlying rock. Material is of soil strength but retains the structure and/or fabric of the parent rock. ALLUVIAL – soil deposited by creeks and rivers. ESTUARINE – soil deposited in coastal estuaries, including sediments caused by inflowing creeks and rivers, and tidal currents. MARINE – soil deposited in a marine environment. AEOLIAN – soil carried and deposited by wind. COLLUVIAL – soil and rock debris transported downslope by gravity, with or without the assistance of flowing water. Colluvium is usually a thick deposit formed from a landslide. The description 'slopewash' is used for thinner surficial deposits. LITTORAL – beach deposited soil.

Classification of Material Weathering

<table>
<tr><th colspan="2">Term</th><th colspan="2">Abbreviation</th><th>Definition</th></tr>
<tr><td colspan="2">Residual Soil</td><td colspan="2">RS</td><td>Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are no longer visible, but the soil has not been significantly transported.</td></tr>
<tr><td colspan="2">Extremely Weathered</td><td colspan="2">XW</td><td>Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible.</td></tr>
<tr><td>Highly Weathered</td><td rowspan="2">Distinctly Weathered (Note 1)</td><td>HW</td><td rowspan="2">DW</td><td>The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is significantly changed by weathering. Some primary minerals have weathered to clay minerals. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores.</td></tr>
<tr><td>Moderately Weathered</td><td>MW</td><td>The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable, but shows little or no change of strength from fresh rock.</td></tr>
<tr><td colspan="2">Slightly Weathered</td><td colspan="2">SW</td><td>Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.</td></tr>
<tr><td colspan="2">Fresh</td><td colspan="2">FR</td><td>Rock shows no sign of decomposition of individual minerals or colour changes.</td></tr>
</table>

NOTE 1: The term 'Distinctly Weathered' is used where it is not practicable to distinguish between 'Highly Weathered' and 'Moderately Weathered' rock. 'Distinctly Weathered' is defined as follows: *'Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores'*. There is some change in rock strength.

Rock Material Strength Classification

Term	Abbreviation	Uniaxial Compressive Strength (MPa)	Guide to Strength Point Load Strength Index $Is_{(50)}$ (MPa)	Field Assessment
Very Low Strength	VL	0.6 to 2	0.03 to 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxial sample by hand. Pieces up to 30mm thick can be broken by finger pressure.
Low Strength	L	2 to 6	0.1 to 0.3	Easily scored with a knife; indentations 1mm to 3mm show in the specimen with firm blows of the pick point; has dull sound under hammer. A piece of core 150mm long by 50mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
Medium Strength	M	6 to 20	0.3 to 1	Scored with a knife; a piece of core 150mm long by 50mm diameter can be broken by hand with difficulty.
High Strength	H	20 to 60	1 to 3	A piece of core 150mm long by 50mm diameter cannot be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
Very High Strength	VH	60 to 200	3 to 10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
Extremely High Strength	EH	> 200	> 10	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

Appendix D: Example Imported Materials and Waste Tracking Registers

Imported Materials Register

Supplier	Date	Docket/Invoice #	Product Type	Quantity (specify m3 or tonnes)	Area where Material was Placed

Exported (Waste) Materials Register

Load	Date	Material Type / Classification	Site Area where Waste was Generated	Waste Classification Report Reference	Disposal Facility	Tipping Receipt/Docket Number	Tracking Number (where relevant)	Tonnage

Appendix E: Report Explanatory Notes

QA/QC Definitions

The QA/QC terms used in this report are defined below. The definitions are in accordance with US EPA publication SW-846, entitled *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (1994)[16] methods and those described in *Environmental Sampling and Analysis, A Practical Guide,* (1991)[17]. The NEPM (2013) is consistent with these documents.

A. Practical Quantitation Limit (PQL), Limit of Reporting (LOR) & Estimated Quantitation Limit (EQL)

These terms all refer to the concentration above which results can be expressed with a minimum 95% confidence level. The laboratory reporting limits are generally set at ten times the standard deviation for the Method Detection Limit for each specific analyte. For the purposes of this report the LOR, PQL, and EQL are considered to be equivalent.

When assessing laboratory data it should be borne in mind that values at or near the PQL have two important limitations: *"The uncertainty of the measurement value can approach, and even equal, the reported value. Secondly, confirmation of the analytes reported is virtually impossible unless identification uses highly selective methods. These issues diminish when reliably measurable amounts of analytes are present. Accordingly, legal and regulatory actions should be limited to data at or above the reliable detection limit*" (Keith, 1991).

B. Precision

The degree to which data generated from repeated measurements differ from one another due to random errors. Precision is measured using the standard deviation or Relative Percent Difference (RPD).

C. Accuracy

Accuracy is a measure of the agreement between an experimental result and the true value of the parameter being measured (i.e. the proximity of an averaged result to the true value, where all random errors have been statistically removed). The assessment of accuracy for an analysis can be achieved through the analysis of known reference materials or assessed by the analysis of surrogates, field blanks, trip spikes and matrix spikes. Accuracy is typically reported as percent recovery.

D. Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is primarily dependent upon the design and implementation of the sampling program. Representativeness of the data is partially ensured by the avoidance of contamination, adherence to sample handing and analysis protocols and use of proper chain-of-custody and documentation procedures.

E. Completeness

Completeness is a measure of the number of valid measurements in a data set compared to the total number of measurements made and overall performance against DQIs. The following information is assessed for completeness:

- Chain-of-custody forms;
- Sample receipt form;
- All sample results reported;
- All blank data reported;

[16] US EPA, (1994). *SW-846: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.* (US EPA SW-846)
[17] Keith., H, (1991). *Environmental Sampling and Analysis, A Practical Guide*

- All laboratory duplicate and RPDs calculated;
- All surrogate spike data reported;
- All matrix spike and lab control spike (LCS) data reported and RPDs calculated;
- Spike recovery acceptable limits reported; and
- NATA stamp on reports.

F. <u>Comparability</u>

Comparability is the evaluation of the similarity of conditions (e.g. sample depth, sample homogeneity) under which separate sets of data are produced. Data comparability checks include a bias assessment that may arise from the following sources:

- Collection and analysis of samples by different personnel; Use of different techniques;
- Collection and analysis by the same personnel using the same methods but at different times; and
- Spatial and temporal changes (due to environmental dynamics).

G. <u>Blanks</u>

The purpose of laboratory and field blanks is to check for artefacts and interferences that may arise during sampling, transport and analysis.

H. <u>Matrix Spikes</u>

Samples are spiked with laboratory grade standards to detect interactive effects between the sample matrix and the analytes being measured. Matrix Spikes are reported as a percent recovery and are prepared for 1 in every 20 samples. Sample batches that contain less than 20 samples may be reported with a Matrix Spike from another batch. The percent recovery is calculated using the formula below. Acceptable recovery limits are 70% to 130%.

$$\frac{(\text{Spike Sample Result} - \text{Sample Result}) \times 100}{\text{Concentration of Spike Added}}$$

I. <u>Surrogate Spikes</u>

Samples are spiked with a known concentration of compounds that are chemically related to the analyte being investigated but unlikely to be detected in the environment. The purpose of the Surrogate Spikes is to check the accuracy of the analytical technique. Surrogate Spikes are reported as percent recovery.

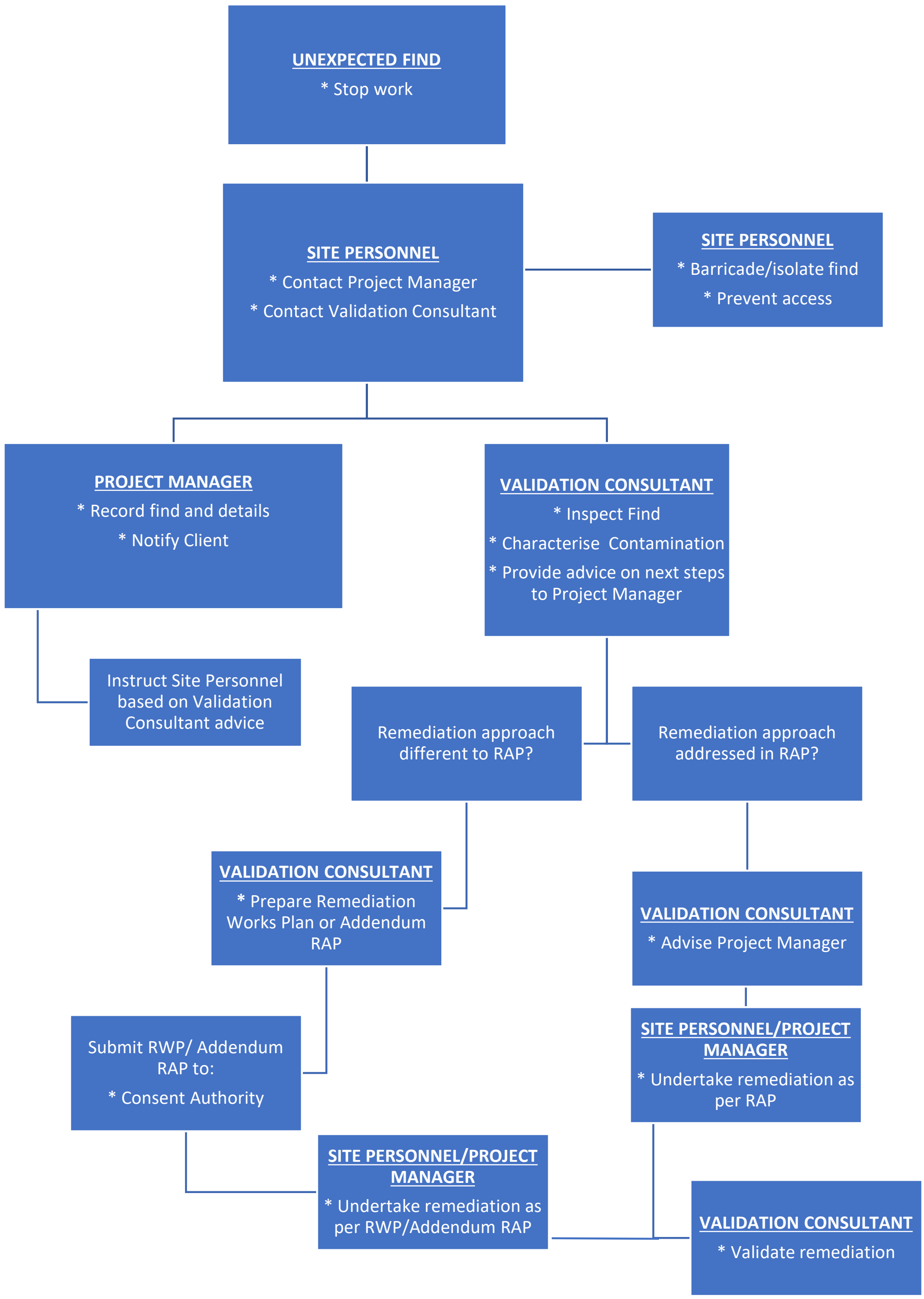
J. <u>Duplicates</u>

Laboratory duplicates measure precision, expressed as Relative Percent Difference. Duplicates are prepared from a single field sample and analysed as two separate extraction procedures in the laboratory. The RPD is calculated using the formula where D1 is the sample concentration and D2 is the duplicate sample concentration:

$$\frac{(D1 - D2) \times 100}{\{(D1 + D2)/2\}}$$

Appendix F: Unexpected Finds Protocol

UNEXPECTED FINDS PROTOCOL FLOW-CHART



Appendix G: Guidelines and Reference Documents

Contaminated Land Management Act 1997 (NSW)

Managing Land Contamination, Planning Guidelines SEPP55 – Remediation of Land (1998)

NSW EPA, (2014). Waste Classification Guidelines - Part 1: Classifying Waste

NSW EPA, (2015). Guidelines on the Duty to Report Contamination under Section 60 of the CLM Act 1997

NSW EPA, (2017). Guidelines for the NSW Site Auditor Scheme, 3rd Edition

NSW EPA, (2020). Consultants Reporting on Contaminated Land, Contaminated Land Guidelines

NSW EPA, (2022). *Sampling design part 1 - application*, Contaminated Land Guidelines

National Environment Protection Council (NEPC), (2013). National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended (2013)

Olszowy, H., Torr, P., and Imray, P., (1995). Trace Element Concentrations in Soils from Rural and Urban Areas of Australia. Contaminated Sites Monograph Series No. 4. Department of Human Services and Health, Environment Protection Agency, and South Australian Health Commission

Protection of the Environment Operations Act 1997 (NSW)

State Environmental Planning Policy (Resilience and Hazards) 2021 (NSW)

Western Australia Department of Health, (2021). Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia